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June 6, 2014

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**Re: Cooper Creek Watershed Project**

Dear Mr. Baker,

Thank you for the opportunity to comment on the Cooper Creek Watershed Project. The Cooper Creek Watershed was identified in the May 2<sup>nd</sup> scoping notice as “a priority watershed on the Chattahoochee-Oconee National Forests because of its important ecological values, resource-related concerns that need to be addressed, and strong partnership opportunities.”

Georgia ForestWatch appreciates the opportunity to comment on this very complex and extensive project. As you know, it encompasses seven different types of treatment<sup>1</sup> and more than 125 stands. Since we will not be able to survey all or even most of the stands during the 30-day comment period, we are particularly grateful for your May email stating that you “will certainly consider site specific (i.e. stand level) concerns throughout the NEPA process.”

Nevertheless, with this letter we have attempted to address many of the issues we believe are implicated by this project. Despite our best efforts, the sheer size of this project does not lend itself to brevity and our comments are lengthy. We have serious concerns about the wisdom (and legality) of many aspects of this project and, to be clear, are firmly opposed to elements of it. We have tried to include stand-specific comments where possible but our response primarily focuses on general project concerns.

From our perspective, this project is a significant departure from other large projects on the Chattahoochee (i.e. Armuchee Ridges, Eastside, Warwoman) that were less objectionable because they did not target the most biologically rich stands on the forest, as this project does, and included ecological restoration efforts. We agree with the need “to match objectives identified in the watershed assessment to the most ecologically appropriate portions of the

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<sup>1</sup> Actually eight, since the Early Successional Forest Habitat category includes separate treatments for oak and white pine stands.

project area.” However, it seems that in many cases, treatments have unfortunately been proposed for the most ecologically-inappropriate stands, examples of which are given in discussions of individual treatment types below. Moreover, despite the fact that Cooper Creek has been identified as a priority watershed and the project is labeled the “Cooper Creek Watershed Project,” the proposed project focuses on extensive logging, which is likely to degrade, not improve, water quality and aquatic habitat here.

While the scoping notice states that an Ecological Classification System for the watershed informed this proposal, such models are, after all, only models and must be ground-truthed. Our field visits thus far suggest that the ECS and/or the interpretation and application of it to develop this proposal do not accurately reflect the area’s conditions and ecological characteristics and potential. We look forward to learning more about the ECS, its potential application here, and how the ECS and this proposal will be adjusted based on on-the-ground information.

After you and your staff have had an opportunity to review and consider our comments, we would like to meet with you to discuss this project further, perhaps including some joint field trips to some of these stands.

## **General Comments**

### **Cutting Mature Oak Stands**

The clearcutting on the Chattahoochee National Forest (“CONF”) during the 1970s, 1980s, and 1990s was disastrous for the overall health and diversity of the forests, soils and watersheds. With or without any forest management, not a single stand that was clearcut in that era will be restored to its former ecological potential in the next 100 years. So it is a great disappointment to learn that the Blue Ridge District now intends to resume cutting some of the finest remaining mature stands that escaped the clearcutting of the past.

Certainly there are stands that might benefit from judicious management, primarily old clearcuts and what you refer to as “off-site” white pine (monocrop) stands that were planted. It is extremely disappointing then to see the District proposing to concentrate on harvesting healthy, high-grade oak stands on rich sites. The average age of these stands is over 110 years, and many of them already exhibit old-growth characteristics, according to the Forest Service’s definition.

In logging in the prior era, in the late nineteenth or early twentieth century, clearcutting often was not practiced, and smaller trees, generally up to 18 inches in diameter, were left standing unharmed. Rather than being chipped and removed, slash was left on the ground to help minimize soil erosion on steep slopes and degradation of water quality. At that time, logging was done without the heavy machinery that is used today. The narrow small haul roads from that era contrast with the massive “temporary” roads and acres of exposed soil we see today (*see, e.g., attached photographs of logging on Brawley Mountain*). Modern heavy machinery inevitably displaces and/or compacts any remaining topsoil, making it very difficult for trees to

regenerate, often on what may be the lower A horizon of a soil profile, or on soil so compacted that it resembles concrete. It is in this mineral soil in the A horizon (and in the organic horizon above) where much of the biological activity in forest soils occurs (often referred to as the soil food web), including growth of tree fine roots and associated beneficial microorganisms (e.g. symbiotic fungal mycorrhizas) – all necessary for healthy tree growth.

The trees in the proposed stands are among the most impressive and biologically valuable to be found anywhere on the forest. If these stands are left to grow and develop on their own, within the lifetime of children alive today, they may begin to approximate a small part of the primeval forest. Left undisturbed, natural canopy gaps will form from windthrows and other disturbances. If they are cut, future generations will lose the opportunity to see any approximation of a magnificent old growth forest in this area.

The scoping notice states that “Many of the stands in the project area are dense and overcrowded, with limited understory or ground cover.” This is true in some instances. But on the other hand, many of the stands selected for treatment do not correspond to this description at all. In fact, many of the stands proposed to be cut are among the healthiest to be found not only in this project area, but anywhere on the forest.

### **Oak Regeneration and White Pine Encroachment**

We question the claim that limited advanced oak regeneration and white pine encroachment are due to “limited use of prescribed fire over the last few decades.” There has been quite a bit of prescribed burning in the project area, at least in the last decade, yet we have seen no monitoring data or even heard any anecdotal evidence that fire significantly suppressed either of these phenomena in the long term. On the contrary, in many of the oak stands we have visited so far that have not been burned, we found a considerable amount of oak regeneration. On sites that have been burned we saw no indication that prescribed burning favored oak over red maple or other “undesirable” hardwood species. We would like to see a history of prescribed burns in the Cooper Creek watershed (location, dates, acreages), and any monitoring data that assesses treatment efficacy, if such information exists.

The Forest Service intentionally created white pine plantations in the not too distant past. Now it is considered an undesirable species to be eradicated, which is perplexing since white pine is considered an important component of several of the forest types in the Southern Appalachians. Indeed, the large white pines identified in this proposal reinforce that white pine has been an important native component of the Chattahoochee National Forest. The seeds provide food for many songbirds and small mammals, while the trees provide habitat for numerous wildlife species, including the black bear. The USDA Silvics Manual describes eastern white pine as one of the most valuable eastern trees in North America, and lists the Southern Appalachians (north Georgia) as its southernmost range. One would think that the Forest Service would want to protect the populations of white pine on appropriate sites in its southernmost range, not target them for removal.

Despite years of prescribed fire in the Cooper Creek Watershed, the spread of white pine is often ascribed to insufficient burning. It is not hard to kill white pine seedlings and smaller

saplings with fire, but at the same time fire often exposes mineral soil, creating an ideal seed bed for white pine regeneration. To eradicate white pine encroachment would require perpetual burning that would in no way mimic any pre-European fire regime in the Southern Appalachians. White pine naturally functions as both a pioneer and later successional species, and tolerates acid soils - this may be one reason why it is a successful competitor.

However, examination of particularly fertile sites in the project area, such as stands 399/3, 399/8, and 399/50, shows little or no white pine intrusion; this may in part be a function of soil characteristics, in particular, pH. These more mesic areas contain abundant black cohosh, blue cohosh, bloodroot, and trillium in the understory, suggesting soils rich in organic matter, and possibly magnesium and/or calcium. If underlying bedrock is rich in these minerals, it would help buffer both direct and indirect chemical effects of decades of acid precipitation, including leaching of base cations such as calcium and magnesium. Despite no evidence of past fire, prescribed or wild, in these stands and others like them, white pine is almost completely absent. We are concerned that the proposal may envision forcing fire into these mesic north-facing stands, which would be entirely inappropriate.

### **Use of Herbicide**

All of the management prescriptions in this scoping notice, except for Canopy Gap Thinning, are dependent upon the use of herbicide to manage undesirable or competing vegetation. Because Georgia ForestWatch believes that persistence of pesticides in the forest environment and overuse of pesticides are valid general concerns, we would like more information on the herbicide application, as well as plot monitoring to determine efficacy of the proposed treatment. **The Brawley Mountain project demonstrates the failure of foliar herbicide application to control stump sprouts.** In our observation, the only effective way to prevent stump sprouting is by applying the herbicide directly to the stump immediately after the tree is cut (cut surface application). But this method, requiring a separate herbicide crew in addition to the loggers, apparently was too expensive for use at Brawley, so we assume it will be too expensive for use in the Cooper Creek project. The alternative is repeated foliar applications of herbicide, which are relatively ineffective, require larger amounts of herbicide, and impact not only the intended target but the whole surrounding area.

If herbicide is used on public land, we expect it to be used judiciously and according to manufacturer's recommendations and Environmental Protection Agency guidelines. This will help to avoid unnecessary risks to contractors, members of the public, and the environment in general.

In addition, strategically timing treatments can drastically reduce the probability of treatment failure or marginal control of woody competition, since foliar applications of some herbicides are more effective in different seasons or months.<sup>2</sup> Over the years, we have observed loose adherence to seasonality of treatment on agency projects, resulting in the need for reapplication of herbicide. Missing critical treatment windows drives up the cost/acre and increases the potential for environmental risk; both should be frowned upon by the district.

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<sup>2</sup> Ferrell, J., Langeland, K., Sellers, B. 2010. Herbicide Application Techniques for Woody Plant Control. SS-AGR-260. University of Florida IFAS Extension.

Moreover, the environmental analysis for this project should forthrightly disclose the district's poor track record of implementing follow-up treatments, like herbicide, on the intended schedule, and consider the likely consequences and outcomes of this project if the same happens here.

## **Climate Change**

If the Forest Service proceeds to consider a large-scale project in this watershed, the EA/EIS must disclose and consider the impacts of the proposal on the resilience and adaptation of forest ecosystems, including natural communities and certain sensitive fish and wildlife species, to the effects of climate change. The EA/EIS should identify this as a significant issue that, among the other issues identified in these comments, drives the development of alternatives that respond to it.

An objective of the Forest Service's National Roadmap for Responding to Climate Change (FS-957b) "is to lead efforts to mitigate and adapt to climate change. The performance measures under this objective seek to reduce greenhouse gas emissions by the US agricultural sector, increase the amount of carbon sequestered on US lands, and bring all national forests into compliance with an adaptation and mitigation strategy."<sup>3</sup> This analysis and mitigation is not limited to carbon emissions and sequestration calculations; it includes measures to enhance forest ecosystems' and species' resilience and adaptation to the effects of climate change, including increasing temperatures and changes in precipitation patterns.

On examining 75 years of temperature and precipitation data in the Coweeta Basin, Coweeta scientists have confirmed that local temperature and precipitation trends are following those predicted for the southeastern USA.<sup>4</sup> Their analysis has revealed a significant increase in temperatures since the late 1970s, an increase in drought severity and frequency, and more extreme precipitation distribution. The southeastern United States is predicted to be the most susceptible to novel climates (combinations of seasonal temperature and precipitation that have no historical or modern counterpart). Any forest project within the Chattahoochee-Oconee National Forests should consider how to best maintain forest health and diversity in light of these environmental changes.

In addition to the Coweeta study cited above, the District should consider the project and its impacts and alternatives in light of the following relevant information and direction on climate change, much of which has been developed by the agency itself:

- Forest Service National Roadmap for Responding to Climate Change (February 2011). The management actions in the Roadmap include addressing climate change in planning and analysis by "[i]ncorporating climate-related vulnerabilities and uncertainties into

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<sup>3</sup> National Roadmap for Responding to Climate Change, FS-957b, (Feb. 2011), *available at* <http://www.fs.fed.us/climatechange/pdf/Roadmapfinal.pdf>.

