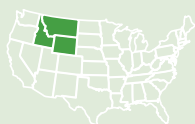







Barriers to Increased Tree Seedling Production in the **Northern Rockies**



In 2019, nurseries in the Northern Rockies produced **13 million seedlings**. That is enough to plant trees to cover roughly 24,000 acres of land. But it does not come close to meeting the need for seedlings. There are more than 9.4 million acres of land suitable for reforestation in the region, including many severely affected by wildfires and disease. Annual planting in the region covers less than 1% of the total reforestation opportunity.

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 10 in the Northern Rockies, in 2020**. These 10 nurseries represent more than 90% of the three states' total seedling output (and most of the seedlings are from just two of the nurseries, both managed by the United States Department of Agriculture). Key findings from the research are summarized in this document.

With investments from the public and private sectors, as well as sustained demand for seedlings, over the next decade:

-  **Annual production in the region could increase five-fold, to 74 million seedlings.**
-  **The region's existing nurseries could help replant 50% of land needing reforestation within the next 20 years.**
-  **Nurseries could nearly double container production and increase bareroot production eight-fold.**

Making these changes will take time. But it is an essential step to creating healthy and resilient forests in the region for this and future generations. And it is particularly important to increase seedling production in the Northern Rockies, given the forecasted increase in wildfires and the reality that many of the seedlings produced in the region are sold to other states.



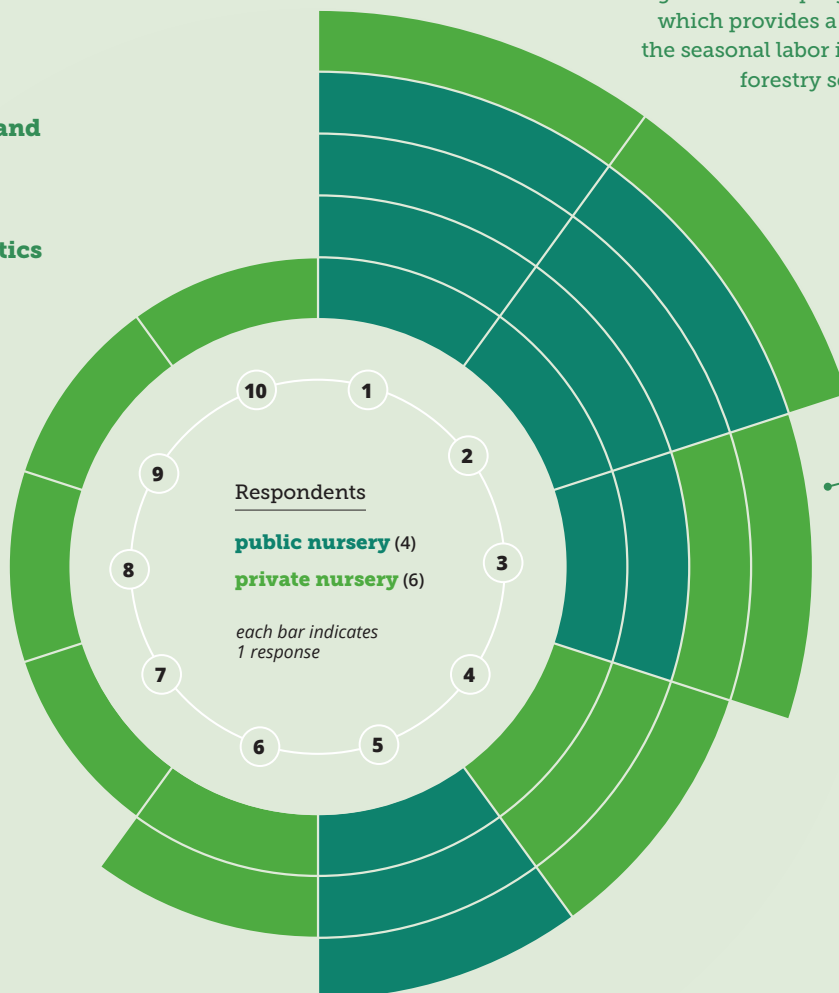


The Barriers

Factors Limiting Expansion of Production

- 1 **financing**
- 2 **infrastructure**
- 3 **labor**
- 4 **lack of desire to expand**
- 5 **regulations**
- 6 **land**
- 7 **transportation logistics**
- 8 **market**
- 9 **seed availability**
- 10 **water**

Finding, keeping and retaining enough skilled full-time nursery managers and technicians, as well as seasonal staff, are barriers to expanded seedling production at public and private nurseries. Immigration policies hamper the H2B guest worker program, which provides a lot of the seasonal labor in the forestry sector.



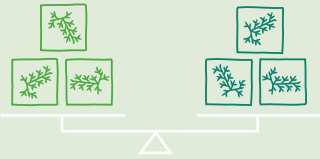
Systemic barriers need to be addressed in order to increase seedling production and reforestation activities.

For **public** nurseries surveyed, challenges to upgrading infrastructure, as well as insufficient resources to finance greenhouse construction and other expansion projects, were the top barriers to expanding seedling production.

For **private** nurseries surveyed, the top barrier to expansion was a lack of desire to expand, which was related to lack of demand signals and the fact that some nursery managers and owners are near retirement (some without a succession plan or on a pathway to closing their business).



More Regional Context



It's important to **balance investments** between private and public nurseries.

The region's nurseries have scaled up production before. For example, in 2000, following a then-unprecedented fire season, Montana distributed millions in federal wildland fire emergency appropriations to increase seedling production. **While these demands would normally go entirely to public nurseries, the state also invested in private nurseries.** In just one week, the state received \$8 million worth of expansion proposals from a dozen private nurseries eager to help meet the post-fire demand for seedlings and seeds.



MARTIN ADAMEK / SHUTTERSTOCK

By 2040, existing nurseries can help **reforest the top 50% of land needing reforestation.**

The region has unique advantages. For example, scaling up reforestation activity will likely be cheaper than it is elsewhere, and **the region's climate is well-suited for large-scale conifer plantings.** Another strength is presence of the University of Idaho's Pitkin Forest Nursery, one of the few programs in the U.S. that trains forest nursery managers.

The region is at the forefront of tree breeding and improvement efforts. This capacity and experience could translate well to climate adaptation and other regions could emulate the Northern Rockies' collaborative approach to developing disease resistance, seed orchards and seed transfer zones.

Given the strain on container capacity, managers should be encouraged and trained to use container seedlings only where they are necessary. They also should order bareroot seedlings for any suitable planting sites, such as deep soils and riparian areas.



More information is available at americanforests.org/nurseries.

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