USDA

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Forest
Service

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Appendix C

Response to 30-Day Public Comments

Brush Hollow Salvage Project

Marienville Ranger District
Allegheny National Forest

Jones and Highland Townships
Elk County, Pennsylvania

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Introduction

The 30-day comment period for the Brush Hollow Salvage Project ended April 2, 2008. Comments were received from seven respondents. The following is a list of individuals/organizations, which provided comments:

Table 1. Respondent and Corresponding Numbers of Comment Letters.

Comment #	Respondent
1	Dale Fox-Lauricella
2	Kimberly Jacko
3	Joe Rosten
4	Barbara Sachau
5	Ryan Talbott (Allegheny Defense Project)
6	Jack Hedlund (Allegheny Forest Alliance)
7	Jerry Smith

Comment 1-A
I would like to express my concerns about the proposed salvage plan and its impact on the current recreational use of the Brush Hollow complex of trails, and the impact on its visual beauty in the popular hiking and skiing areas. I am involved in the recreational tourism industry and we send many tourists to Brush Hollow, and many local citizens use that area also; it is one of the most scenic trails in our region, and I am very concerned about damaging the recreational value.

Response
On July 21, 2003, a severe windstorm struck the Allegheny National Forest (ANF) impacting 501 acres in the Brush Hollow area, with damage ranging from light to severe. The storm resulted in a large amount of blowdown along sections of the Brush Hollow trail system and in the surrounding areas. The proposed activities of the Brush Hollow Salvage Project have been designed to meet or exceed the scenic integrity levels (SILs) identified in the ANF Land and Resource Management Plan (LRMP) on pages 62-64. Adherence to ANF LRMP standards and guidelines as well as project specific design features during implementation of the Brush Hollow Salvage Project would minimize or mitigate the impacts to scenery and recreation. Due to the severity of blowdown along the trails in BH001 and BH007, these units do not currently meet SILs. The implementation of the proposed activities (removal of blowdown followed by reforestation) would bring these units into SIL compliance over time.

Additionally, the removal of down timber and hazard trees along trails would enhance access within the Brush Hollow area. The implementation of the proposed activities would also improve some recreational activities such as hunting, hiking, and cross country skiing. Please refer to section 7.3.2 (pp. 47-50) and section 7.3.3 (pp. 51-53) of the Environmental Assessment (EA) for an effects analysis of implementing the proposed activities to scenery and recreation.

Comment 3-A
I am glad to see the Forest Service is leaving coarse woody debris and snags for wildlife in MA 2.2. I have seen piliated woodpeckers in the area.

Response
Comment noted.

Comment 4-A
Erecting bat boxes does not make up for decimating trees (p.3 of EA).

Response
The installation of bat boxes is not meant to make up for harvesting trees; they are meant to enhance suitable habitat. The installation of these structures in the project area would provide additional nesting or roosting habitat to areas that were severely impacted by a windstorm. ANF LRMP standards and guidelines, which reserve and protect existing snags and cavity trees, would be followed during implementation of this project.

Comment 4-B
Herbicides may have been used since 1989 but it certainly is clear that the rangers have absolutely no knowledge of whether they have caused severe injury or death at all. They simply have no knowledge of the medical problems that have been caused by use of these toxic poisons. So we don't know that they are safe to use at all. The fact is EPA passes about 99% of all pesticides submitted for approval, accepting insufficient information on their safety. That is the fact. So use of them is certainly no guarantee they do not harm fellow Americans. And please stop writing as if you are medical doctors or researchers in health on pesticides. This agency is not qualified in any way to characterize itself as that (p. 10 of EA).

Response
The Allegheny National Forest FEIS, Appendix G (USDA-FS 2007d) documents the results of a very detailed and thorough analysis conducted by a variety of experts that looks at the potential human health effects from using glyphosphate and sulfometuron methyl for vegetation management on the ANF. This analysis considered a large volume of scientific literature and other expert analysis that directly related to this assessment of human health risk. It indicates that the health risks to the public are negligible from the anticipated level of exposure (USDA-FS 2007b, p 3-438).

