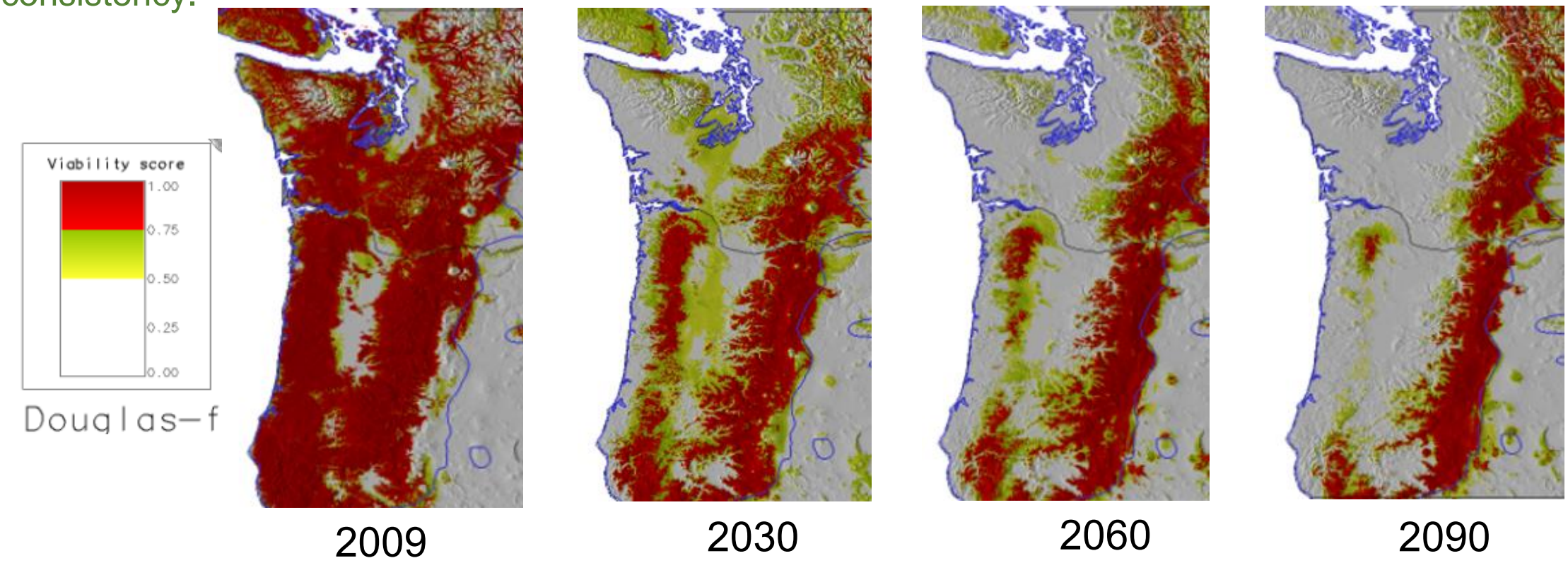
PropagationNation (propagationnation.us), a not-for-profit organization, is an intergenerational movement to support and enhance the environmental and economic viability of Pacific Northwest forests by increasing the presence of Coast Redwoods and Giant Sequoias.

Climate Profile for Douglas-fir USDA USFS

The values are species viability scores in the range of 0 to 1, where low numbers indicate that the climate is not consistent with where the species grows and high numbers indicates consistency.



The economic impact of doing nothing can be catastrophic

Climate Profile for Douglas-fir USDA USFS

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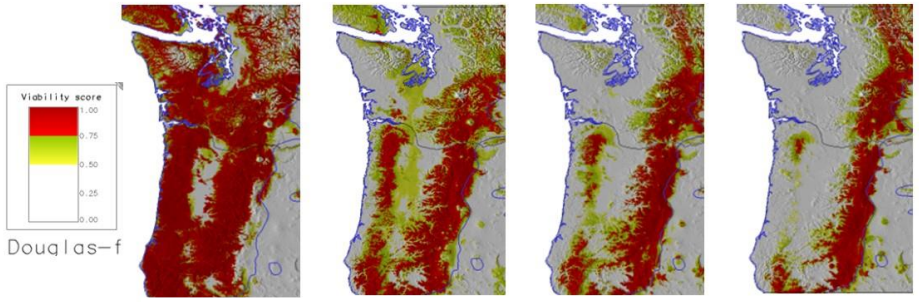
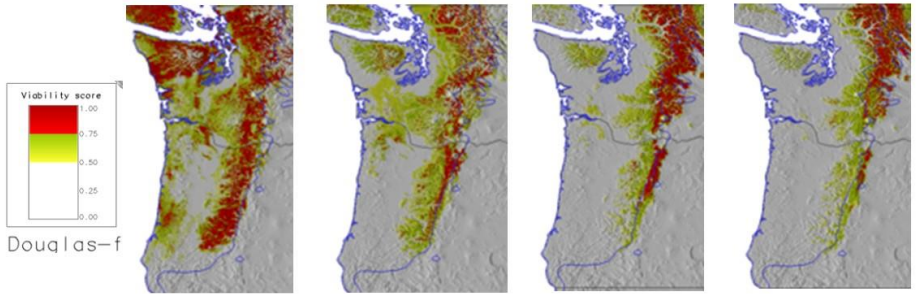


2009 2030 2060 2090

Climate Profile for Western redcedar USDA USFS

The values are species viability scores in the range of 0 to 1, where low numbers indicate that the climate is not consistent with where the species grows and high numbers indicates consistency.



