

PLANT GUIDE FOR STUDENTS

Identifying Plant Types of the Structural
Layers of Riparian Vegetation

Coniferous Trees and Shrubs



Key Features

- Trunk and stems are woody. The leaves are needle-like (*pine needles*) or scale-like (*juniper scales*).
- All conifers are **evergreens**, so they have green leaves all year.
- In pine trees, seeds are produced in woody cones. Female cones contain seeds and are larger than male cones, which produce pollen.
- In junipers, the blue *berry* is actually a female cone, and the berry is a fleshy scale. Junipers are typical of dry, upland sites.

Deciduous Trees and Shrubs



Key Features

- *Deciduous* means the plants lose their leaves seasonally; here in Montana leaves drop during the fall and return in spring.
- Common deciduous plants in our area includes cottonwoods, aspen and willows. In aspen, leaves are egg-shaped; in willows and cottonwoods, leaves are lance-shaped.
- Flower clusters are called **catkins**. Aspen and cottonwood catkins droop downward; willow catkins are upright.

Sedges and Rushes



Key Features of Sedges

- Stems are solid and triangular-shaped.
- Leaves at the base of stems are in groups of 3, and flowers are in compact clusters on the top of the stem.
- Sedges indicate very moist soils.
- Commonly mistaken for grasses.

Key Features of Rushes

- Stems are solid and round-shaped.
- Flowers are typically located along the top part of the stem.
- Rushes indicate very moist soils.
- Commonly mistaken for grasses.

Grasses and Forbs



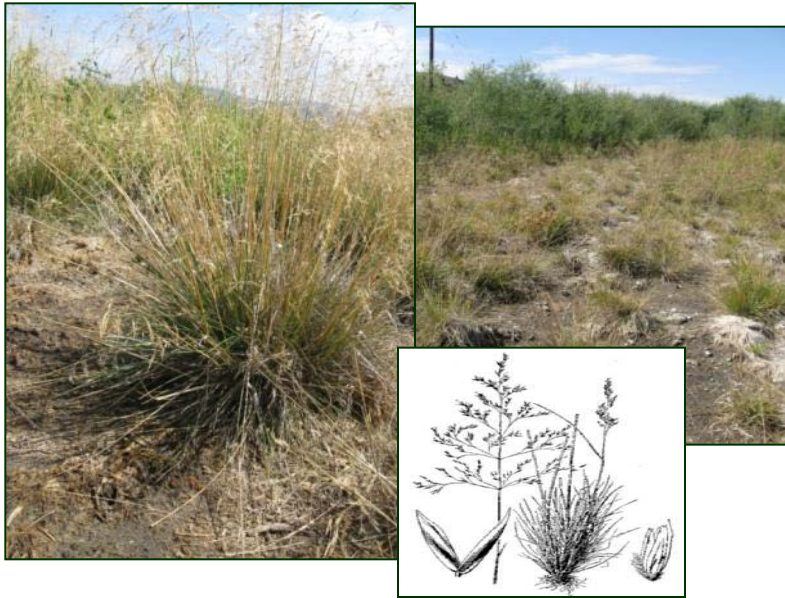
Key Features of Grasses

- Grass stems are hollow except at the nodes (solid *bumps* on the stems).
- Leaves are slender; seed head/flowers located at top of stem. Flower head shapes include: *congested* (wheat), *open* (Kentucky bluegrass), and *drooping* (cheatgrass).
- Plant forms include: *mats* (Kentucky bluegrass, saltgrass), *bunches* (sheep fescue), and *single plants* (Cheatgrass).

Key Features of Forbs

- Forbs are herbaceous (non-woody) flowering plants that usually die back to ground after flowering because of lack of woody stems.
- Leaves are broader than grass leaves; typical flowers we are used to seeing.
- Our state flower, Bitterroot is a forb. Our state's top noxious weeds, spotted knapweed and leafy spurge, are forbs as well.

Pollution Tolerant Plants



Key Features of Tufted Hairgrass

- Perennial, bunch-forming grass (hence *tufted*).
- Stiff, slender (~1-3mm), rolled leaves.
- Each *tuft* can have multiple flowering stalks.
- Flowering heads have a shiny, purplish-brown color when fresh, and a shiny, golden color after the flowers die.



Key Features of Saltgrass

- Perennial, rhizomatous grass. *Rhizomes* (underground stems) allow it to make *mats*, like lawn grass.
- Leaves are firm with edges typically rolled inward. Salt crystals may be seen on leaf if plant is growing in high salt-content soil.
- Varies in height (6-18"), but usually short (<12") when in dense colonies.
- Flowering head is laterally flattened.

Bare Ground and Tailings



Key Features of Bare Ground

- Bare ground may have just soil, or may have dead plants or plant litter mixed in it.
- The color of bare ground (soil) can vary from a light to dark brown, red or gray color.



Key Features of Tailings (on ground)

- Ground (or soil) with tailings usually appears as if it had salt on it.
- Also, soils with tailings usually have a blue to green tinge of color.
- Soil with tailings have low pH. If unsure, either test soil with Hellige kit or put some soil in a cup of water and measure pH of water.