

# Laws Affecting Reforestation on USDA Forest Service Lands

Eric Watrud, Fred Zensen, and Robyn Darbyshire

*Regional Silviculturist, Region 6, USDA Forest Service, Portland, OR; Regional Reforestation and Nursery Specialist, Region 6, USDA Forest Service, Portland, OR; Forest Silviculturist, Wallowa-Whitman National Forest, USDA Forest Service, Baker City, OR*

## Abstract

Many laws affect reforestation practices on U.S. Department of Agriculture (USDA), Forest Service lands. This article summarizes several acts that have had important influences on Federal reforestation. In particular, we delve into The Knutson-Vandenberg Act of 1930 and the National Forest Management Act of 1976, which have had the largest effect on reforestation of the national forests.

## Introduction

Reforestation has a long and mixed history in the United States. At the beginning of the 20th century, States in the Great Lakes region experienced massive firestorms as wildfires raced through cutover and denuded areas. In the West, the great fires of 1910 that burned Wallace, ID, led to the famous incident in which Ed Pulaski (after whom the tool is named) saved his crew by forcing them into a mine shaft and holding them there at gunpoint to escape the flames (Pyne 2001). These events and subsequent episodes, such as the Tillamook Burn (a series of large fires in western Oregon from 1933 to 1951), tore through the West and seared themselves into the collective memory of the American public and underscored the need to reforest landscapes (Tillamook County Online 2012).

Capitalizing on this reforestation need and also to put large numbers of people to work, President Franklin Roosevelt created the Civilian Conservation Corps, which, among many other notable accomplishments such as construction of many of the grand lodges of our National Parks, planted hundreds of thousands of acres of trees.

The aforementioned factors and many others developed into a growing national environmental consciousness, which led to many Federal laws that directly and indirectly influence reforestation on Federal, and sometimes other, lands. In addition, many States, beginning with Oregon in 1971, have adopted forest practices acts that regulate activities on non-Federal lands.

In this article, we will briefly explore some of the relevant Federal laws that affect reforestation and delve more deeply into two key laws that have a profound effect on management of the national forests, primarily through funding and policy implications for reforestation.

## Overview of Federal Laws Affecting Reforestation

### Clarke-McNary Act of 1924

This act allowed the USDA to work with land-grant universities and other agencies to support and educate private landowners regarding reforestation efforts for “wood lots, shelter belts, wind breakers, and other valuable forest growth” (Title 16, United States Code [U.S.C.], Section 568) (figure 1). Among other things, this act also supported many graduate degrees in forestry to aid in the development of reforestation efforts nationwide.

### The Knutson-Vandenberg Act of 1930

This act, known commonly as KV, authorized establishment of new USDA Forest Service nurseries and provided official



**Figure 1.** These informational signs at a demonstration nursery at Eagle Creek Campground show one of the many avenues the USDA Forest Service used to educate the public about reforestation. (Photo from USDA Forest Service archives, date unknown).

codification for existing USDA Forest Service nurseries (figure 2). In addition to nurseries, KV was designed to “do all other things needful in preparation for planting on National Forests” (16 U.S.C. 576). In particular, KV permits the collection of funds from USDA Forest Service projects, such as timber sales, to pay for reforestation and improvement of the sale area. Further exploration of KV occurs later in this article.

### Anderson-Mansfield Reforestation and Revegetation Joint Resolution of 1949

This resolution declares that “denuded and unsatisfactorily stocked timberland...[or] seriously depleted rangelands... will not restock or revegetate satisfactorily or within a reasonable time except through reforestation and revegetation...” (16 U.S.C. 581j). The resolution set a 15-year timeframe to reforest these lands and also provided funds for acquisition of non-USDA Forest Service land to be used for nurseries. The ability to acquire non-USDA Forest Service land was significant because, up to that point, nurseries could be established only on land managed by the USDA Forest Service—and, depending on the location, that land was not necessarily ideal for nursery crop production. As a historical note, 1949 was also the year that Aldo Leopold’s *Sand County Almanac* was published.

### Granger-Thye Act of 1950

This act allowed donations from partners for reforestation and other types of work on non-Federal lands near a national forest. In addition, Granger-Thye made clear that USDA Forest Service nurseries may sell trees and seed to other Federal and public agencies, but they may not compete with private nurseries (figure 3).



**Figure 2.** This view of the Wind River nursery in Washington State shows the context of the nursery in relation to the Yaocolt burn. (Photo from USDA Forest Service archives, circa 1930).

### Multiple-Use Sustained-Yield Act of 1960

This act directed that many values be considered for use of National Forest System lands “so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land...” (16 U.S.C. 531(a)). In addition, the act directed planning to determine the “high-level annual or regular periodic output of the various renewable resources of the National Forests without impairment of the productivity of the land” (16 U.S.C. 531(b)). This again highlighted the drive to provide ample resources for reforestation to ensure long-term yields without decreasing the forested landbase.

