# National Perspective on Tree Planting Programs in the United States

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It is fitting that the Southern Nursery Conference is holding its meeting in 1992 in the State of Georgia, which has lead the nation in the amount of acres of trees planted for the last 9 years. Nationwide, tree planting continues to be an important part of forest management in the United States. As concern for the environment grows, the positive role that trees play in protecting, preserving and enhancing our ecosystems remains undiminished. This report will briefly present an overview of rural tree planting from a national perspective and discuss several issues of national importance.

As a nation, we are firmly committed to reforestation, planting over 2.56 million acres in 1991 using nursery seedling stock totalling 1.68 billion trees (Mangold et al. 1992). This represents a decrease of 11% from 1990 and is about 25% less than the all-time high reached in 1988 of 3.4 million acres during the height of the Conservation Reserve Program (CRP). Still, despite a recessionary economy, 1991 was the 7th highest for any year on record (Table 1). Regionally, in 1991, the South planted 69% of the total acres, the West

25% and 6% was planted in the North. About 82% of this planting effort was completed by private companies and nonindustrial private forestland (NIPF) owners, while the remaining 18% was done by public agencies, primarily the USDA Forest Service. Of the private tree planting, 53% was accomplished by forest industry and 47% by NIPF owners.

The NIPF group is a major player in terms of tree planting as a result of the large portion of the timber harvested in the nation from NIPF lands. The USDA Forest Service estimate (USDA 1989) projects a 31% increase in the level of timber harvest from forest industry and nearly flat trajectories for USDA Forest Service and other public agencies over the next 50 years. However, a 70% increase is predicted for the nonindustrial private landowners. Clearly this group will need increased attention in terms of technical assistance for forest management.

Reforestation assistance is a key element in ensuring each forest gets off to a good start, however, by its nature, reforestation success is limited by the weakest link in the system. As professionals, we can provide the most genetically advanced "target" seedling, but if the landowner handles the seedling inappropriately, all of the advanced technology is to no avail. For professionals in the business of helping NIPF owners, our job is to ensure that the landowner has the know-how to handle the reforestation job correctly.

To stimulate NIPF owners to manage forestland using the best reforestation techniques, the Federal government has a number of cost-share programs. Most of these programs are delivered through the State Forestry agencies and the Agricultural Stabilization and Conservation Service (ASCS), with technical

assistance from other organizations, such as the Soil Conservation Service and Extension Service, as well as the USDA Forest Service. At the forest level, programs are implemented when the landowner makes an application for a program and a written agreement is reached between the landowner and governing agencies. State Foresters are responsible for approving on-the-ground work related to forest management. After approval, landowners are paid up to 75% for the cost of a practice, be it tree planting or planting a streamside buffer zone. These programs provide significant impetus to the timberland owner to practice good forest management and have contributed to large increases in reforestation levels, such as the sharp increase in tree planting activity experienced in the late 1980's due to the Conservation Reserve Program (CRP). Because of the numerous possible programs available, landowners should work with their State Forestry agency to decide which program(s) best fits their needs.

The Federal program that has been responsible for planting the most acres has been the Agricultural Conservation Program (ACP). It was started in 1936 and continues to the present day with the objective of promoting soil and water conservation and woodland management. Through this long-term program over 7 million acres have been planted to trees. The Forestry Incentives Program (FIP) started in 1974 and is ongoing. Its primary goal is timber production and it has been responsible for planting 2.79 million acres of trees. A popular program, the CRP was started in 1987 and still provides funds to establish permanent vegetative cover on erodible cropland and improve water quality. CRP has been responsible for 2.3 million acres of tree planting. The Small Business Administration has a program that was initiated in 1991 to

distribute grants to small tree planting businesses in both urban and rural settings for tree planting. The program has been very successful to date.

