University of Minnesota Twin Cities Campus Arboretum: Significant Trees




Spring 2020

University Arboretum Final Report

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Overview

In the strictest sense of the word, an arboretum is a botanical collection of trees. While the modern concept of an arboretum has been greatly expanded to include plants of all kinds in a botanical garden, trees are still probably the first thing that springs to mind when considering the components of an arboretum. As such, trees will certainly be a crucial and important part of the University of Minnesota Twin Cities Campus Arboretum and deciding which ones to designate as significant enough to receive official arboretum status is a large and important task. While most would probably agree that trees that are especially large, old, prominent, or unique should make the list, different people and groups will also define significance in different ways. For example, Native Americans or other cultural groups may see certain trees or species as significant for spiritual reasons or medicinal purposes. As ambassadors of the proposed arboretum project, it fell to us to begin the task of designating and marking significant trees on the Twin Cities campuses and surrounding neighborhoods. We did so according to a set of criteria that was basic but inclusive, and we also recognized that there could be aspects of significance which we may have overlooked. We distributed a survey to solicit further criteria as well to begin the nomination process for trees by members of the campus and neighborhood communities. We created a mapping program to begin marking the location and data for these trees. During the course of this project, we encountered some unexpected difficulties and results, but feel that what we have learned from this will help to streamline the process for future development.

Significance Criteria

Last year's group did an excellent job defining significance, and we felt that their criteria were thorough and inclusive. They gave us a good base from which to make decisions when conferring arboretum status to trees. Following their lead, we defined a tree as significant if it satisfied one or more of the following criteria:

1. Horticultural: A species or variety that is rare or of a very localized distribution, is particularly old or venerable, outstanding for its height, trunk circumference or canopy spread, is the sole individual of species on campus property, or has a significant ecological contribution (soil retention, storm-water collection, etc.).
2. Social: A tree with a unique location or context, is associated with Native American activities, is an important landmark, or has spiritual and religious associations.
3. Educational: A tree that is located in an ideal location for educational purposes or that contributes to the educational landscape.
4. Historical: A tree that forms part of an historic park, garden or town, commemorates an occasion, or is associated with an important event, person, group or institution.
5. Aesthetic: A really great looking tree, or one that exhibits a curious growth form or unusual physical features whether naturally occurring or resulting from human intervention.

Survey and Distribution

While discussing the criteria we wanted to use, we realized that while these five basic categories seem inclusive, there may be something which we are overlooking that those outside of our

cultural group would highlight. We knew we wanted to start soliciting tree nominations from the campus community, so we also decided to include a question about novel criteria beyond the five we listed to see if we got any responses that could expand our criteria list. A link to our survey is provided below, and a list of our questions is provided for further discussion.

Google Forms Survey Link: https://forms.gle/GMcFMmw7RJRxbnVM7

Our survey included the following questions:

1. Which of the listed criteria do you think define a Significant Tree?

2. Beyond the significant tree criteria provided in Question #1, would you recommend any other criteria to identify a tree that is considered significant?

3. Do you have a favorite tree or trees that you feel meet the significant tree criteria (either the ones we've listed or your personal criteria)? What criteria does it fulfill? Check all that apply, including any unlisted reasons you feel make it significant.

4. What type of tree is it (common or scientific name if known)?

5. Where is it located? Address and location description?

6. Height (categories: 0-25, 25-50, 50+ feet)

7. Age (select other if accurately known) (categories: <30, 30-100, 100+, other)

8. Diameter (in) of trunk about 4.5 feet from the ground.

9. Additional notes about the tree: condition, significance, etc.

10. What is your affiliation with the university? (categories: faculty/staff, student, alumni, local resident/community member, other)

We felt that these questions captured the sort of basic information that we were interested in and that would help someone to locate a nominated tree for marking. We attempted to simplify our categories (e.g. for age, height) to make the nomination process easy and non-intimidating.

We distributed the survey to campus groups, neighborhood associations, personal contacts, and class speakers (Table 1). Linked below is a list of groups and contact information. Student group contacts came from GopherLink: (https://gopherlink.umn.edu/organizations?categories=6441). We emailed the contact person for each group or the official club email provided. For community and neighborhood groups, we reached out using a combination of communication methods, each of which is listed below in the contact list, Table 1.

Contact List

Google Sheets Contact List Link:
https://docs.google.com/spreadsheets/d/1Cdii4_zwWx4Ovsb4o4GGeKp_RZSQ5x0a9ABnJU0L3Wo/edit#gid=0

Table 1: Contact list for survey participants

Student Groups	**Contact Info**
Active Minds	aminds@umn.edu
African Student Association	asa@umn.edu
Agricultural Business Club	vater008@umn.edu
American Indian Student Cultural Center	aiscc@umn.edu
American Society of Landscape Architects - MN Student Chapter	tous0086@umn.edu
Asian-American Student Union	asu@umn.edu
Black Student Union	bsu@umn.edu
Boundary Waters Campus Activists	dierk049@umn.edu
Cambodian Student Association of MN	csam@umn.edu
Chinese American Student Association	casaminnesota@umn.edu
Council of International Graduate Students	cigsumn@umn.edu
Crops and Soils Club	barth451@umn.edu
Disabled Student Cultural Center	dscc@umn.edu
Ecology Club	eebers@umn.edu

