

ARBOR DAY TREE CAMPUS USA CELEBRATION

Date: April 16, 2020
Host: Champaign County Sustainability Network (CCNet)
Emcee: Morgan White
University of Illinois at Urbana-Champaign
Facilities & Services (F&S)
F&S Associate Director for Sustainability



MEET OUR COMMITTEE MEMBERS!

Dr. Kevin McSweeney

Morgan White

Ryan Welch

Brent Lewis

Dr. Gary Kling

Andrew Lamoreux

Meredith Moore

Jay Hayek

Maddie Smith

Ricardo Zapata

Director of Arboretum, Chair

F&S Associate Director for Sustainability

Superintendent of Grounds at F&S

University Landscape Architect at F&S

Assoc. Professor of Crop Sciences

City of Champaign, Forestry Supervisor

iSEE Sustainability Programs Coordinator

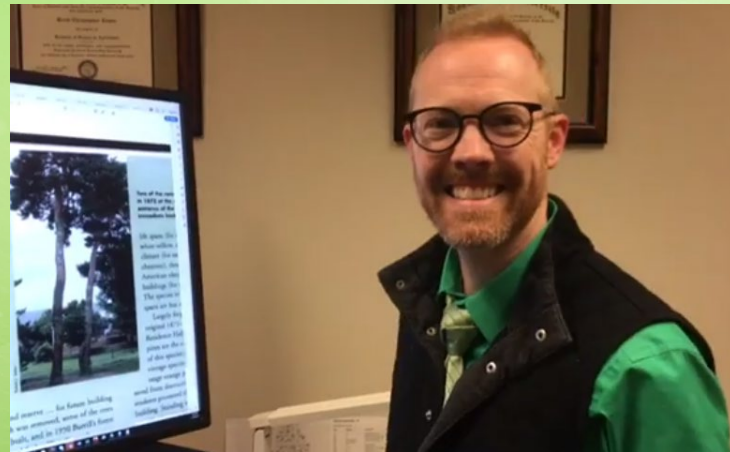
UI Extension Specialist

UI student in Integrative Biology

UI student in Economics

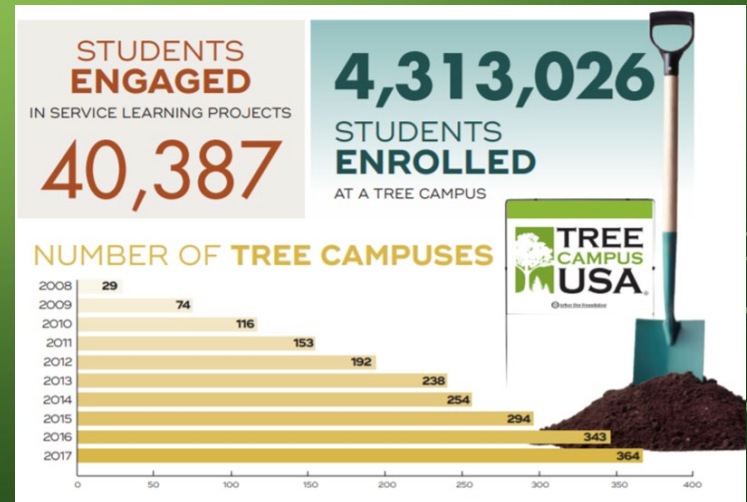
HISTORY OF TREE CAMPUS USA AT UNIVERSITY OF ILLINOIS

Brent Lewis
University Landscape Architect
Facilities & Services



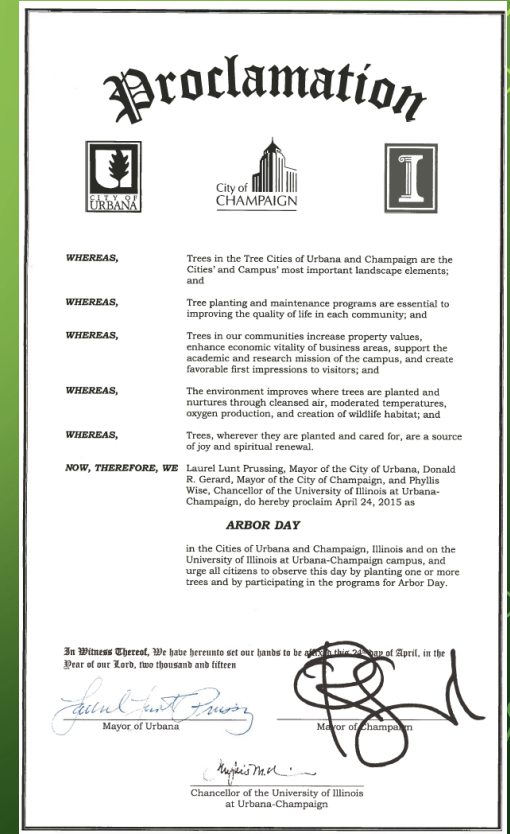
HOW TO BECOME A TREE CAMPUS

1. Establish a Campus Tree Advisory Committee
2. Complete a Campus Tree Care Plan
3. Complete a Campus Tree Program with Dedicated Annual Expenditures
4. Plan and execute an Arbor Day Observance event
5. Coordinate a Service Learning Project



