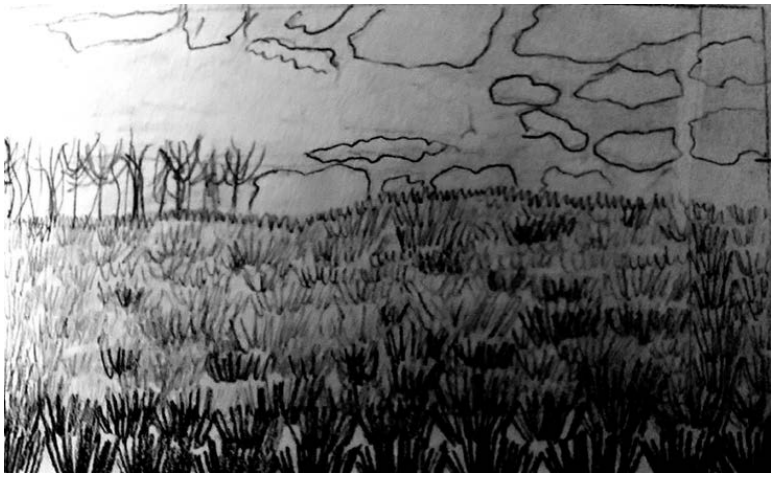
ECOSYSTEM SERVICES ON CAMPUS || LILY D'AMBROSIO || LAND 2310

The site in which I chose to analyze is commonly known as "the pasture site," located on South Milledge Avenue across from the State Botanical Gardens. This habitat is owned by the University of Georgia Board of Regents, and has been often used for educational purposes among the College of Environment and Design.



GLOBAL CLIMATE REGULATION

GRADE: A

This site, as it is left heavily untouched by man relative to other locations on campus, is dominated by vast tree canopies. This forest thus serves as a carbon sink, absorbing the carbon from the air at a faster rate than it is released. This carbon is then deposited in forest biomass and dead organic matter. This area also serves as a home to a vast array of biodiversity, including endangered species such as the Red-Cockaded Woodpecker. By protecting biodiversity, all the species will be protected and capable of avoiding and ecosystem collapse. I believe that this site could be improved by minor human intervention to ensure that the trees remain in tact to ensure the survival of the ecosystem.

LOCAL CLIMATE REGULATION

GRADE: A

A prominent issue within Athens-Clarke County is seasonal flooding. This site is home to a retention pond that often overflows through heavy rainfall. On the other hand, Athens is also known for high temperatures during warmer seasons, which causes the water in the pond to evaporate, creating difficulty for drinking water, irrigation, and recreation. With the University of Georgia working to protect this site, and perhaps replicating more sites like this upon campus, then these temperatures can regulate better and perhaps minimize seasonal flooding and drought.

AIR AND WATER CLEANSING

GRADE: B

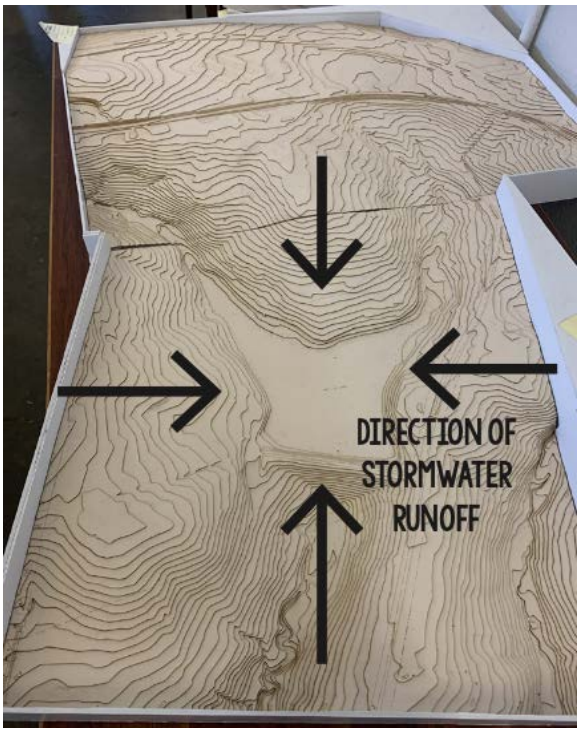
This site, and Athens at large, has access to relatively fantastic water in terms of contamination. The water from this site is from the Middle Oconee River, Middle Oconee River, and Bear Creek Reservoir. However, the air quality does not hold up to this standard. The top five chemicals released to the air are ammonia (66%), Xylene (13%), certain Glycol Ethers (11%), Toluene (5%), Methanol (5%), and other chemicals (1%). I believe that the University of Georgia can maintain their practices in relation to water, but should consider working on pollution and reducing the emissions of greenhouse gases.

