TEXAS PARKS AND WILDLIFE

FIFTH GRADE OUTDOOR LABORATORY AT
LOCKHART STATE PARK

FALL

STUDENT JOURNAL

TEXAS PARKS & WILDLIFE

Texas Master Naturalist

LOCKHART I.S.D.

TEXAS PARKS & WILDLIFE

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.

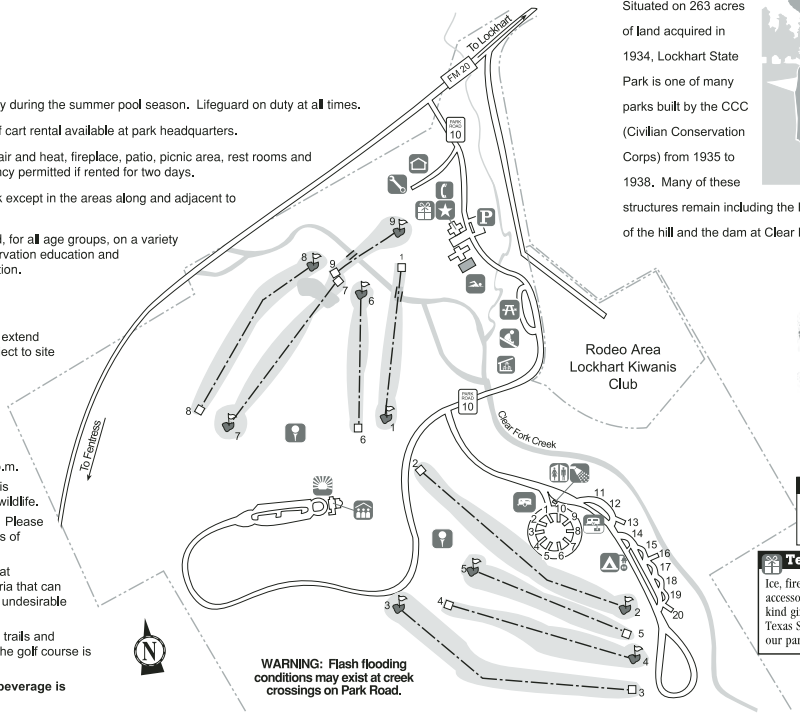
RECREATION HALL: Reservable facility with central air and heat, fireplace, patio, picnic area, rest rooms and kitchen with stove and refrigerator. Overnight occupancy permitted if rented for two days.

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 fire ants.
- Hiking, walking and cycling permitted on designated trails and roadways. For your safety, walking and cycling on the golf course is not permitted during golf course hours of operation.
- **Public consumption or display of any alcoholic beverage is prohibited.**



WARNING: Flash flooding conditions may exist at creek crossings on Park Road.

Situated on 263 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.

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

Texas State Parks Store

Ice, firewood, concession items, golf accessories, T-shirts and one-of-a-kind gift items are available at the Texas State Parks Store located in our park headquarters building.

Legend:

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

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

STUDENT NAME _____

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:

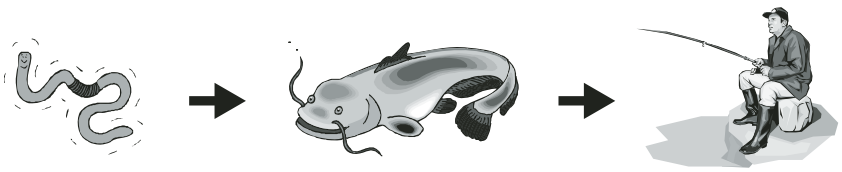
ACTIVITY 2

Clear Fork Creek Food Web

A food web is a series of overlapping food chains. What is a food chain? A food chain is a path of matter and energy in an ecosystem. What does this mean? All living organisms consume matter for energy in order to survive. For example, a rabbit consumes grass and a coyote consumes a rabbit. This represents a food chain.

In an ecosystem, there are many food chains that overlap, creating a food web. In the exercise you just completed, some of you were predators and others were detritus-eaters. Do you remember what detritus means? Detritus refers to small particles from organic matter like leaves, minerals in soils, and decomposed animal tissue. In an ecosystem, some predators are consumed by other predators, and some detritus-eaters are consumed by other detritus-eaters.

Below is an example of a food chain:



Activity Questions

Using complete sentences, answer the following:

1. Define consumer:

_____

_____

_____

2. Define food chain:

_____

_____

_____

3. Define food web:

_____

_____

_____

4. Define detritus:

_____

_____

_____

5. Define ecosystem:

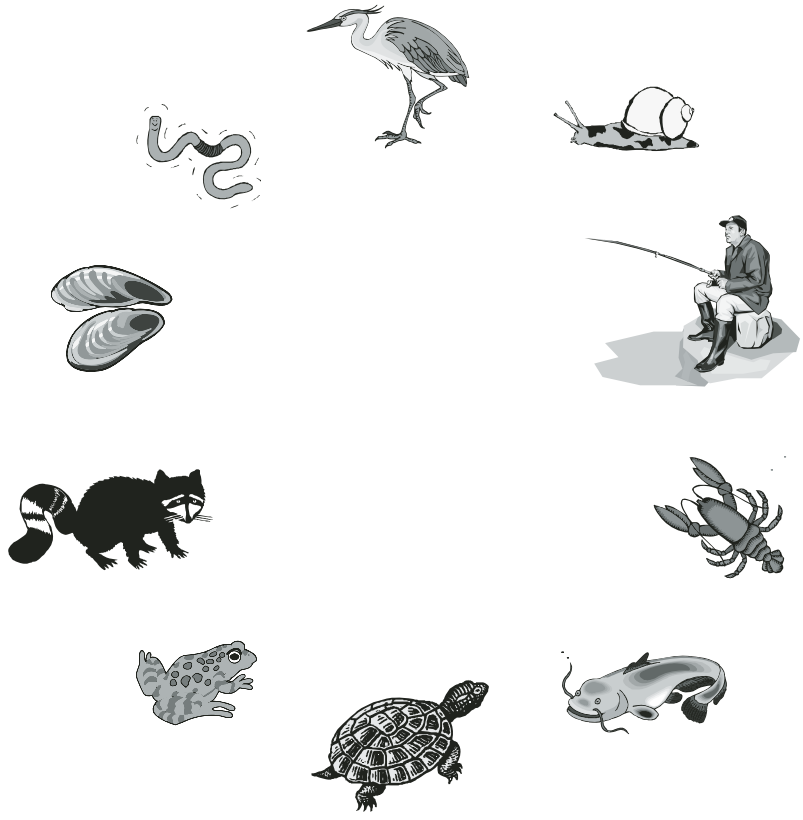
_____

_____

_____

Worksheet
Clear Fork Creek Food Web

Below are pictures of predators and detritus-eaters that can be found in and around Clear Fork Creek. Draw arrows from the organisms that are consumed to the organisms that are the consumers. These represent food chains. Remember, some organisms consume one or more organisms. When you have drawn all of the possible food chains, the result is a food web.



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:

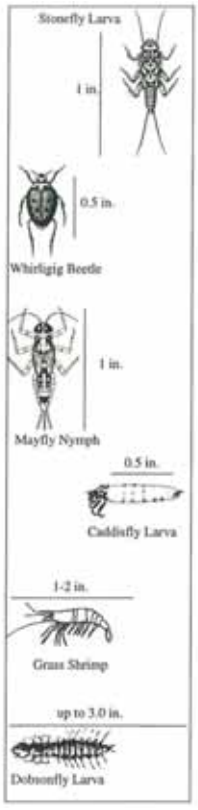
Equipment: safe footwear for wading, forceps, magnifiers, small aquatic nets, pipettes, Bug Picking Data Sheet, pencils and shallow pans for holding specimens

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.

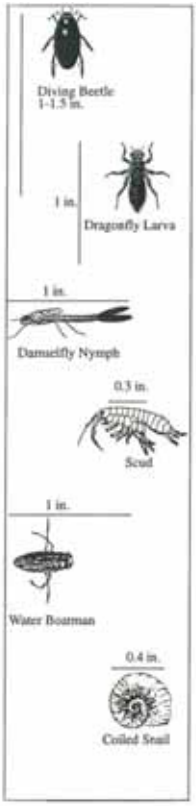
Bug Picking Data Sheet

Group 1
Pollution Sensitive



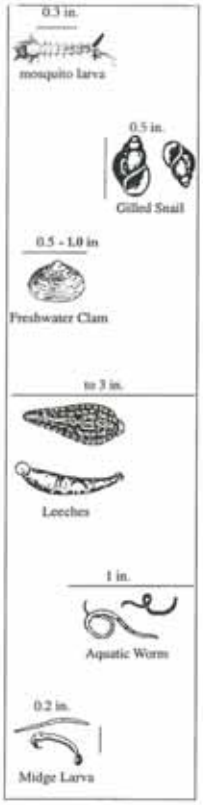
Number of Species Found
_____ 3 or More
_____ 1 to 3 Species
_____ No Species Found

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.

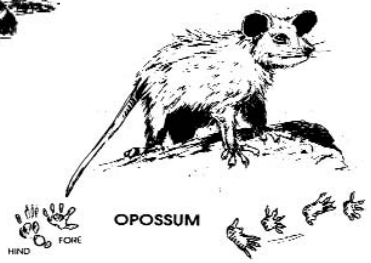
The CCC came to Lockhart in 1935 and built their camp across the road from what is now the entrance to Lockhart State Park. The CCC employed many young men from the local communities, providing them with food, clothing, shelter, an education, skills, and wages. In return these young men built dams along 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

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

AgriLIFE EXTENSION
Texas A&M System

THE WILDLIFE SOCIETY AT TEXAS STATE

Texas State University
SAN MARCOS
Department of Curriculum and Instruction

Participating Elementary Schools

BLUEBONNET
CLEAR FORK
NAVARRO
PLUM CREEK

TEXAS PARKS & WILDLIFE

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