

Andrew Pickens White Pine Management Project

Frequently Asked Questions

July 2019

1. *Why is clearcutting being proposed for this project? Are areas where this is used more susceptible to erosion and sedimentation issues?*

Clearcutting is proposed on sites where white pines are not well adapted. These white pines were planted decades ago in plantations on dry upland sites where there was historically frequent fire. Other native species that are better adapted to these upland sites are more fire adapted, including shortleaf pine and scarlet oak. These species don't tolerate much shade and need bigger openings for regeneration. Clearcutting serves two purposes: 1) to remove the white pines 2) to encourage regeneration of a young pine/hardwood forest that need big openings with species such as shortleaf pine and scarlet oak.

The clearcutting proposed for these upland sites is called clearcutting with reserves. Some trees are left if they are adapted to the site and are healthy enough to respond to the increased light on the forest floor. For example, mature chestnut oaks (among other species) are well-adapted to the site and have well-developed canopies and root systems. Such trees would continue growing well after the harvest. On the other hand, smaller, less developed trees do not respond well to clearcutting. Even if the species is well-adapted to the site, if they aren't mature enough at the time of cutting, they won't develop into healthy mature trees when released (exposed to full light, wind, etc.) These trees would be cut and stump sprouts would become new chestnut oak trees, to form part of the hardwood component of the newly regenerated mixed species stand.

Clearcutting provides a different type of habitat that is preferred by some plant and animal species compared with sites that have mature trees. The structure and habitat provided by clearcutting is no better or worse than other conditions—it's just different. Some wildlife species prefer closed canopy mature forests; others prefer a different type of habitat such as open conditions with full sunlight and young trees. From an ecosystem management standpoint, it is desirable to have a mosaic of different types of forest structures across the landscape. The open conditions with small regenerating trees found in clear cuts, like all stages in forest development, are transitory. These conditions continuously change as they develop through several stages of forest growth. These dynamic conditions of growth, death, and regeneration are an inherent characteristic of healthy forest ecosystems.

The areas proposed for clearcutting are not more susceptible to erosion than areas proposed for uneven-aged management. Factors that drive susceptibility to erosion include soil type, steepness and length of slope, precipitation pattern, how equipment is used, and how much soil is left exposed. Clearcutting, unlike partial or selection cutting, allows rain to reach the forest floor unimpeded (no interception by trees), so the use of best management practices to prevent erosion is very important.

On higher quality sites with more moisture (lower slopes, acidic coves), fire and other disturbances were historically less frequent or smaller in scale. The forest regenerated here via canopy gaps created by windfalls, trees dying of aging and disease, and other smaller disturbances. Only shade tolerant trees including white pine can successfully reproduce in this setting. It is on these sites where white

pinus fit from an ecological perspective. These are the sites we are proposing for uneven-aged management, where we would do selection-type cutting, not clear cuts.

2. *What trees are going to be replanted in the areas being harvested in White Pine/ Loblolly removal areas? I read that short leaf pine will be planted, but are there others?*

The White Pine Project proposes two categories of treatments:

- Even-aged management— regenerate the whole stand where white pines don't fit well. This would convert the stand from white pines to mixed pine/hardwood that are better adapted to the site.
- Uneven-aged management— keep managing for white pines where they do fit. On these sites, we would create small canopy gaps and thin the stand to increase species and structure diversity, and to improve tree vigor.

For even-aged management sites, species that would be planted are shortleaf pine, pitch pine, and/or Table Mountain pine (native yellow pines). All of these species are adapted to dry upland sites, with Table Mountain pine being adapted to the driest of the sites. All three of these species are declining across the southern Appalachians, more specifically, they are not reproducing successfully at the ecosystem level. This is most likely due to lack of disturbance on a sufficiently sized scale. This decline has given rise to efforts such as the Shortleaf Pine Initiative to restore this native tree (www.shortleafpine.net). This project would provide an opportunity to establish new forests of these declining yet ecologically important species.

