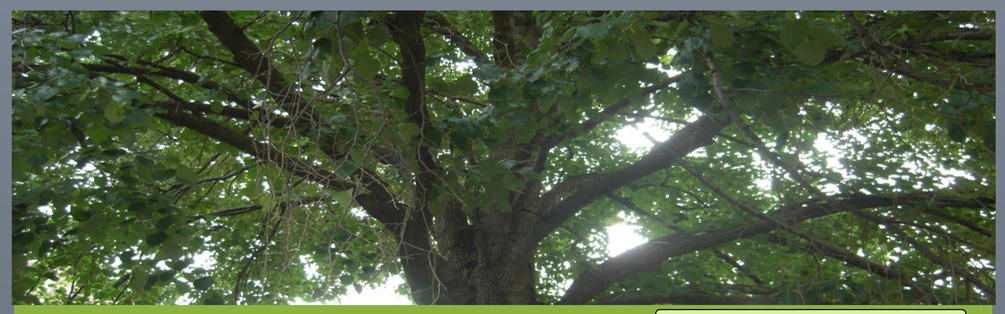
WSU Facilities Services Tree Inventory
Pullman, WA
Karissa Wood
Summer 2014



Above: Tilia tomentosa near Todd Hall

Introduction

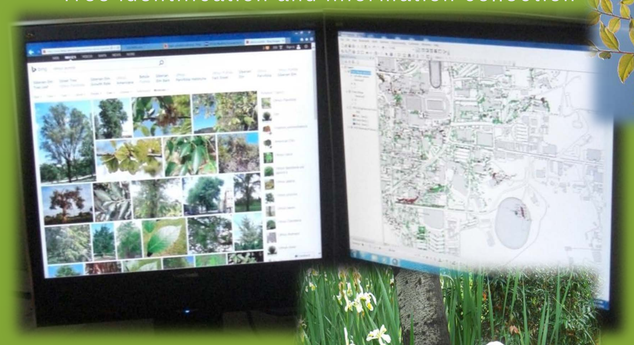
The WSU Facilities Services function to maintain and construct campus property. Some of the available resources are grounds keepers, architects, and engineers. Within this service is Capital- which oversees all new constructions and renovations. It is an independent, campus representative. The tree inventory is a database of the Capital division.

The tree inventory is a database filled with tree information such as tree names, diameter, location, and condition. With new technology, the database is being mapped through the use of graphic information systems and global positioning systems also known as GIS and GPS. The purpose of the tree inventory is to provide information for better grounds maintenance, archive the impact of tree removals and make tree information available for the public's use.

Responsibilities

Bottom:
Gymnocladus dioica is uncommon on campus. Pictures were used for aiding ID.

- Map WSU Campus trees with GIS/GPS
- Tree identification and information collection



Top Left:
The left screen shows an internet search of Ulmus species. Internet was one source of quick information, but we also used books most often. The right screen is the ESRI mapping program that we used. The red dots were the unidentified trees.

- Label trees

Center Right:
Here I am finding the tag on a Populus alba that I was identifying.

Bottom Left:
Here is a pine tree that was tagged. Sometimes it was difficult to put in a tag because the wood was too hard and would bend the soft aluminum nails. There were other difficulties like tags being lost over time due to unknown reasons or being engulfed by the new trunk growth.

- Calculate tree economic values

Right:
Tree values are a way to give an economic value to trees. It is calculated by multiplying the base value by the species, condition and location ratings as percentages. The base value is calculated through the diameter at breast height. The base value represents the cost of a tree if it were the epitome of a tree. By multiplying it to the different ratings, that number is reduced to reflect the tree's actual condition.

ID Number	Species	Common Name	DBH	Base value	Species rating	Condition rating	Location rating	Total value
8892	Fraxinus nigra	Black Ash	4	729	65	85	65	$ 262
8893	Pseudotsuga menziesii	Douglas fir	16.4	7,439	85	85	65	$ 3,494
8894	Pseudotsuga menziesii	Douglas fir	11	3,516	85	60	65	$ 1,166
8895	Quercus rubra	Northern red oak	2.7	523	85	35	70	$ 109
8896	Pseudotsuga menziesii	Douglas fir	9.7	2,906	85	70	65	$ 1,124
8897	Abies grandis	grand fir	5.7	1,414	80	90	65	$ 662
8898	Thuja occidentalis	Arborvitae	9.5	2,906	65	65	70	$ 859
8899	Acer saccharinum	silver maple	35.5	37,662	60	50	75	$ 8,474
8900	Acer saccharinum	silver maple	35.3	35,598	60	60	75	$ 9,611
8901	Acer saccharinum	silver maple	40	46,496	60	65	75	$ 13,600
8902	Acer saccharinum	silver maple	46	61,491	60	45	75	$ 12,452
8903	Acer saccharinum	silver maple	40.7	48,830	60	15	75	$ 3,297
8904	Acer saccharinum	silver maple	45	58,846	60	25	75	$ 6,620
8905	Acer saccharinum	silver maple	42.7	53,732	60	45	75	$ 10,881
8906	Acer saccharinum	silver maple	45	58,846	60	50	75	$ 13,240
8907	Acer saccharinum	silver maple	51.2	75,584	60	50	75	$ 17,006
8908	Acer saccharinum	silver maple	55	87,906	60	30	75	$ 11,867
8909	Acer saccharinum	silver maple	40	46,496	60	35	75	$ 7,323
8910	Acer saccharinum	silver maple	63.3	115,338	60	5	75	$ 2,595
8911	Pseudotsuga menziesii	Douglas fir	28	22,783	85	70	75	$ 10,167
8912	Acer saccharinum	silver maple	36	37,662	60	50	45	$ 5,084
8913	Pseudotsuga menziesii	Douglas fir	25.6	19,644	85	20	75	$ 2,595
8914	Acer saccharinum	silver maple	55	87,906	60	65	75	$ 25,713
8915	Pseudotsuga menziesii	Douglas fir	22.3	14,065	85	5	75	$ 448
8916	Robinia pseudoacacia	Black locust	30.0	26,154	75	25	75	$ 3,678
8917	Acer saccharinum	silver maple	38	41,962	60	25	75	$ 4,721
8918	Acer platanoides	Norway maple	12.3	4,185	70	55	75	$ 1,208

- Attend Irrigation-installment meetings

Left:
Irrigation meeting were held every Wednesday morning. The campus wanted to change valves on the current system to create more water efficient system. I attended to learn more about irrigation systems and to ensure that installations did not damage any trees. Pictured are Webb French, Cyndi Arbour, Jim Frazier, Ben Breitsprecher, Josh Gregg, and me.

- Oversee construction sites for proper tree conservation practices
- Digitalize documents pertaining to campus trees

Right:
Here co-intern Mona and I are ready to go to some construction sites

Bottom:
I am using the document scanner to digitalize old vegetation maps

Left:
This is the GPS/GIS equipment that we used to input trees to the inventory.

Summary

I went into this job with a rudimentary skill set. There is no replacement for hands-on experience to solidify current skills and highlight the areas that need improvement. The opportunities I had during this internship have extended my abilities to work with people, trees and computers. My confidence has been boosted through the independence of the work this summer. When there were problems I had to address them by myself or find the resources to help. This often meant building good communication skills with the other people in the office. The work was very intensively focused on using computer programs. Even the programs that I had used for classes were employed in ways previously unknown to me. Another change was my tree identification skills. In the landscape, there are more trees than are normally taught in classes. This meant that I had to be alert to identifying features and be prepared to research the plants that were new to me. These skills should benefit me through my career in Nursery Management.