HISTORY OF TREE CAMPUS USA AT ILLINOIS

- City of Urbana
 - first **Tree City USA** in Illinois
 - Tree City USA since 1976
- City of Champaign
 - Andrew Lamoreux, Public Works Forestry Supervisor, member of the campus committee
 - Tree City USA since 1985
- Village of Savoy
 - Tree City USA since 2002
- University of Illinois at Urbana-Champaign
 - Tree Campus USA since 2015



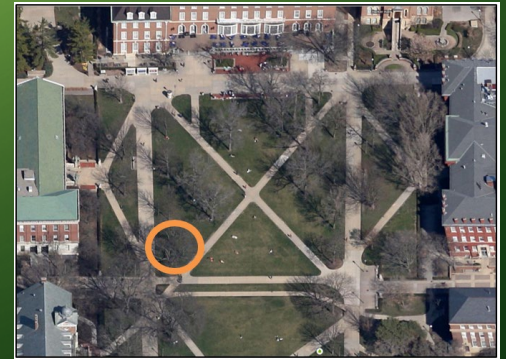


TREE CAMPUS USA 2015

- First Committee
- Document Tree Care
- Define Tree Budget
- Arbor Day Event
- Student Project at Arboretum



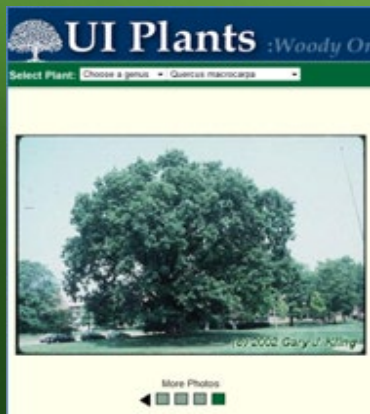
Main Quad Tree Planting



TREE CAMPUS USA 2016



Arboretum Project



South Arboretum Woods



TREE CAMPUS USA 2017

Campus Rainworks Challenge



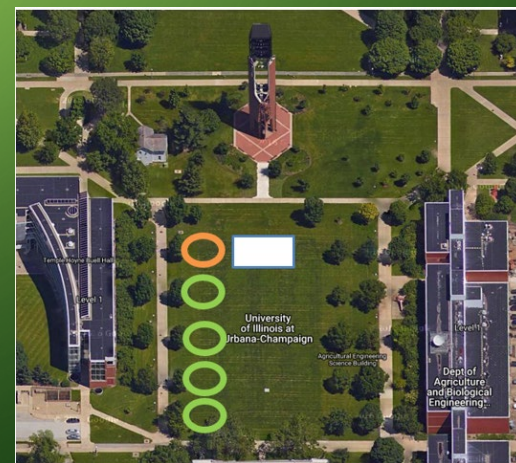
Figure 7 swamp white oak



Figure 8 sycamore



Figure 9 eastern cottonwood





TREE CAMPUS USA 2018

South Arboretum Woods

Campus Rainworks Challenge

U of I won first place nationally in the demonstration category!!

Red Oak Rain Garden

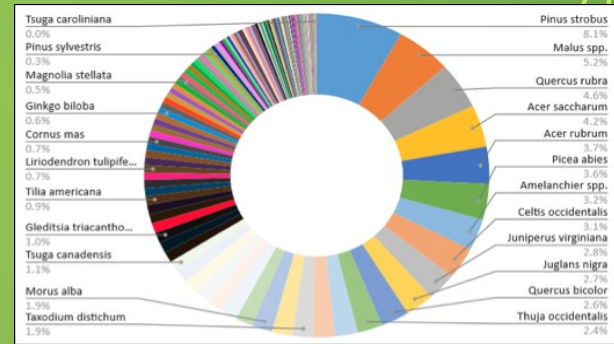


TREE CAMPUS USA 2019

South Arboretum Woods

Red Oak Rain Garden

Tree Inventory Research





University of Illinois Campus: Urban Forest Diversity Study

Madeline Smith

mms4@Illinois.edu

April 16th, 2020

An 'Urban Forest'

