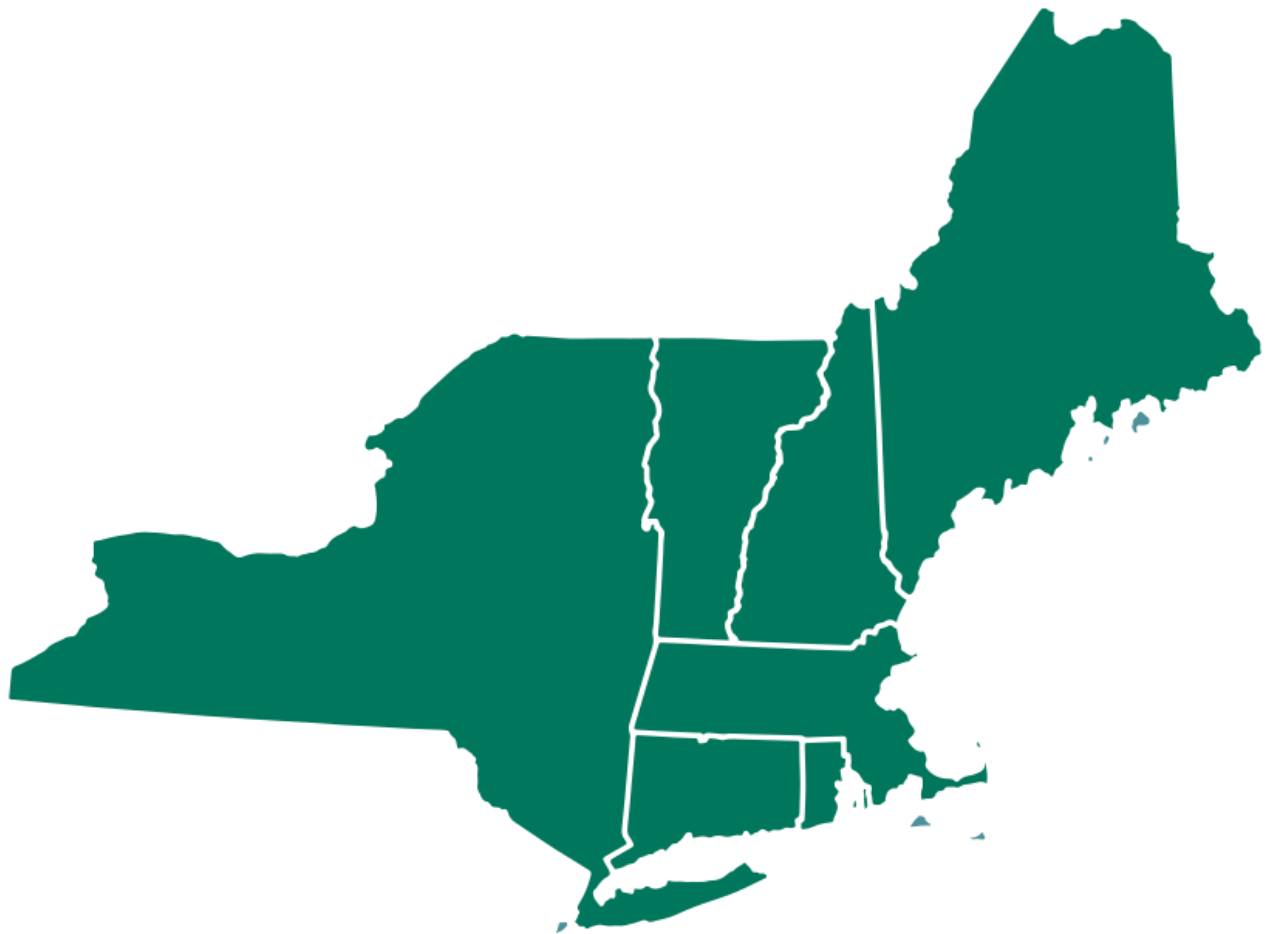

REGIONAL FOREST HEALTH MONITORING PROGRAM

2025 State Supplemental Figure Package



Regional Forest Health Monitoring Program: 2025 State Supplemental Figure Package

Published 4/6/2026

Forest Ecosystem Monitoring Cooperative

South Burlington, VT, USA

femc@uvm.edu

(802) 656-2975

Benjamin Porter, Soren Donisvitch, Nancy Voorhis, Alexana Wolf, Matthew Rios, Elissa Schuett, Alison Adams, and Jennifer Pontius

DOI: <https://doi.org/10.18125/8j574j>

Cover image: Matthew Rios

Preferred Citation

Porter B, Donisvitch S, Rios M, Sirch M, Voorhis N, Wolf A, Schuett E, Adams A, and Pontius J. 2026. Regional Forest Health Monitoring Program: 2025 State Supplemental Figure Package. Forest Ecosystem Monitoring Cooperative. South Burlington, Vermont.

<https://doi.org/10.18125/8j574j>



TABLE OF CONTENTS

Southern New England (Connecticut, Rhode Island, and Massachusetts)	5
Section 1. Tree Analyses (Southern New England)	5
A. <i>Dieback Trends</i>	5
B. <i>Transparency Trends</i>	6
C. <i>Vigor Trends</i>	6
D. <i>Annual Growth and Mortality Trends - Trees</i>	8
E. <i>Total Composition – Trees</i>	9
Section 2. Sapling Analyses (Southern New England)	10
F. <i>Total Composition – Saplings</i>	10
Section 3. Seedling Analyses (Southern New England)	10
G. <i>Annual Seedling Density Trends (Southern New England)</i>	11
Maine	13
Section 1. Tree Analyses (Maine)	13
A. <i>Dieback Trends (Maine)</i>	13
B. <i>Transparency trends (Maine)</i>	14
C. <i>Vigor Trends (Maine)</i>	14
D. <i>Annual Growth and Mortality Trends – Trees (Maine)</i>	16
E. <i>Total Composition – Trees (Maine)</i>	17
Section 2. Sapling Analyses (Maine)	18
Section 3. Seedling Analyses (Maine)	18
G. <i>Annual Seedling Density Trends (Maine)</i>	19
New Hampshire	21
Section 1. Tree Analyses (New Hampshire)	21
A. <i>Dieback Trends (New Hampshire)</i>	21
B. <i>Transparency Trends (New Hampshire)</i>	21
C. <i>Vigor Trends (New Hampshire)</i>	22
D. <i>Annual Growth and Mortality Trends - Trees (New Hampshire)</i>	24
E. <i>Total Composition - Trees (New Hampshire)</i>	25
Section 2. Sapling Analyses (New Hampshire)	26
F. <i>Total Composition – Saplings (New Hampshire)</i>	26
Section 3. Seedling Analyses (New Hampshire)	26

G. *Annual Seedling Density Trends (New Hampshire)*..... 27

New York 29

Section 1. Tree Analyses (New York) 29

A. *Dieback Trends (New York)* 29

B. *Transparency Trends (New York)* 29

C. *Vigor Trends (New York)* 30

D. *Annual Growth and Mortality Trends - Trees (New York)* 31

E. *Total Composition - Trees (New York)* 33

Section 2. Sapling Analyses (New York) 34

F. *Total Composition – Saplings (New York)*..... 34

Section 3. Seedling Analyses (New York) 34

G. *Annual Seedling Density Trends (New York)* 35

Vermont 37

Section 1. Tree Analyses (Vermont) 37

A. *Dieback Trends (Vermont)* 37

B. *Transparency Trends (Vermont)*..... 37

C. *Vigor Trends (Vermont)*..... 38

D. *Annual Growth and Mortality Trends – Trees (Vermont)*..... 39

E. *Total Composition - Trees (Vermont)* 41

Section 2. Sapling Analyses (Vermont) 42

F. *Total Composition – Saplings (Vermont)*..... 42

Section 3. Seedling Analyses (Vermont) 42

G. *Annual Seedling Density Trends (Vermont)*..... 43

2025 STATE ANALYSES SUPPLEMENTAL PACKAGE

Note: Figures that do not present data for a given year or display inconsistent numbers of species between analyses are a result of insufficient sample sizes for individual trees, total species, or plots (depending on the analysis). For example, a species may be absent for one year of a mortality time series analysis if no mortality was observed for that species within a given monitoring year. Additionally, some states did not fulfill sufficient parameters for all inclusion criteria in our analyses if too few species were present (e.g., an analysis that would typically survey the top six species for a given forest health metric displaying fewer than six).

Southern New England (Connecticut, Rhode Island, and Massachusetts)

Due to the smaller number of plots (i.e., smaller total sample size) compared to other states, Connecticut, Rhode Island, and Massachusetts data were combined into the Southern New England (Southern NE) sub-region to allow for better statistical analysis.

Section 1. Tree Analyses (Southern New England)

A. Dieback Trends

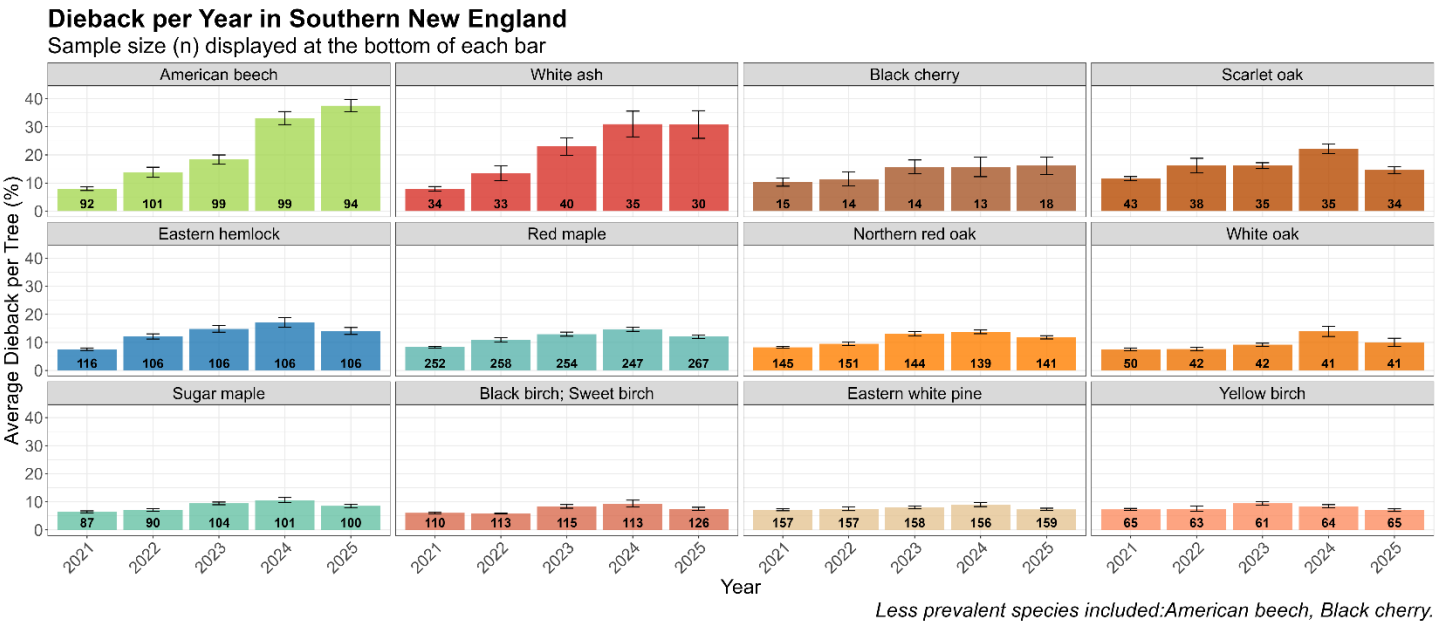


Figure 1A. Average fine twig dieback trends by species and year for the top ten species by basal area, plus two that are less prevalent by basal area but exhibit high dieback (American beech, black cherry). Species are ordered by highest dieback in 2025.

B. Transparency Trends

Average Transparency per Year in Southern New England

Sample size (n) displayed at the bottom of each bar

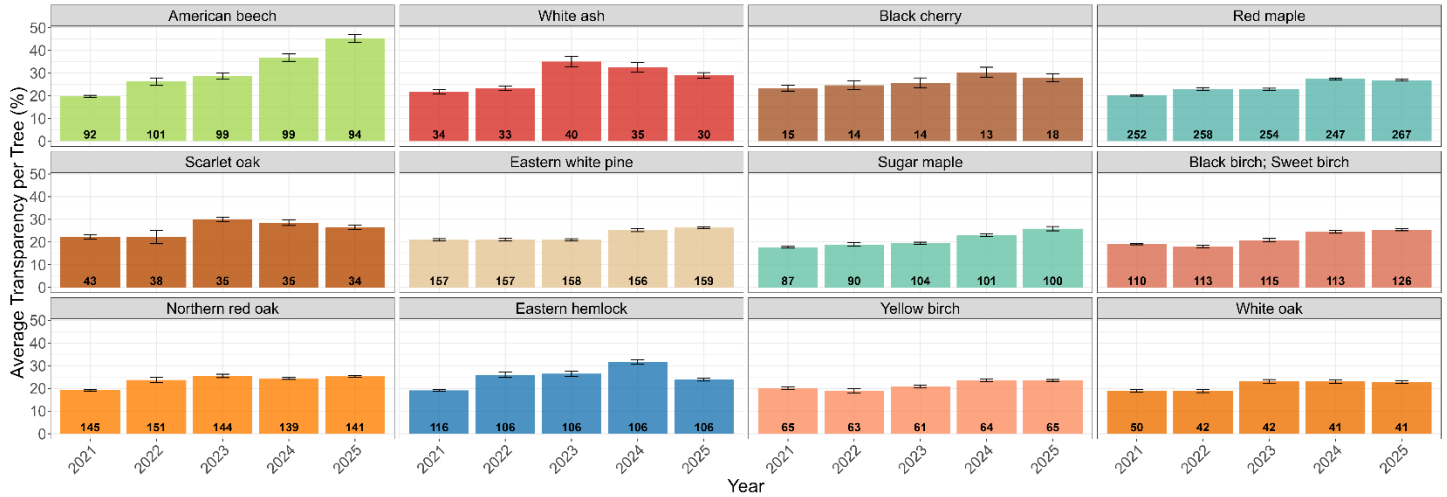


Figure 1B. Average leaf transparency trends by species and year, for the top ten species by basal area plus two that are less prevalent by basal area but exhibit high transparency (American beech, black cherry). Species are ordered by greatest transparency in 2025.

C. Vigor Trends

Trends in Tree Health and Basal Area in Southern New England

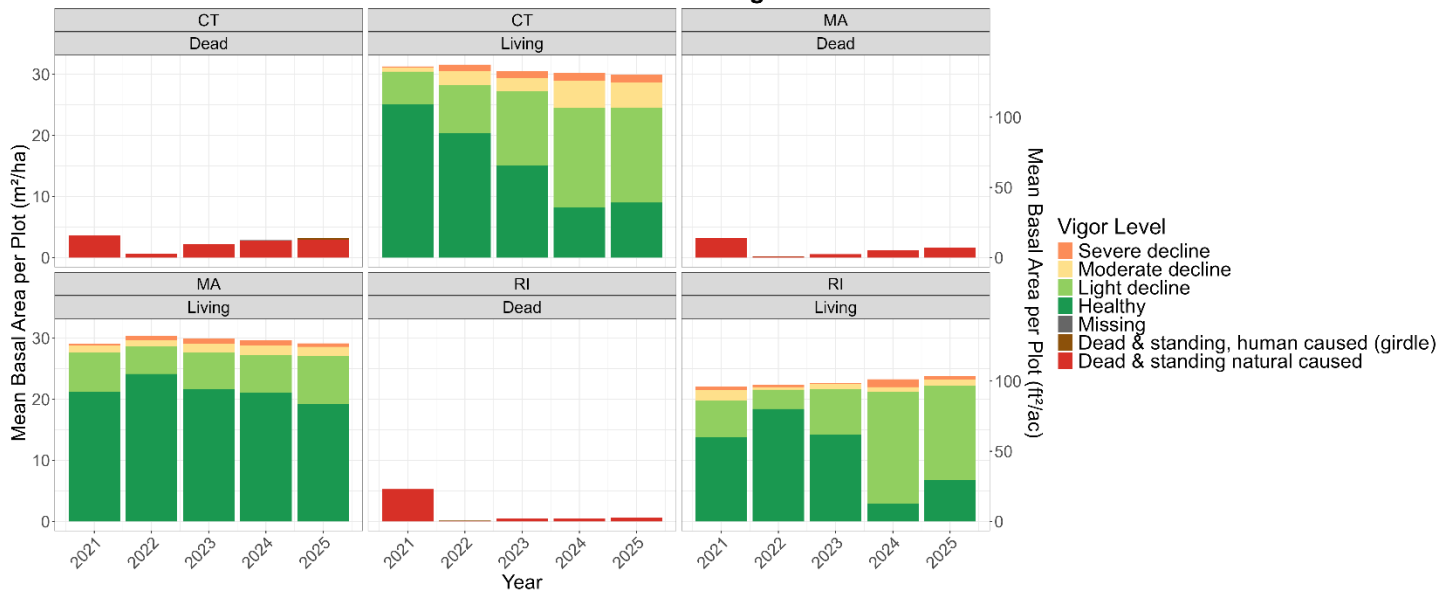


Figure 1C-i. Mean basal area per plot in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for living and dead trees in Southern NE, broken down by each state in the subregion. Data are grouped by tree status with living classes shown on the right and dead classes on the left.

Top 6 Tree Species with the Healthiest Vigor Over Time in Southern New England

Black dashed line represents the overall vigor trend across all species in Southern New England. Sample size (n) shown is total observations across all years.

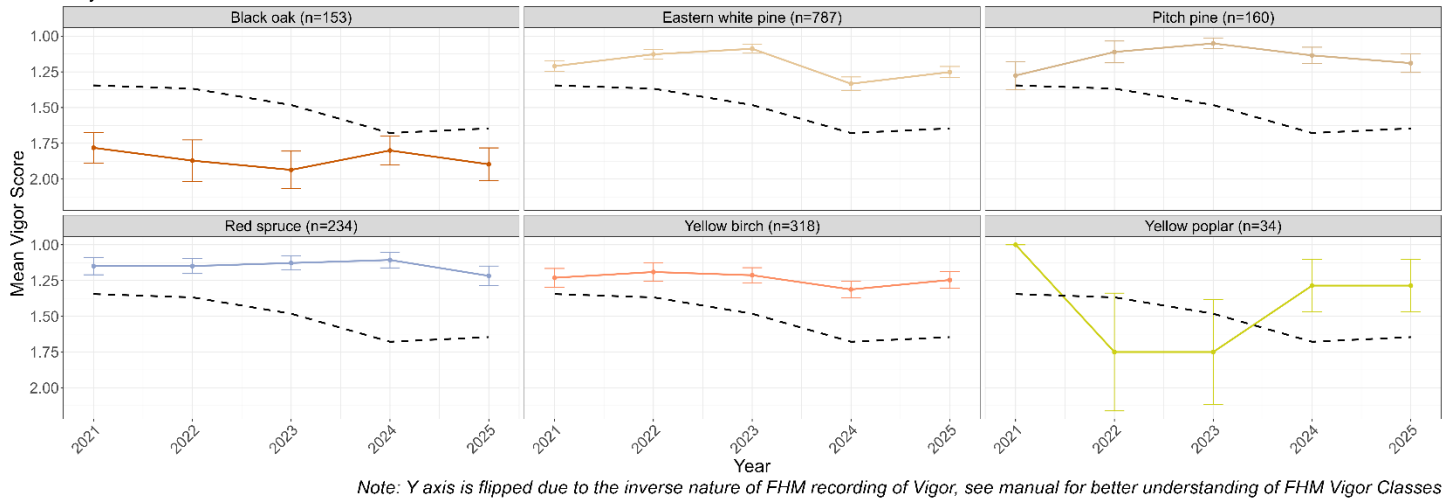


Figure 1C-ii. Top six tree species with the healthiest vigor (lowest stress levels) over time in Southern NE among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition while lower scores represent healthier trees.

Top 6 Tree Species with the Least Healthy Vigor Over Time in Southern New England

Black dashed line represents the overall vigor trend across all species in Southern New England. Sample size (n) shown is total observations across all years.

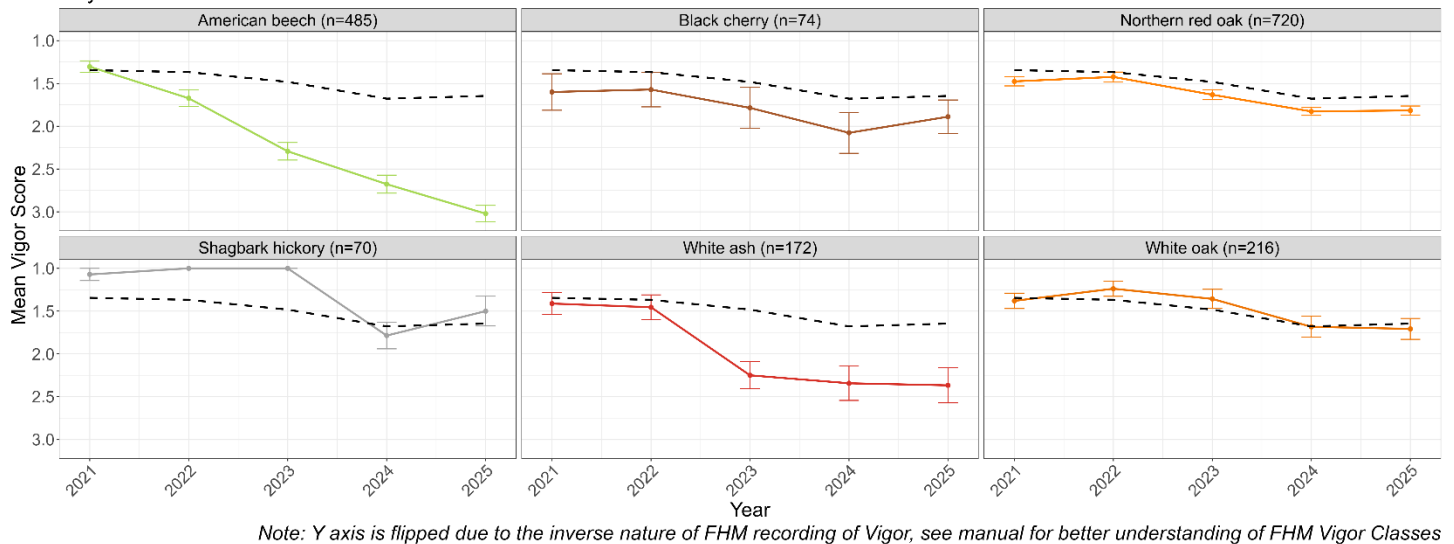


Figure 1C-iii. Top six tree species with the greatest decline in vigor (highest stress levels) over time in Southern NE among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition, while lower scores represent healthier trees.

D. Annual Growth and Mortality Trends - Trees

Share of Total Forest Mortality (by Tree Count)

Top 3 species by within-species mortality rate. Labels show individual trees that died.

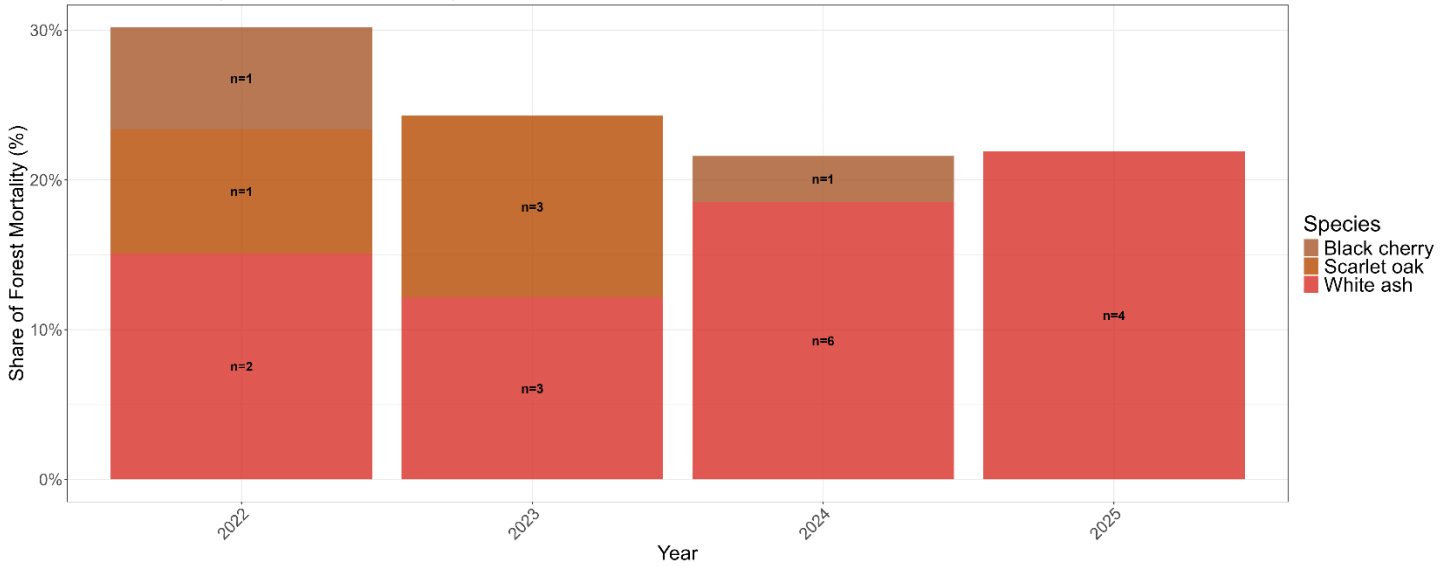


Figure 1D-i. Share of total forest mortality trends in Southern NE for the top three species with the highest number of newly dead trees, relative to all newly reported tree deaths across all species comprising more than 1% of total basal area statewide.

Share of Total Forest Mortality (by Basal Area)

Top 3 species by within-species BA mortality rate. Labels show individual trees that died.

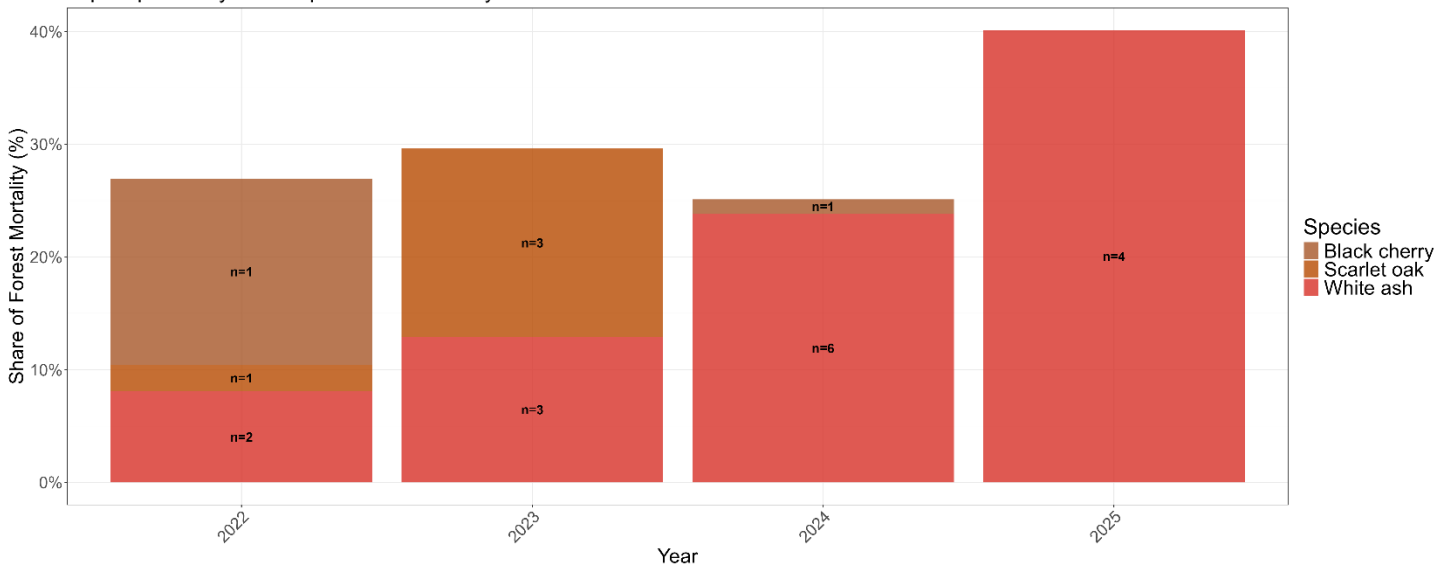


Figure 1D-ii. Share of total lost basal area in Southern NE for the top three species with the greatest basal area loss due to mortality, among species comprising more than 1% of total basal area statewide.

