

Reforestation on National Forest System Lands: Laws, Policies, and Opportunities

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Overview:

- Reforestation following harvest, and/or natural disasters, is critical to sustaining healthy forests. Recent increases in frequency, scale, and severity in wildfires in the West combined with ongoing turnover in personnel make the National Silviculture Workshop an ideal venue to review the laws and policies that direct reforestation on National Forest System Lands.
- The U.S. Department of Agriculture, Forest Service reforestation program has five major goals. (1) Maintain appropriate forest cover on all forest lands within the National Forest System (NFS). (2) Restore forested conditions to provide ecosystem services. (3) Improve the quality and yield of the timber resource. (4) Accelerate the attainment of desired species composition and stocking objectives in a cost-efficient manner. (5) Develop and demonstrate successful reforestation methods and techniques and encourage their use by other landowners.
- The United States has laws and the Forest Service has policies that direct reforestation on NFS lands; however, reforestation needs continue to grow because of lack of funding and capacity. Some laws are outdated and updating them could eliminate the accumulated and future reforestation needs. Decreases in timber sales have resulted in declining Knutson-Vandenberg funding. Threats to natural resources—and our diminishing expertise in addressing reforestation needs—have increased.
- Fortunately, the Repairing Existing Public Land by Adding Necessary Trees Act (REPLANT Act) will increase Reforestation Trust Funds plus global support on reforestation, like the One Trillion Tree Initiative, which gives an opportunity for the Forest Service to increase funding for reforestation from nongovernmental organizations and the public. Finally, the Reforestation Strategy developed by the Forest Service provides a plan to address the agency's accumulated and future reforestation needs.

Summary:

Table 1 provides a summary of how each law and policy addresses reforestation on NFS lands, but here I want to focus on the National Forest Management Act (NFMA) of 1976. NFMA directs the Forest Service to reforest by restoring lands to an appropriate forest cover that



maximizes benefits of multiple use sustained yield management. Reforestation work is also embedded in the law because the law requires that timber harvest only occur on NFS lands and harvested lands need to be adequately restocked within 5 years after a regeneration harvest. The act goes further to ensure that the reforestation is monitored (first and third growing season) and be certified as fully stocked. Any lands not certified need to be promptly treated so they can be certified.

In addition, NFMA requires the following information be compiled and submitted annually to Congress:

- (1) The amount, by Forest, State, and productivity class, of all lands where objectives of land management plans indicate the need for reforestation.
- (2) The amount, by Forest, State, and productivity class, of all forest lands not growing at the growth rate needed to meet the goals of the land management plan.
- (3) The status of newly deforested lands.
- (4) The status of precommercial thinning, release, pruning, and fertilization needs.
- (5) The amounts of treated land that have been certified as having achieved satisfactory stocking or growth rate as the result of the treatment after the first and third growing seasons.
- (6) The budgetary resources we need to prevent the development of a reforestation backlog.

Silvicultural Concepts:

Forest policies provide specific requirements for implementing the laws.

- FSM2470 provides policy direction for silvicultural practices on NFS lands (table 1).
 - Section 2472 provides (1) standard definitions for reforestation terms, (2) reforestation objectives, (3) reforestation plans and reports, (4) reforestation process, (5) certification of restocking and treatment, and (6) regeneration examinations.
 - Sections 2473, 2474, 2475 provide guidance and encourage the Forest Service to provide and use high quality, genetically appropriate seed to meet reforestation needs.
- FSM2470 clarifies the NFMA 5-year restocking requirement.
 - Section 2472.03 states, “Before scheduling stands for regeneration harvest, ensure, based on literature, research, or local experience, that stands to be managed using **even-aged management methods** can be adequately restocked within five years of final harvest (clearcutting, final overstory removal in shelter woodcutting, and seed tree removal cut in seed tree cutting). When using



uneven-aged management methods, they must be adequately restocked within five years after every regeneration harvest.”

