Cherokee National Forest Landscape Restoration Initiative

DRAFT Steering Committee Meeting Notes for Workshop #3

Historic Visitors Center, Jonesborough Tenn.

Tuesday, May 31, 2011

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

Steering Committee Members Attending:

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

Staff Attending:

Karen Firehock, Facilitator; Melinda Holland, Facilitator; Kate Bird, Note-Taker; Greg Low, Workshop Leader.

Guests Attending as Technical Experts: Steve Simon.

Observers Attending:

Alex Wyss, the Nature Conservancy; Linda Ordway, Ruffed Grouse Society; Josh Kelly, WildLaw; Jim Stelick, USFS, Cherokee Forest Watauga District; Guy Street, Stephanie Medlin, and Greg Salansky, USFS Cherokee National Forest; Robert Lewis, USFS.

Introductions:

The meeting began with opening remarks about the meeting's format and purpose from project facilitator Karen Firehock, followed by the introduction of the steering committee members and observers. Presentations, meeting materials, and summary will be posted on the Cherokee National Forest Landscape Restoration Initiative's web site:
http://www.communityplan.net/cherokee/minutes.htm

Recap from Workshop Two and Progress Update

Greg Low presented an update of work accomplished since the last workshop, including details on the refinements made to the potential management strategies, outcomes, and costs for all forest systems based on steering committee input during Workshop Two. Model adjustments included:

- Incorporation of high fire suppression scenario.

- Incorporation of all management strategies into models.
- Adjustment of low elevation and Montane pine parameters.
- Adjustment of uncharacteristic spruce acres and departure score.

In addition, Mr. Lowe ran Vegetation Dynamics Development Tool (VDDT) simulations and recorded outcomes of four alternative management scenarios for all focal ecological systems.

- **Maximum ecological management:** seeks the lowest possible ecological departure in 20 years using any combination of treatments and acres, without consideration of cost.
- **Fire only management:** seeks the lowest possible ecological departure using only prescribed fire, without consideration of cost.
- **Mechanical only management**: seeks the lowest possible ecological departure using only mechanical treatments, without consideration of cost.
- **Return on Investment (ROI) Management**: seeks the highest possible ROI score – the best reduction in ecological departure versus "no management" that can be achieved for the lowest cost.

These scenarios are evaluated using the ecological departure score, which measures how much the system is departed from its modeled natural range of variability (a lower score is "better," indicating less departure), as well as a Return on Investment (ROI) score, which compares the dollars spent on restoration with the reduction in the ecological departure score (a higher score indicates a larger reduction for less cost).

A committee member asked if the income stream from harvest is accounted for in the mode or simulations. Mr. Lowe explained that income from harvest is not accounted for in this model because adequate the data were not available. When given the choice between commercial and non-commercial, the lower-cost option (commercial) was always used. The revenue generated is an important consideration for the committee, but could not be worked into the model. Mr. Lowe further explained that he did not try to make distinctions between small and large commercial operations. A member commented that stewardship contracts can increase the value of projects and should be considered in the commercial harvesting as a benefit. In response to another question, Mr. Lowe clarified that a $50 per acre cost for commercial harvesting was used in the last model runs, which also includes the cost of the sale preparation by the Forest Service.

Another committee member noted that private landowners do not have a cost for commercial harvesting and asked why the Forest Service has to spend $50 per acre to sell timber? A Forest Service representative explained that preparing for a timber sale costs from five to 10 percent which includes costs of lawyers, salary costs including a marking crew, and other administrative duties. He acknowledged that the Forest Service would usually make money with the receipts from the sale. Another member noted that it is difficult to calculate how to include the revenue because it varies widely across time, forest types, etc. On a normal timber sale, 25 percent goes to the US Treasury. The remaining revenue goes to the Knutson-Vandenberg (K-V) Fund for wildlife management improvements in the area generating the revenue which is supposed to be on top of the usual budget. An additional 25 percent is taken out for the county. The revenue has a lot of restrictions on it.

None of the costs reflect the amount spent on planning, including Environmental Assessments (EAs) and Decision Memorandums. These amounts vary with the project. Prescribed burn costs less to get through the National Environmental Policy Act (NEPA) process than a timber sale. The model currently assumes that that cost is the same across all projects. It would be very difficult to account for these variables in the modeling. You need to go through the NEPA process every time you burn. The cost and revenue issues could be dealt with qualitatively in the steering committee's recommendations.

Model Run Results for Each of Nine Systems

Greg Lowe presented the results of runs using the revised model assumptions and four management scenarios for nine types of forest systems: cove, dry oak, dry-mesic oak, low-elevation pine, montane pine, montane red-chestnut oak, northern hardwood, and riparian/floodplain, and spruce-fir.

Cove Forest

Mr. Lowe noted that the model suggests that with no management, this system gets closer to its natural condition over time through natural processes. Through time, more mid-closed ages into late-closed so the distribution among types is closer to the natural range of variation. He explained the outcomes of the various possible management strategies listed on the "strategy worksheet" for Cove Forest.

