

PRAIRIE CHICKEN PAGEANT

Summary:

Students learn about the conservation challenges of the prairie chicken through performing a pageant.

Time:

1-3 class periods

Grade Level:

4-8, K-2

Subjects:

science, drama, art

Skills:

comparison, description, research

Learning Objectives:

Students will be able to:

- ✓ Identify several adaptations of an endangered prairie species.
- ✓ Describe conservation challenges of the prairie chicken.
- ✓ Propose creative solutions to prairie conservation issues.
- ✓ Discuss current efforts to protect prairie chickens.

Materials:

- ✓ “Prairie Habitats” worksheet
- ✓ “Build a Prairie Chicken” worksheet
- ✓ Prairie Chicken Fact Sheet
- ✓ Prairie Chicken Pageant Cards

Background

When Europeans first set foot on New England shores, they noticed an odd tooting cry, punctuated with howls, cackles, and mad laughter. Surprisingly, the colonists discovered that the odd creature issuing the ominous calls was a drab, buff-brown, medium-sized bird with dark bars on its feathers. The cacophony was part of the complex mating ritual of these birds.

This animated bird was the heath hen, but sadly, both the heath hen and its mating spectacle are now gone. Colonial settlers hunted the bird heavily on sandy scrub-oak plains, from Massachusetts to Pennsylvania and New Jersey. By 1840, the heath hen was extinct on mainland Massachusetts and Connecticut. By 1870, the bird survived only on Martha’s Vineyard, an island off New England. There it dwindled to extinction in 1938, as the last scraps of its habitat vanished. The bird that one colonist described as “too common to waste a shot on” was gone.

Today, when state agencies protect wildlife and the federal government can employ the

Endangered Species Act to help protect vanishing species, such extinctions should be a thing of the past. Yet the heath hen’s story is repeating itself, as the Attwater’s prairie chicken, a close relative of the heath hen’s, has dropped from an abundant population to the brink of extinction.

A subspecies of *Tympanuchus cupido*, the greater prairie chicken, that once ranged across 6 million acres of Louisiana and Texas coastal grasslands and numbered a million strong, the Attwater’s prairie chicken suffered great losses to uncontrolled hunting of the nineteenth century. In the twentieth century, habitat loss and fragmentation have applied what may be the last straw. In 1937, when the first serious study of the Attwater’s was launched, the bird had become extinct in Louisiana and was reduced to about 8,700 birds in Texas. Exactly 30 years later, when it was listed as endangered, there were fewer than 1,100 birds. By 1992, the population had declined to 456 birds scattered across five Texas counties — a decline of 95% since 1937. Since this time, the slide towards extinction has

continued, revealing the crucial link between species survival and habitat integrity, and highlighting the challenges in protecting habitat for endangered species under the Endangered Species Act.

The Attwater's prairie chicken is disappearing as rapidly as is the habitat it requires to survive: less than 3% of its original habitat remains. Moreover, the habitat remnants are fragmented, making isolated chicken populations susceptible to weather extremes, land-use changes, predation, and disease. Native coastal prairie is essential to the survival of the Attwater's prairie chicken. Young prairie chickens eat mostly insects, but the adults are primarily herbivorous, living on foliage, flowers, and sometimes seeds and insects. In addition to food, the grasslands provide lekking (gathering and courting) areas, nesting sites, and shelter from predators such as raccoons, coyotes, and skunks.

Studies of the Attwater's prairie chicken have shown that it is extremely sensitive to changes in its environment. The birds live and nest in tallgrass prairies, but they require open areas at ground level for lekking and raising their

chicks, making mixed grass prairie ideal. Sandy parts of the bird's remaining range are especially susceptible to drought. When these areas become too dry to produce proper grass cover, the birds die off or move to other areas. Range areas with poorly drained soils become less suitable for the chickens during wet periods. The birds apparently move from one area to another depending on moisture and grass growth. As the habitat shrinks and becomes fragmented, however, the birds have fewer alternatives.