Egyptian Student Association	esauofm@umn.edu
Energy and Environmental Policy Club	eepc@umn.edu
Environmental Student Association	ea2534@umn.edu
Ethiopian Student Association	esa@umn.edu
Forestry Club & SAF Student Chapter	fclub@umn.edu
Fisheries and Wildlife Club	fwcbclub@umn.edu
Graduate Students of Color Alliance	gsoca@umn.edu
Hmong Minnesota Student Association	hmsa@umn.edu
Indian Student Association	indians@umn.edu
Japan Student Association	jsa@umn.edu
Korean Student Association	ksa@umn.edu
Lao Student Association	lsa@umn.edu
Latino International Student Association	lisa01@umn.edu
Malaysian Student Association	persisma@umn.edu
Marine Biology Club	mbclub@umn.edu
Middle Eastern Student Association	mesa@umn.edu
Minnesota Urban Studies Student Association	and05231@umn.edu
Minnesota-Mongolian Student Association	mongol@umn.edu
Minorities in Agriculture, Natural Resources, and Related Sciences at the U of M	manrrs@umn.edu
Muslim Student Association	muslimsa@umn.edu
Mycology Club	umnmycology@gmail.com
National Organization for Women at the U of M	umnnow@gmail.com
Pakistan Student Association at the U of M	pakistan@umn.edu
Persian Student Organization of Minnesota	psom@umn.edu
Philippine Student Association	psa.umn@gmail.com
Philosophy Club	Phiclub@umn.edu
Plant Pathology Graduate Student Organization	ppsoumn@umn.edu
Queer Student Cultural Center	qscc@umn.edu
Singapore Student Association	sgsa@umn.edu

Somali Student Association	ssa@umn.edu
Student Organization of Caribbean Americans	soca@umn.edu
Taiwan Student Association	tsa@umn.edu
Thai Student Association of Minnesota	thaisa@umn.edu
The Biology, Society, and Environment Club	bsec@umn.edu
Tibetan American Student Association	tasa@umn.edu
Tree Ascension Group	tag@umn.edu
Turkish American Student Association, MN	tasamn@umn.edu
University of Minnesota Geological Society	umngeology@gmail.com
Vietnamese Student Association	vsa@umn.edu
Neighborhood Groups	
Cedar-Riverside Community Council	No email available - Phone number: 612-338-5578
Marcy-Holmes Neighborhood Association	Facebook
Saint Anthony Park Association	info@sapcc.org
SE Como Improvement Association	secomo@secomo.org
University Affiliated Personal Contacts	
Colleen O'Connor	coconnor@umn.edu
UMN Landcare	landcare@umn.edu
Personal friends	Various

Survey Results

We got 10 responses to our survey. Seven identified as faculty/staff, two as students, and one as an alumnus (Figure 1). Most respondents (8/10) felt that horticultural, social and aesthetic criteria were most important in defining a significant tree. Seven felt historical aspects were important, and five felt that educational aspects made a tree significant. One respondent also

suggested that we add “habitat for birds, insects, and animals” as a criterion. Another mentioned food (specifically the apple trees in their neighborhood) and shade trees. All respondents nominated a tree, with 9/10 noting its aesthetic qualities as a reason for nomination. Seven also noted the horticultural significance of their tree. Five noted its educational or social importance, and two noted historical importance.

Link to Data/Responses for Nominated Trees:

https://docs.google.com/spreadsheets/d/1hHdsTcLEc9kDXOSbrLfkmVzp1J0eX8S-v0EoajhJEek/edit#gid=0

