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# BLUE RIDGE PARKWAY

The Blue Ridge Parkway is known today as perhaps the greatest scenic highway in the world. Indeed, it was designed to meet this expectation over 60 years ago. It extends 469 miles along the crests of the Southern Appalachians and links two national parks — Shenandoah and Great Smoky Mountains. Along the way, it meanders through some of the most significant cultural and natural resources in North Carolina and Virginia. The Parkway provides seemingly endless but breathtaking views of parallel mountain ranges, scattered hills, and mountain farms.

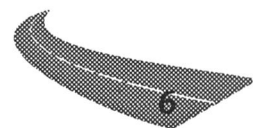
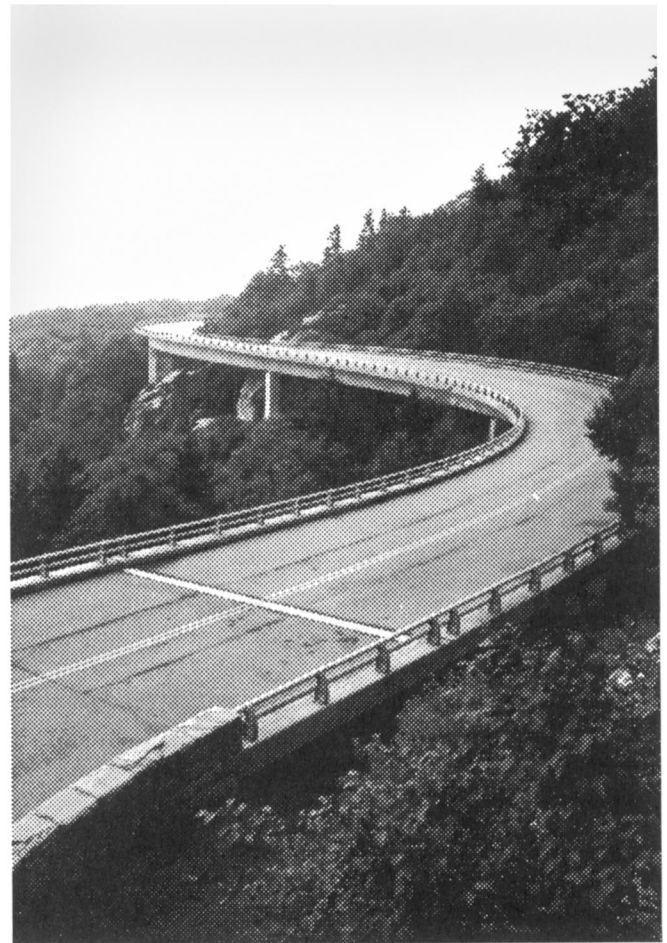
Wildlife is abundant along the Parkway. Your students may be delighted to observe deer, bear, wild turkey, or bobcats. They may enjoy bird watching - like the hawk migrations in the spring and fall or the high elevation species such as the winter wren. Perhaps they will observe a groundhog as it sits erect along the roadside or enjoy a glimpse of a fox or opossum. They are sure to note signs of wildlife all around.

History is rich in this national park. The stories of independent mountain people are told at many overlooks along the way. There are log cabins, working farms, a mountain mansion and a grist mill. All walks of historical mountain life leave some type of tale to tell along the Parkway. In some areas, students may even observe authentic Appalachian handicraft in production.

Wherever you go along the Parkway, you will find resources to match your curriculum. Recreation areas, varying in size from several hundred to several thousand acres, are wilderness gems for those who enjoy the out-of-doors. Cultural resources are abundant. Most developed areas include picnic facilities, restrooms, water fountains and hiking trails. The Parkway offers an ideal spot for a field trip for any age group.

Be sure to be prepared for cool weather and unexpected changes in the weather. As in many mountain areas, students will need good walking shoes, plenty of food and water, and a warm jacket.

The activities that follow reflect but a sample of what you can do along the Blue Ridge Parkway with your class. We hope that you will adapt all of the activities in this book to various Parkway sites — or perhaps create a few activities of your own. For further information about the Blue Ridge Parkway call (704) 298-0398.



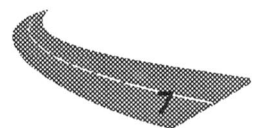
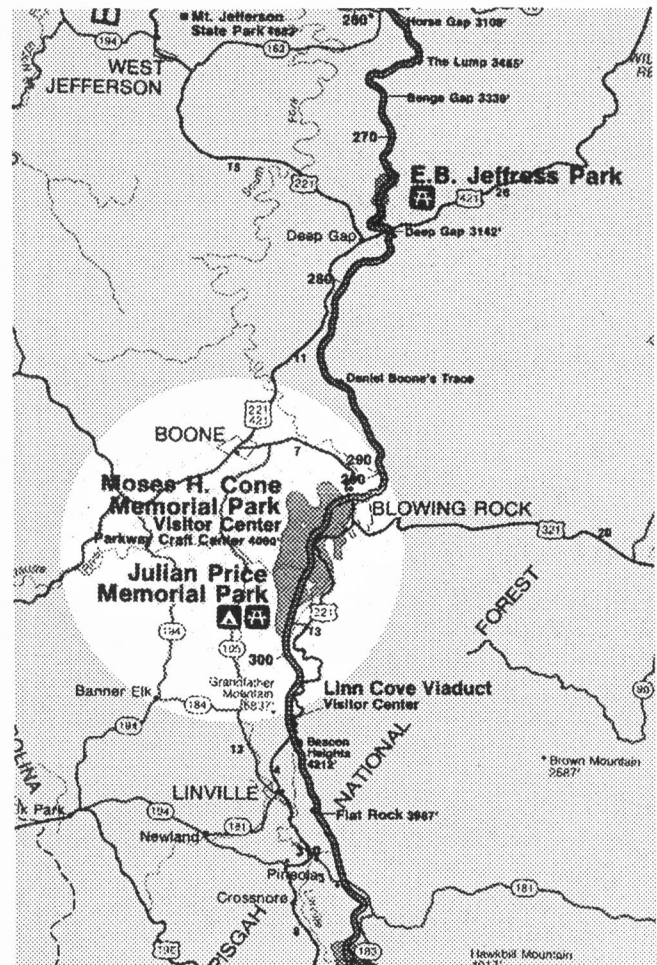


