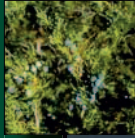
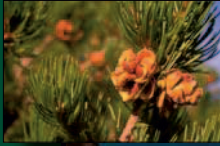


Rocky Mountain Juniper



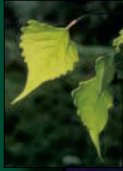
Piñon Pine



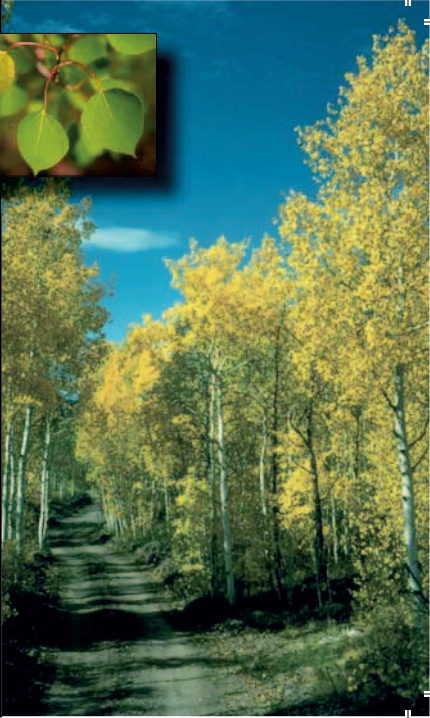
Narrowleaf Cottonwood



Plains Cottonwood



Quaking Aspen



Ponderosa Pine



Douglas-fir



Limber Pine



Colorado Blue Spruce



White Fir



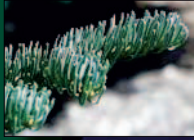
Lodgepole Pine



Engelmann Spruce



Subalpine Fir



Bristlecone Pine



Piñon Pine

Pinus edulis

Description

Bark: Gray, smooth and thin when young; red-brown, rough and furrowed into scaly ridges at maturity.

Leaves: Evergreen needles are stout and light green; 1 to 1½ inches long; 2 in a bundle.

Fruit: cones are yellow-brown, unique, short and squatty; 1½ to 2 inches long. Each cone contains 10-20 large, edible, oily seeds.

Elevation: 5,200 to 9,000 feet.

Height: 20 to 50 feet.

Habitat: Open woodlands, alone or with junipers on dry rocky foothills, mesas and plateaus.

Relation to Fire: Easily killed by fire due to thin bark, relatively flammable foliage and accumulation of dead lower branches.

Quaking Aspen

Populus tremuloides

Description

Bark: Green-white, smooth and thin with raised dark patches; on very large trees, trunk base is often gray, thick and furrowed.

Leaves: Broad-leaf foliage is bright green above and dull green below; rounded with a pointed tip, 1 to 3 inches wide on a flattened leaf head; nearly round and sawtoothed.

Fruit: Fruit are catkins; up to 4 inches long; many light green capsules contain 6 to 8 tiny, cotton-like seeds.

Elevation: 6,500 to 11,500 feet.

Height: 35 to 50 feet.

Habitat: Many soil types, especially on well-drained, sandy and gravelly slopes; often in pure stands.

Relation to Fire: Easily killed by fire, but quick to send out many sucker shoots; readily colonizes after a fire.

Ponderosa Pine

Pinus ponderosa

Description

Bark: Dark on young trees; nearly 3 inches thick, red-orange and furrowed into large flat scaly plates on mature trees.

Leaves: Evergreen needles are stiff, dark yellow-green; 3 to 7 inches long; typically in bundles of 3 that form tufts near the end of branches.

Fruit: Light red-brown cones; 3 to 4 inches long; egg-shaped with scales that are tipped by a sharp point; small long-winged seeds.

Elevation: 6,300 to 9,500 feet.

Height: 40 to 160 feet.

Habitat: Dry, nutrient poor soils in open park-like stands or with Douglas-fir, Rocky Mountain juniper and spruce.

Relation to Fire: Resistant to fire, due to open crowns, thick, insulating bark, self-pruning branches, high moisture content in the leaves and thick bud scales.

Douglas-fir

Pseudotsuga menziesii

Description

Bark: Gray and smooth with resin blisters on young trees; red-brown, very thick and deeply furrowed with broad, often corky ridges at maturity.

