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May 25,'14

District Ranger
Glenwood-Pedlar RD-FS-USDA
PO Box 10
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Acting District Ranger Donahue and District Staff:

The following are comments on the Gilmore Hollow project submitted on behalf of the Virginia Chapter of Sierra Club, Virginia Forest Watch, Heartwood, Wild Virginia and Steven Krichbaum.

Request for Information as it comes available
I request copies of the biological evaluation, economic analysis, roads analysis, old growth surveys, periodic monitoring records for special biological and Natural Heritage-identified areas in the area, and watershed assessments for priority watersheds in the area, as soon as they come available.

Gilmore Hollow:
Logging and roadbuilding in the Wilson Mountain Virginia mountain treasure area, in the vicinity of Sprouts Run National Recreation Trail and other trails and recreation areas in the area are highly significant and controversial proposals. http://virginia.sierraclub.org/newriver/mountaintreasures/WildLandInformation/WilsonMtn.html This mountain treasure area is an area that was once identified as roadless in the Forest Service's preliminary roadless inventory prior to the Jefferson National Forest Plan Revision (JNF Plan). The Forest Service knows that numerous citizens and citizens groups have sought the protection of this area for many, many years. See attachment containing a sample of letters of support for protection of the area. Numerous citizens and citizens groups have opposed timber sales when proposed in the Wilson Mountain Virginia mountain treasure area. In the most recent timber proposal in this area, the Bannister Branch timber sale, the Forest Service agreed to drop the proposed logging in the mountain treasure area. We would ask that the Forest Service drop the logging in the mountain treasure area in this proposed project. Most districts seek to avoid controversy by clearly staying out of unroaded areas, old growth, and other areas with high conservation values. It is unfortunate that the Glenwood Pedlar Ranger District, the Forest Service is once again proposing to log this unroaded area, inviting a heightened level of controversy.

We ask the Forest Service to drop all cutting units, skid trails, and other ground disturbing activities within the Wilson Mountain Virginia mountain treasure area, any areas that provide habitat for TESLR species, and any areas that are determined to be old growth forests in the Gilmore Hollow project. Other areas are available for logging and roadbuilding. The Forest Service should ensure that its actions here would not disqualify these otherwise eligible areas from a protective designation and consideration in a future potential wilderness inventory.

Environmental Impact Statement:
The Forest Service should evaluate the significance of environmental factors to determine if an Environmental Impact Statement must be prepared:
§ 1508.27 Significantly.
Significantly as used in NEPA requires considerations of both context and intensity:
(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually

depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.
(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
(2) The degree to which the proposed action affects public health or safety.
(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.
These factors include the controversial nature of the project, cumulative impacts from these and other timber and road projects in the area, impacts to an uninventoried roadless area, impacts to the setting of a National Recreation Trail, impacts to eligible wild and scenic rivers, proximity to future state park lands, and impacts to federally listed species such as the Indiana bat and others.

Trails:
This project area and the Wilson Mountain Virginia mountain treasure area are unique because they feature an extensive network of trails, all of which pass along the tops of the ridges fronting the James River, or in the deep coves between the ridges. The Roanoke Appalachian Trail Club and other groups have regularly led hikes on many of these trails. These trails offer opportunities for walks through secluded areas and excellent views of the James River and surrounding countryside. Some of these trails directly connect to one another, or can be connected via road walks of moderate length. The Forest Service should only implement parts of the project that do not directly or indirectly impact the hiking experience, viewshed, or other features associated with the Sprouts Run National Recreation Trail, the Wilson Mountain Trail, the Pine Ridge (or Pine Mountain) Trail or the Skillern Mountain Trail, several trails in the Colon Hollow area, and access routes to these trails. All of these trails are on the Forest Service's trails database, or have been on the Forest Service's database at one time, and all are currently in good shape. For example, the Pine Ridge (or Pine Mountain Trail) is in excellent shape, is well-used, and can be easily followed from the trailhead in the Solitude area to Rt 3028 on Thomas Mountain. Some of these trails have unfortunately already been impacted by logging and roadbuilding activities along the trail corridor or nearby (for example, the east end of the Wilson Mountain Trail, the west end of the Pine Ridge (Pine Mountain) Trail, and the Skillern Mountain Trail. Logging proposed below the Pine Ridge Trail could impact the viewshed of this trail. Logging at the headwaters of Gilmore Hollow could impact the viewsheds of the Wilson Mountain Trail to the west, or the Skillern Mountain Trail adjacent to (and surrounded by) the proposed logging units. And one large cutting unit is proposed directly across from the upper trailhead of the Sprouts Run National Recreation Trail. Cutting units in these areas should be dropped. Cumulative impacts of past logging and roadbuilding should be considered in this analysis. The Forest Service should consider whether this past logging and roadbuilding, combined with the logging and roadbuilding proposed in this project, would render these trails so unsightly that few people would hike them.

The James River:

The Wilson Mountain area faces a section of the James River that has been determined to be eligible for Wild and Scenic River Act status. (Jefferson National Forest Plan Revision, 2004). This section of the river is particularly scenic because of the dramatic manner that Wilson Mountain, Pine Ridge and other ridges rise from the river. The section is popular with canoeists, fishermen/women and other boaters. Consider whether any state-recognized, federally-recognized, or locally-recognized bluewater (or boating) trails could be adversely impacted. How would the project impact the view shed from the James River? How would the boating experience be impacted? How would the scenic integrity of the setting be impacted? How would the eligible W&S river be impacted? Cutting units that are visible from the James River should be excluded from the project.

Cumulative Impacts to Watersheds

A few years ago, flash flooding caused extensive damage to North Creek and its tributaries, on the southwest end of this project area. Evidence of this can be seen throughout the North Creek corridor. Have any similar flash flooding episodes occurred in other watersheds of the project area? The Forest Service should evaluate cumulative effects of past, present, and reasonably foreseeable events on the watersheds in the area, including the impacts to watersheds and natural communities caused by flash floods. The Forest Service should also analyze the degree to which logging and roadbuilding may have worsened, or contributed to, these episodes. The Forest Service should evaluate the additive impacts of proposed logging units, skidded trails, and roads proposed in this project in addition to damage caused by flash floods. What are the impacts on sediment? What sediment loads would be created downstream from this project as a result of this project? How would the proposed logging, skid trail construction, and roadbuilding impact the healing process? The Forest Service should consider whether watershed restoration projects would be more more appropriate in some areas, rather than additional ground-disturbing activities, given the recent history of highly damaging flash flooding in the area.

New State Park Across the River from the Project Area:

Recently, a non-profit foundation has purchased lands at the Natural Bridge attraction across the river from Skillern Mountain and other parts of the project area. These lands will become Virginia's newest state park, the Natural Bridge State Park. I visited lands in the future Natural Bridge State Park earlier this month. I observed that Skillern Mountain and other parts of the project area are clearly visible from grassy areas at this site. How will the proposed logging, skid trails, and other activities affect the view shed from the state park?

North Creek Area:

The North Creek valley, near Arcadia, is a very popular area for hikers, campers, anglers, birders, and other recreationists. How will the project affect the view sheds from the North Creek valley, Rt 49, the North Creek Campground, the Colon Hollow area, Rt 768, Rt 812 (Warbler Road), and access roads to these areas?

Cave Mountain Lake Campground/Recreation Area:

How will the logging units above Cave Mountain Lake Campground/Recreation Area impact the view sheds of these areas and access roads to these areas?

Roadless habitat:

- NEPA requires the Forest Service to identify environmental effects in adequate detail so they can be compared to economic and technicalanalyses.40 CFR 1501.2(b). Agencies must take a hard look at detailed information(Sabine River Authority vs. Department of Interior, 1992). Other cases demand that a carefully considered hard look be taken (National Audubon Society vs. Hoffman, 1995; National Audubon Society vs. U.S. Forest Service, 1993). NEPA expressly placesthe burden of compiling information on the agency so that the public and interested government departments canconveniently monitor and criticize the agencys action (Grazing Fields vs. Goldschmidt (1980).

If the FS wishes to avoid triggering the requirement to prepare an EIS for significant impacts to roadless areas, the FS should avoid the area entirely or at a minimum ensure that any effects to the area's roadless characteristics are insignificant.

There is a strong likelihood that the area does meet the criteria. -FSH 1090.12 ch. 7.11 breaks roadless area inventory analysis into two categories regarding size of areas: criteria for areasover 5,000 acres and criteria for areas under 5000 acres. Areas that are over 5,000 acres, that meet the statutory definition of wilderness, and the criteria of ch. 7.11(b) qualify as roadless areas. The Roadless Process Paper states that sizes of areaslisted are approximate sizes only (p.2). A draft letter to Peter Kirby from Recreation Officer Harry

Fisher states thatthe area is essentially 5,000 acres (Project File to the JNF Plan). Nancy Ross, forest planner for the supervisor's office stated thefollowing on two occasions, We know the Wilson Mountain area is so close to 5,000 acres that for all intents andpurposes it might as well be treated as if it were 5,000 acres. (conversation with Peter Kirby and separate conversationwith Sherman Bamford, November 1997). On January 27, 1998 I submitted a FOIA request for all analysis materials usedby the SO for the analysis of Wilson Mtn. roadless area for possible inclusion in the JNF Roadless Inventory. Response tomy FOIA request indicated that that the FS has not, in fact, determined the actual size of the area despite the fact that thearea is about 5,000 acres in size and despite the fact the FS is using this size criteria to disqualify the area under FSHprovisions and other related RO statements on this issue. In fact, the FS has made to effort to positively determine the sizeof the area.Response to a follow-up FOIA dated March 27, 1998 stated the FS had no documentation of acreagecalculations. A follow-up FOIA dated May 25, 1999 revealed that the FS still has not made an effort to determine the sizeof the area. The FOIA referred to materials already sent and the administrative record for Wilson Mtn. DN/EA sent to legalcounsel Wildlaw, none of which included this information. (Enclosures) Significant questions remain. Clearly the ForestService area is 5,000 acres or larger or so close to it that it meets the 5,000 acre requirement in ch. 7.11. The Forest Serviceneeds to make an accurate determination of whether the area it has studied (the Forest Service area) is indeed 5,000 acres orlarger.

- It is also important to realize that the studied area may have been unduly restricted in size. Slightly larger areaswere proposed in the draft of Virginia's Mountain Treasures and by the Roanoke River group of the Sierra Club [now called the Roanoke Group of Sierra Club], and other possibilities exist for enlarging the area.The Mountain Treasures area included additional acreage to Hoop Pole Gap, to Colon Hollow road and on thesouthwestern side of Skillern Mountain. This proposal encompassed only public lands. In the latest draft of Virginia'sMountain Treasures, it is estimated at over 5,100 acres. According to the Wilson Mtn. EA p. 105, this area coversapproximately 5,100 acres.And there are even large possible configurations including the upper Sprouts Run NRTcorridor and vicinity going all the way to Rts. 812, 768, 812, and 3027. Or the size of the area could be enlargednearly to Rt. 782 (Colon Hollow) as was suggested in VMT. The infrastructure in that area encompasses a far smaller areathan that suggested by the FS (see area excluded from RA by the FS - Wilson Mtn. RA maps.) Or the area could beextended slightly on Skillern Mtn. The Roanoke River Group/Sierra Club asked the Forest Service to slightly adjust theSW boundary in two places to include more acreage in Hoop Pole Gap around the upper portions of Sprouts Run betweenFS 3027 and FS 907 and to include more acreage below the eastern end of FS 3020 on Skillern Mountain. These twoadjustments should increase the Wilson Mountain roadless area to well over 5,000 acres. (December 31, 1994 letter toSupervisor Joy Berg) The Environmental Assessment and Roadless Process Paper did not analyze whether some land areain the vicinity of Wilson Mountain does indeed meet the 5,000 acre criteria for roadless areas. -Even if the appropriatearea were less than 5,000 acres, in the Roadless Process Paper, the criteria for roadless areas under 5,000 acres aremisapplied and otherwise used in a subjective manner to eliminate the Wilson Mountain from the roadless inventory when itin fact meets all the technical criteria for roadless areas in the east. Claims made in the paper are either unsubstantiated orirrelevant to the decision. This is a particularly important factor in considering areas that have been dropped from roadlessinventories. We must be prudent and even-handed especially when modifying or dropping an area from furtherconsideration as a roadless area. (statement included in a packet distributed by Regional Forester Robert Joslin, Oct. 25,1994) - The Roadless Process Paper suggests that Wilson Mountain area does not meet the criteria for thefollowing reasons 1.) the land is not regaining a natural, untrammeled appearance, 2.) the location of the area is notconducive to the perpetuation of wilderness values, 3.) it is not a self-contained ecosystem such as an island, 4.) it is notcontiguous to existing wilderness, primitive areas, or roadless areas. (p. 15) but they are all incorrect or misapplied. -The Wilson Mountain area meets reason #1 from the Roadless Process Paper. This is evident from p. 102 of the EA whichstates that only 6% of the Wilson Mountain area is in the Forest Service's 0-10 age class, (or is being currently logged)well below the 20% naturalness test in ch. 7.11(b)7. Aerial photography from 10/4/74, 4/15/81, 4/17/91, and 4/13/94 showsthe vast majority of the area regaining a natural, untrammeled appearance over this period of time. The presence of blackbears, cerulean warblers and other area-sensitive birds is further indirect evidence that the area is regaining a natural,untrammeled appearance since these species require remote habitats and freedom from disturbance (Wilson Mtn. EA, pp.61, 64, Glenwood bird surveys) The area isconducive to the perpetuation of wilderness values. Much of the northwest side of Wilson Mountain area faces the JamesRiver. (Enclosure) The three ridges

in the area (Pine Mountain, Wilson Mountain, and Skillern Mountain) ascendsteeply from the James River. Both the James River and the steep slopes buffer a major part of the area from outsideinfluences. Aside from two small, infrequently used roads just outside of the area, there is little road access to the area onthe northwest side. The southeast side is bordered mostly by Forest Service roads far from any centers of population or

centers of activity. The majority of this side faces Forest Service land. Only one small community (Back Run) lies outsideof the area. Cave Mountain Campground is outside of the area, but the two areas should be seen as complementary, notcompeting assets, as are Grindstone Campground and Lewis Fork Wilderness in the Mt. Rogers National Recreation Area.Steep slopes buffer the southwest (Pine Mountain) and northeast (Skillern Mountain) corners of the area as well. Viewsfrom the area range from pleasant and pastoral views of the Great Valley of Virginia to breathtaking views of ThunderRidge. As with other southern Appalachian wild areas, thick vegetation and steep terrain create a feeling of remoteness onthe three ridges, regardless of size. In addition, several scenic, deep valleys (Sprouts Run, Gilmore Hollow Creek andseveral smaller tributaries of the James River) add to the sense of remoteness. Both the Roadless Process Paper claims that the area is narrow at some points, lacks a semiprimitive core, and includes the sights and sound of railroads,highways, and other developments. Many existing wildernesses and roadless areas are either narrow at some points or lacka semiprimitive core. Examples include Middle Prong, Little Frog, Gee Creek, Rich Hole, Peters Mountain, Thunder Ridge,Barbours Creek wildernesses, a number of roadless areas on the George Washington National Forest and countless otherareas in the east. Of note, about 3.5 miles of the Sprouts Run National Recreation Trail run through the width of WilsonMountain area at one section. (Enclosure) As for the issue of semiprimitive cores, the regional forester has neverstated that this requirement is essential. The presence of area-sensitive species, numerous sheltered coves, steep terrain, andother factors should be examined as well as semi-primitive acreage. As for sights and sounds, if this doctrine were appliedas strictly as the Roadless Process Paper and EA suggest, hardly any wilderness or roadless area in the east would qualify.This includes high quality wilderness and roadless areas such as the James River Face Wilderness, Mountain LakeWilderness, Rich Hole Wilderness and parts of Great Smoky Mountains National Park (the majority of the park is zonedsimilar to a roadless area). This overzealous application of the sights and sounds doctrine ignores the intent of the EasternWilderness Act of 1975. Such unjustifable and biased decision-making is arbitrary and capricious. The act featured aCongressional finding of the "urgent need" to find, study and include areas in the eastern United States, whichincludes most of the population centers of the country. Congress explicitly directs the Forest Service to consider viablewildlands candidates near urban areas in the Endangered American Wilderness Act of 1978: Further, many areas,including Lone Peak [outside of Salt Lake City].. received lower wilderness ratings because the Forest Service implementeda "sights and sounds" doctrine which subtracted points in areas where the sights and sounds of nearby cities (often manymiles away) could be perceived from anywhere within the area. This eliminated many areas near population centers and hasdenied a potential nearby high quality wilderness experience to many metropolitan residents and is inconsistent withCongress's goal of creating parks and locating wilderness areas in close proximity to population centers. The committee istherefore in emphatic support of the Administration's decision to immediately discontinue this sights and sounds doctrine. (House Report 95-540) - Thus, the Wilson Mountain area appears to meet the requirement of ch. 7.11(b) 4.(reason #2). The Forest Service has emphasized unsubstantiated claims instead of taking the requisite hard look atthis issue. - Reasons #3 and #4 do not apply, since the area meets ch. 7.11,2 (a) in this case (see discussion re.reason #2 above) and since the Forest Service has not investigated whether the area meets this provision of the handbook.The handbook says that an area is a roadless area if one or more of the following criteria are met. (ch. 7.11InventoryCriteria) It is irrelevant if an area meets 7.11,2 (b) or (c) if the area meets 7,11,2 (a). This fact is obvious as manyroadless areas and existing wildernesses are not islands or adjacent to wildernesses, roadless areas, primitive areas or thelike. -The EA states that there are no inventoried roadless areas in the project areaand does not adequately analyzewhether there is in fact a roadless area in the project area (p. 105). This issue is of significant concern to the appellantsbecause if they wait until after the decision notice for the Plan Revision is signed, the Wilson Mountain area may already bedamaged by the timber sale. - The FS has done no on-the-ground inventorying, surveying, monitoring and evaluation, orany other kind of on-the-ground documention of Wilson Mtn. area's roadless characteristics.

