

Utah's Ecosystems

It's All Part of the System

Pre-visit activity, grades 3-6

(Works best after doing Utah's Ecosystems Pre-Visit activity, *What's an Ecosystem?*)

Objective

Students will explore and identify characteristics of the main types of ecosystems found in Utah.

Materials

- Utah environments map – 1 per student (at the end of this page)
- Utah species pictures – 1 per student (at the end of this page)
- Colored pencils or crayons

Background

Desert, forest, mountain, and wetland ecosystems are common throughout the state of Utah. In the Utah's Ecosystems field trip, we explore and discuss wetlands, deserts, and mountains, including forests in the mountain's ecosystem. In Utah, elevation determines the types of trees and other organisms found in the state's forests.

Keep in mind that this activity places certain animals in certain Utah ecosystems, however all of the ecosystems are connected, and animals and plants may be found in multiple ecosystems. For example, moose typically are seen in the mountains, but they eat primarily aquatic vegetation and willow and may be placed in a wetland ecosystem.

Wetland – Wetlands are areas where water saturation is the dominant factor in determining what plant and animal communities live there. Wetlands

include ponds, swamps, marshes, lake shores, rivers, and streams. In Utah, wetland plants include cattails, bulrushes, cottonwood trees and willow. Wetland animals include moose (who eat aquatic plants), salamanders, frogs, muskrats, turtle, snakes, beavers, and other animals that rely on water to drink or to live in.

Desert – A lack of water is the dominant feature of a desert. There are generally two types of deserts: an arid desert which receives less than 10 in of precipitation per year and semi-arid deserts which receive between 10 and 20 in of precipitation per year. Utah has both kinds of deserts. Most of the state is a semi-arid desert. However, arid desert conditions exist in its southern regions. Animals and plants that live in Utah deserts include gopher snakes, jack rabbits, golden eagles, desert tortoises, cacti, and sagebrush.

Mountain/forest – The climate and survival conditions in mountain ecosystems vary according to elevation. As we go higher, oxygen levels and overall temperatures drop, and the sunlight intensity increases. This means that trees and animals living at higher elevations will vary greatly from those that live lower. The food, water, shelter, and space available to them are different. Plants and animals that live in mountains/ forests include quaking aspen, Douglas fir, mule deer, pika, and coyotes.

Procedure

1. Give students a brief overview of the conditions in each of Utah's ecosystems: deserts, wetlands, mountains/forests. Note that the trees and animals that live in these places must be adapted to living there. For example, plants and animals in an arid desert have special traits that allow them to live for weeks or even months with no or little water.
2. Hand out the Utah environments maps. First, have students create a color key for their maps, designating one color for each of the different types of ecosystems.
3. After they have created the color key, have them color their maps.
4. Then hand out the Utah species sheet. Have them decide in which ecosystem each of the animals would live. Emphasize that they are to do this on their own (There are few hard and fast "right" answers -- a

moose lives in the mountains AND in wetlands, for example -- but don't tell them that just yet.)

5. After students have made their selections have them compare their charts. Note that many animals, such as moose, golden eagles, coyotes, and gopher snakes, can live in more than one kind of ecosystem and often travel between and among different ones. Ask them whether anything else connects these systems or runs through more than one of them (rivers are one example). Older students (grades 5-6) can do extra research to see how many Utah species can live in two or more different ecosystems.

