



201 West Main Street, Suite 14
Charlottesville, VA 22902-5065
434-977-4090
Fax 434-977-1483
SouthernEnvironment.org

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Maureen T. Hyzer, Forest Supervisor
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019-3050
mhyzer@fs.fed.us

BY E-MAIL AND U.S. MAIL

Re: George Washington National Forest Plan Revision

Dear Ms. Hyzer:

Thank you and your staff for meeting with several of us on September 2, regarding the George Washington National Forest (GW) plan revision. We understand that the Forest Leadership Team (FLT) meets next week to choose a preferred alternative for the revised plan (or to assemble one from elements of the alternatives so far developed), so we want to submit additional comments prior to that meeting.

Most broadly, we remain seriously concerned that a number of significant, overarching issues have not yet been fully analyzed and considered in the development of alternatives, and now in the imminent selection of an alternative. In our February and May 2010 letters, we discussed our concerns with the development and proposal, with the March 2010 Notice of Intent, of essentially a draft revised forest plan (now called Alternative B), without first completing and considering key analyses required by the 1982 National Forest Management Act (NFMA) regulations, the National Environmental Policy Act (NEPA), and other federal laws and regulations. These still have not been completed.

We continue to believe that the analysis of significant issues should inform and lead to the development and selection of alternatives. This is the intent behind NEPA and the NFMA forest planning process, as discussed in detail in SELC's May 2010 comments, p. 4. In particular, the analyses of (1) climate change adaptation and mitigation strategies, (2) species diversity and fish and wildlife species population viability, and (3) needs for ecological restoration across the forest are significant, overarching, interrelated issues. Analysis of these issues could have led to an alternative(s) oriented around addressing them.

For the alternatives that were developed, it should be clear to the Forest Service decision-makers and the public precisely how the alternatives address and affect these goals. See 40 C.F.R. § 1502.14 (EIS must compare the alternatives' treatment of these issues in a way that "provides a clear basis for choice among options by the decisionmaker and the public."). This cannot be discerned from the brief, general "Draft Descriptions of Alternatives" (8/25/2010), so it is difficult for the public to make fully-informed comments on the merits and drawbacks of the alternatives now. Likewise, it seems difficult for Forest Service decision-makers to select an

alternative without this information. Selecting an alternative now seems premature. It is unfortunate that these gaps were not rectified long ago in the planning process.

Regarding species diversity and viability, we understand that the species diversity analysis has not yet been completed. Certainly the completed analysis has not been made publicly available. This analysis is using the new Ecological Sustainability Evaluation Tool (ESE tool), which is based on The Nature Conservancy's Conservation Action Planning (CAP) process. This spring, the Southern Region's director of planning, Chris Liggett, presented it as a model at the science forum for the development of the new NFMA regulations. The GW's draft ESE information released in March described ecological systems, species and potential threats, but did not yet analyze strategies to abate those threats. The identification of threats also was not complete, as the potential adverse effects of energy production, such as natural gas drilling, utility-scale wind development and biomass, were not considered. Identifying and adopting strategies to abate threats to species whose population viability is at risk (including threats posed by climate change, as discussed further below) obviously is essential to fulfilling the Forest Service's obligations to "provide for diversity of plant and animal communities" and to "maintain viable populations" of fish and wildlife species, 36 C.F.R. § 219.19 and § 219.26. From the incomplete ESE and the draft descriptions of the alternatives, however, we cannot tell how or to what degree the alternatives affect or promote species diversity and viability, or whether the alternatives include strategies identified in the ESE and, if so, which ones.

Without this information to respond to, it has been difficult for the public to comment on species issues. Consequently, species issues have occupied a diminished role in public dialogue on the plan, although these issues are very important to conservation organizations and many members of the public.

