Data Submitted (UTC 11): 2/27/2020 1:39:26 AM
First name: Sherman
Last name: Bamford
Organization: Virginia Chapter - Sierra Club
Title: Forest Issues Chair
Comments: Sherman Bamford
P.O. Box 3102
Roanoke, Va. 24015-1102
(540) 343-6359*
bamford2@verizon.net
*If you have any questions about this letter

Feb. 23, 2020

ATTN: Insect and Disease II Draft EA
Dan McKeague, District Ranger
Eastern Divide RD-GWJNFs-FS-USDA
110 Southpark Dr.
Blacksburg, Va. 24060

Ranger McKeague and Staff:

The following are comments submitted on behalf of the Virginia Chapter of Sierra Club regarding the Insect and Disease II Draft EA.

The Sierra Club opposes this project, as proposed, for the following reasons:

The project would include intense logging planned in an area set aside to protecting drinking water for Pulaski, Virginia. The Forest Service should not be proposing its most intense regeneration harvest in areas set aside to protect drinking water sources. Maintaining tree cover to protect water quality has to be the priority here, not maximizing timber harvest.

Assertions that insect and disease infestations are an imminent threat or that the Forest Service's logging will improve forest health are not demonstrated by the agency.

The project would include 600 acres of logging in the 7,008 acre Dismal Creek Virginia Mountain Treasure are, in surrounding areas in the No-Business area, in the same watershed as the Virginia Mountain Treasure area, and in areas in proximity to the Ribble Trail/Appalachian Trail circuit and its viewshed. Dismal Creek area is a large, remote area with a sizeable core of Forest Service-identified semi-primitive recreation land. The area is unique because it offers an opportunity to walk for miles in a large, secluded valley hemmed in by a wedge of two mountains. This large, triangle shaped area includes 4,087 ft Flat Top Mtn, the Dismal Falls "Rare Community" and nearly 7,000 of the 11,000 acre Dismal Creek watershed. One of the largest areas excluded from the roadless inventory in the most recent Jefferson NF Plan Revision, this mountain treasure area would have easily met the Forest Service criteria for roadless areas if a small section of Lions Den Rd (Rt 1015) that closely parallels Rt 201 had been excluded.
The project could include logging in protected old growth areas and protected areas designated for recreation.
The project could potentially impact aquatic species such as the Federally endangered candy darter, could potentially impact four species of rare or listed bats, and other rare or listed species.
The project is problematic because the Forest Service relies on watered-down analysis that is totally inadequate. See section below on NEPA requirements to take a "hard look." The public deserves to know the full story

because of NEPA requirements and because this land is held in the public trust.
The Forest Service has ignored calls by the public to explore impacts of the project on climate change, roadbuilding and trails.
Given the high levels of logging proposed in this project and the Insect and Disease I project, prescribed burning activities in Eastern Divide Highlands Prescribed Burn project and other projects (including the categorically excluded Insect and Disease I project) more thorough analysis than presented here is warranted. The 1200+ acres of logging here is proposed on top of the 1200 acre Eastern Divide Insect and Disease Project Phase I project on the same ranger district, approved without analysis - a total of 2400+ acres of logging. the Forest Service isn't properly considering the cumulative environmental impacts. In addition, there will be 60,000 acres of prescribed burning in this district. The Forest Service should more thoroughly evaluate combined impacts of all three before proceeding - through an Environmental Impact Statement. At a minimum, the agency should complete new analysis that includes the new alternative and satisfactorily complies with the law. This Draft Environmental Assessment does not. Once new analysis is completed, the public should be afforded the opportunity to review and comment on it. This is necessary to give the public a chance to review and comment on all of the analysis the Forest Service needs to do.

The Forest Service is focusing too much on creating new forest by clearing existing forest. The Forest Service should focus on all aspects of forest health like the forest canopy and the different species that would naturally grow in an area- not just the age of forest.
The Forest Service shouldn't consider only intense regeneration harvest to meet its goals. For example, thinning is likely more appropriate in some areas to promote oak regeneration and improve forest health.
The Forest Service is proposing to leave too few "reserve trees" in its logging units, contrary to requirements of the Forest Plan.

National Environmental Policy Act
The National Environmental Policy Act ("NEPA") is the nation's basic charter for the protection of the environment. NEPA makes it national policy to "use all practicable means and measures * * * to foster and promote the general welfare [and] to create and maintain conditions under which [humans] and nature can exist in productive harmony."7 NEPA's purposes are to "help public officials make decisions that are based on [an] understanding of environmental consequences, and to take actions that protect, restore, and enhance the environment."8

1. "Hard Look"
To accomplish these purposes, NEPA requires all agencies of the federal government to prepare a "detailed statement" regarding all "major federal actions significantly affecting the quality of the human environment."9 This statement is commonly referred to as an Environmental Impact Statement ("EIS"). NEPA further provides that agencies "shall * study, develop, & describe appropriate alternatives to recommended courses of action in
3 5 U.S.C.A. § 706(2)(A).
4 (Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co., 463 U.S. 29, 43 (1983), citing Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962).
5 Motor Vehicle Manufacturers Association of the United States v. State Farm Mutual Auto InsuranceCompany, 463 U.S. 29, 43 (1983).
6 Pacific Coast Fed'n, 265 F.3d at 1034.
7 42 U.S.C. § 4331(a).
8 40 C.F.R. § 1500.1(b)-(c).
9 42 U.S.C. § 4332(C).

any proposal which involves unresolved conflicts concerning alternative uses of available resources."10

An EIS must describe (1) the "environmental impact of the proposed action," (2) any

"adverse environmental effects which cannot be avoided should the proposal be implemented," (3) alternatives to the proposed action, (4) "the relationship between local short- term uses of [the] environment and the maintenance and enhancement of long-term productivity," and (5) any "irreversible or irretrievable commitment of resources which would be involved in the proposed action should it be implemented."11
NEPA's disclosure goals are two-fold: (1) to ensure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) to ensure that the public has sufficient information to challenge the agency's action. The Council on Environmental Quality ("CEQ") - an agency within the Executive Office of the President - has promulgated regulations implementing NEPA that are binding on all agencies.12

The CEQ regulations provided that the direct, indirect, and cumulative effects of the proposed action must be analyzed under NEPA.13 When the agency prepares an EIS, it must take a hard look at the impacts of the action and ensure "that environmental information is available to public officials and citizens before decisions are made and before actions are taken," and the "information must be of high quality."14
In preparing NEPA documents, federal agencies "shall insure the professional integrity, including scientific integrity, of the discussions and analyses" and "identify any methodologies used and * * * make explicit reference by footnote to the scientific and other sources relied upon for conclusions * * * ."15

NEPA requires that the Environmental Impact Statement contain high-quality information and accurate scientific analysis.16 If there is incomplete or unavailable relevant data, the Environmental Impact Statement must disclose this fact.17 If the incomplete information is relevant and essential to a reasoned choice, and costs are not "exorbitant," the information must be compiled and included.18

.

Roads impacts; project should be informed by a roads analysis

(b) Road System--(1) Identification of road system. For each national forest, national grassland, experimental forest, and any other units of the National Forest System (§212.1), the responsible official must identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands. In determining the minimum road system, the responsible official must incorporate a science-based roads analysis at the appropriate scale and, to the degree practicable, involve a broad spectrum of interested and affected citizens, other state and federal agencies, and tribal governments. The minimum system is the road system determined to be needed to meet resource and other management objectives adopted in the relevant land and resource management plan (36 CFR 219), to meet applicable statutory and regulatory requirements, to reflect long-term funding expectations, to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.
-Identification of unneeded roads. Responsible officials must review the road system on each National Forest and Grassland and identify the roads on lands under Forest Service jurisdiction that are no longer needed to meet forest resource management objectives and that, therefore, should be decommissioned or considered for other uses, such as for trails. Decommissioning roads involves restoring roads to a more natural state. Activities used to decommission a road include, but are not limited to, the following: reestablishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars, removing culverts, reestablishing drainage-ways, removing unstable fills, pulling back road shoulders, scattering slash on the roadbed, completely eliminating the roadbed by restoring natural contours and slopes, or other

methods designed to meet the specific conditions associated with the unneeded road. Forest officials should give priority to decommissioning those unneeded roads that pose the greatest risk to public safety or to environmental degradation.36 C.F.R. 212.5.

"When proposed road management activities (road construction, reconstruction, and decommissioning) would result in changes in access, such as changes in current use , traffic patterns, and road standards, or where there may be adverse effects on soil and water resources, ecological processes, or biological communities, those decisions must be informed by roads analysis (FSM 7712.1).
- Whether roads/skid trails, rightly or wrongly, are called temporary, these roads/trails can have impacts on a number of resources for a certain amount of time. Please examine and disclose all effects of temporary roads, including impacts on hydrology, springs and seeps, streams, wildlife, geology, caves, motorized use, non-motorized and primitive backcountry users, invasive and non-native plants, native plants, cultural resources, and other key resources. Please disclose how long these roads will impact resources of concern.

Black bear is an MIS here and throughout the JNF (JNF Plan MIS List). Black bears were seen or detected in the project area (DEA 108). Yet, there is little, if any analysis of impacts to the black bear (DEA 115). Issues of negative impacts to the MIS black bear due to increased disturbance, stress, vulnerability which the project could foreseeably facilitate should receive a hard look. See also 36 CFR 219.19(a)(4).
- Foreseeable negative impacts from the proposed action to most MIS must be thoroughly analyzed in the EA or EIS. For example, agency planners must use the latest scientific information when assessing impacts to MIS black bears and their habitat. A report published in 1991 by Steven Reagan, "Habitat use by female black bears in a southern Appalachian bear sanctuary", analyzes how logging adversely affects black bears. The agency is already in receipt of this information; it was delivered to the JNF Supervisor's office (currently the GW&JNFs SO) several years ago by the Southern Appalachian Biodiversity Project. We incorporate it by reference into the administrative record. One significant finding of this research was that black bears were not taking advantage of food and habitat in even-age logging sites as was anticipated. He also found that such logging results in a dramatic increase in female black bears' home range. The same potential result can reasonably be expected to occur here from this proposed even-age logging. The outcome would be increased competition for a limited food and habitat supply. The potential clearly exists for significant impacts to black bear viability here. There must be hard inventory and population data for this MIS to provide an accurate picture.
-Bears need security. Black bears are classified as "wide ranging area sensitive species" (SAA Terr Rpt 154&158). Areas of grapevines and large denning trees are key habitat components. Large hollow den trees are the preferred den sites of black bears (see eg JNF Plan Rev DEIS 3-177). Grapes are a soft-mast food source of black bears (see JNF Plan Rev DEIS 3-177). Hollow trees, existing stumps, snags, shallow holes, and rock outcrops are potential bear den sites. These must be protected from logging. There must be analysis of the loss of interior and remote habitat that will occur and has already occurred here The road density, when both legally and illegally used motor routes are considered, may be in excess of that found to be desirable for bears. (there is little info in the SN) And the affects of miles of nearby access roads. must be properly analyzed. Portions of some motorized routes lie in this watershed or in the vicinity of this project, but have been excluded from the arbitrarily drawn PA) Use of this rt. and other rts. (and associated noise, disturbance, and partying) create constant disturbance which may impact black bears. And "closed" roads are known to be violated by vehicle use here and elsewhere. Temporary and closed roads facilitate more access and disturbance and mortality.). Road densities must meet Plan objectives for these important habitat components in the PA. And the agency's own "Wildlife Population Data Working Paper" (Goetz and McEilwane - incorporated by reference) shows that the impacts to bears becomes negative when the proportion of suitable acreage in regen areas exceeds 10%.). If recent even-aged cuts, grassy areas around roads existing and proposed roads, existing and proposed landings, and natural within stand openings are included in these figures, The criteria data and amount of suitable land here should be disclosed to the public
- Above ground den trees are important to black bears in the Appalachians. Data from a study in the Allegheny mountains of Virginia, for example, "show 93 percent of denned bears denned above ground in standing hollow

trees." (GWNF Hoover Creek timber sale EA-57; incorporated by reference) Trees of sufficient size for bears to den are old large trees. Yet the agency's action would remove these key elements, habitat significant to viability. The analysis must fully and fairly consider this factor.
- These foreseeable direct, indirect, and cumulative impacts must be adequately considered and analyzed by the planners.
- The FS should provide hard inventory and population data for this MIS.

