

*Populus fremontii* S. Watson subsp. *fremontii*, FREMONT COTTONWOOD, ALAMO. Tree, winter-deciduous, not clonal, typically 1-trunked, in range < 20 m tall; dioecious; shoots with ± resinous, ovoid winter buds, winter bud brown and ± resin-coated during early spring growth, somewhat aromatic, puberulent aging glabrescent; bark initially tight, dull tannish gray, on trunk thick and difficult to remove, coarsely and deeply fissured on trunk and even major branches, gray tinged light brown. **Stems:** initially cylindrical, short-hairy even on young branchlets with periderm, with transverse leaf scars, leaf scars narrowly crescent-shaped. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules 2, attached ± to stem, narrowly triangular, 5–6 × 2 mm, often resin-coated, early-deciduous before blade fully expanded; petiole cylindrical at base changing to compressed side-to-side approaching blade, 25–55 mm long, < blade; blade deltate, 50–75 × 55–82 mm, length ≤ width, flat, truncate at base without a basal pair of glands, sinusoidal-crenate on margins with each tooth turned toward tip and having a callus point, ± entire 15–20 mm from tip, acute at tip, pinnately veined with principal veins raised slightly on both surfaces, principal veins not extending to margins, with minor venation conspicuously netlike, emerging from bud puberulent aging glabrescent except remaining puberulent on margins and lower surface along veins. **Inflorescences:** unisexual catkins (racemelike), surfaces emerging before leaves from base of winter buds on stiff stems, many-flowered, flowers alternate, bracteate, glabrous. **Staminate inflorescence:** catkin (ament) lax and pendent, lanceoloid-cylindric, when fully expanded 45–75 × 12–15 mm, many-flowered; peduncle initially concealed within bud scales, stout, to 7 × 5 mm, bud scales soon abscised; rachis straight to shallowly S-shaped, ± smooth to somewhat ridged on upper catkin, whitish at base to pale and light green above; bract (bractlet) subtending floral axis (“pedicel”) and cupped over flower bud, broadly fan-shaped to scooplike, 4–5 mm long + long fringes at tip and on margins above midpoint, whitish aging bronze and scarious, early-deciduous leaving a persistent, projecting, truncate base on floral axis; floral axis to 3 mm long, pale green, expanding as base of “involucre”; **involucre** (appearing like a perianth) broad and spreading, funnel-shaped, 3 × 3–3.5 mm, pale green. **Staminate flower:** = stamens (attached to involucre), 4–5 mm across; **perianth** absent; **stamens** ca. 25–30, attached and scattered on inner surface of involucre, exerted and often hanging over involucre rim; filaments threadlike, mostly 2–2.5 mm long, white; anthers basifixed, dithecal, 1–1.4 mm long, light yellow often purplish red above midpoint, longitudinally dehiscent; pollen pale yellow, copious, dry, airborne; **pistil** absent. **Pistillate inflorescence:** catkin lax and nodding, with developing fruits 75–100+ mm long, 13–20-flowered, essentially glabrous; peduncle ascending, increasing with age and to 20 mm long in fruit; rachis straight, ± smooth to somewhat ridged on upper catkin, whitish at base to pale and light green above; bract (bractlet) subtending floral axis and somewhat cupped over flower bud, broadly fan-shaped to scooplike, 4–5 mm long + long fringes at tip and on margins above midpoint, whitish aging bronze and scarious, abscising around anthesis at base at cushion on floral axis; floral axis to 3 mm long, pale green, expanding as base of “involucre”; floral axis ascending, 3–5 mm long; **involucre** funnel-shaped, 2.5–3.5 mm diameter increasing 1 mm in fruit, green but paler on uneven rim, sometimes wavy and veiny, aging scarious and appressed to fruit base. **Pistillate flower:** = pistil (surrounded by involucre), 5–6 mm across (= spreading stigmas); **perianth** absent; **stamens** absent; **pistil** 1; ovary superior, ± spheric, ca. 2 mm, green, shallowly lobed, glabrous, 1-chambered with many ovules

attached to placentae on outer side; style short; stigmas 3–4, spreading widely, broadly fan-shaped, 3.5–4 mm long and wide, fleshy, green and whitish or aging reddish, crisped, wavy, and somewhat lobed with jagged margin, persistent. **Fruit:** capsule, loculicidal, dehiscing by 3 or 4 valves reflexed from top downward, < 15-seeded, broadly ellipsoid to ovoid, 8–10.5 × 6.5–8 mm, dull brown with glabrous, wrinkled-warty surface (± tuberculate), inner surface of valves smooth and glossy tannish brown; involucre appressed to base, to 7 mm wide, papery, glabrous. **Seed:** with long, silky white hairs attached at 1 end (comose); seed body ellipsoid to narrowly obovoid and strongly flattened, 2.5–2.8 × 1–1.2 mm, appearing dull light brown to tannish when covered with downy coat. Late February–late March.

Native. Codominant deciduous tree occurring along certain permanent streams in riparian woodland of SMM and SH. *Populus fremontii* is dioecious and produces its racemelike catkins from leafless winter twigs just before commencing spring vegetative growth. Winter buds and early spring growth are very resinous. This species is easy to identify when leafless while blooming because the catkins are glabrous, not pubescent, and the trunk bark is deeply furrowed even on the large branches. When fruits dehisce, they release large quantities of long, silky, wind-blown tufts of hairs, most tufts of which are not attached to ripe seeds, and which can blanket ground and neighboring vegetation.  
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