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Tree Planting in the United States

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Trees have been planted in the United States for more than 200 years. It has been said there are records of oak plantings dating back to the 1740s. In Alaska around 1805, the Russians planted a few spruce seedlings on Unalaska Island. Many hectares of plantations were established in Massachusetts during the 1840s. At the Biltmore Estate in North Carolina, there are a few pine plantations that are over 100 years old. The following is a short review of how things have changed over the past century and how, in respect to documenting the extent of plantations (stands established by planting or direct seeding), we still have far to go.

Early Plantations

In 1925, there were about 154,600 hectares of "acceptable" plantations in the United States. Most of the plantations (75 percent) were in the North with 16 percent in the West, and less than 9 percent in the South. Three Lake States had the largest amount of plantations (47,350 hectares), followed by the Middle Atlantic States (27,730 hectares) and New England (16,190 hectares). Most of the seedlings planted before 1926 originated from Federal nurseries. Many early attempts failed due to a lack of experience in proper planting techniques. Some of the low success rates are probably explained by seedlings that were too small, shallow planting holes, and a lack of weed control. Some of these mistakes are still being repeated today.

1926-1952

About 1.97 million hectares of plantations were established during this 26-year period. From 1935-1942 there was a sharp increase in planting due to efforts of the Civilian Conservation Corps. Tree planting was still greatest in the North (49 percent), followed by the South (41 percent), and the West (10 percent). The Lake States were still the leader with about 515,600 hectares, followed again by the Middle Atlantic States (286,900 hectares). Success rates for tree planting were generally highest in the Pacific Northwest (90 percent) and in the South (85 percent), but were lowest in California (31 percent) and in the Southern Rocky Mountains (55 percent). By 1952, most seedlings were produced at State nurseries (70 percent) with Federal, commercial, and industry producing 16 percent, 12 percent, and 2 percent, respectively.

1953-1974

Large areas of farmland were converted to plantations from 1956-1961 due to the Soil Bank Program. This effort was responsible for the planting of 768,900 hectares on mostly "worn out" farmland. During years of high demand, many nurseries were producing seedlings at full capacity with no land in cover-crops. For example, the Morgan Nursery in Georgia produced more than 94 million seedlings in 1959. Tree planting was now greatest in the South (61 percent), followed by the North (20 percent) and the West (19 percent). The Southeastern States became the leader with about 4.59 million hectares, followed by the Pacific Northwest (1.69 million hectares) and the South Atlantic States (1.63 million hectares). In 1965, seedlings were produced at State (62 percent), industry (16 percent), Federal (14 percent), and commercial nurseries (8 percent). In total, about 12.46 million hectares of plantations were established during this 21-year period.

1975-1997

During this 22-year period, large areas of farmland were converted to plantations due to the Conservation Reserve Program. This effort was responsible for the planting of more than 1 million hectares on erodible farmland. At the peak in the winter of 1987-88, about 2.3 billion seedlings were planted on 1.36 million hectares. In total, about 23.22 million hectares of plantations were established during this 22-year period. Tree planting in the South was 66 percent of the total, followed by the West (19 percent), and the North (15 percent). The Southeastern States remained the leader with about 9.12 million hectares, followed by the Western Gulf States (3.82 million hectares) and the Pacific Northwest (3.29 million hectares). By the

end of this period, tree planting in the North had dropped to only 4 percent of the total (quite a turnaround from eight decades before when it was 75 percent). Many of the Northern States now rely mainly on natural regeneration. By 1997, seedlings were produced at industry nurseries (53 percent), with commercial, State, and Federal nurseries producing 23, 21, and 3 percent, respectively. Again, quite a major shift when compared to 1920.

Estimates of Plantations

Accurate estimates for tree plantations in the United States are difficult to obtain. As a result, one international consultant had to guess that half of the plantations in the United States were on public land (13 percent would be much closer). In the past, some estimates were obtained simply by adding up the total for all previous planting. By 1952, this estimate was about 2 million hectares. Forty years later the estimate was 13 million hectares (72 percent in the South). By 1997, there were about 14.5 million hectares in the South, 1.7 million hectares in the North, and 5.5 million hectares in the West. The total, 22 million hectares, amounts to approximately 2.5 percent of the total land area (compare this to 26 percent for pasture land).

Dreams for the Future

I have a dream of the future where I could pull a reference off of a shelf in 2010 and could find estimates for the number of hectares of plantations by State, year, species, and ownership. This reference would also report: (1) the amount of plantations harvested and replanted; (2) the amount harvested but not replanted; (3) the amount of new afforestation; and (4) the amount of plantations lost due to fire, pests, agriculture, and development. Ideally, this reference would not classify old or direct-seeded plantations as "natural" stands, would not lump species together (as though they were planted together), and would not classify failed pine plantations as "oak-hickory" plantations. It would also not classify intensively managed naturally regenerated stands as plantations (as does the Forest Stewardship Council) or classify plantations without intensive management as "semi-natural" stands (as does the Food and Agriculture Organization). I know it is wishful thinking, but I would like to see plantation data presented in such a way that informs rather than confuses the reader.

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