

Appendix A

Description of Natural Communities

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Creosotebush-Bursage Desert Scrub

Ecological Characteristics

Description and Composition

The *Creosotebush–Bursage Desert Scrub* community occupies the lowest elevations on the SDNM covering desert flats, valley bottoms and lower portions of bajadas that extend considerable distances from the desert mountain ranges of the Monument.

Larrea divaricata tridentata is the obvious dominant plant species in this community. It has the highest mean cover (7.92%) and the highest constancy (97.7%) of any native plant species occurring in our natural community plots that were located in this community. *Ambrosia deltoidea* is the second-most common shrub species in this community, occurring in 42.5% of the plots with a mean cover of 0.84% in our field plots. *Schismus arabicus* is the most common annual in this community, occurring in 93.1% of our plots with an average cover of 11.11%. At nearly all sites within this natural community, there is less than 3% cover of leguminous tree species (*Parkinsonia microphylla*, *Olneya tesota* and/or *Prosopis velutina*). This scarcity of leguminous trees plus the lower abundance of cacti species are the primary factors distinguishing the *Creosotebush–Bursage Desert Scrub* community from the adjacent *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community.

The *Creosotebush–Bursage Desert Scrub* community often has low species diversity compared to other natural communities on the SDNM, though the species diversity often increases substantially during the spring annual bloom. Annual plants and grasses can be an important component of this community, but because the blooming period for annuals is so short in the Sonoran Desert's lower elevations, perennial shrubs and herbs play a much more important

temporal role in this community throughout the year. The mean overall vegetative cover of all the field plots in this community following the spring bloom was 50%.

Larrea divaricata tridentata is perhaps the most ubiquitous plant in the Sonoran Desert. It has wide ecological amplitude – covering the low elevation desert flats and occurring at the highest elevations in the mountains of the SDNM. It can be found in the driest areas of the monument and it is also found lining the intermittent stream channels as part of the xeroriparian scrub communities. In that light, it makes a poor indicator plant. *Ambrosia deltoidea* also has wide ecological amplitude, occurring in nearly all the natural communities in the SDNM. The clear dominance of these two species is a unique feature of the *Creosotebush–Bursage Desert Scrub* community. The near absence of many other species that characterize other natural communities in the Sonoran Desert is also apparent when examining sites in the *Creosotebush–Bursage Desert Scrub* community.

Other species that were found during initial field sampling in this community include (in order of constancy in our field plot data): *Lepidium lasiocarpum*, *Plantago ovata*, *Lesquerella gordonii*, *Amsinckia intermedia*, *Chorizanthe rigida*, *Chaenactis stevioides*, *Eriophyllum lanosum*, *Caulanthus lasiophyllus*, *Erodium cicutarium*, *Erodium texanum*, *Pectocarya* spp., *Chorizanthe brevicornu*, and *Prosopis velutina*.

Structure

This community is composed of a medium to sparse cover of medium-size to small shrubs (primarily *Larrea divaricata tridentata*). Sometimes there is an extremely sparse overstory of small trees (*Parkinsonia microphylla*, *Olneya tesota*, *Prosopis velutina*) and a few large cacti (*Carnegiea gigantea*) – particularly where this community is transitional to the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community. The total average tree cover in our field plots within this community was 2.47%. Under and between the small shrubs is a patchy cover of herbs and grasses – often dramatically increased during certain times of the year by annuals. The dominant ground cover in the community is gravel, sand and soil that form the surface of the lower bajadas and the desert flats. This matrix community covers extensive areas of the SDNM. The *Valley Xeroriparian Scrub* community, occurring along the numerous meandering large and small drainages, dissects this community.

Function and Disturbance Processes

Active geomorphic processes affect this community. These processes include debris flows, gully and surface erosion, and wind erosion. Some of these geomorphic processes are continually active and others are episodic. Episodic high intensity rainstorms and associated erosion processes have a persistent effect on these communities. Sheet wash during rainstorms carries fine soil particles from the soil surface and into small intermittent channels. Gully erosion during these events continually widens and deepens the channels – supporting the gradual extension and expansion of the *Valley Xeroriparian Scrub* community into the *Creosotebush–Bursage Desert Scrub* matrix community. Debris flows also may influence some areas within this community if an active bajada is present. On active bajadas, debris flows can deposit new alluvium to the surface of the bajada during peak flow events. Other areas of the bajada can be eroded during these events and the ephemeral streams and associated xeroriparian areas, which

dissect the bajada, can change course during storm events. Many bajadas are not subject to active deposition at this time and the streams that once deposited alluvium on their surface are now deeply incised into the bajada. These older bajadas are still subject to gully and surface erosion during storms and to wind erosion. The composition of the *Creosotebush–Bursage Desert Scrub* community may vary with the age of the surface and the composition of the substrate.

Landscape Context

The *Creosotebush–Bursage Desert Scrub* natural community is the most prevalent community in the study area, occupying nearly 108,800 hectares. It forms the primary matrix community of the Sonoran Desert ecoregion (Figure 1). Areas that are distant from mountain ranges generally have the finest textured soils. These desert flats are often covered with a sparse cover of *Larrea divaricata tridentata* and few other species (Figures 2 and 3). Sites that are closer to the mountains generally have higher species diversity and become transitional to the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community (Figure 4). Some sites have little *Larrea* and are dominated by Bursage (*Ambrosia* spp.) (Figure 5).



Figure 1. Landscape view of a typical Creosotebush-Bursage community. Notice the linear Valley Xeroriparian Scrub community patches within the matrix Creosotebush-Bursage community.



Figure 2 Phase 1 Plot 122. Creosotebush flat near Mobile, AZ in the northeastern portion of the SDNM. This area is distant from the Maricopa Mountains and has low species diversity.



Figure 3. Phase 1 Plot 96. Creosotebush community and desert pavement south of the Freeman exit on Interstate 8. This plot is in the valley between the Maricopa Mountains and the Sand Tank Mountain. It also has low species diversity.

Examples of Baseline Conditions

There are many good examples of the *Creosotebush–Bursage Desert Scrub* community on the Monument. Some examples are illustrated below (Figures 4-5).



Figure 4. Phase 1 Plot 86. *Creosotebush–Bursage Desert Scrub* community north of Javelina Mountain in an area where it transitions to the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community. Most of the cacti and leguminous trees are located in small draws, while the interfluvial areas are covered with desert pavement, creosotebush, triangle-leaved bursage and other small shrubs and cacti.



Figure 5. Phase 1, Plot 121. Bursage dominated desert flat north east of Gila Bend. This plot is closer to the Maricopa Mountains and has higher species diversity than the community illustrated in Figure 1.

Mapping Methods, Biophysical Modeling Parameters and Discussion of Previous Mapping Efforts

The extent of the *Creosotebush–Bursage Desert Scrub* natural community in our map of natural communities of the SDNM is significantly different from its extent in the map provided to us by TNC at the beginning of the project. In that map, the extent of the *Creosotebush–Bursage Desert Scrub* community was based on the GAP Analysis statewide vegetation map. Our fieldwork along with interpretation of DOQQs and satellite imagery revealed that there are significant areas of *Creosotebush–Bursage Desert Scrub* in the Vekol Valley and other areas south of Interstate 8 that were mapped as the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community in the GAP vegetation map and subsequently in TNC's initial map. There are also significant areas delineated in those maps as *Paloverde - Mixed Cacti - Mixed Scrub* north of Interstate 8 but these are more appropriately mapped as *Creosotebush-Bursage Desert Scrub*.

In the northern part of the SDNM and in some other areas of the Monument, there are areas mapped as *Creosotebush-Bursage Desert Scrub* that have little resemblance to that community and are more appropriately mapped as a *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* or a *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* community. We incorporated all these revisions in our map of natural communities of the SDNM.

We developed a GIS model to predict the distribution of the *Creosotebush–Bursage Desert Scrub* community. This model is based on the spectral characteristics of a Landsat TM7 satellite image and digital elevation data. Several spectral classes from an unsupervised classification of

the image corresponded to the *Creosotebush–Bursage Desert Scrub* community. Its distribution was further confined to areas below 685 meters elevation and to desert flats or bajadas with less than 3 degrees slope.

This model predicts the distribution of this community better than the GAP mapping, but its accuracy was still less than desired. The distribution of this community was further refined by careful interpretation of the DOQQs. We determined the community was *Creosotebush–Bursage Desert Scrub* if less than 5% cover of leguminous trees was visible in the DOQQ imagery. Fortunately, individuals and clumps of the larger leguminous trees can be seen in the digital aerial imagery. This is similar to the approach taken by Jim Malusa on the Cabeza Prieta NWR (personal communication). During this aerial photo interpretation process, we referred to our predictive model and the GAP distribution frequently to facilitate the delineation of the boundaries of this community. The most difficult separation between the *Creosotebush–Bursage Desert Scrub* community and other communities is where it grades into the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community.

Many of the revisions that we made in the GAP vegetation map and TNC's initial map are reflected in the boundary between the Lower Colorado Subdivision and Arizona Upland Subdivision of the Sonoran Desertscrub as mapped by Brown and Lowe (1980). Their rough boundaries correspond fairly well to our boundaries between the *Creosotebush–Bursage Desert Scrub* community and the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community – particularly where we made significant revisions in the Vekol Valley and in the area between Gila Bend and the South Maricopa Mountains. Brown and Lowe's map is generalized, but it does appear to support some of the modifications in vegetation boundaries that we have made.

Further refinement of the separation between the *Creosotebush–Bursage Desert Scrub* community and the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community is possible, but not within the time and budget constraints of this project. There is considerable variation in composition and structure within *Creosotebush–Bursage Desert Scrub* community and many variants exist. There are a few areas on some of the steep, rocky slopes that have a similar composition to the *Creosotebush–Bursage Desert Scrub* community but these were considered inclusions within the *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* community.

Relationship to Plant Community Classification Systems

This community falls within Brown and others' (1979) *Creosotebush – Bursage* series (154.11). It corresponds with the *Larrea tridentata* Shrubland alliance, Evergreen Shrubland formation of the National Vegetation Classification (TNC 1998).

Paloverde - Mixed Cacti - Mixed Scrub on Bajadas

Ecological Characteristics

Description and Composition

This community is included within the Arizona Upland series of Sonoran Desertscrub vegetation (Brown 1994, Brown and Lowe 1980). It occupies the upper bajadas that extend out from the desert mountains in the SDNM and is characterized by a diverse mixture of leguminous trees, large and small cacti, shrubs, herbs and grasses.

This community has some compositional similarities to the adjacent *Creosotebush–Bursage Desert Scrub* and the adjacent *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities, but it also has significant differences in species presence and abundance. This community is normally found sandwiched in between these two other communities. *Larrea divaricata tridentata* is the dominant plant and has a mean cover of 5.51% and a constancy of 100% in our field plots. *Ambrosia deltoidea* is found at nearly all sites with 97.1% constancy and 4.69% mean cover. *Parkinsonia microphylla* has the highest constancy for tree species at 71.4%, and has a mean cover of 3.05%. It is one of the most characteristic species of this community. Another distinct canopy feature of this community is the presence of *Carnegiea gigantea*, which occurs in 65.7% of our plots with a mean cover of 0.4%. Other species that occur in over half of our field plots include: *Lepidium lasiocarpum*, *Chorizanthe brevicornu*, *Cylindropuntia acanthocarpa*, *Plantago ovata*, *Caulanthus lasiophyllus*, *Cryptantha pterocarya*, *Cryptantha maritime*, *Lesquerella gordonii*, *Krameria grayi*, *Chorizanthe rigida*, *Fouquieria splendens*, and *Amsinckia intermedia*. At most sites within this natural community there is over 5% cover of leguminous tree species (*Parkinsonia microphylla*, *Olneya tesota* and/or *Prosopis velutina*) along with numerous other shrubs and cacti. *Phoradendron californicum* is a common epiphytic parasite associated with the overstory of leguminous trees, and is commonly found in the tree canopy of this community.

A major difference between this community and the similar community found on rocky slopes (*Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes*) is the infrequent occurrence of *Lycium* species and the low abundance of *Encelia farinosa farinosa*, which are both common on rocky slopes. On the bajadas, the mean cover and constancy of *Parkinsonia microphylla* and *Carnegiea gigantea* are considerably less than that found on the rocky slopes.

Structure

This community is composed of a sparse overstory of small trees (*Parkinsonia microphylla*, *Olneya tesota*, *Prosopis velutina*) and large cactus (*Carnegiea gigantea*), and a patchy understory of smaller shrubs, cacti, herbs and grasses. The total average tree cover in our field plots within this community was 5.62%, significantly more than in the *Creosotebush–Bursage Desert Scrub community*. The dominant ground cover in the community is gravel and boulders deposited during debris flows, along with sand and soil that form the surface of the bajada. Large patches of this community are found throughout the SDNM. The *Valley Xeroriparian Scrub* community extends though these large patches along the many sinuous, intermittent drainages.

Function and Disturbance Processes

Active geomorphic processes affect this community. These processes include debris flows, gully and surface erosion, and wind erosion. Some of these geomorphic processes are continually active and others are episodic. Debris flows are the most important geomorphic process that is responsible for forming the bajada. On active bajadas these flows can deposit new alluvium to the surface of the bajada during peak flow events. Other areas of the bajada can be eroded during these events and the ephemeral streams and associated xeroriparian areas, which dissect the bajada, can change course during storm events. Many bajadas are not subject to active deposition at this time and the streams that once deposited alluvium on their surface are now deeply incised into the bajada. These older bajadas may still be subject to gully and surface erosion during storms and to wind erosion. The plant communities that form on the bajada surface vary considerably depending on the age of the bajada, whether it is an active bajada, and the type of material that forms the surface layers of the bajada.

Landscape Context

The *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* natural community is the third most prevalent community in the study area, occupying over 61,400 hectares. It forms the “matrix” of the Arizona Uplands subdivision of the Sonoran Desert ecoregion (Hall et al 2001). This community characterizes the alluvial fans (bajadas) that surround the mountain ranges and larger desert hill complexes. There is usually an abrupt transition to the *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slope* community at the slope break between the bajada and the rocky slope (usually at 5-6 degrees). The lower transition to the *Creosotebush–Bursage Desert Scrub* community is often less obvious and these two communities often grade into each other. The *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community is usually found on slightly steeper slopes and at slightly higher elevations than the *Creosotebush–Bursage Desert Scrub* community. The soils of this community are generally coarse-textured and formed from rocky and gravelly alluvium. There is considerable caliche on or near the surface of the older bajadas.

Examples of Baseline Conditions

There are numerous excellent examples of the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community on the SDNM and near the Sand Tank Mountains. Figure 4 illustrates an area that is transitional between *Creosotebush–Bursage Desert Scrub* and *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* north of the Sand Tank Mountains. Figure 6 illustrates a more fully developed *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community in the same area. An area at the base of the South Maricopa Mountains where this community is more fully developed is illustrated in Figure 7. Figure 8 illustrates an extensive patch of this community occurring on older, dissected bajadas extending north from Javelina Mountain.



Figure 6. West of Phase 1 Plot 86. Excellent example of a fully developed *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* natural community.



Figure 7. *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community north of Bighorn Peak.



Figure 8. Extensive old dissected bajada with *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community north of Javelina Mountain. Table Top Mountain in far distance.

Mapping Methods and Biophysical Modeling Parameters

The extent of the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* natural community in our map is significantly different from its extent in the map provided to us by TNC at the beginning of the project. As described in the section above, a significant portion of the area mapped in the GAP vegetation map and TNC's initial map is more accurately mapped as *Creosotebush–Bursage Desert Scrub*. We also found that there were some areas mapped as *Creosotebush–Bursage Desert Scrub* that have little resemblance to that community and are more appropriately mapped as a *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas*.

Our GIS model that predicts the distribution of the *Creosotebush–Bursage Desert Scrub* community also predicts the distribution of the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community with slight modifications. Several spectral classes from an unsupervised classification of the Landsat TM image corresponded to the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community. Its distribution was further confined to slopes less than 6 degrees but greater than or equal to 3 degrees and areas less than 1200 meters but over 250 meters in elevation.

This model predicts the distribution of this community better than the GAP mapping, but we further refined its distribution through careful interpretation of the DOQQs. The model may be useful for large scale landscape planning, but should not be used for projects that require high

accuracy of vegetation type determination. During this photo interpretation process, we referred to our predictive model and the map provided by TNC frequently to facilitate the delineation of the boundaries of the community. Through photo interpretation, we determined if the community was *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* when it had at least 5% cover of leguminous trees visible in the DOQQ imagery. Fortunately, one can see individuals and clumps of the larger leguminous trees in the digital aerial imagery. This is similar to the approach taken by Jim Malusa on the Cabeza Prieta NWR (personal communication). As described in the section above, the most difficult separation between the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community and other communities on the SDNM is where it grades into the *Creosotebush–Bursage Desert Scrub* community.

Relationship to Plant Community Classification Systems

This community falls within Brown and others' (1979) Paloverde – mixed cacti series (154.12). It includes many alliances within the Evergreen Shrubland formation of the National Vegetation Classification, including *Ambrosia deltoidea* Shrubland alliance, *Carnegiea gigantea* Wooded Shrubland alliance, *Parkinsonia florida* Shrubland alliance, and *Opuntia bigelovii* Shrubland alliance (TNC 1998).

Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes

Ecological Characteristics

Description and Composition

This community has some compositional similarities to *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* but it has significant differences in species presence and abundance. *Parkinsonia microphylla* dominates this community with the highest mean cover (6.02%) and the highest constancy (92.2%) of any plant. *Ambrosia deltoidea* dominates the understory in many areas and has a mean cover of 3.32% and constancy of 67.2% in our field plots. Perhaps the best indicator species for this community is *Encelia farinosa farinosa*, which occurs in relatively high abundance in most areas (mean cover = 2.72%, constancy = 73.4%). This species rarely occurs on the bajadas as a significant component of the plant community and is not common in the other natural communities on the SDNM. Other species that are common in this community include (in order of constancy in our field plot data): *Lepidium lasiocarpum*, *Schismus arabicus*, *Fouquieria splendens*, *Cylindropuntia acanthocarpa*, *Carnegiea gigantea*, *Cryptantha pterocarya*, *Larrea divaricata tridentata*, *Chorizanthe brevicornu*, *Lycium spp.*, *Vulpia octoflora*, *Krameria grayi*, and *Caulanthus lasiophyllus*.

This community has considerable variation that is dependent on aspect, slope, elevation and geologic parent material. One of the most significant variants occurs on northerly facing slopes, primarily in granitic mountains. On these rocky slopes *Selaginella arizonica* is often the dominant plant, covering 20% to 60% of the ground surface (Figure 9). While *Parkinsonia microphylla* is usually present on these north facing rocky slopes, it is often less abundant than elsewhere and *Carnegiea gigantea* is often nearly absent.



Figure 9. Phase 1 Plot 90. Selaginella–paloverde dominated community on rocky slope north of Javelina Mountain.