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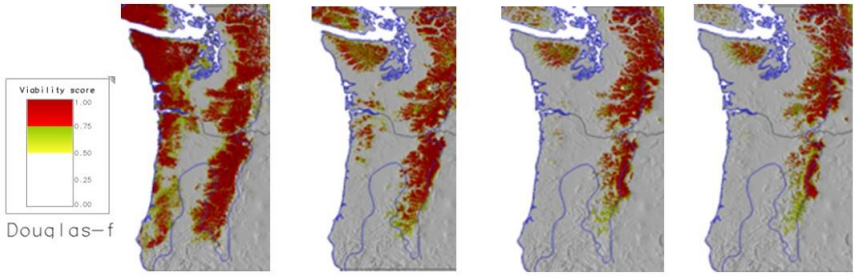
Climate Profile for Western hemlock USDA USFS

The values are species viability scores in the range of 0 to 1, where low numbers indicate that the climate is not consistent with where the species grows and high numbers indicates consistency.



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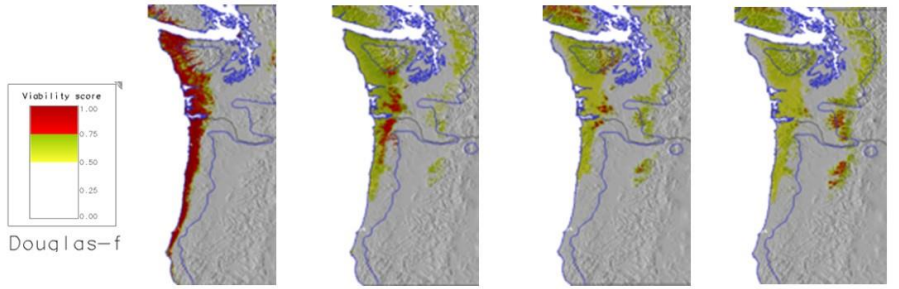
Climate Profile for Sitka Spruce USDA USFS

The values are species viability scores in the range of 0 to 1, where low numbers indicate that the climate is not consistent with where the species grows and high numbers indicates consistency.



2009 2030 2060 2090

The environmental impact of doing nothing can be catastrophic

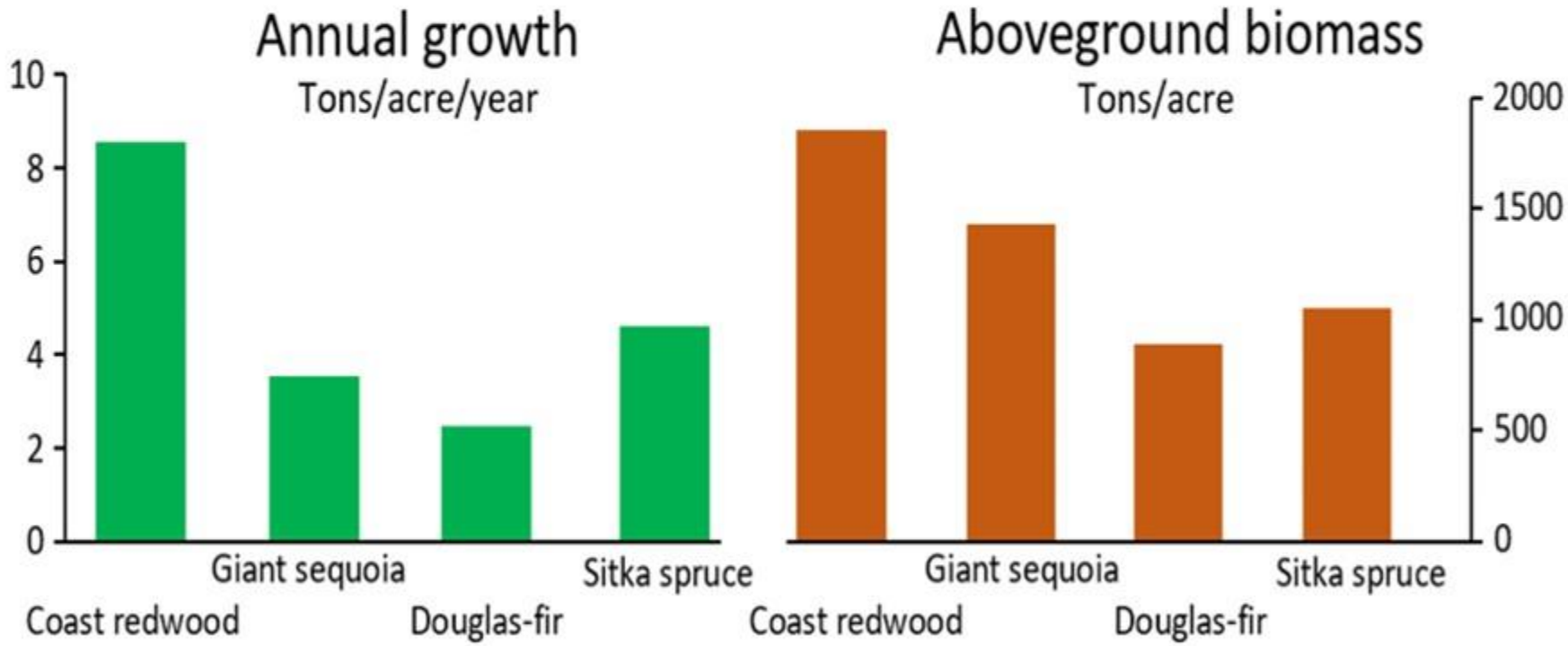
Sillett & Redwoods
STEVE SILLETT
and
THE REDWOODS
0:06 / 6:19

What is so unique about redwoods?

