

**City of Ramsey**  
**Agenda**  
**Environmental Policy Board (EPB)**  
**Monday, May 21, 2018**  
**6:30 pm**  
**Council Chambers, 7550 Sunwood Drive NW**

1. **Call to Order**
2. **Citizen Input**
3. **Approve Agenda**
4. **Approve Minutes**
  1. Approve Meeting Minutes Dated April 16, 2018
5. **Policy Board Business**
  1. Update on Public Tree Survey (A Resilient Communities Program Project)
  2. Update on Pollinator Friendly Projects
6. **Board/Staff Input**
  - Next CWMA Meeting: June 5, 2:00-3:30pm. Location TBD
7. **Adjournment**

**Environmental Policy Board (EPB)**

**4. 1.**

**Meeting Date:** 05/21/2018

**By:** Chris Anderson, Community  
Development

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**Information**

**Title:**

Approve Meeting Minutes Dated April 16, 2018

**Action:**

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**Attachments**

Meeting Minutes Dated April 16, 2018

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**Form Review**

**Inbox**

Tim Gladhill

Form Started By: Chris Anderson

Final Approval Date: 05/17/2018

**Reviewed By**

Tim Gladhill

**Date**

05/17/2018 09:32 AM

Started On: 05/17/2018 08:59 AM

**ENVIRONMENTAL POLICY BOARD  
CITY OF RAMSEY  
ANOKA COUNTY  
STATE OF MINNESOTA**

On Monday, April 16, 2018, the Environmental Policy Board (EPB) met in the Council Chambers at the Ramsey Municipal Center, 7550 Sunwood Drive N.W., Ramsey, Minnesota.

Members Present:     Chairperson Thomas Stodola  
                            Board Member Reid Bernard  
                            Board Member Jane Covart  
                            Board Member Melissa Fetterley  
                            Board Member Michael Hiatt  
                            Board Member Laura Moore  
                            Board Member Michael Valentine

Members Absent:     None

Also Present:         City Planner Chris Anderson  
                            City Council Liaison John LeTourneau

**1.     CALL TO ORDER**

Chairperson Stodola called the meeting to order at 6:30 p.m.

**2.     CITIZEN INPUT**

None.

**3.     APPROVE AGENDA**

Motion by Board Member Hiatt and seconded by Board Member Bernard to approve the agenda as submitted.

Motion carried.   Voting Yes: Chairperson Stodola, Board Member Hiatt, Bernard, Covart, Fetterley, Moore, and Valentine.   Voting No: None.   Absent: None.

**4.     APPROVE MINUTES**

**4.01:   Approve Meeting Minutes Dated March 19, 2018**

Motion by Chairperson Stodola and seconded by Board Member Covart, to approve the regular meeting minutes dated March 19, 2018.

Motion carried.   Voting Yes: Chairperson Stodola, Board Member Covart, Bernard, Fetterley, Hiatt, Moore, and Valentine.   Voting No: None.   Absent: None.

**5.     POLICY BOARD BUSINESS**

### **5.01: Appoint Chairperson and Vice Chairperson**

City Planner Anderson presented the staff report.

Motion by Board Member Hiatt and seconded by Chairperson Stodola to appoint Michael Valentine as Chairperson.

Further discussion: Board Member Valentine stated that he would accept the position.

Motion carried. Voting Yes: Chairperson Stodola, Board Member Hiatt, Bernard, Covart, Fetterley, Moore, and Valentine. Voting No: None. Absent: None.

Chairperson Valentine took control of the meeting and opened the floor for nominations for Vice Chairperson.

Motion by Chairperson Valentine and seconded by Board Member Bernard to appoint Michael Hiatt as Vice Chairperson.

Further discussion: Board Member Hiatt stated that he would accept the position.

Motion carried. Voting Yes: Chairperson Valentine, Board Member Bernard, Covart, Fetterley, Hiatt, Moore, and Stodola. Voting No: None. Absent: None.

Board Member Hiatt stated that perhaps it would be helpful for the new members to introduce themselves.

Board Member Moore introduced herself and provided some background information.

Board Member Fetterley introduced herself and provided some background information.

Chairperson Valentine welcomed the new Board Members and thanked them for volunteering their time on the Board.

### **5.02: Anoka County Cooperative Weed Management Partnership**

City Planner Anderson presented the staff report.

Board Member Hiatt stated that he noticed that the Rum River Watershed District is not listed.

City Planner Anderson noted that Ramsey staff pointed out that both the Upper Rum River and Lower Rum River WMO's were not included. He stated that a few other agencies that were not listed were pointed out at the meeting as well.

Chairperson Valentine stated that this seems like a very good program. He noted that there are a lot of residents that are trying to establish restoration projects and weeds are a huge component of those projects.

Board Member Hiatt stated that there is a great diversity included in the list, from inner city to rural cities like Ramsey. He asked if there is a sense that there will be fair and equal treatment to all the entities involved. He wanted to ensure that there is equality in decision making.

City Planner Anderson stated that there is a working group that is working to develop a baseline that would be equitable across the County. He stated that the funding source is \$20,000 but that is to be spread County wide. He noted that he is looking at this more from an educational standpoint, as this will provide quick access to educational materials that were created by other entities. He provided an example of featuring a weed of the month in City newsletters and on the website.

Councilmember LeTourneau stated that he was not aware that this was a County wide problem and is excited that Ramsey is being included. He stated that the EPB does have a Work Plan and was unsure that noxious weeds were included on the plan. He cautioned the group to temper the item to ensure that the Work Plan can still be accomplished. He noted that if this item becomes more of a focus, perhaps something else from the Work Plan can be placed on the back burner. He suggested that perhaps someone on the EPB sit in on the working group as there is an education piece involved in the process and the EPB is a voice to the residents.

Chairperson Valentine asked if any Board Members would be interested in being involved in more depth, should that be the direction.

Board Member Covart stated that she would volunteer if the schedule aligns with her schedule.

Board Member Hiatt asked if City Planner Anderson would be able to attend.

City Planner Anderson noted that the meetings take place during the work day. He stated that he continues to attend these meetings. He noted that the meeting the previous week was a high-level and basic meeting. He stated that the EPB Work Plan is a three-year plan and therefore the Board has the ability to review items in addition to the four items listed on the plan. He stated that he does not envision that this will be a large drain on the Board resources as the Conservation District will work as the fiscal agent for grant management. He noted that there is already information on invasive species listed on the City website and therefore tweaking that information should not take a great deal of time and effort. He did not anticipate this being a large taxing of staff resources and should not pull the Board away from the priorities on the Work Plan. He stated that he can send the information on the next scheduled meeting to the Board Members and interested members can attend the meeting if desired.

### **5.03: General Update on Recycling Program**

City Planner Anderson presented the staff report.

Councilmember LeTourneau stated that he is curious to hear more about multi-family homes and the methodology that is used to collect recyclable materials from those residents. He stated that there appears to be an effective curbside for single-family homes. He noted that there is a lot of multi-family homes being developed in Ramsey and wondered if there was an effective method to collect recycling from those properties.

City Planner Anderson provided additional details on the collection for multi-family housing developments. He stated that the education component for that type of development is key due to the transient nature of those residents. He stated that the number by default will be smaller because multi-family housing is a smaller market than single-family homes. He stated that staff continues to reach out to multi-family housing developments to provide additional containers and improve collection efforts. He noted that multi-unit recycling is a bigger challenge across the metro. He stated that the recycling agreement will go forward to the City Council at one of the next meetings with a small increase for additional educational efforts in attempt to boost participation.

Chairperson Valentine commented that he believes that a yard waste cleanup opportunity in the fall would be a benefit to the community.

City Planner Anderson stated that until recently residents had the opportunity to purchase a permit from Elk River to use that yard waste site. He noted that opportunity was closed when the threat of Emerald Ash Borer came about, and the quarantine for Anoka County went into effect.

#### **5.04: Resilient Communities Project Update**

City Planner Anderson presented the staff report.

Tyler Thorn stated that his group is participating in the organics recycling program. He displayed the midway check-in poster that the group created, noting that they did receive input from City Planner Anderson. He stated that one of the biggest obstacles is finding a closer area to deposit the organic waste.

Marie Olson stated that they are aware of the pilot organics recycling program in Ramsey and recommend increasing that program with additional drop-off locations that could also stimulate commercial participation. She stated that the hope would then be to incorporate curbside pickup for organics.

Marin Forey stated that there are communities in the metro which have implemented curbside organics pickup. She stated that there is opportunity to combine household organics with yard waste, which would mean that the yard waste truck could collect the materials rather than requiring an additional truck for hauling.

Board Member Hiatt stated that one of the challenges in the community is that Ramsey is a large geographic area. He asked if a northern location was looked at as a possibility for drop-off locations. He stated that perhaps that would generate more participation from the residents in the northern part of Ramsey.

Marie stated that they did discuss that option with City Planner Anderson, perhaps using parks as drop-off locations.

Board Member Hiatt stated that he does believe that Coborn's would be a successful location as well.

Board Member Stodola stated that he uses the municipal drop-off location and would prefer a Coborn's drop-off location.

Board Member Fetterley asked for input on the methods that the other communities used that have expanded further to curbside organics pickup and the thresholds that those communities used.

Marin stated that she spoke with staff from Columbia Heights and they had about 2,000 households using the drop-off method before transitioning to curbside. She noted that threshold may be different for Ramsey, but they would recommend scaling up participation before transitioning to curbside collection.

Tyler stated the initial goal will be to increase participation in the organics program.

Councilmember LeTourneau asked for more information on what a drop-off site would look like and the amount of space that it would occupy. He stated that a lot of the organic material from homes, such as yard waste, has a lot of volume.

City Planner Anderson stated that this organics program is related to food waste and not yard waste materials. He stated that presumably someone would not come with a trailer full of material to drop-off. He stated that typically there are a few carts at a drop-off location that have a passcode to unlock the container. He noted that it is not a large-scale operation that perhaps Councilmember LeTourneau was envisioning.

Councilmember LeTourneau asked if the yard waste customers in Ramsey could contribute their household organic material.

City Planner Anderson explained that yard waste collection is specifically through the hauler and therefore he does not have participation information. He noted that there is a specific hauler used by Columbia Heights that allows household organics to be combined with yard waste collection. He stated that there are other opportunities, such as the Blue Bag program.

Councilmember LeTourneau stated that he would be excited to have curbside pickup for organics and the possibility of combining that collection with curbside yard waste collection.

Board Member Hiatt commented that he remembers the transition from sorted collections to single sort. He stated that the easier the process is, the more participation there will be in the program. He stated that the ACE Solid Waste collections began today, noting that the company stresses that only yard waste can be placed in the container. He agreed that if there is an opportunity to combine yard waste and organics curbside collection, that would be a great opportunity for residents.

Board Member Stodola asked the type of materials that can be collected in yard waste.

City Planner Anderson provided details on the yard waste materials that can currently be collected through curbside pickup.

Chairperson Valentine referenced the curbside opportunity and stated that organic material could attract predatory animals in the rural areas and asked if security has been a thought.

Marin noted that is a good consideration.

City Planner Anderson stated that those same materials are included in trash collection currently.

Board Member Hiatt asked if there have been problems with animals getting into the organics collection carts at the drop-off location.