- Bears need security. There is must be meaningful analysis of the loss of interior and remote habitat that will occur and has already occurred here. And "closed" roads are known to be violated by vehicle use here and elsewhere "Temporary" and "closed" roads facilitate more access and disturbance and mortality. The bears' present population numbers in this analysis area must be disclosed.
- A clear goal for black bear conservation is "promoting remote forest conditions when managing forests (e.g., minimizing forest fragmentation, limiting road development)." Rudis, V.A., and J.B. Tansey. 1995. Regional Assessment of Remote Forests and Black Bear Habitat from Forest Resource Surveys. J. Wildl. Management 59(1): 170-180 (written by FS researcher; incorporated by reference).
- U.S. Forest Service EAs acknowledge that timber sale operations in an area results in increased hunting pressure there. Logging operations can be seen to make an area more desirable for Bear hunters (e.g., providing easier access for humans, attracting Bears to so-called "escape" habitat that does not actually provide an escape), but this does not equate to being better for Bears.
- The FS recognizes that new or reconstructed roads serve to increase access into a project area (see GWNF West Dry Branch EA-42). The FS is also well aware that roadways can foreseeably be used for legal and illegal access. See also Jefferson NF Wilson Mtn. TS EA-69 - "roads and forwarder trail could increase hunting/poaching pressure".
- Present roads and additional "temporary" and permanent road construction/reconstruction will facilitate entrance into an area by hunting groups and hounds. They will be able to more easily interfere in Bears' lives during chase season, kill season, and by illegal poaching.
Poaching and other wildlife disturbing activities are not even mentioned. These relevant factors must be fully and fairly considered.

Invasive Species
Invasive species have been identified in the project area.

The FS should analyze the potential for this logging project to open up habitat and create conditions for the introduction and spread of invasives.

Researchers have found that logging, roadbuilding, and other similar activities create the conditions in which invasives can thrive. For example, logging simplifies structural diversity and eliminates microhabitats, thus decreasing species richness. As a result, communities are more prone to invasion by one or a few dominant species (Elton 1958). Habitats most likely to have an invasive species presence have been correlated with the following attributes: "vacant niches, lack of biotic constraints (predation, parasitism and disease), lack of community richness (biodiversity & structure), and disturbance." Logging is known to cause all four factors in forest ecosystems (Mack et al. (2000)). The introduction and spread of invasive species is linked to poor logging practices (poor replanting practices, road construction, & movement via machinery and tools) (Aber et al. 2000). Invasives, and vectors for the spread and introduction of invasives, must be fully considered. Mitigation measures must be established to reduce invasives. Additional alternatives with less disturbance should have been considered to reduce the introduction and spread of invasives.
Mack et al. (2000) found that the habitats that invasive species have successfully invaded in the past were qualified to as to their characteristics by Mack et al. (2000). Positive correlations were found between susceptibility to invasion and:
1.vacant niches
2.lack of biotic constraints (predation, parasitism and disease)

3.lack of community richness (biodiversity & architecture)
4.disturbance
All of these phenomena are created in extreme fashion by logging practices.

The FS should consider the full impacts of invasive plants in this area, the degree to which projects such as this one (by itself and cumulatively) will contribute to the spread of invasive plants. The FS has not demonstrated that the mitigation measures effectively eliminate the causes of noxious weed spread. logging, roadbuilding, and skid trail use and heavy vehicle traffic spread existing weeds, and probably introduce new species of weeds

The Forest Service should consider all reasonable measures that could reduce the potential spread of noxious weeds. Failure to consider strong mitigation measures violates NEPA requirements to minimize adverse effects: Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment. (40 CFR 1500.2(f))

A mere listing of mitigation measures is insufficient to qualify as a reasoned discussion by NEPA. EISs must analyze mitigation measures in detail and explain the effectiveness of such measures [Northwest Indian Cemetery Protective Ass'n v/. Peterson 795 F.2d 688 (9th Cir. 1986)]. Forest Service NEPA documents describe possible mitigation measures but do not discuss them in adequate detail nor do they discuss or disclose the costs, effectiveness or efficacy of the mitigation measures. The long-term effectiveness of herbicides and other noxious weed treatments are still seriously questionable.

NFMA regulations relevant to noxious weeds include:

"Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest . . ." (36 CFR 219.27(g))

"Provide for and maintain diversity of plant and animal communities to meet overall multiple-use objectives, as provided in paragraph (g)" (36 CFR 219.27 (a)(5)) "[D]iversity shall be considered throughout the planning process. Inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition." (36 CFR 219.26)

"[V]egetative manipulation of tree cover shall" "[p]rovide the desired effects on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields." [36 CFR 219.27 (b)(6)]

The FS is required to comply with presidential Executive Order13112.:

Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species.

Or,
Sec. 2. Federal Agency Duties. (a) Each Federal agency whose actions may affect the status of i
{{nv
1asive species shall, to the extent practicable and permitted by law,

(1) identify such actions;

(2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and th
e means to address them; and

(3) not authorize, fund, or carry o
ut actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Cutting units and bulldozed skid trails (such as that planned here) appear to play a role in the known occurrences of noxious weeds and may play a further role in the presence of yet uninventoried infestations that are out there. We challenge the FS to give an accurate percentage of the miles of roads on the FS that have never had noxious weeds. The EA does not do so. Likewise, these infestations on the roads readily expand into cutting units, especially the more intensive the logging done in the particular units. Typically, the FS just throws up its hands and accepts that they will be carrying out management activities that inevitably cause more spread of weeds. Instead, a genuine prevention strategy is need and this needs to be incorporated into the analysis. The premier tool of prevention of new noxious weed invaders deserves the highest priority. Instead, all prevention strategies assume weeds will invade, then prescribe expensive control methods of unknown efficacy after the fact.
Without first significantly reducing the type of soil disturbing activities that facilitate noxious weed invasion, the proposed treatment effects may be negated, indeed, overwhelmed by the spread of weeds caused by more of the same road building and logging. By arbitrarily not considering these measures, the FS has failed to show a genuine, pressing need to risk the ecosystems by applying poisons.
The FS should have also disclosed what herbicides and biocides would be necessitated by this project. Cumulative and connected actions should be analyzed. could be the direct result of the types of activities proposed here. This should also include the public health impacts of Round-up and similar herbicides, since Round-up application has been found to contribute to disease and other public health impacts in recent months, since the time that the scoping notice was released. This new information should be incorporated into the

analysis.

The FS should consider preventive measures, including foregoing or greatly reducing the footprint of this project, in order to better address the problem of invasive plants.
The EA or EIS for this project should address the potential spread of invasives (& noxious weeds) from the activities proposed as part of this project. We feel that the introduction and spread of invasives are some of the greatest threats to our public lands. In addition to addressing current weed infestations foreseeable from implementation of this project, the NEPA document should be focused on stemming the increasing infestation and spread of noxious weeds in the project area. The NEPA document should include measures to limit future ground disturbing and weed spreading activities. For example, all livestock that use the trail should be required to use certified weed-free hay. The NEPA document should examine and address the most prevalent ways that soil disturbances are created which lead to weed invasions. This should be recognized in terms of costs to the taxpayer, impacts on biodiversity, and the likely need for doing even more weed control in the future. It makes absolutely no sense to analyze controlling weed invasions that exist now without taking a full and honest look at how to prevent new sites from being invaded. While limiting future land disturbance should be the foremost priority, prevention measures associated with land disturbing activities that do occur should also be outlined in the NEPA document. The past effectiveness of the proposed prevention activities should be discussed. Roads and trails likely have the greatest potential for spreading noxious weed seeds.

Road- work, logging, and open woodland creations and other major activities contribute to the spread of invasives & should be fully examined. A comprehensive, integrated policy that specifically includes the halting or significant curtailment of logging, roadbuilding, road construction, grazing allotments, mineral development, ORV riding and other activities that contribute to the spread of noxious weeds should have been considered. The premier tool of prevention of new noxious weed invaders deserves the highest priority. Too often the Forest Service has relied on ineffective stop-gap measures - at the same time it has allowed some of the worst ground disturbing activities to continue.

The NEPA document must meet NEPA's requirements that a reasonable range of alternatives be fully analyzed. The Forest Service Handbook, chapter 20, section 23.2 states that the purpose and intent of alternatives are to "ensure that the range of alternatives does not foreclose prematurely any option that might protect, restore and enhance the environment." Under NEPA, an environmental impact statement must contain a discussion of "alternatives to the proposed action" [42 U.S.C. 4332(2)(D)]. As interpreted by binding regulations of the CEQ, an environmental impact statement must "(r)igorously explore and objectively evaluate all reasonable alternatives" [40 C.F.R. 1502.14(a)]. The importance of this mandate cannot be downplayed; under NEPA, a rigorous review of alternatives is "the heart of the environmental impact statement." 40 C.F.R. 1502.14. Similarly, case law has established that consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA. [Citizens for Environmental Quality v. United States, 731 F.Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).]

NEPA regulations at 40 CFR ß 1502.4(a) state:
Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined.

And at 40 CFR ß 1508.25, NEPA regulations state:
Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement. . . To determine the scope of environmental impact statements, agencies shall consider:
(a) Actions (other than unconnected single actions) which may be:
(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:
(i) Automatically trigger other actions which may require environmental impact statements.

The FS is required to comply with presidential
Executive Order 13112. The FS does not assure the public that the proposal is consistent with the following sections of Executive Order 13112:

Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species.

