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# BUTTS UP

## FOR THE TEACHER

### **Discipline**

Biological Science

### **Theme**

Patterns of Change, Systems and Interactions

### **Key Concept**

Shorebirds depend on wetlands for resting, nesting, and refueling stations as they migrate along the coast.

### **Synopsis**

Students listen to and interpret the Banana Slug String Band song "Butts Up". They then work in small groups to transform the song into a mini-drama and stage a performance.

### **Science Process Skills**

communicating, comparing, organizing

### **Social Skills**

share ideas and information, check for understanding

### **Vocabulary**

migration, adaptation, wetland, marsh, shorebird, life cycle, metaphor

## MATERIALS

INTO the activities

- *Slugs At Sea* audio cassette and a tape player or *Dancing With The Earth* video and a VCR (both by Banana Slug String Band) or piano or guitar to play "Butts Up"
- lyrics and musical score (see pg. 9)
- 9 sheets of chart paper (each about 2x3 feet)
- 4-6 colored marking pens, wide tip, different colors
- masking tape

THROUGH the activities

- 9 sheets of chart paper (each about 1x3 feet)

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- 9 colored marking pens, wide tip, several colors (9 different colors would be ideal)
  - masking tape
  - butcher paper and other art materials to make simple costumes
  - 1 sheet of 8 1/2 x 11" drawing paper per student for quilt squares
  - white glue
  - book-binding tape (2 rolls of one color and 1 roll of a second color)
  - construction paper (1 large package, various colors)
  - key concept written in large bold letters on a strip of butcher/poster paper
  - optional: duck bill and "butts up" puppet on a stick (see pattern and materials list attached)

#### BEYOND the activities

- several field guides to birds, e.g. National Geographic or Peterson Guides
- sketch paper and colored pencils/pens per student or cooperative group to make class field guide
- poster paper and colored markers per student or cooperative group for metaphor posters
- pictures/posters/videos of shorebirds (see Resources section for titles)
- *Fabulous Wetlands* video (see Resources section for ordering information)

## INTRODUCTION

Ducks spend their whole life in wetlands. Many migrate from one wetland in northern latitudes to another in temperate or equatorial areas each year - a round trip of many thousands of miles. In order to accomplish these long distance migrations, they are dependent on an unbroken chain of wetland areas connecting their annual destinations. Some birds may remain in any one wetland for only a few days, before they are on their way. Within a short time, however, they need once again to stop for a rest and a bite to eat - always in another wetland. Like truckers on a cross-country trip, migratory shorebirds depend on an unbroken chain of rest stops, restaurants and motels. A small number of bird species actually reside in the marshes throughout the year. However long their stay, these birds are vitally dependent upon the wetlands. The marsh is truly a "restaurant" and a "fine motel," according to the song, "Butts Up."

Wetlands are a bird lovers delight, especially during the winter when vast flocks of birds come to the wetlands in temperate regions to feed and rest. Many of these winter residents will return to the vast Arctic wetlands to nest during the summer. Here they rely on the productivity of the northern wetlands to enable them to breed successfully before they migrate many thousands of miles to the south to spend the non-breeding season on inland and coastal wetlands.

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The "highway" in the sky which most of the birds on the west coast of north America travel to escape the cold of a high latitude winter is called the Pacific Flyway - "I was flying south out of Canada," "Heading toward Mexico way". This verse could be sung by any of the millions of birds migrating to warmer climates including the Arctic Tern which travels from the Arctic to the Antarctic and then back again each year for a round trip totaling 23,000 miles! The so-called Pacific Flyway is just one of the numerous routes taken by migrating shorebirds and ducks making use of a network of wetlands spreading down both the east and west coasts and through central North America all the way to the Gulf coast of Texas.

Although marshes are important to hundreds of types of birds, the song "Butts Up" is really about one of the most numerous, comical, and recognizable of all groups of birds, the ducks. The ducks described in the song which turn "butts up" and put their "hind end on display" are called dabbling ducks. Dabblers include the mallard, American widgeon, wood duck, shoveler, teal, and pintail among others. Most of these ducks can be considered to eat "marsh mud shakes," as their "favorite dish" but the ingredients of the mud shake change depending upon whether they are feeding in a freshwater or a saltwater marsh.

