

## Rangeland Roots Vegetation

<b>Created by:</b> IRRC	<b>Date:</b>
<b>Subject:</b> Science	<b>Grade Level:</b> 4 <sup>th</sup> +
<b>Time Required:</b> 1hour	<b>Standards:</b> <u>Standard: 3 Biology</u>

<b>Overview</b>	Students fill in the five vegetation regions of Idaho on a copy of the rangeland map of Idaho. Students develop a legend for their map and list or sketch one species of plant unique to each area. They describe how the types of soil and precipitation affect plants and animals in an area.
<b>Goal(s) &amp; Objective(s)</b>	Students will be able to locate the five vegetation regions on a map of Idaho. Students will be able to understand and use a legend for a map. Students will be able to describe the relationship of environmental conditions to an ecosystem.
<b>Materials</b>	<p><i>Wild Open Spaces</i> Poster</p> <ul style="list-style-type: none"> <li>- Idaho map with vegetation regions outlined</li> <li>- Colored pencils or crayons</li> <li>- Writing utensils</li> <li>- Workbook handout - Vegetation Regions of Idaho</li> </ul>
<b>Teaching Activities: Instructional Approaches/Strategies</b>	<p><b>Introduction:</b></p> <ol style="list-style-type: none"> <li>1. As a journal or discussion question, ask students "Why do you think trees grow in the mountains of Idaho more than in the lower areas?" Answers will vary. Let students know they will answer this question about Idaho during the lesson.</li> </ol> <p><b>Procedures</b></p> <ol style="list-style-type: none"> <li>1. Present the <i>Wild Open Spaces</i> Poster to the class. Refer to page one of the <u>Rangeland: Idaho's Roots</u> booklets for an illustration of each region.</li> <li>2. Discuss the different types of plants and animals present in each region.</li> <li>3. Explain how each region is represented by a repeating pattern or color that is unique. This is called the map's legend.</li> <li>4. Hand out the blank Vegetation Regions of Idaho Map. Explain that students will use different colors to label each region, then make a legend to show what each color means. Model on overhead reproduction. Give students adequate time to complete their map.</li> </ol>

	<p>5. Have students read the handout "Vegetation Regions of Idaho" either individually or out loud. Then, they should answer the assessment questions.</p> <p><b>Closure</b></p> <p>1. Ask the students again why the high mountain regions of Idaho are covered with dense forest while the lower plains and valleys are covered with shrubs and grasses? Review the answers given at the beginning of the lesson. Discuss as a class or in small groups how their thoughts might have changed. Discuss how the different vegetation regions produce different products and are valued for different uses. Let the students brainstorm about how Idaho's different vegetation regions are used differently based on the types of plants present.</p>
<b>Assessment:</b>	<p>Be sure students express during closing that precipitation and soil type contribute to the types of plants present. Use the assessment sheet to determine student's understanding of content reading.</p>