Leaves: Evergreen needles are $\frac{1}{2}$ to $1\frac{1}{2}$ inches long with bracts at the base.

Fruit: Light brown, short-stalked cones that hang down from the branches; $1\frac{1}{2}$ to 3 inches long; many thin, rounded cone scales on top of a long, 3-pointed, winged seed that sticks out beyond scales.

Elevation: 6,000 to 9,500 feet.

Height: 100 to 130 feet.

Habitat: Rocky soils of moist northern slopes; in pure stands and mixed coniferous forests.

Relation to Fire: Thin, resinous bark of young trees makes them highly susceptible to fire; after 40 years, trees have developed a very thick layer of bark to protect them during hot ground and surface fires.

Colorado Blue Spruce

Picea pungens

Description

Bark: Gray-brown with thick scales on mature trees.

Leaves: Evergreen needles are blue or light-green with white lines; 1 to 1¼ inches long; stiff, sharp and spreading on all sides of the twig.

Fruit: Shiny light-brown, cylindrical cones; 2½ to 4 inches long with thin, long, flexible and irregularly toothed scales; contains paired, long-winged seeds.

Elevation: 6,700 to 11,500 feet.

Height: 70 to 115 feet.

Habitat: Well-drained, sandy soils; moist sites of narrow bottomlands or along mountain streams; often in pure stands.

Relation to Fire: Easily killed by fire due to thin bark, shallow roots and low branches.

Rocky Mountain Juniper

Juniperus scopulorum

Description

Bark: Gray-brown, thin, fibrous; shreds with a red-brown color underneath.

Leaves: Evergreen scalelike needles are small, gray-green or silvery.

Fruit: Blue-gray berries; waxy and juicy; 1/4 inch in diameter; typically two-seeded.

Elevation: 5,000 to 9,000 feet.

Height: 20 to 50 feet.

Habitat: Grows on rocky soils in the foothills and on the plains; often associated with piñon pines.

Relation to fire: The resinous wood is very flammable. Low intensity fires easily kill this tree due to its thin bark and compact crown.

Narrowleaf Cottonwood

Populus angustifolia

Description

Bark: Yellow-green and smooth on young trees; thick, gray-brown and furrowed with interlacing ridges at maturity.

Leaves: Broad-leaf foliage is shiny green with a pale underside; narrow and 2 to 3 inches long; lance shaped with a fine, serrated edge and a pointed tip.

Fruit: Light brown, hairless fruit; 1/4 inch long; many broad, egg-shaped capsules that mature in the spring, then split into two parts containing many cotton-like seeds.

Elevation: 5,000 to 8,000 feet.

Height: Up to 60 feet.

Habitat: Moist soils along streams; can often be found with willows and alders in coniferous forests.

Relation to Fire: Severe fires can easily kill both young and mature trees. Young trees are able to sprout from roots and/or branches after a fire.

Plains Cottonwood

Populus deltoides

Description

Bark: Green-yellow and smooth while young; dark gray, thick, rough and deeply furrowed at maturity.

Leaves: Broad-leaf foliage is glossy and yellow-green; 3 to 6 inches long, 4 to 6 inches wide; toothed margins.

Fruit: 1/4 inch long with capsules containing 3 to 4 valves; many tiny, cotton-like seeds inside valves.

Elevation: 3,500 to 6,500 feet.

Height: 36 to 190 feet.

Habitat: Found in floodplains, bordering streams, near springs and in moist woodlands; pure stands or with willows.

Relation to Fire: Generally killed by fire; very poor sprouting response.

Limber Pine

Pinus flexilis

Description

Bark: Light gray, thin and smooth on young trees; at maturity, dark brown, thick and furrowed into scaly ridges. The young branches are very flexible, hence the name.

Leaves: Evergreen needles are blue-green, slender needles with white lines on all surfaces; 2 to 3½ inches long; typically 5 in a bundle.

Fruit: Yellow-brown, egg-shaped cones; thick, rounded cone scales that end in a blunt point; seeds are large with a very short wing.

Elevation: 5,000 to 12,500 feet.

Height: 40 to 50 feet.

Habitat: Nutrient poor soils on dry, rocky slopes; ridges up to timberline and often in pure stands.