In a freshwater marsh, dabblers eat mostly plants including pond weeds, grasses, and seeds of certain bulrushes and other sedges- "I like leaves, seeds, stems, and roots." These ducks can get their food by browsing through the marsh vegetation or by floating on the water, turning their tail up in the air- "trying to walk in the air with webbed feet" and reaching for the pond weeds at the bottom with their bill - "...my mouth on the bottom, while my bottom's in the air while I eat." Some of the other ingredients of their marsh mud shake may be "a little bit of mud for a taste" and the animals living in or on that mud, including water insects, snails, small crustaceans and earthworms. If dabblers find themselves in a saltwater marsh, they tend to eat much less plant vegetation and a lot more invertebrates living in the mud, including crustaceans and worms.

The line in the song, "Some birds probe the sand for a meal" is an understated description of the wide diversity of feeding strategies seen just among probing shorebirds. Birds that probe the mud or sand at low tide looking for a meal of small invertebrates (shrimp, clams, worms, snails and crabs) include the marbled godwit, willet, dowitcher, and sandpiper. Though all these marshbirds are probing the mud in the same place at the same time, the differences in size and shape of their bills allow them to specialize on certain prey and reduce competition. Godwits are well adapted to probe deeply in the mud with their long, slender and slightly upturned bill. The dowitcher has a shorter bill, the willet an even shorter one, and sandpipers have the shortest of all. How deeply the birds probe affects what they are able to catch since different kinds of animals live at different depths in the mud.

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The line, "Some will spear a fish," refers to many species of herons and egrets. These fish-eaters have plenty to eat here as the waters of a wetland are teeming with the young of many species of fish including salmon, bass and perch. These fish, and many other commercially important species, use this habitat as a nursery and spawning area - "The marsh is a nursery," for fish, birds and shellfish.

Wetlands have other functions beyond those of feeding and providing a home for many organisms. They act as natural filtering systems, purifying rainwater runoff from the land and serving as sediment traps for silt eroding from the surrounding watershed. They buffer the land from storm-driven waves, reducing shoreline erosion, and they prevent floods by absorbing excess water until it gradually drains away down rivers and through the soil. Sewage, car and industrial pollutants are absorbed and neutralized by microorganisms in the soil and by the marsh plants.

Once called wastelands, wetlands are now understood to be important because of their productivity and the habitat they provide for birds, fish, and a wealth of other organisms. But just knowing this is not enough. Marshes are still disappearing at an alarming rate. The San Francisco Bay Area, the largest watershed on the west coast of North America, has just 5% of its historical wetlands left and acres at a time are still in danger of being turned into malls, airports and housing developments. We hope you and your students will sing the end of the song with extra feeling! "So give this marsh some protection, Please give it some love and care" for the ducks truly do need some place to wave their "butt in the air."

## **INTO THE ACTIVITIES**

### **The Music**

Have the class listen to "Butts Up" on tape, watch the video or play it for them live on guitar or piano. Post the lyrics on the wall in large letters with the chorus and each verse in a different color on a separate sheet of paper. Point to the verses and chorus as they come up in the song.

### **Partner Parade**

*See the Teaching Strategies section for how to present this activity*

Have the students think about the song they just heard.

- What was your favorite part of the song? Why?
- What part of the song don't you understand?
- What is a marsh mud shake?
- Why do birds go butts up?
- Why would a bird need a nursery, a restaurant and a motel?