Structure

This community is composed of a sparse overstory of small trees (*Parkinsonia microphylla* and *Olneya tesota*) and large cactus (*Carnegiea gigantea*) and a patchy understory of smaller shrubs, cacti, herbs and grasses. The total average tree cover in our field plots within this community was 6.54%. The dominant ground cover in this community is the rock (bedrock and colluvium) that forms the rocky slope. Large patches of this community are found throughout the SDNM in all the mountainous regions. The *Mountain Xeroriparian Scrub* community extends through these large patches in the steep and narrow mountain drainages.

Function and Disturbance Processes

Active geomorphic processes affect this community. These processes include rock cracking and spalling, downhill soil and rock creep, gully and surface erosion, wind erosion and possibly occasional landslides during peak storm events. Some of these geomorphic processes are continually active and others are episodic. Water is stored in the cracks between rocks and in the shallow soil. Many of the plants that thrive in this community are adapted to utilize the moisture stored in the cracks in the fractured bedrock and colluvium.

Landscape Context

This community forms the core of the study area and is the second most extensive natural community, covering over 81,600 hectares. Figure 10 is a landscape view of this community. It is surrounded by the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* and *Creosotebush–*

Bursage Desert Scrub communities, which cover the lower elevations of the Sonoran Desert. This community occupies nearly all the mountain slope terrain above the bajada / mountain slope transition, which usually occurs abruptly at about 5 to 6 degrees slope. Only at the highest elevations in the Monument does this community give way to the *Mountain Upland* community.

Examples of Baseline Conditions

There are numerous excellent examples of this community in the study area. Figure 11 illustrates one example in the Sand Tank Mountains where vegetation cover is relatively high. A more typical example of this community where vegetation cover is significantly lower is illustrated in Figure 12 in the North Maricopa Mountains.



Figure 10. Landscape view of the *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* community in the SDNM. Notice the even distribution of leguminous trees (mainly *Parkinsonia microphylla*) throughout the community.



Figure 11. Excellent example of densely vegetated *Paloverde - Mixed Cacti - Mixed Scrub* community on northeast facing rocky slopes south of Johnson Well in the Sand Tank Mountains.



Figure 12. Phase 1 Plot 1, west of Mobile in North Maricopa Mountains. More sparsely vegetated *Paloverde - Mixed Cacti - Mixed Scrub* community on east facing slope, granite bedrock.

Mapping Methods and Biophysical Modeling Parameters

The *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community was initially mapped by TNC on slopes that were greater than 25 degrees. Our analysis of the DOQQs and all our fieldwork indicate that this community extends down to about 5 or 6 degrees and that there is nearly always an abrupt slope break at this point where the bajadas start. The NRCS soil mapping also clearly indicates where this natural community is separated from the *Paloverde - Mixed Cacti – Mixed Scrub on Bajadas* community. For most of the SDNM, we used polygons from the NRCS soil GIS layer to delineate the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community with minor adjustments and improvements based on field data and interpretation of the DOQQs. In the Area-A part of the SDNM and in the adjacent Sand Tank Mountains no soil data exists and we delineated this community based on the slope break discussed above and more extensive interpretation of the DOQQs and field data.

It should be noted that small areas with slopes less than 6 degrees are present in the mountains (on summits, plateaus or other relatively flat areas) and were not separated from the rocky slope matrix community. These areas are nearly all rocky and have similar composition to the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community with few exceptions.

During our fieldwork, we noted significant differences in the species composition of this community on north and south-facing aspects. The more typical community composition occurs on south, east and west aspects. But on more northerly aspects the species composition shifts significantly. As discussed above, *Selaginella arizonica* becomes one of the dominant plants (often with over 20% ground cover). *Carnegiea gigantea* often drops out of the community on north slopes and grass is often much more abundant. Because of these compositional differences, this forms a distinct variant of the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community. Other variants within the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community are discussed in the Results section of this report (see Variation within the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community).

Relationship to Plant Community Classification Systems

This community falls within Brown and others' (1979) *Paloverde – mixed cacti* series (154.12). It includes many alliances within the Evergreen Shrubland formation of the National Vegetation Classification, including *Parkinsonia microphylla* Shrubland alliance, *Ambrosia deltoidea* Shrubland alliance, *Carnegiea gigantean* Wooded Shrubland alliance, *Simmondsia chinensis* Shrubland alliance, *Encelia farinosa* Shrubland alliance, and *Opuntia bigelovii* Shrubland alliance (TNC 1998).

Mountain Uplands

Ecological Characteristics

Description and Composition

The *Mountain Uplands* are characterized by the presence of several species that are only found in the cooler and moister habitats of the highest mountains and their north facing slopes. *Canotia holacantha* is probably the best indicator plant of this upland community. It occurred in 69.4% of our upland field natural community plots and had an average cover of 3.84%, but was

absent from all the other communities described in this study. *Ephedra aspera*, *Yucca baccata*, and *Agave deserti simplex* are other common plants that are largely confined to the upland plant community. *Juniperus coahuilensis* and *Berberis harrissonia* have been reported in the Sand Tank Mountains (Felger et al 1997, Hall et al 2001), but were not observed during our field reconnaissance. However *Vauquelinia californica ssp. sonorensis* and *Quercus turbinella* were observed in limited areas within the Sand Tank Mountains. These four species appear to be confined to a limited number of sites within the *Mountain Uplands*.

The *Mountain Uplands* are characterized by their extensive cover of perennial grasses. On the average, around 10% of the ground surface of our field plots had perennial grass cover. The primary species that were commonly found in the upland communities include *Muhlenbergia porteri*, *Pleuraphis mutica*, and *Tridens muticus* (Turner et al 2000).

The *Mountain Uplands* are also characterized by a relatively high cover (3.15%) and constancy (61.11%) of *Opuntia* spp. *Fouquieria splendens splendens* was also found in 75% of our field plots and had an average cover of 1.66%.

Other species that are common in this community include: *Larrea divaricata tridentata*, *Parkinsonia microphylla*, *Echinocereus* spp., *Rhynchosia texana*, *Yucca elata*, *Carnegiea gigantea*, *Selaginella arizonica*, *Acacia constricta*, *Ferocactus* spp., *Mammillaria grahamii*, *Lycium* spp., and *Calliandra eriophylla*.

Structure

A unique feature of the *Mountain Uplands* is the high overall vegetative cover of perennial plants (59.8% mean cover in our field plots). These include small trees, large and small shrubs, cacti, perennial herbs and grasses. Tree cover (1.1%) is considerably less than that on the lower rocky slopes, and tree stature is also considerably less. Annuals are present but were not included in the above cover estimate because of the timing of our fieldwork.

Function and Disturbance Processes

Like the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community, active geomorphic processes affect the *Mountain Uplands*. These processes include rock cracking and spalling, downhill soil and rock creep, gully and surface erosion, wind erosion and infrequent landslides during peak storm events. Some of these geomorphic processes are continually active and others are episodic. Water is stored in the cracks between rocks and in the shallow soil. Many of the plants that thrive in this community are adapted to utilize the moisture stored in the cracks in the fractured bedrock and colluvium.

The *Mountain Uplands* are one of the few natural communities on the SDNM that experience regular freezing temperatures in the winter. Infrequent snow also occurs. This community is also subjected to desiccation by regular high winds. Cold temperatures limit plant growth during the late fall, winter and early spring months. Persistent and regular cloud cover appears to affect this community (Figure 13) and may help maintain higher plant moisture levels than in other communities on the SDNM. While this community is not a cloud forest, it appears that some of the same factors that influence the formation of cloud forests may operate in this community as well – at least during the cooler part of the year.



Figure 13. Persistent cloud over Table Top Mountain. Lower elevation limit of cloud is near that of the lower limit of the *Mountain Upland* community. Regular cloud formations at this level may be one factor that influences the development of the mountain upland natural community. The *Mountain Upland* community is enveloped by the cloud. Below the cloud level is the *Paloverde - Mixed Cacti - Mixed Scrub* community on rocky slopes and below that (in the foreground) the *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* community.

Wildfire may be an infrequent event in the *Mountain Upland* community, but little is known about the fire return interval. This community is unlike all other non-riparian communities in the SDNM. It has a high level of vegetative cover (nearly 60%), resulting in sufficient fuel to carry and sustain a wildfire. Another factor that may affect the fire return interval is the tendency for mountaintops to attract lightning. This community may have both the necessary fuel and the ignition source to support more frequent fire than other communities in the SDNM.

Landscape Context

The *Mountain Upland* community occupies a small portion of the study area (2,302 ha). Examples of this community can be found at the higher elevations in the Sand Tank Mountains, on Table Top Mountain and at a few locations on slightly lower mountains to the north of Table Top.

The *Mountain Upland* community is surrounded by the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community and grades into this community at its lower boundary. There are

many similarities between these two communities and they share many species. In some areas there is a broad ecotone between these two mountain communities.

Examples of Baseline Conditions

Excellent examples of this community are illustrated in the photographs below (Figures 14-19). The best examples of this community are found on the upper north side of Table Top Mountain, the upper north side of Javelina Mountain/Maricopa Peak and at the highest elevations in the Sand Tank Mountains near Bender Spring.



Figure 14. Phase 1 Plot 7. *Mountain Upland* community near summit of Table Top. *Canotia holacantha* on right side, foreground.



Figure 15. Phase 1 Plot 81 north of Bender Springs Canyon in the Sand Tank Mountains. *Mountain Upland* community with abundant *Canotia holacantha* (the tall yellow-green shrubs occupying the middle portion of the photo).



Figure 16. *Mountain Upland* community on east side of Maricopa Peak, Javelina Mountain. Note the abundant *Canotia holacantha* on north facing slope in contrast to south slope dominated by vegetation typical of *Paloverde - Mixed Cacti - Mixed Scrub* communities on rocky slopes.



Figure 17. Closer look at *Mountain Upland* community on east side of Maricopa Peak.



Figure 18. Details of *Mountain Upland* community on east side of Maricopa Peak. Indicator species include *Canotia holacantha*, *Yucca baccata*, *Ephedra aspera* and *Agave deserti simplex*.



Figure 19. South slope near top of Maricopa Peak. Note the slight presence of species indicative of *Mountain Upland* community and the abundance of species typical of the *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* community. This area is considered transitional to the *Mountain Upland* community.

Mapping Methods and Biophysical Modeling Parameters

We revised the extent of the *Mountain Upland* communities initially mapped by TNC in the Sand Tank Mountains (Hall et al 2001) and Table Top areas based in part on the lower elevation limit of *Canotia holacantha* and *Vauquelinia californica sonorensis* that was documented by Turner and others (1995). In TNC's mapping, the *Mountain Upland* community extended down to 792 meters in elevation, without regard to aspect.

While occasional occurrences of the indicator species may possibly occur at a few sites down to 792 meters in elevation, this is not a viable elevation limit for the *Mountain Upland* community in the SDNM and Sand Tank Mountains. All of our fieldwork indicates that this elevation limit is too low, particularly on south-facing slopes. We did find one *Canotia holacantha* stand at 848 meters in elevation on a steep, north-facing slope (Plot 66), but our reconnaissance field surveys indicate that the *Mountain Upland* communities are considerably more restricted than initially mapped by TNC.

The most significant biophysical modeling parameters that can be used to predict the occurrence of this community are the combination of aspect and elevation. Neither parameter suffices alone. The *Mountain Upland* community is largely constrained to north-facing slopes above 1000

meters. The community extends lower in elevation on the most northerly aspects, which are shaded, cooler and retain soil moisture for much longer periods than more southerly aspects. Freezing temperatures are also more common on these north aspect slopes. Based on our field observations, we developed a biophysical model implemented to predict the extent of the Mountain Upland community. Slightly different elevation breaks were used on Table Top Mountain than in the Sand Tank Mountains. The following conditions predict this community's extent with a reasonable degree of accuracy. All these conditions are designed to be implemented simultaneously, with the effect that the upland community wraps around the mountain at lower elevations on more northerly aspects.

Table Top Upland Conditions:

1. If elevation in feet is > 3900 then upland community exists on all aspects
2. If aspect is less than 130 or greater than 210 degrees then upland community extends down to 3800 feet
3. If aspect is less than 110 or greater than 260 degrees then upland community extends down to 3700 feet
4. If aspect is less than 80 or greater than 290 degrees then upland community extends down to 3400 feet
5. If aspect is less than 55 or greater than 330 degrees then upland community extends down to 3200 feet

Sand Tank Upland Conditions:

1. If elevation in feet is > 3800 then upland community exists on all aspects
2. If aspect is less than 130 or greater than 210 degrees then upland community extends down to 3700 feet
3. If aspect is less than 110 or greater than 260 degrees then upland community extends down to 3300 feet
4. If aspect is less than 80 or greater than 290 degrees then upland community extends down to 3000 feet
5. If aspect is less than 55 or greater than 330 degrees then upland community extends down to 2900 feet

The occurrence of the Mountain Upland community in the Sand Tank Mountains at lower elevations than at Table Top is probably due to greater precipitation in the Sand Tanks. This may be related to the large mountain mass that is present. The larger mountain mass may also result in slightly cooler temperatures.

On Table Top Mountain, the *Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes* community extends nearly to the summit of Table Top Mountain on the south-facing slopes. The same situation was observed on Javelina Mountain and Maricopa Peak in the Sand Tank Mountains. On north-facing slopes, the upland community is more extensive and extends down to about 1000 meters based on the distribution of *Canotia holacantha*. This elevation limit was observed during our fieldwork on Table Top Mountain and areas north of Table Top, on Maricopa Peak and Javelina Mountain, and in the Sand Tank Mountains near Bender Spring.

Some components of the upland community extend lower on the mountain slopes than *Canotia holacantha*. *Yucca baccata*, *Agave deserti simplex*, and *Ephedra aspera* (which are often

dominant plant species in the uplands) may occur at significantly lower elevations, but are never a major component of the lower elevation communities. The extent of the *Mountain Upland* community should include areas where these species form a major component of the plant community, even if *Canotia holacantha* and *Vauquelinia californica sonorensis* are absent.

In the southern part of the SDNM and adjacent Sand Tank Mountains, *Simmondsia chinensis* (jojoba) was observed on all aspects in the Bender Spring Canyon. This species was not found in other places on the SDNM during our fieldwork and may be a special component of the upland community in parts of the Sand Tanks. In xeroriparian areas it was found down as low as 835 meters in elevation.

Relationship to Plant Community Classification Systems

This community is within the Paloverde – mixed cacti series (154.12) of Brown and others (1979). It is not well described by any associations within that classification, or in the classification work of Warren and others (1981). Within the National Vegetation Classification System (NVCS), it broadly falls under the Evergreen Shrubland formation. It includes a number of alliances, based on dominant plant cover, which have not yet been named or added to the NVCS (TNC 1998).

Desert Grasslands

Nomenclature

Variations of the community this report refers to as *Desert Grasslands* have been described by a variety of authorities using a variety of descriptive titles: desert grasslands, desert shrub grassland, scrub-grassland, desert-grassland transition, or semi-desert grasslands (Brown, 1994). The title that best fits the description of the study area's particular grassland community is *Desert Grassland* (Turner, 2000). The principal justification for using this term is that this community occurs in a low precipitation zone within the Sonoran Desert. The environment within which these particular grasslands occur would be difficult to describe as a "semi-desert", and is more accurately referred to as a desert community. The semi-desert grasslands that Brown (1994) refers to primarily occur in eastern Arizona and New Mexico at much higher elevations (where precipitation is also higher). The grasslands in the study area exist in an arid environment with much less precipitation than the semi-grasslands described by Brown. They inhabit poorly drained desert valley bottom areas with significant hydrologic flow accumulation from surrounding uplands.

Ecological Characteristics

Description and Composition

Desert Grasslands are confined to the southeastern corner of the SDNM and adjacent lands in the TON. The grasslands occupy only 781 hectares in the study area. One species of grass, *Pleuraphis mutica* dominates this community to the exclusion of most other species (100% constancy and 15.23% mean cover). *Prosopis velutina* appears to be invading the grasslands from adjacent *Mesquite Woodland* communities and is quite common in some areas (Figure 21). The mesquite in the grasslands is often quite young, indicating recent invasion and establishment. Another bunch grass observed in this community was *Pleuraphis rigida*, with

7.7% constancy and .02% mean cover. Other plant species observed during the field survey of the grasslands included, *Lesquerella gordonii*, *Amsinckia* sp., *Erodium cicutarium*, *Monolepis nuttalliana*, *Koeberlinia spinosa*, *Larrea divaricata tridentata*, *Ferocactus* sp. and *Opuntia* spp

Brown (1994) describes the composition of desert (or semi-desert) grasslands throughout the Southwest in considerable detail. Additional fieldwork is needed in the grasslands of the study area to adequately describe their composition and condition.

Structure

The grasslands have a relatively simple structure, with one canopy layer of grasses where they have not been invaded by *Prosopis velutina*. Intensive grazing appears to have broken up this structure, leaving large and small bare areas scattered throughout the community. There are marked differences in structure in the TON as compared to the SDNM (Figures 20-22). Plots done on the SDNM part of the Desert Grasslands showed an average of 50% bare ground exposure.

Function and Disturbance Processes

Livestock grazing, periodic flooding and hydrologic alteration caused by spreader dikes constructed in this area all have a potential influence on the composition and structure of parts of this natural community. More investigation of these disturbance processes is necessary to determine their degree of influence.

Landscape Context

The *Desert Grassland* community occupies about 780 hectares in the study area. It lies in the upper part of the Vekol Valley in a flat valley bottom that receives considerable drainage and moisture from the surrounding mountains. The grasslands are now ringed and sometimes penetrated by mesquite stands, but are primarily a small patch community within the *Creosotebush–Bursage Desert Scrub* matrix community. Small areas of a rocky grassland type exist near the summit of Table Top Mountain and a few places in the Sand Tank Mountains – but these areas are considered inclusions within the *Mountain Upland* or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. Additional field investigation of some of these upland grass-dominated areas might lead to a conclusion they should be mapped as a type of grassland community.

Examples of Baseline Conditions

The best example of the Desert Grassland community in the SDNM is at the head of the Vekol Valley, extending southward into the TON (Figures 20-22). The grasslands are fairly disturbed sites, but the TON side of the grasslands is closer to representing baseline conditions.



Figure 20. *Desert Grassland* community and fence line separating the SDNM (left) from the TON (right). Two different grazing regimes are evident on the two jurisdictions.



Figure 21. Phase 1 Plot 12. *Desert Grassland* on SDNM. Note, the invasion of young *Prosopis velutina* (green shrubs in the middle and far distance).



Figure 22. Phase 1 Plot 13. *Desert Grassland* on TON (photo taken from the border fence). Note the strip of young *Prosopis velutina* (green shrubs in the middle distance).

Mapping Methods and Biophysical Modeling Parameters

The grasslands were mapped based on field work conducted in November 2002 and April 2003 and interpretation of color infrared DOQQs. There is one prominent grassland polygon (a large meadow-like feature) that covers the central portion of the upper Vekol Valley near the boundary between the SDNM and the TON. This prominent grassland polygon extends into the TON for over a mile.

