

Section 3: Natural Resources Management

| GENERAL FOREST MANAGEMENT | |
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| PC 448 | The Forest should consider that nature can generate a stable, healthy, and productive ecosystem without human interference, because the DEIS's statements about the adverse effects of an aging forest seem in conflict with science. |
| Response: | We believe that we have described effects that are supported by silvicultural and ecological science. Pathogens, mortality, shade-tolerant species, and fuel loading do increase as young to mature forests continue to age into older forests. A comprehensive description can be found in the Vegetation Management section of Chapter 3 in the DEIS. Also, we describe presettlement conditions in the Terrestrial Ecosystem Diversity section of Chapter 3, and used these estimated presettlement conditions as a benchmark for evaluating the effectiveness of our coarse-filter conservation strategy. Of course, presettlement conditions did not include highways, towns, non-native invasive species, a recreating public, and Congressional mandates, all of which we must consider in our management today. However, we agree that presettlement conditions did likely include large tracts of older forest, and our Minimum Dynamic Area analysis in Chapter 3 of the EIS shows that large areas of older forest would develop on the Monongahela under any of the alternatives considered in detail. |
| PC 184 | The Forest should provide appropriate management to federal lands, including: <ul style="list-style-type: none"> • Fire management • Pest and disease management • Wildlife management • Appropriate vegetation management • Timber stand improvement • Providing revenue to counties • Providing access for hikers and hunters • Maintaining a healthy forest • Using scientific methods to harvest trees • Promoting a healthy state economy • Protecting quality of life • Basing management applications on each area's natural characteristics, features, functions, and values. |
| Response: | We believe that the Revised Forest Plan provides appropriate management direction for each of the management items listed. Other items, like the quality of life or a healthy state economy, are beyond our authority or control to manage, but we hope we can contribute to them through our management. |
| PC 233 | The Forest should explain how it intends to resolve disagreements over environmental and public land issues. |
| Response: | We do not believe that we can resolve all disagreements over these issues, just as every Forest acre cannot provide every use for every person that wants to use it. However, we have attempted to provide a diverse and sustainable mix of opportunities, settings, goods, and services across the Forest to help meet the needs and wants of the public. |
| PC 82 | The Forest should prohibit mowing. |
| Response: | Maintenance of herbaceous openings for wildlife species that use that type of habitat is a legitimate multiple-use goal. See also response to PC 85. |
| PC 639 | The Forest should meet or exceed all of West Virginia's Best Management Practices. |
| Response: | We agree, and we have added a statement to this effect in the Final Revised Plan. Forest Plan standards and guidelines are intended to protect soil, water, and riparian resources during project design and implementation, and we believe that they will meet or exceed State BMP requirements. |
| PC 79 | The Forest should implement detailed and comprehensive forest management, because little should be left to discretion, and the detailed decisions for planning should not be left to the site or project level. |
| Response: | We believe that the Revised Forest Plan is comprehensive and detailed in the strategic direction it provides. However, we also believe that there are many decisions that are more appropriately made at the project level with site-specific information for site-specific conditions and circumstances. All major |

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| | projects on the Forest undergo project-level planning, analysis, and decision-making by law, the National Environmental Policy Act. |
| PC 511 | The Forest should examine how natural forest succession would be set back by the various alternatives under the plan revision. |
| Response: | The Revised Forest Plan is designed to manage for a variety of successional stages to provide habitat conditions needed by native West Virginia plants and animals. The Vegetation Management section in Chapter 3 of the EIS examines potential effects to age class distribution by alternative. Natural succession will continue to occur on the large majority of Forest in all of the alternatives. Many of the land management activities implemented on Forest suitable timber land mimic the natural processes of forest succession, although in a less chaotic fashion. |
| PC 698 | The Forest should provide the public and natural environment with the elements of the forest that are rare or unavailable on private lands. |
| Response: | The Location and Description of the Forest in Chapter I of the Revised Forest Plan describes the special qualities of the Monongahela, including its biodiversity and hiking opportunities. Chapter 3 of the EIS analyzes effects on rare species and recreational opportunities by alternative. We identified those elements on the Forest that are relatively rare on nearby lands, but we did not identify any element that was completely unavailable. |
| PC 107 | The Forest should make recovery of the forest a stated goal and develop objectives and guidelines to detail this forest-wide goal. |
| Response: | We have incorporated recovery into the Revised Forest Plan in a number of ways. For example, we have management direction that addresses the recovery of federally listed species. We have other direction that provides for the ongoing recovery of degraded stream channels. We have created a management prescription to promote the recovery of spruce and spruce-hardwood ecosystems. However, Forest management must address much more than recovery. See the EIS and Revised Plan for the scope of management issues, resources, opportunities, goods, and services that we address. |
| PC 530 | The Forest should consolidate pristine areas to increase potential for contiguous ecosystems or ranges. |
| Response: | The Revised Forest Plan allocates many large blocks of the Forest to management prescriptions and other management categories that will not be subject to intensive active management. The combined effects of these land allocations create large blocks of forest that can develop into relatively pristine areas over time. This concept is analyzed in detail in the Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS, in the subsection on Minimum Dynamic Area (MDA) reserves. |
| PC 353 | The Forest should conduct research to determine if many of the management restrictions in this forest plan are really necessary to protect other resources. |
| Response: | Management restrictions in the Revised Forest Plan are based on a combination of scientific research, monitoring results, experience, and professional judgment. |
| PC 353a | BECAUSE RESEARCH INDICATES THAT THE CREATION OF OPENINGS AROUND STREAM CHANNELS CAN BE BENEFICIAL |
| Response: | Standard SW34 in Chapter II of the Proposed Revised Plan does not prohibit all timber harvest in stream channel buffers. It says that no programmed harvest shall occur, but it also allows tree removal for various needs or objectives, including riparian or aquatic resource management. So if a project interdisciplinary team identifies that an opening around stream channels would benefit riparian or aquatic resources, that opening would meet Forest Plan direction. |
| PC 353b | BECAUSE IT IS NOT CLEAR IF THE FIVE-MILE BUFFER AROUND BAT CAVES IS BASED ON SCIENCE |
| Response: | The 5-mile radius primary range around Indiana bat hibernacula is based on radio-tracking data. Vegetation management is not prohibited within primary range, but must be undertaken for the purpose of maintaining or improving habitat for the Indiana bat or other threatened or endangered species (see Standard TE29 in Chapter II of the Proposed Revised Plan). |
| PC 638 | The Forest should examine, monitor, inventory, and protect all biological, watershed, recreational and geological resources/values in the plan revision. |
| Response: | We have provided management direction and a monitoring plan in the Revised Forest Plan to help protect the resources/values listed in this concern. We have also provided an examination of potential effects on these resources/values from alternative management options in the plan revision EIS. |

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| PC 403 | The Forest should complete a comprehensive association-level community classification for its lands, because there is a great need for further community ecology research and inventory across the Forest, including a plan and a goal developed analogous to SW02 for soils and water. |
| Response: | The Forest has an Ecological Classification System (ECS) at the ecological landtype scale. The ECS is based on vegetation data collected along transects across the Forest and soil maps of the Forest. We agree that analysis of this ECS should be completed, a user's guide published, and new data added to the database to strengthen the classification system. A goal to address these needs for the terrestrial ecology program has been added to the Final Revised Forest Plan in the Vegetation section. |
| PC 386 | The Forest should include a strategy in the Forest Plan for obtaining information on biological diversity so that more information is available during future planning cycles. |
| Response: | We agree. See response to PC 403. |
| PC 831 | The Forest should examine the impact that management activities will have on species within the Forest. |
| PC 831a | INCLUDING LOCATIONS OF AND THREATS TO EXTIRPATED SPECIES, SPECIES AT RISK, DECLINING SPECIES, SPECIES AT THE EDGE OF THEIR RANGES, DISJUNCT SPECIES, SPECIES WITH LITTLE REMAINING HABITAT, SPECIES LISTED AS RARE BY NATURAL HERITAGE PROGRAMS, UNIVERSITIES, AND EXPERTS, AND THREATENED, ENDANGERED, SENSITIVE, STATE-LISTED, AND RARE SPECIES |
| Response: | The Forest is inhabited by thousands of species of plants and animals. A species-by-species analysis of management effects on all of these species would not be practical. Through the terrestrial and aquatic species viability analyses, we examined in detail 247 species that were determined to have potential viability concerns on the Forest. Lists of the species analyzed in detail are contained in the EIS Appendices D and E. These species were selected for individual analysis by screening lists of threatened and endangered species, Regional Forester's Sensitive Species, Natural Heritage Program rare species, and other similar lists. The screening process is described on pages 3-167 and 3-168 of the DEIS. The viability analyses considered threats posed by limited distributions, potential effects of Forest management, and a variety of factors beyond the control of the Forest. Results of the viability analyses are discussed in Chapter 3 of the EIS in the Water, Riparian, and Aquatic Resources section and the Terrestrial Species Viability section. The individual analyses on the 247 species are contained in the project record and are available upon request. |
| PC 831b | INCLUDING MANAGEMENT INDICATOR SPECIES |
| Response: | Management Indicator Species (MIS) were chosen to represent the major habitat types present on the Forest. Monitoring of MIS must be accomplished using established techniques and within realistic budgets and timeframes, so it was not practical to select MIS to represent every taxonomic group or minor habitat on the Forest. Effects to MIS were analyzed in the EIS by considering the projected amount of suitable or optimal habitat to be provided under each alternative. More detailed analyses that consider mobility, genetic diversity, access to specific feeding or breeding areas, etc. are not appropriate at the programmatic (Forest Plan) level. The Forest Plan does not specify or authorize site-specific activities, so such site-specific effects cannot be evaluated. |
| PC 831c | INCLUDING AQUATIC VERTEBRATES |
| Response: | Potential impacts of management activities on aquatic ecosystems and biota are discussed in the DEIS (pages 3-53 to 3-92 and Appendix E). |
| PC 831d | INCLUDING IMPACTS TO SPECIES OUTSIDE OF THE FOREST BOUNDARIES AND SPECIES DIRECTLY DOWNSTREAM OF THE FOREST |
| Response: | The planning area considered during the revision process was the fifth level watersheds within the proclamation boundary. The cumulative effects of activities on NFS, state and private lands and the potential downstream impacts is better addressed at the watershed assessment and project scale where site-specific conditions and species of concern can be considered. |
| PC 831e | INCLUDING IMPACTS ON AMPHIBIANS WHOSE POPULATIONS ARE SHOWING GLOBAL DECLINE |
| Response: | Global declines in amphibian populations are outside the scope of the Forest Plan revision. To the extent that such declines impact amphibians at the local level, they should be captured in any existing or ongoing population trend data, which were considered in the species viability analyses. |
| PC 831f | INCLUDING IMPACTS ON BLACK BEARS AND THEIR HABITAT |

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| Response: | Our analysis of black bear habitat did not include young stands in the optimum habitat indicator, so the analysis does not imply that recently logged areas provide bear habitat, despite the possibility that such areas could provide soft mast for bears. The optimum habitat indicator used in the analysis included only those management prescriptions with limited public motorized access. Therefore, concerns about the need for remote habitat are addressed in the analysis. Because several management prescriptions in the Revised Forest Plan provide remote habitat, separate management areas for bears are not needed. The analysis of black bear habitat is contained in EIS Chapter 3 in the section on Terrestrial Management Indicator Species and Other Species of Interest. |
| PC 831g | INCLUDING IMPACTS ON TROUT AND OTHER AQUATIC SPECIES |
| Response: | Potential impacts of management activities on aquatic ecosystems and biota are discussed in the DEIS (pages 3-53 to 3-92 and Appendix E). |
| PC 831h | INCLUDING IMPACTS ON NON-NATIVE PLANTS |
| Response: | The potential for roads to contribute to the spread of non-native invasive plants is addressed in EIS Chapter 3 in the Non-native Invasive Plant Species section. |
| PC 385 | The Forest should identify remaining tracts of all natural community types and maintain outstanding examples of each in relatively natural condition, because it is more reliable and cost effective compared to restoration. |
| Response: | Management prescription allocations under all alternatives would provide for large core areas of contiguous forest where natural disturbance and recovery processes predominate. See EIS Chapter 3, Terrestrial Ecosystem Diversity section, subsections on Minimum Dynamic Area Reserves. While these areas were not created specifically to address the concern stated here, they contain areas of the Forest where active management is minimal (Wilderness and remote backcountry areas, as well as other areas not suitable for programmed timber harvest). These areas comprise about 42% of the Forest under Alternative 2 and are the areas where passive restoration will occur. That is to say, in these areas little to no active management will take place and natural community types will continue to change without human interference. These MDA reserves are the largest future old growth areas of the Forest Very little of the land that was to become the Monongahela National Forest was unaffected by the turn-of-the-20th century logging, with subsequent fires and grazing. Some small areas have been identified as true old growth and are in MP 8.0 designation. |
| PC 594 | The Forest should serve as an example of sustainable production, hand-in-hand with recreation, wildlife, and environmental values. |
| Response: | We agree, and we feel that we have designed the Revised Forest Plan to do just that. |
| PC 36 | The Forest should protect the Forest and its resources. |
| Response: | We believe that the Revised Forest Plan does protect the Forest and its resources. Management direction designed to provide this protection can be found in Chapters II and III of the Revised Plan. |
| PC 36a | TO BENEFIT FUTURE GENERATIONS |
| Response: | See responses to PC 62h and PC 37a. |
| PC 36b | TO PROTECT PUBLIC HEALTH AND SAFETY |
| Response: | See response to PC 181. |
| PC 36c | TO PROTECT QUALITY OF LIFE |
| Response: | See response to PC 16b. |
| PC 36d | TO HELP MITIGATE GLOBAL WARMING |
| Response: | See response to PC 110c. |
| PC 36e | TO PROVIDE RECREATIONAL OPPORTUNITIES AND PROTECT TOURISM REVENUE |
| Response: | See responses to PC 18s, PC 50, PC 827, PC 994b, and PC 66f. |
| PC 36f | TO PROTECT PUBLIC INTERESTS RATHER THAN BUSINESS INTERESTS |
| Response: | We believe we are managing the Forest to address public interests. It is important to remember that our public includes a wide variety of people and organizations, including businesses, with a wide variety of interests. |
| PC 36g | BECAUSE OF THE OXYGEN IT PROVIDES |
| Response: | See response to PC 16ad. |
| PC 36h | INCLUDING WILDLIFE |

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| Response: | Protection for wildlife and their habitats is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction is primarily in the Wildlife and Fish and Threatened, Endangered, and Proposed Species sections of Chapter II. |
| PC 36i | INCLUDING ECOSYSTEMS, BIODIVERSITY, AND ECOLOGICAL QUALITIES |
| Response: | Protection for ecosystems, biodiversity, and ecological qualities is found in Chapters II and III of the Revised Plan. Most direction is assigned to smaller components of ecosystems or biodiversity so that we can implement protection measures in a more meaningful and effective way. |
| PC 36j | INCLUDING WILDERNESS AREAS, ROADLESS AREAS, AND BACKCOUNTRY AREAS, SUCH AS 6.2 AREAS |
| Response: | Protection for resources in these areas is found in Chapter II of the Revised Forest Plan. Additional protection for wilderness areas is in MP 5.0 in Chapter III of the Plan. Additional protection for roadless and backcountry areas is in MP 6.2 and MP 8.1 SPNM in Chapter III of the Plan. |
| PC 36k | INCLUDING WATER RESOURCES AND FISH POPULATIONS |
| Response: | Protection for water resources and fish populations is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction is primarily in the Soil and Water and Wildlife and Fish sections of Chapter II. |
| PC 36l | INCLUDING VEGETATION, WETLANDS, AND OTHER BARRIERS THAT MITIGATE THE EFFECTS OF STORMS AND FLOODING |
| Response: | Protection for vegetation and wetlands is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction for vegetation is primarily in the Vegetation section of Chapter II. Forest-wide direction for wetlands is primarily in the Soil and Water section of Chapter II. |
| PC 36m | INCLUDING NATIVE PLANTS |
| Response: | Protection for native plants is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction is primarily in the Vegetation section of Chapter II. |
| PC 36n | INCLUDING AIR QUALITY |
| Response: | Protection for air quality is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction is primarily in the Air Quality and Fire Management sections of Chapter II. |
| PC 36o | INCLUDING ENDANGERED SPECIES |
| Response: | Protection for endangered species is found primarily in Chapter II of the Revised Forest Plan, in the Threatened, Endangered, and Proposed Species section. |
| PC 36p | INCLUDING SOIL RESOURCES |
| Response: | Protection for soil resources is found in Chapters II and III of the Revised Forest Plan. Forest-wide direction is primarily in the Soil and Water section of Chapter II. |
| PC 36r | INCLUDING LIMESTONE COMMUNITIES |
| Response: | See responses to PC 203 and PC 474. |
| PC 36s | INCLUDING LARGE UNFRAGMENTED TRACTS OF FOREST |
| Response: | We address large, relatively unfragmented tracts of forest in the Minimum Dynamic Area analysis found in the Terrestrial Ecosystem Diversity section of Chapter 3 in the EIS. Under the preferred alternative, there would be 10 such areas on the Forest, comprising nearly 400,000 acres. |
| PC 36t | INCLUDING OLD GROWTH |
| Response: | There is very little "old growth" on the Forest at present, and most of it is currently protected in special areas. See Appendix B to the Revised Forest Plan for a comprehensive discussion of old growth and our management strategy for potential old growth on the Forest. |
| PC 36u | INCLUDING BACKCOUNTRY HABITAT AND OTHER REMOTE AREAS |
| Response: | Protection for resources in these areas is found in Chapter II of the Revised Forest Plan. Additional protection is in MP 5.0, MP 5.1, MP 6.1, MP 6.2, and MP 8.1 SPNM in Chapter III of the Plan. |
| PC 36v | INCLUDING THE SENECA CREEK AREA |
| Response: | Seneca Creek is a roadless and backcountry area (MP 6.2/8.1 SPNM). See response to PC 36j, above. |
| PC 36w | INCLUDING THE ROARING PLAINS AREA |
| Response: | Protection for resources in the Roaring Plains area is found in Chapter II of the Revised Forest Plan, and in MP 6.2 and MP 5.1 in Chapter III of the Plan. |
| PC 36x | INCLUDING THE DOLLY SODS AREA |
| Response: | Protection for resources in the Dolly Sods area is found in Chapter II of the Revised Forest Plan. |

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| | Additional protection for the Dolly Sods Wilderness is in MP 5.0 in Chapter III of the Plan. Additional protection for the Dolly Sods North area is in MP 6.2 in Chapter III of the Plan. |
| PC 36y | INCLUDING THE BIG DRAFT, SPICE RUN, AND EAST FORK OF GREENBRIER AREAS |
| Response: | Protection for resources in these areas is found in Chapter II of the Revised Forest Plan. Additional protection for these areas is in MP 6.2 in Chapter III of the Plan. |
| PC 36z | INCLUDING THE NORTH FORK MOUNTAIN AREA |
| Response: | Protection for resources in this area is found in Chapter II of the Revised Forest Plan. Additional protection for this area is in MP 8.1 SPNM in Chapter III of the Plan. |
| PC 36aa | INCLUDING THE LOWER LAUREL FORK AREA |
| Response: | Protection for resources in this area is found in Chapter II of the Revised Forest Plan. Additional protection for this area is in MP 6.2 in Chapter III of the Plan. |
| PC 36ab | INCLUDING INCREASING THE NUMBER OF PRESERVED AREAS |
| Response: | Preservation in the Forest Service typically entails congressionally designated areas such as Wilderness or Wild and Scenic Rivers, or historic properties listed on the National Register of Historic Places. However, we do have many special areas that have been assigned specific management prescriptions designed to protect specific resources. See MP 8.0 in Chapter III of the Revised Forest Plan. The number of these areas has not necessarily increased in plan revision, but the overall acreage has. |
| PC 36ac | INCLUDING THE LAUREL RUN AREA |
| Response: | Protection for resources in this area is found in Chapter II of the Revised Forest Plan. Additional protection for this area is in MP 6.1 in Chapter III of the Plan. |
| PC 36ad | INCLUDING UPPER SHAVERS FORK AND THE CRANBERRY BACKCOUNTRY |
| Response: | Protection for resources in this area is found in Chapter II of the Revised Forest Plan. Additional protection for this area is in MP 4.1 in Chapter III of the Plan. |
| PC 36ae | INCLUDING GREEN MOUNTAIN ALONG THE DRY FORK AND THE CONFLUENCE OF OTTER CREEK AND THE DRY FORK |
| Response: | Most of Green Mountain is in the Otter Creek Wilderness and is afforded the same protection as the Wilderness (see response to PC 36j). The National Forest System land at the confluence of Otter Creek and Dry Fork is in MP 4.1 (see response to PC 36 ad) |
| PC 36af | INCLUDING THE EAST FLANK OF SHAVERS MOUNTAIN |
| Response: | Shavers Mountain is a long mountain ridge that would be managed under a number of management prescriptions (3.0, 4.1, 6.1) in the Revised Forest Plan. Protection for resources in this area is found in Chapter II of the Revised Forest Plan, and in the appropriate MPs in Chapter III of the Plan. |
| PC 36ag | INCLUDING BLUE BEND |
| Response: | Blue Bend is a recreation area on the Forest consisting of a campground and other recreation facilities. It will continue to be managed as such under the Revised Forest Plan. |
| PC 36ah | INCLUDING THE ALLEGHENY RIVER, THE BIG SANDY RIVER AREA, AND THE NEW RIVER GORGE AREA |
| Response: | These areas are not on or near the Forest and we have no managerial authority over them. |
| PC 36ai | TO PROTECT WEST VIRGINIA'S ECONOMIC INTERESTS |
| Response: | We assume you are referring to economic interests related to recreation and tourism. See responses to PC 18s, PC 50, PC 827, PC 994b, and PC 66f. There are many other economic interests in the State. |
| PC 36aj | BECAUSE RESOURCE EXTRACTION CAN BE DONE ON PRIVATE LANDS |
| Response: | We agree that resource extraction can be done on private lands, but the Forest Service's multiple-use mandate allows resource extraction on National Forest System lands as well. Protection measures related to resource extraction are found throughout Chapters II and III of the Revised Forest Plan. |
| PC 291 | The Forest should support Minimum Dynamic Area Reserves, including more oak and pine-oak forests in Minimum Dynamic Areas. |
| Response: | Although oak and pine-oak forests have lower proportional representation in MDA reserves compared to other communities, the Revised Forest Plan provides for two MDA reserves in the parts of the Forest that are largely dominated by oak and pine-oak forest. These are the North Fork Mountain-Cave Mountain area (36,000 acres) and the Middle Mountain area (13,000 acres). As the commenter noted, the MPs that contribute to MDA reserves restrict our active management options, which may cause difficulty in mimicking the natural disturbance regimes that are necessary to maintain oak and pine-oak |

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| | communities. Therefore, increasing allocations of oak and pine-oak areas to MPs 5.1 and 6.2 could make it more difficult to maintain the native biodiversity associated with these communities. |
| PC 401 | The Forest should incorporate and allow natural disturbance and processes to maintain and enhance diversity instead of logging and other habitat manipulation. |
| Response: | Management prescription allocations under all alternatives would provide for large core areas of contiguous forest where natural disturbance and recovery processes predominate. See EIS Chapter 3, Terrestrial Ecosystem Diversity section, subsections on Minimum Dynamic Area reserves. |
| PC 401a | BECAUSE INTACT, LATE SUCCESSIONAL FOREST HABITAT AND THE NATURAL ECOLOGICAL PROCESSES THAT MAINTAIN SUCH HABITAT ARE CRITICAL TO THE SURVIVAL OF MANY SPECIES THAT ARE NATIVE OR ENDEMIC TO THE CENTRAL APPALACHIAN REGION |
| Response: | We agree that areas where natural disturbances and succession occur are important to have on the Forest for a variety of reasons. National Forests are managed by law for multiple uses and therefore our Forest plan does include intentional habitat manipulation for wildlife habitat and age class diversity, which produces commercial timber outputs. In management prescriptions where commercial timber harvest is allowed, there are goals for late successional forest habitat to provide this habitat type across the Forest. |
| PC 293 | The Forest should retain the natural, diverse, and semi-primitive nature of the forest found in the Desired Future Conditions of the 1986 Plan because it is consistent with the CFR regulations and desires of forest users. |
| Response: | We believe that we have not only retained the natural, diverse, and semi-primitive nature of the forest reflected in the 1986 Plan, we have increased these qualities in the Revised Plan. The 30% old growth desired under the 1986 Plan will likely go well beyond that amount over time under the Revised Plan (see the Vegetation section in Chapter 3 of the EIS). The Forest will continue to look largely natural (see the Scenic Environment section in Chapter 3 of the EIS). Semi-primitive, backcountry recreation opportunities will increase compared to the 1986 Plan (see Recreation and Wilderness section in Chapter 3 of the EIS). The Desired Conditions for resources have also been expanded and better integrated in the Revised Plan compared to the 1986 Plan. |
| PC 91 | The Forest should not allow any scenic roadway projects. |
| Response: | The Revised Forest Plan does not include any scenic roadway projects, but it does not prohibit them either, except in areas where road construction or reconstruction is restricted. |
| PC 690 | The Forest should advocate unbroken expanses of forest as the best management practice. |
| Response: | Management prescription allocations under all alternatives would provide for large core areas of contiguous forest where natural disturbance and recovery processes predominate. See EIS Chapter 3, Terrestrial Ecosystem Diversity section, subsections on Minimum Dynamic Area reserves. |
| PC 390 | The Forest should not place too much emphasis on active management because: <ul style="list-style-type: none"> • This underestimates or ignores the values of natural disturbances toward landscape and stand diversity • The adverse effects and budget costs of active management need to be carefully weighed against any positive ecological results. |
| Response: | The effects and costs of active management are analyzed and disclosed in Chapter 3 of the EIS. The active timber management cited as a concern would only take place on a maximum of 28-38 percent of the Forest over an extended period of 100 years. Thus, natural disturbance would still be the dominant influence on landscape and stand diversity over much of the Forest for the long term. |
| PC 541 | The Forest should use active management and ensure access for specific wildlife habitat management activities, regardless of the management area designation, to: <ul style="list-style-type: none"> • Maintain a diversity of Forest age classes, species, and conditions to provide a wide variety of wildlife species • Provide recreational opportunities • Help the State's economy • Protect Threatened and Endangered species. |
| Response: | We agree that active management can be used to achieve a variety of goals and objectives, and can help contribute to the State's economy. We are not proposing to change the current access that is available for wildlife habitat management activities under any alternative. If Congress designates any area on the Forest as Wilderness or a Wild and Scenic River with a Wild classification, motorized access to that |

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| | area would likely be prohibited. Such designations are beyond our authority to make. See also responses to PC 686 and PC 93d. |
| PC 563 | The Forest should demonstrate the effectiveness of standard mitigation measures and design features. |
| Response: | Forest Plans address strategic management direction and prescriptions rather than site-specific mitigation measures and design features. At the project level, mitigation measures and design features are typically tiered to Forest Plan direction and prescription area emphasis. The effectiveness of Forest Plan direction and project-level mitigation is based on a number of factors, including research, experience, professional judgment, and monitoring results. Chapter IV of the Revised Forest Plan contains a plan to monitor and evaluate the effectiveness of many different activities and management direction. Monitoring at the project level can also be used to validate or demonstrate the effectiveness of site-specific mitigation measures or design features. |
| PC 648 | The Forest should consider the non-destructive practices used by third world countries. |
| Response: | We believe that the Forest Service uses some of the most environmentally responsible management practices in the world. |
| PC 713 | The Forest should proactively address forest-level threats, including non-native invasive species, pests, and pathogens. |
| Response: | We agree. We have strengthened our desired conditions and goals in the Revised Plan to provide a better picture of how we want the Forest to look and function. We have also added management direction for certain resources or areas of concern, such as non-native invasive species and rare plant communities that were not addressed in the 1986 Forest Plan. |
| PC 647 | The Forest should intensively manage areas that are already disturbed. |
| Response: | See the DEIS timber suitability discussion on pages 3-334 to 3-337. Those areas that are suitable and have been selected for timber management will be managed more intensively. |
| PC 427 | The Forest should allow adjoining property owners to cut dead trees for firewood and black locust for fence posts necessary for the maintenance of a homestead. |
| Response: | Personal use firewood permits for fallen dead trees are available at local Forest District Offices. Permits for a limited amount of posts may be obtained as well. |
| PC 649 | The Forest should encourage businesses to recycle materials used for development. |
| Response: | Although private business practices and choices are beyond the scope of this plan revision, Forest Service research stations do work with the forest product and construction industries to look for new ways of using wood and other materials to provide for the needs of the country. Research includes the use of recycled materials; however, recycled materials are not going to supply the current demand for wood products. |
| PC 67 | The Forest should extract coal and timber in an intelligent manner, because both the jobs and the resources are needed. |
| Response: | The need for timber management and its economic and environmental impacts are discussed and analyzed in the EIS. The Forest would not extract coal. Any coal extracted from the Forest would occur as a result of a private coal owner exercising their right, or by lessees of federally owned coal. If and when the private mineral owner or lessee deems coal quality, quantity, and other physical and economic conditions warrant, private coal extraction would occur according to the mineral deed terms and law. Because coal deposits are scattered and costly to prove and develop, proposals to lease and develop federally owned coal are not foreseen in the next 10-15 years (Mineral Resources AMS, page 8). Should conditions change, a decision to lease federal coal would be analyzed in a project-specific analysis at which time the decision to lease, and lease terms to which coal development would be subject in order to protect forest resources, would be based on environmental analysis procedures, including public involvement. |
| PC 95 | The Forest should decrease biomass extraction. |
| Response: | Multiple use management, including management of vegetation on forested land and providing a sustainable timber supply, is part of the mission of the USDA Forest Service. The amount of biomass removal has decreased over this last decade from the previous decade. See Table TR-14, page 3-342 in the DEIS. Future biomass trends will largely depend on our ability to achieve desired vegetation conditions as described in the Revised Forest Plan. |
| PC 90 | The Forest should prohibit the gathering of certain Forest products, including firewood, berries, |

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| | ginseng, goldenseal, mushrooms, ramps, and moss. |
| Response: | Collection and removal of special forest products, such as berries and goldenseal, is a legitimate use of multiple-use national forest lands. Special forest products collection is prohibited in Wilderness areas and many areas with special designations, such as Botanical Areas. The Forest is reviewing the impacts from the collection of moss from the Forest, but as of this time, no moss harvesting is allowed on the Forest. Permits are required and fees are charged for the collection of special forest products, although no permit is needed to gather small amounts of products like berries or mushrooms for personal use. |
| PC 268 | The Forest should decrease logging and road building activities by 50 percent over the next five years, while substantially increasing protections for wildlife in addition to the protections for endangered species. |
| Response: | <p>The commenter did not specify what the levels are that should be decreased. Current harvest levels are already far below what is needed to begin moving toward desired age class distributions. Further reductions in harvest levels would not address the need for change associated with the vegetation management issue.</p> <p>Projected harvest levels are just that—projections. These projections are based on modeled outputs of achieving desired vegetation conditions using specific management tools within a specific time frame. Only time will tell how close we approach these projections in reality, given factors that cannot be modeled, such as changing budgets, appeal and litigation activity, certain implementation constraints, and shifting Forest priorities.</p> <p>Management direction in the Revised Forest Plan (primarily in Chapter II, TEP Species and Wildlife and Fish sections) provides extensive protection for wildlife and threatened and endangered species.</p> |
| PC 248 | The Forest Service should close the Forest to all commercial interests to protect nature for the people of West Virginia and tourists. |
| Response: | We acknowledge your preference, however your request is beyond the scope of our authority. The Monongahela is a multiple-use Forest, not a Park, and the laws and regulations under which we operate provide for a number of commercial uses, including timber harvest, mineral development, livestock grazing, campground concessions, and different types of special uses. The Forest Plan is designed to protect a wide variety of natural resources while accommodating these uses. |
| PC 81 | <p>The Forest should prohibit certain industrial uses:</p> <ul style="list-style-type: none"> • Including mining and drilling • Including communication sites • Including utility corridors • Including military use • Including logging • Including road building • Including development • To protect natural resources • To prevent global warming • To prevent flooding. |
| Response: | See responses to PC 248 and PC 18. |
| PC 18 | The Forest should reduce industrial uses of the Forest, including logging, road building, mining, oil and gas exploration, and natural gas extraction. |
| Response: | We acknowledge your preferences. National Forests are managed for multiple uses to benefit the public. These uses include timber for building materials and natural gas for home heating, as well as scenery and wilderness and wildlife habitat and recreation opportunities. Chapter II of the Revised Forest Plan provides management direction to protect natural resources from the potential effects of all management activities. Chapter III divides the Forest into Management Prescription areas with different management emphasis that represent a mix of uses, activities, settings, and opportunities. |
| PC 18a | INCLUDING CLOSING UNNECESSARY ROADS AND DECOMMISSIONING ROADS IN SENSITIVE AREAS |
| Response: | We intend to consider road closure and decommissioning options during watershed and project-level planning, regardless of what uses are occurring in the area. See Forest-wide management direction in |

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| | the Roads and Facilities section of Chapter II in the Revised Forest Plan. |
| PC 18b | INCLUDING THE TRAPPING AND SNARING OF ANIMALS |
| Response: | The trapping and snaring of animals is regulated by the West Virginia Division of Natural Resources. |
| PC 18c | INCLUDING THE USE OF ALL-TERRAIN VEHICLES |
| Response: | ATV use does not really qualify as an industrial use. However, there is no legal ATV use on the Forest at this time, and law enforcement officers are working on reducing the amount of illegal use. |
| PC 18d | INCLUDING HOUSE BUILDING |
| Response: | Although we may build or reconstruct administrative sites in localized areas of the Forest, we do not build residential houses or allow them to be built on National Forest System lands at this time. |
| | INCLUDING PROHIBITING LOGGING AND ROAD BUILDING IN THE TEA CREEK AREA |
| Response: | The Tea Creek area is on the Roadless Area Inventory and has a 6.2 Management Prescription under the preferred alternative in the Proposed Revised Plan. Therefore, no commercial logging or associated road building is expected. See management direction for MP 6.2 in Chapter III of the Revised Plan. |
| PC 18e | INCLUDING NO CLEARCUTTING |
| Response: | See responses to PC 637, PC 163, and PC 169. |
| PC 18f | INCLUDING NO NEW ROAD BUILDING OR LOGGING ON SLOPES OVER 15 PERCENT GRADE |
| Response: | See general response to PC 18 above. See also responses to PC 52 and PC 132f regarding building roads and logging on slopes over 15 percent. |
| PC 18g | INCLUDING NO NEW ROADS OR LOGGING ON GEOLOGICALLY SENSITIVE AREAS |
| Response: | See responses to PC 99, PC 470, and PC 832. |
| PC 18h | INCLUDING DESIGNATING STEEP AND SENSITIVE AREAS AND WATERSHEDS AS UNSUITABLE FOR RESOURCE USE AND PRODUCTION |
| Response: | We have the capability of identifying these types of areas as not suited for timber production at the project level based on site-specific information and analysis. |
| PC 18i | INCLUDING NO MANAGEMENT DISTURBANCE ABOVE 4000 FEET |
| Response: | See page 2-5 of the DEIS for the No Management Disturbance Above 4,000 Feet alternative that we considered but did not develop or analyze in detail. |
| PC 18k | TO PROTECT ECOSYSTEMS AND LARGE CORE AREAS OF OLD GROWTH |
| Response: | Large core areas of ecosystem and old growth protection would be maintained under all alternatives considered in detail. See the Minimum Dynamic Area analysis in the Terrestrial Ecosystem Diversity section of Chapter 3 in the EIS. |
| PC 18l | TO PROTECT WATER QUALITY, AIR QUALITY, AND PUBLIC HEALTH |
| Response: | As a federal agency, we must comply with the Clean Water Act, Clean Air Act, and federal and state public health rules and regulations. We believe we have appropriate management direction in the Revised Forest Plan to help us do that. |
| PC 18m | TO PROTECT SCENIC RESOURCES AND THE ECONOMIC BENEFITS OF TOURISM |
| Response: | The Revised Forest Plan has direction designed to protect scenic resources, and potential effects to the Scenic Environment are disclosed in Chapter 3 of the EIS. We believe that the Forest will maintain a predominantly natural-appearing scenic backdrop under all alternatives that should continue to benefit tourism in the local area. |
| PC 18n | TO PROTECT WILDLIFE AND FISH AND THEIR HABITATS |
| Response: | The Revised Forest Plan has direction designed to protect wildlife and fish and their habitats (see Chapter II, primarily sections for Wildlife and Fish, TEP Species, and Soil and Water Resources). |
| PC 18o | TO PROTECT CAVES AND THE UNDERGROUND KARST ENVIRONMENT |
| Response: | See response to PC 474. |
| PC 18p | TO PREVENT EROSION AND FLOODING |
| Response: | Although erosion and flooding are natural processes that cannot really be prevented, the Revised Forest Plan has management direction designed to reduce the potential risks that management activities can have related to these processes. See Chapter II, primarily the Soil and Water Resources section. See also responses to PC 52, PC 106, PC 23, PC 29, and PC 833. |
| PC 18q | TO PREVENT GLOBAL WARMING |

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| Response: | See response to PC 110c. |
| PC 18r | TO PREVENT THE SPREAD OF NON-NATIVE, INVASIVE SPECIES |
| Response: | The Revised Forest Plan contains direction to address the establishment and spread on non-native invasive species, something that the 1986 Plan generally lacked. Potential effects from these species are disclosed in Chapter 3 of the EIS. See also responses to PC 280 and PC 168. |
| PC 18s | TO PROVIDE RECREATIONAL OPPORTUNITIES |
| Response: | Recreational opportunities are provided throughout the Forest, regardless of Management Prescription or the types of uses that are occurring. Driving on roads for pleasure is a recreational opportunity, as is collecting firewood from a timber sale, as is hiking in a Wilderness area. |
| PC 18t | TO PRESERVE WILDERNESS QUALITIES |
| Response: | We completed a roadless area inventory and wilderness evaluations for plan revision, in which we identified those areas that have the best potential for Wilderness. These areas were given Management Prescriptions (5.1, 6.2, 8.1 SPM) under the preferred alternative that would preserve their wilderness qualities until Congress decides to designate them as Wilderness or not. |
| PC 18u | BECAUSE THE FOREST IS PUBLIC PROPERTY, AND THE AMERICAN PUBLIC SPENDS ITS TAX DOLLARS TO PROTECT THE NATIONAL FOREST, NOT TO GIVE IT AWAY TO CORPORATIONS |
| Response: | We have no intention or direction to give the National Forest away to corporations. Protection methods for various resources are described above. |

| FIRE MANAGEMENT | |
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| PC 664 | The Forest should state specific fire objectives in terms of measurable results, monitor the results carefully, and integrate the lessons learned into the fire program. |
| Response: | When prescribed fire is used at the project level, specific objectives of the project and the reason for using fire as a management tool will be given and should include desired results and subsequent monitoring. Lessons learned will be integrated into the fire program and other program areas where fire is used. |
| PC 663 | The Forest should develop a fire program that mimics the natural (non-anthropogenic) regime for fire occurrence and intensity. |
| Response: | There is extensive ecological research showing the need to consider past impacts that burning by Native Americans had on the landscape. An annotated bibliography on fire history, fire effects, prescribed fire use, and oak ecology has been prepared and is part of the project record. The one study that you cited (Gragson, in press) concludes that 3% of the fires in the study area (mountains of North Carolina) were caused by lightning and that these were generally less than one acre in size. This figure is misleading because the percentage of fires that are the result of arson is unknown. If the incidences of arson increase, then the percent of lightning as part of the total of all causes goes down. The small size of fires reported is not surprising given that the data are reported from 1920 to the present. During this time suppression of all fires as fast as possible was likely the practice on lands of all ownerships, especially in the early 1900s when slash from extensive timber harvest was present. It is illogical and ecologically unsound to use this one study of fire causes to plan a prescribed fire program in light of all the evidence showing the link between decline in oak regeneration and recruitment. |
| PC 802 | The Forest should allow only the removal of small underbrush for fuels treatment, rather than larger fuels. |
| Response: | Since the ecological concern for the Forest is the change in forest structure and composition in some areas with fire suppression, re-introduction of fire, through prescribed fire, is likely to be the focus of our fire program and not fuel reduction. However, fuels in the immediate fire area would be reduced. Fuels such as rhododendron, mountain laurel, and red cedar are those most likely to be treated mechanically to reduce fuel loads or reduce fire intensity before prescribed fire is used. These are generally small- to medium-sized understory species. |
| PC 802a | INCLUDING PROHIBITING COMMERCIAL LOGGING FOR FUELS REDUCTION PURPOSES |
| Response: | We plan to treat fuels mainly through prescribed fire; however we do not feel it necessary to limit our management. For example, if gypsy moth mortality increased in an area of the Forest, removal of the |

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| | affected overstory trees could be warranted. |
| PC 802b | BECAUSE WHEN LOGS LIE DIRECTLY ON THE GROUND SURFACE, THEY CAN WICK UP SOIL MOISTURE AND RETAIN HIGHER FUEL MOISTURE LEVELS FOR A SIGNIFICANT PORTION OF THE FIRE SEASON |
| Response: | Large woody debris on the forest floor is an important component of the forest for amphibians, reptiles, fungi, insects, as nurse logs for tree regeneration, etc. Our intention with our prescribed fire program is not to remove this important component of the forest floor. |
| PC 794 | The Forest should use roads on private property when fighting fires, because it is not necessary to construct a fire road every time a new cabin is built on adjacent property. |
| Response: | The Forest Plan does not address this level of detail, although under the emergency need of fire control, any legal access is used for control measures. Where the Forest has legal access, we will use existing roads for fire control or for prescribed burn actions. Statements made about roads being used for fire control were made to show the multiple uses of the road system of the Forest. No road has been built specifically for fire control on the Forest since the 1986 Forest Plan. As we plan for prescribed fire actions, we also use natural fire breaks such as stream channels as fire control lines. The Forest does participate with the State in the FireWise program to educate landowners in areas where fire risk is a concern. |
| PC 665 | The Forest should provide the details of its future Fire Management Action Plan. |
| Response: | A Fire Management Plan is written every year for that year and details how the fire management goals, both suppression and prescribed fire, of the Forest Plan will be implemented when a wildfire occurs or a prescribed fire is planned. The Fire Management Plan is available to the public. The annual Fire Management Plan is not a decision document and is not subject to NEPA analysis. |
| PC 665a | INCLUDING THE PROCESS FOR PRIORITIZING AND SELECTING SITES FOR PRESCRIBED FIRE PROJECTS IN AN ADDENDUM TO THE FINAL LAND RESOURCES MANAGEMENT PLAN BEFORE ANY FIRE PROJECTS ARE PROPOSED |
| Response: | There are several ways an area could be identified as needing prescribed fire. For example, watershed assessments may document a need for prescribed fire to help maintain oak species in certain areas. Areas where landscape-scale prescribed fire is desired may be selected by reviewing the fire regime map and selecting areas where access and ownership would make prescribed burning safe and effective. Forest-wide objectives FM09 and FM01 in the Proposed Revised Plan also address prioritization. |
| PC 665b | INCLUDING WHETHER THE FIRE PLAN HAS UNDERGONE NEPA ANALYSIS |
| Response: | The Fire Management Plan cannot be finalized until there is a signed Forest Plan. No new decisions are made in a Fire Management Plan, as it documents how we will implement the Forest Plan in terms of fire suppression and prescribed fire. When an area is selected for management by prescribed fire, the effects the fire will have on resources in the area will be analyzed and disclosed to the public through a NEPA document. The Fire Management Plan would then be used as a reference document on how to conduct a prescribed fire. |
| PC 665c | INCLUDING CLARIFYING WHAT HAVE BEEN AND WHAT ARE ANTICIPATED TO BE THE IMPACTS OF FIRE AND FIRE SUPPRESSION ACTIVITIES ON THE SOILS, WATERSHEDS, WILDLIFE, BUDGET, AND OTHER RESOURCES |
| Response: | General impacts of fire suppression activities to various resources (other than budget) are described in the DEIS. Site-specific impacts to a given site chosen for management by prescribed fire will be discussed when those sites are chosen. Once sites are selected, then an analysis of impacts to natural resources of the given area will be assessed and disclosed in the appropriate NEPA documents and shared with the public. The level of detail of impacts given in the DEIS is appropriate since the Forest Plan is a strategic framework that does not commit resources or make project-level analysis or decisions. |
| PC 665d | INCLUDING CLARIFYING HOW FIRE POLICY PRIORITIES ARE CHANGING |
| Response: | We clarified some of the changes in the use of prescribed fire in the Analysis of the Management Situation, which is part of the project record. Priorities are always changing; however, the Revised Forest Plan does not commit us to use prescribed fire in any specific location. The Plan sets forth generally where prescribed fire can or cannot be used and gives guidance on how. |
| PC 781 | The Forest should not overstate the threat of fire. |

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| PC 781a | BECAUSE FIRE IS A RARITY ON THE FOREST |
| Response: | The fire descriptions in the EIS describe fire occurrences and intervals as accurately as possible based on available information. Although fire is not nearly as common on the Monongahela as on many drier national forests in the West, it can and does occur on an annual basis. |
| PC 781b | BECAUSE IT IS MISLEADING TO STATE THAT FIRE CONTROL WILL BE ALTERED SIGNIFICANTLY AS A RESULT OF WILDERNESS DESIGNATION |
| Response: | We agree that wilderness designation does not necessarily prevent the use of power tools and mechanized equipment for fire suppression, if the proper approval can be obtained. However, using these tools and equipment requires Forest Supervisor or Regional Forester approval, which requires justification that would extend response and suppression time. The Forest Service Manual 2324.23 provides direction to conduct all fire management activities within wilderness in a manner compatible with overall wilderness management objectives, giving preference to using methods and equipment that cause the least alteration of the wilderness landscape, disturbance of the land surface, disturbance to visitor solitude, reduction in visibility and air quality related values. Considering the above factors, we believe that wilderness designation would restrict motorized and mechanized equipment use for fire suppression. |
| PC 781c | BECAUSE FIRE IS NOT PART OF THE NATURAL ECOSYSTEM EXCEPT PERHAPS IN THE OAK/PINE FORESTS IN THE SOUTHEASTERN PART OF THE FOREST |
| Response: | Fire was more prevalent on parts of the Forest at certain times in the past. See response to PC 662. |
| PC 781d | BECAUSE IN THE MIXED MESOPHYTIC FOREST, A CLOSED CANOPY RETAINS HUMIDITY AND FALLEN LOGS AND THE ASSOCIATED PLANTS IN OLD GROWTH WOODS RETAIN MOISTURE THROUGH A DRY SPELL, BUFFERING THE EFFECTS OF DROUGHT |
| Response: | We recognize that fallen logs in older forests serve as important habitat for animals, plants, fungi, and nutrient cycling. Prescribed fire or other fuel reducing activities will not be applied to much of the Forest and will not be used on all forest types or landscapes. There are many unknowns in terms of fuel loads and reduction needs across the Forest. The main reason for increasing the use of prescribed fire on the Forest is to return an important disturbance regime to areas where results would be most beneficial. Here the concern is more of ecological change than fuel reduction. In some areas of the Forest it is hypothesized that mountain laurel and rhododendron are increasing in numbers with the suppression of fires, however we do not have clear knowledge of the amounts of these shrubs in pre-settlement forests. Again, this is mostly a concern in the fire-adapted areas of the Forest, not the entire Forest. These shrubs are quite flammable, containing volatile oils, and can increase fire intensity in areas where they are found in abundance. In other areas of the Forest the gradual shift in tree species composition from oaks to maples and birches presents the opposite problem. Oak leaves are quite “fluffy” and tough, persisting through the winter and creating a loose cover of leaves in the spring. These characteristics make fire more likely to spread and carry in the understory as opposed to maple and birch leaves that pack down under snow and decompose more rapidly. In these areas we may be losing the ability to use prescribed fire to aid in oak regeneration as the ground level fuels change in composition. |
| PC 781e | INCLUDING ACKNOWLEDGING THAT DECREASING FUEL LOADS IS A MINOR CONCERN IN MOST OF THE FOREST |
| Response: | Some of the language used in the DEIS pertaining to fuels has been changed to reflect these details. The discussions in the DEIS were often more general in nature. |
| PC 662 | The Forest should improve its process for assigning fire regime and condition class values. |
| PC 662a | BECAUSE THE PROCESS USED IS NOT REPRODUCIBLE |
| Response: | The process used for assigning fire regimes and condition classes is reproducible. The process and its resulting map were presented during a poster session at the <i>Fire in Oak Ecosystems Conference</i> in November 2005. The process used and resulting assignment of fire regimes were reviewed by the Regional Ecologist before the information was used in the revised Forest Plan. The Regional Ecologist also provided input on the rankings used in the model. The resulting map of fire-dependent communities is a graphic representation of what is generally known about the Forest in terms of relative fire adaptation. The east side of the Forest, in the Ridge and Valley section, is the driest and contains fire-adapted communities of oak-pine and cedar barrens. There is a transition area on the Forest between landforms influenced by the Ridge and Valley section and the effects of the Allegheny Front |

