

East Slope Vegetation Surveys

Eleven upland transects were installed using the same points generated for the location of the wildlife cameras. Additionally, 2 riparian transects were established in Bear Creek and Deer Creek. The method used for the upland transects was the same used in the Park's long term vegetation monitoring program. The method used for the riparian transects was the same used in the monitoring of Rincon Creek. Both methods determine the percent cover and species composition of the transect.

Upland Transects

Transects #10, #3, #8, and #2 are located in pine-oak forest communities. The canopy cover is dominated by Mexican pinyon pine (*Pinus cembroides*), and a variety of oak species (*Quercus arizonica*, *Q. emoryi*, *Q. hypoleucoides*, *Q. toumeyii*). These forested areas have between 5%-15% herbaceous composition, and a somewhat larger shrub component. These transects are located on steep slopes (>35%).

Transects #7, #20, #1, and #18 are located in dense chaparral communities. These shrub thickets are dominated by manzanita species (*Arctostaphylos pungens* and *A. pringeli*), and Yerba santa (*Eriodictyon angustifolium*). Unlike the forested communities, these chaparral areas have a substantial native grass component. The herbaceous plants are usually found in the open spaces between the dense shrubs. Three of these transects are located on steep slopes (>35%), and one is on a gentle slope (15%).

Transects #15, #16, #5, and #9 are located in desert grassland communities. These areas are dominated by a variety of native perennial bunch grasses. Summer annual grasses were also well represented. The dominant grass species intercepted in these transects was bull grass (*Muhlenbergia emersleyi*). This large perennial grass typically composed 10%-15% of the species encountered on the transects. However, it did compose over 30% on transect #9. The grassland transects had a greater percentage of summer annuals than the forested or chaparral transects. Shrubs were usually present in small numbers, and trees were either non-existent or minimally represented on these transects. These transects are located on slopes from 3%-30%.

Non-Native Species

Non-native species represented less than 1% (.28%) of all the species intercepted on the transects. Exotic species observed, but not necessarily intercepted, include natal grass (*Rhynchelytrum repens*), Lehman's lovegrass (*Eragrostis lehmanniana*), goosegrass (*Galium aparine*), and one salt cedar plant (*Tamarix* sp). The tamarix plant was removed from Deer Creek, and the GPS coordinates were recorded for future visits. The majority of exotic populations were observed in close proximity to the two hiking trails or large drainages.

Riparian Transects

The riparian zones located in Bear Creek and in Deer Creek appear to be in transition from a once wetter zone to a drier one. Within these transects, there is evidence of historic riparian woodland communities. There are a few large, multistemmed individuals of obligate riparian species such as Az. sycamore (*Platanus wrightii*), Az. Ash (*Fraxinus velutina*), willow (*Salix goodingii*), and cottonwood (*Populus fremontii*). However, there does not appear to be recruitment of young individuals of these species. Recent recruitment in these areas has been dominated by upland species such as Az. white oak (*Q. arizonicus*), and manzanita (*A. pungens*), or the less water intensive, riparian species, deer grass (*Muhlenbergia rigens*). Canopy coverage is still dominated by the older and larger riparian individuals. However, the community composition is dominated by upland species.

Upland Transect Communities



Chaparral



Forest



Grassland

Deer Creek Riparian Transect



looking downstream to transect



from above