2018 Progress update on Goals and Targets identified in the campus Tree Care Plan, developed in 2016 for Shawnee State University

The following black bulleted text reflects the campus tree care plan developed and submitted for initial recognition of Shawnee State University as a Tree Campus USA in 2016. The Blue text below each bullet summarizes the progress made during 2018.

1. Goals and Targets

• The perennial target for the SSU campus will be to increase the diversity of tree species on campus while also increasing the canopy coverage. A complete inventory of all campus trees began during 2011 with the ultimate goal of developing an interactive map that can be used for management and education. A 'dot map' and corresponding index was developed as part of an undergraduate research project by a student. Every other year (e.g. 2013, 2015) the biology Field Methods class conducts a random sample of campus trees and records vital statistics such as height and DBH. These data allow for monitoring of long-term campus tree growth and health. The current species list for all woody plants on campus is attached as an appendix at the end of the tree care plan.

During fall of 2017, the Field Methods class once again conducted a sample inventory of the campus trees to update the GPS coordinates and associated database. Growth, condition, abnormalities, additions, and removals of trees were noted and recorded. As indicated in last year's update, a new numbering/ labelling system for all trees on campus was implemented during 2018 using durable, plastic tags. This will allow more reliable data to be collected and better communication regarding specific trees and their health/ care. Further, all data was digitized by the Geographic Information Systems class into ArcMap software to create a new GIS linked to the database. This new system will allow more precision in monitoring of tree health and guide planning efforts in the future. A project is planned for spring 2019 to collect, record, and incorporate soil (texture, nutrients, pH) data into the database. This will be used to further guide future planning.

• SSU is expecting to release its next Campus Master Plan for the future of university planning in 2017 (last revision in 2008). The campus tree team is dedicated to promoting the campus tree plan to be incorporated as an integral part of this guiding document for the future of SSU, especially regarding tree maintenance, planting, removal, and protection. This has the potential to influence the landscape of SSU with regard to trees for decades.

SSU continued implementing several aspects of the university's Strategic planning process, including the new Facilities Master Plan. The campus Tree Care Plan developed by the Tree Care Team was provided to leadership involved in this process. Further, as part of new administrative restructuring, a new University-wide committee for Facilities and Technology was formed, including two members (one faculty, one facilities/ administration) of the campus tree care committee.

• During each offering, the Practical Horticulture class will actively promote health of campus trees through pruning efforts. This will serve as an authentic, experiential learning experience for SSU students to become interested in urban and landscape forestry and tree maintenance.

These practices will continue to be integrated into the curriculum of applied science courses at SSU.

In spring of 2018, 32 undergraduate students enrolled in the Practical Horticulture course. As a necessity to complete the course, students must participate in several service learning activities, including starting tree seedlings, tree planning, and tree pruning. Further, the Department of Natural Science revised the curriculum of their B.S. Biology degree to include the Practical Horticulture course as a Botany elective for the degree (formerly, it was only a general biology elective). The course also counts under the General Education Program, which applies to majors across campus. This course was also included in the curriculum of the new Botany Minor and Certificate in Sustainable Landscape Management, which began being offered in the 2018 academic catalog.

- A perennial goal of the SSU facilities department and tree care team is the reduction of nonnative, invasive and/or noxious tree species from the campus grounds. As possible, invasive species which are already in place as landscape trees will be phased out and replaced with trees to encourage overall species and ecological diversity.
- In recent years, SSU has added many new properties to its holdings. Many of these properties
 are vacant or otherwise overgrown. Continued efforts will be made to further reduce invasive
 vegetation on campus owned lots (including, but not limited to, Amur Honeysuckle, Tree-ofheaven, and multiflora rose) through the use of herbicide treatment regimens and manual
 removal, as necessary. The campus tree inventory will be updated to reflect changes and
 additions on an on-going basis.
- To combat the impact of Emerald Ash Borer, efforts have been made and will make efforts to
 continue to treat (using Imidacloprid) the three mature White Ash trees on campus. Future
 treatments will include expanding the regular regime to include any smaller ashes, fringe trees,
 or lilacs (all Oleaceae) on campus.