No such on-the-ground documentation and analysis was ever done by qualified FS personnel with the purpose ofevaluating the areas roadless characteristics. There is no evidence that a recreation specialist, biologist, botanist, wildlifebiologist, or anyone else dealing with other roadless area/special area criteria examined the area

for its roadless areacharacteristics or even set foot in the area for this purpose. Any characterizations made by the FSregarding the area,s roadless characteristics in the Roadless Area Process Paper and this EA are therefore unjustified andarbitrary and capricious. - In addition to the Forest Service's failure to properly inventory the Wilson Mountain area asroadless,the agency has also failed to meaningfully assess impacts to the unroaded character of the area. Putting aside for amoment the argument that the area was improperly left off the inventory, the agency has improperly relied upon theadministrative status of the area in weighing the significance of likely impacts. What is important for the purposes of NEPAis the on-the-ground character of the area. In National Audubon Society vs. U.S. Forest Service 23 ELR 21250 (9th Cir.1993), the Ninth Circuit determined that "the decision to harvest timber on a previously undeveloped tract of land isan irreversible and irretrievable decision" which could have"serious environmental consequences" Id. at 2125.Likewise in Smith vs. U.S. Forest Service, 24 ELR 21373 (9th Cir, 1994), the court held that the agency had failed toconsider adverse impacts to the roadless character of an area, part of which was uninventoried. The operative factor inthese cases is the roadless character of the area, not the inventoried or uninventoried status of the areas in question.FS's analysis of the area is impermissibly skewed by reliance on the fact that the area was not inventoried. As discussed

above, the accuracy of these inventory determinations is also under dispute. Regardless, the Forest Service has plainlyfailed to provide a fair assessment of impacts to the roadless character of the area. The determination of significance forpurposes of NEPA is premised upon the fact that the area is not an inventoried roadless area. Appellants, therefore,contend that the agency's analysis is violative of NEPA and relevant case law. -FS should examine roadless status,potential wilderness eligibility and issues related to these topics. The two issues are not synonymous. The EA and RoadlessProcess Paper confuse the two issues and do not analyze either issue thoroughly. Wilderness evaluation comes later inthe planning process . It is important to differentiate between the inventory of roadless areas (or potentialwilderness areas) and the evaluation of those areas for possible wilderness recommendations. (Regional Forester Joslin,Letter to Forest Supervisors, October 25, 1994 letter) - Wilson Mountain area is a roadless area and has not beenappropriately inventoried as such. Inventories are not synonymous with whether an area is in fact roadless. It is the on the ground situation that determines this. (See California vs. Block, 1982; National Audubon Society vs. U.S.Forest Service, 1990; Smith vs. U.S. Forest Service, 1994) - 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, 8.12ch 20. An agency must prepare an EIS if substantial questions are raised as to whether a project may cause significantdegradation of some human environmental factor (LaFlamme vs. FERC,1988) See also 42 USC 4332(2), 40 CFR1508.27, 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.(NationalAudubon Society vs. U.S. Forest Service, 1993) - The decision for logging and associated activities in the Wilson Mountainarea would substantially alter the undeveloped character of the area. The alternatives call for at least 168 acres of logging throughout the area. Logging is planned at the headwaters of Gilmore Hollow, adjacent to the Sprouts Run NRT upper trailhead, on a prominent slope of Pine Ridge above Colon Hollow and North Creek, and along several of the lowlying areas below Skillern Mountain and above the James River.

The proposed logging will compromise and degrade this key feature further.

- A Finding of No Significant Impact would not be warranted for this project. (a.) Logging in roadless areas is highlycontroversial. Michael Dombeck, Chief of the Forest Service addressed Congress by saying that the USFS suffers acredibility gap because of past logging practices.... Until we rebuild that trust and strengthen those relationships, it is simplycommon sense that we avoid... old growth and roadless areas. (Scott Sonner, AP 2/25/97) (b.) Logging in this and otherunprotected wild areas in the George Washington and Jefferson National Forests are cumulatively significant whenexamined together. Other logging in the Crawford Mountain, Elliott Knob, Little Allegheny, Jerkemtight, Gum Run, DollyAnn, North Mountain, Mottesheard, Hickory Flats, Church Mountain area and other wildlands areas is significantly affecting the pool of high quality remotehabitat in the Appalachians. (c.) Unique characteristics of the area could be affected. The area is close to the James River,the James River Face Wilderness and key wildlands in the Glenwood. Its potential role as an ecologically critical areaor ecologically critical corridor for black bears and other species ought to be examined. Its proximity to ecologically criticalareas in two wildernesses and four Virginia Division of Heritage (DNH) special biological areas

(SBA) ought to beexamined as well. (Two of these areas are large. The James River Gorge SBA east of the area is 9,250 acres. The AppleOrchard Mountain SBA north of the area, established by the Peaks of Otter Salamander Conservation Agreement, is alsoquite large. The Sprouts Run SBA and North Creek SBA are in the Wilson Mountain area and are 128 acres and 11 acres,respectively.) Wilson Mtn. roadless area is a key wildlife corridor between these and other lands in the RD. Its potential asa wildlife corridor needs to be examined. - (d.) The DN/FONSI represents a decision in principal about a futureconsideraion. Visual impacts can be evident for a long period of time, since the vast majority of mature trees willbe removed from the stands and will take 80 or more years to be replaced. As stated above, the proposed logging is located inprominent and highly visible points throughout the area. While logging operations are going on, hikers will be able to seeand hear logging equipment near the Wilson Mountain and Sprouts Run NRT).

This site-specific proposal will represent a decision in principal about a future consideration. An EIS is necessary toresolve the substantial questions raised. -Several individual or groups have aked that this area be considered as aSpecial Management Area,wildlandsarea, or Wilderness Study Area. A separate special management area wasproposed in the past in the Sprouts Run area (Sprouts Run NRT Establishment Report, 1989). (Enclosure) The EA does notdisclose where the original proposal was located or the projects impacts on this area. The Sprouts Run area has long beenof interest to the public. The previous Wilson Mtn EA and the Bannister Branch EA do not properly document the impacts of activities proposed inthese very EAs. Nor do they document the encroachment into the roadless area and its impacts on the character of the areaor its potential future status, given past approved activities, this proposal and other impacts. The proper way to do thiswould be through an EIS. See FSH 1909.15.20.6.3. - Cumulative impacts to the roadless area, its trail system, scenicattributes, watershed, forest interior habitat or unique biological communities are not adequately analyzed. These items arebarely touched upon in the EAs and there is no real analysis of any of these characteristics. -.

The FS therefore should reopen its analysis of other nearby roadless area proposals inthe RD.

An EIS that evaluates cumulative impacts should be prepared for this project. The FS has not analyzed the extent of roadless areas inthe RD or the extent of its impacts on them.

Because these areas were, and remain, eligible for the roadless / potential wilderness inventories, the Forest Service must consider them anew in connection with this project. The agency's duty to inventory its roadless areas did not end with the previous plan revision. During the last inventory, conservation groups made a special effort to raise the most highly qualified, yet omitted, areas with the Regional Forester. At that time, then-Regional Forester Estill committed that the Forest Service "w[ould] not lose track of" these areas. *See* Letter from Regional Forester Elizabeth Estill to Peter Kirby of The Wilderness Society (Oct. 22, 1998) (previously submitted). The Regional Forester recognized that these areas "have unique characteristics that deserve special attention as we revise our forest plans." These unique uninventoried areas were not fully considered in the large-scale planning process, but they are still relevant at the project level and impacts to their special values can still be considered and avoided. Moreover, the Forest Service even can amend the Plan to recognize these areas.

As the Roadless Area Conservation Rule explains, the Forest Service *must*, both during plan revisions and at any other "appropriate" time, "identify and evaluate … unroaded areas and then determine which, if any, of those areas warrant additional protection." RACR, 66 Fed. Reg. at 3250. Here, the project-level review is an appropriate time to identify roadless areas that were overlooked in the last inventory.

The Forest Service should determine if any area of any size in the vicinity of Wilson Mountain meets the old criteria [no more than 1/2 mile improved road per 1,000 acres, previous logging levels, etc.] and/or the FS new draft criteria [available at http://www.fs.usda.gov/detail/planningrule/home/?cid=stelprdb5403924] for roadless areas in the east, considering the fact that many of the few roads in the area are Class 1 roads or Class 2 unimproved roads. The Forest Service should also determine whether any activities proposed as part of this project affect the criteria, including any logging, any roadwork, or any actions that change the status of all or part of the road system here.

As the Forest Service is aware, roadless areas in the eastern United States often contain existing roads. *See* FSH 1909.12, Ch. 71.12. The mere fact that a road "exists" in an area, therefore, does not disqualify the area

as roadless or overcome its roadless values. Only authorized, "improved" roads, to use a shorthand for the threshold requirements of the roadless and PWA inventories, can count against an area's eligibility. While the mere existence of a road is irrelevant, however, adding an existing road to the forest road system is an impact that could disqualify the area. Adding a road to the system is tantamount to "construction" of a new road, and it is directly contrary to the values for which roadless areas must be managed. *See* RACR, 66 Fed. Reg. at 3272 (prohibiting road construction, and defining "construction" to include any activity that "results in the addition of forest classified or temporary road miles"). Similarly, the improvement of a system road is considered "reconstruction," which is also prohibited in inventoried roadless areas and a direct impact to roadless values. *Id.*

Because the planned logging and roadwork could disqualify these otherwise eligible areas from a protective designation and consideration in the future potential wilderness inventory, the Forest Service was required under NEPA to consider that environmental consequence. The Forest Service must analyze impacts not only to a roadless area's "water resources, soils, wildlife habitat, and recreation opportunities," but also to the area's "potential for designation as wilderness." *The Lands Council v. Martin*, 529 F.3d 1219, 1230 (9th Cir. 2008). Even if the Forest Service believes that the area will ultimately not be recommended for wilderness, its obligation under NEPA is unchanged. It is the *potential* for designation, as shown by the area's eligibility for the inventory, that matters. *Smith v. United States Forest Service*, 33 F.3d 1072, 1077-79 (9th Cir. 1994). Furthermore, impacts potentially affecting an area's future eligibility are inherently "significant," and they must therefore be considered in a full environmental impact statement. *Id.* The Forest Service's own NEPA regulations provide that EISs normally are required for "Proposals that would substantially alter the undeveloped character of an inventoried roadless area *or a potential wilderness area*." 36 C.F.R. § 220.5(a)(2). Such proposals would include road construction and timber harvest that would "impact a substantial part" of the area. § 220.5(a)(2)(i).

Roadless Areas/Potential Wilderness Areas/Virginia Mountain Treasure Areas/Uninventoried Roadless Areas

In this scoping notice, the Forest Service has not mentioned potential direct or indirect impacts to inventoried roadless areas or uninventoried roadless areas that are (or may be) de facto roadless areas in the project area. There are no maps disclosing the boundaries of inventoried roadless areas, let alone, the boundaries of other areas that meet the criteria for roadless areas (or PWAs) in the east. The Forest Service should disclose whether and how the project would affect any inventoried roadless areas and uninventoried roadless areas that meet the criteria for roadless (or potential wilderness area) inventory.

Specifically, areas in and around the boundaries of Wilson Mountain Virginia Mountain Treasure area should be examined, with respect to the project, to determine if any area of any size will be affected by the project.

This six-mile long scenic area along the James River meets road density. The area was proposed by numerous commenters, including TWS, et al., in June 13, 1997 letter to Damon and October 3, 1997 letter from TWS, SAFC and SELC to Glickman. The 1999 Process Paper notes, "The Skillern Mountain ridge line … *[affords]* a visitor the sights and sounds of the surrounding valleys including the Norfolk Western Railroad on both sides of the James River, the Interstate 81 corridor and residential housing developments ... the majority of the area is ridge tops and side slopes which face directly into the developments described above." 1999 Process Paper at 15. The agency concludes that the "location of the area is not conducive to the perpetuation of the roadless values." The agency clearly relied on sights and sounds outside the area as a basis for its qualification. As discussed above, this sights and sounds criteria is improper. If the criteria is used in eastern forests, particularly in the ridge and valley area of Virginia, many important roadless areas or wilderness areas would be disqualified. For example, the same railroad track runs all along the northern border of the James River Face Wilderness, but did not disqualify that area from designation by Congress. (Sights and sounds are perceptible in many Virginia Wilderness Areas: Rich Hole (I-64 visible), Kimberling Creek (I-77), Thunder Ridge (BRP, sights that can also be seen from Wilson); also on GWNF Rough Mtn (railroad along entire east boundary) and numerous ones on Shenandoah Mtn, including Little River, the largest RA in the East (can see towns and highways in Shenandoah valley)).

In addition, the sights and sounds are not apparent from within the great majority of this area (and the same applies to all the other areas). In the "June '94 Prework Notes Meeting with Joy and Individual Rangers," the FS said that Wilson Mountain is "different from Cove Mtn because terrain more varied to allow you to hide from sight/sounds" yet by August 1995, the area was improperly and inexplicably dropped from the roadless inventory. One tally by the FS in the Process Papers ["Specific Areas"] documented that the public supported

adding the area to the roadless inventory by a 43 to 1 margin; the area garnered more support than any other area on the Jefferson, according to this tally. (The Wilderness Society, Sierra Club and 32 other groups submitted Virginia's Mountain Treasures to the Forest Service in 1999 which described Wilson Mountain and articulated the reasons why it should have been included in the roadless inventory.) See also Detailed SELC Analysis at 7-8 of Virginia Forest Watch's appeal of the JNF Plan Revision.

Would any roadless or unroaded areas or potential wilderness areas (PWAs) of any configuration in the vicinity of the project be impacted? How would roadless, unroaded, remote, or area sensitive habitat, recreational, watershed and other values be impacted? Direct, indirect, and cumulative impacts to the roadless areas, PWAs, and Virginia Mountain Treasure areas across the GWJNFs should be analyzed. Any roadless areas/PWAs or de facto roadless areas should be protected from logging and roadbuilidng.

- We are seriously concerned about the potential for this project to impact the VMT areas and any surrounding unroaded areas.
- We are concerned some unroaded areas may not have been adequately analyzed, may not have been properly inventoried as roadless in their entirety, and that certain portions may have been excluded from these roadless areas. We are concerned that roadless areas are not being protected, in accordance with the strong will of the American people. The FS should examine whether any areas outside of the boundaries of inventoried roadless areas could or should fall within these roadless areas (eg. roadless areas may meet road density stds for roadless areas in the east even with the roads included, roads may be non-existent or unimproved, etc). We would like to know what the largest possible roadless area(s) in the vicinity of the project area are and whether any portions of the project area, cutting units, or infrastructure may be included in these areas.
- -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 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.

The Forest Service should disclose whether the activities could cause any area to exceed road densities or ½ mile per 1000 acres, could cause any area to exceed other criteria for road densities, logging, or management activities. The Forest Service should disclose whether any activities could adversely affect roadless characteristics; natural integrity and appearance; opportunity for solitude, challenge, and primitive recreation, special features; or size, shape, and manageability.

What is important for the purposes of NEPA is the on-the-ground character of the area. In National Audubon Society vs. U.S. Forest Service 23 ELR 21250 (9th Cir. 1993), the Ninth Circuit determined that "the decision to harvest timber on a previously undeveloped tract of land is 'an irreversible and irretrievable decision' which could have 'serious environmental consequences.'" Id. at 2125. Likewise in Smith vs. U.S. Forest Service,

24 ELR 21373 (9th Cir, 1994), the court held that the agency had failed to consider adverse impacts to the roadless character of an area, part of which was uninventoried. The operative factor in these cases is the 'roadless character' of the area, not the inventoried or uninventoried status of the areas in question.

Due to the clear potential for significant harmful impacts from this proposal, and the uncertainties involved, it is highly likely that for the project, as proposed, an environmental impact statement (EIS) needs to be prepared by the Forest Service. An EIS is required if this project may significantly degrade some human environmental factor. 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 logging and associated activities in the Fork Mountain area could substantially alter the undeveloped character of the area.

"Inventoried roadless areas provide clean drinking water and function as biological strongholds for populations of threatened and endangered species. They provide large, relatively undisturbed landscapes that are important to biological diversity and the long-term survival of many at risk species. Inventoried roadless areas provide opportunities for dispersed outdoor recreation, opportunities that diminish as open space and natural settings are developed elsewhere. They also serve as bulwarks against the spread of non-native invasive plant species and provide reference areas for study and research species (Final Roadless Rule, January 2001, p3)" (See USDA Forest Service, Federal Register; January 5, 2001)

In addition, a full range of alternatives has not been considered. The Forest Service needs to consider alternatives that provide for (1) no permanent or temporary roadbuilding in the Wilson Mountain VMT and (2) no permanent or temporary roadbuilding and logging in the Wilson Mountain VMT.

THE INVENTORY AND EVALUATION OF ROADLESS AREAS, AND THE RECOMMENDATIONS FOR WILDERNESS AREAS, VIOLATE THE APA, NEPA, THE WILDERNESS ACT, NFMA REGULATIONS AND THE FOREST SERVICE HANDBOOK.

A. Introduction.

During the forest planning process, the Forest Service failed to properly evaluate and consider roadless areas for recommendation as potential wilderness areas. 36 C.F.R. § 219.17(a). These areas may then be considered by Congress for their inclusion in the National Wilderness Preservation System, as provided by the Wilderness Act. 16 U.S.C. § 1131, et seq. The regulation suggests a two-step process, describing areas subject to evaluation in (a)(1) and providing significant issues for evaluation in (a)(2). Id. The Forest Service Handbook provides further guidelines for this two-step process of inventory and then evaluation of roadless areas. FSH 1909.12, Ch. 7.

The roadless inventory and evaluation for the Jefferson National Forest plan revision is arbitrary and capricious and violates the APA, NEPA, the NFMA regulation, and the Forest Service Handbook. Numerous areas which meet the roadless criteria were arbitrarily dropped from the roadless inventory. Although many of these areas are slated for active management, the FEIS never considers the effects on these areas, in violation of NEPA.

The evaluations of the areas which were included in the inventory (see FEIS, Appendix C) are inadequate under NEPA. Further, the wilderness recommendations are arbitrary. The decision to recommend only 2 of 17 stand-alone inventoried roadless areas for wilderness study cannot meet the burgeoning need for wilderness documented by agency data and studies. The entire inventory and evaluation process runs contrary to clear Congressional intent for the inclusion of deserving wild areas in the Wilderness System and limits Congress' opportunity to consider these special areas.

Moreover, the FEIS does not offer an adequate range of alternatives for wilderness and fails to seriously consider a maximum wilderness alternative, both violations of NEPA. The FEIS also fails to accurately disclose the agency's management plans for inventoried roadless areas not recommended for wilderness. The Forest Service should fully protect these areas by complying with the Roadless Area Conservation Rule.

B. The Inventory of Roadless Areas Violates the APA, the Forest Service Handbook, NEPA and the NFMA.

The inventory required for Plan revisions was initiated as a part of the Southern Appalachian Assessment. Much of the work was done before the SAA was released, although the Region viewed the SAA inventory as tentative and expected the forests to further adjust inventory decisions in finalizing the inventory required for the revised forest plans.

Although the FSH provides clear criteria for roadless areas, in 1994 and 1995 the Southern Region issued several guidance letters regarding the inventories. Regional guidance misquoted and misinterpreted the Wilderness Act and the FSH, creating more stringent criteria for roadless areas than the criteria found in the Act and the FSH. The Region erroneously directed the forests to rely almost exclusively on "solitude," and on the ROS semi-primitive criteria to quantify solitude, to determine whether an area qualified as roadless. Thus, the Forest ignored other wilderness values. Numerous areas which meet the roadless criteria in the FSH and which meet the statutory definition of wilderness, as stated in the Wilderness Act and as interpreted by Congress, were excluded from the inventory. Regional guidance interpreting the Wilderness Act and the FSH essentially changed the substantive requirements for roadless areas through an agency guidance letter, in violation of the APA.

The Region and the Forest also used the "sights and sounds" criteria to exclude areas from the inventory. Congress has discredited and clearly rejected the "sights and sounds" criteria. Even according to the FSH, "sights and sounds" should not be considered at the inventory stage.

Appellants to the JNF Plan Revision including SAFC and its member groups, and Sierra Club members, the Appalachian Trail Conference (e.g. Mike Dawson comments), Sherman Bamford, Steve Krichbaum and others, are on record objecting to the unlawful criteria and methods used in the roadless area inventory, to the arbitrary exclusion of areas from the roadless inventory, and to the boundaries drawn for inventoried roadless areas. Appellants commented at every stage of the roadless inventory. When the SAA inventory was being reviewed for incorporation into the plan revision process, the Southern Appalachian Forest Coalition, The Wilderness Society, and the Southern Environmental Law Center submitted comments to the Forest Service objecting to the "Inadequacy of National Forest Roadless Area Inventory in the Southern Appalachians".[1]

The more stringent requirements created by the Region also run contrary to the clear intent of Congress to preserve Eastern wilderness. In 1975, Congress recognized an "urgent need to identify, study, designate and preserve areas" in the eastern United States "for addition to the NWPS. Pub. L. 93-622(2)(a)(1) (1975) (commonly referred to as the Eastern Wilderness Areas Act of 1975). The Act designated a number of wilderness areas in the East, including the 3,600 acre Ellicott Rock Wilderness Area and the 2,570 acre Gee Creek Wilderness Area. Pub. L. 93-622(3)(a)(8), (9). Congress further found "it is in the national interest that <u>these and similar areas in the eastern half of the United States be promptly designated as wilderness</u> within the National Wilderness Preservation System, in order to preserve such areas as an enduring resource of wilderness which shall be managed to promote and perpetuate the wilderness character of the land and its specific values of solitude, physical and mental challenge, scientific study, inspiration, and primitive recreation for the benefit of all the American people of present and future generations." Pub. L. 93-622(2)(b) (emphasis added).