Figure 1: Respondent affiliation with the university of Minnesota

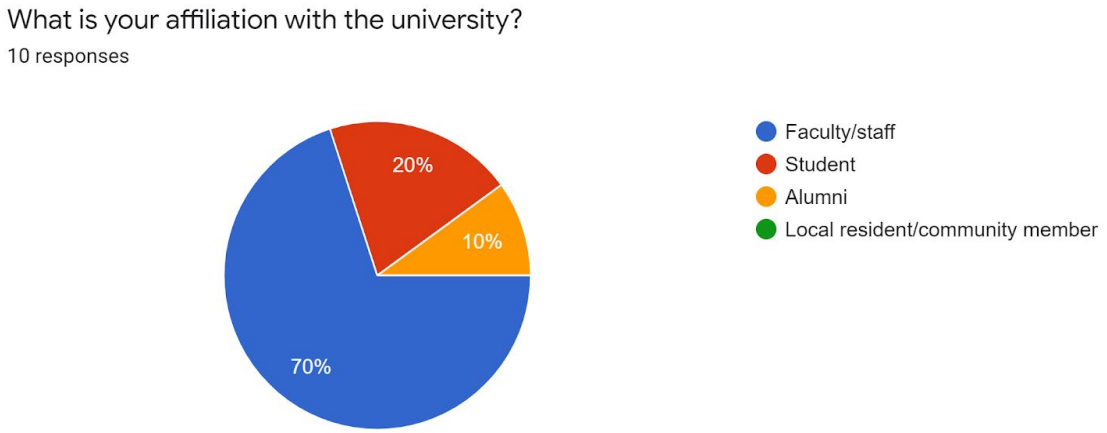


Figure 2: Respondents selected criteria that define a significant tree

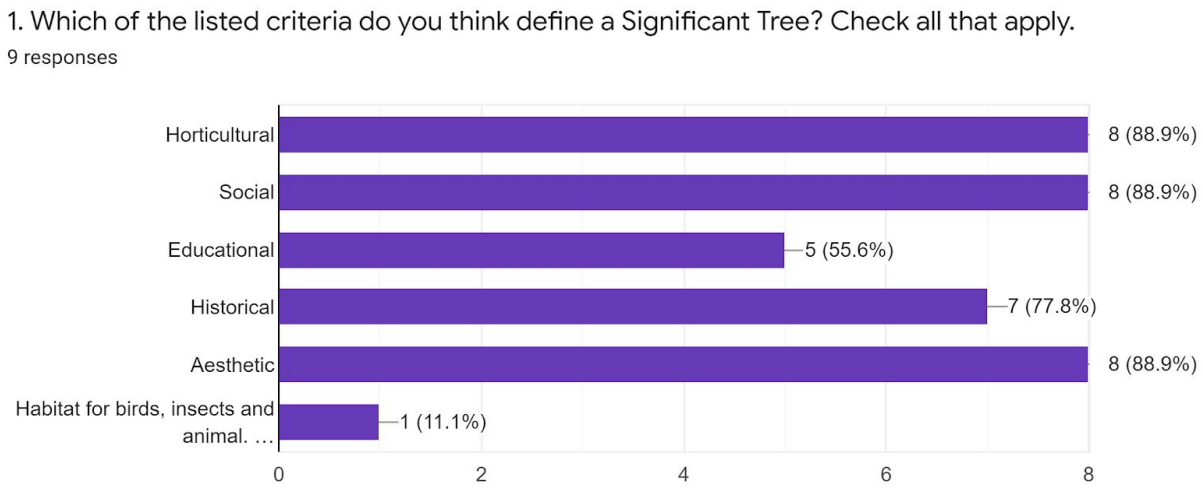


Figure 3: Respondents criteria utilized for evaluating a trees significant

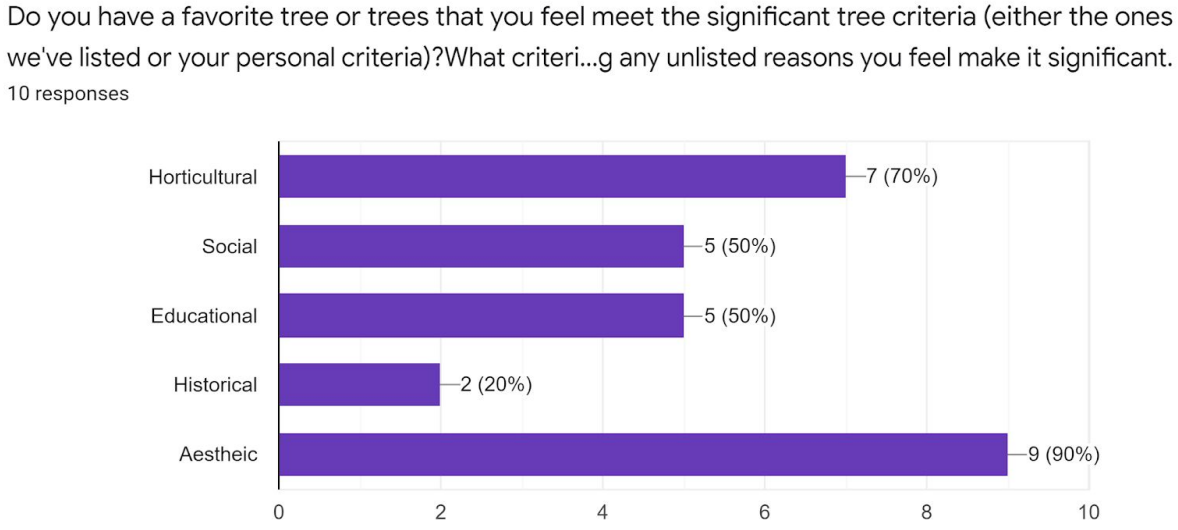


Table 2: Additional notes about the respondents significant tree

Additional notes about the tree: condition, significance, etc.
Large specimen for species.
Very good condition, good form, well protected. Transplanted from Eastcliff residence in 2017
old huge wide beautiful. a storm took out a big part of it about 7-8 yrs ago
The location on the hillside and the low branching are what make this tree special.

Huge root flare and wide crown.
Nick you know more about it than me I just think its pretty.
Very unique species for area. Growth habit due to proximity to building provides great educational opportunities.
Very Old, has survived lots of changes in the area
This tree is on the boulevard for construction of a new student apartment building. The developer arranged for the tree to be saved in the construction plans.

Discussion of Survey Results

It was unfortunate that we only got 10 responses to the survey, and there could have been several reasons for the low response rate - some of which may be able to be mitigated in the future, and some that were out of our control.

Timing and Availability

Having the survey available for a longer period of time may have been useful - we only had it open for three weeks. Starting communications with student groups and community associations earlier may have helped. We relied mainly on emails and Facebook messages for distribution, and while this was easiest and should be fairly effective in theory, there was no guarantee that the contact person for a student group was willing or able to pass it on to their members. If University Policy allows, it may be more effective if the survey could be sent out to all members of a department directly. For example, if the email list for the forestry department, horticulture department, etc. could be utilized.

Additionally, we realized following up with the groups contacted may have greatly increased our survey response. Reminding all groups in a follow up email or message that the survey has been

sent out and that there is a finite amount of time left to make contributions would likely be very beneficial.

Covid-19

It is also extremely likely that the Covid-19 crisis, the University's response, and the general upheaval and uncertainty of this semester impacted the reach of our survey as well as the ability and willingness of people to fill it out. With the University's transition away from in-person instruction, the cancelling of group meetings, and students moving off campus, it is very likely that this survey was low priority and was forgotten or buried in email inboxes. Student groups who may have been amenable to responding were probably not meeting. This also eliminated our ability to approach student groups directly at regular meetings. Likewise, most campus offices, departments, and nearby businesses were shut down or greatly reduced in operations. While regrettable for our project, it is understandable that our tree survey was not a top priority for most people. When life returns to something more closely resembling normal, we would encourage future arboretum groups to contact these student and community groups again.

