

## 8. (*Carnegiea gigantea*) / *Parkinsonia microphylla* / *Opuntia engelmannii* (*Vachellia constricta* - *Larrea tridentata*) Wooded Shrubland Association (P)

(Saguaro) / Yellow paloverde / Cactus apple (Whitethorn acacia - Creosote) Wooded Shrubland Association (P)

This wooded shrubland community is characterized by a canopy stratum (2–5 m) dominated by yellow paloverde (*Parkinsonia microphylla*) and a diverse subcanopy stratum (0.5–2 m) typically dominated by cactus apple (*Opuntia engelmannii*), whitethorn acacia (*Vachellia constricta*), and creosote (*Larrea tridentata*). The field stratum (<0.5 m) is sparse (<10% cover) and composed of a mix of subshrubs, succulents, and perennial grasses, with no consistent dominants. Yellow paloverde (*P. microphylla*) trees (4–5 m) provide an average cover of 6% (up to 20%). Velvet mesquite (*Prosopis velutina*) is a notable but inconsistent canopy species that can occasionally co-dominate with the yellow paloverde, or present as the sole canopy dominant, with up to 8% cover. Saguaro (*Carnegiea gigantea*) is a conspicuous and diagnostic component but provides very low cover (<1%). In the subcanopy, cactus apple (*O. engelmannii*) averages 7% cover across the community, with some areas up to 15%. Whitethorn acacia (*V. constricta*) and creosote (*L. tridentata*) provide variable (1–7%) cover. Desert zinnia (*Zinnia acerosa*) is the most consistent field associate, with average cover of around 2%, sometimes reaching a dominant 10%. Other notable associates include staghorn cholla (*Cylindropuntia versicolor*), chain-fruit cholla (*Cylindropuntia fulgida*), Warnock's snakewood (*Condalia warnockii*), spiny hackberry (*Celtis ehrenbergiana*), bush muhly (*Muhlenbergia porteri*), Arizona cottontop (*Digitaria californica*), and rough menodora (*Menodora scabra*).

### Common species

- *Parkinsonia microphylla*
- *Prosopis velutina*
- *Opuntia engelmannii*
- *Larrea tridentata*
- *Vachellia constricta*

This wooded shrubland is contained within a three-association map class that covers 3.6% (983 ha/2,429 ac) of the Rincon Mountain District and is widespread throughout the Cactus Forest Loop Road area and the associated trail system. It is found exclusively on low-angle (1–6% [20]) alluvial fans from 820 to 945 meters (2,609–3,100 ft), usually on the interfluvium between the numerous washes that crisscross this association. In general, the surface cover is defined by very deep and well-drained fine-loamy soil underlying a layer of coarse (5–10 cm) gravel.