Vigilance and monitoring of potently affected species has continued with treatment applied as necessary. Additionally, Clearwing Lilac Borer was identified as damaging several Fringe trees during the previous winter. As the standard systemic treatment used for EAB is known to be ineffective (and ill-advised for a flowering species due to pollinators), a degree day model was used to predict emergence of adult moths and serve as an action threshold for residual pyrethroid treatments to be applied to woody stems. The prediction was developed as part of a class project of the Applied Biostatistics course. The facilities crew utilized the prediction and executed a well-timed treatment. No evidence of further infestation was detected throughout the remainder of the growing season.

- To mitigate the effects of storm water runoff, a settling basin has been constructed behind a unit of university owned housing and the soccer complex. Native vegetation (including wildflowers, shrubs, and trees) have been encouraged to grow in this area. Increased vegetation would have many benefits to reduce erosion and runoff of contaminants into the stream.
- A concerted effort will be made to add new species to the campus landscape which will augment the trees currently in place with respect to ecological, historical, and cultural significance.

During 2018, the following species were added to the campus tree list due to plantings: Trifoliate Orange, *Citrus trifoliata*. The committee is currently exploring options to add the following species

early in 2019: Hackberry (*Celtus occidentalis*), Hoptree (*Ptelea trifoliata*), American Chestnut (*Castanea dentata*), Umbrella Pine (*Sciadopitys verticillata*), and Pitch Pine (*Pinus rigida*). The committee received an on-going financial commitment (donation from former University President, Dr. Jim Chapman), which will be utilized to support these efforts. The following species were propagated by students in the spring 2018 Practical Horticulture course: Post Oak* (*Quercus stellata*), Willow Oak* (*Quercus phellos*), Southern Red Oak* (*Quercus falcata*), Shumard Oak (*Quercus shumardii*), Peach* (*Prunus persica*, heirloom cultivars), Pecan (*Carya illinoiensis*), Buttonbush* (Cephalanthus occidentalis, PawPaw* (*Asimina triloba*), Butternut* (*Juglans cinerea*), and grafted Apple* (*Malus pumila*, c.v. McIntosh, Jonathan). [*indicates new species to be added to campus tree inventory; seedlings are currently being held in newly constructed tree nursery before planting throughout campus].

• We also hope to include additional interested parties as members of our campus tree care team during the following calendar year.

Following retirement in 2017, long-time campus tree advocate, Dr. Bob Deal, moved from the area, but continued to assist the SSU Tree committee as a community member. He has since decided to decline participation in the future due to travel considerations. His dedication to campus trees has been missed. Meanwhile, Mr. Brad Bergefurd of OSU Extension and Dr. Erik Larson (SSU Geology), have joined the committee. Student interest in campus tree initiatives has continued to increase with many students participating in the Tree campus event, Arbor Day celebration, and outreach events for the public regarding trees (i.e. Science in the Park, Evening of Science). Further, greater collaboration with the Portsmouth Tree City board has increased. The two groups co-hosted the 2018 SE Ohio Tree City/ Tree Campus recognition event and a tree giveaway/ Arbor day celebration. A member of the SSU committee also became a Commissioner on the City Tree board, and student members of the SSU committee frequently attend city meetings. This work is poised to continue with great strength in 2019.

2018 SSU Campus Tree Advisory Team Members

Facilities:

- o Butch Kotcamp, Director of Facilities, SSU
- Murray Smith, Grounds Manager/ Utility Worker, SSU
- o Terry Puckett, Utility Worker
- o Travis McKenzie, Utility Worker
- o Rob Gregory, Utility Worker

Faculty:

- o Dr. Logan Minter, Assistant Professor of Biology, SSU
- o Dr. Andrew Napper, Chair, Dept. of Natural Sciences, SSU (through spring 2018)
- Erik Larson, Professor of Geology (beginning spring 2018)

Students:

- o Tyler Sherwood, Student representative, SSU
- o Erika Proffitt, Student representative, SSU

Community:

- o Chris Bedel, Director, Edge of Appalachia Preserve
- o Dr. Bob Deal, Professor Emeritus of Biology, Dept. of Natural Sciences, SSU (ending Dec. 2018)
- o Brad Bergefurd, Extension Educator, Scioto County / South Centers, Ohio State University

SSU to host Southeast Ohio Tree City and Tree Campus USA Awards presentation

PORTSMOUTH, Ohio – Shawnee State University will be hosing the 2018 Southeast Ohio Tree City and Tree Campus USA Awards presentation at 10 a.m. on Thursday, April 12 in the Sodexo Ballroom of the Morris University Center.