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| | (Eastern Continental Divide) and the mesic Allegheny Mountains. In these areas, aspect is a strong factor in determining potential natural vegetation and is where fire-adapted species such as oaks are found along with more mesic species. On the western side of the Forest, in the Allegheny Mountains section, the average climatic conditions create a mesic climate where fire and fire dependant or adapted vegetation is unusual. Here, fire was not the dominate disturbance regime. The model, since it was based on biophysical characteristics of the sections and nested landtype associations, reflects these general trends. |
| PC 662b | BECAUSE THE FIRE PRESCRIBED FOR THE RESULTING “OPPORTUNITY AREAS” HAS NOT BEEN TESTED IN THE FIELD ON THE FOREST FOR ITS EFFECTS |
| Response: | Documentation of the creation of the fire regime model is available and part of the public record. Also part of the public record is an annotated bibliography of historic fire regimes, fire effects, fire and oaks, and other related topics. Researchers at Fernow Experimental Forest, located within the Monongahela Forest, are studying prescribed fire when applied in Central Appalachian forests. |
| PC 662c | INCLUDING PROVIDING PEER REVIEW OF THE FIRE REGIME AND CONDITION CLASS PLANNING FRAMEWORK WITH PUBLIC DISCLOSURE OF THE RESULTS OF THE REVIEW |
| Response: | See responses to PC 595 and PC 662a. |
| PC 801 | The Forest should only allow fuel reduction treatments within the wildland-urban interface zone and not in areas far into the interior of the Forest where they would be inefficient and ineffective. |
| Response: | The wildland-urban interface will be priority areas to identify for fuel reductions needs. There may be other areas where reducing fuel loads before attempting a prescribed fire may be appropriate, such as woodland areas with encroaching cedar. These areas are likely to be a small part of the fuel reduction program. |
| PC 505 | The Forest should use fire as a management tool. |
| Response: | We agree and have included management direction for such use in the Revised Forest Plan. |
| PC 505a | TO MAINTAIN WILDLIFE OPENINGS |
| Response: | We address use of fire in the Vegetation Management section of Chapter 3 in the DEIS. The Proposed Revised Plan addresses use of prescribed fire for the maintenance of wildlife openings and savannah habitat (see management direction FM06, WF15, 5139, 6233, and 8607). |
| PC 505b | TO BENEFIT BOBWHITE QUAIL |
| Response: | While we don’t mention bobwhite quail specifically, our use of fire for savannah and woodland habitat will benefit species requiring open or brushy habitat. |
| PC 505c | TO MIMIC FOREST GAPS WHILE REDUCING THE ESTABLISHMENT OF NON-NATIVE PLANTS |
| Response: | Typically, prescribed fire on the Forest will be low intensity or moderate intensity ground fires with mortality of overstory trees unlikely. Gaps may form after repeated burns if used to create desired conditions. These types of fires will not create all the habitat and age class conditions desired in those areas where vegetation is actively managed. Prescribed fire has the potential to facilitate invasion by non-native invasive plants. This potential will be addressed during project analysis for all types of management activities (see NNIS direction in the Proposed Revised Plan at VE15 through VE21). |
| PC 505d | INCLUDING INCREASING PRESCRIBED BURNING WHILE DECREASING COMMERCIAL LOGGING |
| Response: | Commercial and non-commercial timber harvests will still be used to achieve desired conditions in areas where such actions are allowed, which is not the entire Forest. There are still many reasons to use commercial timber harvest to create diversity in age classes across the Forest. Not all areas of the Forest are suitable for application of prescribed fire. |
| PC 671 | The Forest should provide information about prescribed fire use and areas with soils of medium and high nutrient sensitivity. |
| PC 671a | INCLUDING WHAT RESEARCH HAS BEEN DONE ON THE EFFECTS OF FIRE OF VARYING INTENSITY ON SOILS WITH THESE NUTRIENT SENSITIVITY LEVELS |
| Response: | In general, there have been extensive studies conducted on various soil types looking at nutrient cycling. The description of the sensitivity for nutrients on specific geologies within the Forest is new science. Therefore, these relationships have not yet been specifically studied here. However, existing research elsewhere indicates that low-intensity burns release nutrients back to the soil from the ignition of the decomposing leaf litter and organic material on the soil surface. See Chapter 3 in the EIS, Soils Section |

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| | under Effects From Fire for further information. |
| PC 671b | INCLUDING WHAT MANAGEMENT STANDARDS WILL BE ADDED TO ADDRESS PRESCRIBED FIRE USE IN THESE AREAS |
| Response: | The existing standards and guidelines provide adequate direction to address concerns for prescribed fire as well as for performing this management task in nutrient sensitive areas. SW08, SW10 and SW12 in the Proposed Revised Plan provide direction that requires planners to survey and address the issue prior to implementation of a project. Standard FM12 also requires preparation and approval of a prescribed burning plan that addresses protection of watershed resources prior to implementation. |
| PC 671c | INCLUDING WHAT MONITORING AND EVALUATION ACTIVITIES WOULD BE CARRIED OUT TO ASSESS THE EFFECTS |
| Response: | Forest-wide monitoring can occur to assess fire effects under the Monitoring and Evaluation Plan provided in Chapter IV of the Proposed Revised Plan, particularly items 6, 16, and 17. In addition, the Forest typically develops project-level monitoring to assess specific effects in proposed projects. |
| PC 211 | The Forest should explain how it is going to address the lack of a coordinated prescribed burning program on private land. |
| Response: | We have no authority over private land activities. However, we will continue to work with the State and local cooperators on fire issues. |
| PC 124 | The Forest should not use prescribed burns. |
| Response: | There is a large and growing body of published literature on the need for fire in oak forests to retain and perpetuate oaks. In implementing the prescribed burn program, we will continue to inform local citizens of our actions. Prescribed fire is not appropriate on all areas at all times on the Forest. Places such as schools, towns, highways, and hospitals are considered smoke sensitive areas when planning prescribed fires and fires are not conducted under conditions that would lead toward smoke accumulating in those areas. This is standard procedure and has been used in previous prescribed burn efforts. |
| PC 124a | BECAUSE IT DISTRESSES CITIZENS AND CAUSES AIR QUALITY PROBLEMS |
| Response: | In areas where it is determined that prescribed fire use is ecologically appropriate, the best available smoke management techniques will be employed when conducting burns. While prescribed fires do emit various pollutants, utilizing smoke management tools and techniques allows land management agencies to mitigate air quality impacts associated with those emissions while achieving management goals. As Forest-wide standards FM13, FM14 and FM15 demonstrate, the Forest is concerned about local and regional impacts to air quality from prescribed fires. From a regional perspective, the Forest will comply with any and all air quality regulations promulgated by the federal and state air quality regulatory agencies when coordinating, planning and implementing burning programs. From a local perspective, the Forest will identify smoke sensitive areas within the vicinity of a specific burn (e.g., communities, schools, hospitals). If smoke sensitive locations are identified, the Forest can mitigate the impacts in these areas by only burning under meteorological conditions that allow adequate smoke dispersion away from sensitive locations. Determining the meteorological conditions under which a burn should be conducted would include identifying the optimum combinations of transport and surface wind speeds and direction, as well as appropriate mixing heights to disperse the smoke. Depending on the level of concern, dispersion modeling can be used to identify these optimum weather conditions as well as predict air quality impacts. Additionally, while smoke from prescribed fires is often visible (sometimes called nuisance smoke), it does not always mean that pollutant concentrations have reached levels that are harmful or hazardous for human health. Air quality monitors can be deployed in smoke sensitive locations to address human health concerns and ensure that mitigation goals are achieved. Recognizing that abrupt, unpredictable changes in weather conditions can occur, smoke monitoring can also be used in sensitive areas to evaluate the level of impact. |
| PC 124b | BECAUSE SELECT HARVEST SHOULD BE USED INSTEAD |
| Response: | Selective harvest will not always create the desired forest structure and composition. Single tree and group selection harvests are planned for use in certain areas of the Forest, particularly those where disturbance factors such as wind throw and ice/snow storms were the main influences on pre-European contact forests. |
| PC 267 | The Forest should use cameras and satellites to monitor for forest fires to help prevent fires and smoke from polluting the air and water. |

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| Response: | See response to PC 124a regarding prescribed fire and air pollution. |
| PC 803 | The Forest should examine all impacts of fire suppression and prescribed burn activities |
| Response: | Any prescribed fire proposed will have to go through site specific review and documentation of effects under NEPA. The species viability evaluation considered the landscape-level effects of prescribed burning on species that occur in fire-adapted communities, which are the highest priority areas for applying prescribed fire. Site-specific effects to biodiversity and species viability are better addressed at the project level. The Revised Forest Plan permits prescribed fire, and the accompanying EIS displays potential effects above the site level; however, when and if fire is used is an area is a site specific decision with site specific effects analysis. Impacts of fire suppression are disclosed in the DEIS in Chapter 3, pages 3-38 (Soils), 3-81 (Watershed, Riparian, and Aquatic Resources), 3-12-123 (terrestrial Ecosystem Diversity), 3-179 (Species Viability Evaluation), 3-208, 3-209 (Management Indicator Species), 3-238, 240, 243, 249 (Threatened and Endangered Species), 3-272 (Non-native Invasive Species), and 3-404 (Scenic Environment). |
| PC 803a | INCLUDING ANALYZING THE IMPACTS OF PRESCRIBED BURNING AT TIMES OF THE YEAR WHEN FIRES DO NOT USUALLY OCCUR, BECAUSE THIS IMPACTS BIOLOGICAL DIVERSITY AND THE VIABILITY OF SPECIES |
| Response: | The Revised Forest Plan permits prescribed fire, and the accompanying EIS displays potential effects above the site level; however, when and if fire is used is an area is a site-specific decision based on a site-specific effects analysis. Impacts of seasonality of fire on plants and animals in the given project area would be addressed at that time. |
| PC 803b | INCLUDING THE UNDER REPRESENTATION OF LATE SUCCESSIONAL FORESTS AND THE UNCERTAINTIES SURROUNDING THE USE OF PRESCRIBED FIRE WHEN TRYING TO MAINTAIN OR RESTORE LONG-TERM ECOSYSTEM HEALTH AND INTEGRITY |
| Response: | <p>Prescribed fires on the Forest are expected to have little impact to the overstory trees and therefore any late successional forests would retain their overstory trees. We will be using prescribed fire mainly on those areas considered to be fire adapted (there may be small exceptions to this, such as our use of fire to keep the Cheat Summit Fort site in open conditions). Based on current research and study of fire in oak and oak-pine forests that our proposed use of prescribed fire in those areas will help restore long-term ecosystem health.</p> <p>The comments used to create this concern statement also address the resiliency of late-successional forests and comments on the habitat, structure, and diversity supplied by these forests. We agree. Please see the Minimum Dynamic Areas reserves analysis in the DEIS. Also, the desired condition for areas where commercial timber harvest is allowed includes goals for the amount of forest in late-successional habitat. The comments also addressed the ecological basis for the use of prescribed fire on the Forest. See also the responses to PC 124 and PC 662.</p> |
| PC 731 | The Forest should provide information about how its prescribed fire program was formed and what its effects will be. |
| PC 731a | INCLUDING HOW THE 10,000 TO 30,000 ACRES GOAL WAS DERIVED AND HOW IT RELATES TO THE FIRE "OPPORTUNITY AREAS" |
| Response: | The fire regime model was used to determine those forest communities where fire could be used and may be missing as a disturbance regime. The acreage goals represent a level we felt was attainable given current staffing and expected prescribed burning opportunities in an average year. Based on published literature (annotated bibliography part of the project record) we expect prescribed fire to create conditions where oak species are more competitive and to slow succession to more mesic species. |
| PC 731b | INCLUDING HOW THE AT-RISK ECOSYSTEM COMPONENTS WERE DETERMINED AND HOW THE FIRE PROGRAM WILL BENEFIT THOSE COMPONENTS |
| Response: | See responses to PC 662 and PC 665. |
| PC 731c | INCLUDING FULLY DISCLOSING THE EFFECTS FIRE COULD HAVE ON DESIRABLE SPECIES AND HABITATS |
| Response: | Each major resource area discussed in Chapter 3 of the EIS, including those sections addressing the various species and ecosystems of management interest, contains a subsection that analyzes the potential effects of prescribed fire. |
| PC 731d | INCLUDING DISPLAYING WHERE FIRE "OPPORTUNITY AREAS" OCCUR WITH HABITAT |

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| | FOR SENSITIVE OR PROTECTED ANIMALS AND PLANTS AND WHAT THE EFFECTS ON THOSE SPECIES WILL BE |
| Response: | The potential effects of the prescribed fire program to wildlife species and habitats and threatened and endangered species and their habitats are described in the DEIS at the programmatic level (see DEIS, Chapter3, Threatened and Endangered Species and Terrestrial Species Viability sections, General Effects. As the Forest Plan is implemented, the requested effects analyses will be completed for the site-specific action being proposed in a specific location. |
| PC 731e | INCLUDING HOW THE FOREST WILL ENSURE THAT THE FIRE PROGRAM WILL AVOID CAUSING HARM TO SPECIES AT RISK |
| Response: | See response to 731d, above. |
| PC 731f | INCLUDING DISCLOSING IF THERE ARE “OPPORTUNITY AREAS” THAT ARE RISKIER IN REGARD TO SPECIES AT RISK AND OTHERS THAT ARE LESS RISKY WHERE FIRE COULD BE REINTRODUCED IN AN INITIAL TRIAL PHASE |
| Response: | See response to 731d, above. |
| PC 320 | The Forest should increase the amount of acreage recommended for prescribed burning in Alternative 3 to restore the declining oak-hickory-pine forests. |
| Response: | The overall theme of Alternative 3 was to reduce disturbance levels and active management across the Forest, so a reduction (as compared to Alternative 2) in prescribed fire acres was part of this theme for Alternative 3. If conditions are favorable and staffing levels are sufficient, we could use prescribed fire on more acres than in the Forest Plan goal, however this would require re-consultation with the USDI Fish and Wildlife Service on our Incidental Take Statement for Indiana bats. |
| PC 218 | The Forest should give attention to affected areas following prescribed burns and wildfires because areas are vulnerable to invasive vegetation in such situations. |
| Response: | Any prescribed fire proposed will have to go through site-specific review and documentation of effects under the NEPA process. The Revised Forest Plan permits prescribed fire, and the accompanying EIS displays potential effects above the site level; however, when and if fire is used in an area is a site-specific decision with site- specific effects analysis. Included in that analysis will be the potential for invasion by non-native plants and impacts to vegetation. |
| PC 218a | INCLUDING RESTRICTING PUBLIC ACCESS TO AREAS IN WHICH PRESCRIBED FIRE HAS BEEN USED TO ALLOW THE VEGETATION TO GROW BACK TO A MORE ATTRACTIVE APPEARANCE |
| Response: | Public access is restricted during prescribed fire activities and it is likely that most of our future activities will be in areas with restricted public access (MP 6.1). We will advertise the plans to burn an area to reduce the likelihood that local fire departments are impacted by reports of fire. We also may want to invite the public to view recently treated areas to raise awareness for the need for and use of this management practice. We agree with the comment that the unattractive appearance of burned areas is temporary. |
| PC 670 | The Forest should provide information about its capacity to fully fund the prescribed fire program. |
| Response: | Because funding availability and opportunities vary greatly from year to year, and because we do not have specific projects planned for the entire planning period, we have not provided project-specific funding information in the EIS or Proposed Revised Plan. However, we have responded generally to your information requests below. |
| PC 671a | INCLUDING WHICH BUDGET LINES WILL BE USED TO COVER THE COSTS OF PRESCRIBED FIRE AND ASSOCIATED PROJECT PLANNING AND MONITORING |
| Response: | Prescribed fire can be funded through different program budgets, depending on the resource objective the fire is designed to meet. For example, fuels reduction can be funded from one budget code, habitat improvement from another code, and regeneration site preparation from a different code. If the fire can achieve multiple objectives, multiple budget codes may be used. |
| PC 671b | INCLUDING WHETHER THE FOREST INTENDS TO PURSUE FUNDING AVAILABLE NATIONALLY TO SUPPORT THE PRESCRIBED FIRE PROGRAM |
| Response: | National funding for prescribed fire use has been available in the past and will likely be available in the future. If prescribed fire proposals on the Forest qualify for the funding, we would likely pursue it. |
| PC 671c | INCLUDING DESCRIBING THE ROLE OF OTHER AGENCIES IN PROPOSING AND FUNDING |

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| | FIRE PROJECTS |
| Response: | Under the National Fire Plan, state agencies are involved in prioritizing fire projects. For instance, the West Virginia Division of Natural Resources would be a likely cooperator in joint ventures for habitat improvement. We may also have opportunities to work with adjacent land owners, such as The Nature Conservancy, or local municipalities. |
| PC 669 | The Forest should provide information about air pollution and the prescribed fire program. |
| PC 669a | INCLUDING HOW THE PRESCRIBED FIRE PROGRAM WILL CONTRIBUTE TO AIR POLLUTION ON THE FOREST, AND HOW THE INFORMATION GAINED FROM MONITORING AIR QUALITY ON THE FOREST WILL INFLUENCE THE FIRE PROGRAM |
| | <p>Information on air quality effects from prescribed fire alone can be found in the Air Quality Section of the EIS under Direct and Indirect Effects by Alternative. Additionally, you referenced table S-5 on page S-33 of the DEIS Summary, which shows the estimated cumulative emissions from all management activities on the MNF and their contribution to the regional pollution load. We noted there is a typographical error in the last column heading of this table; currently this column reads “Percent Rx Fire of Total Regional Emissions” when it in fact it should read “Percent MNF Management Emissions of Total Regional Emission”. We apologize for any confusion this typographical error may have caused. Referencing this table, you expressed concern over increases in estimated cumulative emissions from MNF management activities over current levels under Alternative 2; while acknowledging that estimated cumulative emissions from Forest management activities decrease under Alternative 3.</p> <p>The Forest currently addresses air quality concerns related to prescribed fire on a local and regional level. From a regional perspective, emissions from prescribed fire activities are being considered by the Regional Planning Organizations (RPOs) when developing emission reduction strategies to meet visibility (glide path) goals. Both current and projected future prescribed burns have been included in the base case and out year emission inventories for the VISTAS RPO. If projections from RPO efforts or air quality monitoring data show that emissions from prescribed fire are hindering the State’s ability to attain the glide path or attainment of the NAAQS, the Forest will collaborate with the West Virginia Department of Environmental Protection to address these issues. With all regulatory requirements being met, from a local perspective, the Forest will employ smoke management techniques to mitigate negative impacts from prescribed fire pollution in local communities. For a more detailed description of possible smoke management techniques, see the response to Public Concern 124.</p> |
| PC 206 | The Forest should identify rare and unique ecological communities and make their boundaries easily retrievable so decisions can be made quickly and easily when a natural fire breaks out or when prescribed burns are being planned. |
| | <p>Many of our rare communities are mapped and in GIS. A goal for the terrestrial ecology program has been added. The goal includes direction to collect, interpret, and display information on terrestrial ecosystems to:</p> <ol style="list-style-type: none"> Determine the kinds and intensities of inventories needed, Identify and classify rare communities to aid in conservation of threatened, endangered, and sensitive plants and animals, Add to the Terrestrial Ecological Unit Inventory (TEUI) of the Forest, Predict locations of rare plants or their habitats from the TEUI, and Predict effects to terrestrial ecosystems from various management options at the project level. <p>Any prescribed fire proposed will have to go through site-specific review and documentation of effects using the NEPA process. The potential impacts to rare and unique communities are better addressed at the project level when specific areas are identified for prescribed fire.</p> |
| PC 789 | The Forest should develop guidelines as part of a fire management plan that protect rare and unique communities. |
| Response: | We will continue to work with the local volunteer fire departments to make them aware of sensitive, rare, and unique communities on the Forest. The Revised Forest Plan goals and guidelines that address rare communities will be a part of the Fire Management Plan for the Forest. Guideline VE12 addresses this issue, as well as standard VE11, goals VE06 and VE07, and objective VE09. |

| AIR QUALITY | |
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| PC 438 | The Forest should intervene when air quality permitting decisions may adversely affect visibility in Otter Creek or Dolly Sods or when permits will increase acid deposition on the Forest to protect forest health. |
| Response: | Based on your comments, it appears you are concerned about two issues. First, you feel the Forest fails to recognize the adverse impact that acid deposition has on forest growth. Please refer to the Soils, Current Conditions Section of the EIS for a discussion of soil nutrient depletion as it relates to acidic deposition and the potential effects to vegetation. Second, you feel the Forest should adopt expanded Forest-wide management direction for aggressively intervening in air permits that will increase acid deposition on the Forest. While the Clean Air Act Amendments of 1977 gave the Forest Service the affirmative responsibility to protect Air Quality Related Values (AQRVs) in the Class I Areas it manages, that role was limited by Congress to one of consultation. This means that the Forest has no direct regulatory authority over sources of air pollution. This authority was given to the United States Environmental Protection Agency (EPA) under the Clean Air Act. EPA was given the opportunity to delegate this authority to a respective state agency, which is the case in West Virginia. While the Forest plans to continue consulting with both EPA and state agencies regarding sources of air pollution that impact Class I Areas through the Regional Planning Organizations for Regional Haze and the PSD process, we do not have the legal authority under the law to expand our role beyond one of consultation. We feel our commitment to this responsibility is adequately captured in the Forest-wide Management Direction for Air Quality. |
| PC 110 | The Forest should improve its analysis of air quality. |
| PC 110a | BECAUSE THE CURRENT ANALYSIS UNDERESTIMATES THE AMOUNT OF AIR POLLUTION |
| Response: | Your comment indicates that you are concerned the Air Quality analysis understates the amount of acid deposition occurring on the Forest. You feel the analysis should say that we have the worst air in the nation. While the analysis does state that Forest receives some of the highest sulfate deposition inputs in the country, we do not feel that current deposition monitoring data reflects your assertion (EIS, Air Quality Section, Sulfur Dioxide, Sulfur Dioxide and Acid Deposition). For example, Annual Data Summaries from the National Atmospheric Deposition (NADP) monitoring network show that site WV18 located in Parsons, WV received 26.17 kg/ha of sulfate in 2004 while site OH49 in Noble County, OH received 34.80 kg/ha of sulfate in 2004. Likewise, site PA15 in Centre County, PA received 29.09 kg/ha of sulfate in 2004. (Estimated Sulfate Ion Deposition Rates During 2004; Source, NADP 2004). While we certainly agree that acidic deposition is high in this region of the country, we do not feel it qualifies as the worst. |
| PC 110b | INCLUDING CONSIDERING THE HISTORIC IMPACTS OF POOR AIR QUALITY |
| Response: | The effects of acid deposition on stream chemistry and aquatic resources are discussed under Current Conditions in the Air Quality, Soil Resource, and Watershed, Riparian and Aquatic Resources Sections. |
| PC 110c | INCLUDING ADDRESSING THE IMPACTS OF THE ALTERNATIVES ON GREENHOUSE GAS EMISSIONS |
| Response: | Global climate change is beyond the scope of this analysis or plan revision. We recognize that there is research pointing to potential effects of global climate change on the health and vitality of national forests and rangelands. And we also recognize that many localized management decisions on National Forest System lands potentially could have a cumulative effect on the global climate. However, the cause and effect relationships of most anthropogenic and natural influences on global climate change are complex, and interactions with sensitive ecosystem components currently are not fully understood. The onus of addressing such large-scale phenomena at a time when all of the cause and effect mechanisms are not understood should not be placed on individual National Forests. Rather, the issue of global climate change has been addressed at regional and national levels. The Forest and Rangeland Resources Planning Act of 1974 places this responsibility at the national level by requiring that Renewable Resource Assessments (RPAs) address “the potential effects of global climate change on the condition of renewable resources” as well as include “an analysis of the rural and urban forestry opportunities to mitigate the buildup of atmospheric carbon dioxide” (16 U.S.C 1601). |

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| | <p>The most recent RPA utilized current Forest Service research on the issue. This document discusses global climate change, its effects on forest resources, and potential implications for management actions regarding carbon sequestration potential of forest biomass and soils.</p> <p>Additionally, various research efforts related to global climate change, ecosystem effects and response, utilizing integrated modeling approaches to predict future impacts and carbon sequestration potential of North American forests are ongoing at the national and regional scales through the research branch of the Forest Service. The following links describe some of these ongoing efforts:</p> <p>1) http://www.fs.fed.us/ne/global/index.html - Northern Global Change Research Program (NGCRP) 2) http://www.sgcp.ncsu.edu/research.htm - Southern Global Change Research Program (SGCP) 3) http://www.carbonsequestration.us/Websites/htm/Forest-Service-FSGCRP.html - USDA Forest Service Global Change Research Program (FSGCRP)</p> <p>Through these programs, Forest Service Research is addressing both research needs, i.e. the unanswered scientific questions related to ecosystems and global climate change, and the management implications related to these questions, including carbon sequestration potential. One goal of these research efforts is to equip land managers with the tools needed to address global climate change at the land management planning and project levels. Since these tools are not widely available to forest managers at this time, the Forest felt it was more appropriate to leave this issue within the national and regional scope.</p> |
| PC 110d | INCLUDING ACKNOWLEDGING THE PROBLEM OF ATMOSPHERIC HAZE AND HOW MUCH SHORTER VISTAS ARE NOW |
| Response: | The issue of regional haze has been addressed in the Current Conditions, Sulfur Dioxide and Regional Haze section under Air Quality in the DEIS (pages 3-8 through 3-9). |
| PC 676 | <p>The Forest should provide information about ozone pollution on the Forest, including:</p> <ul style="list-style-type: none"> • How it will reduce ground-level ozone on the Forest • Whether it expects to see a rise in ground-level ozone as more people move into neighboring communities • Whether prescribed fire on the Forest will lead to a rise in regional haze • Whether counties in the region, other than Greenbrier County, have non-attainment problems • Explaining the ramifications of designating an area as smoke sensitive • Whether the rise in particulate matter under Alternative 2 is due to prescribed fire • Whether there are any plans to implement more air quality monitoring stations. |
| Response: | <p>The West Virginia Department of Environmental Protection (WV DEP) has been delegated the authority under the Clean Air Act (by EPA) to regulate, control, and monitor air pollution in West Virginia (please see response to PC 438a). Programs or plans to regulate pollution sources and abate air pollution are within the power of the state, not the Forest. The Forest can, and does communicate the negative effects of air pollution on Forest resources to WV DEP, but regulatory authority lies in their jurisdiction. Likewise, air quality monitoring networks used to determine attainment status of a given area are also within the jurisdiction of WV DEP, not the Forest.</p> <p>Estimated increases in particulate matter as a result of prescribed fire under Alternative 2 can be found in the Air Quality section of the DEIS under Environmental Consequences, Direct and Indirect Effects for Prescribed Fire Emissions. For a detailed description of how the Forest identifies and addresses smoke sensitive areas and utilizes smoke management techniques, see the responses to Public Concerns 124 and 669. This information has also been added to the FEIS for clarification purposes.</p> |
| PC 176 | The Forest should make oxygen production its highest priority, including providing an in depth study of the clean water and oxygen production levels in the Forest Plan, and providing recommendations based on oxygen production and a healthy, balanced forest community rather than recommendations based on dollar profits. |
| Response: | We understand your concern; however we disagree with your opinion that oxygen production should be the Forest's highest priority. Additionally, we believe that oxygen production is not a major air quality concern in this region. |
| PC 674 | The Forest should cut back on air pollution wherever it can to set a positive example for polluters |

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| | in the region, because the proposed ten-fold increase in particulate matter is significant when you consider how close to non-attainment many of the Forest's neighboring communities are. |
| Response: | You expressed concern over increases in estimated cumulative emissions from Forest management activities over current levels under Alternative 2, and you pointed out that estimated cumulative emissions from Forest management activities decrease under Alternative 3. We recognize that while this statement is true, the current levels of pollution from Forest activities are relatively small compared to regional emissions, and in effect are negligible. It would take substantial increases in emissions from Forest activities (over current levels) to see effects that are not negligible. Given this, the total increases in emissions from activities in Alternative 2 comprise a very small percent of the total pollution load in the region; 0.26% for particulates and 0.07% for NOx. While Alternative 3 shows reductions in particulate matter pollution from current levels, this only constitutes a 2.53% reduction. However, regardless of increases or decreases of emissions from its activities, the Forest is still required to comply with all Federal and State air quality regulations. This requirement is captured in the Forest-wide management standards for Air Quality and Fire Management in Chapter II of the Draft Plan. The Forest is currently meeting these requirements. |
| PC 674a | TO PROTECT STREAMS AND OTHER FOREST RESOURCES, AND TO REDUCE ACID RAIN AND ACID DEPOSITION |
| Response: | See responses to PC 438 and PC 676. |
| PC 672 | The Forest should consider that the mitigation proposed in the Longview power plant air permit could have the perverse effect of having Longview "subsidize" acid deposition at Class 1 Areas in the Forest, rather than mitigate the impact of their acid deposition. |
| Response: | The outcome of an individual PSD permit, particularly one that has already been permitted, is beyond the scope of this plan revision. |
| PC 313 | The Forest should put increased emphasis on the potential ecological threat of acid deposition. |
| PC 313a | INCLUDING ENGAGING IN AND SUPPORTING ADDITIONAL RESEARCH AND MONITORING TO EVALUATE ACID DEPOSITION'S EFFECTS ON FOREST HEALTH, PARTICULARLY ON HIGH-ELEVATION SPRUCE ECOSYSTEMS |
| Response: | <p>The Forest Service has a special branch that is responsible for conducting research for both federal and private lands. The Forest works closely with our research counterparts, including academia, to help characterize and learn about acid deposition and its effects to land resources. Research related to acid deposition has been occurring on the Forest since the 1970s. The latest research was conducted in the summer of 2004 and 2005 by West Virginia University. A new study is under way by Virginia Tech University in partnership with the Northeastern Research Station (Fernow Experimental Station), Forest Health Monitoring, USDA NRCS, and the Forest. Results from this work will be made available in 2008. Also, the Forest conducts a large amount of monitoring. Currently the soil chemistry monitoring database holds data for approximately 250 soil pits that are located within the proclamation boundary. This is estimated to be one of the largest soil chemistry bases of its kind addressing acid deposition and the effects on soil. Several theses have been produced (Jenkins, 2002; Schnably, 2003; Sponaugle, 2005) and many professional papers have been published from work that has been done on the Forest.</p> <p>In 2006, a new monitoring project for the Forest will be initiated with Forest Service State and Private. Currently there are 12 red spruce plots on the Forest that were monitored approximately 20 years ago for forest health parameters. These plots were revisited in 2005. We are working with State and Private to expand the plots to 20, take foliar samples for chemical analyses, soil samples, root tissue samples, and through fall measurements for air quality. This monitoring project would be long term.</p> <p>The use of liming to mitigate soil disturbance is not for the purpose of addressing acid deposition or for the purpose of accounting for loss base cations from a system from a proposed management activity. The liming is done for the purpose of establishing a quick vegetative cover to prevent erosion and soil loss. Much of this lime is used by the new crop as well as it is leached from the soil profile within 3 to 5 years depending on climatic conditions. Therefore, the long-term soil benefits from this activity are, overall, negligible to the project area. Also, the areas disturbed within a proposed project are limited to no more than 15 percent soil disturbance based on SW05.</p> |
| PC 313b | BECAUSE HARVESTING TIMBER IN ACID SENSITIVE SOILS WILL CREATE HIGHER PH LEVELS THAN OCCUR NATURALLY |

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| Response: | Current research shows that timber harvesting contributes to base cation removal from the system, causing soils to become more acidified. This additional acidification can raise the risk of regeneration failure; therefore mitigations need to be considered to address potential effects. Chapter 3, Soil Resource section, goes into a detailed description about the effects of liming soils and the possibility of using lime to neutralize acid deposition impacts. |
| PC 313c | INCLUDING ACID MINE DRAINAGE PROBLEMS |
| Response: | Acid mine drainage exists on the Forest but only in limited amounts, especially when compared to areas of past mining use outside of the proclamation boundary. The coal seams mined on the Forest in the past produce water quality that is impaired for heavy metals but not to such a degree that it has been identified as a top priority. |
| PC 313d | INCLUDING USING LIMING TO LIMIT THE IMPACT OF ACID DEPOSITION |
| Response: | There have been several research projects focusing on the liming of forest soils. However, the results from these studies have been mixed, and many could not be replicated (Rengel 2003). If liming is used for mitigation, there are considerations that should be taken into account. Pelletized lime and limestone sands are the only products that can currently be used in ground spreading equipment (Mizel 2005). The liming materials that have worked the best in the studies have been dolomitic limestone (Rengel 2003), and coarse limestone sands have been found to be more cost efficient than pelletized lime (Mizel 2005). Detrimental effects of liming forest soils have been noted in these studies as well. Liming has been seen to cause the leaching of organic carbon and nitrogen from the soil due to increased microbial activity (Rengel 2003). Therefore, liming is a possible mitigation for these high risk soils; however, due to the associated unknowns, more research is needed before liming could be recommended as a common practice. |
| PC 313e | INCLUDING CONSIDERING THE IMPACTS ON MYCORRHIZAE |
| Response: | Research with mycorrhizae is very new and complex. The Forest is starting a new spruce ecosystem monitoring project in association with the NE Forest Service Research branch out of Morgantown, WV. One of the multiple goals of that project is to analyze the mycorrhizae of red spruce. It is easier to study conifers than hardwoods due to the nature of mycorrhizae associated with conifer species. This project is scheduled to begin in summer FY 06. |
| PC 313f | INCLUDING RETAINING CALCIUM AS A BUFFERING AGENT |
| Response: | <p>Forest-wide management direction has been designed to provide a range of tools and options to help land managers address risk to soils and soil productivity, which is a bigger picture than just retaining calcium as a buffering agent. However, the magnitude and type of risk still needs to be assessed at the project level, based on site-specific soil conditions and proposed activities, before the appropriate tools and options can be determined and applied. Soil Standard SW08 and Guideline SW10 direct land managers to collect the appropriate level of soil information at the project level to help assess risk.</p> <p>Risk assessments for soils can lead to various management implications, including adjustment of management activities or the addition of site-specific mitigation. There are several mitigations for retaining calcium as a buffering agent in sensitive areas. For example, timber harvest practices can be modified to take into account areas with low Ca:Al molar ratios. Harvest methods affect the nutrient cycling of the forest floor differently (Elliott and Knoepp 2005). Methods such as whole-tree harvesting that remove excess organic material have more detrimental effects on nutrient availability than stem-only harvests that leave organic material (branches, leaves, tree crowns) at the harvest site (Elliott and Knoepp 2005). Short harvest rotations also have shown decreases in soil base cations due to the lower accumulation of organic matter and higher soil disturbance (Grigal 2000). Likewise, soil-disturbing activities, including skidding and log yarding, decrease soil productivity by removing soil organic matter and compacting the soil (Berger et al. 2004). Thus, the Ca:Al molar ratio can be used to guide the placement of soil-disturbing activities and determine harvest method and rotation length.</p> <p>The majority of tree roots occur within 90 centimeters of the surface of the soil, with feeder roots in the upper 60 centimeters (McDaniel 1997; Oettinger 2005). The upper B horizons of the some soils sampled on the Forest were above 60 centimeters in the zone of the feeder roots. The upper B horizon chemistry also has been correlated most strongly with foliar chemistry in sugar maple (Bailey et al. 2004). Thus, the upper B horizon data can be used for making management recommendations as well.</p> |

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| | <p>Because the majority of the base cations in a watershed come from litter fall, soil disturbance and litter removal can be limited in areas of high risk for cation depletion. Harvest methods can leave woody debris and slash material on site to augment nutrient and organic matter input (Mann et al. 1988). Whole-tree harvesting can be replaced by stem-only or sawlog harvesting. An effective way to preserve organic matter on the soil surface is by helicopter or skyline logging. On average, helicopter and skyline logging disturb only 2.5 percent of a site compared to 10 percent or greater for ground-based conventional harvest methods (Grigal 2000).</p> <p>Harvest rotations in areas of high risk can be extended in order for the base cations in the soil to be replenished, and longer rotations have higher percentages of base cation return (Blanco et al. 2005). Soil disturbance can be prohibited or limited on landscape positions that have higher Ca:Al molar ratios. For landscape positions with low Ca:Al ratios--such as the shoulders, benches, and back slope positions--the mitigation costs for forest productivity may be high. Because forest productivity is at the highest risk on these positions, they can be the best places to place skid roads and log landings, because further disturbing these areas would have less effect on productivity than detrimental disturbance on more productive sites. The positions with lower risk tend to have better potential for vegetative growth, and therefore, the soil should not be disturbed (Mann et al. 1998; Grigal 2000). On particularly high-risk sites, the Forest has the ultimate option of avoiding management-related disturbance, shifting project activities to safer locales, and removing the site from the suitable timber base.</p> <p>Due to the variability of the soil conditions across the Forest, site-specific management recommendations cannot be made without a site-specific risk assessment. Although the soil chemistry data set for the Forest is increasing, the density of sampling is not yet sufficient to use the information for project-level decisions. More soil samples will likely need to be taken within project boundaries, with an adequate sample density. Soil sampling can be used in cumulative effects analyses, as the samples indicate past effects and current conditions, and the sampling data can also be used in project design and mitigation to help reduce future impacts. The revised Forest monitoring plan (Revised Forest Plan, Chapter IV) incorporates the probability for such sampling.</p> |
| PC 313g | INCLUDING DEVELOPING SPECIFIC DIRECTION ON HOW THE FOREST WILL USE THE OVERLAY OF SOIL NUTRIENT SENSITIVITY AND MANAGEMENT PLANS IN PLANNING NEW TIMBER PROJECTS |
| Response: | The soil nutrient sensitivity map is reliable to a scale of 1:63,000. It is used in project planning as a tool to indicate whether a more detailed look into soil productivity issues may be warranted. This map is not a stand alone tool. It is used in conjunction with water chemistry data, existing soil chemistry databases, geologic information, other information about the soils from past project records, and personal experience from soil scientists. Depending on the data, a small survey may be conducted with chemical sampling to verify soil chemistry conditions, or a large-scale monitoring project may be conducted to examine several parameters of chemical characteristics of the soils. Results then help guide in the planning of the project, which may include avoidance of the area to full implementation of the project with mitigations added for resource protection. However, all of this is determined at the project level and not the plan level due to the scale of the information and the variability of soils on the landscape as described on pages 3-40, 3-49, 3-29 – 3-31 of the DEIS. |
| PC 392 | The Forest should consider the possible impacts of global warming, including the possibility of cooler ridge tops becoming refuges for various species like Cheat Mountain salamander, and the possibility of carbon sinks, such as mature ecosystems, being turned into carbon sources. |
| Response: | See response to PC 110c. The DEIS analyses for Terrestrial Ecosystem Diversity and Terrestrial Species Viability acknowledged that the projections of effects beyond the first few decades are tenuous due to the uncertain effects of climate change and other external factors (pages 3-98 and 3-167). Such external effects were determined to be too speculative and uncertain to be incorporated into the analysis accurately. Forest Plan direction under all alternatives gives full protection to the Cheat Mountain salamander. Although climate change could affect this species, Forest management would not add to these effects under any alternative. |
| PC 673 | The Forest should consider whether expanding its role in the PSD (prevention of significant deterioration) process would allow it to better protect the air quality related values on the Forest, because expanding the review process to include new pollution sources within 200 kilometers |

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| | would give the Forest Service more power to protect air quality, air quality related values, and stream chemistry on the Forest. |
| Response: | You are concerned that the Forest's PSD review process is limited to new pollution sources within 100 km of the Forest and feel this process should be expanded to include all new sources within 200 km. There are no distance restrictions regarding the PSD permits that should be reviewed in the standards and guidelines for Air Quality in the FPR. The Forest currently reviews and comments on new pollution sources that are in some instances greater than 200 km away from the Dolly Sods and Otter Creek Class I Areas. Additionally, it is the responsibility of the state air quality regulatory agencies to send information on PSD permits to the Federal Land Manager for the Forest. [Note: A 100 km limit was originally proposed in draft EPA guidance for interpreting New Source Review and PSD regulations, the New Source Review Workshop Manual (EPA 1990)]. However, this guidance was never formalized and was written prior to improvements in air quality dispersion modeling capabilities. At the time, current air quality dispersion models were only thought to be accurate out to 100 km. Now a long-range transport puff model is available for use in situations where the source is between 100 and 300 km away. |

| SOIL AND GEOLOGY | |
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| PC 470 | The Forest should provide information about the methods used to identify and rank "sensitive" geological areas. |
| PC 470a | INCLUDING HOW THE SOIL SENSITIVITY RANKINGS ARE DETERMINED |
| Response: | The soil nutrient sensitivity map is reliable to a scale of 1:63,000. It is used in project planning as a tool to indicate whether a more detailed look into soil productivity issues may be warranted. This map is not a stand alone tool. It is used in conjunction with water chemistry data, existing soil chemistry databases, geologic information, other information about the soils from past project records, and personal experience from soil scientists. Depending on the data, a small survey may be conducted with chemical sampling to verify soil chemistry conditions, or a large-scale monitoring project may be conducted that examines several parameters of chemical characteristics of the soils. This decision would be made by the line officer or deciding official, based on input from a Forest soil scientist. Results can help guide the planning of the project, and adjustments may range from avoidance of the area to full implementation of the project with mitigation measures added for resource protection. However, all of this is determined at the project level due to the scale of the information and the variability of soils on the landscape as described on pages 3-40, 3-49, and 3-29 to 3-31 in the DEIS. |
| PC 470b | INCLUDING WHAT PEER REVIEW THE SOIL RANKING SCHEME RECEIVED |
| Response: | The ranking scheme was developed by the Forest Soil Scientist and Forest Geologist. It was internally reviewed by the watershed staff and air quality specialists. Other peer review from outside sources included scientists from the Fernow Experimental Station and West Virginia University. The project record includes a list of documented contacts that the Forest Soil Scientist worked with in developing the approach to assessing soil sensitivity on the Forest. The information was shared with other national forests in the region as well as the Regional Office, where it was reviewed by their staff and scientists. |
| PC 470c | INCLUDING HOW THE RANKINGS WILL AFFECT FOREST PLAN IMPLEMENTATION |
| Response: | The soil sensitivity rankings will not affect forest plan implementation. The sensitivity analysis was utilized in analyzing potential effects from different land allocations by alternative in the effects section (pages 3-45 through 3-51) of the DEIS. The sensitivity map is a tool to be used at the project or watershed level of planning, and Standard SW08 (page II-9, Proposed Revised Plan) requires that the sensitivity of an area be reviewed for those management actions that can affect soil nutrient depletion. |
| PC 470d | INCLUDING WHETHER THERE ARE AREAS WHERE SOIL CONDITIONS ARE SO EXTREME THAT A LIST OF ACTIVITIES IS, OR SHOULD BE, PROHIBITED |
| Response: | There may be areas on the Forest where soil conditions indicate that certain activities should be restricted; however, they could only be identified through site-specific analysis. This is addressed on page 3-49 of the DEIS. Utilizing the Forest's most current dataset, the highest risk areas on the Forest exist in the Otter Creek Wilderness and possibly some areas of the Dolly Sods Wilderness. Other areas on the Forest, where stream chemistry would indicate a potential terrestrial problem, have shown ranges of variability in soil chemistry depending on the landscape. Therefore, sectioning out large areas within |

