

Arkansas Louisiana Purchase Wetlands

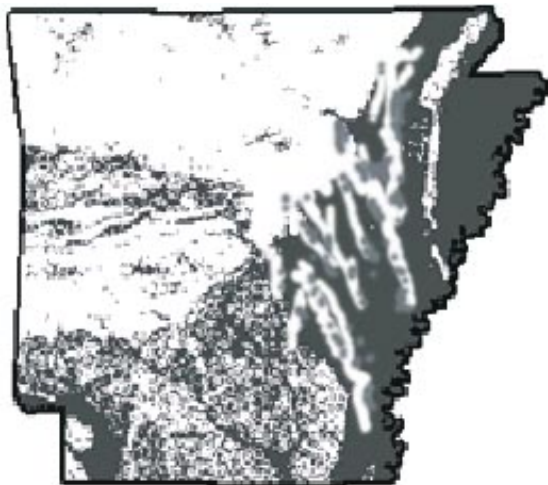
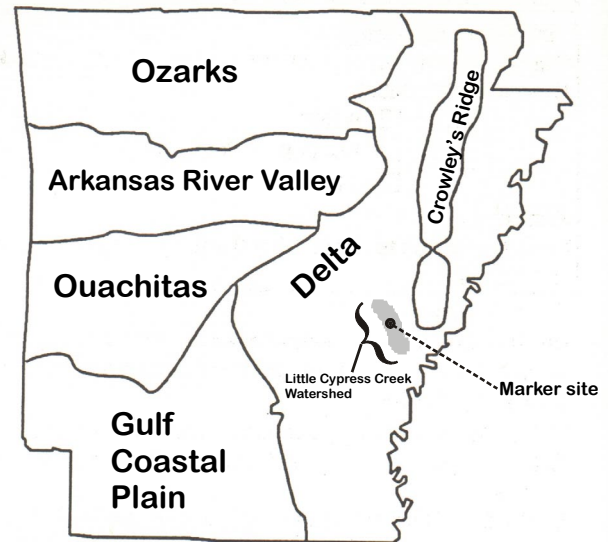
The small state park and natural area that surrounds the Louisiana Purchase marker site has ecological significance as well as historical importance. The marker site is located in a **wetland** in east Arkansas's **delta** region. The wetland is formed by Little Cypress Creek and is an unusual type of wetland called a **headwater swamp**.

Background

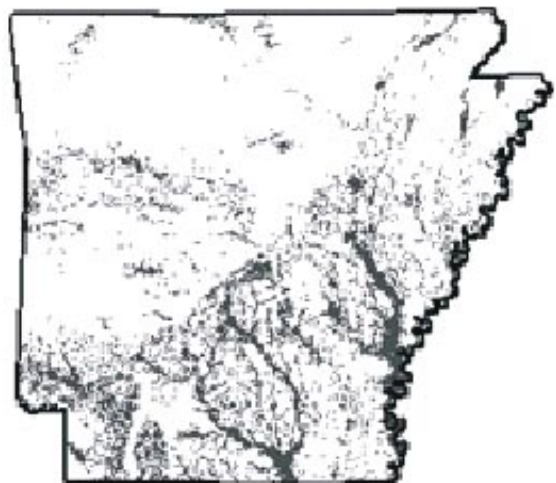
The region known as the Delta is actually part of the Gulf Coastal Plain that has been extensively modified by the Mississippi and Arkansas Rivers, and other flowing waters. It occupies most of eastern Arkansas. The active streams running through the Delta include floodplains subject to frequent overbank flows, as well as broad backwater areas, oxbow lakes, and shallow depressions.

Wetlands

Wetlands are areas where the periodic or permanent presence of water controls the characteristics of the environment and associated plants and animals. Today wetlands cover approximately eight percent of Arkansas's land surface. The vast expanses of wetlands that occupied the Delta prior to European settlement have been dramatically reduced by flood control, drainage projects, and agricultural development.



Arkansas Wetlands
circa 1870



Arkansas Wetlands
Today



Headwater Swamps

Headwater swamps occur in ancient glacial outwash channels that are similar to shallow basins or bowls. These swamps are unusual because they are self-contained within these “bowls”. The water level in these swamps remains fairly consistent, instead of fluctuating like other bottomland swamps. The edges of the bowl may be wet for shorter periods of time, while the center of the swamp remains fairly deep.

Because these headwater swamps encompassed the watershed of the stream which fed them, they were very easy to drain, and almost none of them remain today. The headwater swamp at the Louisiana Purchase marker is one of the largest remaining headwater swamps in the entire Mississippi River Valley.