# JULIAN PRICE MEMORIAL PARK

Julian Price Memorial Park is not only one of the most scenic areas along the Blue Ridge Parkway, but also one of the more diverse. The variety of resources available here make it an appealing site for any class field trip. The area offers a large picnic area, campground, hiking trails, lakes, ponds, and streams, restrooms and seasonal boat rentals. The teachers in this project especially recommend the Julian Price Picnic Area, which harbors a Natural Heritage Area and visible beaver activity along Boone Fork Creek. The trail along Boone Fork is wide, flat, and accessible directly in the picnic area. Restrooms are presently available from May through October. For detailed information, call the Blue Ridge Parkway Bluffs District Office at Sandy Flats (704) 295-7591.

The Julian Price area is also adjacent to the Moses H. Cone Memorial Park on the Blue Ridge Parkway. Here, students may gain insight into some of North Carolina's finest cultural heritage as they view the textile giant Moses Cone's mansion, which he named Flat Top Manor. The manor, now known as the Parkway Craft Center, is operated by the Southern Highlands Handicraft Guild. Authentic mountain handicraft such as pottery, hooked rugs, basketry, furniture, and hand woven materials are on sale or exhibit. Often, various skilled handicraft artists demonstrate their particular arts at the center.

The activities that follow were designed for field trips to the Julian Price Picnic Area. However, many of the activities for Linville Falls, Mt. Mitchell, and Roan Mountain would also work here. The open setting and variety of resources at Julian Price Park lend themselves to a multitude of curricula. We hope that you will find the following activities useful and that they will inspire you to design a few of your own.



# EAGER BEAVER

## GOAL:

Using the beaver as an example, the learner will be aware of the relationship between the history of a region and its location, natural setting, natural resources and natural changes. Identify ways people affect the environment.

## STATE OBJECTIVES:

### NORTH CAROLINA:

#### SOCIAL STUDIES:

The learner will evaluate ways the people of North Carolina use, modify and adapt to their physical environment.

- 5.3: Analyze causes and consequences of the misuse of the environment and propose alternatives.
- 5.3.2: Give an example of the misuse of the environment, trace its causes and construct a timeline or use other graphic organizers to exhibit these causes.
- 5.3.3: Given an environmental problem, predict the short-term and long-term consequences and propose alternatives.

## INTRODUCTION:

The Blue Ridge Parkway, part of the National Park System, is committed to restoration and preservation of plant and animal wildlife. Wildlife management includes many different tasks, including the management of native species which were once lost but are now returning to the area.

The beaver was once master of the forest of the Southern Appalachians. As a keystone species, the beaver creates its own environment, forcing other species to adapt. Freshwater wetlands, such as bogs, are just one possible consequence of beaver territory.

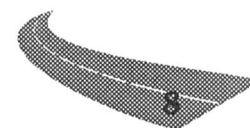
The beaver is well adapted to its aquatic environment, allowing it to survive and thrive as long as its primary predator, man, allows. Beavers disappeared quickly after being discovered in the Appalachian Mountains. Hunted for its fur, killed for being a nuisance, and run off by encroaching settlers, the beaver has now reappeared along the Blue Ridge Parkway. Wildlife management techniques are again challenged by this eager aquatic mammal.

## PRE-SITE ACTIVITIES:

1. Research the beaver and its unique adaptations to aquatic life.
2. Research the beaver fur trading business. Display beaver trapping areas of the U.S. on a map and develop a beaver fur store showing the uses of beaver in the late colonial era and/or early pioneer settlements.

## MATERIALS:

Reference resources  
Sketch pad/drawing materials  
Camera (optional)  
Note pad





# EAGER BEAVER

## ON-SITE ACTIVITIES:

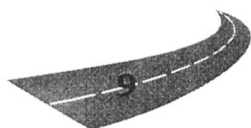
1. Beaver dams at Julian Price Park are primarily constructed from a combination of sticks, leaves and mud. Observe and discuss the pros and cons of this type of construction. What skills would the beaver need to make a dam? What have been the consequences of their dams (ponds, flooding, bogs, etc.)?
2. Discuss the return of the beaver to the Blue Ridge Parkway region. When did the beaver disappear? When did it return? What positive and negative consequences have occurred since its return?
3. Beavers are crepuscular animals (active at twilight and dawn) so visitors don't usually see them. Be a beaver detective and list clues that will prove the existence of beavers at Julian Price Park. Look for tracks, evidence of beaver gnawing, dams, etc. Make sketches or map the location of your clues. What might these clues tell you about the beaver population? What is the range of beaver territory?
4. Make a list of other mammals, birds, insects, amphibians and reptiles that share the beaver's environment. Diagram the layers (levels) of each one's place in the habitat. How does this affect the food chain? How are different resources used by each type of animal?
5. As you observe the environment, notice the plant life. Many "grassy" plants near water habitats are actually sedges or rushes. Use the simple rhyme to classify the "grasses" around the bog. What geometric shapes would describe the sedge blade and the rush stem?

SEDGES HAVE EDGES  
RUSHES ARE ROUND  
GRASSES ARE FLAT  
WHEREVER THEY ARE FOUND.