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| | a watershed would be difficult and inappropriate at the Forest-wide scale. Potential mitigation does exist that can be used to ameliorate conditions and allow management activities to continue. |
| PC 470e | INCLUDING HOW NUTRIENT SENSITIVITY WAS ADDRESSED IN THE TIMBER SUITABILITY DETERMINATION |
| Response: | See the Soil Resource section in Chapter 3 of the DEIS, particularly page 3-49. |
| PC 470f | INCLUDING INFORMATION TO USE WHEN SELECTING TARGET LOADS TO HELP DETERMINE DESIRED CONDITIONS ON THE FOREST, INCLUDING WHAT SUITABLY CONSERVATIVE TARGETS SHOULD BE USED UNTIL THIS INFORMATION IS AVAILABLE |
| Response: | <p>To address your concern in part, we would first like to clarify the definition of a Critical Load. A critical load is a quantified estimate of pollutant exposure or loading below which harmful effects to environmental receptors do not occur. A critical load can be developed for a variety of pollutants and receptors within a particular ecosystem and is a scientific number based on modeled or measured dose-response data. Given the current pollution loadings or exposures in an area, this number may or may not be exceeded. Because the critical load(s) may or may not have been exceeded, target loads are selected to reflect policy or management goals, using scientific information along with social, economic, spatial and temporal considerations. “Federal area managers are beginning to use critical loads as tools for quantifying harmful pollution levels and setting goals for resource protection or restoration on federal lands” (Porter et al. 2005). Using this definition, target loads would be set for areas on the Monongahela based on the critical load(s) and the current levels of deposition in the area. Land management goals may be a factor in choosing the target load, but because this is a pollutant exposure or loading it would not be chosen to reflect management decisions, but rather to reflect air quality goals. As such, they will help the Forest define the effects of acidic deposition from new and existing pollution sources on aquatic and terrestrial ecosystems as we continue to work with state and federal air quality regulators to reduce regional levels of deposition. This is potentially the most beneficial application of critical and target loads, because it will demonstrate to air regulators the level of pollution reductions needed to restore or maintain ecosystems of concern. For more information on critical loads, please see the Air Quality section of the FEIS. While the DEIS discussed critical loads under both the Soil Resource (page 3-31) and Air Quality (page 3-20) sections, this information has been clarified and consolidated under Air Quality in the FEIS.</p> <p>Additionally, you asked “what suitably conservative targets will be used in the meantime?” Currently, in terms of PSD applications and air quality goals, the Forest can use two sources of information. The first is General Technical Report NE-151, Screening Procedure to Evaluate Effects of Air Pollution on Eastern Region Wildernesses Cited as Class I Air Quality Areas (Adams et al. 1991). This document defines “red and green line” values for stream pH, ANC and deposition loadings of sulfur (S) and nitrogen (N) for eastern Class I Areas. However, this document tells us that, based on data that was currently available at the time, total deposition loadings of S and N are already exceeding red line values of 11-13 kg/ha/yr for S alone, and 14-16 kg/ha/yr for S plus N in Dolly Sods and Otter Creek Wildernesses. Because of this, a reasonably conservative concern threshold was needed to compare single-source impacts with for PSD sources. Currently the Forest uses a concern threshold of 0.01 kg/ha/yr for S and .005 for N, which is based on minimum detection limits of changes in stream chemistry resulting from S and N deposition. It is similar to the Deposition Analysis Thresholds the National Park Service uses.</p> <p>Finally, the Forest is working with Forest Service Research on a demo-project to assess the applicability of a methodology used to determine critical loads in European countries for sites in the United States. This demonstration site is located on the Fernow Experimental Forest and results will be representative of Otter Creek Class I Area. As the data collection period is wrapping up, the results from this project should be available within the next few years.</p> |
| PC 472 | The Forest should explain the appropriate intensity level needed for soil inventories, including who decides and when. |
| Response: | See response to PC 470a. |
| PC 155 | The Forest should acknowledge that Maunch Chunk soils are not a problem for roads and are the best and most productive soils on the Forest. |
| Response: | Interpretations concerning soils that derive from the Mauch Chunk geologic formation are taken from |

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| | <p>the USDA- NRCS Soil Survey County Reports, and more information can be found at: http://soildatamart.nrcs.usda.gov/ and from the NRCS soils database NASIS. Although these soils may be very productive for growing vegetation, the NRCS interpretations indicate that soils forming in these parent materials have moderate to high risk of slope failure or mass wasting, and they pose limitations for mechanized equipment and construction. These soils have high to severe erosion potential and they are susceptible and prone to compaction. Slope is also an influential factor for management activities on these soil types. The combination of all these factors increases the inherent risk of road construction on these soil types. There are several areas on the Forest where roads have been constructed on these soils types resulting in failures of the roadbed and small mass wasting events. Although it is not always feasible to avoid road construction on soil forming from the Mauch Chunk geologic formation, the Forest is aware of the inherent risk and we try to minimize the effects of road construction through various mitigations applied at the project level.</p> |
| PC 203 | The Forest should explain what the “high hazard” areas in areas of shale and limestone are and give these their own special section of detailed management plans. |
| Response: | High hazard with regard to limestone refers to karst formations and caves. Sinks and land subsidence can occur and pose a risk, and ground disturbance within these areas can introduce sediment into the under workings of the karst formations. High hazard areas with regard to shale refer to shale formations that have exposed dips that can sometimes result in large mass wasting events. Also, often soil types forming from these shales are shallow, droughty, and difficult to keep vegetated. Therefore, operating in these areas could result in substantial loss of sensitive habitat (i.e. shale barrens) or result in a loss of soil productivity that could prevent the return of vegetation. |
| PC 473 | The Forest should reconsider the strict slope limitation standards because there is no evidence that landslides are a problem on the Forest. |
| Response: | Slope limitations are set due to concerns for operator safety, resource protection for soil and water, mechanized equipment limitations, and higher soil risks associated with steep slopes, like erosion potential. Although landslides are not a common occurrence on the Forest, they do occur. When a large landslide occurs in an area of management, or in an area where a risk to human safety or facilities exists, the cost of repair and maintenance can be very large. Therefore, avoiding potential landslides is often the best course of action. Providing standards and guidelines that require site-specific review of these areas prior to management is a valuable tool the Forest can use to reduce the risks to Forest resources and operator safety. |
| PC 350 | The Forest should acknowledge that its discussion of the impacts of soil disturbance on nutrient export and loss of productivity are overstated and not supported by science. |
| Response: | The discussion of effects of soil disturbance and nutrient loss and potential loss of soil productivity within the EIS is well researched and referenced. There are some 200 plus references utilized in the construction of the discussion either directly by citation or indirectly through the accumulation of the knowledge base about effects and past and current research. That bibliography is available upon request. Many of the citations are in the references section of the DEIS. In addition to the use of references and research, the discussion and analysis underwent peer review. The project record includes a list of documented contacts that the Forest Soil Scientist worked with in developing the approach to assessing the soil nutrient sensitivity on the Forest. The information was shared with other national forests in the region as well as the Regional Office, where it was reviewed by their staff and scientists. |
| PC 538 | The Forest should develop a management prescription that emphasizes soil and water quality protection and assign the portion of the Forest north of Parsons to this prescription: <ul style="list-style-type: none"> • To benefit local residents • To minimize clear cuts • To minimize road construction • To increase run-off control from disturbed areas • To provide adequate stream buffers. |
| Response: | During the revision process, there were discussions about developing a management prescription for streams and riparian areas. One of the main difficulties in developing this MP was the accuracy of the stream mapping and how to include intermittent and ephemeral channels that were unmapped. Rather, the team elected to provide Forest-wide direction that would be applied in all MP’s and through all alternatives. The direction provides protection for soil and water resources that is flexible to site-specific conditions and concerns. If future projects pose additional risks, additional mitigation measures |

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| | <p>can be identified at the project level, or the project design can be modified to address the concerns.</p> <p>We feel that Forest-wide direction is adequate to protect soil and water resources without changing the management prescription in the area north of Parsons.</p> |
| PC 832 | The Forest should consider the impacts that management activities will have on soil nutrient depletion, including what indicators will be used to determine the effects of soil nutrient depletion in such sites. |
| Response: | <p>Management actions that can contribute to nutrient depletion are described on pages 3-39 and 3-45 to 3-49 of the DEIS. To reiterate, soil disturbance and vegetation removal can potentially affect soil nutrient depletion. The indicators used to determine effects are not to a level of certainty that they can yet be defined. There are several indicators that the current literature suggests, but as the science progresses, views are changing. This is an area of multiple scientific opinions. Therefore, the Forest has chosen not to list criteria or indicators at this time in order to stay current with the science as it progresses. Some items of potential interest include base saturation of the effective cation exchange capacity, calcium to aluminum ratios through plant available extraction methods (SrCl₂ method), and sulfate absorption capacity. Also, foliar chemistry or tree chemistry may provide clues in conjunction with other data sets as to what the status of site productivity may be. However, it is clear that at this time there is little agreement within the scientific community as to what should be monitored and how.</p> |
| PC 833 | The Forest should examine what areas of the Forest have soils, slopes, and other soil or geologic or watershed conditions that are susceptible to serious or irreversible damage. |
| Response: | <p>We have identified and examined areas within the Forest that have soils, slopes, and watershed conditions that are susceptible to serious or irreversible damage. We have utilized many tools including a soil sensitivity map that looks at soil interpretations for such concerns as hydric soils, flood plains, karst topography, mass wasting, prime farmland, steep slopes, and soils with seasonal water tables. This information is and will be used at the project scale to determine risk and potential effects, and to help prioritize locations within a project area that need to be ground-verified or surveyed to greater detail. See also response to PC 470.</p> |
| PC 99 | The Forest should map all watersheds with infertile geologies as definitely as possible and put them in a management prescription that prevents disturbance. |
| Response: | <p>We do not use the term “infertile geologies” in the Forest Service, as we do not know of any geologies or soils on the MNF that are infertile in the sense that they are incapable of growing vegetation. However, we are concerned with the effects that acid deposition may be having on soil productivity, and that concern has led to map geologies on the Forest for their capacity to buffer or neutralize the effects of acid deposition. The result was the soil nutrient sensitivity map described in Chapter 3 of the DEIS. Scale is a limitation of this map. The finest scale that the data can be relied upon is 1:63,000. Page 3-49 in the DEIS provides information as to why the Forest determined that removing these areas from the suitable timber base is not appropriate at this scale. Standards SW08 and SW10 in the Proposed Revised Plan provide direction on how to proceed with management and address soil productivity concerns in sensitive areas where acid buffering capacity may be limited. We also have existing management prescriptions that feature little or no management-induced disturbance, and we have analyzed how those prescriptions have been applied by alternative in relation to the soil sensitivity mapping of the Forest. This analysis can be found in the Soil Resource section in Chapter 3 of the EIS.</p> |
| PC 474 | The Forest should examine whether the Forest contains any karst areas, and if karst areas exist, the Forest should avoid development in these areas because roads, traffic, sedimentation, contaminants, and debris could affect the sensitive areas. |
| Response: | <p>Many of the effects discussed and protection measures for watershed, riparian, and aquatic resources in the DEIS also apply to protection of caves and karst resources, as these are influenced by hydrologic systems generally. Geologic maps of the Forest show an approximation of the known locations of limestone bedrock. These maps are used at the project level, along with field reviews of project areas where actions are planned, to determine the potential for effects to caves and karst resources including those effects listed in the comment. Our sensitive species list contains many cave obligate species, and all projects are reviewed for potential effects to these species during the Biological Evaluation process. We also use the detailed direction on cave resources in the Region 9 supplement to FSM 2356 as appropriate during projects.</p> |

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| PC 52 | The Forest should not allow the timbering of slopes greater than 30% grade in order to prevent erosion, siltation, and flash flooding. |
| Response: | We acknowledge your preference. Standard SW07 in the Proposed Revised Plan limits certain types of timber harvest equipment of steep slopes, although we generally consider “steep” to be in the 40-50% range. Harvesting on steep slopes is mainly a concern due to soil disturbance and the increased propensity for exposed soil to move downhill, either as mass movement (such as landslides) or as stream sediment. We have a number of mitigation measures that we can apply to timber harvesting at the project level to reduce the potential for soil disturbance and movement, including not allowing heavy equipment on steep soils, limiting road construction and the use of skid trails, using helicopters to yard logs, and changing silvicultural prescriptions to leave more trees. See also response to PC 106 regarding the potential effects of flooding. |
| PC 842 | The Forest should reconsider the statement that Pottsville geology is inherently acid. |
| PC 842a | BECAUSE MOST OF THE POTTSVILLE SANDSTONES I HAVE HAD ANALYZED FOR SURFACE MINE PERMITS HAVE HAD A PH OF 7 OR ABOVE |
| Response: | The Pottsville Group is extensive throughout the Pennsylvania, Ohio, West Virginia, western Virginia, Kentucky, and Tennessee region. The geologic group consists of several formations and the geochemistry of these formations within the group can be dramatically different. The portion of the group that underlies the Forest is inherently acidic. The portion of the group that is associated with the southern coalfield region is alkaline with pH values of 7 or greater. However, in the northern coalfields of West Virginia, eastern Ohio, and southwestern Pennsylvania, the geochemistry of the geology is quite different and extremely acidic. This is often reflected in acid-base accounting measurements of core samples (WV Geological Survey Database and personal communication with Dr. Jeff Skousen, WVU Extension Reclamation Specialist, 2005.) |
| PC 842b | BECAUSE BOGS AND SUCH ARE YOUR GREAT CONTRIBUTORS. OUR SETTING TO THE GREAT AGRICULTURAL AREAS THAT SPAWN MUCH OF THE AMMONIA AND NITROUS OXIDES NEED CONSIDERATION...IF THERE IS REALLY AN ACID RAIN PROBLEM. CURRENTLY, AND AGAINST COMMON KNOWLEDGE, THERE IS LITTLE FROM COAL-FIRED PLANTS. |
| Response: | Agriculture in West Virginia is minimal and cannot explain the large inputs of pollutants in the atmosphere, particularly in association with the sulfur compound concentrations that are associated with the coal-fired power plants. |
| PC 861 | The Forest should explain what they intend to do about the effects of from logging and mining, related to the ongoing effects of acid rain. Because chemically, you must note in 50 years 250 lbs/acre of plant available nutrients have been dissolved away. This amount is equal to the calcium in the trunks of acres of forest. If the harvest is trucked off-site, the soil nutrient reserve is further impoverished by another 250 lbs/acre. In contemplating chemically a third harvest on infertile geologies, the total “loss” is 500 lbs/acre, and there is no assurance that a new crop can grow to maturity in 20 years when 750 lbs/acre are required. In this era of acid rain, the Eastern Forest is not at steady state. It is impoverished at 5 lbs/acre/year. |
| Response: | These comments seem to assume that there is a clear understanding of calcium or nutrient cycles in the forest ecosystem. Current scientific findings from Dr. Scott Bailey (personal communication 2004) with regard to calcium oxalate reveal that calcium pools are not completely understood. Conducting mass balance calculations of calcium pools for the Forest would be difficult at best and a true guess at the reserves of calcium in the reserve. As well, loss of calcium from a system is based on the vegetation within the ecosystem, climate, geochemistry of the system, and pollutant amounts. It may be possible in several years to look at calcium pools and predict how much calcium is removed during a harvest. However, terrestrial mitigations are currently being researched as well, and research may provide future mitigations for effects from acid deposition (see EIS, Chapter 3, Soil Resources section). This mitigation may potentially offset acidification of soils both natural and induced. |
| PC 976 | The Forest should consider soil supplements or lime-limestone treatments for nutrient-poor geologies and acid sensitive soils, including applications from roads and in cutover areas as timber operations are finishing but before the skid and haul roads are restored. |
| Response: | See responses to PC 313, parts b and d. |

| WATER AND RIPARIAN AREAS | |
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| PC 415 | The Forest should implement standards that will prevent water temperatures from rising. |
| Response: | There are a number of variables that influence stream temperatures including stream aspect, topography, type of vegetation, channel size, and management history. The variable we have the greatest influence on is the management of riparian areas and streamside vegetation. One goal of the Proposed Revised Plan (SW29) is to maintain, enhance or restore vegetation conditions, in part, for the purposes of providing canopy conditions that regulate riparian and stream temperatures for native and desired non-native flora and fauna (page II-11). To account for site-specific conditions, channel buffers will be determined during project-level planning and implementation (Standard SW37). One function of the channel buffers is to protect streamside vegetation and stream shading to maintain stream temperatures. Opportunities also exist to restore riparian conditions to increase stream shading and reduce stream temperatures. These opportunities are identified during watershed assessments and project-level planning efforts. |
| PC 415a | INCLUDING FIVE DEGREES FOR STREAMS |
| Response: | This concern is consistent with requirements to comply with the Clean Water Act (Governing Water Quality Standards - 46CSR1). Protection of riparian areas and streamside vegetation (Standard SW37) is intended to protect stream shading to meet this requirement. |
| PC 415b | INCLUDING THREE DEGREES FOR LAKES AND RESERVOIRS |
| Response: | The greatest potential for forest management activities to influence water temperatures in lakes and reservoirs is to affect the temperature of the streams that feed the lake or reservoir. This is due to the large surface area that is exposed to direct sunlight and the minimal influence lakeside vegetation plays in shading the surface area. Protection for water temperatures in the streams that feed the lakes and reservoirs is described above in the first two responses to this concern statement. |
| PC 189 | The Forest should prohibit canopy reduction in fragile stream channels. |
| Response: | The sensitivity of any stream or subwatershed to canopy reduction is best determined at the project planning level where site-specific conditions can be considered. Each project is evaluated for its potential effects on watershed and aquatic conditions, effects that are largely dependent upon the scope and magnitude of the proposed project and the existing conditions of the project area. Mitigation measures and modification of project designs can be used to address the site-specific concerns, including not implementing projects, or portions of projects, due to the sensitivity of the area. Project-level decisions are not based solely on what is best for aquatic resources, so effects can and do occur to aquatic resources in order to achieve other resource management objectives. Those effects are considered tolerable as long as they are within the limits of the applicable laws and regulations. |
| PC 189a | TO PREVENT FLOODING |
| Response: | A discussion of the potential effects of canopy reduction on flood flows is presented in the DEIS (pages 3-73 to 3-74). |
| PC 189b | TO PROTECT FISH HABITAT |
| Response: | Channel buffers are intended to protect fish habitat by protecting stream canopies and sources of large woody debris (see Standard SW37 on page II-11 of the Proposed Revised Plan). |
| PC 189c | TO PROTECT AESTHETICS |
| Response: | Protection of visual quality and aesthetics is best evaluated and addressed at the project level where the scope of the project, existing conditions, and scenic management objectives can be considered. |
| PC 318 | The Forest should acknowledge that current West Virginia law on turbidity would protect streams on the Monongahela National Forest. |
| Response: | The concern statement is consistent with direction found in the Requirements Governing Water Quality Standards (46CSR1) to comply with the Clean Water Act. Forest Plan direction is intended to minimize soil disturbance, control erosion, and protect filter strips to trap sediment before it reaches the channel network (Proposed Revised Plan, pp. II-8 to II-13). Opportunities also exist to correct existing erosion and sediment sources and to restore watershed conditions. |
| PC 48 | The Forest should not allow earth-disturbing activity in and around streams and creeks: |
| | <ul style="list-style-type: none"> • To protect water resources |

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| | <ul style="list-style-type: none"> • To protect wildlife • To prevent flooding • To protect brook trout • To benefit future generations • To protect mollusks. |
| Response: | Direction in the Forest Plan is intended to minimize and rehabilitate the amount of soil disturbance around streams and creeks, but it does not prohibit activities. Currently, there are earth-disturbing activities all across the Forest in close proximity to streams and creeks including roads, road crossings, trails, dispersed camping sites, picnic areas and more. Given the existing conditions and the likelihood that stream channels will need to be crossed for access purposes in the future, a prohibition of disturbance is not feasible. Instead, direction is given to minimize the potential impacts associated with earth-disturbing activities (see SW35, SW40, SW44, SW45, SW54, and SW62 in the Proposed Revised Plan) and the rehabilitation of disturbed sites (see SW03, SW11, SW14, SW33, SW36, and SW58 in the Proposed Revised Plan). Project-level design and planning can also be used to prescribe additional mitigation measures to protect riparian areas and floodplains. Existing problems and opportunities to restore riparian and watershed conditions, including sources of erosion and sedimentation, should also be identified during watershed assessments and project planning. |
| PC 106 | The Forest should address the problem of flooding. |
| Response: | <p>A number of commenters expressed concerns about flooding. Flooding is a natural disturbance that occurs in all watersheds and the Forest cannot “prevent” flooding as some have requested. The potential effect of land management activities on flooding is discussed in the DEIS, pages 3-73 to 3-74. Large-scale storms are the primary influence on large-scale floods, but land management activities can affect smaller scale, higher frequency floods in smaller drainage areas. Effects are typically greatest during the growing season when streams are normally at their lowest flow. As a result, the effects on actual flows may be small, but appear large relative to the expected flow.</p> <p>For example, one commenter cited a study where storm flows were nine times greater than expected in a recently clearcut watershed than that of the control watershed (Reinhart et al. 1963). The commenter states that “such rare large floods are important as they leave a lasting imprint.” While the flow was nine times greater than expected, it occurred during the summer when flows are normally at their lowest so the relative increase appears large, but in relation to the hydrology of the watershed the flood was neither that “large” nor that “rare”. The peak flow of the event cited was measured at 13.56 cubic feet per second per square mile (csm). During the six-year calibration period prior to clear cutting the watershed, there were 44 peak flows that exceeded 13.56 csm, the greatest being 140.6 csm in October, 1954.</p> <p>The potential effects of timber management activities on flooding depend on the type and magnitude of harvesting. These are best addressed at the project planning level considering site-specific conditions.</p> |
| PC 106a | INCLUDING RECOVERY OF FLOODPLAINS |
| Response: | Floodplain stability and function can help reduce the impacts of flooding, and floodplain restoration is a stated goal in the Proposed Revised Plan (see SW30). Other Forest-wide goals, standards and guidelines are intended to protect or restore riparian areas, channel morphology, and floodplains (see SW29, SW32, SW 34, SW35, SW37, SW45, and SW 46 in Chapter II of the Proposed Revised Plan). |
| PC 106b | INCLUDING CONSULTING WITH SPECIALISTS AND THE PUBLIC |
| Response: | In addition to conducting literature reviews, specialists with state and federal agencies, including researchers at the Fernow Experimental Forest, and universities are often consulted on a range of soil and water related issues. Projects that have the potential to affect watershed and aquatic conditions are made available for public comment through the NEPA process. |
| PC 729 | The Forest should use geology and stream chemistry to determine the watersheds in which timber harvest will be allowed, to prevent soil nutrient loss from acid deposition. |
| Response: | It has been determined that acid deposition is causing soil nutrient loss and acidification (Drohan and Sharpe, Bailey et al. 2005; Lawrence, 2005). The Forest took a hard look at the existing condition on the Forest and used geochemistry, water chemistry, and air quality data to conduct an assessment. The effort resulted in a soil nutrient sensitivity map. The soil nutrient sensitivity map is reliable to a scale of |

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| | 1:63,000. It is used in project planning as a tool to indicate whether a more detailed look into soil productivity issues may be warranted. This map is not a stand alone tool. It is used in conjunction with water chemistry data, existing soil chemistry databases, geologic information, and other information about the soils from past project records and personal experience from soil scientists. Depending upon the data, a small survey may be conducted with chemical sampling to verify soil chemistry conditions, or a large-scale monitoring project may be conducted examining several parameters of chemical characteristics of the soils. Results then help guide in the planning of the project which may range from avoidance of the area to full implementation of the project with mitigations added for resource protection. However, all of this is determined at the project level rather than the plan level due to the scale of the information and the variability of soils on the landscape, as described on pages 3-40, 3-49, 3-29 through 3-31 in the DEIS. |
| PC 342 | The Forest should provide protection for streams by placing them in the 5.1 or 6.2 Management Prescriptions. |
| PC 342a | TO PROTECT BROOK TROUT |
| Response: | Brook trout populations in MP 5.1 and 6.2 are passively protected because the management prescriptions should have relatively limited management actions. This reduces the potential impacts to watershed and aquatic conditions associated with land management activities, but also limits the potential restoration opportunities. We believe the standards and guidelines in the 1986 Forest Plan (primarily pp. 79 to 89) and in the Proposed Revised Plan (pp. II-8 to II-13 and II-25 to II-27) provide adequate protection for brook trout populations in management prescriptions that are actively managed. |
| PC 342b | INCLUDING ALL THE TRIBUTARIES ON THE NORTH SIDE OF WILLIAMS RIVER FROM TWIN BRANCH TO SAWYER RUN |
| Response: | The area north of the Williams River between Twin Branch and Sawyer Run is within active management prescriptions in all alternatives. We feel the management direction in the 1986 Forest Plan and Proposed Revised Plan is adequate to protect trout populations without having to change the management prescription in the area. |
| PC 342c | INCLUDING ALL THE TRIBUTARIES ON THE SOUTH SIDE OF WILLIAMS RIVER FROM THE PROPOSED CRANBERRY EXTENSION TO CRAIG RUN ROAD (INCLUDING CRAIG RUN) |
| Response: | The area south of the Williams River between the Cranberry Extension and Craig's Run (including Craig's Run) is within active management prescriptions in all alternatives. The exception is a small area of MP 8.0 in Alternative 1. We feel the management direction in the 1986 Forest Plan and Proposed Revised Plan is adequate to protect trout populations without having to change the management prescription in the area. |
| PC 342d | INCLUDING BIG RUN |
| Response: | The Big Run subwatershed was in MP 6.1 and MP 8.2 under the preferred alternative in the DEIS and Proposed Revised Plan. Much of the MP 6.1 was changed to MP 4.1, based on comments on the drafts. Limited management activities will occur in MPs 8.2 and 4.1, and we feel the direction in the 1986 Forest Plan and Proposed Revised Plan is adequate to protect trout populations without having to change the management prescription in the rest of the subwatershed. |
| PC 703 | The Forest should examine the cost of watershed restoration with and without various forms of logging. |
| Response: | Analyzing the cost of watershed restoration was not identified as an issue and is beyond the scope of Plan Revision. Watershed restoration projects are typically identified at the watershed assessment or project level. Analysis of the costs and benefits of activities within the watershed, including restoration activities, is done as part of the NEPA process at the project level. |
| PC 675 | The Forest should provide information about restoration of acidified streams, including: |
| | <ul style="list-style-type: none"> • How the Forest Plan will reduce emissions in order to restore degraded streams and protect streams that have yet to be degraded • Whether the Forest Plan expands stream liming to restore streams as they become degraded • How much of a reduction in sulfur dioxide and sulfite emissions it will take to restore acidified streams to healthy levels, and • Whether the Forest's streams can be restored to healthy levels if new coal fired power plants continue to be built upwind of the Forest. |

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| Response: | <p>Monitoring information or modeling analyses used to evaluate the impacts of current and historic air pollution levels on Forest resources can be used as an effective tool in communicating the levels of reductions needed to restore or maintain these sensitive resources to air regulatory agencies. However, the Forest has no direct regulatory authority under the Clean Air Act to reduce air pollution. See also the responses to PCs 438a and 676 for a discussion of the Forest's role in the air quality regulatory arena.</p> <p>The WVDNR and WVDEP are also the primary agencies adding limestone sand to acid-impaired streams, although the Forest contributes funding for the treatment of Buck Run, Glade Run and Summit Lake. The WVDNR is currently trying to expand their program on and off-Forest.</p> |
| PC 413 | The Forest should perform TMDLs (total daily maximum loads) on impaired streams and collaborate with state agencies responsible for TMDLs, including Wild and Scenic Study Rivers. |
| Response: | <p>WVDEP and the EPA are the lead agencies in the development of TMDLs, and the Forest would be considered a stakeholder in their development. Completed TMDLs and a schedule for future TMDLs can be found on the WVDEP website.</p> <p>In general, effects associated with forest management activities are non-point sources of pollution that are addressed through the implementation of BMPs and Forest Plan standards and guidelines. Opportunities to improve streams on the 303(d) list, including those studied for Wild and Scenic River eligibility, are addressed at the watershed assessment and project planning level. Most of the streams on the Forest that are on the 303d list are there due to impacts associated with acid deposition. The Forest has limited opportunities to correct acid deposition, but we do participate in the mitigation of effects with the addition of limestone sand to acid-impaired waters, and we address the potential cumulative impacts of soil nutrient and base cation depletion at the project scale.</p> |
| PC 678 | <p>The Forest should provide information about water quality issues, including:</p> <ul style="list-style-type: none"> • Whether the Forest acknowledges that timber management activity should protect against practices that create too much sediment • Whether activity within the Forest will be managed so it does not create exceedences of the State's numeric standard for turbidity • How the Sediment Control Act of 1992 will be addressed in the goals, standards, and guidelines of the new Forest Plan • Developing standards and guidelines that set the West Virginia Water Quality Criteria for turbidity as a minimum on the Forest • Laying out a program to assess, prioritize, and ameliorate the chronic and catastrophic sources of sediment and turbidity on the Forest in a timely manner • Because trout and other aquatic species suffer from the effects of sedimentation and turbidity. |
| Response: | <p>The Forest recognizes that timber management activities are likely to create sediment in streams. Whether or not the amount of sediment generated by these activities is identified as "too much" depends on the analysis of the proposed activities at the project level.</p> <p>The Forest Plan does not repeat direction already required by other authorities (see Proposed Revised Plan, page II-1), including the Sediment Control Act of 1992 and West Virginia State Water Quality Standards. Activities within the Forest are already required to meet all State water quality standards.</p> <p>The Forest recognizes that trout and other aquatic species can suffer from the effects of sedimentation and turbidity. The direction outlined in Chapter II of the Proposed Revised Plan, specifically the direction for Soil and Water Resources beginning on page II-8, is intended to protect and maintain trout and other aquatic species populations.</p> <p>The Proposed Revised Plan includes a Monitoring and Evaluation Plan (Chapter IV) that outlines monitoring items of various resource activities. Item 41 specifically relates to forest management activities that affect soil erosion and stream sedimentation processes that impact watershed, riparian, and aquatic ecosystem health.</p> |
| PC 682 | The Forest should reconsider its use of "dosing stations" when treating streams with lime fines. |

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| Response: | The limestone dosing stations are operated and maintained by the West Virginia Division of Natural Resources. The WVDNR and WVDEP are also the primary agencies adding limestone sand to acid-impaired streams, although the Forest contributes funding for the treatment of Buck Run, Glade Run and Summit Lake. |
| PC 682a | BECAUSE USING SLIGHTLY LARGER SAND PARTICLES DEPOSITED DIRECTLY IN THE UPPER REACHES OF STREAMS IS PREFERABLE FROM AN AESTHETIC STANDPOINT |
| Response: | Your preference is noted. All applications have some localized effects on aesthetics |
| PC 682b | BECAUSE THE DOSING STATION MAY NOT BE THE MOST COST EFFECTIVE OR ECOLOGICAL METHOD |
| Response: | Dosers, or limestone drums, were initially installed at three sites on the Forest to treat acidic conditions in the Cranberry River and Otter Creek watersheds. Today, the doser on Otter Creek has been eliminated and the stream is treated with the direct application of limestone sand. The two remaining dosers continue to be maintained and operated by the WVDNR. Direct application of limestone sand has been found to be a cost-effective means for acid remediation and is the primary method of treatment of acidic streams on the Forest. One advantage dosing stations have over limestone sand is they are self adjusting for flows, where limestone sand is applied once a year based on an estimate of an annual acid load. During very high runoff events, or high water years, directly applied limestone sand may be distributed quicker than estimated, where dosing stations adjust to the annual conditions. |
| PC 681 | The Forest should recognize the Greenbrier River, Upper Greenbrier River, and Williams River watersheds as priority areas in analyzing existing watershed problems and deal with them in a proactive and defined manner, because these watersheds support large numbers of species of concern. |
| Response: | As pointed out in the DEIS (p. 3-92), the Greenbrier River 1, Upper Greenbrier River, and Williams River watersheds are considered hot spots for aquatic species of concern. There are other factors and values associated with these and other watersheds that also need to be considered when setting watershed restoration priorities, such as current conditions, designated uses, ownership patterns, restoration potential, and potential costs. The aquatic diversity values associated with the Upper Greenbrier River and Williams River watersheds are part of the reason why recent watershed assessments and restoration efforts have been targeted in those watersheds. Road improvements, road decommissioning, and culvert inventories have all been conducted in the Upper Greenbrier River in recent years. A watershed assessment in the upper Williams River watershed was completed in 2000, and watershed improvement projects are being planned and designed for implementation in 2007. Watershed, riparian, and aquatic resource management direction is similar for the alternatives and provides protection of aquatic resources at the project level based on site-specific conditions. Mitigation measures and modification of project design can be used to address the site-specific concerns, including not implementing projects due to the sensitivity of the area or the potential impacts on aquatic species of concern. Project-level decisions are not based solely on what is best for aquatic resources, so effects can and do occur to aquatic resources in order to achieve other resource management objectives. Those effects are considered tolerable as long as they are within the limits of the applicable laws and regulations. |
| PC 131 | The Forest should monitor streams, mitigate acid rain impacts, and limit the cumulative impacts of soil-disturbing activities within the Forest. |
| Response: | The Revised Forest Plan includes a Monitoring and Evaluation Plan (Chapter IV) that outlines monitoring items of various resource activities. Items 40-43 in the Proposed Revised Plan specifically relate to forest management activities that affect streams as well as watershed, riparian, and aquatic ecosystem health. See also responses to PCs 645 and PC 313. |
| PC 84 | The Forest should not allow the construction of dams. |
| Response: | Dams and impoundments are proposed for a number of reasons, such as municipal water supplies, recreational developments, or flood control. The Forest does not have direction to prohibit their development, but any proposal would be subject to a NEPA analysis to disclose the purpose and need of the project and the potential effects. Public comments are solicited during the NEPA process to determine public issues and concerns related to the potential project and to develop alternatives, including no action. |
| PC 316 | The Forest should allow the mitigation of any streams considered for wilderness designation that |

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| | is or could foreseeably be acidified in the future. |
| Response: | Mitigating the effects of acidification in streams is not specifically prohibited by the Proposed Revised Plan. The management direction for 5.1 (Recommended Wilderness) includes Guideline 5123 that identifies when water quality could be maintained through actions other than ecological processes. |
| PC 383 | The Forest should provide adequate provisions for the protection of streams in wilderness areas, because many proposed wilderness areas contain streams that are threatened by acid rain. |
| Response: | Streams are protected by Forest-wide management direction in the Soil and Water section of Chapter II in the Revised Forest Plan, regardless of what Management Prescription they are in. The current access to treat those streams has not been changed by this plan revision. See also response to PC 316. |
| PC 383a | INCLUDING EITHER DRAWING WILDERNESS BOUNDARIES SO THAT HEADWATERS OF BROOK TROUT STREAMS ARE NOT CUT OFF FROM ACCESS FOR TREATMENT OR ALLOW TREATMENT VIA HELICOPTER |
| Response: | Treatment via helicopter is not prohibited in areas recommended for Wilderness study, but it could be if these areas were designated as Wilderness by Congress. That decision, along with the way the areas' boundaries are drawn, would belong to Congress. |
| PC 810 | The Forest should examine the potential for sludge and slurry pond spills on waterways. |
| Response: | There are no coal sludge and slurry ponds on the Forest. If there are any coal sludge and slurry ponds on private lands, they are regulated and permitted by the West Virginia Department of Environmental Protection. |
| PC 188 | The Forest should conduct a clear-felling experiment at one of its experimental catchments. |
| Response: | National Forests are generally not allowed to conduct research. The Forest Service has a special research branch that is responsible for conducting essential needed research for both federal and private lands. The effects of forest management on streams are studied at the Fernow Experimental Forest. One of the earlier reports, Effect on Streamflow of Four Forest Practices in the Mountains of West Virginia (Reinhart et al. 1963), addressed the effects of clear cutting and different harvest intensities on stream flows. Future research efforts on the Fernow are beyond the scope of this planning effort. |
| PC 188a | BECAUSE PREVIOUS EXPERIMENTS RESULTED IN STREAM-CHANNEL EROSION WITH NO SURFACE WATERSHED DISTURBANCE |
| Response: | There are a number of studies that have looked at the effects of logging on water yield and water quality. These studies and other literature are typically reviewed and cited during project-level analysis based on site-specific issues and concerns. At the programmatic scale of Forest Planning, direction in the plan is intended to minimize the potential effects of future management actions on the hydrology and sediment budgets within project areas. |
| PC 282 | The Forest should continue to do analysis by watersheds rather than political boundaries in order to promote management practices that reduce flooding. |
| Response: | One change in the Revised Plan from the 1986 Forest Plan is the intent of conducting analyses based on watersheds rather than Opportunity Areas. For watershed, riparian and aquatic resources, planning based on watershed boundaries allows us to better target our management activities to avoid or mitigate critical areas within a watershed, and it is conducive to cumulative effects analysis. Planning timber harvest within a watershed also allows us to evaluate the level of harvest and its potential influence on flooding and to schedule harvest activities to avoid potential flooding impacts. |
| PC 416 | The Forest should clarify its intentions for watershed management, including how watershed analyses will be carried out. |
| Response: | Watershed assessments are a mid-level planning tool used to identify existing watershed conditions and opportunities to move watersheds toward their desired conditions. The approach is patterned after the process described in Ecosystem Analysis at the Watershed Scale – Federal Guide for Watershed Analysis. It is a multi-step process that considers natural variables, existing conditions, key issues and reference conditions to formulate management recommendations. An interdisciplinary team is used to address the range of resources and program opportunities within the watersheds. Completion of watershed assessments and implementation of the recommendations are based on Forest priorities, funding, personnel, and workloads. Watershed assessments are neither a requirement nor a decision document, but rather a useful tool for setting program priorities and direction. |
| PC 419 | The Forest should provide information regarding the impacts of forest management on wetlands. |
| Response: | The discussion of potential impacts associated with forest management activities on riparian and aquatic |

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| | resources (DEIS pg 3-68 to 3-83) was intended to include potential impacts to wetlands, seeps, and springs. We have clarified this in the FEIS, with more description of the wetlands on the Forest. |
| PC 424 | The Forest should maintain water quality pH above 5.0 to protect native brook trout populations. |
| Response: | The decision to maintain water quality above pH 5.0 is a project-specific decision based on site conditions and management objectives. For example, some streams on the Forest are naturally acidic and it may be undesirable to maintain them at levels above pH 5.0. Other streams that are acidic are difficult to access and would be costly to treat. Native brook trout streams that are impaired due to acid deposition are often treated with limestone to increase the pH level and trout productivity, but not all potential brook trout streams are treated due to stream access and funding constraints. |
| PC 539 | The Forest should revise the Forest Plan to include discussion of land use and its effect on waterways. |
| Response: | The primary discussion of land management activities and their potential effects on waterways can be found in the DEIS (pp. 3-53 to 3-92). Direction to protect soil and water resources can be found in the Proposed Revised Plan (pp. II-8 to II-13), with additional direction located in the Wildlife and Fish section (pp. II-25 to II-27). |
| PC 23 | The Forest should protect watershed and water resources, including soil, groundwater, aquatic habitats and drinking water: <ul style="list-style-type: none"> • To prevent flooding • To protect water quality • To protect fish populations • Because the cost of cleaning water is increasing • To provide recreational opportunities • To save communities and government money • To protect ecological diversity • To provide water for livestock. |
| Response: | This public concern is a combination of statements related to resource values and potential effects of land management activities. The primary discussion of land management activities and their potential effects on waterways can be found in the DEIS (pp. 3-53 to 3-92). Direction to protect soil and water resources can be found in the 1986 Forest Plan (pp. 79 to 87, and the Fisheries Amendment – Amend. 3) and the Proposed Revised Plan (pp. II-8 to II-13), with additional direction located in the Wildlife and Fish section (pp. II-25 to II-27). By implementing direction for soil and water resources, implementing mitigation measures at the project level, and restoring and improving existing soil and water conditions, the range of values and benefits associated with healthy aquatic ecosystems should be protected. The Forest is also obligated to the Clean Water Act and to protect water quality and streams for their designated uses such as public water supplies, cold water fisheries and recreation. |
| PC 591 | The Forest should use Forestry Best Management Practices as the basis for protection of water courses on the Forest rather than an eclectic mix of limits and prohibitions with apparently little research-based validation, because: <ul style="list-style-type: none"> • It is not necessary to ban logging from slopes over 50 percent • Buffers for ephemeral stream channels have no basis in science • Excessive restrictions reduce the allowable sale quantity. |
| Response: | We agree that West Virginia Forestry Best Management Practices should be adhered to as a minimum on all projects. We have added a statement to this effect in the Final Revised Plan. Decreased trout productivity can occur when levels of fine sediment exceed 20-25 percent of the sample. Of the 222 spawning gravel samples collected on NFS lands from 1994-1999, 64% exceeded 20 percent fine sediment (DEIS, page 3-60). Once sediment reaches a channel it can stay in the system for months, years, and even decades depending on flow and channel characteristics (DEIS, page 3-78). Since ephemeral and small intermittent channels can carry sediment to trout-producing streams, it is justifiable to protect these channels from sedimentation. It is well documented that buffers are effective in reducing the amount of sediment in runoff. In addition, there is greater risk of stream sedimentation when logging on slopes over 50 percent. Sediment from activities on steep slopes is more likely to reach nearby stream channels without the protection of buffers. |
| PC 29 | The should protect rivers and streams and aquatic biodiversity from siltation by limiting road |

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| | <p>building and clearcutting, providing adequate buffer zones, and providing the necessary funding for stream clean-up:</p> <ul style="list-style-type: none"> • To attract tourism • To protect brook trout • To protect drinking water • To protect recreational opportunities • To protect plants and animals • Including Tier 3 and Tier 2.5 segments • Including headwaters and upper reaches of streams. |
| | <p>The primary discussion of land management activities and their potential effects on waterways can be found in the DEIS (pages 3-53 to 3-92). Direction to protect soil and water resources can be found in the 1986 Forest Plan (pages 79 to 87 and the Fisheries Amendment 3) and in the Proposed Revised Plan (pages II-8 to II-13), with additional direction located in the Wildlife and Fish section (pages II-25 to II-27). Direction for soil, water and fisheries resources is intended to protect the range of values associated with healthy watershed and aquatic ecosystems.</p> <p>A number of commenters have expressed their preference for Alternative 3 because it better protects rivers and streams. The direction for riparian and aquatic resource protection is actually the same for all the action alternatives (2, 3, and 4). The direction in the No Action Alternative is similar to the action alternatives but the language is a little more permissive. What is different between the alternatives is where projects may potentially occur. Management Prescriptions that are actively managed vary by alternative, but projects implemented within any of the action alternatives have the same direction that is applied at the project level given site-specific conditions.</p> <p>Commenters also mentioned the lack of emphasis on Tier 2.5 streams during the revision process. The two main reasons why Tier 2.5 streams did not receive emphasis are 1) the Tier 2.5 list is likely incomplete and does not account for all streams that support wild or native trout on the Forest, and 2) forest management activities are generally considered exempt if Best Management Practices are properly applied and we feel that the direction in the Revised Plan meets or exceeds BMPs.</p> <p>The Tier 2.5 list is a useful tool during watershed assessments and project planning for identifying high quality streams in the planning areas, but we do not consider it all-inclusive. Rather than focus on the various values associated with specific streams or stream reaches, the forest planning focus was on addressing aquatic system processes such as minimizing soil disturbance within watersheds, protecting channel buffers along all channel types, and reducing aquatic habitat fragmentation. All channels deserve a level of protection regardless of their resource value because ultimately they are connected in a drainage network that has a range of values. The specific values associated with a stream, such as native trout, municipal water supply, species of concern or 303(d) listing, can be factored in at the project level to reduce the risk to these resources even further.</p> |
| PC 228 | The Forest should seek a longer-term solution for watershed improvements than rock gabions. |
| Response: | Rock gabions are seldom used for watershed restoration projects, but there may be instances where project-specific conditions may warrant their use or they are viewed as a viable alternative to accomplish management objectives. |
| PC 980 | The Forest should recognize that many streams (e.g. upper Shavers Fork) would benefit from various types of stream/habitat improvements, and these improvements could be accomplished by a number of methods such as log dams, deflectors, etc., as well as natural stream channel design using Rosgen methodology. |
| Response: | We agree, and we have added objectives in the Final Revised Forest Plan to address riparian and fish habitat improvements, including instream structures. In order to meet site-specific conditions and management objectives, the specific types of structures or corrective measures are best described during project planning and development. |
| Riparian Areas | |
| PC 551 | The Forest should deduct riparian areas from the timber base if it is going to exclude these areas from timber harvesting. |

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| Response: | We deducted perennial and intermittent stream channel buffers from the suitable base in the DEIS and Proposed Revised Plan. These buffer areas are not excluded from timber harvest, but rather harvest may only occur for reasons described in Standard SW34 in the Proposed Revised Plan. However, it was not feasible to determine the amount of very small intermittent and ephemeral channels that are actually on the ground, so some of these areas remain in the suitable timber base for now. There is a concern that this unmapped area may affect the suitable base. Monitoring the effects of these riparian buffers on suitable acres over the planning period should help us to make any needed adjustments. |
| PC 154 | The Forest should not prohibit large tree harvesting in riparian areas. |
| Response: | Forest Plan direction does not prohibit the harvesting of trees in riparian areas. Tree cutting within channel buffers may take place as outlined in SW34 on page II-11 of the Proposed Revised Forest Plan. Rather than remove timber from riparian areas, the preference may be to directionally fell trees to provide large woody debris recruitment while meeting other silvicultural objectives. |
| PC 145 | The Forest should establish buffer zones around Cherry River, Dobbins Trail, and the North Fork of the Blackwater River in order to promote tourism. |
| Response: | We have established buffer zones for all stream channels on the Forest and management direction for those buffers. See the Soil and Water section of Chapter II in the Revised Forest Plan. We have not established buffers around trails, but we do have trail management direction in the Recreation Resources section of Chapter II. |
| PC 417 | The Forest should take in to account the recent Clinton executive orders on riparian areas and floodplains. |
| Response: | The Forest must comply with all laws and regulations governing the management of National Forest System lands, including applicable executive orders that are in effect from the current and past administrations. |
| PC 102 | The Forest should consider that its proposed stream channel buffers are too restrictive and not based on the best available science. |
| PC 102a | BECAUSE REMOVING SELECTED TREES FROM A RIPARIAN ZONE DOES NOT INCREASE SEDIMENT OR NUTRIENT FLOW TO A STREAM AND MAY BENEFIT AQUATIC ORGANISMS |
| Response: | We recognize that removing selected trees from riparian areas may not necessarily increase sediment so long as ground disturbance does not occur during tree removal. However, leaves and branches from riparian areas are important sources of food and organic inputs in headwater streams (DEIS, p. 3-72). The removal of riparian trees is not necessarily a benefit to aquatic organisms from a nutrient standpoint. In addition, riparian forests provide shade to maintain viable stream temperatures for cold water species and they provide large woody debris (LWD), which is important for channel stability, habitat complexity, and the retention of sediment, moisture, and organic matter. |
| PC 102b | BECAUSE THE BUFFERS WILL ADVERSELY AFFECT THE ABILITY TO MANAGE THE TIMBER STAND ADEQUATELY |
| Response: | Stream buffers have not eliminated the ability to manage timber stands in the past. Recent projects designed under the 1986 Plan typically had buffer strip widths similar to those prescribed in the Revised Plan to protect stream channels and provide sources of LWD. |
| PC 102c | BECAUSE FEARS OF CALCIUM DEPLETION ARE UNFOUNDED DUE TO CALCIUM RECHARGE FROM ROCK |
| Response: | Natural processes should slowly add nutrients and calcium to the soil; the concern is that we are removing them faster than they are added due to acid deposition, and harvest removal of nutrients and calcium can further accelerate this process. Likewise, soils naturally acidify due to physical and chemical weathering. The rate of weathering of parent materials has not been modeled on this Forest; however data collected from various soil types on multiple geologies from the USDA-NRCS Soil Survey Division does show that certain soil types are not replenishing calcium from weathering of parent materials. Bailey et al. (2005) have shown that soils underlain by the Pottsville geologic formation in Pennsylvania within the study area have acidified at accelerated rates within the last 30 years and have lost significant measurable amounts of base cations. This same geologic formation and other acidic sandstones and shales exist with the Forest. Therefore, the same concerns about accelerated loss of base cations should be considered. |