### Endangered Species Act of 1973

The Endangered Species Act (ESA) directed all Federal agencies to “conserve endangered and threatened species” (16 U.S.C. 1531 Sec. 2(c)(1) and to protect their critical habitat. ESA had a large indirect effect on reforestation by dramatically altering the forest management approach and techniques in use in many areas of the country. A prime



*This political cartoon from the Sacramento Bee newspaper on April 4, 1941, shows that the government-private nursery competition issue is nothing new.*

**Figure 3.** There has always been a delicate balance in producing reforestation materials while not competing with private business. (From USDA Forest Service, 1997).

example of this effect is the large reduction in the use of regeneration harvest in the Pacific Northwest to conserve late seral habitat for the northern spotted owl (*Strix occidentalis caurina* [Merriam]). This reduction in regeneration harvest (which also resulted from many other legal, scientific, and social factors) resulted in a commensurate reduction in the near-term need for reforestation. In addition, potential listings under ESA for plant species such as whitebark pine (*Pinus albicaulis* Englem) can lead to special considerations for forest restoration programs and the methods used to collect, store, grow, and plant seeds and seedlings.

## Forest and Rangeland Renewable Resources Planning Act of 1974

This act directed the USDA Forest Service to prepare and update a Renewable Resource Assessment, which evaluated the Nation's timber supply every 10 years. Furthermore, the act specified that, on national forest lands, the agency perform surveys of reforested areas the first and third years after planting. The act also set the requirement that timber harvest will occur only if the lands can be reforested within 5 years after harvest. Many of these requirements were updated, included, or superseded by the subsequent National Forest Management Act.

## National Forest Management Act of 1976

The National Forest Management Act (NFMA) supplemented and amended the Forest and Rangeland Renewable Resources Act. NFMA applied to USDA Forest Service lands and continued to include requirements for first and third year reforestation surveys. It also continued to include the 5-year reforestation requirement. Furthermore, NFMA set out requirements to maintain lands in "appropriate forest cover" (16 U.S.C. 1606 Sec. 4 (d)(1)), to use "sound silvicultural practices" (16 U.S.C. 1606 Sec.6 (m)(1)), "to provide for a diversity of plant and animal communities" (16 U.S.C. 1604 Sec. 6 (g)(3)(B)), and to ensure that stands have generally reached "the culmination of mean annual increment" (16 U.S.C. 1606 Sec.6 (m)(1)) before regeneration harvest. These factors, among many, led to the current system of professional silviculturist certification within the USDA Forest Service. In addition, NFMA laid the groundwork for the creation of forest planning by requiring "one integrated plan for each unit of the National Forest System" (16 U.S.C. 1606 Sec.6 (f)(1)).

## A Closer Look at the KV Act

KV has arguably had the largest direct effect on the reforestation of lands managed by the USDA Forest Service. Not only did

KV officially authorize the establishment of the USDA Forest Service nursery system, which has supplied hundreds of millions of tree seedlings and other plant materials, KV also provided a funding vehicle to reforest and improve "the future productivity of the renewable resources of the forest land on [the] sale area..." (16 U.S.C. 576b Sec. 3 (a)(4)). The funding for KV comes from the sale of the timber (or other resource), and elements such as funding for essential reforestation (required stocking) can be included directly in the bid price for the sale in addition to a minimum of 50 cents per thousand board ft (MBF) to be returned to the National Treasury. This approach of requiring the bid price to cover essential reforestation ensures that adequate funds are available to reforest the harvested site. If additional KV funds are available, other enhancement projects can be conducted within the defined "sale area improvement" (SAI) plan. The SAI plan can encompass the harvest area and other area affected by the treatment (within ~0.25 mi [~400 m]). KV funds from one project may not be used to supplement another project, so each project must be self-sufficient.

## NFMA, a Key Law Affecting Federal Reforestation

NFMA has guided many of the policies of the USDA Forest Service for nearly 40 years. It would probably be an overstatement to describe NFMA as the Magna Carta of USDA Forest Service activities, but it has certainly provided the foundation for many core elements of national forest management.

A primary effect of NFMA has been the creation of forest plans for all national forests. These plans guide nearly all activities, management, and use that occur on National Forest System lands. The plans determine "forest management systems, harvesting levels" (16 U.S.C. 1604 Sec. 6 (e)(2)), and coordinate "outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness" (16 U.S.C. 1604 Sec. 6 (e) (1)) into a comprehensive management approach for a forest. The forest plan incorporates "public involvement" (16 U.S.C. 1604 Sec. 6 (f)(4)), "interdisciplinary review" (16 U.S.C. 1604 Sec. 6(g)(3)(F)(ii)), considers "economic and environmental aspects of various systems" (16 U.S.C. 1604 Sec. 6(g)(3)(A)), and must base decisions on the "suitability and capability of the specific land area to meet overall multiple-use objectives" (16 U.S.C. 1604 Sec. 6(g)(3)(B)).

