

Sarah Smith

not over

Mammeth Spring, AR - mixed deciduous-pine forest. Original the Spring River. It showed live oaks, a cypress, app. endags, a few birds several other unidentified bird species, pigeons, and wildflowers. There is also a fish hatchery.

Adams County State Park, MS - Camping the night here. About 1 hr N of Jackson. Rain.

3-21-04
Adams County State Park, MS - The night was windy and rainy. Very cool this morning. Got up at 6 am. Still mixed pine/cypress-deciduous, but mostly pine.

On the way from Pittsburg to Holmes Co., hills at first increased, abruptly flattened and then slightly increased. During the Oak Plains wetlands were visible.

On the way to Jackson, MS, we saw 8 or 9 Palmetto, fody Bamboos, and Spanish moss.

Outside of Jackson we saw wild watermelon. The hills have also decreased in size. Hills continue to decrease in size so that the land is basically flattened.

Mistletoe has also been noted. It forms very dark clumps of foliage in the tops of trees. Magnolias have been visible in quite awhile, though their crown shape is different from those found in the Midwest.

A gull was noted near Gulf Port, MS.

Near Mobile, the trees have thinner trunks. We have now entered the salt flats. Here the land is flat with standing water and covered in grass. A great blue heron was seen there and small open waterways in the marsh. Scott says there are due to alligators. A heron was also spotted, though I did not see it. The pine trees are very tall and thin with no lower branches.

Bayou de l'Etang, AL - Many oaks bushes in bloom. Five oaks. Deborah brought up the interesting question of why wild saw palmettos are short but cultivated ones can be tall trees. Saw shrimp boats and a barge that could open for them.

3-20-04

Dauphin Is., AL - Brown ~~pelicans~~ pelicans; Natives use natural gas instead of oil; cormorant; telephone lines in ocean, palm trees

We went to the beach and collected shells. There was one mole crab found, several white land crabs, mussel shells with barnacles, oyster shells, and large softshell crabs. The barnacles of several centimeters were covering wooden stumps in the surf.

Tomorrow is Estuarium tour in the morning, research vessel in the afternoon.

3-22-04

Last night there was night seining. We found ~7 species of fish including Gambusia, drums, mollies, and a small worm-like fish. There were also several crabs, including a large blue crab. Many oyster shells were visible, as were several "~~water~~ roaches" as Dr. Nonne-macher called them.
w/ harp

Keyed out Bairdiella chrysoura - Silver perch

Collected - Spiderwort & Swamp Dewberry
Tradescantia virginiana Rubus hispidus

When pressing the flowers, coins were placed to temporarily weigh down the samples. The coins were removed before closing the press.

Frostweed - Helianthemum canadense

I went to Galliard Lake and saw a Great Blue Heron.

Other students went to the beach and collected crab exoskeletons

ESTUARIUM

Filter soil, pesticides in estuary

Bay is shallow - averages 10 ft - 45 ft depth is maintained for shipping

We have found a razor clam shell (long & thin) & possibly an operculum (flat)

See Robin - fish uses adapted feelers to walk along surfaces

Dauphin Island Park trails - I went on many trails surrounding the campsite. I found a crab exoskeleton. I also saw the Great Blue Heron by Galliard Lake again. There were people feeding crackers to the animals in the lake. Many small, dark fish were visible, as were several unidentified turtles, and a very large softshell turtle. The people reported an acquaintance having sighted an alligator at the lake once.

in the afternoon the ocean side of the island was ~~seined~~ seined. More drums were caught. Mole crabs and blue crabs were also caught. In addition two sting rays were caught, including a very large one (body ~10 inches long, not including tail). Many hermit crabs were found, both around stumps in the water and farther out in open, shallow water.

At night we visited the Gulf. There were many stranded jellyfish. Each day there seems to be a totally different set of prevalent organisms.

3-23-04

This morning on the Gulf beach there was a Great Blue Heron which perched in a tree for quite awhile. There were also many sandpipers feeding on the beach.

Bird watching -

Saw

Carolina wren

Mourning dove

Goswami

Unidentified warbler

Possible yellow-rumped Warbler

Heard

Blue jay

No. cardinal

Red Bellied Woodpecker

Yaupon - evergreen holly, red berries

Persimmon

Braekens fern-like

Sassafras

Wax myrtle - fragrant leaves

Toad found

Alligator found

Small red-spined
carnivorous plant

Green anole

Squirrel tree frog

~25lb Black Drum

Laughing gull

Common

heron gull

squid

sea robin

Gannet

butter fish

salt water catfish

ship worm - bivalve

marine worm tubes

oscelated flounder

Research Vessel

The research vessel made 3 hauls with the shrimp net; it could only haul for 30 minutes because it had no TED - turtle evacuation device. TEDs prevent turtles and large animals like dolphins from being caught in the net but also causes a loss of haul in other food fish. Because of TEDs turtle numbers have improved. In the 1920s the females numbered ~10,000. In the 1970s they were down to ~300. Now numbers have improved to ~3,000.

