



KBBT Habitats

Overview

Students will identify essential components of a habitat and presence of habitat & bird species at various Klamath Basin Birding Trail Sites.

California Science Standards

Grade 3: 3.b.c.d.-L.S.

Grade 4: 3.b.-L.S.

Grade 7: 7.c.-I&E

Oregon Science Standards

Grade 3: 04,05- L.S.

Grade 5: 05- L.S.

Grade 8: 04- L.S.

National Standards

Content Standard A:
Science as Inquiry
Content Standard C:
Life Sciences

Materials Included

- * Student Journal
- * Binoculars-optional
- * Clipboards
- * KBBT maps
- * Bird focus cards
- * *Common Birds* PowerPoint

Materials Needed

- * Colored pencils

Activity Time

Preparation: 20 min.
Activity Time: 40 min.

Best Season

All Seasons

Vocabulary

- * Habitat

Grade Level: 3rd-8th (O.S.S 3rd-8th) (C.S.S: 3rd-7th)

Learner Objectives

Student will:

- Define “habitat” in a biological context
- List the four essential components of a habitat
- Identify habitat components at various Klamath Basin Birding Trail sites

Background Information

Birds, like all animals, rely on a habitat to survive. A habitat is described as an animal’s natural environment providing food, water, shelter, and space. These four components are essential to an animal’s survival. Some birds need wetlands and marshes; others inhabit conifer forests or meadows. A bird’s habitat depends on its behavioral and physical adaptations. Also, biologists and birders often use habitats as an indication of where to find specific bird species and what species to expect in an area.

Five common habitats of the Klamath Basin are sagebrush, wetlands, conifer forests, grasslands and riparian areas. Birds are found in all of them. Learning about the habitats can aid in the identification and adaptations of specific bird species. Since the Klamath Basin Birding Trail extends throughout all five habitat types, it provides access to identify and observe an array of local birds.

Taking students on a hike along the Klamath Basin Birding Trail is a good way to teach about the local habitats and birds found in them. To prepare students see *Using Field Guides* as a warm-up lesson plan. This activity also provides information about limiting factors associated with a habitat.

Lesson Plan

Vocabulary

Continued...

- * Riparian
- * Conifer Forests
- * Grassland
- * Sagebrush-steppe
- * Wetland

Getting Ready!

1. Read background information.
2. Determine a Klamath Basin Birding Trail site or other natural site for the field activity preferable with two habitat types.
3. Copy enough *Student Journal: KBBT Habitats* sheets.

Discuss!

1. Let students know that in this investigation, they will go on a field trip to a Klamath Basin Birding Trail site. But first they need to “warm up” their habitat skills.
2. Ask students what people need in order to survive. What do wildlife such as birds need to survive?
3. Explain to students that each animal has a habitat where it lives and gathers all of the things it needs to survive.
4. Ask students if they know what a “habitat” is?
5. Ask students if they can list the four things animals need in their habitat in order to survive. Write them on the board. *Animals need in their habitat: Food, water, shelter, and space. Do you think you could survive through a blizzard or rain storm without any shelter?*
6. Explain that these components may be limiting and at times are not available to birds as a result of competition, human interference, and/or extreme weather.
7. Explain to students that there are five primary habitat types found along the Klamath Basin Birding Trail: sagebrush, conifer forests, wetlands, grasslands, and riparian areas. Discuss with students, that each bird tends to live in only one or two of these habitat types and therefore need to find all four habitat components within it.
8. Give each student a focus bird ID card and Student Journal.
9. Show *Common Birds PowerPoint* and have students write down information about their focus bird. Older students can use field guides for additional information about their bird. (see *Using Bird Field Guides* lesson plan).

Investigate!

1. Let students know they will be going outside (or to a KBBT site)

Habitat Components

- * **Food:** to obtain energy
- * **Water:** to stay healthy and hydrated
- * **Shelter:** to protect from weather or predators
- * **Space:** to gather the other three resources, reproduce, raise their young, and defend their territory

What is a habitat?

A habitat is an environment normally occupied by an animal. Just like we have a home to go to, animals such as birds have one too. In an animal's habitat there are four essential components they need in order to survive— food, water, shelter, space. In Klamath County, there are several kinds of habitats each with different populations of birds. Along the Klamath Basin Birding Trail you can find sagebrush, wetlands, conifer forests, grasslands,

Lesson Plan

- to identify birds and to search for resources in the habitats.
2. Students will be responsible for searching for habitat components for their focus bird during the trip.
 3. At the site, ask students to identify the habitat types.
 4. Define an area to search and have students search for their bird's four habitat components.
 5. During the field trip, ask students to check off birds seen or heard.
 6. After searching the habitat(s), have students share information about the habitat quality for their species (compare with birds detected).
 7. Discuss the differences between the two habitats and whether their focus bird could live in either one of them.

Follow-up!

Ask students 2-3 questions to re-cap lesson (see right panel).