Since presettlement times, Attwater's prairie chicken habitat has declined from 6 million acres to fewer than 200,000. The grasslands have been claimed by agriculture, urban sprawl, industrial development, poor grazing practices, and invasion by woody plant species. In Galveston County, Texas, for example, the last surviving Attwater's prairie chickens are

being crowded out by growth of the Houston metropolitan area. The harmful effects of this habitat loss have been accentuated by recent droughts, which exacerbate the vegetation – clearing effects of grazing, since livestock tend to overgraze during extended dry periods.

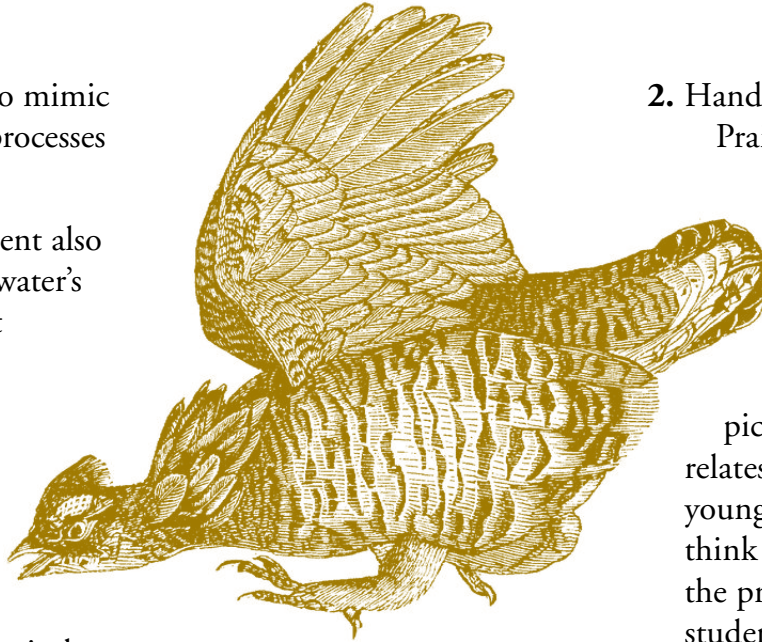
The U.S. Fish and Wildlife Service (FWS) is seeking to manage and protect public and private land for the Attwater's prairie chicken. Better land management is particularly vital to the subspecies' survival in the wild: Moderate grazing removes excess vegetation while maintaining winter and nesting cover; fall and early spring burning or mowing stimulate certain types of critical plant growth and open areas for leks; fire and herbicides control encroaching woody vegetation. Among other efforts, FWS is working to initiate grassland mowing regimes that ensure proper cover density, use fire to clear away dead grasses that hinder movement of young birds, and grow special food plots. All



of these are attempts to mimic the effects of natural processes that have been lost.

Private land management also plays a key role in Attwater's prairie chicken habitat conservation. Many grazed areas are in poor-to-fair biological condition, while the Attwater's prairie chicken demands grasslands that are in good-to-excellent biological condition in order to survive. FWS and the Texas Parks and Wildlife Department offer financial incentives to private landowners who help protect the birds and their habitat. Private landowners are encouraged to adopt grazing and mowing practices that do not harm Attwater's habitat and to restore grassland habitat where it has been degraded. Improving grasslands for the birds will yield better grazing land for livestock as well.

Additional conservation measures to protect the Attwater's include monitoring surviving populations, public education, and captive breeding for future reintroductions. FWS is attempting to raise Attwater's prairie chickens in captivity, but the process has been fraught with difficulty. To date, the release of captive-bred



prairie chickens has failed to produce any increase in current populations.

Procedure

1. Ask students *What do you think of when you think of chicken?* If they say "food," ask them if they know where those chickens come from (farm). *Have they ever heard of a wild chicken?* Explain that there is a very special species of bird, the Attwater's prairie chicken, that is an endangered species in the North American prairies. Emphasize that it is actually NOT a chicken but a species of grouse (and relative of the chicken's predomesticated ancestors), and a highly endangered prairie bird.
2. Hand out copies of the Prairie Habitats student worksheet. Give students time to complete it and then review it as a class, discussing how each of the pictured characteristics relates to the prairie. Ask younger students (K-2) to think about the habitat of the prairie chicken. Give students time to look at the four drawings in Part II of the worksheet and choose the best habitat for the prairie chicken. Discuss their choices as a class. The answer would be mixed grass prairie.
3. Hand out the Build a Prairie Chicken sheet and the Prairie Chicken Fact Sheet.
4. Have students read the Fact Sheet and think about the habitat of the prairie chicken and the adaptations it needs for survival in the prairie. *What adaptations would help it there?* Give students time to complete the worksheet.
5. Discuss the answers students chose. *Why did they choose each one?*
6. Tell the students that they will now be performing a Prairie Chicken Pageant. Divide them into five