Accessibility/Relevance

Although we tried to make our survey simple and accessible, it is also possible that people were intimidated by having to name a species (although that was optional) and estimate height, age, etc. Perhaps some would-be respondents could not be bothered. We also discussed the concept of plant blindness, which is the tendency of people to ignore or underappreciate the flora around them. Trees and plants may just be part of the background for many - present in the landscape, but not actively thought about or valued in particular. We discussed how this might make

nominating and describing specific trees difficult, and perhaps even harder than the other aspects of the arboretum project.

We recommend simplifying the survey as much as possible. For instance, one suggestion was to simplify the tree height categories. Our survey asked respondents to list tree height in a range of 0-25, 25-50, and 50+ feet. However, perhaps asking respondents to list the tree as small, medium, or large would greatly simplify the survey.

Arboretum Project Awareness

Another thing that will likely help response rates for surveys such as ours is the general marketing of the University Arboretum project. As this is a fairly new project, most students and faculty have likely not even heard about it. While we attempted to provide a basic background for the purpose of our survey, it may not have resonated as very important or interesting to some. Greater exposure of the arboretum project in coming years will hopefully increase the reach and response of surveys and get more people aware of trees on and around campus and interested in nominating them.

Greater Departmental Involvement

There is tremendous opportunity to involve University of Minnesota departments and their respective faculty beyond this point. With criteria being largely defined and the beginnings of a Significant Trees Map outlined, future groups have an opportunity to involve a wider swath of forest resource and horticulture professionals in this campus-wide project. We recommend stronger, more comprehensive outreach to departments from this point forward, such as the

Department of Landscape Architecture in the College of Design, the Department of Forest Resources, and the Department of Horticultural Science. One suggestion put forth was to implement a departmental contest to see which department can nominate the most trees. This could be done by creating a QR code system, with all the necessary information easy to enter from that point.

Notes and Personal Commentary

While the response rate was low, it was still a useful tool. Most of the respondents added at least some commentary about the significance of the tree or something else related, and we feel that this section may actually be some of the most interesting data we collected, as people's personal commentary and knowledge can often be more interesting and engaging than numerical data. Commentary adds a more human dimension to the story and can tell more about what people are looking at when they see a tree they feel is significant or valuable, giving more insight than a dropdown menu on a survey, for example. This could be anything from specifics about its history to it being a good place to sit and read.

Because of this, we highly recommend incorporating these notes and comments (especially those in future surveys) into the final map and project. This could come in the form of edited notes from individual tree nominations being added into a notes section on the map. A section could also be created on a future arboretum website where these and other arboretum comments could be compiled, for example. Other ideas could also be suggested.

Mapping Software

We used the Collector app for ArcGIS for the mapping and data collection. Using the survey data, staff recommendations, and personal experience/exploration for the UMN landscape, we created a map layer and populated it with data points for the trees included. Most of these points were added by physically visiting the trees, marking a GPS point, and collecting the necessary data. Under these data points we included species, DBH, height, and comments on its significance. Because of a lack of equipment at the time of data collection, some of these fields (height especially) were left open or estimated based on group or team consensus.

This software, as well as the map itself, is available for use to all University of Minnesota students and is hosted by the official ArcGIS Online account of the Urban Forestry Outreach Research and Education Lab and Nursery (UFore). Gaining future administrative access can be done by contacting Chad Giblin, head researcher of the UFore lab.

Some data points were also added remotely using the tree map from UMN Landcare. This map contains locations and information about many of the trees on campus, especially the larger ones.

Future Work and Suggestions

The Center for Dendrochronology

The Center for Dendrochronology is located on the West Bank campus and is housed within the College of Liberal Arts. Contact was made with the Dan Griffin Lab and there was great interest in a potential collaboration on the project. Unfortunately, due to the Covid-19 crisis resulting in

campus closures, the lab was unable to participate in the project. Their potential to provide historical and educational context to significant trees on campus is something worth exploring.

Further Suggestions

Because this project is a multi-year endeavor, we have some suggestions of how to proceed with the project. While we have begun to list significant tree nominees, the process of identifying possible significant trees needs to continue. To achieve this, we recommend the creation and dispersal of a new survey, taking into account the takeaways from ours. We also recommend the continued use of ArcGIS to further chronicle the location of these nominees. Lastly, a good resource for identifying significant tree nominees may be found in the work of the special/sacred places and significant plant communities groups.

Beyond continuing to find significant tree nominees we feel that a process of vetting should be created that will codify whether a tree actually meets the criterion or not. All the trees we identified, whether from our survey or noted otherwise, are just nominees. While a great many of these trees may be found to be truly significant given the five criteria, that process needs to be articulated and made formal. Developing this process of vetting should be considered as a task for next year's group.

As a last recommendation we offer that a formal registry of significant trees be created. Complimenting this registry with a map of vetted trees would also be helpful. The trees that

make it to the registry will have first been nominated, put through the vetting process, and then either placed on the map or removed.