Examination of the DOQQs revealed that there appears to be an area to the west of this primary polygon in the center of the valley, which extends west and south on flat to gentle slopes, and has a somewhat similar appearance to the grassland areas. This area appeared to have enough similarity in appearance that we initially mapped it as grassland. But further field examination of this area in April lead to the conclusion that this is a Creosotebush – Bursage Desert Scrub community with extensive desert pavement and only scattered patches of grass. Our mapping of the grasslands was corrected in this area as a result of our later fieldwork.

As mentioned earlier, there are small grassland areas that are inclusions in the *Mountain Upland* or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. These areas are below our minimum mapping unit and vary considerably in composition from the Vekol Valley grasslands. The grassy patches in the mountains were not mapped as *Desert Grassland* community, but were included in one of the mountain communities.

The *Desert Grassland* community is difficult to model with a set of biophysical parameters. The presence of a fine textured, heavy clay soil is one biophysical characteristic of the site. Further investigation of this community may lead to a better understanding of other factors.

Relationship to Plant Community Classification Systems

This community relates to the 143.12 Series (Tobosa-Grass Scrub) of Brown and others (1979). Within the National Vegetation Classification System, the Desert Grassland community relates broadly to the Perennial Graminoid Vegetation formation, but does not appear to fit well into any specific alliance (the most closely related class listed is the *Hilaria mutica* Shrub Herbaceous alliance) (TNC 1998).

Mesquite Woodlands

Ecological Characteristics

Of all the Sonoran Desert natural communities, the *Mesquite Woodland* community is one of the most unique. Typically limited in its range in Southwestern Arizona, *Mesquite Woodland* has functioned as an important contributor to historic socio/economic development as a food and fuel source for Southwest communities (Olson 1940), and as an ecological apex, providing valuable habitat to species like the cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*) (Gerst 1997) and food to Sonoran Desert wildlife (Gavin 1973). *Mesquite Woodland* communities are deserving of special attention due to their limited distributional range, susceptibility to human disturbance, and their importance as wildlife habitat.

It should be noted that historically, attention to *Mesquite Woodland* communities typically focused on a particular sub-class of the *Mesquite Woodland* community, the *Prosopis velutina* true bosque association (Lacey et al. 1975), or the “*Mesquite Bosque*”. We focused on a greater spectrum of the *Mesquite Woodland* community than just the true bosque association. *Mesquite Woodland* communities we considered to be areas of land containing a substantial tree density in which the overstory of these areas consists mostly of *Prosopis spp.* with less than 25% of the overstory tree layer composed of other species (Stromberg 2002, Minckley and Clark 1981, 1984; Szaro 1989).

The *Mesquite Woodland* community was stratified into three sub-community types: 1) Mesquite dominated woodlands established before the late 1960s, 2) mesquite stands found on or near spreader dikes or water tanks, and 3) pure mesquite stands invading other natural communities after 1968. Figures 23 through 27 illustrate some of the distinguishing coarse scale characteristics that were used to separate these patches into the three sub-community types.

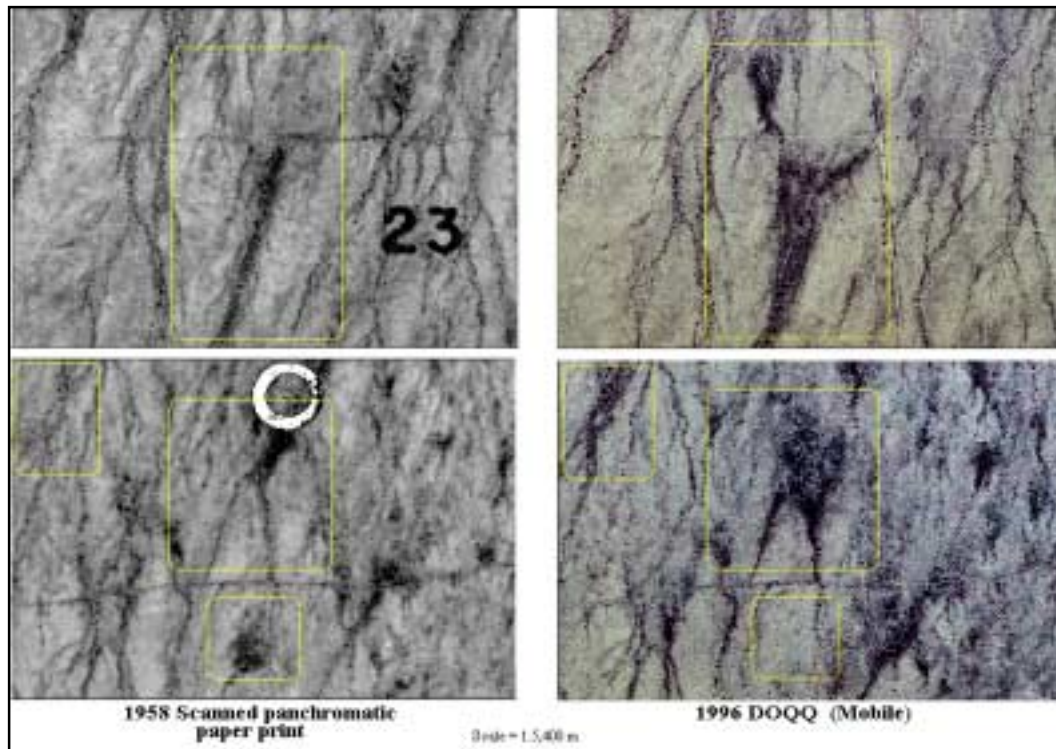


Figure 23. North Tank area Mesquite Woodland patches in 1958 and 1996. Though there are significant changes that appear between 1958 and 1996, these stands did exist before 1958 and are therefore being regarded as community sub-class 1.



Figure 24. Mesquite Woodland community sub-class 1 in the North Tank area near Mobile.



Figure 25. Examples of Mesquite Woodland community sub-class 2.



Figure 26. Examples of Mesquite Woodland community sub-class 3.



Figure 27. These are aerial photographs of an area in the upper Vekol Valley. The area outlined in red is a network of spreader dikes and berms, and the mesquite patch there is considered to be in community sub-class 2. The area outlined in blue shows mesquite invading after 1968, and therefore is considered to be in community sub-class 3

Composition and Structure

The main compositional and structural element uniting these variable *Mesquite Woodlands* is the dominating presence of *P. velutina*. The mean percent cover of *P. velutina* in the natural community plots was 50%, with 100% constancy. *Larrea divaricata tridentata* occurred in 85% of the natural community plots and had a mean percent cover of 17.38%, while constantly being noted as standing 2 meters tall or higher. Other plants that had a high frequency of occurrence in the natural community plots were, *Schismus arabicus*, *Erodium cicutarium*, *Lepidium lasiocarpum*, *Amsinckia intermedia*, *Sisymbrium irio*, *Lesquerella gordonii*, *Filago arizonica*, *Ambrosia deltoidea*, *Sphaeralcea coulteri*, and *Plantago ovata*.

Mesquite Woodlands on the whole had high total percent covers per plot because of multiple canopy layering. The mean percent cover of native species for the natural community plots was 104.4%, with exotic species percent cover averaging 40.2%. Most plots consisted of a tree overstory, shrub mid-canopy, tall herbaceous canopy, and then a low herbaceous canopy. The following tables illustrate the mean percent cover of plants by growth form for the different *Mesquite Woodland* sub-community types.

Table 1. Tree and *Larrea divaricata tridentata* cover derived from the Mesquite Condition and Extent Plot and Natural Community Plot data.

Mesquite Observations (for 69 observation points)	Mean Cover of Mesquite	Standard Deviation in Mesquite Cover	Mean Cover of Other Tree Species	SD in Other Tree Species Cover	Mean LARDIV Cover	SD in LARDIV Cover
Naturally Occurring/Persistent Stand	33.12	25.63	1.6	3.8	18.95	18.37
Stand in Tank/Disturbed Area	60.84	26.79	0.51	1.45	6.24	14.86
Young Stand in Area Previously Not Dominated by Mesquite (Invading Mesquite)	29.62	30.49	0	0	15.38	23.85

Table 2. Mean cover of non-tree growth-forms derived from the Natural Community Plot data.

Mesquite Observations (for 13 plots)	Mean shrub cover	Mean Cacti Cover	Mean grass cover	Mean Exotic Species Cover	Mean Herb cover
Naturally Occurring/Persistent Stand	30.9	0.06	29.3	44.78	51.37
Stand in Tank/Disturbed Area	0.88	0	13.63	17	6.88
Young Stand in Area Previously Not Dominated by Mesquite (invading mesquite)	1.75	0	40.25	40.25	10.5

Function and Disturbance Processes

Mesquite Woodlands are strongly associated with riparian areas or areas where the water table has been altered or extensive grazing has occurred. The mesquite stands that we identified were either closely associated with water impoundments, *Braided Channel Floodplains*, *Valley Xeroriparian Scrub* communities, areas that had experienced substantial grazing, or areas that experienced periodic flooding.

A unique disturbance observed in this community was woodcutting. Many of the *Mesquite Woodland* patches visited during our fieldwork exhibited signs of cutting, both historic and recent. Typically, the cutting was done on the larger limbs of old mesquite trees, usually in patches considered as community sub-class 1 (where most of the older trees occur).

Landscape Context

The *Mesquite Woodland* community is a small or linear patch community that is associated with riparian areas and floodplains, or with hydrologic disturbances and intensive grazing. About 1700 hectares of *Mesquite Woodland* patches were identified in the study area. These patches occur largely within the *Creosotebush–Bursage Desert Scrub* matrix community.

Examples of Baseline Conditions

Most of the mesquite stands in the study area are highly disturbed communities (Figure 28). The most extensive less disturbed mesquite stands in the study are located in the Vekol Valley. Most of these stands are in community sub-classes 2 and 3, being either fairly young or associated with water impoundments in the upper valley. But there are some more natural, and somewhat older stands associated with the *Braided Channel Floodplain* community that we have mapped in the lower Vekol Valley. In the North Tank area near Mobile, an extensive grouping of community sub-class 1 patches exists (Figure 29), though there is no noticeable *Braided Channel Floodplain* uniting them. Field surveys suggest that this area experiences periodic sheet flooding, a factor that may be influencing the development of *Mesquite Woodlands* here.



Figure 28. A highly disturbed Mesquite Woodland near Interstate 8 in area developed as water tank and pasture. *Prosopis velutina* forms an open overstory canopy and *Cynodon dactylon* covers much of the soil surface at this site.



Figure 29. A thick Mesquite Woodland patch near North Tank. This mesquite patch had a closed upper canopy consisting purely of *P. velutina*. There were mesquite trees here ranging from 1 cm dbh saplings around 1 to 2 meters tall, to over 30 cm dbh canopy dominants.

Mapping Methods and Biophysical Modeling Parameters

Mesquite Woodlands are somewhat difficult to map from DOQQs or to predict based on biophysical parameters. They are typically confined to valley bottom locations, and can be mixed in with the *Valley Xeroriparian* or *Braided Channel Floodplain* communities. We mapped mesquite patches by first identifying the most extensive woody areas within valley bottoms using the DOQQs and historical aerial imagery. Ground reconnaissance was then used to further refine the initial mapping, specifically looking to eliminate areas that were mapped as *Mesquite Woodlands* but did not meet the compositional standards we stated as our guiding prerequisite in identifying *Mesquite Woodlands*.

Relationship to Plant Community Classification Systems

This community relates to the Mesquite series (124.71) of Brown and others (1979) and the *Prosopis Velutina* Shrubland alliance, Deciduous Shrubland formation of the National Vegetation Classification System (TNC 1998).

Rock Outcrops

Ecological Characteristics

Description and Composition

Rock cliffs, extensive talus slopes or other rock outcrop areas that are of sufficient size to map characterize the *Rock Outcrop* community. Any other rocky areas that have significant vegetative cover are included in the *Mountain Upland* or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities – only those that are largely devoid of significant vegetation are mapped as rock outcrops. The *Rock Outcrop* community is a small patch community that normally occurs within the *Mountain Upland* or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. A few rock outcrops border the *Creosotebush–Bursage Desert Scrub* community. There are many small rock outcrops scattered throughout the *Mountain Upland* and *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities that are too small to map. Both of these communities have considerable surface rock and provide habitat for many of the species that rely on habitat provided by the *Rock Outcrop* community.

The vegetation composition of the *Rock Outcrop* community can be similar to the surrounding *Mountain Upland* or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities – but with significantly less vegetative cover. Based on our field sampling, average total tree cover in this community was less than 1%. *Encelia farinosa farinosa*, *Larrea divaricata tridentata*, and *Eriogonum wrightii* were the only plant species on Rock Outcrops that had mean percent covers of over 1%. Some of the species that had relatively high constancy in this community include: *Lycium spp.*, *Parkinsonia microphylla*, *Carnegiea gigantea*, *Sphaeralcea ambigua*, and *Phacelia spp.*

Structure

The structure of this community is defined by the rock substrate. Some areas are steep cliff faces, some areas are small rocky buttes, some areas are large jumbles of rocks and some areas are extensive talus slopes with a combination of medium and large boulders and talus blocks.

The vegetation in all situations is sparse, with occasional small trees, shrubs and some perennial herbs and grasses. Annual vegetation is extremely sparse in most circumstances.

Function and Disturbance Processes

The rock outcrop community is exposed to wind erosion and subject to cracking, spalling, rock fall and rock slides. Quarrying, mining, target practice and/or graffiti have impacted a few areas that are close to human access points.

Landscape Context

The *Rock Outcrop* community occupies about 1627 hectares, mostly in the Sand Tank Mountains. This small patch community occurs on steep slopes and rocky summits within the *Mountain Upland* or *Palo Verde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. Many smaller rock outcrops (not possible to map at the resolution chosen for this project) occur throughout the mountain matrix communities.

Examples of Baseline Conditions

The best examples of the *Rock Outcrop* community occur in the Sand Tank Mountains (Figures 30-32). But numerous examples occur in the Table Top Mountain area and in the Maricopa Mountains in the central and northern part of the Monument.



Figure 30. Rock outcrops above saguaros rise above Bender Spring Canyon, Sand Tank Mountains.



Figure 31. Phase 1 Plot 67. Top of a small rock outcrop, in the Sand Tank Mountains west of Johnson Well. This rock outcrop was below our minimum map unit and is an inclusion in the *Mountain Upland* community.



Figure 32. Dragon's Tooth in the East TAC area of the BMGR is an extensive Rock Outcrop community with some impressive geological features such as this natural rock arch.

Mapping Methods and Biophysical Modeling Parameters

We extensively revised the mapping of rock outcrops provided to us by TNC at the beginning of this project. The initial GIS layer of rock outcrops was based on National Land Cover Data (NLCD) mapping (Vogelmann et al 2001). Close examination of this data layer revealed that it was highly inaccurate. It was based on a classification of Landsat TM satellite imagery. Since most of the land surface of the SDNM is sparsely vegetated, it is not possible to determine rock outcrops using Landsat satellite imagery. Many areas that have no rock were mapped as rock outcrops in the NLCD data but are really bajadas, desert washes or flats. The NLCD data greatly over-predicts the *Rock Outcrop* community in the basalt hills and mountains. The basalt bedrock dominates the spectral response from the land surface in these areas, masking the fact that considerable vegetation exists. After examining the NLCD rock outcrop GIS layer carefully, we rejected this layer and mapped the significant rock outcrops using the much higher resolution DOQQs. We also developed a steep slope GIS layer (slopes greater than 25 degrees), and a 5-meter interval contour layer to help guide our interpretation of the DOQQs. Using this approach, we were able to map the *Rock Outcrop* community in a much more reliable fashion than was presented in the NLCD data.

Nearly all the rock outcrops exist on or near slopes that exceed 25 degrees. Some of the most significant rock outcrops are vertical, and therefore have no real aerial extent and are difficult to map as a significant rock outcrop polygon. In these cases we often digitized a slightly larger polygon around a vertical cliff rock outcrop to signify its presence. The nature of the rock outcrop community does not lend itself to modeling using biophysical parameters and/or mapping with Landsat satellite imagery. Our minimum mapping unit for patches in this community was 450 sq. meters.

Relationship to Plant Community Classification Systems

As this community is based on physical features, its vegetation is not well-captured by most vegetation classifications. Broadly, it corresponds with the Paloverde – mixed cacti series (154.12) of Brown and others (1979), with much sparser vegetation. There are no relevant alliances within the National Vegetation Classification System (TNC 1998).

Valley Xeroriparian Scrub

Ecological Characteristics

Description and Composition

The *Valley Xeroriparian Scrub* community is found along nearly all, low gradient, intermittent streams that flow across the bajadas and desert flats. As we have defined this community, *Valley Xeroriparian Scrub* occurs along the intermittent drainages that cross unconsolidated, alluvial deposits composed of gravels and sands. These drainages are not confined by bedrock outcrops and can change course due to bank cutting, channel migration, channel blockage and reformation during debris flows. It is contrasted with the *Mountain Xeroriparian Scrub* community (discussed later in this paper), which occurs adjacent to steeper gradient streams flowing across rocky slopes and upland communities. The streams of the *Mountain Xeroriparian Scrub*

community flow across bedrock and rocky substrates and are largely confined by bedrock where channel migration only occurs on a geologic time scale.

This community occurs as a narrow, linear patch community within the *Creosotebush–Bursage Desert Scrub* and *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* communities. The vegetation composition is highly variable and depends on the matrix community, the relative size of the drainage system and the dynamic hydrologic and geomorphic processes that control this community. The community is normally characterized by the overstory dominance of xeromorphic, deciduous trees including *Olneya tesota*, *Parkinsonia florida*, and *Prosopis velutina* (Hall et al 2001). *Parkinsonia microphylla* is also common in the overstory, but not as abundant and common as *Parkinsonia florida*. *Phoradendron californicum* is a common epiphytic parasite associated with the leguminous trees in the overstory. The presence of herbaceous and woody perennial vines are also common in this community (Hall, 2001)

In our field plots, *Parkinsonia florida* was the dominant plant (8.37% mean cover) but *Larrea divaricata tridentata* had the highest constancy, occurring in 92% of the plots. *Larrea divaricata tridentata* is not, however, an indicator species for this community, having a mean percent cover of only 2.77%. Rather, it is a common component of the surrounding matrix communities. *Ambrosia deltoidea*, another common member of the matrix community, also occurs in most of the plots (68% constancy) but in lower abundance. Other shrubs with either high constancy or cover include: *Acacia greggii*, *Acacia constricta*, and *Ambrosia ambrosioides*.

The shrubs listed above contribute to a dense understory that is also composed of sub-shrubs, vines, cacti and herbs. Also included in this understory, according to data from our field plots are: *Schismus arabicus*, *Lycium* spp., *Celtis pallida pallida*, *Krameria grayi*, several native grass species, *Cryptantha* spp., *Lesquerella gordonii*, *Camissonia* spp., *Justicia californica*, *Hyptis emoryi*, *Hymenoclea salsola*, *Erodium cicutarium*, *Bebbia juncea aspera*, *Sphaeralcea ambigua*, *Lyrocarpa coulteri*, and *Janusia gracile*. This is one of the most diverse natural communities in this region of the Sonoran Desert.

