

Cherokee National Forest Landscape Restoration Initiative

Steering Committee Meeting Summary

Tennessee Wildlife Resources Agency, Region 4
3030 Wildlife Way, Morristown, TN

Thursday, September 9, 2011

9:00 a.m. - 5:00 p.m.

Steering Committee Members Attending:

Terry Porter, Tennessee Forestry Association; Josh Kelly, at large; Danny Osborne, Tennessee Division of Forestry; Dwight King, Logging Company/Sullivan County Commissioner; Dennis Daniel, National Wild Turkey Federation; Geoff Call, U.S. Fish and Wildlife Service; Steve Henson, Southern Multiple Use Council; Mark Shelley, Southern Appalachian Forest Coalition; Parker Street, Ruffed Grouse Society; Joe McGuiness, Cherokee National Forest (CNF); Catherine Murray, Cherokee Forest Voices; John Gregory, Tennessee Wildlife Resources Agency; Katherine Medlock, The Nature Conservancy.

Staff Attending:

Karen Firehock and Melinda Holland, Facilitators; Kate Bird, Note-Taker; Greg Low, Presenter and Modeler (by phone).

Observers Attending:

Tom Speaks, Cherokee National Forest Supervisor, CNF; Leslie Avriemmo, CNF; Terry Bowerman, CNF; Stephanie Medlin, CNF; Mark Healey, CNF; Don Palmer, CNF.

Introductions:

The meeting began with a review of the agenda by project facilitator Karen Firehock. No members of the public attended the meeting, so there was no public comment offered.

Review of Previous Meeting and Summary of U-B-Gone Scenario Results: Greg Low

Greg Low reviewed the results of the "U-B-Gone" scenario to remove all uncharacteristic classes, a scenario agreed on by the committee as most closely reflecting their agreement concerning appropriate management strategies. Mr. Low ran this model scenario for all forest types and prepared 20-year and 50-year summaries (which extended the 20-year model with minor adjustments). The results were graphed for all systems; and additional old-growth model runs requested by one member were run to help improve the outcomes for old growth classes in some of the runs.

Mr. Low reviewed the background on past modeling efforts to summarize the changes in strategies that had been made during the committee's work. Within all modeling runs, the goal has been reducing ecological departure scores, while awarding "bonus points" for reducing uncharacteristic classes.

Modeling scenarios included:

1. Minimum management model runs were performed to assess outcomes in the event of no management and continuation of current fire suppression regimes. This run provides an important baseline against which to measure other modeling scenarios.
2. Maximum management modeling scenarios were run to assess outcomes assuming no funding constraints and the ability to manage to achieve the very best ecological outcomes. This scenario helps to determine whether the system could be fixed, if there were unlimited funding.
3. Modeling scenarios using only mechanical or fire treatments revealed that, in some ways, these management methods can be interchangeable, but costs will vary.
4. The Return on Investment (ROI) scenario was run as Mr. Low's effort to demonstrate how to achieve the lowest possible departure score for the lowest cost.
5. The U-B-Gone scenario focused on reducing uncharacteristic classes as a treatment priority.

Mr. Low reviewed the 20-year outcomes of the U-B-Gone management scenario, noting that the treatments improved ecological departure scores for all systems to low or close-to-low departure from the natural range of variability (NRV). Improvements were especially noticeable in the pine systems, which had been seriously "out of whack" as compared to the NRV. The amount of uncharacteristic vegetation was reduced in the model, starting from seven percent of all forest types. In addition, outcomes include increases in early successional habitat in all systems, increases in old growth forest in cove and oak forests, and reductions in the late-closed class and increases in late-open class in all oak and pine systems.

Under the U-B-Gone scenario, costs totaled \$433,000 annually, compared with \$1.4 million under the maximum ecological management scenario. Management activities include 5,000 acres per year of prescribed fire, which is close to current United States Forest Service (USFS) practice, plus 1,600 acres per year of commercial harvest. An assessment of area-weighted Return On Investment (ROI) weights management treatments by acreage and effectiveness. This assessment shows that the treatments are relatively equivalent across all systems. The spruce-fir forest type is an outlier, but not a strong one. Therefore, Mr. Low does not recommend using this metric to make management decisions.