A new program, the Stewardship Incentive Program (SIP) is a multi-resource program that permits the landowner to perform a variety of practices, such as wildlife habitat enhancement, soil and water improvement, recreation development and tree planting, the latter of which is a national priority of SIP. SIP differs from other existing cost-share programs in that the USDA Forest Service has the lead role in the design of the program. In fact, SIP was authorized under a Forestry Title in the 1990 Farm Bill, which is the first time in history that the importance of forestry was recognized with its own title. Landowner sign-ups for this highly complex program were delayed until 1992 because of the difficulty in refining the multi-resource aspects of the program. With sign-ups in full swing since Spring, 1992, we expect significant tree planting to occur under this program. SIP has a companion program, the Forest Stewardship Program (FSP), which helps landowners develop stewardship management plans. SIP can then be used by the landowner to pay for the implementation of the management plan outlined in the FSP. A requirement of implementing any SIP practice is that an approved management plan is completed and on file with ASCS and the appropriate State Forestry agencies.

The USDA Forest Service has continued its strong reforestation program on National Forest lands, planting 317,376 acres in 1991 and using natural regeneration on 185,624 acres (both with and without site preparation). Recently the USDA Forest Service has taken an ecosystem management approach to the management of National Forests. Although this is a concept that is unfolding as I write, it does mean that National Forests will be managed with

multiple-use in mind, blending the needs of the people and the environment, resulting in healthy, productive and sustainable ecosystems. The impacts this direction may have on artificial regeneration efforts are difficult to predict. However, I believe artificial regeneration and tree improvement programs will continue to help enhance forest productivity and sustainability in the National Forest System.

Relying solely on natural regeneration on National Forest System lands will not yield full stocking in some cases because seed sources are either insufficient or absent, or would result in dysgenic selection if left to regenerate the landscape. Planting will remain a tool in National Forests to improve genetic diversity within species and diversity among species. For example, in terms of the former, in the East some stands have been high-graded, which has resulted in residual stands of inferior phenotypes serving as future sources of regeneration. Planting genotypes with good form and appearance will improve the quality of these forests. In terms of species diversity, in the West we need artificial regeneration for ecosystem restoration, for example, because there are lands where ponderosa pine has been selectively logged and, combined with years of fire suppression, the proliferation of less insect-resistant species, such as grand fir and Douglas-fir have occurred. In these areas artificial regeneration of ponderosa pine is needed to alter the species mix and thus improve the resiliency of these ecosystems. We also need to use planting to fill in the shortfall from natural regeneration in uneven-aged stands and stands that have been selectively thinned, because seedlings generated from uncut trees cannot get established due to low light levels on the forest floor or unfavorable seed bed conditions.

Where artificial regeneration can be economically justified it will also mean, in many cases, a viable tree improvement program can be financially justified. In addition to the economic benefits, other benefits of tree improvement include the reliable production of seed of known origin, genetic diversity and quality, compared to most wild collections of seed or seed from natural regeneration sources. From a gene resource viewpoint, the variety of genes captured in tree improvement programs represent invaluable examples of in situ and ex situ gene conservation. Clone banks, breeding arboreta, seed orchards and evaluation trials are critical in serving to protect and maintain forest gene resources for future needs. In addition, if in fact global climates are warming up, tree breeding represents an opportunity to rapidly fine-tune adaptation to changing environments (compared to the "normal" pace of natural selection) in commercial forest trees. For example, heat-tolerant varieties could be developed more rapidly through breeding and testing than through natural selection.

Complementing the advent of ecosystem management on National Forest lands and SIP on NIPF will be the increased need for seedlings of nontraditional species for use in ecosystem restoration, wildlife enhancement, watershed improvement, wetland restoration, recreation development and for augmenting biological diversity efforts, to name a few applications. At this point there is a lack of knowledge on how to cultivate and manage these nontraditional species. Such species need to be included in nursery culture and reforestation studies if we are to meet the upcoming needs of our stakeholders. Several efforts are going on to address this issue, such as work being done at the Center for Semiarid Agroforestry, in Lincoln, NE and at the Soil Conservation Service Plant Material Centers in various locations across the country.

Through all the changes of the past few years, the role trees play in the environment is still strong. Tree planting is associated with positive aspects of forestry. Our role as professionals is clear--to grow the healthiest trees we can, to use them as effectively as possible and to appropriately inform our clients on how to care for their seedlings.

Literature Cited

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