Larger floodplain systems that have multiple braided channels and overland flow between channels are described later in this paper as the *Braided Channel Floodplain* community. Some of the species occurring in that community also occur in the larger washes that lie within the *Valley Xeroriparian Scrub* community.

Structure

The average vegetative cover in the *Valley Xeroriparian Scrub* community measured in our field plots was 76.5%, which is nearly equal to the average vegetative cover in the other xeroriparian communities and much higher than all the upland communities except for the *Mountain Uplands*. This community typically has three strata: an open overstory of small trees, a dense to sometimes sparse medium to small shrub layer, and a mix of smaller shrubs, grasses and herbs in the understory. Spring annuals often cover some of the bare sand, gravel and soil that is exposed in the wash bottom, but at other times of year the wash itself is devoid of vegetation.

Function and Disturbance Processes

Episodic stream flow along the channels within the *Valley Xeroriparian Scrub* community is the dominant ecological and geomorphic process that controls the composition and structure of this

community. Debris flows also occur along the channels during infrequent, high amplitude storms. During the high amplitude flood and debris flow events, some channels can abruptly change course or become more deeply scoured. The frequency, volume and duration of flow events along the channels in this community are a function of catchment area and regional rainfall regime (Warren and Anderson 1985, Hall et al 2001). Geologic substrate, distance from mountain range and stream gradient are also important factors that influence frequency, volume and duration of flow events.

Landscape Context

This community forms long, narrow, sinuous patches within the low gradient bajadas and gentle valley bottoms within the *Creosotebush-Bursage Desert Scrub* and *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas* matrix communities. The stream gradients in this community are nearly always less than 9% (5 degrees) and the community is normally found below 600 meters in elevation. Some valleys and gentle bajadas in which this community is embedded extend over 800 meters in elevation within the Sand Tank Mountains.

Examples of Baseline Conditions

There are excellent examples of this community throughout the SDNM and Sand Tank Mountains. Figures 33, 34 and 35 illustrate some of the variation within this community that is present in the area.



Figure 33. Phase 1 Plot 63. *Valley Xeroriparian Scrub* community north of Maricopa Mountains near the northern boundary of the SDNM.



Figure 34. Phase 1 Plot 35. *Valley Xeroriparian Scrub* community in lower Vekol Valley.



Figure 35. Phase 1, Plot 118. Desert wash with sparse *Valley Xeroriparian Scrub* community northeast of Gila Bend near the western border of the SDNM. This is one of the driest areas of the Monument and the xeroriparian scrub community is poorly developed despite the fact that the wash has cut down at least 6 meters below the level of the surrounding bajada. This site is over 13-km west of the western edge of the Maricopa Mountains.

Mapping Methods and Biophysical Modeling Parameters

In the initial mapping provided by TNC, the xeroriparian communities were mapped as linear features along all of the streams delineated on the 1:100,000-scale hydrography data. Unfortunately, the 1:100,000-scale hydrography data is not an adequate depiction of the hydrography of the SDNM and surrounding area. Most drainages that exist in this area are not shown in this hydrography data. Sometimes even the major channels are not shown, or minor channels were depicted instead. The initial mapping underestimates the extent of the xeroriparian communities on the SDNM by a factor of at least three. Higher resolution hydrography data (at least 1:24,000-scale) is necessary to adequately map these communities based on the approach taken in the initial mapping. However, hydrologic data at this scale has not yet been produced by the USGS for this part of Arizona. Because of this fact, we also had to rely on the 1:100,000-scale hydrography data for our mapping. We mapped areas where 1:100,000-scale streams flowed across the valley bottom areas (bajadas and desert flats) as *Valley Xeroriparian Scrub*. We did not add any channels to this GIS layer beyond what was contained in the 1:100,000-scale stream layer. We made the assumption that a buffer of 10-meters around the stream arcs represented the location of this community. This is the best we could do with existing data and the constraints of this project.

The *Valley Xeroriparian Scrub* community could be accurately mapped by photo interpretation of the DOQQs, but this would require over a year of work and is well beyond what was possible within the timeframe and budget for this project.

Relationship to Plant Community Classification Systems

This community has a wide range of vegetation types and is not well captured by most vegetation classification systems. Components of the community are included in both the Creosotebush-Bursage series (154.11) and Paloverde-mixed cacti series (154.1215R) of Brown and others (1979). This community encompasses several alliances in the National Vegetation Classification System (TNC 1998), including the *Parkinsonia florida*, *Prosopis velutina*, and *Olneya tesota* alliances. It also shares some characteristics of the *Cercidium floridum*-*Prosopis glandulosa*-*Ambrosia ambrosioides* association (154.1215R) of Warren and others (1981).

Mountain Xeroriparian Scrub

Ecological Characteristics

Description and Composition

The *Mountain Xeroriparian Scrub* community is similar to the *Valley Xeroriparian Scrub* community. It occurs adjacent to the higher gradient streams flowing through the *Mountain Upland* and *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. The intermittent streams that form the basis for the *Mountain Xeroriparian Scrub* community flow across bedrock and rocky substrates and are largely confined by bedrock where channel migration only occurs on a geologic time scale. This community usually occurs where stream gradients equal or exceed 9% (5 degrees slope). Usually, it occurs at elevations above 600 meters.

Like the *Valley Xeroriparian Scrub* community, the *Mountain Xeroriparian Scrub* community has a highly variable composition that is dependent on drainage size and composition of the surrounding matrix community. Aspect and elevation have a pronounced influence on the composition of this community.

The community is normally characterized by the overstory dominance of leguminous, deciduous trees. *Parkinsonia microphylla* is a dominant compositional species that occurred in 75% of our plots and had the highest average species percent cover (5%). The lesser importance of *Parkinsonia florida* in this community is one factor that distinguishes it from the *Valley Xeroriparian Scrub* community. *P. florida* had a constancy of 18.8% and a mean percent cover of 2.88%. *Phoradendron californicum* is a common epiphytic parasite associated with the overstory of leguminous trees.

There is usually a moderately dense to dense understory of shrubs, cacti, herbs and grasses in this community. The most common species encountered in our field plots were (in order of constancy): *Lepidium lasiocarpum*, *Schismus arabicus*, *Cryptantha pterocarya*, *Poa bigelovii*, *Lycium spp.*, *Vulpia octoflora*, *Descurainia pinnata*, *Ephedra aspera*, *Amsinckia intermedia*, *Eucrypta micrantha*, *Eriogonum fasciculatum*, *Linanthus jonesii*, *Encelia farinosa farinosa*, *Fouquieria splendens*, *Trixis californica*, and *Cylindropuntia acanthocarpa*.

Structure

The average vegetative cover in the *Mountain Xeroriparian Scrub* community measured in our field reconnaissance plots was around 80% - nearly identical to the average cover in the *Valley Xeroriparian Scrub* community. This community typically has three strata: an open overstory of small trees, a dense to sometimes sparse medium to small shrub layer and a mix of smaller shrubs, grasses and herbs in the understory. The rocky substrate of the intermittent stream bottoms is often rough. In some places, steep-walled rocky banks are present. In the rockiest areas, the channel and its immediate banks support little vegetation and fewer annuals are present than in the gentle gradient streams that characterize the *Valley Xeroriparian Scrub* community.

Function and Disturbance Processes

Episodic stream flow along the channels within the *Mountain Xeroriparian Scrub* community is the dominant ecological and geomorphic process that controls the composition and structure of this community. Debris flows may also occur along some of these channels during infrequent storm events. Unlike the *Valley Xeroriparian Scrub* community, the channels in this community are more stable and do not change location due to the fact that they are usually carved into bedrock.

Landscape Context

The *Mountain Xeroriparian Scrub* community is a narrow, linear patch community, but the channels and associated scrub communities are often much straighter than the sinuous channels in the *Valley Xeroriparian Scrub* community. These fairly straight channels drain the mountain slopes of the Maricopa Mountains, the Table Top Mountains and the Sand Tank Mountains. The *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* community or the *Mountain Upland* community surround this riparian scrub community. The stream gradients are usually equal to or greater than 9% (5 degrees) and the community is normally found above 600 meters in elevation.

Some stream channels and associated *Mountain Xeroriparian Scrub* community can extend to over 1100 meters in elevation.

Examples of Baseline Conditions

There are excellent examples of the *Mountain Xeroriparian Scrub* community throughout the SDNM and Sand Tank Mountains. Figures 36 and 37 illustrate some of the variation within this community that is present in the area.



Figure 36. Phase 1 Plot 83. *Mountain Xeroriparian Scrub* in Bender Spring Canyon, Sand Tank Mountains.



Figure 37. Phase 1 Plot 91. *Mountain Xeroriparian Scrub* community on small intermittent stream draining the north slopes of Javelina Mountain.

Mapping Methods and Biophysical Modeling Parameters

As discussed with the *Valley Xeroriparian Scrub* community, there is a need for higher resolution hydrography data to adequately map all of the xeroriparian communities. This is somewhat less of a problem for the *Mountain Xeroriparian Scrub* community as more of the mountain stream channels are captured in the 1:100,000 scale hydrography data, but it still is an issue. Higher resolution hydrologic data is not yet available for this part of Arizona. Because of this fact, we also had to rely on the 1:100,000-scale hydrography data for our mapping. We mapped areas where 1:100,000-scale streams flowed across the rocky slope and mountain upland areas as *Mountain Xeroriparian Scrub*. We made the assumption that a buffer of 10-meters around the stream arcs represented the location of this community. This is the best we could do with existing data and the constraints of this project.

The *Mountain Xeroriparian Scrub* community could be mapped through photo interpretation of the DOQQs, but this would require many hours of work and is beyond what is possible within the timeframe and budget for this project.

Relationship to Plant Community Classification Systems

This community has a wide range of vegetation types and is not well captured by most vegetation classification systems. Components of the community are included in both the Creosotebush-Bursage series (154.11) and Paloverde-mixed cacti series (154.1215R) of Brown and others (1979). This community encompasses several alliances in the National Vegetation Classification System (TNC 1998), including the *Parkinsonia microphylla*, *Prosopis velutina*, and *Olneya tesota* alliances. It also shares some characteristics of the *Ambrosia ambrosioides*-*Olneya tesota*-*Acacia* spp. association (154.1214R) of Warren and others (1981).

Braided Channel Floodplains

Ecological Characteristics

Description and Composition

The *Braided Channel Floodplain* community has many similarities to the *Valley Xeroriparian Scrub* community but differs in regard to width, dominant geomorphic/hydrologic processes and vegetation composition. This community occupies relatively broad floodplain areas within the mountain valleys and along major washes on the bajadas. Multiple, cross-braiding channels characterize the *Braided Channel Floodplain* community. Significant island areas and adjacent floodplain zones often exist that are inundated by floodwaters during high flow events. These areas are much wider than the typical xeroriparian communities and often bear some resemblance to river floodplains along major perennial rivers throughout the world. A cross-section of the *Braided Channel Floodplain* community often consists of many different surfaces with varying vegetation and disturbance frequency (Figures 38-40).

Vegetation composition of the *Braided Channel Floodplain* community is similar to the *Valley Xeroriparian Scrub* community. Nearly all species that are found in the *Valley Xeroriparian Scrub* community are also found in the floodplain community. But the floodplain community

differs considerably from the xeroriparian community in the abundance of some species. *Hymenoclea salsola* is one of the most abundant perennial species in the *Braided Channel Floodplain* community with an average cover of 2.68% in our field plots. It also occurred in 42.9% of our plots within this community. In contrast to this, *Hymenoclea salsola* had a mean cover of 0.96% and a constancy of 20% in our plots within the *Valley Xeroriparian Scrub* community. Other species that were largely or solely found within the *Braided Channel Floodplain* community include: *Bebbia juncea aspera*, *Hyptis emoryi*, *Sebastiania bilocularis*, *Chilopsis linearis arcuata* and *Baccharis sarothroides*.

Parkinsonia florida is the dominant tree in the *Braided Channel Floodplain* community (as it is within the *Valley Xeroriparian Scrub* community). *Parkinsonia microphylla*, *Olneya tesota* and *Prosopis velutina* also contribute to the overstory tree canopy. *Phoradendron californicum* is a common epiphytic parasite associated with the leguminous trees in the overstory. Overall tree cover is less in this community (12.82%) than it is in the *Valley Xeroriparian Scrub* community (24.26%). This may be due to the more active flooding and scouring within the floodplain which tends to favor shrubs like *Hymenoclea salsola*, *Bebbia juncea aspera*, *Hyptis emoryi*, *Sebastiania bilocularis*, *Chilopsis linearis arcuata* and *Baccharis sarothroides* over tree species that require more stable substrates to become established and survive. All of the above-mentioned shrub species have adaptations such as small flexible, multiple stems and deep roots, which contribute to survival in the floodplain environment.

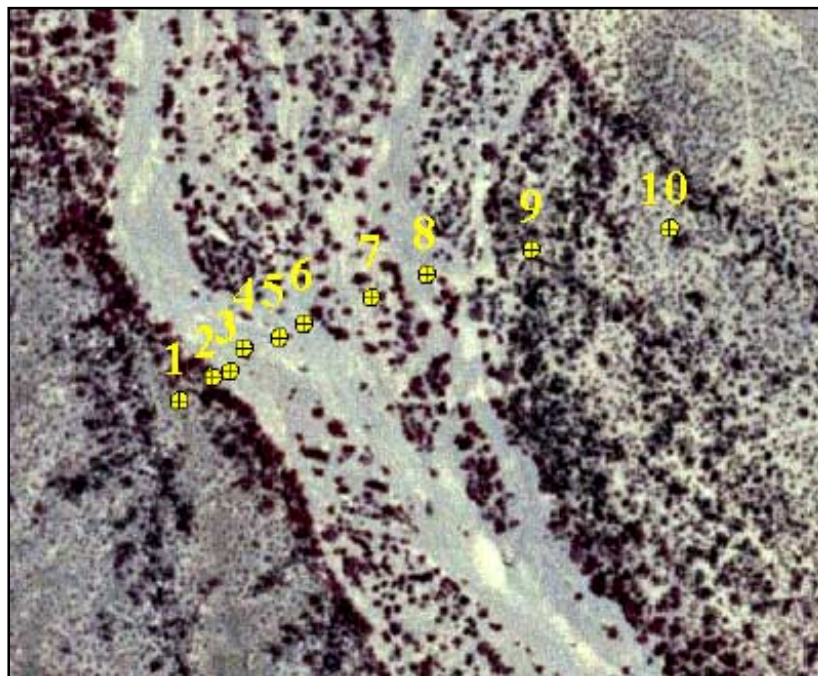


Figure 38. Layout of transect across floodplain in the middle Vekol Valley, with natural community plot locations in yellow.

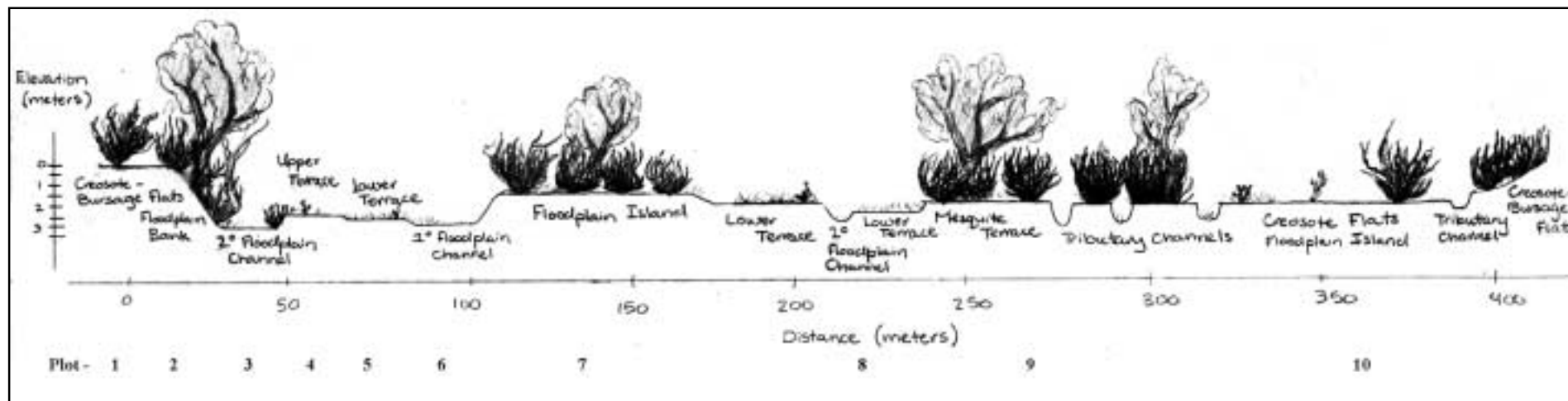


Figure 39. Illustration of the floodplain transect shown in Figure 38 as a cross-section with various flood and channel surfaces and various sub-communities on each surface

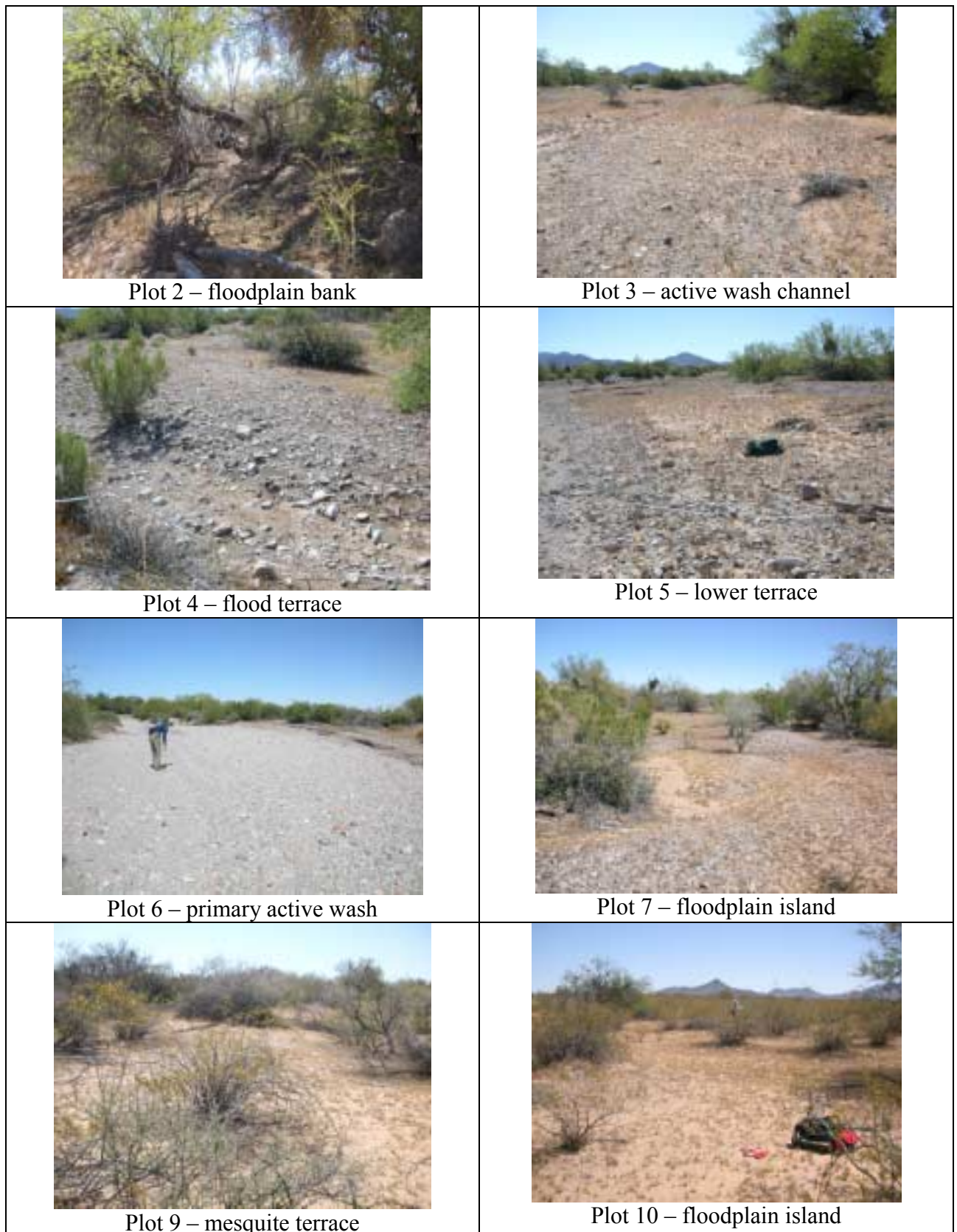


Figure 40. Photos of plots along the floodplain transect.