Next, Mr. Low reviewed the 50-year outcomes of the U-B-Gone scenario, under which the model assumed the same treatments as the 20-year runs, with some minor adjustments. Treatments of uncharacteristic classes were reduced or stopped as those types were reduced significantly over time. Other minor treatments, timing, and acreage adjustments were made as well. These outcomes showed all systems moving into the "green zone" within NRV, virtual elimination of uncharacteristic vegetation, and a decline in average annual costs over time (to below \$400,000).

Mr. Low reviewed 50-year outcomes by forest type, and graphed results to display the NRV, current conditions, and 50-year projections among succession classes as a tool to illustrate these outcomes:

- Cove Forest: This is the largest ecological system at 103,000 acres, accounting for 30 percent of the landscape. White pine was not completely eliminated.
- Oak Forests account collectively for over 50 percent of the CNF landscape:
 - Montane Oak Forest: Uncharacteristic classes were virtually eliminated, early successional habitat increased, and the percentage of old growth achieved is larger than the NRV.

- Dry Oak Forest: Uncharacteristic classes were eliminated, early successional habitat was very close to the NRV, the late open class improved substantially, and the late closed class decreased.
- Dry-Mesic Oak: A committee member noted that the old-growth open class did not change noticeably in the model run. Mr. Low noted that together, both open and closed old-growth class results are within the NRV range, although individually they are departed from the NRV, and no management treatments were specified for that class. This was noted as a possible item to address by the committee.
- Pine systems are currently further departed from the NRV due to a high percentage of late closed and uncharacteristic classes.
 - Low Elevation Pine: Early succession accounts for 30 percent of this forest type under the model. Oak-dominated pine forests are completely eliminated, late closed classes decrease, and late-open increases.
 - Montane Pine: Early succession accounts for 8 percent of this forest type under the model. Mr. Low noted that the model should be reviewed, as the system loses early succession and gains mid-closed classes between 20 and 50 years. Increasing prescribed fire might address this.
- Spruce-Fir Forest: Uncharacteristic classes were completely eliminated in the model. Mr. Low noted that no management treatments were applied to the brush/shrub class, but that class did not increase over time.

Mr. Low next reviewed the results of old growth model runs, under which a similar treatment mix was continued with some adjustments to the age of trees harvested in the cove, dry-mesic oak, and montane oak systems. These changes increased the percentage of old growth after 20 years, by two percent more in the montane oak system and one percent in the dry-mesic oak and cove systems.

Review of Written Recommendations by Ecological System

The committee reviewed a draft of written recommendations and discussed necessary changes. These are organized below by forest type.

General comments

- A committee member requested that the recommendations should keep the maximum ecological management goal as a “stretch goal” with potential fundraising activities in mind, keeping the U-B-Gone management scenario as the minimum recommendation. Another member supported this idea. The committee decided that this could be an item for discussion at the next workshop.
- A committee member recommended including a photo of each forest type beside the related section in the final report.

Dry Oak

The following changes were noted:

- Change the concluding sentence to reflect that the U-B-Gone management strategy will not achieve these objectives. Suggested revised language: “The U-B-Gone approach closely reflects these objectives. Maximum ecological management most closely achieves these objectives.”

This might become a standard statement across all forest types. The second sentence might be added to reflect the stretch goal of maximum ecological management.

- Revise the general language in the report regarding the overall-approach to include the model run methodology in the introductory paragraph so that this information is not repeated in each section. The introduction can instead call attention to any differences in methodology for each type.
- This section will not include a full description of the U-B-Gone scenario and Mr. Low suggests that the language not include the specific annual acreages addressed under each management strategy. Instead, readers can refer to the complete model spreadsheets.