City Planner Anderson stated that there has not been a problem thus far and did not anticipate an issue because the containers are locked. He displayed the poster that was worked on from the water conservation group. He noted that those students planned to attend the meeting but were unable to make it because of the weather. He noted that the student group continues to work with the City Engineer but acknowledged that water conservation is an important topic to this group as well. He stated that he can send the PDF version to the Board Members to look more closely.

Councilmember LeTourneau asked for a high-level overview of the poster.

City Planner Anderson stated that the student group was asked to look at ways to reduce water use through the groundwater supply. He stated that the groups are looking at incentives, friendly neighborhood comparisons, comparisons to other communities, and public education efforts.

Councilmember LeTourneau stated that at the end of the fall semester there was a nice presentation for the community, which displayed all the posters. He asked if the same opportunity would occur at the end of the spring semester.

Dan Herrera replied that the University of Minnesota will host an open house on May 4<sup>th</sup> which will not only display the Ramsey projects but all the projects the RCP students have worked on throughout the year. He noted that there will be a wide range of posters along with students that will provide information. He stated that student groups can also provide informal updates, such as the presentation tonight.

Councilmember LeTourneau commented that the fall event was incredible and had a lot of great information.

Dan Herrera stated that the May 4<sup>th</sup> event is the last day of class for students and therefore they could not require students to attend an event after that date.

## **6. BOARD / STAFF INPUT**

- **Comprehensive Plan Update Final Open House Recap**

City Planner Anderson reported that the third and final Comprehensive Plan open house was held on April 9<sup>th</sup> and was well received. He stated that there was not specific input or comments on the natural resources information. He stated that there is a tentative public hearing date of May 3<sup>rd</sup> for the Planning Commission and May 22<sup>nd</sup> for City Council consideration before the draft plan is released for jurisdictional comments. He noted that all three public open houses were well attended and commended the approach that Community Development took with the process.

Chairperson Valentine stated that he was asked to assist in developing a program for the Metro Environmental Conference, which will be an opportunity for groups across the metro, similar to the EPB to share information and ideas. He stated that the event was held on April 7<sup>th</sup> and 24 of

32 possible entities attended. He stated that at the least, a network was developed which can be built upon. He stated that it will be an ongoing collaboration that he will continue to be involved in. He noted that a Facebook page will be created for the group. He encouraged members of the EPB to attend upcoming meetings for the group. He thanked Board Member Stodola for his many years on the Board and as Chairperson.

City Planner Anderson noted that an RCP student group hosted the first training session for the tree inventory. He stated that the student group is working to reschedule the outdoor session, which was canceled because of the weather this past weekend. He noted that there is also a possibility of holding a second round of training if there is additional interest in participating in the tree survey. He encouraged interested residents to take part in the trainings if offered again.

## **7. ADJOURNMENT**

Motion by Board Member Stodola and seconded by Board Member Covart to adjourn the meeting.

The meeting adjourned at 7:46 p.m.

Respectfully submitted,

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Chris Anderson  
City Planner

ATTEST:

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JoAnn Shaw  
Community Development Secretary

Drafted by Amanda Staple  
*TimeSaver Off Site Secretarial, Inc.*

**Environmental Policy Board (EPB)**

**5. 1.**

**Meeting Date:** 05/21/2018

**By:** Chris Anderson, Community  
Development

**Information**

**Title:**

Update on Public Tree Survey (A Resilient Communities Program Project)

**Purpose/Background:**

The purpose of this case is to provide the Board a status update on the Resilient Communities Program project to complete a survey of Public Trees. There was an initial classroom training offered by the student group that was held on Friday, April 13. There was supposed to be an outdoor training session held on April 14 but that was canceled due to a snow storm. Due to the late winter, which delayed the leaf-out of most trees, it was agreed to delay the outdoor training session until late May or early June. Additionally, the professor of this course has now offered to conduct a 'refresher' classroom training for those volunteers that did attend the initial training, but also for any others that were interested in volunteering to assist with the survey. The two new training dates are now set for Friday, June 1 and Saturday, June 2.

Before the end of the semester, the student group also created a website to house information about the tree survey and a resource library for the volunteers. That information can be found here:

<http://mntreesource.umn.edu/what-ramsey-tree-survey>. Upon completion of the volunteer Public Tree Survey, the U of MN's Urban and Community Forestry Community Engagement and Preparedness Lab will compile all the data and provide a report to the City.

**Action:**

No action needed. This is for informational purposes only.

**Attachments**

[Training Manual](#)

[Training Slide Show](#)

**Form Review**

**Inbox**

Tim Gladhill  
Form Started By: Chris Anderson  
Final Approval Date: 05/18/2018

**Reviewed By**

JoAnn Shaw

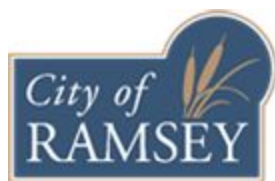
**Date**

05/18/2018 09:07 AM  
Started On: 05/17/2018 03:13 PM

# **Ramsey Tree Survey Training 2018**

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This training manual was prepared by students at the University of Minnesota as part of the Resilient Communities Project under the unsurpassed guidance of the everwise Gary Johnson. Trees forever!

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# 1. Introduction

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## What is a Tree Survey?

Trees are an important part of any community as they provide many environmental, economic, and social benefits. In order to maximize and maintain these benefits, it is important to effectively and efficiently manage them. In order to do this, understanding what trees exist within the community is crucial. Having information on the size, type, condition, and abundance of trees allows communities to create accurate and appropriate management practices for the present and future. One way to gather information about the trees within a community is to conduct a tree inventory or tree survey. Tree inventories can be a great asset to a community as they:

- Facilitate the development of management plans
- Produce information that can be used by city officials in determining budget
- Identify trees of concern or trees susceptible to failure in severe weather
- Determine where maintenance is needed
- Provide a sense of the overall canopy health in a community
- Establish monetary value and ecosystem services of urban forest

## Ramsey's Survey

For the City of Ramsey's tree survey, a stratified random sampling technique will be used, allowing for accurate estimates of tree species, diameter categories, and total trees. By participating in this tree survey you are collecting and providing your city with the means to create management plans, apply for grants, identify risks, determine benefits, and understand environmental benefits.

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## 2. Tree Survey Volunteer Guidelines, Policies, and Procedures

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### Volunteer Commitment

Thank you for your willingness to volunteer your time and energy to help with this tree survey! In order to help keep data as accurate as can be, you are asked to attend both days of training. Once trained, it is expected that you and the volunteers in your team work out a time frame and time schedule to inventory your assigned sections before October 2018. Time required to complete the survey ultimately depends on the number of groups participating; the more groups, the less surveying for everyone. Additionally, in order to maintain accurate data collection practices it is recommended that surveying sessions are limited to four hours at a time.

Have fun, and remember that you are only asked to do as much as you can; any gaps or unfinished sections will be completed by other groups in the community.

### Teams

At the close of the tree survey training each individual will be asked to form a team of three volunteers. Each team will then be assigned a section, and it is up to them to arrange a surveying schedule.

**Remember to notify your community contact each time your group conducts a section of the survey.**

**Name:**

**Phone:**

**Email:**

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## Survey Equipment and Materials

Each time you survey, remember to dress for the weather, wear comfortable shoes and bring:

- DBH tape
- 50' cloth measuring tape
- Data collection sheets
- Tree identification cards/guides
- Clipboard
- Pens/pencils
- Volunteer identification (card/vest/lanyard, etc.)
- Informational material for interested onlookers with project details and city contacts
- Water
- Cell Phone

## Minimum Age Requirement

Participants must be 18 years or older to participate in this survey. Individuals under 18 years of age must be accompanied by parent or legal guardian.

## Public vs. Private Trees

This is a survey of public trees only. Public trees include anything planted within 16' of a street.

## Safety

When conducting the tree survey it is important that you remain safe, especially when working in busy areas of the community. Remember to stick with your team when in the field, looking out for one another as you survey.

You may choose to perform the survey in various types of weather. Make sure to wear proper attire for your comfort and safety. Never perform surveying if there is lightning anywhere in view.

Perform the survey only during daylight hours.

## Interactions with the Public

Please remember to carry your volunteer identification every time your team goes out to survey. Additionally, make sure you have contact information for your city's contact: **Chris Anderson, 763-433-9817.**

It is natural for residents to be curious about work being done near their homes. Some residents may see you as a source of knowledge and ask you to look at certain trees or answer tree questions. Explain to them that you are a volunteer who has received tree survey training, and if they have any questions they may contact the city or an ISA-certified arborist.

You will be collecting data on public trees, however some residents may request that no information be taken on the public tree near their property. In the event that a resident asks you to leave the area, thank them for their time, make a note on your data sheet for your contact your city contact and move on to the next tree.

If you find yourself interacting with a disagreeable resident, you may explain that you are a trained volunteer authorized by the city to collect information about public trees. If there is a substantial fuss, discontinue surveying that particular tree and contact your city contact, Chris Anderson at 763-433-9817. You will be provided with a replacement tree to survey.

**If at any time you feel uncomfortable or threatened, leave the area immediately and call 9-1-1 if you are in immediate danger.**

## Important Contacts

Chris Anderson, City planner and Community Development ([canderson@cityoframsey.com](mailto:canderson@cityoframsey.com))

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# 3. Surveying Trees

## Typical Trees in Ramsey

In a rapid tree survey performed by the DNR in 2010, the top ten genera were identified (Figure 1). Why complete another tree survey now? A lot can happen in eight years! Along with the growth and development of cities comes drastic change to the urban canopy.

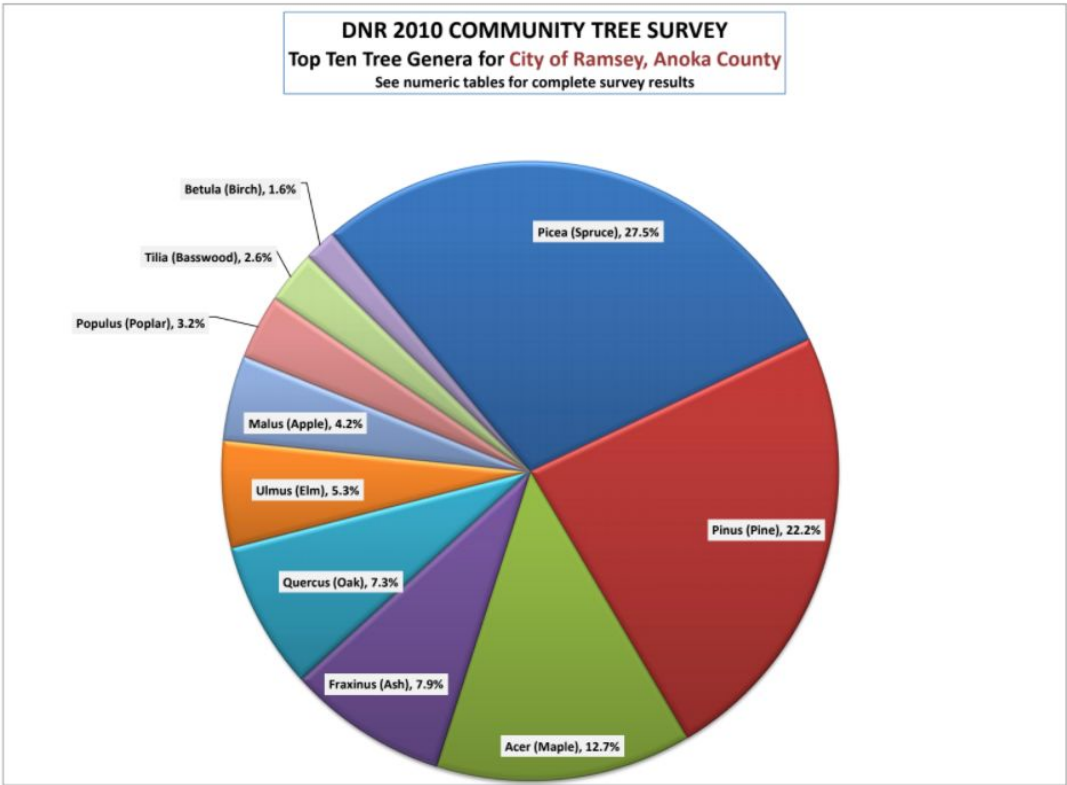


Figure 1 - 2010 DNR Rapid Survey of Ramsey, MN

# Tree Identification

## Classification

You may recall from a biology class that each unique plant, animal, and fungus on earth has been given a scientific name, or binomial (at least, those that have been discovered so far!). This scientific, or binomial, name includes one word for the genus and one word for the species (e.g. sugar maple = *Acer saccharum*). The genus classification (such as *Acer*) includes any number of individual species that share common characteristics. The species classification (such as *saccharum*) is unique to individuals that can freely reproduce with each other, and are distinct from other related species.