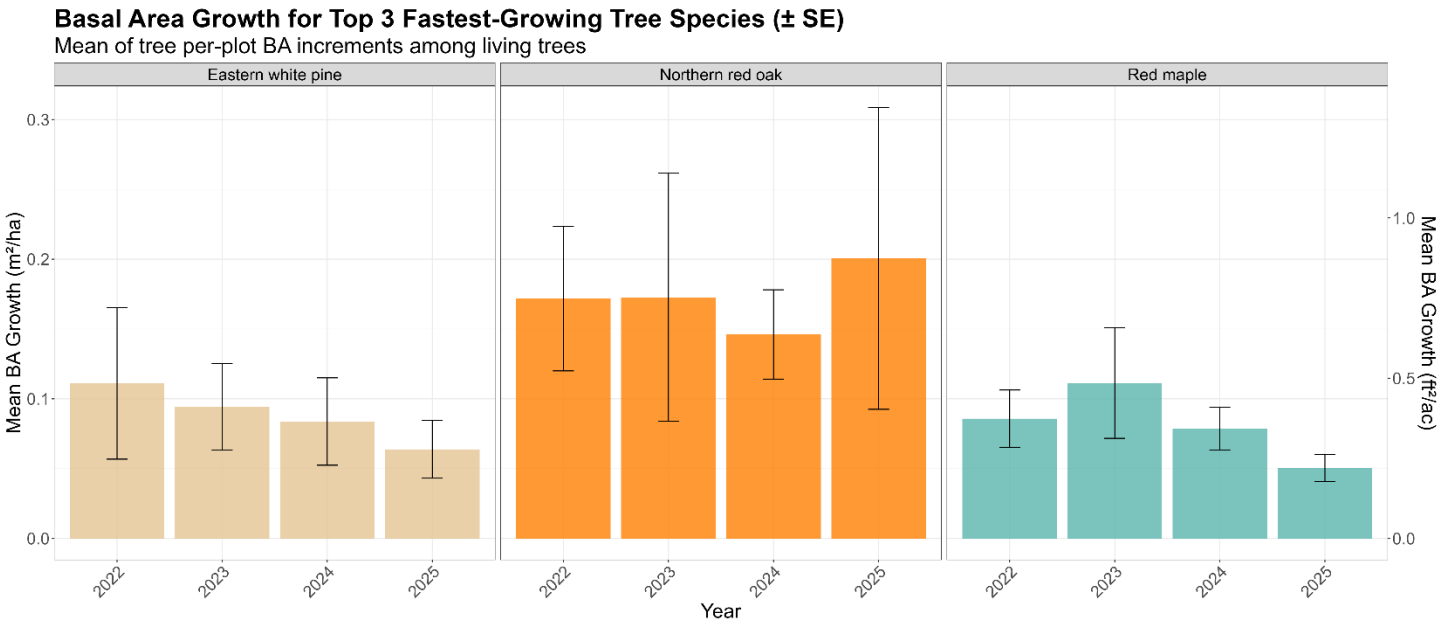


Figure 1D-iii. Top three species with the greatest average basal area growth in Southern NE. Bars represent the mean basal area increment in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) each year. These growth trends illustrate which species are adding basal area the fastest.

E. Total Composition – Trees

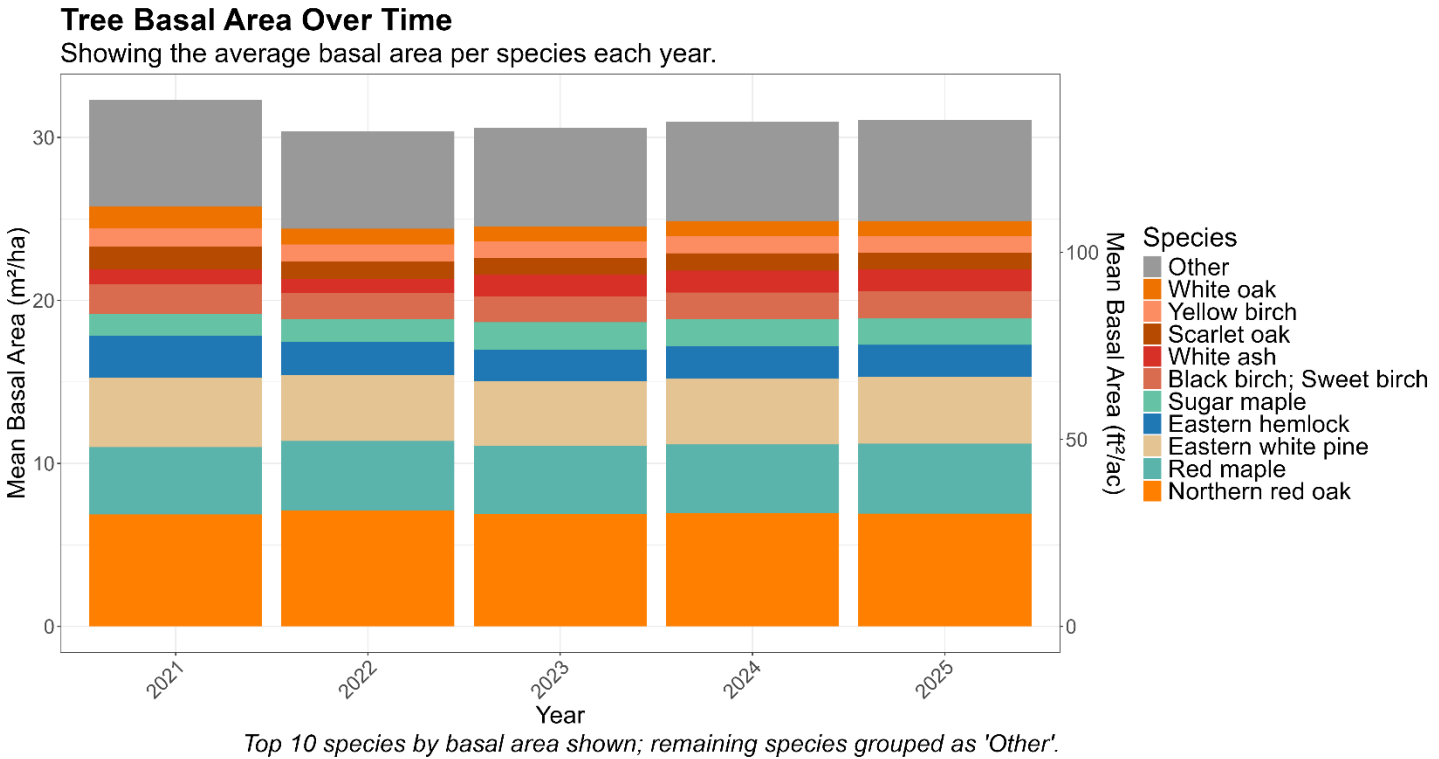


Figure 1E. Overall species composition by average live basal area in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) across all tree species surveyed each year in Southern NE. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 2. Sapling Analyses (Southern New England)

F. Total Composition – Saplings

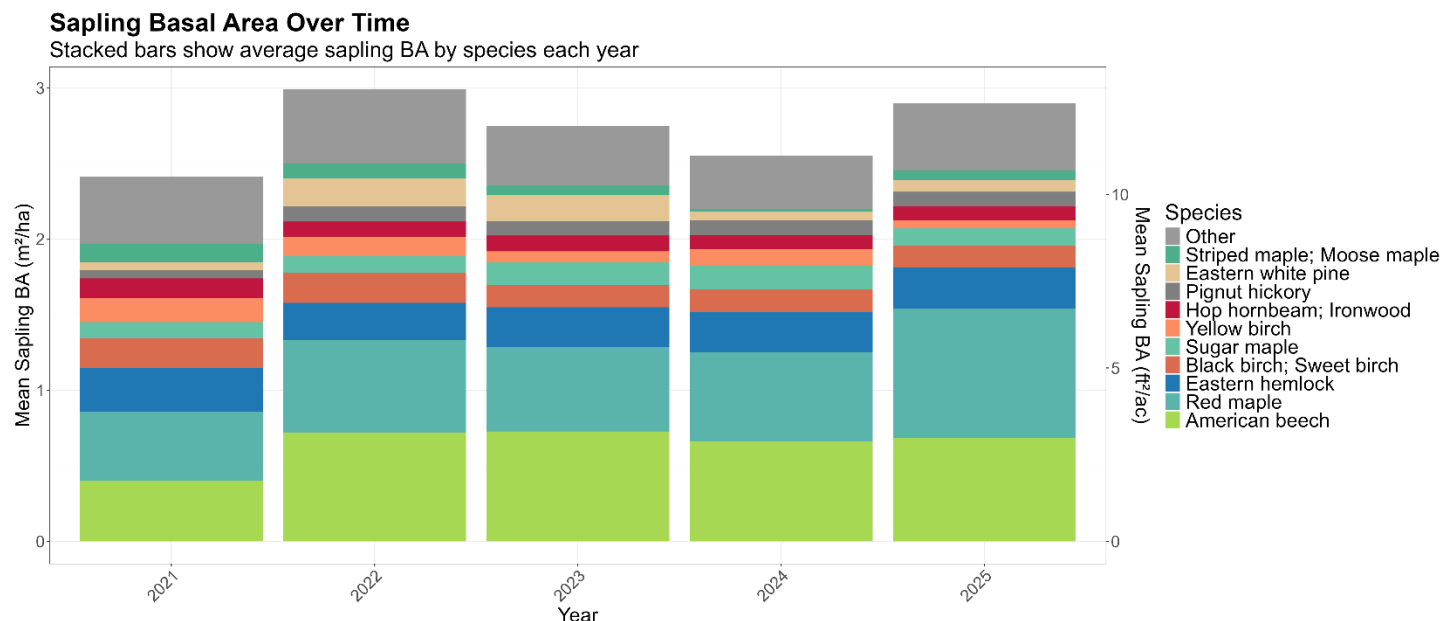


Figure 2F. Overall sapling basal area composition in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for all sapling species surveyed each year in Southern NE. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 3. Seedling Analyses (Southern New England)

We have included a seedling class size guide to assist with interpreting the figures in Section 3.

Seedling Type	Class 1	Class 2
Conifer	< 6 in (15 cm) tall	$\geq$ 6 in (15 cm) tall
Hardwood	<12 in (30 cm) tall	$\geq$ 12 in (30 cm) tall

G. Annual Seedling Density Trends (Southern New England)

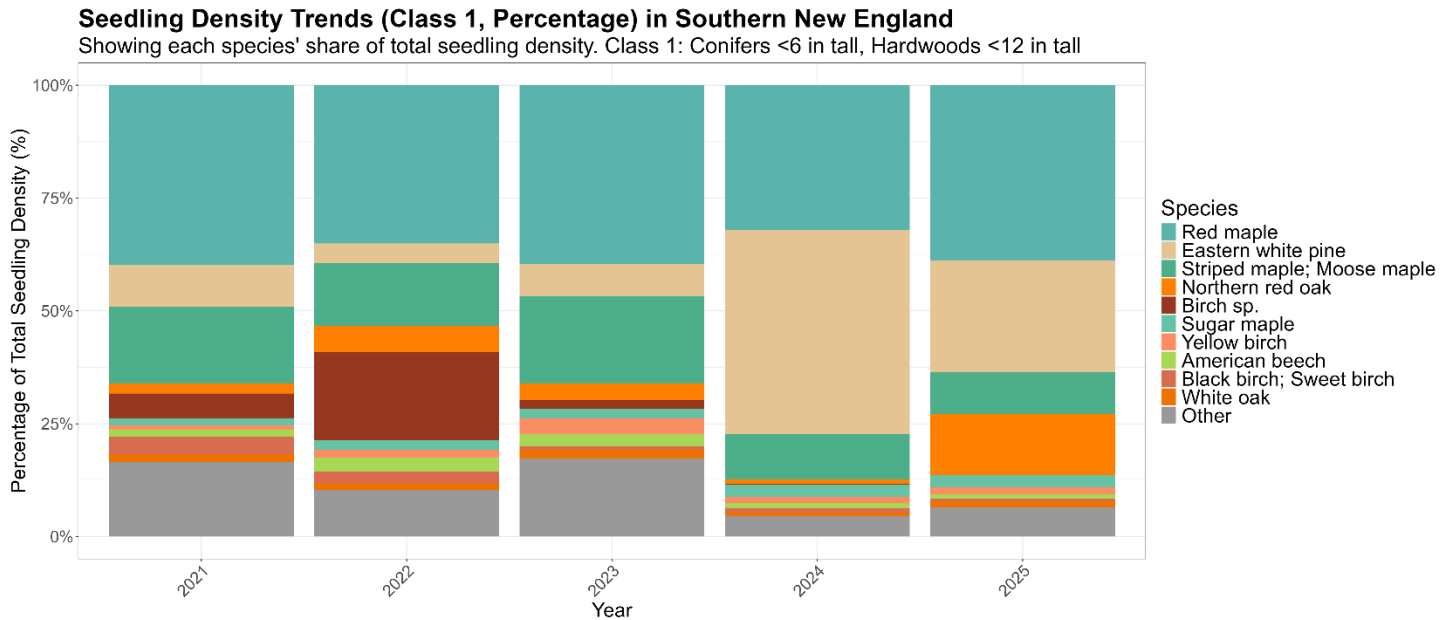


Figure 3G-i. Percent annual composition of Class 1 seedlings for all species surveyed each year in Southern NE. The top ten most represented species by stem count are shown individually, while all other species not in the top ten are combined into “Other.”

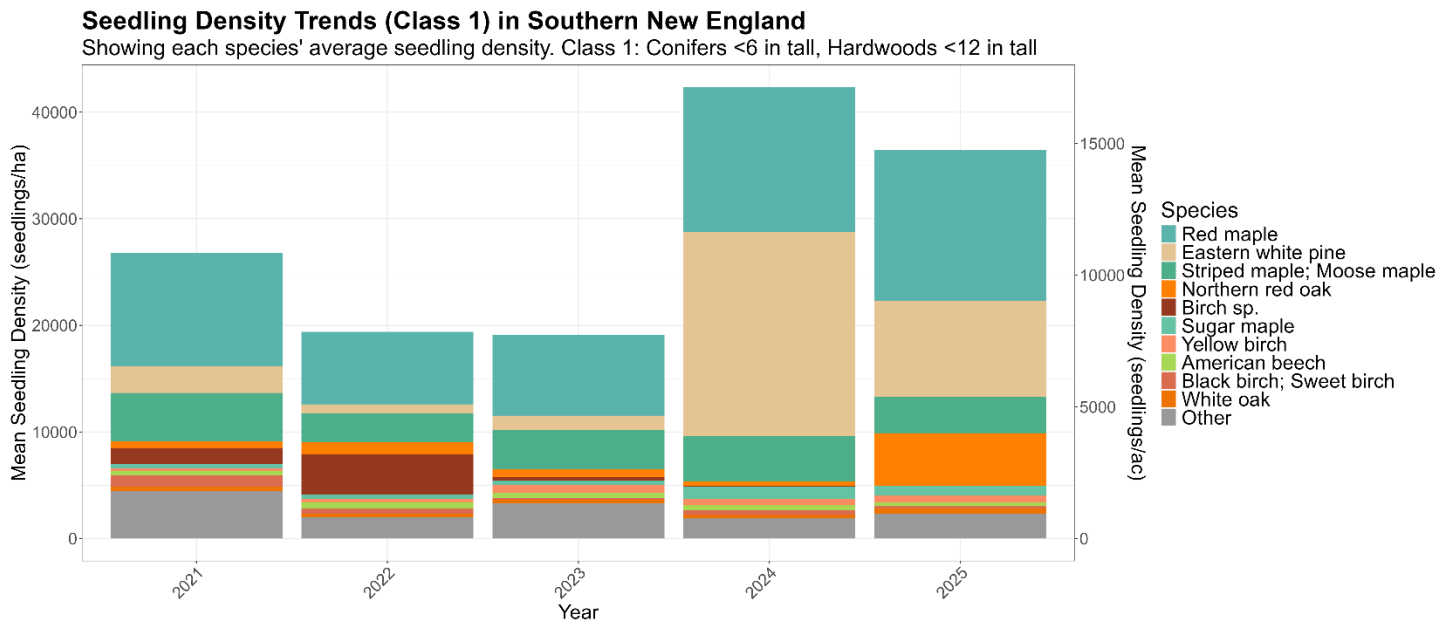


Figure 3G-ii. Class 1 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Southern NE. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 1 seedlings per hectare and acre statewide for each year.

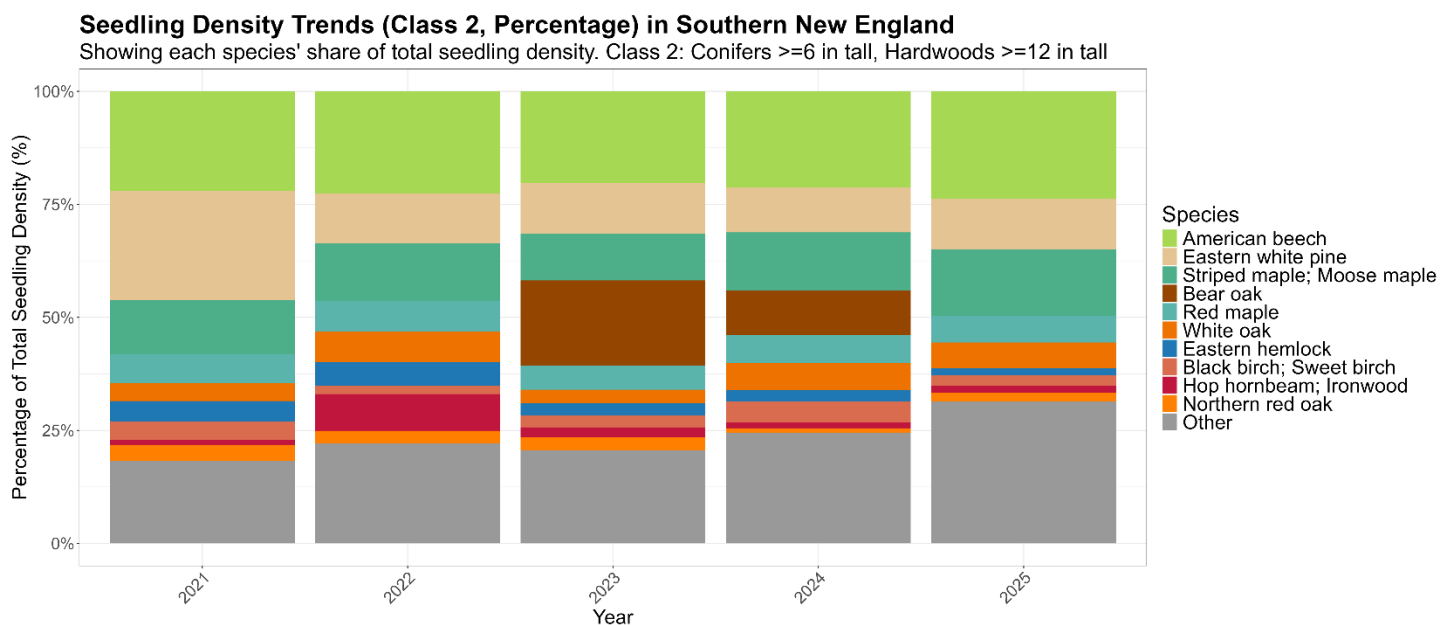


Figure 3G-iii. Percent annual composition of Class 2 seedlings surveyed each year in Southern NE. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.”

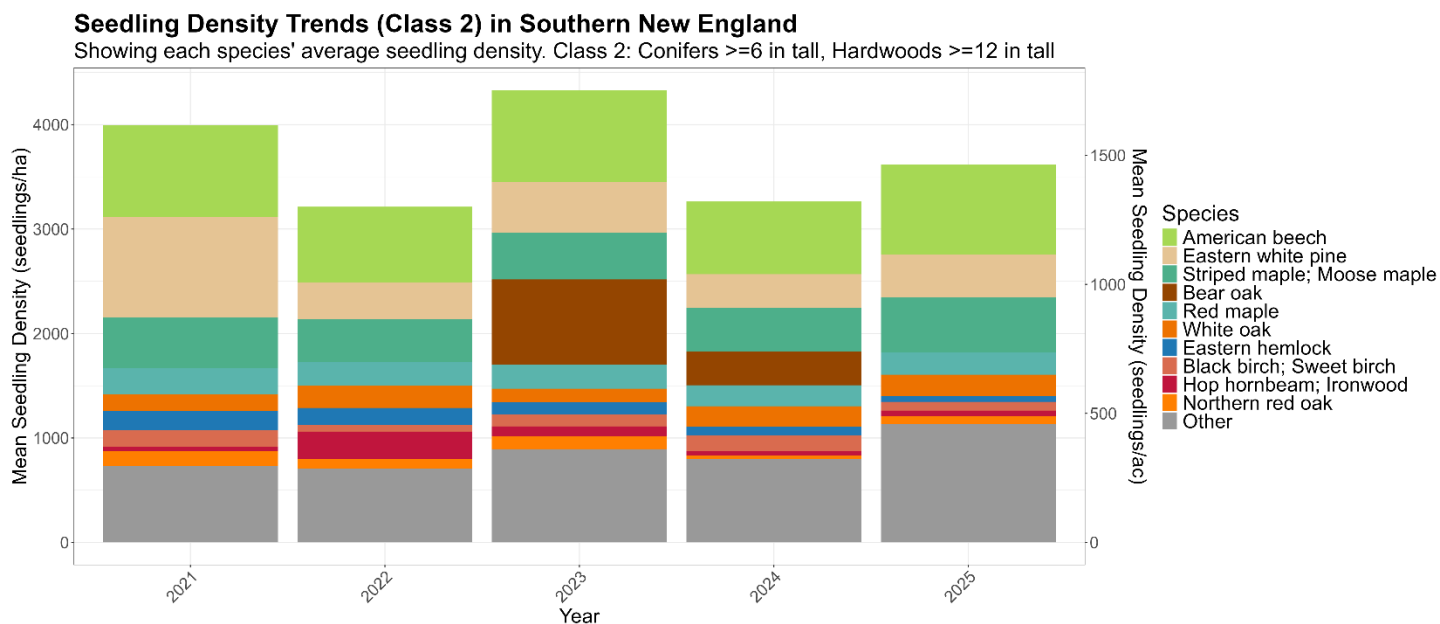


Figure 3G-iv. Class 2 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Southern NE. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 2 seedlings per hectare and acre statewide for each year.

Maine

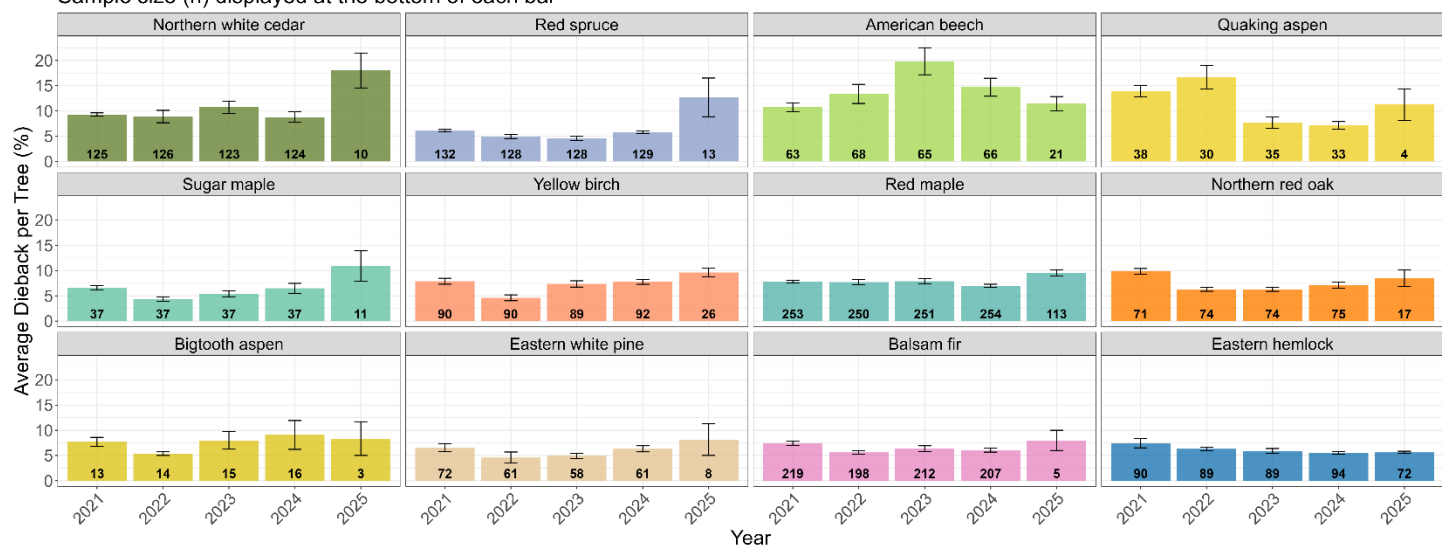
Due to logistical reasons, we were only able to visit 11 of the 35 Maine plots in 2025. Therefore, there may be some differences in the Maine data reflected in this year's report that are not necessarily reflective of statewide sampling trends. We will return to visit all Maine plots in the 2026 season.

Section 1. Tree Analyses (Maine)

A. Dieback Trends (Maine)

Dieback per Year in ME

Sample size (n) displayed at the bottom of each bar



Less prevalent species included: Sugar maple, Bigtooth aspen.

Figure 1A. Maine average fine twig dieback trends by species and year for the top ten species by basal area, plus two that are less prevalent by basal area but exhibit high dieback (sugar maple, bigtooth aspen). Species are ordered by highest dieback in 2025.

B. Transparency trends (Maine)

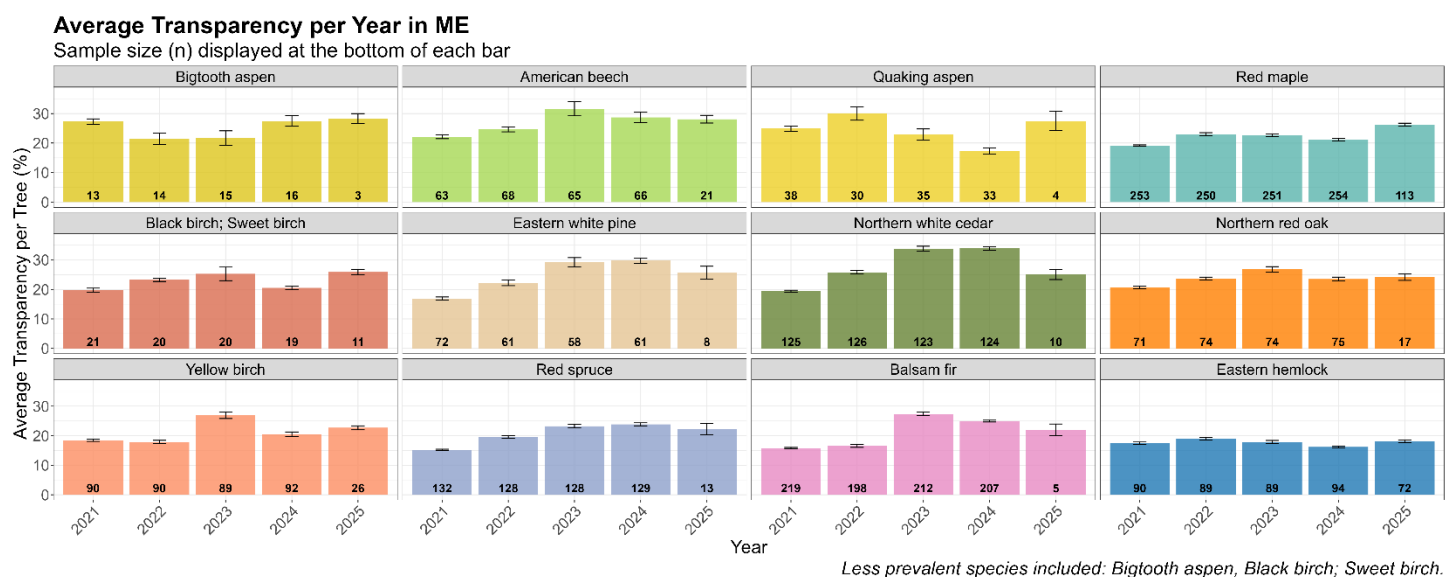


Figure 1B. Maine average leaf transparency trends by species and year, for the top ten species by basal area plus two that are less prevalent by basal area but exhibit high transparency (bigtooth aspen, black/sweet birch). Species are ordered by greatest transparency in 2025.