The committee discussed the challenge of eliminating white pine, for which there is currently no market. Concerns were raised that the report would include unachievable recommendations. The committee discussed a variety of solutions, including using the NRV as a guide and achieving it using methods other than eliminating white pine, acknowledging that some parts of the report might not be implemented, or using stewardship contracting to address white pine. The USFS staff noted that market prices have fluctuated over time, and that this strategy might be implemented later. The issue could be revisited if the markets have not changed after five years. The committee noted that this challenge is currently addressed in the market's section of the report. The committee also noted that tulip poplar presents a similar challenge and that targeting these uncharacteristic classes in order to increase early successional habitat could make that goal difficult to achieve. The recommendations could be updated to reflect this.

The committee and USFS visitors discussed challenges in being able to implement new projects in response to changing markets, given constraints under National Environmental Policy Act (NEPA). Page nine of the recommendations report reflects this concern and explores the opportunity of having NEPA-ready projects on the shelf that are ready to go as soon as markets are favorable. One committee member indicated his belief that the timber industry would have the man-power available to implement projects if they came up quickly. The USFS staff discussed the option of planning larger projects under watershed-wide assessments (of around 20,000 acres), including 5 to 10 years of management activities. This would allow the flexibility to address smaller sub-projects (1,500 acres) as markets change. This strategy would require two to three additional staff with scientific expertise to ground-truth GIS data. The committee could recommend additional funding to achieve this goal. The committee will revisit the language in the economics, feasibility and contract sections and draft language about appropriate staffing levels in the recommendations section of the document. Another strategy discussed was the reinstatement of categorical exclusion; the related recommendation will be revisited.

Dry Mesic Oak

No changes were discussed.

Low Elevation Pine

The following changes were noted:

- The "stretch goal" of maximum ecological management would require clarification, because that scenario uses less prescribed fire than the U-B-Gone scenario. Mr. Low noted that prescribed fire was increased in the ROI scenario after the third workshop and the amount of thinning was reduced.

- Although the mid-closed increases under both the U-B-Gone and maximum ecological management scenarios, the committee agreed that the results are acceptable. Creating a lot of early successional habitat early will result in mid-closed classes in later years. The pine beetle might impact these outcomes and although 15-year thinning or more frequent prescribed fires might improve outcomes, no changes to the recommendations are required now.

Montane Pine

The following changes to the key objectives were noted, some of which apply to other sections as well:

- *Decrease the percentage of the late closed class moving it to a late open or early condition via several treatments including prescribed fire, and/or woodland restoration treatments. This change should be made in several places.*
- *Increase the percent of mid open ~~Decrease the percentages of the mid-closed class moving it to a mid-open~~-condition via thinning and prescribed fire.*

The committee discussed the use of prescribed fire in this system, noting that many of the sites are unsuitable for commercial harvest and prescribed fire has many ecological benefits.

Montane Red Chestnut Oak

The following change to the key objectives was noted:

- *~~Decrease the percentages of mid-closed class moving it to a mid-open condition via prescribed fire and thinning.~~ Increase the percentage of mid-open class via thinning and prescribed fire.*

Northern Hardwoods

The following changes to the key objectives were noted:

- *According to the analysis done by the Steering Committee, the Northern Hardwoods system ~~as a whole is overall~~ in good condition and not ~~a restoration priority in need of restoration treatments~~. Therefore, no management scenarios were tested.*

The committee noted that very infrequent replacement fire occurs in this system (at 500 year intervals). There are some wind throws and ice storms in the model and stresses that account for increasing the A class.

Riparian

The following changes to the section were noted:

- *The modeling used by the Steering Committee shows that this system will improve on its own via naturally caused disturbances with little need for management. However, the Riparian System is embedded within other Ecological Systems and prescribed fire treatments of these systems will carry over into the Riparian system. The Riparian system will benefit from these carryovers and the ecological departure score will decrease even further.*

However, the Steering Committee noted that there are several additional treatments that are appropriate in Riparian Systems that were not modeled. They are:

- *Treatment of the exotic invasive Hemlock Woolly Adelgid, Emerald Ash Borer and other introduced forest pests and pathogens.*

The committee discussed the increase in early successional habitat achieved without management activities. Mr. Low suggested that flooding and other natural disturbance could create this change. While the model currently shows only 4 percent early successional, the embeddedness and linear nature of this system make it difficult to map accurately.