## POST-SITE ACTIVITIES:

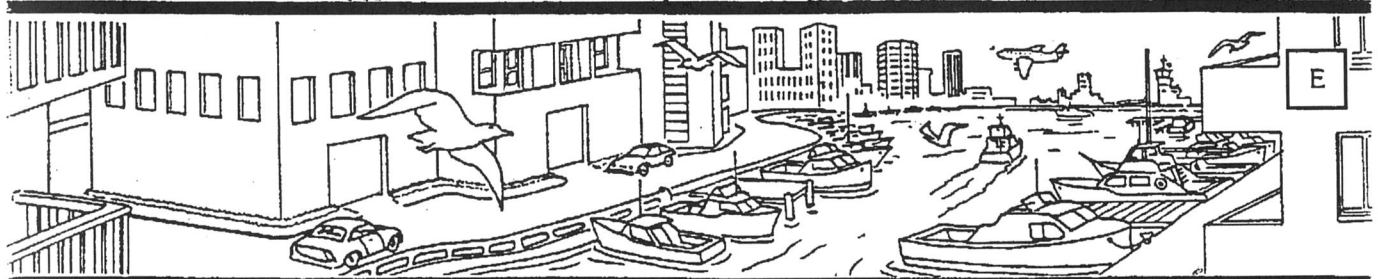
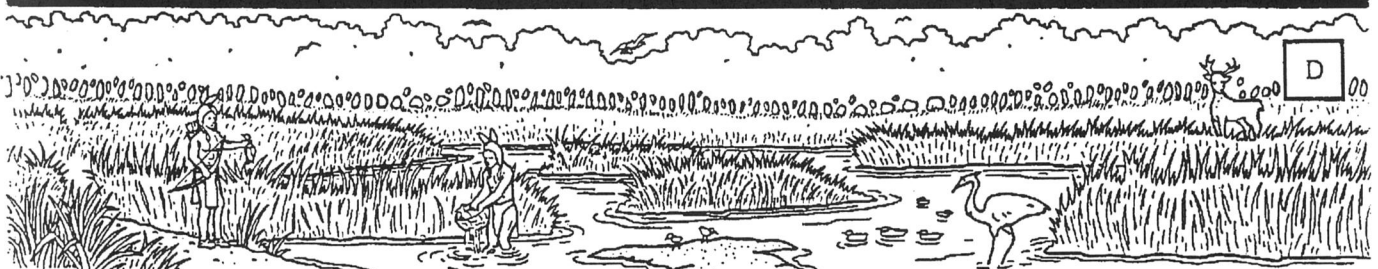
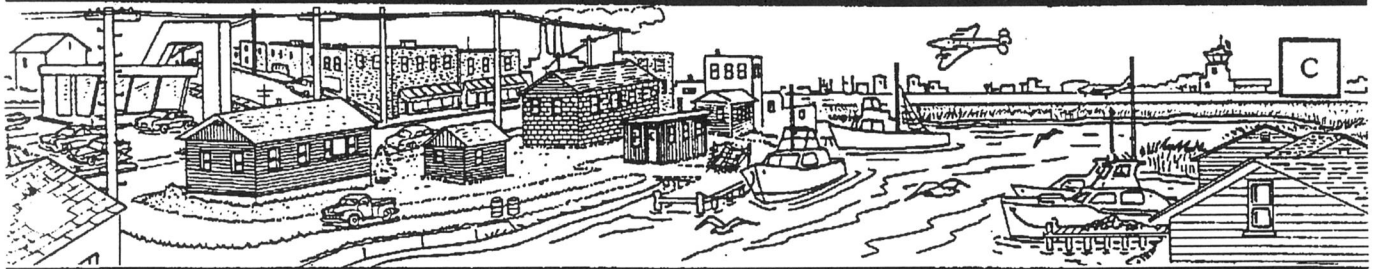
1. Make a timeline of mammal disappearance and reappearance along the Blue Ridge Parkway. A good resource is *A Naturalist's Blue Ridge Parkway* by David T. Catlin (pages 140-161).
2. Make a model, diorama or poster of a beaver dam, lodge or habitat. Explain the unique features. This could be a culmination of the research done prior to the visit.
3. Have a dam-building contest. Have individuals or groups try to make a stick dam and test if it will hold water back.
4. Write a poem or word description about the beaver.

B Busy  
E Economic  
A Aquatic  
V Vegetarian  
E Environmental  
R Reintroduce





# FROM MARSHES TO MEADOW



Have students cut out each picture and arrange them in historical order.

*Taken from Ranger Rick Nature scope, "Wading Into Wetlands"*

# JULIAN PRICE WORD PUZZLE

J D B L U E R I D G E P A R K W A Y V M  
 E A X S L C E L S E D I M E N T X C B L  
 Z W W A I A B M Q P D O H F C A L Q X Y  
 S H S U R K T D G H N A I L U K Y I N P  
 I C S T F E C N F Y K P M J T Y A H Y Z  
 W R H K B Y A A K Y T R M I L E P O S T  
 D E I E O Q M L L M C C V L C P B N U X  
 N P R Y O I P T N R W Z J I L G H C T D  
 J U A S N L G E X M R M R B W O B L I T  
 S S H T E E R W W C Z P D I X I D R R W  
 X C T O F O O E T H N G Y S E R X G T A  
 W U M N O K U Y V A K B J E H G U V E O  
 O L G E R V N I I A D A Y D I G U T D Z  
 G A A S K I D L S Y E V G G V K T W J A  
 F R W P Y O U K P X D B J E C X Z D C F  
 D W B E Q J N W A B O G U S D K H E X G  
 Y E U C K Y T I N U M M O C C K B P N W  
 X K Z I Z T D W J D E G G O L R E T A W  
 Z B Y E T F D A E J G G O B E U T U U C  
 X C M S R T J N X A A D A P T A T I O N