The Eastern Wilderness Areas Act serves as an example of eastern areas Congress found to meet the definition of wilderness. In the Endangered Wilderness Act of 1978, Congress stressed that "many areas" of National Forest land have "high value as wilderness" and "meet all statutory criteria for suitability as wilderness. . . but are not adequately protected. . ." Endangered Wilderness Act of 1978, Pub. L. 95-237(1)(a)(1), (2) (1978). Among the lands "immediately threatened" by "uses inconsistent with the protection, maintenance, restoration, and enhancement of their wilderness character" are "lands not being adequately protected or fully studied for wilderness suitability by the agency responsible for their administration." Pub. L. 95-237(1)(a)(4).

As discussed below, during hearings on the Endangered Wilderness Act, Congress criticized Forest Service's restrictive interpretation of the definition of wilderness, especially the "sights and sounds" criteria.

[1] SAFC, TWS and SELC letter of 10/3/97, Attached.

These acts show that Congress wants the Forest Service, especially the eastern regions, to "promptly" protect these wild areas by making wilderness recommendations to Congress. The Southern Region and the Jefferson National Forest in particular have failed to do so. Further, the Forest Service has ignored Congress' interpretation of the definition of "wilderness," despite numerous examples of areas which qualify as wilderness in these and other acts designating wilderness areas, and despite Congressional criticism of the agency's erroneous, overly-restrictive interpretation.

As mentioned above, the Forest also failed to "ground-truth" its inventory decisions, especially its evaluation of "solitude", in areas proposed for exclusion from the inventory. Thus, numerous areas which clearly met even the unlawfully stringent criteria issued by the Region were erroneously and arbitrarily dropped from the roadless inventory. The Forest ignored the numerous comments of Appellants and others pointing out these clear errors.

Areas wrongly excluded from the inventory were never considered for a wilderness recommendation, despite the statement that these areas could be considered.[2] Further, the FEIS failed to disclose and discuss the effects of the Plan on these wild areas, in violation of NEPA.

The Forest Service must expand
its roadless inventory and reconsider areas wrongly excluded from the inventory. Roaring Branch is one such area which meet the roadless criteria and which must be included in the inventory. See also Virginia's Mountain Treasures (May 1999) which recommended areas for the inventory (in your possession, incorporated by reference).

1. The Failure to Disclose and Consider Impacts on Areas Arbitrarily Dropped from the Roadless Inventory Violates NEPA.

In many cases areas (or parts of areas) which meet the roadless criteria are slated for active management inconsistent with their roadless values and their value for outstanding backcountry recreation. The public identified these areas, documented their value for solitude and backcountry recreation, and urged the agency to include them in the inventory. The agency even promised that it would pay special attention to areas identified by the public but left out of the inventory in allocating management prescriptions and in other Plan decisions, recognizing the "unique characteristics and deserve special attention. . ." Estill to Kirby, Oct. 22, 1998, at 1 (attached). Yet these areas are nowhere identified in the FEIS or the Plan. The failure to reveal and consider the impacts of the Plan on these areas violates NEPA.

2. Regional Guidance as Implemented by the Forest Violated the APA.

Agency interpretations of statutes must be reasonable. Although the agency interpretation is entitled to deference, it will be overturned when it is inaccurate. The Region's interpretation of the term "solitude" in the Wilderness Act is not accurate and essentially seeks to create new substantive requirements for roadless areas without complying with the APA's rulemaking process and without public notice and comment. It is clear the Forest applied invalid Regional criteria to the roadless inventory. Thus Regional guidance and the roadless inventory are void.

The Wilderness Act defines "wilderness" as follows:

> "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act [*16 USCS § § 1131* et seq.] an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand

[2] Except in the case of one area, Stone Mountain.

acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." 16 U.S.C. § 1131(c).

The Forest Service Handbook 1909.12, Chapter 7 "Wilderness Evaluation" describes the process for "identifying and evaluating potential wilderness in the National Forest System."[3] According to Section 7.11, "[r]oadless areas qualify for placement on the inventory of potential wilderness if, in addition to meeting the statutory definition of wilderness,[4] they meet one or more of the following criteria:"

1. They contain 5,000 acres or more
2. They contain less than 5,000 acres but are manageable as wilderness, are self-contained ecosystems such as islands, or are contiguous to existing wilderness or roadless areas.
3. They do not contain improved roads, except as permitted in areas east of the 100th meridian (where the threshold of 1/2 mile of improved roads per 1,000 acres applies).

Section 7.11b describes criteria for roadless areas in the east, "recognizing that much, if not all the land, shows some signs of human activity and modification." All of the criteria in these two sections serve to expand, not shrink, the potential acreage in the roadless area inventory by allowing a certain amount of development to occur. Even criterion 7.11b(4)—which states "consider the relationship of the area to sources of noise, air and water pollution, as well as unsightly conditions…"— recognizes that a certain amount of disturbance may occur nearby and does not necessarily limit or define a boundary to potential acreage.

The FSH provides the generally accepted criteria for roadless areas in the East. See, e.g., Forest Service Roadless Area Conservation DEIS, Volume 1, Glossary at G-6 ("For roadless areas in the eastern United States, see FSH 1909.12, Chapter 7.11b.").

Several times Regional guidance misquoted the Wilderness Act to require "solitude and a primitive and unconfined type of recreation." (emphasis added). Joslin to SAA Supervisors, April 17, 1995, at 1 (attached); Joslin to Supervisors, May 19, 1995, attachment at 6 (attached). In practice, the agency adopted this incorrect definition of wilderness. The May 1995 letter was supposed to consolidate previous guidance into one authoritative document, which made this misstatement all the more damaging.

Rene Voss of the Georgia Chapter of the Sierra Club wrote to the Ecosystems Management Staff in the Washington office of the Forest Service regarding this erroneous direction and received a reply from the Southern Region. The Region claimed that, despite this twice-repeated "typing error," the overall direction of the letter did not suggest that an area must provide both of these values. Joslin to Voss, Jan. 12, 1996 at 2 (attached). The Region also claimed that by copying the forests on the letter it was rectifying this "typographical error." This mistake was never corrected, however. **The forests continue to require that areas provide solitude and primitive and unconfined recreation, as evidenced by the repeated use of "solitude and" in the Response to Comments on the DEIS for the Revised LMRP for the Jefferson National Forest.** This inaccurate quote is found twice at JNF FEIS J-128.

As a result of this mistake, the Region and the forests focused on "solitude" (and the road density requirement) as the two main criteria for roadless areas. The Region instructed forests to use the ROS semi-primitive criteria to quantify solitude and rarely discussed the "primitive and unconfined recreation" element. As a result the forests never considered the many outstanding opportunities for this type of backcountry recreation provided by many areas left out of the inventory. The FS improperly conflates the inventory of roadless areas with an unnecessary and unrequired "inventory" of "'outstanding opportunities for solitude . . . In attempting to identify these areas, the only non-subjective inventory of acres with these characteristics that is available is from the Recreation Opportunity Spectrum (ROS). Within the ROS, areas classified as either 'semi-primitive' or 'primitive' would generally meet the Wilderness Act criterion…"(JNF FEIS J-127 # 668). The FS does not ground-truth these findings with site visits or accept testimony from the public as to the availability of these qualities and opportunities. They also ignored the map and inventory generated by FS employee James O'Heare that identified

[3] All quotes in this paragraph, unless otherwise noted, are from the FSH 1909.12,7.

areas of low road density, which by extension may be reasonably inferred to provide the "opportunities . . .". And subjective perceptions of characters and values are certainly part of the RA inventory process; the planners have been instructed to use their "professional judgment and knowledge of the area". Instead, a desk-bound assessment has taken place that unreasonably disregards actual on-the-ground conditions.

The FSH provides that this type of recreation includes "camping, hunting, fishing, mountain climbing, ski touring, canoeing, boating, river rafting, backpacking, hiking, riding, photography, and other outdoor activities." FSH 1909.12-7.21(3). There are many outstanding opportunities for this type of backcountry recreation outside of the core of semi-primitive acres, as the region defines it under ROS. "For example, many beautiful miles of the Appalachian Trail traverse the steep 2,344 acre Thunder Ridge Wilderness on the Jefferson National Forest and offer outstanding backcountry recreation, even though not an acre of this designated wilderness (that was recommended last decade by the Forest Service) is inventoried as "semi-primitive" under ROS." SAFC, TWS, SELC to Glickman, Oct. 3, 1997.

C. The Jefferson Roadless Area Inventory is Flawed.

Introduction

The Jefferson National Forest contains over 280,000 acres of land with at least a 1,000-acre chunk having an improved road density of less than a half mile per 1,000 acres. Out of the land that met the road density standard, the agency included only 156,000 in the final roadless inventory. The FS looked at a total of 350,000 acres in the Roadless Area Inventory process. Unfortunately, the reasons for disqualifying many of the areas considered from the roadless inventory, such as the Roaring Branch area, were either based on improper factors or simply arbitrary and capricious. The Jefferson Roadless Area Inventory suffered from many of the same flaws as the roadless area inventories in the other National Forests of the Southern Appalachian region.

An over-arching flaw in the Jefferson inventory was a bias against areas that had less than 5,000 acres and basically an absolute bar against areas with less than 4,000 acres (actually 3,956 acres). Furthermore, the only areas included in the inventory between 4,000 and 5,000 acres had a semi-primitive core of at least 2,500 acres with only one exception (Patterson Mountain with a semi-primitive core of 2,377 acres.) This was one area out of 55 areas considered with acreage between 2,500 and 5,000 acres.

Despite the protest of the agency that size was not an overriding factor (1999 Roadless Process Paper at 2), the results of the inventory demonstrate that size, in fact, improperly dictated the results of the inventory. The agency used both the total size of the area and the size of the semi-primitive core to disqualify more than 33 areas that met the road density standards.

The clear, improper bias against areas less 5,000 acres began with the earliest stages of the Jefferson Roadless Inventory in 1993 and 1994. In 1994, JNF planners made clear

> "that to qualify for inclusion in the inventory, the size should exceed 5,000 acres, although areas slightly smaller were included if there was no other new stand-alone area on the Ranger district. Thus, on the Clinch Ranger District, the North Fork of the Pound was included with 4,568 acres and on the Glenwood Ranger District, the Wilson Mountain Area was included with 4,841 acres because there was no other stand-alone areas. However, on districts which did have other stand-alone areas, the 5,000-acre standard was applied to exclude areas smaller in size."

Letter from James Loesel for the Southern Appalachian Forest Coalition to Joy Berg, Forest Supervisor, January 14, 1995, reporting on a meeting with Jefferson National Forest Planners at 2 (attached).

Thus, the inventory process started with an improper bias against areas less than 5,000 acres. That bias was carried through and only varied when the semi-primitive core was over 2,500 and the acres were 4,000 or more.

Furthermore, despite the Region's guidance that the 2,500-acre semi-primitive core should only be a screening tool, the results of the Jefferson inventory demonstrate that it served as a bar that was excepted only one time out of at least 31 areas.[5]

Solitude Core/Sights and Sounds Criteria

As explained fully in our appeal of the Revised Jefferson Forest Plan, the inventory of roadless areas violated multiple laws, including the Administrative Procedure Act, NFMA, NEPA, the Wilderness Act and the Forest Service Handbook. See In re Appeal of the revised Jefferson National Forest LRMP. Numerous areas which met the criteria for roadless areas in the East were arbitrarily excluded from the inventory based on an unlawful interpretation of the criteria and on incorrect information. The roadless inventory should be revised to include the Roaring Branch area.

The Forest Service arbitrarily decided not to inventory numerous areas on the grounds that they did not provide an adequate core for solitude. As raised throughout the inventory process and in our appeal of the revised forest plan, the use of the "solitude"/sights and sounds criteria was illegal. The agency refused to consider opportunities for primitive and unconfined recreation and arbitrarily required a 2,500 acre "solitude core." See Plan Appeal.

Above and beyond the ROS semi-primitive core requirements in the roadless inventory, forests eliminated areas from the inventory based on "sights and sounds". Regional guidance instructed the forests to "locate boundaries so as to shield the area from the external sights and sounds of civilization." Joslin, May 19, 1995, attachment at 7. This letter included numerous instructions regarding the delineation of boundaries that was not appropriate at the inventory stage and creates requirements for "manageability" that does not reflect Congressional intent.

Again, from the SAFC, TWS, and SELC letter of October 3, 1997:

In many instances across the region, the Forest Service dropped areas that fully met the requirements for road density, naturalness and other criteria because "sights and sounds" from ***outside*** *the boundaries could be perceived by users within the area.*

On the Jefferson National Forest, they also rejected the 5,000 acre Wilson Mountain area and pointed to the sights and sounds of a railroad, houses and highway in a valley on one side of the area.

In relying on this reason to eliminate areas even from study, the Forest Service acts contrary to long-standing direction from Congress.

From Doug Scott's paper[6]**:**

". . . when some agencies misapplied this aspect of the Wilderness Act to assert that outside sights and sounds led them to judge lands not qualified for wilderness, Senator Frank Church (D-ID), who had been the floor manager when the Senate debated and passed the Act, reminded them of Sen. Murray's definitive explanation at a Senate hearing:

> *The Wilderness Act calls for the designation of suitable wild lands which are of wilderness "character." This term "wilderness character" applies only to the immediate land involved itself, not to influences upon it from outside areas. This point was specified precisely in an early amendment to the wilderness bill. * * * What [Sen. Murray's 1960] amendment[7] made clear is that the suitability of each acre of possible wilderness is to be ascertained on*

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[5] The use of the semi-primitive core criteria is exacerbated by the fact that, apparently, semi-primitive areas that the agency committed to protect in the settlement of the conservationist's appeal of the 1986 Jefferson Forest Plan, were removed from the inventory as a result, in some cases, of roading which occurred contrary to the settlement agreement and in violation of NEPA. The 1994 ROS inventory showed a great decrease in semi-primitive, motorized acreage - approximately ten areas which were included as semi-primitive, motorized were changed to roaded natural. Thus, it appears that violations of Amendment 2 to the plan, which was part of the settlement agreement with conservationists, may have contributed to exclusion of areas from the new Roadless Area Inventory. See letter from James Loesel on behalf of Southern Appalachian Coalition to Joy Berg dated September 14, 1995 at 3.

[6] Doug Scott. 2003. Ibid

[7] In July 1960, Senator James Murray (D-MT), introduced a new revision of the Wilderness Bill he had earlier introduced. Senator Murray was the lead sponsor and the chairman of the committee handling the bill; his stated intent is definitive

the basis of that wilderness entity, not on the basis of insubstantial outside influences. Sights and sounds from outside the boundary do not invalidate a wilderness designation or make threshold exclusions necessary, as a matter of law.[8]

Although the intent of Congress is clear, the agency persisted in using the erroneous sights and sounds criteria. During Subcommittee Hearings for *the 1978 Endangered American Wilderness Act:*

> *". . . many areas, including the Lone Peak [outside Salt Lake City] …, received lower wilderness quality ratings because the Forest Service implemented a "sights and sounds" doctrine which subtracted points in areas where the sights and sounds of nearby cities (often many miles away) could be perceived from anywhere within the area. This eliminated many areas near population centers and has denied a potential nearby high quality wilderness experience to many metropolitan residents, and is inconsistent with Congress' goal of creating parks and locating wilderness areas in close proximity to population centers. The committee is therefore in emphatic support of the Administration's decision to immediately discontinue this "sights and sounds" doctrine.*[9]

During Senate hearings on the Endangered American Wilderness Act, Dr. M. Rupert Cutler, the Assistant Secretary of Agriculture, assured the Senator Pete Domenici (R-NM) that:

> there is no reference in the Wilderness Act to criteria for wilderness that includes such things as the sights, sounds, and smells of civilization which is a set of criteria which has been misapplied to wilderness areas.[10]

Similarly the agency ignores the purpose of legislation such as the 1975 Eastern [Areas] Wilderness Act that aimed at the preservation of wilderness close to population centers. This act featured Congressional finding of the "urgent need" to find, study and include eastern areas as wilderness. Hence the use of outside "sights and sounds" to delete areas from the roadless inventory is especially inappropriate in the east.

Congress has in the past often placed wilderness boundaries right up to roads and other human development without the use of a setback or buffer. See Scott at 9-10, 12-13. Clearly not every acre of a wilderness area must be isolated from human disturbance and protected from human sights and sounds. Congress clearly rejected the use of buffers around wilderness areas and instead often provides for buffers within the boundary of the area. Scott at 9. This also shows that it is improper to shrink the roadless areas with setbacks from roads.

Not only did the Region focus exclusively on solitude as a requirement, but the Region instructed the forests to use the ROS semi-primitive non-motorized (SPNM) criteria to quantify solitude. Joslin to Supervisors, Oct. 25, 1994, attachment at 6. Although the Region made clear that the ROS criteria were supposed to be used as a "screen" and a "guide," in many cases Forest planners used the ROS criteria as an absolute requirement. See Joslin, May 19, 1995, attachment at 6. The Region recognized that "the criteria used for identifying roadless areas are different than the rationale in identifying areas for a "semi-primitive" management emphasis." Joslin to Loesel, Aug. 9, 1995, at 5 (attached). The forests were to use their own professional judgment and knowledge of the area to determine whether the area provided solitude. Joslin, May 19, 1995, attachment at 6. However, Forest planners often used the ROS criteria as a minimum requirement, without exercising their judgment to determine whether the area provided opportunities for solitude or unconfined recreation.

The application of ROS guidance has gone far beyond its intended purpose. As stated in a letter to Secretary Glickman (with copies to the Chief, the Regional Forester and others) by Southern Appalachian Forest Coalition, The Wilderness Society, and Southern Environmental Law Center on October 3, 1997[11]:

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legislative history. In introducing his revised version of his own bill, he carefully explained to the Senate a key word change: 'In the opening sentence of the bill change the word "environment" (line 9) to "character". . . The word "character" is substituted because "environment" might be taken to mean the surroundings of the wilderness rather than the wilderness entity'.[7] Doug Scott at 11, citing S. 3809, 86th Congress.

[8] Scott at 11-12, citing *Preservation of Wilderness Areas*, Hearings before the Subcommittee on Public Lands, Committee on Interior and Insular Affairs, U.S. Senate, on S. 2453 and Related Wilderness Bills, May 5, 1972, page 59, emphasis added.

[9] Scott at 12, citing House Report 95-540, 95th Congress, July 27, 1977, page 5.

[10] Scott at 12, citing *Endangered American Wilderness Act of 1977*, Hearings before the Subcommittee on Parks and Recreation of the Committee on Energy and Natural Resources, United States Senate on S. 1180, September 19 & 20, 1977, Publication No. 95-88, Committee on Energy and Natural Resources, page 41.

[11] SAFC, TWS and SELC letter of 10/3/97. (attached)

However, the ROS "semi-primitive core" has been used far beyond its intended purposes and limits; the result has been that many areas fully qualified as roadless were arbitrarily dropped. To begin with the Regional Forester originally instructed that these cores were desirable, not essential. Yet many planners viewed them as strict requirements and dismissed many tracts as not roadless because the cores did not have "sufficient" acres or a "suitable" shape – even where the areas dropped passed the requirements for naturalness and road density found in the Forest Service Handbook.