**Vocabulary:** rangeland, bunchgrass, livestock, watershed, shrubs, forage, coniferous, vegetation

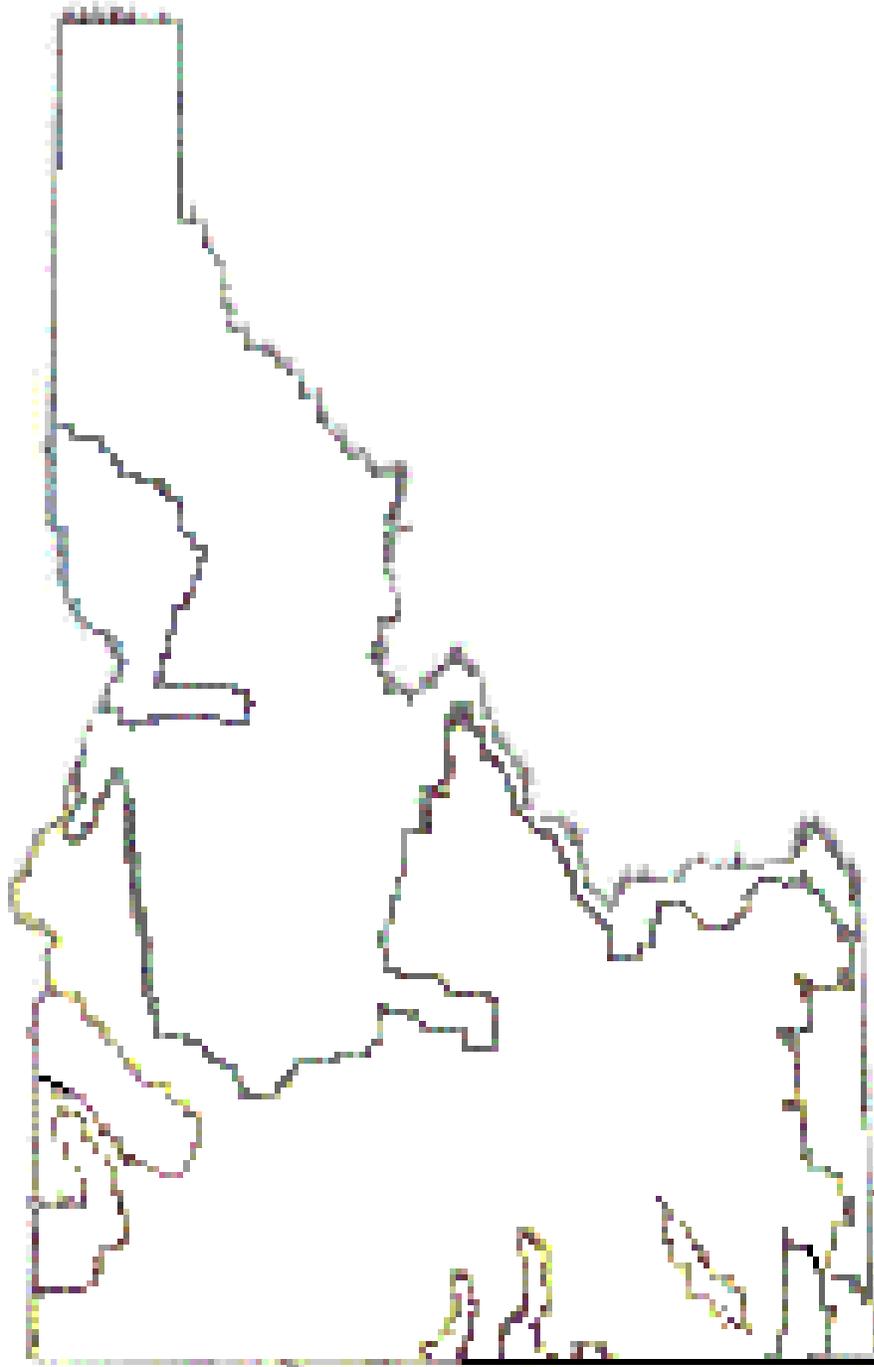
**Modifications:** Bring in plants from different vegetation regions the next day, and have students identify the region they come from. Also, samples are available in the rangeland trunk

**Background:**

The type of vegetation and the types of animals that live in an area are determined by a complex set of climate and geographic conditions. Students need to understand why certain organisms are found in one place, but not another.

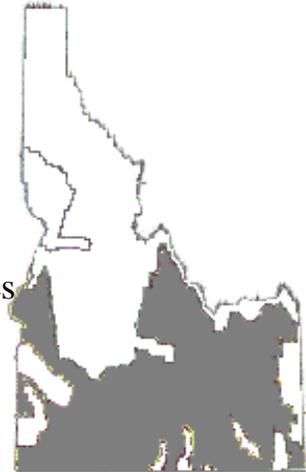
Preview all materials before class. Make copies of the Vegetation Regions of Idaho map, the reading handout, and the assessment questions.

# Vegetation Regions of Idaho



### Sagebrush Grasslands Region

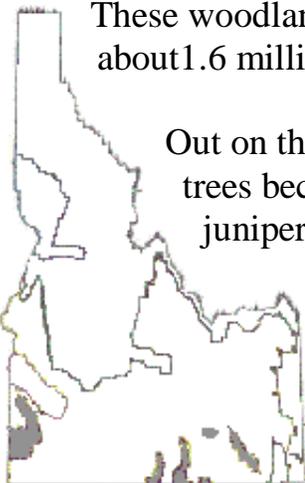
When many people think of "The West", they think of miles and miles of sagebrush. This classic western **rangeland** type (about 18.5 million acres), which is a mix of sagebrush and **bunchgrass**, dominates Southern Idaho. Precipitation generally ranges from 10 to 15 inches per year.



Sage grouse, pronghorn antelope, and black-tailed jackrabbits call sagebrush grasslands home. The shrub-grass mix provides good spring and fall grazing for **livestock** and wildlife. Common plants include: Sagebrush, Rabbitbrush, Arrowleaf balsamroot, Western yarrow, Bluebunch wheatgrass, and Crested wheatgrass.

### Juniper Woodlands Region

These woodlands usually occur in scattered patches rather than solid stands (adding up to about 1.6 million acres). Annual precipitation ranges from 12 to 30 inches per year.