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| | In general, the Forest uses an Order 2 Soil Survey, which is mapped at a scale of 1:24,000 or more with more detail in some counties. This mapping allows for the delineation of a soil map unit down to 5 acres. The intensity level needed is determined by the scope of the project, including the type and amount of management proposed, and the soil-related characteristics in the project area. The Line Officer responsible for the project makes decisions about the detail of analysis and inventory required. The Forest Soil Scientist provides expertise as to whether the data available is adequate to analyze the effects of a project in a given area. |
| PC 51 | The Forest should protect riparian areas to protect aquatic ecosystems, water quality, drinking water, and trout populations. |
| Response: | Forest-wide Management Direction for Soil and Water Resources in the Proposed Revised Plan includes protection of riparian areas through the implementation of channel buffers (SW37). These buffers shall, at a minimum, encompass the riparian area defined on the basis of soils, vegetation and hydrology and the ecological functions and values associated with the riparian area. The management within these buffers is designed to help protect the riparian ecosystem, water quality, and aquatic resources, including trout. |
| PC 111 | The Forest should describe its protection of riparian areas. |
| Response: | Primary direction for protection of riparian areas is found in the 1986 Forest Plan under FSM 2500, Water and Soil, pages 79-82b. In the Proposed Revised Plan, primary direction for riparian protection is located in pages II-11 to II-13. Forest-wide directions within the 1986 Forest Plan and Proposed Revised Plan are intended to maintain or enhance riparian vegetation and the role it plays in aquatic ecosystem health. The plans differ in language, but both allow for adjustments to riparian protection according to site-specific conditions. |
| PC 111a | INCLUDING THE LIMITS TO TIMBER REMOVAL IN BUFFER AREAS |
| Response: | The Proposed Revised Plan includes a standard for buffer strip widths that restricts programmed timber harvest in order to protect riparian and aquatic conditions. The language in the 1986 Plan is more permissive, but does allow for buffer strips with no harvest. The language regarding no programmed harvest does not preclude cutting trees within channel buffers, but is intended to limit those actions to meeting riparian objectives, health and safety concerns, and a narrow range of activities (e.g. cable logging corridors, road crossings, and utility right-of-ways) that facilitate other management objectives. |
| PC 111b | BECAUSE RIPARIAN BUFFER WIDTHS SHOULD BE DOUBLED WHERE SLOPES ARE GREATER THAN 45 DEGREES |
| Response: | Channel buffer widths are determined at the project planning level based on site-specific conditions such as slope, vegetation type, and floodplain width. Channel buffers are intended to encompass riparian areas and their ecological functions and values, but their widths can be adjusted to address other resource management objectives. The default channel buffers can also be adjusted based on site-specific conditions. See also response to 111d, below. |
| PC 111c | INCLUDING WHAT ARE THE SCIENTIFICALLY BASED SOURCES OF THE FIGURES FOR BUFFER WIDTHS USED AND HOW THEY ARE VALIDATED AND ADJUSTED OVER TIME |
| Response: | Channel buffer widths depend on a number of variables, site-specific conditions, and resource management objectives. Consequently, there are a number of studies that address different forms and functions of buffer widths that come to differing conclusions on what a desired or suitable width is. First and foremost, project-level decisions on buffer widths need to ensure that actions comply with all laws and regulations. Then, the decision has to weigh the various resource management objectives and economic trade-offs of buffer widths. Scientifically based sources of information are used at this point to support the NEPA analysis and disclose the potential effects. A good general reference for riparian areas in the East is the book Riparian Management in Forests of the Continental Eastern United States, edited by Elon S. Verry, James W. Hornbeck and C. Andrew Dollof. |
| PC 111d | INCLUDING WHAT EVIDENCE IS THERE THAT THE PRESCRIBED BUFFER WIDTH WILL BE ADEQUATE OVER TIME TO RECRUIT THE LARGE WOODY DEBRIS NECESSARY TO RESTORE NATURAL STREAM FUNCTION |
| Response: | Most riparian studies have focused on the role and function of large woody debris (LWD) in stream channels, but there are a few dealing with buffer widths and recruitment potential. In general, the probability of a tree hitting a channel depends on the height of the tree and its distance from the channel. Trees along the bank have a greater probability of hitting the channel, and the probability decreases the |

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| | <p>further away from the stream a tree is, until a tree has no potential to hit the stream if it falls. Because of this principle of diminishing probability, a doubling of buffer widths does not necessarily translate into a doubling of LWD recruitment to a stream channel.</p> <p>McDade et al 1990, evaluated the source distance of LWD in 39 streams in the Pacific Northwest and found that 70% of the LWD that was recruited from riparian areas originated from within 66 feet of the stream channel. For hardwood species, 83% of the recruitment came from within 33 feet, and all hardwood LWD originated from within 82 feet. For conifers with taller average stand heights, the source distances were greater. Approximately 53% of the conifer LWD recruitment originated from within 33 feet of the channel, and 87% originated within 82 feet. A similar study in Oregon by May and Gressel, 2003, found 80% of LWD recruitment in headwater streams came from source distances of 30-50 meters (98-164 ft).</p> <p>Channel buffers are intended to be designed at the project level to provide for a variety of functions, including recruitment of LWD. In the event that the default buffer widths are used, we feel, based on the available literature, that an adequate source of potential LWD will be retained. We can speculate that our default buffers along perennial channels would provide similar rates of recruitment potential in hemlock and spruce stands as those observed in the studies. It would be closer to 100% of the recruitment potential in hardwood stands. For small, intermittent and ephemeral channels, the default channel buffers are reduced to 50 feet and 25 feet along both sides of the channel respectively. These represent a decrease in the recruitment potential within the treated areas, but these streams typically have less stream energy and transport of LWD is reduced.</p> |
| PC 111e | TO PROTECT WATER RESOURCES AND ECOSYSTEM HEALTH |
| Response: | Direction within the 1986 Forest Plan and the Proposed Revised Forest Plan is intended to protect water resources, their designated uses and the health of aquatic ecosystems. |
| PC 111f | INCLUDING WHY THERE ARE NO BASAL RETENTION REQUIREMENTS IN THE DEIS |
| Response: | The harvest prescriptions and residual basal area for stands inside or outside of the channel buffers are best determined at the project planning level given site-specific conditions and vegetation management objectives. |
| PC 111g | BECAUSE GUIDELINES AND STANDARDS MUST BE DEVELOPED THAT INCORPORATE THE FACT THAT RIPARIAN BUFFERS CANNOT OPERATE AS THE SOLE MEANS OF PROTECTING STREAMS AND AQUATIC RESOURCES |
| Response: | There are a number of standards and guidelines throughout the 1986 Forest Plan and Proposed Revised Plan that directly or indirectly protect soil and water resources. They go well beyond the channel buffers and can be found in a range of program areas and management prescriptions. The primary direction to protect soil and water resources in the 1986 Forest Plan can be found from pages 79 to 87, and the Fisheries Amendment – Amend. 3. Primary direction is found in the Proposed Revised Plan (pg II-8 to II-13) with additional direction located in the Wildlife and Fish section (pg II-25 to II-27). |
| PC 111h | INCLUDING WHY THE FOREST REMOVED THE REQUIREMENTS UNDER WHICH IT HAS BEEN OPERATING IN THE RECENT PAST |
| Response: | Riparian requirements have not changed since the 1986 Forest Plan and our direction has remained the same since then. The riparian requirements implemented in the recent past are an example of our ability to build upon the 1986 Forest Plan direction at the project level. Riparian prescriptions developed during project planning in recent years are similar to the standards and guidelines incorporated in the Proposed Revised Plan. |
| PC 111i | INCLUDING PROVIDING MONITORING AND EVALUATION EVIDENCE THAT RIPARIAN BUFFERS ARE NOT NEEDED |
| Response: | We never stated that channel buffers are not needed. Channel buffers will be designed at the project level to address site-specific conditions and objectives. Residual basal area for stands beyond the channel buffer will also be based on site-specific conditions and vegetation management objectives. |
| PC 111j | BECAUSE UNDER NO CIRCUMSTANCES SHOULD ROADS BE ALLOWED TO BE BUILT IN THE RIPARIAN BUFFERS |
| Response: | Your preference would be highly impractical for actual Forest management or access opportunities. Opportunities exist to eliminate existing roads within riparian areas, either through closures or |

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| | relocation, but there is no direction within the 1986 Forest Plan or Proposed Revised Plan to preclude future access through riparian areas. Rather, direction is provided to minimize the potential impacts associated with any new road construction (Proposed Revised Plan; Chapter II, SW25, SW35, SW36, SW44, SW45, SW46 and SW51). |
| PC 111k | INCLUDING EXPLAINING WHY THERE IS NO QUALITATIVE COMPONENT TO THE STANDARDS AND GUIDELINES ADDRESSING RECONSTRUCTION, INTENSITY OF USE, TIME FRAMES FOR TEMPORARY ROAD USE, ETC. |
| Response: | We have added direction for temporary roads to the Final Revised Plan, Chapter II, Roads and Facilities section. |
| PC 111l | INCLUDING HOW THE FOREST WILL ADDRESS RIPARIAN DEGRADATION AND INCREASED SEDIMENT MIGRATION IF PROJECT LEVEL MITIGATION MEASURES ARE NOT PROTECTING SENSITIVE RIPARIAN RESOURCES |
| Response: | Project-level planning is intended to reduce the impacts associated with land management activities through project design and identification of mitigation measures. In addition to these measures, standard contract clauses and contract administration protect project areas during project implementation. When adverse conditions exist, implementation can be terminated until favorable conditions return. When unintended impacts occur, corrective measures are also taken. See also response to PC 111n, below. |
| PC 111m | INCLUDING WHY THERE ARE NO PROVISIONS IN THE FOREST PLAN GIVING THE FOREST THE POWER TO ALTER OR SUSPEND TIMBER CONTRACTS THAT ARE SIGNIFICANTLY DEGRADING RIPARIAN RESOURCES |
| Response: | The Forest has the ability, through contract clauses, to suspend management activities that are having an adverse impact on soil and water resources until conditions allow for a continuation of operations (e.g. drier conditions or freezing conditions), or until corrective measures are taken (e.g. adding gravel to a road surface). It is not necessary for the Forest Plan to grant authorities we already have. |
| PC 111n | INCLUDING HOW THE FOREST EXPECTS TO ACCURATELY UNDERSTAND THE EFFECT THEY ARE HAVING ON RIPARIAN RESOURCES IF THEY ONLY MEASURE IT EVERY 1-5 YEARS |
| Response: | Project level monitoring, Forest-wide monitoring, cooperating with researchers, and reviewing current literature are a few of the ways we develop our understanding of riparian resources, their current conditions, and potential management effects. Field reconnaissance during project planning and implementation gives us a picture of the existing riparian conditions within a project area and the potential effects associated with implementing the project. Forest-wide monitoring of water quality and stream temperatures provides an indication of riparian conditions in sampled streams. Information on riparian conditions is also collected during aquatic habitat surveys to develop an aquatic ecological classification system on the Forest. While the monitoring element targets a 1-5 year frequency on determining the effects of forest management on ecosystem health, the information to support that evaluation is collected annually with water quality data, fish population data, sediment sampling and other efforts. |
| PC 111o | BECAUSE THE FOREST SHOULD USE THE EAST GAULEY MOUNTAIN SETTLEMENT RIPARIAN MONITORING PROTOCOLS AS A GUIDELINE FOR MONITORING DURING ALL TIMBER SALES |
| Response: | The East Gauley Mountain Settlement was specific to ten streams in the East Gauley Mountain project area. We are not bound by this agreement to apply these riparian requirements on other parts of the Forest. With that said, the direction within the 1986 Forest Plan and the Proposed Revised Plan does not preclude us from applying similar riparian prescriptions. The riparian requirements are best determined at the project level given the site-specific conditions. If you look at the minimum buffer widths in the East Gauley Mountain Settlement (ephemeral channels 50 feet on either side of the channel, 50 feet on either side of intermittent channels and 100 feet on either side of perennial streams), they are very similar to the default buffer widths identified in the Proposed Revised Plan (SW37). |
| PC 111p | BECAUSE THE FOREST SHOULD FOREST SERVICE SHOULD COLLECT DATA FROM RIPARIAN AREAS EXPECTED TO BE EFFECTED BY TIMBER HARVEST, INCLUDING MACRO-INVERTEBRATE POPULATIONS, TURBIDITY, FISH POPULATIONS, CHANNEL MORPHOLOGY, AND TROUT SPAWNING GRAVEL QUALITY |

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| Response: | <p>The Forest uses a range of aquatic resource information during project level planning and analysis. Depending on the issues, scope and magnitude of the project, the data collection may include fish population sampling, water quality sampling, sediment sampling and habitat data. Existing information is also used, including data from the WVDNR, universities and researchers with the Forest Service. General observations on riparian and aquatic conditions are also made during project area reconnaissance.</p> <p>In addition to project-level data collection, aquatic resource information is also collected as part of a Forest-wide effort to assess and classify existing aquatic conditions. These efforts include stream surveys, water quality sampling and fish population sampling. The data collection is typically done by Forest personnel, and often in partnership with other groups and agencies.</p> |
| PC 111q | INCLUDING HOW THE FOREST EXPECTS TO ASSESS WHAT EFFECT TIMBER HARVEST ARE HAVING ON THE FOREST'S RIPARIAN RESOURCES IF YOU DON'T KNOW WHAT THE CONDITIONS WERE BEFORE THE HARVEST |
| Response: | This element is similar to Public Concern 111n (see above). Forest-wide monitoring, field reconnaissance during project planning and project area inspection during implementation are ways we understand existing riparian conditions and the potential impacts associated with land management activities. Chapter IV in the 1986 Forest Plan and Proposed Revised Plan includes the monitoring objectives for riparian and aquatic resources. Site-specific information is also collected during project planning and implementation. |
| PC 111r | INCLUDING WHY THE FOREST HAS NOT NOTED THE SPECIAL MONITORING IT MUST FACILITATE IN THE EAST GAULEY MOUNTAIN AREA IF IT IS DESIGNATED 4.1 AND OPEN TO TIMBER HARVESTS |
| Response: | The monitoring in the East Gauley Mountain area is part of the East Gauley Mountain settlement, and is independent of this plan revision. The monitoring is ongoing and will continue, regardless of what prescription the area is given by plan revision. |
| PC 611 | The Forest should consider whether or not present buffer zones around streams are adequate because road-related sedimentation and turbidity continue to be a problem. |
| Response: | Buffers and filter strips serve a number of functions along stream channels, so they may be adequate in some functions, but inadequate in others, especially where existing problems occur. In the case of road related problems, existing roads in close proximity to stream channels can impact streams and water quality. Opportunities exist to close problematic roads, relocate them away from channels, or make improvements to minimize erosion and sedimentation impacts. These opportunities are best determined at the project level to account for site-specific conditions and management objectives. |
| PC 418 | The Forest should clarify what percentage of the Forest falls in the riparian areas. |
| Response: | <p>We estimate that approximately 8% of the Forest lies within the stream channel buffers as described in SW37 on page II-11 of the Proposed Revised Plan. These channel buffers are not directly equivalent to riparian areas, however, which vary widely on the landscape. This variance is one reason why we have chosen to make the stream channel buffer widths flexible.</p> <p>One commenter mentioned protection of wetlands, which represent less than 1% of NFS lands. The direction for riparian areas applies to wetlands, as well as SW51, which mentions wetlands specifically.</p> |
| PC 423 | The Forest should consistently enforce its standard regarding channel buffers to protect and maintain the riparian areas, ecological functions, and values of streams. |
| Response: | The Forest is required to implement and abide by all standards set forth in the Forest Plan. Channel buffers, as outlined by SW 37 in the Proposed Revised Plan, will be implemented at the project level. |
| PC 132 | The Forest should implement a Forest-wide plan for riparian protection. |
| Response: | Primary direction for protection of riparian areas is found in the 1986 Forest Plan under FSM 2500, Water and Soil, pages 79-82b. In the Proposed Revised Plan, the primary direction for riparian protection is located on pages II-11 to II-13. |
| PC 132a | INCLUDING A 100-FOOT MINIMUM BUFFER ZONE ON ANY SLOPE OVER 20 PERCENT |
| Response: | Standard SW37 (page II-11, Proposed Revised Plan) states that channel buffer widths will be designed at the project level based on site-specific conditions. Adjustments to buffer widths would be due to factors such as slope (as suggested), soil types, vegetation type, or floodplain width. |

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| PC 132b | INCLUDING NO LOG LANDINGS OR HAUL ROADS WITHIN BUFFER ZONES |
| Response: | SW40, SW44 and SW 45 (page II-12, Proposed Revised Plan) address skid roads, log landings and haul roads within riparian areas. The intent of this direction is to avoid soil-disturbing activities within close proximity of channel networks. |
| PC 132c | INCLUDING REQUIRING SUITABLE CULVERTS AT STREAM CROSSINGS TO HANDLE HIGH WATER |
| Response: | SW46 (page II-12, Proposed Revised Plan) addresses the ability of stream crossing structures to pass storm flows. |
| PC 132d | INCLUDING A REQUIREMENT FOR 85 PERCENT CANOPY |
| Response: | Channel buffers are intended to protect streamside vegetation and stream canopy. This is especially important along perennial channels and coldwater streams. We acknowledge the preference for an 85% canopy, but feel that buffers 100 feet on either side of perennial channels will adequately protect stream temperatures and existing canopy conditions. |
| PC 132e | INCLUDING REQUIRING ALL HAUL ROAD SLOPES OVER 20 PERCENT GRADE BE SEEDED AND MULCHED |
| Response: | SW14 and SW19 (page II-9 and II-10, Proposed Revised Plan) are intended to protect soils and minimize soil erosion on disturbed soils, not just haul roads over 20 percent grade. Additional mitigation measures may be prescribed during project planning and design as needed. |
| PC 132f | INCLUDING REQUIRING NO HAUL ROADS OVER 30 PERCENT GRADE |
| Response: | This requirement would be consistent with West Virginia BMPs that recommend haul roads should be 10% or less, and not exceed 15%. We will meet or exceed state BMPs. |
| PC 132g | INCLUDING REQUIRING WATER BARS NOT EXCEED 200 FEET AND CLOSER ON STEEPER SLOPES |
| Response: | West Virginia BMPs recommend culvert spacing of 200 feet on road grades of 2-10%, 150 feet on 12% grades, and 100 feet on 14% grades. The frequency of drainage structures, including water bars, can be increased based on site-specific conditions such as soil types, slope, vegetative cover, etc. |
| PC 132h | INCLUDING A 150-FOOT BUFFER ON EACH SIDE OF PERENNIAL STREAMS |
| Response: | Buffer widths are determined during project-level planning and may exceed 150 feet based on site-specific conditions (see Standard SW37 in Proposed Revised Plan, page II-11). |
| PC 132i | INCLUDING 100-FOOT BUFFERS ON EACH SIDE OF LARGE AND SMALL INTERMITTENT STREAMS |
| Response: | Buffer widths are determined during project-level planning and may exceed 100 feet on intermittent channels based on site-specific conditions (see Standard SW37 in Proposed Revised Plan, page II-11). The default buffer widths of 50 feet on small intermittent streams should provide large woody debris recruitment, organic inputs, and bank stability along the smaller channels with less stream energy. |
| PC 132j | INCLUDING 50-FOOT BUFFERS ON EACH SIDE OF EPHEMERAL STREAMS |
| Response: | Buffer widths are determined during project-level planning and may exceed 50 feet based on site-specific conditions (see Standard SW37 in Proposed Revised Plan, page II-11). The default buffer widths of 25 feet on ephemeral channels should provide large woody debris recruitment, organic inputs, and bank stability along these lower energy systems. |
| PC 132k | INCLUDING FORMAL MONITORING OF ALL FOREST PROJECTS AND ACTIVITIES TO EVALUATE STREAM AND WATERSHED IMPACTS |
| Response: | Given existing workloads and funding levels, it is not possible to formally monitor all Forest projects and activities for stream and watershed impacts. We also know through past experience and professional judgment that not all projects or activities result in an impact to streams and watersheds. Rather, projects are generally monitored during implementation to ensure protection of soil and water resources. Formal monitoring of aquatic resources occurs on specific projects, such as the East Gauley Mountain, or as part of a Forest-wide effort to assess resource conditions, such as water quality. We also work with the Fernow Experimental Forest to understand the potential effects of land management on watershed and stream conditions. |
| PC 132l | INCLUDING ADOPTING ALL THE RIPARIAN AREA MANAGEMENT STANDARDS AGREED UPON IN THE EAST GAULEY SETTLEMENT AGREEMENT |
| Response: | Although those guidelines did not apply to riparian areas outside of the East Gauley Mountain project area, we feel the direction in SW37 is similar, and these guidelines can be exceeded based on site- |

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| | specific conditions. |
| PC 132m | INCLUDING PROHIBITING CLEARCUTTING |
| Response: | Regeneration harvests, including clearcuts with reserve trees, may be used to achieve a range of vegetation and wildlife management objectives in the Revised Forest Plan. We feel the riparian and associated vegetation management and soil and water direction in the Revised Forest Plan allows us to avoid or mitigate the potential effects of clearcutting on aquatic resources. |
| PC 76 | <p>The Forest should increase the buffer areas near rivers and streams:</p> <ul style="list-style-type: none"> • To protect watersheds, fish and wildlife habitat, fisheries, and drinking water • To protect the biological and geochemical importance of natural water systems • To prevent erosion, run-off and flooding, and the spread of invasive plants • To limit fire risk • To protect recreational opportunities and attract tourism • To improve water quality and the viewshed • To benefit wilderness areas • To at least 100 feet • Including doubling the widths where the slope is greater than 45 degrees • Including doubling the widths where the slope is greater than 15 degrees • Including more than doubling the width on steep slopes • Including prohibiting ground disturbing activities in these areas other than timber harvest • Including tailoring the buffer width to the specific site • Including a 300 to 600-meter buffer for drainages occupied by wood turtles • Because large trees provide streambank stabilization and the extended root wads provide stream habitat for fish |
| Response: | <p>This public concern is a combination of statements related to resource values, riparian function, and potential effects of land management activities on riparian areas and buffer strips. Primary direction for protection of riparian areas is found in the 1986 Forest Plan under FSM 2500, Water and Soil, pages 79-82b. In the Proposed Forest Plan, the primary direction for riparian protection is located in pages II-11 to II-13. Forest-wide direction is intended to maintain or enhance riparian vegetation and the role it plays in aquatic ecosystem health. The plans differ in language, but both allow for adjustments to riparian protection according to site-specific conditions. The Proposed Revised Plan includes a standard for default buffer strip widths (SW37) based on channel flow regimes.</p> <p>Channel buffers are intended to encompass riparian areas and their ecological functions and values, but their widths can be adjusted to address other resource management objectives. Channel buffer widths are determined at the project planning level based on site-specific conditions such as slope, vegetation type, and floodplain width. First and foremost, project-level decisions on buffer widths need to ensure that actions comply with all laws and regulations. Then, decisions have to weigh the various resource management objectives and economic trade-offs of buffer widths.</p> <p>There were a number of public comments related to doubling the default buffer widths, either in general or related to site-specific conditions such as slope. The intent is to identify buffer widths during project planning based on site-specific conditions. In some cases, default buffer widths can be prescribed and adjusted based on existing information. By following the riparian direction, we feel the various functions of riparian areas and their associated values will be protected within project areas. Protection of riparian areas also occurs within those management prescriptions that do not have active management (e.g. MP 5.0, MP 6.2), or in the extensive areas within active management prescriptions that will not be treated during the planning period.</p> |
| PC 387 | The Forest should apply stream buffer zones to the floodplain because floodplains are much wider than the recommended buffers and their ecological diversity will not be protected by the standards in the Forest Plan. |
| Response: | Forest-wide management direction for Soil and Water Resources in the Proposed Revised Plan includes protection of riparian areas through the implementation of channel buffers (SW37). These buffers shall, at a minimum, encompass the riparian area defined on the basis of soils, vegetation and hydrology and the ecological functions and values associated with the riparian area. Floodplains will be included at the |

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| | project level as needed on the basis of hydrology. Floodplains may or may not be wider than channel buffers, depending on the stream and the topography around it. |
| PC 983 | The Forest should place areas that are in more sensitive riparian areas—such as high quality trout streams, excessively steep slopes, and areas with the potential of highly erodible soils—in “Shade Strip Zones”. Shade Strip Zones are defined as a no-cut or light cut area that provide adequate shading of perennial or intermittent streams so as to stabilize and preserve the biological integrity of the stream. |
| Response: | The application of channel buffers is intended to protect all surface channels within a project area, not just those considered to be sensitive or high quality. The widths of the buffers are determined during project planning and design, and factors such as slope, vegetation type, and aquatic resource management objectives are considered at that time in prescribing site-specific management objectives. Alternative logging methods, such as helicopters or cable logging, may also be employed where conventional logging methods pose a resource management concern that cannot be mitigated. We feel the term “shade strip” focuses too much on one role of channel buffers and may not apply in some situations such as aspect, topography, flow regime or wide river channels. |

| WILDLIFE AND FISH | |
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| PC 834 | The Forest should provide adequate management and protection for the black bear, including: <ul style="list-style-type: none"> • Protection from logging and roads • Protection for den trees • Protection from poaching • Analyzing the negative impacts to populations that would foreseeably result from the proposed plan. |
| Response: | We acknowledge the potential for Forest roads to facilitate access by hunters and poachers, thereby negatively impacting bear populations. Because of this potential, the Forest’s management strategy for bears focuses on providing remote habitat through allocations to management prescriptions with a non-motorized emphasis (MPs 4.1, 5.0, 5.1, 6.1, 6.2, and 8.1 SPNM), as well as an emphasis on hard mast production in MP 6.1. Land allocations to these MPs under Alternative 2 total over 70 percent of the MNF. Potential den trees are provided by snag and cull retention direction in the Proposed Revised Plan (TE22, TE30, TE31, 4109, 6107), the lack of programmed timber harvest in MPs 5.0, 5.1, 6.2, and 8.1, and the general aging trend of the Forest (see forest development stage and successional stage analyses in EIS Chapter 3, Terrestrial Ecosystem Diversity and Vegetation Management sections). Potential effects of the alternatives on bear populations were analyzed by integrating the need for remote habitat and the reliance on hard mast into one indicator of optimum habitat (see discussion of black bear in EIS Chapter 3, Terrestrial Management Indicator Species and Other Species |
| PC 483 | The Forest should provide appropriate management for grouse. |
| Response: | We created a new management prescription (MP 8.6) to emphasized grouse management. Management for grouse would also benefit a variety of other early successional species. Grouse and other early successional species also would benefit from the young regenerating forest provided by management for age class diversity on suitable timberlands in MPs 3.0, 4.1, and 6.1. |
| PC 483a | INCLUDING THE SEEDING OF ROADS WITH A VARIETY OF CLOVERS AND OTHER LEGUMES TO ENHANCE HABITAT QUALITY |
| Response: | We have added a new guideline to MP 8.6 to address the seeding of legumes to benefit grouse. |
| PC 483b | INCLUDING REVISING STANDARD 8603 TO ALLOW PUBLIC TRAVEL OF SUITABLE ROADS FOR THE PURPOSE OF GROUSE HUNTING |
| Response: | Standard 8603 from the Proposed Revised Plan has been modified in the Final Revised Plan to allow enough motorized access to ensure adequate hunter distribution during the grouse hunting season. However, the modified direction does not allow unlimited motorized access. Management recommendations developed as part of the Appalachian Cooperative Grouse Research Project state that motorized access should be limited in areas of high hunting pressure due to the potential for impacts on productivity and survival. |
| PC 824 | The Forest should evaluate crayfish as a terrestrial species. |

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| Response: | The viability analysis for <i>Cambarus monongalensis</i> has been re-evaluated from a terrestrial perspective. |
| PC 488 | <p>The Forest should provide information about the area-sensitive birds that exist in the Forest:</p> <ul style="list-style-type: none"> • Including the habitat needs of the birds • Including providing clear standards and guidelines to prevent the taking of birds protected by the Migratory Bird Treaty Act • Because the Migratory Bird Treaty Act protects many of these birds. |
| Response: | <p>Area-sensitive bird species with potential viability concerns were analyzed in the terrestrial species viability evaluation (EIS Chapter 3 Terrestrial Species Viability; EIS Appendix D; individual species analyses are included in the project record and are available upon request). The species viability evaluation considered habitat needs, including forest area requirements.</p> <p>The application of the Migratory Bird Treaty Act take prohibition to incidental take associated with land management is a complicated issue. Various courts have issued conflicting rulings on the applicability of the take prohibition to incidental take by federal agencies. However, Executive Order 13186 clarifies the responsibilities of federal agencies in protecting migratory birds (Federal Register 66(11):3853-3856). The EO directs agencies to "...identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. With respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take..." To fulfill our responsibilities under this EO, the MNF has included direction on the following topics in the Revised Forest Plan:</p> <ul style="list-style-type: none"> • Identification and prioritization of habitat maintenance, enhancement, and restoration opportunities for Birds of Conservation Concern (BCC) (Goal WF01). • Identification of ongoing and proposed activities that are likely to affect populations of BCC (Goal WF05). • Monitoring of BCC populations sufficient to inform watershed and project planning of potential negative effects and habitat enhancement opportunities (Goal WF06). • Incorporation of avoidance and minimization measures into activities that are likely to have a negative effect on BCC populations (Standard WF11). • Implementation of habitat maintenance, enhancement, and restoration for BCC (Goal WF05, Guideline WF23). |
| PC 285 | <p>The Forest should do something to deal with the deer overpopulation problem:</p> <ul style="list-style-type: none"> • Including limiting the herd to a level that is compatible with the long-term health of the Forest • Including setting a management goal of less than or equal to 18-20 deer per square mile • Including supporting the reduction of the deer herd to 1940 levels and discouraging the stocking of elk • Including supporting the reduction of the deer herd to no more than 15,000 animals or about 10 per square mile • Because deer adversely impact forest biodiversity • Because deer exacerbate the non-native invasive plant problem • To protect the timber supply. |
| Response: | The Forest Service cooperates with state agencies in the management of wildlife and wildlife habitats on National Forest land, but the ultimate responsibility for management of the deer population in West Virginia rests with the West Virginia Division of Natural Resources (WVDNR). The Forest has worked cooperatively with WVDNR on wildlife management issues for decades, and will continue to do so in the future. Should the Forest conclude that deer populations are high enough to cause a substantial impact on tree regeneration or biodiversity, we can make suggestions to WVDNR on population objectives and hunting regulations, and we can work with WVDNR to ensure adequate access for deer hunters. However, it would be inappropriate for the Forest to include goals, objectives, or other direction for deer population reduction in the Forest Plan when we do not have authority over wildlife populations or hunting regulations. |
| PC 42 | The Forest should not allow the State Division of Natural Resources to have the power to let the over-population of any animal destroy small game populations. |

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| Response: | See response to PC 285. |
| PC 85 | The Forest should not allow game management. |
| Response: | Federal agencies, including the Forest Service, are required by law to cooperate with the states in the management of wildlife. Providing habitat for game species is a legitimate multiple-use goal. |
| PC 506 | The Forest should take an aggressive approach to re-establishing game populations. |
| Response: | The Proposed Revised Plan addresses habitat improvements for game and non-game species in direction found in Chapters II and III (see WF01, WF03, WF04, WF05, WF15, WF21, WF23, 3015, 3016, 3017, 4107, 4131, 4132, 5027, 5124, 5125, 6101, 6102, 6104, 6115, 6126, 6128, 6131, 6133, 6134, 6135, 6136, 6137, 6138, 6144, 6145, 6219, 6224, 8601, 8602, 8606, and 8607). Management of wildlife populations is the responsibility of the State, not the Forest Service. |
| PC 836 | The Forest should acknowledge that wildlife openings have a negligible impact on wilderness attributes. |
| Response: | The openings themselves probably do not have a significant impact on wilderness attributes, although many openings feature a relatively high composition of non-native species. However, the wilderness evaluations in Appendix C to the EIS recognize that maintaining wildlife openings through mechanized means would be a non-conforming use in wilderness areas. The WVDNR considers that mechanized activity necessary for opening maintenance. Therefore the openings, which will likely disappear over time without maintenance, are considered values foregone if the areas encompassing them were to be designated as Wilderness. See also response to PC 395. |
| PC 514 | The Forest should ensure that wildlife assessments are conducted. |
| Response: | The Forest conducted a comprehensive species viability evaluation for those species that were determined to have potential viability concerns. See EIS Chapter 3, Watershed, Riparian and Aquatic Resources section; Terrestrial Species Viability section; EIS Appendices D and E. Evaluations for individual species with potential viability concerns are contained in the project record and are available upon request. The Forest also assessed potential effects to wildlife in the EIS, Chapter 3, Terrestrial Management Indicator Species and Other Species of Interest section. |
| PC 514a | INCLUDING ASSESSING THE IMPACTS THAT FISH STOCKING HAVE ON NATIVE FISHES, AMPHIBIANS, INVERTEBRATES, AND OTHER AQUATIC SPECIES |
| Response: | The WVDNR is the agency responsible for stocking fish and assessing the potential impacts on native and desired non-native species. As cooperators, we work with the WVDNR to identify common resource goals and objectives and provide input to their stocking program. |
| PC 514b | INCLUDING DEVELOPING A METHOD TO REMOVE INTRODUCED FISH FROM NATIVE REFUGE AREAS IN THE LEAST ECOLOGICALLY DAMAGING MANNER POSSIBLE |
| Response: | The WVDNR is the lead agency in projects related to fish population management. As cooperators, we would work with them to identify areas of potential concerns with introduced species and alternatives for their removal. |
| PC 514c | INCLUDING IDENTIFYING AND ADDRESSING AREAS OF HIGH AQUATIC BIODIVERSITY THROUGH CREATION OF REFUGIA OR APPROPRIATE STANDARDS AND GUIDELINES |
| Response: | The identification of aquatic diversity refugia is a good idea that can be addressed outside of this planning effort. Watersheds and subwatersheds that occur in management prescriptions that have limited management activities (primarily MP 5.0, 5.1 and 6.2), provide opportunities for relatively undisturbed aquatic refugia depending on the parent geology and the susceptibility of the area to acid deposition. For potential refugia within management prescriptions that are actively managed (primarily MP 3.0 and 6.1), protection is provided by standards and guidelines identified in the 1986 Forest Plan (primarily pages 79 to 89) and in the Proposed Revised Plan (pages II-8 to II-13 and II-25 to II-27). |
| PC 514d | TO PROTECT ENDANGERED SPECIES |
| Response: | Biological assessments for endangered species are required for projects that would affect endangered species or their habitats. A biological assessment was also completed for this Forest Plan revision, and is available on request. |
| PC 514e | INCLUDING ANALYSIS OF THE LINK BETWEEN FOREST MANAGEMENT AND THE NEEDS OF WILDLIFE |
| Response: | The effects of forest management on wildlife habitat were analyzed as part of the species viability evaluation and Management Indicator Species analysis, as cited above. |
| PC 514f | INCLUDING EXAMINING THE EXTENT TO WHICH BREEDING BIRD SURVEYS HAVE |

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| Response: | Breeding bird surveys that have occurred on and near the Forest were used in the viability analyses for birds. The detailed, species-by-species analyses are contained in the project record. |
| PC 514g | INCLUDING ASSESSMENT OF THE IMPACTS TO SITE-SENSITIVE CREATURES SUCH AS SALAMANDERS |
| Response: | The general thrust of the comment seems to be that most salamander species do best in old forests. All plan alternatives would increase the amount of young forest through timber harvesting, but all alternatives also would provide a substantial increase in old forests due to the continued aging of today's mostly middle-aged stands. The provision of an ample amount of old forest serves as a "coarse filter" method of conserving species associated with that habitat, including many salamanders (see discussion in the EIS, Chapter 3, Ecosystem Diversity section and Vegetation Management section). The species viability evaluation analyzed in detail four salamander species that were determined to have potential viability concerns. These analyses serve as a "fine filter" for addressing concerns for those rare species that may not be adequately conserved by a coarse filter strategy alone. |
| PC 9 | The Forest should protect wildlife and habitat—including wild turkey, deer, wood turtle, and all listed species—to provide recreational and hunting opportunities. |
| Response: | Main PC statement, C, D, E, J, M, O, and T) Many comments expressed a general concern for protection of habitat for particular species or for all wildlife species. All alternatives considered in detail provide for protection, maintenance, enhancement, and restoration of wildlife and habitat, as documented in EIS Chapter 3 in the sections on Water, Riparian, and Aquatic Resources; Terrestrial Ecosystem Diversity; Terrestrial Species Viability; Terrestrial Management Indicator Species and Other Species of Interest; and Threatened and Endangered Species. |
| PC 9a | INCLUDING TROUT STREAMS |
| Response: | See response to PC 831. |
| PC 9b | INCLUDING BLACK BEAR |
| Response: | See responses to PC 831h and PC 834. |
| PC 9c | INCLUDING <i>TAXUS CANADENSIS</i> (CANADA YEW), <i>CROTALUS HORRIDUS</i> (TIMBER RATTLESNAKE), <i>AGKISTRODON CONTORTRIX</i> (COPPERHEAD), AND HERPS |
| Response: | The commenter did not make a substantive comment; (s)he merely stated a position against the "current plight" of these species without elaborating on how Forest management relates to them. |
| PC 9d | INCLUDING THE INDIANA BAT |
| Response: | The Proposed Revised Plan contains direction to protect the Indiana bat and its habitat [see TE21 through TE53 in the Threatened, Endangered or Proposed (TEP) Species section of Chapter II]. |
| PC 9e | INCLUDING THE CHEAT MOUNTAIN SALAMANDER |
| Response: | Direction in the Proposed Revised Plan prohibits ground and vegetation disturbance in occupied Cheat Mountain salamander habitat unless such disturbance would have no adverse effect on populations or habitat (Standard TE56 in the TEP Species section of Chapter II). |
| PC 9f | INCLUDING THE NORTHERN FLYING SQUIRREL |
| Response: | Direction in the Proposed Revised Plan protects the West Virginia northern flying squirrel and its suitable habitat from nearly all management-related adverse effects (TE61 through TE64). |
| PC 9g | TO PROVIDE TOURISM REVENUE |
| Response: | The Forest does not provide tourism revenue, but we would provide habitat for a variety of wildlife species that may attract tourists under all alternatives considered in detail. |
| PC 9h | TO PROTECT AREAS THAT PRODUCE OXYGEN |
| Response: | All alternatives would maintain almost all National Forest System (NFS) lands in forest cover, which would preserve their oxygen-producing capability. |
| PC 9i | INCLUDING DESIGNATION OF LARGER SEGMENTS OF PROTECTED LAND |
| Response: | See response to PC 530. |
| PC 9j | INCLUDING SPECIES THAT REQUIRE EARLY SUCCESSIONAL RIPARIAN HABITAT |
| Response: | Direction in the Proposed Revised Plan for stream channel buffers allows habitat management to benefit riparian species (SW34). |
| PC 9k | INCLUDING SPECIES THAT RELY ON THE BIOLOGICAL AND ECOLOGICAL RESOURCES OF CAVES |

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| Response: | Many locally endemic cave species are on the Regional Forester's Sensitive Species list and are protected by direction in the Proposed Revised Plan (WF01, WF06, WF11, and WF17) and Forest Service Manual direction (FSM 2670). A Region 9 supplement to the Forest Service Manual provides broad protection for cave and karst resources (FSM 2356). |
| PC 9l | INCLUDING THE PINK-EDGED SULFUR BUTTERFLY |
| Response: | The commenter suggested that we change the habitat groups for this species in the species viability evaluation. We have made the change and have updated the analysis accordingly. |
| PC 9m | INCLUDING THE RUFFED GROUSE |
| Response: | See response to PC 483. |
| PC 9n | INCLUDING PROTECTING WILDLIFE CORRIDORS |
| Response: | The vast majority of NFS lands, including those in the suitable timber base, will remain forested at any given point in time. These buffer lands can serve as corridors between reserve areas where natural forces predominate. See discussion of the buffer effect of NFS lands in the Minimum Dynamic Area Reserve discussion on pages 3-113 and 3-114 of the DEIS. However, the Forest's ability to provide for corridors in many areas is limited by land ownership patterns. |
| PC 9o | TO PROTECT BIRDS |
| Response: | See response to PC 488. |
| PC 9p | INCLUDING SALAMANDERS |
| Response: | See response to PC 514g. |
| PC 9q | INCLUDING PROPER MONITORING AND ASSESSMENT |
| Response: | See response to PC 668. |
| PC 9r | INCLUDING THE SNOWSHOE HARE |
| Response: | The commenter suggested that we develop management direction in the plan specifically for the snowshoe hare. Plan direction focuses on species that need special attention during management and monitoring. Accordingly, species-specific direction in the revised plan focuses on threatened and endangered species, sensitive species, and management indicator species. Forest-wide and management prescription direction contains ample provisions for habitat diversity, mast production, snag retention, and other habitat features that is intended to provide for the hundreds of species that are not mentioned by name in the Forest Plan. |
| PC 9s | INCLUDING AMENDING STANDARD WF11 TO BETTER PROTECT SENSITIVE SPECIES AND BIRDS OF CONSERVATION CONCERN |
| Response: | Standard WF11 in the Proposed Revised Plan allows for the accomplishment of project purposes, but requires avoidance and minimization of negative impacts to the maximum extent practical. It also requires mitigation of unavoidable impacts. The purpose and practicality qualifiers are consistent with the planning regulations, which provide for diversity of plant and animal communities within the context of overall multiple-use objectives. Trends toward federal listing are prohibited by higher level manual direction (FSM 2670). |
| PC 359 | The Forest should consider the management problems that deer create, including threats to vegetation and rare and endangered plants. |
| Response: | The issue of excessive deer browsing has become a concern in recent years, as vegetation inventory and stocking surveys have shown an increasing lack of advance regeneration and inadequate species stocking in some areas on the Forest. High density populations of deer have negative effects on the quantity, growth, diversity, and composition of understory forest vegetation (Horsley et al. 2003). Silvicultural treatments prescribed during project-level planning can be implemented to encourage regeneration and/or deter deer browsing but these treatments are costly. The Forest cooperates with WVDNR, the state agency that manages the wildlife management and hunting programs in West Virginia. Decisions to control the deer herds such as extending deer season, or increasing the allowable number of deer to be harvested ultimately rests with WVDNR. We work with WVDNR to open selected Forest roads to facilitate hunter access during deer season. See also response to PC 285. |
| PC 193 | The Forest should promote increased scientific study of mammal and bird species in the Forest and its wilderness areas, including protecting plots surveyed by the Brooks Bird Club so they can serve as a basis of comparison for future bird surveys. |
| Response: | We recognize the value of long-term research and monitoring plots. However, management decisions for areas that are used by others for research or monitoring are best left for case-by-case consideration at |

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| | the project level. See also response to PC 668. |
| PC 405 | The Forest should provide protection for species of special concern. |
| PC 405a | INCLUDING NEST BOXES FOR BARN OWLS WITH A MAINTENANCE PROGRAM IN PLACE |
| Response: | Specific habitat improvement measures are best addressed at the project level. |
| PC 405b | INCLUDING MIGRATORY BIRDS AND BIRDS OF CONSERVATION CONCERN |
| Response: | See response to PC 488. |
| PC 405c | INCLUDING AQUATIC SPECIES OF CONCERN |
| Response: | Protection of aquatic species of concern is primarily tied to the protection of Soil and Water Resources in the Proposed Revised Plan, pages II-8 to II-13. Additional direction is located in the Wildlife and Fish section (pages II-25 to II-27). |
| PC 482 | The Forest should reduce squirrel populations. |
| Response: | The State is responsible for wildlife population management, not the Forest Service. |
| PC 487 | The Forest should promote beaver populations where turtles exist by working with WVDNR to close the trapping season. |
| Response: | The State is responsible for trapping regulations, not the Forest Service. |
| PC 485 | The Forest should provide adequate protection for wood turtles. |
| PC 485a | INCLUDING LISTING THEM AS AN AQUATIC SPECIES |
| Response: | Wood turtles use terrestrial and aquatic habitats. Including them in the terrestrial analysis was a judgment call; one could argue for including them in the aquatic or terrestrial analysis. Although they were included in the analysis for terrestrial species, the aquatic habitat component was considered |
| PC 485b | Including preventing openings created after intensive logging and promoting old growth areas |
| Response: | The commenter states that wood turtles require mature or old forest habitat and that recently logged areas are not good habitat for this species. We generally agree with this contention, and our viability analysis for the wood turtle considered mature and old riparian forests to constitute the primary habitat (EIS Appendix D, Table D-2). |
| PC 485c | INCLUDING PROVIDING SUFFICIENT AMOUNTS OF LARGE AND COARSE WOODY DEBRIS IN STREAMS |
| Response: | All streams large enough to serve as wood turtle habitat are protected by 100-foot-wide buffers on both sides where no programmed timber harvest is allowed (see Standards SW34 and SW37 in the Proposed Revised Plan). One of the main functions of these buffers is to allow trees to mature and die naturally so they can contribute woody debris to the streams. |
| PC 495d | INCLUDING PROVIDING INFORMATION ABOUT TURTLE POPULATIONS AND CAUSES OF POPULATION LOSSES |
| Response: | The commenter asked for detailed data on populations and vital rates for wood turtles on the Forest. As is the case for most species with potential viability concerns, such data do not exist. Conducting the extensive research that would be necessary to provide such data is outside of the mission of the National Forest System. The viability analysis (contained in the project record) fully considered the limited occurrence data that exist. |
| PC 495e | INCLUDING: <ul style="list-style-type: none"> • RESTRICTING LOGGING OPERATIONS AND ROAD USE IN WOOD TURTLE HABITAT TO THE 3 TO 4 MONTHS IN THE WINTER WHEN TURTLES ARE IN STREAMS • TRAINING LOGGERS IN IDENTIFYING WOOD TURTLES ON-SITE SO THAT THEY CAN BE AVOIDED • ENSURING THAT ADEQUATE MITIGATION EFFORTS ARE CARRIED OUT BY LOGGING OPERATIONS • ACKNOWLEDGING THAT WOOD TURTLE HABITAT EXISTS OUTSIDE OF NARROWLY DEFINED RIPARIAN AREAS • CONSIDERING THE DIRECT, INDIRECT, AND CUMULATIVE IMPACTS OF INTENSIVE LOGGING AND ROAD BUILDING IN TURTLE HABITAT |
| Response: | The riparian corridor that forms the core of wood turtle habitat is protected from programmed timber harvest (see SW34 and SW37 in the Proposed Revised plan), and new roads in this habitat are limited to essential crossings (see SW44 in the Proposed Revised plan). Wood turtles may use habitats outside the protected riparian buffer. However, the majority of Forest land within the known range of the wood |