It is worth noting that some of the community sub-class 1 examples of the *Mesquite Woodland* community we have mapped on the SDNM occur as inclusions within the *Braided Channel Floodplain* community and are controlled by the same geomorphic/hydrologic processes that function in this community.

Other species found in our field plots in this community include: *Acacia greggii*, *Ambrosia ambrosioides*, *Justicia californica*, *Lycium* spp., *Larrea divaricata tridentata*, *Eriogonum fasciculatum*, *Carnegiea gigantea*, *Ambrosia deltoidea*, *Acacia constricta*, *Amsinckia intermedia*, *Lepidium lasiocarpum*, *Cryptantha* spp., and *Pectocarya* spp.

Structure

The structure of this community is unique among the xeroriparian communities in the SDNM. The community is composed of four major elements:

1. Major and minor wash channels that braid through the community
2. Islands that are regularly inundated with floodwaters and have regular deposition and/or erosion
3. Adjacent off channel floodplain areas that are occasionally inundated with floodwaters and subject to deposition and/or erosion
4. Xeroriparian scrub vegetation that lines the banks of many of the wash channels and is above the zone that is subject to regular inundation

Overall vegetation cover is slightly less than the other xeroriparian communities (around 66%) and tree cover is lower than in those communities. Significant areas of the most frequently inundated areas of the floodplain are covered with small to medium sized shrubs.

Function and Disturbance Processes

The *Braided Channel Floodplain* community is influenced by episodic stream flow along the main channels and less frequent flood events that inundate islands and off channel areas. The episodic flow volumes in the floodplain areas are generally higher than experienced in channels within the *Valley Xeroriparian Scrub* community. The intermittent stream flows and floods are the dominant ecological and geomorphic processes that control the composition and structure of this community. During high amplitude flood events, many of the wash channels that braid through the floodplain may change course or become more deeply scoured. Due to these factors, this community is probably the most dynamic community in the SDNM.

Landscape Context

The *Braided Channel Floodplain* community occurs along major wash systems that flow out of mountain ranges within the SDNM. Floodplain areas may be adjacent to *Creosotebush-Bursage Desert Scrub*, *Paloverde - Mixed Cacti - Mixed Scrub on Bajadas*, or *Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes* communities. Some of the floodplains occur at the base of mountain slopes on relatively flat canyon bottoms (Figure 41 and 42) while others have formed at the bottom of broad valleys (Figures 43-45). The *Braided Channel Floodplain* community is connected to *Valley Xeroriparian Scrub* and *Mountain Xeroriparian Scrub* communities through the intermittent stream network that feeds the channels that flow through the floodplain.

Examples of Baseline Conditions

Some of the best examples of the *Braided Channel Floodplain* community in the SDNM exist in the Sand Tank Mountains along Sand Tank Wash (Figures 41 – 42) and in the Vekol Valley along Vekol Wash (Figures 43 - 45). Other good examples occur in the Maricopa Mountains in the northern part of the SDNM and northeast of Table Top Mountain.



Figure 41. Upper portion of Sand Tank Wash Braided Channel Floodplain community. Note multiple braided channels. During large floods, water flows across most of the valley bottom, including area between major washes.

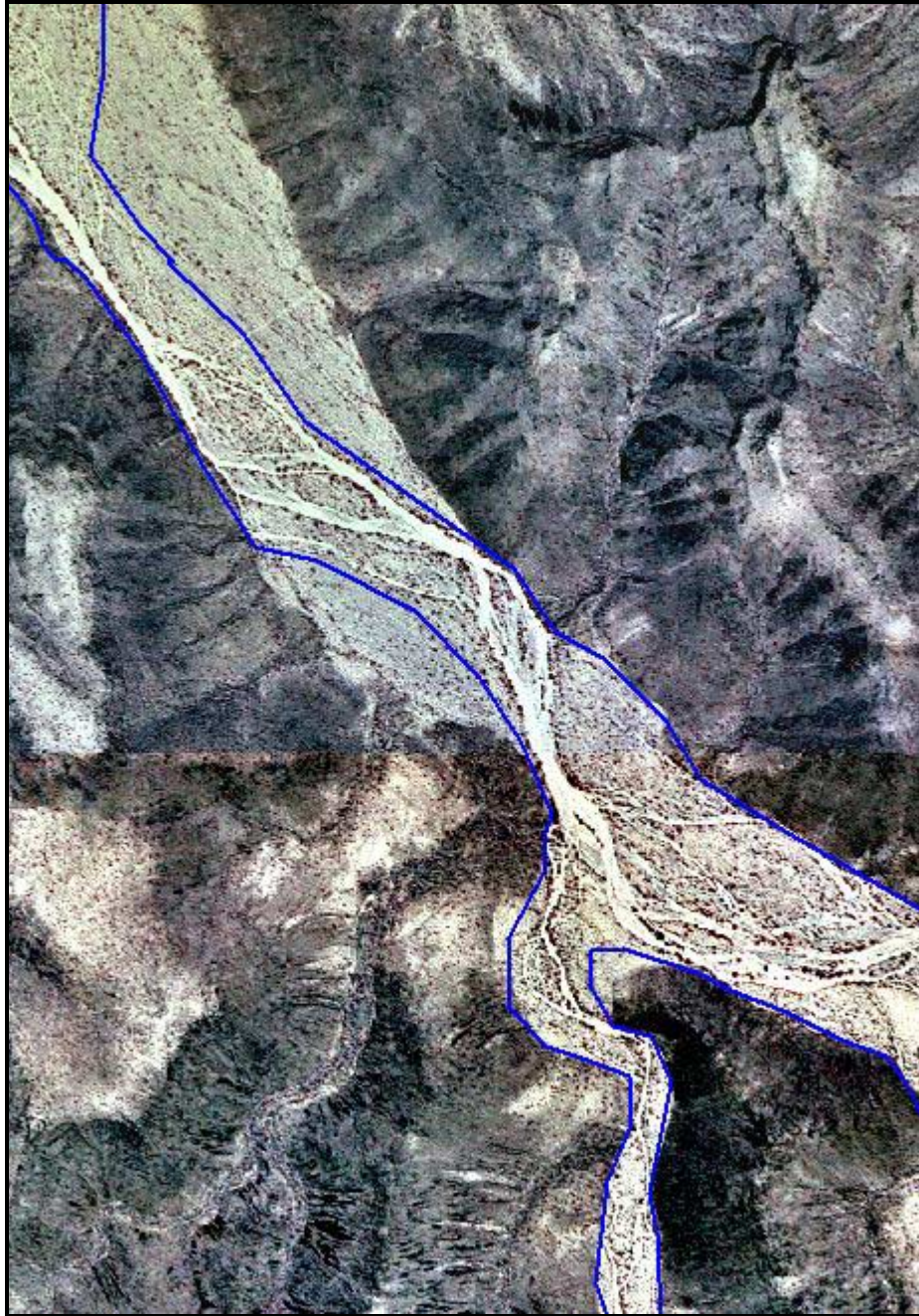


Figure 42. Braided Channel Floodplain community (outlined in blue) in Sand Tank Wash, background image is a 1996 color infrared digital orthophoto.



Figure 43(above) and Figure 44 (below): Lower portion of Sand Tank Wash Braided Channel Floodplain community. Note evidence of recent flooding and flood debris extending throughout area between most active wash channels.



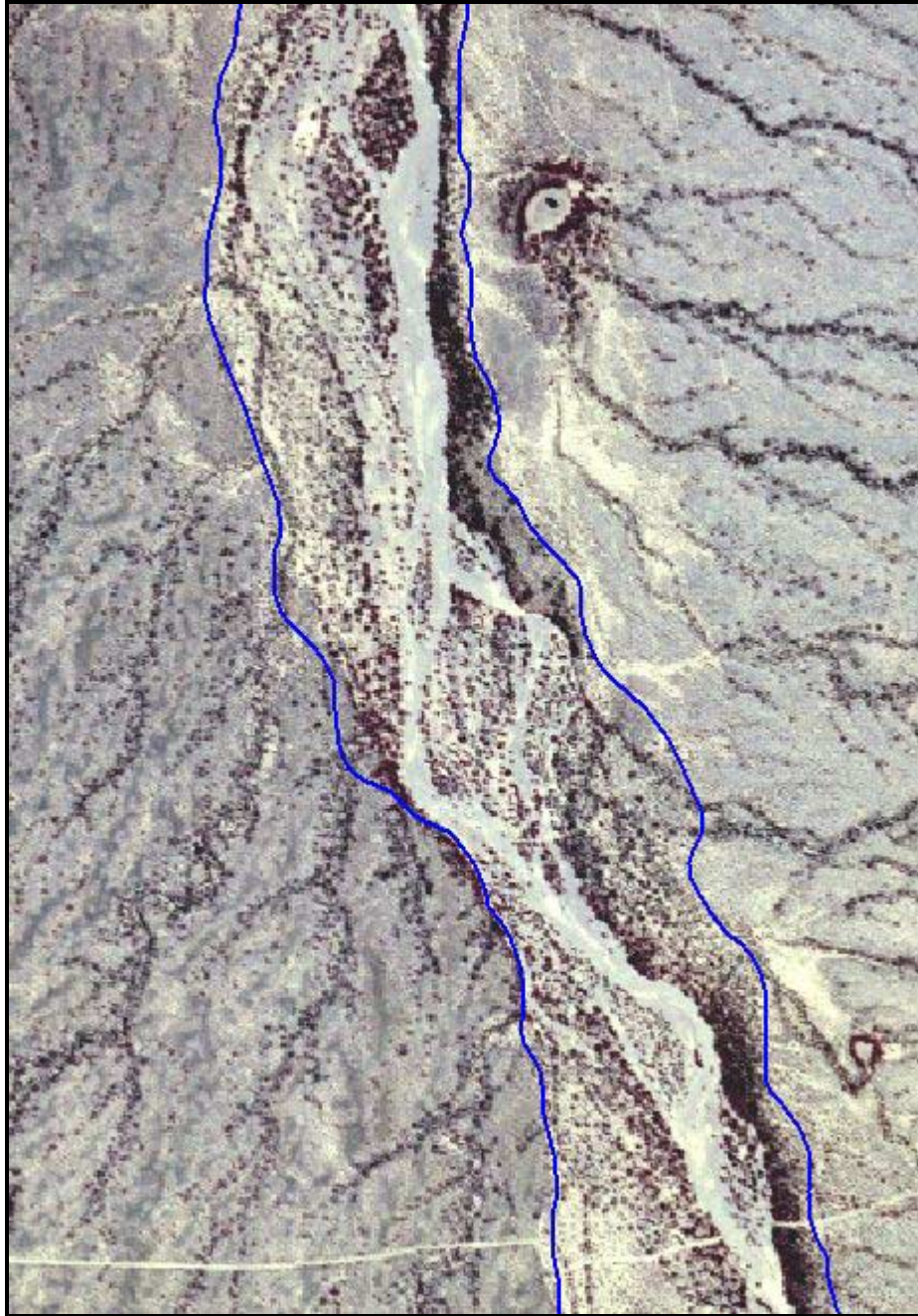


Figure 45. Braided Channel Floodplain community in Vekol Valley, background image is a 1996 color infrared digital orthophoto.

Mapping Methods and Biophysical Modeling Parameters

These floodplain communities are distinguished from other xeroriparian communities by their overall width, presence of multiple, braided channels and presence of off channel areas inundated by floods. The xeroriparian communities were mapped as linear features while these floodplain communities were mapped as polygon features. We restricted the floodplain communities that we mapped on the SDNM to areas that generally maintain a

width of over 100 meters. They are also only associated with relatively low gradient channels.

The *Braided Channel Floodplain* community that we mapped should not be confused with the *Valley Bottom Floodplain Complex* community that was mapped in the BMGR (Hall et al 2001). The latter community has a less active channel system, is considerably wider and is largely dominated by infrequent overland flow.

Relationship to Plant Community Classification Systems

This community has a wide range of vegetation that is not well captured by most vegetation classification systems. Components of the community are included in both the Creosotebush-Bursage series (154.11) and Paloverde-mixed cacti series (154.1215R) of Brown and others (1979). Within the National Vegetation Classification System (TNC 1998), vegetation falls into the Deciduous Shrubland and Evergreen Shrubland formations. The Deciduous Shrubland formation includes a *Hymenoclea monogyra* Shrubland alliance, but not a *Hymenoclea salsola* alliance, which would better describe much of the vegetation in this community.

Desert Springs

There are two springs in the study area, Burro Spring and Bender Spring. Both are in the Sand Tank Mountains southwest of the SDNM within the BMGR.

Ecological Characteristics

Description and Composition

The *Desert Spring* community is a unique small patch community extremely limited to two remote locations in the study area. *Desert Springs* are important ecological areas because they are one of the few places in the desert where surface water occurs naturally, thus providing a water source for a variety of desert plants and wildlife. Unfortunately, human development of natural springs in the study area seems to be the status quo. All the natural springs have been altered through the construction of concrete or brick walls with metal piping.

The overall composition of *Desert Springs* tends to be greatly influenced by the surrounding matrix community, though some plant species that are found next to a spring may not occur in the adjacent communities. Springs sampled had similar plant species diversities to the *Mountain Xeroriparian* occurring in the same areas, though there was typically a higher total vegetation cover adjacent to springs than to a typical *Mountain Xeroriparian* area. As with the *Mountain Xeroriparian* community, the number of plant species occurring next to a spring was always impressively higher than what was found in the surrounding matrix community. All the springs we sampled were located within the Sand Tank Mountains, in areas that were dominated by either a *Paloverde - Mixed-Cactus on Rocky Slope* or *Mountain Upland* community. As stated before, all of these spring areas had experienced some degree of recent development, which has probably impacted the plant species composition of these areas. It seems reasonable to assume that

the species compositions were also impacted to an unknown degree by historic human use.

Perennial species that occurred (100% constancy) in all of our *Desert Spring* sampling include: *Prosopis velutina*, *Acacia greggii*, *Coursetia glandulosa*, *Ephedra aspera*, *Acacia constricta*, and *Brickellia coulteri*. *Simmondsia chinensis* was also found in most of our plots (66.7% constancy, 1.42% mean percent cover). This species seemed to occur only in areas where there was obvious historic aboriginal use.

Exotic grasses like *Bromus rubens* and *Schismus arabicus* had some of the highest average percent covers of all the plant species documented in our field surveys (6% and 4.67% respectively). Other annuals with a high constancy and average percent cover were: *Amsinckia intermedia*, *Lepidium lasiocarpum*, *Phacelia coerulea*, *Cryptantha pterocarya*, *Caulanthus lasiophyllus*, *Silene antirrhina*, and *Daucus pusillus*.

Structure

The *Desert Spring* community's structure is highly variable, being largely defined by vegetative composition, which is greatly influenced by the surrounding matrix community, and the quality of a given community's substrate. In our field sampling in the areas adjacent to springs, there was typically a sparse to moderate canopy of overstory leguminous trees and/or large cacti, a thick secondary canopy of large shrubs, vines, cacti, and other perennials (if there was an adequate substrate in which to grow roots), and then a thick understory canopy of small shrubs, herbs, cacti, and other annuals. The cover and spatial distribution of plants tended to be influenced by the quality of a given spring's substrate. If there was a high degree of surface bedrock, plant cover tended to be restricted to areas where there were sufficient soil or gravel pockets for establishing roots. Where sufficient rooting substrate was not a limiting factor, plant cover tended to be high, well over 100% due to canopy layering.

Function and Disturbance Processes

Typical disturbance processes affecting the other natural communities don't appear to have a substantial impact upon the *Desert Spring* community. One observed trend that might be considered to be a natural disturbance is drought. During field sampling, Burro Spring was dry and Bender Spring only contained a small amount of water at the bottom of a small well-like hole (of possible aboriginal excavation). It is not known whether this is a historic seasonal trend of the Sand Tank Mountain springs, or whether the continuing drought in southern Arizona is drying out these natural springs.

Landscape Context

The study area's *Desert Spring* community is a small patch community that is extremely limited in its geographic range. This community's importance in terms of species biodiversity and providing water to wildlife is disproportionate to its geographic breadth.

Examples of the Desert Spring Community

Burro Spring in the East Tactical Range of the BMGR was dry when we visited. It also has been developed (Figure 46). Bender Spring is also developed, therefore we have no good examples of baseline conditions for this natural community.



Figure 46. Burro Spring in the East Tactical Range on the BMGR.

Mapping Methods and Biophysical Modeling Parameters

No biophysical modeling parameters are known to work for mapping the *Desert Spring* community. The *Desert Spring* locations were determined by field surveillance prior to our involvement in this project.

Tinajas

Ecological Characteristics

Description and Composition

Tinajas are small aquatic ecosystems formed through water accumulation in bedrock depressions (Hall, 2001). Due to the restrictive nature of bedrock exposures, vegetation is typically absent or sparsely present in a *Tinaja*. *Tinajas* can be important water sources for desert wildlife.

Structure

Tinajas form in canyons, caves, and other places where bedrock depressions are protected from direct sun exposure throughout much of the year. The bedrock topography is the defining structural element of a *Tinaja*, as there is typically no vegetative canopy.

Function and Disturbance Processes

Tinajas are important landscape components due to their function as a potential water source in the arid desert environment. As with the Desert Spring community, *Tinajas* are sensitive to regional and local climate change. Drought is a natural process that can severely impact *Tinajas*.

