

Reduce, Restrict, Restore

Samantha Palmadessa

Girl Scout Gold Award

Introduction

- My name is Samantha Palmadessa
- I am a junior at Manhasset High School
- I have been a Girl Scout since kindergarten



Girl Scouting Through the Years



Daisy

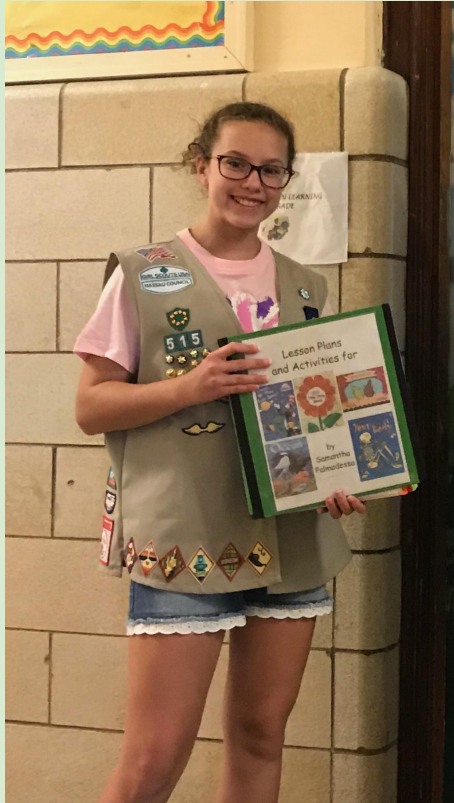


Brownie



Junior

Girl Scouting Through the Years



Cadette



Senior



Ambassador

The Gold Award

- The Gold Award is the highest award a Girl Scout can achieve
- There are four components:
 1. Choosing an Issue
 2. Creating a Plan
 3. Taking Action
 4. Educating



My Issue

- For as long as I can remember my favorite subject has been Science
- When it was time to imagine my Gold Award I definitely knew I wanted to combine my passions for science and the environment
- I began researching online and learned that invasive species were a major issue worldwide
- I visited Udalls Cove Park Preserve and learned that invasive species were a tremendous problem there
- I crafted a multi-step plan to combat this issue with my Gold Award mentor, Mr. Mugdan



Udalls Cove Park Preserve

- Udalls Cove Park Preserve, founded in 1969, is dedicated to conservation, preservation, and restoration
- The Preserve was created to protect the surrounding wetlands from construction
- An astounding variety of wildlife and flora call the Preserve home



- Fun Fact: 21 Eagle Scout projects have been performed in the Preserve but my project was the first Girl Scout Gold Award!



Here Mr. Mugdan is pointing out the most abundant invasive species in the Preserve.

Invasive Species vs. Native Species

- Invasive species are organisms that are not native to an area
- The spread of invasive species is a worldwide problem
- They are very dangerous because they have no natural predators in the environment
- This allows invasive species to take over native species and disrupt the diversity of forests and preserves



Invasive Species at Udalls Cove Park Preserve



Porcelainberry Vine



Wisteria Vine

Invasive Species at Udalls Cove Park Preserve



Kudzu Vine



Japanese Knotweed

Norway Maple Trees

- The Norway Maple is an example of an invasive species because it produces billions of winged seeds which germinate very quickly and allow the species to spread all over
- They also have shallow roots and a dense canopy, which makes it hard for other species to take root and grow in the understory
- This allows the species to dominate an area
- Norway Maples are prevalent in the Udalls Cove Park Preserve



Girdling

- Girdling is a technique used to eliminate invasive species over time
- To girdle a tree, a complete circle 0.25 inches of bark must be cut 1 ft above the base of the tree
- Girdling severs the arteries in the tree which prevents the tree from receiving food and water
- This is easier and more applicable than sawing the tree because it requires less equipment and time
- Leaving the tree standing to die slowly creates food for the woodpeckers



Girdling Results

- In order to create a measurable percentage I isolated and measured 50ft x 10ft = 500 square feet on either side of the trail
- This created a total girdling area of 1000 square feet
- I counted approximately 33 Norway Maple trees in the area
- With Mr. Mugdan, I decided to girdle 25 trees
- This would eliminate a little over 75% of the invasives
- These trees were carefully chosen so as not to disrupt the shade canopy for existing organisms
- 75% was ideal because it reduces just enough Norway Maples so the area is not shocked
- This will now allow new, native species to grow in these areas over time

Tape measure





Pictures of Norway Maple girdled trees at Udalls Cove.



