

TEXAS PARKS AND WILDLIFE



FIFTH GRADE OUTDOOR LABORATORY AT
LOCKHART STATE PARK

FALL

STUDENT JOURNAL



Texas
Master
Naturalist



LOCKHART
I.S.D.

Lockhart State Park



Features at Lockhart State Park:

- SWIMMING POOL:** Open Wednesday through Sunday during the summer pool season. Lifeguard on duty at all times.
- GOLF COURSE:** Nine hole, 3,000 yards, par 35. Golf cart rental available at park headquarters.
- RECREATION HALL:** Reservable facility with central air and heat, fireplace, patio, picnic area, rest rooms and kitchen with stove and refrigerator. Overnight occupancy permitted if rented for two days.
- FISHING:** Fishing is permitted along Clear Fork Creek except in the areas along and adjacent to the golf course. No trotline or throwlines permitted.
- INTERPRETIVE PROGRAMS:** Conducted year round, for all age groups, on a variety of topics, including the CCC, natural resources, conservation education and regional flora and fauna. Contact the park for information.

Please Note:

- Campsite CHECK OUT time is 2 p.m.. Requests to extend reservations should be made by 9 a.m., and are subject to site availability.
- A maximum of eight people are permitted per campsite. Overcrowding damages vegetation, increases soil compaction and often leads to noise problems.
- Quiet hours are from 10 p.m. to 6 a.m.. Day use visitors are permitted to remain in the park until 10 p.m.
- Pets should be leashed and not left unattended. This keeps them and other visitors safe while protecting wildlife.
- A valid permit is required on all vehicles in the park. Please keep vehicles on the road to reduce erosion and loss of fragile vegetation.
- Black water and gray water can only be discharged at designated dump stations. This water carries bacteria that can spread serious illness and food particles that attract undesirable animals, including tire ants.
- Hiking, walking and cycling permitted on designated trails and roadways. For your safety, walking and cycling on the road is not permitted during golf course hours of operation.
- Public consumption or display of any alcoholic beverage is prohibited.



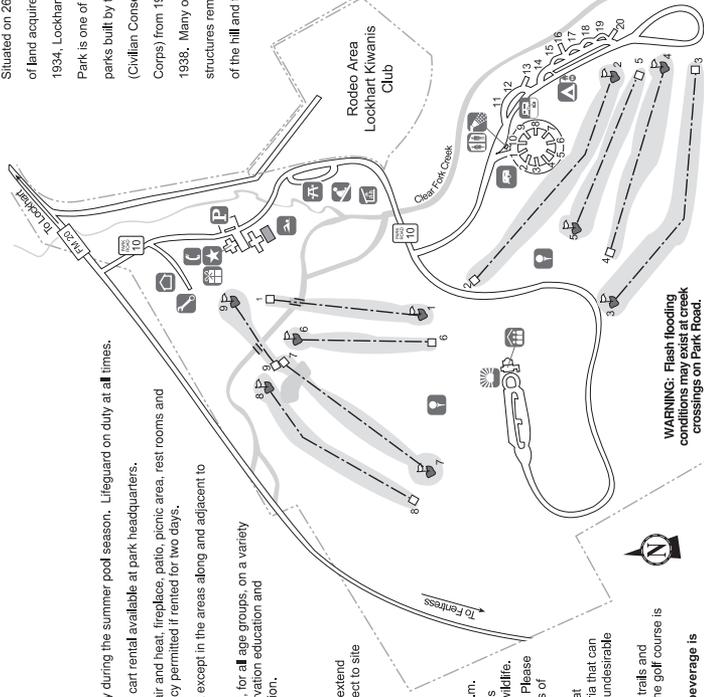
Situated on 283 acres of land acquired in 1934, Lockhart State Park is one of many parks built by the CCC (Civilian Conservation Corps) from 1935 to 1938. Many of these structures remain including the Rec Hall at the top of the hill and the dam at Clear Fork Creek.



Live Oak
Quercus sp.

Legend:

- Headquarters
- Parks Store/Pro Shop
- Rest Room
- Showers
- Water/Electric
- Full Hook-ups
- Dump Station
- Residence
- Recreation Hall
- Pay Phone
- Picnic Area
- Picnic Shelter
- Swimming Pool/Bathhouse
- Parking
- Playground
- Maintenance
- Scenic Overlook



Park Reservations
(512) 389-8900
www.tpwd.state.tx.us

Texas State Parks Store
Ice, firewood, concession items, golf shoes, shirts are available at the Texas State Parks Store located in our park headquarters building.

4179 State Park Road
Lockhart, TX 78644-9716
(512) 398-3479

Welcome

to Lockhart State Park!

Hello Students,

This is your student journal for your science outdoor laboratory. Today you will participate in four lab activities. This journal contains information and questions about each lab. You, the student, are expected to answer the questions in your journal as instructed and turn them into your teacher at the end of the day.

