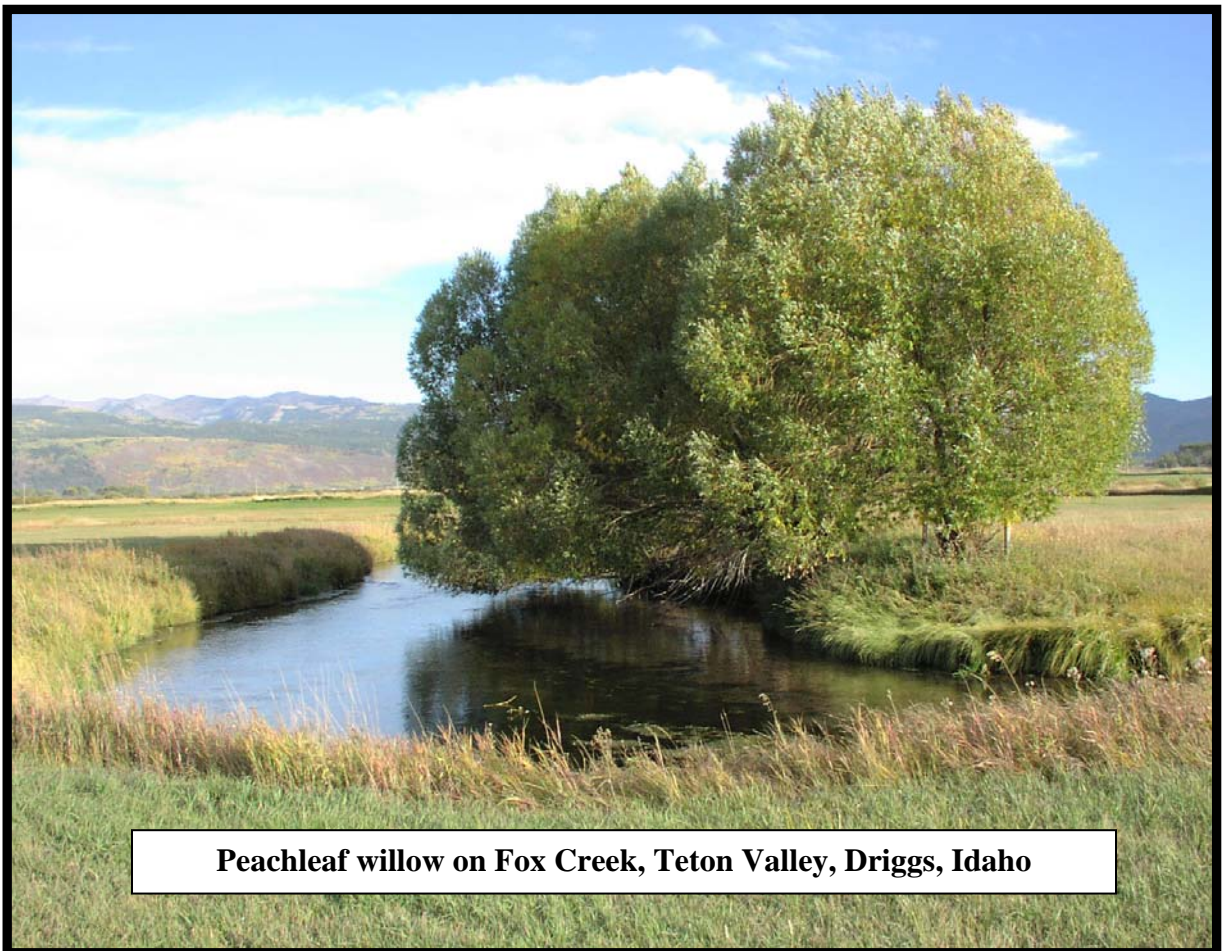


Simple Identification Key to Common Willows,
Cottonwoods, Alder, Birch, and Dogwood of the
Intermountain West

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Peachleaf willow on Fox Creek, Teton Valley, Driggs, Idaho

Coyote Willow (*Salix exigua*)

- Commonly called coyote, sandbar, narrowleaf, and streambar willow. These were considered separate species, but are now all lumped together.
- Grows in large thickets, not clumps like most willows. Top growth of branches much more narrow and columnar instead of spreading. Normally grows 1.5 to 9 feet tall, infrequently as a small tree to 18 feet or more.
- Prefers coarse soils.
- Very common species from 2,000 to 7,000 ft.
- Spreads easily and rapidly by rhizomes. Easy to establish. Will spread into sod-bound grasses, probably the only willow that will.
- Summer Key – Long slender leaves. One of few willows with stomata on both sides of the leaves. Silver colored variety grows at higher elevations and green colored variety grows at lower elevations. Color isn't the same on both sides of leaf.
- Winter Key – Grows in thickets not clumps. No chalk on the stem. Often find yellow willow (*Salix lutea*) growing with it.