There were many seabirds - cormorants, laughing gulls, heron gulls, and gannets and brown pelicans. The guide said these birds as well as the dolphins were starving because there is a lack of food in this part of the Gulf at this part of the year. Their food as well as the shrimp are out in warmer waters. An interesting sidenote is that cormorants, though sea birds, are the only seabird without waxy feathers. They become waterlogged and fly low next to the water.

The first haul brought up only a few small fish and the large, fully grown black drum. It was identified as full grown because it's

black stripes had fully faded.

There were many squid of two different species caught. Squid have visible chromatophores which allow them to change colors. Each spot is a small, independent pigment which was observed to flash on and off and change diameter. The squid have a beak, by which it was lightly bitten. The squid was well attached, and it to forcibly pull it off.

The salt water catfish was also caught. It had poisonous barbs, and was reported to taste like mud. Dr. Triplett later mentioned that the report of ill-tasting saltwater catfish was a Gulf myth from people unfamiliar with the area.

3-24-04

This morning we went to Fort Gaines, the site of the Battle of Mobile Bay. During the battle the USS Tecumseh was sunk, but the Confederates ended with surrender. The fort was architecturally very interesting with brick vaulted ceilings.

This afternoon the group went to the Shell Mound Park and continued seining. The shell mounds were begun by ancient native peoples as far back as 1000 BCE. The mounds are burial places for native royalty and are covered with oyster shells. According to legend, natives were brought from all over (even as far up as the Great Lakes) for burial. In the town of ~~Silacauga~~ Silacauga, there were supposedly of a tribe of natives where the women would finish removing the flesh from the bones. So, Silacauga is supposed to translate into "bone pickers." Even today, natives continue to bring some sort of dust/ash-filled bags and hang them from trees.

In addition, at the park there was a very old live oak which had been core dated at over 1000 years old. Another tree in the park was called the "Wedding Tree." In early times on the island, there was no priest permanently on the island. When news came of a visiting priest, couples wanting to be married would gather at the tree for a joint ceremony.

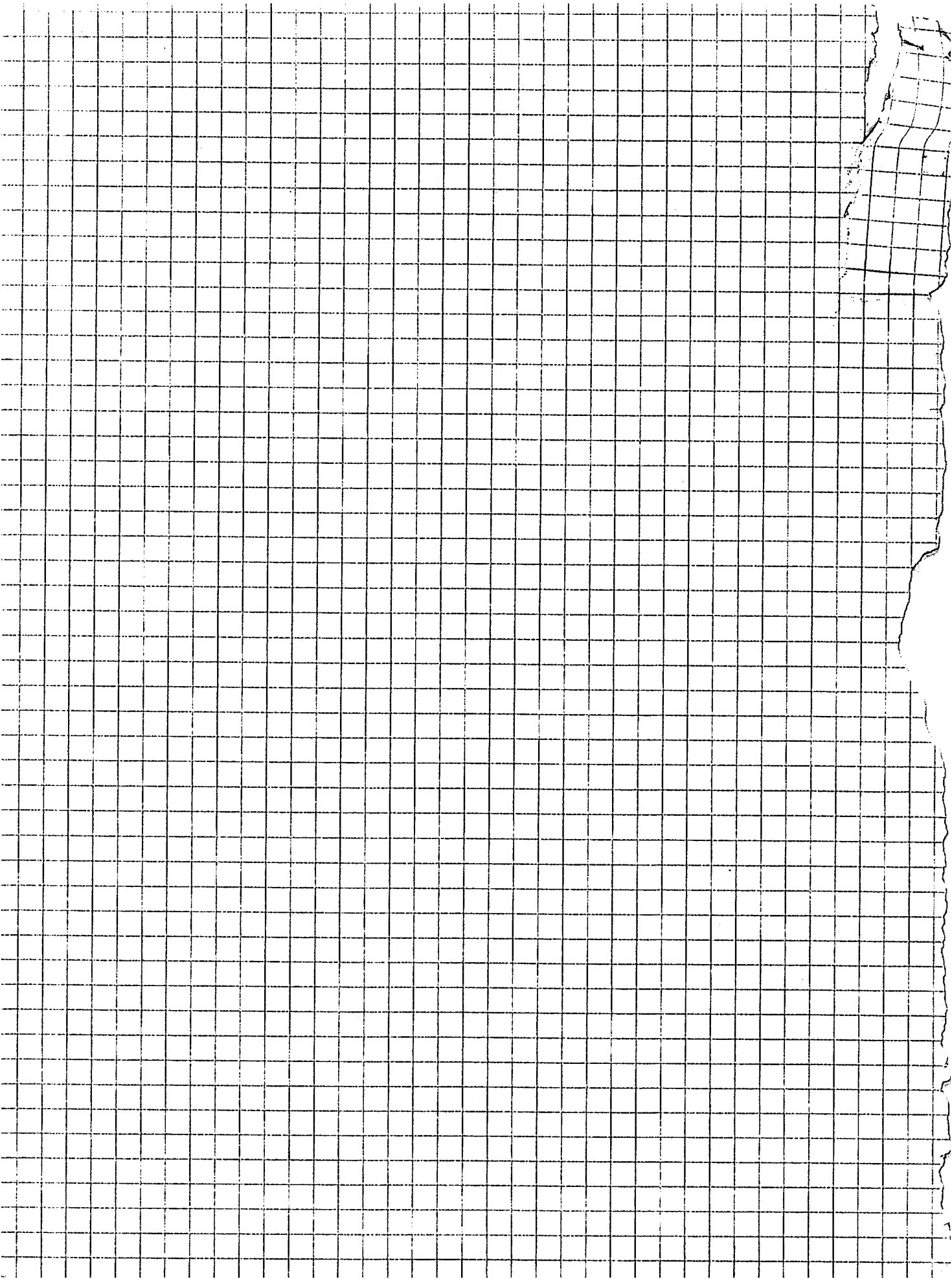
Later we went seining at Airport Marsh. I learned where all the live oysters lived and about oyster harvesting restrictions. The guide showed me live oysters attached under the water to a concrete wall. The oysters desire a smooth surface for attachment. Oysters in Airport Marsh cannot be consumed because of their proximity to the waste water treatment effluent. The public oyster grounds are located on the mainland beach. Oysters must be 3 inches long to be legally harvested in AL.