Similarly, the draft climate change analysis released with the March 2010 NOI was very general and did not contain specific recommendations regarding management prescription development, allocations or standards. The alternatives only vaguely reference climate change. Widely recognized strategies for enhancing species' resilience and adaptation to climate change, retaining maximum native diversity, and mitigating (off-setting) the effects of climate change are not included explicitly in any alternatives, particularly strategies such as: protecting intact, core areas with high ecological integrity (e.g., The Nature Conservancy's core reserves proposal for matrix forest blocks), refugia (higher elevations or other areas with cooler microclimates), and corridors for movement between cores or refuges; reducing existing stressors; restoring fragmented or degraded ecosystems; protecting stream and watershed functions to maximize resilience to changes in precipitation patterns; and sequestering carbon in mature and old growth forests. For further discussion, see SELC comments dated 8/8/2008 (pp. 37-41) and 5/7/2010 (pp. 25-31), and The Nature Conservancy's comments dated 5/7/2010 (pp. 5-8). While some of the alternatives may incidentally accomplish some of these goals, whether and to what extent they do is still unclear.

In another example, ecological restoration is addressed in the alternatives only in the context of fire and of certain natural communities, most with fairly limited distribution. The alternatives seem to lack ecological restoration goals, objectives and prescriptions which could be applied more broadly, for example: restoring pine plantations to hardwoods; improving tree

species diversity and structure in previously harvested areas; improving water quality and aquatic habitat by removing obstacles to aquatic species passage and by reducing sedimentation from roads; and other work within the five focus areas identified by the Southern Region for restoration in the Southern Appalachians.¹ Without, however, forest plan management goals, objectives and standards aimed at this type of ecological restoration, restoration will continue to have a limited role in GW management.

We have additional comments on several specific issues. We want to note that several of the undersigned organizations are participating in the GW stakeholder group, which is discussing a few, but not all, of these topics. We thank Forest Service staff for providing information, maps and other assistance to that group. While that process unfolds, however, the plan revision proceeds, so we feel compelled to continue to submit comments to the agency as well, although of course we remain open to considering other reasonable approaches to these challenging issues.

Oil and Gas Development – The Marcellus shale formation underlies a large portion of the GW, including many watersheds supplying drinking water to local communities, Special Biological Areas, wild trout streams identified by VA Dept. of Game and Inland Fisheries, roadless areas, and other important areas (see attached maps).

Drilling for natural gas in the Marcellus shale using horizontal drilling and hydraulic fracturing presents potentially significant risks to surface- and ground- water quality and quantity. Fracking involves tremendous quantities of water; figures vary, but 2-5 million gallons of water per well is a general figure cited by EPA.² Water is withdrawn from streams or wells in the area or brought in by truck. The water is mixed with sand and multiple chemicals, including toxics such as benzene, and pumped down the well at high pressure to fracture the rock and release the gas. Again, figures vary, but according to EPA about 15-80% of the fracking fluid returns to the surface as “flowback” and must be disposed of, while the remainder stays underground. In West Virginia, Pennsylvania, and elsewhere in the country, fracking fluid and/or gas have contaminated drinking water wells and flowback spills have polluted rivers and streams.³ Earlier this year, EPA launched a two-year study of the impacts of fracking on drinking water.

Fracking also is a major industrial activity with a large footprint which is inappropriate for the GW National Forest, involving drilling equipment, brine and flowback pits, compression tanks, and potentially hundreds of trucks delivering water (if not withdrawn on site), sand and other materials, with associated access roads and traffic which affect surrounding rural areas and communities.⁴

¹ See description of “Southern Appalachian Ecosystem Restoration Focus Areas” identified at December 2007 workshop put on by the USFS Southern Region (2/2008) (distributed at IDT meeting by Forest Service staff).

² EPA, summary of Hydraulic Fracturing Research Study, at 2 available at www.epa.gov/safewater/uic/pdfs/hfresearchstudyfs.pdf (6/2010).

³ See examples in SELC’s 5/7/2010 comments (p.14) and see PA Dept. of Env’tl. Protection enforcement actions for drinking water well contamination in Dimock (recent news releases available at www.portal.state.pa.us/portal/server.pt/community/news_releases/14288 and www.portal.state.pa.us/portal/server.pt/community/search_articles/14292).

⁴ See, e.g., New York Dept. of Env’tl. Conservation, Division of Mineral Resources, Draft Supplemental Generic EIS On Oil, Gas and Solution Mining Regulatory Program: Well Permit Issuance for Horizontal Drilling And High-

Presently there is little regulation and oversight of hydraulic fracturing. At the federal level, hydraulic fracturing is exempt from the disclosure and regulatory requirements of the Safe Drinking Water Act and from stormwater regulation under the Clean Water Act. In Virginia, gas drilling is governed by the Virginia Gas and Oil Act and its accompanying regulations, which were adopted before horizontal drilling and extensive fracking came into use. The Virginia act is not a comprehensive environmental protection statute and it would not regulate all effects of fracking on the environment and communities.

