



## SOUNDS OF THE WETLANDS

### Summary

Students will develop their listening skills as they learn about different bird calls and other common sounds observed in the wetlands. The students participate in a bird tune game show, a blind-folded walk with docent partners, and a sound mapping activity.

### Objectives

Students will:

- learn to identify certain wetland birds by their calls
- become aware of the sounds that surround them
- understand how changes in a landscape can affect its inhabitants

### California Content Standards Addressed

Grade Five- Investigation and Experimentation: Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate criteria.

Grade Six- Life Sciences 5.e: Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition.

Grade Seven- Evolution 3.5: Students know that extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient for its survival.

### Outline

*There are 4 parts to this lesson:*

- 1) Introduction to Wetland Sounds (10 minutes)
- 2) Name that Tune (30 minutes)
- 3) Blindfolded Bird Search (30 minutes)
- 4) Wetland Sound Mapping (20 minutes)

### The Basics:

**Grade Level:**

5-7

**Subject areas:** Science, Art

**Duration:**

90-120 minutes

## Materials

- Bird Sounds PowerPoint Presentation
- Name that Tune PowerPoint Presentation
- 10 short ropes (or 1 for each pair of students)
- 10 Bandannas or strips of cloth to use as blindfolds
- What do you Hear? flash cards
- Clipboards
- Sound Map hand out
- Pencils and colored pencils

## Background Material

Wildlife trackers use all of their senses to uncover the different animals and insects that exist in a natural area and one of the most important is their sense of hearing. Your ears can tell you a lot about your surroundings if you just stop and listen. The way leaves rustle, the sound of wings flapping, or a quiet buzz are all signs of wildlife and every organism makes its own distinct sound.

An animal's special sound can help biologists when they are trying to identify what kinds of animals live in an area. For example, it might seem difficult to identify what frogs live our sloughs since they often hide in plants at the water's edge. Luckily, most frogs make a distinct croaking sound that distinguishes it from the rest. The sound of a Pacific tree frog, for example, is short and relatively high-pitched, whereas the sound of a bullfrog is, long and very deep. Also, you may not always be able to see a bird if it is sitting in a tree or protecting its eggs in the tall grasses of the wetlands. But you may definitely hear it if you are quiet and listen closely. Fine tuning your listening skills is key to being a good wildlife tracker. When listening for wildlife, it is important to be quiet and move slowly. Try to stay hidden when possible and keep voices low.

## Procedure

### 1) Introduction to Wetland Sounds (10 minutes)

- In the classroom, ask students to take 30 seconds to listen to what kinds of sounds they hear. What did they hear? Now ask them to close their eyes and listen. Did they hear anything new? What was different?
- Ask them to describe what kinds of sounds they might hear when they take a walk into the wetlands. Explain to students that today we are going to learn about what it's like to be a wildlife tracker and we will identify birds and other organisms using our listening skills.

### 2) Name that Tune (30 minutes)

- Turn off the classroom lights and close the blinds. Using a LCD Projector and speakers, play the slides from the Bird Sounds PowerPoint Presentation. After listening to the calls on each slide, ask the students to compare and contrast the sounds they heard (10 minutes).
- Next, invite the students to play Name that Tune. Divide the students into three or four groups and launch the Name that Tune PowerPoint. Each

group should choose a representative to write down the answer on a small dry-erase board and announce the group's choice to the rest of the class.

- On each slide, students will hear a bird call and have a choice of three birds to choose from. After listening to the call, give each group one minute to discuss and choose their answer and have each group's representative display their answer on their whiteboard. The next slide will display the correct answer.
- Optional: Offer a prize to the winning group.

### 3) Blindfolded Bird Search (30 minutes)

- Have each student choose a partner and have them decide who will start off as the guide and who will be the tracker. A mentor or docent should be assigned to each pair to facilitate the activity. The guide will help the walker put on the blindfold. The guide will hold one end of the rope and place the other end in the walker's hand. Now the guide will lead the blindfolded partner around the ESHAs. Encourage each guide to walk in a different direction.
- **Safety First!** The mentor and guide should:
  - make sure the walker is safe at all times
  - walk very slowly and turn gently
  - let the walker know when to start and stop by tugging twice on the rope
  - find a path that seems sonically interesting
  - stop about every ten steps and give the walker a minute or so to listen to the sounds of the wetlands.
  - Help the walker by asking him/her questions from your [Listening Flash Card](#) at every stop.
- The walker should:
  - keep your eyes closed—don't peek!
  - keep the rope taut (so you don't crash into the leader!)
  - allow yourself to be pulled along; don't try to help the leader
  - start/stop when you feel two tugs
  - talking will lessen the "pure listening" aspect of the experience. Both the guide and the walker should try not to speak to each other during the walk.
  - listen to the sounds of the wetlands.
- Next, have the walker and guide switch roles and follow the above directions.

### 4) Wetland Sound Mapping (20 minutes)

- Instruct students to spread around the outdoor classroom or around the straw bale circles in the ESHAs if available.
- Sit quietly for ten minutes and listen.
- Give each student a [Sound Mapping](#) handout and a box of colored pencils.
- Ask each student to create a "sound map" of everything they hear— human-made sounds AND natural sounds. Please reference [Creating a Sound Map](#) from Journey to the Heart of Nature for instructions.
- After ten minutes, bring the group together.
- Invite students to share their sound maps.