Most trees in this survey will be identified down to the genus level for simplicity. However, there are some trees for which there is value in identifying the species because different species within a genus may be at risk for certain pests or diseases. For example, you will differentiate between the white oak group and the red oak group due to the high risk of oak wilt associated with the red oak group, and the risk of bur oak blight on bur oak, which is in the white oak group.

## Identification

The following trees should be identified down to the species level:

Family	Genus	Species	Common Name	Identify to...
Betulaceae	Betula	nigra	river birch	species
Betulaceae	Betula	papyrifera	paper birch	species
Fagaceae	Quercus	alba	white oak	white oak group
Fagaceae	Quercus	bicolor	swamp white oak	white oak group
Fagaceae	Quercus	macrocarpa	bur oak	species
Fagaceae	Quercus	palustris	pin oak	red oak group
Fagaceae	Quercus	rubra	northern red oak	red group
Juglandaceae	Juglans	nigra	black walnut	species
Pinaceae	Picea	glauca	white spruce	species
Pinaceae	Picea	pungens	Colorado blue spruce	species
Pinaceae	Picea	abies	Norway spruce	species
Pinaceae	Pinus	strobus	eastern white pine	species
Pinaceae	Pinus	resinosa	red pine	species
Pinaceae	Pinus	sylvestris	Scots pine	species
Salicaceae	Populus	grandidentata	bigtooth aspen	"aspen"
Salicaceae	Populus	tremuloides	trembling/quaking aspen	"aspen"
Salicaceae	Populus	deltoides	eastern cottonwood	species
Sapindaceae	Acer	negundo	boxelder	species
Sapindaceae	Acer	rubrum	red maple	species
Sapindaceae	Acer	ginnala	Amur maple	species
Sapindaceae	Acer	platanoides	Norway maple	species
Sapindaceae	Acer	saccharum	sugar maple	species
Sapindaceae	Acer	saccharinum	silver maple	species
Ulmaceae	Ulmus	americana	American elm	species
Ulmaceae	Ulmus	pumila	Siberian elm	species
Ulmaceae	Ulmus	rubra	slippery elm/red elm	species
Ulmaceae	Ulmus	thomasii	rock elm	species

For information on identification, please reference the [Minnesota Trees](#) booklet and TreeID Cards provided in the training.

## Determining Age-Class

In order to assess the age-class of a tree, the diameter at breast height (DBH) and the crown width can be utilized. These measurements help in the identification of the age and the growth of a tree.

### Measuring Diameter at Breast Height (DBH)

Diameter at breast height is a standardized point on a trunk, 4.5 feet from the base of the tree. This measurement is used to estimate age and volume of trees. To measure the DBH you can use a diameter tape (D-tape), or you can measure the circumference of a tree with a standard measuring tape and convert the measurement to diameter by dividing the circumference by pi (3.14).

#### Using a D-tape

- All breasts are not 4.5 feet off the ground! Determine breast height on your own body by measuring 4.5 feet up from the ground - remember where that point on your body is; it will make measurements in the field go quickly.
- When measuring a tree, wrap the D-tape completely around the tree at your breast height until the zero on the tape reaches the tape again. Record the number where the zero meets the tape again. If the tree is on a slope, take the measurement on the uphill side of the tree (Figure 2).
- Remember to read the correct side of the D-tape:
  - The right side: measures using distances that have been converted to diameter
  - The wrong side: measures in standard feet

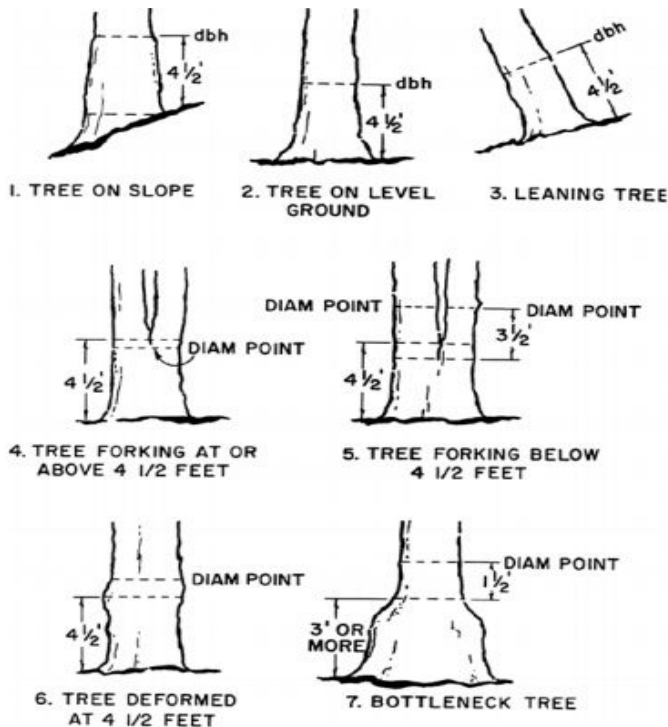
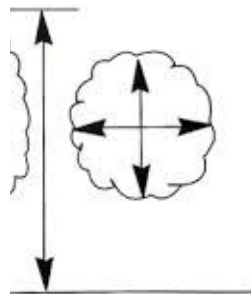


Figure 2 - Measuring DBH

## Measuring Crown Width

The crown width of a tree refers to the average diameter of a tree's crown. You can approximate a tree's crown width by using a standard measuring tape. To measure crown width (Figure 3):

- One group member will stand at the edge of the canopy with one end of the tape measure
- A second member walks with the opposite end of the tape measure to the tree's trunk. They then turn 90 degrees with the tape hugging the stem around the corner and continue that path to the edge of the canopy.
  - Record this distance to the nearest foot.



Average Crown Spread **Figure 3 - Measuring Crown Width**

## Condition Rating

When assessing the condition of a tree, each team member present should evaluate the tree independently. Once everyone has had a chance to determine their ratings, the team should discuss how each person rated the tree. If condition ratings vary dramatically between team members, take time to discuss and resolve the differences.

For each tree surveyed, two separate condition ratings will be determined, one for the crown and one for the stem. **Numeric values for the crown and stem ratings are not lumped together or averaged.** Each rating is determined by using a zero-to-four point scale. Every tree begins with four points, and receives **reductions in quarter point increments** as the crown and as the stem are evaluated. Foliage (leaves) is not evaluated in this rating system.

## Rating the Crown Condition

### Stag Heading

Stagheading is a condition where an entire main branch is dead, from the tip of the branch all the way back to the main stem of another major branch (Figure 4). **Up to 1 point** may be deducted, based on the size of the dead branch and the percentage of crown affected. Larger branches that affect more of the crown will receive deductions near 1, whereas smaller dead branches that make up only a small portion of the crown will receive minor deductions.



**Figure 4 - Stag Heading** (Source: Gary Johnson)

#### Tip dieback

Tip dieback is a condition where there is significant death at the tips of the branches (Figure 5). If a tree exhibits die back, **up to 0.5 point** can be deducted from the rating. This deduction usually is typically given to trees that exhibit dieback in the entire crown of the tree.



**Figure 5 - Tip Dieback**

Source: (<http://www.treecology-mn.com/wp-content/uploads/2012/03/construction-die-back.jpg>)

## Symmetry

This condition factor address symmetry of the crown; each tree is assessed in comparison to a perfectly symmetrical crown (Figure 6). **Up to 1 point** can be deducted if a portion, or portions, of the crown is missing.

- 50% crown missing: **-1.0**
- 25% crown missing: **-0.5**
- Less than 25% crown missing: **-0.25**



**Figure 6 - Symmetry**

(Source: [https://www.tottenhamtrees.org/uploads/5/6/9/4/56947305/1360982\\_6\\_orig.jpg](https://www.tottenhamtrees.org/uploads/5/6/9/4/56947305/1360982_6_orig.jpg))

## Live crown ratio (LCR)

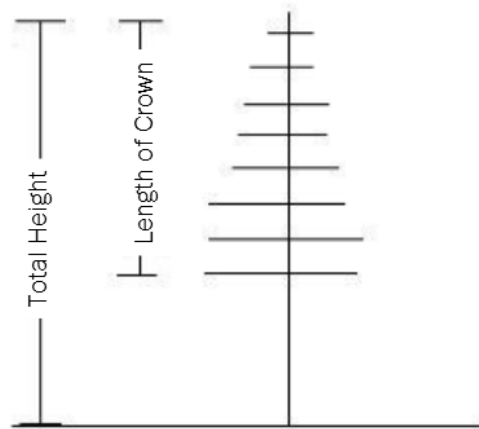
The live crown ratio is the total potential crown of a tree. It is the ratio of the height of the crown to the total height of the tree (Figure 7 and 8). The crown begins where the first main branch on the tree is located and rises to the top of the tree. Note: The crown does not begin at the foliage but at the first main branch.

## Measuring LCR

- Stand far from the tree and hold a tape measure out in front of you.
- Take the first measurement by lining up the top of the tree with the beginning of the measuring tape (at the 0) and measure the distance to the base of the tree. Record the number (N) at the tape where the base of the tree is located. This is the total height of the tree you will use to determine the LCR.
- Take the second measurement by lining up the top of the tree with the beginning of the measuring tape (at the 0) and measure the distance to the first main branch on the tree (n).
- Using the two measurements you've recorded, use the formula  $n/N$  to produce the percentage of LCR; divide the second measurement by the first measurement to get the live crown percentage.

## LCR Standards

- Deciduous trees: LCR  $\geq 60\%$  (as a general rule, **deciduous trees with less than 25% LCR should lose 2 points, with 33% LCR would lose 1 point, and with 50% LCR could lose up to 0.5 point**)
- Conifers: LCR  $\geq 75\%$



**Figure 7 - LCR**

(Source: <https://openoregon.pressbooks.pub/forestmeasurements/chapter/5-4-live-crown-ratio/>)



**Figure 8: LCR** (Source: Gary Johnson)

## Rating the Stem Condition

### Cambium loss

Cambium loss can be caused by pruning wounds, accidental damage, vandalism, and winter injury (Figure 9 and 10).