Spruce Fir

No changes were discussed.

Cove

The Cove Sub-group (Josh, Steve, Parker, Joe, and Katherine) reviewed the document numerous times and a lot of thought and work went into writing the draft. The section opens with a description of cove systems and discusses regeneration within those systems. The sub-group recommends that the removal of uncharacteristic white pine should be a priority, followed by restoration of tulip-poplar dominated stands to increase diversity. The sub-group wanted to call attention to the goal of reaching NRV levels for all s-classes within this system. There may be reasons other than restoration to create gaps, primarily for wildlife benefits. This would still be within bounds of the NRV, and under the U-B-Gone scenario, that is the target. The document discusses how gaps might be added for wildlife and what they should look like.

The committee discussed the NRV for early successional habitat in the cove system. The sub-group drafted this section under the assumption that the NRV value was five percent, but it is four percent. Mr. Low noted that LANDFIRE description does not include old growth and that when he split up classes to create this new class and re-ran the models, early successional came back as four percent, but he noted that a one percent change is not statistically meaningful. The committee noted that 1 percent makes a large difference in 100,000 acres. One member suggested removing one percent from old growth and moving it to early successional, especially since this model was not peer-reviewed. The committee discussed a variety of options for addressing this discrepancy, including referencing a different model run, adjusting the NRV outcomes, and noting that the five percent goal was a decision of the committee and was not based on the NRV. The sub-committee felt strongly about maintaining the existing language and decided to adjust the NRV and decided to note the change in the methodology.

The committee discussed the recommendations concerning gap sizes in this forest type and whether gaps should be created by natural or mechanical means. Natural disturbances create small gaps of under two acres, but these small gaps are not accounted for in the model. Therefore, the model may under-represent the current amount of smaller gap openings. However, some members felt that even if there are actually more existing gaps than the model accounts for (due to their smaller size not being evaluated and tracked presently), large gaps were also important to create in order to provide more habitat for nesting and foraging birds and animals.

Creating these gaps would require mechanical treatments. Concerns were raised that it would be economically unfeasible to create two-acre gaps using mechanical methods, as the infrastructure necessary to reach harvest sites is too large an investment for such a small job. Twenty acres was

suggested as a more reasonable gap size for this reason. Some committee members called attention to the ecological benefits of multiple small patches of early successional habitat and suggested that stewardship contracting might be one method of addressing the economic concerns.

The USFS staff in attendance noted that the combination of two-acre clear cuts interspersed among large tracts of thinning within one project could improve the economics for this treatment strategy. The committee discussed using two to 40 acre openings connected by areas of thinning. Although the committee considered referencing the current USFS management plan in its delineation of gap size, the USFS visitors noted that the language of that plan could change and it would be better to be more specific within the recommendations. The committee noted that this is a new way of logging that has not been done much before and its success will need to be monitored. One member mentioned that he is familiar with projects where this has been tried, and he could research whether the project had realized the hoped for ecological outcomes.

The group settled on recommending a range of gap sizes (see bulleted list following). The language leaves flexibility for the USFS to take into account circumstances on the ground when figuring out how to achieve these goals for early successional areas.

The committee also agreed that the management strategies should be better defined. The recommendations document should include a glossary, but the document is written with USFS as the intended audience so the glossary need not be comprehensive. The following terms were defined:

- Gap – leaves less than 40 percent of existing basal area.
- Group selection is 1 to 3 acres. Gaps of 2 to 40 acres should not be referred to as group selection.
- Regeneration harvest – leaves less than 30 percent of existing basal area.
- Thinning – Leaves above 40 percent of the basal area remaining or the site index per oak (measured in number of square feet per acre).