The Forest Service has locally researched the use of herbicides to minimize dosage using proper formulations, application techniques, and timing. The selected herbicides breakdown quickly in the soil and show little movement within the soil (USDA-FS 2007b, pp 3-12; G1-42-43 & 104-106). Trained and certified Forest Service inspectors will be present on-site during herbicide application (USDA-FS 2007a, p 57). Spraying notification signs will be posted along roads or trails or at other locations where there is easy access to treatment areas to inform the public (USDA-FS 2007a, pp 56-57). For more information regarding the potential effects and the use of herbicides, please refer to the ANF LRMP FEIS, Appendix G (USDA-FS, 2007d), ANF LRMP Appendix A (USDA-FS 2007i, pp A-109 to A-120), and LRMP FEIS (USDA-FS 2007b, pp 3-433 to 3-444), ANF ROD (USDA-FS 2007c, p ROD-23), and ANF LRMP (USDA-FS 2007a, pp 54 to 59, A-32 to A-45).

It is important to note that ANF personnel have made and will continue to make a special effort to limit public exposure to herbicides. These efforts include various forms of pre-treatment notification, signing, and on-site public contact by ANF personnel (in the rare instance someone approaches the area during spraying) (USDA-FS 2007b, p 3-441).

Comment 4-C
Have you (Forest Service) set up a website or system for people to notify you if they get sick on your property (refers to the use of herbicides)?

Response
The Forest Service has not setup a website or system for people to notify us if they get sick on the ANF. If a person believes that they have an illness that maybe linked to the use of herbicides on the ANF and have received medical attention, they should notify the ANF about their concern. See comment response to 4-B.

Comment 4-D
Oil and gas development has been intense. To say it was "relatively minor" is a complete lie.

Response
As compared to some other areas on the ANF, oil and gas development within the project area has been relatively minor. Prior to the two proposals for six wells along FR 185 and FR 239, there had been no new private OGM development in the project area within the past 10 years. Currently, there are 40 wells (34 existing plus 6 new) in the project area and the Forest Service has recently received a proposal for an additional 30 wells. Combined with the existing 40 wells, there is a possibility that there would be 70 wells within the project area in the foreseeable future. This results in one well every 64 acres. The existing spacing frequency of oil and gas wells within some portions of the ANF is as high as one well every five acres (USDA-FS 2007b, p.3-326).

Comment 4-E
250 feet does not protect wetlands from the poisons (from p.12 of EA).

Some herbicide treatments are near streams in this plan (p. 23 of EA).

Response
The Herbicide Risk Assessment, Appendix G of the FEIS (USDA-FS 2007d) has reviewed the effects to groundwater and surface water regarding aquatic life and human health water quality criterion. This assessment has found that the ANF LRMP standards and guidelines (USDA-FS 2007a, pp. 75-79) ensure that treatments protect water quality.

Comment 4-F
I do not think it is truthful to print that the effects of ground disturbance is gone in five years. Particularly not when later in this book (EA) you point out that there are still negative effects in this forest from the 1800's (from p.13 of EA).

In note that on this page (p.19 of EA) the writer admits land degradation from the 1800's still exists but lies in previous pages and tells us destruction will be gone in 5 years.