Nestlings!

An additional journal has been designed for younger students. If teaching K-3rd grade level, set up a habitat scavenger hunt where students have to locate and gather the four components of a bird habitat. Give each student a paper bag where they will put a few habitat components. For example, birds need food and shelter in their habitat. Students should identify and gather such items as seeds, plants, sticks, and feathers. Remind students that parts of birds or their nests, live animals, and wildflowers should not be collected.



Suggested Questions

What is a habitat?

What are the four components of a habitat?

What kinds of habitats are found in Klamath County?

Where would you find habitat for your focus bird species?

Fledglings!



Have older (6th-8th) students map the area and identify where each habitat component of their species is located on the map.

KBBT Map!

Give students birding trail maps and have them color code habitat types at each site. For example, color grassland habitats green, blue for riparian areas, yellow for conifer forests, and so on.

KBBT Sites

Klamath Basin Birding Trail Sites

- 1. Upper Klamath Lake National Wildlife Refuge: (Site # 16)**
Habitat: Wetland
Birds: Waterfowl, marsh birds
- 2. Sevenmile Guard Station: (Site # 9)**
Habitat: Riparian and conifer forests
Birds: Songbirds, woodpeckers, owls
- 3. Wood River Wetland: (Site # 12)**
Habitat: Wetland
Birds: Raptors, songbirds, waterfowl
- 4. Rocky Point/Upper Klamath Canoe Trail: (Site # 17)**
Habitat: Open waters and conifer forests
Birds: Woodpeckers, songbirds, raptors, waterfowl, waders, terns
- 5. Link River Trail: (Site # 30)**
Habitat: Riparian and sagebrush steepe
Birds: Waterfowl, songbirds
- 6. Big Springs Park: (Site # 45)**
Habitat: Riparian
Birds: Waterfowl, shorebirds, songbirds
- 7. Lava Beds National Monument: (Site # 43)**
Habitat: Sagebrush steepe, grassland, and conifer forest
Birds: Hummingbirds, sparrows, raptors, songbirds
- 8. Crater Lake National Park : (Site # 2)**
Habitat: Old growth conifer forests and alpine areas
Birds: Grouse, jays, dippers, songbirds
- 9. Kimball State Park: (Site # 6)**
Habitat: Riparian
Birds: waterfowl, grouse, songbirds
- 10. Moore Park: (Site # 27)**
Habitat: Sagebrush-juniper, conifer forest
Birds: woodpeckers, songbirds

What if there aren't any birds?

If there are few birds present at the field trip site, have students brainstorm possible reasons for the lack of birds. Reasons might include weather, new development, or disturbance (including you!). Recording when there are no birds can provide valuable information and help students recognize patterns.



Five Habitats Types

Sagebrush Steppe: A dry environment characterized by the sagebrush, shrubs, and bunchgrasses.

Wetlands: Lowland area where there is an excess of water such as a marsh or swap.

Conifer Forests: A dense growth of conifer trees (cone bearing trees in the pine family), plants, and underbrush.

Grasslands: An area such as a prairie or meadow of grass or grass-like vegetation.

Riparian Areas: An area relating to the banks of flowing water such as streams, creeks, or rivers.

KBBT Sites

Five Habitats Types

- 1. Sagebrush Steppe or Sagebrush-Juniper:** This habitat commonly referred to as “shrub-steppe,” is found in an arid environment. The dominant plant species here include: big sagebrush, low sagebrush, bitterbrush, and western juniper. Native grasses that are highly associated with this habitat are, bluebunch wheatgrass, Idaho fescue, needle-and-thread grass and bottlebrush squirreltail.
- 2. Wetlands:** This habitat type is defined as a lowland area where there is an excess of water at some point during the year, such as a marsh or swamp. Plants found in this type of habitat often include willows, Red Alder, cattails, rushes, and sedges.
- 3. Conifer Forests:** The mixed-conifer/mixed hardwood-conifer forest habitat is found from elevations at sea level to approximately 6,000 feet. Environmental and floristic diversity are both high. Some of the dominant tree species that comprise this habitat are douglas-fir, true firs, ponderosa pine, oaks, and pacific madrone. The climate conditions here tend to be fairly mild and dry.
- 4. Grasslands:** This habitat can be defined as any habitat type dominated by grasses and/or forbs, such as a wet or dry prairie. Dominant plant species found in this habitat type are California fescue, blue wildrye, Roemer fescue, California oatgrass, Lemmon’s needlegrass, and California brome.
- 5. Riparian Areas:** A riparian area can be defined as containing an aquatic area, such as a stream, next to a terrestrial zone. Plants found in this type of habitat thrive on wet conditions. Stands of willow, Oregon ash, Black cottonwood, and in some areas Red alder are common in bottomland and upland areas. Under the upper canopy common plant species include Red-osier dogwood, Snowberry, and Pacific ninebark.