C. Vigor Trends (Maine)

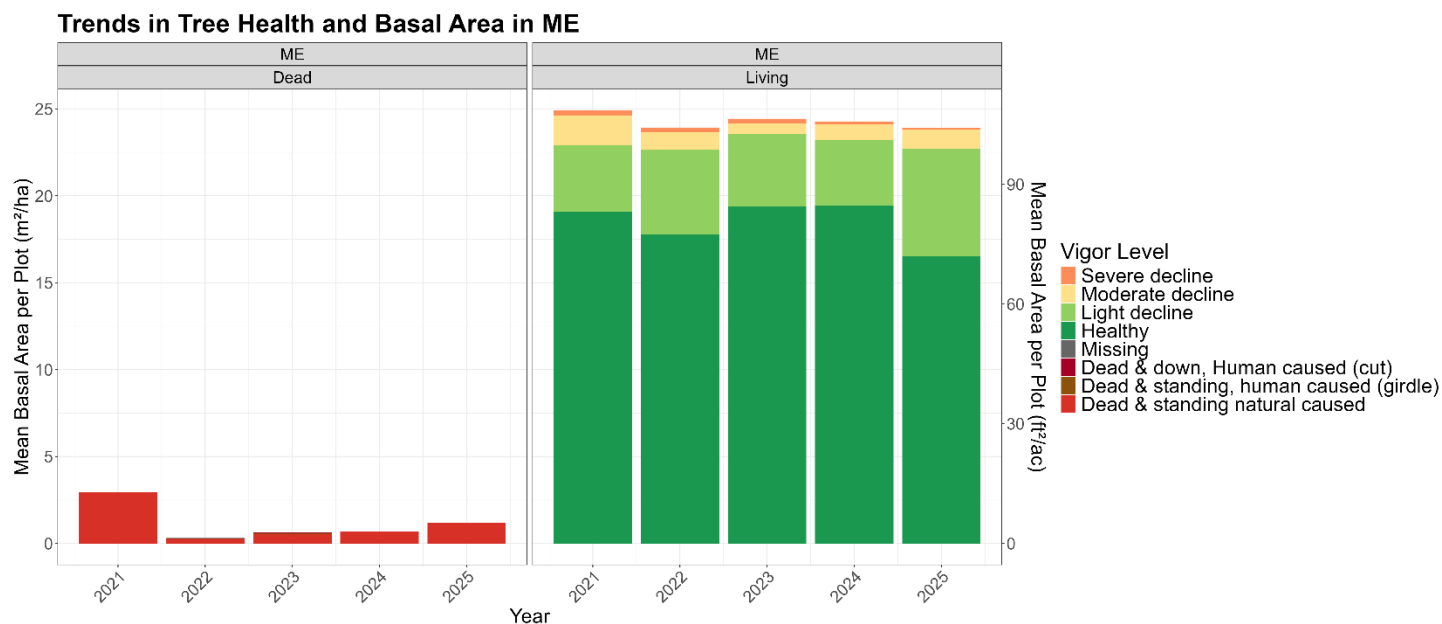
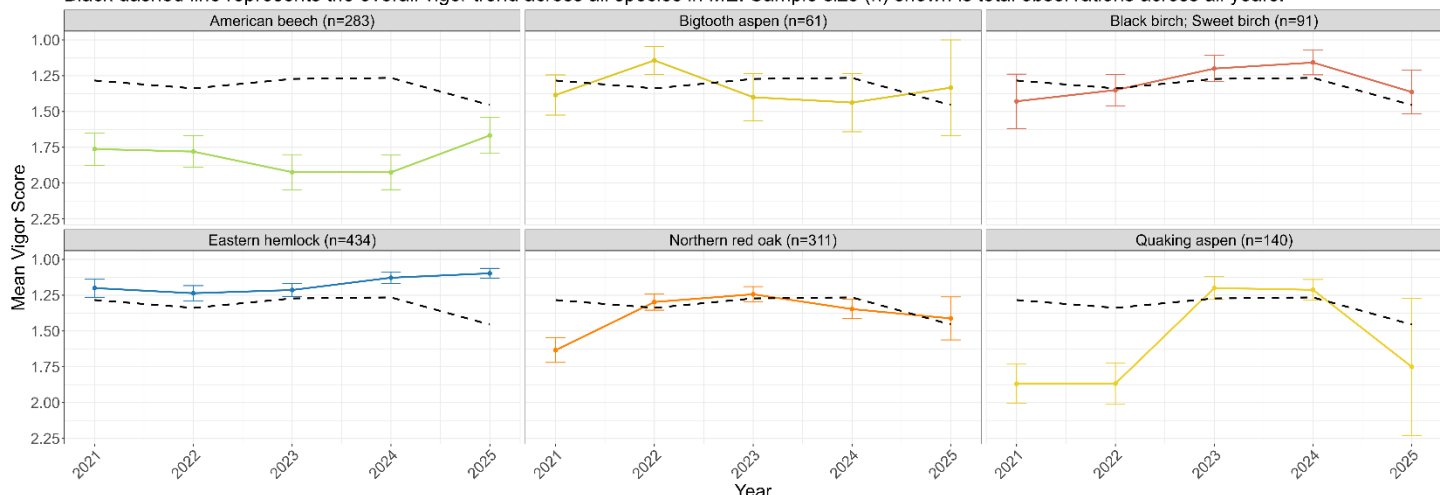


Figure 1C-i. State-specific mean basal area per plot in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for living and dead trees in Maine. Data are grouped by tree status with living classes shown on the right and dead classes on the left.

Top 6 Tree Species with the Healthiest Vigor Over Time in ME

Black dashed line represents the overall vigor trend across all species in ME. Sample size (n) shown is total observations across all years.

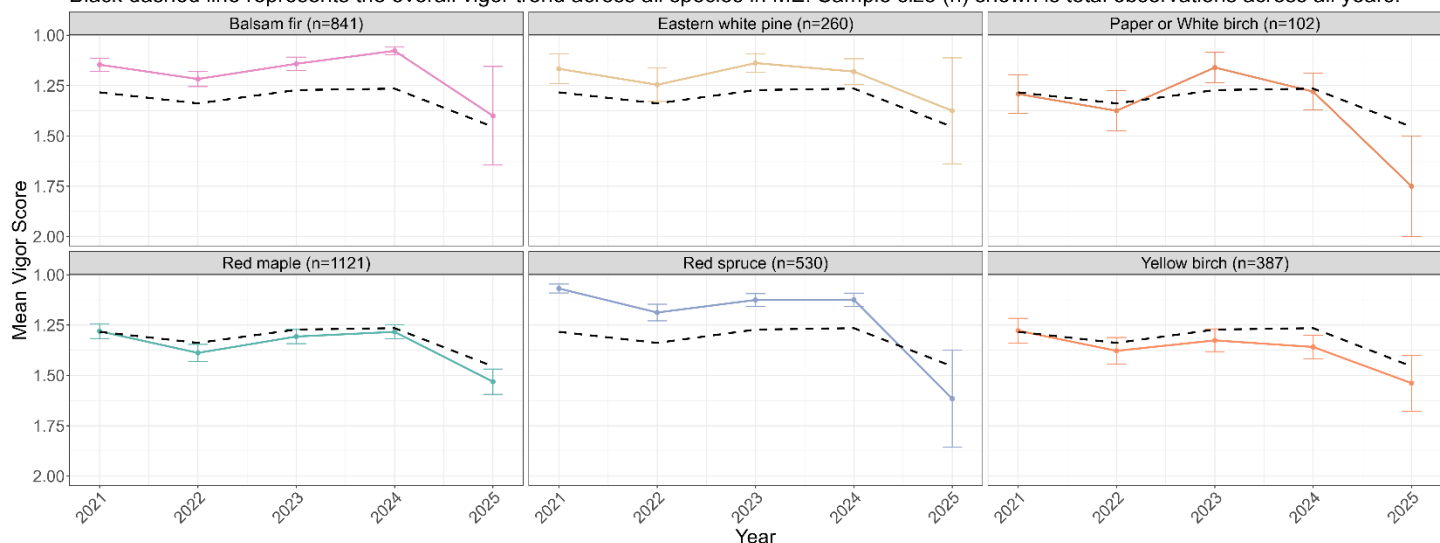


Note: Y axis is flipped due to the inverse nature of FHM recording of Vigor, see manual for better understanding of FHM Vigor Classes

Figure 1C-ii. Top six tree species with the healthiest vigor (lowest stress levels) over time in Maine among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition while lower scores represent healthier trees.

Top 6 Tree Species with the Least Healthy Vigor Over Time in ME

Black dashed line represents the overall vigor trend across all species in ME. Sample size (n) shown is total observations across all years.



Note: Y axis is flipped due to the inverse nature of FHM recording of Vigor, see manual for better understanding of FHM Vigor Classes

Figure 1C-iii. Top six tree species with the greatest decline in vigor (highest stress levels) over time in Maine among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition, while lower scores represent healthier trees.

D. Annual Growth and Mortality Trends – Trees (Maine)

Share of Total Forest Mortality (by Tree Count)

Top 3 species by within-species mortality rate. Labels show individual trees that died.

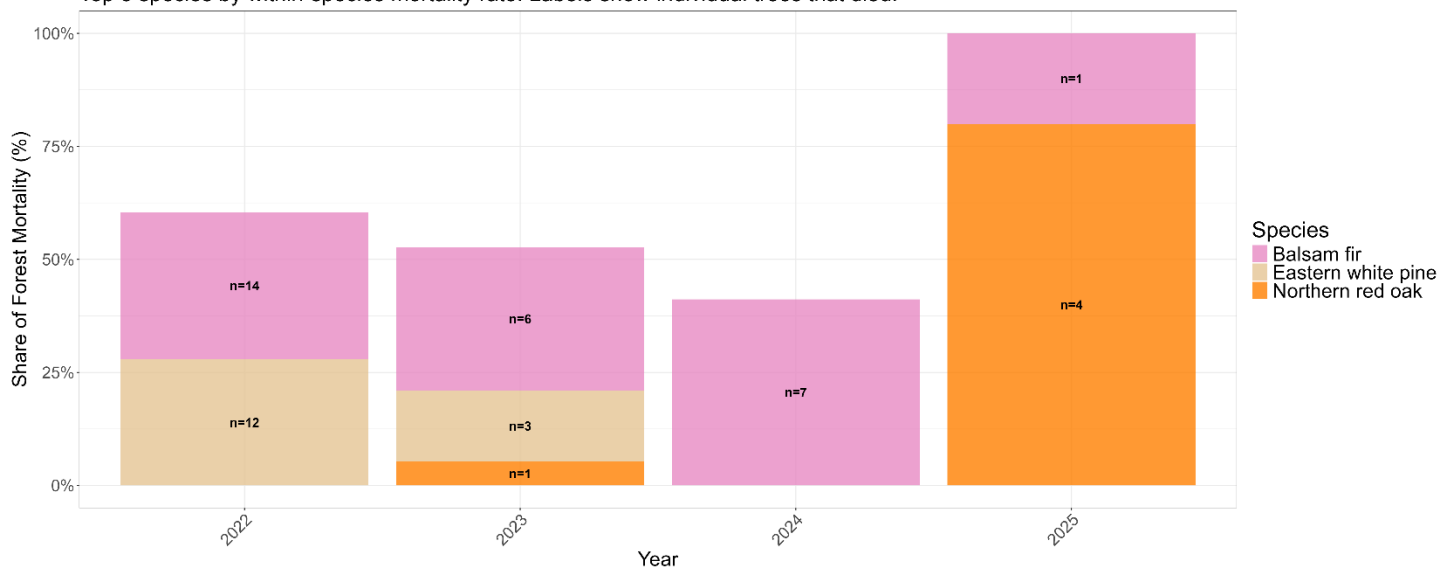


Figure 1D-i. Share of total forest mortality trends in Maine for the top three species with the highest number of newly dead trees, relative to all newly reported tree deaths across all species comprising more than 1% of total basal area statewide.

Share of Total Forest Mortality (by Basal Area)

Top 3 species by within-species BA mortality rate. Labels show individual trees that died.

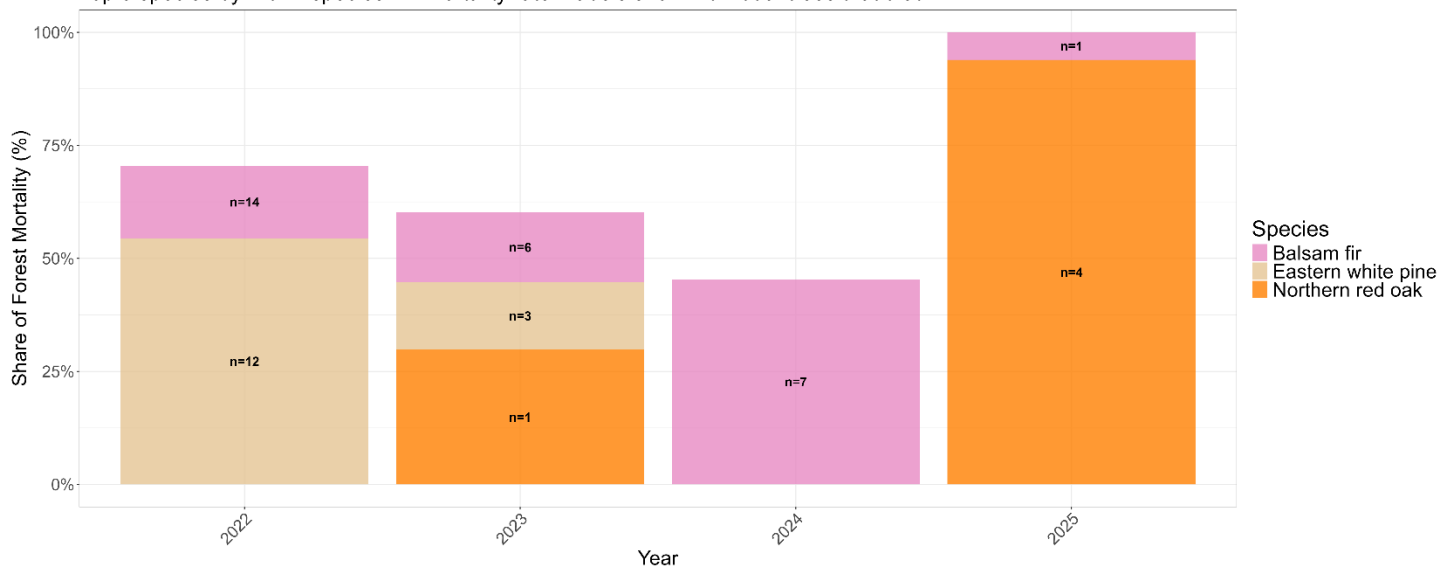


Figure 1D-ii. Share of total lost basal area in Maine for the top three species with the greatest basal area loss due to mortality, among species comprising more than 1% of total basal area statewide.

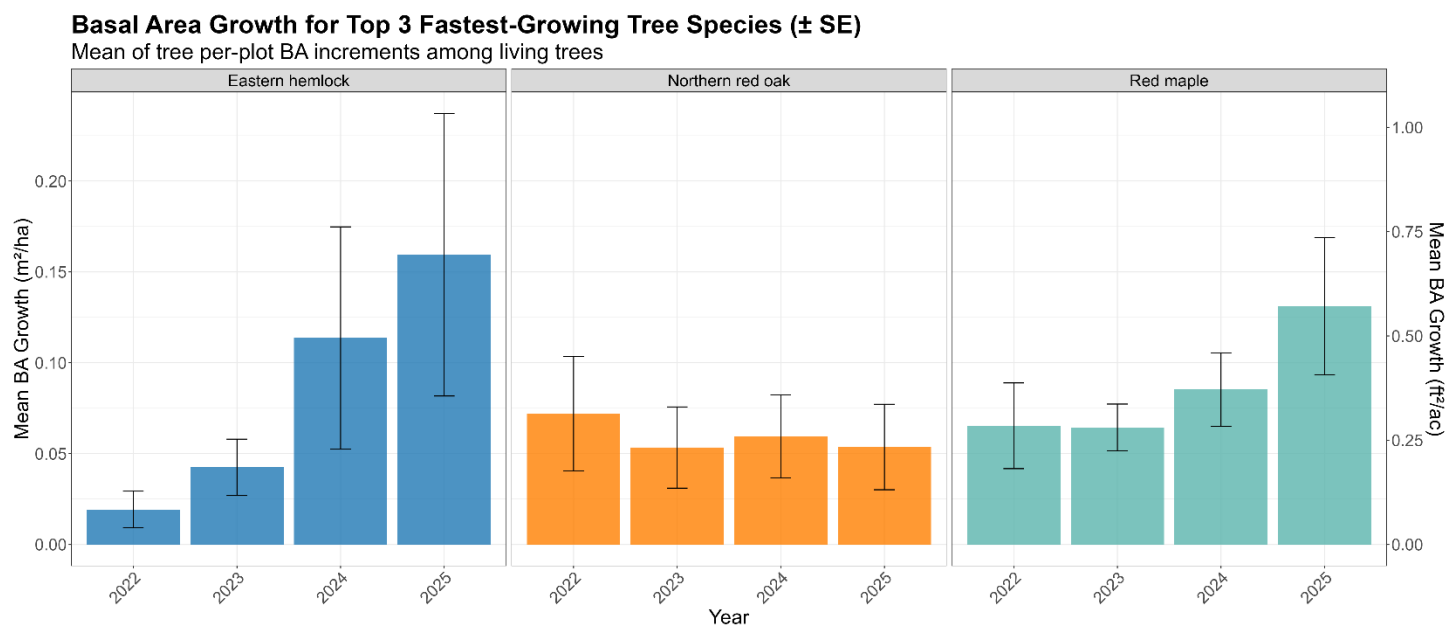


Figure 1D-iii. Top three species with the greatest average basal area growth in Maine. Bars represent the mean basal area increment in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) each year. These growth trends illustrate which species are adding basal area the fastest.

E. Total Composition – Trees (Maine)

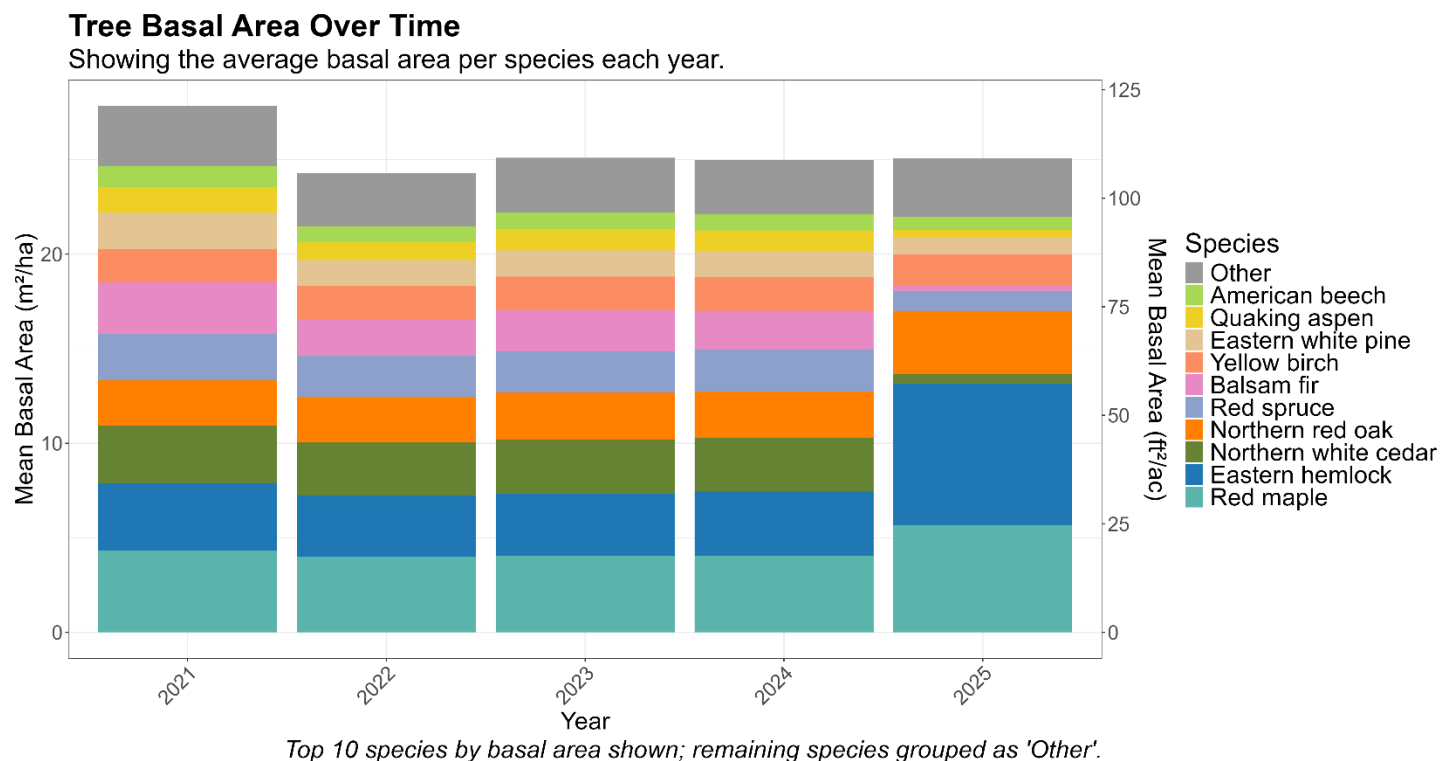


Figure 1E. Overall species composition by average live basal area in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) across all tree species surveyed each year in Maine. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 2. Sapling Analyses (Maine)

F. Total Composition – Saplings (Maine)

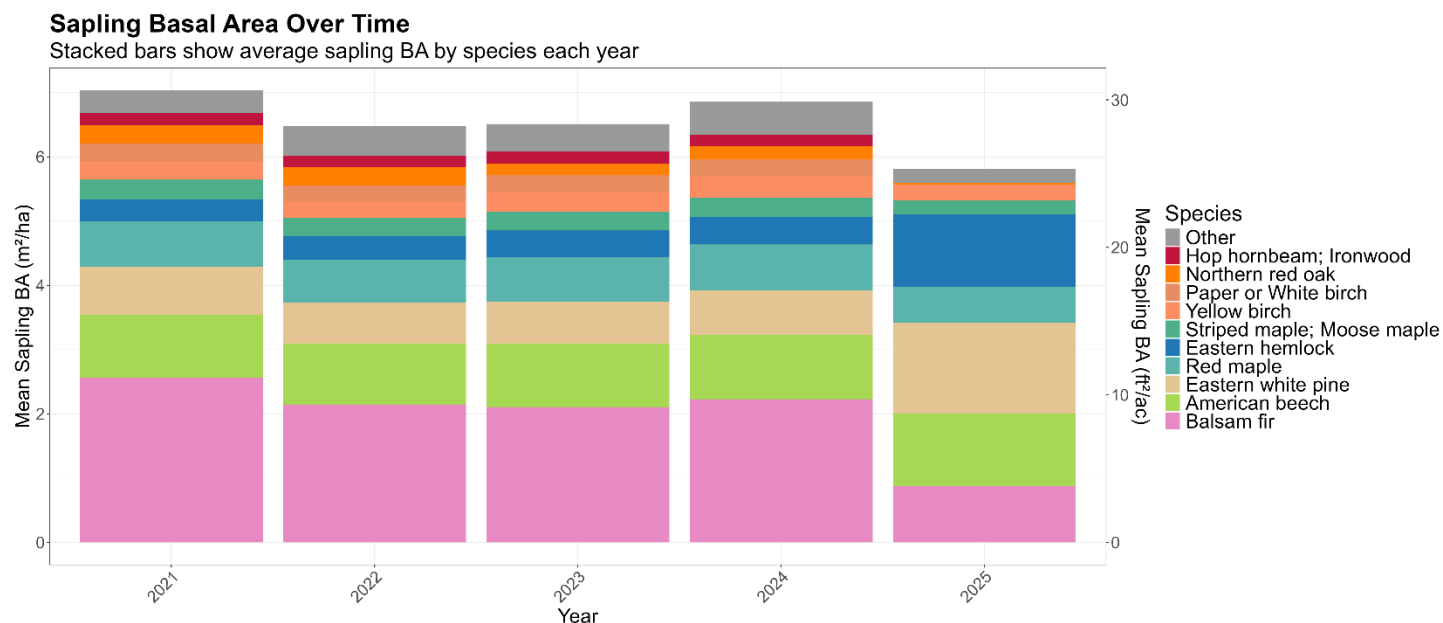


Figure 2F. Overall sapling basal area composition in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for all sapling species surveyed each year in Maine. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 3. Seedling Analyses (Maine)

We have included a seedling class size guide to assist with interpreting figures in Section 3.

Seedling Type	Class 1	Class 2
Conifer	< 6 in (15 cm) tall	≥ 6 in (15 cm) tall
Hardwood	<12 in (30 cm) tall	≥ 12 in (30 cm) tall

G. Annual Seedling Density Trends (Maine)

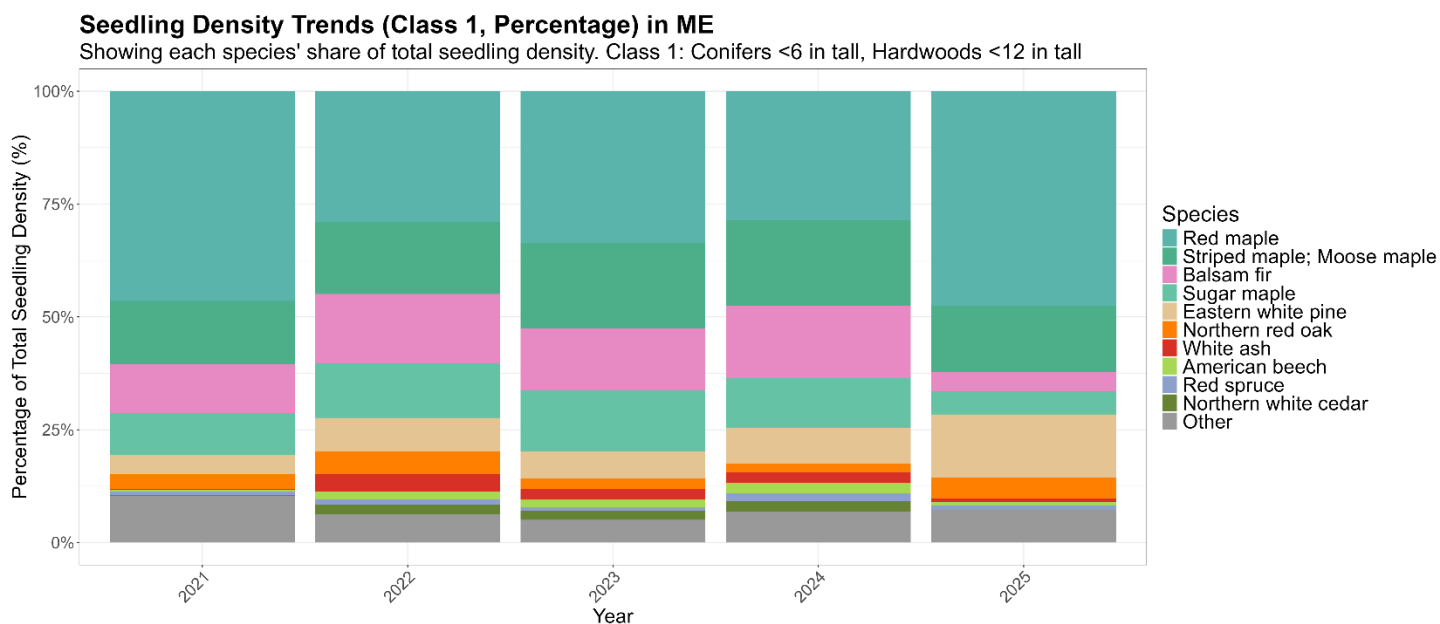


Figure 3G-i. Percent annual composition of Class 1 seedlings for all species surveyed each year in Maine. The top ten most represented species by stem count are shown individually, while all other species not in the top ten are combined into “Other.”