Or,
Sec. 2. Federal Agency Duties. (a) Each Federal agency whose actions may affect the status of inv
1asive species shall, to the extent
practicable and permitted by law,

(1) identify such actions;

(2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and th
e means to address them; and

(3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Salamanders

The Forest Service should sufficiently examine and consider the potential impacts upon salamanders. This

concern is significant here given the agency's intent to destroy, degrade, or fragment suitable salamander habitat. Populations in the project area could be centered in, perhaps even be only found at, the particular places targeted for intense manipulation. They have very small home ranges with limited abilities of mobility (see attachments). They are susceptible and vulnerable to severe site-specific harm to their habitat and numbers; harm that would occur should the decision be implemented.
Their life history requirements and characteristics greatly restrict their abilities to "recolonize" areas. If this PA contains tiger salamander habitat or other MIS or TESLR salamander habitat, the FS should examine impacts in full. If this project area or the cutting units do not contain Cow Knob or tiger salamander habitat, then the MIS (viz., black bears, pileated woodpeckers) and other birds listed in the JNF Plan are of limited, even misleading, use for gauging impacts to site-sensitive salamander populations. Additional salamander/amphibian/reptile MIS need to be considered in this analysis.
The MIS are also insufficient for gauging impacts to truly area-sensitive species of mature interior forest (such as various warbler or tanager species). The MIS are not strictly interior species and/or are more habitat generalists and/or are not area-sensitive and/or are not site-sensitive.
The use of these species does not accurately gauge the impacts to small site-sensitive species of low mobility such as salamanders and turtles. Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.
Present MIS do not allow for the accurate monitoring and assessment of management impacts to salamander populations in the RD where POS do not occur. Then some other indicator of effects needs to be used; the project's and Plan's MIS are deficient. 16 U.S.C. 1604(g)(3)(C).

Impacts to site-sensitive creatures such as salamanders should be properly monitored and assessed. These creatures are very important components of forest ecosystems. The biomass of salamanders in a northern hardwood forest was twice that of the bird community during the breeding season and nearly equal to that of small mammals (see Burton and Likens, 1975, Copeia: 541-546). While in southern Appalachian forests, salamander biomass may exceed that of all other vertebrates combined (see Hairston, 1987, Community Ecology and Salamander Guilds). It is clear that they play key roles in ecosystem dynamics. Abundant studies reveal the severe impacts of logging upon salamander populations and their preference for older forest sites. See "The Relationship Between Forest Management and Amphibian Ecology", 1995, deMaynadier and Hunter, Environmental Reviews 3:230-261 (incorporated by reference). See also "Effects of Timber Harvesting on Southern Appalachian Salamanders", Petranka et al, 1993, Conserv. Biol. 7:363-370; "Effects of Timber Harvesting on Low Elevation Populations of Southern Appalachian Salamanders", Petranka et al., 1994, Forest Ecology and Management 67:135-147; and "Plethodontid Salamander Response to Silvicultural Practices in Missouri Ozark Forests", 1999, Herbeck and Larsen, Conservation Biology 13:3, 623-632) (these are standard journals readily available to the agency; the agency is already in possession of this info as the studies took place on and were funded by NFs; info incorporated by reference). See also the "Conservation Assessments/Agreements" for the Peaks of Otter and Cow Knob Salamanders on the J-GWNFs (incorporated by reference).
Terrestrial salamander abundances are affected by forest thinning. See Grialou, J.A., West, S.D., and R.N. Wilkins. 2000 ("Relative comparisons revealed that red-backed salamanders were influenced by forest thinning. The difference in relative capture rates because the thinning treatment was minor. The observed decline in red-backed salamanders may be explained by direct machine impacts and soil compaction from skidders") The effects of forest clearcut harvesting and thinning on terrestrial salamanders. Journal of Wildlife Management 64(1): 105-113); incorporated by reference. See also Harpole and Haas, "Effects of Seven Silvicultural Treatments on Terrestrial Salamanders, For. Ecol. & Mgmt. 114:349-356 (1999) ("Salamander relative abundance was significantly lower after harvest on the group selection ($p<0.005$), shelterwoods ($P<0.007$ and $p<0.015$), leave-tree ($p<0.001$), and clearcut treatments($p<0.001$)").; incorporated by reference. Here, researchers in Virginia found that relative abundance of salamanders based on area-constrained searches decreased on group selection cuts, 12-14 sq. m shelterwood cuts, 4-7 sq. m shelterwood cuts, leave tree cuts, and clearcuts. Large plethodontid populations declined in group selection cuts after the Daves Ridge TS (Mt Rogers NRA;

Daves Ridge Group Selection "Project Overview"). See the 1994 SO monitoring and evaluation report, section on Daves Ridge TS and James Organ's report on salamanders and related issues in the Daves Ridge area ("Salamander Survey in Connection with Daves Ridge Timber Sale"). "For future Environmental Assessments involving salamanders, Sensitive or of Special Concern," Dr. Organ recommended, for terrestrial salamanders to "keep regeneration areas small, one to three acres in size, maintain large undisturbed tracts of forest between regeneration areas to permit salamanders to freely move around regeneration areas rather than to be trapped by a checkerboard pattern of thermal and low moisture barriers, do not disturb existing down and decaying logs within the regeneration area if possible…"as well as other recommendations. These documents, already in possession of the GWJNFs, are incorporated by reference.
"Movements were about 1 m and were similar to other species of terrestrial plethodontid salamanders [citations omitted]… The limited movements have implications in the potential fragmentation of P. hubrichti populations. Timbering operations that occur in the [Peaks of Otter] salamander's range may not only eliminate animals from the cut areas (Pough et al. 1987, Ash, 1988), but might also create barriers between populations. Recolonization after forest recovery, and the reestablishment of contact between separated populations, might be a slow process due to the limited movements of this salamander. In addition, the Blue Ridge Parkway, logging roads, and other alterations to the forest may produce impassible barriers, thus causing fragmentation of the population (J. Mitchell, pers. Comm.) Effectively salamander populations may become fragmented and genetically isolated. Loss of genetic variability associated with genetic drift could then occur thereby decreasing the long-term probability of survival for this species (Soule, 1983). For this reason, forestry management practices should include prevention of further fragmentation of the already isolated populations of P. hubrichti" (Kramer et al., Jour of Herp. Vol. 27, No. 4, pp. 431-435, 1993).

It is apparent that the proposed operations have the potential to significantly harm the habitat of and thereby the distribution and viability of some salamander species. This issue should be fully and fairly considered by the agency here.
The

TESLR Species

TESLR species may occur in the vicinity of the project area or in the project area. See, eg, occurrence records for these subwatersheds and this county at "http://www.dcr.state.va.us/dnh/" and records in Terwilliger, 1991, VSO Virginia's Breeding Birds Atlas, Atlas of the Flora of Virginia, Harvill et al., Strasbaugh and Core, and other sources of information on occurrence records and potential habitat in the area.

It is unclear how thoroughly the FS surveyed for TESLR species, whether TESLR species could be directly or indirectly harmed by the project, or what steps the FS will take to TESLR species, and the effectiveness of these measures, since we have seen no BE/BA for the project.

The FS should conduct thorough surveys and analysis of TESLR species should be conducted. Many TESLR species on the JNF require special techniques for detection or are not easily observed at certain times of the day or times of the year. Appropriate surveying techniques should be utilized and these should be utilized at appropriate times of the year and times of the day. Persons with the requisite training for identification of TESLR species likely to be found in the area should conduct the surveys. An adequate amount of time should be spent in the field conducting surveys.
- Where TESLR species may be harmed by activities, these activities should be avoided in areas with TESLR habitat or known occurrences of TESLR species. Adequate mitigation measures must be established.

Cultural Resources
-Cultural Resources may be impacted.
There may be sites of concern in the project area. The direct and indirect impacts on cultural (heritage) resources resulting from the logging, roadbuilding, current road system and other activities should be thoroughly analyzed.

Complete cultural resources surveys should be completed which satisfy the terms of the National Historic Preservation Act, and other laws regarding cultural resources, Native American cultural resources, religion, and traditional practices and their implementing regulations. Thorough surveys should be done. The FS should consult with Native Americans and others who are knowledgeable regarding cultural resources that are found or might be found in the project area. The FS should include in its documentation, the survey methodology used, a copy of any Memoranda of Agreement with the State Historic Preservation Office, and the qualifications of the people doing the survey work. Thorough mitigation measures should be used and those mitigation measures should be demonstrated to be effective.

Cerulean Warblers and other NTMBs

There is a potential for the cerulean warbler to be found in the PA and vicinity. The cerulean warbler has exhibited the greatest rate of any warbler species and the cerulean is declining at the center of its range. (Robbins, Fitzpatrick and Hamel, 1989, " A warbler in trouble: Dendroica cerulea") There are viability concerns for cerulean warblers, other species of interior forest-dwelling warblers, species of cuckoos, and other interior-forest dwelling songbirds listed as declining in BBS (or other ornithological data) that must be taken into consideration.

The cerulean is recognized by the FS and others as an area-sensitive species (SAA, Terrestrial Rept, Robbins et al., Cove Creek BE, 1995, Clinch RD, J&GWNFs, Maple Springs Branch BE, Clinch RD, J&GWNFs). Other species are listed as area sensitive species in the SAA. The FS should consider the impacts to these area-sensitive species.

The FS found that cerulean warblers "tended to be older, large diameter stands with tall trees, a deciduous understory, multiple layers and ages..." ((Cerulean Warbler Interim Mgmt Strategy, Clinch RD, GWJNFs, p. -7)

"Trees 18.2 in. in diameter composed greater than one-fourth of the overstory trees in the stands." (CW IMS-7)

The IMS documents that research characterized "suitable cerulean warbler habitat as mature forest with a high, closed canopy and a large number of stems greater thatn 12 in. diameter..." (CWS IMS-8)

The proposed logging and roadbuilding could impact birds that have different stratigraphic preferences, niches, and life cycle needs. What are the stratigraphic preferences and vegetative preferences of cerulean warbler and other birds? How would the project affect birds with different stratigraphic preferences and vegetative preferences of birds other than and including cerulean warblers?

The proposed logging, roadbuilding and associated activities could impact birds during the time that birds are seeking mates, breeding, nesting, rearing their young, or migrating. During what period due forest interior birds seek mates? Breed? Migrate? How would the project affect these factors? The project may involve a taking under the MBTA if birds are killed in nest trees or nearby trees

What activities are affecting the forest interior birds throughout their breeding range? Wintering range? How do these activities cumulatively affect birds?

- What are current browse levels? Is natural disturbance incorporated in the figures provided?
- How would the project affect cove hardwoods, northern hardwoods, boulder fields, seeps, riparian areas, old growth and other special or unique habitat? Underrepresented habitat? Special, unique or underrepresented habitat with few nearly mature/mature/old growth stands remaining?

How will state-listed species (DNH lists of rare animals, rare plants, state-endangered and threatened species), species listed in Terwilliger, Virginia's Endangered Species and other sources) and species acknowledged as rare by expertsbe affected by this project? How will plant and animal species with economic value that are vulnerable to overharvesting affected by this project? How will habitat, foraging sites, and nesting sites be affected? Genetic viability? Competition from other species? Freedom from disturbance? Visibility?

The 2001 Executive Order on Migratory Birds states: "Sec. 3. Federal Agency Responsibilities. (e) Pursuant to its MOU, each agency shall, to the extent permitted by law and subject to the availability of appropriations and within Administration budgetary limits, and in harmony with agency missions:

(1) support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse

impacts on migratory bird resources when conducting agency actions;…
(4) design migratory bird habitat and population conservation principles, measures, and practices, into agency plans and planning processes (natural resource, land management, and environmental quality planning, including, but not limited to, forest and rangeland planning, coastal management planning, watershed planning, etc.) as practicable, and coordinate with other agencies and nonfederal partners in planning efforts;…
(6) ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern;…
(9) 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, developing any such conservation efforts in cooperation with the Service. These principles, standards, and practices shall be regularly evaluated and revised to ensure that they are effective in lessening the detrimental effect of agency actions on migratory bird populations. The agency also shall inventory and monitor bird habitat and populations within the agency's capabilities and authorities to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts;"…
Sec. 2 i) "Species of concern" refers to those species listed in the periodic report "Migratory Nongame Birds of Management Concern in the United States," priority migratory bird species as documented by established plans (such as Bird Conservation Regions in the North American Bird Conservation Initiative or Partners in Flight physiographic areas), and those species listed in 50 C.F.R. 17.11." Several birds listed in Bird Species of Conservation Concern (USF&WS) 2002 are potentially found in this area (see BSCC p. 51). Impacts to these NTMBs should be analyzed.

