

# Collaborative Priority Species List for Reforestation in New York

**Sending coordinated demand signals to nurseries is required to scale reforestation.**

New York has over 1.7 million acres of land suitable for reforestation, according to a report published by The Nature Conservancy. [Reforestation](#) those acres will be critical for meeting New York State’s ambitious climate goals, improving water quality, enhancing wildlife habitat and sustaining people and communities. But, a primary obstacle to scaling reforestation is the limited commercial availability of native tree seedlings to satisfy growing demand.

The Nature Conservancy partnered with the Ecological Health Network (EHN) to develop a targeted list of tree species—in collaboration with experts across the region—as a first step in creating a region-specific list of priority species. The list aims to encourage suppliers to cultivate stocks of species and their ecotypes that are expected to be in the highest demand.

The primary objective of this project was to develop a methodology for identifying and prioritizing tree species for landscape-scale tree planting projects in New York, and to use it to create demand signals to tree nurseries. Additional desired outcomes of this project are empowering landowners and practitioners in species selection, supporting production, guiding forest restoration projects, and maximizing co-benefits from planting trees.

The *Collaborative Priority Species List for Reforestation in New York* contains 40 species in 20 genera, originating from a list of 102 tree species native to New York. The list balances the needs of end users and

producers, ultimately focusing on an essential subset of tree species to help strengthen nursery demand signals and foster robust tree seed collection and processing markets.

A unique aspect of this project design was that it embraced collaboration and developed new criteria for creating a priority species list. The methodology involved facilitating focus groups with an advisory council, conducting informational interviews with reviewers, and distributing stakeholder surveys to gather valuable insights and feedback. The survey, which gathered [111 usable responses](#), was critical in helping develop the final priority species list.

This input was combined with desktop research and integrated into a [multi-criteria prioritization framework](#) to develop a species list that balanced ecological, social and practical considerations. The five categories of criteria were global change, ecological value, relevance, production and post-planting. Each category contains a number of specific criteria with a scoring value, definition and data source. Each species received a score for each criterion that was collated to provide a rank in the priority list.

For example, criteria in the global change category include climate change adaptability, climate change capability, and carbon sequestration capacity—while the criteria in the production category included seed collection, seed processing, seed storage, seed germination, and ease of production and distribution.

## Collaborative Priority Species List

This list is hierarchical. Species on the left are ranked "highest" and species listed on the right are "lowest."

Top ranked species can be considered the highest priority for New York reforestation projects, such as maples (ranked 1-3). Higher scores resulting from the multi-criteria framework indicate species will be appropriate across many sites. American basswood (ranked 40), on the other hand, is still a priority species, but appropriate across fewer sites. Region, landform and individual site conditions will ultimately determine the appropriate species mix for each site. The ranking helps determine the frequency species are expected to occur across many tree planting projects and can assist in forecasting the quantity needed to meet reforestation goals.

Rank	Common Name	Scientific Name	Rank	Common Name	Scientific Name
1	Red maple	<i>Acer rubrum</i>	21	Red pine	<i>Pinus resinosa</i>
2	Sugar maple	<i>Acer saccharum</i>	22	Tulip tree	<i>Liriodendron tulipifera</i>
3	Silver maple	<i>Acer saccharinum</i>	23	Black gum	<i>Nyssa sylvatica</i>
4	Northern red oak	<i>Quercus rubra</i>	24	Pitch pine	<i>Pinus rigida</i>
5	Sweet birch	<i>Betula lenta</i>	25	Eastern cottonwood	<i>Populus deltoides</i>
6	Bitternut hickory	<i>Carya cordiformis</i>	26	Flowering dogwood	<i>Cornus florida</i>
7	Shagbark hickory	<i>Carya ovata</i>	27	Black walnut	<i>Juglans nigra</i>
8	Black cherry	<i>Prunus serotina</i>	28	Black willow	<i>Salix nigra</i>
9	White oak	<i>Quercus alba</i>	29	Eastern tamarack	<i>Larix laricina</i>
10	Eastern redcedar	<i>Juniperus virginiana</i>	30	Sweetgum	<i>Liquidambar styraciflua</i>
11	Eastern white pine	<i>Pinus strobus</i>	31	Gray birch	<i>Betula populifolia</i>
12	Chestnut oak	<i>Quercus montana</i>	32	Mockernut hickory	<i>Carya tomentosa</i>
13	American sycamore	<i>Platanus occidentalis</i>	33	American hophornbeam	<i>Ostrya virginiana</i>
14	Boxelder	<i>Acer negundo</i>	34	Quaking aspen	<i>Populus tremuloides</i>
15	Black oak	<i>Quercus velutina</i>	35	Bur oak	<i>Quercus macrocarpa</i>
16	Paper birch	<i>Betula papyrifera</i>	36	Northern white-cedar	<i>Thuja occidentalis</i>
17	Common hackberry	<i>Celtis occidentalis</i>	37	Pignut hickory	<i>Carya glabra</i>
18	Yellow birch	<i>Betula alleghaniensis</i>	38	Red spruce	<i>Picea rubens</i>
19	Swamp white oak	<i>Quercus bicolor</i>	39	White spruce	<i>Picea glauca</i>
20	River birch	<i>Betula nigra</i>	40	American basswood	<i>Tilia americana</i>