Relation to Fire: Young trees can be killed by any fire; mature trees can only survive low-intensity fires, but due to the sparse fuels, late snow melt and short growing season this species is rarely affected.

White Fir

Abies concolor

Description

Bark: Light gray and smooth with resin blisters on young trees; deeply furrowed into corky ridges and orange cracks when mature.

Leaves: Evergreen needles are light blue-green or silvery with white lines on both surfaces; 1½ to 3 inches long; flat and rounded.

Fruit: Oblong, olive-green to blue cones; 3 to 5 inches long; upright on topmost twigs; fine, hairy cone scales; paired, long-winged seeds.

Elevation: 7,900 to 10,200 feet.

Height: 60 to 125 feet.

Habitat: Moist soils of high mountain valleys; in pure stands and with other firs.

Relation to Fire: Young are usually killed by low-intensity fires due to thin, resin blistered bark and drooping lower branches; mature trees are moderately fire tolerant.

Lodgepole Pine

Pinus contorta

Description

Bark: Light brown, thin with many small scales.

Leaves: Evergreen needles are yellow to dark green; 1 to 3 inches long; sharply pointed, stiff, stout, slightly flattened and often twisted; 2 needles in a bundle.

Fruit: Shiny, yellow-brown, egg-shaped, serotinous* cones; $\frac{3}{4}$ to 2 inches long with raised, rounded cone scales and a tiny point.

*Seeds released from cones by exposure to extreme heat.

Elevation: 6,000 to 11,000 feet.

Height: 20 to 80 feet.

Habitat: Mostly well-drained soils in high elevations, often in pure stands.

Relation to Fire: Ground fires kill many trees due to thin bark. New stands quickly establish when cones open and seeds are released.

Engelmann Spruce

Picea engelmannii

Description

Bark: Gray-brown, thin, with flaky scales.

Leaves: Evergreen needles are deep blue-green with white lines; $\frac{5}{8}$ to 1 inch long; slender, sharp and flexible; skunk-like odor when crushed.

Fruit: Light chestnut-colored, oblong cones; $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long; in upper part of crown with scales that are paper thin and ragged along the outer edge. Seeds have a single, long and well-developed wing.

Elevation: 8,000 to 11,000 feet.

Height: 45 to 130 feet.

Habitat: High, cold, forest environments on moist, northern slopes; with subalpine fir and other conifers.

Relation to Fire: Generally killed by fire due to thin bark, shallow roots, low growing branches, tendency to grow in dense stands and support heavy lichen growth. Large trees may survive low-intensity fires.

Subalpine Fir

Abies lasiocarpa

Description

Bark: Thin, gray and smooth with resin blisters while young; shallow fissures and scaly when mature.

Leaves: Evergreen needles are dark, blue-green with silvery lines on both surfaces; 1 to 1½ inches long; flat and blunt tipped; crowded and curved upward on twigs at nearly right angles.

Fruit: Upright, cylindrical, very dark purple, 2 to 4 inches long in the upper part of the crown; fine, hairy, cone scales; long, broad-winged seeds. These deciduous cones fall apart when mature so they are rarely found on the ground.

Elevation: 8,000 to 12,000 feet.

Height: 60 to 100 feet.

Habitat: Cold, high elevation forests; with Engelmann spruce and other conifers.

Relation to Fire: Generally killed by low-intensity fires because of thin, flammable bark, shallow roots, low growing branches and dense growing conditions. Seeds readily germinate on recently burned ground.

Bristlecone Pine

Pinus aristata

Description

Bark: Light gray and smooth when young; red-brown with irregular, scaly ridges when mature.

Leaves: Evergreen needles are dark with white lines, they have white pitch dots on both surfaces; $\frac{3}{4}$ to $1\frac{1}{2}$ inches long; crowded in a long dense mass along the twig; generally 5 in a bundle.

Fruit: Cylindrical, dark purple-brown cones; $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long; 4-sided cone scales with stiff curved points. Brown seeds with black mottling and detachable wing.

Elevation: 9,200 to 11,800 feet.

Height: 15 to 30 feet.

Habitat: On exposed, cold, dry, rocky slopes and high mountain ridges up to timberline; in pure stands or with limber pine.

Relation to Fire: Fires virtually nonexistent in these areas due to low temperatures and a short growing season.