



Tree supply for urban forestry: Challenges, updates and RNGR resources

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USDA Forest Service, National Urban Nursery Specialist
Jehane.Samaha@usda.gov

New position: Urban Nursery Specialist



Jehane Samaha, MSc

- ISA municipal arborist PD-2675AM
- In Philadelphia!
- Background in public gardens, community science, urban forestry consulting, climate change research, tree planting nonprofit work, 'fancy tree' propagation.

- Link between RNGR and UCF programs
 - RNGR: Reforestation, Nurseries, and Genetic Resources
 - UCF: Urban and Community Forestry
- Provide trainings and networking
 - ❖ urban tree supply + quality
 - ❖ diverse, climate-ready tree species



Outline

- Call to action
- Challenges we all know
 - Scaling up to grow enough high-quality, climate-adaptive trees to meet urban demand.
- “hot topics”
 - Funding, new nurseries, tree diversity and climate adaptation, root quality, contract growing.
- Collective solutions
- RNGR team resources

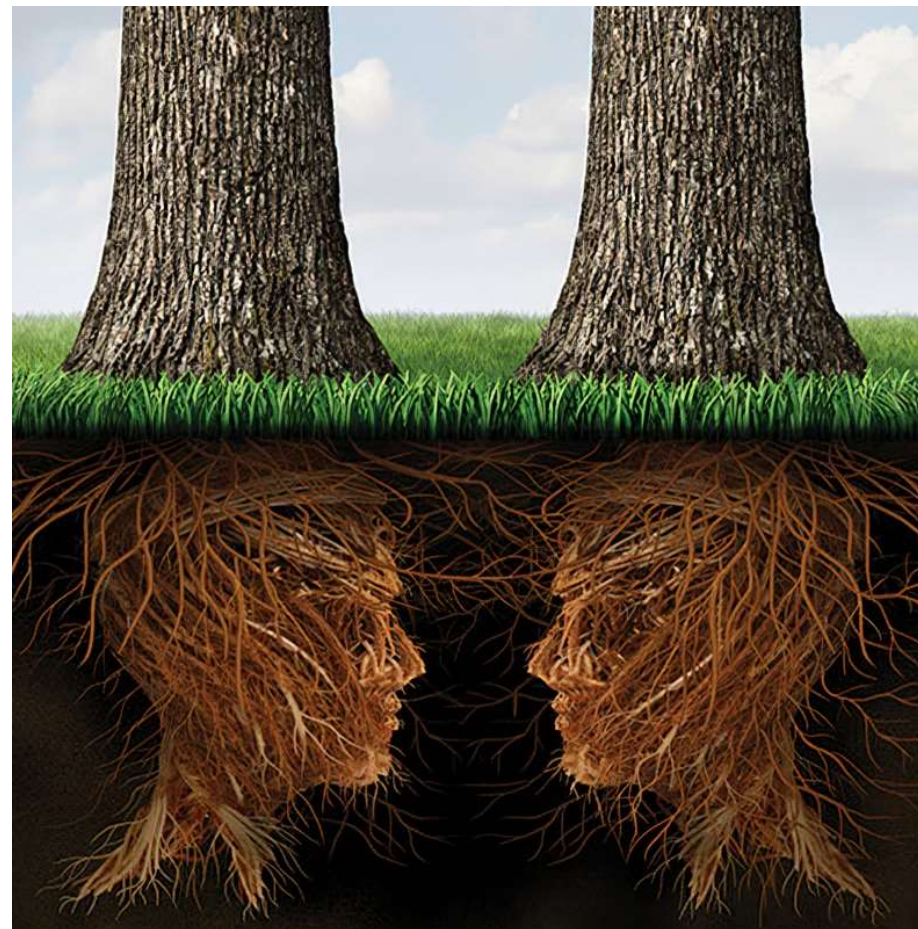


CALL TO ACTION

We all have a role to play in building connections across the nursery pipeline--

Today, meet **at least 1 new person** virtually who you'd like to connect with after the forum.

We'll do an exercise later to help make connections.



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Challenges we all know:

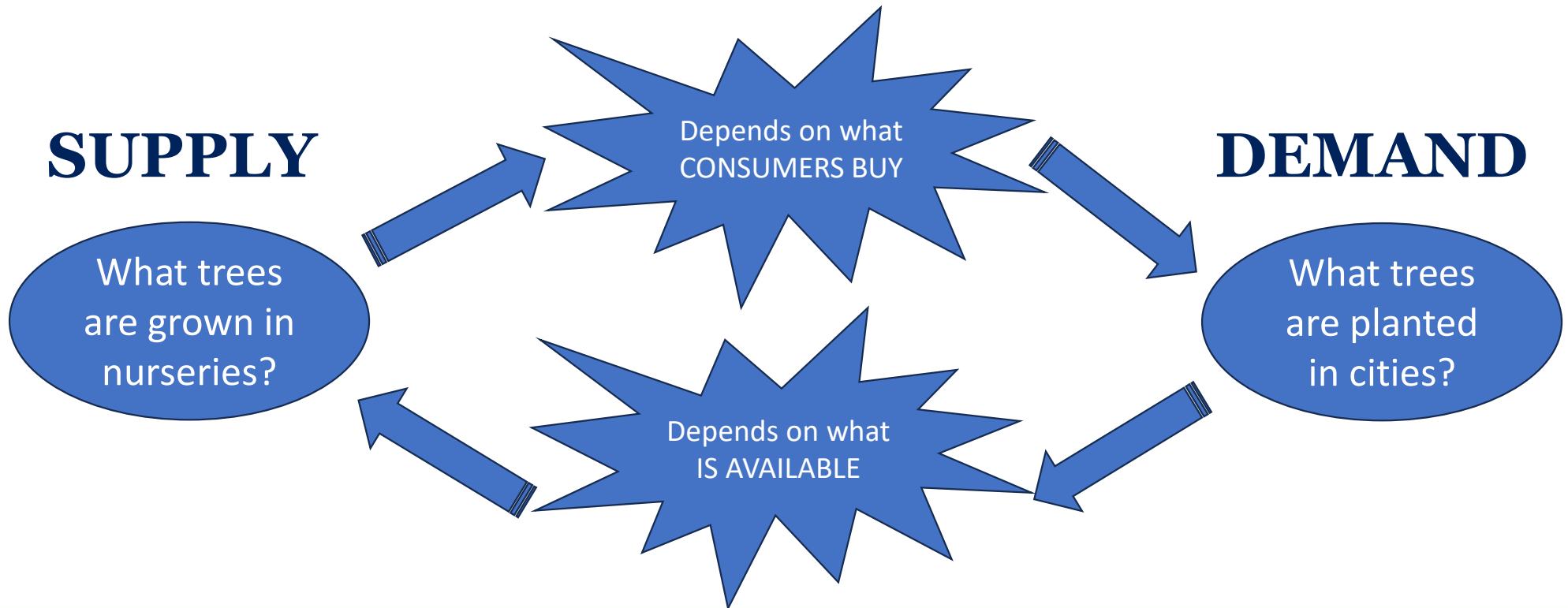
- Scaling up quantity
- Ensuring quality
- Improving genetic diversity
- Adapting to future climates



- **Developing workforce**
- **Sourcing seeds and liners**
- **Getting trees to survive urban stressors!**

Challenges we all know:

- The cycle of supply and demand is reactive, and constricts choices.



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Hot Topics: IRA funding

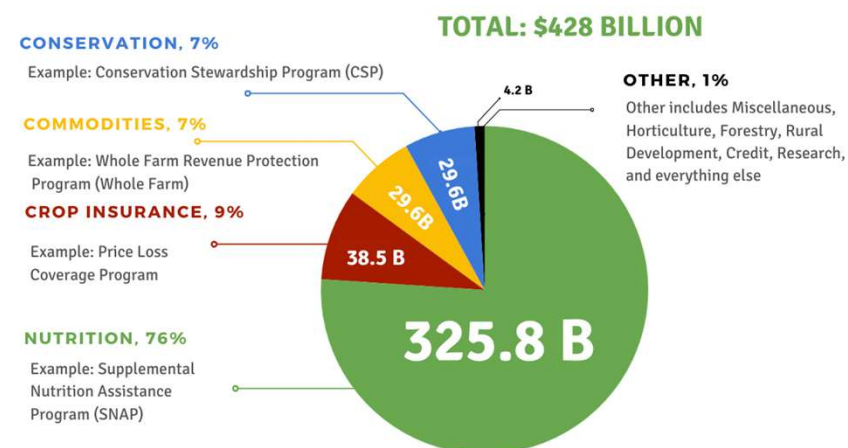
- USDA Forest Service is committed to **diversifying, leveraging, and increasing** funding for urban and community forestry (UCF).
- The Inflation Reduction Act dedicated **\$1.5 billion** to the UCF Program to remain available until September 30, 2031 “**for tree planting and related activities,**” with a priority for projects that benefit underserved populations and areas.



Hot Topics: Farm Bill Funding

- **PROPOSED Nursery and Seed Orchard Support**
 - Staff for the Forest Service Reforestation, Nurseries, and Genetic Resources (RNCR) program
 - Expands **technical assistance and workforce development** training for nursery and tree establishment programs, and creates a **grant program** for State, Tribal, and private nurseries to **improve nursery production capacity**.
 - Authorizes \$25 million in appropriations for each of fiscal years 2025 through 2029.
 - Funds to support **seed collection, storage, and nurseries**, prioritizing projects in vulnerable forests and critical watershed areas.
- Vote will likely be postponed until September 2025; let your representatives know whether you support this bill!