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| | turtle is in the National Recreation Area, where programmed timber harvest is not allowed. Therefore, we believe that timber harvest and associated motorized equipment use on the Forest pose little risk to wood turtle populations, and that programmatic restrictions on timber harvesting are not warranted. |
| PC 495f | INCLUDING ENSURING THAT WOOD TURTLES ARE PROPERLY, FAIRLY, AND EXPLICITLY CONSIDERED, INVENTORIED, SURVEYED FOR, AND MONITORED |
| Response: | The Monitoring and Evaluation Chapter of the Proposed Revised Forest Plan includes a monitoring item for species viability (Chapter IV, Table 4-3b, item 44). Should Forest management activities pose a potential threat to the wood turtle, viability monitoring would collect the information necessary to ensure that management does not lead to loss of viability or a trend toward federal listing. |
| PC 495g | TO COMPLY WITH NEPA AND NFMA |
| Response: | The viability analysis considered relevant factors and used the best available data, as required by NEPA and NFMA. The viability analysis is summarized in the Terrestrial Species Viability section of EIS Chapter 3 and EIS Appendix D. The detailed viability analyses are contained in the project record and are available upon request. |
| PC 495h | INCLUDING CONSIDERING THE IMPACT ON TURTLES FROM INCREASED RECREATIONAL OPPORTUNITIES |
| Response: | The viability analysis for the wood turtle has been updated to include consideration of potential recreation-related impacts. |
| PC 495i | INCLUDING CONSIDERING THE IMPACTS ON TURTLES FROM THE STOCKING OF TROUT STREAMS |
| Response: | The suggestion that trout stocking increases removal of individual turtles is speculative; we are not aware of any existing research to support this speculation. Regardless, the Forest has no authority to regulate trout stocking, which is conducted by the State of West Virginia. |
| PC 495j | INCLUDING CONSIDERING IMPACTS ON TURTLES FROM MOTOR VEHICLES |
| Response: | The viability analysis for the wood turtle has been updated to include consideration of potential motor vehicle impacts. |
| PC 495k | INCLUDING CONSIDERING IMPACTS ON TURTLES FROM SMALL PREDATORS |
| Response: | The commenter contends that logging will increase predator populations. See response to subconcern e, above. |
| Wildlife Habitat | |
| PC 269 | The Forest should allow the Forest to remain an island of older, wilder, richer habitat, because there is plenty of private forest land that provides early successional habitat. |
| Response: | There is very little old forest habitat here at this time. However, much of the Forest would be allowed to grow older under the alternatives analyzed in detail. See the Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS. See also responses to PC 530 and PC 690. |
| PC 699 | The Forest should examine what areas of remote habitat exist on the forest for primitive, semi-primitive non-motorized, and backcountry recreation. |
| Response: | The Forest has no areas that are considered primitive under the ROS system. Semi-primitive non-motorized and backcountry recreation areas are identified in the Recreation and Wilderness section of Chapter 3 in the EIS. |
| PC 699a | TO BENEFIT BEARS |
| Response: | See response to PC 834. |
| PC 404 | The Forest should prevent fragmentation of habitat because of the effects on habitat quality for the mammal, reptile, bird, and amphibian species found in forests. |
| Response: | Fragmentation is addressed by the combined effects of land allocations to all of the Management Prescription where large-scale even-aged management is prohibited or unlikely. See the Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS. See also responses to PC 530 and PC 690. |
| PC 323 | The Forest should prohibit maintaining wildlife openings in all areas designated 5.1 Recommended Wilderness, 6.2 Backcountry Recreation, 8.0 Special Areas, and other roadless areas. |
| Response: | Maintenance of herbaceous openings for wildlife species that use that type of habitat is a legitimate multiple-use goal for providing a diversity of wildlife habitats. New wildlife openings can only be constructed in MPs 5.1 and 6.2 if they are compatible with the recreational setting and are need for |

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| | ecosystem restoration or TEP/RFSS species (see standards 5124 and 6220 in the Proposed Revised Forest Plan). Wildlife habitat management in MP 8.0 areas would be consistent with the management emphasis and direction of each individual area (see Guideline 8012 in the Proposed Revised Forest Plan); therefore, construction of wildlife openings in 8.0 areas would be unlikely if they have the potential to damage the special features. |
| PC 323a | BECAUSE THIS APPROACH TO WILDLIFE MANAGEMENT LEADS TO FRAGMENTATION OF OTHERWISE INTACT FOREST, WHICH FAVORS “EDGE” WILDLIFE LIKE DEER, CROWS, BROWN-HEADED COWBIRDS, BLUE JAYS, COYOTES, ETC. |
| Response: | Management prescription allocations under all alternatives would provide for large core areas of contiguous forest where natural disturbance and recovery processes predominate. See EIS, Chapter 3, Terrestrial Ecosystem Diversity section, subsection on Minimum Dynamic Area reserves. |
| PC 496 | The Forest should allow 1 to 2 acre wildlife openings and 5 to 10 acre savannahs in Management Prescription 8.1 to provide a continued diversity of habitats for wildlife species and hunting opportunities. |
| Response: | Guideline 8103 from the Proposed Revised Forest Plan has been rewritten to indicate that openings may be maintained or developed for wildlife habitat. |
| PC 212 | The Forest should explain why direction does not protect all habitats instead of “most rare habitats”. |
| Response: | Guideline VE12 in the Proposed Revised Forest Plan provides nearly complete protection for rare communities. However, at the programmatic level it is not possible to ensure that all potential impacts are completely avoidable. |
| PC 113 | The Forest should consider land 50 miles beyond its proclamation boundary with its coarse filter. |
| Response: | The species viability requirement applies to lands within the proclamation and purchase unit boundaries. The purpose of the coarse filter is to gauge the potential for maintenance of habitats across this landscape to provide for the viability of most of the common species. |
| PC 477 | The Forest should limit the number of wildlife openings created, including in 3.0 areas. |
| Response: | The desired condition for wildlife openings calls for 3 to 8 percent of the landscape in openings in MPs 3.0 and 6.1, and up to 5 percent of the landscape in openings in MP 4.1. The other MPs do not have desired conditions for wildlife openings; little or no development of new openings is expected in these MPs. Therefore, wildlife openings will be limited to a relatively small portion of the landscape. Regeneration harvests are not counted toward wildlife opening objectives because they do not provide the same type of long-term herbaceous habitat that is provided by maintained openings. |
| PC 515 | The Forest should examine the biological carrying capacity of larger blocks of habitat. |
| Response: | The Minimum Dynamic Area (MDA) reserve size threshold was established based on natural disturbance regimes rather than carrying capacity for particular species. Carrying capacity is a difficult parameter to evaluate accurately; therefore, we used a coarse-filter approach that provides for ample representation of the major natural communities in MDA reserves. These reserves are surrounded by buffers of managed National Forest land that provide additional habitat for most species and further enhance the function of the reserves. See MDA discussion in the Terrestrial Ecosystem Diversity section of Chapter 3 in the EIS. |
| PC 112 | The Forest should acknowledge that it does not have to provide a mix of diverse habitats if those habitats predominate off the Forest and surround the Forest. |
| Response: | Providing a diversity of habitats is a legitimate multiple-use goal and is in keeping with the diversity requirements of the National Forest Management Act implementing regulations [36 CFR 219.26, 219.27(a)(5), 219.27(g)]. Diverse habitats on private lands may not provide adequate hunting and wildlife viewing opportunities for members of the public who do not have access to those lands. Private land timber harvest may also result in the creation of commercial development or agricultural tracts that do not function as early successional habitat. |
| PC 348 | The Forest should provide well-distributed habitat for species that require unique habitat, including old growth forests, high-quality riparian forests, remote habitat, high-elevation forests, mature mixed mesophytic forests northern hardwood forests, northern evergreen forests, oak-hickory forests, grass balds, glades and bogs, floodplain communities, cliffs and rocky places, cave habitats, karst habitats, and shale barrens. |
| Response: | Habitat variety and distribution are addressed in the Terrestrial Ecosystem Diversity section of Chapter |

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| | 3 in the EIS. Due to their rare nature and the specific conditions under which some unique habitat types are formed, they will never be well-distributed. |
| PC 352 | The Forest should reduce the projected future maintained openings to less than 15,000 acres across all alternatives. |
| PC 352a | BECAUSE OPENINGS CONCENTRATE ANIMALS, ENCOURAGING THE DEVELOPMENT OF DISEASE |
| Response: | Maintained openings on National Forest System land do not include supplemental feeding or baiting of animals, which is believed by many wildlife scientists to increase disease and parasite transmission. We have seen no evidence to suggest that maintained openings by themselves concentrate animals enough to affect disease transmission. |
| PC 352b | BECAUSE OPENINGS PROMOTE THE ESTABLISHMENT OF NON-NATIVE INVASIVE PLANTS |
| Response: | Risks associated with non-native invasive plants are addressed by Proposed Revised Plan direction VE15 through VE21, and VE05. The Non-native Invasive Plants section of the EIS, Chapter 3 addresses the potential for maintained openings to contribute to the spread of non-native invasive plants. |
| PC 65 | The Forest should protect large, continuous, and contiguous areas of habitat to prevent species from becoming endangered or extinct, including connecting roadless areas with roadless corridors. |
| Response: | See responses to PC 530 and PC 690. |
| PC 512 | The Forest should restrict wildlife openings along the Northridge trail to the north ridge top of the basin. |
| Response: | The site specificity of this request is beyond the scope of plan revision. |
| Fish and Aquatic Habitat | |
| PC 702 | The Forest should provide the same sediment protection to potential trout fisheries as high quality trout streams. |
| Response: | Direction within the 1986 Forest Plan and the Proposed Revised Forest Plan is applied to functioning channels within the Forest. This includes perennial, intermittent and ephemeral channels, as well as fish-bearing and non-fish-bearing streams. Streams that are currently acidic but could be treated with limestone fines will also have sediment protection applied to them. |
| PC 422 | The Forest should provide sensitive management to the Shavers Fork south of U.S. Highway 250 to restore the native brook trout fishery. |
| Response: | <p>The Forest shares the concern and interest in the management of the Upper Shavers Fork watershed, and the restoration of the native brook trout fishery. Efforts in recent years include contracting a watershed assessment, planning and implementing a number of watershed improvement projects, riparian improvements, road crossing improvements, and acid remediation. Efforts are also underway to evaluate the potential for instream habitat improvements and rehabilitation of an old strip mine.</p> <p>During the revision process, the Upper Shavers Fork has primarily been placed in management prescriptions that emphasize the protection and restoration of natural ecosystems. The management prescriptions vary by alternative, but the main emphasis is on the restoration of the spruce ecosystem (MP 4.1) in Alternatives 2 and 4, and a combination of spruce restoration and remote backcountry (MP 6.2) in Alternative 3. In the 1986 Forest Plan, the Upper Shavers Fork is primarily within MP 8.0 (Special Areas) and MP 6.3 (Indiana bat management emphasis). The management emphasis of the area, coupled with standards and guidelines for the protection of soil and water resources, and the continuing efforts to restore watershed conditions should facilitate the recovery of the aquatic ecosystem and native brook trout.</p> |
| PC 583 | The Forest should try to bring back the native vegetation and water quality and restore the once great native brook trout fishery in the upper basin of the Shavers Fork to the extent possible. |
| Response: | See response to PC 422. |
| PC 257 | The Forest Plan revision should emphasize doing direct fish and wildlife improvements. |
| Response: | The Forest Plan allows for the implementation of fish and wildlife habitat improvements throughout the Forest. Projects implemented within MP 5.0, Designated Wilderness, would be the most restricted, but opportunities to improve fish and wildlife habitat exist. Examples of management direction that addresses habitat improvement in the Proposed Revised Plan include WF01, WF03, WF04, WF05, |

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| | WF15, WF21, WF23, 3015, 3016, 3017, 4107, 4131, 4132, 5027, 5124, 5125, 6101, 6102, 6104, 6115, 6126, 6128, 6131, 6133, 6134, 6135, 6136, 6137, 6138, 6144, 6145, 6219, 6224, 8601, 8602, 8606, and 8607. Our ability to implement fish and wildlife projects is also influenced by annual workloads, personnel, budgets, and Forest priorities. |
| PC 680 | The Forest should provide information about its protection of trout streams. |
| Response: | The protection of trout habitat, as well as all aquatic species, begins with the protection of soil and water resources. Forest-wide direction to minimize erosion and to protect soil productivity, riparian conditions and water quality is found in the Proposed Revised Plan, pages II-8 to II-13. Forest-wide goals and additional direction for protecting aquatic species are found on pages II-25 to II-27. |
| PC 680a | INCLUDING WHY THE FOREST PLAN'S GOAL OF MAINTAINING 560 MILES OF STREAM HABITAT CAPABLE OF SUPPORTING WILD, NATURALLY PRODUCING BROOK TROUT IS LESS THAN THE CURRENT NUMBER OF NATIVE, WILD, AND STOCKED STREAMS |
| Response: | This goal has been corrected to read 570 miles in the Final Revised Plan. |
| PC 680b | INCLUDING WHAT KIND OF RESTORATION NEEDS TO HAPPEN AND IN WHAT TIMEFRAME |
| Response: | Identification of restoration opportunities is addressed during watershed assessments and project level planning. In general, restoration opportunities primarily address reducing stream sedimentation, improving channel structure and fish habitat, improving water quality (e.g., riparian planting, fencing, or additions of limestone sand), and correcting passage problems. The exact restoration needs and the timeframe for accomplishment largely depends on the site-specific conditions of the stream channels being assessed, the scope and magnitude of the restoration needs, and the funds available for restoration activities. |
| PC 680c | INCLUDING HOW MUCH THE ACID DEPOSITION IS AFFECTING TROUT POPULATIONS AND WHAT THAT MEANS FOR THE PROTECTION OF TROUT STREAMS ON FOREST AREAS NOT HEAVILY IMPACTED BY ACID DEPOSITION |
| Response: | An estimated 41% of the Forest is underlain by geologies that are sensitive to acid deposition. Due to the variability of the buffering capacity within the geology, not all streams within the acid sensitive areas are acidic. Many of the streams draining these areas support or historically supported trout populations. The EIS has been updated to include an estimate of the number of stream miles located on acid sensitive geology and an estimate of trout streams that are potentially impaired. Impacts to trout populations within acid-impaired streams elevate the importance of protecting and restoring the populations that are not immediately threatened by acid deposition. These are variables that would be considered in project-level planning as well as when setting aquatic resource program priorities. |
| PC 680d | INCLUDING WHY ALTERNATIVE 2 WAS CHOSEN, GIVEN THE EFFECTS OF TIMBERING AND ROADING ON TROUT |
| Response: | Alternative 2 is identified as the preferred alternative in the DEIS. The deciding official considered a variety of issues, not just aquatics, in selecting an alternative for implementation. The effects of timber and roads are discussed in the DEIS (pages 3-53 to 3-92). The potential effects are similar for all alternatives. The alternatives differ primarily in where potential effects may occur, but we have estimated that we have sufficient and appropriate direction in place to avoid or mitigate those effects at the project level under Alternative 2. |
| PC 680e | INCLUDING WHY RECOVERY OF FISH COMMUNITIES IS LAGGING WHILE RIPARIAN AREAS ARE RECOVERING |
| Response: | Recovery of aquatic systems often lags behind the recovery of terrestrial systems because of the dependence of aquatic ecosystems on terrestrial systems. In this case, riparian forests were harvested around the turn of the last century, reducing stream shading and large woody debris recruitment. Conditions likely favored more tolerant fish species, which expanded their range in many drainages. Initial regrowth in riparian areas increased stream shading, and riparian timber stands are now maturing to a point where large woody debris recruitment will begin to restore other functions in stream channels. As the aquatic ecosystems continue to recover, fish communities may begin to expand their range and reclaim former habitats if they have a competitive advantage over existing fish communities. |
| PC 680f | INCLUDING ADDRESSING THE ROAD SYSTEM AS PART OF THIS PROCESS AND PROVIDING AN ASSESSMENT AND PLAN TO DEAL WITH STREAM CROSSINGS |
| Response: | Management direction related to roads and stream crossings is provided primarily in Chapter II of the |

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| | Proposed Revised Plan in the Soil and Water Resources, Wildlife and Fish, and Roads and Facilities sections. |
| PC 680g | INCLUDING EXPLAINING WHAT IS BEING USED AS A SURROGATE MANAGEMENT INDICATOR SPECIES IN STREAMS OTHER THAN COLD WATER |
| Response: | <p>The only aquatic indicator species (MIS) identified is native brook trout. The purpose of MIS is to develop a link between our land management activities and the biota. Most of our management activities occur in headwater areas and in closer proximity to cold water systems than the lower cool and warm water stream reaches. We feel that brook trout are a good MIS because of their sensitivity to potential impacts associated with land management activities, their broad distribution and their location within headwater reaches. If we see changed conditions for brook trout we can assume species located downstream may also be affected. The difficulties in identifying a cool or warm water MIS are:</p> <ul style="list-style-type: none"> • Species that are broadly distributed are likely to be fairly tolerant and therefore less sensitive to our management actions, • If the species are limited in distribution, then management activities in much of the Forest would not potentially influence them, and • Lower stream reaches typically have more mixed land ownership within the watersheds, which can mask the influence of our management actions. |
| PC 680h | INCLUDING WHAT THE PRIORITY WILL BE TO TREAT THE PH LEVELS FOR THE BENEFIT OF THE BROAD ARRAY OF AQUATIC SPECIES IN INSTANCES WHERE STREAMS ARE NOT TARGETED TO SUPPORT NATIVE BROOK TROUT BUT ARE SUFFERING FROM ACID DEPOSITION |
| Response: | WVDNR and WVDEP are the lead agencies in treating acid impaired streams with limestone. To date, streams that support potential sport fisheries and are readily accessible have been the priority for treatments. The addition of limestone fines often occurs high in the headwaters so that a wide range of aquatic organisms, both in the headwaters and downstream reaches, benefit from the acid remediation efforts. Setting priorities for future treatments is beyond the scope of the revision process. The Forest will cooperate with the respective agencies in setting priorities based on aquatic program management objectives and funding. |
| PC 680i | INCLUDING WHAT OTHER AQUATIC SPECIES WILL SUFFER BECAUSE BROOK TROUT ARE THE SINGLE AQUATIC MANAGEMENT INDICATOR SPECIES |
| Response: | We believe that the protection of brook trout habitat sets the stage for protection of other aquatic species upstream and down. If we are taking care of brook trout, then species located downstream should benefit. And, in order to protect brook trout habitat, small headwater streams, including streams that do not support fish, need to be protected because of their influence on brook trout habitat downstream. It is also important to note that the selection of native brook trout as an MIS does not mean we have a singular focus on brook trout. Project-level analysis includes addressing potential effects on Regional Forester Sensitive Species and other species of concern. |
| PC 317 | The Forest should include the issue of siltation in any management plan for brook trout. |
| Response: | The Forest recognizes fine sediment and siltation as one of the major factors limiting trout productivity. Sediment sampling has shown that nearly 2/3 of the streams on the Forest have levels of fine sediment at or exceeding levels that impair trout production (DEIS, p. 3-60). Much of the analysis within the DEIS discusses the potential impact of sedimentation associated with forest management activities (see Watershed, Riparian and Aquatic Resources section, Chapter 3), and management direction within the 1986 Plan and Revised Plan is intended to minimize and mitigate potential effects associated with land management activities (see Forest-wide management direction for Soil and Water Resources and Wildlife and Fish, Chapter II of the Revised Plan). |
| PC 366 | The Forest should prevent over fishing from August through April because the year-long fishing season is harming brook trout. |
| Response: | Fishing regulations, including angling restrictions, are the responsibility of the West Virginia Division of Natural Resources. |
| PC 210 | The Forest should provide information about fish habitat restoration. |
| Response: | In recent years, our focus has been less on instream structural improvements, which can have a high failure rate, and more on addressing aquatic impacts associated with roads. We have also been providing funding for treatment of acidic streams and lakes including Summit Lake, Buck Run, and |

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| | Glade Run. In addition to continuing these efforts, future fish habitat improvement projects include riparian planting, fencing, and instream habitat structures. |
| PC 609 | The Forest should restrict fishing on streams that have brook trout in them, because fishing pressure is much more detrimental to brook trout populations than sediment. |
| Response: | The State is responsible for fishing regulations, including angling restrictions. Forest management could have an indirect effect on angling pressure through access management. There are a number of variables that influence brook trout populations and their relative influence can vary between drainages, even within drainages. Angling pressure may reduce brook trout populations in some stream reaches, but in other areas sedimentation, poor habitat quality, or acidic conditions may be the limiting factor. |
| PC 409 | The Forest should address fish passage issues and other issues commonly known to be associated with dam and impoundment operation, including: <ul style="list-style-type: none"> • Dissolved oxygen levels, in-stream flows, alterations in stream temperatures, and other types of habitat effects resulting from the drastic changes in aquatic function associated with dam construction and impoundment operation • Problems related to undersized culverts • Impacts on aquatic species viability. |
| Response: | There are only four significant impoundments on the Forest: Summit Lake (43 ac.), Lake Buffalo (22 ac.), Sherwood Lake (165 ac.) and Spruce Knob Lake (25 ac.). These lakes were built primarily to provide recreational opportunities. Issues dealing with operations of the dam, fish passage, and impacts to species or habitat would be addressed at the project level. |
| PC 806 | The Forest should provide appropriate management of brook trout, including recognizing the effect of fine sediment on trout productivity and the need for large woody debris for trout productivity. |
| Response: | In addition to identifying brook trout as a Management Indicator Species through the revision process, much of the direction within the Revised Forest Plan deals with: a) controlling sedimentation impacts on aquatic ecosystems, especially brook trout streams, and b) the protection of streamside vegetation to provide a source of large woody debris recruitment (Proposed Revised Plan (pages II-8 to II-13 and II-25 to II-27). Potential impacts of erosion, sedimentation and loss of bank vegetation are also addressed in the DEIS (pages 3-53 to 3-92). |
| PC 330 | The Forest should explore the economic benefits of reduced flooding and trout fishing on the Monongahela. |
| Response: | A recent report prepared by the American Sportfishing Association for the U.S. Forest Service identifies the economic impact of sportfishing on NFS lands in West Virginia, which would include a small portion of the George Washington N.F. An estimated \$37.7 million was spent statewide for USFS oriented fishing, with an estimated \$15.7 million spent within 50 miles of a USFS managed unit. This information is included in the FEIS. We believe that the Forest-wide direction for streams and riparian areas found in Chapter II of the Revised Forest Plan will help reduce the potential for flooding over time on the Forest. Of course, if steep areas of the Forest receive enough precipitation in a brief enough time period, some flooding may occur under any forest conditions. However, Plan direction limits management activities in stream buffer areas and provides for large woody debris recruitment, which would help dissipate stream energy during high flows. Hunting and fishing and other recreation benefits are incorporated into the economic impact analysis in the Social and Economic Environment section of Chapter 3 in the EIS. |
| PC 730 | The Forest should use helicopters to deliver lime to acidic and infertile watersheds to promote potential trout populations. |
| Response: | The WVDNR has an extensive program to treat acidic streams with limestone. Further expansion of the program could potentially use helicopters to treat streams in more remote locations. However, the comment was made that helicopter logging could provide opportunities to treat such remote streams. This coordination could be looked into during project planning, but difficulties could arise in scheduling so that the planned treatment coincides with the timing of the logging operation, and future treatments might be foregone if no additional logging occurred in the area. |
| PC 873 | The Forest should explain how brook trout is to be used as a Management Indicator Species. |
| Response: | The discussion of brook trout as a Management Indicator Species is in the DEIS on pages 3-66 to 3-67. |

| THREATENED AND ENDANGERED SPECIES AND MANAGEMENT INDICATOR SPECIES | |
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| PC 722 | The Forest should acknowledge that buffer zones protecting Threatened and Endangered species are based on an unproven premise, because both Indiana bat and West Virginia Northern Flying Squirrel have been found in, and may actually be attracted to, areas disturbed by past management such as timbering and burning. |
| Response: | The 2-mile radius buffer around Indiana bat maternity colonies does not prohibit all management activity. Standard TE25 in the Proposed Forest Plan stipulates that protection measures are to be determined at a site-specific level. This could allow for beneficial habitat management or activities that are compatible with protection of the maternity colony. Current scientific information indicates that even-aged timber harvesting and prescribed burning likely would have negative rather than positive effects on the West Virginia northern flying squirrel. Forest Plan direction for West Virginia northern flying squirrel allows for research on habitat enhancement techniques, as well as implementation of habitat enhancement after research has demonstrated effective enhancement techniques (Standard TE 61). |
| PC 481 | The Forest should review data regarding the Virginia big-eared bat: <ul style="list-style-type: none"> • Because the data cited from West Virginia Division of Natural Resources (WVDNR) regarding Virginia big-eared bats is not data from WVDNR • Including the increase in population and the year that the population exceeded 8,000. |
| Response: | The data reference for the longest known movement has been changed in the FEIS. The population data that is referenced in the comment is Indiana bat data, not Virginia big-eared bat data. The 2005 hibernacula survey data for Indiana bats were not available when the DEIS was written. In the FEIS, the reference to Indiana bats in Hellhole Cave has been updated to include these data. |
| PC 500 | The Forest should conduct timber harvest activities that are beneficial to the Virginia big-eared bat, including: <ul style="list-style-type: none"> • Avoiding the creation of large areas receiving total tree removal in one cut • Using regeneration harvests that result in grass/herbaceous cover similar to old field conditions. |
| Response: | Vegetation management, including timber harvest, may occur in Virginia big-eared bat habitat to maintain or improve habitat conditions (see Standard TE12 on page II-21 of the Proposed Revised Plan). Habitat needs, and the silvicultural prescriptions to address those needs, would be determined at the project level. The EIS text has been changed to clarify the contribution of timber harvest to Virginia big-eared bat habitat. |
| PC 408 | The Forest should clarify how Indiana bat “primary range” differs from “Zone of Concern”. |
| Response: | Primary range consists of all land within a 5-mile radius of Indiana bat hibernacula. It is equivalent to the hibernacula Zone of Immediate Concern (ZIC) defined by the USFWS in their Biological Opinion for the 1986 Forest Plan as amended. |
| PC 406 | The Forest should develop definitions and guidelines for what constitutes suitable habitat for West Virginia northern flying squirrel so that “importance values” can be used in establishing standards and guidelines for the application of appropriate silvicultural systems. |
| Response: | Research to describe habitat use and preferences by the West Virginia northern flying squirrel is ongoing. At this time, we believe it is prudent to retain the flexibility for USFWS, FS, and WVDNR biologists to use professional judgment in delineating suitable habitat. More research is needed to determine silvicultural techniques for enhancing suitable habitat. Therefore, at this time we believe it is premature to develop specific standards and guidelines for identifying and managing suitable habitat. |
| PC 161 | The Forest should protect species that could be candidates for Endangered or Sensitive status, including the Canada yew and the balsam fir. |
| Response: | As a result of the species viability evaluation, Canada yew will be added to the Regional Forester’s Sensitive Species list for the Monongahela Forest. Balsam fir was screened out during the first phase of the viability analysis because it was previously addressed by a RFSS risk evaluation and was |

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| | determined not to warrant RFSS status. Balsam fir is considered vulnerable in the state (S3) and globally secure. Species ranked S1 or S2 (critically imperiled or imperiled) undergo a risk evaluation to determine if they should be added to the RFSS list. Species listed as G1, G2, G3 and N1, N2, and N3 are automatically added to the RFSS list. Balsam fir is threatened by the balsam wooly adelgid on the Forest, regardless of the alternative chosen for the Forest Plan. |
| PC 283 | The Forest should make the protection of rare and endangered flora and fauna its top priority in order to preserve West Virginia's natural heritage for future generations. |
| Response: | Protection of rare and federally listed flora and fauna is certainly a high priority on the Forest, and likely always will be. However, we have to be careful about not favoring one law, like the Endangered Species Act, over all the other laws and regulations we must meet. That is one reason we have a goal (TE02) to "Integrate TEP habitat management with other resource objectives." |
| PC 178 | The Forest should make protection of Threatened and Endangered species its highest priority. |
| Response: | See response to PC 283. |
| PC 215 | The Forest should acknowledge that its suggestion that Indiana bats could possibly collide with vehicles during the night lacks merit. |
| Response: | While it is true that Indiana bats are agile when conducting foraging maneuvers, their forward flight speed is actually quite slow and it is entirely possible that they could be struck by vehicles moving at normal speeds. |
| PC 315 | The Forest should continue to monitor Threatened and Endangered species, including West Virginia northern flying squirrels, coupled with periodic review and refinement of the monitoring approach. |
| Response: | The monitoring chapter of the Proposed Revised Plan (Chapter IV) contains an item for threatened and endangered species that requires the Forest to monitor the Forest's contribution to the protection and recovery of these species (monitoring item 31). For the foreseeable future, we expect current monitoring of threatened and endangered species to continue, including West Virginia northern flying squirrel. We welcome collaboration with USFWS and WVDNR in assessing and refining monitoring protocols. |
| PC 273 | The Forest should continue to coordinate with the appropriate State and Federal agencies regarding threatened and endangered species and their habitat within the Forest. |
| Response: | We will. |
| PC 273a | INCLUDING CONDUCTING MONITORING OF THREATENED AND ENDANGERED SPECIES IN CONJUNCTION WITH THE FISH AND WILDLIFE SERVICE |
| Response: | See response to PC 315. |
| PC 273b | INCLUDING WORKING WITH WVDNR BIOLOGISTS, ACCORDING TO THE 1988 MEMORANDUM OF UNDERSTANDING, TO DEVELOP STANDARDS AND GUIDELINES FOR MANAGEMENT OF FISH AND WILDLIFE RESOURCE |
| Response: | The Forest worked with WVDNR throughout the plan revision process through meetings, telephone calls, e-mails, etc. WVDNR was instrumental in reviewing and providing input on early drafts of the revised management direction pertaining to fish and wildlife. |
| PC 273c | INCLUDING DIRECTION TO ADDRESS TEMPERATURE STANDARDS AND AQUATIC HABITAT ISSUES IN TROUT STREAMS |
| Response: | Direction for aquatic habitat is found primarily in the Wildlife and Fish, and Water and Soil sections of Chapter II in the Revised Forest Plan. There are no water temperature standards in the Revised Plan. Water temperature is addressed through the maintenance and enhancement of stream channel buffers that provide for stream shading and sediment regulation over the long term. |
| PC 273d | INCLUDING ADDRESSING THE WEST VIRGINIA NATURAL HERITAGE PROGRAM LIST OF RARE, THREATENED AND ENDANGERED SPECIES |
| Response: | See response to PC 831. |
| PC 273e | INCLUDING PROVIDING A PROCESS FOR PUBLIC INPUT ON WILDLIFE HABITAT IMPROVEMENT PROJECTS THAT OCCUR UNDER THE DIRECTION OF THE WEST VIRGINIA DIVISION OF NATURAL RESOURCES, BUT IN COOPERATION AND UNDER THE LAWS THAT GOVERN THE MANAGEMENT OF THE FOREST. |
| Response: | The Forest works cooperatively with WVDNR in planning and implementing new wildlife habitat improvements such as waterholes and wildlife openings; however, these developments are considered |

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| | federal actions that are performed by the Forest. These developments may be included with larger projects that are analyzed through an Environmental Assessment or Environmental Impact Statement, or they may be conducted individually under a Categorical Exclusion. Either way, they are subject to public notice, comment, and appeal. |
| PC 273f | INCLUDING CLARIFYING THE REDUCED PROTECTION FOR INDIANA BAT HABITAT |
| Response: | One commenter expressed concern that the Revised Plan appears to eliminate the management emphasis for the Indiana bat within 5 miles of hibernacula (primary range). However, management direction for primary range has not been eliminated; it has been converted from a Management Prescription (MP 6.3) to Forest-wide direction (see Proposed Revised Forest Plan direction TE27 through TE39). The Indiana bat will still be the major management emphasis within primary range, even though primary range is no longer depicted on the MP maps. |
| PC 593 | The Forest should determine whether or not limiting acreage in young age classes actually protects the Indiana bat, because this practice does not appear to have support in the scientific literature. |
| Response: | The Indiana bat's use of forested habitats and large-diameter roost trees is well-established in the scientific literature. Emphasizing older age classes within primary range is intended to provide potential roost trees over a large portion of the landscape. This emphasis does not preclude the use of thinning or uneven-aged harvesting to create the semi-open canopy conditions that the Indiana bat is believed to prefer. |
| PC 489 | The Forest should include bat circles and West Virginia northern flying squirrel habitat on the Management Prescription and action alternative maps. |
| Response: | Indiana bat primary range and WV northern flying squirrel suitable habitat are not depicted on the maps for the action alternatives because, under the Revised Forest Plan, we manage habitat for these species through Forest-wide direction rather than separate management prescriptions. It makes little sense to limit management for these species to specific areas on the ground when we know that these areas are likely to change over time. |
| PC 613 | The Forest should acknowledge that there is no indication that even-age regeneration creates foraging habitat for Virginia big-eared bats. |
| Response: | The EIS text has been changed to clarify the contribution of timber harvest to Virginia big-eared bat habitat. |
| PC 308 | The Forest should repair bat gates that have been vandalized within a reasonable time frame. |
| Response: | Standard TE10 in the Proposed Revised Forest Plan has been modified to incorporate this suggestion. |
| PC 715 | The Forest should clarify its management intent for the Indiana bat. |
| PC 715a | INCLUDING A SET OF MAPS IDENTIFYING HABITAT TO AID FOREST STAFF IN PROJECT PLANNING |
| Response: | Such maps would have to change if new hibernacula are discovered; we do not want to have to amend the plan to account for changes in primary range. Primary range maps are already used in project planning as standard operating procedure. If we plan or implement vegetation management in primary range, the projects would have to be designed to enhance or maintain bat habitat. Therefore it is highly unlikely that primary range would get lost in the shuffle. |
| PC 715b | INCLUDING MONITORING AS OUTLINED IN THE U.S. FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION |
| Response: | Monitoring specified in the terms and conditions of a Biological Opinion is considered mandatory and would be conducted regardless of whether it is specifically stated in the Forest Plan. |
| PC 734 | The Forest should provide information about its management of West Virginia northern flying squirrel habitat. |
| PC 734a | INCLUDING WHY THE FOREST SERVICE HAS CREATED A NEW MANAGEMENT PRESCRIPTION FOR RED SPRUCE FORESTS |
| Response: | The rationale for the creation of MP 4.1 is explained in the Management Emphasis section of the MP on page III-9 of the Proposed Revised Forest Plan. |
| PC 734b | INCLUDING WHY LOGGING IS ALLOWED IN MP 4.1, WHEN LOGGING WILL CAUSE A TAKE OF THIS ENDANGERED SPECIES |
| Response: | Logging associated with active spruce restoration and management of hardwood communities in MP 4.1 is focused primarily outside of suitable habitat for the West Virginia northern flying squirrel (WVNFs). |

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| | Standard TE61 in the Proposed Revised Plan (page II-24) limits active vegetation management in WVNFS habitat to research, management to benefit WVNFS or other TEP species, minor projects that would not cause a take, and management needed for public safety. |
| PC 734c | INCLUDING WHETHER THE FOREST SERVICE INTENDS TO DESIGNATE MP 4.1 AS CRITICAL HABITAT |
| Response: | Only the Secretary of the Interior has the authority to designate critical habitat for threatened and endangered species. |
| PC 734d | INCLUDING WHETHER THE FOREST SERVICE WILL DEDICATE RESOURCES TO RESEARCH THE NEEDS OF THIS ENDANGERED SPECIES |
| Response: | Research on the spruce ecosystem and WVNFS habitat is a major emphasis in MP 4.1 in the Proposed Revised Plan (See Management Emphasis, Desired Conditions, and Goal 4104). |
| PC 549 | The Forest should be cautious and use only light management to reduce the risk of erosion and non-native species degrading Running Buffalo Clover habitat, because the use of prescribed fire to manage Running Buffalo Clover habitat is not sound science. |
| Response: | While the DEIS does state that prescribed burning could create conditions favorable for running buffalo clover, it is not our intention to make this a main part of running buffalo clover habitat creation or maintenance. We understand through review of the literature and information on NatureServe that there is disagreement over the statement that fire suppression has led to a decrease in habitat for running buffalo clover. The analysis of effects at the Forest Plan scale (as presented in the DEIS) is not specific to any given project nor is it meant to imply that such action will take place, just describe possible outcomes. We agree that non-native invasive species and loss of habitat through erosion or road use are threats to the clover. Any management proposed for running buffalo clover habitat will go through site-specific analysis and will likely be small in scale and scope. We did not mean to imply that prescribed burning would be used to manage running buffalo clover habitat. |
| PC 1002 | The Forest should include definitions for “Key Areas” and “Maternity Sites” in the Glossary. |
| Response: | We have added these two definitions to the Glossary for the Final Revised Forest Plan and FEIS. |
| Management Indicator Species | |
| PC 420 | The Forest should continue to use Management Indicator Species. |
| Response: | We anticipate continuing the use of Management Indicator Species for the foreseeable future. |
| PC 499 | The Forest should provide information about and make changes to its list of Management Indicator Species: |
| | <ul style="list-style-type: none"> • To provide proper representation of various habitat types • To avoid causing harm to other species • Including additional indicator species for botanical resources • To properly address biodiversity • Including adding at least one aquatic plant and one terrestrial plant • Including more non-game species • To provide accurate monitoring and assessment of management impacts to salamander populations • Including information on what threatened species, endangered species, sensitive species, special interest species, special habitat, biological community, and demand species the Management Indicator Species are intended to represent and how accurately they are represented • Including explaining what Management Indicator Species will be used to gauge impacts to ground nesters such as warblers and turtles and how they will be monitored |
| | The purpose of Management Indicator Species (MIS) is not to monitor every possible species, taxonomic group, or habitat type. We selected MIS to represent the major wildlife habitats that are likely to be affected by forest management activities. The rationale for selection of the major habitats and their representative MIS is given on pages 3-194 – 3-195 of the DEIS and in Appendix D of the Proposed Revised Plan. |
| PC 499a | INCLUDING REMOVING THE WEST VIRGINIA NORTHERN FLYING SQUIRREL |
| Response: | A commenter stated that the West Virginia northern flying squirrel (WVNFS) should not be selected as a (MIS) because it does not represent snowshoe hare habitat or the black cherry component of mixed |

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| | <p>spruce-hardwood forests, and could result in management that does not favor these habitat components in Management Prescription (MP) 4.1. We chose WVNFS as the best overall representative of the central Appalachian spruce forest ecosystem. This is an ecosystem that is largely limited to the higher elevations of the Forest; thus, we bear a great responsibility for its maintenance and restoration. The snowshoe hare would represent only scattered disturbed patches within this ecosystem and would not be a good representative for the entire community. Black cherry is an important food source for many species that occur in mixed spruce-hardwood forests, and it could decline somewhat as spruce continues to recover. However, we recognize the importance of black cherry in these forests and we have no intention of eliminating it. Also, cherry and other mast-producing species will continue to be emphasized on suitable timberlands across the Forest (a little more than a third of the Forest, about the same as the current plan). Suitable timberlands include about 17 percent of the acres in MP 4.1.</p> |
| PC 499b | <p>INCLUDING ADDING EARLY SUCCESSIONAL SPECIES, SUCH AS RUFFED GROUSE OR AMERICAN WOODCOCK</p> |
| Response: | <p>Several commenters suggested that the ruffed grouse, American woodcock, or another species should have been selected as an MIS to represent early successional habitats. We considered ruffed grouse as a possible MIS, but did not select it because of concerns about our ability to collect adequate monitoring data on this species. In the Allegheny Mountains, woodcock tend to occur in or near localized wetland habitats and would not be a good broad-scale indicator of management effects on habitat. In an effort to keep our MIS list short so that all MIS can be monitored with a realistic level of effort, we decided not to select a specific early successional MIS. The wild turkey will give some insight into early successional habitats because it uses young regenerating stands for nesting and herbaceous openings for brood-rearing. Although the cerulean warbler does not represent early successional habitats, it is likely to be monitored using breeding bird point counts, which will provide ancillary data on many bird species, including those that use early successional habitats.</p> |
| PC 499c | <p>INCLUDING REMOVING CERULEAN WARBLER</p> |
| Response: | <p>A commenter suggested that the cerulean warbler should not be an MIS because it spends the winter in the neotropics; therefore, its populations could be affected by factors other than Forest management activities. We acknowledge this fact; however, all species are affected by confounding factors. Game species are subject to hunting mortality. High elevation species may be affected by climate change and acid deposition. Wide-ranging species are affected by management actions on private land. For all species, the key to isolating management effects is conducting controlled, replicated monitoring at the project or watershed scale.</p> <p>One commenter felt that the DEIS had erroneously characterized the cerulean warbler as an old-growth species. The term “old-growth” was used in Table MIS-1 to describe some of the habitat characteristics that are associated with high-quality cerulean warbler habitat (large trees, gaps, complex canopy layering). The intent was not to imply that cerulean warblers occur only in old-growth, but to note that they appear to prefer certain habitat features that occur in old-growth stands. This does not preclude the occurrence of those habitat features in other stands depending on site characteristics, management history, etc. The text makes clear that ceruleans occur in non-old-growth by including stands over 80 years old in the optimal habitat indicator (Indicators section, page 3-196; Optimum Habitat for Cerulean Warbler section at the bottom of page 3-197).</p> |
| PC 499d | <p>INCLUDING ADDING BLACK BEAR</p> |
| Response: | <p>The black bear was not selected as an MIS because it is a wide-ranging species that cannot be monitored using a controlled, replicated study design at the project or watershed scale. This rationale is explained on page 3-193 of the DEIS and in Appendix D of the Proposed Forest Plan.</p> |
| PC 499e | <p>INCLUDING ADDING SPECIES WHOSE PRIMARY HABITAT IS UNDISTURBED UPLAND MIXED MESOPHYTIC FOREST, SUCH AS ONE OF THE PLETHODON SALAMANDERS</p> |
| Response: | <p>The cerulean warbler represents mature and old mixed mesophytic deciduous forest (DEIS page 3-195 and Proposed Revised Forest Plan Appendix D).</p> |
| PC 499f | <p>INCLUDING ADDING BROOK TROUT</p> |
| Response: | <p>Brook trout was selected as an MIS (see DEIS, page 3-195 and Proposed Revised Plan, Appendix D).</p> |

| VEGETATION MANAGEMENT | |
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| PC 893 | The Forest should reconsider even-aged vegetation management at this time. |
| PC 893a | BECAUSE IT DOES NOT NEED MANAGEMENT |
| Response: | We acknowledge your opinion, but we feel that it is important to begin managing some stands now so that we can start moving toward the overall desired conditions for vegetation and habitat diversity. |
| PC 893b | WE HAVE NOT YET LEARNED ENOUGH ABOUT THIS FIRST FOREST TO AGGRESSIVELY MANAGE IT, AND SHOULD HAVE A CITIZEN'S POLL ON HOW TO MANAGE THE FOREST |
| Response: | Forest management planning and implementation is a long-term process. Public opinion may change in the next 10-30 years, as it has in the past 10-30 years. We cannot manage the forest based solely on public opinion (since that may change over time); we must use proven scientific research and principles as well. |
| PC 893c | DISEASE IS NOT YET MUCH OF A PROBLEM, AND MAY BE OK AS PART OF FOREST DYNAMICS |
| Response: | Native insects and diseases are a natural part of ecosystem processes found in a forest. However, introduced non-native insects and diseases have had, and continue to have, a significant impact on forest health and diversity (see pages 3-286 to 3-289 of the DEIS). For example, chestnut blight, dogwood anthracnose, and beech bark disease have greatly reduced the populations of these once abundant forest tree species. |
| PC 893d | DECREASED MAST HAS NOT YET TAKEN PLACE; NOR HAS DOWNED TIMBER INCREASED, AND THIS MIGHT BE NEEDED FOR RECOVERY |
| Response: | Although long-term mast declines have not yet happened, they will occur based on what we know about the present condition of the aging forest and the mast production capabilities of various tree species. To wait until the mast declines are occurring would substantially increase the impact since it takes 30 to 50 years for newly regenerated forest stands to return to optimum mast production capacity. Downed wood is increasing all the time. The results of the ice storm last October is an excellent example. |
| PC 893e | A SHIFT TO SHADE TOLERANT SPECIES AND ASSOCIATED WILDLIFE MAY NOT BE A BAD THING |
| Response: | The shift is already occurring, and it is having negative effects on shade-intolerant species. We acknowledge that ecosystems dominated by shade-tolerant vegetation also have value, and we have provided for these ecosystems in the nearly two thirds of the Forest that is not in the suited timber base. |
| PC 893f | THE "DECAYING FOREST" IS A SOCIAL CONCEPT THAT HAS SO FAR BEEN UNDEVELOPED. DISCUSSIONS MIGHT BEGIN, BUT IT IS A CITIZEN DECISION 50 YEARS FROM NOW |
| Response: | An aging forest, dominated by natural mortality and decay processes, will occur on a large majority of Forest lands over the next several decades if the present management trends continue. This forest will provide an excellent comparison with those lands that are actively managed. |
| PC 893g | MANAGEMENT THAT IS AT ALL AGGRESSIVE IS NOTICEABLE AND CONTRIBUTES TO THE UNNATURAL APPEARANCE PROBLEM FOR CITIZENS |
| Response: | Impacts to the scenery will occur, but should be relatively minor at the Forest scale due to limited harvest scheduling and project-level mitigation. See the Scenic Environment analysis in Chapter 3 of the EIS. |
| PC 492 | The Forest should make changes to its management direction regarding vegetation, because there is a great need for further community ecology research and inventory across the Forest, including: |
| | <ul style="list-style-type: none"> • Developing management guidelines for rare communities at the Forest and Regional scales rather than on an ad hoc basis • Identifying and preserving outstanding occurrences of more common communities • Developing a goal analogous to SW02 for soils and water • Developing standards for proactive identification, conservation, and management of rare communities and sensitive plant species. |
| Response: | We have added a goal for terrestrial ecosystems in the Final Revised Plan. Forest-wide goals for rare plants are given in Goals VE06 and VE07 as well. Objective VE09 also recognizes the importance of Botanical Areas. Guideline VE14 addresses the Forest's role in Conservation Strategies and |