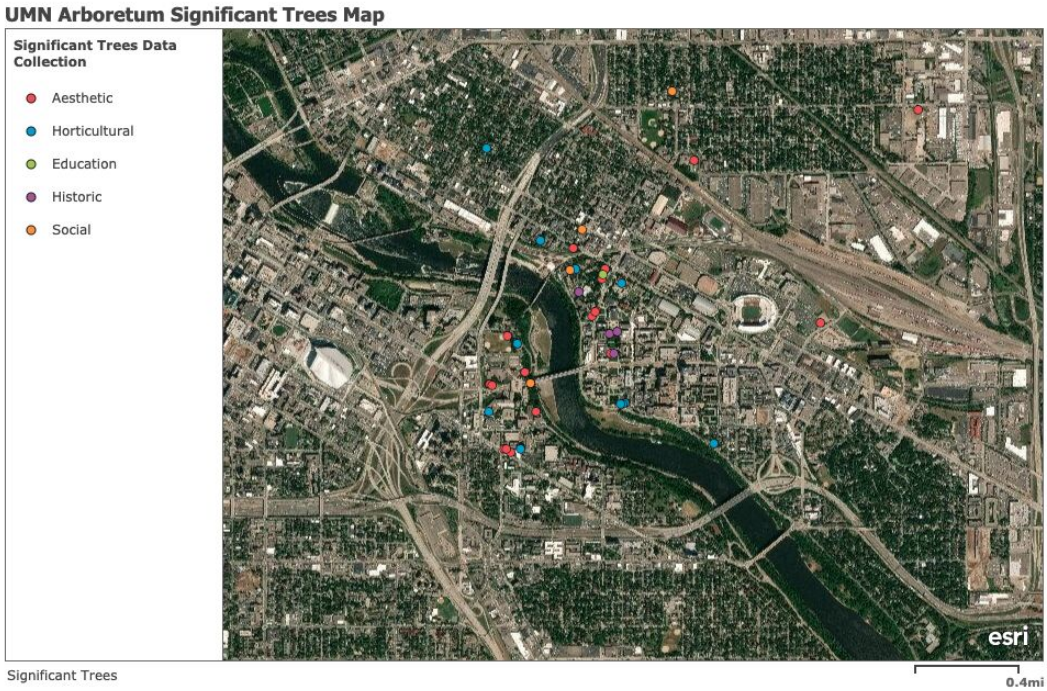
Access for Future Groups

As with all long running projects that are handed off between different people and groups, continuity is an issue. Specifically, we want to ensure that access to the maps and data associated with the significant trees we selected are available for future groups to edit. We have worked with instructors for this class to ensure that this is the case. We also hope that the suggestions section of our report will be helpful in picking up where we left off without having to play too much catch-up.

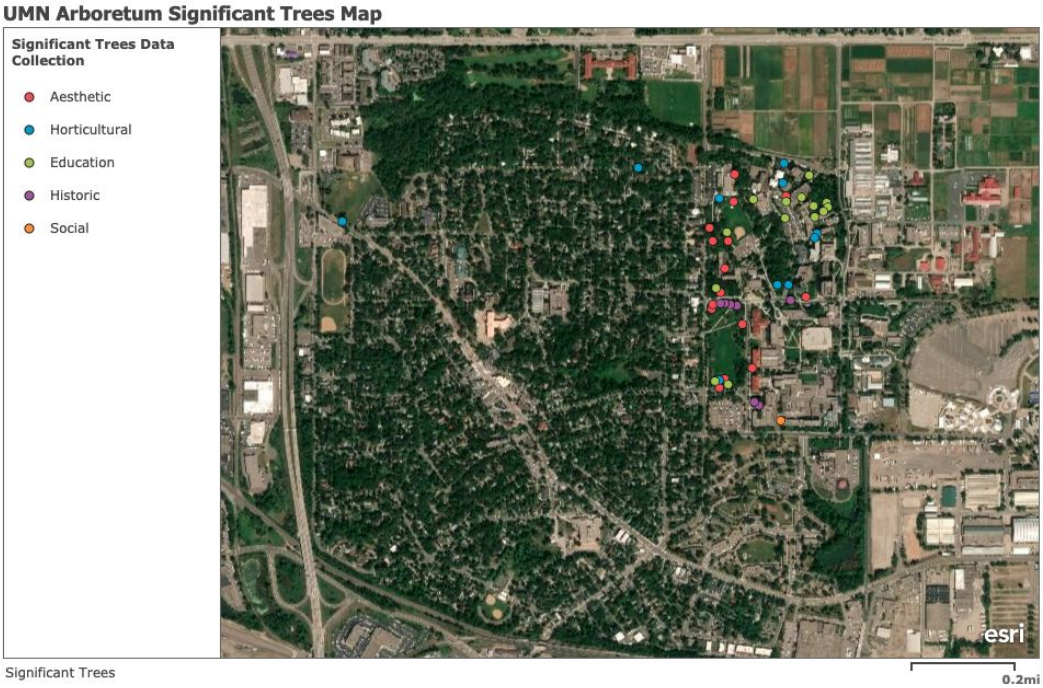
Appendix

Significant Trees Maps

East/West Bank



St. Paul



Spreadsheet - Individual Tree Data

West Bank

ID	Species	Common Name	Criteria	Notes
1	Gleditsia triacanthos	honeylocust	Aesthetic	Large honeylocust in the West bank near the dance center
2	Robinia psuedoacacia	black locust	Aesthetic	Large black locust around the People's Center that have lovely spring blooms
3	Catalpa speciosa	northern catalpa	Horticultural	Large urban catalpas near the Regis Center
4	Celtis occidentalis	hackberry	Social	The famous Shoe Tree
5	Tillia americana	basswood	Social	One of many lindens providing shade in a grey-dominated landscape
6	Ulmus americana	American elm	Aesthetic	Large American elm behind the Ferguson building
7	Fraxinus americana	white ash	Horticultural	White ash providing shade in front of the Humphrey building
8	Pinus strobus	eastern white pine	Aesthetic	Large white pines in the urban meadow
9	Acer negundo	boxelder maple	Aesthetic	Veteran boxelder near the West Bank bus stops
10	Quercus macrocarpa	bur oak	Horticultural	big urban bur oak with decline in the West Bank parking lot
11	Quercus macrocarpa	bur oak	Aesthetic	Specimen bur oak in the rec fields on West Bank
12	Pinus strobus	eastern white pine	Aesthetic	Large white pines in the urban meadow
13	Pinus strobus	eastern white pine	Aesthetic	Large white pines in the urban meadow
14	Pinus strobus	eastern white pine	Aesthetic	Large white pines in the urban meadow
15	Robinia psuedoacacia	black locust	Aesthetic	Large black locust around the People's Center that have lovely spring blooms
16	Robinia psuedoacacia	black locust	Aesthetic	Large black locust around the People's Center that have lovely spring blooms
17	Catalpa speciosa	northern catalpa	Aesthetic	Large urban catalpas near the Regis Center
18	Catalpa speciosa	northern catalpa	Horticultural	Large urban catalpas near the Regis Center