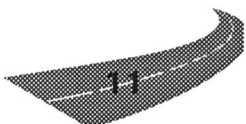
## WORD LIST

ADAPTATION  
 BOG  
 COMMUNITY  
 DETRITUS  
 KEYSTONE SPECIES  
 RUSH  
 WATERLOGGED

BEAVER  
 BOONEFORK  
 CREPUSCULAR  
 EARTHEN  
 LODGE  
 SEDGES  
 WETLAND

BLUERIDGE PARKWAY  
 CAMPGROUND  
 DAM  
 JULIAN PRICE  
 MILEPOST  
 SEDIMENT

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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# JULIAN PRICE WORD PUZZLE ANSWERS

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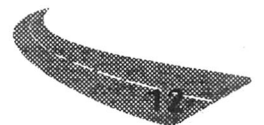
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. . . . . A . . . . . D . . . . .
. H S U R . . D . . . . A . . . . .
. C . T . . C N . . . . M . . . . .
. R H K B . A A . . . . M I L E P O S T
. E . E O . M L . . . . . C . . . U .
N P . Y O . P T . . . . . I L . . . T .
. U . S N . G E . . . . R . . O . . I .
. S . T E . R W . . . P . . . . D . R .
. C . O F . O E . . N . . S . . . G T .
. U . N O . U . V A . . . E . . . E .
. L . E R . N . I A . . . D . . . D .
. A . S K . D L . . E . . G . . . . .
. R . P . . U . . . . B . E . . . . .
. . . E . J . . . . . S . . . . .
. . . C . Y T I N U M M O C . . . . .
. . . I . . . . . D E G G O L R E T A W
. . . E . . . . . G O B . . . . .
. . . S . . . . . A D A P T A T I O N
    