Tomorrow morning we are supposed to go to Bon Secour.

3-25-04

□ Bon Secour Wildlife Refuge - we went on two trails located on this Fort Mogan peninsula. The first, Jeff Friends Trail, went through the maritime forest with stops at the Little Lagoon. On the trail a Great Blue Heron was spotted at a marsh. In addition, a green anole was seen. On the second, Gator Lake Trail, we went through a scrub forest next to a marsh-surrounded lake. A five-barred skink was seen on the trail.





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Sarah Elaine Smith
Gulf Ecology

1. Mobile, Tensaw, Blackeley, and Apalachee rivers drain through the Alabama delta.
2. Zebra mussel
3. The zebra mussel has no known natural predators.
4. Streamside Management Zones which are similar to buffer corridors
5. SMZs filter surface and subsurface water, reduce streamside erosion, and prevent the water temperature from rising which allows more dissolved oxygen.
6. Tombigbee and Alabama rivers drain into Mobile Bay.
7. A jubilee occurs when deep water low in oxygen moves toward the shore with an east wind blowing surface water away from the shore. The ocean animals are caught between the shore and oxygen poor water. Starving for oxygen, they are found near the shore in shallow water.
8. Granite is eroded and carried into the bay where it is caught in the tide. The eroded particles move out into the bay and are carried to barrier islands by large waves. The grains of sand are tossed up on shore by the waves and wind. The sand is trapped on the barrier islands by plants.
9. *Hydrocotyle bonariensis*, *Cabrile constricta*, *Uniola paniculata*, *Panicum anarulum*, *Ipomea stolonifera*
10. Marshes and swamps both have saturated soil throughout the year and are sites of extensive decomposition.
11. Halophytes have low solute potential in their cells which lowers their water potential enough that they can extract water from salt water. In some species excess salt is not taken up, and in others it is excreted by the leaves.
12. Savanna soils remain moist for most of the year, while prairies do not. In addition, coastal savannas are characterized by scattered pines, a group of plants not common to prairies.
13. Water lily, clover, wild onion, annual phlox, and butterfly pea
14. Estuaries stabilize shorelines with plants, filter out pollutants, and slow water so that sediments settle out.

15. Red bud, Sawtooth oak, Crepe myrtle, Azalea, Eastern red cedar, River birch, Pecan, Sweetgum

16. Snowy egret, brown pelican, black skimmer, willet, dowitcher

17. Mole crab, hermit crab, razor clam, blue crab, moon jelly

18. Bacteria which decompose plant material in an anaerobic environment produce a byproduct of H_2S which causes the smell.

19. Raccoon, greater egret, horned owl, cardinal, bald eagle, red-winged black bird, snow goose, mourning dove

20. Bulkheads reflect wave energy which removes beach and deepens waters. This leads to stronger currents next to the bulkhead and speeds up the removal of plants and sediments.