<sup>4</sup> Laseter *et al.* 2012. Long-term temperature and precipitation trends at the Coweeta Hydrologic Laboratory, Otto, North Carolina, USA. Hydrology Research, Vol. 43.6, pp890-901 *available at* <http://coweeta.uga.edu/publications/10704.pdf>

land management *and project-level environmental analyses.*” (emphasis added). Immediate initiatives include “manag[ing] forest and grassland ecosystems to decrease fragmentation,” and “continu[ing] to develop and restore important corridors for fish and wildlife.”<sup>5</sup>

- U.S. Climate Change Science Program and the Subcommittee on Global Change Research, Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources: Final Report, Synthesis and Assessment Product 4.4, at 1-3 (June 2008). This program, which the USDA participates in, issued a report urging adaptation measures to improve forest ecosystems’ resilience to climate change, including, among others: (1) minimizing localized human stressors (such as pollution and fragmentation from logging and road construction) that interfere with species’ adaptation to climatic events; (2) restoring ecosystems that have been lost or compromised; and (3) protecting high-elevation refugia to “seed” ecosystem recovery and to provide a destination for climate-sensitive migrants.
- The World Wildlife Fund, *Buying Time: A User’s Manual for Building Resistance and Resilience to Climate Change in Natural Systems*, at 11-12 (2003), *available at* <http://assets.panda.org/downloads/buyingtime.pdf> (urging additional adaptation measures to improve resilience to climate change in natural systems).
- Understory plants represent on average more than 80% of temperate forest plant diversity. An international study of over 1,400 vegetation plots in temperate forests in Europe and North America (including the Smoky Mountains) found that during the last 30-40 years, closed forest canopies have buffered the impacts of global warming on ground-layer plant communities, slowing losses of many cooler-weather plants. On average, one-third of the ground-layer species present in the older surveys have been lost or replaced, with open forest canopies generally showing the highest losses or replacement.<sup>6</sup> What cost will thinning and opening up the canopies in the Cooper Creek Watershed Project have on the plant diversity in these stands, in particular, the spring ephemerals?
- A global analysis of 403 tropical and temperate tree species has shown that for most species, mass growth rate increases continuously with tree size.<sup>7</sup> In other words, large, old trees do not act simply as senescent carbon reservoirs, but actively fix large amounts of carbon compared to smaller trees; at the extreme, a single big tree can add the same amount of carbon to the forest within a year as is contained in an entire mid-sized tree. The rapid growth of large trees indicates that, relative to their numbers, they could play a

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<sup>5</sup> The Roadmap built on the prior guidance for considering and incorporating climate change into project-level decision-making, as laid out in the letter from Joel D. Holtrop, Deputy Chief for NFS, to Regional Foresters, et al., Re: Considering Climate Change in Land Management and Project Planning (Jan. 16, 2009), attaching guidance for “Climate Change Considerations in Project Level NEPA Analysis” (Jan. 13, 2009), *both available at* [www.fs.fed.us/emc/nepa/climate\\_change/](http://www.fs.fed.us/emc/nepa/climate_change/).

<sup>6</sup> De Frenne *et al.* 2013. Microclimate moderates plant responses to macroclimate warming, PNAS, Vol.110, pp. 18561-18565) *available at* <http://www.pnas.org/content/early/2013/10/23/1311190110.full.pdf+html>

<sup>7</sup> Stephenson *et al.* 2014. Rate of tree carbon accumulation increases continuously with tree size. Nature. Vol. 507, pp. 90-93) *available at* <http://www.werc.usgs.gov/ProductDetails.aspx?ID=4980>

disproportionately important role in forest carbon sequestration and the terrestrial carbon cycle. This important role should be considered in forest management plans.

- On May 20, 2014, President Obama presented to our nation the National Climate Assessment authored by expert scientists in their specific fields of climate research. This new scientific information should be used in a major watershed project like this one. To ignore it would be to disregard the best available science. Forest fires in North America are now known to produce the soot that is decreasing the albedo effect in Greenland and causing increased ice melt. This is one example of new scientific information to be considered in the misuse of prescribed fire in ecosystems that are not fire adapted. Also, information about carbon sequestration in forests and the increase in extreme rain events in the southeast is included.

## **Vegetation Management**

### **Oak/Oak-Pine Thinning**

It is hard to imagine that anyone would try to increase the amount of oak regeneration or improve oak mast production by cutting healthy oaks which will live for many more decades or even another century or more. Equally strange is the concept that chestnut oak is an undesirable species. What makes chestnut oak, a member of the white oak family, an undesirable species? Chestnut oak is a dominant or co-dominant species in many forest types in the Southern Appalachians because it does well on dry, infertile soils and rocky ridges and is one of the more fire-tolerant oaks. It is not uncommon to find almost pure stands of chestnut oak on rocky ridges because of its drought tolerance and long-lived nature. Indeed, chestnut oak may become even more dominant with climate change as it is well-suited physiologically and morphologically for longer droughts and potential increases in fire frequency on ridges and elsewhere.

Oak mast is the most important food source for wildlife in these forests. Older chestnut oaks are prolific mast producers, drop their fruit several weeks before other upland oaks, and their fruit is very long-lasting. This project, with its Oak/Oak-Pine Thinning, Early Successional Habitat (“ESH”), Canopy Gap Thinning, and Woodland Restoration, will remove up to half of the mature, mast-producing oaks on nearly 1,500 acres. The Forest Service’ CISC data show 204 stands in the immediate vicinity of the project area with stand ages from 1970 or later, all of which were certainly clearcut. At an average of at least 20 acres per stand, this represents over 4,000 acres. Since clearcutting reduces the number of oaks in the regenerating stand and oaks must be at least 50-years-old to produce mast, this suggests that there are already over 4,000 acres in the project area with no current mast production.

Has the Forest Service documented the decline of white and red oak in these “overstocked” chestnut oak stands over time? Is there any monitoring data from this forest or any other indicating that a reduction in the basal area (“BA”) of a chestnut oak stand to 60 ft<sup>2</sup> per acre followed by herbicide applications reduces red and white oak decline? Oak decline is a result of primary and secondary environmental stressors that all trees in a stand are exposed to; these stressors weaken the trees, making them more susceptible to insects and diseases that generally do not successfully attack healthy trees. It is entirely possible that chestnut oak is more

tolerant of one or more of these stressors (e.g. drought, fire), and/or is simply a better competitor for resources (light, water, nutrients, etc.), keeping the trees healthier. Reducing the density of chestnut oak in these stands will not stop the progression of decline in other white or red oak species if these oak species are more susceptible to the stressors causing the decline.

Stand 398/37 is a beautiful forest, containing large oaks, mostly chestnut oaks, but also some northern red oaks. There is plenty of chestnut oak regeneration waiting for a gap, of which there are already several. In one big canopy gap we found poplar, but also a chestnut oak 20 feet tall (taller than the poplar). This stand is showing natural oak regeneration through gap formation and is in no need of managed “improvement.” It is on very steep ground and is bordered by private land on three sides. This stand should not be cut. However, stand 398/36, which is adjacent to 398/37 on the south side, is a former clearcut that would benefit greatly from thinning, since it has quite a bit of oak in the midstory.

Stand 398/10 is predominantly chestnut oak, but also has quite a few large white oaks, with a good mix of overstory, midstory, and canopy gaps. Midstory white pines here are dead or dying, since they have not managed to make it into the canopy. The stand is in no need of thinning.

Past timber harvest by the Forest Service, notably the clearcutting of the 1970s, 1980s, and 1990s, resulted in a sharp reduction of oak in the regenerating stands. Georgia ForestWatch objects to the cutting of mature oaks, chestnut or other, since it would not improve wildlife habitat conditions in the long-term, but have the opposite effect. We do not see how this treatment, particularly in ecologically-inappropriate areas, will enhance overall forest health.

### **Pine/Pine-Oak Thinning**

Georgia ForestWatch has no objection, in principle, to some white pine removal for restoration of oak stands, at least in stands that are overcrowded with planted white pines. The scoping notice states, “The stands proposed for pine thinning are high density white pine dominated stands ....” In surveying some of the stands, we found that stand 399/21 fit this description very well, exhibiting high-density white pine that was most likely planted. Stand 398/7 has very little white pine (or any other pine), perhaps less than 10%.

Other stands, such as 505/29 and 30 and 505/23, are dominated by large, well-spaced white pines, not at all high density. In some stands, removal of all the large white pine would likely drop the BA below 60. Stand 504/28 (95 acres) has almost no white pine at all, just a few widely scattered ones and a small group at the western end of the stand. Have Forest Service personnel visited all of these stands to confirm their composition?

In both Oak/Oak-Pine and Pine/Pine-Oak Thinning we hope that herbicides will not be used for the reasons given above. If they are used, we ask that they be applied by painting or spraying the stump immediately after the tree is cut (cut surface application).

## Canopy Gap Thinning

We fully recognize the ecological importance of structural heterogeneity at both the landscape and local forest level; however, this proposal seems to suggest that ecosystems cannot function without human intervention. The proposal alleges that mid-late successional forest stands have a closed-canopy structure that inhibits the development of structural complexity, and habitat necessary for bird species such as the cerulean warbler (“CERW”).

The project proposes to create 466 acres of canopy gaps by reducing BA in stands to less than an average of 60 ft<sup>2</sup> per acre combined with small openings of 0.5 acres each. The primary purpose for Canopy Gap Thinning is “to increase structural diversity in mesic hardwood stands to enhance habitat for bird species including the cerulean warbler.” Researchers from various agencies and institutions, including the Forest Service, found that cerulean warblers typically breed in “landscapes that are primarily forested (e.g. >75% forest cover within ~6 miles of the project area). ... Nests are typically in the largest trees available at the site. ... [They] favor the complex canopy structure characteristic of uneven-aged stands and old growth and prefer canopy gaps ~400-1,000 ft<sup>2</sup> in size,” with vegetative growth within them.<sup>8</sup>

Another study found that “cerulean warblers preferred bottomland forests containing tall (> 95 ft), large diameter, well-spaced (> 117 ft<sup>2</sup>/acre) deciduous trees with greater canopy cover (≥ 90%), closer (< 65 ft) canopy gaps, fewer snags (≤ 10/acre), and a moderately complex canopy structure.”<sup>9</sup> “They are known to associate with small canopy gaps and small internal forest openings.”<sup>10</sup>

So it appears that canopy openings up to 0.5 acres (or 21,780 ft<sup>2</sup>) are **22-54 times larger** than preferred canopy gap size, and reduction of BA to 60 ft<sup>2</sup> per acre may be too great. In any case, the stands we have seen so far, with the possible exception of 398/28 (where a crew was found harvesting black locust, presumably with a permit) do not match the prescription. For example, stands 399/2 and 3 (stand 399/3 has yellow lady’s slipper) contain a mix of oaks of varying size, mostly large, not overstocked. These stands and many of the others proposed for this treatment are already producing treefall gaps naturally, and nearby stands proposed for harvesting under other treatment types have even larger natural gaps. These gaps will only increase naturally as the stands age, without the destructive effects of commercial logging, including compacted skid trails, detrimental soil disturbance and sedimentation of streams.

In other words, the existing canopy structure in these stands, along with the growing number of gaps created by treefalls, may be more to the liking of the cerulean warbler than the proposed treatment.

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<sup>8</sup> Wood *et al.* 2013. Management guidelines for enhancing Cerulean Warbler breeding habitat in Appalachian hardwood forests. American Bird Conservancy. The Plains, Virginia. 28 pp.

<sup>9</sup> Carpenter *et al.* 2011. Avian Community and Microhabitat Associations of Cerulean Warblers in Alabama. The Wilson Journal of Ornithology. Vol. 123, pp. 206-217.

<sup>10</sup> Wood *et al.* 2006. Cerulean Warbler Abundance and Occurrence Relative to Large-Scale Edge and Habitat Characteristics. Vol. 108, pp. 154-165.

Of the 14 stands in this category, only two are less than 89 years old, and most are listed as oak stands, primarily chestnut oak. Stand 399/3, which is listed as yellow poplar, appears to be mostly oak. Again we have to ask, how much ground-truthing has been done on these stands? To date, most of the stands we have seen are already producing natural (treefall) canopy gaps. Before proposing such an intensive thinning and gap creation project, we recommend that the Forest Service survey the project area for natural canopy gaps as these areas may already contain the recommended gap size and density that the Carpenter *et al.* (2011) and Wood *et al.* (2006, 2013) studies found to be effective.

Before moving forward with this thinning/gap creation project, an important question that should be addressed is whether similar earlier projects in the Chattahoochee National Forest have been successful in attracting cerulean warblers. In attempting to research the size of canopy gaps in the Ivy Log project, we found the following:

The work along Ivy Log Gap will likely spur further research into forest cuts to support cerulean warblers, found in only two populations in Georgia. Meanwhile, the lack of ceruleans so far at the other test area, Duncan Ridge on Coopers Creek Wildlife Management Area, may reveal the inability to draw these birds to forests where they have never been found. Ivy Log Gap has long been a haven for the species, although not at the test sites.

Klaus is confident that cerulean warblers will continue to use the Ivy Log Gap sites. But he may check the Duncan Ridge areas for another five years, or longer.<sup>11</sup>

A post by the well-known birder Georgann Schmalz stated that one cerulean warbler was heard at Coosa Bald and that “this section of Duncan Ridge has been treated by the Forest Service for cerulean warblers, similar to Ivy Log Road (FS 100) and FS 95 off Gum Log Road.”<sup>12</sup> It is not clear exactly where “this section of Duncan Ridge” is, but presumably it is not in the Cooper Creek Watershed Project area.