- **Up to 3 points can be deducted if 50% or more** of the stem's circumference is girdled; a tree that is **25% girdled would lose about 1.5 points.**
- Vertical cambium loss is not counted, only add up circumferential loss.
- Girdling refers to the removal or loss of bark and phloem from around the circumference of a branch or trunk.



**Figure 9 - Cambium Loss** (Source: Lydia Voth)



**Figure 10 - Cambium Loss**

(Source:

[https://dallasnews.imgix.net/1499099950-6\\_22\\_17\\_Good\\_pruning\\_cut\\_from\\_3\\_angles.jpg?auto=format%2Cenhance&crop=faces%2Centropy&fit=crop&q=40&or=0&w=1024&h=543](https://dallasnews.imgix.net/1499099950-6_22_17_Good_pruning_cut_from_3_angles.jpg?auto=format%2Cenhance&crop=faces%2Centropy&fit=crop&q=40&or=0&w=1024&h=543))

## Exposed or decayed wood

Exposed wood requires a **deduction of 0.25 point minimum** and more if it shows obvious signs of decay (i.e. “punky” or soft rots). Judge decayed wood deduction by significance, location, and amount (Figure 11).



**Figure 11: Exposed/Decayed Wood**

Source:<https://maxpull-flu7l6lqiu.stackpathdns.com/wp-content/uploads/2010/09/tree-with-hole-400x533.png>

## Sprouts/suckers (up to 0.5 pt deduction)

Sprouts, or water sprouts, are fast growing excess shoots that grow out of the main stem of the tree. Suckers are sprouts that develop at the base of the tree stem or off of the tree’s root system (Figure 12). If **any** sprouts or suckers are present deduct a **minimum of 0.25 point**. If sprouts or suckers are excessive, deduct **0.5 point**.



**Figure 12 - Sprouts**

(Source:[https://extension.umd.edu/sites/default/files/\\_images/programs/hgic/Trees\\_Shrubs/EnvironmentalProblems/Water\\_sprouts\\_MG\\_Handbook.jpg](https://extension.umd.edu/sites/default/files/_images/programs/hgic/Trees_Shrubs/EnvironmentalProblems/Water_sprouts_MG_Handbook.jpg))

## Stem cracks

Stem cracks can form as a result of wounding or rapid temperature changes, exposing wood to disease and decay (Figure 13). Depending on the severity of the crack, **up to 2 points can be deducted**. Severity increases if there are multiple cracks, cracks with sap oozing out, and/or if there are indications of decay.

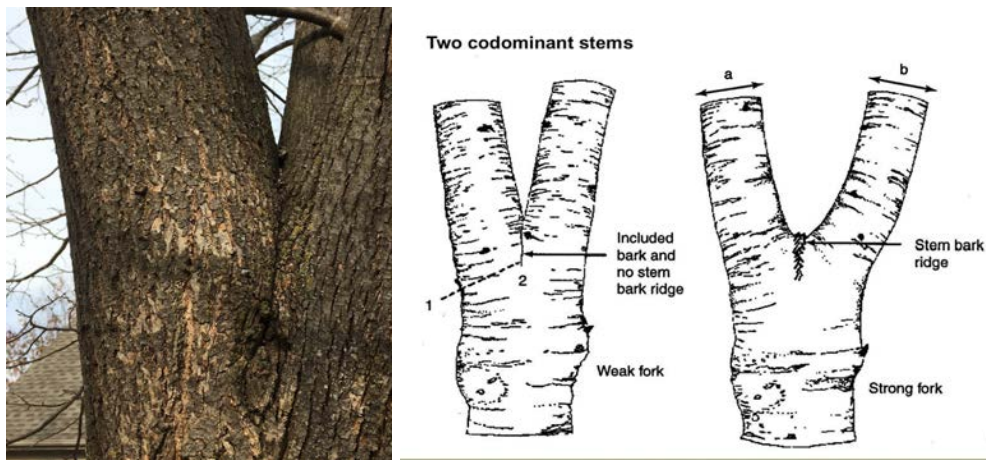


**Figure 13 - Stem Crack**

(Source: [http://www.mggkc.org/wp-content/uploads/2012/11/frost\\_crack\\_initiation\\_point.jpg](http://www.mggkc.org/wp-content/uploads/2012/11/frost_crack_initiation_point.jpg))

## Included branch unions

Included branch unions occur when bark grows between where a branch and the stem, or where two branches, attach, causing a weak attachment (Figure 14 and 15). Depending on the number of inclusion present, and their severity, a **maximum of 0.5 point can be deducted**. Only the first main order branches can be considered when deducting points for this category. Do not consider anything further up in the crown of the tree for this stem condition rating.



**Figure 14 - Included Branch Union** (Source: Lydia Voth) **Figure 15 - Included branch union examples** (Source: [http://images.slideplayer.com/13/4023674/slides/slide\\_17.jpg](http://images.slideplayer.com/13/4023674/slides/slide_17.jpg))

# Data Collection

## Conducting the Segment Sampling

### Start and end points

Each group will have a “master list” of segments to survey. Segments are denoted by starting and ending addresses. To begin surveying, travel to the starting point of a listed segment and proceed to survey each public tree from the starting address to the ending address. When all trees between the start and endpoints of a given segment are surveyed and recorded, the data sheet for that segment should be returned to Chris Anderson at Ramsey Municipal Center.

### Public trees

This tree survey will include only street or boulevard trees. These trees are public trees are often situated near the road, but may be located **up to 16'** from the street. If you have any questions as to whether a tree is public or private, contact Chris Anderson.

## Completing Data Sheets

Please use the guideline outlined blow when completing your survey sheets.

- **General Information:**
  - Group Member Names: Record the names of all group members present
  - Date: Record the date of the survey
  - Zone: Record the zone where the segment is located
  - Count: The number of the tree; remember no repeating numbers on a single segment
  - Segment # : The segment number as it appears on your survey map
  - Page \_ of \_ : Record the current page out of the total pages used for each segment.
- **Tree Information:**
  - Genus: Record the genus for each tree.
  - Species: Reference page 11 in this manual for the list of trees requiring species designation.
  - DBH (to the nearest inch): The DBH measurement taken for the tree.
  - Crown Width (to the nearest foot): The determined crown width of the tree.

For the following criteria, remember to only note the maximum deductions in each column, going in only quarter increments.

- **Crown Assessment:**
  - Stag Heading (up to 1 point): Refer to the condition rating section of the manual.
  - Tip Dieback (up to 0.5 point): Refer to the condition rating section of the manual.
  - Symmetry (up to 1 point): Refer to the condition rating section of the manual.
  - Live Crown Ratio (up to 2 points): Refer to the condition rating section of the manual.
  - Total from Canopy: The total number of points a tree canopy receives. The sum of the deductions made from the assessment are subtracted from the starting point of 4 points.
  
- **Stem Assessment:**
  - Cambium Loss (up to 3 points): Refer to the condition rating section of the manual.
  - Exposed or Decayed Wood: This is a **Minimum** deduction column. Take **at least** 0.25 point off if there is exposed/decayed wood. There is no maximum.
  - Sprout/Sucker (up to 0.5 point): Refer to the condition rating section of the manual.
  - Stem Cracks (up to 2 points): Refer to the condition rating section of the manual.
  - Included Branch Unions (up to 0.5 points): Refer to the condition rating section of the manual.
  - Total from Stem: The total number of points a tree stem receives. The sum of the deductions made from the assessment are subtracted from the starting point of 4 points.
  
- Comments/Notes: Record any comments or notes for a tree or segment.

## Submitting Data Sheets

Completed data sheets can be submitted to Chris Anderson either in person at city hall, via email ([canderson@cityoframsey.com](mailto:canderson@cityoframsey.com)), via fax (763-433-9848), or by mail (7550 Sunwood Drive NW, Ramsey, MN 55303). **Remember**, to submit data sheets after you complete each segment and/or surveying outing in order to ensure that the data sheets and important data are recorded and the survey kept up-to-date.

---

# Glossary

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**Alternate leaves:**

Leaves that are attached to the branch in an alternating pattern.

**Cambium Loss:**

Loss of a tree's cambium due to pruning wounds, accidental damage, vandalism, and winter injury.

**Cambium:**

The thin layer of living wood tissue between the bark and the inner wood of a tree.

**Condition:**

An assessment of a tree's specific likelihood of structural failure.

**Coniferous:**

A tree that has needles or scale-like leaves and cones.

**Crown:**

The leaves and branches of a tree, excluding the trunk/stem.

**Crown symmetry:**

Occurs when the general shape and condition of the crown is the same from all sides.

**Decay:**

See wood decay.

**Deciduous:**

Trees that lose their leaves in the fall.

**Dentate:**

A leaf that has jagged edges that point upward.

**Diameter at breast height (DBH)**

The diameter of the tree trunk at 4.5 feet above the ground.

**Die-back:**

See tip die-back.

**Doubly serrate:**

A leaf that contains both larger and smaller serrations on its edges.

**Entire (leaf):**

A leaf that has a smooth edge.

**Included Bark:**

Bark that grows between where a branch and the stem, or two branches, attach, causing a weak attachment.

**Live Crown Ratio:**

The ratio of living branches to the total tree height.

**Opposite:**

Leaves that are attached to the branch directly opposite to each other.

**Palmately Compound Leaf:**

Leaves that originate from one point; all leaflets branch out from one point

**Pinnately Compound Leaf:**

Leaflets form in rows along either side of the central vein.

**Samara:**

A type of fruit with wings found on maple and ash trees.

**Serrate:**

A leaf that has jagged edges pointing towards the tip of the leaf.

**Simple (leaf):**

Leaves that are singular; singularity attached leaves.

**Species Tree Code:**

The four letter code used by the U.S. Forest Service to designate trees by their genus and species.

**Stag Heading:**

The complete dearth and defoliation of main branches. Branches have an antler-like appearance.

**Stem:**

The trunk of the tree, excluding branches and leaves.

**Stem Circumference:**

The circular measurement around the stem of the tree.

**Suckers:**

Suckers are sprouts that develop at the base of the tree stem or off of the tree's root system.

**Terminal Bud:**

Terminal buds are the buds seen at the very tips of twigs. Note: not all species have terminal buds.

**Tip Dieback:**

Dieback that begins at the tip of a twig and works backward to the stem.

**Tree Defects:**

Any condition such as decay, cavities, included bark/weak branch attachments, cracks or cankers that occur anywhere on a tree and may cause the structural failure of part of, or the whole, tree.

**Water Sprouts:**

Sprouts, or water sprouts, are fast growing excess shoots that grow out of the main stem of the tree.

**Whorled (leaf):**

Three or more leaves that are attached to the branch opposite each other.

**Winter Injury:**

Injury caused by a freezing following a period of warmer weather.

**Wood Decay:**

Wood that is rotting or missing due to fungus or bacteria.

---





# Welcome to the Ramsey Tree Survey Training!

...

# Agenda

## Day 1, Indoor Session

- Introductions/Icebreaker
- Conducting a Survey: Guidelines, Policies, and Practices
- Tree Identification
- Break
- Intro to Age-class and Condition Rating
- Data Collection How-To

## Day 2, Outdoor Session

- Age-Class
- Tree Condition Rating
- Lunch
- Practice
- Practice
- Practice

# Volunteer Tree Survey Training



Day 1

# Why Survey Trees?

**By participating in this survey you are helping your community better manage and care for your urban forest!**



# Conducting a Survey: Guidelines, Policies, and Procedures



# Volunteer Tree Survey Training

- What kind of training is given?
- Who can Volunteer?
- What does volunteering look like?

