## **#14** [Quercus turbinella - Quercus rugosa - Quercus hypoleucoides] Shrubland Association (P) [Sonoran scrub oak - Netleaf oak - Silverleaf oak] Shrubland Association

This shrubland community is characterized by moderately dense (30%) subcanopy stratum (0.5–2 m) co-dominated by Sonoran scrub oak (*Quercus turbinella*), netleaf oak (*Quercus rugosa*), and silverleaf oak (*Quercus hypoleucoides*). These species are present as large shrubs (2 m) to small, shrubby trees (3 m) providing cover ranging from 5 to 12% each. In general, Sonoran scrub oak (*Q. turbinella*) tends to occupy the more exposed portions of this community, while the other two tend to occupy more sheltered portions often adjacent to cliff bands. Arizona white oak (*Quercus arizonica*) is a transitional associate most common on the lower slopes, where

## Common species

Quercus turbinella Quercus rugosa Quercus hypoleucoides Garrya wrightii Muhlenbergia emersleyi

it begins to replace netleaf oak (*Q. rugosa*). Wright's silktassel (*Garrya wrightii*) is the most common associate throughout this community. The field stratum (<0.5 m) is generally sparse (<10%), with low-cover provided by bullgrass (*Muhlenbergia emersleyi*), white sagebrush (*Artemisia ludoviciana*), New Mexico fleabane (*Erigeron neomexicanus*), single threeawn (*Aristida schiedeana*), and oakwoods prairie clover (*Dalea versicolor*).

Overall, this community covers 0.3% (7 ha, 17 ac) of the park, primarily on steep (50+%) mountain backslopes of varying aspects at 1,860–2,120 meters (6,102–7,000 ft). Often, this community abuts large, typically north-facing bedrock cliff bands. The primary examples of this community are restricted to two slopes in the upper reaches of Montezuma Canyon, one on north side and one on the south.

