12-14-2018

Fagus sylvatica (European Beech) ID #1191

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European Beech

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BIO 140 Lab: Humans and Their Environment

Salve Regina University

Starting from the beginning of the semester until the end, we were all responsible for observing and keeping track of a tree of our choice on campus. I chose a very interesting tree that I would always see on my way to my Seminar class. My tree is marked as number 1191 and it is located in front of Wakehurst. If you go up the path from Roger's Recreation Center towards Wakehurst, the tree will be right in front of you. I had no clue what the species of the tree was. I tried to take an educated guess as to what the tree was by observing its shape and leaf size, but I was at a loss. I finally figured out what the tree was by looking it up by its ID number in the arboretum.

Figure 1: My tree on September 13, 2018.

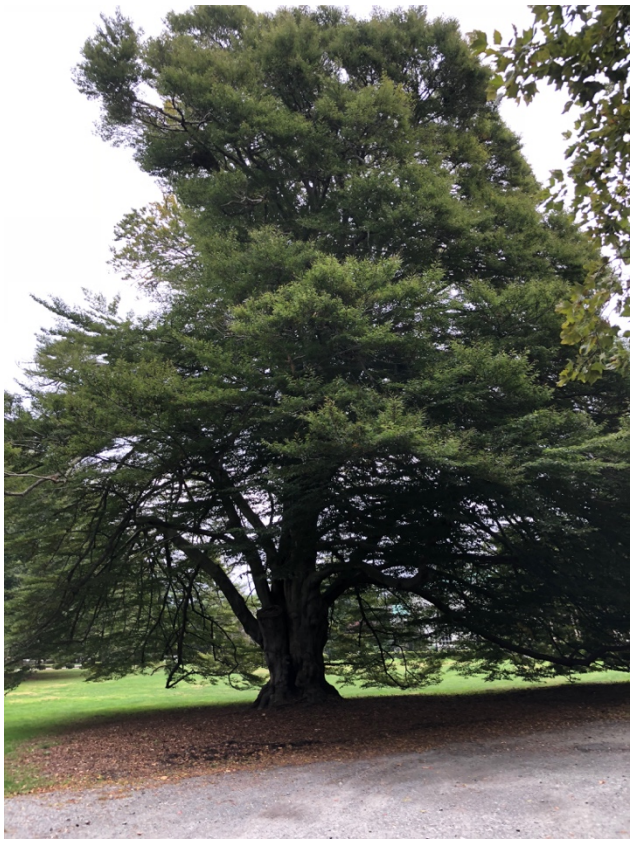
From looking at the arboretum, I figured out that my tree is a *Fagus sylvatica*, or most commonly known as a European Beech. It is native to Europe, but has been planted widely in the

New England region. In general, the most common *Genus* on campus is *Fagus,* so it isn't surprising to find this tree on campus.

From looking at the Salve Regina University Tree Inventory & Management Plan that was provided to us in class, I learned a lot about my tree. It is in the mature age class and it is in the large height class. The condition of the tree is fair, which I'll discuss later on in the paper. In addition, I found out that my tree is worth $54,591.

Figure 2: My tree on September 30, 2018

Figure 3: My tree on October 7, 2018



European Beech trees are important to wildlife. When researching my tree, I found out that in Europe, "Native truffle fungi grow in beech woods," which in turn "means that they help the host tree obtain nutrients in exchange for some of the sugar the tree produces through photosynthesis," (Woodland Trust). They also provide habitats for deadwood specialists such as

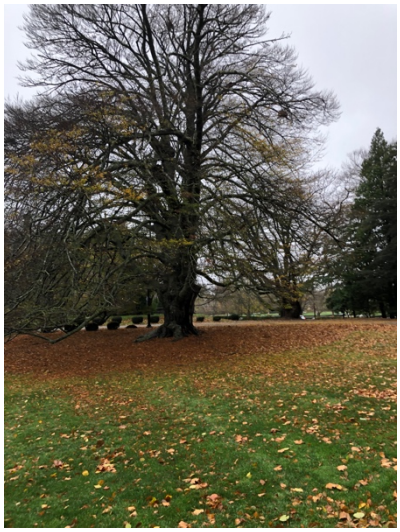
nesting birds and wood-boring insects (Woodland Trust). Since they provide so much to wildlife, getting rid of them would negatively impact the ecosystem that they live in since many organisms depend on them. All in all, they provide something vital to biodiversity.