# Public Vs. Private

- **Public Trees**
  - Located up to 16' from the street/curb
- **Private Trees**
  - Trees on a privately owned property
- **Street/Boulevard Tree**
  - A tree planted in the public right of way



# Safety

- Stay with your group
- Stay aware of your surroundings
- Check the weather
- Wear proper attire
- Carry important contact info
- Dealing with unfriendlies



# Tools

A person wearing a grey long-sleeved shirt, a backpack, and sunglasses is looking through binoculars in a forest. The background is filled with dense, thin tree branches and green foliage. The image has a dark, semi-transparent overlay.

- DBH tape
- 50' cloth measuring tape
- Data collection sheets
- Block sheets
- Clipboard
- Pens/Pencils
- Inventory Manual/Materials
- Volunteer identification
- Informational handouts
- City contact information
- Water
- Cell phone
- Comfortable shoes and weather appropriate clothing



# Tree Survey Breakdown

1. **Stratification**
2. **Pre-sample**
  - a. Accomplished beforehand by U of M students
3. **Sample**
  - a. Taken by the wonderful volunteers!
4. **Data analysis**

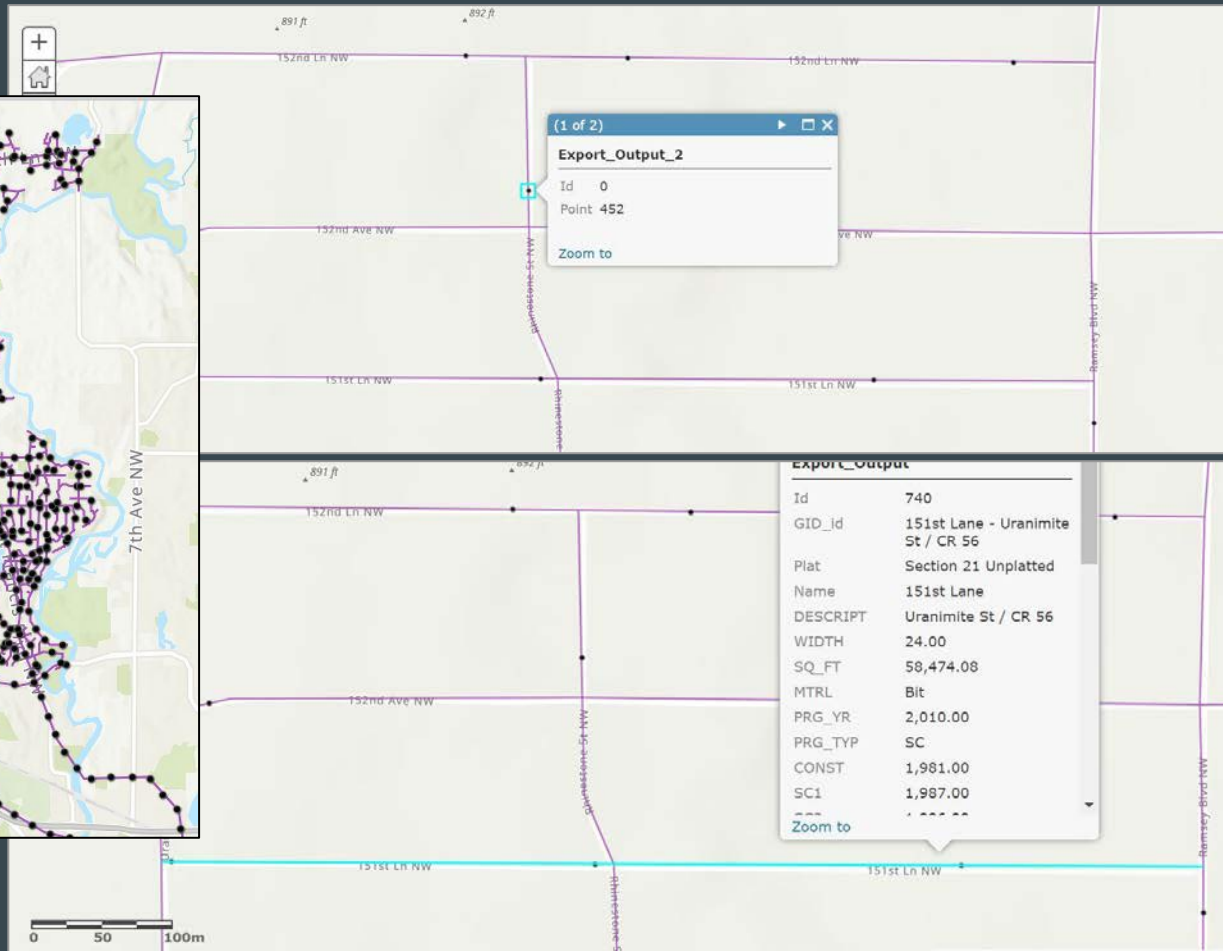
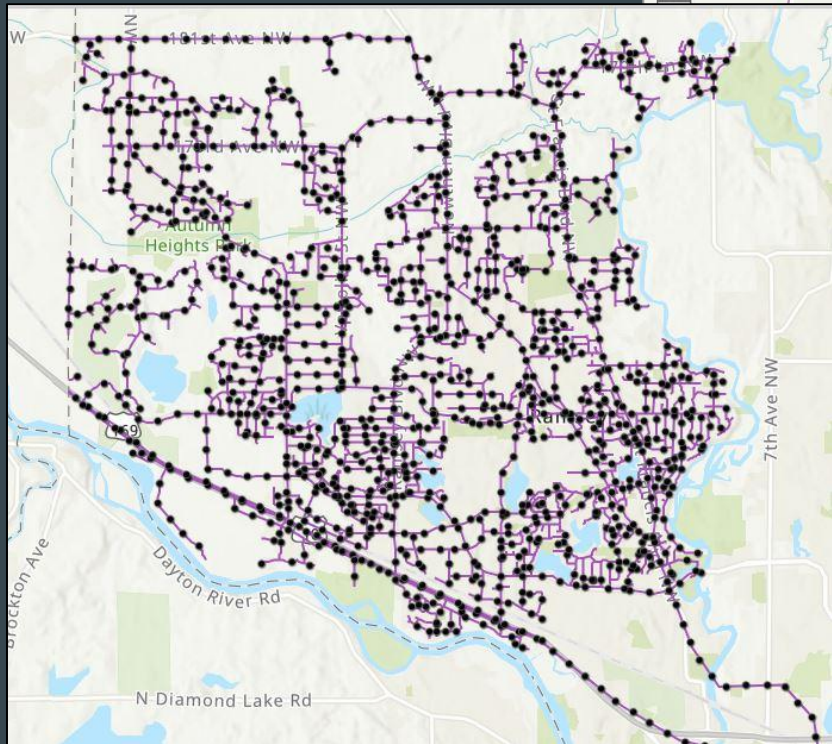


# What information will you collect?

1. **Tree genus (some species)**
2. **Tree size/Age-class**
  - a. Diameter of trunk
  - b. Canopy spread
3. **Tree condition**
  - a. Assess multiple variables to determine canopy and stem conditions
  - b. Measuring DBH

# Conducting the Survey

- Surveying Segments
  - Start in the most south-western corner of the segment
  - Put an X on the segment map at your first tree and write the associated number (1) under the Trees # column
  - Work in a counterclockwise direction, giving each tree an associated number (e.g 1, 2, 3, etc.)
  - Be sure to indicate the placement of the tree on the segment map with a dot and the name label (P1, P2, etc.).
  - Continuing surveying the trees in the segment, recording the information on your survey form
- Numbers in a segment do not repeat.
- Contact Chris Anderson with any questions!



(1 of 2)

**Export\_Output\_2**

Id 0

Point 452

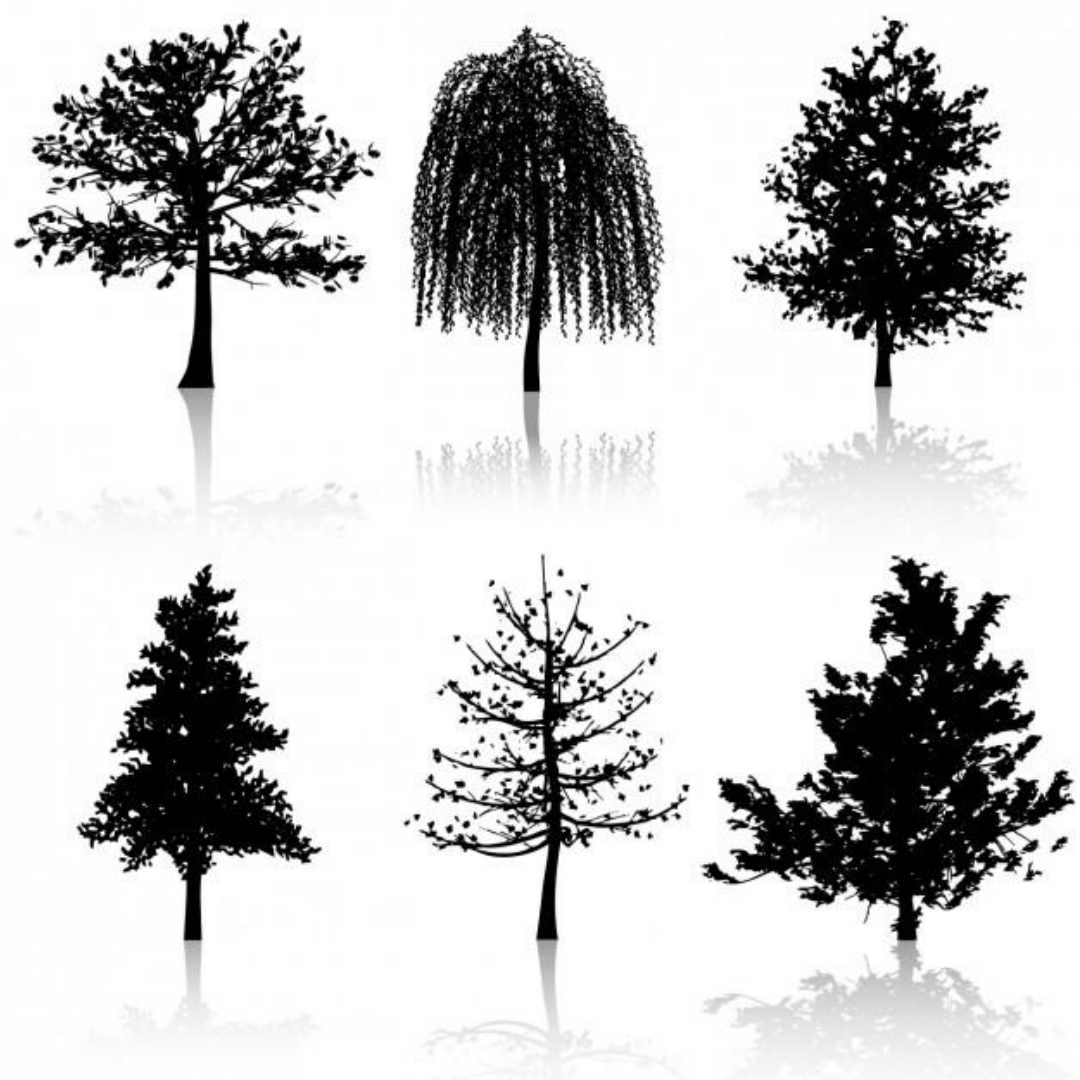
Zoom to

**Export\_Output**

Id	740
GID_id	151st Lane - Uranimite St / CR 56
Plat	Section 21 Unplatted
Name	151st Lane
DESCRIPT	Uranimite St / CR 56
WIDTH	24.00
SQ_FT	58,474.08
MTRL	Bit
PRG_YR	2,010.00
PRG_TYP	SC
CONST	1,981.00
SC1	1,987.00
---	---
Zoom to	



# Tree Identification



# Types of Trees

## Conifer



- Needles
- Cones
- “It’s a pine tree!”