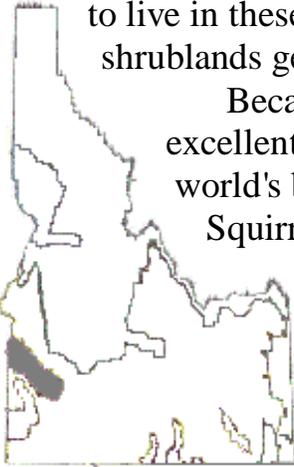
Out on the range, we humans generally try to fight wildfires. This helps the juniper trees because they are usually killed by fire. The lack of natural wildfires allows juniper to expand into the sagebrush grasslands.

The juniper woodlands are important **watersheds** that yield water for agriculture and other human uses. The woodlands are also important winter range for wildlife, especially deer and songbirds. Plus, the juniper trees are often harvested for fence posts and other wood products. Common plants include: Western juniper, sagebrush, Arrowleaf balsamroot, and Bottlebrush squirrel tail grass.

## Salt-Desert Shrublands Region

"Desert" usually brings to mind hot, dry places with lots of blowing sand. In Southern Idaho, equally dry deserts are created by salty soils and cold temperatures. **Shrubs** that are able to live in these salty soils dominate this desert (covering 1.5 million acres). These shrublands get very little precipitation each year, usually 10 inches or less.

Because these shrubs have good nutritional value in winter, salt deserts are excellent winter range for pronghorn antelope and are considered some of the world's best winter sheep range. Common plants include Winterfat, Bottlebrush Squirreltail Grass, and Indian Ricegrass.

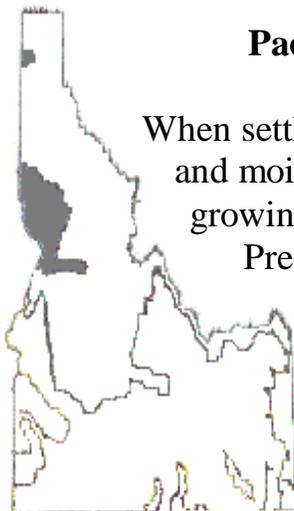


## Pacific Bunchgrass Region

When settlers arrived in Northern Idaho in the 1880's, they found the deep rich soils and moist climate of the Pacific Bunchgrass Region (1.2 million acres) good for growing wheat and other crops.

Precipitation in this area ranges from 12-30 inches per year.

Today most of the prairies are farmland, and very little of the native bunchgrass remains. The existing canyon and foothill grasslands continue to provide good winter range for deer and elk and high quality spring **forage** for sheep and cattle. Common plants include Woods rose, Arrowleaf balsamroot, Camas, Bluebunch wheatgrass, and Idaho fescue.





## Coniferous Forest and Meadow Region

Most of Northern Idaho is dominated by **coniferous** forest (about 22 million acres) receiving 40 or more inches of snow and rain each year. In between the trees is **vegetation** characteristic of rangeland (grasses, flowering plants, and shrubs).

This area provides valuable habitat for all kinds of grazing critters. Shrubby vegetation near the forest edge is especially important for deer and elk, and the meadows are important summer range for both wildlife and livestock. In the summer and fall, the region is a hotspot for backpackers, mountain bikers, hunters, and fishermen. Common plants include Ponderosa pine, Woods rose, Syringa, and Elk sedge.



## Vegetation Regions of Idaho Questions

Name \_\_\_\_\_

1. Use the glossary to define two of the vocabulary words (in bold) that were new to you.

2. In the table, list each of the five vegetation regions of Idaho, then fill in the amount of precipitation, and one other characteristic from the text that makes that area unique.

Region	Precipitation	Unique Characteristic

3. "Miles and miles of sagebrush" would be the characteristic of which vegetation region?

4. Salty soils and low precipitation would be characteristics of which vegetation region?

5. Why do you think the article says sagebrush grasslands provide good grazing for wildlife and livestock specifically *in the spring and fall*?

6. List some positive and negative consequences that might result from stopping wildfires in Juniper Woodlands.
  
  
  
  
  
  
  
  
  
  
7. Why do you think salt-desert shrub lands are best grazed in the *winter* by pronghorn antelope and sheep?
  
  
  
  
  
  
  
  
  
  
8. Why do you think the settlers in the 1880's found the Pacific Bunchgrass Region favorable for growing crops?



### Extensions

9. Use your Idaho History textbook to look up how much time passed between when Lewis and Clark journeyed through Northern Idaho and when settlers first began farming the Pacific Bunchgrass Region. Write the results of your research in your journal.



10. Choose one of the wildlife species mentioned in this section. Research the habitat requirements of that species. Be sure to include food, water, shelter, and space in your written description. Write the results of your research as a paragraph in your journal.