NFMA's requirements also led to the system of certifying USDA Forest Service silviculturists. All vegetation management activities on USDA Forest Service lands must have a prescription that is reviewed and signed by a certified silviculturist. Silvicultural certification is a challenging process that

requires several years of experience with reforestation, timber stand improvement, and timber harvest and planning activities. In addition, candidates for certification must successfully pass 12 weeks of graduate-level education in various ecosystems around the country. Finally, the candidate must prepare and successfully defend a detailed silvicultural prescription before a panel of experts. After certification, silviculturists must complete required levels of advanced continuing education every 4 years and receive the recommendations of both their forest supervisor and their forest silviculturist to be recertified.

Certified silviculturists have the training and expertise to help ensure that the agency meets many of the requirements of NFMA. In addition to the requirement to use “sound silvicultural practices” (16 U.S.C. 1604 Sec. 6 (m)(1)) and to “maintain appropriate forest cover” (16 U.S.C. 1604 Sec. 4 (d)(1)), NFMA requires the agency to “preserve the diversity of tree species” (16 U.S.C. 1604 Sec. 6 (g)(3)(B)). The act also makes clear that ecological, not economic, considerations will drive the selection of harvest methods. For instance, the USDA Forest Service must ensure that “the harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber” (16 U.S.C. 1604 Sec. 6 (g)(3)(E)(iv)). Furthermore, regeneration harvest techniques such as clearcutting, seed tree cutting, and shelterwoods may be used only if they are “determined to be the optimum method...to meet the objectives and requirements of the relevant land management plan” (16 U.S.C. 1604 Sec. 6 (g)(3)(F)(i)). When these techniques are used, they must be “shaped and blended to the extent practicable with the natural terrain” (16 U.S.C. 1604 Sec. 6 (g)(3)(F)(iii)). Stands that are considered for regeneration harvest must have achieved, in general, culmination of mean annual increment (CMAI—that is, their biological rotation age as defined by their declining annual growth). NFMA provides exceptions to the CMAI rule to allow for “use of sound silvicultural practices, such as thinning or other stand improvement measures” (16 U.S.C. 1604 Sec. 6 (m)(1)) and for salvage relating to fire, windthrow, insects, and disease. NFMA also offers an exception to the CMAI requirement in consideration of multiple-use resources such as recreation and wildlife habitat.

NFMA has strong requirements that look ahead to the future productivity of a site, and focuses in particular on the ability to reforest an area. Timber may be harvested from national forests only if “there is an assurance that such lands can be adequately restocked within 5 years after harvest” (16 U.S.C.

1604 Sec. 6 (g)(3)(E)(ii)). The act goes further to ensure that the reforestation requirement is met by also requiring that treated lands “shall be examined after the first and third growing seasons and certified...as to stocking rate...Any lands not certified as satisfactory shall be...scheduled for prompt treatment” (16 U.S.C. 1601 Sec. 4 (d)(1)).

## Conclusion

Many laws, regulations, and policies influence reforestation and land management on the national forests. We have covered only a few important acts of Congress that have an effect on the reforestation of National Forest System lands. The primary laws that affect reforestation are The Knutson-Vandenberg Act of 1930 and the National Forest Management Act of 1976. The unique combination of KV’s official authorization to operate USDA Forest Service nurseries to supply reforestation materials, KV’s ability to ensure funding for essential reforestation, and NFMA’s requirement to complete reforestation within 5 years has led to a strong reforestation ethic on National Forest System lands. It is clear that laws and policies change over time, but the forward thinking contained in these two acts has helped ensure that current and future generations are able to enjoy and benefit from our Nation’s national forests.

---

## REFERENCES

- Pyne, S.J. 2001. *Year of the fires: the story of the great fires of 1910*. New York: Penguin Putnam.
- Tillamook County Online. 2012. *The Tillamook Burn*. <http://www.tillamook.com/burn.html>. (24 July 2012).
- U.S. Department of Agriculture (USDA), Forest Service. 1997. *The role of government nurseries*. *Forest Nursery Notes*. July: 34–36.

## ADDITIONAL READING

- U.S. Department of Agriculture (USDA), Forest Service. 1993. *The principal laws relating to Forest Service activities*. 4th ed. Washington, DC: U.S. Government Printing Office. 1,163 p.
- Williams, G.W. 2001. *Chronology of events and people in the development of the American conservation/environmental movement 1799–2001*. Washington, DC: U.S. Department of Agriculture, Forest Service. 87 p. <http://immersion.gmu.edu/forestry/spring2002/Design/Foundations/Conservation%20History%201799-2001.doc>. (25 July 2012).