FARM BILL PROJECTED FUNDING, IN BILLIONS 2019-2023

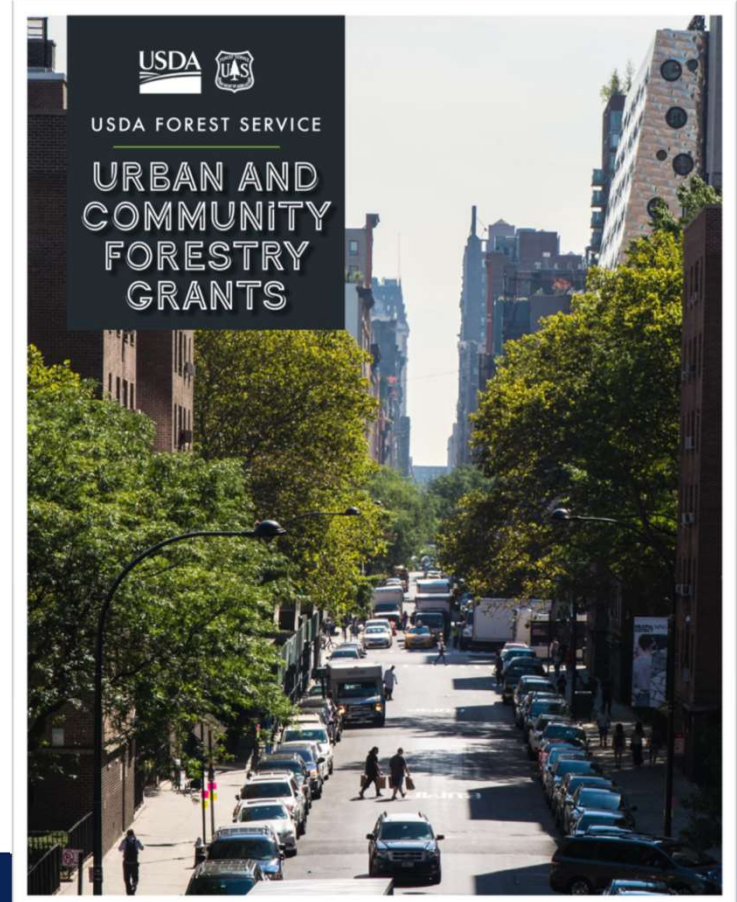


Source: USDA Economic Research Service Based on Congressional Budget Office, Direct Spending Effects for the Agriculture Improvement Act of 2018 (2018 Farm Bill), December 11, 2018



Hot Topics: Funding timelines

- **Mismatches between timelines:**
 - Funding
 - Planting
 - Growing



Hot Topics: New nurseries

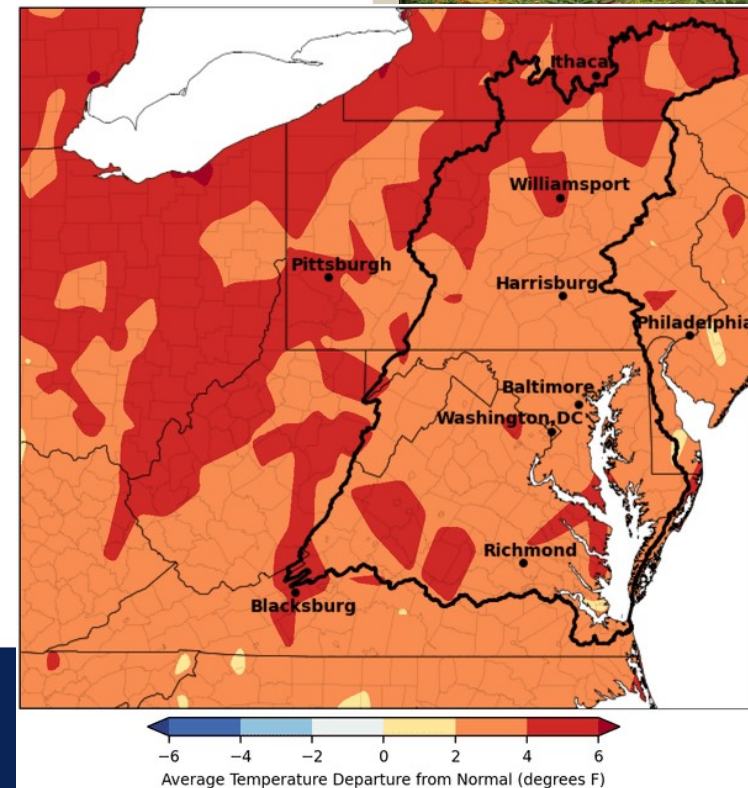
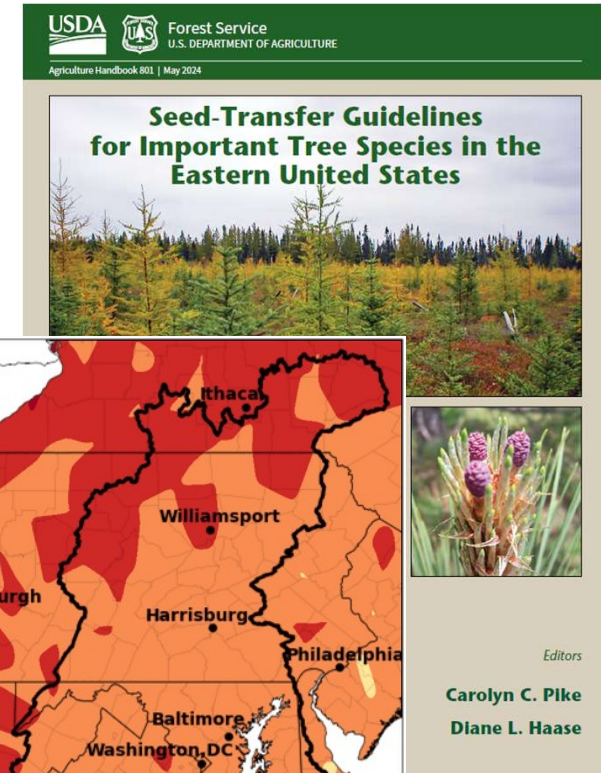
- Precarious succession for existing nurseries
- Urban/ municipal in-house nurseries
 - Material holding yards
 - Tree production
- Cost-benefit analysis, vs. buying from an existing nursery
 - Land access/ site constraints
 - Control of species and stock type availability
 - Workforce development



Photo by Jessica Farmer, Seattle Trees for Neighborhoods

Hot Topics: Tree diversity and climate adaptation

- Natives and non-natives
- We need cultivars that:
 - Advertise drought and heat tolerance
- Beyond cultivars, we need genetically diverse seed-grown trees from known provenances.
- Moving southern species north (and into urban heat islands)



Hot Topics: Root quality

- Standards and specifications against:
 - J roots
 - Girdling roots
 - Buried root flares/collars
- “Reject or Correct?”