Riparian Areas
Riparian areas and water resources occur in this project area. Riparian resources and associated aquatic and terrestrial species are important in this area . All portions of riparian areas need to be thoroughly delineated in the field. Impacts to plants, animals, and biological communities in and around these areas needs to be thoroughly evaluated. The management prescription area for riparian areas needs to be clearly delineated and followed in this project area. The document with the scoping notice did not contain maps of these areas. We would be happy to comment further once these maps are completed.
It is unclear how riparian management areas, and stream conservation zones are delineated. Many of the resources associated with these features (and the natural shade within them) may be impacted by this project. How would resources associated with large or old trees such as these be affected? How would LWD be affected?
Many species and biological communities rely on the health of riparian areas. See Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph and p. 3 top paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both incorporated by reference). Headwaters and small streams are particularly sensitive: "The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF Enterprise TS EA-42; incorporated by reference). "Generally the headwater fish populations are the most threatened." (GWNF FEIS J-8). For information regarding salamander use of headwater stream habitat see <http://www.epa.state.oh.us/dsw/wqs/headwaters/TechRep_FishAmphibian_2002.pdf> (incorporated by reference). This information needs to be fully considered and incorporated into the analysis. Expanded no cutting or no disturbance zones around stream courses needs to be implemented here.
Riparian areas must be fully surveyed.
The Plan requires the FS to delineate riparian areas based on on-the-ground conditions
The precise location of all the project area riparian areas in relation to cutting units and road sites is not

disclosed. The FS does not explain why the full riparian areas are not being fully protected. The FS does not properly or accurately disclose foreseeable impacts. Because of their importance (e.g., habitat, feeding fisheries, downstream TESLR species habitat) and the drier site conditions that can be found elsewhere at these units, all riparian areas should be avoided by cutting and vehicles.
- Springs and seeps should be identified during wet weather (See Va. BMPs, incorporated by reference). In order to comply with BMPs, the project area should have been surveyed during wet weather, when springs and seeps are most likely to be detected. There are no survey records to document this.
- Logging is allowed around springs and seeps. These areas are a component of landscape diversity and are very important for maintaining the population viability and distribution of salamanders, frogs, crayfish, box turtles, ruffed grouse, turkeys, and other species (see JNF Hagan Hall TS EA -43, 44, 46; incorporated by reference). Removal of their canopy cover impedes and disrupts the natural ecological succession of these areas. Implementation of the proposed alternative/mitigation is not compliant with the DFC for these microhabitats. These areas should be absolutely off-limits to cutting and removal and vehicles; and the no-disturbance zone should be more than just the "immediate" wet area due to hydrological, shade, and drying concerns.
"Elimination of terrestrial vegetation around aquatic breeding sites causes amphibian populations to decline [citations omitted]. Thus, maintenance of amphibian biodiversity depends on the protection and management of both aquatic breeding sites and the surrounding terrestrial habitat." "Factors influencing amphibian and small mammal assemblages in central Appalachian forests", Mitchell et al, Forest Ecology and Management 96: 65-76 (1997). (research conducted on the GWNF, incorporated by reference).
"Downed material in these spots is providing cover which was formerly provided by a forest canopy. This downed material is retaining the cooler temperatures and higher humidity associated with springs and seeps." (Hagan Hall Wildlife Existing Condition report, Aug. 1998). "Removal of material from these sites [seeps, springs, bogs, and forested wetlands], particularly where most of the tree canopy is now gone, would increase the solar radiation causing warming temperatures and less humidity. . . . increased temperatures and drier air can affect the presence of certain amphibians and small mammals." (Hagan Hall EA-47). Ecosystem management should recognize that there is more to seeps, springs, bogs, and forested wetlands than just their physical characteristics. If these locations become unusable or unattractive to some amphibians, mammals, or other taxa that would be expected here, then they are not fully functional. And there is no analysis or citation to studies to corroborate the assertion that retention of 20% (or whatever basal area the cutting method retains) of the overstory cover shading these sites is enough to maintain their full functioning and attain their DFC.
Surveys to identify these areas must be carried out during wet periods when they can be properly detected (see state BMP manual). "Seeps and other wetlands ... are best located during rainy season as many wetlands are difficult to identify during dry periods." - Forestry Best Management Practices for Water Quality in Virginia Technical Guide at pg. 42 (incorporated by reference). The FS claims to be complying with state BMP guidelines (e.g., EA13&14), but it is not clear that compliance has occurred. If the habitats are not properly identified and inventoried, they cannot be properly protected, mitigated, and monitored.
Seep areas provide critical riparian habitat. A VDGIF biologist states they should be protected "by a minimum of 100 feet on each side (preferably 200-300 feet)" (see GWNF Johnson Mtn. timber sale project file at tab 20; incorporated by reference). This 200-300' zone should be applied here. See also Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph and p. 3 top paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both incorporated by reference).
-There is a documented occurrence of the roughhead shiner, a sensitive species in this county and watershed.
The TESLR Bats

It is unclear how thoroughly the FS surveyed for TESLR bats, whether these species could be directly or indirectly harmed by the project, or what steps the FS will take to these species, and the effectiveness of these measures, since we have seen no BE/BA for the project.

The agency should consult with the USFWS on this specific project. The necessary biological opinion must be obtained. The proper Biological Assessment must be performed. 16 USC 1536(a)(2). This was not done. See Section 7 of the ESA.

(2) Project Area

There is a possibility of usage of the project area by this species. Karst cave entrances, blowholes, and sinkholes may exist nearby and may provide habitat for TESLR bats. The cutting sites forests are mature forests, with canopy gaps and snags and trees with exfoliating bark, that are the habitat known to be preferred by this species. Implementation of the proposed action would remove and damage this habitat. In addition, all the proposed cutting sites are adjacent to riparian corridors, habitat this species is known to prefer.

Because the project area and project is so close where TESLR bats have been observed roosting in trees in the Forest, the FS should have determined and disclosed the distance of the project from the cave and other roost sites, & properly analyze effects.

(3) Need to Obtain and Analyze Scientific Information

The agency often claims to be following the guidelines of the Indiana Bat Plan Amendment EA. The explicit objectives of this Plan are the identification, protection, and promotion of foraging areas, roost sites, maternity sites, and swarming areas. (pg.2) Establishment of whether these units and project area are actual roost sites or foraging or maternity or swarming areas is necessary so as to be consistent with the IBRS, NEPA, NFMA,APA and/or the ESA. This is especially important due to the closeby location of hibernacula. The requisite full, intensive, and competent surveys, inventories, and data gathering to ascertain use of this area by the Bats should have been performed.

The proposal does not accomplish the goals of the IBRS or ESA or NFMA (viability [36 CFR 219.19]). The clear potential for adversely affecting a threatened or endangered species is present. By failing to properly consider, provide for, or protect the Indiana Bat and other T&ESLR bats, this proposal may violate the NFMA [36 CFR 219.19(a)(7)] in addition to the ESA.

Although not explicitly stated in the documents, planners frequently act as if Indiana Bats may occur throughout the GWJNFs (see, e.g.,numerous past BEs from this RD). Activities are often explicitly restricted around roost trees (see BE and Plan amendment). "If . . . active roost trees are identified" there will be a 1/4 mile or two mile buffer established around the tree. (BE, amendment). But this measure is weightless as the Forest Service is not taking active measures (as they should be if the Bats were being accorded the requisite top priority) to ascertain the actuality of this "if". "We are not required to survey our project areas for presence of Indiana Bats." (GWNF Mulligan TS EA App.B). This statement is not only false (see section C(3) of this appeal), it is also not the full and fair consideration demanded by law. See Village of False Pass v. Watt (1983) and Conservation Law Foundation v. Watt (1983).

The Forest Service does not seem to recognize the precariousness of the Indian Bats population in Virginia. Here on the periphery of their range, the Bats' numbers have plummeted. A net loss of 1300 Bats since counts were initiated in VA winter hibernacula (IBat EA-11), a decline of approximately 75% in this state. Bat populations in Starr Chapel Cave have plummeted from 600 bats in the early 60s to 54 bats by 1996-97. . Bat populations in Mtn. Grove Cave have declined from 23 bats in 1992 to 2 bats by 1997-98 (IBAt EA-11).

The FS ignores new information since the release of the 90s era BO and since the release of the IBAt EA-DN. For example, new Indiana bat hibernacula have been identified in the Jefferson NF]" (January 13, 2004 BO on the JNF Plan Revisionpp. 19&20) but there is no record if surveys have been conducted in and around the GWNF to identify new hibernacula there. The Brack and Brown (2002) study cited in the above BO discloses that less than half of identified roost trees are shagbark hickory, but here the FS mainly only protects shagbark hickories in its inadequate mitigation measures with no assurance that adequate other potential roost trees are protected. Recent research in Indiana and Kentucky indicates that bats range up to 5 mi. from hibernacula during fall and spring swarming periods (ibid p. 25). Clawson(2002) reported an 80% decrease in bat populations over the last 40 years in the southern portion of the bats' range (Alabama, Arkansas, Kentucky, Missouri, Tennessee, and Virginia) (ibid, 13).

The "plain intent" of Congress in enacting the ESA was to reverse species extinction trends "whatever the cost."

And substantive protection under the Act applies to species habitat - see Babbit v. Sweet Home (1995). The ESA "indicates beyond doubt that Congress intended endangered species to be afforded the highest of priorities." TVA v. Hill(1978) The FSM requires the agency to "[p]lace top priority on conservation and recovery of endangered, threatened, and proposed species and their habitats..." FSM 2670.31.

If the FS does not perform the needed surveys and inventories of the area and its habitat (the proper site-specific good faith "hard look" by qualified personnel using valid methods) necessary for clearly establishing the status of the Bat here, it is clear the agency would not be placing the requisite highest priority on the Indiana Bat and other T&E bats and their habitat. Past dereliction as regards proper survey information was articulated at the appeal resolution meeting for the Chestnut Ridge #2 TS on the GWNF Deerfield RD where agency personnel declared that it "wouldn't do any good to determine if Indiana Bats are using this area." And it is not clear how (or what or if) a 'contract inspection' can be relied upon for obtaining adequate Bat population and habitat mitigation monitoring. Maintenance of NFMA mandated viability would not be ensured, let alone the reversal of trends and recovery of populations demanded by the ESA. Top priority also must be given to the Endangered Virginia Big-Eared Bat; this has not occurred here

(4) Harm to Bats

The proposed logging would adversely affect roosting (sheltering), maternity (breeding), foraging (feeding), and swarming habitat of the Indiana Bat and other T&E bats. This timber sale could "take" the Indiana Bat and other T&E bats in that it could result in significant habitat modification or degradation, a violation of section 9 of the ESA. See also 40 CFR 1508.27(a&b), and 36 CFR 219.19. An unknown quantity of Bats may also be directly killed by implementation of the proposed logging.