- Section 2471.41 states, “Salvage and sanitation cuts are considered an intermediate harvest where intermediate cutting is required. However, if salvage or sanitation cutting is heavy enough to require regeneration, it is considered a regeneration harvest, and steps should be taken to adequately restock the stand within five years of final harvest.”
- Section 2475 provides greater clarity to the use of assisted migration (AM). It allows use of AM when science-based analysis indicates that current seed zones may lead to maladapted forests due to changes in climate and advocates using assisted population migration and assisted range expansion.
- Section 2475 provides new policy on genetically modified (GM) trees. It allows GM trees to be considered after regulatory review, and evaluation of risks vs. benefits. It requires the planting of GM trees be approved by a Regional Forester.
- FSM 2490 provides direction on data collection and reporting and review procedures associated with data collection and reporting procedures that quantify reforestation needs.
- FSM 2070 authorizes use of native plants on NFS lands.

Management Applications:

- Reforestation has now become a global priority—for example, the Trillion Trees Initiative (1t.org) launched by the World Economic Forum aimed at conserving, growing, and restoring 1 trillion trees globally by 2030. To date, dozens of companies, governments, and nongovernmental organizations have pledged to plant and conserve over 1 billion trees throughout the United States, and some of these pledges have included nursery production and investment.
- Executive Order 13955 (13 October 2020) established the One Trillion Trees Interagency Council in the United States, which will be responsible for coordinating the Federal government’s support of the global One Trillion Trees Initiative. Other global initiatives are in the broad area of restoration (including reforestation).
- Executive Order 14008 (27 January 2021), Tackling the Climate Crisis at Home and Abroad, utilizes reforestation to protect natural resources, increase resilience, and develop a diverse, well-supported conservation workforce.



Table 1—Laws and policies that provide Forest Service direction on achieving reforestation goals.

Legislative laws and statutes	
National Forest Management Act (NFMA) of 1976 (16 U.S.C. 1600 et seq.)	Section 3(d)(1) requires cutover or otherwise denuded lands to be restored to “appropriate forest cover” with “the species of trees, degree of stocking, rate of growth, and stand condition designed to secure maximum benefits of multiple use sustained yield management in accordance with management plans.” Section 6(g)(3)(E) requires that timber harvest will only occur on National Forest System lands where “there is assurance that such lands can be adequately restocked within five years after harvest.” Moreover, 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)). Forest plans provide guidance about adequate restocking to meet the management objectives for a specific area.
The Forest Service Organic Administration Act of 1897, as amended (16 USC 473-478, 479–482 and 551)	Identifies the purposes for establishing and administering National Forests, which are to improve and protect the forest, to secure favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States and, in so doing, provide for reforestation work in support of these aims.
The Transfer Act of 1905 (33 Stat. 628)	Moved Forest Service and National Forests from the U.S. Department of Interior to the U.S. Department of Agriculture, and further justified reforestation by requiring a permanence of forest resources.
The Weeks Law of 1911 (16 USC 528–531)	Directed the acquisition of forested, cutover, or denuded lands to regulate the flow of navigable streams or to produce timber and gave direction for reforestation to conserve forests and water supplies.
The Knutson-Vandenberg (K-V) Act of 1930 (16 U.S.C. 576–576b)	Establishment of forest tree nurseries and authorized timber sale purchasers to make deposits to cover the cost of reforestation and related work within timber sale boundaries. The K-V Act was amended in 1976 to broaden its purpose to include other renewable resources, such as wildlife habitat improvement. This Act ensures our reforestation treatment needs are met within timber sale areas.
Repairing Existing Public Land by Adding Necessary Trees Act (REPLANT Act) The REPLANT Act	Amends Title III of the Recreational Boating Safety and Facilities Improvement Act of 1980 removing the \$30 million per year cap on Reforestation Trust Fund. It mandates the Forest Service, and gives additional funds, to tackle the backlog of reforestation needs in 10 years.
Forest Service policies	
Forest Service Manual 2470 (FSM 2470)	Provides policy direction for silvicultural practices on National Forest System lands.
Forest Service Manual 2490 (FSM 2490)	Provides direction on data collection and reporting and review procedures associated with data collection and reporting procedures that quantify reforestation needs.