**This is the first version of a New York priority reforestation species list. It should be adapted over time.**

The list aims to find a balance that ensures the priority tree species serve a variety of tree planting site conditions (e.g., upland and riparian areas) in the regions in New York with the highest amount of suitable lands for reforesting. It was important to avoid creating a list that was too long, which could limit the ability for nursery professionals to know what to focus on in order to enhance the commercial availability of tree species.

To ensure a diverse array of genera were represented in the top 40, the number of species per genera were limited. For example, there were originally 10 species of oak represented in the top 40, or 25% of the total. To promote diversity, the lowest ranking five oaks were removed from the list. Also, there were species manually excluded due to limited data available in the multi-criteria framework—particularly in the climate adaptability criterion. Species were also manually included if they were identified as high use among survey respondents, or adapted to multiple site conditions.

It was important to not recommend species with high mortality ratings due to susceptibility to pests and pathogens. These species were excluded from the final list—ensuring that no species with a known widespread pest or pathogen that affects individual tree longevity were included (American chestnut, all elm species, American beech, all ash species, butternut hickory, eastern hemlock). The information available about pests and pathogens affecting tree species can vary by species and can have time horizons spanning five or more years for updates related to [tree improvement projects](#). As new information comes available, mortality scores will need to be updated.

The Nature Conservancy is using this list to select species in Conservancy-led reforestation and afforestation projects, establish advance procurement contracts with nurseries, and collaborate with partners and reforestation practitioners to send coordinated market signals to nurseries. We encourage practitioners to use this resource in similar ways.



**Looking to plant trees or design  
a tree planting project?**

**Use the [Collaborative Priority  
Species List Decision Support Tool](#).**

**Don't forget to reference the  
[multi-criteria framework](#)  
for criteria definitions while  
using the tool.**

## Key Recommendations for Using the List

- Use the list in combination with carrying out a comprehensive evaluation of site conditions.
- Use the list in conjunction with the best available information about the provenance of the seed and plant materials to ensure the genetic appropriateness of the species you are selecting.
- Use the list alongside other best practice guidelines, such as the *Reforestation and Afforestation Guide* developed by The Nature Conservancy in collaboration with NYS Department of Environmental Conservation.



Are there species you frequently plant that are not on this list? Or do you have questions about why a species did or did not make the list?

Check out the species' individual scores in the [collated version of the priority list](#).



## With Recognition:

Thank you to all the collaborators that made this project successful and contributed their time in 2024—including the advisory council, individual expert reviewers and survey respondents.

All referenced materials are included in a [public folder](#).



## Get in Touch:

For more information about this project, reforestation efforts in New York, or opportunities to collaborate on priority species, reach out to The Nature Conservancy's New York Reforestation Manager, Mandy St. Hilaire, at [mandy.sthilaire@tnc.org](mailto:mandy.sthilaire@tnc.org).

For more information about the [Ecological Health Network](#) and the [Northeast Seed Network](#), reach out to Eve Allen, Program Director for the Northeast Bioregion, at [eve@ehnglobal.org](mailto:eve@ehnglobal.org).