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| | Assessments for rare plants, which usually involves a Forest or Regional scale. The general direction given for threatened, endangered, and proposed species in the Forest-wide Direction section of the Forest Plan applies to listed plants as well as animals. Rare communities are addressed in the Forest Plan in Forest-wide direction for protection of soil and water resources. Rare communities in riparian areas and wetlands are addressed in Forest-wide standards, guidelines, and goals for stream channels, lakes, and wetlands; specifically Goals SW29 and SW30, Guideline SW 51, and Standard SW37 in Chapter II of the Proposed Revised Plan. Preservation of common communities is achieved through the large areas of land that are allocated to MPs with little or no active management (see MDA analysis in the Terrestrial Ecosystem Diversity section of Chapter 3 in the EIS). See also response to PC 403. |
| PC 601 | The Forest should acknowledge that five culls per acre is too many because leaving this many trees will inhibit regeneration of desirable species. |
| Response: | Proposed Revised Plan Standards TE31, 4109, and 6107 require retaining at least five cull trees per acre, if they are available, in areas on the Forest that are primarily managed for wildlife habitat. The purpose of these standards is to ensure that existing and potential den trees will be available, after a timber sale unit is harvested, for cavity nesting species on Forest land that is actively managed. While cull trees may inhibit regeneration of shade-intolerant trees in the immediate vicinity of the culls, regeneration will still occur throughout most of the harvest unit. This is considered an acceptable trade-off for providing an adequate number of den trees in these areas where wildlife habitat is the primary management emphasis. |
| PC 520 | The Forest should provide protection for forest vegetation. |
| Response: | See also responses to PC 403 and PC 492. |
| PC 520a | INCLUDING THE BLUEBERRY SHRUB AREAS |
| Response: | The comment on blueberry areas listed the specific patches on Roaring Plains. This area is assigned to Management Prescription 6.2 under Alternative 2 where active management will be minimal. These areas feature backcountry recreation in a semi-primitive, non-motorized setting. The areas dominated by blueberries likely expanded after the timber harvest at the turn of the 20th century and associated fires. Forest succession may gradually reduce the area dominated by blueberries; however, based on MP 6.2 management goals, the area will be protected from road construction, timber harvest, and major development. |
| PC 520b | INCLUDING PATCHES OF HAWTHORN |
| Response: | Standard RA19 on page II-40 of the Proposed Revised Plan requires hawthorn management to be addressed in range allotment plans Forest-wide. The hawthorn inventory requirement from Appendix P of the 1986 Forest Plan (as amended) has been included in RA19. The other two hawthorn standards in the amended Appendix P merely listed potential options to consider during allotment management planning and thus were not included in the Revised Plan. Guidelines 4126 and 6133 in the Proposed Revised Plan encourage retention of trees and shrubs beneficial to wildlife, including hawthorn, during timber stand improvement in Management Prescriptions 4.1 and 6.1. |
| PC 520c | INCLUDING INITIATING INVENTORY AND CONSERVATION RANKING OF ITS ECOLOGICAL COMMUNITIES USING THE NATIONAL VEGETATION CLASSIFICATION |
| Response: | See response to PC 403. |
| PC 520d | INCLUDING A PLAN FOR FINDING, MAPPING, AND CONSERVING RARE PLANT SPECIES, WHILE MAPPING AND ERADICATING INVASIVE PLANT SPECIES |
| Response: | See responses to PC 403 and PC 280. |
| PC 520e | INCLUDING FLOWERING DOGWOODS |
| Response: | Flowering dogwoods are not normally harvested or removed from the Forest. Individual trees may be cut when trails, roads, or skid trails are built. Guidelines 4126 and 6133 in the Proposed Revised Plan address the need to retain dogwood and other trees and shrubs beneficial to wildlife in areas where trees are harvested or where timber stand activities (such as pre-commercial thinning) take place. The area where this guideline applies is a small part of the overall area where flowering dogwoods are found. We believe this guideline is the only protection needed for flowering dogwood. |
| PC 605 | The Forest should manage existing red spruce stands, including thinning, before creating new red spruce stands. |
| Response: | In addition to restoration of spruce, Management Prescription 4.1 allows for enhancement of existing young spruce stands (see 4103, 4110, and 4122 in the Proposed Revised Plan), which may include |

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| | thinning. However, such enhancement is further governed by Forest-wide direction for the West Virginia northern flying squirrel, which requires that management in suitable habitat be preceded by research demonstrating its effectiveness as a habitat enhancement technique (Standard TE61 in the Proposed Revised Plan). |
| PC 823 | The Forest should provide additional analysis of hemlock forest and older mixed mesophytic hardwood forests as they relate to small whorled pogonia habitat. |
| Response: | The comment asks us to consider dry, mature oak and oak-pine forests as the primary habitat for small whorled pogonia. We have reassessed the impacts to small whorled pogonia habitat with this habitat type for the FEIS. |
| PC 484 | The Forest should reconsider the idea that the regional level shifts in oak age classes will have an effect on the decline of the wood rat. |
| Response: | Research has suggested that reduced mast availability may be a factor in wood rat population declines (see viability analysis in the project record, available upon request). In light of the tremendous shift away from the optimum mast-producing age classes that is projected for the later decades of the planning horizon, it is not unreasonable to hypothesize a decline in the amount of high-quality wood rat habitat. |
| PC 510 | The Forest should increase deadwood and snags. |
| Response: | See response to PC 493l. |
| PC 388 | The Forest should provide a meaningful analysis of terrestrial ecosystem diversity that includes better estimates of the types, size, and geographical distribution of natural (and other pre-settlement) disturbance regimes across the forest. |
| Response: | To the extent such data exist, estimated presettlement disturbance regimes were used to develop estimates of presettlement forest age class distributions (see DEIS discussions in the paragraph at the bottom of page 3-98 and the Presettlement Period section on page 3-100). Estimated disturbance regimes also were used to establish the size threshold for Minimum Dynamic Area reserves (see table ED-3 on page 3-114 of the DEIS). |
| PC 388a | BECAUSE THE CURRENT ANALYSIS SEEMS TO IGNORE THE FACT THAT NATURAL SUCCESSION IS ALREADY ACHIEVING RESTORATION OF CERTAIN AGE CLASSES OF SPRUCE FOREST WITHOUT THE ADVERSE EFFECTS OF ACTIVE MANAGEMENT |
| Response: | The Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS has been updated to include a discussion of the potential for spruce restoration through natural succession (see discussion under Direct and Indirect Effects by Alternative, Amount and Development Stages of Major Forest Communities, Spruce Forest. Also see Cumulative Effects, Amount and Development Stages of Major Forested Communities. |
| PC 388b | BECAUSE THE ECOLOGICAL BASES OF PRESCRIBED FIRE PROGRAMS ARE OFTEN WEAK AND TOO OFTEN DRIVEN BY BUDGETS AND A FASCINATION WITH FIRE |
| Response: | We disagree with your opinion. See responses to PC 662 and 663 for a discussion of the ecological base for our prescribed fire program. |
| PC753 | The Forest should examine whether or not the Monongahela may be a permanent, uneven-aged forest. |
| Response: | The Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS describes many presettlement ecological communities as being largely dominated by old, uneven-aged forest (see description of the old forest development stage on page 3-99 of the DEIS, also the discussion of presettlement forest development stages on page 3-100 of the DEIS). The effectiveness of coarse-filter community conservation was measured against this old-growth-dominated presettlement benchmark (see discussion and tables on pages 3-148 through 3-151 of the DEIS). However, it is an historic fact that the large majority of the land in what is now the Monongahela NF was clearcut from 1880 to 1930. Extensive vegetation inventories and historical records have verified that the forest that is here today is largely even-aged. |
| PC 793 | The Forest should leave a slim border with understory along timber cuts near roads and private property to alleviate general bad feelings and property value depreciation concerns. |
| Response: | Although there is no evidence that timber harvesting on National Forest System land depreciates the value of private property, we can work with property owners to address concerns at the project level. More trees are often left along roads to help meet the scenic quality objectives of the road corridor. |

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| PC 292 | The Forest should broaden the definition of glades and barrens to include glade woodlands because they are locally prevalent in part of the Forest and differ substantially from “savannahs” as defined in this DEIS. |
| Response: | The resolution of current community mapping is not sufficient for separating glade woodlands from surrounding forests at this scale of planning. |
| PC 529 | The Forest should allow black cherry to grow for its timber and wildlife value. |
| Response: | We agree that black cherry is valuable for both wildlife and wood products. Without active management, black cherry will begin to decline in abundance over the next few decades in those MPs that allow only passive management. However, management for black cherry and other valuable timber and mast-producing species is a major emphasis in MPs 3.0 and 6.1. |
| PC 716 | The Forest should leave understory trees and shrubs along road cuts, timber cut plot edges, and around reserve trees because they help protect from wind damage. |
| Response: | Understory trees and shrubs are usually only cut to enhance germination and growth of seedlings in regeneration harvests. The large majority of the land on the Forest will retain understory trees and shrubs along roads, in intermediate harvests, and in reserve clumps. See also response to PC 793. |
| PC 919 | The Forest should clarify the extent of Norway spruce plantations on the Forest. |
| Response: | Norway spruce was planted in many high elevation areas of the Forest (e.g., Canaan Mountain, the Mower Tract on Cheat Mountain) as part of reforestation and mine reclamation efforts in the decades after the Forest’s establishment. |
| Age Class and Habitat Diversity | |
| PC 123 | The Forest should not have a mixed mosaic of vegetation as a desired future condition because regeneration harvests and clear cuts are not hydrologically or visually acceptable. |
| Response: | We acknowledge your preference. A mosaic of vegetation is diverse vegetation, which is a desired condition and goal for the Forest. All regeneration harvests are not clearcuts, and clearcuts may only be used when they are the optimal method for achieving management objectives. |
| PC 606 | The Forest should ensure that at least 10 percent of the Forest is in 0 to 14 year age class. |
| Response: | A one-size-fits-all approach to age class distribution would not accommodate the different management emphases of the various management prescriptions. However, the Proposed Revised Plan does provide management direction to increase young forest stands in areas where we are actively managing. |
| PC 522 | The Forest should examine the range of variability for early successional habitat. |
| Response: | Presettlement amounts, historical trends, and current amounts of young forest habitat, shrub habitat, and grass/forb habitat are discussed in the Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS. See the discussions under Current Conditions of presettlement forest development stages, glades and barrens, high elevation grassland, shrub balds, and woodlands/savannas/grasslands. |
| PC 523 | The Forest should strive to obtain an even distribution of age classes across the forest. |
| Response: | We are striving to provide a better mix of age classes across the Forest, however our desired condition is not an even distribution. |
| PC 523a | INCLUDING SETTING TARGETS FOR AGE CLASS DISTRIBUTION IN APPROPRIATE AREAS |
| Response: | Land allocations under the Revised Forest Plan set aside extensive areas where old growth is expected to develop over the long term. See also response to PC 530. |
| PC 523b | TO ACCOMPLISH OTHER FOREST GOALS SUCH AS FOREST HEALTH IMPROVEMENTS AND WILDLIFE ENHANCEMENTS WITHOUT SIGNIFICANT DISRUPTION OF RECREATIONAL USES |
| Response: | See response to PC 686. |
| PC 686 | The Forest should provide early successional stages of vegetation to create an even distribution of age classes across the Forest. |
| Response: | Age class diversity, including providing young forest habitat, is a major emphasis in Management Prescriptions 3.0 and 6.1 (see desired age class distributions for MPs 3.0 and 6.1 in the Proposed Revised Plan). Given the relatively low percentage of suitable acres on the Forest, it is doubtful that we would ever achieve an even distribution of age classes, but by increasing the amount of regeneration harvest in future decades, we can move toward a better mix of age classes than currently exists. |
| PC 524 | The Forest should examine how natural disturbance regimes can provide early successional habitat. |

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| Response: | The Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS acknowledges that natural disturbances may provide early successional habitat. See discussion under Current Conditions, Amount and Development Stages of Major Forested Communities, Amount and Development Stage Breakdown. Also see discussion of young spruce forest under Direct and Indirect Effects by Alternative, Amount and Development Stages of Major Forested Communities. |
| PC 274 | The Forest should allow mature forest ecosystems to develop. |
| Response: | Land allocations under the Revised Forest Plan set aside extensive areas where old forests are expected to develop over the long term. |
| PC 274a | TO ENHANCE VISITORS' WILDERNESS EXPERIENCE |
| Response: | We agree that old forests can enhance a visitor's wilderness experience. |
| PC 273b | TO GIVE THE FOREST A CHANCE TO REGAIN ITS ORIGINAL VIGOR |
| Response: | The word "vigor" can have different connotations. A silviculturist would point out that as a forest matures and becomes overcrowded with trees it will lose some of its vigor due to competition for sunlight, moisture, and nutrients. Decay and mortality continue to increase as the forest ages and growth decreases. Indeed, the amount of annual mortality as a percentage of total growing-stock volume is higher on the Monongahela Forest than the rest of West Virginia (USDA Forest Service Northeastern Research Bulletin NE-161). |
| PC 274c | TO GIVE THE FOREST MULTIPLE LAYERS OF DIVERSE VEGETATION |
| Response: | We agree that old forests can have multiple layers of diverse vegetation, depending how they grow and develop over time. This can be referred to as vertical diversity. Large tracts of old forest often lack horizontal diversity, though, or a variety of age class structure and composition used by a variety of wildlife species. See also responses to PC 530 and PC 614. |
| PC 614 | The Forest should acknowledge that the forest is more resilient to stresses of all kinds when it is in a later successional state. |
| Response: | <p>"Forest health" is a difficult term to define, and it can mean different things to different people. Where timber production and game species habitat are primary management emphases, a healthy, resilient forest can be defined as one that has maximum tree growth and vigor with a diversity of age classes, structure, and species composition. By this definition, health and resiliency begin to decline as availability of nutrients, sunlight, and moisture become limited when a forest becomes overcrowded with trees and other vegetation. Usually a young, growing, natural forest in the early and mid-successional stages is the most resilient to environmental stresses until those factors mentioned above become limited in supply. Older trees in a late successional forest do not recover as rapidly to insect and disease infestations. For example, defoliation of a young mixed oak forest by gypsy moth results in less mortality than defoliation in an older forest (Gottschalk and Liebhold 2000).</p> <p>However, "forest health" can also be defined more broadly to include maintenance of the full range of native biodiversity, nutrient cycling, topsoil formation, and other ecosystem functions. This type of forest health is best maintained in large core reserves where natural successional and disturbance processes are the primary forces affecting forest development. From this perspective, the increased structural complexity, scattered tree mortality, and increased "decadence" that accompany an aging forest create additional ecological niches and actually contribute to forest health. As a multiple-use agency, we believe both views of forest health have merit. Accordingly, the Revised Forest Plan allocates large areas of the Forest to MPs where passive management will be emphasized, but it also allocates a substantial portion of the Forest to MPs that will emphasize age class diversity through active vegetation management.</p> |
| PC 447 | The Forest should balance forest age conditions in the context of prevalent land uses within its eco-region, because younger age classes are over-represented on private land. |
| Response: | USDA Forest Service Resource Bulletins NE-157 and NE-161 containing the West Virginia and Forest statistics from the Forest Inventory Analysis (1989-2000) show seedling/sapling stands on all forested land in WV increased by only 1% from the previous inventory period. While the Forest contains 4% of forest land in seedling/sapling stands, West Virginia has 8%. The growth to removal ratio for West Virginia is 1.7 to 1, showing that West Virginia grows nearly twice as much volume as is removed. See also response to PC 547. |
| PC 555 | The Forest should provide early and mid-successional habitat because sustainable mast |

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| | production is not possible when a majority of the stands are late successional. |
| Response: | Sustainable mast production is a major management emphasis in MP 6.1, and also a component of MP 3.0. The desired age class distribution for MP 6.1 emphasizes the optimum mast-producing age ranges (see desired age class distributions in the Proposed Revised Forest Plan on page III-33. Also see response to PC 686. |
| PC 389 | The Forest should explain how the estimates of existing age classes were determined. |
| Response: | Age classes were determined through historical records and vegetation inventories conducted over the past 30+ years. The age of the stand is determined by obtaining core samples of trees and counting the rings on the core or by knowing the year the stand was cut by a regeneration harvest method. This information is entered into the database. Some stands may appear to be uneven-aged because they have different size trees in them. We know from historical records that most of the Forest was clearcut 70 to 120 years ago. As the forest grew back some trees grew more rapidly than others, eventually creating a canopy that shaded out the smaller growing trees. Many of the smaller trees that are the same species as the larger trees in the upper canopy are actually the same age as the larger trees. Most canopy gaps created by wind, ice, or snow storms are small in size (usually less than 2 acres). Although seeds will germinate and grow in these small gaps they are not considered stands by themselves but inclusions of the larger stand. |
| PC 261 | The Forest should address the problem of declining tree species diversity in the hardwood forests. |
| Response: | Over the past 70+ years the Forest has seen a reduction due to disease in the number or size of some tree species such as American chestnut, American elm, flowering dogwood, American beech, hickories, black walnut, and butternut. Other trees--such as aspen, Table Mountain pine, and other yellow pine--are declining in numbers due to fire suppression and/or lack of active management. Some species of oak trees are declining in number, most likely due to gypsy moth and fire suppression. Hemlock trees are beginning to decline in number due the hemlock woolly adelgid. To this date no tree species has become extirpated that we know. Active management and planting can begin to raise the numbers of some of these species toward historic levels. To maintain the health of a forest it is important to retain as much of the diversity as possible. Planting monocultures of a single tree species over large areas has rarely been done on the Forest. We have addressed this issue in management prescriptions where active management of vegetation is allowed. In these management prescriptions, retaining diversity is included in the goals for species and wildlife habitat management. |
| PC 120 | The Forest should not create early seral habitat because it would destroy the Forest's natural appearance. |
| Response: | Providing young forest and herbaceous openings for species that use those habitats is a legitimate multiple-use goal. We have been creating early seral habitat for decades on the Forest, and from your comments it would appear that the natural appearance still exists. |
| Old Growth | |
| PC 685 | The Forest should acknowledge that preserving old growth is a reasonable component of multiple-use. |
| Response: | We have acknowledged this with the inclusion of old growth and late-successional forests in our management prescriptions, management direction (including desired conditions), analysis of Minimum Dynamic Areas (future old growth), and with the inclusion of Appendix B to the Forest Plan. |
| PC 289 | The Forest should acknowledge that additional old growth exist in areas that were historically difficult to log, including areas in the Smoke Hole and on North Fork Mountain. |
| Response: | We agree that additional patches of old growth likely exist on the Forest. Mention of these areas has been added to Appendix B to the Revised Plan. Acknowledgement of this will not change the management of the Smoke Hole and North Fork Mountain areas. Both are in the National Recreation Area where commercial management of timber and other resources is limited. The emphasis in these areas is on recreation; however, these areas also serve as future old growth because little active management of vegetation will occur in the area. |
| PC 661 | The Forest should strengthen its old growth management strategies, including a strategy for identifying and preserving undocumented occurrences of old growth, and a strategy for increasing late successional conditions during watershed and project assessments. |
| Response: | In areas where commercial timber harvest is allowed, desired conditions include late-successional forest conditions. On the large portions of the Forest where commercial timber harvest is not allowed or |

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| | heavily restricted, the forest will continue to age, and late-successional forest conditions will result. Please see the Minimum Dynamic Area analysis in the DEIS for the descriptions of these areas. Existing old growth will continue to be looked for during project development, watershed assessments, and from public or agency contacts. We have a land suitability code for old-growth and this would be assigned to old-growth stands found so that the areas are identifiable through our database and GIS for protection purposes. It is likely that areas with management prescriptions that do not include active vegetation management already protect unknown old-growth patches. |
| PC 517 | The Forest should provide forest managers with the necessary tools to identify new old growth patch candidates. |
| Response: | We have provided a number of tools in Appendix B to the Revised Forest Plan. |
| PC 449 | The Forest should provide an accurate description of the Forest's old growth, including old growth's benefits as wildlife habitat and old growth's fire prevention benefits. |
| Response: | See the Minimum Dynamic Area analysis in Chapter 3 of the EIS and Appendix B of the Revised Forest Plan. |
| PC 752 | The Forest should provide protection for old growth to provide clean air and water, and because large patches of oak pine and oak hickory are under-represented in Alternative 2. |
| Response: | See the Minimum Dynamic Area analysis in Chapter 3 of the EIS and Appendix B of the Revised Forest Plan. We believe that there will be several large patches of old oak-pine or oak-hickory forests under Alternative 2 over time, perhaps less than there would be under Alternative 3, but more than there are currently. |
| PC 838 | The Forest should examine the natural range of variability for old growth. |
| Response: | Please see Chapter 3, Terrestrial Ecosystem Diversity, of the DEIS where we describe the range of variability in age class/forest structure on the Forest and compare it to what we know of presettlement conditions. |
| Non-Native Invasive Species | |
| PC 615 | The Forest should promote native tree species within the Max Rothkugel Plantation because promoting the regeneration of exotic species on Forest Service land is contrary to the Forest-wide Management Direction. |
| Response | The Plantation is more of a cultural or historic interest area than a true botanical area. The area was planted by Max Rothkugel in 1907 and is considered by some the first plantation in West Virginia. The seed for the Norway spruce and European larch came from Austria. Regeneration is not being promoted in this plantation by any management action even though this has been a goal in the MP 8.0 direction. Norway spruce is regenerating as well as native hardwoods. Norway spruce plantations have been included in West Virginia northern flying squirrel habitat in other areas of the Forest. Active management of the plantation is not likely. |
| PC 280 | The Forest should address the spread of non-native invasive species, including: <ul style="list-style-type: none"> • The monitoring and treating of power-line right-of-ways, oil and gas access roads, and other corridors which the Forest does not have the authority to discontinue • Managing species such as Japanese stilt grass, garlic mustard, bush honeysuckle, and tree-of-heaven • On diverse limestone habitats • Avoiding the expansion of fragmenting corridors • Avoiding the planting of non-native seed sources for soil stabilization • Maintaining and restoring rare plants and communities • Benefits fish and wildlife resources • Threats to shale barren rockcress populations such as bromegrasses • Japanese spiraea (Spiraea japonica), Multiflora rose (Rosa multiflora), autumn olive (Eleagnus), purple loosestrife (Lythrum salicaria), and Japanese knotweed (Polygonum cuspidatum) • Threats to native species • Efforts to eliminate the non-natives • Privet, Russian olive, multiflora rose, and perwinckle vinca • Using native shrubs to mitigate the effects of non-native invasive species on grazing areas. |

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| Response: | <p>Non-native invasive species management on the Forest will be addressed in a separate document and in environmental assessments or environmental impact statements as control methods are implemented. Many of the items noted in the comments will be addressed in this management plan. Many of the species listed are on the Forest list of invasive plant species. This list is not part of the Forest Plan so that it can remain flexible as new species are determined to be threats. As projects are implemented, the threats to native species from non-native species are included in the project analysis.</p> <p>The Revised Forest Plan does include guideline VE05 on page II-17, addressing the use of native species in revegetation actions on the Forest, and general direction for non-native invasive species management on page II-18.</p> <p>A specific comment in this concern statement said that a reference to coltsfoot made in the Analysis of the Management Situation (AMS), summarized in Appendix C of the Revised Plan, was misleading. In the AMS, the invasion of coltsfoot was generalized to colonial times. This was not meant to be specific to the invasion of this species in West Virginia or the Forest. Coltsfoot was used as an example of a naturalized weed species that was introduced in the Eastern United States by early settlers.</p> |
| PC 200 | The Forest should provide an accurate indicator of the results of its past efforts in managing non-native invasive species. |
| Response: | Management of non-native invasive species is largely a new endeavor on the Forest, aside from pasture management. Treatment areas will be monitored to gauge the success of methods used. |
| PC 525 | The Forest should avoid the use of non-native sod-forming grasses because of their destructiveness to the brood habitats needed by bobwhite quail, ruffed grouse, and turkey. |
| Response: | The Proposed Revised Plan favors the use of native vegetation wherever possible (see VE05, RA22, MG15, LS33, 6113, 6203, and 8102 in Chapter II). |
| PC 688 | The Forest should map current non-native invasive species areas and areas most vulnerable to non-native invasive species, because this information is necessary to develop a highly effective non-native invasive species management plan and is called for in the Proposed Revised Plan. |
| Response: | Mapping efforts are underway and ongoing, and they will be used in developing a non-native invasive species management plan for the Forest. |
| PC 750 | The Forest should examine the potential for and effects of the release of genetically-modified and genetically-altered organisms. |
| Response: | We are unaware of any genetically modified or genetically altered organisms on the Forest, and specific proposals would be beyond the scope of this plan revision. |
| PC 168 | The Forest should acknowledge that non-native plants are not a problem if good forestry practices are followed. |
| Response: | There is evidence that non-native plants can be harmful to unmanaged forests where neither good nor bad forestry practices are followed. For example, Japanese stiltgrass (<i>Microstegium vimineum</i>) can invade a forest floor under a generally closed canopy of an unlogged forest, reducing the ground floor vegetative diversity and inhibiting tree regeneration. The potential for purple loosestrife (<i>Lythrum salicaria</i>) to spread into wetland areas is a non-forest example of the threat of non-native invasive plants that are a concern for the Forest. Mitigation such as using straw or coco fiber mats instead of hay is being practiced on the Forest. Good forestry practices, such as using native species, are part of the solution to controlling non-native plants. |
| PC 138 | The Forest should consider introducing new plant species to the Forest to help wildlife. |
| Response: | Many introduced plant species can cause ecological damage; therefore it is now Forest Service policy to use native plant species whenever possible. |
| PC 894 | The Forest should institute aggressive control of non-native invasive species in maintained openings. |
| Response: | Management direction addressing the control of non-native invasive plants is contained in the Vegetation section of the Forest-wide Management Direction in the Revised Plan. |
| Rare Plants and Communities | |
| PC 528 | The Forest should modify the species included in the Fine Filter analysis, including adding balsam fir, Allegheny onion, prairie redroot, chestnut lipfern, Bentley's carralroot, Steller's cliffbrake, prairie flax, limestone adder's-tongue, bog bluegrass, Southern Blue Ridge mountain-mint, bog |

| | camas, and death camas, and deleting Fraser fir and shinleaf. |
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| Response: | <p>Prior to Forest Plan revision, balsam fir (<i>Abies balsamea</i>), prairie redroot (<i>Ceanothus herbaceous</i>), Chestnut lipfern (<i>Cheilanthes castanea</i>), Steller's cliffbrake (<i>Cryptogramma stelleri</i>), prairie flax (<i>Linum lewisii</i>), death camas (<i>Zigadenus elegans</i>), and bog camas (<i>Zigadenus leimanthoides</i>) were evaluated for possible Regional Forester's Sensitive Species (RFSS) status on the Forest. Through the region's standard risk evaluation process, these species were determined not to warrant RFSS status. Therefore, they were screened out of the detailed, species-by-species fine-filter analysis according to the process described on page 3-168 of the DEIS.</p> <p>Allegheny onion, Bentley's coralroot, limestone adder's tongue, bog bluegrass, and southern Blue Ridge mountain-mint are not shown as occurring within the Forest boundary in any of the data sources we used to develop our list of species for detailed analysis. The Nature Conservancy provided occurrence information for these species and the viability analysis has been updated to include them.</p> <p>We acknowledge that Fraser fir has been planted on the Forest and does not occur naturally. However, because of its global abundance ranking, Region 9 risk evaluation criteria require automatic inclusion on the Regional Forester's Sensitive Species list. The RFSS list was one of the screening criteria used to select species for detailed viability analysis.</p> <p>Shinleaf was included in the detailed viability analysis because it met the screening criteria. The analysis for shinleaf has been updated to reflect The Nature Conservancy's opinion that it probably is secure on the MNF.</p> <p>The commenter also suggested that we modify habitat associations for several plant species. In Appendix D and the Species Viability Evaluation: <i>Aconitum reclinatum</i> we added MN and ON, <i>Cornus canadensis</i> we added BF, RO, <i>Cornus rugosa</i> we added GB, ON, and deleted ML, <i>Diervilla lonicera</i> we added MN, ON, <i>Hexalectris spicata</i> we added GB, <i>Isotria medeoloides</i> we added MO, OO, we deleted HF, <i>Monarda fistulosa brevis</i> we added RO, <i>Sanguisorba canadensis</i> we added CH, and <i>Spiranthes lucida</i>, we added CH.</p> <p>In Appendix D and SVE: <i>Hypericum mitchellianum</i> we added MS, OS, MN, ON to the list but did not include them in the numeric estimates of habitat abundance as habitat appears to be seep/riparian areas within these habitat types.</p> <p>In Appendix D and SVE: <i>Juglans cinerea</i> we did not add MO, OO as suggested. Our break out of oak forests includes mainly the drier oak types, not typical of habitat for this species.</p> <p>In Appendix D and SVE: <i>Paxistima canbyi</i> we added MO and deleted YO, RO already in table and database. We did not add HF as these represent mainly riparian forests and, while eastern hemlock may be a component of habitat, the limiting factor appears to be limestone rock outcrops. For this reason, while oak forests were added to the habitat associations table, but the acre figures were not used to numerically describe current and future habitat for this species.</p> <p>In Appendix D and SVE: <i>Phlox buckleyi</i> we added MO and OO but did not use acreage estimates to quantify habitat as this would seem to greatly overestimate potential. Habitat appears to be shaley open areas within oak forests. In the species diversity database, the notation that habitat includes glades and shale barrens is explained; rarely occupies shale barrens proper, but may be found in open woods bordering shale barrens and disturbed areas such as shaley road banks (Norris and Sullivan 2002 and references therein).</p> <p>In Appendix D and SVE: <i>Gaylussacia brachycera</i> we did not delete WS. Our estimate of woodland/savannah includes hayfields and pastures so this habitat type was not included in the numerical estimates of habitat. However, the species is found in woodland/savannah habitats and under the Revised Forest Plan, more of this habitat type could be created through an increase in prescribed fire.</p> |
| PC 805 | The Forest should provide information about its management of the illegal harvesting of |

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| | <p>medicinal plants and other species of economic value, including:</p> <ul style="list-style-type: none"> • Whether such harvesting has taken place • How these species will be protected • Whether the removal of forest cover and other management activities affect these rare and threatened plants. |
| Response: | <p>The harvest of medicinal plants for commercial sale without a permit is illegal. We have anecdotal reports of illegal moss harvesting from the Forest. Law enforcement records of illegal collection of plants are, unfortunately, aggregated under the broad topic of forest products. We do not have a good measure of the amount of illegal medicinal plant harvest on the Forest.</p> <p>Medicinal species are not generally in need of protection on the Forest. Collection of ginseng, cohosh, and goldenseal is allowed on the Forest with purchase of a permit. Review of the viability of ginseng at a regional level is made every year by the USDI Fish and Wildlife Service. We will continue to allow harvest of ginseng following their rulings and State laws.</p> <p>The potential impacts to rare and threatened plants are covered in the DEIS under Terrestrial Ecosystem Diversity and Terrestrial Species Viability.</p> |
| PC 290 | The Forest should include pine woodlands and barrens to the list of rare and unique communities, including native red pine forests. |
| Response: | The resolution of current community mapping is not sufficient for separating pine woodlands and barrens from surrounding forests at the Forest-wide scale. |
| Restoration and Regeneration | |
| PC 707 | The Forest should create a new 4.2 Management Prescription for White Pine and Oak Pine Restoration to ensure that a full representative example of the oak and oak-pine forests of the southern are in a management prescription that ensures minimum dynamic areas of these forest types will remain relatively unfragmented and can be restored and maintained. |
| Response: | Pine-oak and oak forests in the southern part of the Forest are represented in the Minimum Dynamic Area reserve associated with the Middle Mountain Management Prescription 6.2 area. This area forms an unfragmented core reserve. It is surrounded by MP 6.1 land where oak and pine-oak restoration is emphasized. Management direction has been added to MP 6.1 to address white pine restoration. |
| PC 507 | The Forest should look at spruce restoration areas with the needs of hunters in mind, because these areas are too focused on threatened and endangered species to the detriment of game species. |
| Response: | The Revised Forest Plan has a balanced approach toward wildlife habitat, with threatened and endangered species being emphasized in West Virginia northern flying squirrel habitat, Cheat Mountain salamander habitat, and Indiana bat habitat. Game species are emphasized in Management Prescription 3.0 and much of MP 6.1. |
| PC 717 | The Forest should examine the success of regeneration and restocking of trees. |
| Response: | The National Forest Management Act (NFMA) at 36 CFR 219.27 (c) (3) requires national forests to examine regeneration units after harvesting to certify if adequate stocking is established by the fifth growing season. Regeneration success has generally been very good over the years we have tracked stocking. There has been a recent concern of inadequate stocking due to deer browsing, but the concern is more related to the tree species that are regenerating, rather than a lack of trees being regenerated. |
| PC 205 | The Forest should consider restoring the American chestnut to the Forest because trees are now able to produce mast for years before the possibility of blight. |
| Response: | The Forest Service has signed a Memorandum of Understanding with The American Chestnut Foundation to plant blight resistant chestnut seedlings on national forest system land when the seedlings become available. The chestnut issue is briefly discussed on pages 3-288 and 3-289 in the DEIS. |
| PC 600 | The Forest should not use two-age and group selection as the preferred regeneration system in 6.1 areas because it will reduce the amount of mast production species in future stand, and clear cutting and shelterwoods should be the preferred regeneration methods in 6.1 areas. |
| Response: | Generally, the group selection harvest method should not be used in MP 6.1, as even-aged management is the more efficient silvicultural system to restore oak communities, especially where deer browsing has been identified as a major concern (USDA Forest Service Agriculture Handbook 445). Where |

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| | excessive deer browsing and lack of adequate regeneration are concerns, the shelterwood method combined with other silvicultural treatments such as fencing (to keep the deer out) and herbicide (to control competing vegetation) are recommended. The two-age (or deferred rotation) harvest method has been used more frequently in the past decade in response to Forest Service policy initiated in 1992 to reduce the amount of clearcutting by 70%. The two-age harvest method can be a useful tool to achieve desired results in some settings but should not be used where it is not appropriate. |
| PC 328 | The Forest should not over-emphasize spruce restoration. |
| PC 328a | BECAUSE SPRUCE IS VERY RESILIENT |
| Response: | One commenter questioned the wisdom of using scarce resources to actively restore spruce because spruce can eventually recover without active management. We note that MP 4.1 allows for passive as well as active management. Also, allocation of land to a MP does not automatically give the management emphasis of that MP higher priority over the activities emphasized in other MPs. Such priorities are sorted out during the Forest's annual budgeting process. |
| PC 328b | BECAUSE OTHER SPECIES, SUCH AS WHITE PINE, BLACK CHERRY, AND AMERICAN CHESTNUT ALSO NEED ATTENTION |
| Response: | MP 6.1 has been modified to include direction for white pine restoration on ecologically appropriate sites. Black cherry is emphasized where a seed source exists on mixed mesophytic hardwood sites in MPs 3.0, 4.1, and 6.1. |
| PC 328c | BECAUSE SPRUCE IS FAR SOUTH OF ITS PREFERRED RANGE AND IS ENDANGERED BY CLIMATE SWINGS |
| Response: | East-central West Virginia is within the native range of red spruce, and by some accounts is the location where red spruce once reached its optimal development. Red spruce in the central Appalachians is threatened by a number of factors, including climate change. Such threats can be viewed as a justification for restoration management so that the unique biodiversity associated with this community is not lost. |
| PC 328d | BECAUSE ONLY A LIMITED AMOUNT OF SPRUCE IS NEEDED FOR THE SURVIVAL OF THE NORTHERN FLYING SQUIRREL |
| Response: | While different subspecies of the northern flying squirrel in other regions are not always closely tied to conifers, studies in West Virginia suggest that the West Virginia subspecies generally is found in association with red spruce or hemlock. |
| PC 589 | The Forest should consider that the restriction on regeneration harvests to no more than 15 percent in 10 years is overly restrictive, given the degree to which the majority of the Forest is restricted from harvest, because the restriction makes it unlikely that long-term age class distribution goals will be achieved. |
| Response: | We have changed this standard in the Final Revised Plan to allow for no more than 20 percent. The change was made not so much for increased capability to attain desired conditions, but rather 1) to tie to a 20 percent limitation that was applied during output modeling for forest plan revision, and 2) to tie to research in watershed effects related to even-aged management. The 15 percent figure in the Proposed Revised Plan had no such ties of which we were aware. |
| PC 587 | The Forest should reconsider regeneration acreage caps because in many cases relatively small regeneration areas are vulnerable to regeneration failure due to deer depredation. |
| Response: | The NFMA (36 CFR 219.27(d)(2) requires that even-aged regeneration units on national forest lands in all forest types found in West Virginia not be larger than 40 acres except as provided in paragraphs (d)(2)(i) through (iii). Exceptions to increase the size of regeneration harvests are allowed but must be approved by the Regional Forester. |
| PC 260 | The Forest should conduct spruce restoration activities, because the montane red spruce ecosystem is endangered in the central Appalachians and only active restoration management will improve the situation. |
| Response: | Management Prescription 4.1 was designed for spruce restoration. Forest-wide direction restricts active management in suitable northern flying squirrel habitat to research and other activities with minimal effects. Therefore, passive management is emphasized in the large majority of the existing montane red spruce ecosystem, whereas active restoration is emphasized in northern hardwood areas that formerly supported spruce. |
| PC 46 | The Forest should try to regenerate oak species through burning in the fall rather than using |

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| | fencing. |
| Response: | The preferred alternative would provide for additional prescribed burning to help achieve oak regeneration, among other reasons. |
| PC 46a | BECAUSE FALL BURNING HELPS REDUCE INSECTS AND DISEASE |
| Response: | Prescribed burning, whether done in the spring or the fall, can help reduce insects and disease. |
| PC 46b | BECAUSE FENCING IS INEFFECTIVE AND PREDATORS NEED TO BE ALLOWED TO REDUCE DEER HERDS |
| Response: | Fencing has proved to be an effective tool to regenerate forest stands where deer browse is a concern. Fencing does not deter predators from reducing deer herds because the deer are usually not found within the fenced areas. |
| PC 755 | The Forest should develop management prescriptions that include active restoration in former roadless areas and areas that have been impacted by ground-disturbing activities. |
| Response: | Alternatives 2 and 4 in the DEIS have assigned an active restoration Management Prescription (6.1) in some former roadless areas or former 6.2 areas that have been affected by past ground-disturbing activities. |
| PC 255 | The Forest should revegetate old roadways and help restore the degraded areas in the Forest to functioning condition. |
| Response: | We have provided management direction in Chapter II of the Proposed Revised Plan to address this concern. See, for instance, Goal RF02 and Guideline RF12 in the Roads and Facilities section, and Goal SW01, Standard SW03, and Guideline SW11 and SW14 in the Soil and Water Resources section. |
| PC 513 | The Forest should reconsider limiting regeneration on low quality sites to 25 acres. |
| Response: | The 40-acre regeneration harvest limit is in effect for all Management Prescriptions in the Revised Forest Plan. This is a maximum limit; treatment units can always be smaller for project implementation due to site-specific conditions. |
| PC 116 | The Forest should conduct oak regeneration by planting in cleared gaps and not using fire. |
| Response: | Forest Plan direction does not limit the planting of native species to reach regeneration goals. The use of prescribed fires has many benefits other than oak regeneration (Brose et al. 2001). It has been an established use by humans on this landscape for thousands of years (Delcourt and Delcourt 1997). |
| PC 115 | The Forest should not conduct spruce harvest in nutrient-poor soil. |
| Response: | Spruce restoration efforts will be mostly passive (except for research projects) on sites that are suitable habitat for the northern flying squirrel. That means that very little spruce harvest will likely occur, and most spruce would be allowed to grow older into uneven-aged stands regardless of soil nutrient status. |
| PC 557 | The Forest should conduct spruce restoration on poorer sites where spruce will be more competitive. |
| Response: | Historical accounts indicate that spruce once dominated or co-dominated on a wide variety of sites above 3,000 feet elevation, including high-quality sites. |
| PC 446 | The Forest should use passive spruce restoration to provide habitat for the West Virginia northern flying squirrel, Cheat Mountain salamander, and other species. |
| Response: | Management Prescription 4.1 provides for both passive and active restoration of spruce and spruce-hardwood ecosystems. MP 4.1 also emphasizes collaborative research so we can learn more about what may or may not be effective techniques to address specific concerns. |
| PC 756 | The Forest should consider that oak regeneration cuts are valuable for game birds because young oaks hold their leaves longer than mature trees. |
| Response: | Management Prescriptions 3.0 and 6.1 emphasize age class diversity, which involves regeneration harvesting. Oak regeneration is emphasized on sites with oak potential. |
| PC 89 | The Forest should prohibit site conversions, including prohibiting the release of desirable commercial species. |
| Response: | We acknowledge your preference. Small-scale site conversion (such as converting forest to wildlife openings) and release of commercial species are management activities that are allowed in certain MPs in the Proposed Revised Plan. They would occur on a relatively small portion of the Forest. |
| PC 535 | The Forest should acknowledge the benefits of active/aggressive vegetation management in providing wildlife habitat and managing wildlife populations. |
| Response: | We agree that active vegetation management can provide wildlife habitat diversity to benefit a number |

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| | of species and populations. |
| PC 516 | The Forest should consider the need for protection and reintroduction of native species to counteract the overpopulation of deer. |
| PC 516a | INCLUDING: <ul style="list-style-type: none"> • NATIVE GRASSES SUCH AS BEAKGRAIN AND TALL NUTRUSH • NATIVE WILDFLOWERS SUCH AS YELLOW LEAF-CUP FLOWER, NATIVE DAYFLOWERS, SPIDERWORTS, MEMBERS OF THE LILY FAMILY, AND MEMBERS OF THE PEA-BEAN FAMILY • USING NURSE CROPS TO CONTROL EROSION AND PROVIDE PROTECTION FOR THE SEED AND YOUNG SEEDLINGS OF NATIVE PLANTS |
| Response: | Native species with concerns for sustainability are addressed in the Species Viability Evaluation. The Proposed Forest Plan and national direction encourages the use of native plants for revegetation efforts. We will work toward finding truly local commercial sources of native grasses forbs, legumes, and other plants for our revegetation efforts. In some areas a temporary, non-persistent cover crop could be used as the local native plants regenerate naturally while the cover crop serves to control erosion. The species listed in the original comments will be reviewed for additions to our seed mixes; thank you for the suggestions. |
| PC 516b | INCLUDING THE REINTRODUCTION OF SPECIES SUCH AS RED WOLF, GRAY WOLF, FISHER, ELK, BISON, EASTERN COUGAR, PEREGRINE FALCON, AND EXTIRPATED AQUATIC SPECIES |
| Response: | The Forest Service does not manage wildlife populations. Any reintroductions would need to be initiated and conducted by the West Virginia Division of Natural Resources or the U.S. Fish and Wildlife Service. The Proposed Revised Plan contains direction to coordinate with WVDNR on any proposed stocking or reintroduction of species (WF22). The fisher has already been reintroduced by WVDNR and has established a self-sustaining population on the Forest and surrounding areas. |
| PC 516c | INCLUDING DETERMINING WHETHER EXISTING HABITAT BLOCKS HAVE SUFFICIENT SIZE, DISTRIBUTION, AND CONNECTIVITY ACROSS THE LANDSCAPE IN ORDER TO MAINTAIN SPECIES VIABILITY AND BIOLOGICAL DIVERSITY |
| Response: | See responses to PC 530 and PC 690. |
| PC 646 | The Forest should encourage mining and logging companies to plant as many trees as they remove. |
| Response: | Planting trees is typically not necessary in harvest units on the Forest. Natural regeneration from seeds stored in the soil and from root or stump sprouts is usually more than sufficient to replace those trees that are removed. Forest review of an operating and rehabilitation plan submitted for mine proposals (Standard MG10 in the Proposed Revised Plan) would consider revegetation needs and objectives, and could include specifying planting trees. The Forest-wide Management Direction Mineral goal to “emphasize appropriate mitigation and reclamation of environmental disturbance (MG02),” and standards such as “reclamation shall include revegetating the site with native or desirable non-native, non-invasive species to control erosion and improve the visual quality of the site” (MG15), as well as the ecological objectives for the area, would help determine reforestation needs. In most cases, given the size and amount of earth disturbance associated with typical mineral operations within the Forest, trees will re-establish themselves on many sites nearly as fast as they would if they were planted. |
| PC 757 | The Forest should consider the oaks’ ability to re-establish and maintain themselves, because scientific research shows that many other factors besides the size of artificial openings fabricated by logging determine whether or not oaks can re-establish and sustain themselves. |
| Response: | We agree. This point is one of the reasons we intend to use prescribed fire in some areas to help give oaks a competitive advantage. Oaks on very dry sites are able to re-establish themselves. The DEIS (pages 3-289-290) summarizes the oak regeneration concern. This section and its referenced literature acknowledge that creating an opening in the canopy may not by itself create oak seedlings. The project record includes an annotated bibliography of fire history, fire effects, oak ecology, and prescribed fire that includes research (including some of the citations listed by the commenter) addressing the regeneration and ecology of oaks. |

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| | <p>Most of the oak species that grow in West Virginia are generally classified as intermediate in shade tolerance or intolerant of shade (USDA Forest Service Agriculture Handbook 654). Although these species can germinate and grow as young seedlings in dense shade, they eventually need to be released from the shade in order to grow into the upper canopy (USDA Forest Service Agriculture Handbook 445). Although it is possible to regenerate oaks in small gaps in the forest, it is not the most efficient or effective method, especially if deer browse is a concern. The oak-hickory forest, as we know it today, is the result of thousands of years of manipulation by humans through fire, agriculture, grazing, and logging (Delcourt and Delcourt 1997, Brose et al. 2001). To maintain the oak-hickory forest it is necessary to continue the disturbance regimes that created and perpetuated oaks and hickories (see USDA Forest Service Southeastern Forest Experiment Station General Technical Report SE-84, 2002).</p> |
| Forest Pests, Pathogens, Pesticides, and Herbicides | |
| PC 689 | The Forest should map areas infested with pests and pathogens and areas most vulnerable to pests and pathogens, because this information is necessary to develop a highly effective plan to control pests and pathogens. |
| Response: | The Forest cooperates with the West Virginia Department of Agriculture and the State & Private branch of the Forest Service to locate and map areas infested with pests and pathogens. We also utilize forest vegetation data, collected on a regular basis, to determine which areas may be at risk of infestation. |
| PC 552 | The Forest should not leave a 100-foot buffer for broadcast sprays of pesticide next to private lands because it greatly reduces the ability to manage these areas. |
| Response: | The Forest-wide standard leaving a 100-foot buffer for broadcast sprays of pesticides next to private lands allows for adjacent landowners to waive this restriction. The scoping process for project planning should include informing adjacent landowners of advantages and disadvantages when there is a potential for pesticide application. The 100-foot buffer does not apply to individual stem treatments. |
| PC 180 | The Forest should prohibit the use of poisonous chemicals—including insecticides, herbicides, fungicides, and pesticides—to prevent water pollution and exposure to forest users, and to protect habitat. |
| Response: | Pesticide use is a valuable tool in forest management. Certified pesticide applicators are trained to use pesticides in a responsible manner according to label directions and federal and state laws to protect non-target species, water, habitat, and people. The State of West Virginia requires that pesticide application on public lands be supervised by a certified pesticide applicator. Any use of pesticides on the Forest will be preceded by a site-specific project NEPA analysis and public disclosure. The analysis would look at potential effects to water quality, habitat, and forest users. |
| PC 604 | The Forest should use herbicides to control vegetation on roadways. |
| Response: | Although the Forest currently does not use herbicides along roadways, that option may be available based on site-specific situations. |
| PC 714 | The Forest should analyze the impacts of chemical treatment methods, including social effects, impacts on water resources and aquatic species, and the possibility of increased resistance to these substances. |
| Response: | Analysis of the effects of pesticide use is conducted in site-specific projects through an environmental assessment or environmental impact statement. Risk assessments have been completed for many of the herbicides presently used on the Forest. Numerous research studies have been completed describing the effects of herbicide use. Also see response to PC 180. |
| PC 217 | The Forest should explain how pesticides are getting into the Forest. |
| Response: | Pesticides are used on the Forest to control competing vegetation, noxious plants, and non-native invasive species. Pesticide use has historically been very low on the Forest, except for the rare broad-scale spraying for gypsy moth. |
| PC 712 | The Forest should discuss the severity of the balsam fir decline from the balsam adelgid. |
| Response: | Several insects and diseases were discussed in the DEIS (pp. 3-286 to 289). The balsam woolly adelgid is a sap-sucking insect similar to the hemlock woolly adelgid discussed on page 3-288 of the DEIS. The balsam woolly adelgid usually attacks mature true fir trees in natural stands, thereby allowing some regeneration. The hemlock woolly adelgid attacks all ages and sizes of eastern hemlock trees. Balsam fir is an extremely minor component of the Forest. |

| TIMBER MANAGEMENT | |
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| PC 265 | The Forest should harvest mature timber areas before they are destroyed by storms to promote a sound forest management plan for everyone. |
| Response: | Harvest units are selected during site-specific project analysis to meet specific silvicultural objectives. Storms are sporadic, with varying intensities in both time and place. It is not possible to predict when or where or storm will hit or the intensity of a storm in time to harvest all mature trees prior to the storm. Storm damage is also a natural process that contributes to the Forest's habitat diversity. |
| PC 809 | The Forest should provide information about the culmination of mean annual increment. |
| Response: | NFMA regulations 36 CFR219.16 (a)(2)(iii) state that even-aged stands that are scheduled for harvesting will generally have reached the culmination of mean annual increment of growth based on forest type and site quality. To reduce the imbalance of age classes that has resulted from the extensive timber harvesting and other land management practices that occurred here from 1880 to 1930, the 1986 Plan allowed for even-aged regeneration harvest to occur any time after a stand reached 70 years of age in order to better attain multiple use and sustained yield objectives. |
| PC 319 | The Forest should acknowledge that the increased probability of timbering in Alternative 2 will decrease rather than increase the amount of large woody debris that might be recruited to streams. |
| Response: | Direction for riparian protection is the same for all action alternatives, and therefore we would not expect to see a measurable difference in the amount of trees available for large woody debris recruitment in these alternatives. While Alternative 2 allows harvest to potentially occur in more areas of the Forest than Alternative 3, commercial harvest is similarly restricted in riparian areas under both of these alternatives, and thus large woody debris recruitment opportunities should also be similar. |
| PC 322 | The Forest should base its timber harvest goals on maintaining historic forest ecosystems and not on regional economics. |
| Response: | Timber harvest goals and objectives are based on achieving desired conditions for vegetation and habitat, not on regional economics. |
| PC 502 | The Forest should not justify timber sales as "wildlife management" because many species require mature, unfragmented landscapes. |
| Response: | Species that require mature, unfragmented landscapes would be provided for by the nearly two-thirds of the Forest that is not in the suitable timber base. Timber harvest provides habitat for those species that prefer young forest habitat. |
| PC 376 | The Forest should consider the benefits of timber harvesting, including economic and wildlife benefits. |
| Response: | The economic benefits of timber production are considered in the Social and Economic Environment section in Chapter 3 of the EIS. Benefits to wildlife or wildlife habitat are considered in the Terrestrial Species Viability, Terrestrial MIS and Other Species of Interest, and Threatened and Endangered Species sections in Chapter 3 of the EIS. |
| PC 244 | The Forest should focus attention on how appeals and litigation of timber sales are preventing it from reaching its goals, including examples of how delays and man-hours are expended for questions of principle. |
| Response: | We agree that appeals and litigation have resulted in delays and man-hour expenditures, not only on this Forest but across the nation. Both the Timber Supply and Social and Economic Environment sections in Chapter 3 of the EIS note that appeals and litigation are one of the reasons that we cannot predict or guarantee specific timber production levels on an annual basis. To try to analyze or compute these impacts is beyond the scope of this revision, however. The Forest Service may have more information on these effects at the regional or national scale. |
| PC 264 | The Forest should provide habitat that will support all game species and provide adequate cover by harvesting timber in a way that promotes early stem growth and early successional stands. |
| Response: | Benefits to wildlife or wildlife habitat are considered in the Terrestrial Species Viability, Terrestrial MIS and Other Species of Interest, and Threatened and Endangered Species sections of Chapter 3 in the EIS. The use of timber management to create age class diversity that benefits many wildlife species is emphasized in Management Prescriptions 3.0 and 6.1 in the Revised Forest Plan. |
| PC 372 | The Forest should explain its proposed logging methods. |