And another from the Atlanta Audubon Society: “The next step will be to determine if CERW begin occupying the other cuts along Duncan Ridge in the Cooper's Creek WMA. To our knowledge there weren't any CERW in these areas when the cuts were made.”<sup>13</sup>

Have these cuts attracted any cerulean warblers? Creation of 466 acres of cerulean warbler habitat seems excessive for a site where the species has never been found, especially if prior similar efforts were not successful.

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<sup>11</sup> See All About Animals Blog, available at <http://allaboutanimalsga.blogspot.com/2009/07/cerulean-warbler-success-long-term.html>.

<sup>12</sup> See Georgia Birders Online, Univ. of Georgia Listserv, available at <http://listserv.uga.edu/cgi-bin/wa?A2=ind0805&L=gabo-1&F=&S=&m=34157&P=18979>.

<sup>13</sup> See Atlanta Audubon Society, “Important Bird Areas,” available at <http://www.atlantaudubon.org/iba-in-the-news>.

The environmental analysis for this proposal should disclose this information about cerulean warbler preferences for generally intact forested areas with large trees and small gaps and evaluate the project's purpose and need and alternatives in that light, in addition to providing access to any cerulean warbler monitoring data.

While we understand the conceptual value of creating age class diversity at the stand level, we question whether or not this is or should be a management priority given the agency's limited resources and the lack of data indicating that such a long-term management treatment will be successful. Many of the stands appear to have characteristics associated with a mature, healthy, and high-quality, mesic deciduous forests. This sort of combined thinning/gap creation treatment is likely to dry out these stands, forcing an unnatural "woodland" type treatment to north-facing mesic stands, likely resulting in a loss of more mesic spring ephemerals.

### **Early Successional Forest Habitat**

This treatment is the most objectionable part of the project. We accept that there is some desire to create additional ESH, including habitat above 3,000 feet to benefit specific species. But why seek out the best remaining stands on the forest for virtual clearcutting? There are other, much more appropriate, locations for creating early successional habitat, although the timber on them is certainly less commercially valuable.

Of the 10 stands proposed for ESH, two are appropriate: 398/32 and 504/31. The remaining eight stands, with average age over 110 years, are outrageously inappropriate. Large fallen trees in these stands have already created ESH in these stands. These stands exceed or are close to the age characteristics for old growth as defined by the Forest Service, and most of them meet all of the other old-growth characteristics as well. Stands 399/8 and 50 are on mesic north-facing slopes with extremely rich soil, as evidenced by abundant black cohosh, blue cohosh, bloodroot, and trillium, and are particularly fine examples of old growth. ESH, which lasts ten years, can be created anywhere at any time; late-successional habitat requires a minimum of 80 undisturbed years, even longer for old growth. Should ESH be created at the expense of some of the best mature and potential old growth stands on the forest?

Of course any action in regard to existing or future old growth must be taken in conformance with the Southern Region's "Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region," June 1997. The Guidance calls upon the Forest Service to identify areas of existing old growth and allocate areas for future old growth when developing and implementing land management plans and projects. *Id.* at 7-27. Old growth is a rare condition on the CONF and throughout the Southern Appalachians and efforts should be made to both protect and restore it to more closely resemble the natural range of variability. Even if individual stands do not presently meet the definition for existing old growth, they should be considered ideal candidates for old-growth restoration and poor candidates for ESH.

We ask that the Forest Service conduct thorough old-growth field surveys,<sup>14</sup> as required by the Region 8 guidance and the Forest Plan (Forest Plan at 2-17), and omit those stands which meet or border on old-growth eligibility. We welcome the Cooper Creek Watershed Assessment's recognition of the need for an old growth inventory here and commitment to giving priority to existing old growth. *See* Watershed Assessment at 10.

If the agency proposes logging in existing old-growth forest, it should complete an Environmental Impact Statement ("EIS"). When evaluating whether to complete an EIS the Forest Service must weigh the significance of an action's impacts which requires evaluation of both context and intensity. 40 C.F.R. § 1508.27. Logging existing old-growth forest undermines a unique characteristic of the CONF, and Southern Appalachian forests as a whole. Old-growth forests are important reservoirs of biodiversity, exceptional habitat for a diverse range of forest species, valuable benchmarks for understanding dynamics across the rest of the forest, and virtually irreplaceable. Logging these rare areas is an impact significantly affecting the human environment requiring production of an EIS.

The eight inappropriate stands do not conform to the description in the scoping notice: "Stands proposed for regeneration range from true cove stands consisting primarily of yellow poplar to more xeric stands dominated by oak species." None are primarily poplar; in fact they have little or no poplar. And none are on xeric sites.

According to the scoping notice, "The primary purpose of regenerating these stands is to improve habitat conditions for species such as ruffed grouse, golden-winged warbler and other early successional species." But given the history of grouse and golden-winged warbler populations in North Georgia in recent decades and the lack of success with the Brawley Mountain project to date, no treatment is likely to achieve this purpose.

"Restoration of oak on sites where white pine is dominating but not ecologically appropriate" is mentioned as a secondary objective, but none of these stands have a significant amount of white pine and nowhere is it dominant, so this objective must apply only to the two appropriate stands above. As we've mentioned, white pine is a natural part of many of these ecosystems and north Georgia represents the southernmost portion of its geographic range. The other objective mentioned, "oak maintenance in existing oak stands" is counter intuitive. We do not think that cutting some of the finest oak stands on the forest, which are just beginning to show old growth characteristics (including natural gap formation) is prudent management.

Stand 505/28 features many American chestnuts, some as much as 20 feet tall, as do many of the other stands in this project. Does the Forest Service plan to leave these chestnuts alone to determine whether any survive past the flowering stage? Keeping native populations that are adapted to local microclimate and environmental stresses will help preserve genetic diversity, as well as aid any future reforestation efforts if blight-resistant populations are out planted. These blight-resistant populations will likely not be adapted to local environmental

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<sup>14</sup> The Guidance sets forth criteria for existing old growth and an inventory form to guide field surveys (*see* Guidance, Appendix B) and we would be pleased to provide additional information regarding the application of those criteria and accurate survey methods.

conditions; if some native populations remain healthy beyond the flowering stage, this would allow for natural cross-pollination with the out-planted blight resistant populations.

Stand 505/28 contains the junction of the Shope Gap, Yellow Mountain, and Cooper Creek Campground trails, on the boundary of the Cooper Creek Scenic Area. The campground is very popular, and the trails appear to receive considerable use at present, but few people will want to hike through a clearcut. Stand 505/28 should not be harvested, and harvesting of stand 504/31 should be done without using the trail as a skid trail or landing.

The steep slopes of stands 399/8 and 50 give rise to numerous perennial and intermittent streams, the riparian corridors of which are subject to Forest Plan standards, including Standard 11-020: "Lands in the riparian corridor are classified as not suitable, not appropriate for timber production under the NFMA ...." Of course, all other perennial and intermittent streams are subject to the same protection, especially Bryant Creek where an Aquatic Organism Passage appears to have been installed recently, obviously at great expense. Every effort should be made to keep silt runoff out of this brook trout stream.

### **"Woodland Restoration"**

The Forest Service asserts that woodland, as defined in the Forest Plan, historically existed on the area encompassing the Chattahoochee National Forest. Georgia ForestWatch maintains that prior to European settlement, very little of such woodland existed on the forest, and only in less productive areas determined by specific geology and soils; and certainly none in the area of the Cooper Creek Watershed Project, based on what we have seen there. This issue was thoroughly debated in the scoping and negotiations regarding the Brawley Mountain Woodland Project, to no resolution at that time. Since then, however, we have further discussed woodland issues with the Chattooga River District regarding several of its woodland proposals. Those dialogues and exchanges of information seem to have resulted in considerable progress in our mutual understanding of the characteristics of woodland sites and appropriate locations for woodland creation, as discussed further below. We expect the Blue Ridge District to consider and be responsive to this information as well.

The relevant question is can woodlands be "restored" or created in the CONF? In our response to the Brawley Mountain "Woodland Restoration" project we set forth what we believed, and still believe, was the best method for answering this question:

Such woodland 'restoration' has never before been attempted in the Southern Appalachians. It is an experimental process and therefore its feasibility should be demonstrated on a much smaller scale before being applied to such a large area. This incremental approach is supported by the principles of adaptive management as described in the CONF Forest Plan, which center around testing assumptions, monitoring, learning and making adjustments (Plan at 1-2), a process which is best carried out slowly and gradually, rather than by blindly undertaking massive projects

only to discover the problems with the approach too late, after resources are committed and the environment irrevocably impacted.

We now have the benefit of approximately three and a half years of experience in attempting to create woodland on an inappropriate site (Brawley Mountain), which suggests that the answer to this question, at least in the short-term, is no – the agency cannot successfully restore or create woodlands, at least not within the Forest Service’s limited resources. At Brawley, the Forest Service budget could not afford cut surface application of herbicide, so stump sprouts grew unchecked for two years. The burn that was conducted on February 23 of this year did kill a lot of the stump-sprout stems, but not the roots. As shown by the “ten-time burn” on the Conasauga District (a stand that was burned ten times in 30 years), a three-year burn frequency will not prevent maple, locust, oak, or most other hardwoods from continuing to sprout. A modest effort to establish grassy groundcover (which is part of the definition of woodland) was ineffective at Brawley. It is inconceivable that either the Forest Service or the stewardship contractor could provide the time, effort, and money needed to successfully sow grass over the whole area.

NEPA requires that “relevant information” be made available so the public can evaluate projects proposed by federal agencies such as the Forest Service. *See Robertson v. Methow Valley Citizen’s Council*, 490 U.S. 332, 349-50 (1989). This District’s experience and results with its woodland creation efforts thus far is highly relevant information that must be considered and disclosed under NEPA. The EA/EIS will need to provide a detailed, forthright explanation of the outcomes so far at Brawley and explain why and how the Forest Service believes it can achieve a different result here, if it believes it can. Proceeding with woodland creation in the absence of such recognition and explanation would be arbitrary and capricious because of the failure “to consider an important aspect of the problem.” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Inc. Co.*, 463 U.S. 29, 43 (1983).

“Woodland Restoration” is a misnomer. If the timber on these Cooper Creek sites (641 acres, average age 97 years) has to be harvested, call it what is: ESH creation. That is all it will ever be, not a woodland. We believe that harvesting hundreds of acres of mature oaks on very steep ground to initiate another misguided experiment is unwise when the results of the Brawley Mountain project suggests it cannot be done and are inconclusive at best.

Stands 504/7, 8, and 9 have slopes so steep that they would make logging extremely difficult, especially with ground-based equipment. These stands should be avoided. At a minimum, the Forest Service should require skyline logging to ensure protection of soil and aquatic resources.

The Brawley Mountain project has demonstrated that it is very difficult—beyond the Forest Service’s capabilities—to establish grassy groundcover in the aftermath of a timber harvest on this forest. As a result, these steep slopes will be left bare and vulnerable to severe erosion in the event of an extreme rain event, which is becoming increasingly likely with climate change. Creating substantial denuded areas is completely counter to the goal of mitigating the adverse effects of climate change.

## Midstory Treatment

This treatment type, which is noncommercial, is the largest, covering nearly a third of the project (1,056 acres, average age 104 years). The purpose of “stimulat[ing] new and existing oak regeneration” seems, on the surface, unobjectionable. However, “the desired result is oak regeneration that is at least 4.5 feet tall *in preparation for stand regeneration*” (emphasis added). In other words, as soon as sufficient oak regeneration has occurred, the overstory will be removed, perhaps even virtually clearcut to the lowest residual BA allowed. If this is indeed the ultimate goal, then it should be disclosed now. If this project lays the groundwork for these stands to be extensively harvested, then 93% of the Cooper Creek Watershed Project targets removal of the oldest, biggest, highest-grade and most biologically-valuable forests (either immediately or in the future).<sup>15</sup>

Have any formal plots been established to measure oak regeneration in these stands or in stands proposed for other treatment? We would expect some natural blowdowns in such mature stands. If so, how many stands are being monitored, and what are the results?

In a midstory thinning project carried out elsewhere in the Cooper Creek watershed a few years ago, Georgia ForestWatch found that dogwoods, blackgums, and sourwoods had been cut, which are all important food sources for wildlife. What will prevent poorly trained contractors from doing the same thing again? What species will be targeted? Will American chestnut be spared, and how will this be ensured?

