

NOT-SO-TRIVIAL ENDANGERED SPECIES PURSUIT

Overview: In this activity, students work in two teams (the salt marsh harvest mice and the California clapper rails) to answer endangered species trivia questions. The team collects the four parts of a habitat, in order to win.

Content Standards Correlations: Science, p. 305

Grades: K-6 (Two sets of trivia questions: K-2 and 3-6)

Key Concepts: Habitat loss is a primary cause of loss of species, especially in the developed San Francisco Bay Area. This activity will introduce the students to two species that are endangered because of salt marsh habitat loss.

Objectives:

Students will be able to:

- list the four components of a habitat
- name two species that are endangered because of salt marsh habitat loss
- name two things they can do to help endangered species

Materials:

- four index cards (or four small pieces of paper) per student
- crayons or markers
- one copy of the endangered species team cards (p. 166)
- one large paper or cloth bag

Time: 30 - 45 minutes

Adapted in part from "What's Your Wetland IQ?", p. 53, Nature Scope: Wading into Wetlands, National Wildlife Federation, 1992.

SUPPORTING INFORMATION ABOUT THIS ACTIVITY

- A habitat is the place where a plant or animal finds everything it needs to survive: food, water, shelter, and space.
- Habitat loss is the primary cause of loss of species. Most endangered species are in trouble because of habitat loss. Other reasons that species may become endangered include the introduction of predators or competitors, over harvesting or over collecting, or pollution.
- Wetland habitats are important to many species. Approximately 35% of endangered species in the United States depend on wetlands.
- Wetlands have been drained, dredged, filled, and built on to fill the needs of human populations.
- Around the San Francisco Bay, more than 80% of salt marshes, a type of wetland, have been destroyed and replaced by landfills, salt ponds, buildings, and roads.
- The loss of salt marsh habitat around the bay has resulted in the endangerment of two species: the salt marsh harvest mouse and the California clapper rail.

TEACHING METHOD

Ask

? **What is a habitat?** (A home for plants and animals.)

? **What is your habitat; what do you need to survive?** (Your home is your habitat. It provides you with what you need to survive: food, water, air or space, and shelter.)

Read

"There are four main parts to a habitat: **food, water, shelter, and space.** Every living thing needs these four things to survive."

Do

List these four components (food, water, shelter, and space) on the board, under the heading "Habitat."

Ask

? **What does endangered mean?** (A species in danger of becoming extinct.)

? What are some reasons that a species becomes endangered? (The primary cause for plants and animals to become endangered is **habitat loss**. However, there are a number of other reasons, including overhunting, collecting, introduced predators, introduced competitors, and pollution.)

Read

"We are going to play a game called Not-So-Trivial Endangered Species Pursuit. First we need to make game cards for the game."

Do (Grades 3-6)

Make the Game Cards

1. Pass out four index cards (or four small pieces of paper) to each student.
2. Pass out crayons or markers to all students.
3. Designate three students to write "Wild Card" on all four of their index cards.
4. Designate three other students to write "Habitat Destruction" on all four of their index cards.
5. Ask the remainder of the students to write "Food" on one card, "Water" on one card, "Shelter" on one card, and "Space" on one card.
6. Students can decorate their cards.

Do (Grades K-2)

Make the Game Cards

1. Pass out four index cards to each student, with "Food" written on one card, "Water" on one, "Space" on one, and "Shelter" on one.
2. Pass out crayons or markers and have the students decorate the cards.
3. On twelve extra index cards, write "Wild Card". Once all the cards have been made, collect them in a paper bag. Divide the class into two teams: the California clapper rails and the salt marsh harvest mice. Have the teams sit together or move their desks close together. Hand out the appropriate endangered species team card (located on page 166) to each team.

Ask

? What do the California clapper rail and salt marsh harvest mouse have in common? (They are endangered species that live only in salt marshes around San Francisco Bay.)

? Why are these two species endangered? (The

primary reason these two species are endangered is habitat loss.)

Read

"The California clapper rail and salt marsh harvest mouse live in salt marsh around San Francisco Bay, a wetland habitat that has been built on, filled in, and drained. More than 80% of the tidal salt marsh surrounding San Francisco Bay have been destroyed and houses, highways, airports, salt ponds, and landfills have been built on former salt marsh."

Do (Grades K-2)

Go over the information in the questions before playing the game so the students become familiar with it.