1. Redwoods get huge, so **store more carbon** than any other species on the planet.
2. **They live >1000 years longer than other PNW species** because of their fire resistance and decay resistance, so the carbon storage is more stable.
3. Once they die, their **heartwood is so stable**, logs can store huge amounts of carbon, while new trees grow.
4. Redwoods were once much more widely distributed and their current limited range is due to glaciation, **not environmental mismatch**.
5. The only reason they are not already here is that migration has not kept pace with climate suitability.
6. Coast redwoods in particular, have the **genetic ability to adapt** more than most other species because they have six sets of chromosomes.
7. **Redwoods are less likely to fall prey to invasive pests** (arguably a more important risk to our local species than climate change) because they produce so many toxic compounds and have microbial symbionts that protect them.

Wood Growth and Carbon Sequestration

Annual biomass change and total aboveground biomass in world-record holding forests of each of the tallest four conifers in the Pacific Northwest. Western hemlock and red cedar are not included and have substantially less biomass. Figure created from data in Sillett et al. 2020*, Table 7.



* Sillett, S. C., Van Pelt, R., Carroll, A. L., Campbell-Spickler, J. & Antoine, M. E. **Aboveground biomass dynamics and growth efficiency of Sequoia sempervirens forests.** *Forest Ecology and Management* **458**, 117740 (2020).

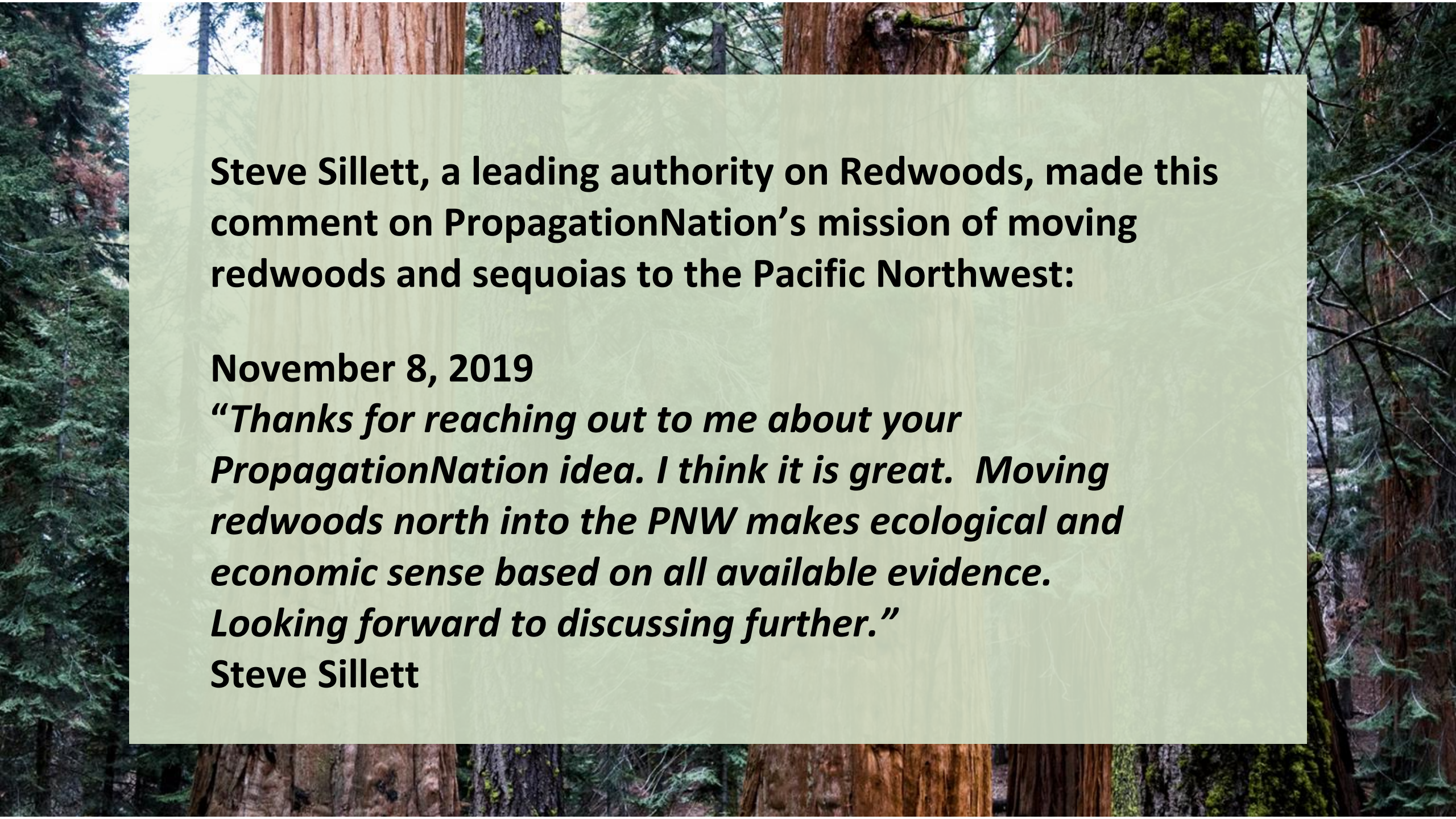
What is so unique about redwoods?