SSU has also been awarded the 2017 Tree Campus USA recognition. The Tree Campus USA program honors colleges and universities for promoting healthy trees and engaging students and staff in the spirit of conservations. SSU met five of the core standards required by the organization, including the estab-

lishment of a tree advisory committee, evidence of a campus tree-care plan, dedicated annual expenditures for the campus tree program, an Arbor Day observance, and the sponsorship of student service-learning projects.

"It is very exciting to be hosting the event on campus this year. It allows us to showcase the tremendous effort put forth by SSU with regard to trees and facilities," said Logan Minter, Visiting Assistant Professor of Biology at SSU.

The city of Portsmouth will also be nationally recognized as a Tree City USA for the 25th year at

the ceremony.

The event will begin at 10 a.m. with a welcome from Honorable Vice President Kevin E. Johnson and SSU President Rick Kurtz. Presentations of the award will begin at 1:15 p.m., followed by "Planting of Arbor Day Tree" on SSU"s campus, and will wrap up with tours of SSU's Greenhouse and Greenlawn Cemetery.

For more information about the event, please contact Logan Minter at Iminter@shawnee.edu, or Diana Ratcliff, Portsmouth City Clerk, at dratliff@portsmouthoh.org.



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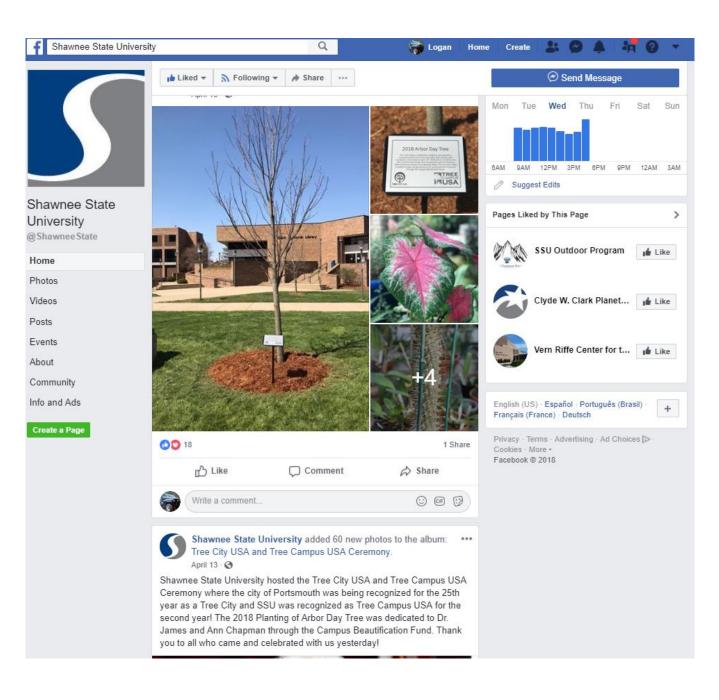
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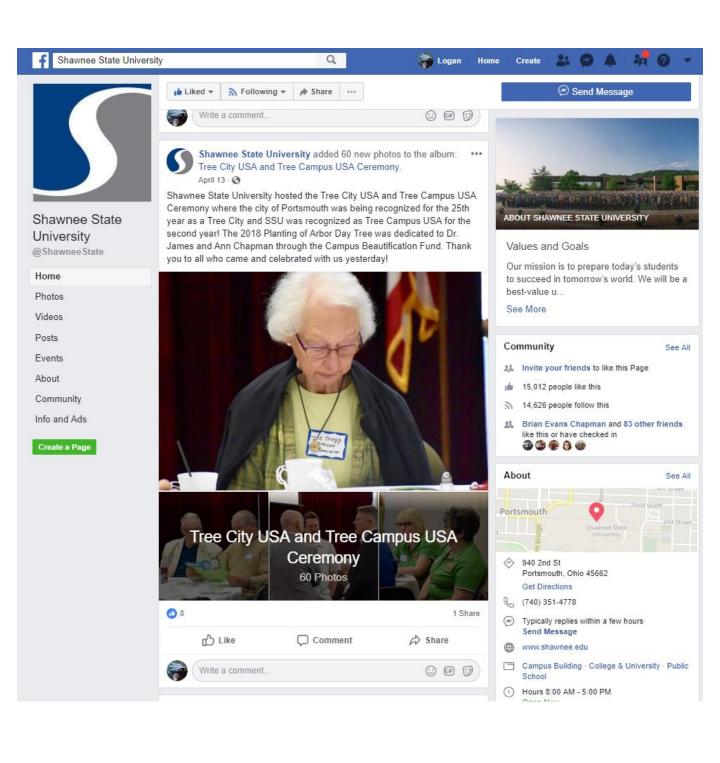
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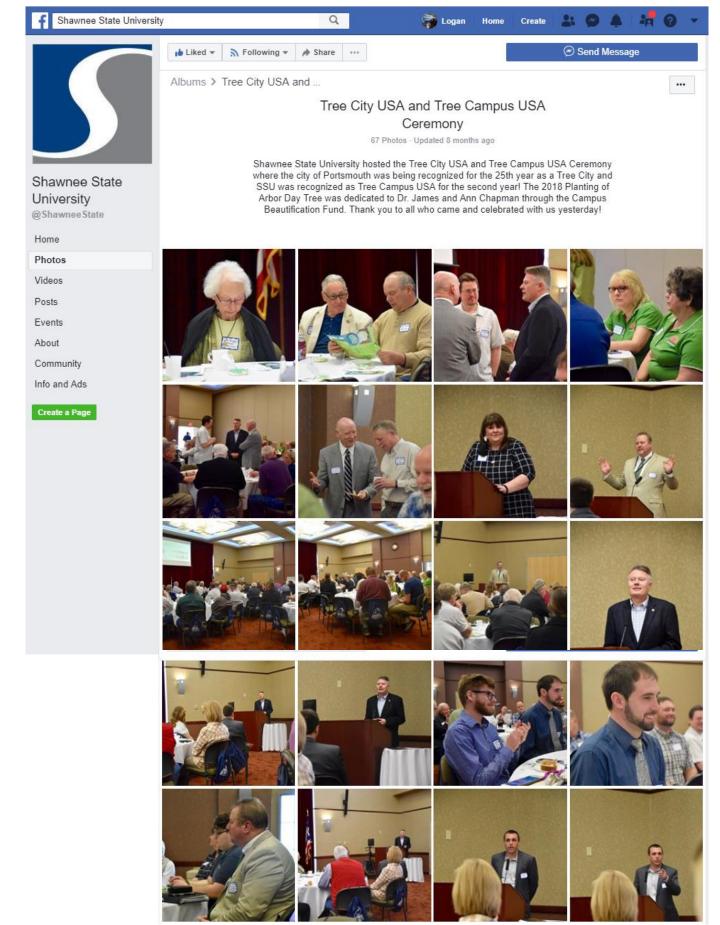
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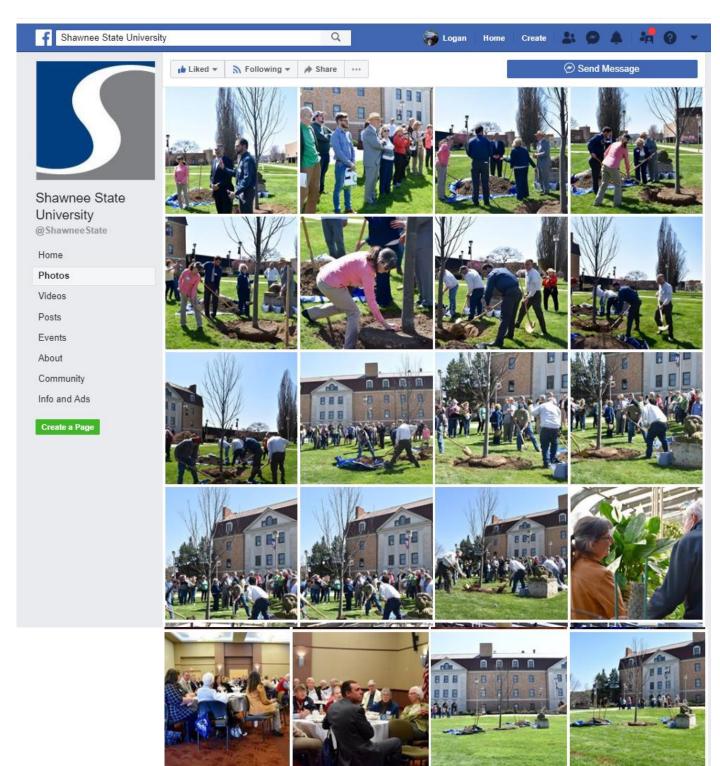