Image: [www.mycutegraphics.com/graphics/tree/pine-tree.html](http://www.mycutegraphics.com/graphics/tree/pine-tree.html)

## Deciduous



- Broadleaf
- Flowers/fruit
- “It’s a maple!”

Image: [www.clker.com/clipart-green-tree-21.html](http://www.clker.com/clipart-green-tree-21.html)

# Deciduous Leaf Characteristics

P. 20 MN Trees packet

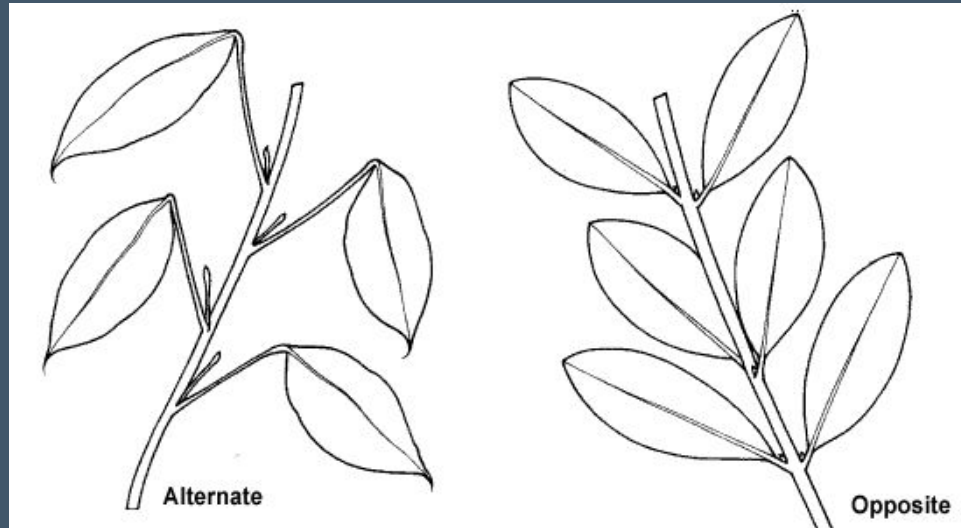


Image: [www.biologycorner.com/worksheets/tree\\_id.html](http://www.biologycorner.com/worksheets/tree_id.html)

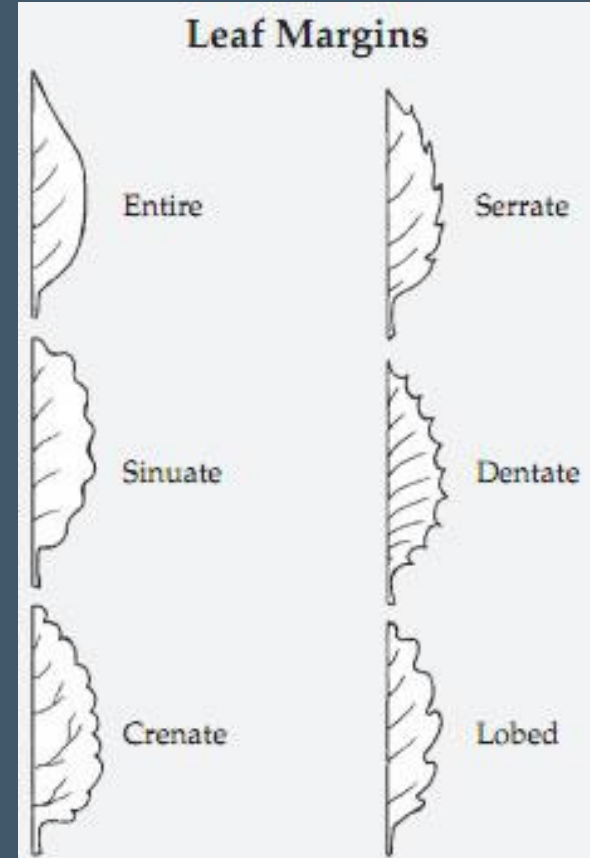
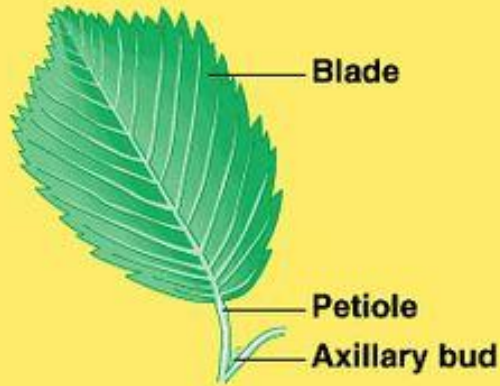
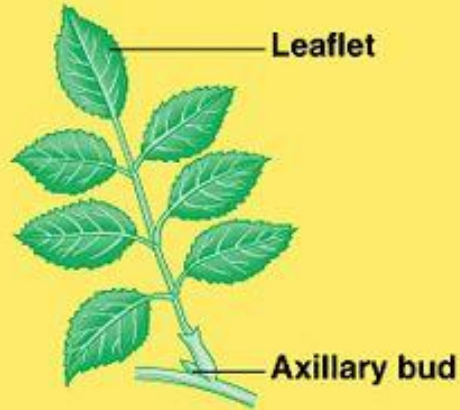


Image: [lifeofplant.blogspot.com/2011/03/leaf-margins-tips-and-bases.html](http://lifeofplant.blogspot.com/2011/03/leaf-margins-tips-and-bases.html)

# Deciduous Leaf Characteristics



**Simple leaf**



**Compound leaf**



**Doubly compound leaf**

# Deciduous Twig Characteristics

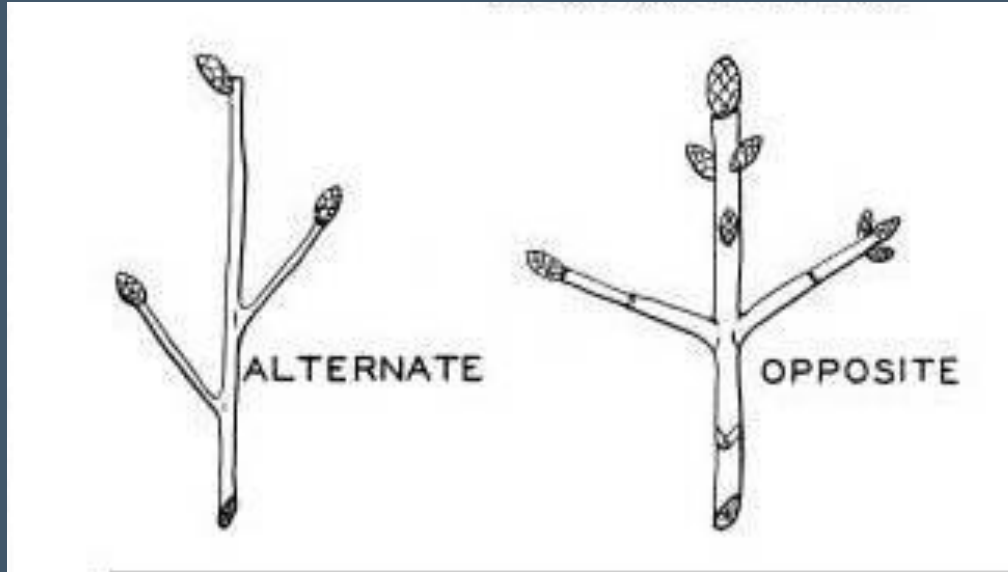


Image: [hort.bh.cornell.edu/tree/plate2.jpg](http://hort.bh.cornell.edu/tree/plate2.jpg)

## Opposite:

M.A.D.

Cap.

Hippo.

## Alternate:

Everything else!

## DNR Top Ten Tree Genera in Ramsey, MN

# Genera to Know

*Acer* (maple)

*Betula* (birch)

*Fraxinus* (ash)

*Malus* (apple)

*Picea* (spruce)

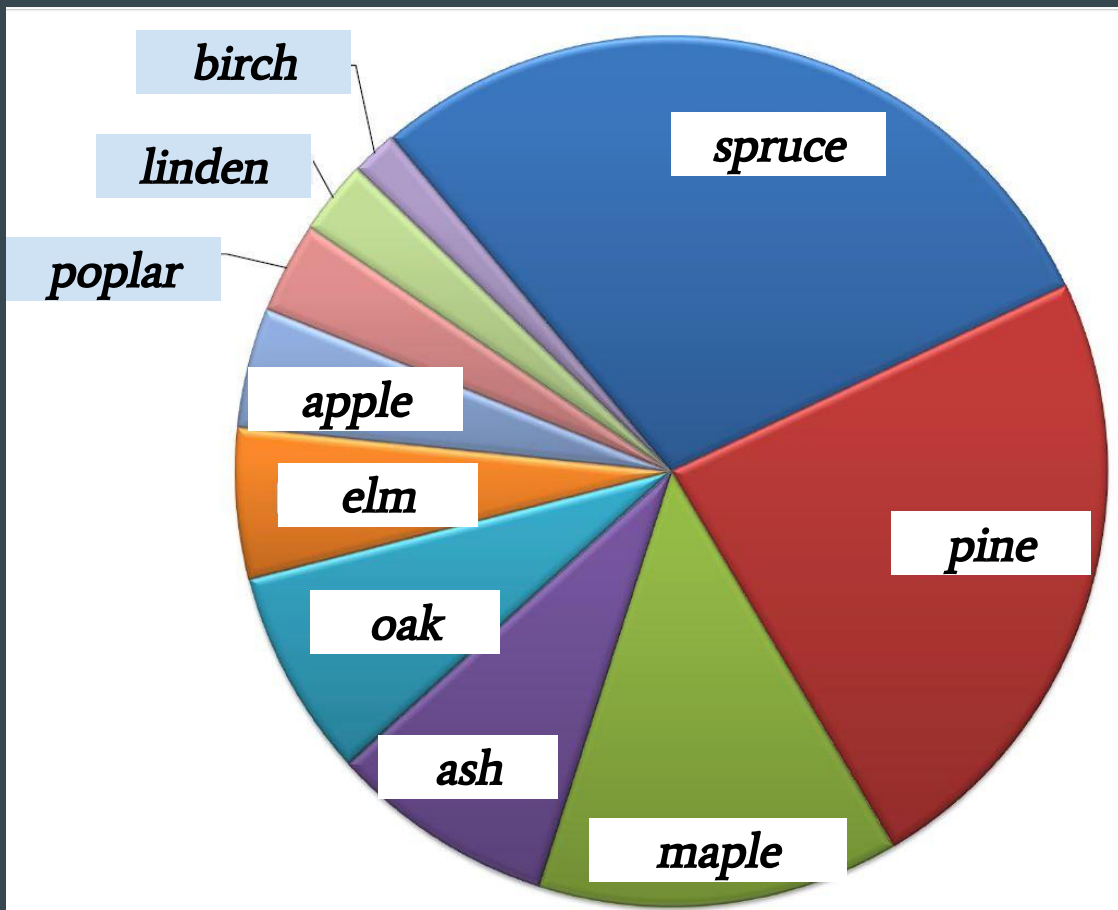
*Pinus* (pine)