- An urban forest describes any population of trees that grow in an area with a higher density of humans and development
- University campuses are interesting examples of urban forests because they are highly controlled and often contain large green spaces
- Just like a 'regular' forest, urban forests change over time



Biodiversity

- A measure of species richness and evenness
- Stability in the face of disturbance (pests, disease, climate change)
- Supports wider variety of insects and wildlife
- Adds visual interest



'10-20-30' Rule

- Proposed by Frank S. Santamour, Jr. of the U.S. National Arboretum in response to the massive losses of elm trees due to Dutch elm disease in urban areas
- No more than 10% of any species, 20% of any genus, or 30% of any family
- Widely used as a benchmark for excellent diversity in urban forests

SANTAMOUR, F.S. (1990). TREES FOR URBAN PLANTING: DIVERSITY UNIFORMITY, AND COMMON SENSE. In METRIA 7: Trees for the Nineties: Landscape Tree Selection, Testing, Evaluation, and Introduction: Proceedings of the Seventh Conference of the Metropolitan Tree Improvement Alliance, The Morton Arboretum, Lisle, Illinois, June 11-12, 1990 (p. 57). METRIA.



Davey TreeKeeper Database

- Contains census of all trees on campus and plenty of useful information
- Accessible to anyone: www.illinois.edu/treekeepersoftware.com
- Great tool and resource for student projects
 - Quad Tree Walk
 - Memorial Trees
 - Ecosystem services, sustainability, biodiversity, etc.



TREEKEEPER

search

16,453 Calculated Trees

Total Yearly Eco Benefits
\$1,465,619.50

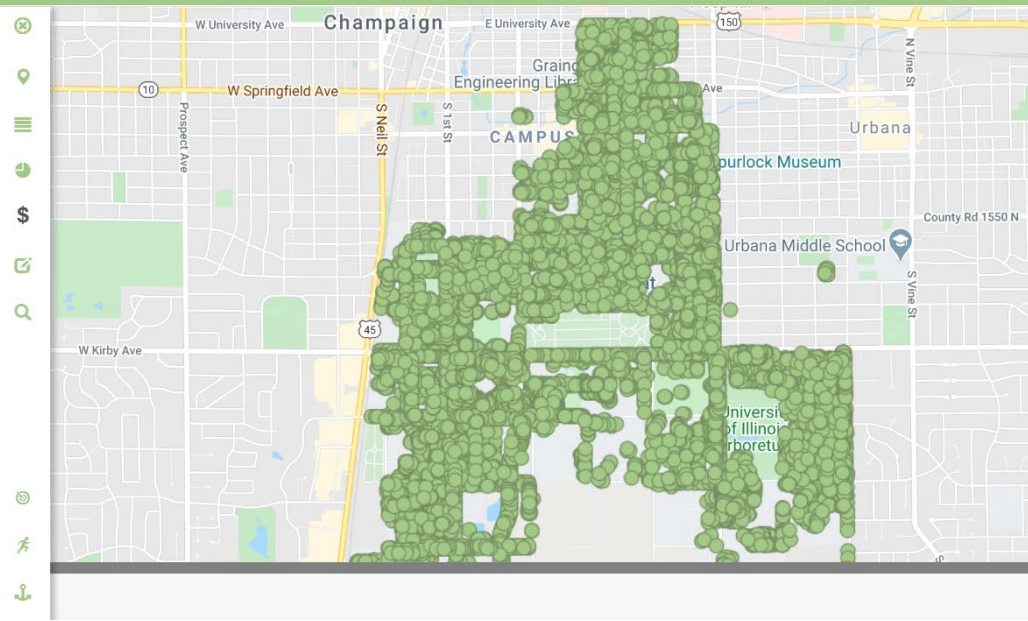
Greenhouse Gas Benefits
\$44,470.70
2,981,958.41 lbs CO₂ avoided
3,219,356.26 lbs CO₂ sequestered

Water Benefits
\$473,314.83
17,465,491.95 gallons saved

Energy Benefits
\$429,147.16
2,029,847.56 kWh saved
280,695.64 Therms saved

Air Quality Benefits
\$66,934.61
21,007.25 lbs pollutants saved

Property Benefits
\$451,752.20
1,867,386.84 leaf surface area (sq.ft.)