This sale would remove the very trees (large mature with broken tops and cavities and snags and exfoliating bark) with the characteristics known to be used or favored by the Bats. Top priority is not being given to the Bats.

This felling/removal also ignores the Bats' known loyalty to habitat. The must address the impact of removing a roost tree when the bats are not there. There is lots of research that shows this would harm or indirectly kill bats. There is the need to consider, loyalty to the roost trees, stress of finding new roosts, and the impacts of removing trees next to roosts or potential roosts (i.e., making the tree more susceptible to windthrow and changing the thermal dynamics). Yet the issues were simply ignored.

Ignored also is the fact that the Bats are known to especially use riparian and stream corridors for dispersal and feeding. All forested habitat is not "equal', yet the agency's EA/BE analysis traditionally acts as if it is. The agency is proposing to disturb and degrade areas of Forest that are particularly important to the Bats. Most, if not all, of the tracts proposed for logging are adjacent to streambeds.

This area may be critical summer habitat for the Bats. A petition for designation of summer "critical habitat" is currently before the USFWS. Implementation of this proposal may result in foregoing opportunities to protect areas critical to the Bats recovery. This factor is totally ignored in the assessment and decision-making here.

The figures and narrative in the EA establish that the FS decision intends to remove and/or cut down a large amount of the potential Indiana Bat and other T&E bats' habitat at these cutting sites. The amount of disturbance proposed is not consistent with a FONSI or "no adverse effects to" Indiana Bats and other T&E bats.

(5) Mitigation

Efficacy of proposed mitigation measures for the Bat must be explained, and they must completely compensate for potential adverse effects. For example, the increased susceptibility of remnant leave trees to windthrow should be assessed. Efficacy of retaining only shagbark hickory trees is unsubstantiated; the Bats are known to use other tree species that are present here that the cuts will remove. See Table 4 at pg. 21 of GWJNF IBRS. White, chestnut, and northern red oaks, species which are prevalent here, are "Class 1 Tree Species" and are likely to be used for roosting and maternity sites. The effectiveness of retaining a certain number of snags per acre should be substantiated. If the Bats were receiving the required "top priority" all snags and large potential den trees would be retained. See Bensman v. USFS (1997). The mitigation may not necessarily retain the large old or dead/damaged trees of greatest benefit to the Species. And concern over low snag amounts (and quality) are not merely conjectural. See the information found in USDA FS General Technical Report SE-94 "Biodiversity and Coarse Woody Debris in Southern Forests" (incorporated by reference).

Another mitigation often offered for I. Bat roost trees is in effect no mitigation. "If during implementation active roost trees are identified. . ." Loggers or timber officers can not be expected to be qualified at identifying or locating TESLR species or roost trees. And there is no assurance that they would notify proper authorities if they did find anything. Reliance upon such mitigation for a FONSI is unreasonable and/or arbitrary and capricious. There is no mitigation requirement for examining cut trees to ascertain if "incidental take" or significant harm to Bats should occur. In a meeting attended by members of the appellants on July 26, 2002 at the GWNF Deerfield RD office, the agency timber sale administrators and contract inspectors present made it quite clear that they "do not monitor or track wildlife killed" at logging sites. In the absence of any documentation to the contrary, the same behavior can be presumed to be operating at this RD. Therefore the agency would not be assuring compliance with the ESA or the viability requirements of the NFMA.

Section 9 of the ESA states that it is unlawful to "take" listed species. 16 USC 1538(a)(1) "`Harm' in the definition of `take'... may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 CFR 17.3.

As the recent finding of IBats in North Carolina shows, one tree may harbor more bats than is allowed to be "incidentally" taken. Proper surveys have not been done here and are not being done here to ascertain whether Bats are present in or using cutting units. Nor is it proposed that proper monitoring by qualified personnel of trees if they are cut be accomplished to ascertain if incidental take requirements are not exceeded.

(6) Cumulative Impacts

Of particular concern are cumulative impacts to the IB. The proposed action, in concert with other past, present and future actions, could result in CIs to the Bat. Past actions have already harmed Bat habitat in this analysis area. There is clear evidence that further habitat modification (e.g., cutting of trees for sale) is foreseeable here and elsewhere in the Bats' habitat in this Forest and ranger district. The agency's assertion that CIs will not result to the Bat's populations here or in Virginia must be explained & substantiated. The Bats' viability is particularly at risk here due to it being on the edge of its range and its small population in Virginia.

The agency is at present modifying and/or damaging and/or degrading and/or destroying IB habitat (or contemplating such) throughout its range. These actions include, but are not limited to, the Dice Run, Open Trail, Johnson Mtn., Shady Mtn., Enterprise, Sugar Tree, Lip Trap, Hiner Hollow, Jehu Hollow, Apron, CMB, Bark Camp, Hagan Hall, Chestnut Ridge #2, Sandtrap, Nutters Mtn., Panhandle, Barn Hollow, Rogers Road, Peter's Ridge, Peters Mtn., Taylor Branch, Broad Run, Bear Trap, Hoover Creek, Canbe, Enterprise, Johnson Mtn., Uneven Steven, Open Trail, Slate, and Mulligan TSs on the J-GWNFs. Yet the significant CIs accruing from all of this (and other agency and non-agency actions) these must be analyzed and disclosed in the EA or EIS.

(8) Need to Consult with USFWS

The ESA requires agencies to reenter consultation when there is new information. The effect to Indiana Bats is "beyond that which is already disclosed" in the FWS BO/incidental take statement and GW-JNFs' IBat EA/BA/DN.

And the recent finding of IBats in North Carolina shows that one tree may harbor more bats than is allowed to be "incidentally" taken. As the Bats may be adversely affected, formal consultation with USFWS on this project needs to be reentered before any management ground disturbance activities occur.

NEED TO ENSURE VIABILITY OF THE INDIANA BAT and other T&E bats ON THE PLANNING AREA

The findings in the USFWS BO & Incidental Take statement and in the GWNF EA/BA for the Indiana Bat pertained to jeopardy to the species as a whole, NOT to its specific viability on the GWNF. These are separate issues, and the Forest Service is not fully and fairly considering impacts to the Bats' viability on this particular Forest. The discussion, findings and claims in the EA/BE for this project rely upon and reiterate the discussion, findings and claims that refer to jeopardy to the Bats as a whole, not to its viability on this particular Forest. The Forest Service may not be harming "critical habitat" for the species or be jeopardizing the "continued existence" of the species overall, yet its viability on this particular Forest may still be jeopardized. NFMA requires that viability be maintained on this particular planning area, not just somewhere on the species entire range. It is this NFMA mandated viability on this particular Forest that the agency is not ensuring in this decision.

Because of the species propensity for using the habitat of the type proposed for logging here(e.g., old age/mature sites, forest types, stream corridors), these proposed cutting sites have a high potential for occupancy by the Bats.
The planners often do not seem to recognize the precariousness of the species' population on this Forest. Here on the periphery of their range, the Bats' numbers have plummeted. A net loss of 1300 Bats since counts were initiated in Virginia winter hibernacula (GWJNF IBat EA-11), a decline of approximately 75% in this state.
(1)Lack of viability analysis
Yet there is no viability analysis for the Indiana Bat and other T&E bats for this specific proposal or for the GWNF in the administrative record. There is not even an estimate of a viable population in the FEIS, or where this population is distributed. Nor has an extinction threshold for the Bats on this Forest been established. And there is no analysis of cumulative impacts to the Bats' actual population on the GWNF in the administrative record for this sale. In addition, proper surveys have not been done here and are not being done here to ascertain whether Bats are present in or using cutting units. Nor is it proposed that proper monitoring by qualified personnel of cut trees be accomplished to ascertain if Bats are being "taken" or harmed. Nor is it proposed that qualified personnel ascertain if roost trees are being cut during sale implementation.
(2) Insufficient mitigation
The mitigation for the Bats offered by the agency does not accomplish compliance with the NFMA. Often the chief mitigation offered for I. Bat roost trees is in effect no mitigation. "If during implementation, active roost trees are identified. . ." And the other frequent so-called mitigation measure ("If during implementation of the project any TES species are located . . ." -) is likewise vacuous. Loggers or timber officers can not be expected to be qualified at identifying or locating TES species such as Indiana Bats and other T&E bats or Indiana Bat and other T&E bats roost trees or maternity roosts. And there is no assurance that they would notify proper authorities if they did find anything. Reliance upon such so-called mitigation is unreasonable and arbitrary and capricious. Reliance upon such so-called mitigation does not ensure that significant affects to the Bats' viability on this Forest would not occur.
Further, there is no mitigation requirement for examining cut trees to ascertain if "incidental take" of IBats and other T&E bats has occurred.
(3) Data not obtained - Non-compliance with Plan
Hard data on their population status in this project area has not been gathered, nor has a rigorous viability analysis been performed. Population inventory information of the Bats using this Forest in spring, summer, and fall have also not been obtained. The project area, including proposed cutting units, is habitat for the Indiana Bat. "When adequate population inventory information is unavailable, it must be collected when the site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species." See Std. 240 at GWNF LRMP 3 - 14. This information, required for a well-informed well-reasoned decision, must be gathered here.

Top priority also must be given to the Endangered Virginia Big-Eared Bat; must occur here. This species is listed as "Endangered" federally and by the state of Virginia. There is no population, monitoring, survey, or viability information on the species in the FEIS, the Forest Monitoring Reports.
This Bat is known to use the type of forest habitat proposed for intensive disturbance here.
It is possible that an unknown cave hibernaculum used by this species exists closeby (it is known that Bats in West Virginia "travel up to 6 miles from their caves to forage" - see pg. 63 of "Biological Assessment for Threatened and Endangered Species on the Monongahela National Forest West Virginia November 2000"; document incorporated by reference).
This species is known to use "tree crowns" in "forest habitat" to forage in summer (MNF BA at pg. 62). During summer foraging a radio-tracked Bat "spent most of its time in wooded areas" (id at pg. 66). More specifically this species is known to use mixed oak or oak/pine sites for foraging (id.), the very forest types found in this project area and proposed "cutting units".
Research shows that these Bats "forage only after dark." (id. at pg. 62) So they cannot reasonably be expected to be detected by "walking through" "field surveys" conducted in the daytime.
In addition, Townsends big eared bats (Corynorhinus townsendii) have recently been found use large hollow boles of trees for roosting elsewhere in their range in the U.S. For example, the Idaho Habitat Conservation

Assessment/Conservation Strategy contains information on recent discoveries (1990s) of Corynorhinus townsendii roosting in cavities in trees in the western U.S. The FS should have determined whether there is a potential for Virginia big eared bat to roost in the trees, or in boles of large trees, here.
Establishment of whether these units and project area are actual foraging areas is necessary so as to be consistent with the NEPA, NFMA, APA and/or the ESA. This is especially important due to the closeby location of a critical hibernaculum and the even closer occurrence record. The requisite full, intensive, and competent surveys, inventories, and data gathering to ascertain use of this area by the Bats must be performed. By not performing the needed surveys and inventories of the area and its habitat (the proper site-specific good faith "hard look" by qualified personnel using valid methods) necessary for clearly establishing the status of the Bat here, it is clear the agency would not be placing the requisite highest priority on the "Endangered" Virginia Big-eared Bat and its habitat.