```

## WORDLIST

ADAPTATION  
BOG  
COMMUNITY  
DETRITUS  
KEYSTONE SPECIES  
RUSH  
WATERLOGGED

BEAVER  
BOONEFORK  
CREPUSCULAR  
EARTHEN  
LODGE  
SEDGES  
WETLAND

BLUERIDGE PARKWAY  
CAMPGROUND  
DAM  
JULIAN PRICE  
MILEPOST  
SEDIMENT





# BEAVER POETRY

## GOAL:

The learner will develop descriptive skills by creating a diamond-shaped poem using information about beavers.

## STATE OBJECTIVES:

**NORTH CAROLINA:**

LANGUAGE ARTS:

- 2: The learner will use language for the acquisition, interpretation, and application of information.

## INTRODUCTION

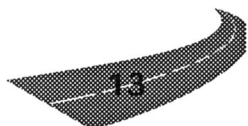
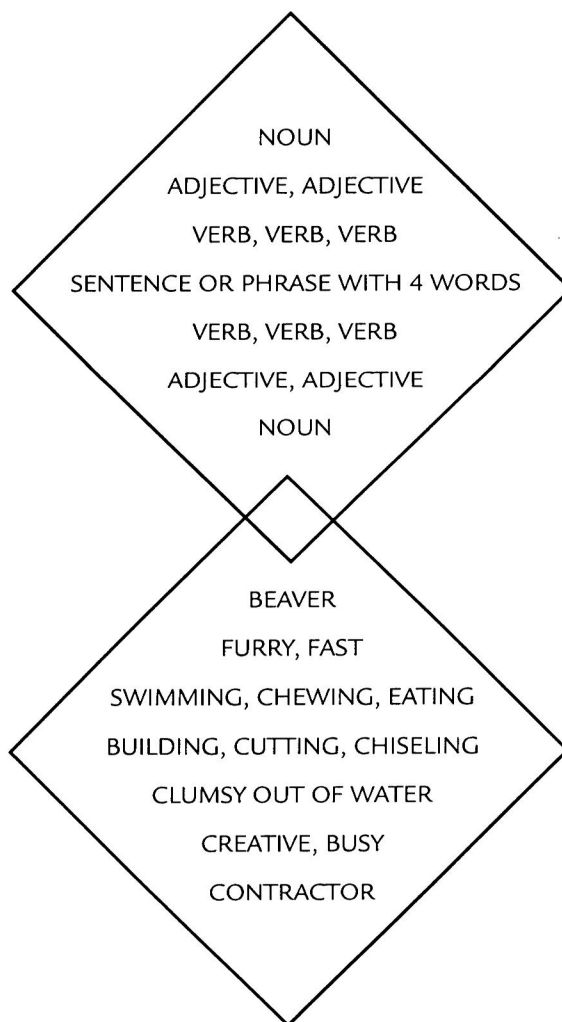
1. Beavers travel through water like a swift bullet.
2. Beavers have flaps on their nose that close when they go underwater.
3. Beavers have clear eyelids to see underwater.
4. Beavers have chisel-like teeth that can cut a three-inch tree in five minutes.
5. Flaps come down over the beaver's teeth so they can chew underwater.
6. Beavers are very adept with their hands and fingers. Their footprints look like hands.
7. Beavers are very clumsy out of water. They use their paddle-like tails to give them balance.
8. A beaver colony consists of six to eight beavers.

## ACTIVITY:

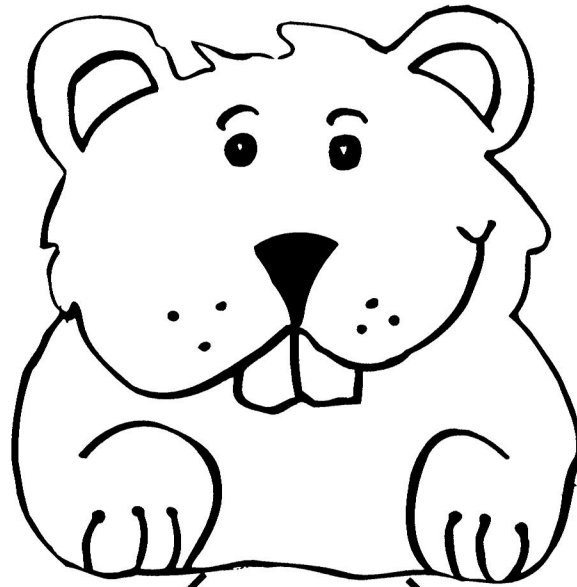
Using information about beavers learned at Julian Price Park, have students write simple diamond-shaped poems. This simplified form has seven lines. The form and a sample poem are shown below. You may want to collaborate on a few group poems to help students become comfortable with the form.

## MATERIALS:

Information fact sheet about beavers  
Beaver diamond-shaped poem activity sheet  
Reference books  
Pencils  
Crayons  
Markers



# BEAVER POETRY



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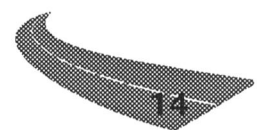
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By: \_\_\_\_\_

\_\_\_\_\_



# NATURE WALK

## GOAL:

The learner will identify wetlands and understand their importance. Students will discuss the beaver's role as a wetland contributor as well as some basic adaptations.

## STATE OBJECTIVE:

### NORTH CAROLINA:

- 2.4: Know that animals adapt to their environment.
- 2.7: Know that animals are interdependent.
- 6.1: Collect, organize and display data from surveys, research and classroom experiments.

### TENNESSEE:

- Recognize the differences among animals.
- Realize how individuals impact the environment.

## INTRODUCTION:

### WETLANDS:

All wetlands are made of water. However, all bodies of water (ponds, lakes, rivers, creeks, etc.) are not classified as wetlands. A wetland is an area that has soggy soil or is often covered with water. These areas support plant and animal life unique only to a wetland. For this reason, wetlands are valuable and add another link among wildlife, water, land and people. It is important to protect wetlands so the plant and animal life will continue to grow and live.

A big contributor to the formation of wetlands is the beaver. An example of its work is seen at Julian Price Park. When a beaver builds its dam, the water often floods the surrounding area, turning it into a marsh or swampland.

Marshes and swamplands are two of the three types of freshwater wetlands. The types of freshwater wetlands are:

1. Marshes make up about 90% of wetlands. The

vegetation that grows there is the trademark of a marsh. Some common forms of vegetation are grasses, sedges, rushes, cattails, and water lilies. It has been said that marshes are close to being the most efficient habitats on Earth. They provide food, shelter and water.

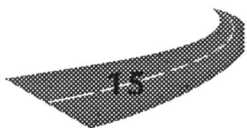
2. Bogs are freshwater wetlands that usually consist of peat, which is rich organic material made of decaying plant material. Layers of peat can be 40 feet thick. Peat contains acid and decays matter very slowly. Material, from prehistoric time to the present, that is buried in it often is well preserved.
3. Swamps are usually overtaken by shrubs and trees. The amount of water in a swamp can vary from a small amount to several feet deep. Swamps can support a variety of animal life. Animals such as alligators, panthers and raccoons can live in a swamp.

### BEAVERS:

The beaver is adapted to living in water. It has flaps to cover its ears and mouths and an extra pair of clear eyelids to swim in the water. A beaver builds a dam to create a water environment in which to live. Until a pond is formed, it lives in the sides of riverbanks, and the entrance to its home is underwater to deter predators.

Once the pond is the size it likes, the beaver builds its lodge in the middle. The flooding causes nearby trees to collapse, and fish, duck and amphibians find a new home. Predators are then attracted to the area by the possibilities of prey.

Beavers are important along the Blue Ridge Parkway because they are the only aquatic mammal living there. Beavers became extinct in North Carolina because of the beaver fur trade in the settler's time, but it was reintroduced to the area.





# NATURE WALK

## PRE-SITE ACTIVITIES:

1. Complete the matching/defining worksheet.
2. List different kinds of animals found in a wetland.