East Bank

ID	Species	Common Name	Criteria	Notes
19	Acer negundo	boxelder maple	Aesthetic	Largest boxelder in the state, off the beaten path on 29th and Como off a parking lot
20	Gymnocladus dioicus	Kentucky coffeetree	Horticultural	
21	Celtis occidentalis	hackberry	Aesthetic	big hackberry
22	Betula nigra	river birch	Social	multi-stemmed river birch
23	Aesculus hippocastanatum	horse chestnut	Horticultural	largest horse chestnut in the city

24	Tilia americana	basswood	Aesthetic	Large linden providing shade in a busy part of campus in front of Scott Hall
25	Quercus macrocarpa	bur oak	Aesthetic	Large bur oak that sustained heavy storm damage in 2012. Still very vigorous.
26	Quercus macrocarpa	bur oak	Historic	Extremely large bur oak tree, probably pre-columbian
27	Ginkgo biloba	ginkgo	Horticultural	Biggest gingkos in the area, tucked behind Boynton Clinics
28	Ginkgo biloba	ginkgo	Horticultural	Biggest gingkos in the area, tucked behind Boynton Clinics
29	Ginkgo biloba	ginkgo	Horticultural	Biggest ginkgos in the area, tucked behind Boynton Clinics
30	Populus deltoides	eastern cottonwood	Aesthetic	giant cottonwood east of the stadium that provides needed shade for a parking lot
31	Ulmus americana	American elm	Historic	Massive, spreading American elm on the Northrop Mall
32	Quercus macrocarpa	bur oak	Aesthetic	Old and stately bur oak on the Northrop Mall
33	Ulmus americana	American elm	Historic	Possibly forest grown elm on the Northrop Mall
34	Tillia americana	basswood	Horticultural	Very large linden in the Child Development playground area
35	Acer saccharinum	silver maple	Education	Veteran silver maple undergoing testing, retrenchment pruning, and cabling to preserve a valuable specimen tree, and urban habitat.
36	Betula nigra	river birch	Aesthetic	A very large and spreading river birch. Specimen tree
37	Juglans nigra	black walnut	Aesthetic	Spreading, architectural black walnut in the knoll area
38	Celtis occidentalis	hackberry	Aesthetic	Specimen hackberry on east side of Sanford
39	Quercus macrocarpa	bur oak	Social	A construction project recently made special concerns to save this old and specimen bur oak
40	Quercus macrocarpa	bur oak	Horticultural	Specimen bur oak near Sanford loading dock
41	Ulmus americana	American elm	Aesthetic	Specimen elm on west side of Sanford
42	Catalpa speciosa	northern catalpa	Horticultural	Largest catalpa in Minneapolis
43	Ulmus americana	American elm	Historic	Large elm on the Northrop Mall, undergoing reduction and cabling.
44	Quercus macrocarpa	bur oak	Aesthetic	Large bur oak in front of Scott Hall with a massive arching limb that almost touches the ground
45	Quercus macrocarpa	bur oak	Horticultural	Squat and spreading bur oak, looks almost bonsai
46	Quercus macrocarpa	bur oak	Social	Large bur oak in the middle of the Child Development playground

Saint Paul

ID	Species	Common Name	Criteria	Notes
47	Araucaria heterophylla	Norfolk Island pine	Education	Norfolk island pine in Skok Hall

48	Populus deltoides	eastern cottonwood	Aesthetic	Massive cottonwood behind the Saint Paul Gym
49	Quercus macrocarpa	bur oak	Aesthetic	Large bur oak growing on the Saint Paul Gym track. There are many old photos of this tree, it is very historic.
50	Quercus rubra	red oak	Horticultural	Veteran red oak south of the Saint Paul Gym. Extensive reduction pruning, undergoing soil work and other rejuvenation treatments.
51	Populus deltoides	eastern cottonwood	Aesthetic	Large cottonwood on the hill north of Bailey Hall
52	Ostrya virginiana	ironwood	Horticultural	Stand of ironwoods growing along a staircase south of Hayes Hall
53	Magnolia tripetala	umbrella magnolia	Education	Umbrella magnolia tucked into the woods behind the soil science building
54	Carya cordiformis	bitternut hickory	Education	Hickory behind the soil science building, very rare for this area
55	Fraxinus quadrangulata	blue ash	Education	Only one on campus, used for testing purposes
56	Metasequoia glyptostroboides	dawn redwood	Education	unique tree, transplanted from the Eastcliff property in 2017
57	Acer pensylvanicum	striped-bark maple	Education	Striped bark maple growing in a secluded corner of Borlaug Hall
58	Staphylea trifolia	American bladdernut	Education	An American bladdernut tucked into a corner of Alderman Hall
59	Cladrastis kentukea	yellowwood	Education	Large decurrent yellowwood in the Alderman loading dock
60	Picea mariana	black spruce	Horticultural	Only member on campus
61	Quercus bicolor	swamp white oak	Aesthetic	One of the largest bicolor oaks on campus, very good form
62	Alnus glutinosa	black alder	Education	Invasive, only one on campus, legume
63	Quercus ellipsoidalis	northern pin oak	Horticultural	unique tree for campus
64	Gleditsia triacanthos	honeylocust	Aesthetic	large for species
65	Ulmus americana	American elm	Historic	DED Survivor
66	Ulmus americana	American elm	Historic	Large American elms south of Bailey Hall, historically significant. There are photos of their planting.
67	Ulmus americana	American elm	Historic	Large American elms south of Bailey Hall, historically significant. There are photos of their planting.
68	Ulmus americana	American elm	Historic	Large American elms south of Bailey Hall, historically significant. There are photos of their planting.
69	Ulmus americana	American elm	Historic	Two Large specimen elms on the east side of the Andrew Boss Meat Lab
70	Ulmus americana	American elm	Historic	Two Large specimen elms on the east side of the Andrew Boss Meat Lab
71	Phellodendron amurense	Amur cork tree	Aesthetic	Large, spreading cork tree north of Haecker Hall
72	Quercus x macdaniellii	Bur-English oak hybrid	Education	Bur-English Oak, possible the only known specimen to have contracted Bur Oak Blight
73	Cercis canadensis	eastern redbud	Aesthetic	Large specimen redbud in the northwest corner of the Saint Paul Mall