Figure 4: Colored leaves on October 7, 2018

So, on this day, I noticed the first instance of the leaves changing color. Their fall color is usually a bronze or reddish-brown color, or a combination of the both. Regularly, their leaves are 2 to 5 inches long with shallow teeth and a dark green complexion. While researching, I found out that the colored leaves usually persist in the winter (Morton Arboretum). Even though their leaf color persists in the winter, I found that to not be true. Yes, the leaves did change color, but not completely throughout the tree. The tree just had yellowish tints throughout it, which can be seen in Figure 5. I don't think the color persisted through the winter because I noticed that the tree started losing a lot of leaves in late November when it was getting colder out. Within 12 days, the majority of leaves fell off, which you can see in Figure 6. The premature falling of leaves can be connected to climate change, in general, global warming, since we reach colder temperatures earlier than we should be reaching them.

Figure 5: The full color change of the tree on November 1, 2018

Figure 6: The loss of leaves on November 13, 2018. ->



My tree is suffering from various conditions, which is why I initially chose it. I noticed that it had some tree rot, so I was curious to see how it would act throughout the months.

Figure 7: Tree rotting on September 13, 2018

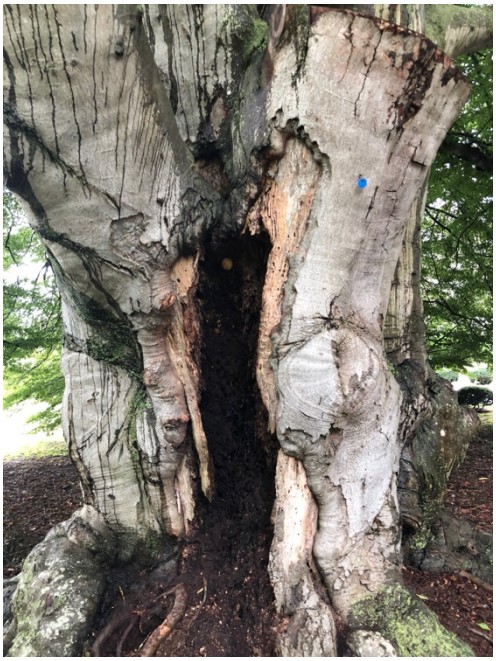
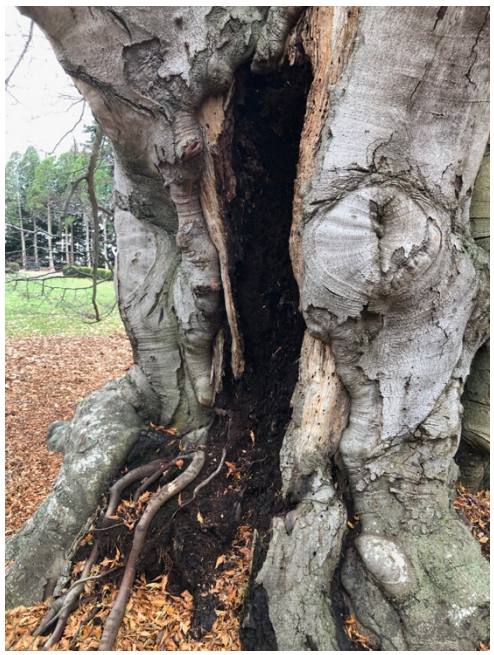


Figure 8: Tree rotting on November 19, 2018



Here, you can see the tree rot about two months apart. The condition of the tree didn't necessarily improve. It still looks the same when you compare the two photos. The tree is

diagnosed with codominant stems, cavity-stem, cavity-branch, cavity-root flare, wound-branch, and fungi/conks. They are susceptible to root rot amongst other things. I don't really know if the tree is dying, but it's sure suffering. In order to treat the fungi, the tree would have to be sprayed with fungicides. In order to treat any root problems, root invigoration could be used, which will improve aeration and promote more efficient root growth. All in all, this tree needs to be treated for various issues, but it is still thriving and functioning as a healthy tree would.

From this project, I have learned the importance of trees. Trees provide an ecosystem with a habitat. If there are trees that are rotting, then they should be taken care of. Trees aid us in our oxygen consumption as well as increasing biodiversity. Trees should be protected at all costs.

Works Cited

"Beech, Common (Fagus Sylvatica)." *British Trees - Woodland Trust*, www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/native-trees/common-beech/.

"European Beech." *Yellow Birch | The Morton Arboretum*, www.mortonarb.org/trees-plants/tree-plant-descriptions/european-beech.