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| Response: | Silviculture systems and harvest methods are described and explained beginning on page 3-328 in the DEIS, and in Appendix A to the Revised Forest Plan. Harvest and logging methods (conventional, helicopter, cable, etc.) are determined during site-specific project analysis. |
| PC 608 | The Forest should acknowledge that timber harvest on slopes over 50 percent does not create landslide problems: <ul style="list-style-type: none"> • Because landslides are caused by storm events. • Because tens of thousands of acres are harvested on private land and landslides are not a problem. |
| Response: | Landslides on the Forest are uncommon; however, they do occur both as part of natural erosion processes and as an unexpected part of land management. Landslides are typically triggered by storm events associated with heavy precipitation and saturated soils. Often soil type, geology, vegetative cover, aspect, and soil moisture play a role in the susceptibility of a hillside to a potential slide. Timber harvest alone rarely triggers mass movement. However, road building associated with timber harvest can trigger mass movement on usually a small scale, with cut bank slumping and some larger full bank slope failures. This is often due to the removal of the toe slope and a change in the slope of the bank to something less stable than what existed prior to excavation. We acknowledge your concern that the Forest overstates the risk; however, analyses projecting this concern are based on site-specific investigations that have had interdisciplinary review from the geologist, hydrologist, and staff engineer. Standard SW07 in the Proposed Revised Plan requires the Forest to take precautionary measures in areas susceptible to landslides. These areas are defined by geology, soil type, slope, landscape position, and past management history. See also response to PC 473. |
| PC 98 | The Forest should keep logging at its current level to protect water resources, because there is plenty of private forested land in West Virginia that can be logged. |
| Response: | The Revised Forest Plan allows for timber management, and provides an allowable sale quantity that management is not expected to exceed. We are not sure what you mean by “current level” because the amount of timber produced varies from year to year, based on many factors. The amount produced in 2007 will likely not be the same as the amount in 2006, nor will it likely be the allowable sale quantity. The Forest Service has a responsibility and an opportunity to be an example of good stewardship for multiple use and sustained yield management for private landowners. Management direction ensures resources are protected, maintained, restored, or enhanced. |
| PC 725 | The Forest should ask the State to make mandatory rules for timbering. |
| Response: | The Forest has no control over West Virginia legislation on logging. Numerous laws or regulations pertaining to logging already exist in the State. West Virginia also has voluntary Best Management Practices on logging jobs inspected by professional foresters. |
| PC 660 | The Forest should map as many areas as possible that are unsuitable for timber production and create a detailed list of unsuitable characteristics to: <ul style="list-style-type: none"> • Identify those acres that might be hard to accurately map • Help Forest staff ensure that they are not proposing commercial harvest in these areas • More easily resolve areas of possible disagreement between the public and Forest staff when controversial projects are proposed. |
| Response: | Lands unsuitable for timber production are listed on pages 3-334 through 3-337 in the DEIS. Many of these areas are mapped in GIS layers that are available to Forest personnel. Site-specific project analysis and field checks will continue to identify any lands that are or are not suitable for timber production, as the suitability determination may change over time due to advances in technology, new legislation, changes in land allocation, etc. |
| PC 653 | The Forest should consider that should road construction, reconstruction, or maintenance costs rise, and the cost of timber harvest may exceed revenues in many acres of suitable timber land. |
| Response: | Road costs may well rise, and so may the value of the timber harvested. We have to base our analysis on the best available information at the time of the analysis. Also, timber harvest may still occur if road costs exceed revenue. The Forest Service is directed to complete an economic analysis for alternatives considered in detail during project planning. The alternative selected for implementation does not need to be above cost if there are other benefits that meet the purpose and need of the proposal, and the desired conditions in the Forest Plan. In addition, other resources besides timber may benefit from road construction, reconstruction, or maintenance. |

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| PC 651 | The Forest should determine lands to be unsuitable for timber production if it would not be cost-efficient to harvest them, to comply with NFMA. |
| Response: | Cost efficiency is one of several criteria we use to determine the suitability of lands for timber production. See also response to PC 653. |
| PC 652 | The Forest should provide estimates of salvage or non-charged volume predicted over the planning period. |
| Response: | Salvage volume usually comes from catastrophic events that cause tree mortality and are unpredictable in nature. The Vegetation Analysis of the Management Situation (in the project record for this plan revision) contains information on the amount of salvage harvest that occurred on the Forest from 1986 through 1999. The Final Revised Plan does include objectives for vegetation management on lands not suited for timber production, but volumes were not calculated because of the uncertainty of silvicultural prescriptions that would be used in management. |
| PC 150 | The Forest should harvest timber in an economical manner, including: <ul style="list-style-type: none"> • Harvesting trees before they are over mature • Using roads instead of helicopters when no harm would result. |
| Response: | An economic analysis is done for every timber harvest project on the Forest, and economics is taken into consideration in project decisions, along with potential resource impacts. See also responses to PC 364 and PC 607. |
| PC 619 | The Forest should provide an alternative that has an allowable sale quantity lower than the current Forest Plan in order to have an alternative that is based on an accurate assessment of the local, regional, and State economies. |
| Response: | Both Alternatives 2 and 3 have lower allowable sale quantities than Alternative 1, which represents the current (1986) Forest Plan as amended, with the ASQ remodeled based on current growth and yield information. There is no alternative that represents current production because production can change widely from year to year. In fact, we have seen variations from over 40 million board feet to under 1 million board feet since the 1986 Plan was released. We did, however, compare the ASQ production levels to the average production over the past 10 years in the Social and Economic Environment section in Chapter 3 of the DEIS. These averages are built into the current outputs as displayed in Tables SO-11 through SO-14 in the DEIS. |
| PC 72 | The Forest should stop all logging in the Forest: <ul style="list-style-type: none"> • Because the State of West Virginia does not benefit from it • To protect wildlife and habitat • Because it fragments habitat • Because it destroys scenery • Because it pollutes streams • Because it increases deer habitat • Because it decreases habitat for interior species, such as the cerulean warbler, the wood thrush, and ovenbirds • Because locals receive minimal benefits from logging • Because the country needs to move away from unnecessary and outdated industries such as logging • To create an ecologically healthier region • To prevent flooding • Because timber production is no longer a highest or best use for the National Forest • To prevent non-native invasive species • Because lands outside the National Forests are already responsible for most of our wood products • Including commercial logging • Because forests are needed for oxygen • Because tree farming should be used instead • To benefit future generations • Because it wastes taxpayer dollars • To prevent global warming |

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| | <ul style="list-style-type: none"> • To protect recreational opportunities • To restore and protect spruce and various hardwoods • To prevent erosion • To protect soil • Because allowing timber harvest in the Forest undercuts private landowners/tree farmers by unduly competing with them. |
| Response: | We acknowledge your preference; however, it is beyond the scope of this plan revision to stop all logging on this or any other national forest. National forests are mandated by law to provide multiple use management. The analysis for plan revision therefore focuses on how much timber management is appropriate and where it should occur. We agree that timber harvest can have impacts on many other resources, and these potential impacts are disclosed in Chapter 3 of the EIS. The Revised Forest Plan focuses on linking timber management to desired forest and habitat conditions, and reducing the associated effects of timber harvest activities to other forest resources. |
| PC 130 | <p>The Forest should increase logging:</p> <ul style="list-style-type: none"> • To help sustain large-scale age class diversity • To stimulate the economy of West Virginia • To aid in fire management • To aid in the management of insects, disease, and invasive plants • To address water quality concerns • Because the 25 percent fund payments are needed by the poorer areas of the State • Because access to the more than ample supply of timber is being overly restricted • Because the wilderness resource would not be significantly impacted • Because Threatened and Endangered species restrictions should not significantly affect timber production • Including logging in the Spruce Knob and Seneca Rocks National Recreation Area • To increase forest health • To provide more tax revenue to local counties • To help control the deer population. |
| Response: | <p>We acknowledge your preference. We agree that timber harvesting can benefit many resources when implemented correctly. The allowable sale quantity under both the 1986 Plan and the Revised Plan would allow substantially more timber harvest than has actually occurred in recent years (see page 3-337 to 3-342 in the DEIS). About two thirds of the stands on the Forest are fully stocked or overstocked, which means trees in these stands are fully utilizing the capability of the land to produce trees. Growth exceeds removal and mortality by a ratio of 3.6:1, meaning the Forest is growing nearly 4 times as much wood as is being harvested and dying from natural causes (USDA Forest Service Northeastern Research Bulletin NE-161). See also responses to PCs 359, 606, and 686.</p> <p>We agree that the revised plan's protections for threatened and endangered species allow for timber production where it does not jeopardize these species.</p> <p>Timber harvest is more likely to increase the habitat capacity for deer than decrease it. See discussion on deer habitat in the Terrestrial Management Indicator Species and Other Species of Interest section of EIS Chapter 3. See also response to PC 285.</p> |
| PC 136 | The Forest should provide information on supply/demand ratios for timber in the Monongahela compared with other National Forests to determine whether the Monongahela is looking to be a bigger player in the overall timber supply to the United States |
| Response: | The Forest does not manage for timber on a supply/demand basis or compete with other national forests to supply more timber. National forest land management is based on numerous laws enacted by Congress over the past 100+ years. The Multiple Use Sustained Yield Act of 1960 requires national forests to manage the timber resource on a sustainable basis. See page 3-300 in the DEIS. |
| PC 140 | The Forest should conduct timber harvest activities in a way that protects the Forest's resources. |
| Response: | Timber harvest activities on the Forest are conducted within existing laws, regulations, policies, and Forest Plan direction. Implementation of timber management activities to meet the desired conditions, goals, and objectives of the Revised Forest Plan will be determined through site-specific project-level |

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| | analysis, and will be guided by Forest Plan direction that is designed to protect the Forest's resources. These project-level plans are utilized to make the tactical and strategic decisions consistent with the NFMA to "...provide for multiple use and sustained yield of goods and services from the National Forest System...in an environmentally sound manner." (36 CFR 219.1(a)). |
| PC 140a | INCLUDING: <ul style="list-style-type: none"> • THE USE OF CABLES TO HAUL TREES TO THE SKIDDER • USING AIRLIFT METHODS INSTEAD OF BULLDOZERS TO LIMIT EROSION • THE USE OF EXISTING ROADS • CUTTING MAPLES WITH NON-POLLUTING BIG LOPPERS • USING RAMIAL CHIPPING • USING HORSE LOGGING • USING BIRD EXCLUDERS ON SHELTER TUBES FOR SEEDLINGS • INCREASING THE PRACTICE OF SEEDING |
| Response: | Harvest and regeneration methods are chosen through the NEPA process in site-specific project level planning by professionally trained and experienced natural resource specialists based on information from vegetation inventory data combined with field reconnaissance and public input. |
| PC 140b | INCLUDING: <ul style="list-style-type: none"> • AVOIDING CLEARCUTS OR LIMITING THEIR SIZE AND LOCATION • PRACTICING SHORT OR LONG ROTATION LOGGING ONLY ON AREAS THAT HAVE A HISTORY OF RECENT LOGGING AND THAT ARE LOCATED IN TERRAIN THAT IS CAPABLE OF HANDLING LOGGING ACTIVITY WITHOUT DAMAGE • RESTRICTING HARVESTING TO UNEVEN-AGED SYSTEMS WHERE WELL DESIGNED ROADS CURRENTLY EXIST • APPLYING GROUP SELECTION WHERE CURRENT, WELL-DESIGNED ROADS EXIST • INCREASING THE ROTATION AGE AT WHICH TIMBER IS HARVESTED • SELECTIVELY CUTTING HARDWOODS TO LEAVE THE BEST AND BIGGEST, AND TAKING UNHEALTHY TREES |
| Response: | Silvicultural methods and prescriptions are chosen through the NEPA process in site-specific project level planning by professionally trained and experienced natural resource specialists based on information from vegetation inventory data combined with field reconnaissance and public input. |
| PC 140c | INCLUDING LEAVING TREETOPS AFTER LOGGING TO HELP RECYCLE SOIL NUTRIENTS |
| Response: | See Standard TR05 in the Proposed Revised Forest Plan, which would restrict whole tree yarding where soil nutrient loss is a concern. |
| PC 140d | INCLUDING NO LOGGING WITHIN 150 FEET OF ANY WATERWAY |
| Response: | See Standards SW34 and SW37 in the Proposed Revised Forest Plan, which would limit programmed timber harvesting within stream channel buffers. |
| PC 140e | INCLUDING PROHIBITING TIMBER CUTTING OF SLOPES GREATER THAN 30 PERCENT GRADE |
| Response: | Although we have limitations on using heavy harvest equipment on steep slopes, we have no rationale or research to show that harvesting timber on slopes over 30 percent creates environmental degradation. |
| PC 140f | INCLUDING ONLY ALLOWING FORESTRY COMPANIES THAT DO NOT EMPLOY HIGH-GRADING TECHNIQUES TO BID ON TIMBER CONTRACTS |
| Response: | Companies under contract to the Forest Service only cut trees as specified in the contract and timber sale area maps, unless otherwise authorized. |
| PC 140g | INCLUDING REQUIRING TIMBER COMPANIES TO CUT CULL TREES AND PAST-MATURITY TREES FIRST, LEAVING HEALTHY TREES |
| Response: | See responses to PC 140b and 140f, above. |
| PC 140h | INCLUDING ALLOWING LOGGING IN AREAS WHERE LOGGING OR DEVELOPMENT HAS BEEN DONE IN THE PAST |
| Response: | Where timber harvest occurs depends on many factors, including Management Prescription, purpose and need of the project, silvicultural prescription, access, and various management constraints. |
| PC 140i | INCLUDING PROTECTION OF WATER RESOURCES, WILDLIFE AND TROUT STREAMS, BIODIVERSITY, SCENIC RESOURCES, AND SOIL RESOURCES |

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| Response: | Protection for these resources is provided in the Revised Forest Plan, particularly in the Soil and Water Resources, Wildlife and Fish, Vegetation, and Scenic Environment sections. |
| PC 140j | TO PROTECT TOURISM |
| Response: | We cannot protect tourism, but we can continue to provide a scenic backdrop and recreation destinations for tourists to enjoy, and we intend to do so. |
| PC 140k | INCLUDING NO LOGGING IN BACKCOUNTRY AREAS |
| Response: | Backcountry recreation prescriptions (MP 5.1, 6.2, 8.1 SPNM) generally prohibit commercial timber harvest, although some tree cutting for specific reasons may occur. |
| PC 140l | INCLUDING AIR LIFTING TREES FROM ROADLESS AREAS |
| Response: | If trees were to be cut in roadless areas, helicopter yarding would be preferred over constructing roads. |
| PC 140m | TO PREVENT THE ENCROACHMENT OF EXOTIC PLANTS |
| Response: | There is little we can do to “prevent” the encroachment of all exotic plants, but we have included direction in the Revised Forest Plan to help control the establishment and spread of non-native invasive species. See the Vegetation section in Chapter II. |
| PC 140n | INCLUDING PROHIBITING THE USE OF CHAINSAWS |
| Response: | This is beyond the scope of plan revision. |
| PC 140o | TO REGENERATE DESIRABLE SPECIES FOR TIMBER AND WILDLIFE AND TO MAINTAIN OR ENHANCE HARD MAST |
| Response: | These goals are included in our management emphasis for MPs 3.0 and 6.1, where most of the timber management will be done on the Forest. |
| PC 140p | TO INCREASE THE SAW TIMBER VALUE PRODUCTIVITY OF THE FOREST |
| Response: | Increased value and productivity would be a by-product of achieving other vegetation management goals and desired conditions, and may not occur in every project or harvest unit. |
| PC 141 | The Forest should hire timber management specialists trained in meeting multiple-use objectives to implement a viable timber management program. |
| Response: | Although hiring practices are beyond the scope of plan revision, we believe the Forest does hire specialists who can meet multiple-use objectives and implement a viable timber management program. |
| PC 146 | The Forest should acknowledge that its hardwoods are being marketed as cheap paper products. |
| Response: | A relatively small amount of the hardwoods and softwoods harvested on the Forest are sold as pulpwood, which can be used for paper products. However, the hardwoods sold as pulpwood for paper products are typically lower value species or smaller diameter trees (usually 5 to 10 inches dbh). Other more valuable hardwood species and larger diameter trees are typically marketed for veneer or other high quality wood products. |
| PC 126 | The Forest should explain whether there will be logging in MP 8.0 areas. |
| Response: | Timber harvest opportunities or restrictions vary by 8.0 area. They are described in the management direction for the various MP 8.0 areas in Chapter III of the Revised Forest Plan. Essentially, timber harvest is allowed and expected in the 8.5 Fernow Experimental Forest and the 8.6 Grouse Management Areas, but harvest would be limited or non-existent in other 8.0 areas. |
| PC 791 | The Forest should not allow timber contracts below market prices because it harms the market for private landowners. |
| Response: | Timber sales on the Forest are appraised based on market conditions and past timber sales and then sold through the sealed bid process. |
| PC 11 | The Forest should consider the negative effects of logging, including: |
| Response: | Potential effects from timber harvest and related activities are described throughout Chapter 3 of the EIS. See the General Effects, Direct and Indirect Effects, and Cumulative Effects for the various resources noted in Chapter 3 and the sub-concerns below. |
| PC 11a | IMPACTS TO SCENERY |
| Response: | See the Scenic Environment section in Chapter 3 of the EIS. |
| PC 11b | DAMAGE TO ROADS |
| Response: | We agree that heavy equipment such as logging trucks can cause damage to roads. However, potential and actual damage is typically compensated for through various means by timber operators, including additional road taxes, road reconstruction, and road maintenance along specified haul roads. |
| PC 11c | DANGEROUS LOGGING TRUCK DRIVERS |

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| Response: | We do not have any statistics to show that logging truck operators are any more dangerous than other drivers. However, they do operate on mountain roads that can be inherently dangerous due to their narrow widths, many curves, dirt or gravel surfaces, lack of sight distances, and often poor weather conditions. All drivers need to exercise more caution under such circumstances. |
| PC 11d | AN INCREASE IN FLOOD RISK |
| Response: | See responses to PC 52, PC 106, PC 23, and PC 833. |
| PC 11e | NEGATIVE EFFECTS ON TOURISM |
| Response: | See responses to PC 74 and PC 827. |
| PC 11f | THE LONG TIME IT TAKES FOR THE FOREST TO RECOVER FROM CLEARCUTTING |
| Response: | In some ways, the forest is still recovering from the extensive clearcutting that was done 70-120 years ago. However, that was timber mining rather than forestry. Today, clearcuts with reserve trees are only applied where they are the optimal method of achieving silvicultural objectives, which means that they are applied on a fairly limited basis, with mandatory leave trees and restrictions on size, amount within a watershed, harvesting in riparian areas, etc. The regeneration success is high in these areas, and new stands grow quickly, limiting visual and hydrologic effects to a relatively short period. |
| PC 11g | INVESTIGATING THE ADVERSE IMPACTS OF THE PAST AND CURRENT LOGGING OPERATIONS IN THE FOREST |
| Response: | Potential effects from timber harvest and related activities are described throughout Chapter 3 of the EIS for various resources, including those captured in these comments. |
| PC 11h | IMPACTS ON BIOLOGICAL DIVERSITY AND THE VIABILITY OF SPECIES |
| Response: | See the Terrestrial Ecosystem Diversity, Terrestrial Species Viability, Management Indicator Species and Other Species of Interest, and Threatened and Endangered Species sections in Chapter 3 of the EIS. |
| PC 11i | IMPACTS ON SOIL |
| Response: | See the Soil Resource section in Chapter 3 of the EIS. |
| PC 11j | IMPACTS ON WATER RESOURCES |
| Response: | See the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS. |
| PC 11k | IMPACTS ON WILDLIFE |
| Response: | See the Terrestrial Ecosystem Diversity, Terrestrial Species Viability, Management Indicator Species and Other Species of Interest, and Threatened and Endangered Species sections in Chapter 3 of the EIS. |
| PC 11l | IMPACTS ON NATIVE PLANTS |
| Response: | See the Vegetation Management, Terrestrial Species Viability, and Threatened and Endangered Species sections in Chapter 3 of the EIS. |
| PC 11m | IMPACTS ON RECREATION |
| Response: | See the Recreation and Wilderness section in Chapter 3 of the EIS. |
| PC 11n | IMPACTS FROM CHIP MILLS |
| Response: | We do not believe that timber harvest on the Forest is receiving negative effects from chip mills. |
| PC 11o | IMPACTS ON AIR QUALITY |
| Response: | See the Air Quality section in Chapter 3 of the EIS. |
| PC 11p | IMPACTS ON FOREST FRAGMENTATION |
| Response: | See the Terrestrial Ecosystem Diversity section in Chapter 3 of the EIS. |
| PC 11q | THE LOSS OF TAXPAYER DOLLARS |
| Response: | All timber sales on the Forest produce revenue for the U.S. Treasury. See also response to PC 144. |
| PC 11r | EFFECTS ON GLOBAL WARMING |
| Response: | See response to PC 110c. |
| PC 11s | THE INTRODUCTION AND SPREAD OF NON-NATIVE INVASIVE SPECIES |
| Response: | See the Non-native Invasive Species section in Chapter 3 of the EIS. |
| PC 11t | EFFECTS ON MATURE AND OLD GROWTH FORESTS |
| Response: | See the Terrestrial Ecosystem Diversity and Vegetation Management sections in Chapter 3 of the EIS. |
| PC 11u | EFFECTS ON ENVIRONMENTALLY SENSITIVE HABITAT |
| Response: | We are not sure what the commenter meant by "environmentally sensitive habitat". However, we look at the environmental sensitivity of the forest when we do environmental assessments, environmental impact statements, biological assessments, and related documents. For plan revision, these assessments |

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| | appear throughout Chapter 3 of the EIS, and additional assessments can be found in the project record. |
| PC 11v | EFFECTS ON FOREST ECOLOGY |
| Response: | See the Terrestrial Ecosystem Diversity, Terrestrial Species Viability, Management Indicator Species and Other Species of Interest, and Threatened and Endangered Species sections in Chapter 3 of the EIS. |
| PC 12 | The Forest should eliminate the two-age system of timber management because it fails to meet landscape appearance goals while unnecessarily increasing the cost and difficulty of harvest. |
| Response: | The two-aged harvest method (also known as the deferred rotation harvest method) is a valuable silvicultural tool when implemented appropriately. Many of the previous two-aged harvest cuts on the Forest left too many trees that shaded the regeneration causing slower growth (Miller et al. 1997, Pelkki 1996). The effects from timber harvesting on the scenic environment vary depending on the quantity and type of timber removed, logging methods, and the area's setting. Two-aged timber harvesting can have a short-term negative impact on individuals who expect to view an unaltered landscape. Relatively speaking, a clearcut with reserve trees of the same area may have even more negative impacts to those same individuals. However, in either case these areas will re-vegetate over time and can provide for a diversity of openings and age classes that others may enjoy. |
| PC 556 | The Forest should not use two-aged harvest methods because it leads to more shade-tolerant species, slower growth, and less diversity. |
| Response: | See response to PC 12. We agree that two-aged harvest can lead to slower growth and more shade-tolerant species if the overstory is not removed in a timely manner. Post-harvest thinning treatments can also help increase growth rates and select for desired species. |
| PC 16 | The Forest should limit the amount of logging, including commercial logging, allowed in the Forest. |
| Response: | We feel that the amount of logging on the Forest is limited by the Revised Forest Plan. Only about 36% of the Forest is available for regulated or programmed timber management. Within those areas that are suitable for timber harvest, a large portion will not be harvested in the coming decade. For example, the Revised Forest Plan has timber harvest objectives in the range of 2,400 to 4,800 acres a year. The maximum amount in this range amounts to less than half of one percent of the Forest land base, which means that on an average annual basis, at least 99.6% Forest would not have any timber harvest activity. Numerous restrictions and mitigation measures are utilized in timber sales to protect other resources. Timber harvesting is a tool used to manage the Forest for multiple uses and a sustained yield of goods and services. Designated Management Prescription areas list desired conditions, goals, objectives, standards, and guidelines in the Revised Forest Plans to: restrict logging to certain areas; protect other resources; and maintain, restore, or enhance habitats. See also responses to PC 11 and PC 140. |
| PC 16a | TO BENEFIT FUTURE GENERATIONS |
| Response: | See responses to PC 62h and PC 37a. |
| PC 16b | TO PROTECT QUALITY OF LIFE |
| Response: | Although the quality of life is beyond our authority or control to manage, we hope we can contribute to various aspects through our management. |
| PC 16c | BECAUSE LOGGING IS COUNTER TO PUBLIC OPINION |
| Response: | We heard from many people who wanted to see more timber harvest on the Forest, as well as those who would like to see less harvest or none whatsoever. |
| PC 16d | TO PROTECT WATER RESOURCES, AND FISH AND BENTHIC ORGANISMS |
| Response: | Effects to water resources and fish habitat from timber harvest are discussed in the Water, Riparian and Aquatic Resources section of Chapter 3 in the EIS. |
| PC 16e | TO PREVENT THE SPREAD OF INVASIVE SPECIES |
| Response: | Effects related to non-native invasive plants and timber harvest are discussed in the Non-native Invasive Plants section of Chapter 3 in the EIS. |
| PC 16f | TO PROTECT SCENIC RESOURCES |
| Response: | Effects to scenic resources are discussed in the Scenic Environment section of Chapter 3 in the EIS. |
| PC 16g | TO PREVENT GLOBAL WARMING |
| Response: | See response to PC 110c. |
| PC 16h | BECAUSE LOGGING NEGATIVELY AFFECTS TOURISM |

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| Response: | See response to PC 74. |
| PC 16i | INCLUDING LIMITING OR PROHIBITING CLEARCUTTING |
| Response: | See responses to PC 181, PC 169, PC 43, PC 637, PC 163, and PC 466. |
| PC 16j | BECAUSE THERE MAY BE A LACK OF MANPOWER TO OVERSEE AND POLICE EXPANDED LOGGING |
| Response: | We can likely hire or borrow as many people as we need to administer timber sales. |
| PC 16k | TO PROTECT WILDERNESS QUALITIES, INCLUDING PROHIBITING LOGGING IN ROADLESS AREAS, WILDERNESS AREAS, 6.2 AREAS, AND OTHER PROTECTED AREAS |
| Response: | The specific areas you have listed all have restrictions on regulated commercial timber harvest. |
| PC 16l | TO PROVIDE AND PROTECT RECREATIONAL OPPORTUNITIES |
| Response: | We believe that the entire Forest provides recreational opportunities, although the types may shift from area to area. Harvested areas, for example, may provide opportunities for firewood collecting, berry picking, wildlife watching, or driving for pleasure on Forest roads. |
| PC 16m | TO PROTECT WILDLIFE AND HABITAT, ENDANGERED SPECIES, INDICATOR SPECIES, AND SPECIES DIVERSITY |
| Response: | See responses to PC 22d and PC 37c. |
| PC 16n | TO PROTECT PUBLIC HEALTH |
| Response: | See response to PC 181. |
| PC 16o | TO PREVENT EROSION AND FLOODING |
| Response: | See responses to PC 52, PC 106, PC 23, PC 18, and PC 833. |
| PC 16p | TO PROTECT SOIL NUTRIENT LEVELS |
| Response: | See the Soil Resource section in Chapter 3 of the EIS. See also responses to PC 470 and PC 832. |
| PC 16q | BECAUSE THE FOREST'S RESOURCES BELONG TO THE PUBLIC |
| Response: | We agree, but the public does usually agree as to how those resources should be managed. As land managers with a multiple-use mandate, we try to provide a wide range of opportunities, settings, products, and services on federal lands for all the public to enjoy. For example, people who do not like timber harvest can at any given time visit the vast majority of the Forest where timber harvest is not taking place. |
| PC 16r | TO PREVENT LOGGING ROADS |
| Response: | Effects from roads are found throughout Chapter 3 of the EIS. Existing roads and projected road needs are discussed in the Road Transportation System section of Chapter 3. Management requirements and other suggested mitigation for potential road impacts are found in Chapters II and III of the Revised Forest Plan. |
| PC 16s | BECAUSE FIRE SUPPRESSION IS NOT A LARGE PROBLEM IN THE FOREST LIKE IT IS IN THE WEST |
| Response: | We agree. We have not proposing timber harvest due to immediate fire suppression needs. Any fuel reduction we create through harvest, however, would be an added benefit in wildland urban interface. |
| PC 16t | TO PROTECT SPECIES DIVERSITY |
| Response: | Regenerating forest stands through timber harvest can help enhance plant and animal species diversity across the landscape. See the Vegetation Management analysis in Chapter 3 of the EIS. |
| PC 16u | TO PROTECT WILDFLOWER HABITAT |
| Response: | Timber harvesting can have impacts on wildflowers, but it can also create habitat conditions conducive to many wildflowers. |
| PC 16v | INCLUDING PROHIBITING LOGGING OF OLD GROWTH |
| Response: | There is currently very little "old growth" on the Forest, and most of the known stands are protected from commercial timber harvest. The Forest's strategy for managing potential and existing old growth is described in Appendix B to the Revised Forest Plan. |
| PC 16w | TO PROTECT LARGE FOREST ECOSYSTEMS AND FOREST INTERIOR SPECIES |
| Response: | See responses to PC 530 and PC 690. |
| PC 16x | BECAUSE LOGGING IS COSTING TAXPAYERS TOO MUCH |
| Response: | Timber sales on the Forest typically produce positive returns to the U.S. Treasury. |
| PC 16y | BECAUSE THE FOREST SHOULD NOT BE COMPETING WITH PRIVATE WOODLAND |

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| | OWNERS AND DRIVING DOWN THE PRICE OF TIMBER |
| Response: | We do not believe that we are necessarily in direct competition with private woodland owners, as Forest timber sales tend to be on a larger scale and have more required mitigation that can increase operating costs. Therefore they often have different purchasers. In this respect, Forest timber sales may actually make many private timber sales look more attractive by comparison. |
| PC 16z | BECAUSE TIMBER HARVEST SHOULD NOT OCCUR IN LARGE UNROADED TRACTS, ON STEEP SLOPES, OR NEAR STREAMS OF ANY SIZE |
| Response: | The Revised Forest Plan has restrictions on timber harvesting in roadless areas, on steep slopes, and within stream channel buffer zones. |
| PC 16aa | BECAUSE IT IS NOT GOOD FOR MOUNTAIN BIKING |
| Response: | Mountain bikers who do not like or want to be near timber harvesting have many other places on the Forest to recreate. Many of the roads or trails they bicycle on were originally built for timber harvest. |
| PC 16ab | TO PREVENT DEER OVERPOPULATION |
| Response: | See response to PC 285. |
| PC 16ac | BECAUSE REPLANTED TREES TAKE TOO LONG TO GROW |
| Response: | The vast majority of tree regeneration that occurs on the Forest is from natural sprouting or seeding; very few trees are planted. Trees take as long as they need to grow, and they provide different types of habitat and other values as they cycle through natural succession. |
| PC 16ad | BECAUSE TREES PROVIDE OXYGEN |
| Response: | We agree that trees provide us with life-giving oxygen. We are not proposing a net loss of trees on the Forest. We are proposing to replace some older trees with younger trees, which will also produce oxygen for a very long time, likely much longer than the older trees they are replacing. |
| PC 16ae | INCLUDING PROHIBITING LOGGING IN STEEP AND DIFFICULT TERRAIN |
| Response: | The Revised Forest Plan has restrictions on operating logging equipment on steep slopes, wet areas, etc. |
| PC 16af | BECAUSE THE DEMAND FOR NON-TIMBER FOREST PRODUCTS WILL SOON OUTWEIGH THE DEMAND FOR TIMBER PRODUCTS |
| Response: | Although specific non-timber forest products were not identified, we do not believe that timber harvest and non-timber forest products are mutually exclusive. Also, only 36% of the Forest is considered suitable for regulated timber harvest. That leaves the majority of the Forest for pursuits and products unaffected by timber harvest activities. |
| PC 16ag | TO PROTECT THE FOREST'S CARBON SEQUESTRATION USE |
| Response: | See response to PC 110c. |
| PC 16ah | TO PROVIDE FIRE PROTECTION |
| Response: | See response to PC 16s, above. |
| PC 16ai | INCLUDING PREVENTING LOGGING IN THE SENECA CREEK BACKCOUNTRY, CANAAN MOUNTAIN, AND NORTH FORK MOUNTAIN |
| Response: | Commercial timber harvest is generally prohibited in all of these areas that are in MP 6.2 or 8.1 SPNM. |
| PC 16aj | INCLUDING LIMITING TIMBER SALES IN BIG RUN BOG |
| Response: | Vegetation manipulation of any kind is not allowed in the bog, which is a National Natural Landmark. |
| PC 16ak | INCLUDING PREVENTING LOGGING IN THE LITTLE ALLEGHENY MOUNTAIN AND LAUREL RUN AREA |
| Response: | The Little Allegheny Mountain and Laurel Run area would generally be prohibited from commercial timber harvest under Alternative 3, but would be available for vegetation management under the other alternatives considered in the EIS. |
| PC 16al | INCLUDING LIMITING LOGGING IN 6.1 AREAS |
| Response: | Age class diversity and regeneration of mast-producing species are major management emphases in MP 6.1. Meeting these management emphases requires harvesting timber. |
| PC 16am | INCLUDING LOCATING LOGGING SITES IN AREAS THAT DO NOT HAVE IMPORTANT VALUES |
| Response: | We believe that all areas on the Forest have value, the importance of which can vary widely by resource area or an individual's value system. Any commercial timber harvest proposed by the Forest would undergo a comprehensive analysis of the project area values, and the potential effects the project would have on those values. This analysis would be made available to the public and the Forest would seek |

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| | public input on the project before making a decision on implementation. |
| PC 17 | The Forest should acknowledge that statements regarding timber management and mature forests in the Plan are not supported by science. |
| Response: | We believe that most of the statements attributed to the DEIS concerning mature forests were actually statements related to overmature or older forests. We have tried to clarify this confusion where possible in the FEIS. |
| PC 17a | INCLUDING THE STATEMENT THAT A MATURE FOREST IS MORE SUSCEPTIBLE TO DISEASE AND INSECTS |
| Response: | We agree that mature forests are not necessarily more susceptible to disease and insects. However, they do become more susceptible as they age into overmature or old forests, as seen in the increased mortality of these older forests. |
| PC 17b | INCLUDING THE STATEMENT THAT A MATURE FOREST HAS DECREASED MAST PRODUCTION AND HABITAT DIVERSITY |
| Response: | The analyses of mast production as it relates to wildlife habitat used 50 to 150 years old as the typical age range for optimum mast production. This age range is based on scientific information, as cited in the DEIS (see page 3-198). The DEIS indicates that mature forests are generally at the peak of their mast production, but that production tends to decrease as mature forests become older or overmature. |
| PC 17c | INCLUDING THE STATEMENT THAT A MATURE FOREST HAS INCREASED FUEL LOADS AND MORE SEVERE FIRES |
| Response: | As mature forests grow and age into overmature or old forests, the overall woody material present increases, which increases fuel loading. This progression is not only supported by science but also by simple observation. Although large fires are not characteristic in eastern mesic forests, they can occur, particularly under drought conditions, and the intensity and severity of those fires is at least partially dependent on the amount of fuel present. |
| PC 17d | INCLUDING THE STATEMENT THAT TIMBER HARVEST MIMICS HISTORIC FIRE REGIMES |
| Response: | Uncontrolled wildfires and prescribed fires leave gaps in the canopies. The number and size of these gaps vary depending on the intensity of the fire due to drought, high winds, and other environmental and climatic factors (Hutchinson et al, 2005, Turner et al. 1997). Although timber harvesting cannot duplicate the randomness and chaotic nature of historic fires, it can mimic the effects by creating canopy gaps in the forest spatially and in periodicity. |
| PC 17e | BECAUSE OLD GROWTH FORESTS PROVIDE MORE DIVERSE HABITAT FOR A VARIETY OF SPECIES THAN EARLY SUCCESSIONAL FORESTS |
| Response: | We agree that old growth forests are important components of habitat diversity. These components will be provided by the nearly two-thirds of the Forest that is not in the suitable timber base. We believe that young or early successional forests will also provide diversity, particularly across the future Forest landscape that will primarily be old stands of trees. |
| PC 17f | BECAUSE THESE STATEMENTS TEND TO SADDLE PRIVATE FORESTRY WITH UNNECESSARY AND UNREALISTIC BURDENS AND RENDER SUSPECT PRIVATE PRACTICES THAT DO NOT MIRROR AGENCY ASSUMPTIONS |
| Response: | Private landowners practicing forest management do not have to meet the same laws, regulations, and policies as national forests do. Each landowner has the right to determine how their land should be managed. Forestry consultants working with private landowners are responsible for ensuring that land management practices desired by the landowner are acceptable forest treatments. |
| PC 20 | The Forest Service should not allow logging in any National Forest in order to protect recreational opportunities and wildlife. |
| Response: | We acknowledge your preference. A national forest prohibition on logging is beyond the scope and authority of this plan revision. However, timber harvest projects that are conducted on the Forest incorporate management requirements and mitigation measures to reduce impacts to recreational opportunities and wildlife. See also page 2-2 of the DEIS, and the No Logging/Commercial Harvest alternative that was considered but eliminated from detail study. See also response to PC 72. |
| PC 28 | The Forest should set the allowable sale quantity no higher than 30 million board feet, and allow minimal-to-no even-aged management. |
| Response: | We acknowledge your preference. We did not develop the EIS alternatives around a specific ASQ or harvest method, but rather developed desired conditions around the major need for change issues, and |

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| | <p>then modeled how the alternatives would best achieve those desired conditions to determine specific components of the alternatives like harvest methods and outputs. It is not clear what the desired conditions associated with a 30 million board foot cap and limited even-aged harvest are, though we might assume that the overall intent is to limit disturbance and impacts to other resources. However, to achieve 30 million board feet through uneven-aged management would likely result in a need to harvest more acres over more area on an annual basis than any of the alternatives analyzed in the DEIS. Uneven-aged management typically requires more harvest entries over a rotation period than even-aged management as well. Thus, even though impacts to certain resources, like aesthetics or water quantity, might be reduced under such an alternative, other impacts associated with road construction, soil and water disturbance, or wildlife disturbance could increase over the short and long term.</p> |
| PC 792 | The Forest should discontinue the logging practice that leaves trees visible from the road, but clear cuts the trees not visible from the road. |
| Response: | The Scenery Management System establishes aesthetic standards based on Scenic Integrity Objectives, Landscape Character, Concern Levels, Visibility and Scenic Classes. A variety of landscapes are emphasized based on the areas Recreational Opportunity Spectrum Setting and Management Prescription. Road corridors are typically considered more visually sensitive than areas away from roads in prescriptions that allow commercial harvest. However, under no scenario in the Forest Plan would all trees ever be cut away from the road. See Proposed Revised Plan, Chapter II, pages 31-32. |
| PC 732 | The Forest should recognize that science does not substantiate the claim that timber harvest benefits stream flows. |
| Response: | <p>While increased water yield due to timber harvesting is substantiated by science, and the increase is normally greatest during the growing season, the comment relating to the effects as a potential benefit is a value judgment. The DEIS has been edited to drop the reference to potential benefits.</p> <p>In addition to the public concern identified, the commenter also questioned the applicability of the literature that was cited in the DEIS (pg 3-73 to 3-74) because much of it was greater than 10 years old. The commenter suggested “Thinning for Increased Water Yield in the Sierra Nevada: Free Lunch or Pie in the Sky?” by Rhodes and Purser, 1998, as a more current piece of work. Although in many cases the literature cited is dated, we feel their findings are still relevant and applicable to our discussion. It is difficult to find literature that is site-specific and timely to a study area, so the best available information is utilized. Even in the case of the recommended literature, its applicability is questionable because it a) it focuses on thinning effects, b) the forests in the Sierra Nevada mountains are predominantly coniferous, not deciduous as we have here, and c) the hydrologic regimes in the Sierras are primarily snowmelt-dominated and not rain-dominated as they are on the Monongahela. Given these differences, the general conclusion of the paper is similar to many of the studies conducted in the deciduous forests of the Eastern U.S. That is, in order for timber harvest to have an appreciable effect on water yield, including base flows and peak flows, the de-vegetation would have to be at a scale and duration that is unlikely to occur on the National Forest due to effects to other resources and public concerns.</p> |
| PC 59 | The Forest should use selective cutting in its timber management to prevent environmental degradation. |
| Response: | Uneven-aged management (selective cutting) is allowed where appropriate. Minimal impact yarding methods such as helicopter and skyline cable are utilized in site-specific projects to minimize impacts to other resources. These decisions are made at the project level. The location of each project is analyzed by a team of interdisciplinary resource specialists. |
| PC 771 | The Forest should clarify the need to revise the suitable lands determination by explaining what the problem was with the previous suitable lands determination or the supply and demand estimations that they needed to be revisited and revised. |
| Response: | The NFMA 36 CFR 219.14(d) regulation requires lands determined not suitable for timber production to be reviewed every 10 years. Suitability involves not only the capability of the land to grow timber, but other factors, including land allocation. Land allocation and suitability assignments have changed since 1986 (see page 3-325, second paragraph, in the DEIS), and plan revision proposed four management alternatives that would also change Management Prescription distribution and suitability allocations. |
| PC 770 | The Forest should develop an alternative and prescriptions that allow only modest cutting over long rotations (200-300 years), using only individual tree selection. |

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| Response: | We have addressed this potential alternative in Chapter 2 of the FEIS, under Alternatives Considered but Eliminated from Detailed Study. |
| PC 769 | The Forest should conduct a thorough and detailed investigation of all timber theft allegations as a routine component of its timber sale program and report these findings to the public. |
| Response: | Timber theft investigations are beyond the scope of this plan revision. |
| PC 767 | The Forest should not allow lands currently in timbering categories to be placed in non-timbering categories: <ul style="list-style-type: none"> • Because timbering should be increased • Because mature timber should not be wasted • To provide tax revenue for local counties • To offset the lack of property tax paid by the Forest Service • To stimulate the local economy • To maintain forest health and provide food sources for wildlife. |
| Response: | We agree that timber management can have beneficial effects, including those you have noted. We do not necessarily agree that mature trees are wasted if they are not cut. They have many other values in the forest that are described in the DEIS. The preferred alternative (2) in the DEIS has a similar amount of land considered suitable for timber production as Alternative 1, which represents the 1986 Forest Plan as amended. The alternatives are somewhat different in the location of suited timberlands, though. Reasons for the discrepancies are indicated in the alternative descriptions in Chapter 2 of the EIS. |
| PC 588 | The Forest should encourage private investment through reliable actual timber sale offerings to help develop a vibrant wood-based economy in the communities dominated by federally owned land. |
| Response: | We feel that the Revised Forest Plan has sufficient vegetation management objectives to provide for sustainable timber production over time, and we are committed to implementing vegetation management in a sustainable manner throughout the planning period and beyond. |
| PC 39 | The Forest should acknowledge that recent surveys indicate that the public is in favor of protecting the Forest rather than logging it. |
| Response: | The results of the one Maryland environmental survey cited in the comments are not a surprise. Anytime the public is given the theoretical choice between protecting a Forest and logging it, they are likely going to choose protection, because the inferences are that logging provides no protection and the entire Forest is going to be logged. Our proposed action would only allow commercial timber harvest in certain portions of the Forest, and the management direction in the Forest Plan would provide adequate protection to Forest resources under any timber harvest proposal. |
| PC 190 | The Forest should harvest smaller areas of timber with more distance between them and with longer harvest rotations. |
| Response: | Such decisions are more appropriately made at the project level with silvicultural prescriptions that consider existing and desired conditions and site-specific concerns. See also response to PC 57b and PC 57d. |
| PC 461 | The Forest should continue to emphasize long timber rotations to protect old growth. |
| Response: | See the discussion in Chapter 3 of the DEIS on Minimum Dynamic Areas. See also responses to PC 661 and PC 190. |
| PC 151 | The Forest should acknowledge that there are more problems with continuing forestry on low percentage slopes rather than high percentage slopes. |
| Response: | Proper forest management based on sound scientific principles provides a variety of methods to implement projects on steep as well as gentle slopes. Designated skid trails with proper drainage on gentle slopes, along with the timing of operations, can alleviate many problems such as excessive soil compaction, reduced soil productivity, and rutting. Although it is technically possible for conventional equipment such as bulldozers to be utilized on steep slopes, it is not a recommended practice due to both resource damage and safety concerns. |
| PC 460 | The Forest should change the viability analysis of the DEIS to adequately reflect the potential impacts of changes to the forest interior species caused by logging. |
| Response: | Forest interior species with potential viability concerns were fully considered in the species viability |