Booth's Willow (*Salix boothii*)

- Booth's willow is the most common willow found at mid-elevations from 4,500 to 8,000 feet.
- Many branched shrub with a rounded top. Generally reaches 6 to 10 (20) feet in height.
- Usually found with Geyer's and Drummond's willow (*Salix drummondiana*).
- Most common on wet, coarse soil. Will grow in fine-textured soils.
- Wide range of adaptability and easy to establish.
- Summer Key – Leaves green on both sides and slightly toothed. Slightly wider leaf and not as long as whiplash willow. Distinctive feature: Leaves lack a waxy bloom and have few to no hairs (glabrous).
- Winter Key – Numerous basal stems less than 2 inches in diameter, usually with bright yellow bark on new stems. Sometimes incorrectly called yellow willow.



Drummond's Willow (*Salix drummondiana*)

- Shrub with open growth form, up to 6 to 12 feet in height. Comparable to Geyer's and similar in general appearance to Lemmon's willow.
- Commonly associated with Engelmann spruce and Subalpine fir on coarse-textured soils that are moist and well aerated.
- Found along main drainages.
- Slightly higher elevations than Geyer's. Found throughout region from 4,500 to 9,000 ft, abundant at higher elevations.
- Summer Key – Leaves narrow at the base, widening out at the middle and rounded at the apex. Dark green on top. White hair on the back of the leaf that does not rub off. Edges of the leaves are rolled under.
- Winter Key – Green to reddish purple twigs that are covered with a whitish waxy bloom. Waxy substance is found on current and second year stems and will rub off with thumb. The stems are red underneath.



Geyer's Willow (*Salix geyeriana*)

- Shrub with numerous straight branches, up to 10 to 15 (20) feet in height arising from a tight basal cluster.
- Roots grow as deep into the soil as top growth does in height.
- Usually found with Booth's willow. Geyer's willow occupies drier sites while Booth's (*Salix boothii*) willow occupies wetter zones. Sometimes found in proximity to and hybridizing with Lemmon's willow (*Salix lemmonii*) and morphologically similar.
- Most common on deep, fine textured soils.
- Found throughout this region from 4,000 to 8,000 feet. Often found on side drainages.
- Summer Key – Leaves are dark green and hairy above, with a waxy bloom underneath that can be rubbed off with your thumb.
- Winter Key – A white chalky substance is present on current year and second year stems (more common on the youngest stems). This white chalky substance will rub off and under it the stem will be a yellow green color not red.



Lemmon's Willow (*Salix lemmonii*)

- Medium-sized, shrub-type willow about 5 to 9 feet tall with crooked stems.
- Very closely related to Geyer's willow and sometimes confused with Drummond's willow and planeleaf (*S. planifolia*) willow.
- Tends to occupy drier portions of the riparian community
- Prefers well drained gravely or sandy soils!
- Found from 4,000 to 8,000 feet. More common in the northern part of the region, at slightly higher elevations than Geyer's.
- Hybridizes with Geyer's willow. Could be the same species.
- Summer Key – Leaves are long and narrow. Shiny green with a pale, waxy bloom beneath, entire or inconspicuously toothed. Older leaves are finely hairy on both sides and partially or wholly red-tinged. Twigs are very dark gray. Young twigs are covered with a heavy waxy bloom.
- Winter Key – Heavy chalky substance on current and second season stems. Stems generally much darker than Drummond's willow.