- Discuss:
  - What sounds were you able to identify?
  - What did you expect to hear?
  - What did you not expect to hear?
  - What colors did you use to identify certain sounds? Why did you choose those colors?
  - What sounds were difficult to identify?
  - How might our experience have been different 100 years ago?
  - What might have affected this change?

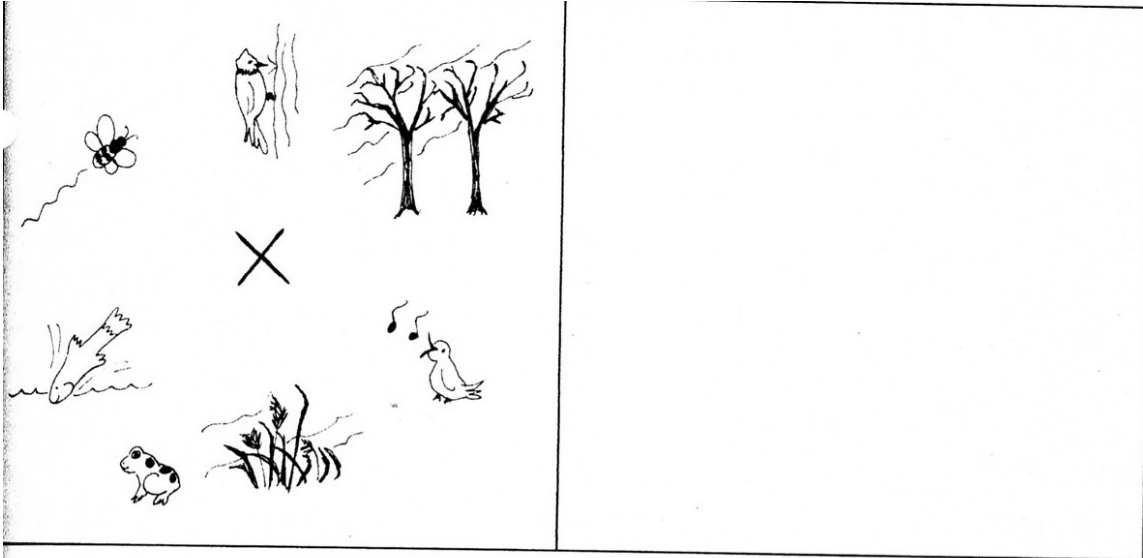
### **Extension**

Using Bird Whistles in the Field activity (30-90 minutes)

### **References**

Cornell, Joseph. 1995. Journey to the heart of nature: A guided exploration. Dawn Publications. California.

Exploratorium. 2008. Listen: Making Sense of Sound. URL:  
[www.exploratorium.edu/listen](http://www.exploratorium.edu/listen)



## Creating a Sound Map

We can often hear animals before we see them. A good way to know if animals are around is to listen for their calls and the sounds of their movements. Go to the place where you think you'll be able to hear the greatest variety of animal sounds. Then close your eyes and listen with deep attention for sounds such as...

*The drumming of a woodpecker... The buzzing of a fly... Wind rushing through the treetops... Water cascading and singing down a steep, rocky ravine... An unknown bird calling deep in the forest....*

In the space above you are going to draw a "Sound Map." Place an X in the center of the space to show where you are sitting. Then, for each sound you hear, draw a mark on the map that shows how far away the sound is and the direction. See if you can draw marks that look like the sounds. Make the marks very simple—for example, two wavy lines for the wind, or a musical note for a songbird.

Experiment with using your hands as "kangaroo ears." Cup your hands behind your ears to help you hear sounds more

clearly. (Your cupped hands make a larger surface that reflects more sound into your ears.) Turn the "cups" backward and listen for sounds behind you. It generally takes 5-10 minutes of sitting and listening to make a good Sound Map.

How many different sounds did you hear?

What animals did you hear?

Describe the animal sounds you couldn't identify:



## WHAT DO YOU HEAR?

*Guide: Slowly and carefully lead your partner around the wetlands. Stop every 20 steps and allow the walker to listen for a minute. Ask the walker one of these questions at each stop:*

Stop 1: What do you hear close by?

Stop 2: What do you hear far away?

Stop 3: What kind of movement do you hear?

Stop 4: What kind of birds do you hear? What do they sound like?



## WHAT DO YOU HEAR?

*Guide: Slowly and carefully lead your partner around the wetlands. Stop every 20 steps and allow the walker to listen for a minute. Ask the walker one of these questions at each stop:*

Stop 1: What do you hear close by?

Stop 2: What do you hear far away?

Stop 3: What kind of movement do you hear?

Stop 4: What kind of birds do you hear? What do they sound like?



## WHAT DO YOU HEAR?

*Guide: Slowly and carefully lead your partner around the wetlands. Stop every 20 steps and allow the walker to listen for a minute. Ask the walker one of these questions at each stop:*

Stop 1: What do you hear close by?

Stop 2: What do you hear far away?

Stop 3: What kind of movement do you hear?

Stop 4: What kind of birds do you hear? What do they sound like?