There is a great deal of local concern about fracking; among other reasons, the GW is a direct source of drinking water for about 262,600 local residents.⁵ For example, in September Rockingham County wrote to the Forest Service to state opposition to gas mining on the GW, finding it contradictory to the use of the land for recreation. Similarly, the city of Staunton asked the Forest Service to prohibit horizontal drilling hydraulic fracturing in the revised GW plan. The city of Harrisonburg requested that the Forest Service at least place a moratorium on any consideration of hydraulic fracturing natural gas wells on the GW until the EPA completes its study and rulemaking, so that information can be considered in any EIS for hydraulic fracturing.⁶

Hydraulic fracturing is a relatively new issue in the planning process, having arisen earlier this spring when the first fracking well in the Marcellus shale in Virginia was proposed in Rockingham County, on private land near the GW. We commend the GW staff for responding to these concerns and beginning to address this issue.

We reviewed the draft horizontal drilling stipulations posted to the plan revision website after the October public meeting. It is our understanding that the Forest Service is considering prohibiting horizontal drilling in order to prohibit extensive hydraulic fracturing, while allowing vertical drilling and hydraulic fracturing in vertical wells. This approach seems based on assumptions that there would be few vertical wells on the GW and that fracking in vertical wells is less extensive than in horizontal wells and has minor environmental impacts. Because we question whether this is the case, this approach raises many additional questions and may spawn unintended adverse consequences.

For example, gas companies might respond to a horizontal drilling prohibition by constructing numerous vertical wells on numerous well pads distributed throughout a leased area and fracking them, rather than constructing multiple horizontal wells on a single well pad to access the leased area. In that case, roughly the same amount of fracking would occur, with perhaps the same detrimental effects the Forest Service sought to avoid, but with greater surface disturbance. We understand from Forest Service staff that the agency's possible gas

Volume Hydraulic Fracturing to Develop Marcellus Shale and Other Low-Permeability Gas Reservoirs, at 5-5-31, available at www.dec.ny.gov/energy/58440.html (Sept. 2009) (surface facilities); USGS, Daniel J. Soeder and William M. Kappel, Water Resources and Natural Gas Production from the Marcellus Shale, Fact Sheet 2009-3032, available at <http://pubs.usgs.gov/fs/2009/3032/> (May 2009); Ray Renaud, Wetzel County Action Group (WV), presentation on effects of Marcellus shale gas development on Wetzel County communities, available at www.shenandoahvalleynetwork.org/index.cfm/1,230,0,0,html/Presentations-from-May-5th-2010-Marcellus-Workshop-in-Harrisonburg (May 2010).

⁵ Wild Virginia, *The State of Our Water*, available at www.wildvirginia.org/?p=190.

⁶ Letters and resolutions available at www.svnva.org/index.cfm/1,135,529,0,html/County-City-Urge-Forest-Officials-to-Protect-Water.

development scenarios are projecting some number of vertical wells. Comparisons of the number and density of vertical wells that might be allowed, the amount of water needed to fracture them, and their cumulative impacts on surface- and ground-water quality and quantity, as well as their other environmental impacts, should be made.

Attempting to address this topic indirectly by framing the issue as horizontal drilling, rather than squarely focusing on hydraulic fracturing, may well prove ineffective in accomplishing the agency's laudable goals to protect water quality and other national forest resources.

Therefore, based on these questions about the efficacy of a horizontal-only ban and on the information now available to us, we continue to recommend that the revised forest plan make all "full-fee" (i.e. federal mineral ownership) lands on the GW unavailable for oil and gas leasing. This seems the most effective way to ensure that national forest resources are protected from the adverse effects of natural gas drilling.⁷