Read

"To play the game, you need to know the following:

1. "The goal is to be the first species to collect one each of all four habitat cards: a food card, a water card, a shelter card, and a space card. Your endangered species needs all four of these things to survive!"
2. "To win a card, your team needs to answer a Not-So-Trivial Endangered Species question correctly."
3. "Each team needs to appoint a spokesperson. Team members can discuss the answer, but it needs to be reported by the spokesperson. (Suggestion: to involve more students, change the spokesperson each round.) Grades K-2 may need an adult to be the spokesperson for each team or play the game as whole class team to eliminate competition."
4. "There is no penalty for missing a question, but the other team gets a chance to answer it."
5. "Each time a team correctly answers a question, one of the members gets to pick a card from the paper bag."
6. "A "wild card" can be substituted for one of the four habitat cards. For example, if a team has all the habitat cards except one and then picks a "wild card," they win!"
7. "**(Grades 3-6)** If a "habitat destruction" card is picked, the team must return a habitat card of their choice to the bag. Set the "habitat destruction" card aside (Do not put it back in the bag.) If a team picks a "habitat destruction" card before they have a habitat card, they lose their next turn."

Do

Choose a team to go first and ask them the first Not-So-Trivial Endangered Species question. There are two sets of questions, one for **grades K-2** on this page and one for **grades 3-6** on p. 165. Continue through the questions until one team has all four components of a habitat.

Idea for Writing and Speaking topics of Language Arts Content Standards, p. 311

Students can explore:

- one of the other reasons a particular plant or animal becomes endangered from collecting, introduced predators, introduced competitors, or pollution.

NOT-SO-TRIVIAL ENDANGERED SPECIES QUESTIONS

Grades K-2

- ? **What does endangered mean?** (A plant or animal in danger of extinction.)
- ? **Are there endangered animals in the United States?** (Yes.)
- ? **Are there endangered animals in other countries besides the United States?** (Yes.)
- ? **Are there endangered animals in Africa?** (Yes.)
- ? **Are African Elephants endangered?** (Yes.)
- ? **Can plants be listed as endangered species?** (Yes.)
- ? **Is pickleweed endangered?** (No.)
- ? **Can insects be listed as endangered species?** (Yes.)
- ? **Can rocks be listed as endangered species?** (No.)
- ? **Are great egrets endangered?** (No.)
- ? **Are salt marsh harvest mice endangered?** (Yes.)
- ? **What is a definition for habitat?** (A home for a plant or animal. It provides everything a plant or animal needs to survive. It provides food, water, shelter, space)
- ? **What is a wetland?** (Land that is always or sometimes wet.)
- ? **What is the name of the salty wetland habitat around the San Francisco Bay?** (Salt marsh.)
- ? **Why is the salt marsh harvest mouse endangered?** (Loss of salt marsh habitat.)
- ? **What does nocturnal mean?** (Majority of activity occurs during the evening.)
- ? **Is the salt marsh harvest mouse nocturnal?** (Yes.)
- ? **What salt marsh plant do salt marsh harvest mice eat?** (Pickleweed.)
- ? **What does it mean when a species becomes extinct?** (That the species no longer exists and is gone forever.)
- ? **Are there endangered species in every state in the United States?** (Yes.)
- ? **Are you allowed to have an endangered species as a pet?** (No.)
- ? **Are there more or less wetlands in the San Francisco Bay area than there were 200 years ago?** (Less than 20% still exist.)
- ? **What was built on top of the wetlands?** (Roads, houses, airports, landfills, marinas, salt ponds, industry, etc.)
- ? **Name one thing you can do to help endangered species.** (Reduce, reuse, recycle, don't litter, pick up trash, never dump anything down a storm drain, teach other people about endangered species, etc.)