8. Fire resistance is the ability to survive a fire relatively unscathed (i.e., thick bark as insulation). **Redwoods have both fire resistance and fire resilience**, which is the ability to take considerable damage in a fire, but rebound afterwards (i.e., resprouting). They can regrow shoots from scalded branches, the trunk, and the roots. They essentially don't die.

9. Once redwoods are established **you do not need to rely on seed production to regenerate a forest that has been logged** or burned. Redwood stumps re-sprout from the roots, and because these new sprouts have an extensive root system in place, they quickly outgrow competing vegetation (much faster than other conifers). This eliminates some of the largest cost inputs in forestry: nurseries, planting, and herbicides to control competing vegetation.

10. From a **biodiversity** perspective, **redwoods should be considered an integral part of a functioning ecosystem including many PNW natives**. They should be planted with other species, not in mono-cultures.

11. Wood products grown via **redwood could offer the PNW some economic stability** because these forests are so much less vulnerable **and command a market premium**.



Steve Sillett, a leading authority on Redwoods, made this comment on PropagationNation's mission of moving redwoods and sequoias to the Pacific Northwest:

November 8, 2019

"Thanks for reaching out to me about your PropagationNation idea. I think it is great. Moving redwoods north into the PNW makes ecological and economic sense based on all available evidence. Looking forward to discussing further."

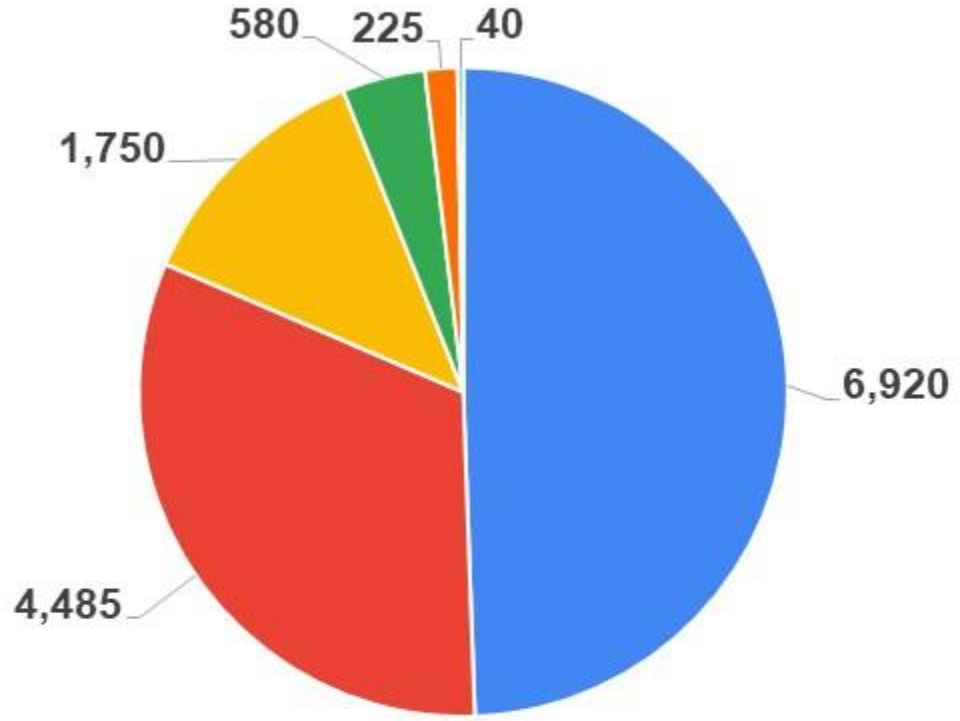
Steve Sillett

Redwood Ecology

- To maximize forest ecosystem functions, redwoods should be incorporated as a component along with tree species already present in the PNW such as Douglas-fir, western hemlock, Sitka spruce, and western red cedar.
- There are few, if any, major tree species in the PNW that redwoods do not already grow next to in their native range, showing that they can coexist.
- Planting redwoods will generally increase the resilience of PNW forests by providing a forest tree that is long-lived, is impervious to many diseases, and responds well to fire.
- Because they tolerate shade and those in the shade can be supported by the roots of those in the sun, redwoods can exist in the forest as large and small trees at any given time in dense or more open-canopied forests.