*Populus* (poplar)

*Quercus* (oak)

*Tilia* (linden)

*Ulmus* (elm)



**Maple (*Acer*)**

# Sugar Maple (*Acer saccharum*)



# Silver Maple (*Acer saccharinum*)



# Norway Maple (*Acer platanoides*)



# Red Maple (*Acer rubrum*)



# Maple (*Acer negundo*)

boxelder (note compound leaves, ash look-alike)



Ash (*Fraxinus*)

# Green Ash (*Fraxinus pennsylvanica*)

Page 1 - Tree ID Cards



# White Ash (*Fraxinus americana*)

Page 1 - Tree ID Cards



Oak (*Quercus*)

# Red Oak Group



# White Oak Group



# Elms (*Ulmus*)



# Common Conifers

- Pine
- Fir
- Spruce

# Needle ID



# Spruce (*Picea*)



©2006 Jeffrey Phippen

# Pine (*Pinus*)



# Fir (*Abies*)



# Condition Rating



# Condition Ratings

- A tool to assess the physical condition of a tree
  - Difference between health and condition
- Two separate ratings for crown and stem (not averaged or added)
  - Numerical value of 1-4
  - Tree begins with 4 total points per rating
  - Incremental points are subtracted for defects

# Condition Ratings

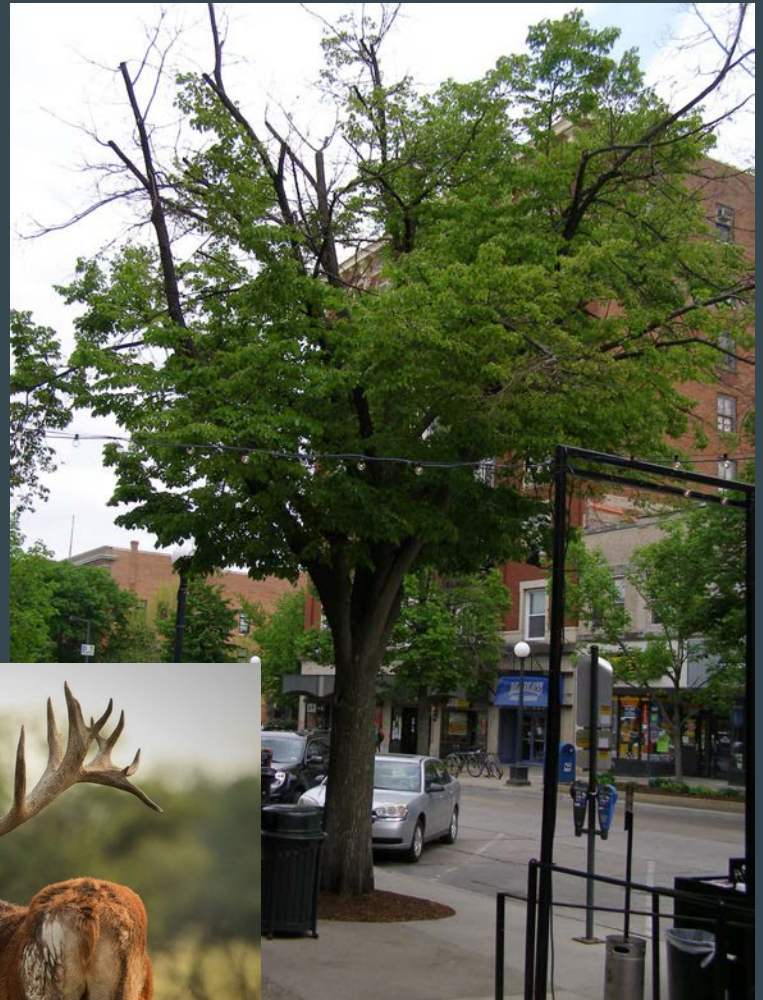
- To measure:
  - First, each team member should assess condition separately
  - Compare with others once each person has a rating
  - Discuss differences to agree on the best number for each possible defect



# Crown Condition

# Stag Heading

- A branch is dead from the tip all the way back to the main stem
  - Looks like antler
- Deduction: up to 1 point
  - Larger vs. smaller branches





Gary Johnson



Gary Johnson

# Tip Dieback

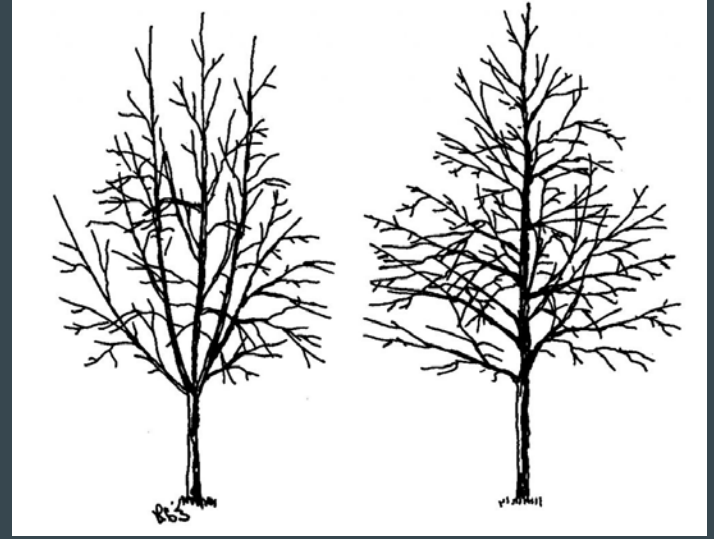
- Death at branch tips
- Deduction: up to ½ point
  - Depends on extent
  - Full deduction when trees exhibit dieback throughout crown





# Symmetry

- Compare to a perfectly symmetrical crown
- Deduction: up to 1 point
  - Portion or portions of crown missing
  - Look for a central leader and full crown



<http://drawingfit.com/small-tree-drawing/small-tree-drawing-small-tree-drawing-drawing-art-gallery/>

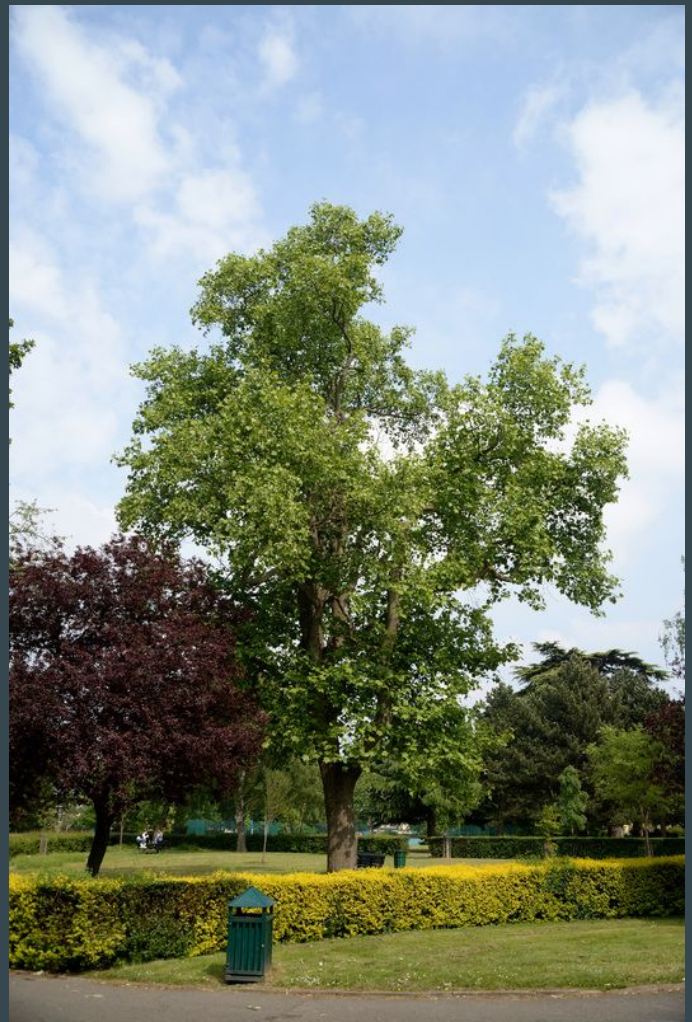


[https://png.pngtree.com/element\\_pic/17/03/24/709ea3c5fac5bce0875ba840c1e63b4f.jpg](https://png.pngtree.com/element_pic/17/03/24/709ea3c5fac5bce0875ba840c1e63b4f.jpg)

[https://png.pngtree.com/element\\_pic/17/03/24/709ea3c5fac5bce0875ba840c1e63b4f.jpg](https://png.pngtree.com/element_pic/17/03/24/709ea3c5fac5bce0875ba840c1e63b4f.jpg)



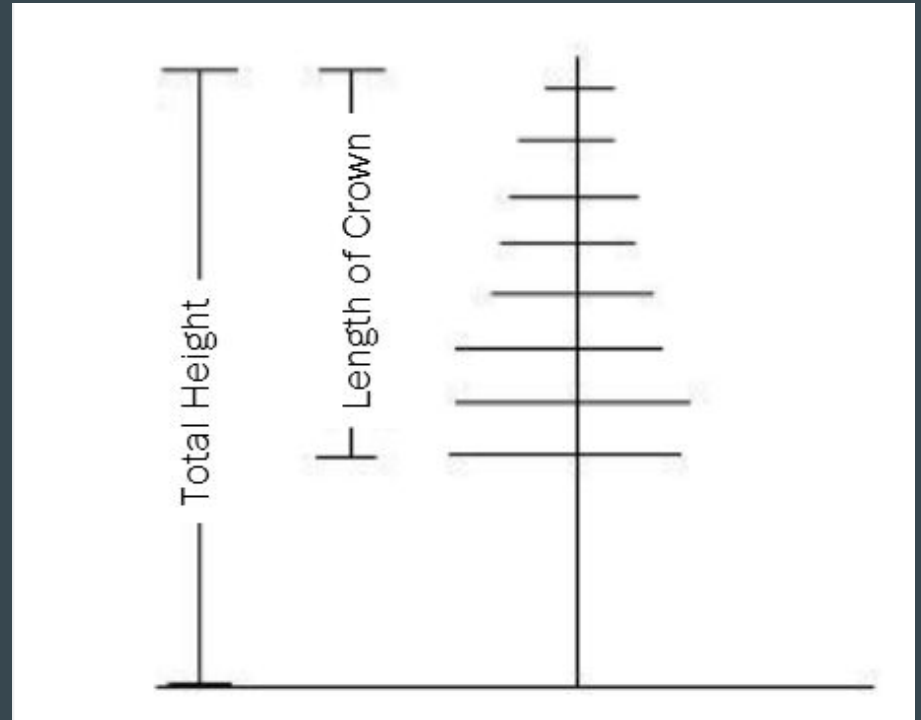
© 2013 John M Phillips



[https://www.tottenhamtrees.org/uploads/5/6/9/4/56947305/1360982\\_6\\_orig.jpg](https://www.tottenhamtrees.org/uploads/5/6/9/4/56947305/1360982_6_orig.jpg)

# Live Crown Ratio (LCR)

- Ratio of crown height to total tree height
- Crown begins at first main branch
- Standard deciduous LCR = 60%
- Standard coniferous LCR = 75%