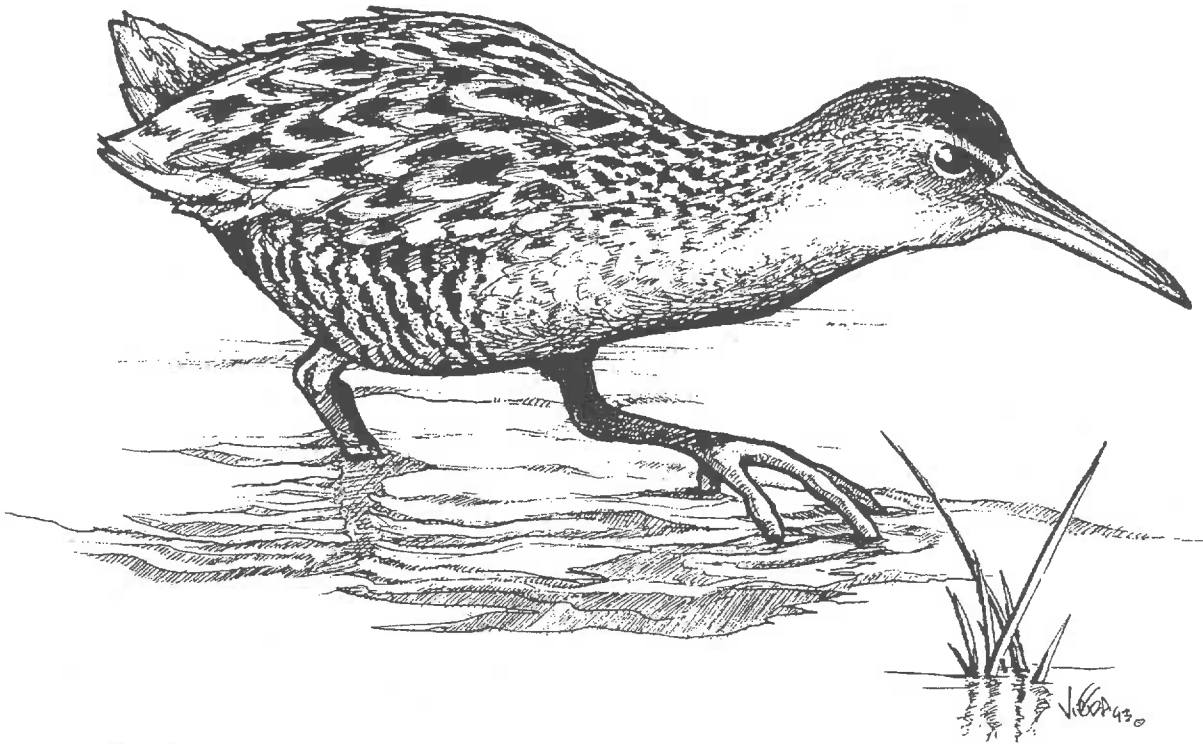
NOT-SO-TRIVIAL ENDANGERED SPECIES QUESTIONS

Grades 3-6

- ? **Name a city in California that was partially built on a wetland?** (Foster City, San Francisco, Oakland, Los Angeles, Fremont, San José, Palo Alto, Redwood City, etc.)
- ? **Name one reason that wetlands are often destroyed?** (To create agricultural fields, marinas, parking lots, airports, landfills, subdivisions, shopping centers, highways, salt ponds, housing, etc.)
- ? **What is a definition for habitat?** (A home for a plant or animal. It provides everything a plant or animal needs to survive. It provides food, water, shelter, space)
- ? **What is a wetland?** (Land that is always or sometimes wet.)
- ? **What is the name of the salty wetland habitat around the San Francisco Bay?** (Salt marsh.)
- ? **What is the endangered mouse that lives in the salt marsh?** (The salt marsh harvest mouse.)
- ? **Why is the salt marsh harvest mouse endangered?** (Loss of salt marsh habitat.)
- ? **What salt marsh plant do salt marsh harvest mice eat?** (Pickleweed.)
- ? **What does nocturnal mean?** (Majority of activity occurs during the evening.)
- ? **Is the salt marsh harvest mouse nocturnal?** (Yes.)
- ? **Can plants be listed as endangered species?** (Yes.)
- ? **How does reducing, reusing and recycling preserve wetland habitat?** (Wetlands are sometimes used as landfill sites; doing these things reduces the amount of garbage headed for landfills.)
- ? **The number of individuals in a species that can survive in a given area successfully is called... arrangement, niche, habitat, or carrying capacity?** (Carrying capacity.)
- ? **San Francisco Bay is an estuary; define the word "estuary."** (A place where salt water and fresh water mix.)
- ? **Name at least one reason that the Don Edwards San Francisco Bay National Wildlife Refuge exists.** (To protect habitats, endangered species, and migratory birds.)
- ? **Are there any endangered plants in California?** (Yes - for example: Antioch Dunes evening primrose, Contra Costa wallflower, Santa Cruz Tarplant; Delta Button Celery; Fountain Thistle.)
- ? **What is the name of an endangered waterbird that lives in the salt marsh?** (California clapper rail.)
- ? **What percentage of tidal salt marsh around the San Francisco Bay has been destroyed?** (More than 80%)
- ? **Where water enters a storm drain where does it flow?** (To creeks and rivers which flow to the bay or ocean.)
- ? **Why do you think storm drains can be harmful to the bay?** (Pollutants, such as oil and trash, go down storm drains and then enter the bay ocean.)
- ? **How many endangered species are there in California... less than 20, between 20 and 100, between 100 and 200, or more than 200?** (More than 200.)
- ? **Name one thing you can do to help endangered species.** (Reduce, reuse, recycle, don't litter, pick up trash, never dump anything down a storm drain, teach other people about endangered species, etc.)

ENDANGERED SPECIES TEAM CARDS

California Clapper Rails



Salt Marsh Harvest Mice

