Indicator 2.12:

Area, percent, and growing stock of plantations of native and exotic species

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What is the indicator and why is it important?

This indicator measures the establishment of forest plantations in response to increasing demand for forest products, as well as competing nontimber uses for forest land. The provisioning of forest products from intensively managed plantations, which are more productive and efficient in terms of certain forest outputs, can enhance the potential range and quantity of goods and services available from the forest. Intensively managed plantations may not replicate all the functions of naturally regenerated forests (e.g., biodiversity), but their high levels of productivity help meet economic needs while alleviating pressures on natural forests, allowing for the pursuit of other management objectives.

What does the indicator show?

Plantations in the United States consist almost entirely of native species, with less than 1 percent of acreage comprising nonnative trees. The two primary types of planting regimes in the United States are: intensively managed plantations where competing vegetation is actively suppressed, and naturally regenerating forests where planting is done to augment stocking. Intensively managed plantations are more common in the East, while augmentation of natural regeneration is more common in the West. Although conifers overwhelmingly dominate U.S. planted forests, high-value broadleaves, such as black walnut and oaks, are planted as well. Additionally, a nonnative hardwood, royal Paulownia (*Paulownia tomentosa*), is planted to produce wood for export markets. While forest planting is common in the United States, only 13 percent of all timberland is planted; the remainder regenerates naturally.

Total planted forest acreage across the country has remained essentially stable since 2012, increasing slightly from 66 million acres to 68 million acres. Plantations account for half of planted timberland at 35 million acres, with only 662,000 of those plantation acres in nonnative species.

The annual rate of planting declined precipitously in the United States between 2000 and 2009, however, but began to increase again since 2012 (fig. 12-1). Tree planting initiatives combined with increasing demands for forest products have encouraged this trend.

White-red-jack pine forests occupy the largest planted area in the North at 3.1 million acres. Plantations comprise 32 percent of all acreage in this forest type. In the South, loblolly/shortleaf pine forests comprise the majority (71 percent) of planted area at 34 million acres. More than half of all Southern loblolly/shortleaf acreage is planted. Planted forests in the Rocky Mountain Region are distributed over more forest types than in the North and South, though Ponderosa pine, western hardwoods, and Douglas fir forest types account for more than half of planted acreage. In this region, planted timberland accounts for only a negligible (less than 1 percent) proportion of total timberland, at only 708 thousand acres. The Douglas fir forest type accounts for more than half of planted acres in the Pacific Coast. Douglas fir serves multiple purposes.

Eighty-five percent of planted forest land is privately owned. Regionally, planted forest land ownership varies. In the South, 95 percent of planted forest land is privately owned compared with 62 percent in the North, 62 percent in the Pacific Coast, and 49 percent in the Rocky Mountains.

Growing stock volume on planted forests (including augmented forests) equaled 102 billion cubic feet, a

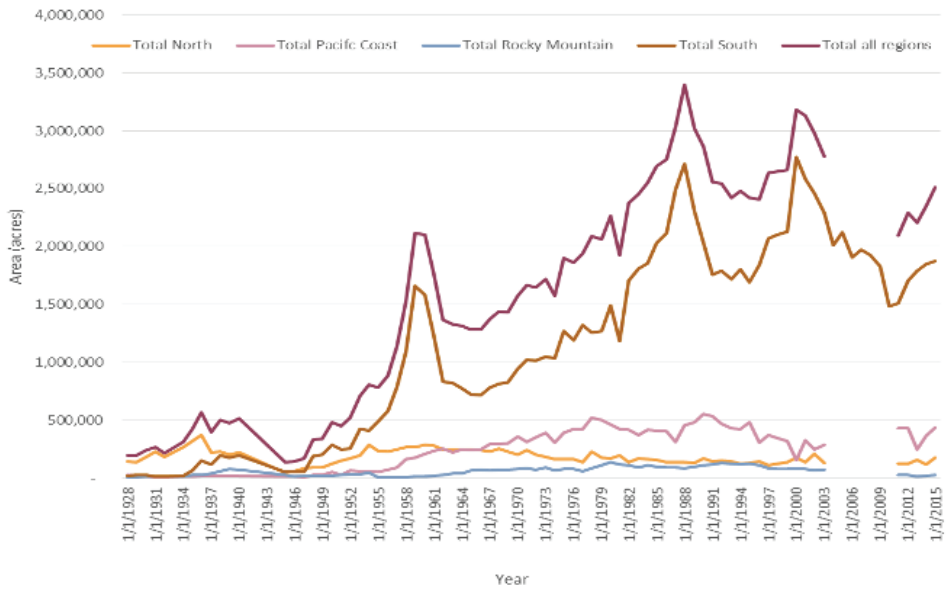

Figure 12-1—Average annual planted acres in the United States by region and year, 1928 to 2015 (Source: Oswalt et al. 2019).

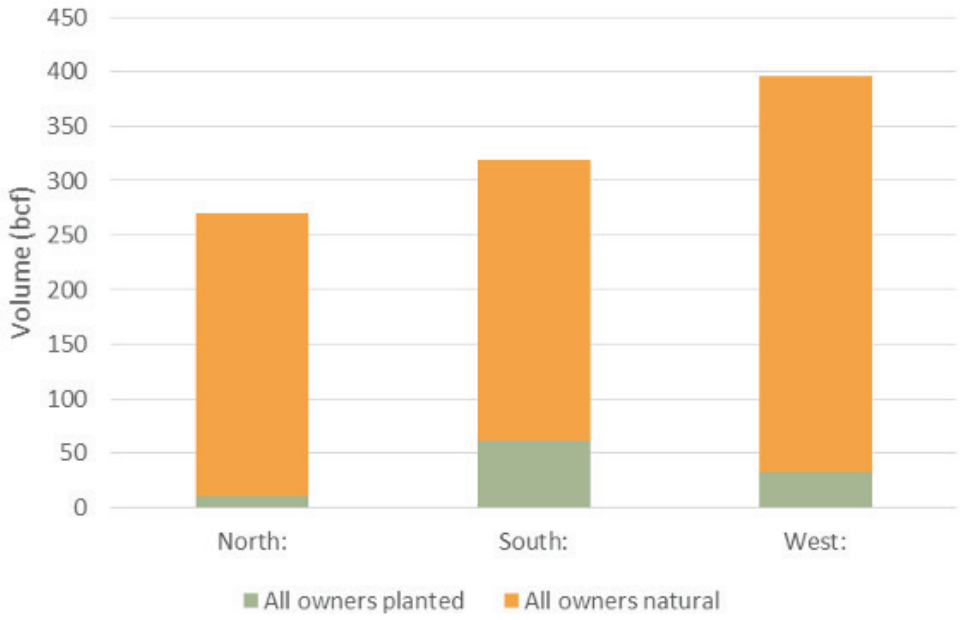

Figure 12-2—Growing-stock volume on timberland by stand origin and region, 2017 (Source: Oswalt et al. 2019).

decrease of 2 billion cubic feet since 2012. Plantation growing stock volume accounts for 53 billion cubic feet.

What has changed since 2015?

Growing-stock volume on planted timberland decreased slightly from 2012 to 2017. Annual planting rates have increase since 2012, following a long decline, though total planted acreage remains stable, nationwide.

References:

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