## Management Prescription 7.E.1

Everything in the project area north of Duncan Ridge is in Management Prescription 7.E.1. According to the CONF Forest Plan, “[t]hese lands are classified under NFMA as **unsuitable for timber production**; not appropriate” (emphasis added) . An inordinate amount of work, on the part of the Forest Service itself as well as outside parties, went into the Forest Plan - it is not to be ignored.

Certainly most people would recognize harvesting of half of the trees from mature oak forest as timber production. However, the Plan does go on to say in relation to prescription 7.E.1 that “salvage sales, sales necessary to protect other multiple-use values, or activities that meet other Plan goals and objectives are permitted.” The project contains no salvage sales. What “other multiple-use values” does the project propose to protect, or what “activities that meet other Plan goals and objectives” are proposed?

There are three Release stands in the project area north of Duncan Ridge, with total area of 83 acres. The treatment proposed for these stands is noncommercial and is intended to meet Plan Objective 3.7, “To maintain existing oak and oak-pine forests ....” Since the treatment of these stands is noncommercial, they do not conflict with prescription 7.E.1.

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<sup>15</sup> Under NEPA, the cumulative impacts of the proposed and planned future logging should be considered. See 40 C.F.R. § 1508.7.

There are 31 Midstory Treatment stands in the project area north of Duncan Ridge, with total area of 861 acres. As explained above, the treatment is in preparation for regeneration, i.e., harvesting of the overstory. No other purpose is mentioned. In effect, the treatment is just the preliminary stage of a timber harvest, and therefore is not permitted under prescription 7.E.1.

There are 14 Canopy Gap Thinning stands in the project area north of Duncan Ridge, with total area of 466 acres. The purpose of the treatment proposed for these stands is “to enhance habitat for bird species including the cerulean warbler (*Dendroica cerulea*).” As mentioned above, harvesting of half the timber from mature oak sites to create habitat for a bird that has never been seen or heard in the project area seems excessive. Especially since cuts to encourage nesting of cerulean warbler have already been made elsewhere in the Cooper Creek watershed and we have found no indication that these cuts have been occupied by cerulean warblers. Additionally, the cuts would be many times larger than the small gaps that the cerulean research suggests are appropriate. This would be accompanied by extensive logging of mature forest in the vicinity, fragmenting the forest, and rendering the area as a whole less desirable for ceruleans. In this case, most unbiased observers would see the stated purpose as an obvious pretext for timber production.

There are five ESH stands in the project area north of Duncan Ridge, with total area of 102 acres. One of them, stand 398/32 (20 acres), is appropriate for the proposed treatment; the others are spectacularly inappropriate, as indicated above, and destroy rather than protect “other multiple-use values.”

There are four Oak/Oak-Pine stands in the project area north of Duncan Ridge, with total area of 83 acres. As noted above, the two stands that we have had time to survey, 398/10 and 37, are magnificent, healthy stands in no need of thinning.

There are seven Pine/Pine-Oak stands north of Duncan Ridge, with total area of 199 acres. Stand 399/21 fits the description of stands to be treated; stand 398/7, however, does not fit the description at all, having very little pine. We have not yet had time to adequately survey the remaining stands to see if they conform to Management Prescription 7.E.1.

Even if all of the remaining Oak/Oak-Pine and Pine/Pine-Oak stands turn out to be appropriate and conform to the prescription, by far the greater part of the proposed stands north of Duncan Ridge (over 80%) do not meet the criteria for timber production in prescription 7.E.1. Timber production is prohibited on these stands. To maintain the integrity of the area there should be no timber harvest at all in the part of the project area that is in prescription 7.E.1 (see further discussion below regarding the NFMA and Forest Plan limitations on logging in 7.E.1).

## **Release**

Georgia ForestWatch has no objection to attempting to improve the condition of stands “that were harvested by complete overstory removal” (clearcutting). “Oaks are present in sufficient quantity that a crop tree release would transition the stand into a more desirable oak dominated condition.” Presumably stands in which oaks are not present in sufficient quantity, of which there are many in the project area, are unworthy of any treatment at all, even ESH.

## **Ecological Restoration & NEPA**

NEPA requires disclosure and consideration of relevant information, including different scientific views, when evaluating the purpose and need, and impacts of federal actions. 40 C.F.R. § 1500.1(b) (high quality information, accurate scientific analysis, and public scrutiny are essential to implementing NEPA); *Nat'l Audubon Soc'y v. Dep't of the Navy*, 422 F.3d 174,194 (4<sup>th</sup> Cir. 2005) (agencies are required to disclose and address different scientific views, not sweep them under the rug). This analysis should lead to the development of responsive alternatives. See 42 U.S.C. § 4332(2)(E) (requiring federal agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternate uses of available resources.”); 40 C.F.R. § 1500.2(e) (“to the fullest extent possible” agencies shall “identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects”).<sup>16</sup>

The scoping notice asserts that the purpose of much of the Cooper Creek Project is “restoration” including oak “restoration” via oak/oak-pine and pine/oak-pine thinning and “woodland restoration.” But the scoping notice does not adequately explain or demonstrate how the proposed treatments are appropriate ecological restoration. The Environmental Assessment (“EA”) or Environmental Impact Statement (“EIS”) must disclose and consider relevant information regarding appropriate ecological restoration and squarely address how this proposal meets that standard. Aspects of the project which cannot be justified based on ecological restoration should be reconsidered. At a minimum, the EA/EIS should consider an alternative justified solely by ecological restoration.

The Forest Service has adopted an instructive definition of ecological restoration:

The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions.<sup>17</sup>

The District should ensure that restoration activities developed as part of this project conform to this definition and to other highly relevant information developed by the agency and by reputable scientific authorities that defines and establishes best practices for ecological restoration.<sup>18</sup>

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<sup>16</sup> Regardless of whether the District ultimately prepares an EA or EIS for this project, the agency must consider all reasonable alternatives, as NEPA’s requirement to consider alternatives is freestanding and applies to EAs as well as EISs. See 40 C.F.R. § 1508.9(b) (EAs must discuss alternatives); *Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1289 (1st Cir. 1996), *cert denied sub nom. Loon Mt. Rec. Corp. v. Dubois*, 521 U.S. 1119 (1997) (failure to consider a viable alternative renders an EA inadequate).

<sup>17</sup> 36 C.F.R. §219.19 (new NFMA regulations). This definition is consistent with the earlier, less well-refined definition of restoration used in developing the CONF Plan: “the act or process of restoring” and “the process of returning ecosystems or habitats to their former structure and species composition, especially through the return of former ecological processes such as fire. ...” CONF FEIS at 6-53.

<sup>18</sup> See, e.g., Dominick DellaSala et al., *A Citizen's Call For Ecological Forest Restoration: Forest Restoration Principles And Criteria*, Ecological Restoration 21:1 (March 2003) available at <http://library.eri.nau.edu/gsd/collect/erilibra/archives/HASH0180.dir/doc.pdf>; Society for Ecological Restoration

To be truly restorative, proposed restoration activities must be evaluated based on an individual site's specific characteristics (e.g., soils, geology, slope, aspect, moisture regime, and potential productivity based in part on present vegetation and on Forest Service site index). At each site, the agency should be able to describe an appropriate reference condition based on the site's characteristics, identify any ecological degradation that has occurred, and consider options for repairing that damage, including options for active and passive restoration. *See DellaSala at 17.* If the agency cannot identify ecological departure from an individual site's reference condition, restoration is unnecessary.<sup>19</sup> Actions which are not consistent with this definition and relevant scientific authorities should not be labelled as restoration.

As we have discussed, we are especially concerned that the proposed woodland "restoration" is not appropriate for the sites proposed. As a further example, the scoping notice asserts that woodlands are proposed on "south facing slopes and xeric sites." While woodlands are proposed on the south side of Duncan Ridge, we do not believe these sites are all xeric sites. The sites we have visited are relatively high-productivity sites, as demonstrated by the presence of large-diameter oak trees, including the occasional northern red oak. In contrast, woodland communities are associated with specific types of sites – generally low-productivity sites located on dry, south- or west-facing slopes with poor soils.

In fact, several years after the Brawley project on this district, the Chattooga River District seemed to recognize that woodland communities are associated with certain types of sites. The Chattooga District used these factors to identify sites for woodland creation or restoration when developing the Watergauge II project (which dropped higher productivity, inappropriate stands from a prior woodland proposal in that area) and the Warwoman project currently in development. It is important that this progress towards greater understanding and identification of ecologically appropriate woodland sites not be forgotten or lost by the wayside, and its description be consistent throughout the CONF.

The Forest Service's own Watershed Restoration Action Plan describes the soils in the Cooper Creek watershed as follows:

Soils in the watershed are moderately deep (20-40 inches to bedrock), deep (40-60 inches to bedrock) and very deep (>60 inches to bedrock). Soils of this depth are generally productive for forest communities, and provide storage for groundwater, one factor in the numerous coldwater streams in the watershed.

U.S. Forest Serv., Watershed Restoration Action Plan at 3.

We would not expect to find natural woodland communities occurring on such soils.

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International (SER) Science & Policy Working Group, *The SER International Primer on Ecological Restoration* (2004) available at [www.ser.org/resources/resources-detail-view/ser-international-primer-on-ecological-restoration](http://www.ser.org/resources/resources-detail-view/ser-international-primer-on-ecological-restoration).

<sup>19</sup> In that case, the area may be an existing area of high integrity that restoration principles recommend should be protected and maintained. DellaSala at 17.

We request that the Forest Service analyze and consider the characteristics of the sites proposed for woodland restoration (e.g., their soils, geology, slope, aspect, moisture regime, and potential productivity based in part on present vegetation and on Forest Service site index). The agency should carefully consider whether those sites are ecologically appropriate for “woodlands” – that is, whether they are woodland-type sites – and, if not, drop them from the proposal. At a minimum, information regarding appropriate ecological restoration is highly relevant to the purpose and need, alternatives, and effects of this project and NEPA requires that this information be considered and disclosed in the EA/EIS as the agency evaluates the characteristics and suitability of individual sites for restorative treatments.

### **9.H Prescription**

It is particularly important for the Forest Service to ensure that activities in the 9.H prescription are sound ecological restoration. The EA/EIS should clearly identify which activities are proposed in which management prescriptions. It is impossible to tell which stands are located in 9.H from the maps provided, but it appears that several of the woodland “restoration” stands (commercial and non-commercial harvest) are proposed in 9.H. The purpose of this prescription is “the restoration of historical plant associates and their ecological dynamics to ecologically appropriate locations.” Forest Plan at 3-168.

To be consistent with the prescription, the Forest Service must demonstrate that the proposed restoration is ecologically appropriate *for each specific site*. Stated differently, the agency must show that restoration is needed to repair ecological degradation and that the desired conditions to be restored are appropriate to each site’s individual characteristics (e.g., soils, geology, slope, aspect, moisture regime, and potential productivity based in part on present vegetation and on Forest Service site index). As prescription 9.H directs, “Restored communities are characterized in part by the *ability to naturally maintain themselves*.” Forest Plan at 3-167 (emphasis added).<sup>20</sup> The fact that these woodlands, once created, could not be self-sustaining, instead requiring frequent prescribed burning every 3-5 years in order to maintain an open condition suggests that these sites are inappropriate for woodlands.

### **Monitoring and Adaptive Management**

If the Forest Service wishes to proceed with this proposal or some portion of it, it is essential that the EA/EIS describe and commit to a monitoring plan and adaptive management approach.<sup>21</sup> Monitoring is especially critical to sound ecological restoration as it is the only way to determine whether the prescribed management is resulting in the predicted/desired forest type or habitat, and species composition, including wildlife. The enormous scale and long timeframe

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<sup>20</sup> This criterion is supported by scientific literature on ecological restoration. A hallmark of appropriate ecological restoration is that it reestablishes a resilient, self-sustaining system which functions “in the absence of further human intervention,” DellaSala at 16-17, and “is self-sustaining to the same degree as its reference ecosystem,” SER, Primer on Ecological Restoration at 4.