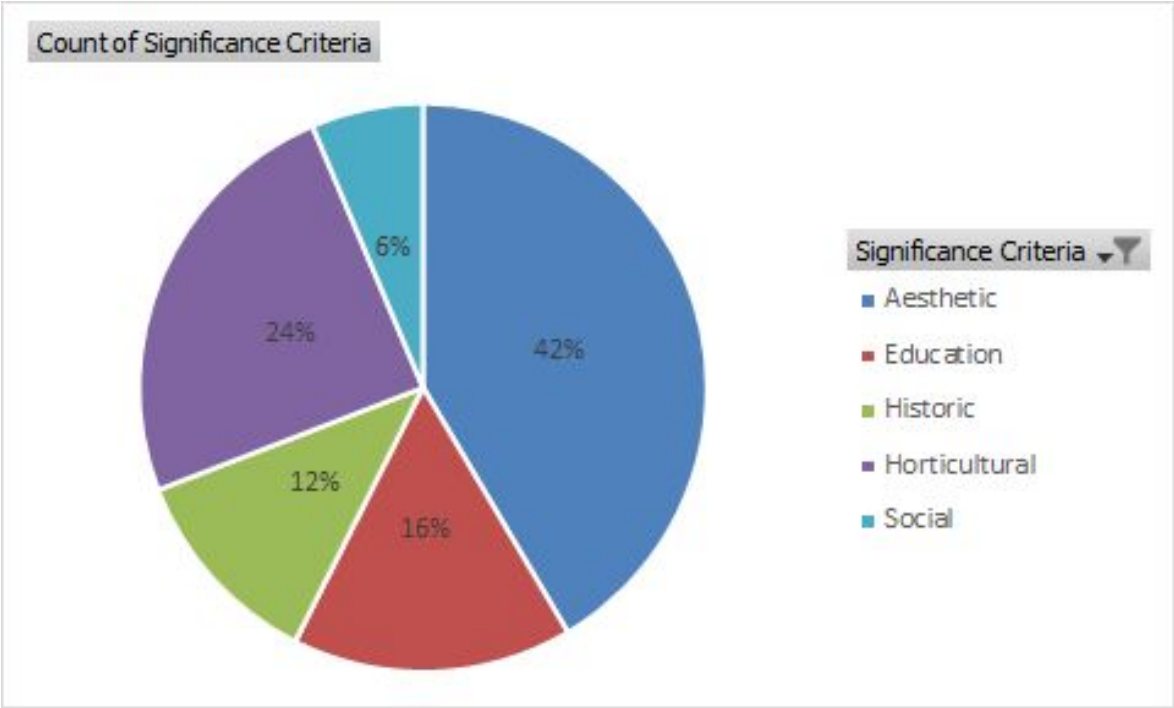
74	Acer saccharum	sugar maple	Social	Memorial tree on the east side of the Veterinary Sciences building
75	Populus alba	white poplar	Education	White poplar. Also known as the "beer can tree" for the large hollow with a constantly refilled supply of empty cans inside
76	Ostrya virginiana	ironwood	Horticultural	Large ironwoods near the USDA research station
77	Gymnocladus dioicus	Kentucky coffeetree	Horticultural	horticultural
78	Populus deltoides	eastern cottonwood	Horticultural	Pair of large cottonwood
79	Populus deltoides	eastern cottonwood	Horticultural	Massive cottonwood near other large cottonwoods
80	Celtis occidentalis	hackberry	Aesthetic	Group of many large hackberries south of the Saint Paul chiller plant
81	Quercus macrocarpa	Bur oak	Aesthetic	Group of large bur oaks north of Bailey
82	Pinus sylvestris	scots pine	Aesthetic	Group of scots pine north of Bailey Hall
83	Pinus sylvestris	scots pine	Aesthetic	Group of scots pine
84	Gymnocladus dioicus	Coffeetree	Education	easily accessible coffeetree
85	Ulmus americana	American elm	Historic	Large American elms south of Bailey Hall, historically significant. There are photos of their planting.
86	Gleditsia triacanthos	Honey locust	Aesthetic	Especially tall honeylocust
87	Forsythia spp.	Forsythia	Aesthetic	Large spring flowering forsythia south of Bailey Hall
88	Magnolia spp.	White and pink magnolia	Aesthetic	Spring flowering magnolia on the east side of the Saint Paul Mall
89	Pinus sylvestris	Scots pine	Aesthetic	Group of many scots pine on the south side of the Saint Paul Mall
90	Juniperus virginiana	Eastern red cedar	Education	Large eastern red cedar on the south side of the Saint Paul Mall
91	Malus spp	Crabapple	Horticultural	Very large for genus, on the south side of the Saint Paul Mall
92	Pinus strobus	Eastern white pine	Education	Beautiful white pine on the southwest corner of the Saint Paul Mall
93	Magnolia spp.	Magnolia	Aesthetic	Spring flowering magnolia on the south side of the Saint Paul Mall