TreeKeeper calculates ecosystem services information and displays every tree in a searchable 'google maps' format

TreeKeeper

sycamore

Site Information

sycamore, Americ

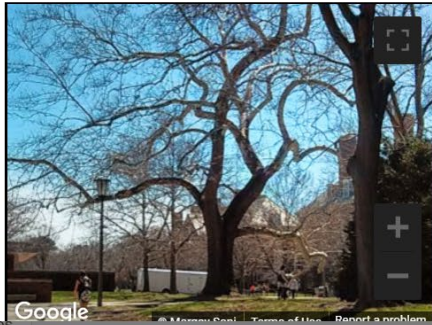
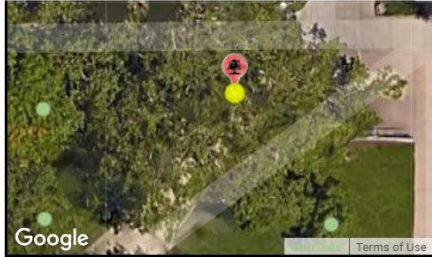
Gregory Hall

Site ID	12381
Species	sycam
Multi-stem	No
DBH	54
Tree Trail	Quad T
Donor	

Sites



Highlighting trees that match the search term 'sycamore'

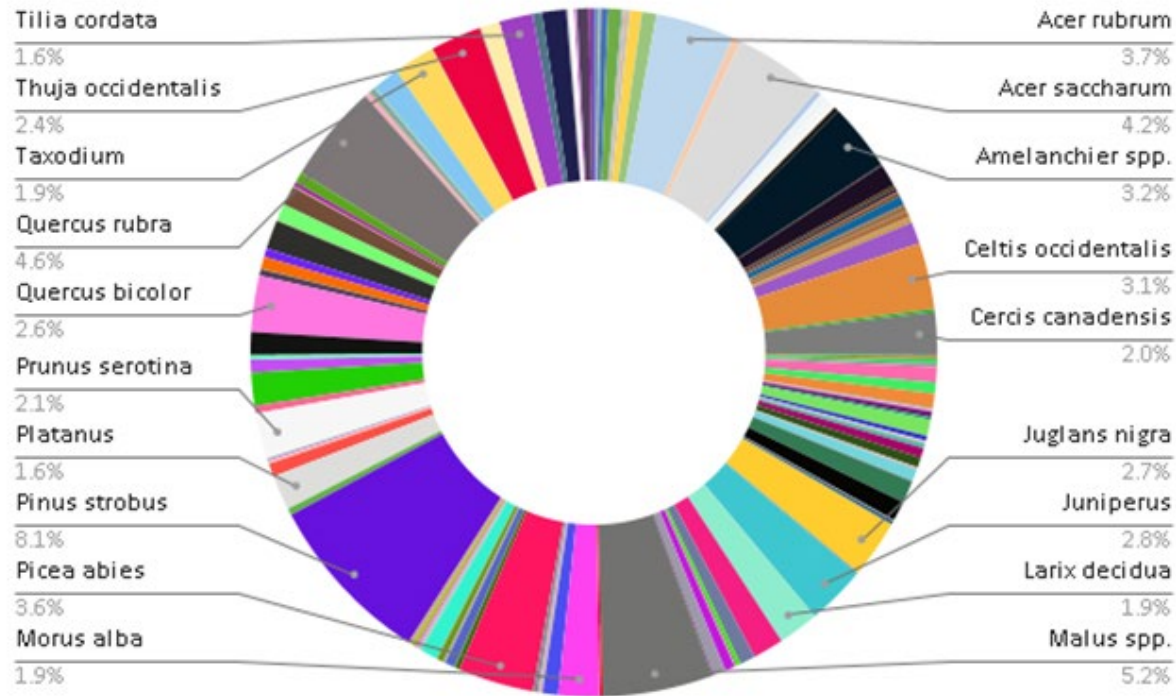


Trees	
Nearest Building Gregory Hall	X 1013815.24461326
Y 1252289.3242367	Site ID 12381
Donor Tree N/A	Donor
Tree Trail Quad Tree Walk	Species <small>w</small> sycamore, American (<i>Platanus occidentalis</i>)
Multi-stem No	DBH 54