Hot Topics: Contract growing

- Reduce risk for growers and buyers
- Adapt funding cycles
 - Reactive to proactive
- Share your examples with your peers (and me, please!)

- Check out the recently recorded Urban Forest Connections webinar on contract growing
- 2 speakers on this today:
 - Trinity Pierce, CRTI
 - James Kaechele, NYC Parks



Scan QR code to access webinar recording:

A screenshot of a webinar slide. The slide has a green header with the text "URBAN FOREST CONNECTIONS WEBINAR SERIES" and "Presented by the USDA Forest Service Urban Technology & Science Delivery Team". Below the header is a photograph of a group of people standing in a nursery with young trees. To the right of the photo, the text reads: "Please join us on June 12, 2024 for: Talk to Your Nursery: Tree Supply, Tree Quality, and Contract Growing". Below this, the speakers are listed: "Deborah Hilbert, PhD, University of Florida", "James Kaechele, New York City Parks", and "Pete Worth, Kankakee Nursery, Chicago". The moderator is listed as "Jehane Samaha, USDA Forest Service". At the bottom right of the slide are the USDA and UAS logos. On the right side of the screenshot, there is a vertical sidebar showing a video feed of the moderator, Jehane Samaha, and a list of other participants with their names and initials (Rodwell, P., Yharada, K., Corbett, A., Pete Worth..., Stevenson, and a "View all" link).



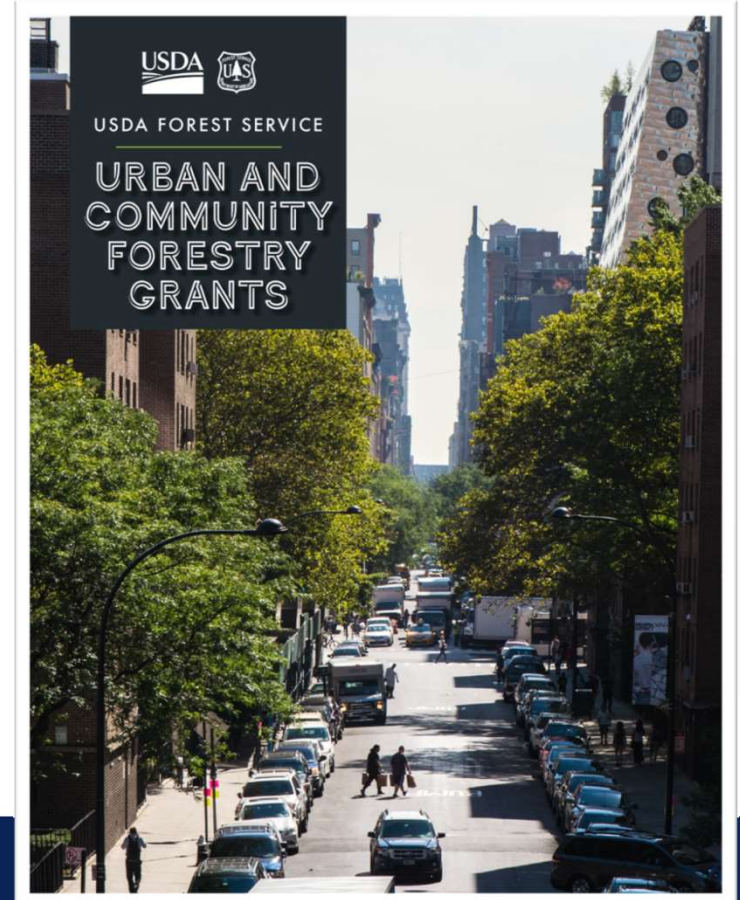
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- RNGR team resources