Evaluation of Current Data

In the significance column of our data, displayed graphically in figure 4, we found the majority of trees have aesthetic value. This probably comes from the many old trees on campus, primarily in the old part of campus. The smallest portion is Social. Trees in this category included ones commonly used as a meeting place, hammocking trees, and the Shoe Tree. This category will fill

up more as people share their personal experiences with the survey, not just the tree focused people.

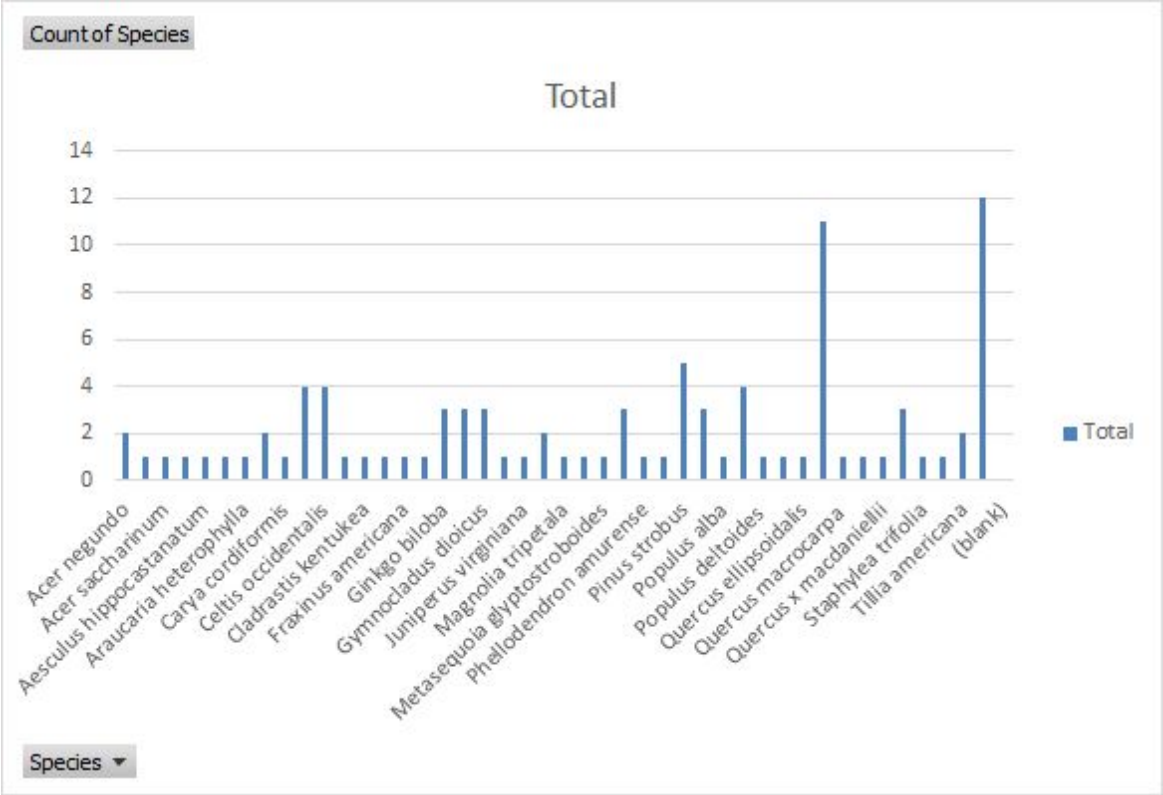
Figure 4: Count of the significance criteria used for determining a trees significance



For this graph, Figure 5, the main takeaway is that larger trees that people have traditionally deemed significant, mostly Oak and Elm, fill up much of the significant trees. These are the trees people have but effort into preserving, especially putting lots of money into chemical treatments to retain them. In the oldest parts of campus, mostly Northrop mall, and the area north of that, since there has been an effort to retain historic buildings, the historic trees are not as heavily affected by construction. Trees can often be removed or have their root systems damaged by construction, so older areas tend to have the oldest, largest trees.

Trees do very poorly in ruderal environments, and being in a neglected area can often be helpful. This is true for the enormous cottonwood east of the stadium, and the largest boxelder (on record) in Minnesota in a parking lot at 29th and Como. Both these trees have avoided human interaction for a long time and have developed undisturbed. The cottonwood recently had a parking lot put in under it, and the boxelder's area is under long term planning for a new building, but hopefully the appropriate steps to maintain their health will be considered.

Figure 5: Species count for selected significant trees



This graph shows that most of the trees deemed significant are very large. The trees that are smaller are usually horticultural examples, like dawn redwood, stripe bark maple, bladdernut, or blue ash. These are trees that are used for education and as horticultural peculiarities. They may be smaller, ornamental trees, or they may be outside their comfort zone, and slightly stunted. Whatever their reason, they add immense horticultural variety and interest to our campus, not to be overshadowed by the larger, grander trees on campus.