14,000 Trees delivered Oct '23 - Mar '24

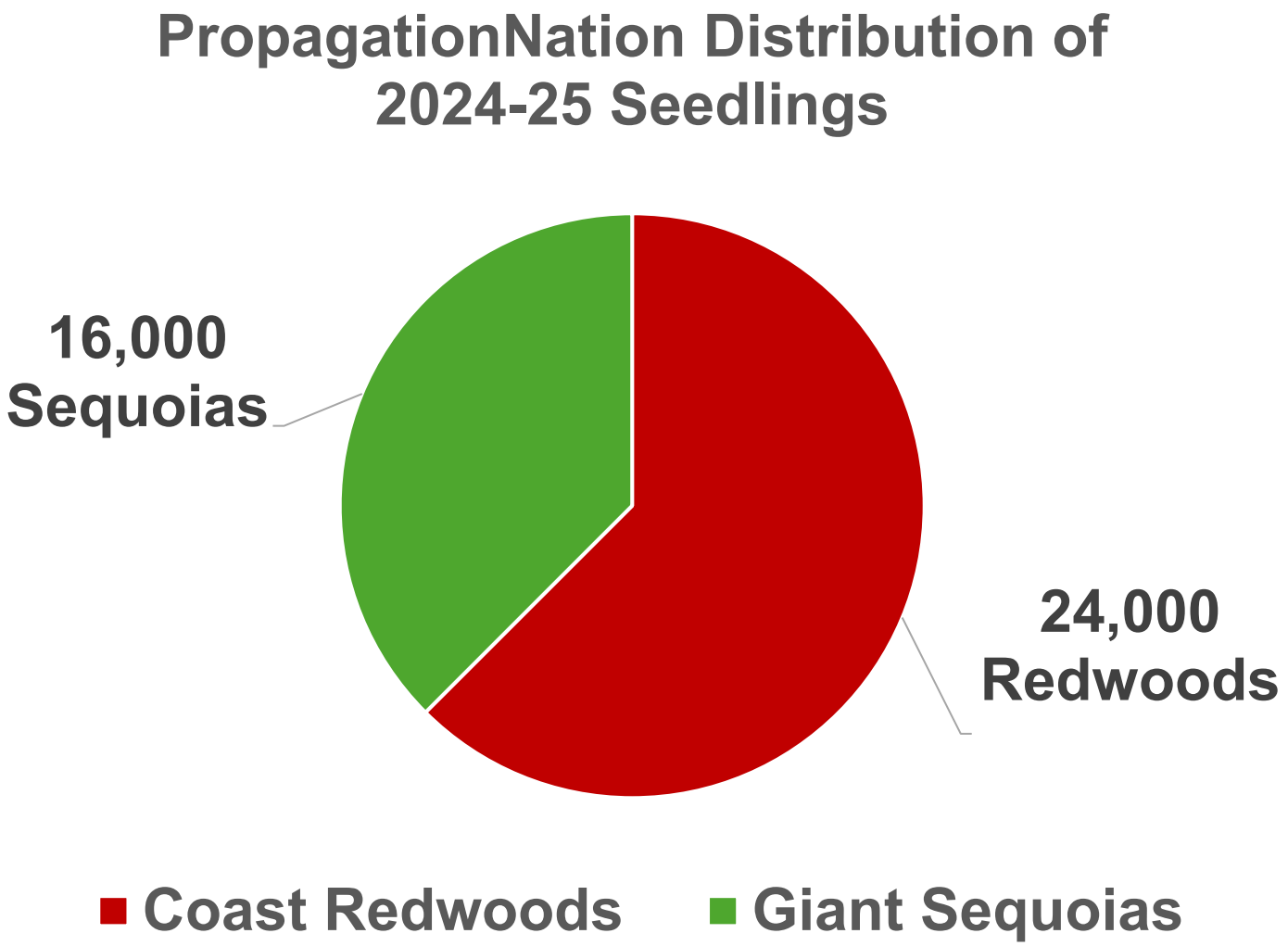
Group	# Trees
Publicly-Funded*	6,920
Private Landowners	4,485
WFFA Members	1,750
Counties	580
Tribes	225
Schools	40
TOTAL	14,000



* Publicly-Funded groups include:

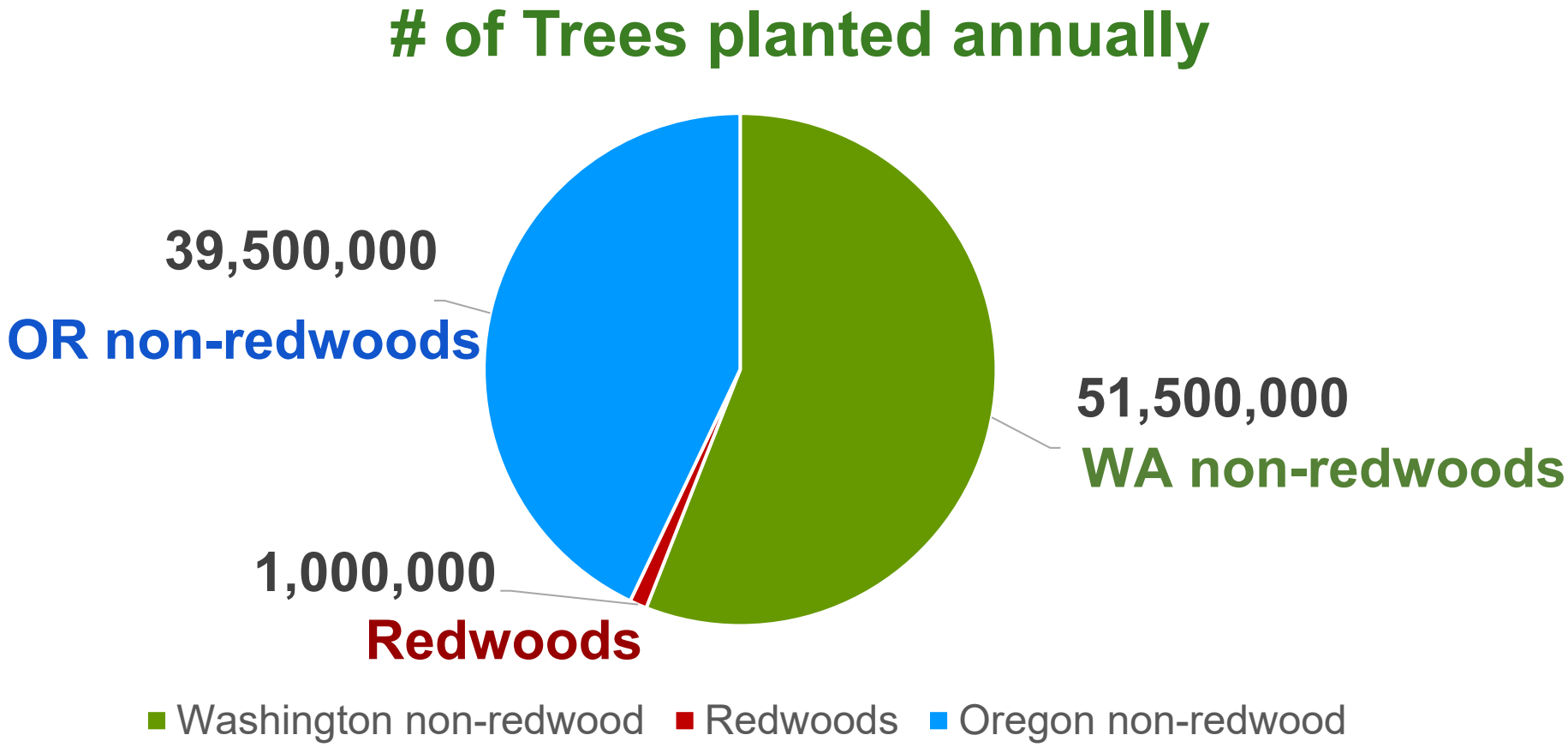
- ✓ Fisheries Enhancement Groups
- ✓ Conservation Districts
- ✓ Water Resource Inventory Areas
- ✓ WA Department of Transportation

40,000 Trees distributed in 2024-25 season



92 Million trees planted annually in PNW

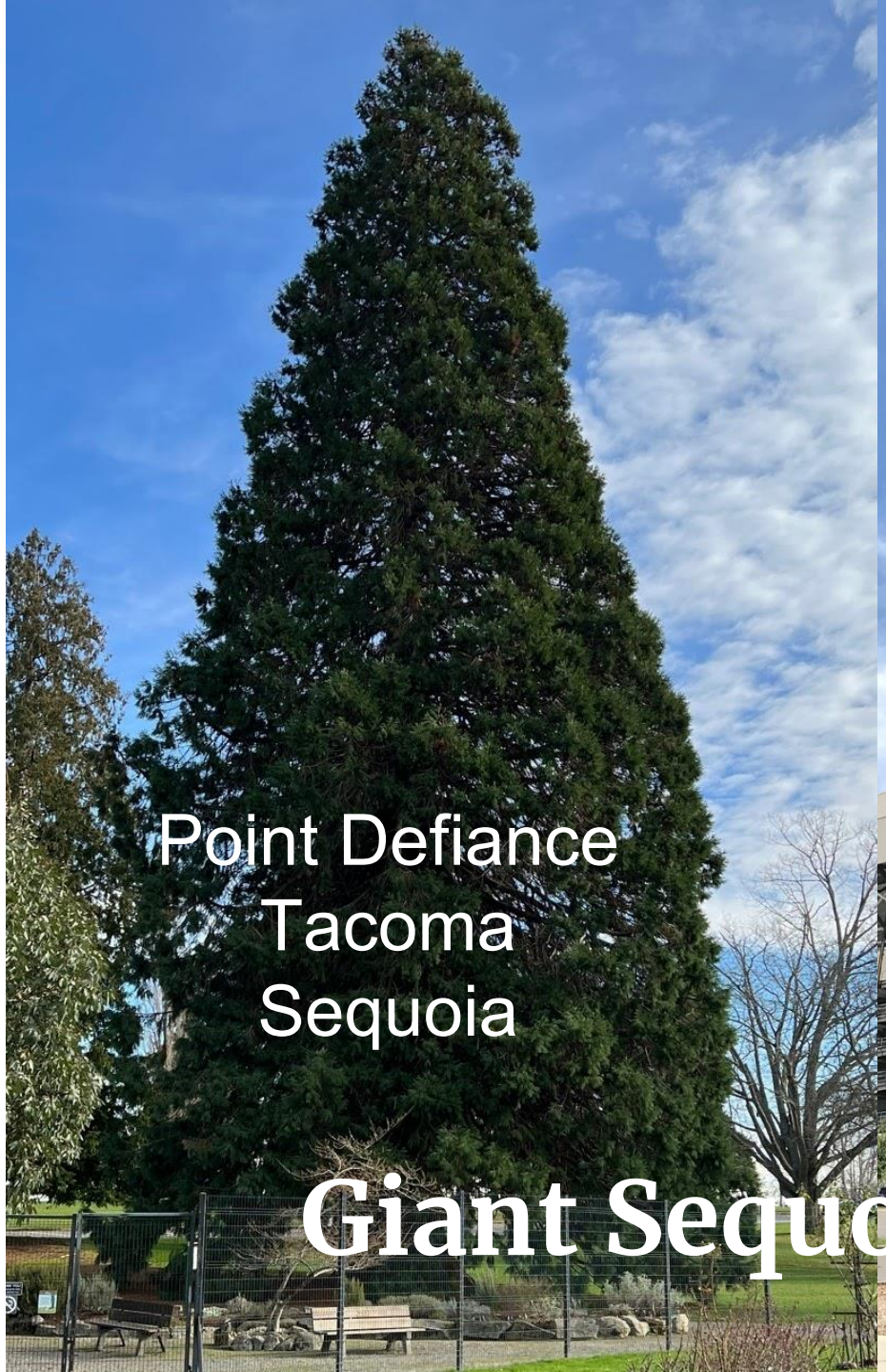
PropagationNation Goal = 1 Million (~1%) of the 92 Million trees planted annually are redwoods