What’s a Swamp Good For? (What is a home, a sponge, and a strainer all at the same time?)

- Objectives:
- Students will appreciate the importance of wetlands
 - Students will identify functions and values of wetlands

Grades: 1-12

Materials: box large enough to hold the following items: sponge, small pillow, soap, egg beater, sieve or strainer, antacid tablets, small box or bag of cereal or rice

Wetland Values background

Wetlands provide breeding, resting, and wintering habitat for thousands of migratory birds, including the millions of ducks important to duck hunting in east Arkansas. A wide variety of other animals depend on wetlands for food, shelter and water.

Wetland plants absorb nutrients and help keep the water’s nutrient concentrations from reaching toxic levels. Wetlands have a unique ability to purify the environment. They are amazing filter systems which trap and neutralize waste, allow silt to settle, and promote the decomposition of many toxic substances.

Wetlands help to prevent flooding by serving as a holding basin for excess water. Holding this water allows it to soak into the ground slowly which prevents flooding and erosion.

Wetlands replenish groundwater. Water slowly moving through the swamp has the potential to seep into the soil and ultimately into the groundwater beneath the surface. This helps to replace water that we remove for drinking water and irrigation of crops.

Most of Arkansas’s wetlands are associated with the floodplains of the Mississippi River and its major tributaries. All together, these wetlands are referred to as “bottomland hardwood forests”. The value of these wetlands is tremendous. The Mississippi is the third largest river in the world and drains two thirds of the continental United States. While the Mississippi has been altered itself by a series of levies, many of its tributaries in Arkansas support the best of these remaining bottomland hardwood forests.

Activity

Introduce information on wetlands, their functions and values. This can be done through posters, books, videos, etc. (see reference list).

How do students feels about wetlands?

Do they think wetlands are important? Why or why not?

Divide the class into groups (depending on number of items in your “wetlands box”). Ask a representative from each group to pick an item from the wetlands box. Each group must then decide how the object could represent what a wetland is or does. Allow time for students to discuss their answers in groups before each group presents it object and ideas to the class.

The table below lists some examples of objects for your wetlands box. An extension activity could include researching additional wetland values and develop more items.

OBJECT	FUNCTION
sponge	Absorbs excess water caused by runoff
pillow	Resting place for migratory birds
egg beater	Mixes nutrients and oxygen in water
strainer	Strains silt and debris from water
coffee filter	Filters smaller impurities from water
antacid	Neutralizes toxic substances
cereal or rice	Provides nutrient-rich food for wildlife and humans
soap	Helps to clean the environment

Correlations to Arkansas Curriculum Frameworks

SCIENCE: 4.1.8, 4.1.9, 4.1.18, 4.1.19, 4.1.20, 4.1.28, 5.1.3, 5.1.16

ARKANSAS HISTORY: 1.1.2, 1.1.3, 1.1.6, 1.1.7, 1.1.12, 1.1.14, 2.1.2, 2.1.5, 2.1.7, 4.1.4,

RESOURCES

Anderson, Margaret. Leapfrogging Through Wetlands (Middleton, WI: Dog-Eared Publications, 1998)

Arnosky, Jim. Wild and Swampy (Singapore: Tien Wah Press/HarperCollins, 2000)

Foti, Thomas and Gerald Hanson. Arkansas and the Land (Fayetteville: University of Arkansas Press, 1992).

Greenaway, Theresa. Swamp Life (New York: Dorling Kindersley, 1993)

Hickman, Pamela. Wetlands (Toronto: Kids Can Press Ltd, 1993)

Luenn, Nancy. Squish! A Wetland Walk (New York: Athenum, 1994)

National Wildlife Federation. Wading Into Wetlands (New York: McGraw-Hill, 1997)

Slattery, Britt Eckhardt. WOW! The Wonders of Wetlands (St. Michales, MS: Environmental Concern Inc. and The Watercourse, 1995)

WEB SITES

<http://www.mawpt.org/default.asp>—Arkansas’s Multi Agency Wetlands Planning Team—includes lots of Arkansas-specific information and a special “teachers” section—great resource!

<http://www.epa.gov/owow/wetlands/> - EPA’s wetlands site—lots of good information with national perspectives—special student and teacher sections.

<http://www.terrene.org/> - The Terrene Institute — a private conservation group that produces materials for wetland and watershed education.

<http://www.iwla.org/SOS/awm/> - a site which describes activities for American Wetlands Month (May) sponsored by the Izaak Walton League

For more information about educational programming from the Arkansas Natural Heritage Commission, contact 501.324.9159 or arkansas@naturalheritage.org
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