<sup>21</sup> The Chattahoochee Forest Plan “represents an adaptive management approach” that recognizes that “[m]onitoring (and constant evaluation) is the heart of adaptive management.” Forest Plan at 1-1 to 2. The Forest Service’s NEPA regulations define adaptive management as “A system of management practices based on clearly identified intended outcomes and monitoring to determine if management actions are meeting those outcomes; and, if not, to facilitate management changes that will best ensure that those outcomes are met or re-evaluated. Adaptive management stems from the recognition that knowledge about natural resource systems is sometimes uncertain.” 36 C.F.R. § 220.3.

of the project only emphasizes the necessity of monitoring to verify assumptions about results and impacts and to inform any adaptation needed over the life of the project. The environmental analysis should describe the monitoring that will be used to determine whether the action is having its intended effects and should “clearly identify the adjustment(s) that may be made” when monitoring “indicates the action is not having its intended effect, or is causing unintended and undesirable effects.” 36 C.F.R. § 220.7(b)(iv). This should include specific goals and quantifiable objectives for project activities, a plan for monitoring and evaluating outcomes along the way, and a commitment to reevaluate the project if it is not meeting objectives or is having adverse environmental effects.<sup>22</sup> For example, there should be objectives for desired forest structure and species composition and those elements should be monitored. In another example, erosion and sediment control BMPs should have implementation and effectiveness monitoring.

### **Compliance with the National Forest Management Act and the Forest Plan**

There are serious questions about whether this proposal complies with the National Forest Management Act’s (NFMA) substantive requirements for the protection of soil and water resources, the diversity of tree species, and the timber resource (*see* 16 U.S.C. § 1604(g); FSM 1921.12a), and whether the project is consistent with the Forest Plan, as required by 16 U.S.C. § 1604(i).<sup>23</sup> If the Forest Service wishes to proceed with this project or a portion of it, the environmental analysis must openly address these issues, bring the project into consistency with the Forest Plan and NFMA, demonstrate that consistency, and consider reasonable alternatives that would better fulfill these goals.

#### **Commercial Timber Harvest on Lands Designated Unsuitable for Timber Production in in Prescription 7.E.1**

NFMA directs the agency, when developing forest plans, to “identify lands within the management area which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible . . .” 16 U.S.C. § 1604(k). As we’ve discussed, the CONF Forest Plan identifies prescription 7.E.1, Dispersed Recreation Areas, as “unsuitable for timber production; not appropriate.” Forest Plan at 3-125. Nevertheless, by our calculation about 850 acres of commercial logging are proposed in this prescription, including 102 acres of logging down to 20 ft<sup>2</sup> per acre BA and 748 acres of heavy “thinning” to 60 ft<sup>2</sup> per acre BA. In addition, we calculate another 861 acres of non-commercial “midstory treatment” proposed in older (almost all listed as over 90 years old), oak dominated forest “in preparation for stand regeneration” – i.e., preparation for the next cycle of commercial logging here. The scoping notice fails to acknowledge, much less demonstrate, that this level of harvest in lands deemed unsuitable meets the requirements of the Forest Plan.

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<sup>22</sup> Monitoring is particularly important if the Forest Service wishes to rely on mitigation measures to reduce environmental impacts. Mitigation measures may only be relied upon to justify effects analyses when their efficacy is “supported by substantial evidence. . . .” *Nat’l Audubon Soc’y v. Hoffman*, 132 F.3d 7, 30 (2nd Cir. 1997) (without “substantial evidence to support the efficacy” of the mitigation measure at issue, including monitoring to determine its effectiveness and detailed alternatives in the event that it failed, the Forest Service’s consideration of the proposal was inadequate).

<sup>23</sup> Several of the requirements of 16 U.S.C. § 1604 are applicable only to Forest Plans, however “projects and activities must comply with FSM 1921.12a,” therefore “land management plans need not repeat the management requirements at FSM 1921.12a”. FSM 1921.12b.

Prescription 7.E.1 is presumably “not appropriate” for timber production based on the Stage 3 suitability analysis described in Forest Plan Appendix F. Forest Plan at F-12-13. That analysis deemed land not appropriate for timber production for three reasons: the land is proposed for resource uses that preclude timber production; other management objectives in the plan limit timber production to the point where other management requirements, such as resource protection requirements, cannot be met; or the lands are not cost-effective for timber production. 36 C.F.R. § 219.14(c)(1)-(3) (1999) (the NFMA regulations in effect when the plan was revised). All three reasons show that these lands are not appropriate for large-scale commercial timber harvests.

The same factors that made this land unsuitable for timber production in the planning process make it unsuitable for the proposed timber harvest. While the scoping notice asserts non-timber goals and objectives, the large scale of this project (850 acres proposed for commercial logging and 861 acres for mid-story treatment to prepare for future commercial logging), intensity of cutting (density of stands reduced to 60 and 20 ft<sup>2</sup> per acre BA), and the adverse impacts of this logging on other resources and uses cannot be distinguished from a harvest for the sole purpose of commercial timber production.<sup>24</sup> In effect, the project turns the management prescription on its head. Instead of protecting the uses and values prioritized in this prescription, the project emphasizes and requires actions deemed “unsuitable.”

Deviation from the Plan’s intentions for this prescription is further illustrated by the fact that the project proposes commercial timber harvest on almost 9%, and total tree cutting on almost 20%, of the land designated 7.E.1 in the project area, despite the fact that early successional habitat is limited in the prescription to no more than 4%.<sup>25</sup>

Although the NFMA regulations and the Forest Plan permit commercial harvest on unsuitable lands to meet other Forest Plan objectives, that exception must have boundaries; it is not an infinite loophole. If the Forest Service wishes to attempt to proceed with this proposal, the agency should bear the burden of demonstrating that timber production is not the underlying, primary purpose and that commercial harvest in this specific location is truly necessary (not just desirable) to achieve other specific, compelling Plan objectives. *See Glisson v. U.S. Forest Serv.*, 876 F.Supp. 1016, 1032 (S.D. Ill. 1993) (permitting harvesting of planted pine in order to restore hardwoods, per Forest Plan direction, in an area designated as “unsuitable for timber production”). We also believe that any logging in an unsuitable prescription must not adversely affect the priority uses and resources there – the uses and resources which presumably led to its

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<sup>24</sup> This is vividly illustrated by the harsh effects of the ongoing Brawley Mountain timber sale (see attached photos), also in unsuitable prescription 7.E.1, despite the “a light hand on the land” approach that the Brawley EA promised. *See* Final EA for Brawley Mountain Golden-winged Warbler Habitat and Woodland Development Project, Blue Ridge Ranger District, p.35 (July 2009).

<sup>25</sup> The proposed harvest on unsuitable lands also may exceed the amount of harvest on unsuitable lands that was estimated and considered in the EIS for the Forest Plan. *See* FEIS for CONF Forest Plan at 3-568 to 569 (2004). The EIS estimated that some timber harvest, likely salvage, may occur on approximately 0.5% of unsuitable lands per year (5% per decade). *Id.* The scale of logging proposed in 7.E.1 is vastly disproportionate. If the Forest Service insists on proceeding with this proposal, that would signal a substantial change in the implementation of the Forest Plan, a change which could significantly affect unsuitable lands in ways not considered in the Plan EIS. Such a change may require a supplement to the Plan’s EIS, *see* 40 C.F.R. § 1502.9(c), to disclose the agency’s current intentions for logging on unsuitable lands and to analyze, consider and disclose the effects on the uses and resources for which the Plan designated those lands as unsuitable.

designation as unsuitable for timber production in the first place, such as trail use, recreational experiences and settings, scenic beauty, and trout streams. We do not believe this proposal can meet this standard. Certainly the scoping notice's generalized references to broad goals that could be asserted across the forest do not meet this bar. If the Forest Service wishes to proceed with commercial harvest in 7.E.1, the EA/EIS must forthrightly acknowledge and address this issue.

Logging in unsuitable prescriptions also gives rise to NEPA obligations. Under NEPA, the EA/EIS must thoroughly analyze, disclose and consider the effects of logging on other resources and uses noted above. The agency also must consider reasonable alternatives that respond to this issue. Reasonable alternatives include: dropping all tree cutting proposed in 7.E.1; dropping commercial harvest in 7.E.1; moving desired tree cutting to locations outside 7.E.1; cutting to create ESH in recently logged stands or low-diversity former clearcuts instead; and using non-commercial and/or less intensive methods instead. Using non-commercial methods would avoid or greatly reduce the negative impacts of logging on recreation, scenery, and water quality.

### **Excessive Early Succession**

Most of the logging for this project is proposed in forest plan management prescriptions 7.E.1, Dispersed Recreation Areas, and 7.E.2, Dispersed Recreation Areas with Vegetation Management. As discussed above, prescription 7.E.1 is unsuitable for timber production and the proposed logging is not permitted there. The proposed logging also is impermissible because it would exceed the levels of ESH allowed by the Forest Plan. Prescriptions 7.E.1 and 7.E.2 set limits on the creation of ESH – no more than 4% in 7.E.1 and no more than 10% in 7.E.2. Forest Plan at 3-125, 3-129. This project alone is likely to push both prescription areas over that limit, even without factoring in existing ESH.

According to the Cooper Creek Watershed Assessment, the maximum acreage of ESH allowed in these prescriptions in this analysis area is 383 acres in 7.E.1 and 436 acres in 7.E.2. Cooper Creek Watershed Assessment at 4. In contrast, this project includes a staggering 850 acres of commercial timber harvest in 7.E.1 and 1,399 acres in 7.E.2 – more than twice that allowed in 7.E.1 and more than three times that allowed in 7.E.2. Although the scoping notice characterizes most of this logging as “thinning,” not ESH creation or regeneration, this harvest entails commercial logging down to 60 ft<sup>2</sup> per acre BA, which will have the actual effect of creating ESH. Therefore, this proposal exceeds the plan limits on ESH, would be inconsistent with the Forest Plan in violation of the NFMA, and, at a minimum, must be scaled back significantly.

Moreover, the Forest Plan's objectives require the agency to include existing patches of ESH when calculating allowable levels. The EA/EIS should identify existing ESH in and around the project area, including natural gaps, utility corridors, etc. Early successional conditions on private land also should be identified and considered. Under NEPA, the agency must consider the cumulative impacts on wildlife and wildlife habitat of logging mature forest on the CONF to create ESH, when mature forest may be in short supply, and ESH in abundant supply, in this area, *including nearby private lands*, as a whole. The requirement to consider cumulative impacts applies whether the agency completes an EA or an EIS. *See* 40 C.F.R. §§ 1508.9,

1502.16; *Davis v. Mineta*, 302 F.3d 1104, 1125 (10th Cir. 2002) (“CEQ regulations require agencies to discuss the cumulative impacts of a project as part of the environmental analysis”).

### **Soil and Water Protection**

This proposal may violate the NFMA’s substantive protections for soil and water resources and the productivity of the land. Under the NFMA, the Forest Service must “insure that timber will be harvested from National Forest System lands only where . . . soil, slope, or other watershed conditions will not be irreversibly damaged.” 16 U.S.C. § 1604(g)(3)(E); *see also Sierra Club v. Martin*, 992 F. Supp. 1448 (N.D. Ga. 1998), *rev’d on other grounds* 168 F.3d 1 (11th Cir. 1999); *Sierra Club v. Espy*, 38 F.3d 792, 800 (5th Cir. 1994). The agency also must “insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.” 16 U.S.C. § 1604(g)(3)(C).

Courts have found violations of this prohibition on irreversible damage where logging practices, which “compact the soil, displace nutrient-rich organic matter and upper mineral soil, and cause accelerated erosion” were located on sensitive soils contrary to the Forest Plan, and where the Forest Service engaged in timber harvesting practices “eroding nutrient-rich soil from the forest land,” failed to “require post-harvest restoration of some areas affected by and contributing to erosion,” and engaged in “management practices substantially and permanently reducing organic and other essential matter in the forest soils. . . .” *Alleghany Def. Project, Inc. v. U.S. Forest Serv.*, No. 01-895, 2003 U.S. Dist. LEXIS 27151, at \*88-\*89 (W.D. Pa. Dec. 24, 2003), *adopted*, 2004 U.S. Dist. LEXIS 29698 (W.D. Pa. Mar. 24, 2004), *aff’d*, 423 F.3d 215 (3d Cir. 2005); *Sierra Club v. Glickman*, 974 F. Supp. 905, 924-25 (E.D. Tex. 1997), *aff’d*, 185 F.3d 349 (5<sup>th</sup> Cir. 1999), *vacated*, 228 F.3d 559 (5<sup>th</sup> Cir. 2000). Ultimately, the question comes down to whether “the evidence shows that, on-the-ground, the Forest Service is []protecting the soil resource.” *Glickman*, 974 F. Supp. at 926.