The pines are planted because there is usually not a sufficient seed source of the native yellow pines to regenerate naturally. It is also very difficult to reproduce these pine species from seed without leaving the soil exposed, which leads to erosion. Hardwoods do not need to be planted because they reproduce successfully from stump sprouts and natural seed.

Planting spacing would typically be 12 feet x 12 feet but would vary; this is a relatively wide spacing and would allow hardwoods to fill in along with the planted pines to establish a mixed species forest.

For uneven-aged management sites, planting would typically not be needed. White pine and other species would naturally regenerate in the small-scale harvested openings (canopy gaps). If planting is needed to reforest harvested openings, it would be with white pine seedlings planted typically on a 12 feet x 12 feet spacing in order to facilitate development of a mixed-species cohort in the opening.

3. *Why is there more clearcutting going on now, rather than in recent years?*

Depending on the decade, there have been some time periods of more acres harvested, of more clear cuts, and decades having less of this type of management on the Andrew Pickens Ranger District compared with the current decade.

Since the early 2000s, the Forest Service has focused on ecosystem management and restoring our forests to a more natural state. We prioritize management in areas that are the most deviated from native ecosystems. The loblolly pine plantations, since they are not native to the South Carolina Mountains, were a logical starting point for restoration work on the Andrew Pickens, followed by the white pine plantations. White pines are native to the mountains, but as explained in the proposed

action, these plantations need extensive management to restore them to a more natural state of mixed pines and hardwoods.

Clearcutting is a tool to change conditions of the forest. Sometimes it is the best tool and sometimes it isn't. We look at existing conditions and compare them with desired conditions. These desired conditions are science-based, with information coming from research as the primary driver of defining desired conditions. What does the research tell us about what natural forests should look like on a given site? What does it look like now? Is it the type of species, numbers, sizes, and spatial arrangement of trees and other vegetation that would be there naturally? If not, what actions can we take to shift conditions to make a more natural forest type that would be found in the area?

4. *Are decision on the amount of timber to cut made at the local level, or is there a national quota that is handed down from above?*

The Forest Service was founded to ensure a reserve of natural resources (primarily wood products), would be retained. This was during an era when forests were harvested on private lands and not replenished. There was concern about the nation's wood supply. The Forest Service has expanded on that initial purpose to include multiple-use management, ecosystem management, and more recently ecological restoration (one component of ecosystem management) to restore our lands to a more natural state.

The relationship between timber markets, demand for timber, political administrations and other stakeholders have shaped the amount of timber harvested on national forests since the Forest Service's inception. It has ebbed and flowed depending on the decade. For example, after World War II there was a huge demand for wood that private timberlands could not meet. The national forests were called upon to meet that demand. By contrast, in the 1980s and 1990s, demand shifted. Many groups called for reducing the harvest of timber on national forests—with demand for wood being met by private forests and from sources overseas.

Today, there is not a quota for the Forest Service to provide wood to fill a certain need for wood markets. Wood from national forests contributes to the supply, but there is not a regulated quota. In South Carolina, more than 90 percent of the current harvested timber comes from privately owned forests (*South Carolina's Forests, 2016* Southern Research Station, Resource Bulletin SRS-215). At the local level, we look at what projects we have planned that we want to accomplish in the next year to five years. The environmental need—not demand for wood—drives our planning. What can we do to restore native ecosystems? What can we do to improve wildlife habitat and protect water quality? What can we do to provide or enhance sustainable recreation on our forests?

All of these considerations and planning locally, based on existing staffing and resources, lead to the district informing higher levels of the agency what we expect to achieve. Some of these achievements are measurable, such as volume of timber harvest, acres of prescribed burning, miles of roads maintained, and number of campsites repaired. The numbers come from the ground up, at the local level, not from the top down. These projects take years to plan and implement with limited resources.

Planning for the White Pine Project began under the past administration. It continues today with no change in direction.