groups. Hand out a Prairie Chicken Pageant Card to each group, and explain that the students will develop a skit based on their card. All of the skits will then be acted out in order, to create a Prairie Chicken Pageant. Pageant Cards include: 1) prairie chicken daily life; 2) prairie chicken mating dance; 3) historical conservation challenges; 4) saving a place for the prairie chicken; 5) what can we do to help. For more advanced students, give them the topic of the card and have them develop the skit from their own research.

7. Have students prepare and rehearse their pageant presentations. Be sure to tell them they are free to incorporate sound effects, music, and any props they would like to create. Have younger students create prairie chicken masks for use in their pageant.
8. Take the class outside to the schoolgrounds to perform the pageant, having each group perform while the rest of the class watches, writing

down any questions they may have.

9. After the pageant, have students ask each other questions about any part of the pageant. *Why did they include what they did? What did they learn?*
10. Ask students, *Is your school located in an area where prairie chickens once lived? Could they live there? Why, or why not? Could you provide habitat for on your schoolyard for any prairie animals? Which ones? Why, or why not?*
11. If you live outside of a grasslands area, ask students to consider what key type of habitat their school is located in. *Is it disappearing? What species are being affected by this habitat loss?* Consider creating or restoring that type of habitat on your schoolyard.

Modifications for Younger Students (K-2)

Read each card aloud for the students and have them act it out, one card at a time. Have

the students make prairie chicken masks for use in their pageant.

Modifications for Older Students (7-8)

Have the students research their own information for each of the pageant card topics.

Extensions

Have students research a different prairie animal, its life cycle and conservation challenges. Have groups write the components of a prairie pageant and trade with another group. As a class, develop the criteria (rubric) on which to judge their pageants.

Assessment

Have students create a storybook about the prairie chicken, translating their pageant into a book, with text and illustrations appropriate to their grade level.



WORKSHEET

PRAIRIE HABITATS

Part I Instructions: Write under each picture how it relates to the prairie.



Fire



Grasses



Bison



Adequate Rainfall

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Part II Instructions: Choose the best habitat for the prairie chicken:



(1)



(2)



(3)



(4)

**WORKSHEET****BUILD A PRAIRIE CHICKEN**

Instructions: Choose the body part that will help the prairie chicken survive in its prairie habitat. Circle the correct part.

BILL:*crack**spear**hook**basket***WINGS:***long and narrow**short rounded and wide**narrow and unslotted**long, broad, and slotted***FEET:***scratch**swim**grasp**climb*



WORKSHEET

ATTWATER'S PRAIRIE CHICKEN FACT SHEET

Latin Name: *Tympanuchus cupido attwateri*

Estimated Population:

Though there were once a million of these birds, there are now about 56 living in the wild. There are close to 200 birds in captive breeding populations.

Range:

Attwater's prairie chickens once lived across 6 million acres of Louisiana and Texas grasslands. They now live in three Texas counties: Colorado County, Galveston County, and Victoria County.

Habitat Type:

Prairie chickens live and nest in tallgrass coastal prairie. The birds use long grasses for nesting and areas of short grasses for courtship. They use both grasses for feeding. Young prairie chickens eat mostly insects, and adults eat mostly vegetation — leaves, flowers, seeds, and sometimes insects. They need open areas on the ground for mating and raising their chicks. They also depend on the grasslands for shelter

from predators such as raccoons, coyotes, and skunks.