Your teacher will use these journals to evaluate your understanding of the lab exercises. Also, these “hands on” lab activities are designed to help you understand your classroom lessons. It is great fun to be outdoors, and you are expected to learn the information covered in each lab activity.

Another purpose of these outdoor labs is to introduce you to your state park. For many of you, this is the first time you have been to Lockhart State Park. These labs will help you explore the natural resources in the park, gain an appreciation for wildlife and their habitat, and learn the importance of conservation.

The people who are instructing the labs are volunteers and Texas Parks and Wildlife employees. They are here because they care about you and your education. Their goal is to help you understand your natural environment. Please give your full attention to your lab instructors, follow their directions, participate in the activities, learn the concepts being taught, be courteous to each other, and **HAVE FUN!!!**

ACTIVITY 1

Nature Awareness and Safety

When we explore our natural environment, it is important to be aware of our surroundings. There are hazards in nature requiring us to take precautions and practice safety at all times.

What is a hazard?

What does it mean to take precautions?

Some hazards in Lockhart State Park are poisonous plants and venomous wildlife. When you are aware of your surroundings you are taking precautions to avoid a dangerous situation.

Name a poisonous plant:

Lockhart State Park is home to many species of wildlife. Wildlife includes insects, reptiles, amphibians, mammals, fish, birds, snails and worms. All wild animals have adapted and developed characteristics that help protect them from danger. Some wildlife species can harm humans when they are protecting themselves. This is one reason it is important to respect wildlife and leave them undisturbed.

Our park is home to four venomous snakes. The broad-banded copperhead is one. Can you name the other three?

In order to be aware of our surroundings it is important to know the type of habitat where certain animals live. Draw a line matching the animal with its preferred habitat:

Western Diamondback Rattlesnake	streams, lakes, ponds
Broad-banded Copperhead	woods, lots of leaves
Texas Coral Snake	along woodland streams
Western Cottonmouth	mesquite and prickly-pear

cactus environments

There are other hazards to be aware of as we hike the trails in the park. Take precautions when walking on trails with loose rocks, exposed tree roots, and ruts caused by erosion. As we walk along the trail, make note of the hazards you observe and let the other hikers know about them.

Observed hazards noticed along the hiking trail:

Field Notes

Being aware of your natural environment helps you to become a keen observer. There are numerous species of wildlife and natural resources to learn about and appreciate. Lockhart State Park has many natural resources, and it is our responsibility to conserve them. To conserve means to use and manage wisely. Nature also conserves its resources. One way is by recycling. There are many cycles in the natural environment that demonstrate matter changing form and continually providing energy to the ecosystem.

As you take your hike, make short observation notes on the following.

List some natural resources:

Example—A hackberry tree is a natural resource because it is a food source for wildlife.

Give an example of nature recycling:

Example—Hackberry leaves decompose to make humus and soil.

Give an example of the ecosystem's conservation of its natural resources:

Example—The humus from the decomposed hackberry leaves provides nutrients to the plants and helps retain moisture in the soil.

Give an example of how humans can conserve our natural resources:

ACTIVITY 2

Bird Beaks Worksheet

This activity demonstrates how birds' beaks are adapted to the type of diet of the bird. Your instructor will explain the lesson and activity. You will participate in three rounds of the activity. After each round, record the number of food items in your container. Change to a different bird beak after each round.

Food Item	Insect Eaters beak: tweezers	Fish Eaters beak: tongs	Predators beak: stick with paper clip	Seed & Nut Eaters beak: clothespin	Nectar Eaters beak: straw
Red Flowers	round 1				
	round 2				
	round 3				
Sunflower Seeds	round 1				
	round 2				
	round 3				
Rabbit (cut-up sock)	round 1				
	round 2				
	round 3				
Insect (toothpick)	round 1				
	round 2				
	round 3				
Fish (block of wood)	round 1				
	round 2				
	round 3				

ACTIVITY 2, continued

Bird Beaks Worksheet

Bird Beak Types

Diets

SHORT, THICK

Good for crushing
hard seeds.



Northern Cardinal

List food items:

HOOKED

Good for grabbing
onto flesh.



Red-tailed Hawk

List food items:

SLENDER,
PINCHER-LIKE

Good for
accurately grabbing
insects in motion.



Eastern Bluebird

List food items:

ACTIVITY 2, continued

Bird Beaks Worksheet

Bird Beak Types

LONG, SHARP

Good for catching slippery fish.



Belted Kingfisher

VERY LONG,
THIN

Good for probing into small areas, like flower petals.