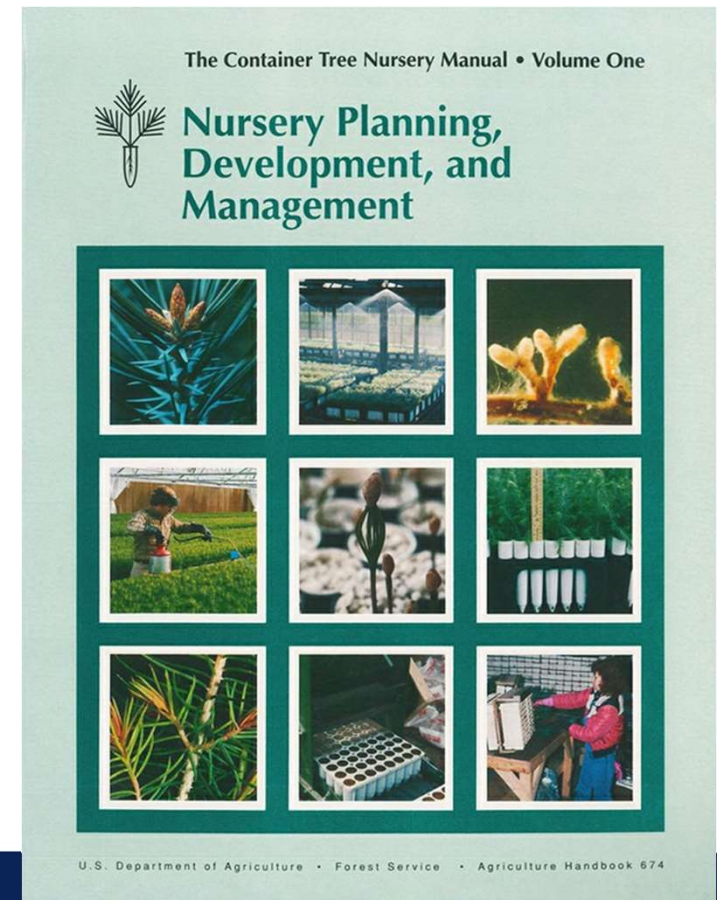
Collective Solutions: Proactive funding

- Get buy-in from law makers, push to increase consistent public funding
- Align grant funding **timelines**
- secure funding for technical **staff**
- **contact growing**; have an online uniform growing contract template
 - Potential for states and funders to contract directly with nurseries



Collective Solutions: New capacity

- growing in-house
 - holding yard
 - internal nursery
- Investing in State nurseries
- More **bare root** nurseries and plantings



Collective Solutions: Education + Workforce Development

- education about this entire process
- strengthen nursery quality standards and specifications
- education and communication, especially in relation to those standards
- increasing training for seed collection



Collective Solutions: Network building

- More communication with growers
- Get the buyers out to the nurseries
- Nationwide nursery directory
- Centralized availability database
- Relationships, partnerships!



Introduce yourself in the chat!

Put in the chat:

- your name, organization, role
- *One specific issue* in your work, that others could help with
 - Ex: can't find large caliper bare root southern oak species
 - Ex: trying to start a nursery, need mentoring
 - Ex: need to circulate a job posting



00:50

Reply to someone in the chat!

CALL TO ACTION

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Reply now to someone in the chat. Share your contact information directly if you are comfortable.

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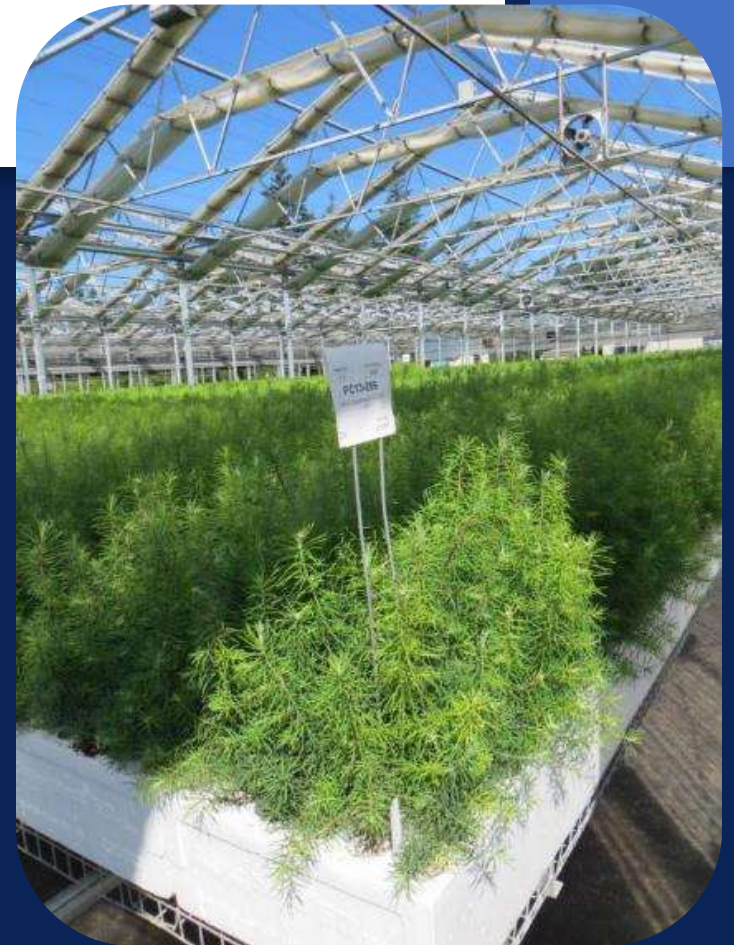
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What is RNGR?

- Reforestation, Nurseries, and Genetic Resources (RNGR)
- Unique, innovative team working across the Forest Service
- The team develops and delivers resources to improve plant materials for reforestation and restoration
- Technology we develop is used worldwide



The RNGR Team is Expanding

Demands for RNGR activities are increasing to meet technology needs for:

- Seed and seedling production
- Reforestation and restoration
- Germplasm conservation
- Assisted migration
- Training, training, training



National RNGR team: Washington Office



Sara Wilson
National Nursery &
Reforestation
Specialist (ID) SPTF



Kayla Herriman
National Seed
Specialist
(OR) NFS



Lindsay Colegrove
National Nursery
Specialist
(NC) NFS

National RNGR team: National Specialists



Jeremy Pinto
National Tribal
Nursery Specialist
(ID) SPTF



Paul Rhoades
National Nursery
Pest Specialist
(GA) SPTF



Jehane Samaha
National Urban
Nursery Specialist
(PA) SPTF



Vic Vankus
Director, National
Seed Lab
(GA) SPTF

National RNGR team: Regional Specialists



Carrie Pike
Eastern Regeneration
Specialist
(IN) SPTF



Emily Rhoades
Southern Nursery
Specialist
(GA) SPTF



Nabil Khadduri
Western Nursery
Specialist
(WA) SPTF



**Emily Senegal-
Thyoff**
Tropical Nursery Spec.
(CA) SPTF

National RNGR team: International Programs (IP), R&D, Southern Regional Extension Forestry (SREF)