WATER SUPPLY AND REGULATION

GRADE: A

At this pasture site, there is one large body of water disguised by a body of trees as you proceed to walk west over the site. This retention pond is man-made, and is fed by the underground stream at the northern end of the site. There are also wetlands at the end of each peninsula of the lake. This water from the lake flows downhill through the stream to the North Oconee River.

Furthermore, there is a dam/retaining wall to control water flow from the lake. I think that Athens has done a superb job in regard to water regulation, and should continue these practices.



EROSION AND SEDIMENT CONTROL

GRADE: A

The type of soil that composes this site is primarily of the Cecil Association and of the Pacolet-Madison-Davidson Association. In regard to the Cecil Association, the soil that composes this area is mostly sandy-loam and sandy-clay-loam. Due to its high permeability and high water capacity, this land is capable of cultivating crops, which has been done in the past. In regard to the Pacolet-Madison-Davidson Association, the surface soil is typically eroded, but is well-drained. It is difficult to grow crops in this area, but one would typically find several trees and wildlife inhabiting the area. I do not believe that this site needs intervention in regard to its soil, unless for the sake of protection. I recently noticed construction occurring at this site, and

worry that it may disturb the soil.

HAZARD MITIGATION

GRADE: A

One of the greatest issues in Athens Clarke County is flooding. This site is labelled as “Zone X” by the Federal Emergency Management Agency, meaning that this site has minimal flood hazard. I believe therefore that this site does not need to invest in hazard mitigation techniques, as it has

been deemed rather safe.

POLLINATION

GRADE: C

Although I did not notice any flowers that require direct contact with pollinators such as insects or hummingbirds, this ecosystem still thrives enough that crops were once grown here. I however believe that this site could perhaps benefit from pollinators, and that the University should consider introducing native species that require pollination to increase the biodiversity of the site, as long as it does not disturb the existing ecosystem.

HABITAT FUNCTIONS

GRADE: A

This habitat functions as an oasis away from human activity, allowing the ecosystem to prosper without direct influence of human littering, hunting, etc. This therefore allows biodiversity to prosper. I believe that this habitat is functioning well as it is, and the only intervention that I would recommend is increased protection of the site.

WASTE DECOMPOSITION AND TREATMENT

GRADE: A

This site is home to complex food chains, with the bottom of the food chain being decomposers. A prominent decomposer that I noticed upon visiting was the abundance of fungi. Fungi obtain nutrients from dead materials and break it down with specialized enzymes. In my opinion, this site is decomposing waste well and naturally, and does not require human intervention.

HUMAN HEALTH AND WELL-BEING BENEFITS

GRADE: B

This site does not receive as many visitors as other sites on campus, but it is still open to the public. Individuals can visit this site to experience an oasis of nature away from the pervading hardscape and highly manufactured design of the rest of the university of Georgia campus. Nature has been proven to aid stress-hormone levels and blood pressure. I would recommend

that the University make this location more familiar to the everyday student, as long as they ensure that the habitat continues to prosper.

FOOD AND RENEWABLE NON-FOOD PRODUCTS

GRADE: B

This site does not naturally produce food for human use. However, due to the rich soil and high functionality of the ecosystem, it is evident that crops were once grown here. I noticed upon my visitation that there were tracks left upon the ground and designated areas where crops, perhaps corn, were once grown. Due to the vast farmland along the southern portion of Milledge Avenue, including UGarden, I do not think that crops should be reintroduced here at the expense of the natural environment that occurs here.

CULTURAL BENEFITS

GRADE: B

While this site is seldom used, it remains open to the public. This site has served a learning purpose for majors on campus, such as landscape architecture. With the help of the University of Georgia owning this site, students are able to advance their knowledge of the natural world in one of the most untouched sites in Athens. I think that the University is doing a fantastic job at utilizing this site for educational purposes, but should perhaps extend this learning to other majors, as everyone can learn from nature.