Background:

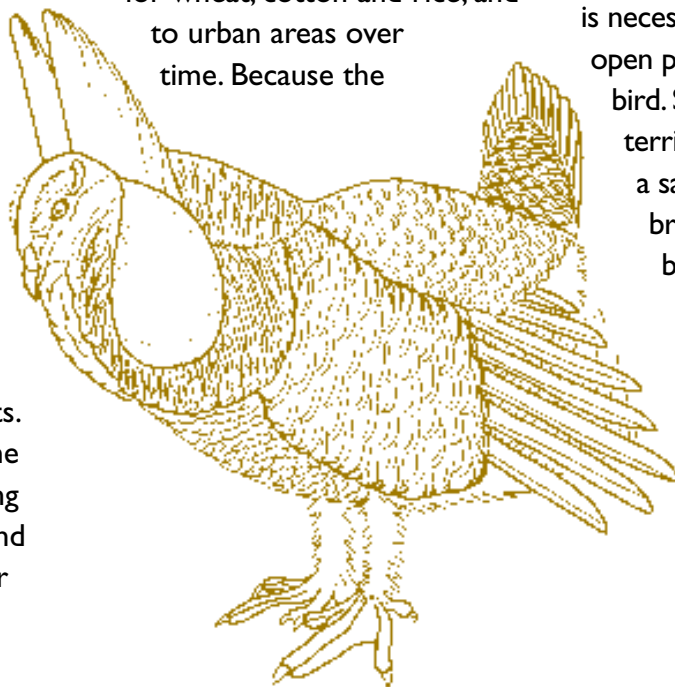
This bird performs a spectacular courtship dance on its western grassland habitat. It is one of three known subspecies of greater prairie chickens. A second one is also in trouble, and the third, the heath hen of the Eastern United States, became extinct by 1932.

Primary Threats:

The primary threat to the survival of the prairie chicken is habitat loss. Its habitat has been lost because people have changed it to agricultural fields for wheat, cotton and rice, and to urban areas over time. Because the

population of birds is now so small, prairie chickens are also in trouble because they are eaten by birds, like owls, and bobcats, raccoons, coyotes, and skunks. Disease at captive breeding locations is also a problem for prairie chickens.

Prairie chickens once depended on grazing bison to keep native grasses at the best height and density for them to find cover and make nests. Prairie chickens can now live in the same areas as cattle, as long as people manage cattle grazing so that it is similar to the grazing the bison once did. As prairie chicken habitat has also been lost to cities and roads, (especially near Houston, Texas), it is necessary to protect areas of open prairie to save this splendid bird. Some of the remaining territory has been set aside as a sanctuary for them. Captive breeding programs have also been developed in an effort to save this bird.





WORKSHEET

PRAIRIE CHICKEN PAGEANT CARDS

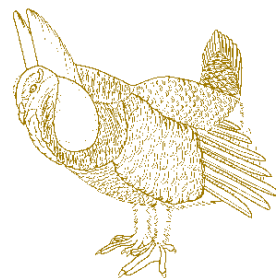
Name here!

Attwater's Prairie Chicken Daily Life

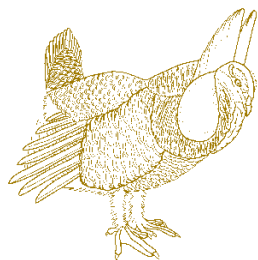
Prairie chickens live in tallgrass coastal prairie habitats. The birds use long grasses for nesting and short grasses for their amazing courtship dance and raising their chicks. They use both kinds of grasses for feeding. Young prairie chickens eat mostly insects. Adults eat mostly leaves, flowers, seeds and sometimes insects too. In addition to food, the grasslands provide mating areas, nesting sites, and shelter from predators such as raccoons, coyotes, and skunks.

After mating, a prairie chicken female (hen) lays about a dozen eggs and they hatch about 26 days later. While the eggs are in the nest, and after they hatch as small chicks, many predators – like opossums, skunks, raccoons, coyotes, snakes, and dogs – find them to be a tasty meal. Less than half the chicks make it to adulthood.

Chicks stay with their mother for at least six weeks, eating mostly insects. As they grow older, they also eat leaves, flowers, and seeds of prairie plants.