3. Research the beaver. Find other adaptations it has and how it lives.

## ON-SITE ACTIVITIES:

1. Have students describe the beaver habitat: such as plants, animals, the way it looks, water level, how soggy the ground is.
2. What do we mean by habitat?
3. Point out other habitats created due to the environment the beaver created.
4. Could the habitat change? How? What do you think would happen then?
5. Set aside time for student to do solo work. Make sure students spread out. Have them write down everything they see, hear, smell or feel. After a specified time, have them share their list with the class. Make a master list of all the things they found.

## POST-SITE ACTIVITIES:

1. Take the master list and make a wetland model from it. This can be as big as a wall mural or as small as individual pictures.

## MATERIALS:

Construction paper  
Scissors  
Glue  
Crayons/markers  
Tape/stapler  
Cardboard, egg cartons

## ON-SITE GAME: Bulldozer

### DIRECTIONS:

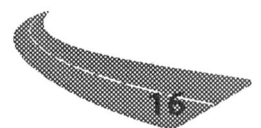
Pick two opposite sides of the playing field as boundaries. Then pick two or three people to be the bulldozers. The bulldozers stand in the middle of the playing field. Everyone else are wildlife standing along one of the boundary lines.

Tell the bulldozers to turn around because you are going to pick several beavers. The bulldozers cannot know who the beavers are because the beavers are the only ones who can save the wildlife and make the bulldozers' job harder. Once the beavers are selected, the bulldozers can turn around.

The bulldozers yell, "Give me some wildlife!" Everyone has to run and try to make it to the other boundary without being tagged by the bulldozers.

If the wildlife get tagged, they have to stand in that spot like a tree until a beaver saves them. Beavers can save wildlife by running by them and touching their feet. Beavers can only do this on the next run back to the boundary.

If a beaver gets tagged, it cannot be saved by other beavers. It has to lay in the spot looking like a road kill. Everyone keeps running back and forth (on the bulldozers' cues) until all are tagged by the bulldozers.



# NATURE WALK

## WETLAND WORKSHEET

### MATCHING:

- |  |            |
|--|------------|
| 1. ___ Freshwater wetland that consists of peat. | A) Wetland |
| 2. ___ An animal adapted for living in water.    | B) Marsh   |
| 3. ___ Acidic organic material.                  | C) Bog     |
| 4. ___ An area often covered with water.         | D) Peat    |
| 5. ___ It supports a variety of animal life.     | E) Swamp   |
| 6. ___ The most efficient habitat on Earth.      | F) Beaver  |

Answer: 1-C, 2-F, 3-D, 4-A, 5-E, 6-B

### QUESTIONS:

1. How does a beaver make a wetland?
2. Why are wetlands valuable to the environment?
3. What kind of vegetation grows in a marsh?
4. Why are things well-preserved in a bog?
5. What kind of animal life can a swamp support?
6. Where do beavers live before they build a lodge?
7. Why is the beaver important on the Blue Ridge Parkway?

### REFERENCES

- Miller, Arthur P. and Marjourie, L. *Park Ranger Guide to Rivers and Lakes*. Stackpole Books, 1991.
- National Park Service. National Parks and Conservation Association. *Biological Diversity Curriculum: Make a World of Difference*. National Parks and Conservation Association. Minnesota Environmental Ed. Board, 1990.
- National Wildlife Federation. *Ranger Rick's Nature Scope: Wading into Wetlands*, 1992.

# BEAVER ADAPTATIONS

## GOAL:

The learner will construct an understanding of science concepts through analyzing systems. The learner will demonstrate an understanding and use of graphing.

## STATE OBJECTIVES:

### NORTH CAROLINA:

#### SCIENCE

- 5.2: Investigate animals and their behaviors within natural environments
- 5.2.1: Compare and contrast various adaptations of different animal groups to their environment

#### MATH

- 6.1: Collect, organize and display data from classroom experiments
- 6.2: Formulate questions and interpret information from charts, tables, and graphs

### TENNESSEE:

#### SCIENCE:

- Recognize the differences among animals
- Realize how individuals impact the environment

#### MATH:

- Use information from tables, charts and graphs to solve problems

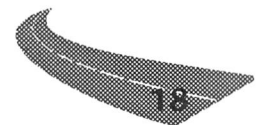
## PRE-SITE ACTIVITY:

Use these activities in conjunction with a unit of study on animals or, specifically, beavers. Students will research animals and compare similarities of animal groups by sharing their projects. Include the concept of animal adaptation.

## ON-SITE ACTIVITY:

1. Take a "Beaver Walk" (arrange through the Blue Ridge Parkway). Have students note in notebooks/sketch pads all signs of beavers, such as tree fellings, lodges and dams.
2. As a class, brainstorm beaver adaptations. Include:
  - Hands that are human-like
  - Long fingers for manipulation
  - Webbed feet for swimming
  - Tail for balance and swimming
  - Chiseled, sharp teeth for felling trees
  - Flap behind teeth and nose for protection underwater
