



Megan Hamm
Chemistry, Biology, PBS
Denver High School
2020 extern at George Wyth DNR

Part I: Overview of Workplace

George Wyth Memorial State Park is considered an "urban wildlife sanctuary" located between Waterloo and Cedar Falls in Black Hawk County. Visitors can get away from the busy metropolitan area and take advantage of a variety of outdoor activities. George Wyth has 3.5 miles of paved multi-purpose trails, and the park also offers 10 miles of soft trails for guests to enjoy. George Wyth has four lakes each with its own niche. Brinker Lake is 180 acres and is the only wake lake for boaters in Black Hawk County. George Wyth Lake is 75 acres, and has the beach, one of the most popular swimming spots in the area. Fisher Lake is a 40 acre natural lake and an oxbow to the Cedar River which borders the park. Alice Wyth Lake is 60 acres and only allows electric motors. Fishers can try their luck for crappie, bluegill, walleye, northern, bass and channel catfish in any of the lakes. There is a boat ramp at each of the lakes and there are three universally accessible jetties around George Wyth Lake. The scenic beauty of George Wyth State Park makes it a very popular picnic and camping spot. The campgrounds has both electric and non-electric sites, modern showers, along with restrooms. There are four open shelters near the river and Fisher Lake that may be reserved for a family picnic or special occasion. At the back of the park there is a popular day-use lodge ideal for family reunions, weddings or larger gatherings. George Wyth has many different avenues for guests to experience nature, and enjoy the great outdoors.

Part II: Workplace Focus

George Wyth is dedicated to ensuring the animals and people within the park are comfortable and safe. There are many locations within the park where guests can observe different types of wildlife. Within the park, there are bird watching areas, fishing jetties/ docks, and many trails where guests can get out and observe all types of wildlife.

During the spring of 2021, park staff worked closely with state foresters in preparing and planting mixed hardwood and mixed conifer bareroot seedlings into an open strip of land approximately 4 acres in size. By developing a plan with foresters, the park will be able to use these trees to develop an ecosystem that would better support different types of wildlife, offer a barrier for weather and sound, amongst other benefits.

Part III: Introduce the Problem

The Park with the foresters to plant over 1,100 tree seedlings. These trees will grow and benefit the park over the next twenty five years.

How can we sustain the tree seedlings?

You are going to step into a role of a DNR Park Ranger along with a forester to develop a proposed plan on how to sustain all of the tree seedlings you planted using your knowledge of the soil, the types of trees planted, and applying factors that affect photosynthesis.

Part IV: Background

[PBL Background Knowledge Link](#)

[Final Project Rubric](#)

During the spring of 2021, park staff worked closely with state foresters in preparing and planting mixed hardwood and mixed conifer bareroot seedlings into an open strip of land approximately 4 acres in size. On Earth day, the park had approximately 20 volunteers to plant all the new trees by hand within the four acres. The planting site previously contained many 4 to 15 foot tall volunteer, Russian olive, Siberian elm, and honey locust. By developing a plan with foresters, the park will be able to benefit from this planting for many years to come. All of the trees selected for the project should grow with the type of soil present. The trees were selected for their growth rate, sun availability, and seed depression amongst other items.

Part V: Workplace Solution

George Wyth park has been using many different techniques and models to help with their water loss dilemma of the new seedlings. From individually watering seedlings, to large tanks with movable hoses. The park is still working on how they can perfect their model, but as of right now, the park developed a movable tubing system that can water up to five trees at a time. Park staff fills up a water tank and hooks up two different hoses. As one hose is watering a line of trees, the park staff moves the other hose, so trees are constantly being watered. This has cut down tree watering time from three days to water the seedlings to a day and a half.

Part VI: Educational Pathways

Seasonal Staff: The DNR can start taking seasonal staff at the age of 18. Seasonal staff help with various tasks at the park from maintenance to assisting with conservation projects with the park. Seasonal staff can get a hands on experience and help to grow their understanding of what the DNR has to offer.

Park Ranger or Park Manager: 4 year degree in environmental science, conservation science, or biology preferably. Applicants are suggested to work seasonally to get hands on experience, and a better understanding of the job.

DNR Forester: 4 year degree. Foresters should have a broad understanding of various trees and woodlands. Foresters should be able to build relationships with owners and educate them the value and benefits of forest management. They should also be able to offer various programs or assistance in implementing forest management activities.

Naturalist: 4 year degree in biology, environmental sciences, and conservation preferably. For the state, applicants are suggested to do a seasonal job. For the county, applicants are encouraged to either do a seasonal job or an internship. Both of these will give applicants hands on experiences, and a better understanding of the job.

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