Further, the forest plan and EIS should expand on the purposes for limiting gas drilling, for fracking may significantly and adversely affect multiple national forest resources in addition to the water resources cited in the draft stipulations, including: drinking water supplies (surface and well waters), brook trout and other aquatic species, karst and cave dynamics, wildlife and wildlife habitat, quality outdoor recreation experiences, scenic values, and air quality, as well as indirectly affecting local roads, traffic and communities. Extensive fracking in the GW seems likely to seriously interfere with the Forest Service's ability to meet its obligations to conserve soil and water resources and to provide for diverse plant and animal communities, viable populations of fish and wildlife species, outdoor recreation and visual quality, and even the timber resource, so avoiding federal oil and gas leasing would be well-justified. *See, e.g.*, 16 U.S.C. § 1604(g)(3)(A); 36 C.F.R. § 219.19 (fish and wildlife); § 219.21 (recreation); § 219.22 (consider potential for future mineral development and need for withdrawal of areas from development); § 219.23 (water and soil); § 219.26 (diversity of plant and animal communities); § 219.27(a)(1) (all management prescriptions shall conserve soil and water resources).

The other draft stipulations regarding horizontal drilling cannot ensure protection of national forest resources. The moratorium stipulation provides no meaningful moratorium and study period, entirely defeating the original intent behind it. Under this stipulation, the Forest Service would attempt to analyze the impacts of fracking now, in this EIS, rather than waiting to perform the EIS when it can consider the results of EPA's study and other additional information. The Forest Service would make the availability and consent decisions now and BLM could sell leases, merely delaying processing drilling permits.⁸ There is no mention of the

⁷ In late October, the Governor of Pennsylvania signed an executive order imposing a moratorium on further leasing in state forests, protecting about 800,000 acres of state forestland (see www.portal.state.pa.us/portal/server.pt/community/newsroom/14287?id=14973&typeid=2).

⁸ We believe the availability and consent decisions may be bifurcated. Oil and gas leasing is a two-step process of deciding which lands are available for leasing and then deciding whether to give BLM consent to sell leases. *See* 36 C.F.R. § 228.102. For example, the 1993 plan apparently made the second, consent decision only for lands in the Alleghany Front Lease Area. 1993 FEIS at 2-76-77. When the consent decision is deferred, the Forest Service can respond to companies' expressions of interest to BLM in leasing certain tracts by conducting site-specific analysis on the effects of gas development there and then deciding whether to consent to lease them.

Forest Service explicitly retaining flexibility to prohibit horizontal drilling and/or hydraulic fracturing in leased areas. Then, on May 1, 2013, the moratorium automatically would end, regardless of the status of EPA's study, federal regulations, or needs for further analysis in light of additional information developed in the intervening two years. This stipulation cannot ensure that the GW has the necessary information to adequately analyze and consider the effects of fracking on national forest resources before making plan and leasing decisions the GW may later regret.

Regarding the horizontal drilling control stipulations, they are fairly vague and give rise to numerous questions. For example, would the fracking chemicals be disclosed to the public? Regarding flowback, it is our understanding that the intention is for flowback to be placed in storage tanks, rather than in open pits, and not to be disposed of by land application, which is positive. We assume flowback also could not be discharged to surface waters, but this is not explicitly stated. So, how does the Forest Service expect flowback would be disposed? What are the plans for monitoring and oversight? Overall, assessing the impacts of fracking and necessary conditions is a topic of ongoing, extensive scientific study and national debate. Given the short timeframe and broad scope of this plan revision EIS, we are concerned that the GW is not well-positioned to identify and develop the conditions necessary to protect national forest resources before the DEIS is published in January.

Wind Energy Development – We continue to believe the GWNF should be designated as unsuitable for wind energy generation, for the reasons discussed in SELC's August 2008 comments. Alternatives C and E would not allow wind energy development.

Alternatives B and F would designate certain areas as not suitable for wind energy development.⁹ If the Forest Service chooses this approach, the unsuitable areas also should include: all roadless areas (including inventoried roadless areas (IRAs) and the additional "potential wilderness areas" (PWAs)); Virginia Mountain Treasure areas; watersheds that are sources of drinking water to local communities (identified in Alternative C); Shenandoah Mountain Trail, Great Eastern Trail and other significant trails, and a reasonable buffer along such trails; existing old growth forest; state- or federally- recognized cultural or historic sites; conservation sites recommended for SBA or special interest area designation by the VA Division of Natural Heritage; and the foreground and mid-ground (up to four miles) of outstanding scenic resources, such as Reddish Knob and the High Knob fire tower in Rockingham County.