Landscape Context

Most of the *Tinajas* in the study area have been developed to create more extensive water catchments for wildlife or livestock use. There were six *Tinajas* in the study area according to a GIS data layer provided by TNC, and they all occur in the Sand Tank Mountains on both the SDNM and BMGR. Three of these *Tinajas* appear to have been replaced by developed reservoirs (tanks). Phase 2 fieldwork revealed another undeveloped *tinaja* in the study area that was not accounted for in the GIS layer.

Examples of Tinajas

The best example of an undeveloped *Tinaja* was found near Bender Spring, in Bender Canyon (Figure 47). This *tinaja* has not been developed, though there is a road near by and considerable evidence of historical human presence in the area.



Figure 47. Tinaja in Bender Canyon.

Mapping Methods and Biophysical Modeling Parameters

No biophysical modeling parameters are known to work for mapping *Tinajas*. *Tinaja* locations were determined by field surveillance prior to our involvement in this project.

APPENDIX B

LIST OF PLANTS FOUND IN STUDY AREA

Exotic	Scientific Name	Code	Family	Authority	Growth Form	Common Name
	<i>Abutilon incanum</i>	ABUINC	Malvaceae	(Link) Sweet	shrub	
	<i>Acacia constricta</i>	ACACON	Fabaceae	Benth.	shrub	whitethorn acacia
	<i>Acacia greggii</i>	ACAGRE	Fabaceae	Gray	shrub	catclaw acacia
	<i>Acleisanthes longiflora</i>	ACLLON	Nyctaginaceae	Gray	herb	
	<i>Acourtia nana</i>	ACONAN	Asteraceae	(Gray) Reveal & King	herb	desert-holly
	<i>Acourtia wrightii</i>	ACOWRI	Asteraceae	(Gray) Reveal & King	herb	
	<i>Adenophyllum porophylloides</i>	ADEPOR	Asteraceae	(Gray) Strother	shrub	
	<i>Agave deserti simplex</i>	AGADES	Agavaceae	Engelm.	shrub	desert agave
	<i>Allionia incarnata</i>	ALLINC	Nyctaginaceae	L.	herb	
	<i>Allium macropetalum</i>	ALLMAC	Liliaceae	Rydb.	herb	
	<i>Aloysia wrightii</i>	ALOWRI	Verbenaceae	Heller ex Abrams	shrub	little oregano
	<i>Amaranthus albus</i>	AMAALB	Amaranthaceae	L.	herb	
	<i>Amaranthus crassipes</i>	AMACRA	Amaranthaceae	Schlecht.	herb	
	<i>Ambrosia ambrosioides</i>	AMBAMB	Asteraceae	(Cav.) Payne	herb	canyon ragweed
	<i>Ambrosia confertiflora</i>	AMBCON	Asteraceae	DC.	herb	
	<i>Ambrosia deltoidea</i>	AMBDEL	Asteraceae	(Torr.) Payne	shrub	triangle-leaved bursage
	<i>Ambrosia dumosa</i>	AMBUM	Asteraceae	(Gray) Payne	shrub	white bursage
	<i>Amsinckia intermedia</i>	AMSINT	Boraginaceae	Fisch. & C.A. Mey.	herb	fiddleneck
	<i>Amsinckia tessellata</i>	AMSTES	Boraginaceae	Gray	herb	
	<i>Androsace occidentalis</i>	ANDOCC	Primulaceae	Pursh	herb	
	<i>Anisacanthus thurberi</i>	ANITHU	Acanthaceae	(Torr.) Gray	shrub	
	<i>Antirrhinum cyathiferum</i>	ANTCYA	Scrophulariaceae	Benth.	herb	
	<i>Antirrhinum filipes</i>	ANTFIL	Scrophulariaceae	Gray	vine	
	<i>Arabis perennans</i>	ARAPER	Brassicaceae	S. Wats.	herb	
	<i>Argemone pleiacantha</i>	ARGPLE	Papaveraceae	Greene	herb	southwest prickly poppy
	<i>Aristida adscensionis</i>	ARIADS	Poaceae	L.	grass	
	<i>Aristida parishii</i>	ARIPAR	Poaceae	A.S. Hitchc.	grass	
	<i>Aristida purpurea</i>	ARIPUR	Poaceae	Nutt.	grass	
	<i>Aristida ternipes</i> var. <i>ternipes</i>	ARITER	Poaceae	Cav.	grass	
	<i>Aristolochia watsonii</i>	ARIWAT	Aristolochiaceae	Woot. & Standl.	herb	
	<i>Artemisia ludoviciana</i>	ARTLUD	Asteraceae	Nutt.	shrub	
	<i>Asclepias subulata</i>	ASCSUB	Asclepidaceae	Dcne.	vine	
	<i>Astragalus arizonicus</i>	ASTARI	Fabaceae	Gray	herb	
	<i>Astragalus nuttallianus</i>	ATRNUT	Fabaceae	DC.	herb	
	<i>Astrolepis cochisensis</i>	ASTCOC	Pteridaceae	(Goodding) Benham & Windham	fern	scaly star fern
	<i>Astrolepis sinuata sinuata</i>	ASTSIN	Pteridaceae	(Lag. ex Sw.) Benham & Windham	fern	wavy star fern
	<i>Atriplex canescens</i>	ATRCAN	Chenopodiaceae	(Pursh) Nutt.	shrub	four-wing saltbush
	<i>Atriplex elegans</i>	ATRELE	Cheonopodiaceae	(Moq.) D. Dietr.	herb	
@	<i>Avena fatua</i>	AVEFAT	Poaceae	L.	grass	wild oat
	<i>Ayenia filiformis</i>	AYEFIL	Sterculiaceae	S. Wats.	shrub	

<i>Ayenia microphylla</i>	AYEMIC	Sterculiaceae	Gray	shrub	
<i>Baccharis salicifolia</i>	BACSAL	Asteraceae	(Ruiz & Pavón) Pers.	shrub	
<i>Baccharis sarothroides</i>	BACSAR	Asteraceae	Gray	shrub	desertbroom
<i>Bebbia juncea aspera</i>	BEBJUN	Asteraceae	(Benth.) Greene	shrub	sweetbush
<i>Bernardia incana</i>	BERINC	Euphorbiaceae	Morton	shrub	
<i>Boerhavia coccinea</i>	BOECOC	Nyctaginaceae	P. Mill.	herb	
<i>Boerhavia wrightii</i>	BOEWRI	Nyctaginaceae	Gray	shrub	
<i>Bouteloua aristidoides</i>	BOUARI	Poaceae	(Kunth) Griseb.	grass	
<i>Bouteloua curtipendula</i>	BOUCUR	Poaceae	(Michx.) Torr.	grass	
<i>Bouteloua repens</i>	BOUREP	Poaceae	(Kunth) Scribn. & Merr.	grass	
<i>Bowlesia incana</i>	BOWINC	Apiaceae	Ruiz & Pavón	herb	
@ <i>Brassica tournefortii</i>	BRATOU	Brassicaceae	Gouan	herb	Sahara mustard
<i>Brickellia atractyloides</i>	BRIATR	Asteraceae	Gray	shrub	
<i>Brickellia coulteri</i>	BRICOU	Asteraceae	Gray	shrub	Coulter's brickellbush
<i>Brickellia frutescens</i>	BRIFRU	Asteraceae	Gray	shrub	
@ <i>Bromus carinatus</i>	BROCAR	Poaceae	Hook. & Arn.	grass	California brome
@ <i>Bromus rubens</i>	BRORUB	Poaceae	L.	grass	red brome
<i>Calandrinia ciliata</i>	CALCIL	Portulacaceae	(Ruiz & Pavón) DC.	herb	
<i>Calliandra eriophylla</i>	CALERI	Fabaceae	Benth.	shrub	fairyduster
<i>Calochortus kennedyi</i>	CALKEN	Liliaceae	Porter	herb	mariposa lily
<i>Calycoseris parryi</i>	CALPAR	Asteraceae	Gray	herb	
<i>Calycoseris wrightii</i>	CALWRI	Asteraceae	Gray	herb	tack stem
<i>Camissonia boothii ssp. condensata</i>	CAMBOO	Onograceae	(Dougl. ex Lehm.) Raven	herb	
<i>Camissonia californica</i>	CAMCAL	Onograceae	(Nutt. ex Torr. & Gray) Raven	herb	
<i>Camissonia chamaenerioides</i>	CAMCHA	Onograceae	(Gray) Raven	herb	
<i>Camissonia claviformis</i>	CAMCLA	Onograceae	(Torr. & Frém.) Raven	herb	
<i>Canotia holacantha</i>	CANHOL	Celastraceae	Torr.	shrub	canotia crucifixion thorn
<i>Carlowrightia arizonica</i>	CARARI	Acanthaceae	Gray	shrub	
<i>Carnegiea gigantea</i>	CARGIG	Cactaceae	(Engelm.) Britton & Rose	cactus	saguaro
<i>Castela emoryi</i>	CASEMO	Simaroubaceae	(Gray) Moran & Felger	shrub	castela crucifixion thorn
<i>Castilleja exserta ssp. Exserta</i>	CASEXS	Scrophulariaceae	(Heller) Chuang & Heckard	herb	
<i>Castilleja lanata</i>	CASLAN	Scrophulariaceae	Gray	herb	
<i>Caulanthus lasiophyllus</i>	CAULAS	Brassicaceae	(Hook. & Arn.) Payson	herb	
<i>Celtis pallida</i>	CELPAL	Ulmaceae	Torr.	shrub	spiny hackberry
<i>Chaenactis carphoclinia</i>	CHACAR	Asteraceae	Gray	herb	
<i>Chaenactis stevioides</i>	CHASTE	Asteraceae	Hook. & Arn.	herb	
<i>Cheilanthes parryi</i>	CHEPAR	Pteridaceae	(D.C. Eat.) Domin	fern	
<i>Cheilanthes villosa</i>	CHEVIL	Pteridaceae	Davenport ex Maxon	fern	
<i>Cheilanthes yavapensis</i>	CHEYAV	Pteridaceae	Reeves ex Windham	fern	
@ <i>Chenopodium murale</i>	CHEMUR	Cheonopodiaceae	L.	herb	nettleleaf goosefoot
<i>Chenopodium neomexicanum</i>	CHENEO	Cheonopodiaceae	Standl.	herb	
<i>Chenopodium pratericola</i>	CHEPRA	Chenopodiaceae	Rydb.	herb	
<i>Chilopsis linearis arcuata</i>	CHILIN	Bignoniaceae	(Cav.) Sweet	shrub	desert willow
<i>Chorizanthe brevicornu</i>	CHOBRE	Polygonaceae	Torr.	herb	brittle spine flower
<i>Chorizanthe rigida</i>	CHORIG	Polygonaceae	(Torr.) Torr. & Gray	herb	rigid spine-flower
<i>Cirsium neomexicanum</i>	CIRNEO	Asteraceae	Gray	herb	

<i>Clematis drummondii</i>	CLEDRU	Ranunculaceae	Torr. & Gray	vine	clematis
<i>Commicarpus scandens</i>	COMSCA	Nyctaginaceae	(L.) Standl.	vine	
<i>Condalia warnockii</i>	CONWAR	Rhamnaceae	M.C. Johnston	shrub	
@ <i>Conyza canadensis</i>	CONCAN	Asteraceae	(L.) Cronq.	herb	Canadian horseweed
<i>Conyza coulteri</i>	CONCOU	Asteraceae	Gray	herb	
<i>Coursetia glandulosa</i>	COUGLA	Fabaceae	Gray	shrub	
<i>Crassula connata</i>	CRACON	Crassulaceae	(Ruiz & Pavón) Berger	herb	
<i>Crossosoma bigelovii</i>	CROBIG	Crossosmataceae	S. Wats.	shrub	
<i>Cryptantha angustifolia</i>	CRYANG	Boraginaceae	(Torr.) Greene	herb	
<i>Cryptantha barbiger</i>	CRYBAR	Boraginaceae	(Gray) Greene	herb	
<i>Cryptantha maritima</i>	CRYMAR	Boraginaceae	(Greene) Greene	herb	
<i>Cryptantha micrantha</i>	CRYMIC	Boraginaceae	(Torr.) I.M. Johnston	herb	
<i>Cryptantha pterocarya</i>	CRYPTPE	Boraginaceae	(Torr.) Greene	herb	
<i>Cucurbita digitata</i>	CUCDIG	Cucurbitaceae	Gray	vine	
<i>Cylindropuntia acanthocarpa</i>	CYLACA	Cactaceae	(Engelm. & Bigelow) Knuth	cactus	buckhorn cholla
<i>Cylindropuntia bigelovii</i>	CYLBIG	Cactaceae	(Engelm.) Knuth	cactus	teddybear cholla
<i>Cylindropuntia fulgida</i>	CYLFUL	Cactaceae	(Engelm.) Knuth	cactus	chainfruit cholla
<i>Cylindropuntia spinosior</i>	CYLSPI	Cactaceae	(Engelm.) Knuth	cactus	cane cholla
<i>Cylindropuntia leptocaulis</i>	CYLLEP	Cactaceae	(DC) Knuth	cactus	Christmas cholla
@ <i>Cynodon dactylon</i>	CYNDAC	Poaceae	(L.) Pers.	grass	Bermuda grass
<i>Dalea mollissima</i>	DALMOL	Fabaceae	(Rydb.) Munz	herb	
<i>Datura discolor</i>	DATDIS	Solanaceae	Bernh.	herb	
<i>Daucus pusillus</i>	DAUPUS	Apiaceae	Michx.	herb	indian carrot
<i>Delphinium scaposum</i>	DELSCA	Scrophulariaceae	Greene	herb	
<i>Descurainia pinnata</i>	DESPIN	Brassicaceae	(Walt.) Britt.	herb	
<i>Dichelostemma capitatum ssp. Pauciflorum</i>	DICCAP	Linaceae	(Benth.) Wood	herb	
<i>Digitaria californica</i>	DIGCAL	Poaceae	(Benth.) Henr.	grass	
<i>Ditaxis adenophora</i>	DITADE	Euphorbiaceae	auct. non (Gray) Pax & K. Hoffman	herb	
<i>Ditaxis lanceolata</i>	DIXLAN	Euphorbiaceae	(Benth.) Pax & K. Hoffmann	shrub	
<i>Ditaxis neomexicana</i>	DIXNEO	Euphorbiaceae	(Muell.-Arg.) Heller	herb	
<i>Draba cuneifolia</i>	DRACUN	Brassicaceae	Nutt. ex Torr. & Gray	herb	
<i>Dudleya arizonica</i>	DUDARI	Crassulaceae	Rose	herb	
<i>Echinocereus engelmannii</i>	ECHENG	Cactaceae	(Parry ex Engelm.) Lem.	cactus	Engelmann's hedgehog
<i>Elymus elymoides</i>	ELYELY	Poaceae	(Raf.) Swezey	grass	
<i>Encelia farinosa farinosa</i>	ENCFAR	Asteraceae	Gray ex Torr.	shrub	brittlebush
<i>Ephedra aspera</i>	EPHASP	Ephedraceae	Engelm. ex S. Wats.	shrub	boundary ephedra
@ <i>Eragrostis lehmanniana</i>	ERALEH	Poaceae	Nees	grass	Lehmann lovegrass
<i>Eriastrum diffusum</i>	ERIDIF	Polemoniaceae	(Gray) Mason	herb	
<i>Ericameria laricifolia</i>	ERILAR	Asteraceae	(Gray) Shinnars	shrub	
<i>Erigeron divergens</i>	ERIDIV	Asteraceae	Torr. & Gray	herb	fleabane
<i>Eriogonum abertianum</i>	ERIABE	Polygonaceae	Torr.	herb	
<i>Eriogonum deflexum</i>	ERIDEF	Polygonaceae	Torr.	herb	
<i>Eriogonum fasciculatum</i>	EPIFAS	Polygonaceae	Benth.	shrub	
<i>Eriogonum inflatum</i>	ERIINF	Polygonaceae	Torr. & Frém.	herb	
<i>Eriogonum maculatum</i>	ERIMAC	Polygonaceae	Heller	herb	

<i>Eriogonum thomasi</i>	ERITHO	Polygonaceae	Torr.	herb	
<i>Eriogonum trichopes</i>	ERITRI	Polygonaceae	Torr.	herb	
<i>Eriogonum wrightii</i>	ERIWRI	Polygonaceae	Torr. ex Benth.	shrub	
<i>Erioneuron pulchellum</i>	ERIPUL	Poaceae	(Kunth) Tateoka	grass	fluff-grass
<i>Eriophyllum lanosum</i>	ERILAN	Polygonaceae	(Gray) Gray	herb	
@ <i>Erodium cicutarium</i>	EROCIC	Geraniaceae	(L.) L'Hér. ex Ait.	herb	filaree
<i>Erodium texanum</i>	EROTEX	Geraniaceae	Gray	herb	false filaree
<i>Eschscholzia mexicana</i>	ESCMEX	Papaveraceae	Greene	herb	Mexican gold poppy
<i>Eucrypta chrysanthemifolia</i>	EUCCHR	Hydrophyllaceae	(Benth.) Greene	herb	
<i>Eucrypta micrantha</i>	EUCMIC	Hydrophyllaceae	(Torr.) Heller	herb	
<i>Euphorbia albomarginata</i>	CHAALB	Euphorbiaceae	Torr. & Gray	herb	
<i>Euphorbia arizonica</i>	EUPARI	Euphorbiaceae	Engelm.	herb	
<i>Euphorbia capitellata</i>	EUPCAP	Euphorbiaceae	Engelm.	herb	
<i>Euphorbia eriantha</i>	EUPERI	Euphorbiaceae	Benth.	herb	
<i>Euphorbia melanadenia</i>	EUPMEL	Euphorbiaceae	Torr.	herb	
<i>Euphorbia pediculifera</i>	CHAPED	Euphorbiaceae	Engelm.	herb	
<i>Euphorbia polycarpa</i>	CHAPOL	Euphorbiaceae	Benth.	herb	
<i>Euphorbia setiloba</i>	CHASET	Euphorbiaceae	Engelm. ex Torr.	herb	
<i>Evax multicaulis</i>	EVAMUT	Asteraceae	DC.	herb	
<i>Evax verna</i>	EVAVER	Asteraceae	Raf.	herb	
<i>Fagonia californica ssp longipes</i>	FAGLAE	Zygophyllaceae	Benth.	shrub	California fagonbush
<i>Ferocactus cylindraceus</i>	FERCYL	Cactaceae	(Engelm.) Orcutt	cactus	mountain barrel cactus
<i>Ferocactus emoryi</i>	FEREMO	Cactaceae	(Engelm.) Orcutt	cactus	barrel cactus
<i>Ferocactus wislizeni</i>	FERWIS	Cactaceae	(Engelm.) Britt. & Rose	cactus	fishhook barrelcactus
<i>Filago arizonica</i>	FILARI	Asteraceae	Gray	herb	
<i>Filago californica</i>	FILCAL	Asteraceae	Nutt.	herb	
<i>Filago depressa</i>	FILDEP	Asteraceae	Gray	herb	
<i>Filago verna</i>	FILVER	Asteraceae	(Raf.) Shinnars	herb	
<i>Forestiera phillyreoides</i>	FORPHI	Oleaceae	(Benth.) Torr.	shrub	desert olive
<i>Fouquieria splendens</i>	FOUSPL	Fouquieriaceae	Engelm.	shrub	ocotillo
<i>Gaillardia arizonica</i>	GAIIARI	Asteraceae	Gray	herb	
<i>Galactia wrightii</i>	GALWRI	Fabaceae	Gray	vine	
<i>Galium aparine</i>	GALAPA	Rubiaceae	L.	vine	
<i>Galium stellatum</i>	GALSTE	Rubiaceae	Kellogg	shrub	
<i>Gilia flavocincta</i>	GILFLA	Polemoniaceae	A. Nels.	herb	
<i>Gilia stellata</i>	GILSTE	Polemoniaceae	Heller	herb	
<i>Grusonia parishii</i>	GROPAR	Cactaceae	(Orcutt) Pinkava	cactus	
<i>Gutierrezia arizonica</i>	GUTARI	Asteraceae	(Gray) M.A. Lane	herb	
<i>Gutierrezia sarothrae</i>	GUTSAR	Asteraceae	(Pursh) Britt. & Rusby	shrub	broom snakeweed
<i>Gymnosperma glutinosum</i>	GYMGLU	Asteraceae	(Spreng.) Less.	shrub	
<i>Hedeoma nana ssp. macrocalyx</i>	HEDNAN	Lamiaceae	(Torr.) Briq.	herb	
<i>Herissantia crispa</i>	HERCRI	Malvaceae	(L.) Briz.	herb	
<i>Herniaria cinerea</i>	HERCIN	Caryophyllaceae	DC.	herb	
<i>Heteropogon contortus</i>	HETCON	Poaceae	(L.) Beauv. ex Roemer & J.A. Schultes	grass	