3. Create a Venn diagram to depict similarities and differences between beavers and human adaptations. Use two hoops to create the Venn diagram. List adaptations separately on index cards. Students then place cards on the Venn diagram, prompting discussion. The cards can be from students during the brainstorming session or noted in advance. Include the following:

Webbed feet	Toes
Tail	Hands
Flap behind teeth/nose	Feet
Chiseled Teeth	Hair

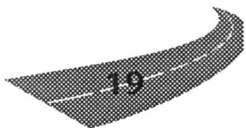




# JULIAN PRICE TRIP RECORDER

1. Destination: \_\_\_\_\_
2. Departure time: \_\_\_\_\_
3. Present temperature/weather conditions: \_\_\_\_\_
4. Beginning mileage: \_\_\_\_\_
5. Ending mileage: \_\_\_\_\_
6. How far? \_\_\_\_\_
7. Arrival time: \_\_\_\_\_
8. Temperature/weather conditions at destination: \_\_\_\_\_
9. Elevation: \_\_\_\_\_
10. Watershed? \_\_\_\_\_

## SKETCHES AND NOTES



# THE MODEL BEAVER

## GOAL:

The goal of this lesson is to educate students about wildlife that lives in mountain streams, such as in Julian Price Park.

## OBJECTIVE:

The learner will understand the physical characteristics of beavers and how they live. Students will build a model of the animal's habitat and place it on a model of human habitat. Students will use problem-solving skills to think of ways man and animals can live together. Teachers will give background information and lead the discussion.

## STRANDS:

Science and Art

## STATE OBJECTIVES:

### NORTH CAROLINA:

- 2: The learner will have a general knowledge of animals.
- 2.4: Know that animals are adapted to their environment.
- 2.7.5: Discuss how humans must care for the environment to insure that animals remain healthy and species survive.

### TENNESSEE:

- 35401: Understanding the effects of environmental change to inhabitants.
- 354P1: Understand the basic concept of habitat and how habitats can be preserved.

## BACKGROUND INFORMATION:

The North American beaver is an intelligent animal, according to Indian folklore. It is a hard worker, with physical characteristics that allow it to build a lodge in one day. The North American beaver weighs 35 to 40 pounds, and its body is about two feet in length. The tail is usually about one-third as long as its body, or about 10 inches.

The beaver has reddish-brown outer fur and dark-brown under fur. The fur protects the beaver and keeps it warm and dry. The beaver has a round body, strong head and powerful jaws and teeth for chiseling trees. The beaver's two teeth have sharp edges that become worn, but these teeth continue to grow throughout the beaver's life.

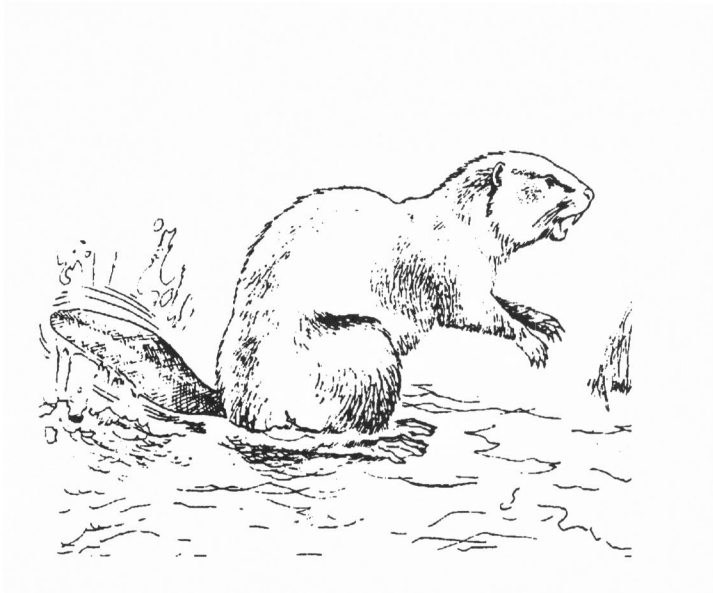
The beaver has flaps inside its ears and a mouth that closes when it swims. The beaver has two eyelids — one is a clear lid that closes when underwater. The beaver's front feet have joints like human hands, allowing the beaver to construct its lodge precisely. The beaver's back feet are webbed for swimming, and its tail is broad, flat and covered with scales. The beaver uses its tail as a rudder for swimming and to sit up. The beaver is a graceful swimmer and can stay underwater for 20 minutes. The beaver also uses its tail to warn others by slapping it on the surface of the water.

The beaver lives in a colony of six to eight beavers. A beaver's life begins as a kit, which are born in litters of two to six beavers. The kits live with their mothers for three years and then find a mate and build a lodge of their own.

The beaver's lodge, or home, is constructed in the ground with an opening to the water. The lodge has two rooms- a "mud" or work room and a "living" room where they rest. The lodges are made of mud and sticks from poplar, aspen, willow and birch trees, and the beaver eats bark from these trees. The beaver works at night, during early sunrise or during late sunset. The beaver stores food and spends the winter resting in his lodge.

The beaver is a "keystone" species, just like humans, meaning they manipulate their environment to suit their needs.

# THE MODEL BEAVER



## PRE-SITE ACTIVITIES:

1. Research the beaver, his dam and lodge. Make lists of other rodent families.
2. What role does the beaver play in natural resources and wildlife? What role did the beaver have during the fur trade height?

## ACTIVITIES:

Construct a model of a 20-acre habitat for people and beavers.

Use butcher paper to draw land and streams. Cut trees out of colored paper and make a forest on some of the property. Have students remove trees as they need for constructing their houses.

Talk about the fact that beavers live there and the people will be moving in on the beavers. What will happen to the beavers?

Have students build a house out of a box. Discuss what is happening to the animal habitat as the activity continues. Visit Julian Price Park and see the animal habitat. Ask students to identify the current problems for man and the beaver. Have students think of ways to improve the situation, such as designating wildlife areas like Julian Price Park.

## POST-SITE ACTIVITIES:

1. Draw a picture of a beaver's lodge and dam or construct a model diorama out of papier-mâché.
2. Write a story. Pretend you are a beaver and discuss your problems and what you can do to make your life better.