Biomass Removals for Energy Production – Alternatives D and E mention providing opportunities for biomass removals from the national forest for energy production. We will not attempt to summarize here our numerous concerns about promoting this, and the potential impacts to biodiversity, water and air quality. We do wish to point out that it is important to protect and maintain soil productivity, wildlife habitat, water quality and quantity, carbon storage

⁹ Alternatives B and F would designate the following areas as unsuitable for wind energy development: Wilderness, recommended Wilderness, National Scenic Area, Special Biological Areas (SBAs), Indiana bat protection areas, Appalachian Trail corridor, and remote backcountry areas. We assume that SBAs include the special botanical and geologic areas under the 1993 plan and Research Natural Areas. Importantly, we understand that these alternatives would not designate all other areas as suitable, rather, other areas would be assessed case-by-case. Certainly it would be premature to designate any portion of the GW as suitable for wind energy development.

and other non-timber forest benefits. Removal of standing live trees for energy production from the GW should not be allowed. We recommend that the GW follow the renewable biomass definition found in the Energy Independence and Security Act of 2007, which provides protection for national forest lands. That definition applies to removals for liquid fuels production and it makes sense to apply the same definition for removal for power generation, both for forest protection purposes and for ease of tracking, since national forest wood could go to either means of energy production. Also, any removal of logging residue should be limited by guidelines that ensure the above non-timber benefits are maintained. It is particularly inappropriate to consider the harvest of woody biomass for energy production in the absence of a complete and thorough analysis of the role that mature and old growth forests of the GW play in sequestering carbon and addressing climate change.

Roadless Area Protection – We will not reiterate all the important values of roadless areas and the strong public support, including in Virginia, for the 2001 Roadless Area Conservation Rule. See, e.g., SELC comments dated 8/8/2008 (pp. 6-8), 6/8/2009 (pp. 22-23), and 5/7/2010 (p.34). Unfortunately, most action alternatives (B, D and E) would not protect all inventoried roadless areas (IRAs) by managing them consistently with the reasonable provisions of the 2001 Rule. Only Alternatives C and F would manage all IRAs consistently with the 2001 Rule. Alternative B would allow salvage logging in most IRAs and would allocate about 8,000 acres of IRAs to “active management,” presumably open to timber harvest and road construction, all of which the 2001 Rule generally would not permit. See GWNF, Summary of Need for Change at 6 (3/2010).

In August 2009, the 2001 Rule was upheld and reinstated nationwide (except in the Tongass and Idaho) by the Ninth Circuit Court of Appeals, California ex rel. Lockyer v. USDA, 575 F.3d 999 (9th Cir. 2009). The statement in the Summary of the Need for Change (p.6) that the 2001 Rule “does not currently apply to the GW” fails to recognize this. The President and this administration support the 2001 Roadless Rule and are challenging a conflicting Wyoming district court decision against the Rule in the Tenth Circuit Court of Appeals. Presently, the Secretary of Agriculture reviews any actions which would be inconsistent with the Rule. Therefore, when the Forest Service has the opportunity, through another decision-making processes such as this plan revision, to decide to manage roadless areas consistently with the provisions of 2001 Rule and with this administration’s roadless area policy, we believe the agency should do so.

It is surprising that Alternative E does not manage all roadless areas consistently with the 2001 Rule, since it seems to focus on restoration. Because ecological restoration includes protecting existing areas of high ecological integrity and allowing for natural recovery through passive restoration,¹⁰ avoiding road construction and logging in large, relatively intact, high-integrity areas, such as roadless areas and old growth, should be a key component of an ecological restoration alternative. The agency’s limited restoration resources then could be focused on non-roadless lands, which likely are more heavily altered and have greater restoration needs.

¹⁰ Dominick A. DellaSala, et al., A Citizen’s Call for Ecological Forest Restoration: Forest Restoration Principles and Criteria, *Ecological Restoration*, Vol. 21, No. 1, at 17-18 (2003).

Further, as discussed in detail in SELC's May 2010 comments (pp. 34-36), the Forest Service should select an alternative that manages all newly identified roadless areas (PWAs which are not already IRAs) consistently with the previously inventoried roadless areas and with the 2001 Rule. We believe the newly recognized areas meet the same Forest Service Handbook criteria in effect for prior roadless inventories. It seems particularly important to protect the more significant new areas, such as the 8 new stand-alone areas, each over 5,000 acres in size, and the larger expansions of IRAs, such as the several expansions of 5,000 acres or more.