Response
Alternative 1 (the proposed action) and Alternative 3 have the potential to affect soil resources as a result of timber sale activities, road maintenance, stone pit expansion and reclamation, and log landing construction and use. The effects of these activities may include soil disturbance, soil compaction, soil rutting, erosion, slumping and mass wasting, accelerated decomposition of organic mater, changes in nutrient cycling due to biomass removal and mixing of the soil surface horizons, and changes in soil temperature and moisture. The effects of these activities on soil resources can be described in terms of short and long-term effects on the productivity or quality of the soils. Short-term effects are those effects lasting three years or less, and they are associated with the recovery period during which a vegetative cover becomes reestablished on disturbed soils. Short-term effects imply that the existing soil profile has experienced very little to no impact from proposed activities. Surface disturbances, such as compaction and removal of vegetation, are the primary short-term effects. In contrast, long-term effects, such as road and landing construction, are associated with activities which displace the upper portions of the soil profile (topsoil), and these could last for hundreds of years or more. This part of the soil profile contains a large amount of the soil's organic matter and available plant nutrients, both of which affect its productivity or "quality." Soil formation typically occurs at a rate of one inch per 200 to 400 years, and depends on many local environmental factors.

General timber harvest areas are expected to recover quickly from compaction caused by harvesting activities, and the same quick recovery can be expected for herbicide and fertilizer treatments, which are usually made in one pass with equipment traveling in widely spaced swaths. Detrimental effects from soil compaction related to a single event are not expected to persist beyond 5 years. Likewise, in the rare and limited instances where cover is removed from the soil surface (other than roads, landings, etc.), reestablishment of plant cover can be expected to occur in less than 5 years as well. Research has shown that the upper few inches of soil recovers quickly from light to moderate compaction (Adams 1991; Burger 1985; Hatchell 1971; Kozlowski 1999). This is due to abundant sources of seed from trees, which are already on site, the presence of numerous and well distributed young seedlings growing from the leaf litter, dormant seeds in the leaf litter, which will germinate when exposed to more intense light levels, and the ability of many tree species to sprout profusely from their stumps, especially when they are young. Also, ample rainfall and adequate soil moisture foster rapid plant growth in this part of the country.

Recovery from compaction would be slower in the areas such as log landings and primary skid trails/roads, where equipment has passed over the soil many times. This compaction may be mitigated by ripping or soil tillage of the upper 7 to 24 inches to break up the compacted soil surface and promote water infiltration and root growth.

Untreated compacted areas could have long-term (8 to 40+ years) impacts to soil productivity. There may be some remnant compaction from historic logging; however, most of the soil disturbance has recovered. Potential areas of compacted soils within units may exist from past activities. There are some signs of old skid trail systems which may imply that compaction in these areas still persists because fewer numbers of large trees grow in these corridors. Areas of compaction on log landing areas often result from blading the surface and heavy equipment use while stock piling logs.

Important factors considered in evaluating effects to soil resources from this project are: the extent of the affected area, the types of proposed treatments, and their effects on the soil resources. Effects to soils from this project are not considered significant because with implementation of ANF LRMP standards and guidelines, project specific design features, and Pennsylvania Best Management Practices soil disturbance will be minimized to less than 15 percent of the proposed treatment areas (Forest Service Handbook, 2509.18.2.2, Soil Quality Standards, 2002). Acres of soil impacted by soil disturbing activities (log landings, skid trails, skid roads, road reconstruction, and wildlife openings) were estimated using the best available information and compared to the total acres of the affected areas (harvest units and road corridors).

Comment 4-G
114 new wells is well over saturation and is turning the forest into a well field (p. 14 of EA).

Response
The Forest Service is not proposing to develop 114 new wells as part of this project. The 114 wells referred to on page 14 of the EA was an estimate of potential future private OGM development, which is based on the average rate of development on the ANF (.001 wells/acre). This estimate was used to analyze potential cumulative effects to various resources.

Comment 4-H
Who paid for Kochenderfer and Edwards study so favorable to logging (p. 16 of EA)?

Response
This is peer-reviewed research. Peer-reviewed means research that has been presented to scientists for validity by researchers in the same field of expertise.

Comment 4-I
What "recreationists" like to use logged areas (p.53 of EA)?

Response
The ANF offers a variety of recreational opportunities. A number of groups such as hunters and bird watchers utilize harvested areas. Additionally, the removal of blow down from units that were severely impacted by the windstorm would allow recreationists enhanced access within the project area.