# BEAVER HABITAT

## GOAL:

To look at the ways that management of our animal resources ensures endangered or threatened species will survive.

## STATE OBJECTIVE:

### NORTH CAROLINA:

2.7.5: Discuss how humans must care for the environment to ensure that animals remain healthy and survive

### TENNESSEE:

To realize how individuals effect the environment

## BACKGROUND INFORMATION:

The reintroduction of endangered and threatened animals is controversial. (An example is the current controversy over the reintroduction of the Red Wolf to the Smokies.) The reintroduction of the beaver to this area has caused some conflict also. The beaver has done so well in its habitat that it has conflicted with its neighbors over land. This conflict occurs when the beavers dam streams, and the subsequent flooding causes problems for man.

## PRE-SITE ACTIVITIES:

1. Compare the goals and values of those who want to protect the beaver with those who want to remove the beaver.
2. Beavers require considerable land and water resources that could be used for other purposes. Discuss these uses and debate which is best.
3. Collect news articles and information about beavers and discuss the information in class.
4. Debate the issue of man versus the beaver over the right to use the land.

## DEBATE: SHOULD ANIMALS BE PROTECTED?

### SHOULD

They are natural resources.

They can become endangered.

Animals should be protected.

### SHOULD NOT

vs. They provide resources.

vs. They get in man's way.

vs. Animals shouldn't be protected.

**DIRECTIONS:** This is a basic outline for a simple debate. The students will need to do research to have sufficient information for the debate. They may pick sides or the teacher may assign sides.

## OTHER POSSIBLE TOPICS:

1. The effect of the fur trade on animal populations.
2. The effect the decline in animal populations had on Native Americans.
3. The fur trade's affect on the settlement of remote areas?

## ON-SITE ACTIVITY:

As the students visit the beaver habitat, have them make drawings of their observations (the type of dams, evidence of conflict with man and the environment, etc.) Were the dams and surroundings what the students expected? If not, what was different?

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# BEAVER HABITAT

## POST-SITE ACTIVITIES:

### BEAVER HABITAT

Study the drawing below. Is this the type of beaver habitat you observed?

How do you account for differences you observed?

Look carefully at the Beaver lodge.

What kind of builder do you think the beaver is?

What special adaptations would it needs?

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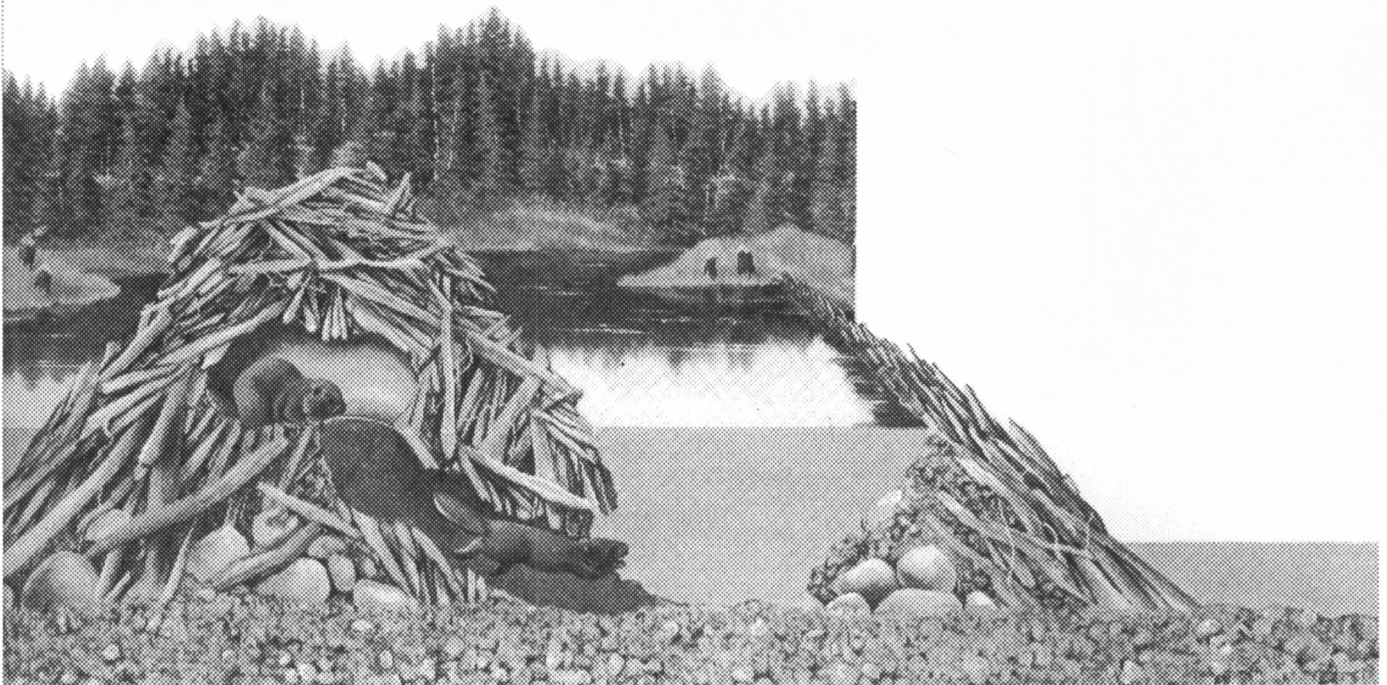
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# BOONE FORK TRAIL

## GOAL:

To educate students about beavers and their adaptation.

## STATE OBJECTIVES:

### NORTH CAROLINA:

SCIENCE: All

LANGUAGE ARTS: All

SOCIAL STUDIES:

5.3: Analyze causes and consequences of the misuse of the physical environment and propose alternatives.

5.3.2: Give an example of the misuse of the environment, trace its causes and construct a timeline or use other graphic organizers to exhibit these causes.

5.3.3: Given an environment problem, predict the short-term and long-term consequences if nothing were done and propose alternatives to doing nothing.

MATH: All

MUSIC/DRAMA: Role play an endangered species.

HEALTH: Actions produce consequences.

### TENNESSEE:

SCIENCE: All

SOCIAL STUDIES: All

## PRE-SITE ACTIVITIES:

1. Have students research beavers using books.
2. Have students design and draw their interpretation of a beaver, its home and its structures.
3. Through role play, have students work together as individuals or groups to show how the beaver works to survive.

## MATERIALS:

Art paper (manilla is best)

Pencils

Crayons

Chalk

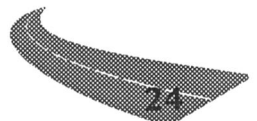
Markers

Colored pencils

Index cards to label groups/individuals

Rope to mark off space for role-play

Resources: books on beavers





# BOONE FORK TRAIL

## ON-SITE ACTIVITIES:

1. Have students sketch field drawings of beavers (should they be so lucky to see one), their dens, their dams and the remains of trees they have used.
2. Have students take pictures of these areas and label.
3. Have students approximate the length of the beaver, body and tail from a safe distance.

## MATERIALS:

Individual field journals  
Tape measure  
Cameras (automatic processing is best)  
Film  
Plastic sandwich baggies (to store photos)  
Permanent markers  
Resources: books on photography and beaver mount (possibly available on-site)

## POST-SITE ACTIVITIES:

1. Create a life-size papier-mâché beaver (use photos, field journals, and measurements as a resource).
2. Divide the class into the same groups or by individuals and have them work together as a beaver colony to build dens, dams, etc.
3. Develop and write a story about the beaver or the park visit, either fact or fiction. Make it into a report with photos.

## MATERIALS:

Cartons of wheat paste  
Newspaper  
Chicken wire  
Floral wire (for holding it together)  
Paints  
Markers  
Small photo albums or photo protectors  
Report Covers  
Pencils  
Resources: Papier-mâché art guide

