

A DAY BY THE BUFFALO

HABITAT AND DIVERSITY – Overlook Hike

Buffalo National River protects many different types of habitat, harboring a wide diversity of species.

TEACHER BACKGROUND

The *Ozarks* of northern Arkansas harbor a great variety of plant and animal life due to factors such as location, elevation and climate. From hardwood forests to cedar glades to pine woodlands, many different *habitat* types are found here. Located in the middle of the country, this region serves as home to northern, southern, eastern and southwestern *species*. River birches, essentially northern trees, hide in cool hollows. Beech trees, whose principal range is the eastern United States, find habitat in moist valleys. Scorpions and prickly pear cactus, more often associated with southwestern deserts, make themselves at home among the rocks of hillside glades. Lichens usually seen in the arctic tundra cling to weathered bluffs. The Ozarks truly are a “*biological crossroads*” where species from many areas of the country can be found.

Thus the Ozarks contain many different *natural communities*, or habitats. Each of these communities contains a wide diversity of plants and wildlife. Since all the members of the natural community are dependent on each other, removing one type of plant or animal will affect all the others. The National Park Service strives to protect natural communities and preserve diversity in national park areas like Buffalo National River.



CLASSROOM: PRE-VISIT ACTIVITIES

Activity 1. Habitat Shuffle (adapted from Habitat Rummy in Project Wild)

STATE STANDARD

Science - Strand 2: Life Science

Standard 4: Populations and Ecosystems

Students shall demonstrate and apply knowledge of populations and ecosystems using appropriate safety procedures, equipment, and technology.

OBJECTIVES

Students will:

1. name the elements of *habitat*
2. identify the habitat requirements of various animals found at Buffalo National River

MATERIALS

- writing paper
- 3x5 index cards
- chalkboard/dry erase board

ACTIVITY

1. Divide the class into work groups. Assign or let each group pick one or more animal(s) they will research from the list below. Or create your own list of animals that commonly live in this area.

Collared lizard

Gray bat

Five-lined skink

Coyote

Texas mouse

Smallmouth bass

Wild Turkey

Cave salamander

Green frog

Eastern meadowlark

2. Each group should research the animal(s) they have and be able to identify the following:
 - a. What kind of community or arrangement does the animal live within (i.e. glade, open field, woodland, riparian area, or cave)?
 - b. What does the animal eat?
 - c. What does the animal use for shelter (i.e. burrow, rock crevice, etc.)?
 - d. Where might this animal get water (i.e. from the plants it eats, from a nearby stream, etc.)?

3. Record the students findings on a chart for all to see such as the one below.

	Collared lizard	Gray bat	Five-lined skink	Coyote	Texas mouse	Smallmouth bass	Wild turkey	Cave salamander	Green frog	Eastern meadowlark
Food										
Water										
Shelter										
Arrangement										

4. Once the chart is complete, have the students transfer the information to 3x5 cards. The top of the card should have the habitat component and the specific information for that animal at the bottom. For example, the cards for the gray bat may look like these:

Food insects	Water Nearby Ponds & streams	Shelter caves	Arrangement caves
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The groups may draw pictures on each card to represent each component. For example, draw a picture of a mosquito on the bat's food card. Each group should have a complete set of all ten animals' habitat elements (a total of 40 cards per group).

- To play the game, one student mixes the cards, deals four cards to each of the players in the group, turns one card face up for all players to see (this one card becomes the discard pile) and places the remaining cards in a pile face-down. The object of the game is for the player to complete a set of habitat elements (food, water, shelter, and arrangement) for an animal.
- Each player in turn may draw a card from the remaining cards *or* the top card in the discard pile. Then the player discards an unwanted card. Each player takes a turn. When the face-down pile runs out, mix the remaining discard pile and place them face down. When a player gets all the elements for an animal, s/he yells "HABITAT!" This process continues until all the habitat element groupings are complete. The winner is the one with the most habitat element groupings.
- (Additional activity): Students can do this activity separately or in groups. Ask them to spend a little time after school or at recess finding an habitat to describe.



Suggest a park, the playground, or their own backyard. Ask them to answer the following questions:

1. What type of habitat is it?
2. What type of wildlife (if any) might live there?
3. What are some ways that plants and animals within that habitat might interact?
4. What are some ways that humans have changed the habitat?
5. Are there some changes that might have helped the habitat?
6. Are there some changes that might have hurt the habitat?
7. Could these changes have been avoided? If so, how?

NATIONAL RIVER: ON-SITE ACTIVITIES

Activity 2. Overlook Hike

STATE STANDARD

Science - Strand 2: Life Science

Standard 4: Populations and Ecosystems

Students shall demonstrate and apply knowledge of populations and ecosystems using appropriate safety procedures, equipment, and technology.

OBJECTIVES

Students will:

1. define **habitat** and give an example within Buffalo National River.
2. identify a key plant species from three, different **natural communities** found along the trail.
3. identify a representative animal species from three different natural communities found along the trail.
4. describe why the **Ozarks** are known as a **biological crossroads**.
5. describe the purpose of national parks in preserving habitat and why diversity is important in natural communities.

MATERIALS

- day packs
- drinking water

ACTIVITY

Be prepared to spend approximately an hour and fifteen minutes with a ranger hiking an easy to moderate trail.



CLASSROOM: POST-VISIT ACTIVITIES

Activity 3. Taking Responsibility (in an human community)

STATE STANDARD

Social Studies - Strand : Civics

Standard 5: Citizenship

Students shall develop an understanding of the rights and responsibilities of citizens.

OBJECTIVES

Students will:

1. list what they feel describes a responsible member of a **community**.
2. actively participate in their community.
3. explain how their accomplishments benefit the community.

MATERIALS

- paper
- pencil
- poster board

ACTIVITY

Have your students consider that they are members of a classroom community. There may be active and in-active members. Do some brainstorming as a group to define what this classroom community requires to function (leadership, organization, structure, etc.). Consider the basic needs (similar to Activity 1, Habitat Shuffle).

1. Divide the class into groups of 4 or 5 and have the students make a list of things they can do to make them responsible members of the classroom community. Have each group share their ideas with the class. After each group has shared, ask the whole class to refine these ideas and make a class list of no more than 10 items and post them on the chalkboard or poster board.
2. Mount this list in a prominent place in the classroom.
3. Encourage the students to personally consider their roles in the classroom community. As a student accomplishes an item, have the student sign their name on the poster board next to the item (more than one student name may be next to each item). After a period of time, come back to a discussion of this class list and allow the students to share how their accomplishments benefited the community.

4. For further discussion, ask the class to discuss how they as individuals are part of the greater natural community of the Ozarks. What personal actions will have a positive or negative impact on the community? List for impact.



KEY WORDS

Ozarks, habitat, species, biological crossroads, natural communities

RESOURCES

Hardaway, Billie Touchstone. 1991. *These Hills My Home*

Pitcaithley, Dwight T. 1978. *Let the River Be.*

Smith, Kenneth L. 1967. *The Buffalo River Country.* Little Rock, AR. Ozark Society.