5. *In the areas that are being cut now to remove loblolly and white pines, are they going to be re-harvested? Or since we are now cutting them with the intent to establish forest diversity, are they going to be left to grow into old-growth forests?*

The White Pine Project proposes two categories of treatments:

- Even-aged management— regenerate the whole stand where white pines don't fit well. This would convert the stand from white pines to mixed pine/hardwood that are better adapted to the site.
- Uneven-aged management— keep managing for white pines where they do fit. On these sites, we would create small canopy gaps and thin the stand to increase species and structure diversity, and to improve tree vigor.

For even-aged management, new forests would be established and allowed to grow through a series of developmental (successional) steps. Some of this acreage would likely develop into old growth over time. Future management decisions beyond establishment of the new forest are outside the scope of this project. The long-term plan for these stands will be addressed in the revised Sumter National Forest Land Management Plan.

For uneven-aged management, the path to old growth is shorter since the stand is not being wholly regenerated (just gaps). During the next Forest Plan revision, these stands will be considered for their potential to be managed towards an old-growth conditions. That decision will be made during the Forest Plan revision. This project only addresses beginning a shift from an even-aged white pine plantation to an uneven-aged mixed species forest.

6. *Is typical re-harvest time 50 years?*

The scope of this project decision does not go beyond what is described above.

For even-aged stands, it is unlikely that another harvest would occur for at least 30 years. At that time there might be a need for commercial thinning. There would likely be non-commercial timber stand improvement treatments prior to that time— intended to improve the health of developing trees. There is no set rotation planned for these stands. Future decisions will be based on existing and desired conditions, and what treatments (if any) are needed to shift the stand to desired conditions.

For uneven-aged stands, typically a cutting cycle is developed to enter the stand every X number of years to introduce a new set of canopy gaps to continue towards (or maintenance of) an uneven-aged stand. Natural disturbance like wind storms helps with that. The length of this cutting cycle can vary, but typically would be at least 15 to 20 years between entries.

7. *How dependent is the timber market on clearcutting in the national forest? How much of the timber harvested by commercial harvesters is from the national forest?*

The timber market is not depending on clearcutting national forests. Clearcutting is selected when needed to achieve a specific ecological objective, not to increase the amount of wood coming from a given acre.

The amount of wood supplied by national forests varies by state and county, but there is no dependency on clearcutting. In the Southeast, a large majority of timber comes from private forests. In South Carolina, more than 90 percent of the harvested timber comes from private lands.

For the Andrew Pickens Ranger District and nearby counties, timber from national forests influences timber markets somewhat but doesn't drive them. It does provide a benefit to the local economy in Oconee and surrounding counties. Timber is harvested on the Andrew Pickens District for meeting an ecological or forest health objective, not for sustaining timber markets. Wood demand can be met by timber harvested from private land.

8. *Does the Forest Service have to cut in the national forest, to fund Forest Service programs such as recreation? Is the Forest Service dependent on money from clear cuts?*

The Forest Service does not have to cut timber to fund recreation. However, some proceeds from stewardship timber sales are used to help with various natural resource restoration projects, including soil and water projects and work on roads that are used to access recreation sites. The Forest Service does not depend on clearcutting for anything other than its use as a tool to achieve a specific ecological objective.

9. *What was the plant ecology of Sumter National Forest before the original clear cuts were made? How much was hardwood and how much was pine? Do we have pictures? Is there a good book or website I can refer to?*

The species mix that existed before the original clearcutting to establish the white pine plantations depends on the site. On the upland sites proposed for even-aged management, these forests (prior to establishing white pine plantations) were a mix of shortleaf pine and upland hardwoods such as chestnut oak and scarlet oak. The canopy varied from open to closed. Density of trees varied from open woodland to closed forest. The understory was sometimes tree-dominated, sometimes herbaceous plant-dominated. On the lower slopes / cove sites proposed for uneven-aged management, these were predominantly acidic cove forests of white pine, hemlock, yellow poplar, and red maple. They were usually dense, closed-canopy closed forests with shade-tolerant trees in the understory. Small-scale canopy gaps from natural disturbances were distributed randomly throughout these sites. The canopy gaps contained groups of young shade-tolerant tree species.