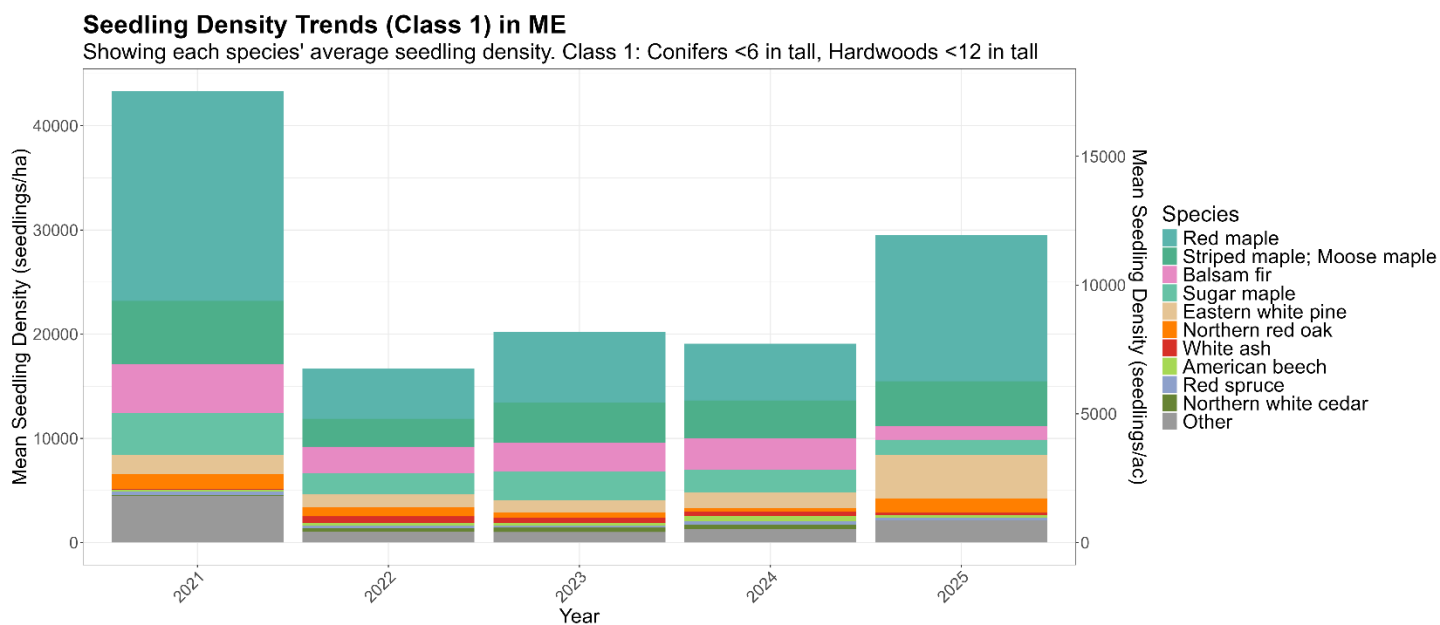


Figure 3G-ii. Class 1 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Maine. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 1 seedlings per hectare and acre statewide for each year.

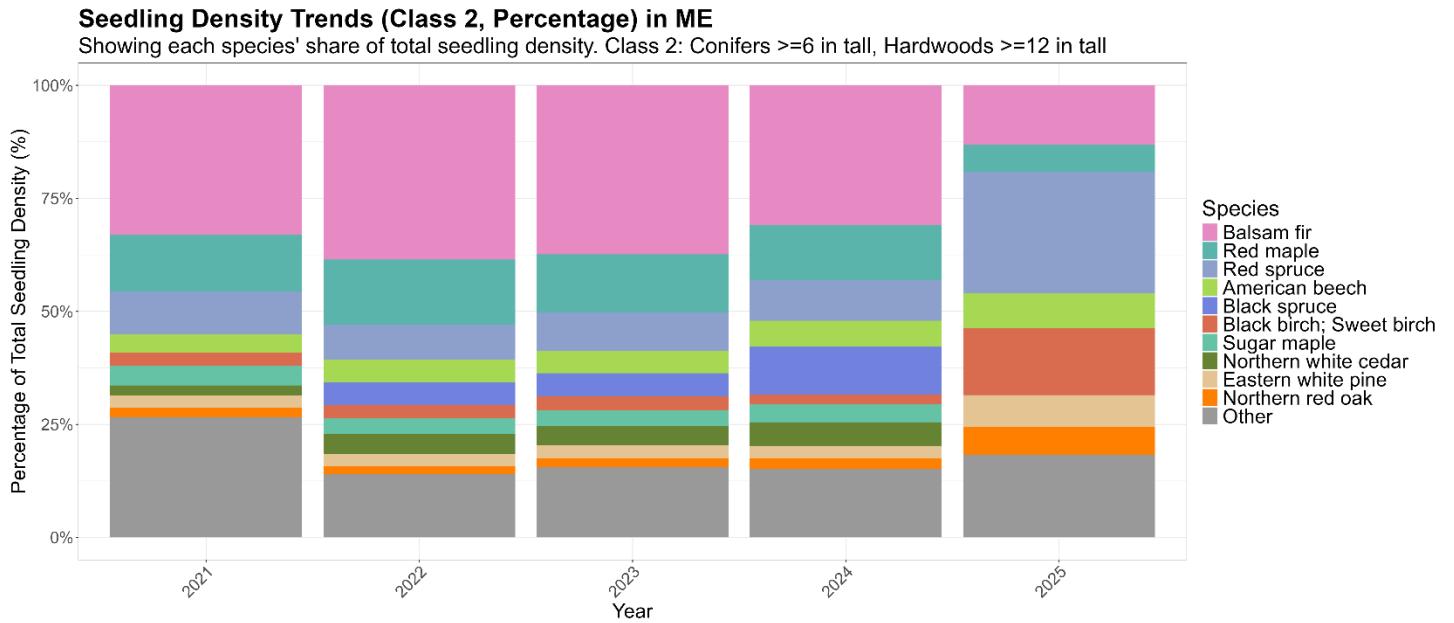


Figure 3G-iii. Percent annual composition of Class 2 seedlings surveyed each year in Maine. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.”

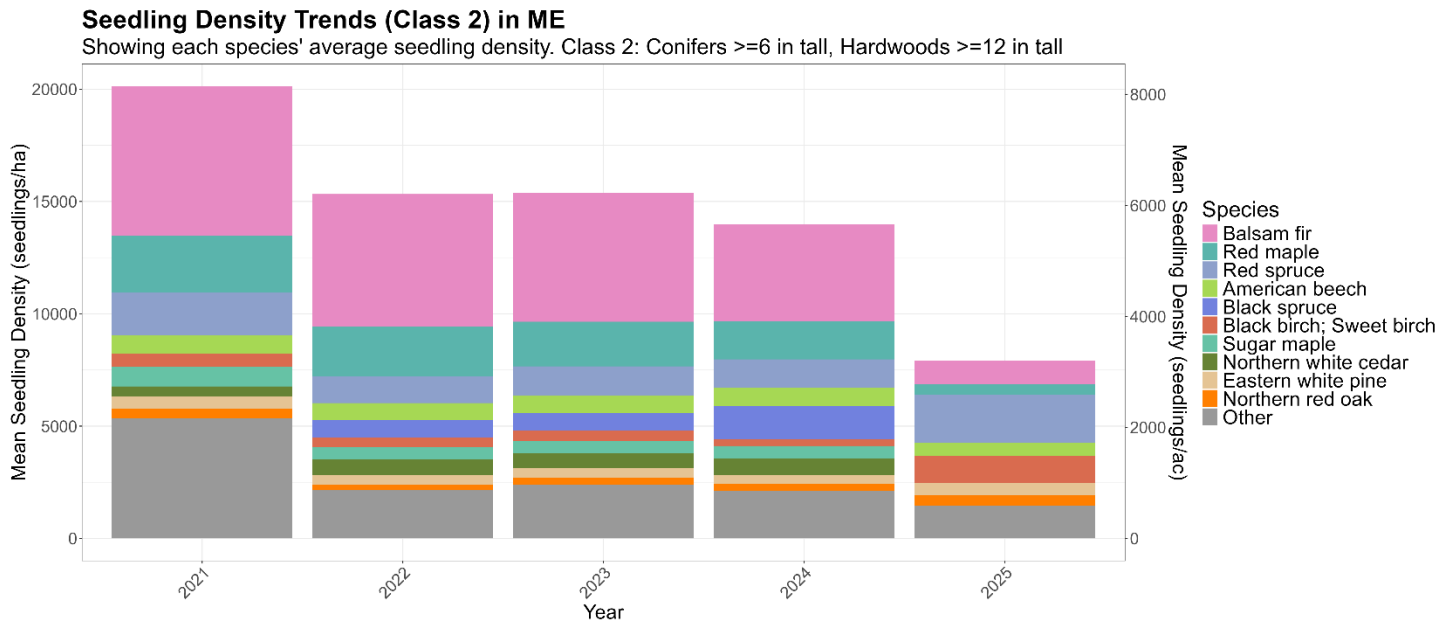


Figure 3G-iv. Class 2 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Maine. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 2 seedlings per hectare and acre statewide for each year.

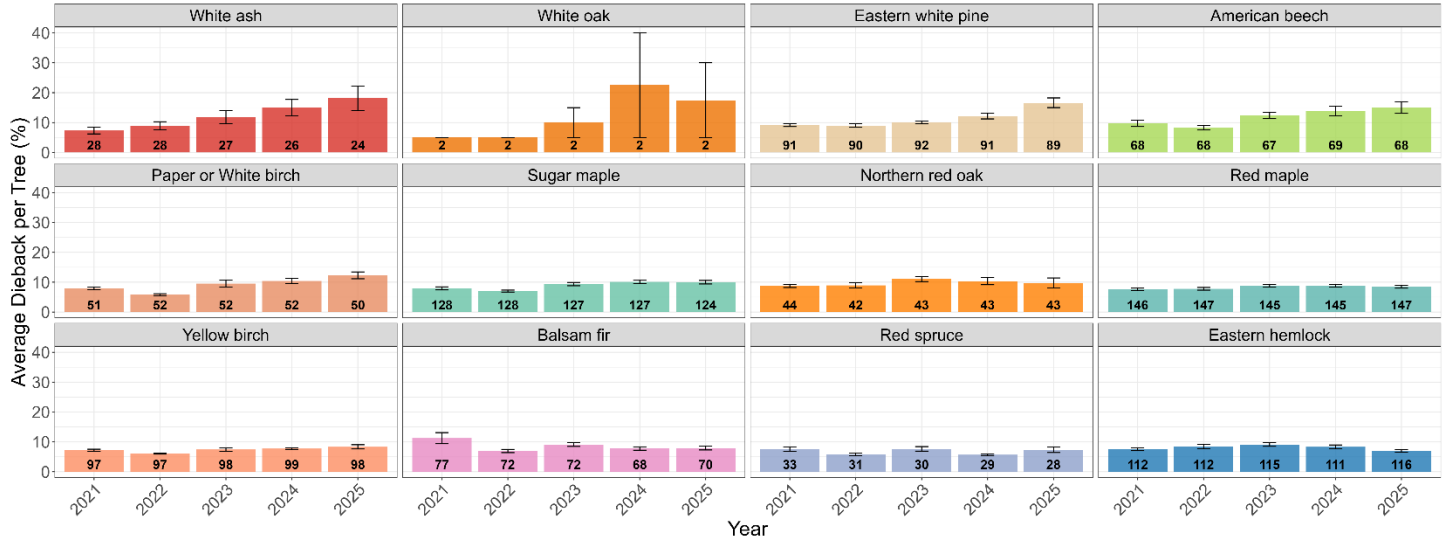
New Hampshire

Section 1. Tree Analyses (New Hampshire)

A. Dieback Trends (New Hampshire)

Dieback per Year in NH

Sample size (n) displayed at the bottom of each bar



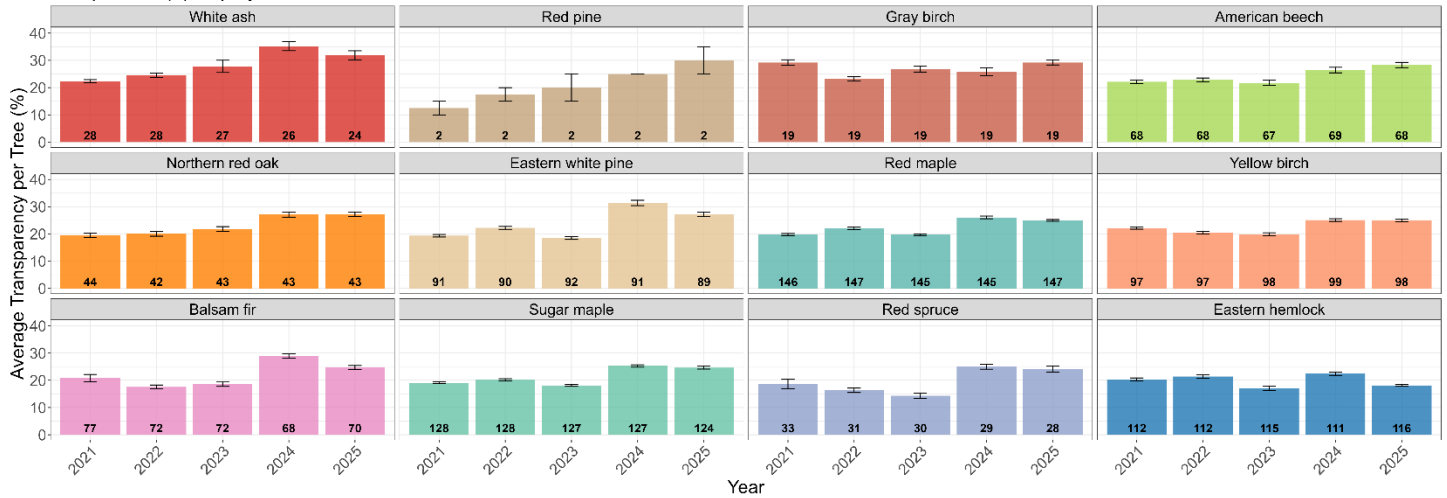
Less prevalent species included: White oak, Paper or White birch.

Figure 1A. New Hampshire average fine twig dieback trends by species and year for the top ten species by basal area, plus two that are less prevalent by basal area but exhibit high dieback (white oak, paper/white birch). Species are ordered by highest dieback in 2025.

B. Transparency Trends (New Hampshire)

Average Transparency per Year in NH

Sample size (n) displayed at the bottom of each bar



Less prevalent species included: Red pine, Gray birch.

Figure 1B. New Hampshire average leaf transparency trends by species and year, for the top ten species by basal area plus two that are less prevalent by basal area but exhibit high transparency (red pine, gray birch). Species are ordered by greatest transparency in 2025.

C. Vigor Trends (New Hampshire)

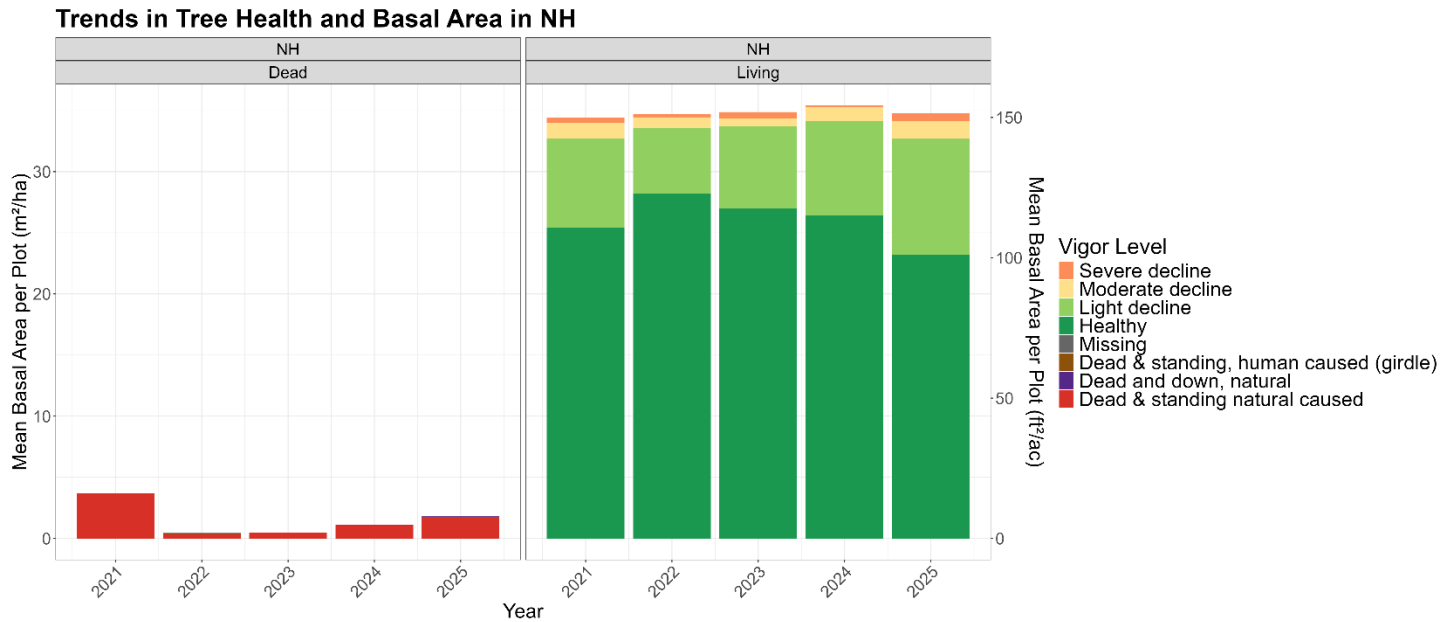


Figure 1C-i. State-specific mean basal area per plot in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for living and dead trees in New Hampshire. Data are grouped by tree status with living classes shown on the right and dead classes on the left.

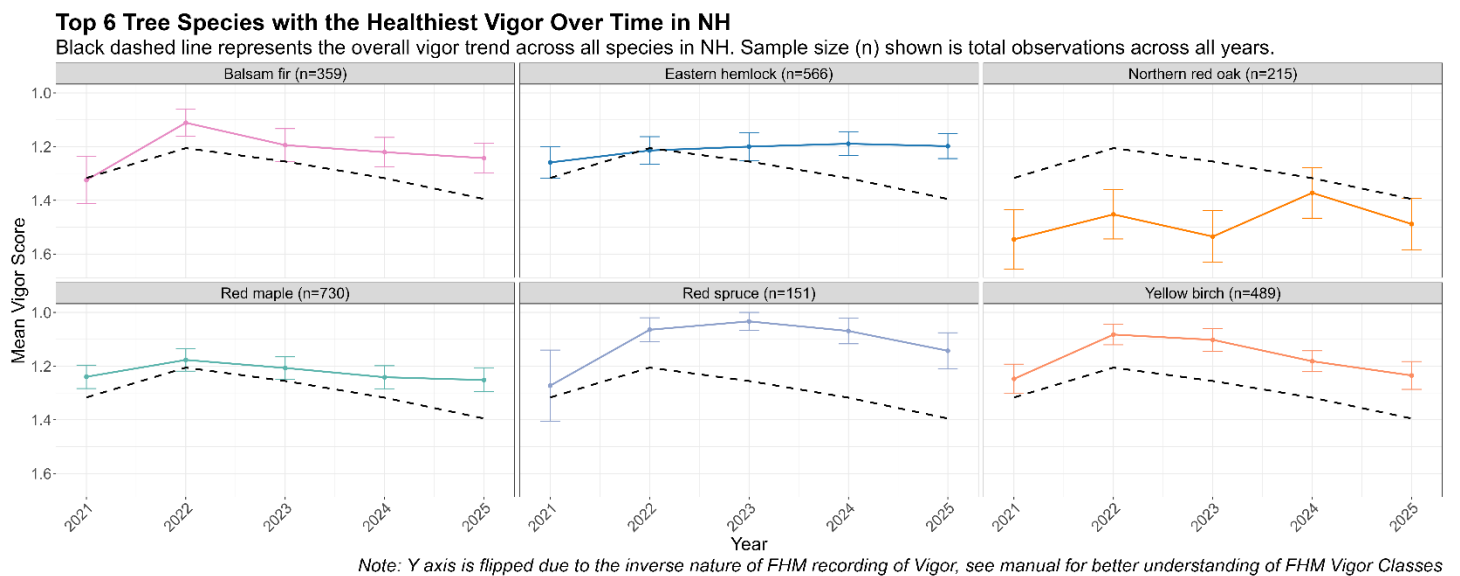


Figure 1C-ii. Top six tree species with the healthiest vigor (lowest stress levels) over time in New Hampshire among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend

across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition while lower scores represent healthier trees.

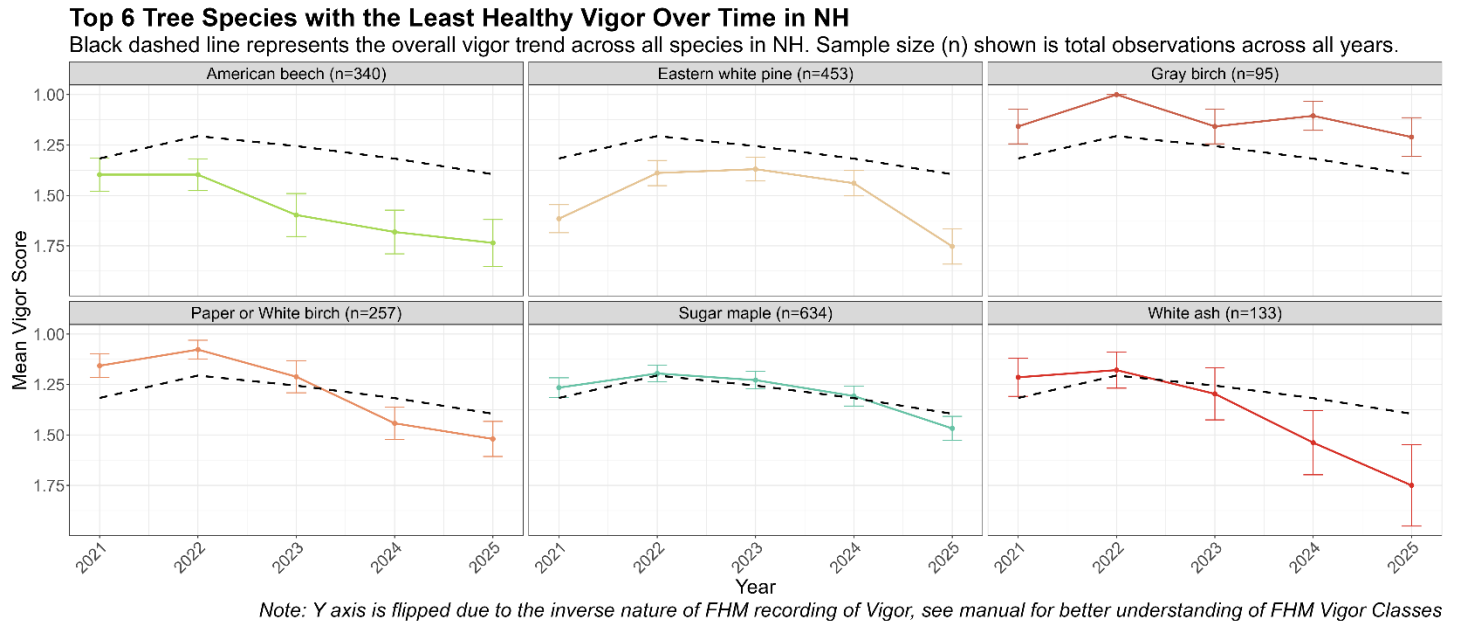


Figure 1C-iii. Top six tree species with the greatest decline in vigor (highest stress levels) over time in New Hampshire among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition, while lower scores represent healthier trees.

D. Annual Growth and Mortality Trends - Trees (New Hampshire)

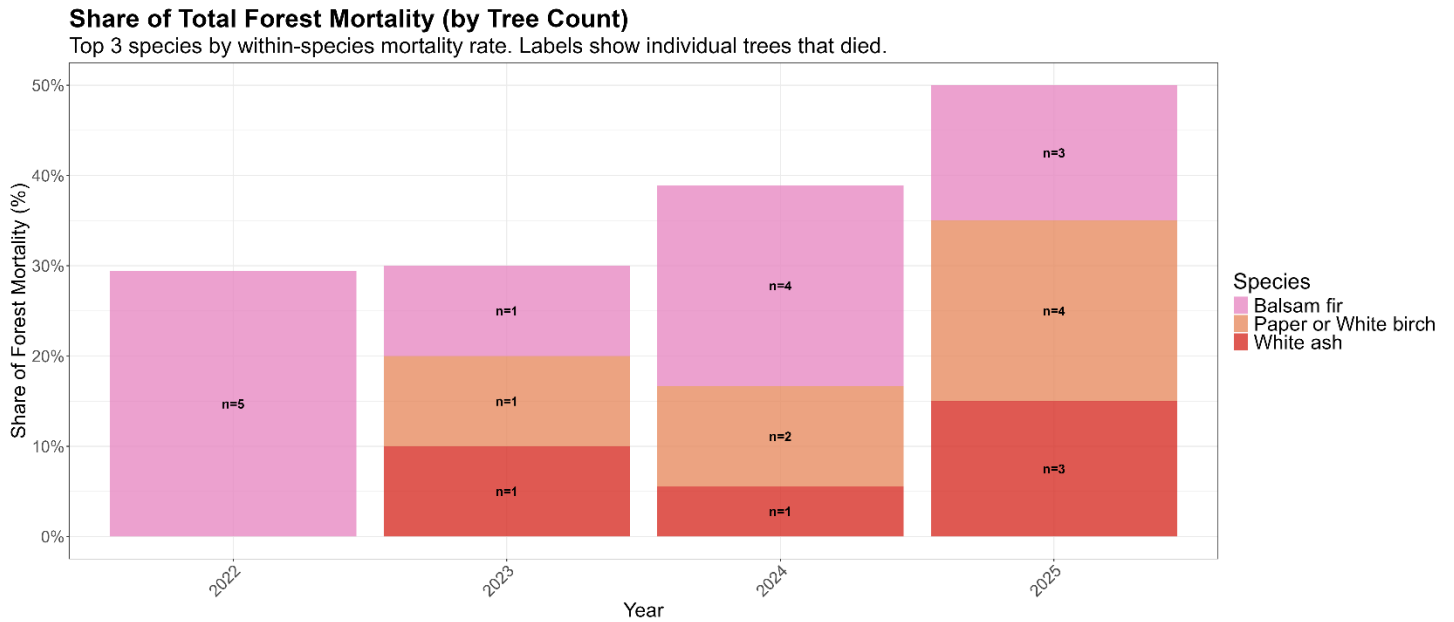


Figure 1D-i. Share of total forest mortality trends in New Hampshire for the top three species with the highest number of newly dead trees, relative to all newly reported tree deaths across all species comprising more than 1% of total basal area statewide.