Moreover, contrary to national guidelines for ROS, planners in the Southern Appalachian region pulled back to semi-primitive boundaries a half-mile from closed roads that receive limited or no vehicle use and do not intrude on backcountry recreationists. As a result, semi-primitive cores were frequently underestimated in size and shape. Hence, it became doubly arbitrary to delete areas because cores had insufficient acres of nonsuitable shapes.

Furthermore, despite repeated requests, the Forest Service has failed to document that in the heavily forested and rugged Southern Appalachians that the half-mile pullback from a road for semi-primitive acres is essential to provide for solitude and backcountry recreation. Indeed, the one agency study in the region that we located and submitted to the Forest Service failed to support this key assumption about a half-mile pullback.[12] *(Moreover, the use of the half-mile pull-back from roads has resulted in inadequate and unmanageable boundaries for many inventoried roadless areas.)*

Despite these serious flaws, the Forest Service deleted many areas that otherwise qualified as roadless due solely to the claimed absence of adequate semi-primitive "cores." On the Chattahoochee National Forest, for example, the Forest Service failed to identify the following areas as roadless for this reason: Grassy Mountain, Moccasin Creek, Three Forks, Duncan Ridge, Horse Gap, Windy Gap and others.

Indeed, in many instances, the Forest Service deleted areas as roadless for lack of adequate solitude or backcountry recreation even though existing forest plans expressly direct for those areas to provide semi-primitive solitude and recreation. Examples include Lynn Camp Creek on Jefferson National Forest; Iron Mountain on the Cherokee National Forest; Moccasin Creek on the Chattahoochee National Forest, and others. In fact there is an area (an 2,000 acre extension to Ellicott Wilderness on the Sumter National Forest in South Carolina) that the Forest Service previously studied and recommended for wilderness designation that they now find is not roadless, despite the complete lack of any roading or logging since the previous study.

Regional guidance also made clear that "close consideration" must be given when the SP core caused RARE II areas and areas larger than 5,000 acres to fall out of the inventory. Joslin, May 19, 1995 attachment at 6.

Also, according to wilderness historian Doug Scott, a perceived lack of "solitude," if used to constrain the size of areas to be evaluated for wilderness (in agency land use planning analyses) constitutes the use of erroneous criteria that pose the danger of unfairly misleading the public or even of preempting the prerogatives of Congress.

As noted in the Introduction, the Jefferson Roadless Inventory disqualified 31 areas between 5,000 and 2,500 acres because the areas lacked a 2,500-acre semi-primitive core. 1999 Roadless Process Paper at 3-4. The agency's response to comments, FEIS J-127-128, makes clear that the FS relied too much on the 2,500-acre core requirement and failed to consider opportunities for unconfined recreation on an equal basis. Here we will describe a few of the areas disqualified for lack of the 2,500-acre semi-primitive core and list a number of others that met the inventory criteria for roadless areas in the east.

A number of important areas on the Jefferson were disqualified from the roadless inventory based on the improper sights and sounds criteria.

We request that the agency add the Wilson Mountain area to the roadless inventory and refrain from logging, road-building and other activities in this area which are not consistent with the Roadless Area Conservation Rule of 2001.

Natural Heritage Resources:
How will this project directly or indirectly impact Division of Natural Heritage recognized conservation sites, special biological areas, rare communities, and species that are rare on the state, national, or global level? What surveys have been conducted to locate and identify rare communities, rare species, or listed species not previously identified in this area?

[12] EA for the South Corn Ridge Timber Sale in the Chattahoochee National Forest found that terrain would block the sounds of chainsaws and logging equipment. Relevant exceprt from the South Corn Ridge EA is attached.

Rich Cove Forests:
The scoping notice states that units 1,5 and 6 contain tuliptree, white oak, northern red oak forests. Also, the EA for the previous Wilson Mountain project included two of these three units in its analysis. The EA and field survey notes for these two units show that the units are rich cove forests. The Forest Service should fully survey these stands and surrounding areas. Any plants or animals dependent on forest cover within these stands should be analyzed. Impacts to salamanders, cerulean warblers,other cove forest songbirds, forest interior species, and other species should be fully analyzed. Historically, such rich sites have been the first to be cut. The Forest Service should disclose whether mature cove forests and old growth cove forests are underrepresented in this watershed, this district or this forest. How would cutting these stands would preclude attainment of future old growth status?

All terrain vehicle incursions:
In the past, I have observed evidence of ATV incursions in this area. See my Apr 10, '06 letter to District Ranger Kara Chadwick regarding ATV incursions in the Skillern Mountain area. How does existing Forest Service infrastructure (roads, old skid trails, openings) facilitate illegal use of the Forest by ATVs? Will skid trails, roads, or logging units in this project contribute to ATV use in any parts of the area? Does the Forest Service have the ability to adequately patrol the area, given the low funding levels for law enforcement?

Streams near the Headwaters of Gilmore Hollow:
Units 5 and 6 are both in the upper reaches of Gilmore Hollow, very close to the headwaters of Gilmore Hollow. In fact, units 5 & 6 nearly encircle many of the tributaries at the headwaters. Previous maps for the Wilson Mountain project disclose that intermittent streams run far up this cove. The Forest Service should examine this area closely to determine the presence of seeps, springs, wetland plants, and other features related to the hydrology of this area. The Forest Service should disclose the impact that logging<u>above, in, and around</u> this area will have on the stream systems and hydrological features within this area. The effects of sedimentation, alteration of water flows, removal of forest cover, change in water temperature, and other effects should be fully evaluated. Steep slopes, soils, variation in water flows and other variables should be considered. Virginia BMPs should be followed. Riparian corridors should be established of adequate sizes to protect the resources in and around the headwaters of Gilmore Hollow. If species of concern or ecological communities of concern lie downstream, then riparian areas should be increased to protect them. The impacts of logging near other stream systems (units 11, 12 and other units) should also be fully analyzed. Likewise, the impacts of logging in units 1,2, and 3, near stream systems and near the James River, should be fully evaluated as well.

Old Growth Explicitly Not Provided for in this Prescription Area;
In this prescription area, "old growth patches are not provided for" (JNF Plan 3-177) and "older aged forest communities" are "available for harvest" (JNF Plan 3-176). The Forest Service should evaluate how this policy and logging program will impact the viability of species for which old growth and mature forest provides optimal habitat. What resources are at risk as a result? The Forest Service should disclose how this policy and logging program will impact the distribution of old growth across the landscape. Impacts on forest visitors expecting to see protected old growth and mature forest should be disclosed. [See also the Old Growth section of these comments, below.]

Consider Alternatives:
The Forest Plan does not require regeneration logging as part of this project. Consider alternatives that "maintain tree growth and vigor" (JNF Plan 3-176) through selective logging only. Provide early successional habitat through existing fire-impacted zones, natural tree-fall gaps, other natural within-stand openings, maintaining old fields, and by maintaining portions of previously logged areas as early successional habitat.

Protecting Resources:
Given the extensive logging that has already occurred in some portions of this project area, how are management activities "spatially distributed and timed to <u>minimize</u> adverse impacts on wildlife, soil, water, recreation, and scenery."? (JNF Plan 3-176). [underlining for emphasis]. In this letter we describe some of the wildlife, soil, aquatic, recreational, and scenic resources of this unique area. How are impacts to these minimized?

Below-Cost Timber Sales and Ecological Valuation:
Management of this area should occur in a cost-efficient manner. The timber program on the George Washington

and Jefferson National Forest loses money. The Forest Service should complete an economic analysis that discloses whether this timber sale, or any parts of it, would be below-cost timber sales. An ecological valuation and net public benefit valuation should be conducted to determine the value of wildlife, fish, soils, water, recreational, scenic, and amenity values of resources lost or degraded as a result of this project.

Black Bears:
This prescription area is intended to provide suitable habitat for black bears. (JNF Plan 3-176). Consider the degree to which this project would lead to the removal of large trees suitable for above-ground black bear denning, create noise and other disturbances that would negatively impact black bears, facilitate increased motorized use (legal or otherwise) in the area. Has the Forest Service monitored black bear populations in this area? Denning sites? Foraging and travel patterns? Are black bear populations in this area vulnerable to motorized use or disturbance in any portions of the project area? How would the project affect black bear populations, denning sites, travel patterns, security, rearing of young, and other important aspects of black bear population health and viability? [See further section on black bears, below.]

Sprouts Run National Recreation Trail:
According to the Sprouts Run National Recreation Trail Establishment Report, "the general management direction for the trail will be to provide a semi-primitive recreation experience.." (section IV). "The trail will be managed for a low level of use in a primitive setting with opportunities for solitude." (section VI). [underlining for emphasis. The report explicitly references a "loop hike" incorporating Wilson Mountain Trail, which "can be accomplished by starting on the lower end of Sprouts Run Trail on HW 622, hiking 1/2 mil upstream along Sprouts Run Trail. Bear left onto the Wilson Mtn. Trail at its juncture with Sprouts Run Trail., and follow Wilson Mountain Trail approximately three miles to FS Road 907. (This is a gated road closed to vehicles). From this point, go right approximately 1/2 mile on FS road 907 to its intersection with FS Road 812 at Hoop Pole Gap. At this point begins the upper section of Sprouts Run, which you can take downstream along Sprouts Run for three miles back to your original starting point. Total loop hike distance is approximately 7 miles." (Section V, management direction). Proposed cutting unit 6 would be located on a high bluff on Drummond Hill immediately across from the upper trailhead of the Sprouts Run NRT. There will be few ways to protect the quality of the viewshed from Sprouts Run NRT or the road-walk section of the loop trail, since this high ridge is prominent and very close to the trail. Cutting unit 6 is close to the trailhead of the Wilson Mountain Trail, along this loop. It is likely that significant portions of units 6 and 5 would be visible from the Wilson Mountain Trail. The Forest Service should also recognize that many hikers hike the Sprouts Run-Wilson Mountain Loop during the leaf-off season when the views of the James River from Wilson Mountain are best. The Forest Service should consider whether views of the surrounding landscape (including those around proposed cutting units 5, 6, 1,2, and 3) would be affected during all seasons of the year.

Soils:
The Forest Service should evaluate the impact of the project on soils and watersheds, including potential for erosion, landslides and slumping, compaction, nutrient cycling, and impacts to sensitive soils and downstream resources. Some soil hazards exist in the area. For example, the Wilson Mountain EA disclosed that "the steeper Evard and Gunstock soils [have] severe erosion potential." (EA 25). Compartment/stand 3011/19 [Unit 5] has Evard soils. (Wilson Mtn EA 24). "Evidence of evidence of unstable soil exists .... on the west side of Gilmore Hollow" in Grimsley soil (Wilson Mtn EA 25). Other areas with soil hazards may exist in the area, including parts of other drainages (North Creek, Elk Creek, others). Soils in this project area have severe erosion hazards and severe equipment limitations. The project area should be thoroughly surveyed and all risks to soils and watersheds should be identified and addressed by avoidance where appropriate.

Cerulean Warblers:
Cerulean warblers have been documented in the project area (Wilson Mtn EA 61). Impacts to cerulean warblers from the extensive even-aged logging proposed in this project should be analyzed.

The cerulean warbler may be found within the PA and vicinity. 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." Bird Species of Conservation Concern 2002 found in this area should be analyzed.

Management Indicator Species:

Appropriate management indicator species (MIS) should be selected to evaluate the impacts of this project on wildlife. Among these, appropriate aquatic MIS and salamander MIS should be selected. The aquatic and salamander MIS for the JNF are wild trout and Peaks of Otter salamanders (JNF Plan 2-12). The FS should determine whether wild trout and Peaks of Otter salamanders are present in this project area (including a wide cross-section of streams in the project area). See also Wilson Mountain EA 64. If they are not, then other appropriate aquatic and salamander MISs should be selected for this project area.

The Forest Service should adopt management indicator species that truly represent a full range of the habitats and niches found on the Forest. Ideally, these should include aquatic, riparian, non-game, old growth/late

successional, remote habitat, and high elevation indicator species. Species that are vulnerable to climate change, such as high elevation species, might also be included. In addition, a salamander that is found at lower elevations and common across most of the Forest should also be selected. Birds are not appropriate substitutes for small site-sensitive species of low mobility such as salamanders and turtles.

Climate Change:
To comply with the Executive Order on Climate Change, the agency should take the following steps, as they pertain to this project and to planning and project-implementation on the Jefferson National Forest :

"Sec. 5. Federal Agency Planning for Climate Change Related Risk. (a) Consistent with Executive Order 13514, agencies have developed Agency Adaptation Plans and provided them to CEQ and OMB. These plans evaluate the most significant climate change related risks to, and vulnerabilities in, agency operations and missions in both the short and long term, and outline actions that agencies will take to manage these risks and vulnerabilities. Building on these efforts, each agency shall develop or continue to develop, implement, and update comprehensive plans that integrate consideration of climate change into agency operations and overall mission objectives and submit those plans to CEQ and OMB for review. Each Agency Adaptation Plan shall include:

"(i) identification and assessment of climate change related impacts on and risks to the agency's ability to accomplish its missions, operations, and programs;

"(ii) a description of programs, policies, and plans the agency has already put in place, as well as additional actions the agency will take, to manage climate risks in the near term and build resilience in the short and long term;

"(iii) a description of how any climate change related risk identified pursuant to paragraph (i) of this subsection that is deemed so significant that it impairs an agency's statutory mission or operation will be addressed, including through the agency's existing reporting requirements;

"(iv) a description of how the agency will consider the need to improve climate adaptation and resilience, including the costs and benefits of such improvement, with respect to agency suppliers, supply chain, real property investments, and capital equipment purchases such as updating agency policies for leasing, building upgrades, relocation of existing facilities and equipment, and construction of new facilities; and

"(v) a description of how the agency will contribute to coordinated interagency efforts to support climate preparedness and resilience at all levels of government, including collaborative work across agencies' regional offices and hubs, and through coordinated development of information, data, and tools, consistent with section 4 of this order.

(b) Agencies will report on progress made on their Adaptation Plans, as well as any updates made to the plans, through the annual Strategic Sustainability Performance Plan process. Agencies shall regularly update their Adaptation Plans, completing the first update within 120 days of the date of this order, with additional regular updates thereafter due not later than 1 year after the publication of each quadrennial National Climate

Assessment report required by section 106 of the Global Change Research Act of 1990 (15 U.S.C. 2936)"

http://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change

The Forest Service should include an alternative that mitigates or improves the balance of relationships between species, forests and climate change.. These would include, but not be limited to

- Eliminating actions which do not maximize carbon storage in vegetation and in soils
- Eliminating actions where extracted forest products result in reduction of biomass and carbon storage in vegetation and soils
- Eliminating actions which accelerate the rate of evaporation of soils and can potentially increase erosion
- Eliminating actions which remove, facilitate removal or make available forest projects that could be incinerated for any purpose.
- Considering the cumulative impacts of all aspects of the project with regard to carbon storage, carbon released and carbon dioxide released on forest, landscape, state, federal and global scales.

- The Forest Service should **analyze the effects of the project with regard to habitat fragmentation, loss and degradation and in converting forests to agricultural uses.**

The United States Forest Service is a division of the United States Department of Agriculture. Forest plans and projects are therefore, by definition, federal actions that nominally convert forests to agricultural uses. This project needs to consider the cumulative impacts of such conversion from forests to agricultural uses.

Habitat fragmentation is a direct result this project as proposed. Roadbuilding, maintaining road inventories and the creation of early successional habitat create and promote habitat fragmentation. As restoration efforts are dominated by actions that attempt to remedy actions and past projects by the agency that have resulted in, promoted or implemented habitat degradation and fragmentation of ecosystems, an alternative must be considered that does not contribute to continued habitat fragmentation.

It would be inappropriate to take steps to restore fragmented habitat in one place while continuing to promote and implement projects that continue to fragment habitat somewhere else or to attempt to mitigate climate change on one hand while exacerbating it at the same time with the other hand. Yet these are conditions that would be allowed to continue and proliferate with this project.

Please also consider the comments of Doug Heiken (attachment) as they pertain to this project.

The Forest Service should plan for climate change by (1.) protecting core roadless areas, (2.) reducing forest fragmentation and (3.) decreasing and eliminating non-climate stresses such as logging and logging road/skid trail building.

There is opportunity here to promote connectivity among roadless areas via Virginia Mountain Treasure areas and adjacent or nearby roadless areas.

Any alternative selected by the Forest Service should be (1) informed by the most up-to-date science, including identification and designation of core areas, corridors, and analysis of the connectivity of the Forest with other lands, (2) include an audit of activities permitted in the project to ensure that activities do not increase carbon emissions and do not decrease carbon sequestration, (3) incorporate monitoring and adaptive management to ensure that if climate-related conditions or indicators are worse than expected, appropriate stronger measures will be applied her and elsewhere.

The Forest Service already recognizes the need for careful climate change analysis and planning. For example, recent guidance has acknowledged that the Forest Service should "identify ecosystems that are most at risk due to climate change," should analyze "conditions and trends of carbon stocks and fluxes on the planning unit, and greenhouse gas emissions influenced by the management of the planning unit," and should use the best available science in forest planning for the George Washington National Forest, among other things. See "Considering Climate Change in Land Management Planning," Joel Holtrip, Deputy Chief, Mar. 2, '10 and accompanying "Climate Change Considerations in Land Management Plan Revisions" Jan. 20, 2010.

Proposed, endangered, threatened, sensitive, locally rare, and federally and state listed species:

The FS should consider the impacts of this project on all Proposed, endangered, threatened, sensitive, locally rare, and federally and state listed species that occur or that may have habitat in this area. Thorough surveys at the appropriate time of year should be conducted. Species with the potential to occur in this area include species on VAFWIS Search Report Gilmore Hollow 1, 2, and 3 (attachment). These reports are downloaded reports based on Virginia Game and Inland Fisheries data. Virginia Division of Natural Heritage identified Virginia false-gromwell and Virginia white-haired leather flower in this project area (Letter on Wilson Mtn project, Jun 21, '96). Other species found in special biological areas and conservation sites in the area should be surveyed and monitored. Other species may exist in the area as well. Thorough surveys should be conducted.

The Decision To Use 10.B under the JNF Plan Must Be Evaluated in a Draft Supplemental Environmental Impact Statement.

Under NEPA, environmental analyses must be supplemented whenever there are "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact." 40 C.F.R. §1502.9(c)(1)(ii). In The Fourth Circuit, courts review an agency's decision not to prepare a supplemental EIS ("SEIS") through a two-step inquiry. First, the court must determine if the agency took a "hard look" at the new information. Second, if the agency did take a hard look, then the court must determine if the agency's decision not to prepare an SEIS was arbitrary or capricious. Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 443 (4th Cir. 1996). If the new circumstances or new information show that the action would "'affec[t] the quality of the human environment' in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared." Marsh v. Oregon Natural Resources Council et al., 480 U.S. 360, 373-74 (1989); Cf. 42 U.S.C. §4332(2)(C).

The Forest Service decided to use Management Prescription 10.B, High Quality Forest Products ("10.B"), without first taking a "hard look" in the DEIS at the impacts of management under 10.B. The use of 10.B

constitutes a substantial change from the JNF Forest Plan proposed alternative that is relevant to environmental concerns and will affect the environment "in a significant manner." See Dubois, 102 F.3d 1273, 1292 (1st Cir. 1996), citing Marsh, 490 U.S. at 372. The agency violated NEPA's procedures by making this change without first publishing a draft SEIS and providing an opportunity for public comment.

