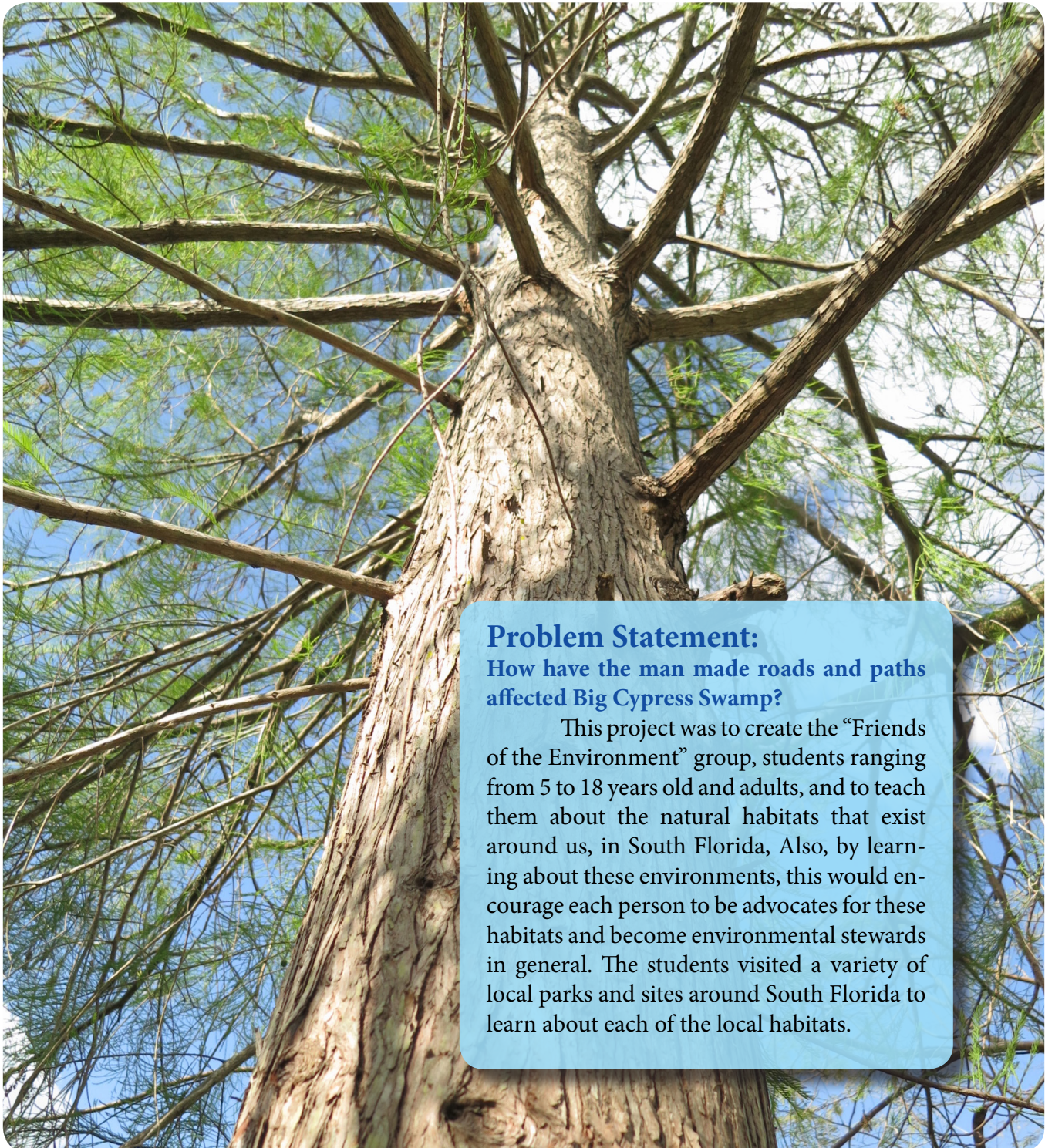


# MY COMMUNITY, OUR EARTH

## MIAMI

# Friends of the Environment: Cypress Forest

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### **Problem Statement:**

**How have the man made roads and paths affected Big Cypress Swamp?**

This project was to create the “Friends of the Environment” group, students ranging from 5 to 18 years old and adults, and to teach them about the natural habitats that exist around us, in South Florida, Also, by learning about these environments, this would encourage each person to be advocates for these habitats and become environmental stewards in general. The students visited a variety of local parks and sites around South Florida to learn about each of the local habitats.