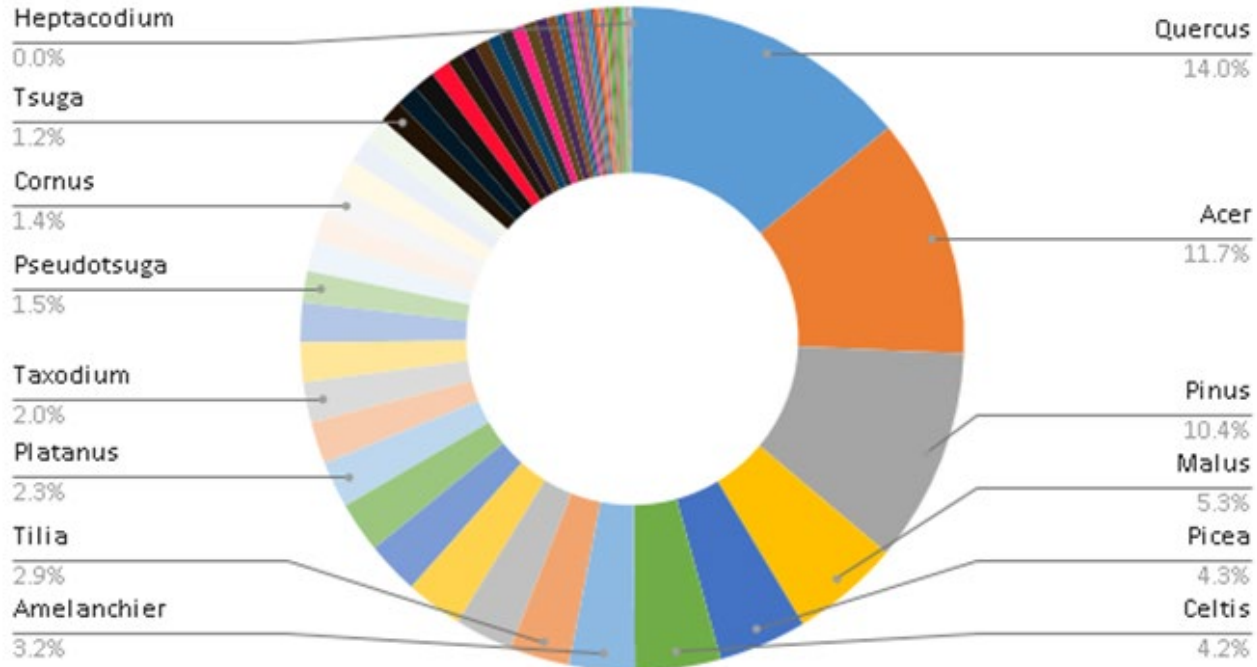
TreeKeeper pulls up information about any specific tree including DBH, risk assessment, and photos.

Tree Diversity by Species



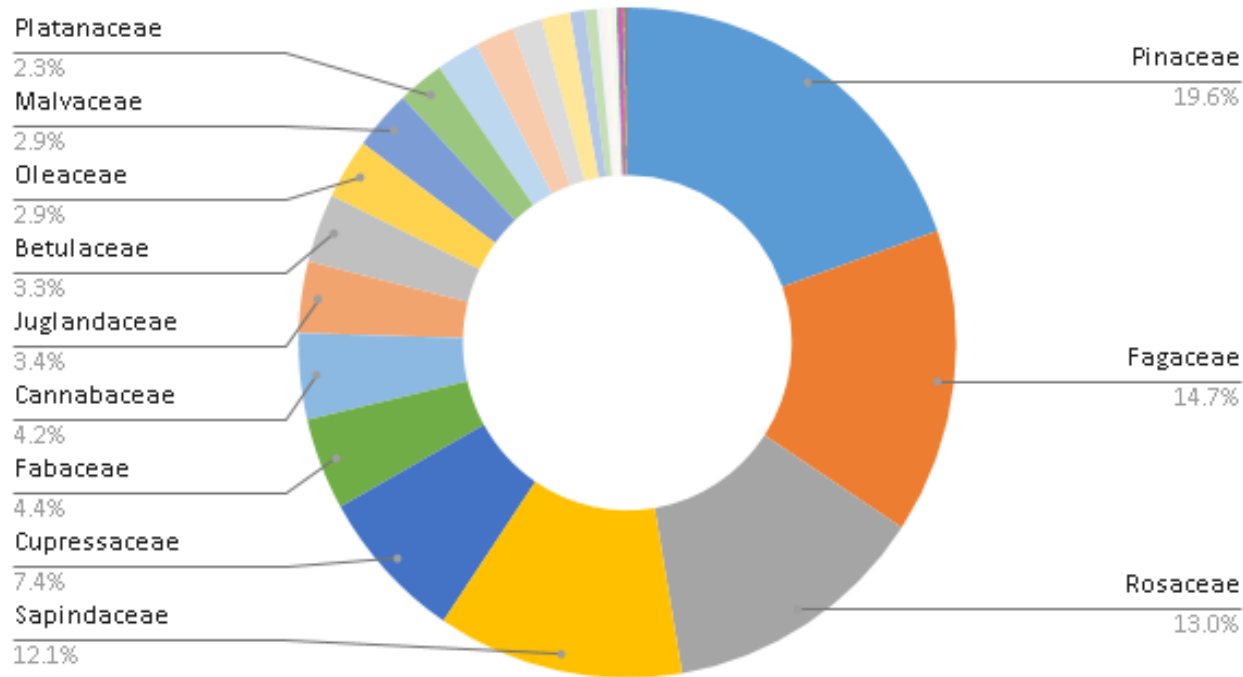
187 different species represented on our campus. The most common species (8.1%) is eastern white pine (Pinus strobus).