The Indiana bat and other PTESLR bats, cave- and karst-related species, and cave- and karst-related biological communities may be found in or downstream from the PA. The eastern small footed bat (Myotis leibii) may occupy and/or forage in the area. According to Burt and Grossenheider, Peterson's Field Guide to the Mammals of North America (1976), the habitat for this bat includes caves, crevices in rocks, and forested areas (p. 33).

The northern long-eared bat has declined 99% in the Northeast, 96% in Virginia, roughly 68% in West Virginia. Unlike the little brown bat, which is showing signs of stabilization in areas longest affected by white nosed syndrome, the northern long-eared bat population does not appear to be stabilizing anywhere. Northern long-eared bat populations are starting to show increasing mortality in the Southeast and Midwest. Twenty- five states in its 38 state range are now affected by white nosed syndrome, and 5 Canadian provinces in its range are also now affected by white nosed syndrome.

There is currently no Forest Plan provision for protecting the Northern long eared bat than required for the Indiana bat. Forest clearing proposed in the Alternatives could adversely affect roosting (sheltering), maternity (breeding), foraging (feeding), and swarming habitat of the northern long-eared bat and other T&E bats. Logging could remove the very trees (large mature with broken tops and cavities and snags and exfoliating bark) with the characteristics known to be used or favored by the Bats. Top priority should be given to the Bats.
This felling/removal also ignores the Bats' known loyalty to habitat. The agency must address the impact of removing a roost tree when the bats are not there. There is the need to consider, loyalty to the roost trees, stress of finding new roosts, and the impacts of removing trees next to roosts or potential roosts (i.e., making the tree more susceptible to windthrow and changing the thermal dynamics).
Efficacy of proposed mitigation measures for the Bat must be explained, and they must completely compensate for potential adverse effects. For example, the increased susceptibility of remnant leave trees to windthrow should be assessed. Efficacy of retaining only shagbark hickory trees is unsubstantiated; the Bats are known to use other tree species that are present here that the cuts will remove. See Table 4 at pg. 21 of GWJNF IBRS. White, chestnut, and northern red oaks, species which are prevalent here, are "Class 1 Tree Species" and are likely to be used for roosting and maternity sites. The effectiveness of retaining a certain number of snags per acre should be substantiated. If the Bats were receiving the required "top priority" all snags and large potential den trees would be retained. See Bensman v. USFS (1997). The mitigation may not necessarily retain the large old or dead/damaged trees of greatest benefit to the Species. And concern over low snag amounts (and quality) are not merely conjectural. See the information found in USDA FS General Technical Report SE-94 "Biodiversity and Coarse Woody Debris in Southern Forests" (incorporated by reference).
Another mitigation often offered for bat roost trees is in effect no mitigation. "If during implementation active roost trees are identified. . ." Loggers or overseers can not be expected to be qualified at identifying or locating TESLR species or roost trees. And there is no assurance that they would notify proper authorities if they did find anything. Reliance upon such mitigation for a FONSI is unreasonable and/or arbitrary and capricious.
Of particular concern are cumulative impacts to the northern long eared bat. The proposed action, in concert with other past, present and future actions, could result in CIs to the Bat. Past actions have already harmed Bat habitat in this analysis area. There is clear evidence that further habitat modification (e.g., cutting of trees for

sale) is foreseeable here and elsewhere in the Bats' habitat in this Forest and ranger district. The agency's assertion that CIs will not result to the Bat's populations here or in Virginia must be explained & substantiated. The Bats' viability is particularly at risk here due to declines from white nosed syndrome in Virginia. The FS should have analyzed the particular habitat needs of the long-eared bat and should have analyzed how the project would impact the bat and its habitat.. ÒCompared to random trees, roosts of northern long-eared bats were within intact forests (x2 = 10.56, d.f. = 1, P = 0.001). Amount of obstruction and decay differed; roosts of M. sodalis typically were less cluttered and more decayed than those of M. septentrionalis (x2 = 38.63, d.f. = 2, P < 0.001). Indiana bats roosted almost exclusively under exfoliating bark of bottomland snags, whereas northern long-eared bats also made extensive use of cavities and crevices.Ó ÒNorthern long-eared bats used five identified species of trees for roosting; nine roosts were in pin oak, five in elm, two in unidentified snags, and one each in sweetgum, oak, and hawthorn (Cratagus spp.).Ó ÒComparing roosts of Indiana bats and northern long-eared bats (Table 3), two variables were significant (x2 = 38.633, d.f. = 2, P < 0.001). Degree of roost obstruction was greater around northern long-eared bat roosts than around Indiana bat roosts (x2 = 14.954, d.f. = 1, P < 0.001), and M. septentrionalis roosts were less decayed than those of M. sodalis (x2 = 4.876, d.f. = 1, P < 0.027).Ó(Timothy C. Carter , George A. Feldhamer, ÒRoost tree use by maternity colonies of Indiana bats and northern long-eared bats in southern Illinois,Ó Forest Ecology and Management 219 (2005) 259Ð268).
-The FS should consider the differences between northern long-eared bats and Indiana bats and their use of habitats.
From Northern long-eared bat (NLEB) comparisons with the Indiana bat (Ibat) Appendix B:

Canopy cover around roost trees
Northern long-eared bats: They appear to select roosts with generally more canopy cover than Indiana bats do. Canopy coverage at NLEB roosts has ranged from 56 percent in Missouri (Timone et al. 2010), 66 percent in
Indiana bats: Mean values of canopy cover are highly variable among studies, ranging from <20 to 88 percent (FWS 2007).
FWS (2007) ÒFirst, some variation undoubtedly is related to differences in
Food sources:
Arkansas (Perry
and Thill 2007), greater than 75
percent in New Hampshire (Sasse and
Pekins 1996), to greater than 84
percent in Kentucky (Lacki and
Schwierjohann 2001).
Examples of studies that compared NLEB and Indiana bats directly:
¥ Indiana bat 25% vs. NLEB 56% (Timpone et al. 2010)
¥ Indiana bat 18% vs. NLEB 44% (Carter and Feldhamer 2005)
Northern long-eared bat: Similar to Indiana bat. Beetles, mayflies, moths (Brack and Whitaker 2001, Lee and McCracken 2004, Feldhamer et al. 2009) Potential differences Indiana bat, as gleaners, NLEB eat more arachnids (spiders) (Feldhamer et al. 2009) and more orthopterans than Indiana bat (Lee and McCracken 2004).
Indiana bats: Flying insects. Consistent use of moths, flies, beetles, and caddisflies throughout the year at various colonies suggests that Indiana bats are selective predators to a certain degree, but incorporation of ants into the diet also indicates that these bats can be opportunistic (Murray and Kurta 2002). Hence, Brack and LaVal (1985) and Murray and Kurta (2002) suggested that the Indiana bat may best be described as a Òselective opportunist,Ó as are a number of other Myotis species (Fenton and Morris 1976).
Foraging behavior:
Northern long-eared bats: Nocturnal. Both hawking and gleaning (Brack and Whitaker 2001, Feldhammer et al. 2009, Fenton and Bogdanowicz 2002; Ratcliffe and Dawson 2003). Within canopy more than Indiana bat (Nagorsen and Brigham 1993).

The 2001 DCR Eastern Small Footed Bat Conservation Agreement states: " When timber harvesting activities

occur near summer bat roosts, caves, and foraging areas, use of buffers and minimal disturbance zones is strongly recommended. Timber harvesting techniques that leave snags,and trees with cavities and exfoliating bark are potentially beneficial, and are recommended in areas known to support eastern small-footed myotis. " The conservation agreement states that "Summer roosts are often in trees,buildings, behind loose bark, on rock outcrops, and on rocky ridges (Barbour and Davis 1969; Tuttle1964; Whitaker and Hamilton 1999)." The FS must perform the requisite surveys using advanced methods to determine in the eastern small footed bat exists in the area. The project area contains rock outcropsThe FS should ensure that "buffers and minimal disturbance zones" were implemented or adequate. The should require the recommended " timber harvesting techniques that leave snags,and trees with cavities and exfoliating bark" be implemented as mitigation measures around these areas. Habitat for small footed bats, also other species that rely on forested rocks and boulders (e.g., the Allegheny woodrat, rattlesnakes, southern rock voles, coal skinks, eastern ribbon snakes, mountain earthsnakes, pine snakes, turtles, salamanders, and other species) could also be affected. Only a limited number (and/oronly limited types of species) trees and snags in these categories were protected. The eastern small footed bat and other species (and their habitats) are not adequately considered or protected.

Remote Areas

The Forest Service should examine remote habitat, on a landscape scale, and ensure that sufficient large blocks of remote habitat and linkages between such blocks of habitat remain.

Impacts of species vulnerable to climate change should be examined.

- Would any roadless or unroaded areas in the vicinity of the project be impacted? How would roadless, unroaded, remote, or area sensitive habitat, recreational, watershed and other values be impacted?
-The FS has acknowledged the importance of roadless areas for a number of resources and values on NFS lands (See Federal Register Notice, Roadless Area Conservation Rule (RACR), January 2001). The FS should identify all inventoried roadless areas, uninventoried roadless areas, and unroaded areas (as defined in RACR, the RACR FEIS or similar guidance) of any size, should identify the roadless characteristics of all of these areas, and should analyze the impacts of this project and other activities/events on these areas. The FS should analyze the impacts of the project on wilderness el igibility.
-The Forest Service should recognize and consider the unique ecological values associated with designated and de facto roadless areas within what is otherwise a heavily roaded and fragmented national forest system. The Forest Service continues to resist change, excluding a sound application of "ecosystem management" that looks at the role of the increasingly scarce roadless resource in sustaining ecosystems far into the future. Scientists both inside and outside of the Forest Service have come to recognized that such undisturbed areas provide critical habitat for the maintenance of biological diversity and population viability. See, e.g., Wilcove, D.S., C.H. McLellan and A.P. Dobson. 1985. Habitat Fragmentation in the Temperate Zone. In: M.E. Soule, ed. Conservation Biology: The Science of Scarcity and Diversity. Sinauer Associates, Sundland, Mass.; Noss, R.F. 1987. Protecting Natural Areas in Fragmented Landscapes. Natural Areas Journal 7(1): 2-13; Saunders, D.A., R.J. Hobbs and C.R. Margules. 1991. Biological Consequences of Ecosystem Fragmentation: A Review. Conservation Biology 5(1): 18-32; Harris, L.D. and G. Silva-Lopez. 1992. Forest Fragmentatio
n and the Conservation of Biological Diversity. In: P.L. Fiedler and S.K. Jain, eds. Conservation Biology: The Theory and Practice of Nature Conservation, Preservation, and Management. Chapman and Hall Publishers, New York, NY. pp. 197-238.
The establishment of a regional network of interconnected reserves and appropriate linkages is considered, by many scientists, to be critical to managing for genetic, species, and landscape diversity on our public lands. See, e.g., Noss, R.F. 1983. A Regional Landscape Approach to Maintain Diversity. Bioscience 33(11): 700-706; Hudson, E.E. 1991. Landscape Linkages and Biodiversity. Island Press, Covelo, Cal., 195pp. You should consider the unique functions of roadless areas as refugia for solitude-dependent wildlife and at-risk fisheries, reservoirs of undisturbed genetic material, connecting corridors within an increasingly fragmented landscape and