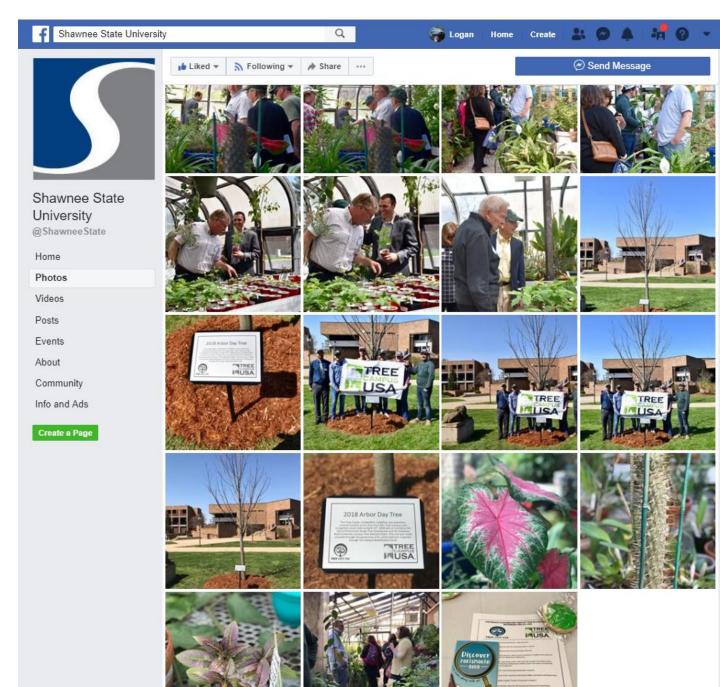














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Arbor Day - Tree City Celebration

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The Portsmouth Shade Tree Commission along with Scioto County Soil and Water Conservation District will be holding its 3rd annual Arbor Day celebration. The Portsmouth Elementary choir will begin the day with the National Anthem along with some songs from their current play. Steve Free and The Drum Circle will also be performing. Lots of vendors, inflatables for the kids, and lots of tree give aways. Shawnee State University students have grown their trees from seedlings and will be handing those out to anyone that would like a tree. Some of our Farmer's Market vendors will also be there.

Come out for an afternoon of fun!

Calendar Date:

Saturday, April 21, 2018 - 12:00pm to 3:00pm Location: Tracy Park 911 Gay Street Portsmouth, OH 45662 United States

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Tree City event proves to be 'a wonderful day'

NFWS



Representatives from Tree Campus USA had a booth set up at Saturday's event.



On Saturday, a Tree City celebration was held at Tracy Park and welcomed the community to partake in Earth Day celebrations. The event featured live music, vendors and informational booths.

Carrie Massie of the Shade Tree Commission spoke on the importar of planting trees. "They give us oxygen, they help with storm water rule off, they're a nice place to gather, planting them around your house provides additional insulation," Massie pointed out.

Massie and Sue Burke helped set up the event in conjunction with K Swords of Scioto Soil and Water Conservation District, who organize the event.

"We have partnered with the Portsmouth Tree Commission, and this our third year with this Tree City celebration. Our goal was to share t seedlings and really just engage the public. We did a farmers marked preview, and just tried to do some fun things for the community. Ther really wasn't an Arbor Day or Earth Day celebration for the communithe city or county for the longest time. We thought it was time to charthat. It's just a wonderful day to get outside and interact with people,' Swords said.

The afternoon event attracted a large crowd that enjoyed the festiviti and nice weather.

Shawnee State University Biol 2253-01: Practical Horticulture Spring 2018, MW 2:00-4:50 pm

Instructor: Logan Minter, Ph.D.

Mailbox: Massie 3rd Floor (Dept. office)

Email: Iminter@shawnee.edu

Phone: (740)351-3486

Office Hours: MW 11 am-noon, TR 10-11am (Massie B28- in Mas 0-30)

Course: Biol 2253-01

Credit Hours: 4 (2 lec. 4 lab), General Education Program Course

Department Secretary: Sharon Messer, (740) 351-3456

<u>Course Description</u>: An introduction to the science of practical horticulture with emphasis on useful skills and techniques related to plant propagation, selection of suitable ornamental plants for the habitat at-hand, planting and maintenance of plants in home, greenhouse and the landscape, fundamentals of landscape design, and basics of insect and disease control.