Comment 4-J
The National Treasury gets zero from logging and new wells (p. 54 of EA).

Response
The National Treasury does get revenue from timbers sales as well as from timber harvested during OGM development.

Comment 4-K
It is admitted that logging causes flooding for a minimum 10 years period. That is a good reason not to allow this logging (from p. 21 of EA).

Response
Please refer to section 7.1.2 (pp. 21 and 22) of the EA for an effects analysis of implementing the proposed activities to water quantity. Since the majority of the treatments proposed in this project involve the removal of blowdown that are no longer transpiring, there would be minimal affects to stream flow. Additionally, the 8.3 miles of road maintenance proposed in this project would correct portions of roads that may be contributing increased runoff to streams.

Comment 4-M
I oppose 18 miles of new roads which are destructive and bring in invasive plants (from p.23 of EA).

Response
There is no federal road construction or reconstruction proposed in any alternative for this project. The 18 miles of road construction stated on p. 23 of the EA is an estimate of potential future private OGM development, which was based on the average rate of development on the ANF. This estimate was used to analyze potential cumulative effects to various resources. Cumulative effects to non-native invasive species (NNIS) are addressed in Section 7.2.3 on pages 45 and 46 of the EA.

Comment 4-N
I believe Horsley's research from 1994 is too obsolete to have relevance in 2008 up to the projected 2028 climate. It is antique and outdated and should not be relied upon (p.29 of EA).

Response
The reforestation treatments applied to forest stands (as a result of Horsley's research) have been in practice on the ANF for over a decade and the outcome from those treatments give the desired results, a wider range of plant diversity. The plant diversity includes tree species, shrubs, forbs, and wildflowers. The results of Horsley's research could be modified by further research in the future but it will not become obsolete. For more information on this topic refer to understory and midstory condition in the ANF LRMP FEIS (USDA-FS 2007b) pages 3-145 to 3-147.

Comment 5-A
The Forest Service must prepare an EIS for this project. In *Curry v. U.S. Forest Service*, the Court ruled that the Forest Service violated the National Environmental Policy Act (NEPA) by failing to prepare an EIS for the Mortality II Project. Specifically,

> "the court agrees with plaintiffs that the magnitude of even-aged management as the predominant management technique undermine defendants' determination that the project will not have a significant impact on the human environment. The project involves in excess

> of 5,000 acres of the Allegheny National Forest of which 4,775 have been designated for even-aged management techniques."[1]

In Brush Hollow Salvage, the Forest Service plans commercial treatments on 592 acres of forest land. 584 acres, or 98.6% of the proposed commercial treatments, are even-aged management techniques. The percentage of even-aged management relative to the overall project is greater than it was in the Mortality II timber sale.

The Forest Service in the Allegheny National Forest must stop analyzing timber sales that have significant effects on the environment with EAs when it is obvious that EISs should be prepared.

Returning to *Curry*, the court stated:

> "while the presence of an 'intensity' factor alone does not mandate that an EIS be prepared for a particular project, the court is compelled to conclude that, based on the number of 'intensity' factors implicated by the Mortality II Project, as well as the magnitude of the project, plaintiffs have raised 'substantial questions' regarding the issue of whether the Mortality II Project 'may' have a significant effect on the human environment."[3]

The same applies here. It is important to reiterate that the standard is "may," not "will" have a significant effect on the human environment. The combination of the magnitude and the number of intensity factors requires the Forest Service to prepare an EIS for the Brush Hollow Salvage Project.