natural "control" areas for experimental "manag
ement" and scientific research.
You must address project"s impact on these critical ecosystem features by closely examining land beyond the immediate analysis area and considering the cumulative landscape-scale effects of continued habitat destruction within and adjacent to unroaded forest land in the JNF. NEPA demands such. See e.g., City of Tenakee Springs v. Clough, 915 F. 2d 1308, 1312-1313 (9th Cir. 1990) (finding Forest Service"s cumulative impact analysis inadequate under NEPA and citing LaFlamme v. Federal Energy Regulatory Commission, 852 F.2d 389 (9th Cir. 1988) for the proposition that remand to the agency for further consideration of cumulative impacts is appropriate where the agency examined single projects in isolation without considering net impacts of all past, present and future projects in the area); Save the Yaak Committee v. Block, 840 F. 2d 714, 721 (9th Cir. 1988); 40 CFR € 1508.27(a) ("the significance of an action m
ust be analyzed in several contexts"). These cumulative impacts include not only present and foreseeable future effects, but also the accumulated, incremental effects of past human activity, including prior degradation or destruction of undisturbed habitat. See 40 CFR € 1508.7.
For example, logging these adjacent or marginal places will degrade the roadless/unroaded area's special ecological, recreational, and scenic values; the roadless area will in effect be diminished in size as visitors will have to retreat further and further into the interior in order to escape "sights and sounds of civilization". This and other relevant impacts are not assessed by the planners. The cumulative effects of these actions are important and relevant.
NEPA requires that the Forest Service consider the best available scientific and technical information in making its decisions. See, e.g., Warm Springs Dam Task Force v. Gribble, 621 F. 2d
1017, 1023 (9th Cir. 1980). The scientific literature on biological diversity makes it clear that logging project assessments should consider, among other things, size distribution and connectivity for various types of habitat patches, amount and distribution of important types of such patches (such as roadless areas) which have been reduced by prior human activity, disturbed and historic vegetative mosaic patterns across the forest, cumulative effects of past activity from a watershed or regional ecosystem level, and edge effects of further forest fragmentation. See, e.g., Noss, R.F. 1990. Indicators for Monitoring Biodiversity: A Hierarchical Approach. Conservation Biology 4(4): 355-364.
The best science states that a major focus of analyses such as this should be to find ways to connect and buffer roadless areas with other undeveloped land to assure species viability and ecosystem functioning is perpetuated. In short, take a "hard look" at the cumulative impacts of allowing logging and road building in unroaded areas and in roaded areas providing corridors or linkages between core roadless areas. See Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976); Save the Yaak, supra, 840 F. 2d at 718-719. State-of-the-art conservation biology and the principles that underlie the agency"s own new policy of "ecosystem management" dictate an increasing focus on the landscape-scale concept and design of large biological reserves accompanied by buffer zones and habitat connectors as the most effective (and perhaps only) way to preserve wildlife diversity and viability. See, e.g., Noss, R.F. 1993. The Wildlands Project Land Conservation Strategy. Wild Earth Journal, Special Issue: 10-26; Baker, W.L. 1992. The Landscape Ecology of Large Disturbances in the Design and Management of Nature Reserves. Landscape Ecology 7(3): 181-194; Graham, R.W. 1988. The Role of Climatic Change in Design of Biological Reserves:
The Paleoecological Perspective from Conservation Biology. Conservation Biology 2(4): 391-394; Noss, R. 1995. Maintaining Ecological Integrity in Representative Reserve Networks. World Wildlife Fund, Washington, DC. 77 pp..
Over 95% of the 37 million acre southern Appalachian region is roaded (SAA, 1996). Only 12% of the total area is national forest land, so there are fewer opportunities to protect roadless habitat across the landscape here than in the west. While there are 103.6 million acres in the wilderness system only 4.5% is east of the Mississippi, and there is only 428,545 acres of wilderness in the southern Appalachians. (SAFC, "SAA Highlights" and SAA). All existing roadless areas should be protected to the highest levels possible.
Forest Service projections for the southern region estimated that 1.4 million acres of wilderness would be needed to meet recreational demands and "carrying capacity" of wilderness. (Morton, 1994.
The Living Landscape, The Wilderness Society). A 1993 FS study estimates that backpacking in the south will

increase 238% by the year 2040. (SAFC, "SAA Highlights" and SAA)
Remaining roadless areas provide essential area-sensitive species habitat, wildlife corridors, clean water, high quality fisheries, clean water sources for freshwater mussels, and habitat for wide-ranging, disturbance-sensitive herbivores, omnivores and carnivores like elk, bears, wolves, and cougars, etc. (both existing and extirpated species). Black bears occupy only 5-10% of their former range in the southeast and "would now likely be totally extirpated in this region were it not for federal lands containing designated wilderness or de facto wilderness" (Pelton, "Habitat needs of black bears in the east," in Wilderness and Natural Areas in the Eastern United States, Kulhavy and Conner, eds., 1984) Other such species have been extirpated or are barely surviving in the east.

Eligibility for Wilderness

"[T]he decision to harvest timber on a previously undeveloped tract of land is 'an irreversible and irretrievable decision' which could have 'serious environmental consequences." (National Audubon Society vs. U.S. Forest Service, 1993)

Before approving any activities in the Dismal Creek area, the FS should have examined whether any activities approved as part of this project could impact the areas' future eligibility for wilderness. "An area recommended as suitable for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon or enhanced by a wilderness environment. Also consider the ability to manage the area as wilderness" (See FSH 1909.12 ch. 70 Environment 2. Challenge. 3. Outdoor Recreation Opportunities 4. Special Features & 5. Manageability).

See FSH 1909.12 ch. 70.2 Definition of Forest Road. See FSH 1909.12 ch. 70.22b Other improvements: "Powerlines with cleared rights-of-way, pipelines, and other permanently installed linear right-of-way structures should not be included." See also FSH 1909.12 ch. 71.21, "according to the Wilderness Act, a wilderness area "[h]as at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition" (16 U.S.C. 1131c).
"Areas to be included in the inventory must be federal lands and must meet one of the following size criteria:
"1. The area contains 5,000 acres or more.
"2. The area contains less than 5,000 acres but is of sufficient size as to make practicable its preservation and use in an unimpaired condition, including but not limited to areas contiguous to an existing wilderness, primitive areas, administratively recommended wilderness, or wilderness inventory of other Federal ownership."
.
Several of these factors make it less likely that the Dismal Creek area area could be recommended for wilderness or designated wilderness if the activities took place.

Due to the clear potential for significant harmful impacts from this proposal, and the uncertainties involved, the environmental impact statement (EIS) needs to expressiy examine this issue. Projects in roadless areas that would alter the area's undeveloped character require an EIS. (National Audubon Society vs. U.S. Forest Service, 1990) See also FSH 1909, 8.12 ch 20. An agency must prepare an EIS if "substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor" (LaFlamme vs. FERC,1988) See also 42 USC 4332(2), 40 CFR 1508.27, and Thomas vs. Peterson, 1982) "[T]he decision to harvest timber on a previously undeveloped tract of land is 'an irreversible and irretrievable decision' which could have 'serious environmental consequences." (National Audubon Society vs. U.S. Forest Service, 1993)
The decision for extractive development in the area would substantially alter the undeveloped character of the area.
This is a significant issue that should have been addressed in the EIS: (a.) Logging in roadless areas is highly controversial. Michael Dombeck, Chief of the Forest Service addressed Congress by saying that the USFS

"suffers a credibility gap.... Until we rebuild that trust and strengthen those relationships, it is simply common sense that we avoid... old growth and roadless areas." (Scott Sonner, AP 2/25/97)

Trout Streams, Trout, Aquatic Species and Amphibian Species

The Virginia Department of Game and Inland Fisheries classify wild trout streams as follows:

"Wild natural trout streams.

"Class ii. Stream contains a good wild trout population or the potential for one but is lacking in aesthetic quality, productivity, and/or in some structural characteristic. Stream maintains good water quality and temperature, maintains at least a fair summer flow, and adjacent land is not extensively developed. Stream would be considered a good wild trout stream and would represent a major portion of Virginia's wild trout waters.

"Class iii. Stream which contains a fair population of wild trout with carrying capacity depressed by natural factors or more commonly man-related landuse practices. Land use activities may result in heavy siltation of the stream, destruction of banks and fish cover, water quality degradation, increased water temperature, etc. Most streams would be considered to be in the active state of degradation or recovery from degradation. Alteration in land use practices would generally improve carrying capacity of the stream." (9 VAC 25.60 Virginia Water Quality Stds)

There are class iii trout streams in the project area. Adequate protection of these and other trout streams in the project area should be a high priority. Perennial, intermittent, and ephemeral tributaries of trout streams should also be considered because these play an important role in downstream water quality.

Wide stream buffers should be considered. Many species and biological communities rely on the health of riparian areas. See Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph and p. 3 top paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both incorporated by reference). And The Virginia Department of Game and Inland Fisheries (VDGIF) stated its position that the proposed riparian corridors in the draft revised Jefferson LRMP were not sufficient to protect threatened and endangered aquatic species. See Comment letter 2575 on the draft revised Jefferson LRMP, William Woodfin, Jr., Virginia Department of Game and Inland Fisheries, already in the FS's possession, incorporated by reference. Instead of the proposed riparian standards, the VDGIF recommended increasing the standard buffers with an allowance to reduce the buffers on a site-specific bases after consultation with all cooperating agencies. Id. Wider streamside buffers than those proposed here (EA 13&14) should have been considered and implemented.
Headwaters and small streams are particularly sensitive: "The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF Enterprise TS EA-42; incorporated by reference). "Generally the headwater fish populations are the most threatened." (GWNF FEIS J-8). For information regarding salamander use of headwater stream habitat see <http://www.epa.state.oh.us/dsw/wqs/headwaters/TechRep_FishAmphibian_2002.pdf> (incorporated by reference). This information needs to be fully considered and incorporated into the analysis. Expanded no cutting or no disturbance zones around stream courses needs to be implemented here.
The Plan requires the FS to delineate riparian areas and this should be done as part of the proposed project through maps and other documentation.
- Springs and seeps are a component of landscape diversity and are very important for maintaining the