Tree Diversity by Genus



74 unique genera on campus. Quercus (oak) is the most common at 14%.

Tree Diversity by Family



38 families represented across campus. The most common family is Pinaceae (19.6%) which includes cedars, firs, hemlocks, larches, pines and spruces.

Diversity Summary

- Total number of trees on campus: 16,543
- Our diversity ratio is 8-14-20 (Yay! This is under 10-20-30!)
- 187 species, 74 genera, and 38 families are represented
- *Fun fact:* 1,867,387 sq. ft. of leaf surface area

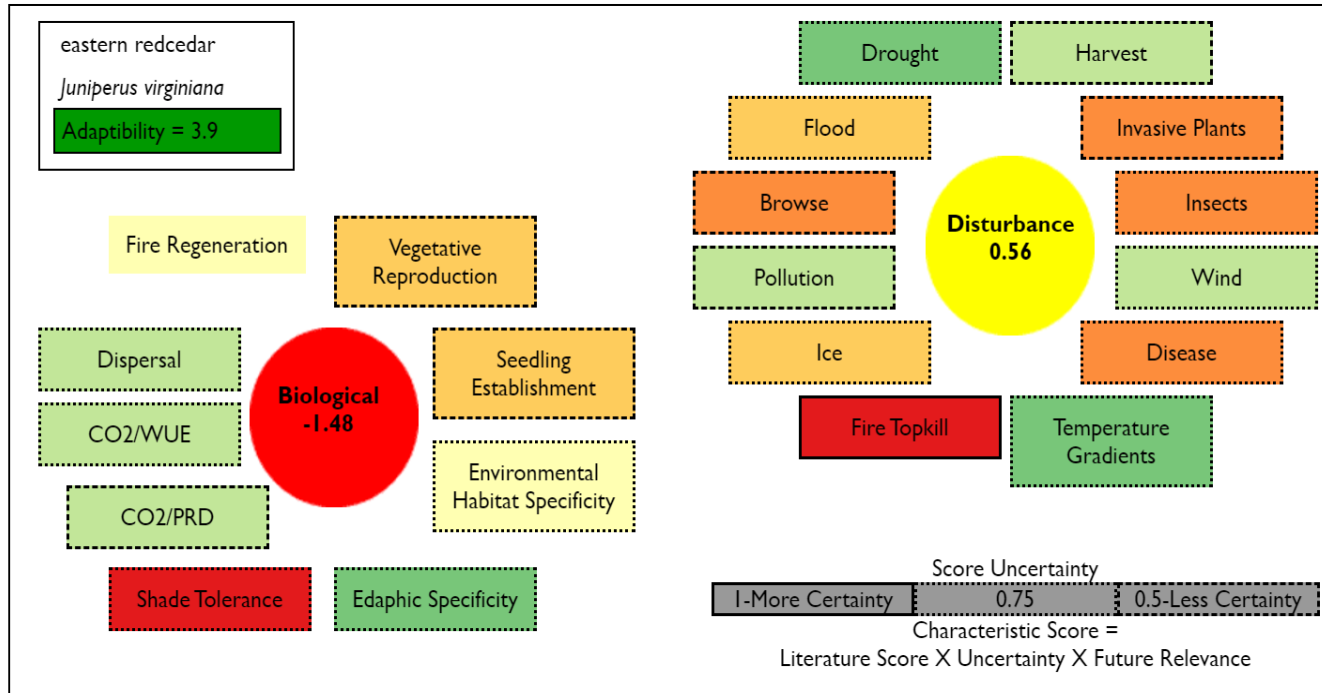


Planning Ahead



- Maintaining 10/20/30 ratio of diversity
 - Or, improving: more recent research suggest a more stringent diversity benchmark
- Climate resilience
 - Identify regional trends in tree health
 - USDA Forest Service tree ATLAS predicts tree vulnerability
 - Historical success on site and maintenance needs
- Aesthetic value
 - Preserving the beautiful appearance of our campus
 - Comfortable green environments promote productive and peaceful communities