Another reason the Forest Service must prepare an EIS is the length of the EA. The court in *Curry* ruled,

> "The size of the EA prepared for the Mortality II Project undermines defendants' decision not to prepare an EIS. The analysis in the EA covers 49 pages, and the EA includes 349 pages of appendices."[5]

The Brush Hollow Salvage EA analysis covers 67 pages. Despite the fact that the EA does not have as extensive list of appendices, this project nonetheless requires an EIS. Indeed, in *Curry* the court also cited:

> "The magnitude of the instant proposals to extend road and conduct logging operations, as set forth in an EA totaling over 65 pages, undermines defendants' contention that the proposals are not significant."[6]

If the Brush Hollow Salvage project was not going to have a "significant" effect on the environment, the Forest Service should not have utilized over 67 pages to tell that to the public. All of these factors indicate, as the *Curry* court ruled in Mortality II, that the Forest Service must prepare an EIS for Brush Hollow Salvage Project that considers a broad range of alternatives.

Response

One of the reasons for doing an EA is to determine if an EIS is necessary. The Marienville District Ranger Robert T. Fallon (Responsible Official for the Brush Hollow Salvage EA) is responsible for making the decision on whether an EIS is necessary or if a FONSI is sufficient for the project (See decision to be made – EA p.5)

FSH 1909.15 Chapter 20, Sections 20.1 and 20.2, (pp. 2 to 4) gives direction on when to prepare an EIS. Please refer to the Decision Notice and Finding of No Significant Impact for an explanation of the decision and why an EIS is not needed for this project.

Comment 5-B
Excess material from stone pit expansion and development for the Forest Service's timber sales cannot be made available for private oil and gas (OGM) development without analyzing the impacts of the OGM development itself in an EIS.

The Forest Service cannot issue blanket authorizations allowing OGM operators to use stone pits without analyzing the potential OGM road and well constructions – to do so otherwise leaves the public in the dark and violates 40 CFR & 1508.25.

Response
Development of reserved and outstanding oil and gas rights continues within the project area. This development is addressed within the scope of the cumulative effects analysis, and we will continue to negotiate with the subsurface owners to mitigate and manage the surface impacts of this development. The stone pit expansion included in this decision is intended to provide surfacing for road maintenance of Forest Service system roads and construction of log landings. If a subsurface mineral owner seeks expansion of an existing stone pit or development of a new stone pit within the project area to provide stone for an oil and gas development, this would be analyzed in a separate environmental analysis.

Further, in a March 28, 2008 letter to OGM operators, Forest Supervisor Leanne Martin stated, "I have directed my District Rangers, as of the date of this letter, to cease issuance of Notice to Proceeds that include the removal of mineral material from pits located on National Forest System lands unless procedures for disposing of mineral materials owned by the United States have been followed as outlined in 36 CFR 228, Subpart C and FSM 2850." Since issuance of that letter, no new or existing stone pits on the ANF have been developed or expanded specifically for OGM use.

Potential future OGM developments are discussed and analyzed in the cumulative effects for various resources (EA, pp. 13, 19, 23-26, 29, 32-47, 50, 53) and in the Errata.

Comment 5-C
The Forest Service's cumulative effects analysis on air quality is inadequate. For instance, the cumulative effects section on air quality does not discuss OGM development at all. The recent forest plan appeal decision by the Forest Service Chief stated:

> "I find the disclosure of cumulative effects of oil and gas development on Allegheny NF air quality as well as impacts to regional air quality do not fully comply with NEPA regulations at 40 CFR parts 1502.16 and 1508.7."[7]

The reason for this was that:

> "The cumulative effects analysis provides no discussion of how OGD may combine with effects associated with implementing the Revised Plan and impact air quality."[8]

In light of the forest plan appeal decision, the Brush Hollow Salvage Project EA is clearly inconsistent with the Chief's instructions. The EA provides absolutely no discussion about how the cumulative effects of OGM development combine with the effects associated with implementing the revised forest plan and impact air quality. The Forest Service must revisit the analysis and prepare an EIS to disclose these impacts.

Response
This is not an oil and gas project. As stated in the Purpose and Need on page 5 of the EA, the primary purpose and need of this project is to salvage dead and damaged trees that where blown down or damaged in the July 2003 windstorm event. Cumulative effects of oil and gas development within and surrounding the Brush Hollow Salvage project are addressed in the EA on pages 13, 19, 23-26, 29, 32-47, 50, and 53 and in the attached Errata.