population viability and distribution of salamanders, frogs, crayfish, box turtles, ruffed grouse, turkeys, and other species (see JNF Hagan Hall Timber Sale EA -43, 44, 46; incorporated by reference). Removal of their canopy cover impedes and disrupts the natural ecological succession of these areas. Implementation of the proposed alternative/mitigation is not compliant with the DFC for these microhabitats. These areas should be absolutely off-limits to cutting and removal and vehicles; and the no-disturbance zone should be more than just the "immediate" wet area due to hydrological, shade, and drying concerns.
"Elimination of terrestrial vegetation around aquatic breeding sites causes amphibian populations to decline [citations omitted]. Thus, maintenance of amphibian biodiversity depends on the protection and management of both aquatic breeding sites and the surrounding terrestrial habitat." "Factors influencing amphibian and small mammal assemblages in central Appalachian forests", Mitchell et al, Forest Ecology and Management 96: 65-76 (1997). (research conducted on the GWNF, incorporated by reference).
"Downed material in these spots is providing cover which was formerly provided by a forest canopy. This downed material is retaining the cooler temperatures and higher humidity associated with springs and seeps." (Hagan Hall Wildlife Existing Condition report, Aug. 1998). "Removal of material from these sites [seeps, springs, bogs, and forested wetlands], particularly where most of the tree canopy is now gone, would increase the solar radiation causing warming temperatures and less humidity. . . . increased temperatures and drier air can affect the presence of certain amphibians and small mammals." (Hagan Hall EA-47). Ecosystem management should recognize that there is more to seeps, springs, bogs, and forested wetlands than just their physical characteristics. If these locations become unusable or unattractive to some amphibians, mammals, or other taxa that would be expected here, then they are not fully functional. There should be analysis or citation to studies to corroborate the assertion that retention of 5-15% (or whatever basal area the cutting method retains) of the overstory cover shading these sites is enough to maintain their full functioning and attain their DFC.
Surveys to identify these areas should have been carried out during wet periods when they can be properly detected (see state BMP manual). "Seeps and other wetlands ... are best located during rainy season as many wetlands are difficult to identify during dry periods." - Forestry Best Management Practices for Water Quality in Virginia Technical Guide at pg. 42 (incorporated by reference). If the habitats are not properly identified and inventoried, they cannot be properly protected, mitigated, and monitored.
Seep areas provide critical riparian habitat. A VDGIF biologist states they should be protected "by a minimum of 100 feet on each side (preferably 200-300 feet)" (see GWNF Johnson Mtn. timber sale project file at tab 20; incorporated by reference). This 200-300' zone should be applied here. See also Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both in your possession and incorporated by reference).

"Habitat objectives for this management indicator species [brook trout] include water temperature below a maximum temperature of 69 degrees Fahrenheit, dissolved oxygen values greater than 7.0 parts per million, and sedimentation rates that are in equilibrium with the watershed and stabilize or improve the biological condition of the stream. Optimal habitat would also include greater than 200 pieces of large woody debris per stream mile." (DEA 111).
Although the DEA proposes a high level of logging ,roadbuilding, road reconstruction and othe activities- this in addition to previous logging and roadbuilding - the FS fails to adequately analyze the total impact on water quality, aquatic health, trout populations, other aquatic species populations and amphibian species populations, including impacts to headwaters, small streams, ephemeral streams, seep areas, areas around aquatic breeding sites for amphibians, sedimentation, and water temperature. The analysis does not examine the site-specific impacts of a project of this scale or cumulative impacts.

The candy darter, a Forest Service, a federally Endangered species, inhabits this watershed .
"Habitat - The candy darter inhabits rocky, typically clear, cold and warm, small to large creeks. Adults generally occupy unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders. … Threats - Turbidity and siltation are assumed to be limiting factors…" (Terwilliger (ed), 1991, Virginia's Endangered Species,. p. 385) ", the fish is endemic to the New River drainage in the Ridge and Valley of Virginia and the

Appalachian Plateaus of West Virginia and is experiencing declines throughout its range. ." (JNF Plan FEIS D-12).
For example, the following is from NatureServe (regarding the candy darter):
"Degree of Threat: Substantial, imminent threat
"Threat Scope: High
"Threat Severity: Moderate
" Threat Immediacy: High
"Threats: Primary threats may be turbidity and siltation resulting from human activities. Stocking of trout may be detrimental (trout probably eat E. OSBURNI). Also, anglers may limit populations by wading through possible spawning sites (Burkhead and Jenkins 1991). Jenkins and Burkhead (1994) stated that they previously (Burkhead and Jenkins 1991) may have underrated the jeopardy of this species in Virginia by recommending it for only special concern status; in 1994 they rated it as endangered or threatened in Virginia due to "localization or extirpation of most populations." Warren et al. (2000) rated this species as vulnerable.
"Environmental Specificity: B
"Endemism: endemic to a single nation
"U.S. & Canada State/Province Distribution
"United States - VA, WV
"Global Range: EF
"Global Range Comments: New River drainage, in the Ridge and Valley of Virginia and the Appalachian Plateaus of West Virginia (Jenkins and Burkhead 1994). See Jenkins and Burkhead (1994) for corrections of identifications affecting the known ranges of this species and E. KANAWHAE. In Virginia, generally distributed only in Big Stony Creek, perhaps solely above the gypsum plant at Kimbalton; extremely localized in Laurel Fork of the Wolf Creek system; limited range in the New River. Known also from Reed, Big Walker, Little Stony, and Sinking creeks, and Spruce and Pine runs, but there are no recent records from these streams (Burkhead and Jenkins 1991)….
"Reproduction Comments: Spawning typically peaks mid-to-late May in the Greenbrier River, West Virginia (Lee et al. 1980). Spawners were found in late April at a water temperature of 15.5 C in Big Stony Creek, Virginia; adults were in breeding condition on 20 June at 18 C in a different year (Burkhead and Jenkins 1991). Sexually mature in 2 years, lives up to 3 years…..
"Habitat Comments: Swift water over stones and boulders in cool montane streams. Rocky, typically clear, cold and warm, small to large creeks; adults generally occur in unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders (Burkhead and Jenkins 1991). Fast rubble riffles of small to medium rivers (Page and Burr 1991). In three streams in West Virginia, occurred in fast current velocities and rock substrate in water depths of 20-30 cm (Chipps et al., 1994, Am. Midl. Nat. 131:175-180). May spawn in patches of sand in swift water? (Burkhead and Jenkins 1991)." (NatureServe. 2004. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.1. NatureServe, Arlington, Va. Available http://www.natureserve.org/explorer. (Accessed: November 23, 2004)).
"Habitat - The candy darter inhabits rocky, typically clear, cold and warm, small to large creeks. Adults generally occupy unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders. … Threats - Turbidity and siltation are assumed to be limiting factors…" (Terwilliger (ed), 1991, Virginia's Endangered Species,. p. 385)

The FS should have analyzed how the project (including forest clearing, roads, and other infrastructure) affect sediment-sensitive species such as trout, candy darter, and other aquatic species. Efficacy of proposed mitigation measures for the candy darter and other aquatic species must be explained, and they must completely compensate for potential adverse effects.
Cumulative effects of the project, MVP pipeline, other land disturbing activities in combination with other past, present, and reasonably activities and events in the range of the candy darter should be analyzed in accordance with NEPA. There is a possibility that these activities in combination with non-FS activities or events may already be contributing significant levels of sediment, affecting the viability of the candy darter.

Special Biological Areas

The FS should ensure the public that activities (including proposed logging, burning at foreseeable intensities, roadbuilding, skid trail construction, dozer lines, and other infrastructure) are consistent with Virginia Natural Heritage recommendations for these areas. The FS should ensure the public that activities will not adversely impact the biological resources, aquatic resources, and other resources found within and around these special biological areas.

Old Growth

As part of this analysis, the Decisionmakers should identify all old growth of any size (including within-stand old growth and old growth partially within multiple stands). Old growth components and old growth habitat value of all old growth of any size should be adequately protected. The FS should protect mature forest adjacent to or near existing old growth may be important ecological components that should be protected, as well. The FS should provide figures on the size, distribution, and age of trees to be cut. The FS should disclose the impacts on old growth and disclose whether the treatments could preclude or delay the attainment of old growth status. The DEA provides no information indicating that this was done.
The agency should examine whether there is any within-stand patches of OG or relic trees that should be protected or buffered from disturbance. It is possible that some old growth may exist within whole stands, partial stands, or portions of stands adjoining other stands. If any inclusions of an older age are found in the course of surveys, it would be proper to change the stand layouts and dimensions and numbers to incorporate this new data also
The agency should examine the spatial arrangement of OG and surrounding mid- late-successional habitat, to determine whether any such areas should be protected or buffered from disturbance. Even if these areas did not meet https://www.youtube.com/watch?v=Wgq-DLrfKjUoperational criteria for old growth, given the obvious shortage of old growth in this area (and throughout the Appalachians) the FS should also consider designating some of the best areas as small, medium or large old growth tracts. The DEA provides no information indicating that this was done.
In FR-62, the Southern Region of the FS includes the following "considerations for old-growth forests during project-level planning:""When developing overall management strategies for an area, care should be taken not to isolate the medium- and small-sized old growth patches from the mid- and late-successional forests." (pp. 26-7). The DEA provides no information indicating that this was done. National Forests need to "provide for ... representation of all old growth forest community types" (FR-62 p14) and "consider underrepresented old growth forest community types" (FR-62 p17) in planning. The DEA provides no information indicating that this was done. Thorough old growth surveys should be conducted which include a record of where each of the plots were taken, a record of how each of the criteria for old growth were determined, and whether the FS ensured that the criteria used were appropriate for this geographical area and the old growth types found here.

in this project, the FS needs to consider the degree to which large- and medium-size old growth tracts could be dissected or reduced (or if this project would delay the attainment of large- or medium-size old growth tracts in the future. Cumulative impacts be disclosed.

Old growth should be surveyed and avoided. The FS should carefully examine the configuration and old growth forest types of old growth to avoid fragmenting large and medium sized old growth tracts and significant and large/medium sized mature forest/old growth tracts. The FS must avoid logging rare or underrepresented old growth forest types and higher elevation old growth forest.
Steep Slopes
The District needs to analyze the slopes and soils in the project area and to consider avoiding riskier sites or

adding mitigation. Much of the information needed to conduct this analysis is readily available for download and GIS analysis … Conducting these important analyses as early in the process as possible will help the District plan and thus expedite the project and improve management. Further, the Forest Plan requires compliance with Virginia's Forestry Best Management Practices for Water Quality (BMPs), which provide that logging plans should consider 'steep slopes, highly-erosive or hydric soil types.'

Range of Alternatives

The NEPA document must meet NEPA's requirements that a reasonable range of alternatives be fully analyzed. The Forest Service Handbook, chapter 20, section 23.2 states that the purpose and intent of alternatives are to "ensure that the range of alternatives does not foreclose prematurely any option that might protect, restore and enhance the environment." Under NEPA, an environmental impact statement must contain a discussion of "alternatives to the proposed action" [42 U.S.C. 4332(2)(D)]. As interpreted by binding regulations of the CEQ, an environmental impact statement must "(r)igorously explore and objectively evaluate all reasonable alternatives" [40 C.F.R. 1502.14(a)]. The importance of this mandate cannot be downplayed; under NEPA, a rigorous review of alternatives is "the heart of the environmental impact statement." 40 C.F.R. 1502.14. Similarly, case law has established that consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA. [Citizens for Environmental Quality v. United States, 731 F.Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).]

A full range of alternatives has not been considered. Other alternatives could have been considered that better protect caves and karst; black bears; native species susceptible to invasive species; salamanders;TESLR species; bats; cerulean warblers; NTMBs; cultural resources; riparian areas; remote habitat and Virginia mountain treasure areas; trout; aquatic species; amphibians; wood turtles; old growth; steep or landslide prone slopes, and other issues raised in our comments.

Thank you for the opportunity to comment.

.

Sincerely yours,

Sherman Bamford
Forests Issues Chair
Virginia Chapter Sierra Club