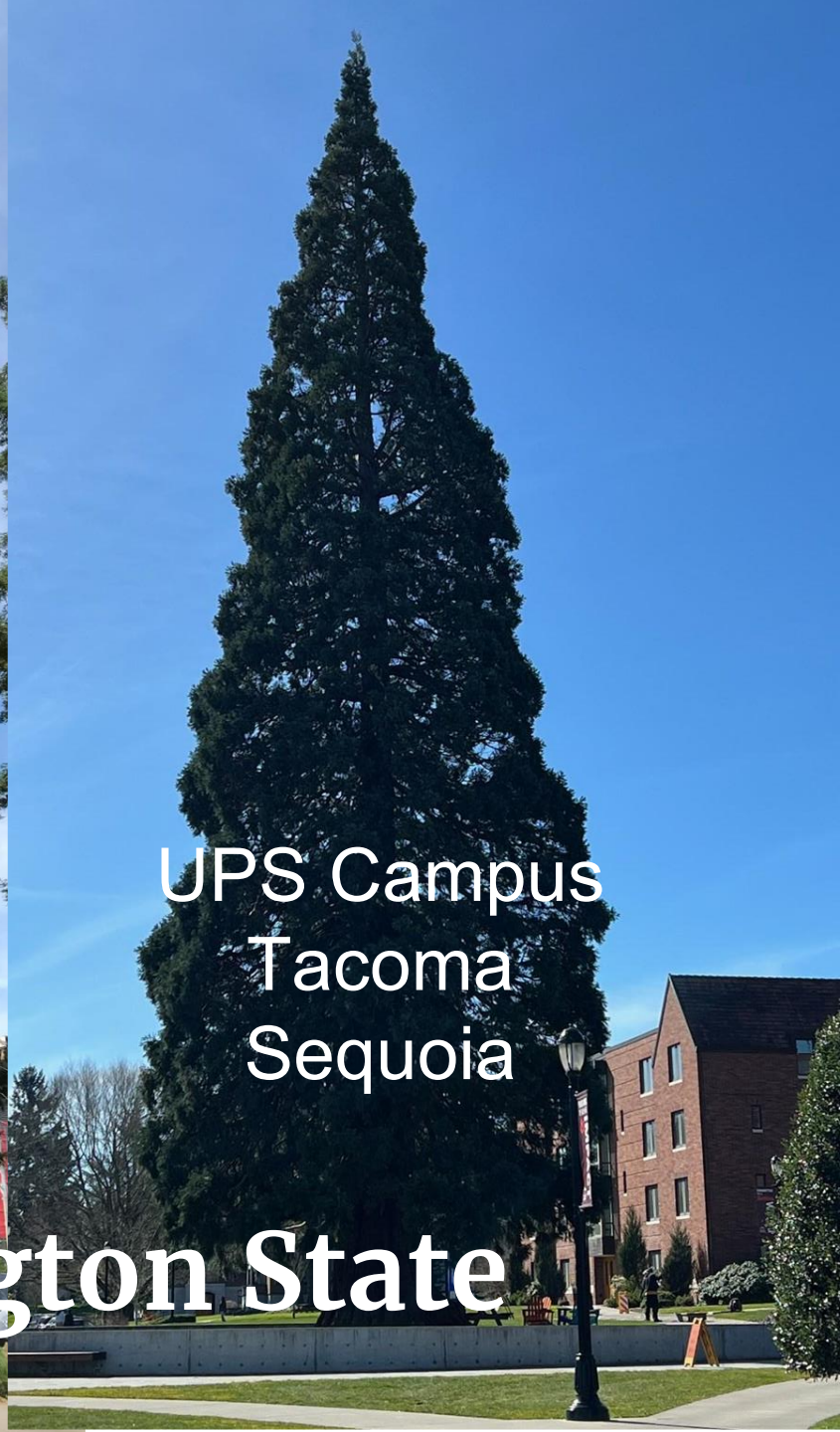


Summary

1. To maximize their effectiveness, redwoods should be planted along with tree species already present in the PNW such as Douglas fir, Western hemlock, Sitka spruce, and Western red cedar.
2. There are few, if any, major tree species in the PNW that redwoods do not already grow next to in their native range, showing that they can coexist.
3. Planting redwoods will generally increase the resilience of PNW forests by providing a forest tree that is long-lived, is impervious to pests and disease and responds well to fire.
4. Because they tolerate shade and those in the shade can be supported by the roots of those in the sun, redwoods can exist in the forest as large and small trees at any given time.