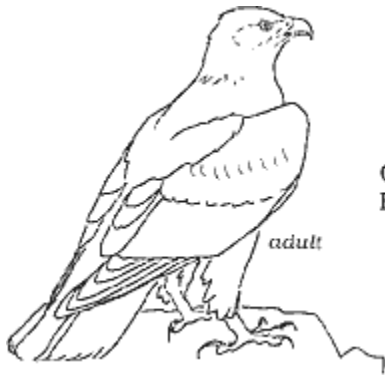
Utah Species



Quaking aspen



Sagebrush



Golden Eagle



Norther Harrier



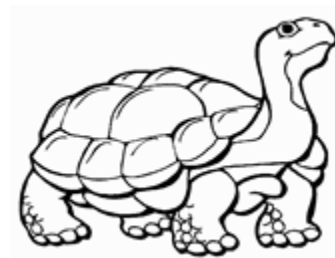
Moose



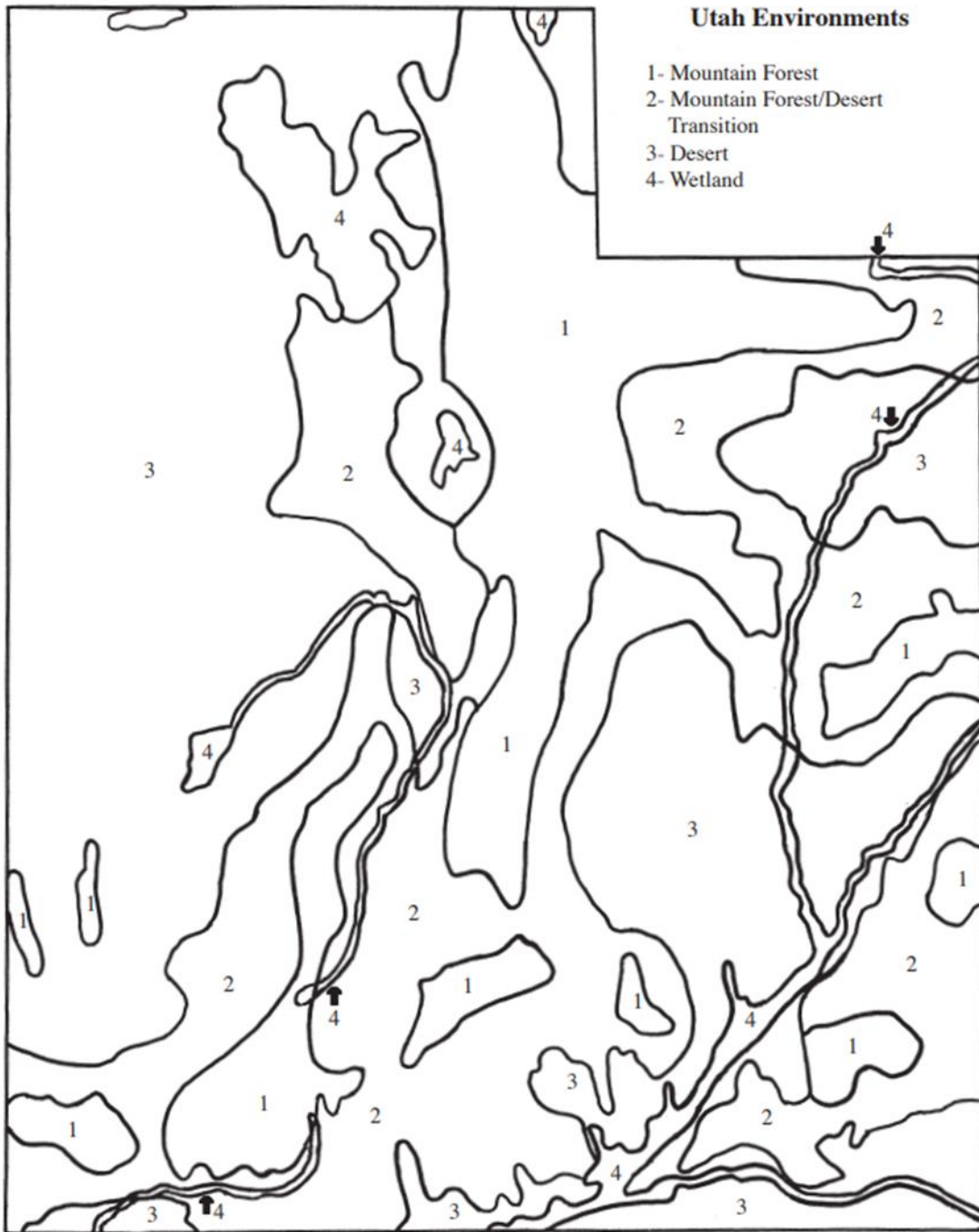
Turtle



Mule deer



Desert tortoise



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