Matt Horning
Program Manager,
IP



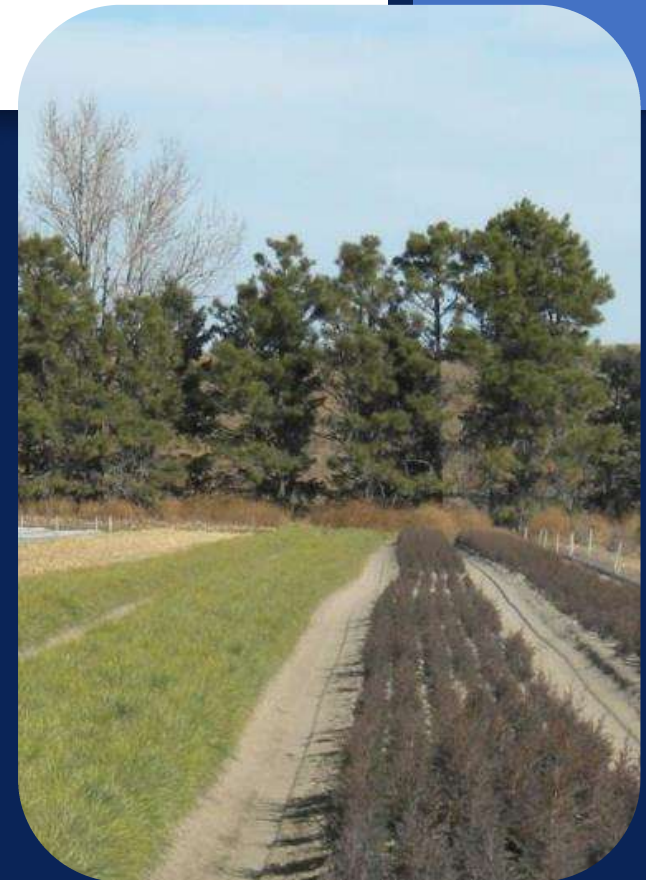
Daniel Drummond
IT Developer & Mobile
Apps Director, SREF



Andrea Watts
Editor
Tree Planters' Notes

Quality Nursery Production Requires Skill and Knowledge

- Plant physiology, morphology, and phenology
- Genetics
- Environment
- Soil quality
- Water management
- Seed technology
- Species characteristics
- Ecotype differences
- Culturing techniques
- Pest Management
- Storage and handling
- Customer relations
- Administration and budgeting



Technical Assistance

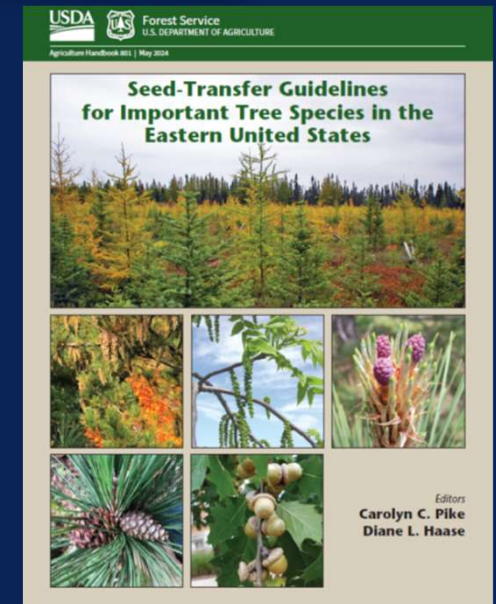
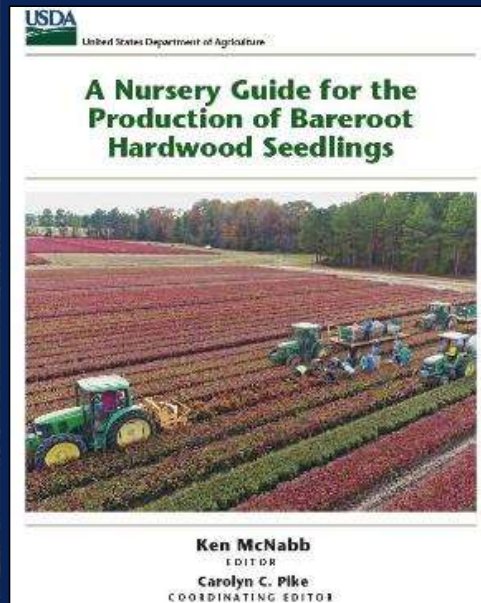
- Science-based assistance (manuals, guidebooks, publications, etc)
- On-site visits
- Email and phone inquiries
- Readily accessible and applicable resources



Publications

USDA
United States Department of Agriculture
Forest Service
Agriculture Handbook 801
April 2008

The Woody Plant Seed Manual



USDA
United States Department of Agriculture

Tropical Nursery Manual

A Guide to Starting and Operating a Nursery for Native and Traditional Plants



Kim M. Wilkinson • Thomas D. Landis • Diane L. Haase
Brian F. Daley • R. Kasten Dumroese
EDITORS