Forest Service Tree Atlas



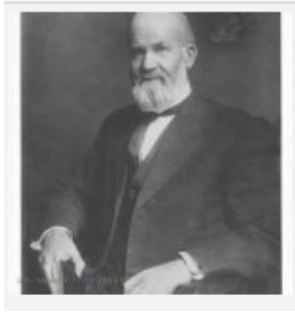
Bardeen Engineering Quad



Main Quad

“The temperature is equalized ... the air is modified as to the amount of moisture, especially in dry times in summer. The moisture of the soil is better distributed. ... The running streams are better sustained and also less subject to floods ... heavy winds are checked.”

- Thomas Burrill



Thomas Burrill,
courtesy of University
of Illinois archives



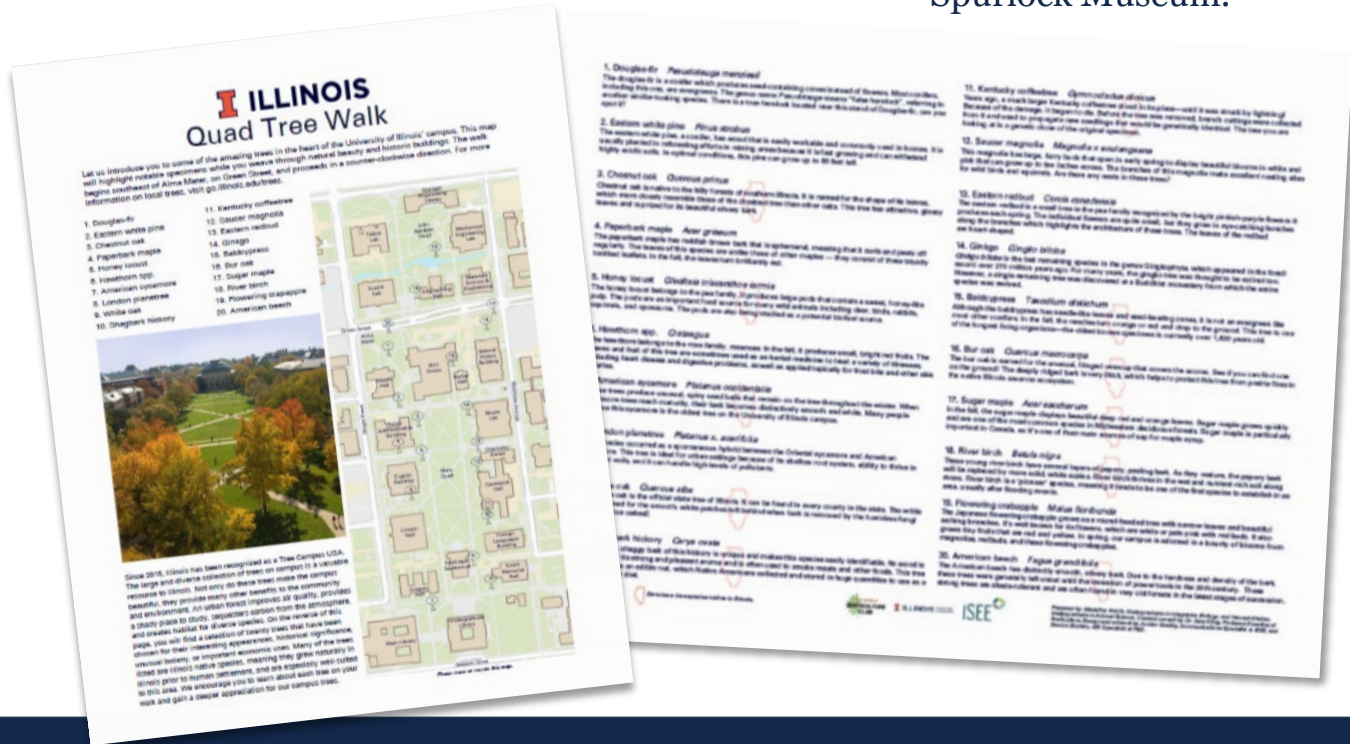
Takeaways

- A diverse and healthy urban forest contributes to a comfortable environment and confers many ecosystem services
- Our campus currently complies with the '10-20-30' diversity rule and we will aim to maintain or improve our ratio
- Urban forests are dynamic and anticipating change is a critical management strategy