The committee discussed the combining different forest types within a single sale or unit and the amount of harvestable acreage within those sales. The USFS will have to track their work on the various forest types in addition to the geography of the sales. Harvestable areas can be as large as 40 acres, although the project area might be larger, accounting for riparian areas, steep slopes, and other unharvestable areas. The USFS will need to go into the field to lay out sales, as they always do.

Mr. Low pointed out that recommendation #3 in the report specifies a different harvest age (60 years) than was used in the model (80 years), and the model should be updated. Another member pointed out that some species of trees are commercially viable at 60 years of age.

To Do Summary

- Come back to 20-50 year mgt of Montane Pine forest
- Revisit language under economics, feasibility & contracts; draft language about appropriate staffing levels; revisit recommendation about categorical exclusions
- Low-elevation pine recommendations – if mid-closed is too much, consider the thinning of mid-closed and/or more frequent prescribed fires to keep early as early. This will be added as caveat to #1.
- Montane pine –
 - Change the language in # 3 to “or” instead of “and.” Make that same change in several places.

- Adjust language in #2 (emphasize the language about increasing mid-open condition) or adjust the treatments in the model.
- Riparian – flag these for the adaptive management discussion.

Threatened and Endangered Species Draft

The committee discussed the choice of species list referenced in this draft report section, the list provided in the Cherokee Forest Land and Resource Management Plan (LRMP). This list is fairly comprehensive and can be used to do the same analysis that was intended, using the State Wildlife Action Plan (SWAP). The SWAP also provides a species list. Concerns had been raised that the LRMP list might not be as comprehensive as the state list; however, a comparison of the two lists revealed that most species missing from the LRMP list which are found in the SWAP are either common, are associated with other habitat types, or are not being managed actively. Therefore, using only the LRMP list would not leave out any species of interest for the Cherokee.

One member commented that the first point does not seem explicit enough to offer direction to the USFS. The committee discussed taking a programmatic approach to reduce project-level delays in the NEPA process. One USFS visitor mentioned that this approach had been taken in Region 9, but it has not worked as they have had to prepare project-level reviews as well. The committee discussed examples in North Carolina and within the CNF where the USFS has been able to address some issues at the program level and agreed to adjust the language here: **rather than “mitigate the need for,” “minimize the resources or time devoted to.”**

Another member raised a concern that the language in the fourth bullet seems to imply that the committee is empowering the USFS to prioritize restoration projects, which seems to overstep the committee’s role. The committee discussed the goal of this point, which is about prioritizing rare communities, not projects. In addition, USFS staff mentioned that the USFS needs partners in prioritizing rare communities and they can also help do the work once the priorities are set. The following language adjustment was agreed to:

- **“Continue rare community restoration planning efforts and develop partnerships to implement management projects to address restoration needs.”**

The committee also agreed to move bullet point three to the top of the list.

Master Draft Document for Final Report

Since the committee last reviewed the entire document on the August 31 conference call, changes were made including the addition of appendices, adding sections on biomass and biofuels, roads, and watershed approach; and changes to the economics section. Anyone with changes to this version should let the whole group know about those suggested comments or changes. The next version will have those changes accepted and have tracked changes from this current meeting. Comments will be due to Katherine Medlock by Friday the 16th.

Ms. Medlock requested a deviation from the committee’s protocol; she requested an extension to get the revised version back to the group with only a week to review before the meeting. This was approved by the committee.

The committee next discussed including estimates for management costs not currently included in the model scenarios, such as the staff needed to implement management strategies, to provide a figure to be used for fund raising. There are many recommendations for which the costs have not been quantified.

One member volunteered to look at the cost of the Woolly Adelgid Environmental Assessment. Ms. Medlock and Mark Healey will review all of the items that could incur additional costs and see if they could be quantified.