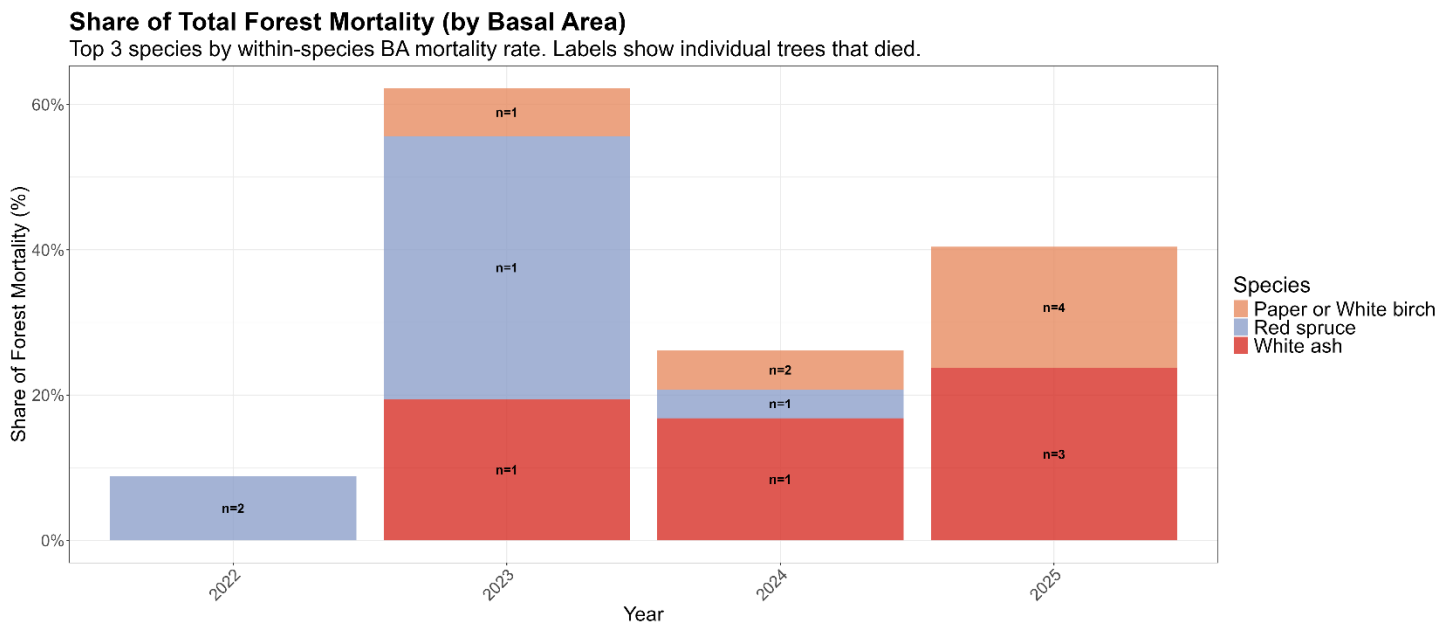


Figure 1D-ii. Share of total lost basal area in New Hampshire for the top three species with the greatest basal area loss due to mortality, among species comprising more than 1% of total basal area statewide.

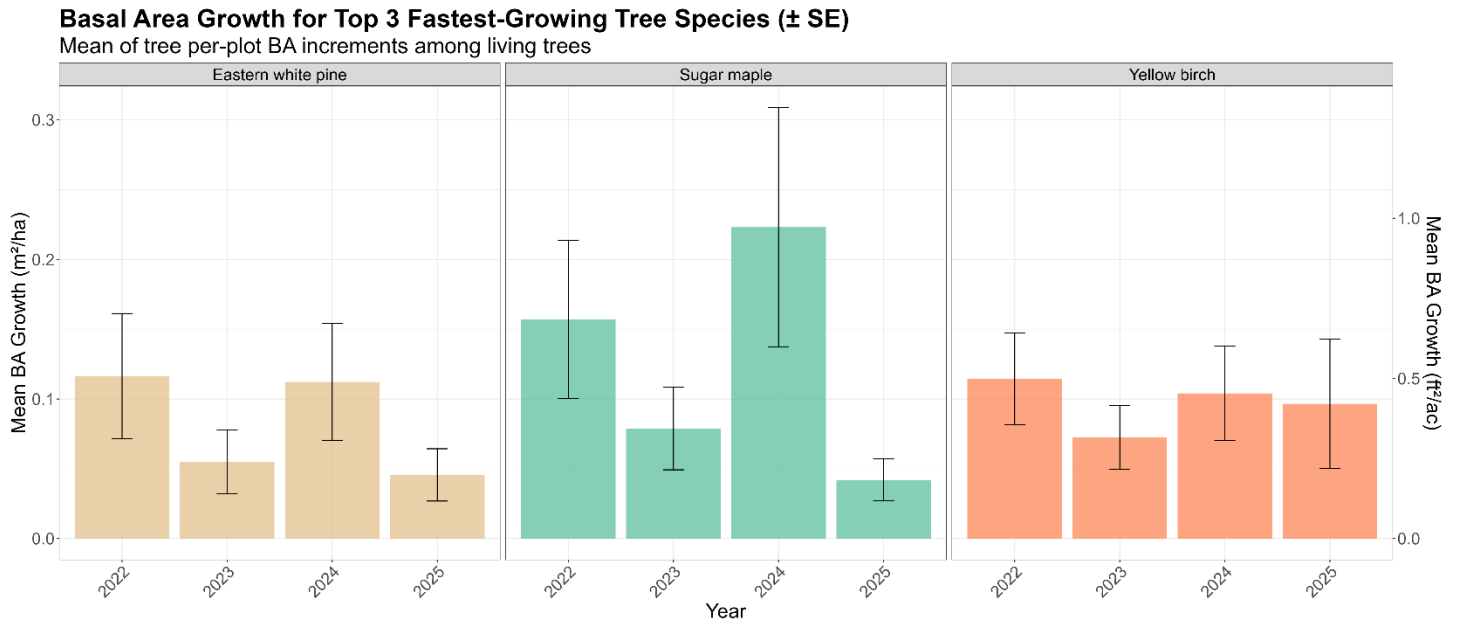


Figure 1D-iii. Top three species with the greatest average basal area growth in New Hampshire. Bars represent the mean basal area increment in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) each year. These growth trends illustrate which species are adding basal area the fastest.

E. Total Composition - Trees (New Hampshire)

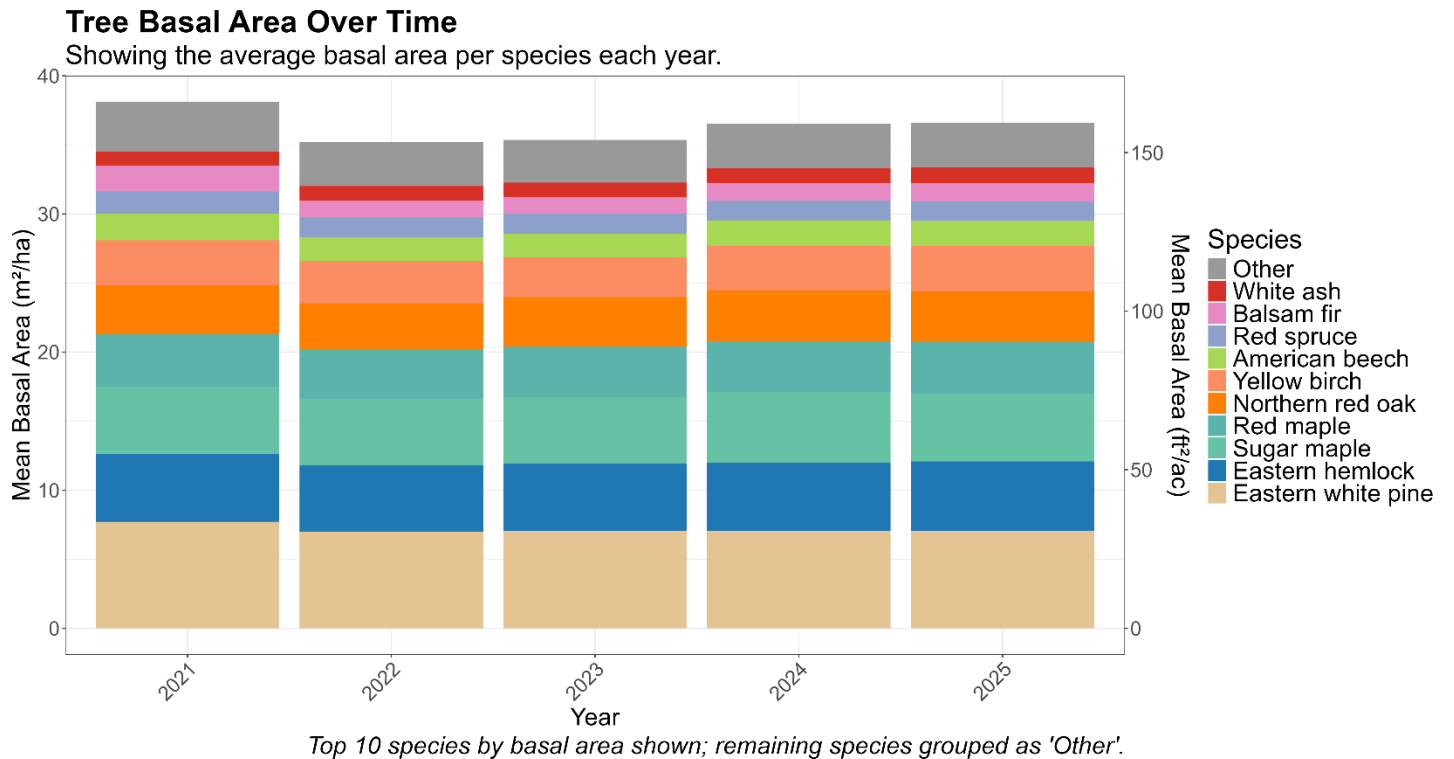


Figure 1E. Overall species composition by average live basal area in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) across all tree species surveyed each year in New Hampshire. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into "Other."

Section 2. Sapling Analyses (New Hampshire)

F. Total Composition – Saplings (New Hampshire)

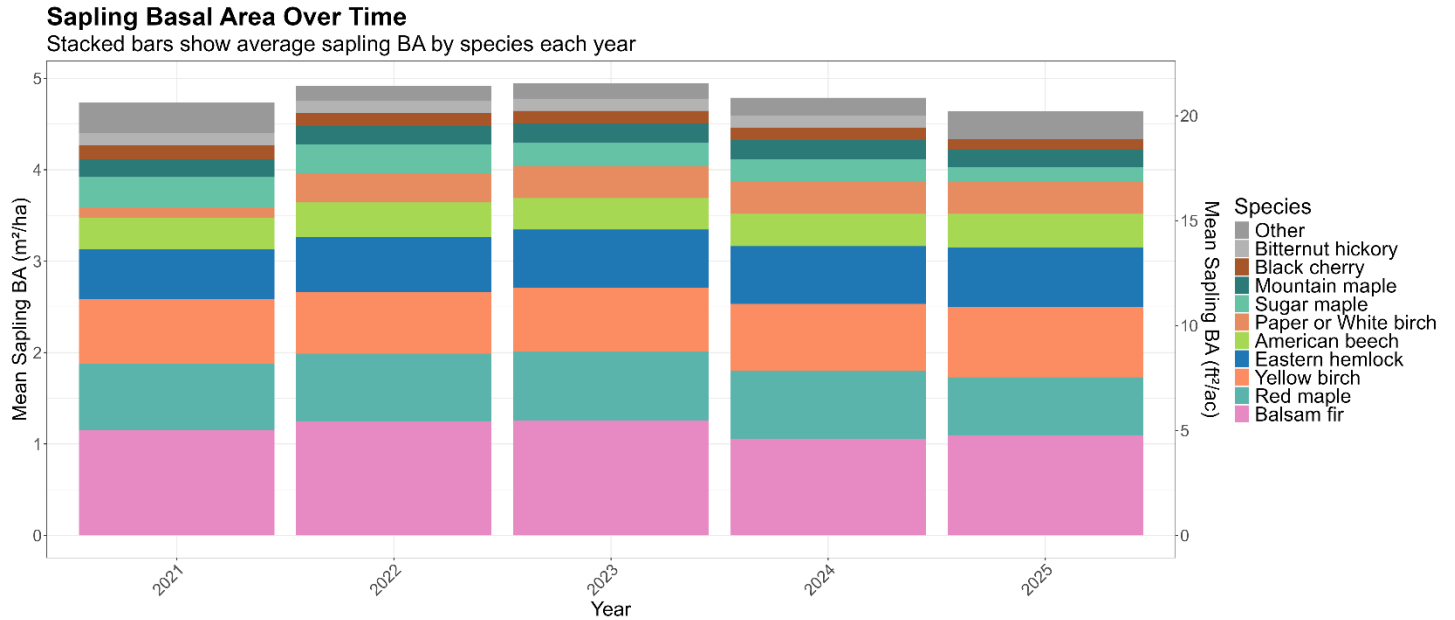


Figure 2F. Overall sapling basal area composition in hectares (m²/ha, left axis) and acres (ft²/ac, right axis) for all sapling species surveyed each year in New Hampshire. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 3. Seedling Analyses (New Hampshire)

We have included a seedling class size guide to assist with interpreting the figures in Section 3.

Seedling Type	Class 1	Class 2
Conifer	< 6 in (15 cm) tall	≥ 6 in (15 cm) tall
Hardwood	<12 in (30 cm) tall	≥ 12 in (30 cm) tall

G. Annual Seedling Density Trends (New Hampshire)

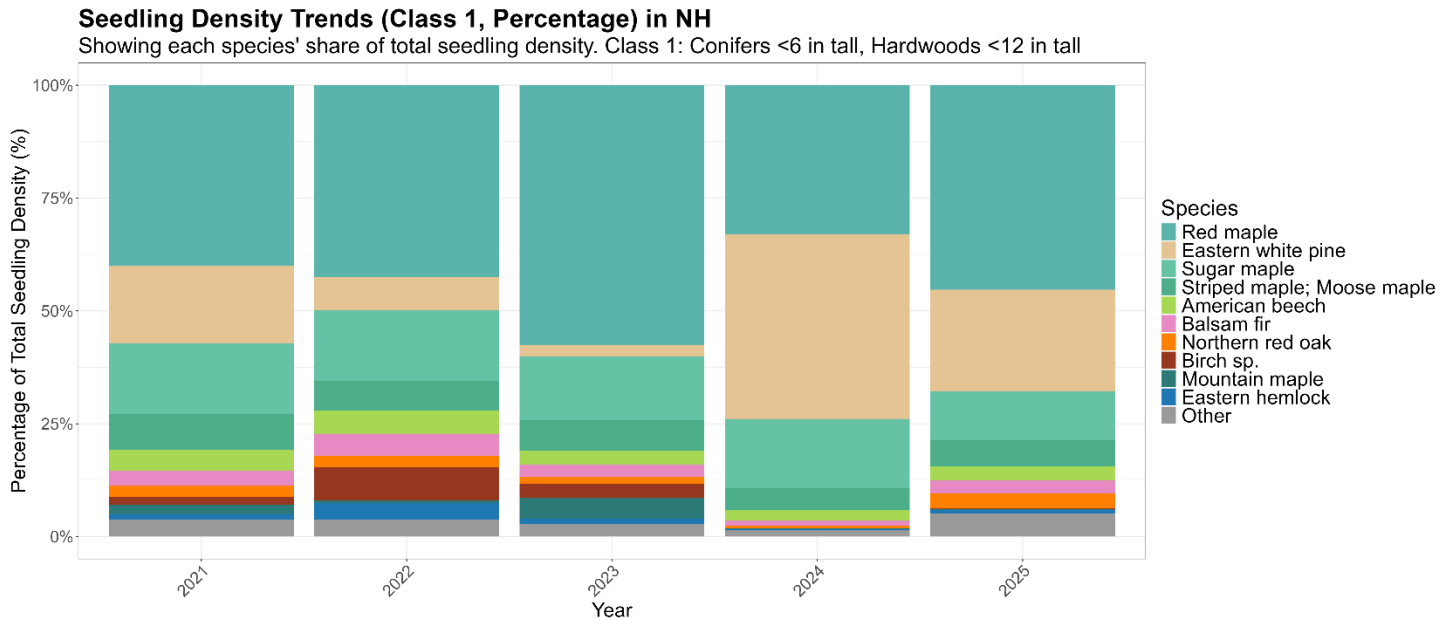


Figure 3G-i. Percent annual composition of Class 1 seedlings for all species surveyed each year in New Hampshire. The top ten most represented species by stem count are shown individually, while all other species not in the top ten are combined into “Other.”

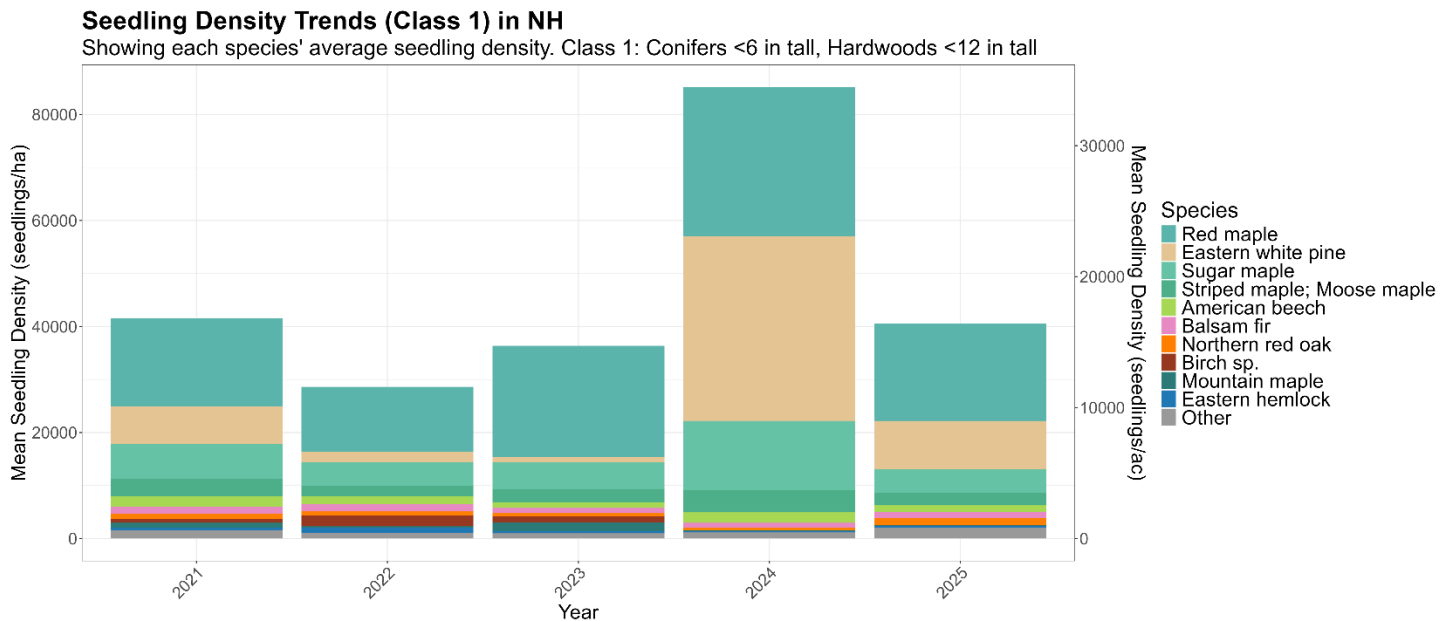


Figure 3G-ii. Class 1 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in New Hampshire. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 1 seedlings per hectare and acre statewide for each year.

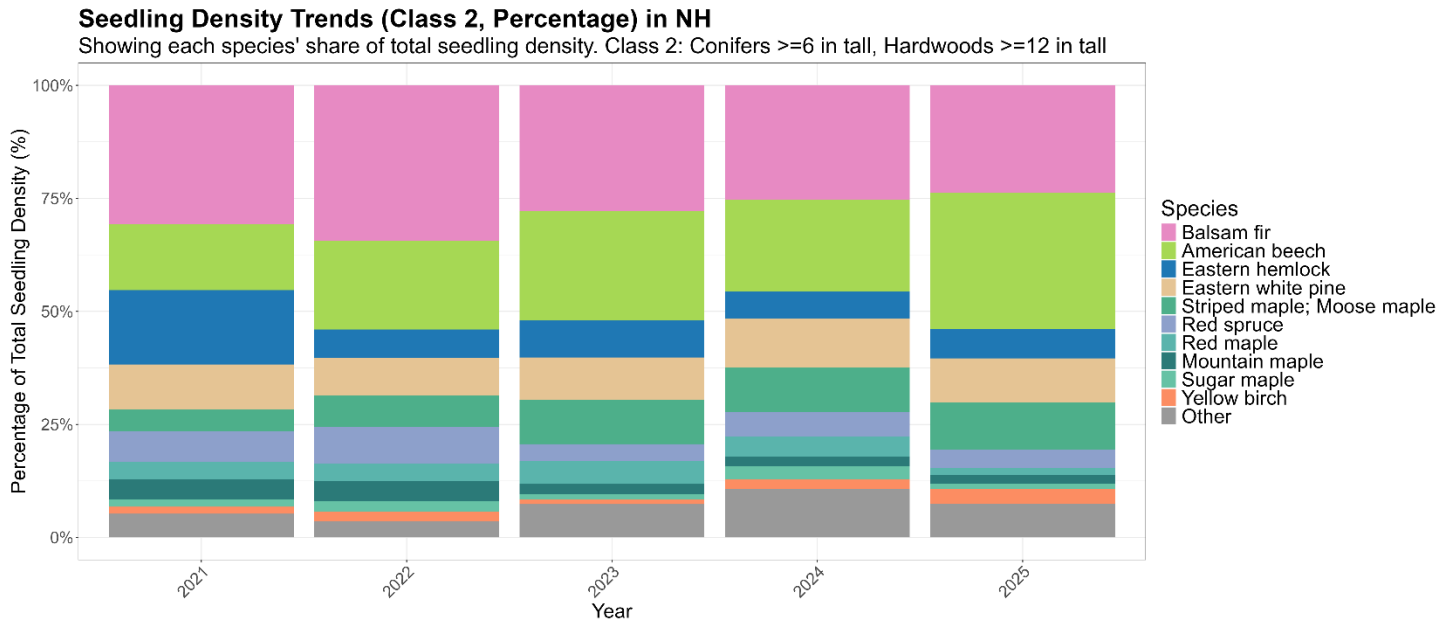


Figure 3G-iii. Percent annual composition of Class 2 seedlings surveyed each year in New Hampshire. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.”

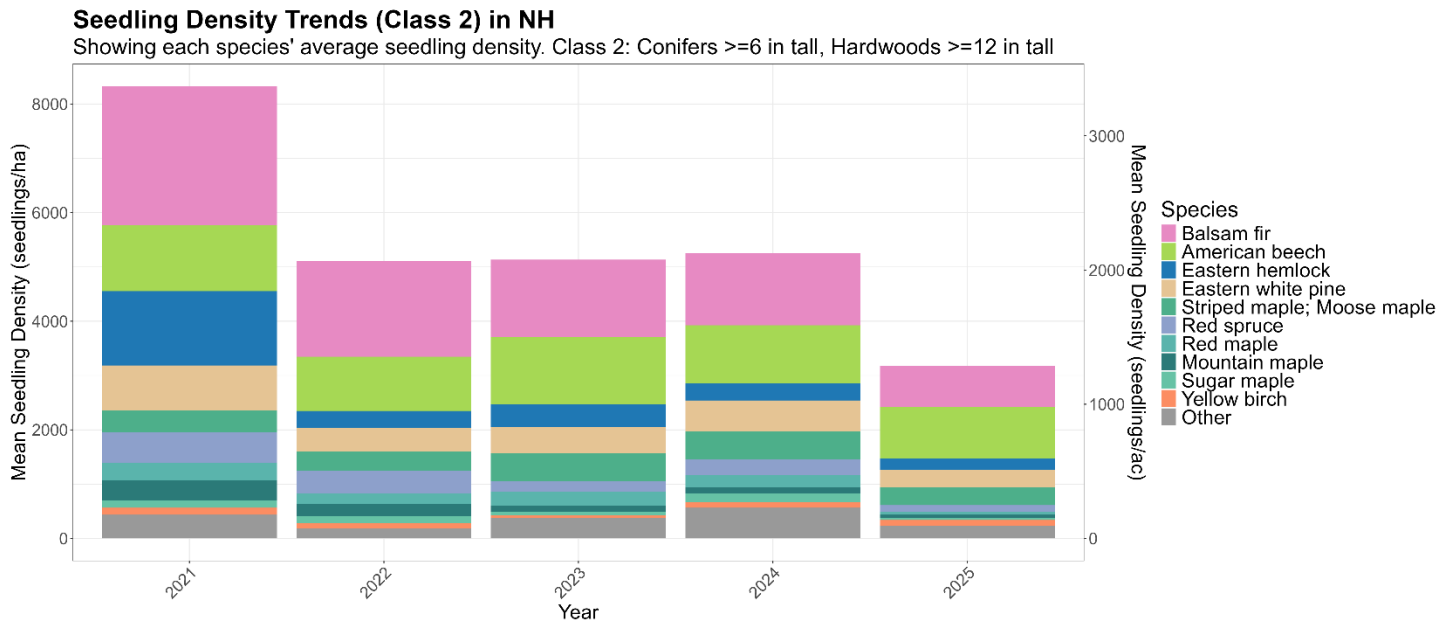


Figure 3G-iv. Class 2 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in New Hampshire. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 2 seedlings per hectare and acre statewide for each year.

New York

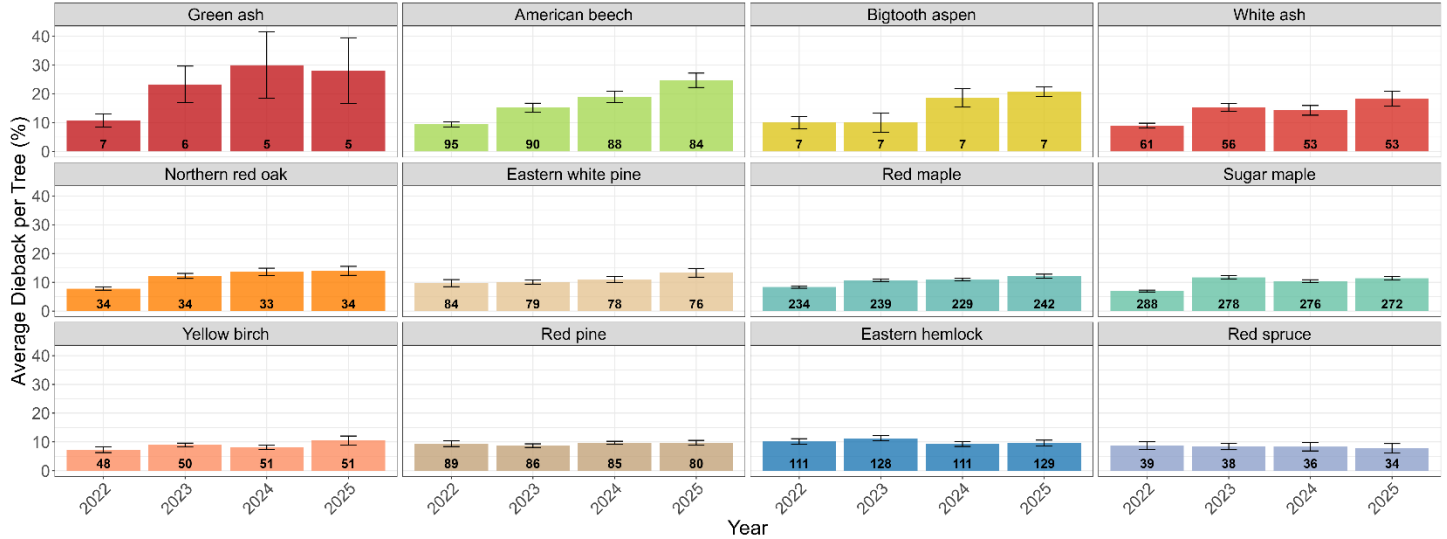
Author's note: New York data collection began in 2022. As a result, some charts cover fewer years than those for other states.