Courts have interpreted the productivity provision as a substantive requirement and have explained that the Forest Service must “maintain” and “ensure” soil productivity. *See Ecology Ctr., Inc. v. Austin*, 430 F.3d 1057, 1062 (9th Cir. 2005) (among the “substantive requirements” of NFMA, “the Forest Service must maintain soil productivity. 16 U.S.C. § 1604(g)(3)(C).”), *cert. denied sub. nom. Mineral County v. Ecology Ctr., Inc.*, 549 U.S. 1111 (2007), *overruled on other grounds by, Lands Council v. McNair*, 537 F.3d 981 (9<sup>th</sup> Cir. 2008).

Based on these obligations, the Forest Plan set standards for soil and water protection, including standards for timber harvest and prescribed burns, such as: FW-065 (organic layers, topsoil, and root mat must be left intact over at least 80% of an activity area); FW-190-192 (avoiding burning mesic forests), and FW-202 (retention of litter and duff on at least 85% of prescribed burn areas).

The EA/EIS must demonstrate that the Cooper Creek project can and will meet the NFMA and Forest Plan standards. In particular, we are concerned that: (1) logging on steep slopes likely would accelerate erosion and would violate these standards; (2) imposing woodlands on sites that are not appropriate likely would, over time, damage the existing quality of the soil resource, including beneficial soil biota, and substantially impair the existing productivity of the land; (3) whole tree removal, if allowed, would remove essential nutrients

from the site, accelerate loss of topsoil (including any remaining organic layer) and sedimentation of nearby streams during intense storm events, and also damage the overall quality of the soil resource (including its biota) and productivity of the land, especially if conducted in combination with steep slope logging and prescribed burning on short rotations. It takes a minimum of 100 or more years of undisturbed forest conditions to form 1 inch of good topsoil, so soil conservation should be a top priority of these steep sites.

In addition to obligations under the NFMA, the EA/EIS must consider and analyze these impacts on soil and water resources and productivity under NEPA.

### **Woodlands**

In order to create woodlands, the Forest Service proposes to engage in a multistep process of commercial and noncommercial thinning, prescribed burning, and the application of herbicide treatments. Scoping Letter at 6-7. Woodlands tend to occur naturally on poor sites. Woodlands imposed on more productive sites need to be burned continually to prevent tree growth, as anticipated at Cooper Creek, where the woodlands would be maintained on a three to five year burning cycle. Scoping Letter at 2. This is an extremely frequent burning interval which could cause long-term degradation of the existing level of soil productivity and ultimately, tree health.

Furthermore, the Forest Service proposal includes the use of herbicides in a management prescription that will more than likely require continued, long-term use. We question the sustainability of this forest-type if long-term applications of herbicide are required to control competing native vegetation such as tulip poplar and red maple, as well as non-native invasive species (NNIS). Site disturbances that open up a closed forest canopy will inevitably facilitate the invasion of NNIS, which may be most problematic in areas receiving ESH and Canopy Gap Thinning treatments. Closed canopies are often the best (sustainable) protection against many NNIS. The Forest Service should make available any NNIS monitoring data from Brawley, and other areas where they have thinned excessively and/created large canopy gaps such as those proposed in this project.

### **Logging on Steep Slopes**

The District should be cautious about ground disturbing activities, such as ground-based logging and road and skid trail construction, on steep slopes. *See, e.g.*, Forest Plan at 2-21 (limits on mechanical site preparation on slopes over 35%, or on slopes over 20% with soil erosion risks of moderate or higher); FEIS for Forest Plan at App. B-60 (considering 40-45% slope to be maximum for ground-based logging). Slope and soil limitations data is readily available and the EA/EIS should thoroughly analyze the slope, soil types, erosion hazards, and other soil limitations in the stands where ground-based logging is proposed and consider the effects and risks of attempting ground-based logging under these conditions. Our own preliminary analysis reveals that many of the stands are on sustained slopes of greater than 40%, especially those stands north of Duncan Ridge. *See* Slope Analysis Map, attached. We are doubtful that any stands with sustained slopes over 40% are suitable for ground-based logging, and, realistically, the maximum slope for careful stewardship of these lands is probably much less. Further, our initial exploration of the NRCS soil survey data for the project area shows that

much of the area has soils with erosion risks and limitations for construction of roads and log landings and for operation of harvest equipment.

### **Whole Tree Harvest and Removal**

For the reasons discussed elsewhere in these comments, whole tree removal depletes soil nutrients and has other detrimental effects including impacts on the forest carbon cycle. Extensive whole tree removal may violate the NFMA's protections for the soil resource and the productivity of the land. The EA/EIS clearly should explain whether the preferred alternative would allow whole tree removal or require slash to be retained on site in the form of coarse woody debris, consider alternatives that would not allow whole tree removal, and carefully consider the effects of any alternatives involving whole tree removal, including degradation of soil health, as well as impacts on rising atmospheric carbon dioxide levels.

### **Tree Species Diversity, Restocking, and Regeneration Harvest**

First, the Forest Service must "provide for diversity of plant and animal communities...and provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan." 16 U.S.C. § 1604(g)(3)(B); *see Conservation Cong. v. U.S. Forest Serv.*, No. 2:12-cv-02800-TLN-CKD, 2014 U.S. Dist. LEXIS 68636, at \*43 (E.D. Cal., May 19, 2014); *see also Chattooga Watershed Coalition v. U.S. Forest Serv.*, 93 F. Supp. 2d 1246, 1249 (N.D. Ga. 2000). For example, if a stand "is properly a hardwood management site, it would be improper for the [Forest Service] to regenerate the site as a pine plantation." *Chattooga Watershed Coalition*, 93 F. Supp. at 1249. In that case, the Forest Service intended to regenerate the stand "to a mixture of trees that is approximately the same as the current forest community," so no conversion would occur, because the stand would be regenerated "to the same mixture of trees that is currently located in the forest." *Id.* Although not entirely prohibited, reductions in diversity must be well-justified and supported by significant analysis. *Glickman*, 974 F. Supp. at 922 ("Reductions in diversity – such as forest type conversions – are permitted only where needed to meet overall multiple-use objectives and must be justified by an elaborate analysis of potential consequences," quoting CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS at 195 (1987).

The express goals of the Cooper Creek project seem inconsistent with these authorities. If the agency wishes to proceed, the EA/EIS must address this issue. Many of the project activities are intended to change the tree species composition, increasing the relative abundance of oaks and decreasing "undesirable" – though native – species such as poplar, maple, and white pine. Based on the Forest Service's own research regarding the lack of oak regeneration in heavily logged areas,<sup>26</sup> however, the elements of this project that involve more intensive cutting may backfire and significantly reduce or eliminate the oak component, instead. Either way, the project seems likely to result in a less diverse stand than presently exists that may be less resilient to climate change/disruption. We are also concerned that treatments opening the forest

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<sup>26</sup> Katherine J. Elliott (USFS Coweeta), Lindsay R. Boring (UGA School of Forest Resources & Jones Ecological Research Center), Wayne T. Swank (Coweeta), Bruce R. Haines (UGA Botany Dept.), *Successional changes in plant species diversity and composition after clearcutting a Southern Appalachian watershed*, *Forest Ecology and Management* 92, pp. 67-85 (1997) available at [www.treeseearch.fs.fed.us/pubs/4558](http://www.treeseearch.fs.fed.us/pubs/4558).

canopy will result in a reduction or loss in cooler-weather ephemeral plant species found in more mesic stands.

The project also includes the creation of open woodlands by heavily thinning and drying out the stands, with repeated prescribed burns, again, with the goal (hope) of changing the tree species composition of the site. Scoping Letter at 6. However, a xeric woodland is a forest type which, as far as we have seen, does not exist in the project area and which the Forest Service would be hard pressed to identify on any significant, widespread portion of the Chattahoochee.

All this seems contrary to the NFMA direction to maintain existing diversity. In order to avoid an unsuccessful outcome for both wildlife habitat and native tree species diversity, the Forest Service needs to address the uncertainties and risks involved and justify the net ecological benefits of the proposal, if it can be justified.

Second, the NFMA instructs that “timber will be harvested from National Forest System lands only where . . . (ii) there is assurance that such lands can be adequately restocked within five years after harvest.” 16 U.S.C. § 1604(g)(3)(E)(ii); 36 C.F.R. § 219.11(a)(v) (lands unsuitable for timber production include those where there is no reasonable assurance that such lands can be adequately restocked within five years). The restocking requirement is clear and absolute—an “express mandate,” as one court stated. *Ayers v. Espy*, 873 F. Supp. 455, 464 (D. Colo. 1994); *see also Sierra Club v. Cargill*, 732 F. Supp. 1095, 1099-1100 (D. Colo. 1990), *rev'd on other grounds*, 11 F.3d 1545 (10th Cir. 1993) (“The statutory and regulatory language clearly and plainly requires the Forest Service to insure that timber practices will achieve adequate restocking within five years.”). Indeed, where the Forest Service attempted to interpret and apply the requirement more narrowly - applying the timeline only to clearcuts or beginning it only after a “final harvest” in other types of cuts - the court disagreed, finding such limiting interpretations “contrary to Congressional intent.” *Ayers*, 873 F. Supp. at 465. Accordingly, NFMA’s restocking requirement and its timeline is express and not limited to any particular type of harvest. Note that this restocking requirement applies to all “timber harvest,” not only to the subcategory of “regeneration” harvest.

This project clearly involves “timber harvest” on National Forest land without assurance of restocking. The District plans to cut timber in the project area and then maintain open woodlands through a burning cycle of five years or less. Scoping Letter at 2. By definition, then, the Forest Service’s proposed activities will not achieve restocking that would be considered adequate for the existing forest type within five years.

The District probably could rectify these productivity, diversity, and restocking problems by restoring woodlands on ecologically appropriate sites, where the existing type, structure and diversity of forest are more consistent with woodlands, where soils are already poor, and where other characteristics of woodland sites exist. Because the stands we have visited seem inappropriate sites for woodland, having richer, mesic soils with a higher stand productivity than found in open woodlands, timber harvest will initiate vegetative growth response actually inconsistent with the District’s woodland goals. Consequently, the District had to propose repeated fire to suppress this response, meaning the District would in fact be working against natural restocking and the innate productivity of the site. With local microclimate and the absence of prescribed fire and other human intervention, any “restored woodland” in these stands would eventually revert back to its current forest type.

Third, it is unclear whether the project complies with the NFMA's conditions on regeneration timber harvests, such as: limits on the maximum size of cut area, blending cut area with natural terrain, interdisciplinary review assessing "the potential environmental, biological, esthetic, engineering, and economic impacts," and "such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and esthetic resources and the regeneration of the timber resource." 16 U.S.C. § 1604(g)(3)(F). The results of most elements of the Cooper Creek Project will resemble shelterwood timber harvest, which would be subject to the NFMA and Forest Plan requirements for regeneration harvests, including the size of the cut areas. 36 C.F.R. § 219.11(d)(4) ("Where plan components allow clearcutting, seed tree cutting, shelterwood cutting, or other cuts designed to regenerate an even-aged stand of timber, the plan must include standards limiting the maximum size for openings that may be cut in one harvest operation"). The Forest Plan places a 40 acre limit on the size of an opening created by an even-aged or two-aged regeneration treatment. Forest Plan at 2-25. From the scoping maps, it appears that logging is proposed on contiguous swaths of forest hundreds of acres in size.

The EA/EIS should consider and address these issues regarding restocking and the size of cut areas.

### **Riparian Corridor Prescription 11**

To ensure consistency with the riparian corridor prescription 11, any project undertaken here should fully protect the riparian corridor and avoid tree cutting there, especially any commercial harvest.<sup>27</sup> The riparian corridor protected by prescription 11 is a minimum of 100' to 150' (depending on slope) on each side of perennial and intermittent streams. Forest Plan at 3-175. The scoping maps show streams in many stands proposed for logging, and additional perennial or intermittent streams may be found as stands are further surveyed and evaluated.

### **Travel Analysis Process and 'Temporary' Roads**

The Forest Service's transportation regulations require that "the minimum road system" be identified for each national forest. 36 C.F.R. § 212.5(b)(1). "In determining the minimum road system, the responsible official must incorporate a science-based roads analysis at the appropriate scale," with public and other agency involvement. *Id.* The minimum system is defined as the system "determined to be needed": to meet management objectives in the forest plan, to meet statutory and regulatory requirements, "to reflect long-term funding expectations," and "to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance." *Id.* The regulations also direct that roads on each forest be reviewed to identify the roads that are no longer needed, so should be decommissioned or considered for other uses, such as for trails, with "priority to decommissioning those unneeded roads that pose the greatest risk to public safety or to environmental degradation." 36 C.F.R. § 212.5(b)(2).