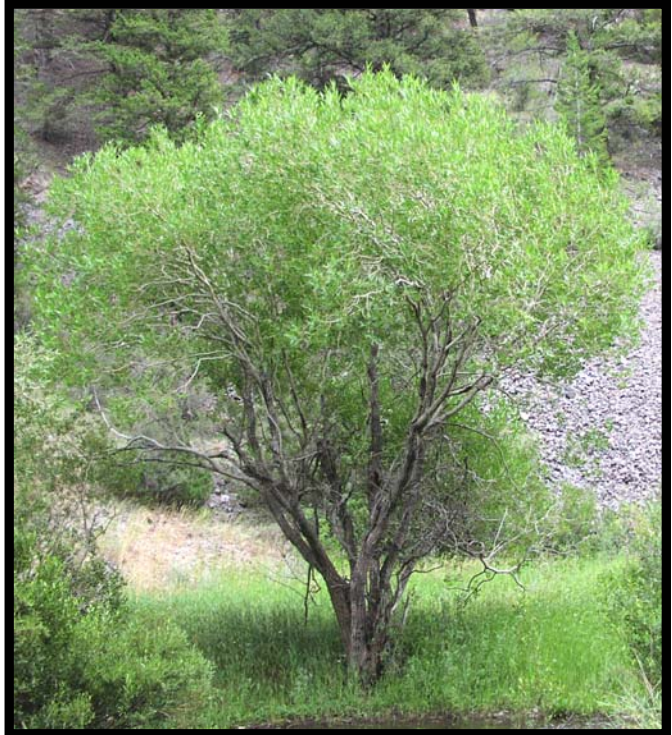
Yellow Willow (*Salix lutea*)

- Rounded shrub, occasionally becoming a multi-stemmed tree, up to 20 feet in height.
- Found on a variety of sites from coarse cobble along streams to moist terraces with deep, fine textured soils.
- Found at lower elevations. Very common at elevations from 2,000 to 4,500 feet.
- Commonly found growing with coyote and Pacific willow.
- Summer Key – Green above and pale with a waxy bloom beneath, margins are finely toothed especially near the apex. Different color from front to back. Older leaves lack hairs. The stipules are somewhat persistent.
- Winter Key – Twigs yellowish white to gray, not hairy. Newer growth is almost a robin egg blue-gray color. Branches not in columnar form but rather more spread out and multiple fine branches.



Pacific or Whiplash Willow (*Salix lucida* ssp. *lasiandra*)

- Tree with several main stems and a dense green crown, up to 50 feet in height.
- Multiple stems instead of a large single stem. Stems often 4 to 12 inches in diameter.
- Likes moist sandy to gravelly soils.
- Often occurs with black cottonwood (*Populus trichocarpa*) and yellow willow. Common in the region from 2,000 to 6,000 ft (below 6,500).
- Summer Key – Long pointed leaf, same color on both sides, fine-toothed margin. Very shiny. Apex of leaf has a curving point, hence the name whiplash. Distinctive glands are found on the petioles at the base of the leaf. Stipules usually present and can be large.
- Winter Key – Twigs covered with a fine pubescence, older bark is deeply furrowed, rough and brown. Upper bark is smooth and usually light green.



Peachleaf Willow (*Salix amygdaloides*)

- Tree sometimes up to 90 feet in height with trunks 3 feet in diameter. Often smaller, occurring in copses. Multiple stems from a single base. These stems are about 1 1/2 to 2 feet diameter
- Associated with cottonwood and coyote willow.
- Often on loamy soils that are saturated seasonally.
- Pioneer species that forms young stands. Found throughout the region, primarily at low elevations from 2,000 to 6,000 feet.
- Summer Key – Leaf is lanced-shaped with fine toothed edge, not shiny, 3 to 7 in. Somewhat leathery with pale whitish bloom on the underside. Hairless and without glands on either side of leafstalk near leaf base. Stipules are small or lacking. Twigs shiny, hairless, and red-brown or orange.
- Winter Key – Medium to large willow. Bark is thick, grayish brown, shallowly furrowed, and shaggy. Many of the new stems grow straight up from the old growth. Branches cut in the winter are extremely light weight. Younger twigs and branches are smooth, shiny, gray to red-brown to orange.



Narrowleaf Cottonwood (*Populus angustifolia*)

- Medium-sized tree with narrow, rounded crown, up to 60 feet in height with trunk diameters from 1 to 2 feet.
- Usually occurs with Redosier dogwood (*Cornus sericea*) and alder (*Alnus* species).
- Occupies coarse, cobbly soils that flood frequently.
- Does not like wet feet, i.e. prolonged saturated conditions.
- Occurs in mountain valleys along fast moving streams. Found throughout the region at elevations of 4,000 to 7,000 ft.
- Grows rapidly but is short lived.
- Summer Key – Leaves are long and narrow, broadest near the middle, tapering to a pointed tip with finely toothed margins. Bright yellow-green above and pale below with a flattened leaf stalk.
- Winter Key – Generally shorter cottonwood with a narrow cone-shaped top. Trunk small, up to 2 feet in diameter. Bark is white and smooth on younger stems and trunk, becoming darker and furrowed with age. Furrows are shallow, with broad flat ridges.