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| | analysis. Analyses for individual species are contained in the project record and are available upon request. |
| PC 462 | The Forest should give first preference to timber companies who are local, small-scale, and guarantee that trees will not leave West Virginia until they have been turned into a value-added product. |
| Response: | Timber company preferences are beyond the scope of plan revision. See also response to PC 378. |
| PC 457 | The Forest should hold logging companies to a worst, then first standard, whereby they only cut trees past maturity and leave healthy trees. |
| Response: | The Forest Service generally marks the trees that timber contractors are supposed to cut or leave. Cut or leave trees are chosen as to how they will help achieve the desired vegetation conditions in the area. |
| PC 509 | The Forest should improve its system for providing timber harvest information and location maps to the public so the Forest can be better utilized. |
| Response: | Timber harvest mapping is beyond the scope of this forest plan revision. |
| PC 532 | The Forest should amend the FEIS to implement a precautionary approach that declares lands unsuitable for timbering unless it can ensure that damage to the lands will not occur. |
| Response: | We acknowledge your preference, but we already have the capability of declaring lands not suited for timber management at the project level if a site-specific analysis identifies the need. |
| PC 532a | BECAUSE TIMBER HARVEST SHOULD BE RESTRICTED ON SENSITIVE SOILS TO PREVENT NUTRIENT DEPLETION |
| Response: | See response to PC 99. |
| PC 532b | BECAUSE IT IS UNLIKELY THAT ADEQUATE MITIGATION EFFORTS WILL BE CARRIED OUT UNDER ALTERNATIVE 2 |
| Response: | We disagree with your opinion. Management requirements and mitigation measures must be adhered to in project implementation regardless of what plan alternative is chosen to be implemented. |
| PC 536 | The Forest should make an effort to achieve allowable sale quantities: <ul style="list-style-type: none"> • Because recent trends indicate that timber harvests are falling well short of allowable sale quantities • Because the reluctance to harvest timber creates problems for achieving wildlife objectives • Because timber harvesting is an important part of the local economy • To provide tax revenue for local counties • To improve forest health. |
| Response: | We agree that recent annual timber production has fallen well short of the Forest's Annual Sale Quantity (ASQ), and that this shortfall affects wildlife habitat objectives and county revenues as well. It is important to remember, though, that ASQ is a maximum amount of timber volume that we do not intend to exceed, as opposed to a target level of production. Theoretically, the closer we move toward the ASQ, the faster we would be able to achieve our vegetation and habitat diversity desired conditions. However, the actual rate of production we achieve will be dependent on many factors that are disclosed in the Timber Supply and Social and Economic Environment sections in Chapter 3 of the EIS. |
| PC 377 | The Forest should explain how it intends to achieve the allowable number of timber sales it proposes in Alternative 2, because the projected harvest can only be achieved if the appropriate amount of resources is provided. |
| Response: | We have an allowable sale quantity, but that figure refers to timber volume rather than the number of sales we implement. We agree that the ASQ would only be achieved if the appropriate amount of resources (funding, staff, equipment, etc.) is provided. With present funding, staffing, restrictions, etc. we feel that an annual objective of 15 to 25 MMBF is likely attainable. See also responses to PC 379 and PC 536. |
| PC 166 | The Forest should reevaluate its timber harvest purposes to include public input and discussion. |
| Response: | We have had similar vegetation management purposes and rationale since the beginning of Forest Plan revision, nearly four years ago. During the interim, we have given the public multiple opportunities to comment on these purposes and their associated timber harvest levels, and they have responded impressively, as evidenced by the comments seen in this Public Involvement Appendix. |
| PC 162 | The Forest should acknowledge that private logging lands can meet most of our timber needs because: |

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| | <ul style="list-style-type: none"> • This will benefit wildlife • This will protect recreational opportunities • This will benefit downstream communities. |
| Response: | Much of the harvesting on private land in West Virginia is completed using the diameter limit method. This harvest method leaves smaller diameter stems of the older age class on site in trees that are of similar age to the ones removed, but usually in the intermediate or suppressed crown classes. The diameter limit harvest method is not considered to be an even-aged regeneration harvest method. In addition, private land ownership is becoming more fragmented (USDA Forest Service General Technical Report SRS-53, 2002; Clutter et al. 2005). Larger parcels of land are divided into smaller parcels, often for housing or other development. Although most of these smaller parcels remain forested, many small land owners are not willing to manage their land for timber. Parcels smaller than 15 acres are not economical to manage for timber. The result of ownership fragmentation is less private land available to meet timber needs. See also response to PC 112. |
| PC 135 | The Forest should educate owners of private timberlands how to harvest their lands effectively to alleviate the economic pressures driving the harvesting our national forests. |
| Response: | See responses to PC 162 and PC 329. |
| PC 194 | The Forest should conduct timber harvesting primarily to provide a successional forest for wildlife food and habitat, because there is plenty of timber to harvest on private land. |
| Response: | As noted in the many places in the DEIS and the Proposed Revised Plan, early successional habitat is closely tied to timber harvesting. See also responses to PC 162 and PC 376b. |
| PC 196 | The Forest should enforce a sustained program for commercial timber harvest to protect timber harvesting jobs and revenue in Pendleton County, including sustaining its commercial timber sales at the rate of at least 20 million board feet per year. |
| Response: | It is a goal and desired condition of the Forest Plan to harvest a sustainable supply of timber. Although we have not harvested 20 million board feet for many years, we hope to return to that level in the near future. |
| PC 779 | The Forest should let the sale area determine the type of logging allowed because: <ul style="list-style-type: none"> • There may be instances where logging in stream buffers is appropriate • Requiring a certain percentage of logging be done by helicopter puts the plan in a box that requires the sale areas to fit a certain logging method. |
| Response: | Site-specific project planning and analysis determines where and how logging occurs on the Forest. The stream channel management corridor direction allows for tree cutting if it is needed to benefit riparian resources. The plan does not require a certain percentage of logging to use helicopter yarding. However, for our analysis we assumed that helicopter yarding would be used for a certain percentage of harvesting based on recent experience and future resource protection needs. |
| PC 157 | The Forest should implement timber harvesting in a way that retains as much protection for the vegetation on the Forest's steep slopes as possible and gives first consideration to human lives and private property, because clear cutting on steep slopes can reduce vegetation needed for ground absorption. |
| Response: | Slope limitations are set for operator safety and resource protection concerns, mechanized equipment limitations, and due to the higher soil risks associated with steep slopes, like erosion potential. Although landslides are not a common occurrence on the Forest, they do occur. When a large landslide occurs in an area of management, or in an area where a risk to human safety or facilities exists, the cost of repair and maintenance can be very large. Therefore, avoiding potential landslides is often the best course of action. Providing standards and guidelines that require site-specific review of these areas prior to management is a valuable tool the Forest can use to reduce the risks to Forest resources and operator safety. Considering alternative methods of harvesting can also have a beneficial effect to further protecting the soil resource. Helicopter and skyline cable logging, for example, disturb very little of the forest floor. Vegetative growth responses to harvesting occur rapidly especially in even-aged openings due to the readily available amount of light on the forest floor. This new vegetation acts to take up moisture rapidly as competition amongst the new growth thrives. We also consider the soil type and geology of the unit selected for harvest at the project scale. At this scale, recommendations for harvest methods, silviculture prescriptions, and mitigations are discussed before the project is implemented. See also response to PC 637. |

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| PC 421 | The Forest should acknowledge that over half of the Forest is not suitable for timber management by conventional means because much of the lands are highly vulnerable to erosion, resulting in water degradation. |
| Response: | We have identified and examined areas within the Forest that have soils, slopes, and watershed conditions that are susceptible to serious or irreversible damage. We have utilized many tools including a soil sensitivity map that looks at soil interpretations for such concerns as hydric soils, flood plains, karst topography, mass wasting, prime farmland, steep slopes, erosion hazards and soils with seasonal water tables. This information is and will be used at the project level to determine risk and potential effects, and to help prioritize locations within a project area that need to be ground-truthed or surveyed to greater detail. |
| PC 553 | The Forest should clarify whether or not it will be harvesting timber within the Indiana bat's primary range. |
| Response: | Timber harvesting to improve or maintain Indiana bat habitat is allowed in primary range (see Forest-wide direction TE27 and TE29 in the Proposed Revised Plan). Because the primary reason for such harvesting is management of bat habitat rather than meeting timber harvest objectives, and harvest levels are projected to be low, primary range is not included in the suitable timber base. |
| PC 550 | The Forest should acknowledge that there is no evidence that cutting trees within ephemeral and intermediate drains has adverse effects. |
| Response: | Ephemeral and intermittent streams play an important role in drainage networks and provide habitat for a range of aquatic and terrestrial organisms. They also play an important role in storing sediment, organic matter and moisture that influence the quality of perennial habitat downstream. The role and function of ephemeral and intermittent channels can be affected by land management activities that remove trees along the channel (reducing the amount of organic inputs and structure along the channel), or physically disturbing the channel morphology. The number of studies that address ephemeral and intermittent streams is increasing and improving our understanding of the characteristics and importance these small, headwater areas. |
| PC 504 | The Forest should provide information on what the planned or existing markets are for the timber harvested on the Forest and where the finished products will go at the end of the marketing process. |
| Response: | Timber markets were assessed for the 1986 Plan, and this assessment was revisited and updated in the Analysis of the Management Situation for plan revision. Ultimately, because timber is bought on the open market, it is difficult to predict who will buy it, how they will use it, and where it will end up. However, Table TR-6 on page 3-327 of the DEIS provides a recent snapshot of wood products that are being manufactured in the 10-county area around the Forest. |
| Harvest Methods | |
| PC 364 | The Forest should abandon helicopter logging unless it can be shown to lower costs. |
| Response: | Helicopter logging is a valuable tool to manage land that is inaccessible by road, is too steep for ground equipment, has soils that should not be exposed or disturbed, etc. We are well aware of the higher operating costs associated with helicopters, and therefore we intend to use them judiciously. |
| PC 368 | The Forest should use horses instead of bulldozers for logging operations. |
| Response: | The Revised Forest Plan would allow the use of horses to yard timber. However, horse logging, if not planned properly, can cause more damage than conventional logging equipment. A well-designed and administered timber sale can avoid or limit most negative impacts, regardless of yarding methods. |
| PC 62 | The Forest should require the Allegheny Wood Products Company to use helicopter removal rather than using the Blackwater Trail for timber removal. |
| Response: | The Allegheny Wood Products Easement in Blackwater Canyon is beyond the scope of Forest Plan revision. There is a separate and current Environmental Impact Statement that is addressing this site-specific easement request on the Forest. |
| PC 57 | The Forest should not enlarge the allowable size of clearcuts from 25 to 40 acres: |
| | <ul style="list-style-type: none"> • To protect the water resources • To protect habitat • To prevent flooding • To protect the forest experience of both humans and animals. |
| Response: | Although the 1986 MNF Forest Plan allowed for a maximum 25 acre regeneration harvests, the average |

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| | size over the past 20 years has been less than 15 acres. Increasing the maximum size to 40 acres does not mean that all or any regeneration harvest units will be the maximum size. Site-specific project analysis by an interdisciplinary team of specialists will determine the type and size of harvest units. The 40-acre maximum size limit does, however, make Forest management direction more consistent with national direction and give us more flexibility to address ecological concerns. Increasing the allowable size of even-aged harvest units does not increase the total amount of harvesting in a given project area; it merely concentrates the harvesting in fewer, larger units. This concentration reduces fragmentation of the remaining forest habitat, compared to more numerous smaller units, and would not result in fewer acres of forest for the enjoyment of recreationists. See also responses to PC 76, PC 106, and PC 637. |
| PC 362 | The Forest should enlarge the size of allowable clearcuts because clearcutting sites of up to 40 acres is considered sound practice for the region. |
| Response: | We are returning to the regional and national standard for regeneration harvest unit size for consistency and flexibility in management. |
| PC 380 | The Forest should provide enough resources to actively and responsibly oversee timber sales to: <ul style="list-style-type: none"> • Prepare and offer quality hardwoods to the economy of the area • Promote age-class diversity |
| Response: | Trained and experienced Certified Timber Sale Administrators supervise all timber sale harvesting activities on the Forest. |
| PC 278 | The Forest should adequately supervise clearcutting activities. |
| Response: | See response to PC 380. |
| PC 811 | The Forest should manage the entire forest for uneven-age harvest because age diversity is important to the Forest's health. |
| Response: | We believe that a diverse forest like the Monongahela should be managed with a diverse set of tools. Utilizing only the uneven-aged silvicultural system, irrespective of site-specific conditions, would decrease our ability to meet diverse goals and objectives. Also, on the large portions of the Forest where little to no active management will occur, natural processes will likely create uneven-aged forests over time (see Vegetation Management section in Chapter 3 of the EIS). |
| PC 169 | The Forest should limit the amount of clearcutting. |
| Response: | Although clearcutting is regarded as a legitimate silvicultural tool, the Forest does not really use this harvest method in the way that many commenters evidently believe or have been told. First, clearcutting is the removal of all tree vegetation from a specified site, which we rarely if ever do anymore. The Forest does use clearcuts with reserve trees, where some trees are left on the site for wildlife habitat or other ecological purposes. Second, we do not use clearcuts with reserve trees very often, as most of the even-aged management on the Forest is some combination of two-aged, shelterwood, or commercial thinning harvests. Third, when we do use clearcuts with reserve trees, they must be identified as the optimal harvest method for achieving silvicultural objectives. Thus, the use of clearcutting on the Forest has been limited. Although we plan to do more regeneration harvest in the future, it remains to be analyzed and determined at the project level how much of that harvesting will be clearcuts with reserve trees. See also responses to PC 43, 637, 163, and 466. |
| PC 169a | INCLUDING AVOIDING AN INCREASE IN THE MAXIMUM SIZE OF CLEARCUTS |
| Response: | See response to PC 57. |
| PC 169b | TO PROTECT HABITAT |
| Response: | See response to PC 37c. |
| PC 169c | INCLUDING PROHIBITING IT ON LAND NEXT TO STREAMS |
| Response: | The Revised Forest Plan has restrictions on programmed timber harvest within stream channel buffer areas. See Standards SW34 and SW37 on page II-II of the Proposed Revised Forest Plan. |
| PC 169d | TO PROTECT MACRO-INVERTEBRATES |
| Response: | Although some effects to macro-invertebrates may occur when stands and their soils are opened up to full sunlight conditions, we expect those effects to be mitigated to some extent, even in clearcuts, by shade from reserve trees, slash piles, and understory vegetation. Effects would be relatively short term, as regenerated trees typically establish a greater than 50% canopy by 5 years after harvest, and full canopy within 10 to 12 years. |
| PC 169e | TO PROTECT FISH AND WILDLIFE |

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| Response: | See response to PC 37c. |
| PC 169f | TO PROTECT SCENIC RESOURCES |
| Response: | See the Scenic Environment section in Chapter 3 of the EIS. See also response to PC 11f. |
| PC 169g | TO PROTECT WATER RESOURCES |
| Response: | See the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS. |
| PC 169h | TO PREVENT FLOODING |
| Response: | See the discussion of flooding effects in the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS. See also responses to PC 52, PC 106, PC 23, and PC 833. |
| PC 169i | TO PREVENT NON-NATIVE INVASIVE SPECIES |
| Response: | The Revised Forest Plan contains direction to address the establishment and spread on non-native invasive species, something that the 1986 Plan generally lacked. Potential effects from these species are disclosed in Chapter 3 of the EIS. See also response to PC 280. |
| PC 169j | TO PROTECT SOIL NUTRIENTS |
| Response: | See the Soil Resource section in Chapter 3 of the EIS. See also responses to PC 470 and PC 832. |
| PC 169k | TO PREVENT DISRUPTION OF THE HYDROLOGIC CYCLE |
| Response: | See the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS. See also responses to PC 52, PC 106, PC 23, and PC 833. Timber harvest does not actually disrupt the hydrologic cycle, but it can change the amount of water that is absorbed and released within a given watershed. This amount is not likely to be measurable, given the relatively low amount of even-aged harvest we are proposing in any given year. |
| PC 169l | BECAUSE SELECTIVE CUTTING PROVIDES MORE VALUE |
| Response: | Selective cutting has often led to the high-grading of timber in the past, with loss of future value. This practice has changed on NFS lands, although high-value trees are still included to help fund operations and achieve overall management objectives. Also, a number of high-value species, such as black cherry and red oak, need more open conditions to successfully germinate and grow. |
| PC 169m | BECAUSE IT WOULD MAKE IT DIFFICULT FOR OAK TO GROW BACK |
| Response: | Most oak species favor the open sunlit conditions provided by even-aged harvests to germinate and grow competitively into the canopy. |
| PC 56 | The Forest should discontinue the use of clearcutting. |
| Response: | We utilize a number of regeneration harvest methods other than clearcutting, which may only be used when it is the optimum silvicultural method (see Appendix A to the Revised Forest Plan). See also responses to PC 43, PC 132, PC 163, PC 169, PC 466, PC 637, and PC 811. |
| PC 56a | BECAUSE IT IS NO LONGER HYDROLOGICALLY OR VISUALLY ACCEPTABLE |
| Response: | See the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS for potential hydrologic effects. See also responses to PC 52, PC 106, PC 23, and PC 833. See the Scenic Environment section in Chapter 3 of the EIS for potential effects on Forest scenery. See also response to PC 11f. |
| PC 56b | BECAUSE IT TENDS TO ISOLATE AND CREATE BARRIERS |
| Response: | See responses to PC 637a, PC 57, and PC 530. |
| PC 56c | TO PROTECT THE WATERSHEDS, SOIL, STREAMS, FISH, WILDLIFE, AND HABITAT |
| Response: | See various analyses in Chapter 3 of the EIS, including sections for Soil Resource, Water, Riparian, and Aquatic Resources, Terrestrial Ecosystem Diversity, Terrestrial Species Viability, Management Indicator Species and Other Species of Interest, and Threatened and Endangered Species. See also management direction for these resources in Chapters II and III of the Revised Forest Plan. |
| PC 56d | TO PROTECT RECREATIONAL OPPORTUNITIES AND TOURISM REVENUES |
| Response: | See responses to PC 18s, PC 50, PC 827, PC 994b, and PC 66f. |
| PC 56e | TO PREVENT EROSION AND FLOODING |
| Response: | See the analysis of erosion effects in the Soil Resource section, and the discussion of flooding effects in the Water, Riparian, and Aquatic Resources section in Chapter 3 of the EIS. See also responses to PC 52, PC 106, PC 23, and PC 833. |
| PC 56f | TO PROTECT HARD MAST |
| Response: | Although hard mast trees may be removed during harvest, most hard mast-producing tree species do not tolerate shade and cannot be regenerated effectively without removal of the tree canopy. |

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| PC 56g | TO PROTECT THE FOREST FROM BRUSH FIRES |
| Response: | Although clearcutting with reserve trees can create extensive brush from the limbs and tops that are left behind in harvest units, those units can be treated if fuel loading and ignition are concerns. They have not typically been major concerns in the past due to the abundant moisture this Forest receives and the wet fuel conditions that moisture creates. Analysis and decisions to treat activity-created fuels would occur at the project level based on site-specific conditions and management objectives. |
| PC 56h | TO MAXIMIZE FOREST CANOPY |
| Response: | We believe that much of the Forest will have a closed canopy over the long term, but that we can provide more diversity in vegetative and habitat conditions by opening up the canopy in selected areas over time. See the Vegetation Management section in Chapter 3 of the EIS. |
| PC 56i | BECAUSE SELECTIVE CUTTING IS ECONOMICALLY AND ENVIRONMENTALLY SUPERIOR |
| Response: | We believe that selective cutting can help meet environmental and social needs in selected areas of the Forest; however, we doubt that selective cutting would be the economically superior system to use in most management scenarios. |
| PC 56j | BECAUSE IT LEAVES SURROUNDING TREES OPEN TO PESTS AND DISEASES |
| Response: | We have not seen any convincing literature that shows that one type of harvest method predisposes adjacent stands to insects and disease infestation more than others. However, because certain insects or diseases target trees of a certain age or size, we have seen even-aged harvest used to reduce the risk of insect or disease transmission by creating a mosaic of tree stand ages and sizes throughout an area. |
| PC 56k | BECAUSE IT DAMAGES SCENIC RESOURCES |
| Response: | See the Scenic Environment section in Chapter 3 of the EIS. See also response to PC 11f. |
| PC 56l | BECAUSE TREES SHOULD NOT BE CLEAR CUT JUST BECAUSE DEER ARE BROWSING ON THEM |
| Response: | We typically do not harvest trees that are being damaged by deer browsing because of their small size. |
| PC 56m | TO PREVENT INVASIVE SPECIES |
| Response: | The Revised Forest Plan contains direction to address the establishment and spread on non-native invasive species, something that the 1986 Plan generally lacked. Potential effects from these species are disclosed in Chapter 3 of the EIS. See also response to PC 280. |
| PC 58 | The Forest should enforce a minimum distance between areas of clearcutting. |
| Response: | Standard TR19 on page II-37 of the Proposed Revised Plan requires a distance of at least 1/8 mile between regeneration harvest units. We have dropped the 1/8 mile requirement in the Final Revised Plan but have left the stipulation that units must be separated by a manageable stand. A manageable stand is typically considered to be at least 10 acres, which means that the width of the stand could be somewhat less or quite a bit more than 1/8 mile. However, we felt that not all manageable stands would need to be at least 1/8 mile in width, depending on variables such as the configuration of the harvest units and terrain features. Enforcement is applied through project design and administration. |
| PC 43 | The Forest should allow clearcutting only in poor soil and low timber quality. |
| Response: | The clearcut with reserve tree harvest method can be a valuable resource management tool. However, this method is only used by the Forest when an interdisciplinary team of specialists have determined, through site-specific analysis, that this is the optimum method for achieving silvicultural objectives. Silvicultural objectives may consider soil and timber quality, but are not usually driven by them. |
| PC 637 | The Forest should consider the adverse effects of clearcuts and roads. |
| Response: | We considered the effects of roads and timber harvest, including clearcutting with reserve trees, in various resource sections in Chapter 3 of the EIS. Clearcutting with reserve trees is used only when it is determined to be the optimum harvest method to achieve the desired conditions. |
| PC 637a | INCLUDING FRAGMENTATION OF WILDLIFE HABITAT |
| Response: | Contemporary research indicates that normal forest management, including clearcutting, does not cause serious fragmentation problems in landscapes that are at least 70-80 percent forested. The Monongahela currently is over 90 percent forested, and is expected to remain overwhelmingly dominated by forest cover under any plan alternative. Still, all alternatives would guard against any unexpected fragmentation effects by allocating a substantial portion of the Forest to large core reserves that would be dominated by natural processes (see also responses to PC 530 and PC 690). |

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| PC 637b | INCLUDING DECREASING THE ABILITY OF THE LAND TO RECHARGE GROUNDWATER |
| Response: | Even-aged harvests, including clearcuts with reserve trees, can actually increase the ability of the land to recharge groundwater because less precipitation is intercepted by the forest canopy, less soil water is lost through transpiration, and more precipitation is allowed to soak into the forest floor organic material and soil. |
| PC 637c | INCLUDING FLOODING |
| Response: | Recent research indicates that clearcutting does not elicit measurable watershed hydrologic changes unless over 25% of the basal area in a watershed is removed in a short period of time (Hornbeck and Kochenderfer 2000). These changes may or may not lead to an increase in the risk of flooding. We are also required to analyze and disclose the potential effects of all major timber harvest projects to the public under the NEPA process, so we will be well aware if we are approaching a level of concern for hydrologic change on a project-by-project basis. |
| PC 163 | The Forest should complete an analysis of clearcutting that considers all anticipated effects and use the best information available. |
| Response: | The clearcut harvest method has been studied for over 40 years. We have used professional experience in our analysis, and we have considered numerous research articles, including Dale et al. 1994, Boughton 1990, LaFarge 1990, Shearer 1990, Loftis 1988, Wang et al. 1993, Beck 1988 and others cited in the Reference section of the EIS. Also see response to PC 637. |
| PC 163a | INCLUDING ANALYSIS OF THE EFFECTS ON SUBTERRANEAN DYNAMICS |
| Response: | The EIS analysis of various vegetation management activities and methods focuses on specific issues and concerns identified during public and internal scoping, such as effects to scenery, water quality and quantity, fish and wildlife habitat, recreation opportunities, and species viability. Subterranean dynamics was not determined to be an issue or a concern, the commenter did not cite any research or analysis on subterranean dynamics that we should have considered, and the NFMA and NEPA do not require an EIS to be encyclopedic research document. |
| PC 163b | INCLUDING TO WHAT DEGREE CLEARCUTTING AND ITS VARIANTS PRODUCE FORESTS THAT ARE OVERCROWDED AND VULNERABLE TO FOREST FIRES |
| Response: | Generally, the clearcut harvest method does not increase the vulnerability of the eastern hardwood forest to forest fires. Overcrowded forests, regardless of how they came to that condition, may be thinned precommercially and commercially, to reduce fuel loading. |
| PC 163c | INCLUDING TO WHAT DEGREE CLEARCUTTING AND ITS VARIANTS PRODUCE MAPLE, TREE OF HEAVEN, AND OTHER LESS DESIRABLE TREES |
| Response: | Maple trees can be found on the majority of forested acres, and the tree of heaven has been found sporadically but is not inhibiting the regeneration of other tree species on the Forest at this time. Native maple tree species growing on the Forest are considered to be tolerant of shade but will also grow in even-aged regeneration harvest units. |
| PC 163d | INCLUDING TO WHAT DEGREE CLEARCUTTING AND ITS VARIANTS PRODUCE ILL-FORMED OR UNMERCHANTABLE TREES |
| Response: | The trees growing on the Forest today are mostly the result of clearcutting that occurred from 1880 through 1930, and timber stand improvement practices implemented by the Forest in more recent years. The quality of trees growing on Monongahela Forest lands is higher than those growing on private land – 34% of sawlog volume on the Forest is Grade 1 compared to 21% on other forested lands in WV (USDA Forest Service Resource Bulletin NE-161). |
| PC 465 | The Forest should recognize that clearcuts, when performed responsibly, are a valuable management tool. |
| Response: | We agree. However, this method is only used by the Forest when an interdisciplinary team of specialists have determined, through site-specific analysis, that this is the optimum method for achieving silvicultural objectives. |
| PC 607 | The Forest should consider the problems with helicopter logging, including: |
| | <ul style="list-style-type: none"> • Its inconsistency with the goal of promoting sustainable timber management • Its high cost, which limits silviculture options • The inability to gain access to the harvest area, which greatly limits the ability to do wildlife, recreation, or timber management activities. |
| Response: | Helicopter logging is a valuable tool for Forest managers and is typically used when we need to access |

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| | areas that are otherwise inaccessible or to protect other resources that would suffer significant adverse impacts if another logging method was used. Generally, helicopter logging costs about twice as much as conventional logging. Where access is difficult and road construction is expensive, the costs may not be much higher than conventional logging. Helicopter logging is utilized by several forest industry companies in the eastern United States but usually only when other less costly options are not possible or resource damage would be unacceptable with conventional methods. We agree that post-harvest silvicultural treatments are more expensive in areas logged by helicopter due to lack of road access. We must consider these additional costs and/or loss of opportunities to provide recreation or wildlife habitat improvements when planning and analyzing the use of the helicopter logging. |
| PC 351 | The Forest should reduce the potential helicopter harvest areas by at least 50 percent because it is too expensive and resources could be better used elsewhere. |
| Response: | See response to PC 607. |
| PC 466 | The Forest should only allow clearcutting to be permitted where appropriate. |
| Response: | National forests may only use clearcutting where it is the optimum method to achieve the desired results. |

| MINERAL AND ENERGY RESOURCES | |
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| PC 381 | The Forest should make natural gas reserves available where it is environmentally suitable to do so. |
| Response: | <p>Under the Proposed Revised Forest Plan, 439,000 acres or 77%, of the federally owned natural gas is considered available for exploration, development and production. Although gas operations may be prohibited or timing restrictions may dictate when certain operation may occur in small areas within these 439,000 acres, exploration and development is not expected to be precluded (DEIS, pages 3-356 through 3-357).</p> <p>The Proposed Revised Plan updates and incorporates direction from the 1992 Forest Plan Amendment 4 on Oil and Gas Leasing and Development. Amendment 4 identified federally owned oil and gas available for lease, the lease conditions needed to protect resources, and standards and guidelines for the development of federally owned natural gas. This direction was based on an environmental analysis of the effects of reasonably foreseeable natural gas development.</p> |
| PC 199 | The Forest should allow mineral exploration and development in areas such as campgrounds, administrative sites, and other areas dedicated to some recreational activities, because these areas are already greatly disturbed and they could be returned to administrative sites and campgrounds after exploration and development are completed. |
| Response: | <p>The Revised Forest Plan does allow for some forms of mineral exploration and development in campgrounds, administrative sites, or other areas dedicated to recreational activities (Proposed Revised Plan, page II-41 through II-42, Standards MG07, MG09, MG19). For example, seismic prospecting may be allowed within these areas if a project-specific environmental analysis found that the type and/or timing of the seismic operation would not adversely affect recreation use. Also, in cases where private mineral rights exist beneath campgrounds, administrative sites or other recreation areas, mineral exploration and development may occur.</p> <p>The Proposed Revised Plan updates and incorporates direction from the 1992 Forest Plan Amendment 4 on Oil and Gas Leasing and Development. Amendment 4 identified federally owned oil and gas available for lease, the lease conditions needed to protect forest resources, and standards and guidelines for the development of federally owned natural gas. This direction was based on an environmental analysis (EA) of the effects of reasonably foreseeable natural gas development on forest resources, including recreation resource values. Standards that were developed to protect recreation resource values and administrative sites from effects of federal gas leasing and development are found in the Proposed Revised Plan, page II-43 (MG29-MG33, MG37, MG38, MG39). A description of the effects controlled by the standards is disclosed in the EA, pages 3-18 through 3-23.</p> |
| PC 777 | The Forest should examine the effects of mineral and oil and gas development, including impacts on surface and water resources, and the cumulative effects of mountaintop removal and other |

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| | surface mining near the Forest. |
| Response: | <p>The DEIS analyzes and discloses the effects of mineral and natural gas development (there is only a low probability for oil as stated on page 3-348) on Forest resources that such development may affect, including Soils (pages 3-36, 3-50), Watershed, Riparian and Aquatic Resources (pages 3-75, 3-80, 3-89 through 3-92), Terrestrial Ecosystem Diversity (pages 3-117, 3-118, 3-156, 3-158, 3-160), Terrestrial Species Viability (pages 3-190, 3-191), Terrestrial MIS and Other Species of Interest (pages 3-203, 3-204, 3-220 through 3-222), Threatened and Endangered Species (pages 3-238, 3-240, 3-242, 3-245, 3-249, 3-259 through 3-266), Non-Native, Invasive Plant Species (pages 3-271, 3-277, 3-278), Recreation and Wilderness (pages 3-377, 3-387 through 3-390), Scenic Environment (pages 3-400, 3-401, 3-408, 3-409), Road Transportation System (pages 3-419, 3-420, 3-423 through 3-426), and Social and Economic Environment (pages 3-457 through 3-462).</p> <p>In addition, the Forest Service analyzed the effects of natural gas leasing and development in the Environmental Assessment of Oil and Gas Leasing and Development, Monongahela National Forest (USDA Forest Service 1991). The Proposed Forest Plan updates and incorporates direction from the 1992 Forest Plan Amendment 4 on Oil and Gas Leasing and Development. Amendment 4 identified federally owned oil and gas available for lease, the lease conditions needed to protect forest resources, and standards and guidelines for the development of federally owned natural gas. This direction was based on an environmental analysis of the effects of reasonably foreseeable natural gas development on Forest resources. The effects of gas development are also disclosed in the Environmental Assessment of Oil and Gas Leasing and Development (USDA Forest Service 1991, (EA, pages 3-1 through 3-74).</p> <p>We are unaware of any mountain top removal that is occurring or proposed near the Forest or within the proclamation boundary. Forest Plan revision would have no influence or cumulative effects on this type of activity if it were to occur on private lands, and it is highly unlikely to occur on federal lands. Private mountain top removal near the Forest could have cumulative impacts on scenery, water quality, and other resources, but we have no indication that is a reasonably foreseeable activity at this time.</p> |
| PC 778 | The Forest should not lease forest land to mining or wind turbines because they are noisy and they would affect wilderness experiences. |
| Response: | Federal leasing of minerals has been withdrawn in the Forest Wilderness areas. See also responses to PC 790, PC 97, and PC 179. |
| PC 254 | The Forest should prohibit mineral extraction, oil and gas exploration and drilling, off-road vehicles, and all logging not required for public safety. |
| Response: | Mineral extraction, oil and gas operations, and timber harvest are all legally sanctioned and Congressionally funded uses of NFS lands. Off-road vehicle use is allowed only on designated routes in the 1986 and Revised Forest Plans. However, there currently are no designated routes, so the Forest is effectively closed to off-road vehicles at present. |
| PC 179 | The Forest should not allow oil and gas production on the Forest. A) To prevent road building B) To prevent openings C) To prevent air and water pollution D) Because the amount of oil obtained would be inconsequential E) Because the Forest is more valuable for its natural habitat |
| Response: | Oil and gas production is a legally sanctioned use of NFS lands. We have no authority to prohibit this activity for privately owned mineral rights. We do have the authority to limit federal mineral leasing in certain specified areas, and the capability to use management requirements and mitigation measures to reduce the impacts of these activities on other Forest resources. See Forest-wide and Management Prescription direction for Minerals in Chapters II and III of the Revised Forest Plan. |
| PC 426 | The Forest should not sell Forest land to mining companies because it may compromise the integrity of the forest. |
| Response: | We have not sold National Forest System lands to mining companies in the past, nor do we have any plans to do so in the future. We do have federal leases for gas exploration and development on the Forest, though very few are currently active. More information on leasing can be found in the Mineral Resources section in Chapter 3 of the EIS. |
| PC 783 | The Forest should improve the minerals analysis in its Wilderness Evaluation. |

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| PC 783a | BECAUSE IT IS NOT COMPLETE ENOUGH TO MAKE DECISIONS AS TO WHETHER MINERAL-RELATED ISSUES ARE SIGNIFICANT IN DETERMINING WILDERNESS POTENTIAL |
| Response: | The minerals assessment completed for the wilderness evaluations is based on the most current information available to the Forest. The minerals assessment recognized and incorporated current knowledge and the many uncertainties surrounding the presence of and potential for development of mineral resources within the Forest. These uncertainties, mineral ownership, and the existing federal lease situation framed the minerals assessment for evaluated areas. These uncertainties also complicate the prediction of whether federal leases or private mineral rights might be explored or developed. |
| PC 783b | TO DESCRIBE THE MINERAL RESOURCES AND CURRENT STATE OF DEVELOPMENT WITHIN THE LARGER REGION TO PROVIDE A CONTEXT FOR FOREST MINERAL RESOURCES |
| Response: | The regional and Forest context for mineral resource potential is disclosed in the DEIS, Pages 3-347 through 3-352. We did not see the need to repeat this information for every evaluated area in Appendix C to the DEIS. |
| PC 783c | TO DISCLOSE WHAT THE LEASE LENGTH AND EXPIRATION DATE FOR EACH FEDERAL LEASE IS ON LANDS WHERE BOTH THE SURFACE AND SUBSURFACE ARE FEDERALLY OWNED |
| Response: | An existing federal lease with no active operations will expire at the end of the lease term. However, at any time during the lease term, the lessee could exercise their rights to develop the lease. For as long as production is possible from the lease, the lease does not expire. Therefore, it is not possible to give a definite length and expiration date to each of the federal leases. |
| PC 783d | TO DISCLOSE THE STIPULATIONS, IF ANY, RELATED TO SURFACE OCCUPANCY OF THESE LANDS |
| Response: | Where federal leases exist and a no surface occupancy stipulation applies, the information was disclosed (DEIS, Appendix C, C-67, C-95). Also, all Inventoried Roadless Areas evaluated in Appendix C have either a 6.2 or 5.1 Management Prescription under the preferred alternative. These prescriptions have a no surface occupancy stipulation for any new federally leased minerals (see Proposed Revised Plan, page III-29, Standard 5133, and page III-44, Standard 6228). |
| PC 783e | TO DISCLOSE WHETHER THERE ARE ANY CONGRESSIONALLY DESIGNATED WILDERNESS AREAS ON THE FOREST THAT HAVE CURRENT FEDERAL LEASES ON ANY OR ALL ACRES, AND IF SO, WHEN THOSE LEASES EXPIRE |
| Response: | The presence of mineral resources and status of mineral rights in the existing Congressionally designated Wilderness have no bearing on the mineral assessment for current wilderness evaluations. |
| PC 783f | TO DISCLOSE WHAT HAS HAPPENED WHEN A FEDERAL LEASE HAS EXPIRED IN A WILDERNESS OR POTENTIAL WILDERNESS AREA |
| Response: | We have not had any federal leases expire in designated wilderness or areas recommended for wilderness study. |
| PC 783g | TO DISCLOSE WHAT PERCENTAGE OF EACH OF THE AREAS IS UNDER FEDERAL LEASE |
| Response: | The information needed to calculate the percentage of the area under federal lease is shown in the evaluation for each of the areas. |
| PC 783h | TO DISCLOSE WHETHER THERE ARE CURRENTLY ANY WILDERNESS AREAS WITH PRIVATE SUBSURFACE MINERAL OWNERSHIP ON THE FOREST |
| Response: | The presence of mineral resources and status of mineral rights in the Forest's existing Congressionally designated Wilderness has no bearing on the mineral assessment for present wilderness evaluations. |
| PC 783i | TO DISCLOSE HOW OFTEN SURFACE OCCUPANCY HAS BEEN REQUESTED AND HOW THE FOREST SERVICE DEALT WITH THESE REQUESTS |
| Response: | The uncertainties associated with federal mineral leasing make looking at historical requests for or incidences of surface occupancy in areas evaluated for wilderness an unreliable way of predicting where surface occupancy in these areas may be requested in the future. |
| PC 783j | TO DISCLOSE WHETHER THE FOREST SERVICE HAS BEEN OFFERED THE PURCHASE OF PRIVATELY OWNED SUBSURFACE RIGHTS |
| Response: | An offer to sell mineral rights to the United States is not relevant to whether a private mineral right may be developed in an evaluated area because Congress would have to authorize and fund the mineral |

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| | acquisition before one could conclude that the private mineral rights would not be developed. |
| PC 783k | TO DISCLOSE WHAT PERCENTAGE OF EACH AREA HAS BOTH PRIVATE SUBSURFACE OWNERSHIP AND IS CURRENTLY UNDER LEASE |
| Response: | Potential mineral activity in each area falls into one of three categories that do not overlap: lands with private mineral ownership, lands that have federally leased minerals, and lands that are not leased that have no private mineral ownership. The information needed to calculate the percentage of the area under federal lease and the amount of private mineral ownership is shown in the evaluation for each of the areas. Private mineral owners may lease their rights to other private entities, but we do not normally track that information, nor is it always available to us. |
| PC 783l | BECAUSE IT IS NOT CLEAR IF PRIVATE SUBSURFACE MINERAL OWNERSHIP IS A FOREGONE VALUE IF AN AREA IS DESIGNATED AS WILDERNESS |
| Response: | Private mineral value in the evaluated areas would not likely be foregone because a private mineral owner could exercise their rights to develop the minerals in the future. The exception to this would be if the federal government was to purchase those federal rights, but we cannot predict whether the owner would be interested or willing to sell them. Appendix C to the DEIS has the following statement for each evaluated area with privately owned mineral rights: "However, there could be value received from future development of the private mineral estate because X% of the area has privately owned mineral rights. These rights remain valid and could be exercised regardless of wilderness designation." |
| PC 783m | TO EXPLAIN THE EXTENT TO WHICH NOT OFFERING FUTURE LEASES ON LAND WHERE THE MINERAL ESTATE WAS NEVER DEVELOPED CONSTITUTES A FOREGONE VALUE |
| Response: | Values foregone should the area be designated wilderness were based on federal minerals that would be unavailable for exploration and development. We do not know for sure whether that federal mineral estate would not be developed until the estate is withdrawn from consideration under a wilderness designation. |
| PC 219 | The Forest should address natural gas storage needs, including any strategy for renegotiating the Gladly Gas Storage Agreement, or a possible proposal to use larger depleted gas reservoirs for gas storage. |
| Response: | <p>A decision to authorize use of National Forest System (NFS) land or not for natural gas storage operation and facilities would be best made at the project-specific level, rather than the Forest Plan level. This is because the need or desire for new, subsurface natural gas storage fields is so speculative that it is not a major issue ripe for Forest Plan level analysis. For example, the natural gas industry would determine whether or not and where technically and economically feasible natural gas storage facilities may be needed to meet customer demands. If federally owned mineral estates and NFS land were desired for gas storage facilities, a proposal would be made for consideration by the authorizing federal agencies. We have no information suggesting such a proposal is forthcoming.</p> <p>Any new proposal for use of NFS land for gas storage operations, as well as renegotiation of the NFS land use and conditions under the Gladly Gas Storage Field Agreement, up for reauthorization in 2013, would be analyzed in a project-specific environmental analysis. Forest Plan limitations on what actions may be authorized and what conditions must be met would be applied during the project-specific analysis of a new gas storage proposal, and any proposal related to continued and future operation of the Gladly Gas Storage Field.</p> |
| PC 243 | The Forest should have a plan developed to anticipate future mineral and energy exploration, development, and reclamation, because political pressure can make such activity happen quickly. |
| Response: | The Revised Forest Plan includes direction developed to address anticipated mineral and energy exploration, development and reclamation. The DEIS discloses current and reasonably foreseeable mineral and energy exploration and development (pages 3-347 through 3-350). Forest Plan direction for mineral and geology resources, as well as for protection of other Forest resources (Proposed Revised Forest Plan, pages II-41 through II-44) represents the Forest's guidance for managing anticipated mineral resource exploration and development, and its reclamation. |

| RANGE MANAGEMENT | |
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| PC 772 | The Forest should reconsider the use of fences and pastures on public land, because fences can inhibit wildlife and recreational movement, and they detract from aesthetic beauty and naturalness |
| Response: | The use of fencing on the Forest is typically a site-specific decision based on resource protection needs, rather than aesthetics. There are relatively few fences on the Forest, and they are usually used to keep large livestock within allotments or away from streams. The fences do not inhibit the movement of most wildlife species, and gates, stiles, or other passage can be provided where fences and recreation trails intersect. |
| PC 773 | The Forest should examine and provide measures that mitigate the effects of grazing, including: <ul style="list-style-type: none"> • Protection of high-elevation forests, balds, and riparian areas • Prevention of forest fragmentation • Protection of water resources, including wetlands • Protection of native plant, animal species, and ecological communities • Protection of recreational uses • Prevention of the spread of exotic plants • Examining what rare plants and animals are negatively impacted by grazing • Examining the time for forest ecosystems to be substantially restored at various grazing levels • Examining effects to soil • Examining the carrying capacities for grazed areas, including wildlife • Examining how grazing affects remote habitat, wilderness/non-wilderness interface, forest interior habitat and edge effect along wilderness boundaries, roadless areas, semi-primitive areas, and special areas • Examining the effects on vegetation • Examining the effects on lichens, fungi, and other small organisms • Examining the effects on old growth and mature forest ecosystems • Disclosing whether current and past grazing permittees have complied with the Forest Plan, permits, and applicable laws and regulations. |
| Response: | As stated in Chapter 1 of the DEIS, page 1-21, Range Resources are not addressed in detail because grazing allotments cover less than one percent of the Forest, and they are not expected to change by alternative under plan revision. At the current levels of use, effects from livestock grazing to the resources noted in the concern statement are relatively minor. Effects from livestock grazing are addressed under General Effects in the appropriate resource sections in Chapter 3 of the EIS. Mitigation measures for grazing are found in the standards and guidelines of the Range Resources section in Chapter II of the Revised Forest Plan, where they are also linked to additional Forest-wide direction that is applicable to grazing effects. Additional mitigation measures may be developed during the allotment planning process or project-level planning. Carrying capacity changes and permittee compliance are beyond the scope of this plan revision. |
| PC 774 | The Forest should consider alternative open field management methods and varying degrees and methods of native forest restoration and balds restoration. |
| Response: | For plan revision, we have considered various types of managed or unmanaged areas as openings in our vegetation desired conditions and analysis. However, to consider site-specific changes to range allotment management and the permits that cover them is beyond the scope of this revision. These types of decisions must be made at the project or allotment assessment level. |
| PC 775 | The Forest should consider grazing permits that do not allow road use. |
| Response: | Grazing permit changes are beyond the scope of this plan revision. It is doubtful, though, that the Forest Service would issue a grazing permit that did not allow motorized access on roads to transport livestock, permittees, and range improvement materials, especially when that access already exists. |
| PC 776 | The Forest should examine whether or not permittees are paying market rates. |
| Response: | The Forest does not set grazing fees or market rates, and the analysis of whether fees or rates are appropriate is beyond the scope of this plan revision. |
| PC 486 | The Forest should consider rotational grazing because it can greatly reduce the number of cowbirds and starlings, which can damage the nests of songbirds. |

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| Response: | Guideline RA11 in Chapter II of the Proposed Revised Plan encourages rotational grazing. However, the specifics of a rotational grazing scheme are best addressed during the preparation of allotment management plans using site-specific information. |
| PC 798 | The Forest should allow intensive rotational grazing of pastures to benefit bobwhite quail. |
| Response: | See response to PC 486. |
| PC 537 | The Forest should not allow intensively managed cattle pastures to prevent erosion, compaction, and pollution from chemicals caused by cattle production. |
| Response: | Range allotments comprise less than 7,000 acres, or 0.7 percent of the Forest. Not all of these allotments are actively grazed by livestock in any given year. Potential impacts are addressed by Forest-wide direction (see Range Resources section in Chapter II of the Revised Forest Plan), and additional mitigation measures can be applied at the allotment level. |
| PC 537a | BECAUSE THERE IS PLENTY OF NEARBY PRIVATE LAND FOR THIS KIND OF ACTIVITY |
| Response: | Livestock grazing is a legitimate multiple use of federal lands. Permittees continue to sell their cattle and sheep, so there evidently is still a market for livestock grazed on both federal and private lands. |
| PC 83 | The Forest should not allow grazing: <ul style="list-style-type: none"> • To prevent erosion • To prevent compaction • To prevent pollution • Because grazing land should be reforested • Because grazing can be done on private land. |
| Response: | See response to PC 537. |