We are not aware of photos of those original stands prior to the establishment of the white pine plantations. There are many references available to help us plan and implement ecological restoration treatments. Some web links are provided below. Additional reference information is available as separate documents that we can provide upon request. No one source is the definitive driver, but each has something to contribute towards our understanding of the ecology and potential natural vegetation for the Andrew Pickens Ranger District.

Potential natural vegetation is modeled based on research in a variety of fields such as ecology, fire, silviculture, botany, and other disciplines. The modeling incorporates disturbance to simulate a range of conditions that would be expected to occur throughout time, throughout the development of a forest on a given site. Variables and outputs are customized and specific to different types of sites, such as dry uplands and acidic coves. Historic accounts are also considered. The key is to strive not for one specific "ideal" condition, but instead create a range of conditions that would occur naturally on a

Southern Appalachian forest. For the Andrew Pickens Ranger District, we typically use mapping units from Ecological Zones and descriptive/modelling parameters from LANDFIRE and Natureserve as our primary sources.

- 1) Silvics of North America: https://www.srs.fs.usda.gov/pubs/misc/ag_654/table_of_contents.htm
- 2) Fire Effects Information System (FEIS): <https://www.feis-crs.org/feis/>
- 3) Ecological Zone classification: <https://www.fs.usda.gov/treesearch/pubs/22125>
- 4) LANDFIRE: <https://www.landfire.gov/>
- 5) Natureserve: <http://www.natureserve.org/>
- 6) Southern Forest Assessment: <https://www.srs.fs.fed.us/sustain/>
- 7) Southern Forest Futures Project: <https://www.srs.fs.usda.gov/futures/>
- 8) Southern Appalachian Assessment: <http://www.samab.org/>

10. Why is single-tree selection not proposed to remove trees in this project?

For sites where we propose even-aged management to convert white pines to shortleaf pine/upland hardwoods, if we do single tree selections then that means we keep white pine there—that's a given. That's not the objective, which is to replace the white pine plantation with species better adapted to the site. Also, the tree species best suited to these upland sites are relatively shade intolerant, meaning they need bigger openings to successfully regenerate than you would typically have with selection cutting.

For sites where we propose uneven-aged management, we are proposing group selection (see the proposed action document). This is a similar concept to single tree selection, just a bit different in scale. Single tree selection is difficult to implement and achieve the objective of getting a small patch of the forest stand to regenerate (which is what we want for uneven-aged). It usually just ends up like a thinning, meaning you made some space between the trees but didn't really get new trees coming in. The other challenge with single tree selection is that it is hard to implement without damaging the trees you are trying to protect. With group selection, it is still small scale, still uneven aged, it is still selection cutting for small canopy gaps, but it's easier to be successful with it using machinery.

11. What is the vetting process for herbicides being used on the national forest? What herbicides are used after cutting?

All herbicides used by the Forest Service are independently evaluated by the Syracuse Environmental Research Associates (SERA). More information on this vetting process is available on the following webpage:

<https://www.fs.fed.us/foresthealth/protecting-forest/integrated-pest-management/pesticide-management/pesticide-risk-assessments.shtml>

In addition, a local herbicide risk assessment is part of the environmental assessment that will follow the scoping period. This assessment is required to analyze potential effects of herbicides and will be available to the public. All label directions must be followed during implementation. The Forest Plan contains additional standards for herbicide use.

Depending on the need for each stand following harvest, herbicides that may be used include imazapyr, triclopyr, aminopyralid, and/or glyphosate.

12. In the Chattooga Conservancy's watershed update it was stated that the U.S. EPA submitted comments on the proposal to cut the loblolly, is that true? If so is the letter posted somewhere?

Yes, the EPA did provide comment for the loblolly project; they provided comment both for the original project in 2013 and more recently on the loblolly supplement. Their comment letters are online in each of the project's websites: <https://www.fs.usda.gov/projects/scnfs/landmanagement/projects>

If you have additional questions about this project, please email them to District Silviculturist Victor Wyant at victor.wyant@usda.gov