Section 1. Tree Analyses (New York)

A. Dieback Trends (New York)

Dieback per Year in NY

Sample size (n) displayed at the bottom of each bar



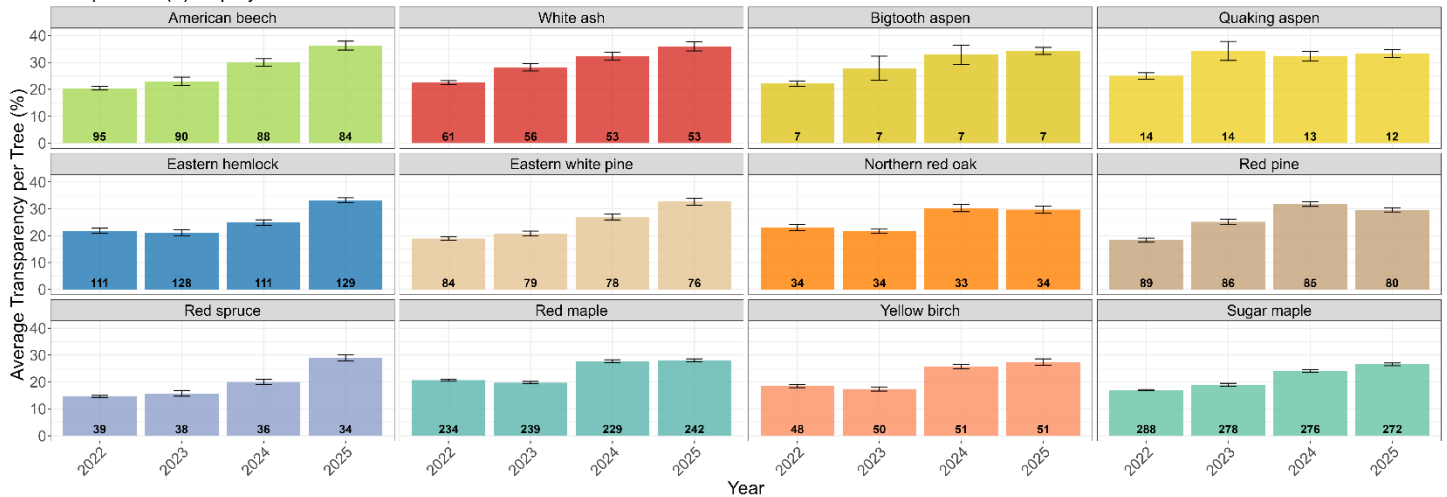
Less prevalent species included: Green ash, Bigtooth aspen.

Figure 1A. New York average fine twig dieback trends by species and year for the top ten species by basal area, plus two that are less prevalent by basal area but exhibit high dieback (green ash, bigtooth aspen). Species are ordered by highest dieback in 2025.

B. Transparency Trends (New York)

Average Transparency per Year in NY

Sample size (n) displayed at the bottom of each bar



Less prevalent species included: Bigtooth aspen, Quaking aspen.

Figure 1B. New York average leaf transparency trends by species and year, for the top ten species by basal area plus two that are less prevalent by basal area but exhibit high transparency (bigtooth aspen, quaking aspen). Species are ordered by greatest transparency in 2025.

C. Vigor Trends (New York)

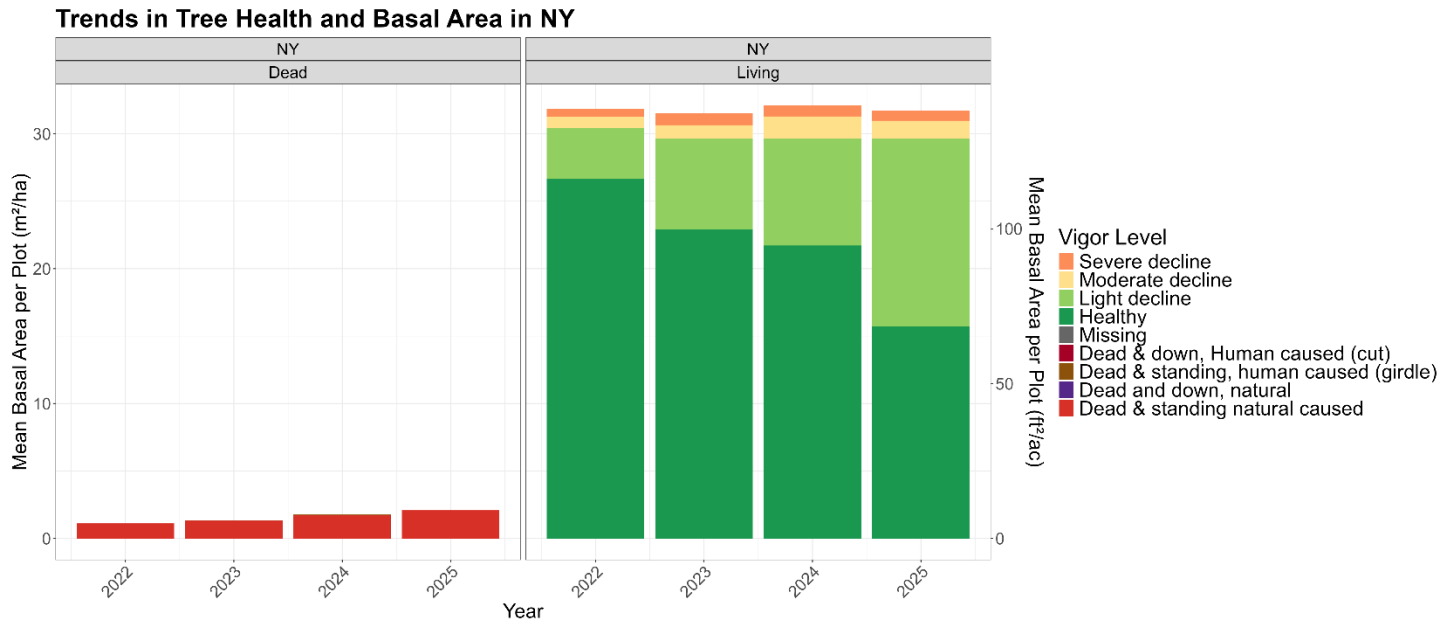


Figure 1C-i. State-specific mean basal area per plot in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for living and dead trees in New York. Data are grouped by tree status with living classes shown on the right and dead classes on the left.

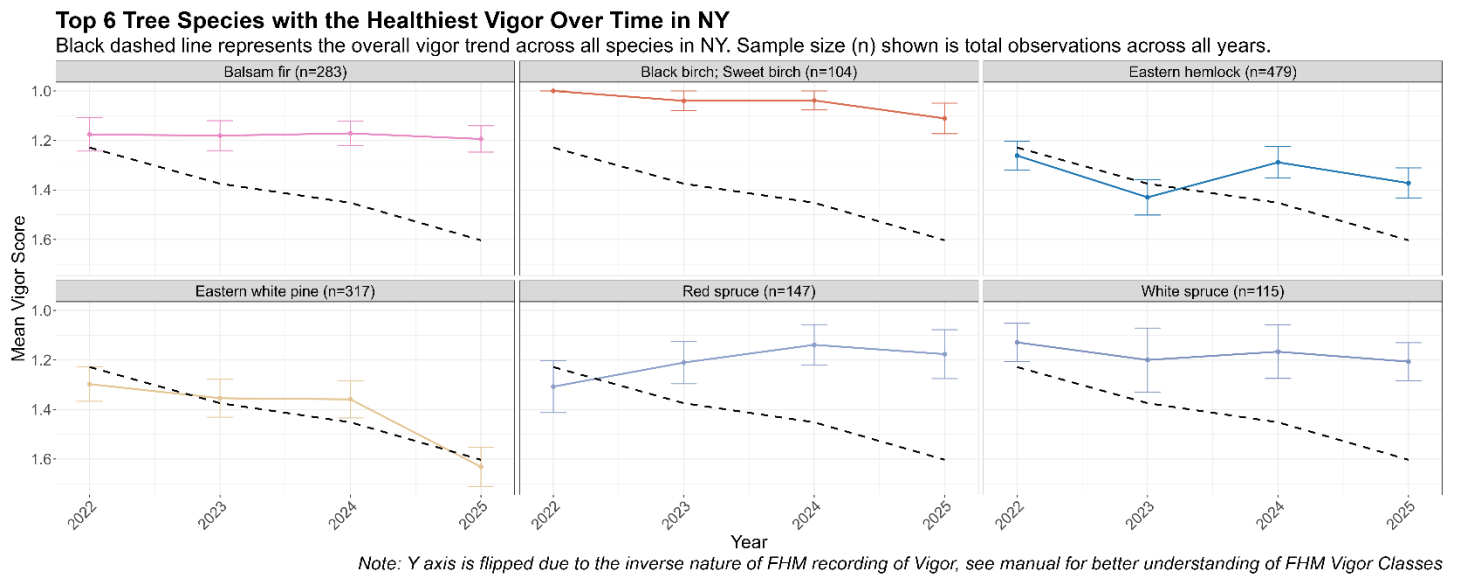


Figure 1C-ii. Top six tree species with the healthiest vigor (lowest stress levels) over time in New York among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year.

Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition while lower scores represent healthier trees.

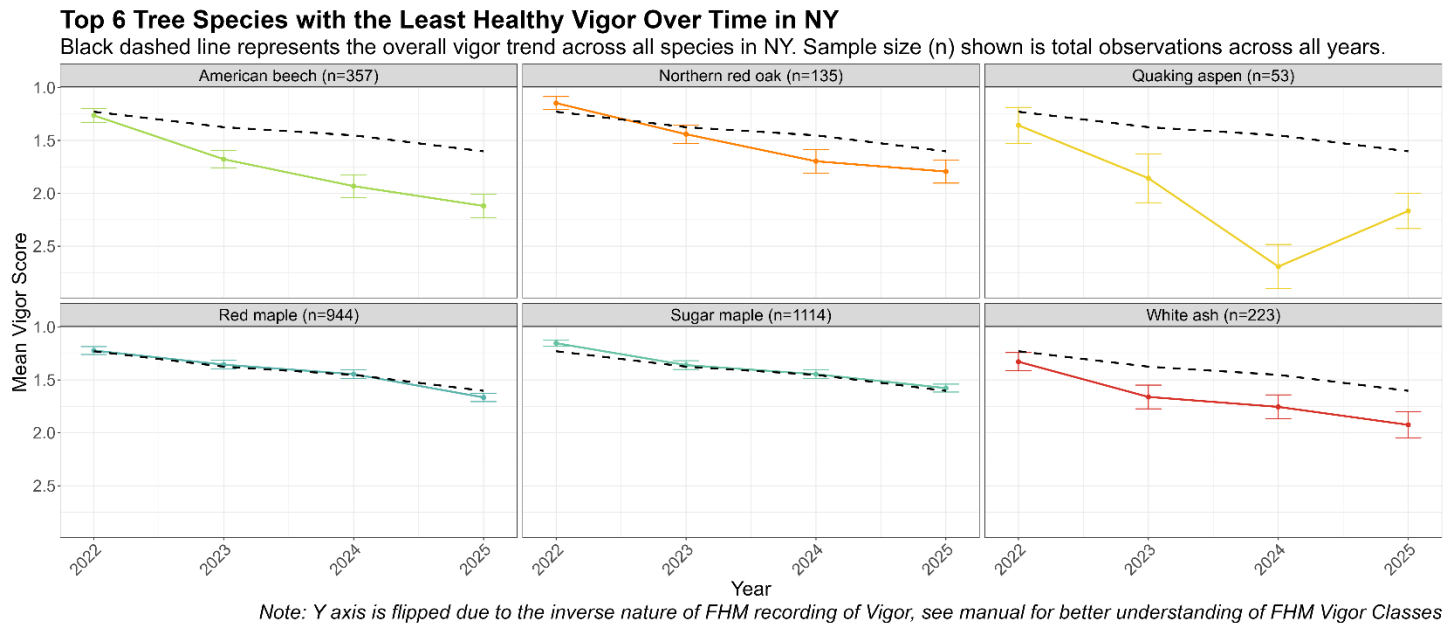


Figure 1C-iii. Top six tree species with the greatest decline in vigor (highest stress levels) over time in New York among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition, while lower scores represent healthier trees.

D. Annual Growth and Mortality Trends - Trees (New York)

Share of Total Forest Mortality (by Tree Count)

Top 3 species by within-species mortality rate. Labels show individual trees that died.

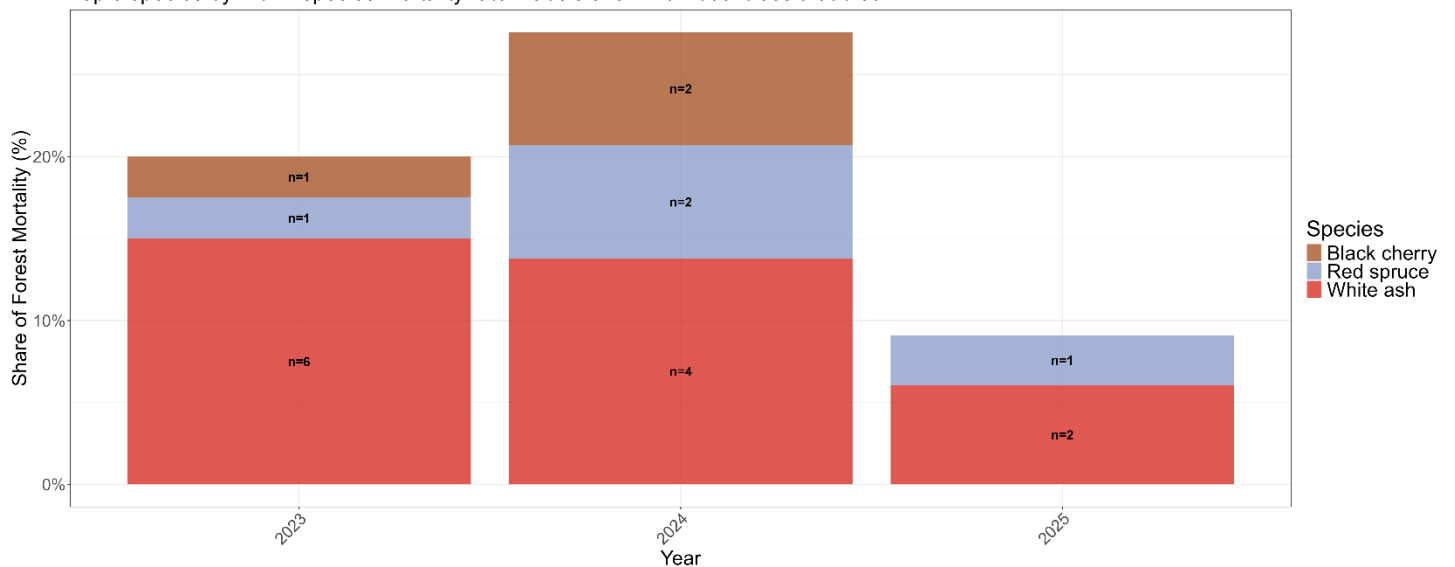


Figure 1D-i. Share of total forest mortality trends in New York for the top three species with the highest number of newly dead trees, relative to all newly reported tree deaths across all species comprising more than 1% of total basal area statewide.

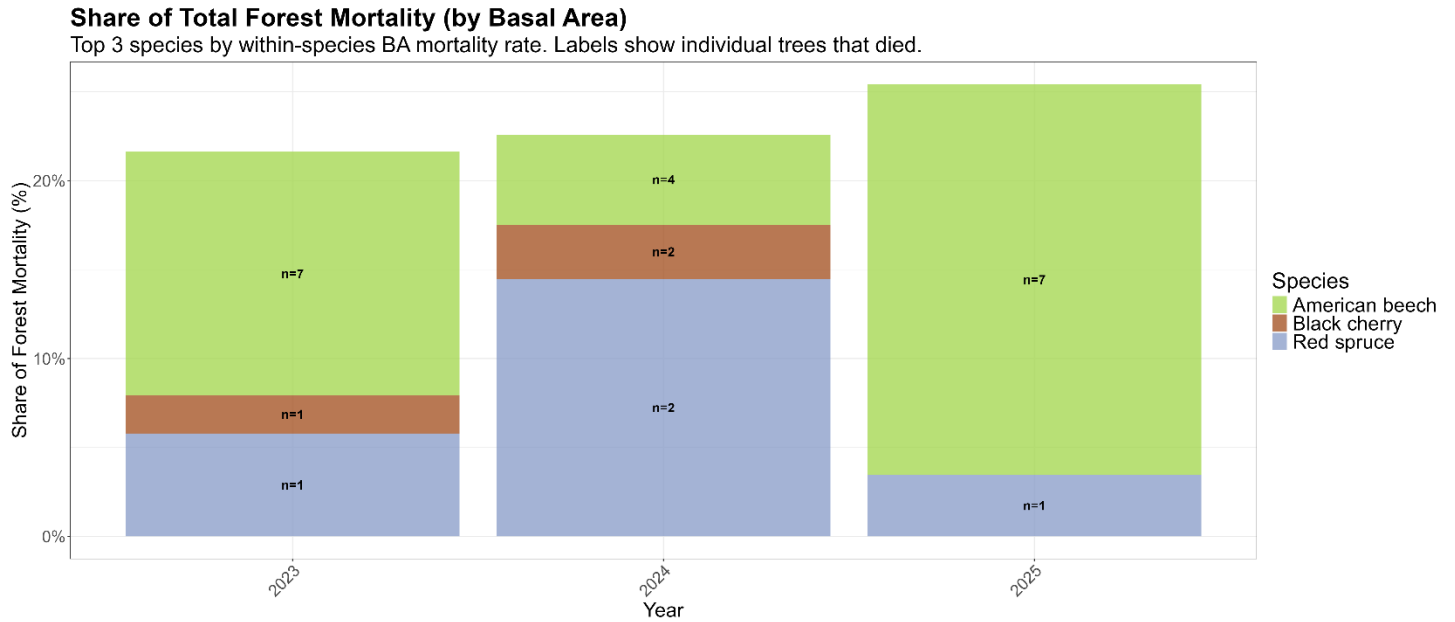


Figure 1D-ii. Share of total lost basal area in New York for the top three species with the greatest basal area loss due to mortality, among species comprising more than 1% of total basal area statewide.

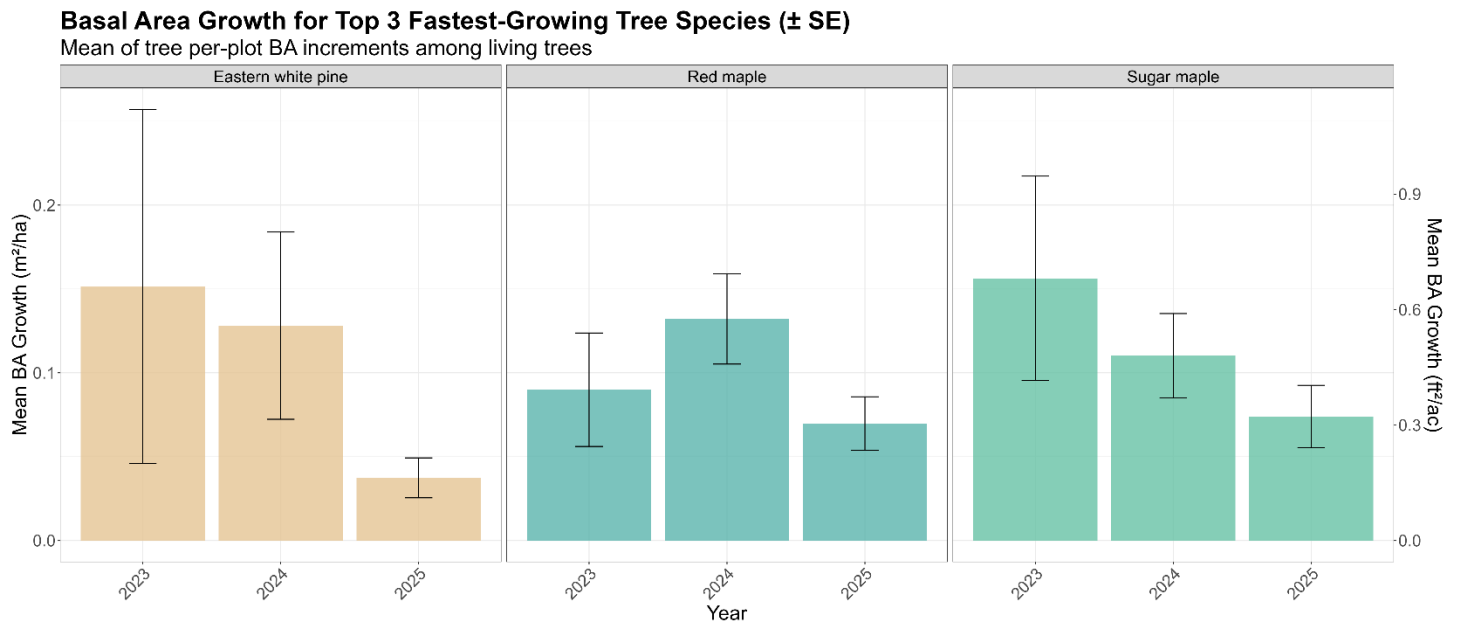


Figure 1D-iii. Top three species with the greatest average basal area growth in New York. Bars represent the mean basal area increment in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) each year. These growth trends illustrate which species are adding basal area the fastest.

E. Total Composition - Trees (New York)

Tree Basal Area Over Time

Showing the average basal area per species each year.

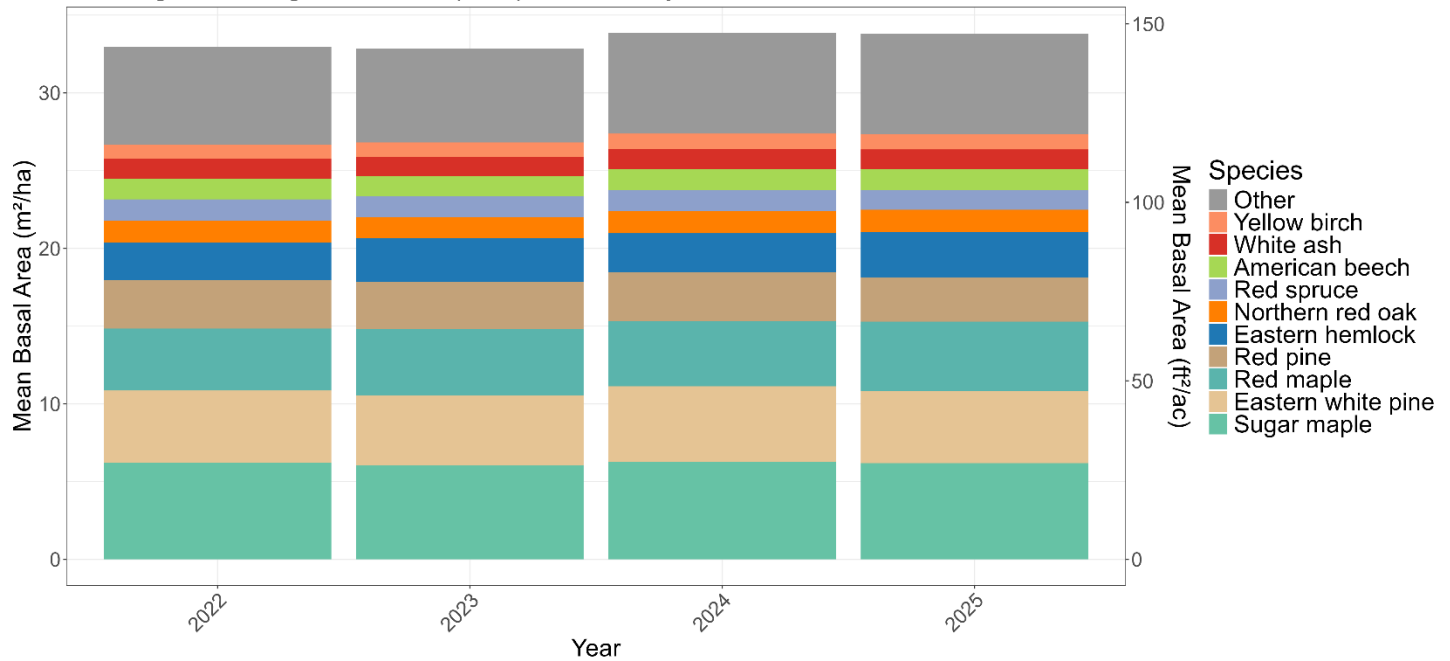


Figure 1E. Overall species composition by average live basal area in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) across all tree species surveyed each year in New York. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into "Other."

Section 2. Sapling Analyses (New York)

F. Total Composition – Saplings (New York)

Sapling Basal Area Over Time

Stacked bars show average sapling BA by species each year

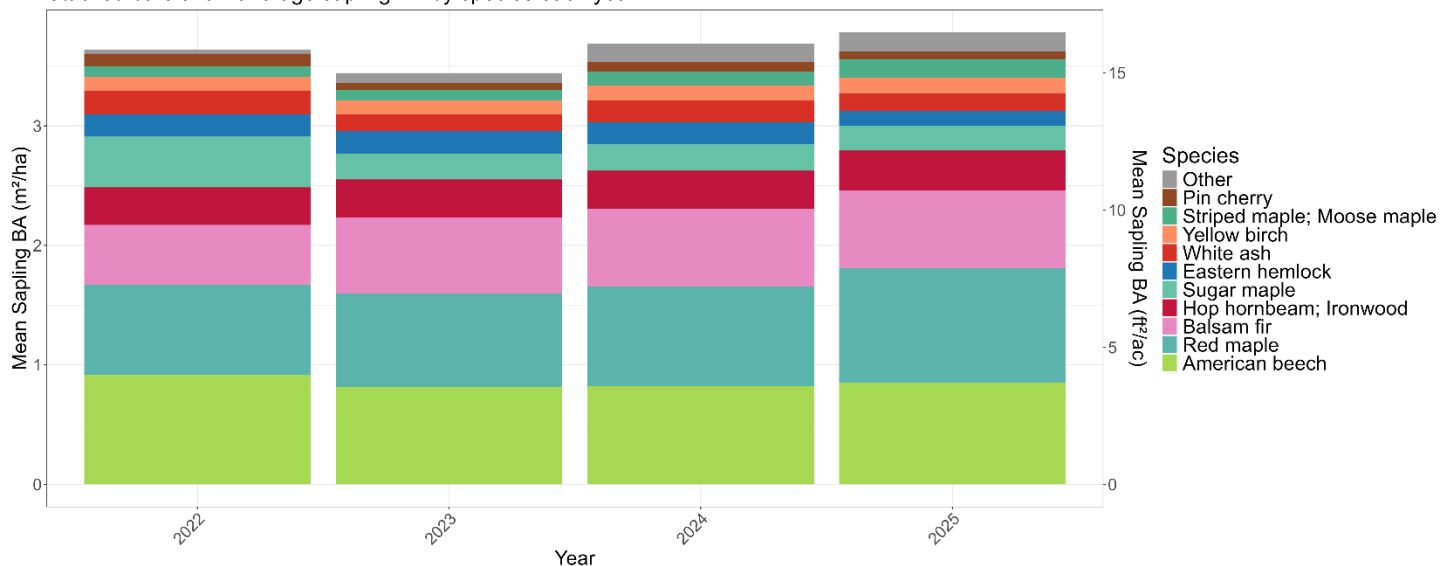


Figure 2F. Overall sapling basal area composition in hectares (m²/ha, left axis) and acres (ft²/ac, right axis) for all sapling species surveyed each year in New York. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into "Other."