The GW seems reluctant to apply a remote backcountry or similar prescription to these newly recognized areas, asserting that they "are predominantly lands that are currently managed for wildlife habitat and timber management." Summary of Need for Change at 7. Our GIS analysis, however, estimated that only about 24% (about 35,894 acres) of the new areas were suitable for timber production under the 1993 plan, are within ½ mile of existing open roads, and are not located on steep slopes over 35% or within the riparian corridor (based on JNF riparian widths expected to be adopted for GWNF). This analysis suggests that the vast majority of the newly identified areas are not readily accessible for such management.

Old Growth – We are glad to see that several action alternatives would designate existing old growth as unsuitable for timber production (Alternatives C, E and F).¹¹ A field-verified inventory of old growth existing on the GW has not been conducted, so old growth estimates are highly uncertain, because they are based on the frequently inaccurate CISC or FSveg databases. Old growth is very scarce in our region, with the Forest Service estimating that old growth represents around 0.5% of the total forest acreage (public and private) in the Southeast. Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region, R8-FR-62, at 1 (June 1997) (hereinafter "Guidance"). Therefore, we strongly encourage the Forest Service to select an alternative that would not permit logging in existing old growth forest.

The National Forests in Alabama recently amended their Revised Forest Plan to protect existing old growth, adopting a forest-wide standard which states: "Existing old growth as defined in *Old Growth Guidance for the Southern Region*, when encountered, will be managed to protect its old growth characteristics." This is a good example for the revised GW plan.

Alternatives E and F would identify the Peters Mountain and Frozen Head/Knob old growth areas identified by VA Division of Natural Heritage as unsuitable for timber production. The preferred alternative should protect these two areas. Among other reasons, the 3,600-acre Peters Mountain North site and the 1,100-acre Frozen Knob site are large and medium patches of existing old growth which are among the very few old growth patches verified on the GW and should be protected during planning as part of the old growth network. See Guidance at 17, 19.

¹¹ Alternative E would allow trees in existing old growth stands to be "cut to actively restore structural conditions." First, it seems unlikely that old growth forest would need such restoration. Second, this provision is vague and creates an unintended loophole for inappropriate old growth logging. The Forest Service should further define the purpose and parameters for any such restoration (for example, describing desired structure more specifically, avoiding cutting old-age trees, conducting cut-and-leave only).

Water Quality and Watershed Management – Only Alternative C contains management prescriptions for watersheds that are a source of drinking water for communities near the GW. However, there is significant public demand for direct management of these watersheds, and the forest plan should include specific management objectives for them. Forty organizations have adopted resolutions that call for stronger protection of drinking water resources in the GW. The organizations include sixteen localities (city councils, town councils, and county boards of supervisors), two regional Soil and Water Conservation Districts, two regional Planning District Commissions, three county Public Service Authorities, and a county Water Quality Committee (see Attachment A in Forest Plan comments submitted by Wild Virginia and Heartwood, dated 5/7/10). Requests and issues addressed consistently in the resolutions include:

- In coordination with local communities, other agencies, and the public, the Forest Service should develop policies and management plans for drinking watersheds
- Forest Service should establish management objectives for entire watersheds in order to maintain, protect, and enhance water quality
- Forest Service staff should communicate more effectively with communities obtaining drinking water from watersheds and reservoirs within the GW
- Forest Service should improve data gathering and collection efforts in order to better describe and assess water quality and watershed conditions

There are several other water quality and water related management issues that are not adequately addressed in the alternatives. Fifty streams (roughly 154 stream miles) and 6 reservoirs within the GW were designated as impaired in 2006 (VA Dept. Env'tl. Quality, 2006).¹² Sedimentation in streams, “the primary factor in water quality degradation” in national forests (p. 19, USDA Forest Service 2007),¹³ is not directly monitored at present. The vulnerability of brook trout (*Salvelinus fontinalis*) populations to stresses, including climate change, has been acknowledged but that analysis has not been explicitly related to plan alternatives, management prescriptions and standards.

