

### 3. Uplands vs. Riparian Lands

**Time:** 15-20 minutes

**Supplies:** Venn diagram Handouts, PowerPoint

#### **Background:**

Rangelands are generally classified into three types of areas that have distinct hydrologic (i.e., water) regimes and plant communities, these are *upland*, *riparian*, and *wetlands*. **Uplands** are drier and only wet for a short periods after it rains or snows. A **riparian** area is the vegetation adjacent, or next to, surface waters such as streams, rivers, or seeps. **Wetlands** are areas with soils that are permanently or seasonally saturated by water. Riparian areas are the transition zone between water and upland areas.

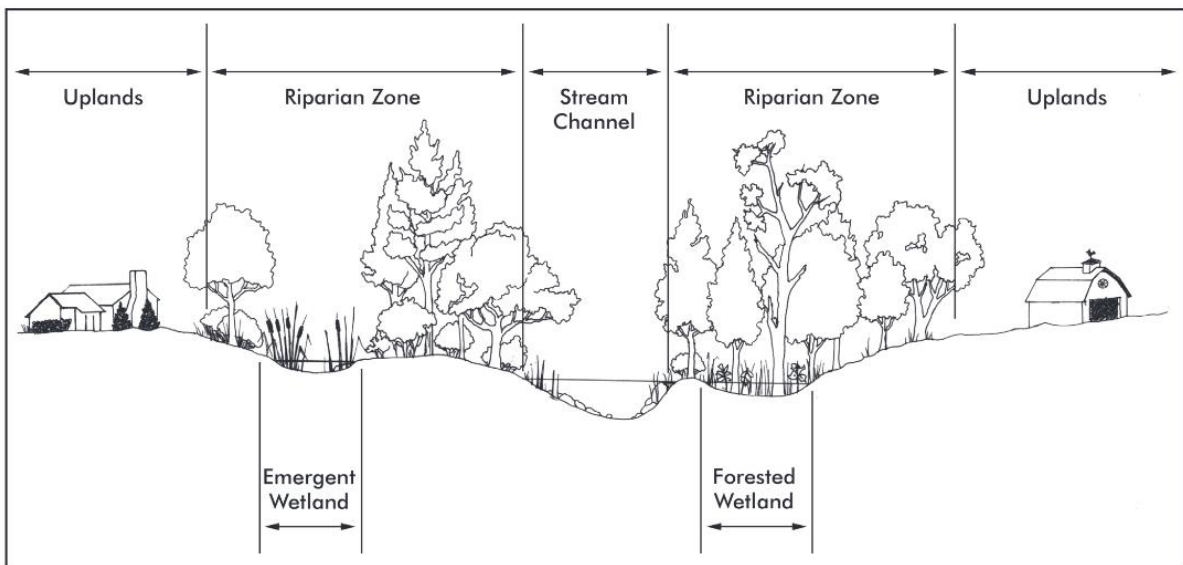


Figure 2-1. Relationship Between Wetlands, Uplands, Riparian Areas, and the Stream Channel

Both wetlands and riparian areas naturally function as water filters, removing sediment and pollutants from water. Riparian areas and wetlands stay green much longer into the season and produce more plant biomass than adjacent uplands. Plants found in wetlands and riparian areas require frequent water and are not killed when inundated by water (as in a flood). Some examples of these species include willows, rushes, and sedges. Riparian vegetation is important to sustain the function of streams; plants shade the water which maintains the cooler temperatures required by some fish and other aquatic species, and the plants' roots help hold soil in place and reduce erosion.

Upland sites are composed of plant species that have adapted to survive with minimal water reflective of the average precipitation of the region. Many rangeland plants have evolved strategies to maximize extraction of available soil water, such as the very deep root systems found in desert shrubs or the abundance of small roots of grasses found near the surface which captures rainfall as it soaks into the soil. Upland plants also have strategies to conserve moisture once it is absorbed. Some examples include waxy layers on the stems and leaves, narrow leaves, and the ability to go dormant during the hottest and driest season of the year.

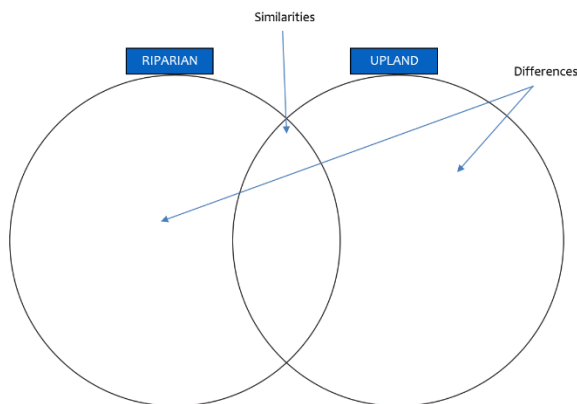
**Do:**

- On the “Pictures of Rangelands”, circle the riparian areas.
- Fill out the **Venn diagram** for Uplands vs. Riparian areas on rangelands. Venn diagrams use overlapping circles (or other shapes) to illustrate the relationships between two or more sets of items.
- Write details that tell how Uplands and Riparian areas are different in the outer circles. Write details that tell how Uplands and Riparian areas are alike where the circles overlap. Use the pictures to help!



**Reflect/Apply:**

- If you were a deer, or a bird, or a snake, or a cow, how would you use the uplands? How would you use the riparian areas?
- How can you be a good steward of both types of land?



<p><b>Upland:</b></p> <ul style="list-style-type: none"><li>• Higher elevations of the watershed</li><li>• Less water availability</li><li>• Plants with either deep roots to access ground water or grass with shallow roots that quickly absorb rainfall.</li></ul>	<p><b>Riparian:</b></p> <ul style="list-style-type: none"><li>• Lower elevations of the watershed</li><li>• More water than uplands and vegetation adjacent to areas that are stream or seeps at least seasonally.</li><li>• Plants provide stability to stream banks</li><li>• Plants create shade for fish and other aquatic species</li></ul>	<p><b>Both:</b></p> <ul style="list-style-type: none"><li>• Both provide habitat (or homes) for wildlife species.</li><li>• Both grow plants that are good forage for wildlife and livestock.</li><li>• Both help conserve water and keep it on the land (vs. run-off)</li></ul>
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