Section 3. Seedling Analyses (New York)

We have included a seedling class size guide to assist with interpreting the figures in Section 3.

Seedling Type	Class 1	Class 2
Conifer	< 6 in (15 cm) tall	≥ 6 in (15 cm) tall
Hardwood	<12 in (30 cm) tall	≥ 12 in (30 cm) tall

G. Annual Seedling Density Trends (New York)

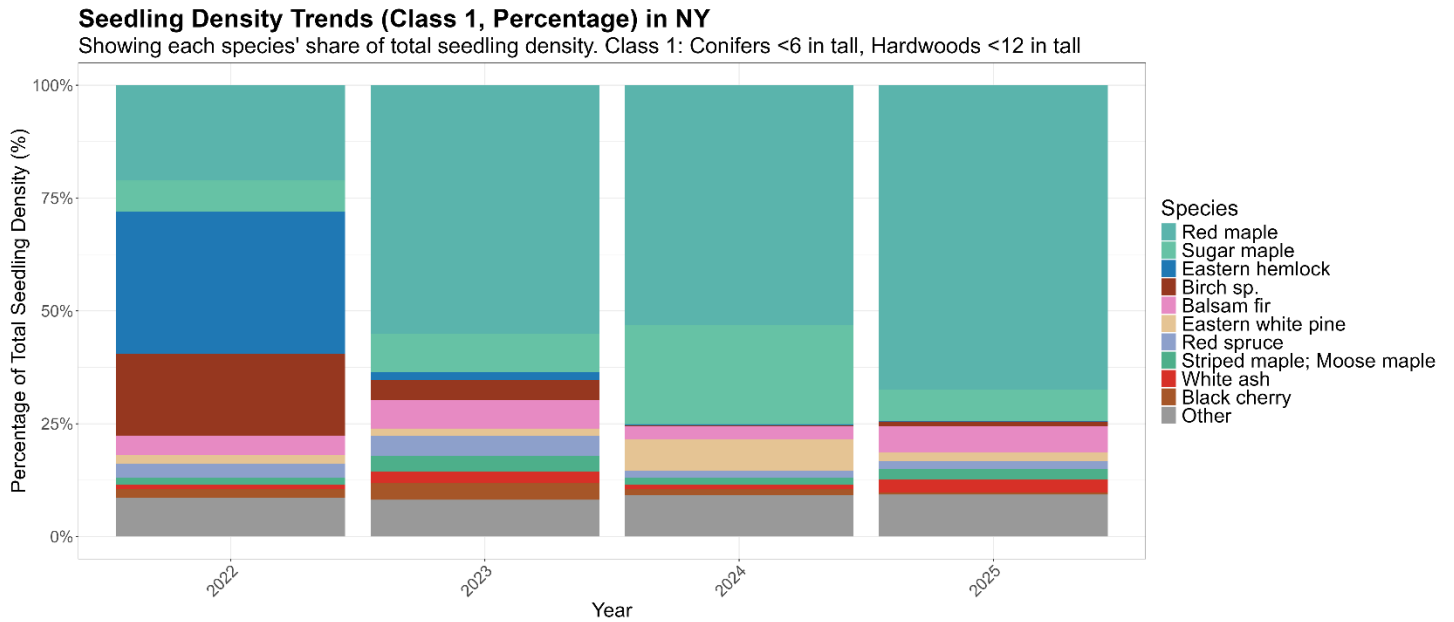


Figure 3G-i. Percent annual composition of Class 1 seedlings for all species surveyed each year in New York. The top ten most represented species by stem count are shown individually, while all other species not in the top ten are combined into "Other."

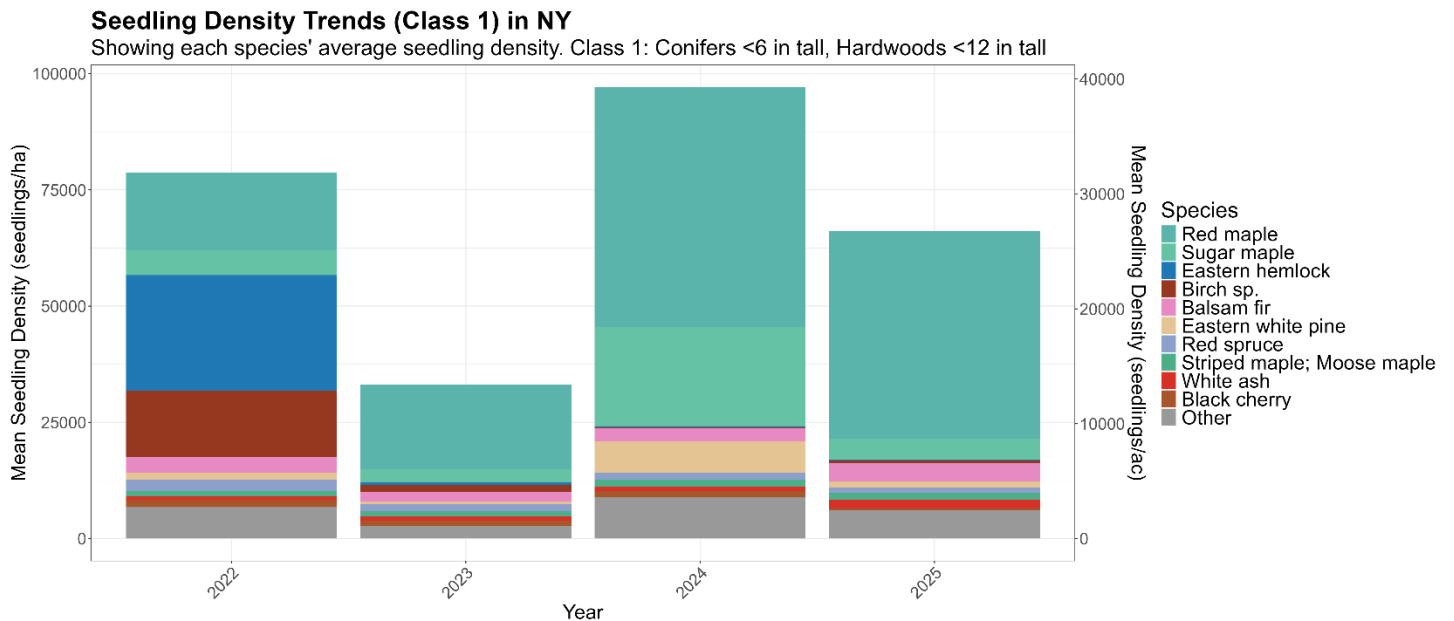


Figure 3G-ii. Class 1 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in New York. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into "Other." The overall bar height indicates total number of Class 1 seedlings per hectare and acre statewide for each year.

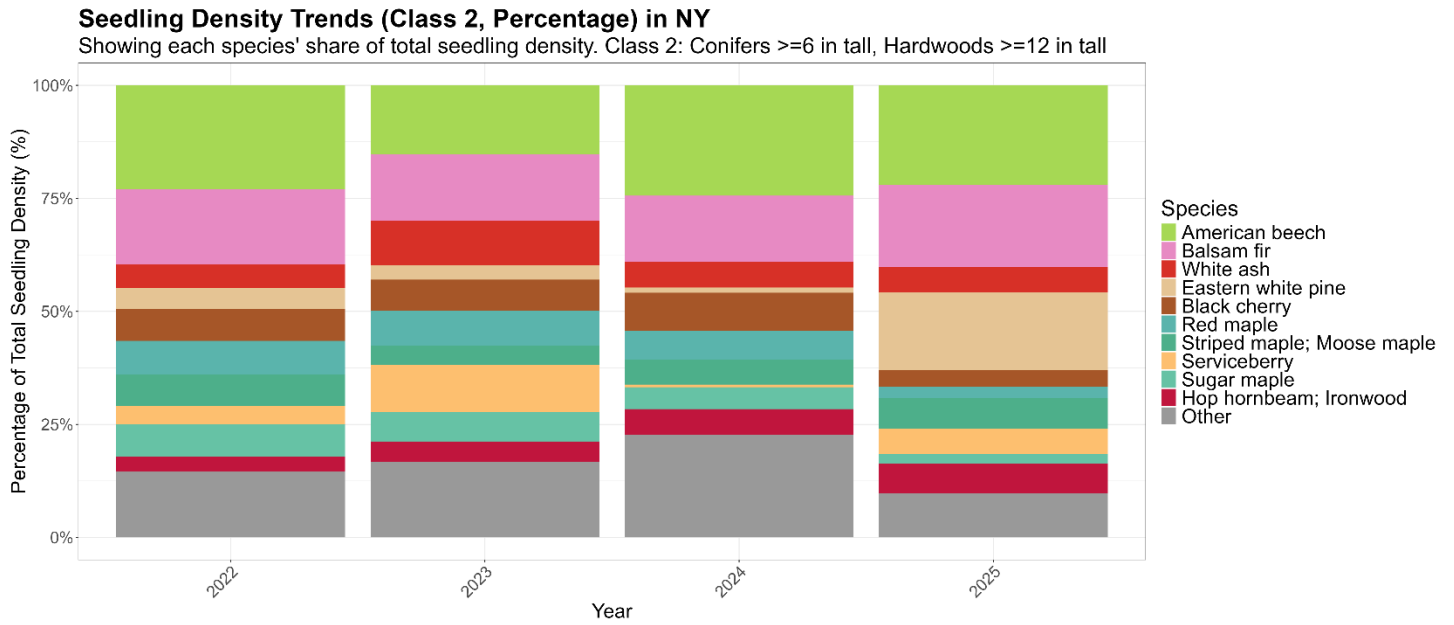


Figure 3G-iii. Percent annual composition of Class 2 seedlings surveyed each year in New York. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.”

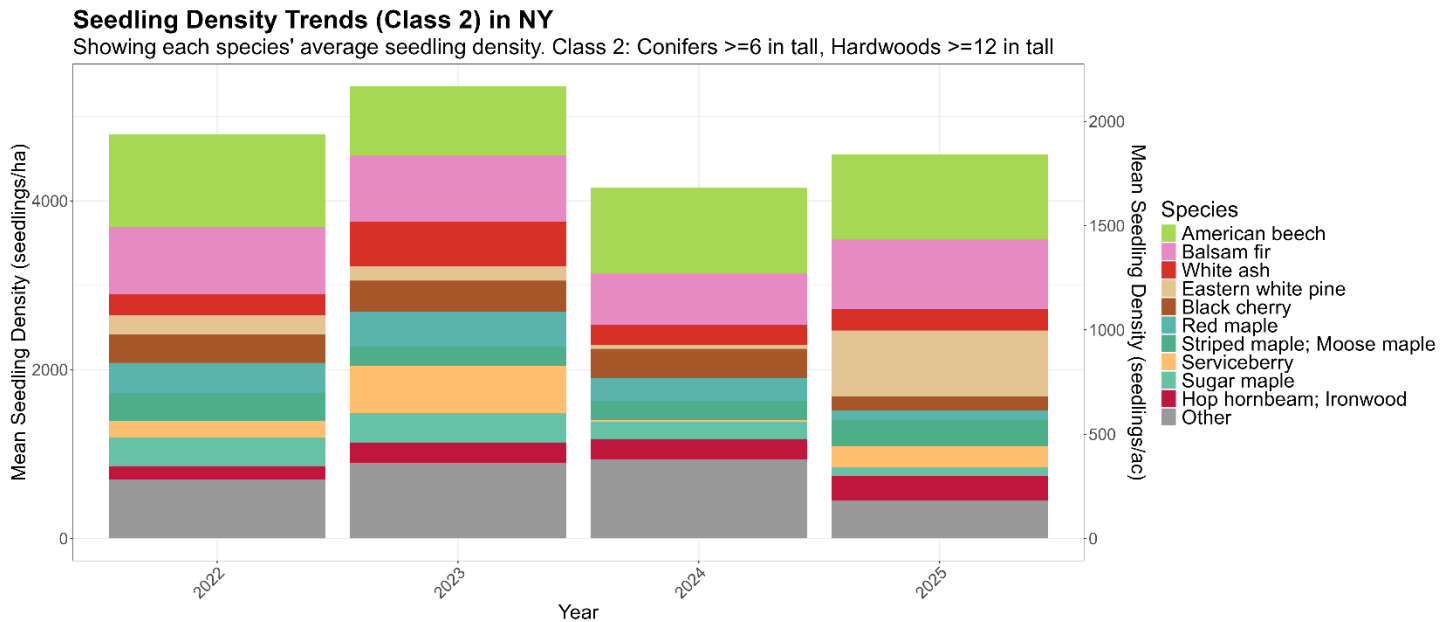


Figure 3G-iv. Class 2 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in New York. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 2 seedlings per hectare and acre statewide for each year.

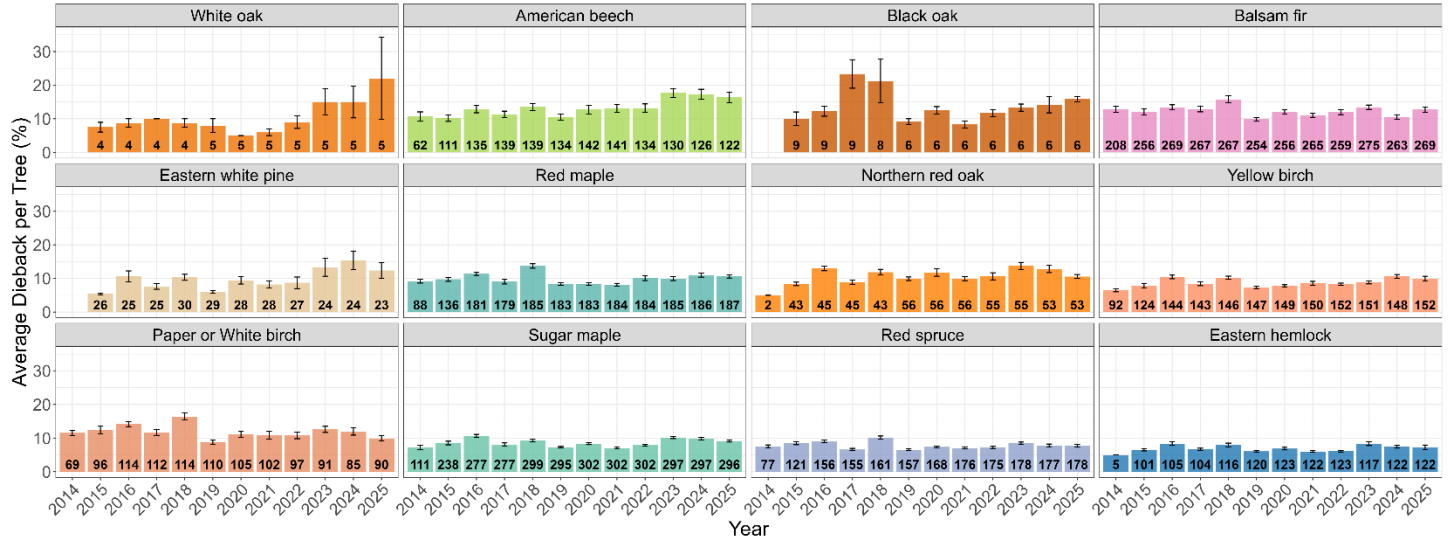
Vermont

Section 1. Tree Analyses (Vermont)

A. Dieback Trends (Vermont)

Dieback per Year in VT

Sample size (n) displayed at the bottom of each bar



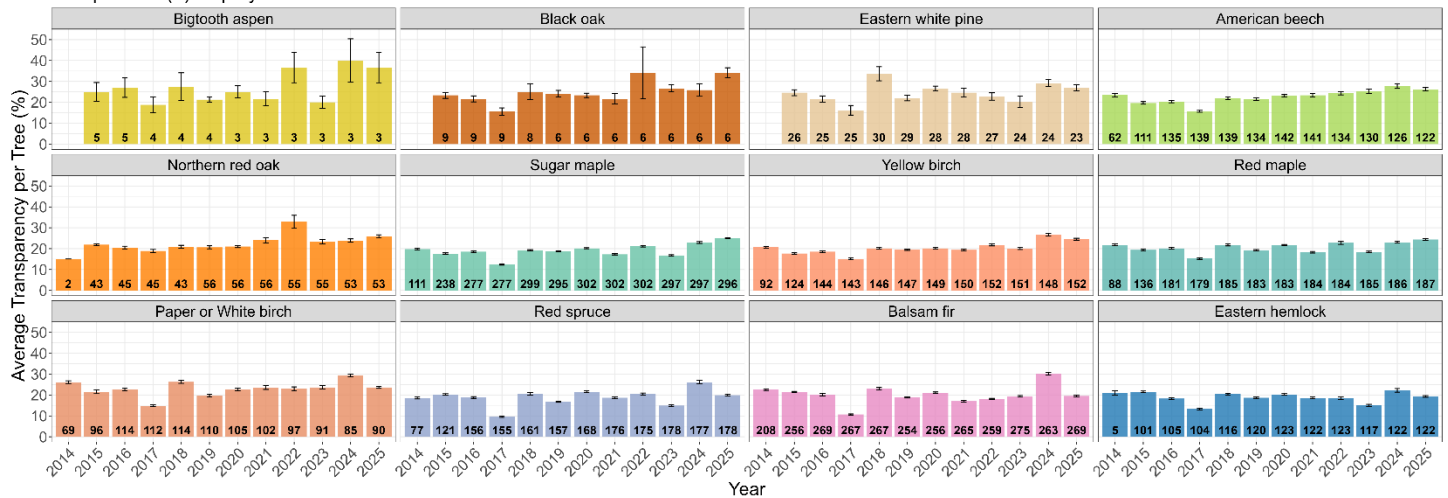
Less prevalent species included: White oak, Black oak.

Figure 1A. Vermont average fine twig dieback trends by species and year for the top ten species by basal area, plus two that are less prevalent by basal area but exhibit high dieback (white oak, black oak). Species are ordered by highest dieback in 2025.

B. Transparency Trends (Vermont)

Average Transparency per Year in VT

Sample size (n) displayed at the bottom of each bar



Less prevalent species included: Bigtooth aspen, Black oak.

Figure 1B. Vermont average leaf transparency trends by species and year, for the top ten species by basal area plus two that are less prevalent by basal area but exhibit high transparency (bigtooth aspen, black oak). Species are ordered by greatest transparency in 2025.

C. Vigor Trends (Vermont)

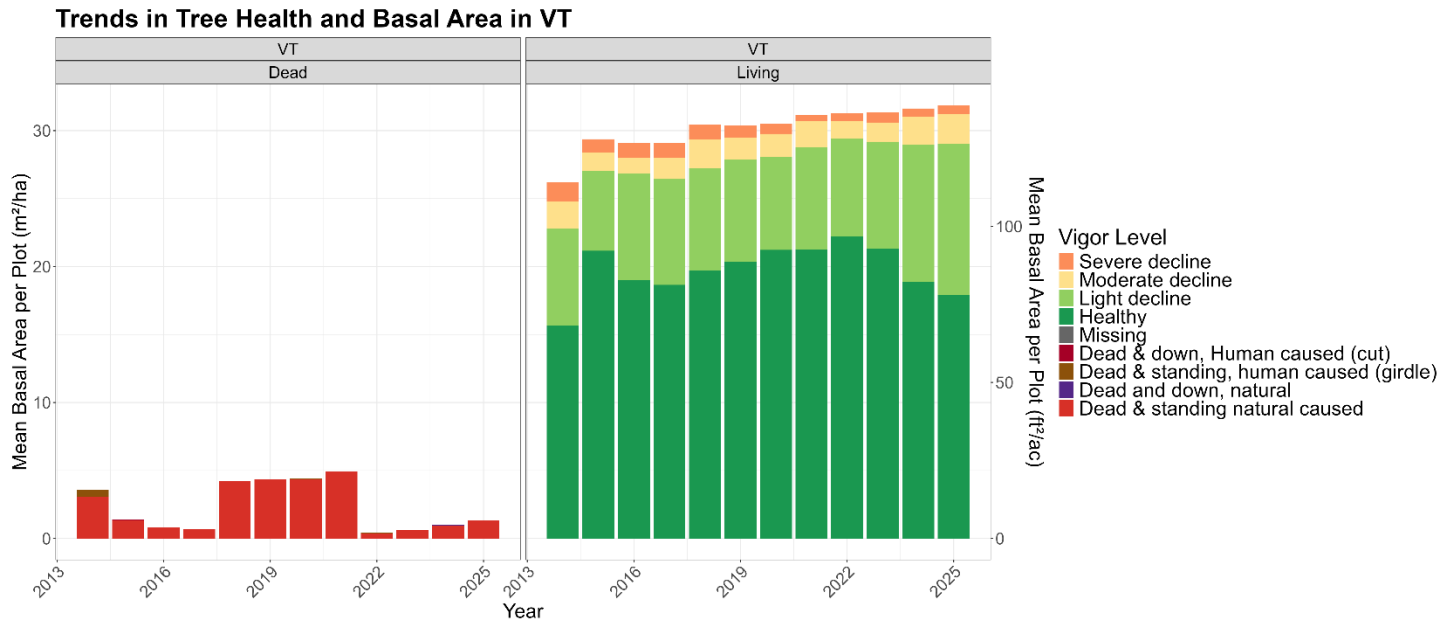


Figure 1C-i. State-specific mean basal area per plot in hectares (m²/ha, left axis) and acres (ft²/ac, right axis) for living and dead trees in Vermont. Data are grouped by tree status with living classes shown on the right and dead classes on the left.

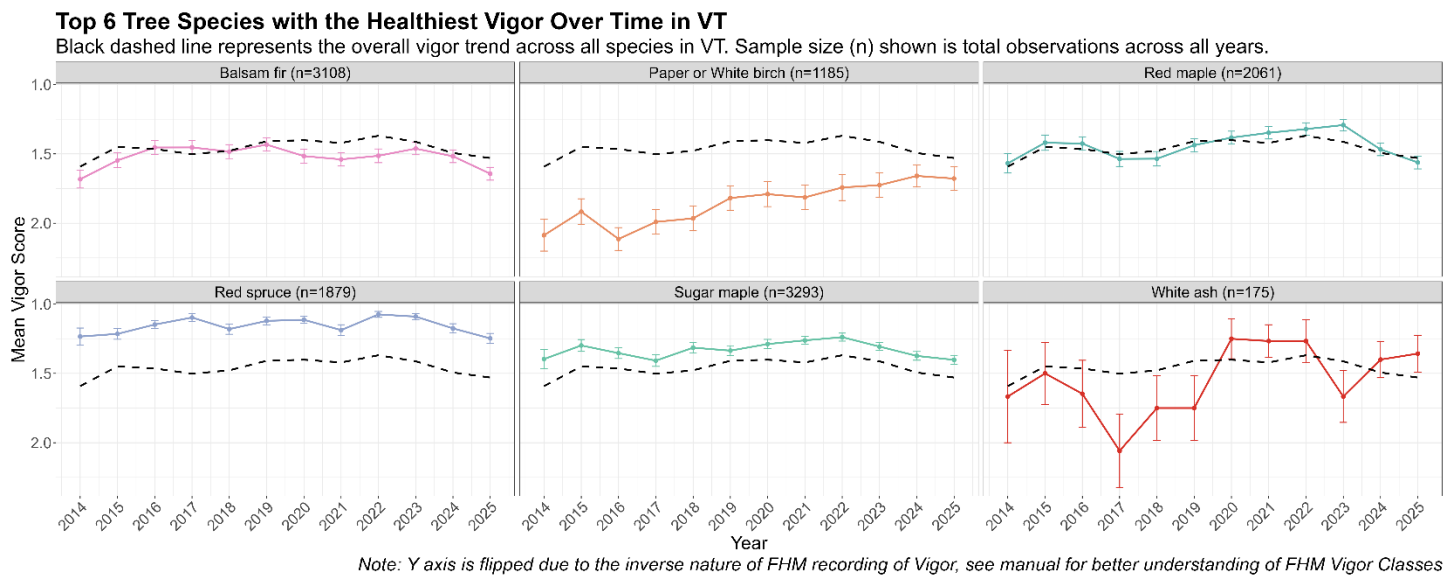


Figure 1C-ii. Top six tree species with the healthiest vigor (lowest stress levels) over time in Vermont among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year.

Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition while lower scores represent healthier trees.

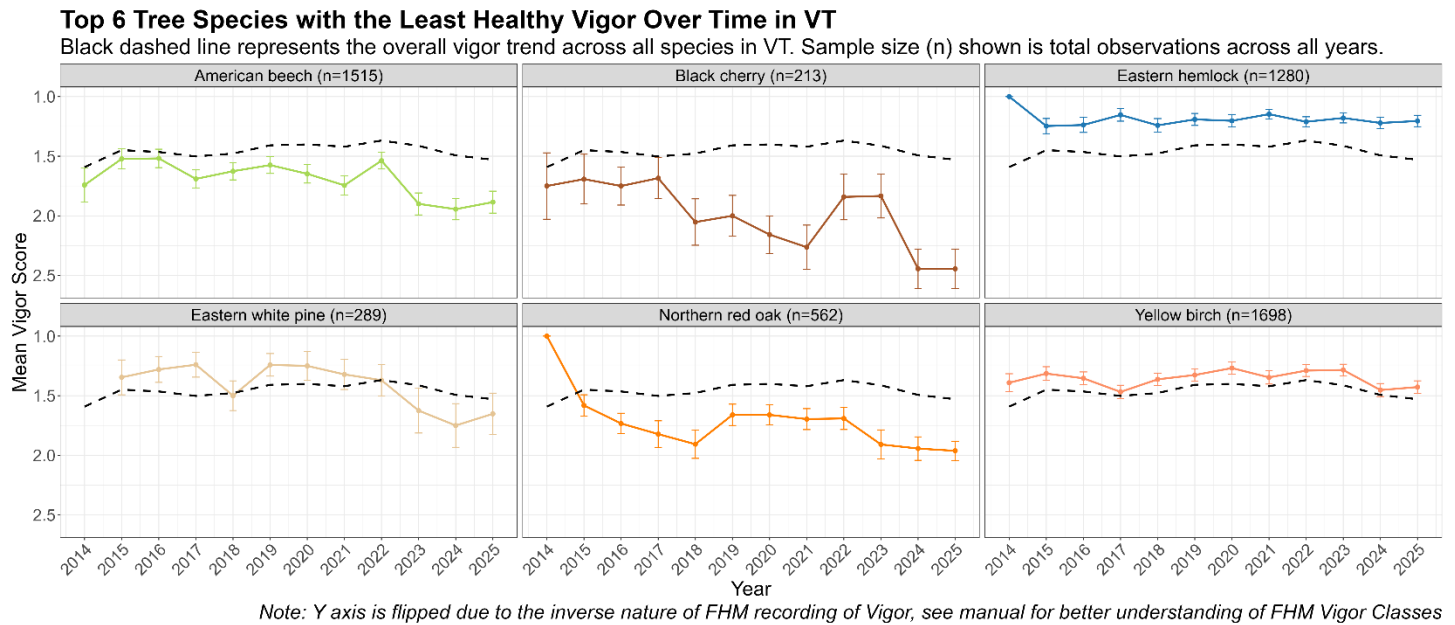


Figure 1C-iii. Top six tree species with the greatest decline in vigor (highest stress levels) over time in Vermont among species comprising at least 0.5% of total basal area statewide. Vigor scores range from 4 (severe decline) to 1 (healthy), with intermediate values for trees in decline. For comparison, the dashed black line represents the overall vigor trend across all species sampled within the state. Error bars represent the standard error of the vigor score for each species and year. Note that the y-axis is inverted to aid interpretation, because higher vigor scores indicate worsening tree condition, while lower scores represent healthier trees.

D. Annual Growth and Mortality Trends – Trees (Vermont)

Share of Total Forest Mortality (by Tree Count)

Top 3 species by within-species mortality rate. Labels show individual trees that died.