A committee member noted that it seems odd that one percent early successional forest would become the percent under a no management scenario, which seems to assume a lot more disturbance in the future. Mr. Lowe responded that the model assumes a wind/weather/stress event that takes 0.2 percent of the system a year over 20 years back to early successional. In response to a question on why that has not happened over the last 20 years, Mr. Lowe noted that it is not clear and that the model is not perfect. The model assumes that In 20 years, things will start breaking up in those old growth stands, as shown by the study of stand dynamics in coves in this part of the country. The model accounts for minimum 1 acre size.

The committee discussed the cost and ecological implications of managing for uncharacteristic white pine. The maximum ecological management scenario completely eliminated the 2 percent uncharacteristic white pine present in the system, but costs a considerable amount of money ($1.1 million versus $240K for the ROI scenario). A committee member noted that without management, white pine is likely to increase in cove areas. Committee members suggested that the additional cost of removing white pine in the cove forest might be worthwhile, because removing it removes the seed source and the potential spread to other areas of the system, although it might not improve the ecological score substantially in the model. They also noted that the market for white pine is not good at this time. It was suggested that the committee could say it would like white pine to be removed if the market gets to a certain point.

During further committee discussion on the economics of timber harvest a member noted that to make harvest economically feasible, after road construction, at least 10 acres to 20 acres areas would need to be cut. He further noted that cutting 2 acre gaps is not economically feasible based on the value of the timber. A member noted that how the sale is put together is important in terms of the economic

feasibility of a project, and suggested the committee consider making recommendations to increase the economic feasibility of the type of timber sales proposed for restoration purposes. Others suggested including recommendations about how the Forest Service puts timber sales together, including the idea of incorporating smaller, less economically feasible harvests into larger commercially viable sales.

Mr. Lowe further noted that coves are not suitable for hardwoods like oak, although you would think it should be, and managing for species that belong in an area is more sustainable in the long run. It was also noted that fire is not a good management strategy in coves.

Committee members also discussed gap sizes, with Steve Simone noting that natural disturbances are assumed to created gaps of ¼ to ½ acre, but the model can only work with one acre or larger. An observer noted that the way the s-classes are developed with the available data and canopy cover information, does not capture the smaller gaps, so the early classes are under-represented. Another member commented that in the Forest Service's land management plan, early successional forest is measured in 2-acre gaps and larger. It was noted that the recommendations could qualitatively describe the size gaps desired by the committee.

Possible recommendations discussed by the committee include:

- The removal of white pine when the market for that wood reaches a certain point and its removal becomes more economically viable.
- Strategies for drafting timber sales for gap-thinning harvests that will be both economically viable and help remove uncharacteristic forest.
- Incorporation of timber removal in marginal areas within larger timber sales to make them feasible.
- Qualitative discussion of tulip poplar management strategies.

Dry Oak Forest

Mr. Lowe reviewed the modeling results for dry oak forest, noting that this system is highly departed with a score of 61 for the late closed condition. In a no-management scenario, this system does not improve, as it is more fire-dependent and the amount of old growth will increase.

The committee discussed the challenges of low economic opportunity due to the dry, steep slopes and lack of commercial viability of the wood harvested in this forest type. Strategies discussed included prescribed burns and woodland restoration. Committee members supported focusing on treating the uncharacteristic classes in this system. Steve Simon mentioned that this forest might be most sustainably managed in a woodland condition with 45 percent canopy cover, which is classified as late open forest in the model. The committee discussed several possible changes to the model scenarios including increasing prescribed fire and woodland restoration as well as changing assumptions about the costs of regeneration harvest and woodland restoration, as harvest in this forest type might not be commercially viable.

Dry-Mesic Oak

Mr. Lowe explained that in this scenario, there is just a little improvement with no management. The ROI treatment is much cheaper than it is in the dry oak forest, with a higher ROI score. The ROI scenario includes a combination of commercial thinning, regeneration harvest, prescribed fire, and some harvest-restore where there are oaks present in uncharacteristic classes, similar to the scenario for dry oak. The thinning treatment creates gaps, removing 20 percent of the basal area. This is low-hanging fruit, and more so near roads and on slopes less than 30 percent. Some committee members noted that regeneration harvest could be commercially viable in this system for 10 to 40 acres stands. Others noted that fire will create more class A, whereas thinning creates more late open conditions.

Possible recommendations discussed included:

- Recognizing that maintenance burning is needed, especially in an open condition. Prescribed fire can create and maintain open classes.
- When commercially viable, harvest uncharacteristic classes. White pine and tulip poplar in dry-mesic and mesic oak forests are decent-sized.
- Adjust the way the model calculates class A to achieve 7%, and then see the impact on the rest of the system.