Adaptive Management/Monitoring Approach Recommendations and Role of Committee Going Forward

The Nature Conservancy (TNC) is interested in developing a monitoring approach to the implementation of recommendations. Ms. Medlock presented TNC's proposal for a Watershed Team, which would pick a watershed and conduct a similar collaborative process at a watershed level, looking at what restoration projects across a watershed landscape are appropriate. Under this process, the watershed team might look at 15,000 to 20,000 acres worth of treatment, working toward project-level treatments. The approach would be to conduct another collaborative process to develop opportunities for implementing the CNFLRI recommendations at a watershed project scale. If the whole committee wants to be on the team, that would be great, but at minimum, TNC would like the team to report back to this full committee at some interval (6 months or a year). This would be in addition to any efforts to monitor implementation of the committee's recommendations, but might be a big portion of the monitoring work, especially in terms of an adaptive management approach.

TNC is proposing this strategy because at many points during this process, it has been pointed out that it remains to be seen how these concepts work at the project level. In addition, this entire effort will be measured by the first projects that come out of it. It is important to carry the effort through to implementation and develop projects that are collaborative.

The committee will discuss this in greater detail at the next meeting. Initial reactions included the need to rely on others for more specific expertise, a desire to rely on Steve Simon's assistance, and concerns about inclusivity and not undermining the existing public process.

Mark Healy stressed the desire of the USFS to go through the watershed assessment process and get the entire NEPA process underway to allow for faster project level development in the future. Another USFS visitor noted that the USFS is very interested in being able to engage in this group or an expanded group to identify opportunities at the watershed scale. They pointed out that such an effort could build support and trust and help with the streamlining of analysis and NEPA process, as well as identify partnerships for stewardship. The result of a watershed team process would be a set of recommendations, which would be put out as a proposal to the public and go through the normal public process. A USFS visitor noted that this would help alleviate the idea that the USFS comes out with a pre-conceived idea of what they are going to do. This could be viewed as an implementation pilot project. The USFS needs a catalyst to keep this going until it becomes standard operating procedure.

In terms of public engagement, one member asked how this is different from the watershed meetings that used to be held. Another member responded that they are not suggesting doing watershed assessments again, but taking these recommendations for vegetation management to the watershed scale to see how they work on the ground. This could provide a test run for an adaptive management approach. The Nature Conservancy is not willing to commit yet to doing this in every watershed. It

might not need to go further. If everything works well, then in the future, the USFS may be able to implement this without convening a collaborative process. One member suggested that an outcome could be to show how the USFS could improve their planning process for future watershed-scale plans.

The committee discussed the priorities for the next public meeting. The following suggestions were made:

- Provide large maps showing Steve Simon's work with labels. Zoom in and focus on examples.
- Explain the NRV and the goal of returning to that distribution of s-classes. Show the summary chart and bar graphs, one graph representing oak and one representing pine.
- Discuss the number of acres harvested and the number burned.
- Explain the differences between the scenarios.
- Explain what uncharacteristic classes are and explain that a major recommendation is treating uncharacteristic classes.
- Describe the goals of increasing open, early conditions.
- During individual conversations, discuss ideas in greater detail. What are gaps and who uses them? What is the value of early? Talk about a diversity of habitat types. What is the NRV and why does it matter? What does it have to do with long-term resilience?
- Show no management versus management projections.
- Why are the forests "out of whack" – review the history briefly.
- Include both question and answer and interaction time.
- Have an "everything else" USFS answer station.

The committee discussed methods of capturing the public's concerns and comments and addressing them. Suggestions included allowing for submission of written comments at a station staffed with a recorder, allowing for a period of time over which the public will be able to submit comments, recording comments and questions posed during the question and answer session. In addition, a number of questions will be posed to public participants, including:

- Do you understand? What is your interpretation of what are doing?
- Are there any ecological considerations we have left out?
- Do you think we are on the right track? Why or why not?
- How would you like to be engaged going forward?

The committee will have a very quick turn-around between the September 20th and 29th meetings and then will be able to have a final draft available for public comment before the final meeting on November 10th.

Future Meetings:

Public Meeting September 20th from 6:30 to 8:30 p.m. in Erwin

Committee Meetings September 29th in Jonesborough and November 10th in Morristown