Alternative I was the preferred alternative for the Forest Service by 1999, and perhaps earlier, so attention was paid primarily to developing Alternative I, the "Rolling Alternative." Alternative I never included 10.B. In the September 1999 draft of Alternative I, the Forest Service said that sites appropriate for providing high quality wood products would be managed under Prescription 8.A.1[13]. In later discussion of the goals and design criteria for developing Alternative I, the agency explicitly stated that while the Forest Service can provide supplies of high quality wood products, "those wood products will come from Management Prescriptions *other than* the 'Category 10s.'"[14] Designating 16,200 acres to 10.B management constitutes a substantial change from the preferred alternative presented to the public for more than five years and analyzed in the DEIS.

The use of 10.B is a highly controversial decision of great importance to the public. The Forest Service claims their decision to include 10.B in the Plan is based upon " input received during the citizen workshops in 1999," comments received, and the need to attempt to meet the regional demand for high quality sawtimber. ROD at 24; FEIS 2-38. However, as the Forest Service's notes from the Citizens Meetings in 1999 demonstrate, public opinion was and remains very much split as to whether category 10 management prescriptions should be applied in the Jefferson National Forest. The level of logging in the JNF has consistently been a controversial issue. This is precisely why the public should have had an opportunity to comment on the use of 10.B before a decision was made, as required by NEPA. Further, if this decision is truly a response to 1999 public comments, there was no justification for waiting until after the close of comment on the DEIS before adding prescription 10 to the preferred alternative for the first time, after numerous assertions in the intervening four years that the FS would not use 10.

The Forest Service distorted public opinion on the use of 10.B by focusing on comments on the DEIS. In the Response to Comments, the agency only responded to timber industry demands for the use of 10.B. FEIS, Appendix J, J-163. Because there was no indication the agency would use any of the 10 prescriptions, there was less incentive for the public who opposed the use of 10.B to comment on the issue.

This use of 10.B was not "within the spectrum of alternatives" analyzed in the DEIS. See Dubois 102 F.3d at 1292 (An alternative that has not been disseminated in an earlier DEIS may be adopted without further public only if it is "within the spectrum of alternatives that were discussed" in DEIS). 102 F.3d 1273, 1292 (1st Cir. 1996). The Forest Service suggests that the "seven alternatives considered in [the] FEIS [provide] for a reasonable number of examples covering the full spectrum of options for addressing the significant issues, including commercial timber harvesting." FEIS, J-27. However, except to note that 10.B could be used under Alternatives A and E, the Forest Service did not analyze the effects of 10.B on the Forest, and definitely did not take a "hard look" at the effect it would have. Especially considering that Alternative I was the primary focus of Forest Service planning and development, the mere reference to 10.B designations in other, non-preferred, alternatives does not represent an adequate analysis of 10.B impacts and does not constitute the "hard look" required by NEPA. The analysis under Alternatives A and E did not address the specific areas designated as 10.B under Alternative I in the FEIS and therefore did not look at the specific impacts the decision to implement 10.B would have either locally or on the watershed level. This too supports a finding that the Forest Service did not take a "hard look" at the impacts of 10.B as implemented in the FEIS.

Neither the DEIS nor the FEIS adequately disclosed the effects of long-term management under 10.B. Because, as discussed above, the FS lumps together the effects of all management activities under each alternative, it is impossible to compare alternative approaches to timber management. Further, the FS analysis glossed over potentially significant impacts of the use of 10.B.

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[13] Alternative I, "Rolling Alternative" Narrative, http://www.southernregion.fs.fed.us/gwj/lrmp/plandocs/990916_rolling_narrative.htm (9/16/1999) (site accessed 3/15/2004).

[14] Goals and Design Criteria for Developing the "Rolling Alternative", http://www.southernregion.fs.fed.us.gwj/lrmp/plandocs/000313_rolling_criteria.htm (3/13/3000) (emphasis added) (site accessed 3/15/2004).

The FS must fully consider the impacts of 10.B and submit this analysis for public review and comment, as required by 40 C.F.R. §1502(c)(1)(ii). The areas designated for management under 10.B are not appropriate for a commercial logging focus. These areas support a number of threatened, endangered and sensitive species and also are popular for recreation; all these values will be significantly and adversely impacted by increased logging.

Portions of the North Creek/Arnold Valley area of the Glenwood Ranger District are illegally managed under 10.B. This area is heavily used for recreation, with camping, hiking, backpacking, fishing, and hunting being primary uses. The area lies adjacent to the James River Face and the Thunder Ridge Wilderness Areas. Miles of well-used trails traverse the region and logging in 10.B areas would affect the scenic and recreational values of the area. FEIS, D-32. The Cave Mountain Lake Forest Service Campground is entirely surrounded by 10.B areas. Over half of the 5,000 acre Wilson Mountain area, a Virginia Mountain Treasure, is included in the 10.B prescription. Wilson Mountain was erroneously and arbitrarily dropped from the roadless inventory and should have been considered for recommendation for wilderness designation, as discussed above. Intensive logging in the North Creek/Arnold Valley area is likely to decrease the scenic and recreational value of the area.

Prescription 10.B areas border several unique and sensitive areas, including the Peaks of Otter Salamander Primary and Secondary Habitat, the North Creek Special Area, Rare Community areas, and other recreational areas. The FS has not considered the impact of 10.B on the Peaks of Otter salamander and the James spinymussel, an endangered species. Cerulean Warblers may also be affected; the Forest Service reported in 1997 that Ceruleans were heard on the Petites Gap and White Oak Breeding Bird Survey routes. Wilson Mountain Environmental Assessment 61 '96-'97.

Not only the wilderness areas, but the Arnold Valley and North Creek areas themselves have very high scenic value as well, with the entire Arnold Valley visible in dramatic panorama from high profile viewpoints along the Appalachian Trail and the Blue Ridge Parkway. The northern area of the Arnold Valley lies within the wild and scenic river corridor for the James River eligible for Wild and Scenic River designation. Perhaps most importantly, North Creek, a tributary to the James River, is the only river recognized as exceptional surface waters in the Commonwealth of Virginia. FEIS, D-27, D-31. The North Creek has outstandingly remarkable values for at least 7 miles through the forest, with regional significance in both the Scenic and Recreational categories. Additionally, it is one of the few rivers in the Forest eligible for Wild and Scenic classification. The FS should protect the North Creek watershed for its scenic, recreational and biological values, not subject the watershed to intensive logging which is likely to adversely affect water quality and the value of the area for wildlife habitat and recreation.

The decision to use 10.B without a full consideration of the impacts and without an opportunity for public review and comment violates NEPA. The agency must withdraw the Plan, fully evaluate the impacts of 10.B and cure the inadequacies in the FEIS discussed above, and prepare a SEIS for public notice and comment before making a decision on the use of Prescription 10.B.

B. The Forest Service Must Reinitiate Consultation With the Fish and Wildlife Service Regarding the Impact of 10.B on Threatened and Endangered Species.

Other important federally listed species are negatively impacted by the inclusion of 10.B in the Forest Plan. The FS has not fully considered the impacts of 10.B on Threatened and Endangered (T&E) aquatic species (especially the James spinymussel) and on the Endangered Indiana bat. The FS must reinitiate consultation with the FWS to meet its ESA obligations to T&E aquatic species and the Indiana bat.

50 C.F.R. § 402.16(c) requires reinitiation of consultation "If an identified action is subsequently modifies in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion[.]" There is no evidence that the Fish and Wildlife Service was aware that the JNF intended to manage 16,200 acres of potential Indiana bat habitat under Prescription 10.B. The figures used in the Biological Assessment to calculate the disturbance of potential bat habitat suggest the FWS was not aware that the FS decided to use prescription 10. Also, the ROD adopted an annual timber harvest level about 10% greater than the level proposed in the Draft EIS. The FWS 2004 Biological Opinion considers the entire JNF as Indiana bat habitat, and classifies timber harvest as one of the primary activities under the LRMP with a direct effect on the

species. Biological Opinion at 4, 7. The Indiana bat is likely to be present in the 10.B and surrounding areas. The FS must reinitiate consultation so the FWS may fully evaluate the impact of 10.B on the bat.

Increased timber harvesting on the Glenwood Ranger Districts may also cause an increase in sediment loads in streams, adversely affecting T&E aquatic species (especially the James spinymussel). The FS must also reinitiate consultation with the FWS regarding impacts to T&E aquatic species.

Cumulative Effects
The FS should consider the cumulative effects of other FS and non-FS activities and events, including the Wilson Mountain, Bannister Branchtimber projects and other projects.

Springs, Seeps, Riparian Areas
The FS should carefully identify and protect all springs, seeps, riparian areas, and water resources in this project. Plan mandated and BMP-mandated buffers should be provided. The FS should determine how complex the hydrological system is in this area, and what streams, seeps, riparian areas, and aquifers would be affected by the logging, roadbuilding, prescribed burning, firelines, or associated activities and infrastructure.

Steep Slopes/Soils
We are concerned about the potential for erosion and mass movement along steep slopes. Please consider the adverse effects on soils and watersheds from logging and roadbuilding on steep slopes. What is the erosion hazard for each soil type in each unit and what potential is there for erosion and mass movement? How will this risk be eliminated?

How will the project affect steep slopes, erosive soils, soils where soil movement may occur, soils with compaction hazards, soils with puddling hazards, rocky soils, soils with equipment limitations, soils at risk of losing organic material, soils with low levels of organic material, and other sensitive soils along the creeks in this project areas and their tributaries? What portion of the units are on steep slopes? Identify these areas. Do not merely take an average of slope. Will the project affect poorly drained floodplain soils? Soil Productivity? How will this affect soils in the project area?

Regional soil quality standards must be followed in full.

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).]

The FS should consider a reasonable range of alternatives, including uneven aged logging, alternatives that allow logging only outside of the Wilson Mountain Virginia mountain treasure area.

Visual Quality
Scenic quality in this project area should be a high concern and any assessment that areas within the project area warrant low SIOs is inadequate. There are important viewsheds in this area,

The viewshed of important visual corridors in the area should be protected. The FS should conduct a seen-area analysis of the project on these trails. The impact on aesthetics, trail corridors, potential camp spots, rest stops, water sources, interior-forest plant/wildlife viewing opportunities, dispersed/primitive recreation, opportunities to experience solitude, challenge, restfulness, spiritual values should be considered. The FS should consider the views of day hikers, backpackers and long-distance hikers who may prefer locations that are relatively pristine

over areas that are heavily managed and choose such locations for hiking. The FS should determine what the hikers use the trail system, what type of experience such hikers seek, or whether this project and other activities of the FS are cumulatively impacting the trail experience.

Scenic and Aesthetic Resources play a very large role in the JNF are perhaps more important in the JNF than in any other forest in the Southern Appalachian forest planning region. This is because there are several high priority visual corridors in and around the JNF. These include the Blue Ridge Parkway, the Appalachian National Scenic Trail (traversing more miles in Virginia than any other state), Interstate 81, the Mt Rogers National Recreation Area, scenic byways (Big Walker and Mt Rogers (FEIS at 3-293)), Eligible Wild & Scenic Rivers, the Allegheny Trail and Pine Mountain Trail (two long-distance trails), National Recreation Trails, historical sites, and other features (e.g., the approach to Natural Bridge). This is also the case in the Scott County area, where the nearby Clinch River, Hagan Hall, and Stony Creek, and the surrounding area (including this area) is an important recreational and tourist resource. Many SWVa counties in the Lenowisco area are actively promoting tourism and visual quality is an important aspect.

The scenic backdrop of the JNF is an economic asset that many localities use to attract businesses, future citizens, and travelers. Over 6.88 million visitors use the Blue Ridge Parkway in Virginia. A 1995-1996 study on the economic impact of the Blue Ridge Parkway in Virginia calculated a total direct expenditure from non-residents using the Blue Ridge Parkway at $476,586,500 (Brothers and Chen,"1995-96 Economic Impact of Travel to the Blue Ridge Parkway Virginia and North Carolina").

Travelers are more concerned about the environment than ever before. For example, a September 1996 survey in Conde Naste Traveler magazine found that "the environment" has become a major issue for many travelers. More than half of the respondents said that the environment has become a major factor in their travel plans over the last 10 years, and 91% expressed concerns over environmental problems at their destinations with 25% having been forced to change travel plans because of environmental problems.

As Alfred Runte said, and quoted by Forest Service Chief Jack Ward Thomas in the FS Handbook for Scenery Management, “There is no question… that the national forests are major contributors to an American sense of place, to an identity with landscape that transcends economics for its own sake.” As such, Appellants object to the inadequate scenery protection provided for the Jefferson National Forest in the revised LRMP and to the changes made in scenery management from the draft to the final LRMP without any explanation or justification.

a. The Revised LRMP Fails to Adequately Protect the Outstanding Scenic Qualities of the Jefferson National Forest.

The following is a crosswalk between the old VQO system and the new Scenic Integrity Objective (SIO) systems, according to the FEIS and Scenery Management handbook: An SIO of very high is the equivalent of a preservation VQO; a high SIO is the equivalent of a retention VQO; a moderate SIO is the equivalent of a partial retention VQO; and a low SIO is the equivalent of a modification VQO (FEIS 3-332). While SIO allocations have generally improved over those of the previous, 1985 LRMP, there is a noticeable exception (FEIS 3-332 & 2-22). For example, the percentage of the low SIO-modification VQO has doubled from 7% to 14% from the 1985 Plan to the Revised Plan, an increase of approximately 50,631 acres (FEIS 3-332 & 2-22). This is a 100% increase in acreage in the least protective scenery class and the Forest Service provides no explanation.

"[P]eople value most highly the more visual attractive and natural-appearing landscapes " (Landscape Aesthetics Handbook (USDA Handbook #701) p. 30). NFMA directs the FS to protect the forest's visual resources when enacting a plan. Aesthetic resources are one of the key resources to be protected under NFMA. Clearcutting and even-aged logging can used "only where" these methods are carried "out in a manner consistent with the protection of esthetic resources" NFMA 6(g)(3)(F)(v) and 1604(g)(3)(F)(v). In addition the statute requires that clearcutting and other even-aged harvesting methods are used "only where" "cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain." NFMA 6(g)(3)(F)(iii), 1604(g)(3)(F)(iii). The language "only where" leaves no reason for discretion. And 98,000 acres of the forest is in the low SIO, equivalent to a "modification" prescription (See crosswalk on Landscape Aesthetics Handbook (USDA Handbook #701) p. H-1. (Landscape Aesthetics Handbook (USDA Handbook #701) p. 2-4 admits that Low SIO areas "begin to dominate the valued landscape character being viewed." An example of a project meeting the low end of the Modification VQO (Low SIO) is described as follows: "Continuous forest texture, seen in this middleground

view in the Pisgah National Forest, makes it difficult to introduce any clearings that do not attract attention" (Landscape Aesthetics Handbook (USDA Handbook #701) p. H-38.

It is not clear how the Forest Service ensures that permitted activities in Low SIO areas (and other SIO areas) can and will be "shaped and blended to the extent practicable with the natural terrain" as required by NFMA. This is particularly relevant, since Low SIOs (equivalent of Modification VQOs in the 1985 Plan), have been approximately doubled between the time of the1985 JNF Plan and the JNF Plan Revision. The need for Low SIO areas is not apparent in or justified by the analysis, or the goals and objectives for the Forest. This is an unacceptable "overkill" that must be drastically reduced. Again, the FS should demonstrate that in all areas where even-aged logging and clearcutting are permitted, such activities would be blended to the extent practical with the natural terrain and would not violate NFMA. The extensive clearcutting, coppice logging, seed-tree logging, modified shelterwood logging, sanitation logging, salvage logging, shelterwood logging, removal cutting, and roadbuilding permitted in Low SIOs, and other SIOs in the Plan will be highly visible and significantly degrade scenery and our enjoyment for decades. The FS failed to demonstrate that in all areas where even-aged logging and clearcutting are permitted, such activities would be blended to the extent practical with the natural terrain and would not violate NFMA.

There are 242,000 acres of the forest in the moderate SIO and 98,000 acres of the forest in the low SIO (FEIS 3-333). This is nearly half of the forest. The moderate SIO is the equivalent of the partial retention VQO. If moderate SIO areas lie within roadless areas or other unique and highly sensitive sites and landscapes, activities may not blend to the extent possible in these highly sensitive natural terrains. And 98,000 acres of the forest is in the low SIO, equivalent to a "modification" prescription. The need for this is not apparent in or justified by the analysis, or the goals and objectives for the Forest. This is an unacceptable "overkill" that must be drastically reduced. Again, the FS should demonstrate that in all areas where even-aged logging and clearcutting are permitted, such activities would be blended to the extent practical with the natural terrain and would not violate NFMA

The Scenery Management System (*Landscape Aesthetics: A Handbook for Scenery Management*, USDA Handbook 701) requires the use of a careful, flow chart process for forest planning for scenery and aesthetic issues. *Id*., Summary-6. Scenic attractiveness is a long-term, rarely changed measure of “the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rockform, waterform, and vegetation pattern” *Id*., Glossary-5. Scenic attractiveness is combined with Concern Levels (based on certain types of primary and secondary travelways and use areas (p 4-8) and Distance zones I (immediate foreground 0-300 ft, foreground 0-1/2 mi., middleground 1/2 to 4 mi, and background - 4 mi or greater (p. 4-12) to arrive at Scenic Classes. Scenic classes are combined with *Constituent (public) information* to arrive at alternatives for scenic integrity objectives for each of the prescription areas in the Forest Plan. As described above, an SIO of very high is the equivalent of a preservation VQO; a high SIO is the equivalent of a retention VQO; a moderate SIO is the equivalent of a partial retention VQO; and a low SIO is the equivalent of a modification VQO.

A matrix system is used to assign concern levels based on use levels and the defined primary and secondary travelways and use areas on the vertical axis and “interest in scenery” (high, moderate and low) on the horizontal axis. *Primary travelways and use areas* are “nationally and/or regionally important locations” including: primary roads, trails, areas used by motorists, hikers, bicyclists, and horseriders in NFs, NPs, NRAs, wildernesses, W&S rivers, scenic highways, FS scenic byways, and other special designation areas; public transportation systems of national importance, including interstates, waterways, and railways; primary fishing, swimming, boating, and water recreation areas; primary recreation areas including vistas, campgrounds, picnic grounds, beaches, visitor centers, trail camps, etc; primary resorts; highly sensitive communities; primary summer home tracts; primary geological areas; designated scenic areas; primary botanical and forest demonstration areas; primary historical sites and areas; primary wildlife observation areas; special places of local or regional importance; primitive, SPNM, SPM areas identified as important by constituents. Secondary travelways and use areas are: locally important tourism and recreation areas including all state, federal, and primary county or FS system roads not listed above; non-primary communities; other primary uses not listed under primary areas; primitive, SPNM, SPM areas not listed as important by constituents; secondary recreation areas including vistas, campgrounds, picnic grounds, beaches, visitor centers, trail camps, etc; primary resorts; secondary summer home tracts; secondary geological areas; secondary botanical and forest demonstration areas; secondary historical sites and areas; secondary wildlife observation areas and all rds leading to areas of secondary importance (p. 4-9 and 4-10). A concern level of 1 is assigned to all primary and secondary travelways and use areas with a high interest in scenery; a concern level of 2 is assigned to all primary and secondary travelways and use areas with a moderate interest in scenery (p. 4-8).

In turn, scenic classes are assigned based on a matrix of Distance Zones and Concern Levels on the horizontal axis and Scenic Attractiveness on the vertical axis (p. 4-15). *All areas with a scenic attractiveness level of A and a concern level of 1 (regardless of the distance) should be in a scenic class of 1.* All areas with a concern level of 1, in the foreground, with a scenic attractiveness level of B or C are also assigned a scenic class of 1. See also this matrix regarding scenic class and other scenic classes.