# Live Crown Ratio (LCR)

- Deduction (deciduous trees):
  - 25% or less LCR- 2 points
  - 33% or less LCR- 1 point
  - 50% or less LCR- ½ point
- \*Make sure to stand far enough back to see the tree's full form\*



Gary Johnson

**Poor LCR**

**vs.**



<http://www.dubarry.net/images/arbore-uni.png>

**Good LCR (>60%)**



Gary Johnson



Gary Johnson



# Stem Condition

# Cambium Loss

- Loss of outer bark / phloem
- Circumferential stem girdling (*not* vertical loss)
  - Pruning wounds
  - Accidental damage
  - Vandalism
  - Winter injury



<https://www.twincities.com/2017/03/22/vandals-damage-trees-at-lebanon-hills-in-eagan/>

# Cambium Loss

- Add the circumferential percent loss of cambium
- Deduction: up to 3 points
  - 50% girdling - 3 points (use this to calculate lower rates of girdling)
  - 25% girdling - 1½ points



Lydia Voth



<https://ask.extension.org/questions/248317>



[https://dallasnews.imgix.net/1499099950-6\\_22\\_17\\_Good\\_pruning\\_cut\\_from\\_3\\_angles.jpg?auto=format%2Cenhance&crop=faces%2Centropy&fit=crop&q=40&or=0&w=1024&h=543](https://dallasnews.imgix.net/1499099950-6_22_17_Good_pruning_cut_from_3_angles.jpg?auto=format%2Cenhance&crop=faces%2Centropy&fit=crop&q=40&or=0&w=1024&h=543)

# Exposed or Decayed Wood

- Significance, location, and amount
- Deductions
  - Minimum  $\frac{1}{4}$  point
  - More for obvious signs of decay



5454772



UGA1408033

<https://www.forestryimages.org/browse/detail.cfm?imgnum=1408033>



Lydia Voth



<https://maxpull-tlu7l6lqiu.stackpathdns.com/wp-content/uploads/2010/09/tree-with-hole-400x533.png>



<https://1.bp.blogspot.com/-MqXLLw95hk/TupPLZ-GA6I/AAAAAAAAAMV/kXiOLoZMBMx/s1600/6.JPG>

# Sprouts and Suckers

- Undesirable vegetative shoots, growing straight out of trunk or roots
- Deductions:
  - ¼ point- presence of any sprouts
  - ½ point- excessive sprouting



<https://www.hgtv.com/outdoors/gardens/planting-and-maintenance/tree-pruning-removing-water-shoots-and-suckers>



<https://www.lowes.com/creative-ideas/gardening-and-outdoor/tree-pruning-basics/article>



<http://extension.uga.edu/publications/detail.html?number=B1031&title=Shade%20and%20Street%20Tree%20Care>



[https://extension.umd.edu/sites/default/files/\\_images/programs/hgic/Trees\\_Shrubs/EnvironmentalProblems/Water\\_sprouts\\_MG\\_Handbook.jpg](https://extension.umd.edu/sites/default/files/_images/programs/hgic/Trees_Shrubs/EnvironmentalProblems/Water_sprouts_MG_Handbook.jpg)



<http://www.abc.net.au/news/image/286524-3x2-940x627.jpg>

**How much would you deduct?**



<http://www.maine.gov/dacf/php/caps/EAB/images/epicormic.jpg>

How much would you deduct?



<http://www.maine.gov/dacf/php/caps/EAB/images/EpicormicSprout.jpg>

# Stem Cracks

- Deductions: up to 2 points
  - Severity increases if there are multiple cracks, cracks with sap oozing out, and/or if there are indications of decay





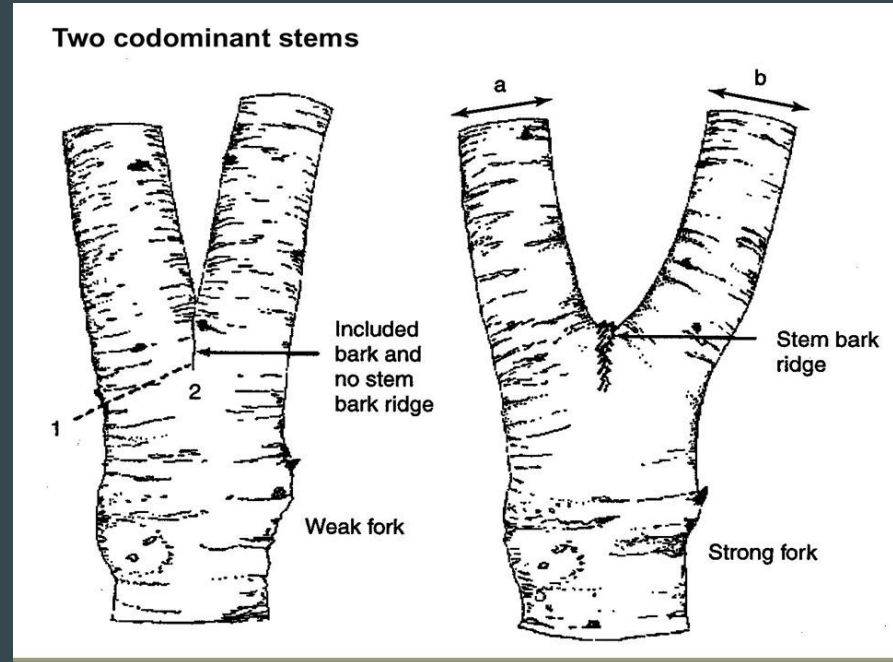
<https://www.forestryimages.org/browse/detail.cfm?imgnum=5035053>



[http://www.mggkc.org/wp-content/uploads/2012/11/frost\\_crack\\_initiation\\_point.jpg](http://www.mggkc.org/wp-content/uploads/2012/11/frost_crack_initiation_point.jpg)

# Included Branch Unions

- Caused by bark growing into branch union, instead of in a ridge around the union
- Can compromise main stem during loading events
- Deductions: up to 1½ points
  - Based on number and severity of inclusions





[http://statebystategardening.com/images/uploads/article\\_uploads/2015\\_Feb\\_news\\_3-G2\(1\).jpg](http://statebystategardening.com/images/uploads/article_uploads/2015_Feb_news_3-G2(1).jpg)

**Branch bark ridge (good)**

vs.



Lydia Voth

**Inclusion (bad)**



# Age Class



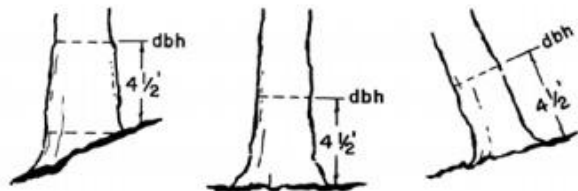
Diameter at breast height (DBH) & Crown width

# Diameter at breast height (DBH)

- **Breast height:** Standardized point on the trunk, 4.5 feet from its base.
- To measure DBH, a diameter tape (D-Tape) can be used. Otherwise the measurement can be taken with a standard measuring tape and converted to diameter by dividing by pi (3.14).
- To measure a tree, wrap the D-tape completely and tightly around the tree at your breast height and record the number where the zero meets the tape again.
- Take care to record the distance on the D-Tape that displays the diameter distance and to record in proper units (inches).



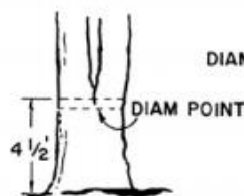
# Adverse conditions requiring adjustments to DBH



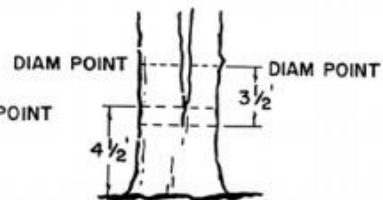
1. TREE ON SLOPE

2. TREE ON LEVEL  
GROUND

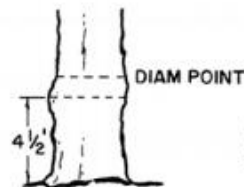
3. LEANING TREE



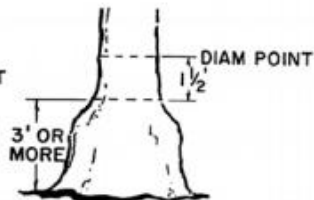
4. TREE FORKING AT OR  
ABOVE 4 1/2 FEET



5. TREE FORKING BELOW  
4 1/2 FEET



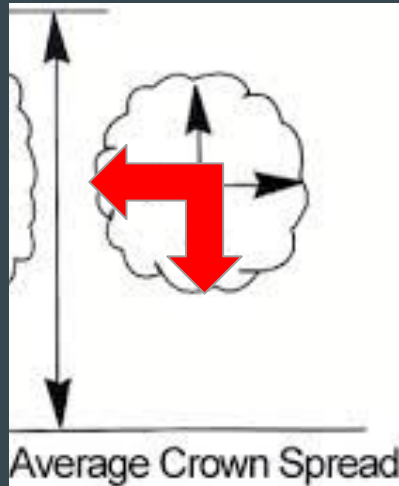
6. TREE DEFORMED  
AT 4 1/2 FEET



7. BOTTLENECK TREE

# Crown Width

- One group member will stand at the edge of the canopy holding one end of the tape measure.
- A second member walks the tape to the trunk, takes a 90° turn and continues on that path to the end of the trees drip line. Record this distance to the nearest foot, this is the *Average crown spread*.
- The 90° turn will account for any irregularities in crown form.





**Data Collection:  
Filling out the data forms**





Find a Team!



**Environmental Policy Board (EPB)**

5. 2.

**Meeting Date:** 05/21/2018

**By:** Chris Anderson, Community  
Development

**Information**

**Title:**

Update on Pollinator Friendly Projects

**Purpose/Background:**

The City of Ramsey is partnering with the City of Andover on two (2) native landscape and pollinator friendly projects this year. Andover has hosted a Native Plant Sale for a couple of years and earlier this year, Staff was asked if there was interest in participating in some fashion with their Native Plant Sale. Rather than holding separate events, Ramsey Staff is simply promoting the Native Plant Sale that will be held at the Andover City Hall on June 2. We will have information in the next Weekly Update and the website. There was info included in the May/June issue of the Ramsey Resident newsletter also promoting the event.

Andover's Pollinator Awareness Project (APAP) group has coordinated a Native Garden Tour for several years now as well. Staff was also asked if there was any interest in a joint effort for this event. Staff has connected with two (2) Ramsey property owners that have agreed to participate. The purpose of the tour is to showcase native landscapes/gardens within the area to hopefully encourage others to enhance their landscapes to be more beneficial to pollinators and other wildlife. The event has previously been promoted through various channels including the Star Tribune, Northern Gardener magazine, and a couple smaller newspapers. The tour date is July 21, 2018 anytime between 9am and 3pm. Property owners have agreed to be available that day to talk to attendees about their landscapes and answer questions. This has been fairly successful in Andover the past couple years and Staff would like to grow the number of properties participating in Ramsey.

**Action:**

No action necessary.

**Attachments**

[Previous Year Andover Tour Map](#)

[Ramsey Tour Map](#)

**Form Review**

**Inbox**

Tim Gladhill

Form Started By: Chris Anderson

Final Approval Date: 05/18/2018

**Reviewed By**

JoAnn Shaw

**Date**

05/18/2018 09:07 AM

Started On: 05/17/2018 03:53 PM