All the alternatives, except for A, identify some watersheds or parts of watersheds that are a priority for restoration or restoration activities. Some of the identified watersheds are based on the presence of impaired streams, which is appropriate. Alternative E refers to these as “priority watersheds” based on “water use (sensitive aquatic species, drinking water), impairment (particularly acid deposition), and sensitivity.” The concept of priority watersheds has merit, as does restoration or restoration activities in selected watersheds. However, much more information is needed. No additional definition or information concerning “priority watersheds” is available. No written description of the restoration activities or material to describe the differences among the alternatives has been provided to date. Potential management goals of restoration (e.g., decreased sedimentation, wider riparian areas, decreased road density, etc.) and management standards have not been identified. Management prescriptions or standards for priority watersheds, for example limits on ground disturbance, should be considered. This lack of information prevents us from adequately reviewing and assessing water-related components of the various alternatives. It also prevents making an informed choice on water-related issues from among the plan alternatives.

¹² VA Dept. of Env'tl. Quality. 2006. Final 2006 305(b)/303(d) Water Quality Assessment Integrated Report.

¹³ USDA Forest Service. 2007. Environmental Assessment Cubville Project. Warm Springs Ranger District, GW/JNFs, Bath County, VA. 66 pp.

Management of riparian areas has the potential to help meet many broad management objectives of the GW. Establishing wider riparian areas than needed strictly for water quality protection provides many ecological benefits. An array of wildlife species, both terrestrial and aquatic, will benefit. Crawford and Semlitsch (2007)¹⁴ recommend buffer widths of 92.6 meters to protect all the salamanders found in the southern Appalachians, while noting that 77 meter buffers would protect 95% of the salamander assemblage. These riparian widths should be considered in some areas of the GW. The Northwest Forest Plan used expanded riparian area protection to, in part, restore and protect salmon fisheries. The Draft Evaluation of the Need for Change (p.33, Viewpoint 1) has an excellent description of the benefits of large, healthy riparian areas. These areas are very important for maintaining biodiversity and may play a significant role in long term population viability of some species, particularly some amphibians and reptiles. Fully functioning riparian areas and corridors can also play an important role in connecting core reserves, thus facilitating climate change adaptation.

Analysis of Lands Suitable for Timber Production – Although little detailed information on the suitability analysis has been provided thus far, we want to make a few brief comments based on the information now available.

The 1982 NFMA regulations set forth a three stage process for designating land suitable for timber production. Stage I identifies land unsuitable for timber production for four reasons (not forest land, technology not available to ensure timber production without irreversible resource damage, no reasonable assurance the lands can be adequately restocked, or land been withdrawn by Congress, Secretary or Chief). 36 C.F.R. § 219.14(a). Other lands go into Stage II, the financial analysis, which identifies lands which are not cost-efficient for timber production. § 219.14(b). Lands not cost-efficient must be designated as not suited for timber production. See § 219.14(c)(3) and (d). For remaining lands, Stage III considers whether other resource uses or management objectives preclude timber production. § 219.14(c).

First, the GW appears to be conducting Stage III before Stage II, based on the GWNF chart “Draft Identification of Lands Suitable for Timber Harvest” (dated 7/14/2010). In analysis for the 1993 plan, the GW similarly switched and conflated these stages. 1993 Plan at A-3. This time, the analysis should be conducted in order and the results of each stage reported.

Second, there is a need to consider road access requirements in the Stage II analysis. In Stage II, a forest “shall be stratified into categories of land with similar management costs and returns,” considering factors such as “transportation requirements.” § 219.14(b). For each category of land, costs and benefits (receipts) must be compared; costs include “investments, maintenance, operating, management, and planning costs attributable to timber production. . .” § 219.14(b)(2).

Transportation requirements, however, are not a factor in the stratification categories (analysis areas) developed so far for the Spectrum model, although those areas should be used to categorize land with similar harvest costs. See GWNF spreadsheet “Analysis Areas for the

¹⁴ Crawford, J.A. and R. D. Semlitsch. 2007. Estimation of Core Terrestrial Habitat for Stream-Breeding Salamanders and Delineation of Riparian Buffers for Protection of Biodiversity. *Conservation Biology* 21(1):152-158.