## Community Characteristics

<b>Soil:</b>	Marl soil
<b>Hydrology:</b>	Inundated with water 1-3 months of the year
<b>Historic Area:</b>	700,000 acres
<b>Major areas:</b>	Big Cypress Swamp; Northern and Southern Everglades
<b>Elevation:</b>	3.6 to 12 meters above sea level
<b>Topography:</b>	Bedrock, marl soil and sand over limestone
<b>Dominant plants:</b>	Cypress trees, sawgrass, beakrushes, wax myrtle trees, and pond apple trees
<b>Common fauna:</b>	Great white heron, egrets, anhingas, Florida panther, black bear, purple ganinule
<b>Invasive:</b>	Buremese pythons, Brazilian pepper, Australian pine
<b>Threats:</b>	Roads which create habitat fragmentation and endanger wildlife, off road vehicle usage, logging, urbanization

## Background

In South Florida, cypress forests are found mainly in Big Cypress Swamp and the Everglades. The big Cypress Swamp covers more than 700,000 acres of fresh water that supports a diverse array of animals including, the great white heron, the endangered Florida panther, alligators, black bears and numerous other species. For over 150 years, the Miccosukee Tribe of Indians and the Seminole Tribe of Florida have inhabited this swamp. To this day, many of their descendants still live within the swamp boundaries. In 1928, Tamiami Trail, a road that connects Tampa to Miami, was completed and allowed for travel through the swamp from the East to the West coast of Florida. In the early 1900's, much of the swamp contained large Cypress trees. Today one of the few areas that still holds large cypress trees is at a sanctuary named Corkscrew Swamp. Here some trees grow as tall as 130 ft with a girth as large as 25 ft.

## Ecology

Big Cypress Swamp includes cypress domes and open areas of small cypress trees. Cypress domes, which are circular or egg-shaped, occur where bedrock surface are low and grow throughout much of the forest. The largest trees grow in the middle of the dome where the bedrock is lowest and water and organic soils are the deepest. The understory of these domes often include shrubs, and small trees such as wax myrtle, coco plum, and pond apple. As you move outward from the center of the dome, trees decrease in size. From the horizon, these areas are dome shaped in profile. Intermixed with the cypress domes are open areas of small cypress trees which are usually scattered with herbaceous plants, such as sawgrass and beakrushes. These open areas grow on a thin layer of marl soil or sand over limestone.

After seeds fall from the cypress trees, they need abundant moisture for 1-3 months for germination. Water allows the seedcoats to swell and soften. After the seeds actually germinate, they need dry

conditions for a little time while they grow high enough to stay above the seasonal floods. On the other hand, if water levels get too low, the cypress can dry out and become susceptible to fires.

## Threats

Human impact has been the biggest threat to the Big Cypress Swamp. Large cypress trees were present in the early 1900's but logging has removed most of them. The next big threat are the roads! Roads lead to habitat fragmentation and even animal/vehicle collisions. In 2012 alone, more than 20 Florida panthers were struck and killed by vehicles. Aside from official roads, paths that allow off road vehicles are slowly destroying this natural habitat as well. As paths travel through certain areas, they have a significant impact. For instance, although these paths should not go through a wet



meadow, some do, they create soil compaction and pooling of water in areas where this is not natural. Eventually, this can have an impact on both plant and animal species residing there. Off road vehicles are allowed in Big Cypress, but over time they have had a negative impact and now over 20,000 miles of user created trails exist. These trails can alter hydrologic flow, can increase the spread of non native plants and can definitely have a negative impact on endangered species.

## Results & Conclusion

Friends of the Environment visited a cypress forest at Everglades National Park- main campus and learned more about them while on the tram tour at Everglades National Park-Shark Valley. We had hoped to make it to Big Cypress National Preserve, but it did not work out. Hopefully a visit to this park will be in our future plans. During our Everglades trips, we discussed the endangered Florida Panther and its population. We talked about how the population has increased significantly over the past decade, but vehicles and off road vehicles are a tremendous threat to the panther's habitat. We also learned that panthers need a very large amount of area to roam and to mark as their territory. Less land than desired, can lead to competition and possible death of the Florida panther. We also talked about how the off road vehicles are changing the water flow and the soil and what effects this is having on the cypress forests.



### Roads through Big Cypress