Ruby-throated Hummingbird

Diets

List food items:

List food items:

ACTIVITY 3

Dropping In on Deer

Dropping In on Deer Data Worksheet

Plot Number	Number of Pellet Groups	Other Observations
1		
2		
3		
4		
Total		

Calculations

Step #1 (total number of pellet groups) _____ ÷ (total number of plots) _____
= _____ **number of pellet groups per plot**

Step #2 (number of pellet groups per plot) _____ x 100 plots
= _____ **number of pellet groups per acre**
(note: 11' 9" radius per plot for 100 plots is the same area as 1 acre)

Step #3 (number of pellet groups per acre) _____ ÷ 12 (pellet groups per deer each day) = _____ **number of deer each day per acre**

Step #4 (number of deer each day per acre) _____ x 263 (acres in Lockhart State Park) = _____ **number of deer each day in Lockhart State Park**

Step #5 (number of deer each day in Lockhart State Park) _____ ÷ 180 days
= _____ **number of deer living in Lockhart State Park**
(note: we divide by 180 days because this is the amount of time it takes a group of deer pellets to decompose; therefore, each pellet group counted is not older than six months or 180 days!)

Discussion

1. Will Lockhart State Park sustain this population of deer?
2. If not, what can be done to make sure the population stays healthy?



Field Questions

1. When surveying for wildlife, what signs of wildlife should you look for?
2. Why do we need to survey wildlife at state parks and wildlife management areas?

Field Notes

What did you do at this activity station? (Include all observations and what you have learned from this activity.)



ACTIVITY 4



Bug Picking - Is Your Creek Polluted?



Have you ever noticed the many small animals such as insects, snails, and worms that live on the rocks and roots at the bottom of creeks, rivers, ponds and lakes? Some of these small aquatic animals are very sensitive to changes in the water and will die if the water becomes polluted. By looking for and recognizing the different types of aquatic animals in aquatic environments, you can begin investigating the water quality of those environments.

This water appears to be (circle one): **Not Polluted** **OK** **Polluted**

I am basing this hypothesis (guess) on:

Equipment: safe footwear for wading, forceps, magnifiers, small aquatic nets, pipettes, Bug Picking Data Sheet, pencils and shallow pans for holding specimens

Directions:

1. Wade into shallow water, turning over rocks, looking for aquatic animals ("bugs"). Replace rocks where you found them after you inspect them.
2. Place each "bug" you find in a specimen pan and begin to divide them into different types and groups according to the Bug Picking Data Sheet. (Water in the pans will keep them alive while you take data.)
3. On the Bug Picking Data Sheet, put a tally mark next to the picture that matches each aquatic animal you find. Gently return the animals to the water.
4. Look at the three different groups of aquatic animals you found in the water. To determine if your water **might** be polluted, answer these questions or circle the correct response.

Bug Picking Data Sheet

**Group 1
Pollution Sensitive**

Number of Species Found
 _____ 3 or More
 _____ 1 to 3 Species
 _____ No Species Found

**Group 2
Somewhat Sensitive**

Number of Species Found
 _____ 3 or More
 _____ 1 to 3 Species
 _____ No Species Found

**Group 3
Pollution Tolerant**

Number of Species Found
 _____ 3 or More
 _____ 1 to 3 Species
 _____ No Species Found

What could be happening upstream or on land around the water to affect the water quality where you are sampling?

This water is (circle one): **Not Polluted** **OK** **Polluted**

I am basing my conclusion on:

Lockhart State Park and the Civilian Conservation Corps

Lockhart State Park officially opened July 4, 1941. A lot of hard work went into the building of the park prior to its opening to the public. The individuals responsible for building this park were members of the Lockhart community, local craftsmen, and enrollees of the Civilian Conservation Corps.

The Civilian Conservation Corps was a national program created by President Franklin D. Roosevelt on March 31, 1933. During the 1930s, the United States of America fell on hard times due to the “Great Depression.” Many people were without work and income. The CCC—Civilian Conservation Corps—created jobs for single young men between the ages of 18 and 25.

The CCC came to Lockhart in 1935 and built their camp across the road from what is now the entrance to Lockhart State Park. The CCC employed many young men from the local communities, providing them with food, clothing, shelter, an education, skills, and wages. In return these young men built dams along Clear Fork Creek, the recreation hall, the park manager’s house, water fountains, and primitive camping sites. All of these structures still remain today.

On one of your hikes you will see an old water fountain, one of the dams on the creek, and two primitive camping sites that were built by the Civilian Conservation Corps. These structures are considered a cultural resource and are protected by Texas Parks and Wildlife. There is a rich history to Lockhart State Park, thanks to the Civilian Conservation Corps.

Texas Tracks

Do you know them?



RACCOON



OPOSSUM



SQUIRREL



SKUNK



COYOTE



BOBCAT



WHITE-TAILED DEER



Partners in the Fifth Grade Outdoor Laboratory at Lockhart State Park

Texas
Master
Naturalist



Lost Pines Chapter



GUADALUPE-BLANCO RIVER AUTHORITY



Texas A&M System



Texas State University
SAN MARCOS

Department of Curriculum and Instruction

Participating Elementary Schools

BLUEBONNET

CLEAR FORK

NAVARRO

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