



Barriers to Increased Tree Seedling Production in the **Northeast and Midwest**

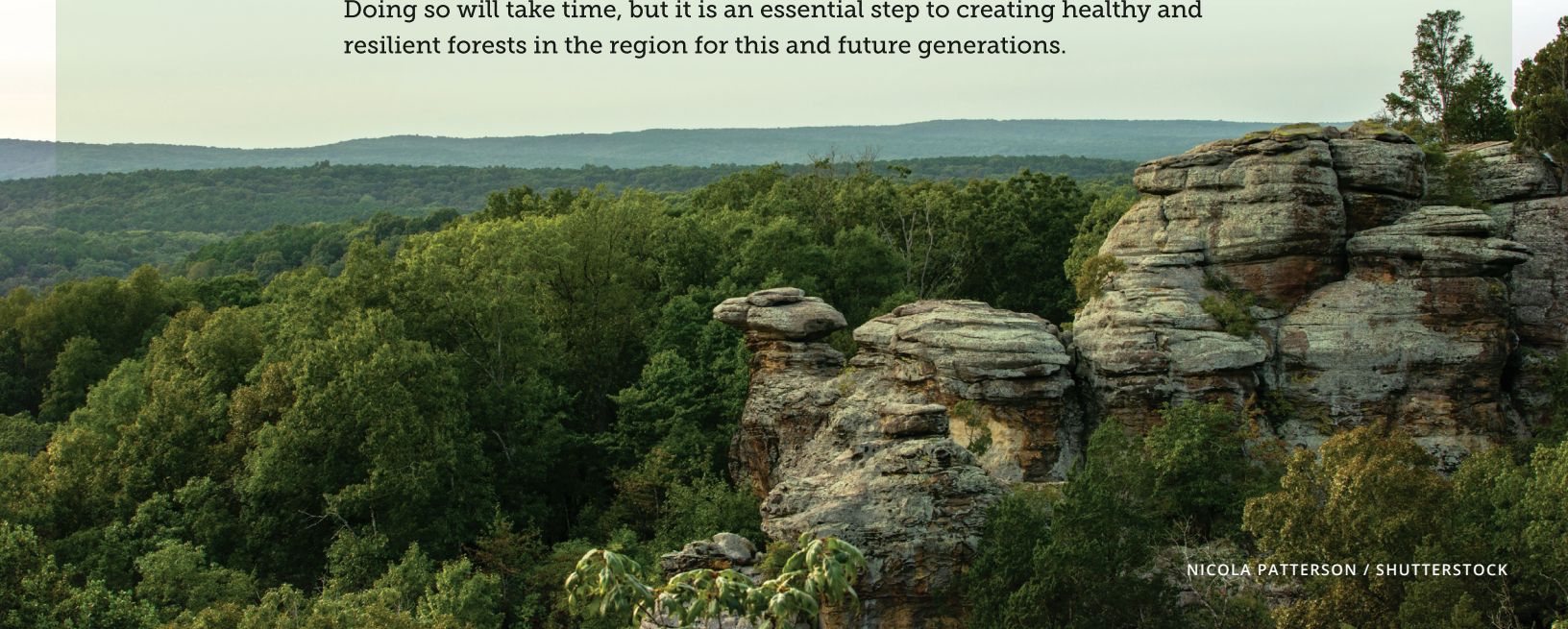


In 2019, the Northeast and Midwest states produced **46 million seedlings**. That is enough to plant trees to cover about 88,000 acres of land. But it does not come close to meeting the need for trees for reforestation. There are more than 39 million acres of land suitable for reforestation in the region, including millions of acres in urban and suburban areas.

To better understand this challenge and then develop solutions, American Forests and The Nature Conservancy led a research team that surveyed and **interviewed public, private and tribal nurseries across the country, including 31 in the Northeast and Midwest, in 2020**. These 31 nurseries represent more than 89% of the regions' total seedling output. Key findings from the research are summarized in this document.

In the Northeast and Midwest, nurseries are currently using only about 60% of their capacity. In fact, the largest immediate opportunity for increasing production — by 18 million additional seedlings — is in idled bareroot seedbeds at state nurseries. With public and private investment over the next few years, **nurseries could boost production by nearly 150% — to 112 million seedlings a year** — simply by fully utilizing nurseries' existing capacity and stated ability to expand.

Doing so will take time, but it is an essential step to creating healthy and resilient forests in the region for this and future generations.





The Barriers

Factors Limiting Expansion of Production

- 1 labor
- 2 market
- 3 infrastructure and/or equipment
- 4 land
- 5 lack of desire to expand
- 6 financing
- 7 seed availability
- 8 time constraints
- 9 transportation logistics



Systemic barriers need to be addressed in order to increase seedling production and reforestation activities.

For **public** nurseries surveyed, top concerns were (in order of importance) labor shortages (in part, because many jobs are part-time), lack of market demand and a need for more public funding to address infrastructure issues and seedbed expansion. Many managers at public nurseries are nearing retirement as well, and succession plans are not clear.

Among **private** nurseries surveyed, top concerns (in order of importance) were the desire for contracts large enough to enable nurseries to be willing to take on debt, labor shortages and the need for financing to upgrade infrastructure and equipment.



Policies that regulate state nurseries to limit competition with the private sector are also barriers to expansion.



More Regional Context

A lack of market signals and unreliable funding prevent nursery expansion.

Reforestation in urban and suburban settings represents 17% of the reforestation opportunity in the region.

But while urban tree canopy initiatives are taking off, they do not always send market signals that trigger nurseries to increase production. Ideally, growing contracts would follow tree canopy goals.

Other significant reforestation opportunities exist in **agricultural settings where marginal lands could be reforested.** The largest mechanism for such action has been Farm Bill incentives, which do not consistently result in new growing contracts for nurseries.



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Seed collection trends in the region present significant challenges for the reforestation sector.

The Northeast only recently developed formal science-based seed zones for the region with seed transfer guidelines.

The guidelines specify where seedlings grown from a given seed source in a specific region should be planted.

Several private nurseries in our survey use seed of unknown origin, and much of the seed with known origins is wild collected. Not knowing seed origin presents challenges when assessing seed viability for climate adaptation. Ideally, seed collectors select seed in a way that maintains genetic diversity through more robust seed collection programs.

Hardwood cultivars sold in many Northeast and Midwest nurseries are often propagated from large producers on the West Coast or in Florida. Such supply chains are well established but present an unintended consequence: **the trees being planted are likely not well adapted to local areas, let alone to future climates.**



More information is available at americanforests.org/nurseries.

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