A review of Information concerning OGM development and air quality has been analyzed, is contained in the Errata, and replaces the cumulative effects analysis of air quality discussed on

pages 25 and 26 of the EA. Based upon this information, information presented in the ANF LRMP, ANF LRMP FEIS, ANF LRMP Record of Decision, and ANF LRMP planning record, Forest Supervisor Leanne Marten found that a correction, supplement, or revision to the environmental documentation for the ANF LRMP or an amendment of the ANF LRMP is not necessary at this time concerning OGM development on the ANF and its potential impacts to regional air quality (Information Review dated July 31, 2008).

Where applicable, the cumulative effects analysis under each resource projects the reasonable foreseeable future OGM development. This is based a hard look at the ANF LRMP FEIS estimates (displayed in Table 2-4 on p. 60) and local information on OGM development in and surrounding the project area (see Project Level Cumulative Effects Analysis for OGM Development – Brush Hollow Salvage Project in the project file). The effects on each resource occur from activities associated with the clearing for roads, well-sites, tank batteries, and pipelines associated with each well.

The 1986 ANF LRMP states, "The Forest Service will protect the rights of the federal government, respect private mineral rights, and insure that private mineral owners and operators take reasonable and prudent measures to prevent unnecessary disturbance to the surface (p. 4-43)." It goes on to state, "Oil and gas operators must comply with applicable state and federal laws and regulations governing oil and gas operations. The Forest Service will work cooperatively with the U.S. Environmental Protection Agency, Pennsylvania Department of Environmental Resources, and other concerned agencies to ensure compliance (p. 4-46)."

The project level cumulative effects analyses for OGM development assumes enforcement of the Pennsylvania Best Management Practices (BMPs) by the Pennsylvania Department of Environmental Protection Oil and Gas Division as defined in the Oil and Gas Operators Manual listed on their website at http://www.dep.state.pa.us/dep/deputate/minres/OILGAS/oilgas.htm. Forest Service monitoring of private OGM development was completed annually between 1987 and 2005 to measure the effectiveness of negotiations in obtaining industry compliance with the 1986 ANF LRMP (Section 2800). Scoring of 34 monitored criteria with a ranking of 0 to 10 on randomly selected leases found a general overall compliance. The 1997 monitoring report (p. 46) summarized the rankings from 1986 to 1997 with an average score of 7.3 for the 34 monitored criteria. The last published report (fiscal year 2001) (p. 58) reported a 9.18 overall rating for the 34 monitored criteria.

Comment 5-D
The Forest Service should file an objection to any proposed oil and/or gas wells within the Brush Hollow Salvage project area.

Response
This comment is beyond the scope of this project because this is not an oil and gas development project.

Comment 5-E
The Forest Service identified the Brush Hollow area as a "potentially threatened landscape" in its scenic integrity evaluation during Forest Plan Revision due to oil and gas drilling. Instead of proposing salvage logging operations in this area, further impacting an already impacted landscape, the Forest Service should be doing everything it can to address the oil and gas impacts that have already occurred and others that may occur. (Comment received during scoping - ADP, Atwood)

Forest Service response to scoping comment: This is a non-significant issue because it is conjectural and not supported by factual evidence. The environmental analysis will consider the impacts to scenic quality and integrity. ANF LRMP standards and guidelines would be followed to ensure that proposed activities would meet or exceed the standards and guidelines for scenery.

We are unsure how the Forest Service can claim this "is a non-significant issue because it is conjectural and not supported by factual evidence." The Forest Service produced a document for

forest plan revision outlining the most threatened and potentially threatened landscapes in the Allegheny National Forest in which this area was included. That is factual evidence, not conjecture. It follows, that earth-disturbing activities proposed in this project will further impact the area from a scenic integrity perspective.