Forest Service
Agriculture Handbook 712
April 2014

Technical information generated by RNGR often serves as the authoritative standard

Annual Conferences

- Regional
 - West, Northeast, Southern
- Intertribal Nursery Council
- Hawai'i Native Plant Growers Association



Trainings and Workshops



Research

- ❖ Set standards for seedling quality
- ❖ Reduce inputs (water, fertilizer)
- ❖ Improve nursery efficiency
- ❖ Explore alternative energy sources

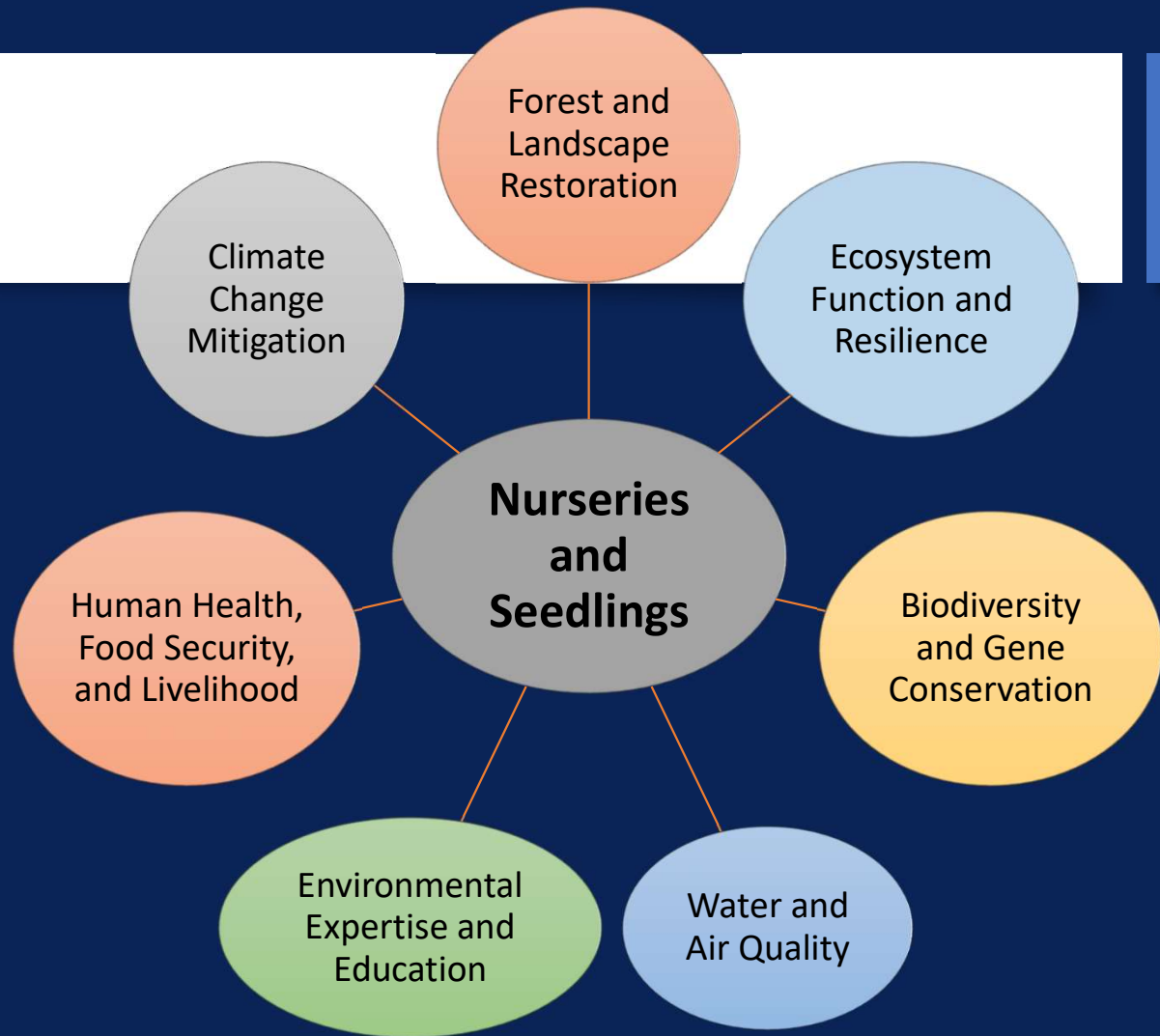


National Seed Laboratory

- New technologies
- Protocol development
- Seed germination testing
- Genetic preservation