It is unclear why areas with high scenic attractiveness along primary travelways and use areas were not assigned a scenic class level of 1 or 2 or a similar lower SC ranking than existing levels, as they should have been. Examples of some of these areas include: lands around the Blue Ridge Parkway (including lands near Peaks of Otter and lands visible from overlooks at Arnold Valley), Mt Rogers NRA (throughout), high ridges and bluffs visible from the historically significant and W&S eligible James River; dramatic Sinking Creek Mountain visible from Route 311; the dramatic Mill Creek area visible from Rt. 460; sections of Big Bend and Six Valley area visible from Scenic Byway on Rt. 52; areas visible from High Knob overlook; areas visible from Rts. 23 and 58; hawk watching areas on the Blue Ridge Parkway and Peters Mountain; Burkes Garden area; and SP areas and SP-2 areas of importance at Mill Creek, Dismal Creek, Big Bend and Crawfish Valley, Mountain Lake areas, Cave Springs, Devils Fork, North Fork of Pound. It is clear that many concern level 1 and 2 and scenic class 1 and 2 areas have been designated, but there are some deserving areas that have not.

The FS had the discretion and responsibility to assign stronger scenic integrity objectives, in response to public demand, but did not. "For scenery management desired condition has two components: landscape character goals and scenic integrity goals… Scenic integrity objectives are defined by minimally acceptable levels and the direct intent to achieve the highest scenic integrity possible." LRMP, p. 5-9. Commenters of the Forest Plan at all stages asked for stronger protection of scenic values across the forest and for many specific areas. The FS states "since the initial visual inventory, concern for scenic quality and recreation use increased in many parts of the Forest" (Draft Plan 2-42). The Virginia Mountain Treasures report recommended protection of 275,000 acres on the JNF, based in part on the "beautiful scenery" of these areas. Virginia Mountain Treasures Report, p 7. "Esthetic value is an important consideration in the management of recreation settings. This is especially so in National Forest Settings where most people expect a natural appearing landscape with limited evidence of 'unnatural' disturbance of landscape features." (Landscape Aesthetics Handbook (USDA Handbook #701) p F-1. High SIOs should be the "norm" in SPNM areas, fully compatible in SPM areas, and also the "norm" in Roaded Natural ROS Areas. Very High SIOs are "fully compatible" with SPNM, SPM, RN, and Rural ROS areas. (Landscape Aesthetics Handbook (USDA Handbook #701) p. F-3).

The FS therefore should have considered prescriptions that provide VH SIOs in key areas identified by the public, including Virginia Mountain Treasure areas, and within and around other primary and secondary travelways and use areas. But a large acreage of RN lands, many of which include Virginia Mountain Treasure areas and other potential uninventoried roadless areas identified for their roadless character (and should have been identified as semiprimitive areas and areas of importance to constituents), instead fall within a Moderate SIO or Low SIO. This includes significant portions of Terrapin Mtn, Jas River Face N & NW extension, Thunder Ridge N extension, Wilson Mtn, Sinking Cr Mtn, Hickory Flats, Potts Arm, Round Mtn N & S, Glade Mtn, Six Valley, Seven Sisters, Laurel Fk, and other areas. And portions of the corridor of Little Stony Cr (Cascades), Stony Cr, Guest River, Little Stony (.C), and Clinch R eligible W&S river corridor, and surrounding areas of these and other eligible W&S rivers.

Watershed Impacts

Several projects have recently been approved, or considered, or are proposed in this watershed Is a watershed analysis being conducted?

Old Growth

The Forest Service should protect all existing old growth forest of one acre or larger**.**

According to regional guidance, old growth in the eastern U.S. comprises approx 0.5% of the old growth that historically existed in the southeastern US. Much of it was cut down in the massive logging in the early part of this century. The majority of existing old growth in the southeastern US consists of small tracts tens of acres in size on average.

As part of this analysis, the FS should identify all old growth of any size (including within-stand old growth and old growth partially within multiple stands). Then, 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, as well. The FS should have provided figures on the size, distribution, and age of trees to be cut and the trees to remain after logging. The FS should have provided figures on the size, distribution, and age of trees to be cut and the trees to remain after repeat entries. The FS should have disclosed the impacts on old growth and disclose whether the treatments could preclude or delay the attainment of old growth status.

The Fs 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 FS 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 operational criteria for old growth, given the obvious shortage of old growth in this area (and throughout the Appalachians) FS should also consider designating some of the best areas as small, medium or large old growth tracts.

In FR-62, 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). 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.

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.

The FS claims that " to date no species had been identified in the Southeastern United States that is considered an old growth obligate; that is requiring old growth for some portion or all of their life cycle" T However, sspecies that depend on "old forests with dead/dying trees" as a habitat element in the recent Daniel Boone NF Plan DEIS include sharp-shinned hawk (acknowledged as a locally rare species on the GW&JNF, see GW&JNFs Rare Species list), cerulean warbler (acknowledged as a locally rare species on the GW&JNF, see GW&JNFs Rare Species list), and yellow-throated warbler (DBNF Plan DEIS H-9 to H-32). "Old forests with dead/dying trees" describes essentially the same habitat components as old growth forests (See, e.g., the description of old growth forests by Chief F. Dale Robertson, in RG p. 1&2), so it can be demonstrated that there are species now on the JNF that do, in fact, require "old growth for some portion or all of their life cycle." The Forest Service has suppressed pertinent information from within the agency that demonstrates that there are in fact old-growth dependent species in the JNF. Additionally, “species not now appearing in this area could colonize this habitat, or begin to express themselves in a visible manner, once old-growth is established." (DBNF Plan DEIS 3-90).

The Allegheny woodrat is a species on the JNF. New strategies such as "maintaining sufficient old growth mast producing canopies (Beck 1977; McShea 2000), maintenance of continuously forested corridors" “ public education, maintenance of course woody debris such as large snags and fallen logs, and more may be required to insure the long-term survival of the Allegheny woodrat" See (See '01-'03 GWJNFs M&E Rpt Mengak 2002 pp. 30-34, See also the entire'01-'03 GWJNFs M&E Rpt Mengak 2002 pp. 1-38,already in your possession, incorporated by reference).

By utilizing the narrow terms, "old growth obligate" and "old growth dependent", the FS is ignoring many species that prefer old growth, that utilize old growth, or species for which old growth is the optimal habitat. The difference is not just a difference of semantics; instead it reflects our current incomplete level of understanding, and may be a difference of tremendous importance to species living in the NF. The FS should consider impacts to these and other species in the Gilmore Hollow project area.

Aquatic Species

How will the project (including logging, roads, skidding, and other activities) affect sediment-sensitive species such as trout and other aquatic species?

The JNF Plan requires the FS to delineate riparian areas (manage prescription area (RxA) 11 areas) and this should be done 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 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. 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 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). 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).

The yellow lance, is a G2G3 S2S3 species in Va., and the roughhead shiner, is a G2G3 and S2S3 species. The roughhead shiner is confined to the Ridge and Valley province of the upper James drainage, Virginia…The contiguity within subpopulations and the sharp limits of the range of the species indicate that high gradient and small size of stream, turbidity, and siltation variously combine to effect the tight distribution of the roughhead shiner (Jenkins and Burkhead, 1975a)" Terwilliger (1991). The roughhead shiner is a sensitive species (R-8 sensitive species list).

- The past and current state of biotic populations and water quality of perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, are important.
- "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) So this project may result in significant impacts to channel condition and population viability or distribution.

Steep Slopes

Cutting units may have steep slopes.

Ground based logging here has the potential to damage soils. As stated in Chamberlain, et al. 1991 (in the FS's possession, as this paper was referenced in the JNF Plan Revision/DEIS): “Increases in soil water content and groundwater levels can indirectly affect fish habitat... On logged hill slopes, moist soil is vulnerable to mass movements (O’Loughlin 1972; Swanston 1974)””The frequency of mass erosion events in forested watersheds is strongly linked to the type and intensity of land treatment in the basin (Rood 1984). Although most mass movements are associated with roads and their drainage systems, many originate on open slopes after logging has raised soil water tables and decreased root strength(O’Laughlin, 1972) “In steep terrain, high-lead cable yarding has disturbed soils over 30-60% of the logged areas (Smith and Waas 1980” (Chamberlain et al. 1991). The ground based skidding contemplated over much of the area is likely to have even more severe impacts.

Impacts of this logging could adversely affect soils, watersheds, water quality, biological communities in the area, and aquatic species in the area.

TESLR Species

The FS should protect the TESLR species known to occur in the sub-watershed where this project occurs.

The FS should analyze the degree to which this project would affect these and other TESLR species in the project area. The FS should properly survey the project area. The FS should analyze the impact of the project on habitat of TESLR species, based on the most up-to-date science available.

Restoration Needs

The project area may have seen a number of logging and roadbuilding projects in recent decades. The road to the area provides access, and portions of this project may have been logged in recent decades, or have have been mined decades ago. Improperly constructed or outdated skid trails, roads, and other infrastructure as part of these past projects may necessitate restoration projects in this area. The FS should utilize up-to-date science and effective forest restoration principles in its management of the GWJNFs. The FS should inventory restoration needs in this area and complete needed projects in this area.

Since ecological restoration is one of the goals of the projects and of forest management in many parts of the GWJNFs, the Glenwood RD should design these projects so that every aspect of them are consistent with the Restoration Principles, which utilize a scientifically based approach to restoration. (Incorporated by reference, already in the FS's possession; previously submitted to the JNF as its comments on the DEIS for JNF Plan Revision; see also DellaSala, D. A., A. Martin, R. Spivak, T. Schulke, B. Bird, M. Criley, C. van Daalen, J. Kreilick, R. Brown, and G. Aplet. 2003. A Citizens' Call for Ecological Forest Restoration: Forest Restoration Principles and Criteria. Ecological Restoration 21(1):14-23. The published document is available in at www.worldwildlife.org/klamathsiskiyou..)

Oak Regeneration

The FS should use methods that ensure that oak regeneration will occur after cutting. It is not clear whether oak generation from stump sprouting is adequate in forests in the vicinity of the project or will be adequate if the project proceeds. Or how planted oak seedlings (SN 10) will be adequately protected from deer browsing and other impacts.

"For the upland oaks, including red oak, new seedlings are not a viable source of regeneration (Beck 1970, McQuilken 1975, Sander 1972). Newly established seedlings grow much too slowly to compete successfully with associated species after overstory removal. Stump sprouts of upland oaks do grow rapidly enough after overstory removal, but the probability that an oak stump will produce a sprout which will become a dominant or codominant stem decreases with increasing tree diameter and tree age Uohnson 1977). In mature stands on productive sites in the Southern Appalachians, very few small-diameter stems are present. Consequently, stump sprouts can rarely be relied upon to regenerate red oak after overstory removal (Loftis 1983a),"(Loftis, David L. 1990. Predicting Post-Harvest Performance of Advance Red Oak Reproduction in the Southern Appalachians. Forest Science, Vol. 36, No. 4, pp. 908-916.) (Source: http://www.srs.fs.usda.gov/pubs/ja/ja_loftis003.pdf)

Other Issues and Concerns

- The FS is required to consider cumulative effects. For this project, you must consider the cumulative effects of all past, present and foreseeable events and activities on adjacent lands in the vicinity of the PA and this watershed.
- We are concerned about what ecosystems exist in the area and how they will be addressed. We request that you analyze the ecosystems of the project area (PA) and vicinity, and the effects of the project on them. Incorporate ecosystems management into the analysis. Monitor and describe the condition of the ecosystems in the PA on a site-specific level.
- This project may have an impact on mature forests and species that depend on them. Evaluate how the project would impact species and MIS requiring mature forest habitat and other unique ecosystems in this area and in adjacent Management Areas
- Even aged logging is proposed in this project. Such logging may contribute to fragmentation in the PA and vicinity. Evaluate the effects of mature forest fragmentation in the PA on wildlife, forest ecosystems, recreation, stream ecology, watersheds, and scenic values.
- The FS is required to consider cumulative effects. Evaluate the cumulative impacts of past, present and future events and activities in adjacent management areas in the Jefferson NF on this area and the wildlife, forest ecosystems, recreation, stream ecology, watersheds, and scenic values of this area.
- The project and other activities/events may contribute to ESH habitat and other vegetative characteristics. To what degree do past and/or already-approved activities on nearby public and private lands already provide a dispersed system of forest openings, stands of varying ages, and the other desired future conditions? Evaluate whether there is a need for this project based on activities and events taking place in the vicinity of the PA.
- If any municipal watersheds or sources of drinking water are located downstream, they may be impacted by this project or other activities/events. How will l this project impact municipal watersheds and sources of drinking water? How will this project affect the quality of drinking water within and downstream from the PA?
- This project and other events/activities may impact important wildlife components. What tracts of remote, roadless, unroaded, or relatively undeveloped wildlife habitat, interior forest habitat and mature/old growth habitat exists in the vicinity of the PA? If so, have these areas been properly inventoried as roadless? Protected from logging, roadbuilding and other activities that might affect roadless status? Been evaluated for potential wilderness? How will this project impact remote habitat, black bear habitat, PTESLR species and MIS habitat and populations, mature/old growth habitat, interior forest habitat in the vicinity of the project. Evaluate the impacts of the project on wildlife, forest ecosystems, recreation, stream ecology, watersheds, and scenic values of this area.
- The FS should examine whether potential old growth or large or old trees are found in the area; if these characteristics are lacking, the FS should examine methods that make up for this lack of old growth and large or old trees (see also below regarding old growth in the Appalachians). The FS should disclose whether there is an adequate old growth/mature forest/ and large tree component in this PA. The FS should analyze how the project may affect these components and the species that utilize them or depend on them. Many MISs and TESLR species depend on this component. What old growth exists in the project area and vicinity? Does adequate old growth exist in the project are to ensure the viability of old growth dependent species? What large, medium, or small tracts of old growth exists in the project area and vicinity? What mature forest tracts adjacent to (or in the vicinity of) old growth exist in the project area and vicinity? What potential old growth that will achieve old growth status in the coming years exists in the project area and vicinity? How do fragmented ownership patterns, motorized access, other access, past logging, and other factors affect the quality of old growth in the project area and vicinity? How would the project diminish the quality of old growth or affect the size and distribution of large, medium and small sized old growth patches or potential old growth patches. The FS should follow regional old growth guidance for the project area/ and vicinity and the GW&JNFs as a whole. The FS should protect adequate old growth and mature forest habitat to ensure viable populations of MISs, NTMBs, salamanders, aquatic species, and PTESLR species and other key species that use old growth and/or mature forest in the project area. The FS should determine what actual old growth levels are in the project area, vicinity and the GW&JNFs as a whole, through surveying; if old growth levels are inadequate, additional old growth or potential old growth (if actual old growth is unavailable) should be protected from logging and roadbuilding.
- The FS should analyze whether within-stand ESH (of any size) and grass/forb habitat (of any size) exists or is occurring as a result of natural disturbance or other activities and events. These natural disturbances, etc. may already have created adequate ESH or grass/forb habitat in the PA to meet DFCs or to serve as wildlife habitat. Is there a need for this project?
- The FS is required to consider cumulative impacts. Consider the cumulative impacts of cutting units in adjacent timber sales and other adjacent areas, including those on private land.
- Laws, regulations, other guidance and the Jefferson Forest Plan requires that cuts be of a certain size and there may be limits on the proximity of cuts to one another. Surveys should verify that the cuts do not exceed the approved amounts and the maximum sized allowable and that cuts are properly spaced, and loggers should be carefully monitored. Average size of the cuts for this project should not exceed cutting unit size averages for this MA, as found in the Forest Plan.
- Past cutting and natural disturbance may already impact various resources in and around this PA. Take past cutting and natural disturbance into consideration. How is this impacting forest fragmentation, the introduction and spread of non-native and exotic plants, PETS species, black bears, forest interior, mature and old growth forests, ESH and forest ecosystems?
- Past logging, roadbuilding and other associated activities have taken place here and could be having an effect on soil productivity and various aspects of water quality. What effect have previous cutting units and roads had on soil productivity and water quality? This project could exacerbate problems or create new problems. What effect will these cutting units have?
- There are riparian areas in and around this PA. We are particularly concerned about any activities that may take place in or near these areas and the impacts on riparian and aquatic resources of any kind. What impacts could occur? The FS should

document that adequate monitoring of streams has been conducted and will be conducted. The FS should ensure that water quality, watersheds and aquatic species will not be negatively affected.
- The Jefferson Forest Plan explicitly provides for a riparian area management area (MA 11). The FS should document whether any management areas for riparian areas exist in the project area. These areas should be delineated and mapped. All riparian resources in these areas should be protected through means that are demonstrated to be effective. Watershed analysis for this area should take place.
- In addition, agency letters & correspondence & research papers suggest that riparian buffers larger than those provided in the JNF Plan may be appropriate and may need to be considered (e.g., USF&WS Jan 13, '04 BO on JNF Revised Plan; VGIF letter on JNF Revised Plan; and Wenger, S. (1999) - referenced in Jan 13, '04 USF&WS BO --- all of these documents are in the possession of the GW&JNFs and are incorporated by reference).
- This project occurs in the known range of (or is upstream from) a number of key MISs, TESLR species, and other key wildlife species and native plants, and, aquatic species. What are the impacts of the project on black bears and black bear habitat? What are the impacts on trout, mussels, and other aquatic species? The habitat of these species? How have sediment in streams, acid rain, gypsy moth, hemlock adelgid and other factors affected the habitat of trout and other aquatic species? How will this project affect these species further? We are particularly concerned about the impacts of this project on trout and other aquatic resources.
- Has a roads analysis been completed for this project area or vicinity? If so, please send us a copy of the roads analysis as soon as it is complete. As is appropriate in a project like this that may involve the adverse impacts of road work and road use, the FS must examine and ground truth the entire road system in this area (including user created roads) and determine the impacts of the road system based on environmental concerns, fiscal concerns and other concerns.
-What conflicts with hunting, recreation, fishing, and wildlife do existing/planned roads create? Are road densities within plan limits in this analysis area? Do any roads warrant closure due to impacts, plan requirements, user conflicts or other considerations? Consider all of these issues in the transportation analysis/roads analysis for this NEPA document and roads analysis for this area. Conduct a roads analysis, and allow public comment, in order to determine whether any roads should be considered for decommissioning due to environmental impacts, fiscal costs of maintenance or other factors. Consider the impacts of roads on soils, native plants, invasive plants, disturbance sensitive wildlife, nonmotorized recreationists and other factors.
- Existing conditions in this PA and downstream areas (including past logging and roadbuilding) may demonstrate a need to consider ecological restoration activities as the primary portion of this project. Consider an ecological restoration alternative across this project area.
- The FS should consider no-logging alternatives that provide economic benefits and amenity values, recreation, and other resources (clean water, clean area,etc). Studies have shown that on national forests, these values and resources provide many times the economic benefits of logging.
- There are a number of recreational, visual, and cultural/social resources in the vicinity of the PA that could potentially be affected by the project. Consider the visual/aesthetic sensitivity of wilderness and roadless areas, campgrounds, primitive and dispersed camps, fishing streams, access roads to trails and trailheads, lookout sites and towers, level 1 and 2 viewsheds, roads used by recreationists, trail corridors, sites visible along the length of all trails/ trail corridors, historical and tourist sites, seasonal differences in visual quality, viewpoints, recreation facilities, airplane-visible areas and airplane-routes, prominent ridges and features, important biological/birding/wildflower/nature-walk areas, areas used by groups/special events (such as backpacking routes for summer camps, routes of wildflower pilgrimages, etc.), shelters, (DNH) special biological areas, , proposed and eligible W&S rivers, rivers, streams, proposed recreation sites, proposed trails, potential trails and connectors, scenic byways and connectors. Cumulative impacts should be considered.
- There may be impacts to recreational opportunities and to recreational users in these areas as well. Consider the impacts to the recreational experience along or associated with all of the areas and types of areas listed in the above paragraph. There may be impacts to ecological resources as well. Consider impacts to special ecological resources associated with these areas. Consider indirect impacts. Consider impacts of logging in the proximity of the above sites and campsites, etc. accessed from the above sites. Consider impacts to the entire primitive/dispersed recreational experience associated with the above. Consider impacts to users of trails. What values should be protected along trails and in viewsheds? What are existing conditions? Will the project result in a change in conditions or desired conditions? What values do trail users expect and desire? What kind of views? What values do hikers expect and desire? What kind of views?
- National Forests are managed for the public. How does logging and roadbuilding complement the values the public associates with this area ? In what ways does it destroy or diminish these values?
- If there are any potentially sensitive or vulnerable soils in this project area, activities here could impact them and could impact soil productivity. The FS must ensure that soil productivity is protected. How will the project affect steep slopes, erosive soils, soils where soil movement may occur, soils with compaction hazards, soils with puddling hazards, rocky soils, soils with equipment limitations, soils at risk of losing organic material, soils with low levels of organic material, and other sensitive soils along the creeks in this project areas and their tributaries? What portion of the units are on steep slopes? Identify these areas. Do not merely take an average of slope. Will the project affect poorly drained floodplain soils? Soil Productivity? How will this affect soils in the project area?
- Many important species and resources are associated with riparian forests, both here in this PA and throughout the Jefferson NF. Riparian forests and other such forests are valuable resources in their own right and deserve their own