Black Cottonwood (*Populus trichocarpa*)

- Very tall tree with narrow, rounded, open to pointed crown, up to 165 feet in height. Trunk diameters from 2 to 5 feet. Largest of all North American cottonwoods.
- Occurs with whiplash and yellow willow.
- Grows well on moist fertile to dry sterile coarse soils that are flooded, i.e. floodplains. Found in deep river soils to drier valleys and canyons. Common from 3,000 to 5,000 feet, more common in the northern part of the region.
- Can hybridize with several other cottonwoods so pure stands are not as commonly found.
- Summer Key – Leaves 3 to 4 inches long and 2 to 3 inches wide. Alternate, smooth, thick, hairless, wedge shaped, and finely round-toothed. Broadest near the rounded or abruptly wedge-shaped base. Pointed at tip. Dark green and smooth above and silvery or pale green with rust colored spots beneath. Leaf stalks are round with a pair of glands at the base of the leaf.
- Winter Key – Large tree up to 165 feet. Narrow or pointed crown. Trunk straight and tall. Young bark is smooth, thin, and as it gets older it is thick, grayish-brown, and deeply furrowed with scaly ridges. Younger stems and twigs are yellow-gray.



Fremont Cottonwood (*Populus fremontii*)

- Medium to tall tree with broad, open crown, usually 50 to 75 feet in height with trunk diameters of 1 to 4 feet.
- From 2,000 to 6,500 feet, mostly in the southern portion of the region.
- Usually occurs with coyote willow. Prefers gravel to sandy soils that flood periodically. Does not like wet feet.
- Summer Key: Triangular shaped leaf with broad base. Very irregularly and coarsely toothed. Thick, shiny, green, without glands. The leaf stalk is flattened.
- Winter Key: Bark is thick, rough, dark gray-brown and splitting with age.



Thin leafed Alder (*Alnus incana* spp. *tenuifolia*)

- A large shrub up to 40 feet tall; bark is thin, smooth, dirty green-gray and tends to flake when older.
- Common species that occurs at an elevation of 2,000 to 7,000 feet.
- Found in moist montane woods and streambanks on coarse textured soils.
- Alternate, deciduous, dull green on both sides and yellow-green on central vein, not sticky, with double dentate margins.
- Stems are somewhat three-sided, sometimes with short rusty hairs, and pith turns rusty color when freshly cut.
- Field propagation by dormant unrooted hardwood cuttings is very difficult.
- June and July softwood cuttings treated with 8,000 ppm. IBA is generally recommended for *Alnus* species.



Water or Black Birch (*Betula occidentalis*)

- A small tree or large shrub up to 30 feet tall frequently found in crowded dense thickets.
- Tree is slender, upright, covered with white lenticels.
- Fairly common species that can be found at elevations from 4,500 to 10,000 feet.
- Found along rivers, streams, springs and moist locations on a variety of gravelly, cobbly to medium textured soils.
- Summer Key: Leaves are alternate, deciduous, with rounded wedge shaped base and pointed tip. The entire base extending to double row of fine sharp-pointed teeth. Leaves are dark greenish-yellow and shiny above, paler and gland dotted below, sometimes tufts of hair at junctions of veins.
- Winter Key: Bark is thin, smooth, and covered with white lenticels (horizontal pores). It is almost black on young trees, but turns reddish-brown with age.
- NOTE: Water birch does not root readily from hardwood cuttings. It is most successful when propagated from seed.



Redosier Dogwood (*Cornus sericea*)

- Open, spreading, multi-stemmed medium to large shrub. Loose rounded form. Spreads by stolons and natural layering. Generally reaches 7 to 10 feet in height.
- Common from 4,500 to 7,000 feet
- Often found on alluvial terraces and the steep side slopes of canyons.
- Soils are often poorly developed and coarse-textured.
- It likes moderately to well-drained soils and generally requires fresh, well-aerated water.
- Summer Key: Leaves are opposite, dark green above and soft white hairs below when young. The leaves have 5 to 7 prominent upcurving and parallel veins that converge at tip.
- Winter Key: Branches are opposite (willows are alternate). Horizontal branches at the base. Bark is smooth, with prominent white lenticels; orange, orange-yellow, orange-red, to blood-red stems that are easy to see in the winter.
- Redosier dogwood cuttings generally only root at the cut. Use rooting hormones and wound the bark before planting to increase the number of roots.



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