Collaborative Priority Species List for Reforestation in New York

The Challenge: Reforestation in New York State

Climate goals cannot be met if we do not involve nature in strategic ways. In the United States, natural climate solutions can deliver emissions reductions and carbon storage of up to 21% of current net annual emissions. Here in New York, we've passed some of the most ambitious climate legislation in the country.

Reforestation is the natural climate solution that offers us the most significant opportunity to sequester and store large amounts of carbon. The Nature Conservancy is working to achieve two reforestation goals originally set by the State:

- Reforest 1.7 million acres of land by planting 680 million trees by 2040
- Governor Hochul's near-term goal of planting 25 million trees by 2033

Data collected by The Nature Conservancy indicates that New York has more than 1.7 million acres of land suitable for reforestation, and in an initial survey, over 60% of surveyed New York landowners expressed interest in converting their land to forest. But, right now, we're planting less than 1,000 acres of trees annually.

This magnitude of scaling reforestation in New York requires every aspect of the process to expand —including seedling production, workforce development, planting activities, follow-up monitoring and landowner participation.

The Opportunity: Creating a Species List to Maximize Impact

One major challenge in implementing large-scale reforestation is the limited commercial availability of woody native species and seedling supplies.

The Nature Conservancy in New York and the Ecological Health Network (EHN) are teaming up to address this challenge. Together, with input from numerous partners across New York, we're creating a new and targeted tree species list.

This list will encourage landowners, reforestation practitioners, and nursery professionals to prioritize a specific subset of tree species among the hundreds native to the region—aiming to boost seedling production and the commercial availability of planting materials and maximize overall impact (Tangren et al. 2022; NASEM 2023).

We're embracing collaboration to create a comprehensive species list—partnering with forest ecologists, carbon scientists, pest and pathogen researchers, botanists, land managers, practitioners, nursery professionals, Indigenous horticulturists, and other experts knowledgeable about the reforestation seed supply pipeline. We're also utilizing focus groups, informational interviews and surveys to gather valuable insights and feedback to develop a curated species list that incorporates ecological, social, and practical considerations.

Species List Goals

The Nature Conservancy and the Ecological Health Network are partnering to develop an innovative, multi-criteria species list that aims to:

Empower Landowners and Practitioners:
Developing resources and technical guidance, like this species list, will enable landowners and land managers to make well-informed, ecologically rich, and climate-suitable planting decisions. This tool will directly support New York landowners enrolled in The Nature Conservancy's Family Forest Carbon Program and their reforestation efforts to contribute towards New York's goal of planting 1.7 million acres by 2040.

Support Production:
Having access to a diverse supply of seedlings is crucial as we work to achieve ambitious planting goals and as we cope with our changing climate. This species list aims to foster market demand and encourage nurseries to diversify seedling production. On the ground, The Nature Conservancy is partnering with nurseries through advanced procurement contracts and having this list will help us align project planning goals with nursery production.
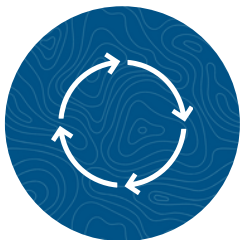
Implement Holistic Forest Ecosystem Recovery:
The Nature Conservancy will use this list for outreach and training as we implement tree planting for large-scale reforestation projects with partners across New York. These efforts restore or sustain native ecosystem functions to mitigate climate change—enhancing forest carbon stores and their ability to adapt to non-native pests and pathogens.

Maximize Co-Benefits:
The wide-ranging criteria we're using to build the species list will help ensure that tree-planting efforts yield significant social, ecological, environmental and economic benefits. This will serve as a project design tool to help practitioners engaged in tree-planting initiatives in New York State meet multiple and emerging tree-planting goals while maximizing co-benefits, like increasing biodiversity and safeguarding wildlife habitat.

Learn More & Contact Information

Contact Mandy St. Hilaire, NY Reforestation Manager at The Nature Conservancy to learn more about this project and the Conservancy's tree planting implementation projects: **amanda.sthilaire@tnc.org**

Contact Eve Allen, EHN Program Director to learn more about this project, the Northeast Seed Network, and ongoing projects that are informing demand signals for increasing native species production: **eve@ehnglobal.org**

Resources

Adem Esmail, B. and Geneletti, D., 2018. Multi-criteria decision analysis for nature conservation: A review of 20 years of applications. Methods in Ecology and Evolution, 9(1), pp.42-53.

American Forests, 2021. Ramping up Reforestation in the United States. A guide for Policy Makers. https://www.americanforests.org/wp-content/uploads/2021/02/Ramping-Up-Reforestation_FINAL.pdf

Clark, P.W., D'Amato, A.W., Palik, B.J., Woodall, C.W., Dubuque, P.A., Edge, G.J., Hartman, J.P., Fitts, L.A., Janowiak, M.K., Harris, L.B. and Montgomery, R.A., 2023. A lack of ecological diversity in forest nurseries limits the achievement of tree-planting objectives in response to global change. BioScience, 73(8), pp.575-586.

Coleman, E.A., Schultz, B., Ramprasad, V., Fischer, H., Rana, P., Filippi, A.M., Güneralp, B., Ma, A., Rodriguez Solorzano, C., Guleria, V. and Rana, R., 2021. Limited effects of tree planting on forest canopy cover and rural livelihoods in Northern India. Nature Sustainability, 4(11), pp.997-1004.

Fargione, J., Haase, D.L., Burney, O.T., Kildisheva, O.A., Edge, G., Cook-Patton, S.C., Chapman, T., Rempel, A., Hurteau, M.D., Davis, K.T. and Dobrowski, S., 2021. Challenges to the reforestation pipeline in the United States. Frontiers in Forests and Global Change, 4, p.629198.

(NASEM) National Academies of Sciences, Engineering, and Medicine, 2023. An Assessment of Native Seed Needs and the Capacity for Their Supply. Proceedings of the National Academy of Sciences.

(NYSCAC) New York State Climate Action Council. 2022. "New York State Climate Action Council Scoping Plan." climate.ny.gov/ScopingPlan [Accessed 31 December, 2023].

Richardson, D., Zimmerman, C., Armstrong, A., Woodbury, P., Wightman, J., 2023. Reforestation Potential in New York State: Estimating Acres of Post-Agricultural Lands That Could Be Reforested. The Nature Conservancy

Tangren, S., Toth, E. and Siegel, S., 2022. A survey of native plant materials use and commercial availability in the Eastern United States. Native Plants Journal, 23(1), pp.17-54.

© Kevin Arnold