## THROUGH THE ACTIVITIES

### Story Chart

1. Continue the class discussion about the last Partner Parade question "Why would a bird need a nursery, a restaurant and a motel?" Why would the Banana Slug String Band choose to describe ducks and wetlands with words that usually refer to things that people do? Tell the students that when we describe things by comparing them to other things - for example, "A marsh is like a motel," this is a metaphor. A metaphor is helpful to describe an unfamiliar object or concept in terms of something familiar. The power of using metaphors in the song "Butts Up," helps us learn about and understand the characteristics and functions of wetlands by comparing them to familiar things from our everyday life. Have students brainstorm as many examples of metaphors as they can. Read them examples from literature or the newspaper.
2. Refer to the lyrics posted on the walls. Point out how the song is divided into eight parts called verses and one part called the chorus. Divide the class into nine cooperative groups and assign one group the chorus and each of the other groups a different verse.
3. Tell the students that they will become the experts on their assigned part of the song and then share what they discover with the rest of the class. It will help if everyone presents their information to the class in the same way so have each group complete one part of a class Story Chart (see example below). Tape a blank story chart on the wall and describe how to complete each of the columns. For example, see Verse 2 below.

	Characters	Location	Action	Metaphors
Chorus				
Verse 1				
Verse 2 EXAMPLE	<i>duck</i>	<i>marsh</i>	<i>I stick my butt up into the air and use my bill to reach the bottom of the marsh to get the pond weed and other stuff I eat.</i>	<i>bill/cup marsh mud shake/ pond weed and other food</i>
Verse 3				
Verse 4				
Verse 5				
Verse 6				
Verse 7				
Verse 8				

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4. Give a sheet of chart paper and a different color of marking pen to each group and have them copy down the format of their assigned row of the story chart.

Have one member of each cooperative group read their assigned part aloud to their group. Then have them record their ideas about their part on the chart in pictures and words using large bold letters. Your students will understand and remember the concepts and metaphors presented in the song better when the story chart they create is in their own words.

5. Tape all the charts together to form one large story chart in the form of a matrix. Have each group present their ideas to the rest of the class. If some responses are not quite accurate, ask others to help out with the description. Use this opportunity to present some additional information from the Introduction such as the concepts that are mentioned in the song.

### **Genre Transformation: Song to Dramatic Presentation**

1. Tell the class that each group is going to work together to design and perform a skit or mini-drama about one of the verses of the song. Divide the class into eight groups of three or four students. Assign each group one of the verses and refer them to the posted lyrics and part of the story chart for their verse.

**Sidebar:** Since there were nine story chart groups and you only need eight for the skits, you can either simply divide up the "chorus" group among the others or you can form entirely new groups. It may be an extra challenge for students to dramatize someone else's work on the story chart.

2. Give the groups 15-20 minutes to develop a drama about their verse of the song, and to design simple costumes from materials around the room. Tell them to be as creative as possible. They can use humor and metaphors, but they must also include accurate scientific information to describe the concepts presented in the verse. Invite the groups to perform one to two minute skits in rapid sequence for the class until the entire song has been performed.

3. Now, have each group decide on portions of their mini-drama which they can perform as the song is being played. Remind them that the verses are sung very rapidly in succession so they need to be ready to go on as soon as they hear their cue (the last line of the previous verse). It is helpful to place all the lyrics in order around the room and have each group stand in front of their verse.

4. Play the song again and have the students present their excerpt of their mini-drama with costumes as the rest of the class sings the words to the verse as it comes up in the song. Everyone sings the chorus together and does the following hand signals:

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- when the words "butts up" are said, put hands up in the air palms open or have everyone make and wear a duck bill and the "butts up" on a stick puppet to hold in the air when they hear those words.
  - after the words "that's what a duck must do," have students put their thumbs in their armpits and give a wing flap as they yell, "Quack, Quack!"

5. Practice the song and skits until everyone can hit their cues. Present the entire choreographed song to another class or to the whole school.

### **Quilt Square**

*See the Teaching Strategies section for how to present this activity.*

Have each student contribute a square representing the verse of the song that they performed. You will end up with three to four squares for each verse. Students could choose to illustrate one line from their verse, then all the squares could be arranged sequentially to tell the story of the song.

Hold up the Key Concept and have students read it out loud. Post it on the wall next to the story charts or the quilt.

