

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

Desert Scrub

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Vegetation

Structure-- Desert Scrub habitats typically are open, scattered assemblages of broad-leaved evergreen or deciduous microphyll shrubs usually between 0.5 and 2 m (1.5 and 6.5 ft) in height; desert scrub plants rarely exceed 3 m (10 ft) in height (Cheatham and Haller 1975, Burk 1977, Küchler 1977). Canopy cover is generally less than 50 percent (Küchler 1977), usually much less; bare ground is often between plants (Cheatham and Haller 1975). Rainfall may be an important factor related to desert scrub plant densities; as rainfall increases, creosotebush densities also increase (Turner and Brown 1982).

Composition-- Creosotebush is often considered a dominant of Desert Scrub habitats but its dominance is usually owing to its tall stature rather than density (Turner 1982). Generally, Desert Scrub habitats have low species diversity (Burk 1977); however, many plant species are found in the habitat. These species include catclaw acacia, desert agave, coastal bladderpod, white brittlebush, burrobush, white bursage, barrel and hedgehog cactus, branched pencil and teddybear cholla, Palmer's coldenia, Wiggins croton, desert globemallow, jojoba, littleleaf krameria, ocotillo, beavertail pricklypear, Douglas and rubber rabbitbrush, desert sand verbena, desert senna, squaw waterweed, Anderson's wolfberry, and Mojave yucca (Bradley and Deacon 1967, Munz 1974, Cheatham and Haller 1975, Küchler 1977, Paysen et al. 1980, Parker and Matyas 1981). Forbs and grasses may include triangle evening primrose, galleta, big galleta, galletagrass, and spanishneedles (Paysen et al. 1980).

Other Classifications-- Other names for Desert Scrub habitats include Low Desert Scrub - 3.4 (Cheatham and Haller 1975), Creosote Series (Parker and Matyas 1981), Creosotebush - 8 (Munz and Keck 1970)(No Munz and Keck 1970 in Habitat Lit Cite. I did not put a Lit Cite for this at end.), Creosotebush Series (Paysen et al. 1980), Mojave Creosotebush - 41, Sonoran Creosotebush - 42 (Küchler 1977), Rabbitbrush Series, Buckwheat Series (Parker and Matyas 1981), Croton Series (Paysen et al. 1980, Parker and Matyas 1981), Croton Series (Paysen et al. 1980, Parker and Matyas 1981), Encelia Series, Ambrosia Series, Coldenia Series (Paysen et al. 1980) and Partially Stabilized and Stabilized Desert Dunes - 2.3 (Cheatham and Haller 1975).

Habitat Stages

Vegetation Changes-- 1;2 4:5-M. After disturbance, Desert Scrub habitats proceed

slowly through succession. No definitive recovery rates are known. This habitat may exist as any of structural classes 1;2-4:S-M. Seedling survival depends on moisture levels and competition for available moisture (Vasek and Barbour 1977).

Duration of Stages-- Little is known about persistence of successional types. Time spent within a stage probably is related to soil and climatic conditions. Mature creosotebushes may persist for thousands of years through cloning (Vasek and Barbour 1977). Succession time estimates range in excess of several hundred years for severely disturbed areas.

Biological Setting

Habitat-- Desert Scrub habitats occur at relatively low elevations. They grade into Joshua Tree (JST) and Pinyon-Juniper (PJN) habitats at higher elevations. At similar elevations, Desert Scrub habitats border on Desert Wash (DSW), Desert Riparian (DRI), Palm Oasis (POS), Desert Succulent Shrub (DSS), and Alkali Scrub (ASC).

Wildlife Considerations-- Desert shrub habitats support a variety of wildlife species. Presence of standing water in winter and growth of herbaceous plants in spring, provide foraging areas and food for species in these seasons. Primary resident species are reptiles or rodents, however other taxa are represented. Typical species include Couch's spadefoot toad, desert tortoise, a variety of lizards and snakes including the desert iguana and common kingsnake, black-throated sparrow, various pocket mice and kangaroo rats, kit fox, coyote and bobcat.

Physical Setting

Desert Scrub habitats are well developed on valley floors and lower bajadas (Bradley and Deacon 1967, Cheatham and Haller 1975, Burk 1977, Parker and Matyas 1981). Soils are well drained and coarse (Cheatham and Haller 1975, Parker and Matyas 1981 Turner 1982). Creosotebush is excluded from dense soils (Vasek and Barbour 1977). Salt content in the soil ranges from low (Burk 1977) to high concentrations of calcium carbonate and other salts. These high concentrations of salts form a hardpan as a subsurface (Bradley and Deacon 1967). Creosotebush size is related to soil depth (Burk 1977); whereas, plant density increases with increased annual precipitation (Vasek and Barbour 1977). Annual precipitation ranges from 4.2 to 30 cm (1.6 to 12 in) (Rowlands et al. 1982, P. G. Rowlands pers. comm. Winter temperatures are cool, with lowest January temperatures ranging from 10 to 6 C (14 to 43 F); summers are warm to hot, with highest July temperatures ranging from 30 to 47 C (86 to 117 F) (Rowlands et al. 1982, P. G. Rowlands pers. comm.).

Distribution

Desert Scrub, the most widespread habitat in the California deserts, generally is found below 1220 m (4000 ft), but may occur 300 m (1000 ft) higher on south-facing slopes (Turner 1982). Occasionally, this habitat may reach 1825 m (6000 ft) (Bradley and Deacon 1967). Desert Scrub habitats are found in California throughout the Mojave and Sonoran deserts at suitable elevations.

Literature Cited

- Bradley, W. G., and J. E. Deacon. 1967. The biotic communities of southern Nevada. Pages 201-295 in
- Burk, J. H. 1977. Sonoran desert vegetation. Pages 869-889 in M. C. Barbour and J. Major, eds. *Terrestrial vegetation of California*. John Wiley and Sons, New York.
- Cheatham, N. H., and J. R. Haller. 1975. An annotated list of California habitat types. Univ. of California Natural Land and Water Reserve System, unpubl. manuscript
- Kuchler, A. W. 1977. Appendix: the map of the natural vegetation of California. Pages 909-938 In M. G. Barbour and J. Major, eds, *Terrestrial vegetation of California*. John Wiley and Sons, New York.
- Munz, P. A. 1974. *A flora of southern California*. Univ. of California Press, Berkeley.
- Parker, I., and W. J. Matyas. 1981. CALVEG: a classification of Californian vegetation. U.S. Dep. Agric., For. Serv., Reg. Ecol. Group, San Francisco.
- Paysen, T. E., J. A. Derby, H. Black, Jr., V. C. Bleich, and J. W. Mincks. 1980. A vegetation classification system applied to southern California. U.S. Dep. Agric., For. Serv., (Berkeley, Calif.) Gen. Tech. Rep. PSW-45.
- Rowlands, P., H. Johnson, E. Ritter, and A. Endo. 1982. The Mojave Desert. Pages 103-162 In G. L. Bender, ed. *Reference handbook on the deserts of North America*. Greenwood Press, Westport, Conn.
- Turner, R. M., and D. E. Brown. 1982. 154.1 Sonoran desertscrub. Pages 181-221 In D. E. Brown, ed. *Biotic communities of the American southwest-United States and Mexico*. Desert Plants 4.
- Vasek, F. C., and M. G. Barbour. 1977. Mojave Desert shrub vegetation. Pages 835-867 In M. G. Barbour and J. Major, eds. *Terrestrial vegetation of California*. John Wiley and Sons, New York.