Development of the Spectrum Model, George Washington” (dated 9/23/2010). As road construction is one of the largest and most variable costs of timber harvest, and obviously is a highly relevant factor under the NFMA regulations, it is essential that distance from existing roads of various maintenance levels be a stratification category. Factoring in distance from roads and corresponding costs of temporary and permanent road construction or reconstruction may significantly reduce the amount of land cost-efficient for timber production. We encourage the Forest Service to take the time to factor this into the analysis areas now, before conducting further suitability analysis based on assumptions that may prove infeasible.

Third, several alternatives propose to increase the lands suitable for timber production (Alternatives B, D and E). It will be important to rigorously examine in Stage II whether those additional lands are cost-efficient. For example, Alternative B would increase the suitable base to 476,000 acres. From what we can tell, this would depend on adding land deemed unsuitable in 1993 for economic reasons back into the timber base, including land identified as not economically efficient in Stage II (about 56,000 acres in ‘93) and land designated as unsuitable in an effort to ameliorate the below-cost timber program (about 200,000 acres in ‘93).¹⁵ Note that, in the analysis for the 1993 plan, about 272,400 acres had a positive present net value for timber (1993 FEIS at B-44), and that was calculated without factoring in all costs.

No explanation has been provided for how these lands could now have become economically efficient for timber production; it seems doubtful that lands with difficult (i.e. costly) access, low productivity or steep slopes have changed. The March 2010 Summary of the Need for Change suggested that helicopter logging could provide access to these areas. We understand that helicopter logging is very expensive and there are few, if any, local operators. Again, the Forest Service would need to show helicopter logging is cost-efficient.

Fourth, it is difficult to compare and comment on the alternative levels of harvest and suitable timberland, because there is no apparent connection between or rationale for them. For example, the 1993 plan (Alt. A) has an ASQ of 33 MMBF (about 3,000 acres/year) and identified 348,000 acres as suitable for timber production. Of the four action alternatives with timber production objectives (Alternatives B, D, E and F), two (B and F) would keep the ASQ about the same, but B would significantly increase the suitable base to 476,000 acres, while F would reduce it to 294,000 acres. There is no explanation for the need in Alternative B to increase the suitable base by over 35% to meet the same ASQ.

Overall, it is concerning that alternative levels of annual harvest and of land suitable for timber production have been put forth without first completing Stage II. The alternative levels may or may not be found to be feasible after Stage II, yet the Forest Service decision-makers and the public are being asked to comment on and choose among them now.

¹⁵ Although the 1993 analysis erroneously conflated Stage II and III, that plan clearly stated that certain lands with impractical access, low site productivity and excessively steep slopes were designated as unsuitable “given concerns about the Forest’s below-cost timber sale program.” 1993 Plan at A-2-3.

Conclusion

We recognize that the plan revision began over three years ago, with public meetings in spring 2007, and we expect there is a strong desire by Forest Service staff to stick to the current goal of publishing the draft EIS and draft revised plan in January. It is important to recognize that over two years were spent attempting to revise the plan under the 2005 and 2008 NFMA regulations overhauled by the Bush Administration. Those regulations were invalidated and enjoined twice, causing corresponding suspensions in the GW revision. Then, around December 2009, less than a year ago, the GW reinitiated the revision under the 1982 NFMA regulations, which triggered additional requirements, such as preparing a full EIS and analyzing and maintaining species population viability. It is unfortunate that the development and selection of alternatives has leapt ahead of key analyses, but the revised plan should not be built on an incomplete foundation.

Thank you for your consideration. Please contact us if you have any questions or wish to discuss this further.

Sincerely,



Sarah A. Francisco, Senior Attorney
National Parks and Forests Program Leader
Southern Environmental Law Center

David Hannah, Conservation Director
Wild Virginia
P.O. Box 1065
Charlottesville, Virginia 22902
434-971-1553
dhannah@wildvirginia.org

Bud Watson, Executive Director
Virginia ForestWatch
14031 Independence Road
Ashland, VA 23005
804-314-2225
bmwatson3@aol.com

Ernie Reed, Heartwood Council Chair
Heartwood

P. O. Box 332565
Murfreesboro, Tennessee 37133-2565
434-97-1647
lec@wildvirginia.org
info@heartwood.org

Enclosures

cc: Elizabeth Agpaoa, Southern Regional Forester; Kenneth Landgraf, Planning Staff Officer, GWNF; Karen Overcash, Plan Revision IDT Leader, GWNF.