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<sup>27</sup> The riparian prescription 11 limits tree removals in riparian areas to certain circumstances, which this proposal does not meet. The Plan standards repeatedly state that activities in riparian corridors "are for the benefit of riparian-associated species." Forest Plan at 3-177; *see similar* at Forest Plan 3-172, and standard 11-002 at Forest Plan 3-178. Only "silvicultural activities needed to meet resource objectives of *riparian-associated species*..." are permitted in the riparian corridor. Standard 11-002, Forest Plan at 3-178 (emphasis added).

To achieve this end, transportation planning must “consider and minimize effects of transportation facility construction, reconstruction, maintenance, and decommissioning on heritage resources, ecological processes, and ecosystem health, diversity, and productivity;” “ensure that travel management decisions are informed by travel analysis, as applicable (FSM 7712);” and “use an appropriate scale of travel analysis (FSM 7712.1) and environmental analysis when making travel management decisions (FSM 7715.2).”<sup>28</sup>

The Scoping Letter informs us that the Forest Service has “recently completed a Travel Analysis Process (TAP)” and presumably has produced a TAP Report. Scoping Letter at 11. Our assumption is that the agency has completed a forest-wide TAP. At the project level, the TAP is used to prioritize road management activities:

The [TAP] report provides the basis for developing proposed actions to implement the minimum road system and/or to change existing travel management decisions.... Site-specific environmental analysis should build on and incorporate relevant information developed during travel analysis.

FSH 7709.55; Chapter 21.11.6.

It is difficult for the public to engage in a “site-specific environmental analysis” which “incorporate[s] relevant information developed during travel analysis” without being able to review the TAP report. *To facilitate this review we request that the TAP report be released immediately.* Failure to release the TAP denies the public the ability to evaluate transportation decisions made under this project and provide meaningful input in violation of NEPA. *See* 40 C.F.R. § 1500.1(b) (NEPA requires that high quality environmental information be available to the public). It would also run contrary to the transportation regulations’ requirement for public involvement.

Without being able to review the TAP, we cautiously support the agency’s decision to close 6.7 miles of road and institute seasonal closures on 21.6 miles of road. Scoping Letter at 11. The road system on the CONF is overbuilt, unaffordable, and causes damaging environmental impacts. Generally, we support efforts to right-size the road system by bringing it in line with fiscal realities and reducing environmental degradation. For now, our concerns primarily lay with roads that entirely escaped the requisite environmental impacts analysis performed as part of the TAP – temporary roads.

The Cooper Creek project proposes constructing approximately five miles of temporary road. Scoping Letter at 11. Because temporary roads are “authorized by contract, permit, lease, or other written authorization” and are “not a forest road or trail and that is [] included in a forest transportation atlas” they are not reviewed under the TAP. 36 C.F.R. § 212.1. As a result, the Forest Service cannot tier its analysis of the impacts of temporary roads off the TAP (*see* 40 C.F.R. § 1502.20), but must thoroughly consider the impacts of temporary roads and alternatives which minimize those impacts with each individual project. 40 C.F.R. § 1500.1(e).

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<sup>28</sup> FSM 7710.3.

Logging techniques have changed dramatically in the last few decades. In the 1970s private landowners frequently insisted that logging be done with a farm tractor and chainsaw and not the enormous machinery used today. Skidders in particular were viewed skeptically because they destroyed too much young timber by running it down. Instead, logs were hauled to a loading site by rubber tired tractors and removed with a straight truck. The size of that equipment pales in comparison to the huge skidders with chained tires, D-6 bulldozers and track hoes with cutter heads used today. Bulldozers are necessary because tractor-trailers are now used to remove the cut timber and these large rigs require large roads which require a lot of earth moving. Another addition to the mix is huge chippers which chip up all the slash on site. These chips are also removed from the logging site with tractor trailers. The result of all of these factors is that many modern logging operations more closely resemble site preparation for a local Walmart. The logging currently ongoing at Brawley Mountain is a perfect example of this with acres of exposed red clay now in some cases 4 years old. The failure to revegetate the temporary roads and log landings at Brawley has resulted in their ongoing exposure to rainfall and erosion, and is a risk that the environmental analysis for this project must forthrightly acknowledge and address. See attached photographs illustrating the scale and intensity of the logging at Brawley.

To call the roads used to implement this method of logging “temporary” is often a huge understatement. The imprint of these roads on the ground is not temporary and can take decades, if not longer, to heal because of loss of topsoil and compaction of remaining soil, especially if the roads are cut into the slope with bulldozers. The only aspect of them which is “temporary” are the long-term maintenance obligations, since the agency is unlikely to allocate funding to monitor and mitigate resource impacts from these “temporary roads” (which will administratively not exist after completion of the project) in the future. The result is that any impacts after the immediate project implementation could continue unmonitored and uncorrected for decades. The high temporary road mileage associated with this project – 5 miles – only exacerbates these problems. These roads may cause lasting terrestrial and aquatic resource impacts which must be assessed in the EA/EIS.

We appreciate that the agency will attempt to “utilize previous temporary road templates” when building new temporary roads, but doubt that this will reduce or mitigate the impacts of these roads significantly. Although we noticed old roadbeds in many of the stands we visited, nearly all were grown over, with significant, well-established trees in the road footprint. Since many of the stands the Forest Service seeks to harvest are at least 100 years old, it seems likely that these previous “temporary” roads are also at least 100 years old. While the road footprint may be visible, the forest long ago reclaimed these former roads and heavy equipment will be required to clear the roads and ensure they are stable enough for use by today’s logging machinery. Grading will also be required in some areas and/or large quantities of gravel will have to be laid to stabilize the roadbed. As discussed above, the modern machinery used in logging is much different (larger) than it was 100 years ago, and extensive road construction will have to occur so these temporary roads can safely accommodate vehicles.

The experience at Brawley Mountain is a vivid reminder that the direct impacts of temporary roads are not limited to the roads themselves. When temporary roads are constructed, an area must also be provided for the vehicle using the road, likely a tractor-trailer, to turn around to exit the forest. This has produced large, unsightly, compacted, unvegetated areas on top of Brawley Mountain. As the Forest Service considers the impacts of temporary roads, it

must concurrently consider the impacts caused by these large denuded areas necessitated by temporary roads on water quality and the ability of these areas to revegetate.

Finally, the agency's post-project plans for the temporary roads should be disclosed in the EA/EIS. The Scoping Notice only informs us that the roads will be "closed and revegetated" but does not explain how. Scoping Letter at 11. Will the Forest Service return the roadbed to its natural contour, removing water dips, drainage areas and other BMPs? Or does the Forest Service only intend to gate or place a berm before the entrance of the road to prevent further use? The answers to these questions are relevant to how truly "temporary" these roads are and the likelihood of ongoing impacts. Actions that, in fact, amount to the addition of roads to the forest transportation system under the guise of "temporary roads" without analysis in the TAP violate the Forest Service transportation policy. *See* FSM 7703.26(2) ("Decisions to add roads to the forest transportation system must be informed by travel analysis (FSM 7712 and FSH 7709.55, Ch. 20) conducted at an appropriate scale, as well as appropriate site-specific environmental analysis and public involvement").

Ultimately, the EA/EIS must assess the impacts of temporary roads on a variety of factors including but not limited to scenery, wildlife, spread of non-native invasive species, sedimentation and impact on water quality, soil erosion and/or compaction, and likelihood of use by ATVs/OHVs and the effects of such use. The Forest Service should consider meaningful alternatives in the EA/EIS which decrease the level of temporary road building necessary for the project, thereby reducing environmental impacts.

### **Uninventoried Roadless Areas**

Logging, and presumably temporary road construction, is proposed in three areas included in the *Georgia's Mountain Treasures* publication: Duncan Ridge, Board Camp, and the Cooper Creek Scenic Area Extensions (relevant excerpts attached). Duncan Ridge and Board Camp have a boundary contiguous with the Coosa Bald National Scenic Area. Both areas may still qualify as roadless areas eligible for consideration in the next roadless inventory during the next forest plan revision. Therefore, the project's impacts on their roadless qualifications, roadless characteristics, and unroaded attributes must be considered, under NEPA. The Cooper Creek extensions also likely have special characteristics that merit identification and consideration in the EA/EIS.

### **Threatened and Endangered Species**

The impacts of the proposed timber sale will be largely focused on one county – Union. Scoping Letter at 1. Union County supports at least three federally-listed species: green pitcher plant (endangered), Indiana bat (endangered), and small whorled pogonia (threatened); and one species proposed to be listed: northern long-eared bat (proposed endangered).<sup>29</sup> In addition, the county is home to multiple rare and state protected species including: Rafinesque's big-eared bat, eastern hellbender, blotched chub, bog turtle, bald eagle, tangerine darter, Appalachian cottontail, American barberry, broadleaf tickseed, pink lady's slipper, fringed gentian, yellow

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<sup>29</sup> *See* U.S. Fish & Wildlife Service, "Information, Planning, and Conservation System (IPaC)" tool, *available at* <http://ecos.fws.gov/ipac/>.

lady's slipper, goldenseal, sand myrtle, Canada burnet, mountain cinquefoil, ovate catchfly, rosy twisted stalk, and starflower.<sup>30</sup> The locally rare mountain brook lamprey is present in Cooper Creek which also hosts the "largest and most stable" population of eastern hellbender "in the state." Cooper Creek Watershed Assessment, 13.

The Endangered Species Act requires the Forest Service, in consultation with the Fish and Wildlife Service ("FWS"), to insure that its actions are not likely to jeopardize threatened or endangered species. *See* 16 U.S.C. § 1536(a)(2). NEPA also requires the agency to thoroughly analyze, disclose and consider the impacts of the proposed project on rare species and their habitat, and to consider alternatives that would avoid or minimize adverse environmental impacts. The Forest Service should prepare a biological assessment and consult with FWS to determine the project's potential effect on listed species. If the project may adversely affect listed species, the Forest Service must formally consult with FWS to obtain a Biological Opinion. *See* 50 C.F.R. § 402.14 (2008) (consultation regulations); 40 C.F.R. § 1508.27 (factors indicating significant environmental impacts include adverse impacts on threatened or endangered species or designated critical habitat, as well as impacts on other types of natural resources present in this project area).

The Forest Service must also assess the project area for both federal and state listed species to ensure compliance with Forest Plan standards including protection of threatened species and species of viability concern from the "detrimental effects caused by management actions." FW-029, Forest Plan at 2-13. The agency should take special precautions to ensure that this project does not adversely affect listed species thereby disrupting the recovery objectives to preserve these populations in the Forest Plan and Plan EIS. *See* Goal 15, Forest Plan at 2-12; Forest Plan FEIS, Chapter 3 at 252-426. After assessing for endangered, threatened and rare species, the agency should consider in the EA/EIS whether the project should be modified to ensure that listed species are not affected, for example, whether the project should be reduced in size, limited to certain areas, or incorporate project-specific monitoring and mitigation.

### **Clean Water Act and Impaired Streams**

Under the Clean Water Act ("CWA") all federal agencies must comply with state water quality standards.<sup>31</sup> Therefore, agencies may not cause or contribute to the impairment of streams. The 2012 Georgia 303(d) list includes several streams in the project area, or which drain the project area, which are biotic data impaired for fish, meaning they have inadequate fish habitat or populations. While unclear based on the maps provided thus far, these streams potentially include:

- The section of Cooper Creek from Logan Creek to Bryant Creek
- The section of Anderson Creek from its headwaters to the confluence with Coosa Creek

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<sup>30</sup> *See* Georgia Department of Natural Resources Wildlife Resources Division, Known occurrences of special concern plants, animals and natural communities Union County, (Oct. 12, 2011), *available at* [http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/text/html/cnty\\_eos/union.html](http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/text/html/cnty_eos/union.html).

<sup>31</sup> 33 U.S.C. § 1323(a).

- The section of East Fork Coosa Creek from its headwaters to the confluence with Coosa Creek
- The section of Lower Youngcane Creek from its headwaters to Youngcane Creek
- The section of Little Youngcane Creek from Mason Branch to Youngcane Creek<sup>32</sup>

The Forest Service may not implement actions which will lead to further impairment of these streams.