Native Swamp Maple Trees

- In a nearby area of the Preserve there is an issue of excess moisture
- The LIRR cleared the trees along the Preserve, which unfortunately created a lot of runoff
- The Swamp Maple is able to absorb excess moisture and thrives in that environment
- Swamp Maples (also known as Silver Maples) are also native to the Preserve and would not cause any harm to the ecosystem
- In order to plant these trees, I had to shop for supplies at Home Depot





Shopping for materials at Home Depot.

Grateful for my Girl Scout Cookie Sales which funded my Gold Award project!



Picked up stakes, topsoil, rubber mallets, velcro ties, and buckets. Ordered tree saplings from Arbor Day Foundation.

Mission accomplished!

Planting

- I decided to plant 8 Swamp Maple saplings which I purchased from the Arbor Day Foundation
- Each sapling was 3-4 ft high
- I had to dig out Japanese Knotweed, another invasive species, to clear the area where I wanted to plant

- The planting involved 5 steps:
 1. Digging a hole using a shovel and removing any roots or debris
 2. Placing each sapling's roots carefully inside the hole, covering with dirt and topsoil
 3. Adding more topsoil to create a protective moat around the sapling
 4. Placing 1 stake next to the sapling to stabilize it, and hammering it into the ground using a rubber mallet
 5. Using velcro to tie the sapling to the stake

Planting Results

- I planted 8 saplings in the hope that 5-6 would survive
- Saplings are weak so their survival rate is uncertain
- After planting the saplings, I checked on them a few weeks later
- I am happy to say that 6 of the saplings are doing great and 2 are struggling a little
- However, the 2 that are struggling could always recover because it is still early
- Current sapling survival rate: 75%







Tree sapling



Tree sapling

Tree sapling



Tree sapling



Tree sapling

Tree sapling

Tree sapling

Tree sapling

Conclusion

- Invasive species are extremely harmful and lower an area's biodiversity
- To prevent the spread of invasive species, we need to be careful to educate ourselves regarding native species before transplanting plants
- Girdling can be dangerous so only people with proper training and tools should attempt it
- In total, I girdled 25 invasive Norway Maple trees in Udalls Cove Park Preserve and planted 8 native Swamp Maple saplings
- To prevent the spread of invasives in our everyday life, we can volunteer at removal efforts and be cautious of which plants we purchase or transplant



Reduce, Restrict, Restore

- I **REDUCED** the number of invasives in Udalls Cove Park Preserve
- I **RESTRICTED** further growth by girdling 25 Norway Maples and removing Japanese Knotweed
- I **RESTORED** the Preserve by planting 8 native Swamp Maples



Survey

The final requirement for my Gold Award
is to have measurable results.

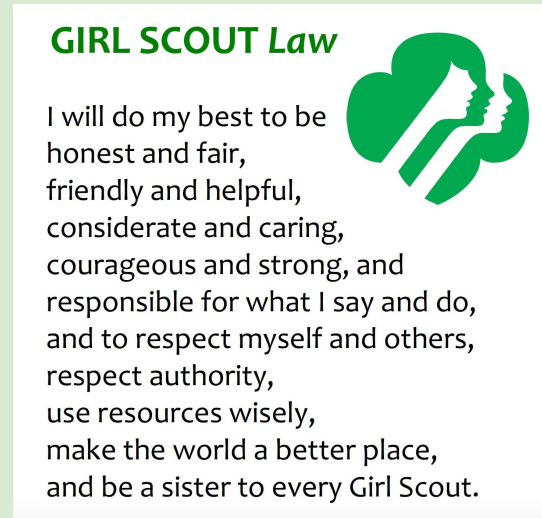
Could everyone please fill out this survey?

<https://www.surveymonkey.com/r/TRFVV88>

A special thank you to Mr. Mugdan for agreeing to mentor my Gold Award Project. I learned so much from him and am so appreciative.



I hope you enjoyed learning about my Gold Award Project!



Thank you for your time!