Coast Redwoods in Washington State



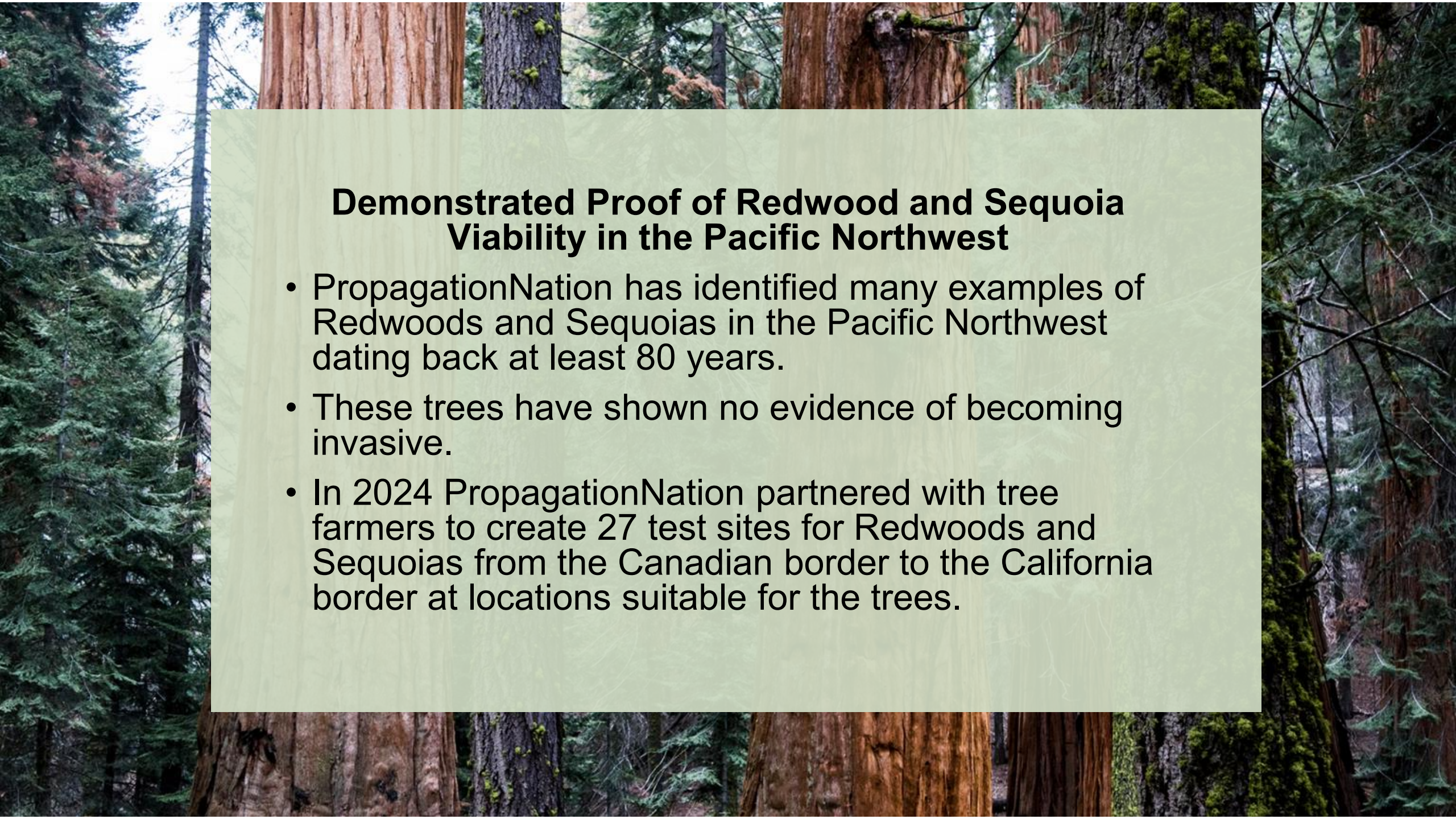


Giant Sequoias in Washington State

Washington Tree Farm

- Tree farmer decided to experiment
- 1 acre of Redwoods were planted in 1990
- 35 years later they are now 135 ft tall
- Toured by 170 WFFA tree farmers in 2023

Coast redwoods, planted in 1990 by Dave Robbins, grow at the Hama Hama Tree Farm on north side of Hood Canal. (Erika Schultz / The Seattle Times)



Demonstrated Proof of Redwood and Sequoia Viability in the Pacific Northwest

- PropagationNation has identified many examples of Redwoods and Sequoias in the Pacific Northwest dating back at least 80 years.
- These trees have shown no evidence of becoming invasive.
- In 2024 PropagationNation partnered with tree farmers to create 27 test sites for Redwoods and Sequoias from the Canadian border to the California border at locations suitable for the trees.

REDWOODS FOR THE PNW

"The best time to plant a tree was 20 years ago, the next best time is NOW !