The Cooper Creek Watershed Assessment acknowledges that impacts to these streams are likely due, in part at least, to excessive sedimentation. *See Cooper Creek Watershed Assessment*, 15. The Assessment explicitly identifies “old roadbeds,” such as those being utilized to create temporary roads and which the temporary roads created during this project will eventually become, as sources of sedimentation. *Id.*

We find it unlikely that the Forest Service can commercially harvest approximately 2,000 acres, some of which is being cut to 20 ft<sup>2</sup> per acre BA using ground-based logging, and build five miles of temporary road in an area with generally steep slopes without causing sedimentation impacts on adjacent streams. Contributing to the further impairment of 303(d) listed streams, for example, by increasing the sedimentation of those streams, constitutes a violation of the CWA. The EA/EIS must forthrightly acknowledge and directly address this issue and the Forest Service should exercise caution in these watersheds.

Finally, we want to remind the Forest Service that, while BMPs can be effective tools for mitigating sediment impacts, they do not eliminate the risks of sedimentation associated with the agency’s proposed activities. BMPs are not always implemented correctly, they sometimes fail, and are ineffective at protecting against extraordinary weather events, particularly on steep slopes. For that reason the Forest Service must conduct a site-specific analysis to ensure that BMPs will be sufficiently protective of water quality and not lead to violations of the CWA. Under NEPA, the Forest Service must take the requisite “hard look” at these impacts and draw an informed conclusion whether its activities will unlawfully contribute to the further impairment of nearby streams. Although the agency cannot, by itself, solve the problem of impairment of local streams, it must determine whether its proposed activities will make the problem worse. Alternatives which will reduce these impacts and prevent further sedimentation of streams must be considered as part of the EA/EIS. The agency should also commit to BMP implementation and effectiveness monitoring.

Has the CONF been conducting BMP implementation and effectiveness monitoring as part of the Forest Service’s National Best Management Practices Program? If so, what have the results been?

## **Alternatives**

Under NEPA, the District should consider reasonable alternatives that respond to the issues raised throughout these comments and that would avoid or minimize adverse

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<sup>32</sup> See Georgia 2012 Integrated 305(b)/303(d) List (2012), available at [http://epd.dnr.state.ga.us/Files\\_PDF/305b/Y2012\\_303d/Y2012\\_Streams.pdf](http://epd.dnr.state.ga.us/Files_PDF/305b/Y2012_303d/Y2012_Streams.pdf)

environmental impacts. *See* 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1500.2(e). Reasonable alternatives would include an alternative that: avoids any existing old-growth forest; does not cut other mature oak trees; avoids commercial logging or activity in preparation for future commercial logging in prescription 7.E.1; avoids tree cutting in the riparian corridor prescription 11; does not allow whole tree removal; focuses solely on sound, scientifically supported ecological restoration which is appropriate for the site proposed; and includes the other changes requested in these comments.

### **An Environmental Impact Statement May Be Required**

An EIS will be required if this project “may” have a significant effect on the environment. 42 U.S.C. § 4332(2)(c) (include environmental impact statement on proposals for “major Federal actions significantly affecting the quality of the human environment”); 40 C.F.R. § 1508.3 (“‘Affecting’ means will or may have an effect on.”).

The analysis of significance requires consideration of context and intensity, including certain factors (40 C.F.R. § 1508.27), many of which are implicated by this project as currently proposed:

(a) Context: 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 . . .” 40 C.F.R. § 1508.27(a). This project is proposed in a landscape that is significant for its biological, scenic, and recreational values at the global, national, statewide, Forest Service regional- and forest- level, and local scales.

This project proposes logging and other activities over several thousand acres of public national forest lands in one of the most biologically diverse regions of the world, the Southern Appalachian mountains. This watershed supports the increasingly pressured, native Southern Appalachian brook trout and may be a key refuge for the trout in the state of Georgia, as well as for the hellbender salamander. In the context of this national forest, much of this activity is proposed in the “priority watershed” of Cooper Creek, a Forest-Designated Outstandingly Remarkable Stream that is eligible for designation under the federal Wild and Scenic River Act, although the Forest Service did not recommend it.<sup>33</sup> A portion of Cooper Creek downstream of the project area has been protected in a Regional Forester-designated Scenic Area since 1960.<sup>34</sup>

The project area is located on both sides of Duncan Ridge and the Duncan Ridge National Recreation Trail, between the Cooper Creek Scenic Area and the Coosa Bald National Scenic Area.

Additionally, the project is partially located in Georgia Mountain Treasure areas, which were identified by The Wilderness Society and over a dozen endorsing organizations as the most

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<sup>33</sup> Revised Forest Plan, FEIS at D-4, D-26 to 27. The Forest Service chose not to carry the area forward to the second step of the WSRA analysis process.

<sup>34</sup> Forest Plan at 3-87.

important conservation areas in the CONF. Some of these areas may also be uninventoried roadless areas.<sup>35</sup>

(b) Intensity: “This refers to the severity of the impact.” 40 C.F.R. § 1508.27(b). This project implicates a number of the intensity factors:

Beneficial Impacts – “Impacts may be both beneficial and adverse.” 40 C.F.R. § 1508.27(b)(1).

This project is very large in scale. It includes logging and other vegetation management on almost 4,000 acres, five miles of temporary road construction, and prescribed burning of almost 12,000 acres. This may significantly affect the forest, terrestrial and aquatic species, soil and water resources, scenery, and recreation, even if the Forest Service believes that, on the whole, the project will be beneficial.

Unique characteristics – “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.” 40 C.F.R. § 1508.27(b)(3). For the reasons discussed above, the Cooper Creek watershed is an ecologically critical and perhaps unique area.

The project also would affect Georgia Mountain Treasure areas, which are critical for their outstanding biological, scenic, and recreational values. Any impairment of the eligibility of any uninventoried roadless areas for future protective designations would be a significant impact as well. *See Lands Council v. Martin*, 529 F.3d 1219 (9th Cir. 2008); *Smith v. United States Forest Service*, 33 F.3d 1072 (9th Cir. 1994).

If existing old growth is identified, it must be avoided. Otherwise, logging old growth would harm an ecologically critical area. Old growth also would be an important scientific, cultural, and historic resource, another factor of significance. *See* 40 C.F.R. § 1508.27(b)(8).

Controversy and Uncertainty – 40 C.F.R. §§ 1508.27(b)(4) & (5) – The justification for and effects of this proposal are highly controversial and uncertain. There is considerable debate about the ecological appropriateness of the proposed logging and other “restoration,” especially given the poor outcome to date at Brawley Mountain. Logging in this area also is likely to spark significant public controversy. Further, the effects are uncertain, especially given that the Brawley project was not implemented as planned and that the effects have not been as predicted. Yet more uncertainty will be generated if there is no adequate monitoring data on the results and effects of past projects with similar goals.

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<sup>35</sup> Conservation of roadless areas is important at the national, regional, and local level. The Forest Service itself has ample study and documentation of the important characteristics of roadless areas (*see, e.g., Roadless Area Conservation Rule*, 66 Fed. Reg. at 3245 (2001)), has committed with the new forest planning rules and directives to continuing its efforts to properly identify and consider special areas that meet roadless (now called potential wilderness areas) criteria but have not been inventoried (*see* 36 C.F.R. § 219.7(c)(2)(v) (2012); FSH 1909.12, Ch. 70 (Feb. 2013 Draft)), and understands that, once identified, substantial alteration of the undeveloped character of such areas normally requires an EIS (36 C.F.R. § 220.5(a)(2)).

Endangered or Threatened Species or Designated Critical Habitat – “The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical. ...” 40 C.F.R. § 1508.27(b)(9). This factor may be implicated, as discussed above.

Therefore, the environmental documentation for any project here must fully consider and disclose the impacts to these and any other potentially significant resources identified during environmental surveys and analysis. If the District wishes to prepare an EA instead of an EIS, it will need to demonstrate that it has avoided adverse impacts to these resources.

### **Recommended Changes to the Project**

At a minimum, we recommend the following changes to the project:

- Prescription 7.E.1 is unsuitable for timber production. There should not be any commercial treatments in this prescription nor should there be any Midstory Treatment, since the sole purpose of Midstory Treatment is to prepare the stands for a timber sale in the future.
- There should be no harvesting of timber in the stands designated for “Woodland Restoration,” commercial or noncommercial, until the Forest Service has demonstrated at Brawley Mountain that it is capable of creating habitat that conforms to its own definition of woodland. *See* Forest Plan at 6-75.
- There should be no Canopy Gap Thinning, since there is no reasonable expectation that cerulean warblers will occupy the planned habitat, and sufficient habitat for these birds already exists in natural (treefall) gaps. Moreover, all of the Canopy Gap Thinning stands are in prescription 7.E.1 which is unsuitable for timber production.
- There should be no creation of ESH in stands 398/5, 399/8 and 50, 504/15, 26, and 28, or 505/32, since these stands are totally inappropriate for ESH. If ESH is to be created it should be in stands that have already been clearcut or otherwise altered in the past.
- Stands 504/28 and 505/23, 29, and 30 should not be cut because they do not conform to the description of stands designated for Pine/Pine-Oak Thinning. Another reasonable alternative would be to allow some or all of the desired ESH to form through natural gaps.
- The Midstory Treatment, Release, and the noncommercial part of the “Woodland Restoration” treatment all indicate that “woody material will be left on site.” It should be specified for all of the treatment types that slash should be left on the ground as coarse woody debris to: provide habitat for wildlife; protect soil health and minimize erosion; minimize sedimentation of streams; and help provide necessary conditions for successful regeneration of desirable species. It should not be chipped and removed.
- At a minimum, these and other changes discussed in these comments should comprise a reasonable alternative which is considered and analyzed in detail in the environmental analysis.

\* \* \*

In Georgia ForestWatch’s response to the Brawley Mountain Woodland proposal over eight years ago, we quoted the CONF Forest Plan: “we are students of nature, not masters of it.”

Forest Plan at 1-2. This attitude is the very foundation of sustainable forestry. The Plan goes on to state that:

Adaptive management will use our scientific knowledge and experience to design strategies that allow us to progress toward ecological and socioeconomic objectives as we learn. The adaptive aspect of these strategies is the ability to test out assumptions and make adjustments as we learn from our work and the work of others in the field. ... With sustainable forest habitats and healthy watersheds and ecosystems as primary goals, a great deal of knowledge is being tested; and there are many factors to monitor over time. ... Monitoring (and constant evaluation) is the heart of adaptive management.

Forest Plan at 1-2.

At Brawley Mountain, the Forest Service acted as the master of nature. There were difficulties and failures, and now the agency is proposing to do the same thing in the Cooper Creek Watershed Project, on an even larger area and in even more difficult conditions. Failure to learn from the past is a violation of adaptive management.

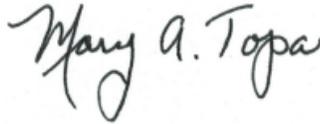
This principle applies not only to the woodland part of the project but to the project as a whole. Where is the monitoring to support assumptions made to justify the various portions of the Cooper Creek project? Where is the fire monitoring, soil testing, canopy gap surveys, and monitoring of oak regeneration or decline? What monitoring results indicate that the proposed treatments can accomplish the stated objectives?

On the contrary, the experience of the last 50 years indicates that clearcutting (and what essentially amounts to clearcutting) is not a viable strategy for sustaining forest health and productivity. If harvesting half or more of the timber on mature oak stands proves to be only half as bad as clearcutting, it will still be detrimental. One common thread runs through all of the various types of treatment—with the sole exception of Release—and that is commercial harvest of high-grade timber. Adaptive management is supposed to allow the Forest Service “to progress toward ecological and socioeconomic objectives.” Monetary objectives are not mentioned, but what else can explain such a vast project focused on cutting the healthiest, least disturbed stands, when thousands of acres in the project area and the immediate vicinity are in dire need of some kind of ecologically-appropriate restoration?

When will the Forest Service move to, and stick with, an approach oriented more towards ecological restoration and careful stewardship? It is nearly impossible even now to imagine what the forest looked like two hundred years ago. Will we not allow future generations to see even a glimpse of the forest’s full potential in this special area?

We appreciate the opportunity to comment on the Forest Service’s current proposal, as well as informal opportunities to engage with the Forest Service and discuss this project further. Please keep us updated on the status of, and any new developments related to this project. At an appropriate time, we hope to meet with you and your staff to discuss this project further.

Sincerely,



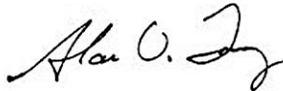
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Enclosures (2)