

Collaborative Restoration Workshop

National Forest Foundation | April 2016

Implementation | Connecting Planning to Effective Implementation

Key Topics: Modeling and GIS

Speakers

- **Jeffrey Underhill**, Regional Silviculturist, USDA Forest Service Rocky Mountain Region
- **Travis Wooley**, Forest Ecologist, The Nature Conservancy
- **Sandrah Mack**, Blackfoot-Swan Landscape Restoration Project Team Leader, Northern Region, USFS

Overview

This session focused on strategies for increasing efficiency in restoration implementation. Specifically, presenters addressed the benefits and concerns of utilizing Designation by Prescription to guide restoration work.

Jeffrey Underhill – Methods of Designation

Jeffrey Underhill described implementation methods that have been utilized for the Colorado Front Range Initiative on the Pike National Forest. The problem Underhill's project has faced is how to implement complex and diverse treatment goals most effectively across a large landscape. Restoration treatments in dry forest types are often focused on the development of complex structures through spatially heterogeneous treatments.

Individual Tree Marking (ITM) is a method of designating specific trees to be left that has the highest level of accuracy and accountability. It is not practical and often very costly to implement this strategy over large landscapes.

One newer implementation method is *Designation by Prescription (DxP)*. This is a method of designating trees for removal by describing the desired end result of the treatment; for example, retain 60 percent basal area.

- *Benefits* – This method is far more efficient and saves a great deal of time and money that would be used on the preparatory work of designating individual trees for removal.
- *Concerns*
 - This method relies heavily on subjective decisions made by the contractor. If a contractor is experienced with the landscape and familiar with the project goals, this may be a good option. But limited experience and high turnover may mean contractors lack the capacity to implement the project consistently with less specific guidance.
 - The more complex a treatment goal is, the less likely a designation by prescription will offer specific enough guidance.

In projects with complex restoration goals there has been success in using DxP together with ITM only in the highest priority areas. By identifying areas with highly complex structures, ITM can be utilized where it provides the most important guidance.



Lessons

- There is no “one size fits all” implementation method
- Rule of thumb: Designation by Prescription may be too complicated to implement with more than three key prescription criteria.
- An emphasis on heterogeneity should be at the project / watershed / landscape scales.
- Prioritize areas where highly-complex structures are desirable and implementation methods may require more time and money.
- Heterogeneity at the stand scale is a process that may take multiple entries. First entries often reduce structural complexity in order to shift species composition and reduce densities

Travis Woolley – Digital Restoration on the Four Forests Restoration Initiative, Arizona

Travis Woolley presented on efforts of The Nature Conservancy, working alongside collaborative stakeholder groups, to increase the pace and scale of implementing forest restoration across four of Arizona’s National Forests. Like the restoration projects in Colorado, the Forest Service in Arizona is considering the benefits of *Designation by Prescription* (DxP) over the lengthy and costly method of *Individual Tree Marking* (ITM). DxP is clearly cheaper and more efficient, but it has the downsides of decreased reliability and accountability. One method of addressing issues with DxP while keeping costs low and increasing both efficiency and accuracy is through the use of portable GIS mapping technologies.

The Nature Conservancy has started using GIS mapping applications on portable devices that allow project planners, contractors, and monitors to share detailed information about a landscape and the restoration process. Rather than marking trees by hand, a project plan can be mapped digitally over a landscape, with specific instructions attached to different locations. Operators have access to this detailed project map while on the job. Moreover, operators can seamlessly document their work, including maps of each tree harvested. This technology has already increased efficiency, lowered preparation costs, and increased trust and communication between planners and contractors.

Sandra Mack – Southwest Crown of the Continent

Sandy Mack discussed the process the Forest Service conducts between completion of the NEPA analysis and implementation, which is a question collaborative groups sometimes ask. Collaboratives often spend a great deal of time in the planning phase, creating a vision for what a project will achieve and developing a description of objectives and treatments. Then there is the feeling that post-NEPA and pre-implementation, the project goes into a “black box” and implementation doesn’t necessarily reflect what the collaborative envisioned. Sandy recommended asking clarifying questions to ensure a common understanding of the project and the plans.

Resources

- [Digital Restoration Guide - by the Nature Conservancy](#)