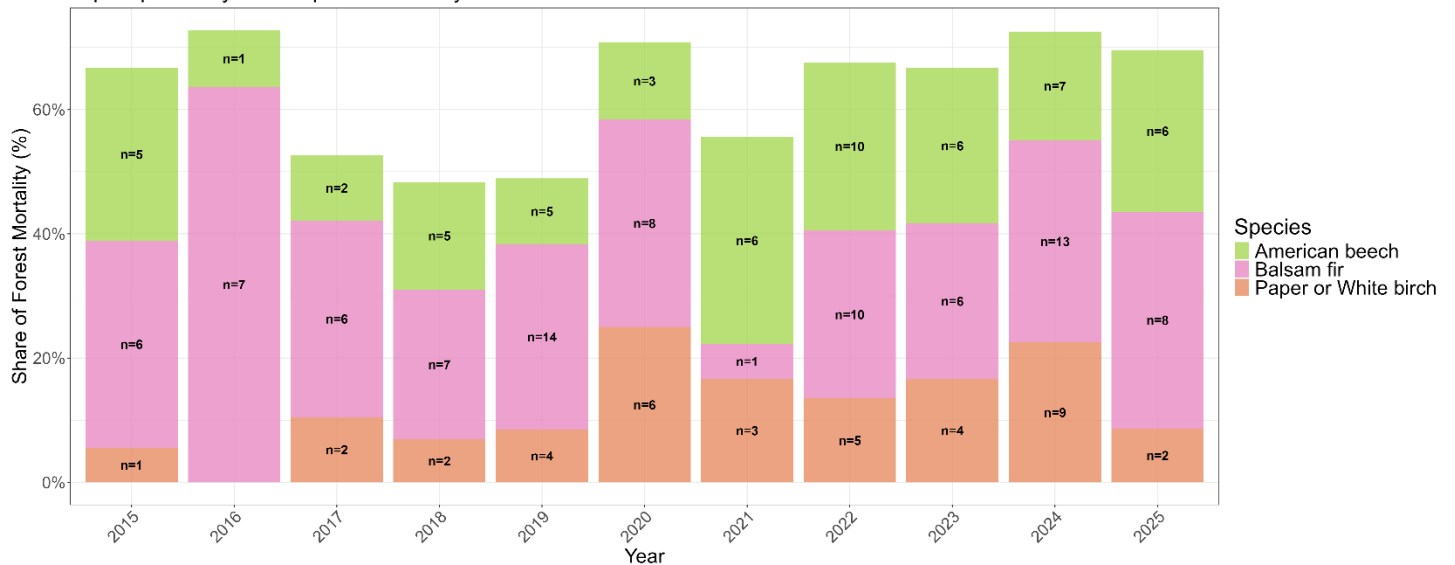


Figure 1D-i. Share of total forest mortality trends in Vermont for the top three species with the highest number of newly dead trees, relative to all newly reported tree deaths across all species comprising more than 1% of total basal area statewide.

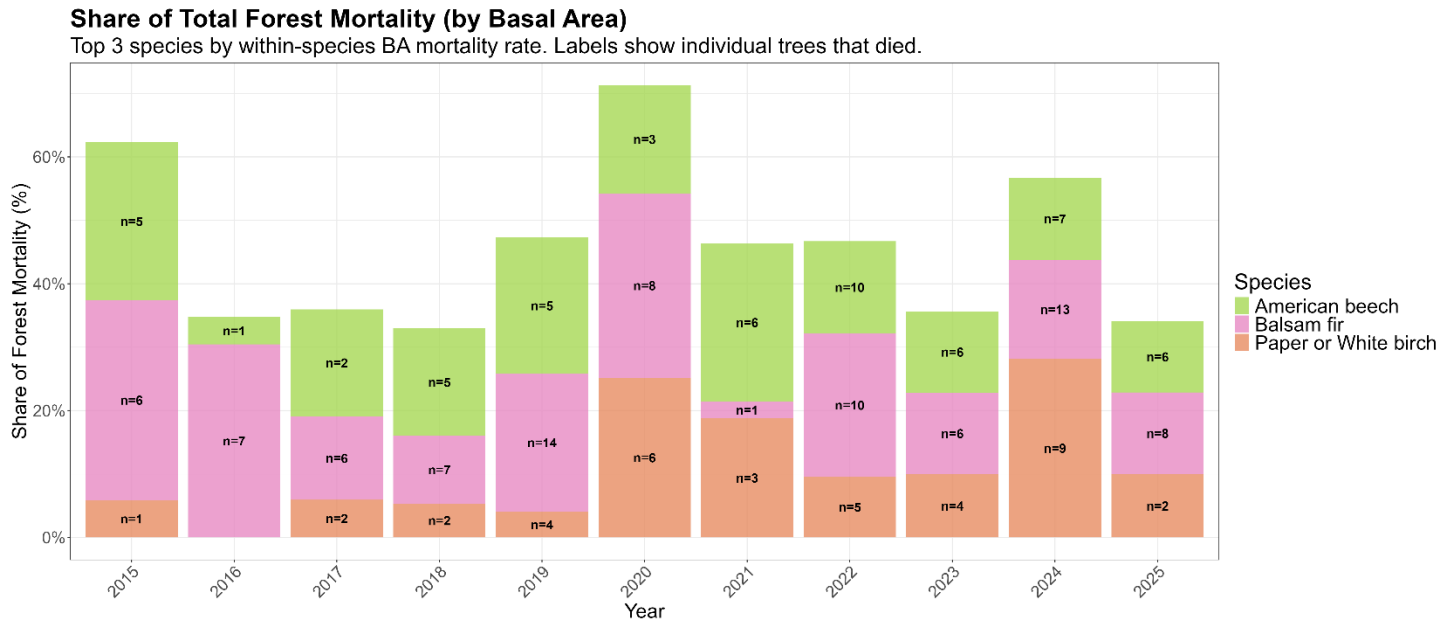


Figure 1D-ii. Share of total lost basal area in Vermont for the top three species with the greatest basal area loss due to mortality, among species comprising more than 1% of total basal area statewide.

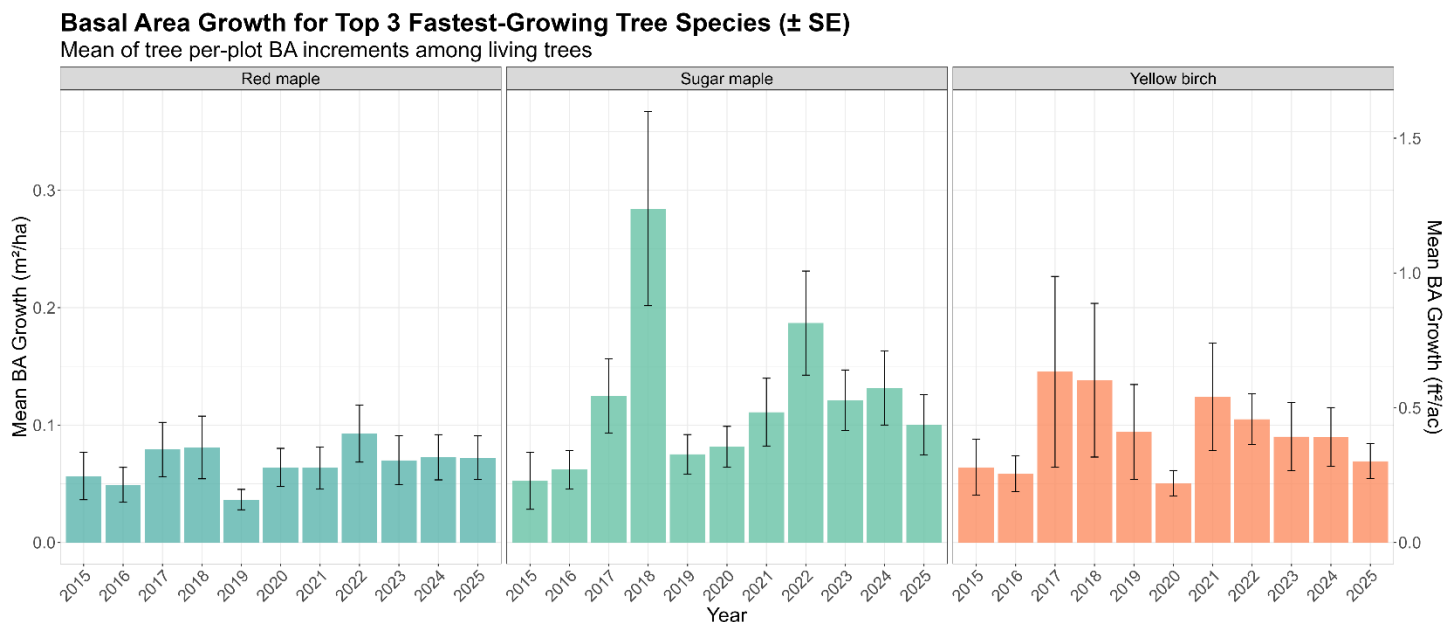
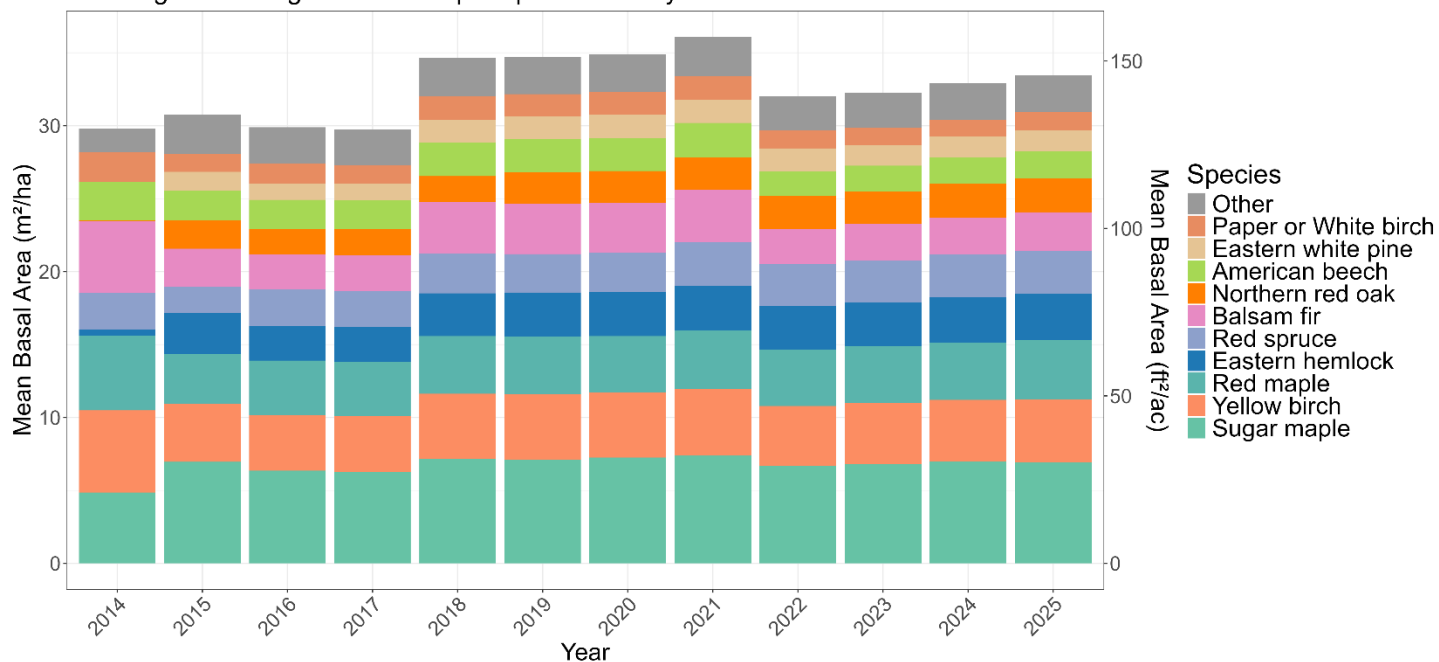


Figure 1D-iii. Top three species with the greatest average basal area growth in Vermont. Bars represent the mean basal area increment in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) each year. These growth trends illustrate which species are adding basal area the fastest.

E. Total Composition - Trees (Vermont)

Tree Basal Area Over Time

Showing the average basal area per species each year.



Top 10 species by basal area shown; remaining species grouped as 'Other'.

Figure 1E. Overall species composition by average live basal area in hectares (m²/ha, left axis) and acres (ft²/ac, right axis) across all tree species surveyed each year in Vermont. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 2. Sapling Analyses (Vermont)

F. Total Composition – Saplings (Vermont)

Sapling Basal Area Over Time

Stacked bars show average sapling BA by species each year

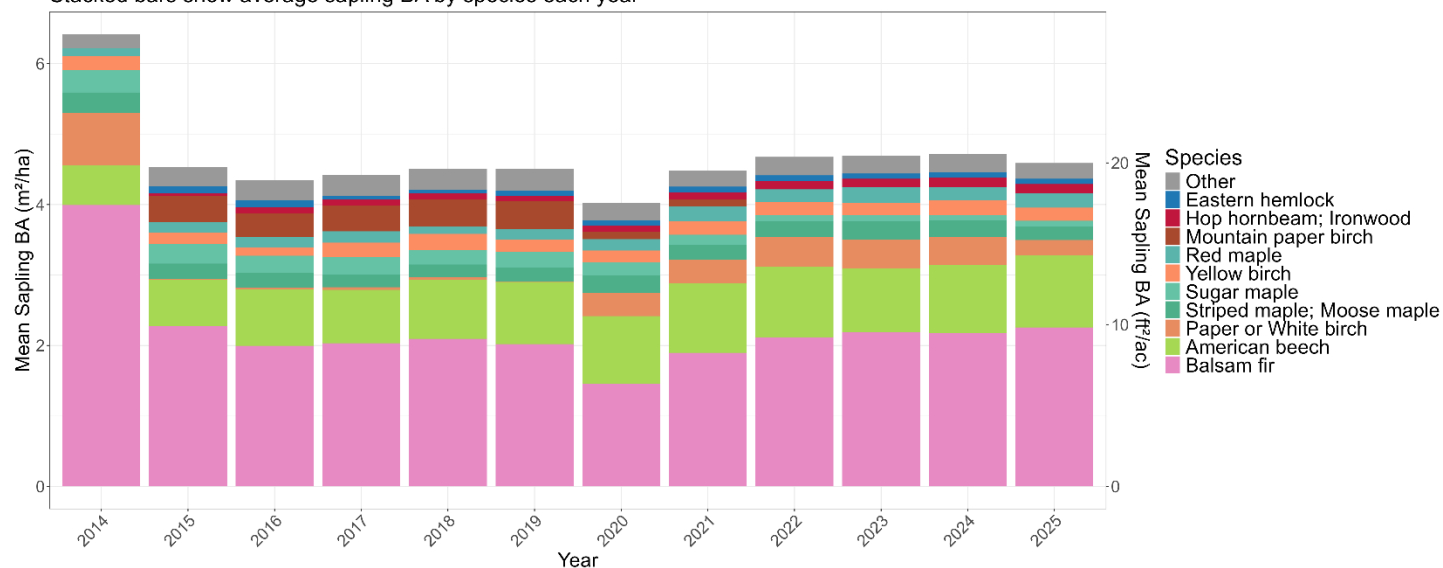


Figure 2F. Overall sapling basal area composition in hectares (m^2/ha , left axis) and acres (ft^2/ac , right axis) for all sapling species surveyed each year in Vermont. Species that ranked among the top ten for overall basal area are shown individually, while all species not in the top ten are combined into “Other.”

Section 3. Seedling Analyses (Vermont)

We have included a seedling class size guide to assist with interpreting the figures in Section 3.

Seedling Type	Class 1	Class 2
Conifer	< 6 in (15 cm) tall	≥ 6 in (15 cm) tall
Hardwood	<12 in (30 cm) tall	≥ 12 in (30 cm) tall

G. Annual Seedling Density Trends (Vermont)

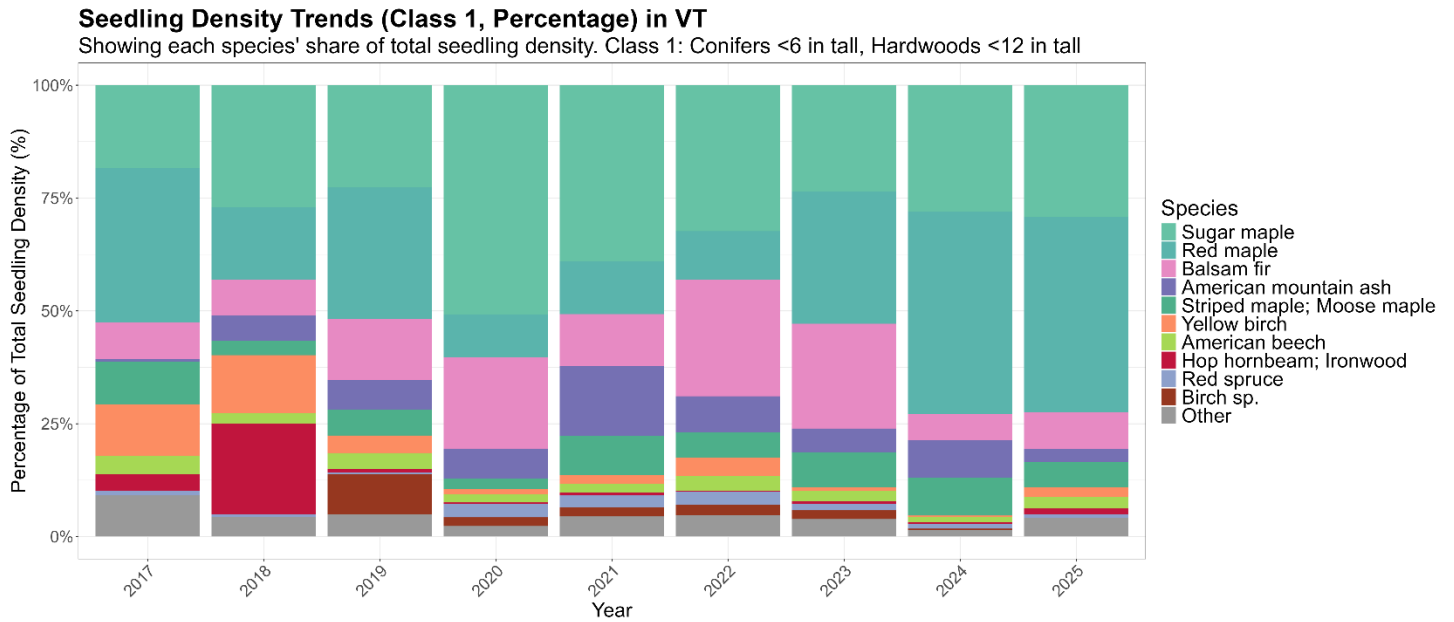


Figure 3G-i. Percent annual composition of Class 1 seedlings for all species surveyed each year in Vermont. The top ten most represented species by stem count are shown individually, while all other species not in the top ten are combined into “Other.”

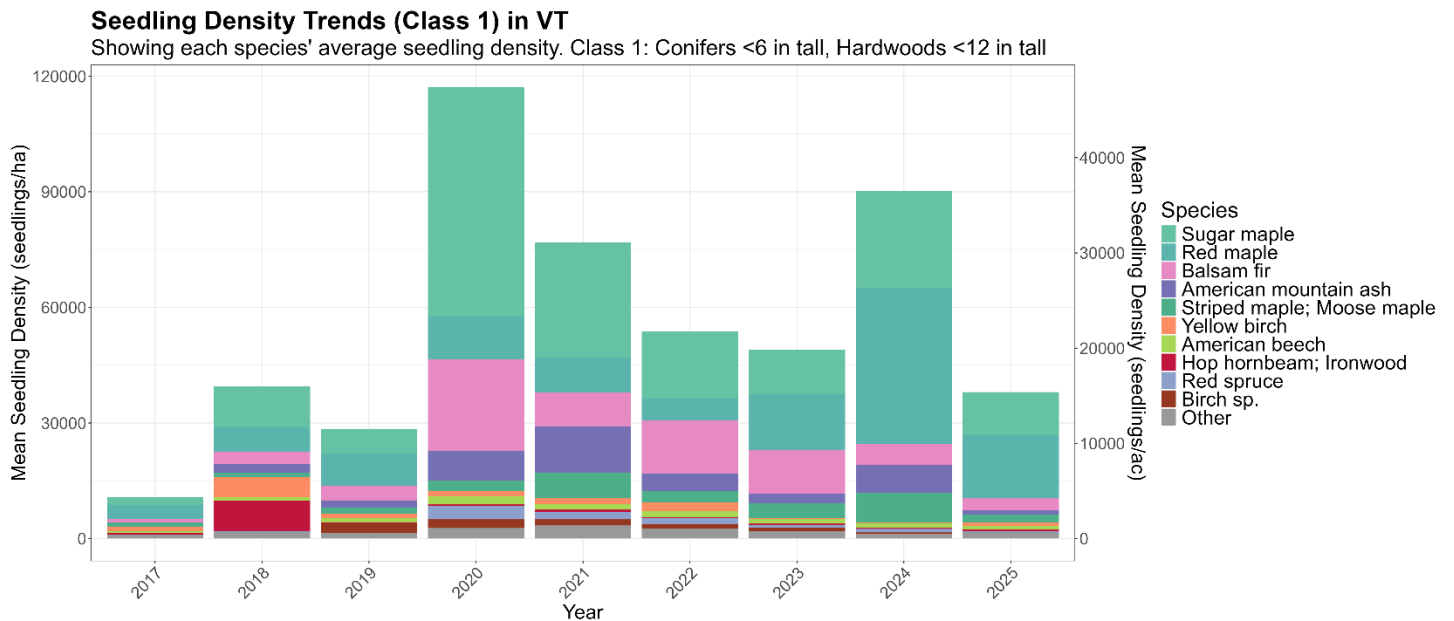


Figure 3G-ii. Class 1 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Vermont. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 1 seedlings per hectare and acre statewide for each year.

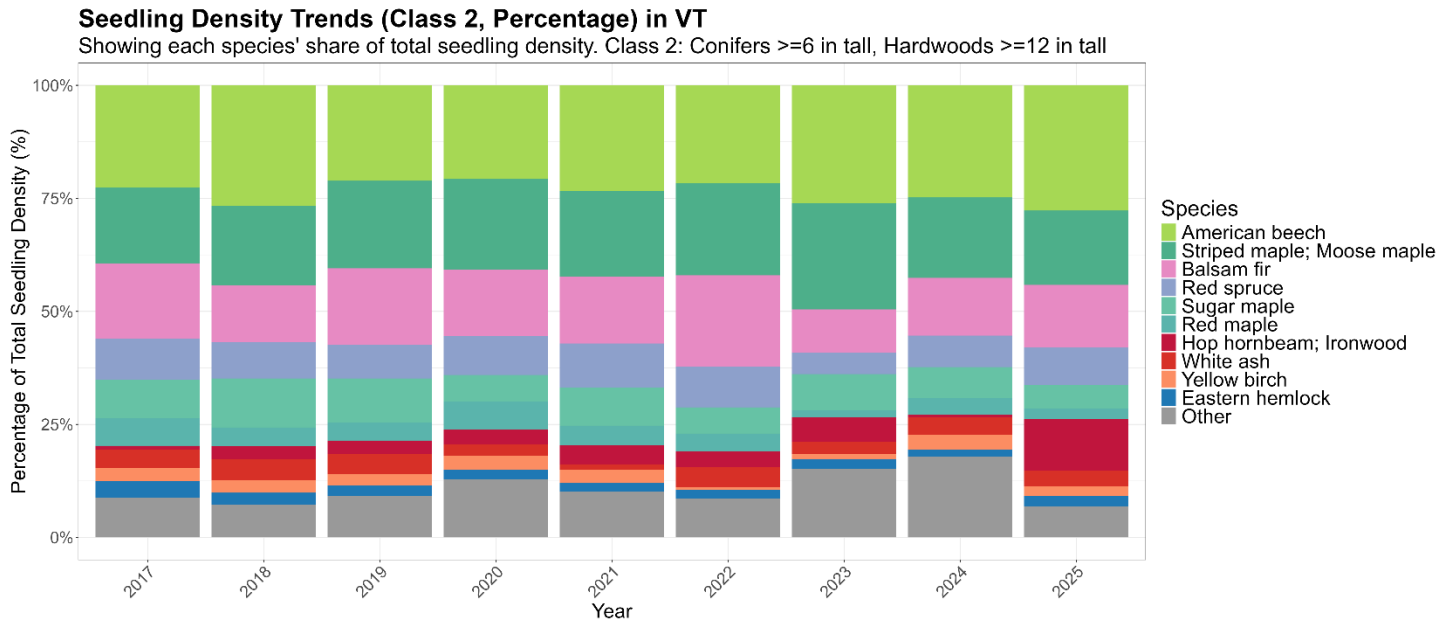


Figure 3G-iii. Percent annual composition of Class 2 seedlings surveyed each year in Vermont. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.”

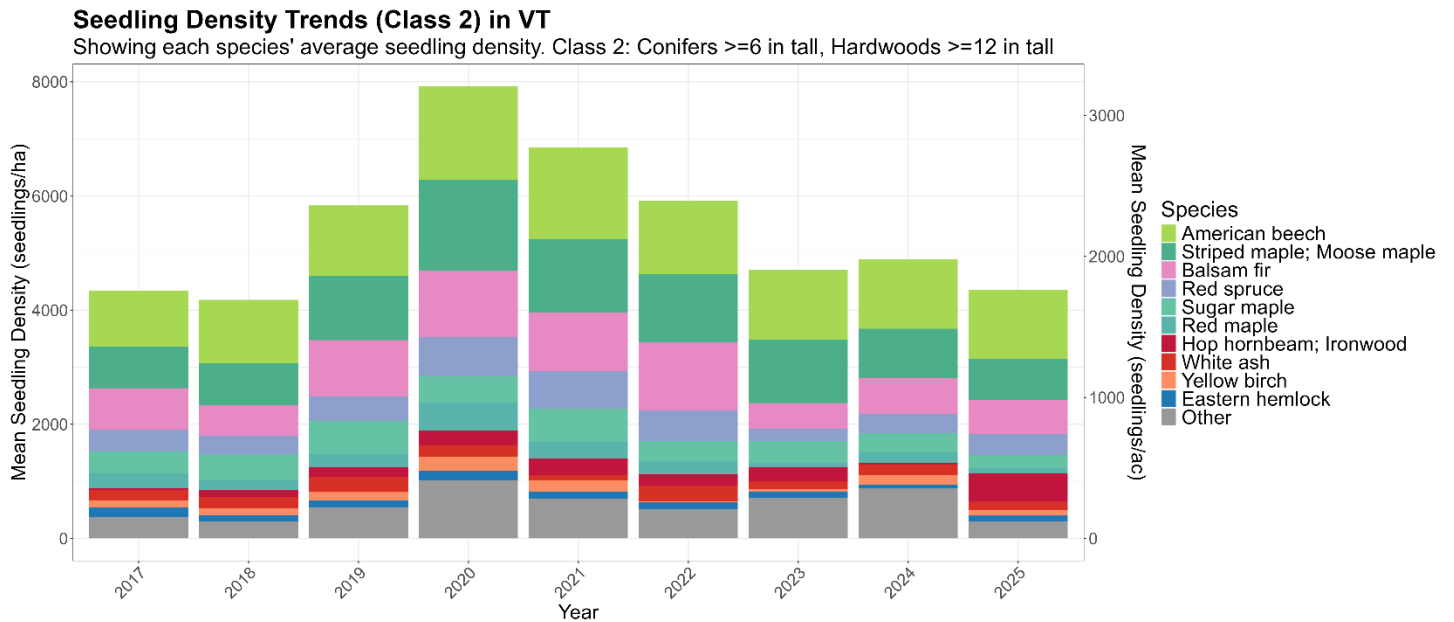


Figure 3G-iv. Class 2 seedling counts in stems per hectare (SPH, left axis) and acre (SPA, right axis) for all species surveyed each year in Vermont. The top ten most represented species by stem count are shown individually, while all species not in the top ten are combined into “Other.” The overall bar height indicates total number of Class 2 seedlings per hectare and acre statewide for each year.