Response
Potential Threatened Landscapes were areas identified in the Forest Plan Revision process that may have scenery restoration opportunities in the future depending on the level of OGM development and other impacts. Cumulative effects from potential future OGM development on scenery and recreation are discussed on pages 50 and 53 of the EA.

Currently, stands BH001 and BH007 do not meet the scenic integrity levels (SILs) identified in the ANF LRMP on pages 62-64, due to the severity of blowdown along trails within these units. Implementation of the proposed activities (removal of blowdown followed by reforestation) will bring these units into SIL compliance.

Comment 6-A
I will say, however, continuing to emphasize five year old salvage sales makes a mockery of the notion to "provide quality wood products to local and regional economies." Attracting serious bidders would seem to me to be difficult at best given the condition of the material being offered. At this late date, perhaps stewardship contracting may be a better option.

Response

Salvage harvest is a necessary tool to manage these stands for reforestation and long term health and species diversity. The timber sale bid process will determine if there is interest in commercially harvesting these stands. The recommendation of stewardship contracting as an option will be given serious consideration during the implementation of this project.

Comment 7-A
I was of the impression that the Brush Hollow area was to remain a wilderness area, with no man made improvements. I would like clarification as to the "wilderness" status of the Brush Hollow area.

Response
The Brush Hollow area was designated as a 6.2 Management Area (MA) under the 1986 ANF LRMP. MA 6.2 areas were managed to produce hardwood sawtimber during an intensive 10-year management period once every 40 years. During the remaining 30 years, dispersed recreation activities were emphasized and motorized access was restricted, except for private OGM operators. The Brush Hollow area was managed for timber production from 1986 to 1995 and prior to the 2007 revised ANF LRMP, this area was in the 30 year restricted period. Under the 2007 revised ANF LRMP, the majority of the MA 6.2 area became part of MA 2.2 (which emphasizes late structural forest conditions), while portions also became MA 3.0 (which emphasizes a mix of vegetative conditions and contributes quality timber to local and regional economies) and MA 8.6 (which is the Kane Experimental Forest). At this time, there are no proposed changes to road management in the Brush Hollow area; with the exception of FR 185, all roads will remain closed to public vehicles.

The Brush Hollow area never was or is a congressionally designated wilderness area. Designated wilderness areas on the ANF include the Allegheny Islands and the Hickory Creek Wilderness Area.

Comment 7-B
On a different subject, what do you believe to be the cause of the acidic condition of Big Mill Creek. I recall that years ago this was not the case. I don't believe that one can blame it on the leaves. There are no more leaves falling from the trees than there was before. There is no mining in the area, that I am aware of, that would be causing the problem. I often hear that acid rain is the blame. However, I don't recall the acidic problem being common to all streams in that area. I recently read that there are going to be some stream improvements to the tributary streams of Big Mill Creek to help elevate the condition.

Response
Acidic conditions on Big Mill Creek were recognized as early as 1963. The first documented fish kill on Big Mill Creek was reported in 1967 in a memo submitted by a conservation officer indicating that a 10 percent mortality of the stocked trout had occurred. A 1980 PA Fish Commission stream monitoring report indicated that Big Mill Creek is an infertile stream that is dependent upon stocking to maintain a quality fishery, and that an ***unstable*** *pH is contributing to depressed numbers of native brook trout. A fish kill of hatchery trout was again reported in the spring of 1990 at stocking locations upstream from State Route 948. The following year, a water quality monitoring effort was initiated and drought conditions produced higher than normal water quality readings. In 1992, however, the opposite occurred when higher than normal rainfall occurred resulting in low pH readings.*

Like many headwater streams across the ANF, water chemistry in the upper Big Mill Creek area has low buffering capacity, the ability to neutralize acid precipitation. This is due to the acidic bedrock and soils found throughout the drainage in combination with acidic deposition, acid rain or melting snow-pack. Soils in the watershed have very little, if any, buffering capacity. The pH of the soils ranges from 4.5 – 5.5. Geologically, rock layers in the watershed consist of a monotonous sequence of shale, sandstone, and conglomerate. There is a distinct lack of high carbonate rocks (i.e. limestone, dolomite) that can help neutralize the affects of acid rain.