<u>Learning Objectives of the Course:</u> In addition to serving as an Botany elective course for the B.S. in Biology the course meets scientific reasoning requirements as a GEP lab course via learning activities that require critical analysis of diverse information, applied learning in selected areas of horticulture, and development of a meaningful presentation and learning activity for classmates and instructor. At the conclusion of this course each student should be able to:

- Become familiar with the several specialized fields of horticulture and be conversant with information and skills that a person working in each of those fields must have.
- Learn to recognize and identify the structural and functional components of horticultural plants and distinguish among the several growth forms of these species.
- Identify major groups/ types of select horticultural plants and describe basic requirements and methods for their culture, propagation, maintenance and marketing.
- Learn and use commonly accepted techniques and approaches to: growing horticultural plants and trees from seed, asexual propagation, growing of greenhouse and bedding plants, maintenance of selected indoor and outdoor horticultural species, landscape planning and installation of landscape species, and pruning of woody ornamentals.
- Gain comprehension of the basics of plant pathology and pest management as these relate to selected areas of horticulture and arboriculture.
- Develop and direct a class learning activity on a selected (instructor approved) topic drawn from one of the horticultural specialties (this to include an introductory presentation that uses at least one form of visual support.
- Demonstrate efficient use of scientific and technical equipment (i.e., microscopes, greenhouse supplies, pruning and spray equipment)
- Practice and demonstrate improved critical thinking skills relative to botanical study

Instructional Materials:

Required Text: There is no formal test to be purchased. Course will make use of multiple free and open access resources provided through the cooperative extension services and other trade organizations.

Field supplies:

- Hand lens (e.g. 10x Loupe) and small pocket knife (useful)
- A small field notebook to record observations
- Clothing/gloves and shoes suitable for field work

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SSU Upward Bound Math Science students build 'Tree Nursery' on campus





Students enrolled in the upward bound Math and Science Program volunteered to build a large raised-bed to hold small trees until final planting. Most of the trees were grown from seed by SSU students in the Practical Horticulture class during spring semester, 2018. The seedling will be able to grow in the nursery bed for a few seasons, until they are large enough to be transplanted to final locations throughout campus.



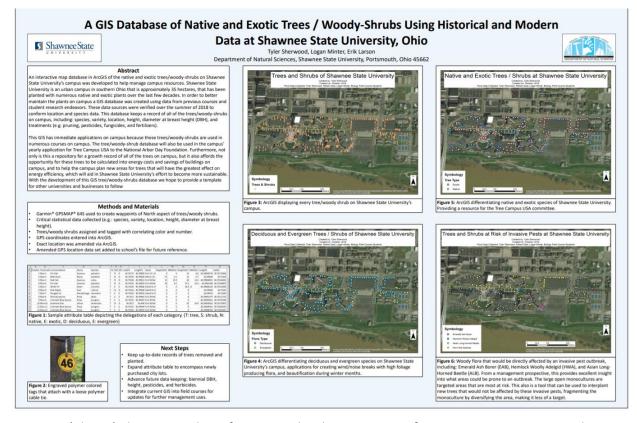






GIS Update of Campus Tree Inventory

During spring 2018, the Geographic Information Systems (GIS) class updated the campus tree inventory map by transferring the data into ArcMap GIS software. The management implications of using such a system was presented during the 2018 SE Ohio Tree City/ Tree Campus recognition event by Dr. Logan Minter (Dr. Erik Larson and Dr. Bob Deal, co-authors).



Poster (above) showing utility of new GIS database system of campus tree inventory. This poster was presented at the national meeting of the Geological Society of America by SSU Campus Tree Committee student member, Tyler Sherwood. As part of Tyler's undergraduate research project, he ground-truthed all GPS coordinates for all trees on campus and tagged each tree with durable, plastic identification tags.

Plans to add further data to the GIS are in development for 2019. The system will also be revised to allow easier access to the facilities crew to record any management information directly into the system. Members of the committee have also been approached by community members to expand the use of the technology to historically and otherwise significant trees throughout the city (particularly in the Greenlawn Cemetery), ultimately building a city-wide, interpretive tree trail accessible through smartphone technology.