<i>Hibiscus coulteri</i>	HIBCOU	Malvaceae	Harvey ex Gray	shrub	
<i>Hibiscus denudatus</i>	HIBDEN	Malvaceae	Benth.	shrub	
@ <i>Hordeum murinum</i>	HORMUR	Poaceae	L.	grass	mouse barley
@ <i>Hordeum pusillum</i>	HORPUS	Poaceae	Nutt.	grass	little barley
<i>Horsfordia newberryi</i>	HORNEW	Malvaceae	(S. Wats.) Gray	shrub	
<i>Hybanthus verticillatus</i> var. <i>verticillatus</i>	HYBVER	Violaceae	(Ortega) Baill.	herb	
<i>Hymenoclea salsola</i>	HYMSAL	Asteraceae	Torr. & Gray ex Gray	shrub	cheesebush
<i>Hyptis emoryi</i>	HYPEMO	Lamiaceae	Torr.	shrub	desert lavender
<i>Isocoma acradenia</i>	ISOACR	Asteraceae	(Greene) Greene	shrub	alkali jimmyweed
<i>Janusia gracilis</i>	JANGRA	Malpighiaceae	Gray	vine	Janusia
<i>Jatropha cardiophylla</i>	JATCAR	Euphorbiaceae	(Torr.) Muell.-Arg.	shrub	limberbush
<i>Justicia longii</i>	JUSLON	Acanthaceae	Hillsenbeck	shrub	
<i>Keckiella antirrhinoides</i>	KECANT	Scrophulariaceae	(Benth.) Straw	shrub	
<i>Koeberlinia spinosa</i>	KOESPI	Koeberliniaceae	Zucc.	shrub	allthorn
<i>Krameria erecta</i>	KRAERE	Krameriaceae	Willd. ex J.A. Schultes	shrub	range ratany
<i>Krameria grayi</i>	KRAGRA	Krameriaceae	Rose & Painter	shrub	white ratany
<i>Lactuca serriola</i>	LACSER	Asteraceae	L.	herb	prickly lettuce
<i>Langloisia setosissima</i> ssp. <i>Setosissima</i>	LANSET	Polemoniaceae	(Torr. & Gray ex Torr.) Greene	herb	
<i>Lappula occidentalis</i>	LAPOCC	Boraginaceae	(S. Wats.) Greene	herb	
<i>Lappula texana</i>	LAPTEX	Boraginaceae	(Scheele) Britt.	herb	
<i>Larrea divaricata tridentata</i>	LARDIV	Zygophyllaceae	(DC.) Felger & Lowe	shrub	creosotebush
<i>Lepidium lasiocarpum</i>	LEPLAS	Brassicaceae	Nutt.	herb	pepper grass
<i>Leptochloa panicea</i> ssp. <i>brachiata</i>	HEPPAN	Poaceae	(Retzius) Ohwi (Steudel) N. Snow	grass	
<i>Lesquerella gordonii</i>	LESGOR	Brassicaceae	(Gray) S. Wats.	herb	bladderpod
<i>Lesquerella tenella</i>	LESTEN	Brassicaceae	A. Nels.	herb	
<i>Linanthus bigelovii</i>	LINBIG	Polemoniaceae	(Gray) Greene	herb	
<i>Linanthus jonesii</i>	LINJON	Polemoniaceae	(Gray) Greene	herb	
<i>Linum perenne</i> ssp. <i>lewisii</i>	LINPER	Linaceae	L.	herb	Flax
<i>Loeflingia squarrosa</i> ssp. <i>Cactorum</i>	LOESQU	Caryophyllaceae	Nutt.	herb	
<i>Lotus rigidus</i>	LOTRIG	Fabaceae	(Benth.) Greene	herb	
<i>Lotus salsuginosus</i>	LOTSAL	Fabaceae	Greene	herb	
<i>Lotus strigosus</i> v. <i>tomentellus</i>	LOTSTR	Fabaceae	(Nutt.) Greene	herb	
<i>Lupinus Arizonicus</i>	LUPARI	Fabaceae	(S. Wats.) S. Wats.	herb	
<i>Lupinus concinnus</i>	LUPCON	Fabaceae	J.G. Agardh	herb	
<i>Lupinus sparsiflorus</i>	LUPSPA	Fabaceae	Benth.	herb	
<i>Lycium andersonii</i>	LYCAND	Solanaceae	Gray	shrub	desert wolfberry
<i>Lycium berlandieri</i>	LYCBER	Solanaceae	Dunal	shrub	Berlandier's wolfberry
<i>Lycium exsertum</i>	LYCEXS	Solanaceae	Gray	shrub	Arizona desertthorn
<i>Lycium fremontii</i>	LYCFRE	Solanaceae	Gray	shrub	
<i>Lycium macrodon</i>	LYCMAC	Solanaceae	Gray	shrub	
<i>Lycium parishii</i>	LYCPAR	Solanaceae	Gray	shrub	Parish's desertthorn
<i>Lyrocarpa coulteri</i>	LYRCOU	Brassicaceae	Hook. & Harvey ex Harvey	vine	banana scent vine
<i>Machaeranthera pinnatifida gooddingii</i>	MACPIN	Asteraceae	(Hook.) Shinnars	shrub	
<i>Machaeranthera tagetina</i>	MACTAG	Asteraceae	Greene	herb	

<i>Malacothrix coulteri</i>	MALCOU	Asteraceae	Harvey & Gray	herb	
<i>Malacothrix fendleri</i>	MALFEN	Asteraceae	Gray	herb	desert dandelion
<i>Malacothrix sonora</i>	MALSON	Asteraceae	W.S. Davis & Raven	herb	
<i>Malacothrix stebbinsii</i>	MALSTE	Asteraceae	W.S. Davis & Raven	herb	
@ <i>Malva parviflora</i>	MALPAR	Malvaceae	L.	herb	cheeseweed
<i>Malvastrum bicuspidatum</i>	MALBIC	Malvaceae	(S. Wats.) Rose	herb	
<i>Malvella sagittifolia</i>	MAVSAG	Malvaceae	(Gray) Fryxell	herb	
<i>Mammillaria grahamii</i>	MAMGRA	Cactaceae	Engelm.	cactus	pincushion cactus
<i>Mammillaria tetrancistra</i>	MAMTET	Cactaceae	Engelm.	cactus	
<i>Marina parryi</i>	MARPAR	Fabaceae	(Torr. & Gray) Barneby	herb	
<i>Matelea parvifolia</i>	MATPAR	Asclepiadaceae	(Torr.) Woods.	vine	
<i>Matricaria discoidea</i>	MATDIS	Asteraceae	DC.	herb	pineapple weed
<i>Maurandya antirrhiniflora</i>	MAUANT	Scrophulariaceae	Humb. & Bonpl. ex Willd.	vine	
<i>Menodora scabra</i>	MENSCA	Oleaceae	Gray	shrub	
<i>Mentzelia affinis</i>	MENAFF	Loasaceae	Greene	herb	
<i>Mentzelia involucrata</i>	MENINV	Loasaceae	S. Wats.	herb	
<i>Mentzelia puberula</i>	MENPUB	Loasaceae	J. Darl.	herb	
<i>Metastelma arizonicum</i>	METARI	Asclepiadaceae	Gray	vine	
<i>Mirabilis laevis</i> var. <i>villosa</i>	MIRBIG	Nyctaginaceae	R. Spellenberg & S.R. Rodriguez	shrub	
<i>Monolepis nuttalliana</i>	MONNUT	Chenopodiaceae	(J.A. Schultes) Greene	herb	
<i>Monoptilon belliioides</i>	MONBEL	Asteraceae	(Gray) Hall	herb	
<i>Muhlenbergia microsperma</i>	MUHMIC	Poaceae	(DC.) Trin.	grass	
<i>Muhlenbergia porteri</i>	MUHPOR	Poaceae	Scribn. ex Beal	grass	
<i>Myosurus cupulatus</i>	MYOCUP	Ranunculaceae	S. Wats.	herb	
<i>Nama hispidum</i>	NAMHIS	Hydrophyllaceae	Gray	herb	
<i>Nemacladus glanduliferus</i> var. <i>orientalis</i>	NEMGLA	Campanulaceae	Jepson	herb	
<i>Nicotiana obtusifolia</i>	NICOB	Solanaceae	Mertens & Galeotti	herb	coyote tobacco
<i>Nissolia schottii</i>	NISSCH	Fabaceae	(Torr.) Gray	vine	
<i>Nolina microcarpa</i>	NOLMIC	Agavaceae	S. Wats.	shrub	
<i>Notholaena standleyi</i>	NOTSTA	Pteridaceae	Maxon	fern	star cloak-fern
<i>Oenothera primiveris</i>	OENPRI	Onagraceae	Gray	herb	evening primrose
<i>Oligomeris linifolia</i>	OLILIN	Resedaceae	(Vahl) J.F. Macbr.	herb	
<i>Olneya tesota</i>	OLNTES	Fabaceae	Gray	tree	desert ironwood
<i>Opuntia chlorotica</i>	OPUCLH	Cactaceae	Engelm. & Bigelow	cactus	pancake prickly-pear
<i>Opuntia engelmannii</i>	OPUENG	Cactaceae	Salm-Dyck	cactus	Engelmann's prickly pear
<i>Opuntia phaeacantha</i>	OPUPHA	Cactaceae	Engelm.	cactus	brown-spine prickly pear
<i>Orobanche cooperi</i>	OROCOO	Orobanchaceae	(Gray) Heller	herb	
<i>Orthocarpus purpurascens</i>	ORTPUR	Scrophulariaceae	Benth.	herb	
<i>Parietaria floridana</i>	PARFLO2	Urticaceae	Nutt.	herb	
<i>Parkinsonia florida</i>	PARFLO	Fabaceae	(Benth. ex Gray) S. Wats.	tree	blue paloverde
<i>Parkinsonia microphylla</i>	PARMIC	Fabaceae	Torr.	tree	foothill paloverde
<i>Pectocarya platycarpa</i>	PECPLA	Boraginaceae	(Munz & Johnston) Munz & Johnston	herb	
<i>Pectocarya recurvata</i>	PECREC	Boraginaceae	I.M. Johnston	herb	
<i>Pellaea truncata</i>	PELTRU	Pteridaceae	Goodding	fern	

	<i>Peniocereus greggii</i>	PENGRE	Cactaceae	(Engelm.) Britt. & Rose	cactus	night blooming cereus
@	<i>Pennisetum ciliare</i>	PENCIL	Poaceae	(L.) Link	grass	buffelgrass
	<i>Penstemon parryi</i>	PENPAR	Scrophulariaceae	(Gray) Gray	herb	
	<i>Penstemon pseudospectabilis</i>	PENPSE	Scrophulariaceae	M.E. Jones	herb	
	<i>Perityle emoryi</i>	PEREMO	Asteraceae	Torr.	herb	Emory's rock daisy
	<i>Petalonyx thurberi</i>	PETTHU	Losaceae	Gray	shrub	
	<i>Phacelia ambigua</i>	PHAAMB	Hydrophyllaceae	M.E. Jones	herb	
	<i>Phacelia coerulea</i>	PHACOE	Hydrophyllaceae	Greene [orthographic variant]	herb	
	<i>Phacelia distans</i>	PHADIS	Hydrophyllaceae	Benth.	herb	
@	<i>Phalaris minor</i>	PHAMIN	Poaceae	Retz.	grass	canary grass
	<i>Phaseolus filiformis</i>	PHAFIL	Fabaceae	Benth.	vine	
	<i>Pholistoma auritum</i> var <i>arizonicum</i>	PHOAU	Hydrophyllaceae	(Lindl.) Lilja	herb	
	<i>Phoradendron californicum</i>	PHOCAL	Viscaceae	Nutt.	tree	mistletoe
	<i>Physalis crassifolia</i>	PHYCRA	Solanaceae	Benth.	shrub	
	<i>Physalis lobata</i>	PHYLOB	Solanaceae	Torr.	herb	ground cherry
	<i>Plagiobothrys arizonicus</i>	PLAARI	Boraginaceae	(Gray) Greene ex Gray	herb	
	<i>Plagiobothrys jonesii</i>	PLAJON	Boraginaceae	Gray	herb	
	<i>Plantago ovata</i>	PLAOVA	Plantaginaceae	Forsk.	herb	
	<i>Plantago patagonica</i>	PLAPAT	Plantaginaceae	Jacq.	herb	
	<i>Plantago rhodosperma</i>	PLAROD	Plantaginaceae	Dcne.	herb	
	<i>Pleuraphis mutica</i>	PLEMUT	Poaceae	Buckl.	grass	tobosa grass
	<i>Pleuraphis rigida</i>	PELRIG	Poaceae	Thurb.	grass	big galleta
	<i>Poa bigelovii</i>	POABIG	Poaceae	Vasey & Scribn.	grass	
	<i>Polygala macradenia</i>	POLMAC	Polygalaceae	Gray	shrub	
	<i>Porophyllum gracile</i>	PORGRA	Asteraceae	Benth.	shrub	odora
	<i>Prosopis velutina</i>	PROVEL	Fabaceae	Woot.	tree	velvet mesquite
	<i>Psilostrophe cooperi</i>	PSICOO	Asteraceae	(Gray) Greene	shrub	
	<i>Psoralea spinosa</i>	PSOSPI	Fabaceae	(Gray) Barneby	tree	smoke tree
	<i>Quercus turbinella</i>	QUETUR	Fagaceae	Greene	tree	Oak
	<i>Rafinesquia californica</i>	RAFCAL	Asteraceae	Nutt.	herb	
	<i>Rafinesquia neomexicana</i>	RAFNEO	Asteraceae	Gray	herb	desert chicory
	<i>Rhynchosia senna</i> var. <i>texana</i>	RHYSEN	Fabaceae	Gillies ex Hook.	vine	
	<i>Rhynchosia texana</i>	RHYTEX	Fabaceae	Torr. & Gray	vine	rosary bean
@	<i>Salsola tragus</i>	SALTRA	Chenopodiaceae	L.	herb	russian thistle
	<i>Salvia columbariae</i>	SALCOL	Lamiaceae	Benth.	herb	Chia
	<i>Salvia pinguifolia</i>	SALPIN	Lamiaceae	(Fern.) Woot. & Standl.	herb	
	<i>Sarcostemma cynanchoides</i>	SARSYN	Asclepidaceae	Dcne.	vine	
@	<i>Schismus arabicus</i>	SCHARA	Poaceae	Nees	grass	mediterranean grass
@	<i>Schismus barbatus</i>	SCHBAR	Poaceae	(Loefl. ex L.) Thellung	grass	mediterranean grass
	<i>Sebastiania bilocularis</i>	SEBBIL	Pteridaceae	S. Wats.	shrub	Mexican jumping bean
	<i>Selaginella arizonica</i>	SELARI	Pteridaceae	Maxon	club moss	arizona spike-moss
	<i>Senecio lemmonii</i>	SENLEM	Asteraceae	Gray	herb	
	<i>Senna covesii</i>	SENCOV	Fabaceae	(Gray) Irwin & Barneby	shrub	
	<i>Silene antirrhina</i>	SILANT	Caryophyllaceae	L.	herb	