Acid deposition has been shown to degrade water quality by lowering pH levels, decreasing acid-neutralizing capacity, and increasing aluminum concentrations. During snow melt or large rain events, episodes of acidification can dramatically lower pH, acid neutralizing capacity, and alkalinity and release high levels of aluminum by causing a pulse of acids and/or dilution of base cations (e.g. calcium and magnesium). Research across Pennsylvania has shown these severe and chronic episodes of acidification can cause fish mortality and affect fish distribution. If major rain events or snow melts happen to occur in close proximity to the stocking of trout in Big Mill Creek, fish mortality is likely to occur.

During 1988-1989, weekly pH and alkalinity samples were taken on Big Mill Creek just below State Route 948. Values for pH were the lowest (5.5) in late winter-early spring, and increased to near 7.0 during the summer months as organics enter and grow in the water. Alkalinity values during late winter-early spring were 0 mg/l (the water had no acid-buffering capacity), but reached a high of 20 mg/l at the same time pH was 7.0 in late summer. Because of the marginal water conditions in spring, trout were often stocked very close to opening day or stocking was delayed for several weeks in the upper portions of the creek until pH level recovered to more desirable levels.

Northwest Pennsylvania receives much of its precipitation from the Ohio River basin. Research has shown that this moisture is some of the most acidic precipitation in the northeastern United States. The National Atmospheric Deposition Program collected rainfall samples at the Kane Experimental Forest from 1979 to 1992. The yearly average pH of these samples was quite low ranging from 4.14 in 1979 to 4.27 in 1992.

Water quality of the streams found the Big Mill Creek watershed varies in pH and their ability to buffer acid deposition. Historically, Ellithorpe Run and Slide Run have been found to have slightly higher water quality. The Elk County Freshwater Association (ECFA) has been monitoring pH levels in Cherry Run, Elithorpe Run, and Big Mill Creek on a regular basis for the past two years. Based on their results, ECFA working through grants from the Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, and the Pennsylvania Department of Natural Resources is proposing to install engineered passive water-treatment stations on several tributaries of Big Mill Creek in an attempt to improve water conditions.

Literature Cited

Adams, P.W., 1991. Soil Compaction on Woodland Properties. Oregon State University Extension Service. The Woodland Workbook. Extension Circular 1109, Revised January 1991.

Burger, J.A., et. al. 1985. Impact of tracked and rubber-tired tractors on a forest soil. Amer. Soc. of Agric. Engineers. Paper No. 83-1621.

Hatchell, G.E., C.W. Ralston. 1971. Natural Recovery of Surface Soils Disturbed in Logging. Tree Planters Notes 2292: 5-9.

Kozlowski, T.T. 1999. Soil compaction and growth of woody plants. Scand. J. For. Res. 14: 596-619, 1999.

USDA-FS. 2002. Forest Service Handbook 2509.18 Soil Management Region 9 supplement of Chapter 2: Soil Quality Monitoring 17 pp.

USDA-FS. 2000b. Final Environmental Impact Statement for the East Side Project. Allegheny National Forest, Warren, PA.

USDA-FS. 2007a. Allegheny National Forest Land and Resource Management Plan. Warren PA.

USDA-FS. 2007c. Allegheny National Forest Record of Decision (FEIS) for the Land and Resource Management Plan, Warren, PA.

USDA-FS. 2007b. Allegheny National Forest Final Environmental Impact Statement Land and Resource Management Plan, Warren, PA.

USDA-FS. 2007d. Allegheny National Forest. Appendix G of the Final Environmental Impact Statement, Appendix G, Warren, PA.

USDA-FS. 2007i. Allegheny National Forest. Appendix A of the Final Environmental Impact Statement, Appendix A, Warren, PA