

**California Wildlife Habitat Relationships System
California Department of Fish and Game
California Interagency Wildlife Task Group**

Desert Riparian

William F. Laudenslayer Jr.

Vegetation

Structure-- Desert Riparian habitats are characterized as dense groves of low, shrublike trees or tall shrubs (Küchler 1977) to woodlands of small to medium-sized trees (Cheatham and Haller 1975). These habitats are found adjacent to permanent surface water (e.g., streams, springs) or in naturally subirrigated areas (Parker and Matyas 1981). Usually an abrupt transition occurs between this and adjacent shorter and more open desert habitats. Riparian vegetation height depends on constituent plant species, willow thickets range from 1 to 3 m (3 to 10 ft) in height (Cheatham and Haller 1975) whereas Fremont cottonwoods may exceed 24 m (80 ft).

Composition-- Dominant canopy species of Desert Riparian habitats vary. Overstory species include tamarisk, velvet ash, mesquite, screwbean mesquite, Fremont cottonwood, and willows such as Gooding, Hinds, and arroyo (Bradley and Deacon 1967, Cheatham and Haller 1975, Küchler 1977, Paysen et al. 1980, Parker and Matyas 1981). The subcanopy includes smaller individuals of the canopy species as well as quailbush, Mojave seablight, desert lavender, seep willow, and arrowweed (Bradley and Deacon 1967, Küchler 1977, Paysen et al. 1980, Parker and Matyas 1981).

Other Classifications-- Other names for Desert Riparian habitat include Cottonwood Series; Arrowweed Series (Payson et al. 1980, Parker and Matyas 1981); Tamarisk Series (Parker and Matyas 1981); Saltcedar Series; Mesquite Series; Willow Series (Paysen et al. 1980); Colorado River Bottomland Woodland 6.12; Willow Thickets - 6.24; Southern Alluvial Woodland - 6.31 (Cheatham and Haller 1975), and Alkali Scrub Woodland - 48 (Küchler 1977).

Habitat Stages

Vegetation Changes-- 1;24.S-D. Desert Riparian habitats may exist as a variety of habitat stages ranging from seedlings through tree/shrub to large tree. Canopy development and plant density depend on available water, plant species, and site characteristics.

Duration of Stages. The time required for Desert Riparian habitats to progress through successional stages is not known, but probably depends on factors such as water availability, fire, and floods.

Biological Setting

Habitat-- Desert Riparian habitats may be found adjacent to other desert habitats including Desert Wash (DSW), Desert Succulent Shrub (DSS), Desert Scrub (DSC), Joshua Tree (JST), Alkali Scrub (ASC), and Palm Oasis (POS). The taller, denser Desert Riparian habitats usually have an abrupt interface with most shrubby, sparse desert habitats.

Wildlife Considerations-- The importance of these relatively rare desert riparian systems to wildlife populations cannot be overstated. These habitats support more bird species at greater densities than other desert habitats (England et al. 1981)(No England et al. 1981 in Habitat Lit Cite. I used England et al. 1984 as Lit Cite at end.) with the possible exception of some Palm Oasis habitats. The dense shrubbery and permanent water provide food, cover, and water for additional wildlife forms.

Physical Setting

Soils vary from silty alluvial to rocky, sandy, well-drained substrates (Bradley and Deacon 1967, Cheatham and Haller 1975). Soils generally are moist, but some are dry~ at the surface with moisture beginning at a depth of several meters (Cheatham and Haller 1975). Desert Riparian habitats do not persist on saline soils (Parker and Matyas 1981), but are usually adjacent to permanent streams in canyons or on alluvial deposits in wider valleys. These habitats may be associated with a variety of topographic features wherever the water table reaches the surface. Hot, dry summers and cool to cold, moist winters are characteristic of Desert Riparian habitats. Highest July temperatures range from 30 to 42 C (86 to 107 F). Lowest January temperatures range between 7 and 6 C (19 and 42 F) (Rowlands et al. 1982, P. G. Rowlands pers. comm.). Most precipitation is in winter, but summer rainfall occurs especially in southeastern California. Total precipitation ranges from 8 to 25 cm (3.1 to 9.8 in) per year and potential evapotranspiration is 3 to 17 times as great as precipitation (Rowlands et al. 1982, P. G. Rowlands pers. comm.).

Distribution

Desert Riparian habitats are found along permanent streams and at seeps and springs in the Mojave and Sonoran deserts, and in desert canyons of the Peninsular ranges. These habitats generally are found at elevations less than 900 m (3000 ft); however, willow thickets may be found well above that level in mountains (Cheatham and Haller 1975).

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