Low-Elevation Pine

Mr. Lowe explained that this system is fire-dependent and the ROI scenario includes only two treatments: woodland restoration with seed source and prescribed fire, at a cost of $625,000. The maximum ecological strategy costs $10 million. A Forest Service representative noted that there is a lot of private land bordering low-elevation pine systems, making the use of prescribed fire more difficult and necessitating the creation of fire breaks (which also create more Class A habitat).

The committee discussed the addition of fire breaks, which are expensive but might yield benefits and be necessary for safety, as a restoration strategy. Possible recommendations discussed included:

- Use thinning rather than using prescribed fire for management where possible, due to the prevalence of low-elevation pine in the wildland/urban interface (WUI).
- Consider the use of the Forest Service's WUI funding for thinning treatments rather than prescribed fire in areas within the WUI. Also consider WUI funding for creation of fire breaks.

Montane Pine Forest

Mr. Lowe explained that there was a large change in the outcomes due to a change in the model, stemming from new information from Steve Simon. The model now assumes that 80 percent of the late-closed moves to the open class and 20 percent to the early successional class when fire is used. The other change came from a field trip, where the committee observed the patterns of montane pine. After pine beetle infestation, regeneration resulted in pine naturally after just one burn, not needing repeated fire or planting. It was estimated at the last workshop that 30 percent of this type has a seed source, and the success rate was increased from 60 percent to 80 percent.

The committee discussed various treatments for this type of forest, including prescribed fire and mechanical thinning. The committee also discussed the challenge of managing montane pine forest that lies within areas classified as wilderness, or within the Appalachian Trail view shed, where management strategies are somewhat restricted. A member suggested that the committee add something in its recommendations about the feasibility of various management strategies in wilderness areas.

The group discussed a strategy to move mid and late closed classes to mid open through a process of thinning, waiting, and then burning. This strategy will be incorporated in the next runs of the model.

Montane Red-Chestnut Oak Forest

Mr. Lowe noted that mechanical treatments have a higher ROI than fire because this system is less fire-tolerant. A no-management scenario increases the ecological departure score for this system somewhat.

The committee discussed the costs and benefits of the restoration harvest and planting strategy, which is expensive but reduces the prevalence of uncharacteristic classes. Committee members suggested that removing uncharacteristic classes might be more important than the ROI score suggests, with the benefits of increasing the early successional class, moving toward the natural species distribution, and creating income through harvesting (especially if white pine and yellow poplar are extensive). The committee discussed classifying uncharacteristic classes as "high risk" in the model to increase the weight given to their removal in the calculation of the ROI score. There was some committee support for removal of uncharacteristic classes where possible, whether or not it is economically beneficial. At the point of implementation, USFS could look at what makes the most sense.

Northern Hardwood

No treatments were suggested, as the northern hardwood system is relatively close to its natural range of variability in the model. The committee discussed concerns that a no-management scenario might result in the system moving further from its natural range of variability. A member noted that the Forest Service has been doing some harvest in this system which has resulted in only 2% Class A (not the 6% stated in the model results).

The committee discussed creating two new sub-classes of this system (areas that are higher elevation/more exposed and areas that are more cove-like). The committee suggested that the next run of the model could use the same disturbance regimes used for ridge-coves for these cove-like areas in the northern hardwood system. Steve Simone suggested using the weather/wind factors from high elevation red oak systems in the northern hardwood areas at higher elevations.

Riparian and Flood Plain

Mr. Lowe noted that this is not a heavily fire-dependent system, but does benefit from fire. Because this forest type is embedded in the landscape, he created a new treatment type in which the system is affected by prescribed burning in surrounding forest of other types. The committee members discussed

this new treatment type and made suggestions about model assumptions. Committee members also mentioned the need to address uncharacteristic white pine and restoration of river cane.

Spruce-Fir

Based on field observation, Steve Simon reclassified part of the uncharacteristic class, going back to the original BPS setting descriptions. The committee saw uncharacteristic stands of 80 years or more that are northern hardwood-dominated. There is lots of spruce in the understory there and they will outlive the hardwoods. The committee discussed a spruce restoration treatment option to speed the transition back to mature spruce with under-planting and/or thinning and girdling.

Wrap-Up and General Committee Business

Greg Lowe agreed to make changes to the model based on the discussions and recommendations at this meeting. Karen and Melinda reviewed the recommendations that had been discussed during the meeting and committee members volunteered to draft language for each topic or recommendation as follows:

- Use of stewardship contracts (both IRSTC and IRSC) – Mark Shelley and Dennis Daniel
- Value of potential timber sales is not reflected in the model – Katherine Medlock
- Management options available in wilderness areas and Appalachian Trail view-shed areas - Katherine Medlock

Other issues not covered in the model that should be addressed.

- Invasive species and forest pests – support efforts to treat them and encourage the USFS to implement early detection and response. (Joe McGuiness and Katherine Medlock)
- River cane
- Rare and endangered species
- Watersheds and water recharge
- climate change (Mark Shelley, Katherine Medlock)