insulating buffers from disturbance. How will the project affect riparian buffer zones? Old growth buffer zones? Potential old growth buffer zones?
- Logging and roadbuilding in this PA has the potential to impact a number of aspects of soils, water and in turn, watersheds. How will the project affect watersheds and woody debris? The organic content of soils? Pit and mound topography? Large boles on the forest floor? Snags? Nurse logs? Jackstrawed logs? How will this affect soils in the project area? How will wildlife components associated with these be affected?
-There are roads in this project area (SN Timber Sale Map) and field visit. We are not even certain that all permanent, temporary, and user created roads in this area have been delineated and disclosed. What other roads exist? And an undisclosed amount of so-skid trails to the cutting units is proposed. How will species' vulnerability to hunting, poaching, and disturbance be affected?
- Whether roads, rightly or wrongly, are called temporary roads, these roads 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.
- The area around the James River is known to contain karstlands. Please disclose whether this project could impact any cave or karst areas. What are the potential impacts to these areas and what species and resources could be impacted by activities in these areas?
- Previous activities/events and this proposed project could alter habitat preferred by deer, deer populations, and resources impacted by deer in and around this PA. Are deer population's above or near carrying capacities? How could this project lead to increases in deer populations? Browsing on herbaceaous plants may increase.
- Forest raptors are important predators and keystone species in forest ecosystems such as those proposed for logging in this PA. Their habitat may be replaced by the project. How will habitat for barred owls, other owls, Coopers hawks, and other forest raptors be affected in this area?
- The USF&WS, VDNH, RDs, and GWJNF list a number of PETSLR species that could potentially occur in or downstream from this PA, county, and the watersheds around this project area. – see Virginia Natural Heritage occurrence record database). How will PTESLR (TES, locally rare species, and proposed species, including candidate species), PTESLR species habitat, PTESLR viability and T&E species survival and recovery be affected by the project and all cumulative effect and connected actions? How will MISs, MIS habitat, and MIS viability be affected by the project and all cumulative effect and connected actions? What are the populations of these species? What are the population trends for these species? What are levels of habitat for these species? What are the habitat trends for these species? How has this information been gathered—and are monitoring techniques adequate? Over what period of time have trends been measured? Is this adequate? What conservation agreements, recovery plans, and critical habitat designation agreements have been approved and established for TES species? Are the FS and other parties abiding by these? Are all TES species protected here through the establishment of enforceable conservation agreements, recovery plans, and critical habitat designations?
- Indiana bats, Virginia big eared bats and other PTESLR bats could potentially have habitat or populations in this PA . This PA and the entire GWJNFs is considered potential habitat for Indiana bats. How will Indiana bats and other PTESLR bats be affected by this project and other activities? What surveying for habitat or bats, using up-to-date methods, will take place? Has there been any new information regarding Indiana bat (and other TESLR bat) occurrences or Indiana (and other TESLR bat) bats? Have Indiana bat mortality thresholds, or other thresholds, been exceeded in any areas? Has monitoring regarding Indiana bat thresholds been adequate? Has the FS properly considered the impacts of white-nosed syndrome on TESLR bats? Has the FS consulted with the US Fish and Wildlife Service regarding the new infestations of white-nosed syndrome within the Jefferson National Forest? Has this new information been considered?
- According to regional guidance and numerous other reports, old growth in the eastern U.S. comprises approx 0.5% of the old growth that historically existed in the SE. Much of it was cut down in the massive logging in the early part of this century. It is imperative that old growth be allowed to return to the area by leaving areas alone and linking existing old growth. How would the project affect old growth, potential old growth, and old growth reserves? Many species known to use old growth could potentially occur in this PA. Would the project affect the size of any old growth, old growth reserves, or buffers. Old growth levels for turkeys? Bear? Salamanders? Songbirds? Ceruleans? Other key species? Many species known to use mature forests could potentially occur in this PA. Would the project affect the size of mature forest tracts? Mature forest levels for turkeys? Bear? Salamanders? Songbirds? Ceruleans? Other key species?
- Logging and roadbuilding may impact a number of bird species, both during the time that logging is taking place, and in subsequent years. For example, to what extent do birds likely to be in the area exhibit faithfulness to certain sites, groves of trees or certain trees? How would the project thus affect migratory birds?
- The cerulean warbler is documented in the area. 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.

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 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 experts be affected by this project? We know, for example, that at least one state listed plant, ginseng, is found in the project area (FS Field Notes). 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?
- We would like to see a consideration of other non-native (and invasive) species as well. We are concerned that many non-native and invasive species can be established or thrive in areas directly or indirectly impacted by logging or ground disturbing activities. The project may lead to increased nonnative species introduction or spread. How will nonnative species be impacted by the project and other activities/events in the area? How will these problems be addressed?
- How will roads, cutting units and other infrastructure bring non-native plants into the areas, especially areas near landings, roads and skid trails? How have projects affected non-native species in the past? How will the overall project affect populations of non-native plant species? Will it reduce them or will it only reduce selected plant species?
- Consider how the project would affect soil stability, moisture retention capability, erosion, compaction, nutrient leaching rates, roots, soil niches, soil structure, and biological productivity (for all cutting units, roads, and associated infrastructure). Cumulative effects?
- What activities result in self-replacement? What are the anticipated impacts on soil productivity? How much of the nutrients in branches and boles are removed? How much is left? For how many generations can self-replacement take place at the present rate of extraction? Cumulative effects?
- Water quality: What effect will the project and other activities/events in the vicinity have on coarse particulate organic matter, fine particulate matter, algal abundance, temperature extremes, turbidity, nutrient input into streams, amount of suspended solids, stability of substrate and banks, uniformity of water depth, flow extremes, diversity of microhabitat velocities, abundance of shredders vs. scrapers, and abundance of omnivores vs. piscivores? Cumulative effects? What are the MAIS rankings for these areas? How good a predictor of water quality are these rankings?
- How will the project impact TESLR mussels and other TESLR aquatic species?
- The project may directly or indirectly impact wetlands and other riparian areas. What wetland buffers/riparian area buffers are provided? Include maps with adequate detail and scale of all wetlands, wetlands types, and proximity to landings, cutting units, roads, and associated infrastructure.
- The FS is required to consider cumulative effects. What is the cumulative impact of this project in conjunction with all other USFS management activities (including TSs, mineral extraction, game openings, grazing, powerlines, communication towers, salvage sales, roads, waterholes, recreational development, etc.) throughout the project area and surrounding areas past (at least 50 years), present, and future (300 years)?
- Private lands are not providing and cannot provide the needed large tracts of undisturbed, unfragmented forests that public lands provide. How do the proposals for the TS provide for that which cannot be provided for on private land? (i.e. undisturbed, unfragmented habitat)?
- As part of the NEPA process, the FS must consider up-to-date scientific information, conservation biology, and changing public attitudes toward logging since the existing plan was signed. The FS must use the best information possible in this analysis.
- As part of the FS's duty to consider up-to-date scientific information, the FS must consider biodiversity on all levels - genetic, population, species, community, ecosystem, and landscape levels. Specifically how are this project and other projects, activities and events effecting biodiversity on these levels, both in the PA and in the cumulative effects area?
- Natural forest succession is a process that is occurring as we move from the heavily cut-over forests of the early 20th century to the forests of the future. How will natural forest succession be set back by this project?
- Disclose how natural disturbance regimes can provide and are providing early successional habitat in this PA.

- By creating addition infrastructure in the forest there is a potential to create a number of directly and indirectly related other problems. For example, the FS should disclose how the TS, associated activities, and other activities/events in this PA and surrounding areas will affect potential poaching, illegal road use, litter problems, and noise.
- This project, like other TSs we have observed, has the potential to impact a number of habitat components. How will activities affect canopy, canopy structure, natural disturbance regimes, pit and mound topography , snags, wood debris on the forest floor and across streams? How will soil quality, wildlife species (esp. MIS species, TESLR species, and forest interior bird species) be impacted by the project?
- Due to heavy cutting at the beginning of the 20th century, there is an age-class imbalance, particularly in the older age classes both in this PA and throughout the GJWNFs and eastern US. How will TS/projects help the current age imbalance (or lack of stands/trees) in the 100-110, 110-120, 120-130, 130-140, 140-150, 150-160, 160-170, 170-180, 180-190, 190-200, 200-210, 210-220, 220-230, 230-240, 240-250, 250-260, 260-270, 270-280, 280-290, 290-300, and 300+ age classes? Does national forest management consider all age classes or just a limited number of age classes on the lower end of eastern deciduous and coniferous tree lifespans?
- There has been recent cutting in this PA and more cutting is proposed; this could impact forest fragmentation on a number of levels. Please consider all known and reasonably anticipated effects of forest fragmentation on native biodiversity, interior dependent species, exotic species invasion, seed drift, temperature change through increased sunlight, and deer browse.
- The scoping notice contains inadequate information on logging methods, provision of residual trees, and other aspects of the proposed cutting. The volume, size, and species distribution proposed for logging should be thoroughly delineated. Further, the size, species, age, and spatial distribution proposed to remain following logging should de disclosed, The FS should document whether trees are more likely to be damaged by logging equipment or nearby falling trees and whether trees are more likely to blow down because they are more exposed in evenaged logging units.The volume of snags and coarse woody debris proposed to remain following logging for all logging methods considered should be addressed.
- Disclose effects on old growth, potential old growth, and old growth dependent communities.
- There is a potential for cultural sites in this project area, as elsewhere in the Jefferson NF. See above regarding cultural sites. What is the possibility of cultural sites in the project area, or along travelways associated with cultural sites along the James River, along ridgelines and other sites? In our experience, cultural resources have been found in a number of FS projects in the GWJNFs and not all are adequately protected by mitigation measures. For example, a recent project we were actively monitoring included an extensive road network in and near a cultural site. We do not think that cultural sites should not be threatened by placing cutting units, roads, or other infrastructure near them. Adequately monitor, inventory and protect all historic and prehistoric archaeological/cultural sites. Consult with knowledgeable persons and appropriate authorities. Respect and protect all native American archaeological/cultural/religious sites and all native American and non-native-American cemeteries/graves.
- Den trees, hard mast, cover and road densities are key components for black bear habitat and some other species. How would den trees, hard mast production, cover, and road densities be effected?
- The FS is required to abide by Va. BMPs. All Va. BMPs should be met or exceeded throughout the planning, project implementation and post-sale stages. The FS should adequately monitor BMPs. All BMPs should be specifically examined by the FS and followed throughout the process. Past logging operations in the project area should be examined to seeif they complied with BMPs. If not, these problems should be corrected and a decision should be made as to whether to proceed with planning with this TS. Pre-sale planning and layout BMPs, adequate, repeated monitoring, and all post-sale BMPs should be followed. Specific BMPs regarding road grades, road construction, stream crossings, road placement, cold water stream buffers, rehabilitation of bare areas, and identification and avoidance of riparian areas, seeps and intermittent streams should be carefully followed.
- How many miles of roads, skid roads and other access are associated with this sale and past FS activities? What are their impacts on wildlife, native plants, watersheds, soils, and other resources? No roads of any type should be built to access this sale.
- This project and other activities/events may contribute to the introduction and spread of invasive species and nonnative species. How do this project and other FS activities in this project area and across the GW&JNFs contribute to the spread and introduction of invasive plants? What could the FS do to minimize the risk of the introduction and spread of invasive plants (including foregoing certain activities that open up the forest canopy and provide vectors for invasive plants, decommissioning and revegetating existing access routes in the project area, using native species, etc)? How will the FS incorporate a preventive strategy into project planning and implementation?
- The effects of logging, roadbuilding, and associated activities proposed as part of this project are not limited to effects occurring on-site. What are the impacts on biodiversity of each of the proposed activities throughout the entire cycle - including gravel mining, road-building, site prep, herbicide use, and thinning?
- According to Division of Natural Heritage reports to the FS and the reports of other agencies and experts, what special biological areas are recommended for special interest area and/or research natural area designation here or nearby? What existing areas are found in the project area? What other important areas or important species/resources are identified in the project area? What other unique natural areas have been identified by other naturalists, researchers, or others? How will projects in or around these areas affect the areas or the species/resources associated with these areas?
- How will the project affect recreation sites? How will views be affected? Will people be more or less encouraged to go for a hike, fish, or experience nature? Will people get an artificial view of how nature works? Do any natural disturbance areas exist in these areas? Why is logging necessary, esp. near campgrounds?

- Logging and other activities can impact soils at a variety of depths, other important soil quality components, and important species such as amphibians, reptiles, small mammals, insects, fungi, and herbaceous understory plants. How will these be affected? What temperature changes in the upper/middle/ and lower zones of the soil would occur? In winter? In summer? How long? Are these extreme temperature changes for the species affected? Are these tolerable temperature changes? What changes in moisture and microclimate would occur in the top/middle/lower zones? How would logs/debris on the forest floor be affected? How would the organic content of soils be affected? How would certain trees and non-tree plant species be affected? How would salamanders be affected by the above changes? How would all other salamander species be affected? Other amphibians and reptiles? Plants, including herbaceous understory plants? Soil organisms? The food chain? Burrowing animals?
- How has salamander habitat been affected by past projects? How will such habitat be affected here? How were salamanders affected?
-How would the project affect sites associated with water, food-gathering, breeding, mating sites or other important life-cycle sites for salamanders, other amphibians, other riparian-dependent, or aquatic species? How will the project affect these species? How will movement between populations be affected? How will interactions between certain salamander species and their competitors be affected?
- Consider how the project affects closed forested canopy, deep moist soil, abundant surface cover objects, late successional stages or oak and maple woodlands, hardwoods mixed with eastern hemlock, hemlock stands, cove hardwoods, mixed cove hardwood and conifer stands, tuliptree stands, and rhododendron thickets, stands at high elevations, and any species associated with these habitats or habitat components? How will the project affect species in these areas?
- A number of bird species occur in forested ecosystems such as the ones proposed for logging. What are the effects on these species? Disclose the impacts of the project and similar projects on: neotropical migratory songbirds who utilize the area as a summer breeding ground, neotropical migratory songbirds who are faithful to certain sites or certain trees, forest interior birds, area sensitive birds, rare birds, bird species with certain habitat needs, common bird species, generalists (birds), species of interior forest, area sensitive, (etc.) birds that are declining, species of birds whose populations are increasing and deep forest raptors and owls.
-How many additional vehicles will pass down project area roads as a result of the TS? What impact will these additional vehicles have on water quality? What impact will the cutting of logging units have in addition to this new truck traffic? How will this affect recreation? Where will roads, skid trails, landings and other logging infrastructure be located?
- What will be the impacts of all infrastructure and access routes associated with the project, including landings, cable corridors, skid trails, haul roads, skid roads, etc.? Where will they be located and what resources will be impacted by them at these sites?
- The analysis for this project should be consistent with the findings and recommendations of USDA OIG Eval. Rpt. No. 08801-10-At (incorporated by reference).

Public Participation
The FS espouses an "early", "continuous" and "open" decision-making process, and you should demonstrate that this will be the case for this project, as it proceeds:

"Exhibit 01 sets forth principles of effective public participation. In 1994 and 1995, the Chief of the Forest Service wrote several letters to employees concerning the agency's interactions with the public. Set forth in those letters are the following basic principles regarding effective public participation:

Make It Timely. The process allows enough time for the public to participate fully, with enough advance notice for all activities and crucial points in the process.

Make Your Process "Free." The public is able to participate at minimum cost and commitment of time, while meeting your public involvement objectives.

Emphasize Fairness. Participants agree that the process is fair, that all views offered are considered.

Practice Openness. Dialogue is welcomed and facilitated among all interests. Anyone who wishes to participate can. Information to the public (documents, etc.) is accessible to all and is in language that people can understand.

Make Involvement Early and Continuous. The public is involved from beginning to end, and relationships are built over the long term.

Make It Tangible. Results of the public's input are clearly demonstrated, and the public understands how public involvement affected the decision or outcome" (FSM 1626.7 - Principles of Public Participation)

Therefore, comments should be accepted, considered and addressed up to the time the decision is signed, the process should allow ample time for the general public to learn about the project, visit the project area or project file, inform themselves about the project, gain standing to appeal it if desired, and comment on it, especially after the predecisional EA or DEIS is completed and before the DN or ROD is signed.

We strongly encourage the District to make a draft Environmental Assessment available for public comment, prior to making a decision.

Regarding the intended process, it is our understanding that, after this preliminary comment period, the District will release a scoping notice seeking comment on a proposed action this summer. We assume that this

project will fall under the new objection process, so that, after scoping, the District might consider finalizing the decision and EA and releasing them for "objections."[1] Instead, we encourage the District to offer a draft EA for public comment before making a decision and finalizing the decision documents. An opportunity to comment on the draft EA would be more consistent with this project's open, collaborative approach. It would give participants an opportunity to review the draft EA and offer input before it is finalized. And it would give the Forest Service an opportunity to incorporate additional information into the EA, make any final adjustments to the project, or otherwise respond to and address comments in the final EA and decision. Such responsiveness likely would increase public support for the decision and could reduce objections, expediting the project in the end. On the other hand, skipping this step would require those wishing merely to give input on the EA to offer it through the more adversarial objection process. An objection process is no substitute for an opportunity to give input and dialogue.

We believe that an opportunity for public comment on a draft EA is critical to achieving the goals of both this collaborative project planning process and NEPA. In fact, we believe that NEPA and its implementing regulations require that the public have an opportunity to comment on the environmental effects of the proposal and its alternatives – information normally made available in a draft EA.[2]

1 36 C.F.R. part 218.