## **BEYOND THE ACTIVITIES**

### **Marsh Metaphor Posters**

Wetlands act as nursery areas and restaurants as we saw in this activity. What other metaphors could be used to describe the ecological functions of wetlands? For example, how could some of the following items be used as metaphors for the wetland: sponge, filter, strainer, egg beater, bed, soap? Remind the students that a metaphor represents a concept or idea by comparing it to another more familiar concept or idea. Have each student or cooperative groups pick a metaphor from the song or additional metaphors they make up and then illustrate it on a poster.

### **Migration Routes**

Have the students write individual or group "first person" stories or keep journals as if they were actually one of the migrating birds. What dangers did they encounter on their journey? Where did they stop to rest and what did they find to eat? How long did the trip take? Did they feel tired? Did they get lost? How did they know when and where to go?

### **Conservation Message**

Show the video *Fabulous Wetlands* (with Bill Nye the Science Guy). Why is it so important to become familiar with wetland issues and protect this habitat? Collect news articles about wetland issues from newspapers and magazines.

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Write letters to the state and federal legislatures telling them how you feel about wetlands and what you have learned. Make posters to put up around the school or in the lunchroom about wetlands, the need for conservation, and what individuals can do to protect them.

### **Marsh Mud shakes**

What is a marsh mud shake anyway? Have the class write up a recipe and then make a marsh mud shake of water, dirt, algae or water plants, leaves and sticks.

### **Fly-Bys**

Have the students help make a list of attributes or characteristics of birds that can be used by birders to distinguish between different species. [color, shape, size, habitat, and "jizz"- the general outline or aspect] Then briefly hold up a picture of a bird as if it were flying by very quickly. What attributes of the bird were the students able to distinguish with such a brief glimpse? (Discuss only attributes and observations at this point - not names.) Show the picture two to three more times, slowing down each time. After each fly-by, elicit from the students what additional attributes they were able to distinguish. After three to four "fly-bys" ask if anyone thinks they know the name of the bird. This is an excellent activity to do before birding in the field. It is a good reminder for the students that they will need to have a "sharp eye" to note all the characteristics of the birds before they fly away.

### **Field Guide to Ducks**

Have individuals or cooperative groups pick different ducks to research. Students can draw pictures of their chosen species as they would look in the water and in flight, describe their preferred food items, breeding habits, and include other natural history information including maps of their distribution. Once everyone has completed their reports, compile their information and drawings into one field guide. The guide can then be paper punched and put together with brads or Velo Bound at the local copy shop. Actual bird field guides, e.g., Peterson Guide or National Geographic will be especially helpful.

### **Field Trip**

Take a field trip to a local wetland or water treatment plant to see ducks and shorebirds feeding. It is also a good opportunity to see if the marsh metaphors were appropriate. Be sure to take along the class Field Guide or other field guides and binoculars.



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## *Butts Up*

I'd like a tasty marsh mud shake  
A mixture of water and muck  
I'd like a tasty marsh mud shake  
Prepared just right for a duck

To eat my tasty marsh mud shake  
I use my bill, don't need a cup  
I get my tasty marsh mud shake  
just by going butts up

(Chorus) Butts up...butts up. Butts up...butts up  
That's what a duck must do  
To get a tasty marsh mud shake  
A mixture of water and goo

I was flying south out of Canada  
Heading toward Mexico way  
I pull into the marsh for a snack  
And put my hind end on display

It's a serve yourself soda fountain  
Where everyone feeds their face  
I like leaves, seeds, stems, and roots  
With a little bit of mud for a taste

Now if you see a headless bird  
Trying to walk in the air with webbed feet  
You'll know it's me with my mouth on the bottom  
While my bottom's in the air when I eat

Some birds probe the sand for a meal  
Some will spear a fish  
Just give me a tasty marsh mud shake  
A duck's favorite dish

So give this marsh some protection  
Please give it some love and care  
'cause I need a place to get a marsh mud shake  
And wave my butt in the air

The marsh is a nursery and restaurant  
It's also a fine motel  
And when the birds are out there eating  
Here's how you can tell