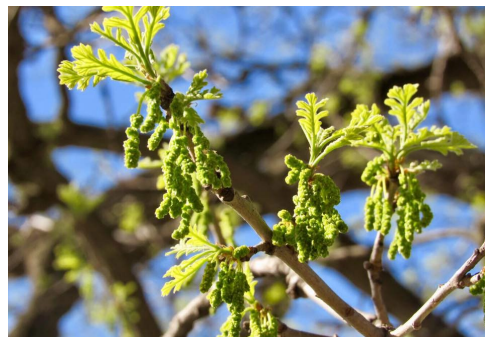
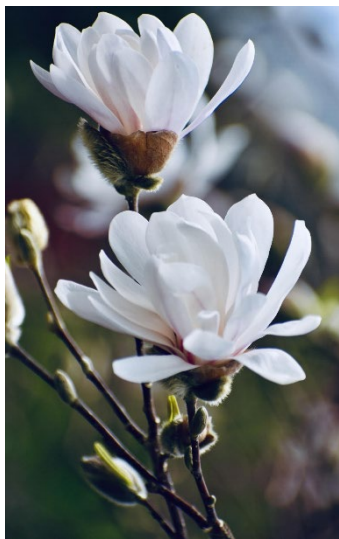


Quad Tree Walk

Get to know the trees around the Quad! Maps are available for free at the Spurlock Museum.



Questions



Q&A WITH CAMPUS TREE CREW

Dustin Reifsteck, Tree Surgeon
Sky Drewes, Tree Surgeon
Ryan Welch, Superintendent of Grounds





Q & A WITH ARBORISTS

I have a line of evergreens in my backyard and the bottom half of three of them have been losing their needles over the past year. Could it be the lawn care products (weed and grub control)? Something from an old satellite dish or clothes line sitting back there? I love these trees and don't want them to die off. Anything I can do to help them re-grow their needles?

There are a lot of different trees that are part of the evergreen family. Without knowing the specifics, it could be from weed control damage. If it is a spruce, then it could be needle cast. Campus is losing several spruce trees to the needle cast disease. We recommend having a certified arborist do an assessment.



Q & A WITH ARBORISTS

Last spring/summer, on north Highcross Road (about one mile past the interstate), I noticed the trees along the road looked like their branches had been ripped off, literally. It was obvious they were trimmed but why so violently? Along the road it's as if they had a backhoe come by and just rip the branches off. They were all splintered and broken. I've seen trees trimmed before but this was something all together different. I sure hope it wasn't just to "save" time in trimming them, the poor trees. FYI: I only noticed this on the country roads around Urbana.

Highcross Road is not part of the University campus, so it is not an area we are directly involved in. We noticed this as well, but we aren't aware of what specifically is happening there. It may have been part of a utility project.

On campus, we trim our trees using the best management practices, as certified arborists. We actually sign a code of ethics saying we are performing the work to the tree's best interest.

COMMUNITY ANNOUNCEMENTS





RED OAK RAIN GARDEN

THE RED OAK RAIN GARDEN
HAS TWO CAMPUS TREES:

RED OAK & SYCAMORE

Last Fall, The RORG Team
celebrated the trees' 100th
Birthdays.

JOIN US on Facebook,
Instagram and Twitter to
learn more about our trees
and plants.

Learn more: redoakraingarden.org **Follow us:** @RainGardenUIUC



“Smile and say, TREES!”: Arbor Day Celebration Video

For Arbor Day, the Urbana Park District, Wiley Elementary School and the City of Urbana are putting together a video to share with our community.

- *Before April 19th, take a photo with a tree*
- email it to ArborDayUrbana2020@gmail.com
- You can make a sign for your tree, decorate it, pose next to it, whatever you want.
- Then on April 24th, watch the video on Urbanaparks.org

[https://www.facebook.com/
events/3104423876237096/](https://www.facebook.com/events/3104423876237096/)



<https://cuearthday2020.wixsite.com/event>



**C-U on
Earth Day
2020**

**WED,
APRIL 22
@ NOON**



2020 Charles David Keeling Lecture

Climate Science in a Fact-Free World

"How can good science
inform sound decision-
making?"

Monday, April 20th at 4pm

Zoom ID: 722 887 599

Pass: Keeling

RSVP to the iSEE Facebook Event

ILLINOIS CLIMATE ACTION PLAN 2020

CELEBRATION AND FORUM

APRIL 23 | 12:30-1:30 PM

FACEBOOK LIVESTREAM



CELEBRATE

SUSTAINABILITY.

CELEBRATE

A PLAN TO BE PROUD OF.