2 NEPA requires that the public have an opportunity for informed, meaningful comment and participation before decisions are made. 40 C.F.R. § 1500.1(b); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (NEPA "guarantees that the relevant information will be made available to the larger audience"). For the public to have meaningful involvement it must be sufficiently informed, so environmental information analyzing the impacts of the proposal and alternatives must be submitted for public review and comment. Therefore, the Forest Service must provide environmental information to the public and provide an opportunity for public comment on it before making a final decision. *Sierra Nevada Forest Prot. Campaign v. Weingardt*, 376 F. Supp. 2d 984, 990 (E.D. Cal. 2005).

Failure to provide the draft EA to us, and the rest of the public, for review and an opportunity to comment would violate due process and NEPA, the APA, and the ARA. We trust this will not happen. In addition, Sections 215.5(c)(1)(iii) and 215.6(c) of the new appeal regulations restrict public involvement by giving Forest Service officials power to accept and consider only "specific substantive comments" on proposed projects thus limiting who may appeal. The change illegally allows a Forest Service line officer the discretion to determine exactly what are substantive comments under this overly restrictive definition and thus the authority to select who may and may not file an administrative appeal of a project or activity. The ARA allows appeals to be filed by anyone who submits comments or otherwise notifies the USFS of his or her interest in the proposed action. The regulations further restrict public involvement by only allowing "specific substantive comments" on proposed projects. Sec. 215.5(c)(iii). Substantive comments are defined as "comments that are within the scope of the proposed action, are specific to the proposed action, and have a direct relationship to the proposed action." Sec. 215.2. This limitation allows hyper-technical Forest Service officials to ignore most public input on national forest management activities. Often citizens wish to express their views and concerns about how a National Forest is being or should be managed, but lack specific knowledge about individual projects, especially where, as in this case, you have not provided an opportunity to review and comment on the EA before the decision became final.

Even if the decisionmaker were provided with the discretion to determine the most effective timing for providing the 30-day comment period, we would expect the FS to provide a clear explanation as to what future comments opportunities will or will not be provided to the public, how comments opportunities may differ from those routinely used for many years in the past in this district or this forest, and provide a clear rationale as to how the FS determined the most effective timing for providing the 30-day comment period related to this project. We would expect the FS to allow the public to provide a means of listening to the concerns of the public up to the time that the decision is signed, not merely in this very early stage of the project. We would expect the FS to be clear and forthright with the public.

Besides allowing the FS to disregard comments deemed to be non-substantive, Forest Service officials would also deny standing to file administrative appeals for persons who submitted such comments. This standing limitation appears to violate the ARA, which allows appeals to be filed by anyone who submits comments or otherwise notifies the Forest Service of his or her interest in the proposed action. During the congressional debate in 1992, Senator DeConcini declared: "If there is ever a question of standing, I feel that the burden should be on the Forest Service to prove that an individual does not have standing, rather than the Appellant having to prove that he or she is eligible to file an appeal." (Congressional Record, p. S15848, Sept. 30, 1992).

The regulations impose a patently unfair and arbitrary burden on appellants by prohibiting them from raising issues that they did not raise in their comments on the proposed action. Sec. 215.15(b)(5). Apparently, the regulations even preclude appeals on changes from the proposed action that the commenter would not have foreseen, especially since we may not be allowed to see or comment on the EA until after a decision is made. Changes in proposed actions happen all the time, especially if the public comment process is working as it should. Sometimes the proposed action remains the same, but the environmental analysis can and should change in response to public comment. The public should at least be able to review, provide comment, and appeal new issues that arise from changes in the proposed action or environmental analysis.

> Regulations promulgated by the Council on Environmental Quality provide factors that agencies must consider in deciding whether to prepare an EIS and emphasize the importance of involving the public in NEPA evaluations. 40 C.F.R. §§ 1500.2, 1502.4(b). The public must be given an opportunity to comment on draft EAs and EISs, and public hearings are encouraged to facilitate input on the evaluation of proposed actions. See 40 C.F.R §§ 1503.1, 1506.6.

Anderson v. Evans, No. 02-35761, 2002 U.S. App. LEXIS 28156, slip op. at 24 (9th Cir. 2002).

> "Citizens were deprived of the opportunity to comment on the USDA's EA and FONSI at all points in the rulemaking process. This deprivation violated their rights under the regulations implementing NEPA. *See* 40 C.F.R. § 1501.4(b) ('The agency shall involve the public, to the extent practicable, in preparing [EAs] . . . .'); *id*. § 1506.6 ('Agencies shall . . . make diligent efforts to involve the public in preparing and implementing their NEPA procedures[,] . . . provide public notice of . . . the availability of environmental documents so as to inform those persons . . . who may be interested or affected[,] [and] . . . solicit appropriate information from the public.'). *But cf*. *Pogliani v. United States Army Corps of Eng'rs*, 306 F.3d 1235, 1238-39 (2d Cir. 2002) (per curiam) (holding that environmental plaintiffs have no right to see and comment on EAs/FONSIs before they issue, unless 40 C.F.R. § 1501.4(e) applies).
>
> We reject the USDA's dismissal of these regulatory requirements as 'hortatory.' Although it is true that 'an EA need not conform to all the requirements of an EIS,' *S. Or. Citizens Against Toxic Sprays, Inc. v. Clark*, 720 F.2d 1475, 1480 (9th Cir. 1983), this requirement does not mean that 40 C.F.R. §§ 1501.4(b) and 1506.6 are without substance. We have previously interpreted these regulations to mean that 'the public must be given an opportunity to comment on draft EAs and EISs.' *Anderson v. Evans*, 314 F.3d 1006, 1016 (9th Cir. 2002). The Second Circuit has held that § 1501.4 is satisfied when the agency 'conducted public hearings and received written comments on every draft environmental assessment [and] circulated for comment its Preliminary Analysis of the environmental assessment,' even though it did not circulate for public comment a follow-up independent analysis it prepared in response to public comments. *Town of Rye v. Skinner*, 907 F.2d 23, 24 (2d Cir. 1990) (per curiam); see also *Hanly v. Kleindienst*, 471 F.2d 823, 836 (2d Cir. 1972) ('Before a preliminary or threshold determination of significance is made the responsible agency must give notice to the public of the proposed major federal action and an opportunity to submit relevant facts which might bear upon the agency's threshold decision.').
>
> Although we have not established a minimum level of public comment and participation required by the regulations governing the EA and FONSI process, we clearly have held that the regulations at issue must mean something. *Cf. Hart v. McLucas*, 535 F.2d 516, 519 (9th Cir. 1976) ('In the construction of administrative regulations . . ., it is presumed that every phrase serves a legitimate purpose . . . .'). It is evident, therefore, that a complete failure to involve or even inform the public about an agency's preparation of an EA and a FONSI, as was the case here, violates these regulations. This wholesale neglect of the regulations' mandatory inclusion of the public in the process results in a procedural injury. Moreover, it undermines the very purpose of NEPA, which is to 'ensure[ ] that federal agencies are informed of environmental consequences before making decisions and that the information is available to the public.' *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000)."

Citizens for Better Forestry v. USDA, 341 F.3d 961, 970-71 (9th Cir. 2003).

The FS's handbook on environmental policy and procedures requires the FS to allow the public to fully participate in the NEPA process:

" 4. Ensure that the public is kept informed of the results of scoping and the progress of the environmental analysis commensurate with the public interest in the proposed action." FSH 1909.15.10.4

"11.7 - Inform Participants and the Public of Results of Scoping and the Progress of the Analysis. Consistent with the importance of the proposed action, inform participants of the

results of scoping and keep the public informed of the progress of the environmental analysis through appropriate means. This may include, but is not limited to: personal contacts with individuals, organizations, and State and local government officials; use of local media; and newsletters." FSH 1909.15.11.7

In certain case, expanded public involvement may be appropriate.
"12.3d - Expand Public Involvement as Appropriate.

"1. Identify target groups. Identify potentially affected groups and the nature of their concerns (FSH 1609.13). Establish, maintain, and use mailing lists as appropriate.

"2. Determine the methods of public participation. Establish the level of needed public participation. Ensure that the level of effort to inform and to involve the public is consistent with the scale and importance of the proposed action and the degree of public interest. FSH 1909.15.12.3d."

The FS is required to "Consider a full range of reasonable alternatives to the proposed action that address the significant issues and meet the purpose and need for the proposed action. During scoping and the subsequent public participation activities, discuss the feasibility and possible effects of these alternatives with potentially interested and affected agencies, organizations, and persons." FSH 1909.15.12.3c.
Therefore, there must be an opportunity to "discuss" these issues and effects "with" the public and interested parties.

"The CEQ regulations provide the following direction:….
If the proposed action is not covered by paragraph (a) of this section prepare an environmental assessment ({1508.9). The agency shall involve environmental agencies, applicants, and the public, to the extent practicable, in preparing assessments required by {1508.9(a)(1)." FSH 1909.15.17. It is entirely practicable for the FS to to allow the public and agencies to review and comment on the EIS or EA, since this has been common practice for a number of years.

If you purposefully do not allow the public or agencies to review or comment on the EIS or EA for this project before a decision is made, and the public or agencies submit new information not considered in the decision (or makes you aware of new information not considered in the decision) as a result of the publics' or agencies' review of the EIS or EA, you will have to correct, supplement or revise (and reconsider) the decision:
"CORRECTION, SUPPLEMENTATION, OR REVISION OF ENVIRONMENTAL DOCUMENTS AND RECONSIDERATION OF DECISIONS TO TAKE ACTION.
"18.1 - Review and Documentation of New Information Received After a Decision Has Been Made. If new information or changed circumstances relating to the environmental impacts of a proposed action come to the attention of the responsible official after a decision has been made and prior to completion of the approved program or project, the responsible official must review the information carefully to determine its importance." FSH 1909.15.18.1.

Scoping is "an early and open process". FSH 1909.15.11. Public involvement methods, issues, analysis criteria, exploration of possible alternatives and their probable alternative effects, etc. (see below) cannot be predetermined before the scoping:
"The results of scoping are used to identify public involvement methods, refine issues, select an interdisciplinary team, establish analysis criteria, and explore possible alternatives and their probable environmental effects." FSH 1909.15.11.

"1. Conduct scoping (sec. 05) to:

a. Determine the nature and complexity of the proposed action.

b. Identify environmental issues related to the proposed action.

c. Determine the disciplines required to guide environmental analysis and documentation.

d. Determine how much analysis is necessary.

e. Achieve effective use of time and money in conducting environmental analysis.

f. Determine the type and level of public participation." FSH 1909.15.10.

Therefore, limitations on public involvement methods cannot be predetermined before mailing out the scoping letter for this project. Since issues, analysis criteria, and exploration of possible alternatives and their probable alternative effects cannot be disclosed or predetermined before the scoping, the public cannot rationally be expected to fully and adequately comment on these until a more detailed document is released.

"The following direction on scoping from the CEQ regulations applies to all scoping conducted by the Forest Service without regard to whether or not the results of the analysis is to be documented in an EIS or an environmental assessment (EA).

"(a) As part of the scoping process the lead agency shall:
(1) Invite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds), unless there is a limited exception under {1507.3(c). An agency may give notice in accordance with {1506.6.
…
(4) Allocate assignments for preparation of the environmental impact statement among the lead and cooperating agencies, with the lead agency retaining responsibility for the statement.
(5) Indicate any environmental impact statements and environmental assessments which are being or will be prepared that are related to but are not part of the scope of the impact statement under consideration.
(6) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the environmental impact statement as provided in {1502.25.
(7) Indicate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decisionmaking schedule. (40 CFR 1501.7) FSH 1909.15.11.

The FS did not indicate the timing of the release of the EIS or EA for this project and disclose how this relates to the planning and decisionmaking schedule. The FS did not identify other potential environmental review and consultation requirements. Other agencies may want to prepare other analyses and studies and the public and decisionmaker may want to review and respond to them in the course of the decisionmaking process for the project. These were not done.

The FS must fully and actively involve the public consistent with its own handbook: "
Make It Timely. The process allows enough time for the public to participate fully, with enough advance notice for all activities and crucial points in the process.

Make Your Process “Free.” The public is able to participate at minimum cost and commitment of time, while meeting your public involvement objectives.

Emphasize Fairness. Participants agree that the process is fair, that all views offered are considered.

Practice Openness. Dialogue is welcomed and facilitated among all interests. Anyone who wishes to participate can. Information to the public (documents, etc.) is accessible to all and is in language that people can understand.

Make Involvement Early and Continuous. The public is involved from beginning to end, and relationships are built over the long term.

Make It Tangible. Results of the public’s input are clearly demonstrated, and the public understands how public involvement affected the decision or outcome" (FSM 1626.7 - Principles of Public Participation)

Black bear is an MIS here and throughout the JNF (JNF Plan MIS List). Issues of negative impacts to the MIS black bear due to increased disturbance, stress, vulnerability, and deaths which the project could foreseeably facilitate should receive a hard look. See also 36 CFR 219.19(a)(4). "It is evident that hunting is a stronger influence on the dynamics of the local population than is habitat capability... Potential biotic increases in habitat quality resulting from timber harvest may easily be outweighed by the potential effects on population dynamics...We believe that habitat capability models, no matter how complex, cannot predict the status of bear populations by themselves. Population dynamics must be explicitly considered in evaluating the long-term effects of habitat manipulation on bears." - Brody and Stone "Timber Harvest And Black Bear Population Dynamics" (previously submitted with appeal of the West Dry Branch TS on this GW National Forest - the agency is already in receipt of this information - we incorporate it by reference into the AR - including the Powell declaration - "To date I have not been able to document that logging...ha[s] any positive effects on black bears or black bear habitat...").The FS should analyze the negative impacts to populations that the proposal would foreseeably result in (e.g., increased legal and illegal disturbance, facilitated poaching and hunting). See also 40 CFR 1507.2(d) and 1508.27 and FSH 1909.15,ch.05.

- 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. Having to roam over a greater area would also make them potentially more vulnerable to legal, illegal, and accidental killing, injury, or stress by humans. These foreseeable direct, indirect, and cumulative impacts must be adequately considered and analyzed by the planners. The best and most accurate scientific information must be used - per NEPA. 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. Use of these 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

- The fabricated "cover" areas would actually provide the bears no real "escape" at all. Plus the cut sites would be easily accessible and identifiable. These sites could forseeably act as "sinks" on the bear population. Significant affects on their viability here and distribution in the Forest may occur. This relevant factor should be fully and fairly considered by the planners (see "Black Bear" at EA-Wildlife), a violation of NEPA an NFMA (36 CFR 219.19).

- 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. This is omission particularly glaring since there is no information in the project record as to amounts of trees in the area suitable for bears to den in, and given that the agency claims old growth is not present which would mean that such trees can be expected to be scarce.

- 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.

- 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).
- In these NFs, U.S. Forest Service EAs (e.g., JNF Glenwood RD Bannister Branch project) 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". Poaching and other wildlife disturbing activities must be fully and fairly considered.

-**Turkeys** are an MIS. Their present population numbers, distribution, and trends should be obtained; and amounts of turkey habitat due to natural disturbance processes should be properly monitored, inventoried, and assessed. A "need" for the high amounts of logging proposed for here must be properly established.
- And the agency's own Wildlife Population Data Working Paper (Goetz and McEilwane) show that the benefit to turkeys from regen areas is negligible, being far outweighed by permanent grassy openings (500 times more benefit to turkeys/acre). Alternatives do not address the fabrication of such sites. The same Paper states that turkeys are negatively impacted after 8% of the suitable acres in a project planning area are in regeneration (0-10 age class). How much "suitable" acreage exists here is undisclosed to the public. Increased access and disturbance are forseeable results of the proposed action here. Thus further compromising the turkeys' security. Presence of grassy turkey habitat here and on private lands should be assessed. Impacts to turkeys from adjacent private actions should be assessed. Impacts of roads, skid trails, logging infrastructure and legal or illegal road use on turkey security needs to be assessed.

Mussels and Aquatic species
- The FS should determine whether any downstream mussel or aquatic species (or habitat) may be affected.
- According to a study commissioned by the American Fisheries Society Endangered Species Committee, there are "297 native freshwater mussels [in the U.S. and Canada], of which 213 taxa (71.7%) are considered endangered, threatened, or of special concern... and only 70 (23.6%) as currently stable... Freshwater mussels (also called naiads, unionids or clams) of the families Margaritiferidae and Unionidae are worldwide in distribution but reach their greatest diversity in North America with about 297 recognized taxa... During the past 30 years, numbers both of individual and species diversity of native mussels have declined throughout the United States and Canada. Freshwater mussels (as well as other aquatic species) are emperiled disproportionately relative to terrestrial species... This alarming decline, the severity of which was not recognized until recently, is primarily the result of habitat destruction and degradation associated with adverse anthropogenic activities." (Williams, Warren, Cummings, Harris and Neves, 1993)
- Water quality can greatly affect the suitability of mussel habitat. Road construction is one of the most detrimental activities impacting mussels (Hove and Neves, 1994) A section of Virginia's Endangered Species edited by Dr. Neves acknowledged poor logging and roadbuilding practices within the national forest are a threat to the spinymussel in one watershed. He stated that "activities in Jefferson National Forest likely to affect the streams in which Pleurobema collina lives should be monitored by the United States Forest Service." (Terwilliger, 1991)

Indiana Bats:

The Forest Service does not seem to recognize the precariousness of the species' 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 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 Brack and Brown (2002) study discloses that less than half of identified roost trees are shagbark hickory, but the FS mainly only protects shagbark hickories in its inadequate mitigation measures with no assurance that adequate other potential roost trees are protected. 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 FS should 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."

Logging allowed in many of the Alternatives could adversely affect roosting (sheltering), maternity (breeding), foraging (feeding), and swarming habitat of the Indiana 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 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).

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.

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.

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.

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.

Invasive Species

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.

Researchers have found that logging, roadbuilding, and other similar activities create the conditions in which invasives can thrive. For example, 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.

References:

Elton, 1958. The Ecology of Invasions by animals and plants. London, Methuen.

Mack *et al* 2000. Biot ic Invasions: causes, epidemiology, global consequences, and

control. Ecol. Applicat ions 10(3):689-710

The FS should consider the full impacts of invasive plants in the GWNF, the degree to which activities (by themselves 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 have considered 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

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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 traills 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. Likewise, these infestations on the roads readily expand into cutting units, especially the more intensive the logging done in the particular units. 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 needed and this needs to be incorporated into the Plan Revision.

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 must show a genuine, pressing need to risk the ecosystems by applying poisons.

The FS should address the potential spread of invasives (& noxious weeds) from the activities contemplated in the Plan. 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, the FS should be focused on stemming the increasing infestation and spread of noxious weeds in the project area. The FS 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 activitiescontribute 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.

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.

The FS should consider the possibility that applications of herbicides and other biocides may increase resistence to these substances. For example, The Weed Science Society of America confirms that known cases of herbicide resistance continue to climb exponentially.

How does the FS ensure that spray drift will be adequately controlled, and will not adversely affect non-target resources, based on the stds. in the Draft Plan? A number of research papers show that sprayed chemicals, including many of those being considered for use here, can drift long distances, even under the measures and conditions proposed. See, for example, Teschke et al. Jan. 2001 'Spatial & Temporal Distribution of Airborne Bacillus thurungentius...' Env. Health Perspectives:109:47-52; Ntl. Academy of Sciences/National Research Council/Board on Agriculture/Committee on Long-Range Soil and Water Conservation 1993 "Soil & Water quality: an agenda for agriculture" Wash. DC: Ntl. Academy Press. p 323-4. U.S. Congress Office of Technology Assessment 1990 "Beneath the bottom line: agricultural approaches to reduce agrichemical contamination of groundwater" Report No. OTA-4-418. Washington DC: U.S. Government Printing Office.

[See references from our Aug.8, ’08 comment letter, incorporated by reference.]

These issues should be considered in the EIS and appropriate standards and monitoring should be required.

Sincerely yours,

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