Attwater's Prairie Chicken Mating Dance



The prairie chicken performs a dance to attract a mate. Males gather in a large area called a “lek” where each male stakes out a space of his own. There he performs his dance, hoping that the most females will be attracted to him. The males make a “booming” sound during their courtship dance. A male will also blow up his orange neck sacs, or “tympani,” like balloons and stick up long feathers called “pinnae” from his neck. He will stomp his feet, then turn front and back a couple times.

A female will wander around in the lek, looking for the male she likes best. Once she chooses and mates with a male, she leaves the lek. She goes to make a nest in a shallow hole on the open prairie, within a mile of the lek. If her nest is destroyed early in the season, she will return to mate again.

*Here's one way you can imitate the mating ritual.
Can you think of others?*

1. Stomp your feet in small little steps (like throwing a temper tantrum).
2. Puff up your cheeks as you stamp your feet.

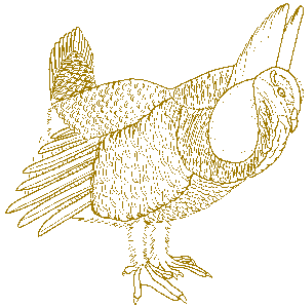
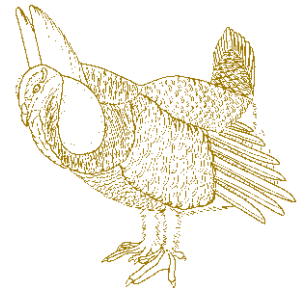
3. Put your hands in fists at either side of your head and extend two fingers up and down while stomping feet and puffing up cheeks.
4. Make a “booming” sound, like the sound of air blown over the opening of a glass soda bottle.

Save a Place for the Prairie Chicken

The U.S. Fish and Wildlife Service (FWS) is trying to manage and protect land for the Attwater's prairie chicken. On lands owned by the government, they encourage cattle grazing that is not too much, or too little. A moderate amount of grazing removes extra vegetation but still lets the birds find cover in the winter and enough vegetation to build nests. FWS also burns or mows some areas in the fall and early spring to encourage plants to grow and keep some areas open for mating. Fire also helps to keep large trees from growing and clears away dead grasses that make it difficult for younger birds to get around. In addition, FWS keeps special areas where it grows food for the prairie chickens.

The FWS and Texas Parks and Wildlife Department offer money to people who own land in the prairie chicken's habitat. They use this money to pay landowners to help protect the birds by using the same grazing, mowing, and burning practices that FWS service uses to restore prairie chicken habitat.

Also, these agencies keep careful track of how the prairie chicken population is doing, try to educate people about them, and breed them in captivity so that they will survive.



Conservation Challenges

Why are Attwater's prairie chickens so endangered? The most important reason is habitat loss. A lot of prairie chicken habitat has been destroyed or degraded for the building of new houses, malls, offices, and new roads. Changing natural areas to cropland for growing food or grazing cattle has also been a part of habitat loss. Another problem is introduction of species not native to the area. Several non-native trees have taken over coastal prairie and made it useless to the Attwater's prairie chicken. Many

years ago, natural fires kept trees from growing past the edges of the prairie, but settlers once considered all fire to be bad and tried to stop nature's natural fires. Finally, because the Attwater's is so rare, with only about 56 birds left in the wild, they are also in danger of extinction when predators eat them, and they sometimes get sick.

What Can We Do

There are lots of things people can do to help the prairie chicken!

- ✓ Support captive breeding programs where prairie chickens can be carefully watched and then released into the wild.
- ✓ Create more habitat for the prairie chicken! We can produce lots of birds in captivity, but it won't help that much if there is no place for them to live in the wild. Support wildlife refuges in prairie chicken habitat working to buy more land for the prairie chicken. Work with conservationists to convince private landowners who own prairie chicken habitat to conserve some of their land for the birds. If you live in prairie chicken habitat, you can also help to create or restore prairie habitat areas on our schoolyards and backyards, where there is enough room.
- ✓ Teach others about the amazing prairie chickens! Hold a school-wide prairie chicken festival, design posters, write songs and poems about the prairie chicken.
- ✓ Get your school to reduce the amount of energy it uses, re-use what you can and recycle as much as possible. Reducing how much you use means you will use fewer natural resources and produce less pollution — leaving more healthy habitat for prairie chickens and other wildlife species.