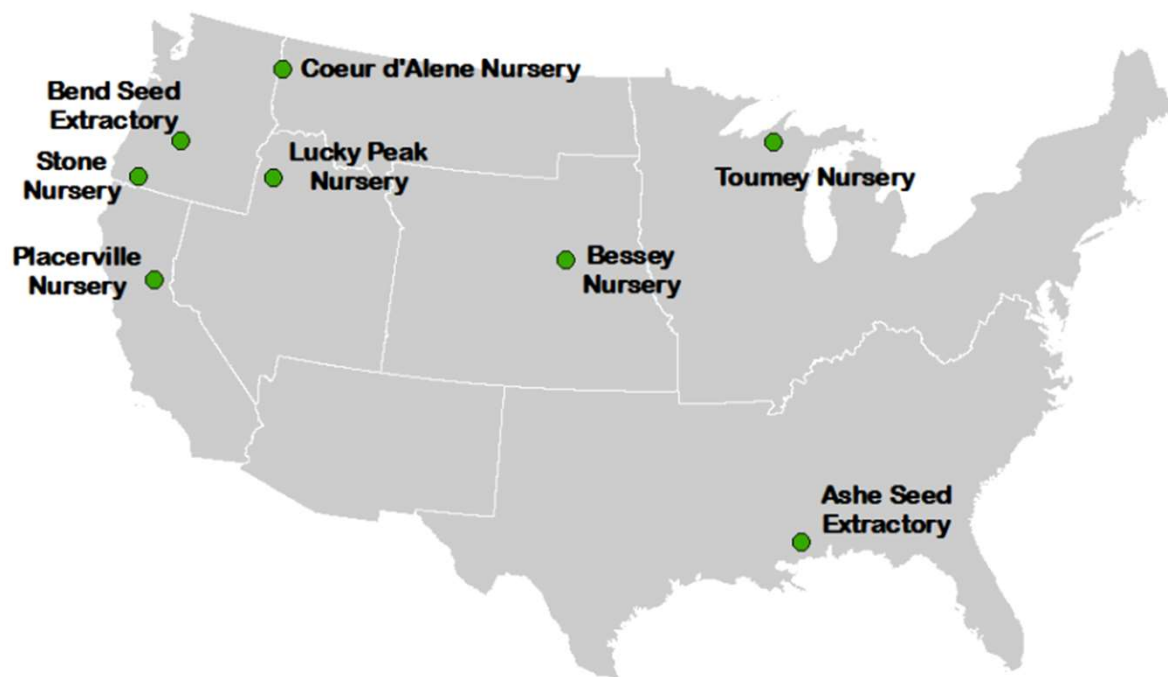
RNGR recognizes nurseries as a *hub* for meeting ecological, economic, and social goals.



Forest Service nurseries

The USDA Forest Service has 6 nurseries and 2 seed extractories (mostly for restoration plantings)

Forest Service Nursery and Seed Extractory Network



REFORESTATION, NURSERIES, & GENETICS RESOURCES

RNGR

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RNGR MISSION:
To supply people who grow forest and conservation seedlings with the very latest technical information.

ABOUT RNGR.net
[Learn more](#) about the RNGR program, its personnel and mission.

POPULAR RNGR.net RESOURCES

- [National Nursery and Seed Directory](#)
- [Intertribal Nursery Council](#)
- [FNN/TDN Subscription Form](#)
- [Native Plant Network](#)
- [Links](#)

UPCOMING EVENTS

2019 Joint Intertribal Nursery Council and Tribal Alliance for Pollinators Conference
Tulsa, OK
June 11, 2019 - June 15, 2019
For more information, [click here](#).

Cullowhee Native Plant Conference
Cullowhee, NC
July 17 - 20, 2019
For more information, [click here](#).

Joint Northeast and Southern Nursery Associations Annual Meeting
Atlantic City, NJ
July 22 - 25, 2019
For more information, [click here](#).

5th Biennial Shortleaf Pine Conference
Van Buren, MO
October 1 - 3, 2019
For more information, [click here](#).

[View More Events...](#)

PUBLICATIONS

- Tree Planters' Notes**
This publication is dedicated to technology transfer and publication of research information relating to nursery production and outplanting of trees, shrubs, and native plants for reforestation, conservation, and restoration.
- The Container Tree Nursery Manual**
This seven volume set provides a comprehensive overview of topics concerning the production of tree and woody shrub seedlings in containers.
- Tropical Nursery Manual**
A Guide to Starting and Operating a Nursery for Native and Traditional Plants
This comprehensive manual serves people who are starting or operating a nursery for native and traditional species in the tropics. Key concepts, principles, and processes are presented, based on proven practices and the best science available.
- The Woody Plant Seed Manual**
General principles such as seed biology, harvesting, storage, testing as well as nursery practices.

RNGR.net includes a repository of approximately 12,000 searchable and downloadable articles relevant to nursery production, seedling quality, reforestation, tree improvement, germplasm conservation, and native plant restoration. [Click here](#) for more publications.

Admin Log in

RNGR.net is sponsored by the [USDA Forest Service](#) and [Southern Regional Extension Forestry](#), and is a collaborative effort between these two agencies.

Online Resources RNGR.net

Managed by Southern Regional
Extension Forestry (SREF)

- Publications
- Directories
- Calendar
- Links
- RNGR Contact Information
- Native Plant Network

*Averages a visit and a download
every 11 minutes!*

Thank You!



RNGR.net
Jehane.Samaha@usda.gov

About the Urban and Community Forestry Program

- The **USDA Forest Service Urban and Community Forestry (UCF) Program** is the only dedicated urban forest program in the federal government.
- The UCF Program assists State Forestry agencies and partner organizations in **addressing and applying nature-based solutions to chronic and emergent economic, social, and environmental challenges** in communities across the United States.



About the Urban and Community Forestry Program

The UCF Program is designed to **direct funding to communities** experiencing low urban tree canopy, dead and hazardous tree conditions, extreme heat, severe flooding, and limited awareness of or access to a green job workforce to help them:

- Become more **resilient to climate change**
- Benefit from the **cooling effects of increased urban tree canopy**
- Experience **improved forest health** conditions and **safer access to tree benefits**
- Attain broadened exposure and access to **environmental career pathways.**