	<i>Simmondsia chinensis</i>	SIMCHI	Simmadonsiaceae	(Link) Schneid.	shrub	jojoba
@	<i>Sisymbrium irio</i>	SISIRI	Brassicaceae	L.	herb	London rocket
@	<i>Sonchus oleraceus</i>	SONOLE	Asteraceae	L.	herb	cow thistle
	<i>Spermolepis echinata</i>	SPEECH	Apiaceae	(Nutt. ex DC.) Heller	herb	
	<i>Sphaeralcea ambigua</i>	SPHAMB	Malvaceae	Gray	herb	desert globemallow
	<i>Sphaeralcea coulteri</i>	SPHCOU	Malvaceae	(S. Wats.) Gray	herb	
	<i>Sphaeralcea laxa</i>	SPHLAX	Malvaceae	Woot. & Standl.	herb	
	<i>Stephanomeria pauciflora</i>	SPHPAU	Asteraceae	(Torr.) A. Nels.	herb	desert straw
	<i>Streptanthus carinatus</i>	STRCAR	Brassicaceae	C. Wright ex Gray	herb	
	<i>Stylocline micropoides</i>	STYMIC	Asteraceae	Gray	herb	
	<i>Talinum auantiacum</i>	TALAU	Portulacaceae	Engelm.	shrub	
@	<i>Tamarix ramosissima</i>	TAMRAM	Tamaricaceae	Ledeb.	shrub	salt cedar, tamarisk
	<i>Taraxacum</i>	TARXXX	Asteraceae	G.H. Weber ex Wiggers	herb	dandelion
	<i>Teucrium cubense ssp depressum</i>	TEUCUB	Lamiaceae	Jacq.	herb	
	<i>Teucrium glandulosum</i>	TEUGLA	Lamiaceae	Kellogg	herb	
	<i>Thymophylla pentachaeta</i>	THYPEN	Asteraceae	(DC.) Small	shrub	
	<i>Thysanocarpus curvipes</i>	THYCUR	Brassicaceae	Hook.	herb	
	<i>Tidestromia lanuginosa</i>	TIDLAN	Amaranthaceae	(Nutt.) Standl.	shrub	
	<i>Tiquilia canescens</i>	TIQCAN	Boraginaceae	(DC.) A. Richards.	shrub	
	<i>Tragia nepetifolia var dissecta</i>	TRANEP	Euphorbiaceae	Cav.	shrub	
	<i>Tridens muticus</i>	TRIMUT	Poaceae	(Torr.) Nash	grass	
	<i>Trifolium wormskioldii</i>	TRIWOR	Fabaceae	Lehm.	herb	
	<i>Trisetum interruptum</i>	TRIINT	Poaceae	Buckl.	grass	
@	<i>Triticum aestivum</i>	TRIAES	Poaceae	L.	grass	common wheat
	<i>Trixis californica</i>	TRICAL	Asteraceae	Kellogg	shrub	California trixis
	<i>Typha domingensis</i>	TYPDOM	Typhaceae	Pers.	herb	southern cattail
	<i>Uropappus lindleyi</i>	UROLIN	Asteraceae	(DC.) Nutt.	herb	syn. <i>Microseris lindleyi</i>
	<i>Vauquelinia californica ssp. Sonorensis</i>	VAUCAL	Rosaceae	(Torr.) Sarg.	tree	Arizona rosewood
	<i>Verbena bracteata</i>	VERBRA	Verbenaceae	Lag. & Rodr.	herb	
	<i>Verbena neomexicana</i>	VERNEO	Verbenaceae	(Gray) Small	herb	
	<i>Veronica peregrina ssp. xalapensis</i>	VERPER	Verbenaceae	L.	herb	
	<i>Vicia ludoviciana var. ludoviciana</i>	VICLUD	Fabaceae	Nutt.	vine	
	<i>Viguiera parishii</i>	VIGPAR	Asteraceae	Greene	shrub	(<i>V. deltoidea</i> v <i>parishii</i>)
	<i>Vulpia octoflora</i>	VULOCT	Poaceae	(Walt.) Rydb.	grass	
	<i>Yabea microcarpa</i>	YABMIC	Apiaceae	(Hook. & Arn.) K.-Pol.	herb	
	<i>Yucca baccata</i>	YUCBAC	Liliaceae	Torr.	shrub	banana yucca
	<i>Zinnia acerosa</i>	ZINACE	Asteraceae	(DC.) Gray	shrub	
	<i>Ziziphus obtusifolia canescens</i>	ZIZOBT	Rhamnaceae	(Hook. ex Torr. & Gray) Gray	shrub	graythorn

Discrepancies in Spelling

In Database As:

Allium macropetalon
Ambrosia confertifolia
Anisacathus thurberi
Aristida adsensionis
Brickellia atrostyloides
Brickellia frutescens
Calocortus kennedeyi
Carlowrightii arizonica
Celtis pallida pallida
Chenopodium neomexicana
Chorizanthe brevicornus
Cirsium neomexicana
Commicarpus scandens
Crossosma bigelovii
Descurania pinnata
Eriogonum fasciculatum
Forestiera phillyreoides
Gaillardia arizonica
Hedeoma nanum var. macrocalyx
Heptochloa panicea ssp. Brachiata
Janusia gracile
Lactuca serrulata
Lotus strigosa var. tomentellum
Malacothrix coulteri
Malacothrix fendleri
Malacothrix sonora
Malacothrix stebbinsii
Maurandya antirrhinifolia
Mavella sagittiloba
Nemacladus glanduliferus var. orientalis
Oenothera primaveris
Perityle emoryi
Plantago rodosperma
Poa bigelovii
Polygala macrodenia
Talinum auantiacum Englemann
Thysanocarpus curvipes
Veronica peregrina ssp. xalapensis

Authority's Spelling:

Allium macropetalum
Ambrosia confertiflora
Anisacanthus thurberi
Aristida adscensionis
Brickellia atractyloides
Brickellia frutescens
Calochortus kennedyi
Carlowrightia arizonica
Celtis pallida
Chenopodium neomexicanum
Chorizanthe brevicornu
Cirsium neomexicanum
Commicarpus scandens
Crossosoma bigelovii
Descurainia pinnata
Eriogonum fasciculatum
Forestiera phillyreoides
Gaillardia arizonica
Hedeoma nana ssp. macrocalyx
Leptochloa panicea ssp. brachiata
Janusia gracilis
Lactuca serriola
Lotus strigosus v. tomentellus
Malacothrix coulteri
Malacothrix fendleri
Malacothrix sonorae
Malacothrix stebbinsii
Maurandya antirrhiniflora
Malvella sagittiloba
Nemacladus glanduliferus var. orientalis
Oenothera primiveris
Perityle emoryi
Plantago rhodosperma
Poa bigelovii
Polygala macradenia
Talinum auantiacum
Thysanocarpus curvipes
Veronica peregrina ssp. xalapensis

APPENDIX C

Natural Community Composition and Structure Sorted by Average % Cover

Scientific Name	Avg. % Cover	% Constancy
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Creosotebush - Bursage Desert Scrub (Summary Data Based on 87 Plots)

Structural Growth Form 1. Trees

Prosopis velutina	1.46	28.7
Parkinsonia florida	0.61	9.2
Olneya tesota	0.28	9.2
Parkinsonia microphylla	0.07	8.0
Phoradendron californicum	0.04	4.6

Sum for Structure Class:	2.47	
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Structural Growth Form 2. Shrubs

Larrea divaricata tridentata	7.92	97.7
Ambrosia deltoidea	0.84	42.5
Krameria grayi	0.13	12.6
Fouquieria splendens	0.10	6.9
Ambrosia dumosa	0.09	12.6
Acacia constricta	0.05	8.0
Encelia farinosa farinosa	0.04	4.6
Baccharis sarothroides	0.03	1.1
Lycium	0.03	4.6
Acacia greggii	0.02	4.6
Ditaxis lanceolata	0.02	3.4
Lycium andersonii	0.01	4.6
Tamarix ramosissima	0.01	1.1
Krameria erecta	0.01	1.1
Senna covesii	0.01	3.4
Fagonia californica ssp longipes	0.01	2.3
Celtis pallida pallida	0.01	2.3
Yucca baccata	0.00	1.1
Hymenoclea salsola	0.00	1.1
Ziziphus obtusifolia canescens	0.00	1.1

Scientific Name	Avg. % Cover	% Constancy
Abutilon incanum	0.00	1.1
Physalis crassifolia	0.00	1.1
Boerhavia wrightii	0.00	1.1
Sum for Structure Class:	9.34	
Structural Growth Form 3. Cactus		
Cylindropuntia fulgida	0.16	5.7
Cylindropuntia acanthocarpa	0.11	19.5
Cylindropuntia bigelovii	0.05	3.4
Carnegiea gigantea	0.04	17.2
Cylindropuntia leptocaulis	0.02	3.4
Ferocactus	0.01	3.4
Ferocactus wislizeni	0.01	3.4
Mammillaria grahamii	0.01	2.3
Ferocactus emoryi	0.00	1.1
Echinocereus engelmannii	0.00	1.1
Grusonia parishii	0.00	1.1
Mammillaria	0.00	1.1
Echinocereus	0.00	1.1
Opuntia	0.00	1.1
Ferocactus cylindraceus	0.00	1.1
Sum for Structure Class:	0.43	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	7.16	92.0
Plantago ovata	5.55	77.0
Erodium cicutarium	2.37	37.9
Pectocarya	1.78	34.5
Pectocarya platycarpa	1.35	21.8
Lesquerella gordonii	1.32	71.3
Pectocarya recurvata	1.07	11.5
Sisymbrium irio	0.94	16.1
Amsinckia intermedia	0.51	54.0
Erodium texanum	0.44	31.0
Caulanthus lasiophyllus	0.41	39.1

Scientific Name	Avg. % Cover	% Constancy
Cryptantha maritima	0.29	28.7
Chaenactis stevioides	0.26	39.1
Eriogonum thomasi	0.26	2.3
Eriophyllum lanosum	0.22	34.5
Chorizanthe brevicornus	0.22	34.5
Ambrosia ambrosioides	0.20	3.4
Chorizanthe rigida	0.19	39.1
Sphaeralcea coulteri	0.18	6.9
Cryptantha pterocarya	0.16	16.1
Amsinkia	0.14	17.2
Monoptilon bellioides	0.09	3.4
Brassica tournefortii	0.09	11.5
Cryptantha barbigera	0.09	6.9
Eriogonum deflexum	0.08	8.0
Phacelia	0.08	11.5
Nicotiana obtusifolia	0.07	4.6
Euphorbia polycarpa	0.07	3.4
Sphaeralcea	0.06	1.1
Verbena bracteata	0.05	2.3
Chaenactis carphoclinia	0.05	2.3
Astragalus nuttallianus	0.04	5.7
Euphorbia	0.04	4.6
Chenopodium murale	0.04	4.6
Phacelia ambigua	0.04	2.3
Teucrium cubense ssp depressum	0.04	2.3
Filago	0.03	5.7
Cryptantha	0.03	8.0
Descurania pinnata	0.03	8.0
Malva parviflora	0.03	4.6
Lupinus sparsiflorus	0.03	10.3
Camissonia chamaenerioides	0.03	6.9
Ditaxis neomexicana	0.03	3.4
Sonchus	0.03	3.4
Loeflingia squarrosa ssp.	0.03	2.3

Scientific Name	Avg. % Cover	% Constancy
Plagiobothrys	0.03	2.3
Monolepis nuttalliana	0.02	1.1
Draba cuneifolia	0.02	8.0
Sphaeralcea ambigua	0.02	4.6
Eriastrum diffusum	0.02	4.6
Cryptantha micrantha	0.02	4.6
Camissonia	0.02	6.9
Daucus pusillus	0.02	6.9
Astragalus	0.02	3.4
Amsinckia tessellata	0.02	3.4
Linanthus jonesii	0.01	5.7
Eucrypta micrantha	0.01	2.3
Eriogonum	0.01	2.3
Veronica peregrina ssp xalapensis	0.01	2.3
Gilia	0.01	4.6
Filago arizonica	0.01	4.6
Oligomeris linifolia	0.01	4.6
Datura discolor	0.01	1.1
Conyza canadensis	0.01	1.1
unknown herb 1	0.01	3.4
Lappula occidentalis	0.01	3.4
Rafinesquia neomexicana	0.01	2.3
Nama hispidum	0.01	2.3
Lotus salsuginosus	0.01	2.3
Lupinus	0.01	2.3
Herniaria cinerea	0.01	2.3
Chenopodium pratericola	0.01	2.3
Chenopodium neomexicana	0.01	2.3
Chenopodium	0.01	2.3
Stylocline micropoides	0.00	1.1
Plantago patagonica	0.00	1.1
Cirsium neomexicana	0.00	1.1
Salvia columbariae	0.00	1.1
Silene antirrhina	0.00	1.1

Scientific Name	Avg. % Cover	% Constancy
Sonchus oleraceus	0.00	1.1
Spermolepis echinata	0.00	1.1
Chaenactis	0.00	1.1
Conyza coulteri	0.00	1.1
Sphaeralcea laxa	0.00	1.1
Salsola tragus	0.00	1.1
Camissonia californica	0.00	1.1
Calycoseris wrightii	0.00	1.1
unknown herb 2	0.00	1.1
Uropappus lindleyi	0.00	1.1
Bowlesia incana	0.00	1.1
Ambrosia confertifolia	0.00	1.1
Gilia stellata	0.00	1.1
Castilleja exserta ssp. Exserta	0.00	1.1
Oenothera	0.00	1.1
Machaeranthera tagetina	0.00	1.1
Malacothrix	0.00	1.1
Linanthus bigelovii	0.00	1.1
Mentzelia affinis	0.00	1.1
Amaranthus albus	0.00	1.1
Silene	0.00	1.1
Filago depressa	0.00	1.1
Plantago	0.00	1.1
Oenothera primaveris	0.00	1.1
Evax multicaulis	0.00	1.1
Orthocarpus purpurascens	0.00	1.1
Phacelia coerulea	0.00	1.1
Eucrypta chrysanthemifolia	0.00	1.1
Eschscholzia mexicana	0.00	1.1
Penstemon parryi	0.00	1.1
Perityle emoryi	0.00	1.1
Eriogonum trichopes	0.00	1.1
Dalea mollissima	0.00	1.1
Nemacladus glanduliferous var.	0.00	1.1

Scientific Name	Avg. % Cover	% Constancy
Eriogonum abertianum	0.00	1.1
Euphorbia albomarginata	0.00	1.1
Sum for Structure Class:	26.70	
Structural Growth Form 5. Grasses		
Schismus arabicus	11.11	93.1
Pleuraphis mutica	0.34	4.6
Phalaris minor	0.09	1.1
Vulpia octoflora	0.07	12.6
Cynodon dactylon	0.05	2.3
Poa bigelovii	0.04	9.2
Erioneuron pulchellum	0.04	2.3
Muhlenbergia porteri	0.03	3.4
Eragrostis lehmanniana	0.01	1.1
Pleuraphis rigida	0.00	1.1
Aristida	0.00	1.1
Bromus rubens	0.00	1.1
Bromus	0.00	1.1
Heteropogon contortus	0.00	1.1
Bromus carinatus	0.00	1.1
Sum for Structure Class:	11.80	
Structural Growth Form 6. Vines		
Janusia gracile	0.00	1.1
Sum for Structure Class:	0.00	

Scientific Name	Avg. % Cover	% Constancy
<i>Desert Grassland</i>		
<i>(Summary Data Based on 13 Plots)</i>		
Structural Growth Form 1. Trees		
Prosopis velutina	3.15	100.0
Sum for Structure Class:	3.15	
Structural Growth Form 2. Shrubs		
Koeberlinia spinosa	0.08	7.7
Larrea divaricata tridentata	0.02	7.7
Lycium	0.02	7.7
Acacia constricta	0.02	7.7
Sum for Structure Class:	0.13	
Structural Growth Form 3. Cactus		
Cylindropuntia	0.08	7.7
Grusonia parishii	0.06	23.1
Cylindropuntia spinosior	0.04	15.4
Cylindropuntia fulgida	0.02	7.7
Ferocactus	0.02	7.7
Sum for Structure Class:	0.21	
Structural Growth Form 4. Herbs		
Lesquerella gordonii	9.69	100.0
Erodium cicutarium	6.54	100.0
Monolepis nuttalliana	2.12	84.6
Amsinkia	1.33	53.8
Plantago rodosperma	1.12	38.5
Plantago	1.00	38.5
Astragalus nuttallianus	0.62	46.2
Amsinckia tessellata	0.58	46.2
Plantago patagonica	0.56	38.5
Sphaeralcea coulteri	0.21	61.5
Chaenactis stevioides	0.19	53.8
Eriophyllum lanosum	0.17	46.2
Bowlesia incana	0.17	23.1

Scientific Name	Avg. % Cover	% Constancy
<i>Calycoseris wrightii</i>	0.13	30.8
<i>Plantago ovata</i>	0.13	30.8
<i>Sisymbrium irio</i>	0.12	23.1
<i>Taraxacum</i>	0.12	23.1
<i>Erigeron divergens</i>	0.10	15.4
<i>Pectocarya platycarpa</i>	0.08	7.7
<i>Phacelia ambigua</i>	0.06	23.1
<i>Mavella sagittiloba</i>	0.06	23.1
<i>Malacothrix</i>	0.06	23.1
<i>Uropappus lindleyi</i>	0.06	23.1
<i>Cryptantha maritima</i>	0.06	23.1
<i>Atriplex elegans</i>	0.04	15.4
<i>Erodium texanum</i>	0.04	15.4
<i>Monoptilon bellioides</i>	0.04	15.4
<i>Mentzelia affinis</i>	0.02	7.7
<i>Astragalus</i>	0.02	7.7
<i>Camissonia chamaenerioides</i>	0.02	7.7
<i>Sonchus</i>	0.02	7.7
<i>Chenopodium</i>	0.02	7.7
<i>Chorizanthe brevicornus</i>	0.02	7.7
<i>Cryptantha angustifolia</i>	0.02	7.7
<i>Draba cuneifolia</i>	0.02	7.7
<i>Phacelia</i>	0.02	7.7
<i>Eriogonum deflexum</i>	0.02	7.7
<i>Linanthus jonesii</i>	0.02	7.7
<i>Lappula occidentalis</i>	0.02	7.7
<i>Descurania pinnata</i>	0.02	7.7
<i>Evax verna</i>	0.02	7.7
<i>Pectocarya</i>	0.02	7.7
<i>Euphorbia albomarginata</i>	0.02	7.7
<i>Malacothrix coulteri</i>	0.02	7.7
<i>Matricaria discoidea</i>	0.02	7.7
<i>Oligomeris linifolia</i>	0.02	7.7
<i>Argemone pleiacantha</i>	0.02	7.7

Scientific Name	Avg. % Cover	% Constancy
Lepidium lasiocarpum	0.02	7.7
Lactuca	0.02	7.7
Malacothrix fendleri	0.02	7.7
Sum for Structure Class:	25.81	
Structural Growth Form 5. Grasses		
Pleuraphis mutica	15.23	100.0
Schismus arabicus	1.77	84.6
Pleuraphis rigida	0.02	7.7
Sum for Structure Class:	17.02	

Scientific Name	Avg. % Cover	% Constancy
<i>Mesquite Woodland</i> <i>(Summary Data Based on 13 Plots)</i>		
Structural Growth Form 1. Trees		
Prosopis velutina	49.92	100.0
Parkinsonia florida	1.10	30.8
Phoradendron californicum	0.31	15.4
Olneya tesota	0.02	7.7
Sum for Structure Class:	51.35	
Structural Growth Form 2. Shrubs		
Larrea divaricata tridentata	17.38	84.6
Ambrosia deltoidea	3.19	69.2
Lycium	1.67	46.2
Ambrosia dumosa	1.38	38.5
Lycium andersonii	0.37	30.8
Castela emoryi	0.04	15.4
Celtis pallida pallida	0.02	7.7
Sum for Structure Class:	24.06	
Structural Growth Form 3. Cactus		
Cylindropuntia leptocaulis	0.02	7.7
Ferocactus	0.02	7.7
Sum for Structure Class:	0.04	
Structural Growth Form 4. Herbs		
Erodium cicutarium	15.29	84.6
Sisymbrium irio	7.63	69.2
Filago arizonica	2.85	61.5
Amsinckia intermedia	2.52	76.9
Pectocarya platycarpa	2.25	30.8
Lesquerella gordonii	1.77	76.9
Bowlesia incana	1.35	46.2
Lepidium lasiocarpum	1.13	84.6
Herniaria cinerea	1.08	38.5
Sphaeralcea coulteri	0.87	61.5

Scientific Name	Avg. % Cover	% Constancy
Plantago ovata	0.85	61.5
Pectocarya	0.73	30.8
Allionia incarnata	0.54	15.4
Evax multicaulis	0.38	30.8
Daucus pusillus	0.37	38.5
Descurania pinnata	0.35	30.8
Plagiobothrys	0.19	30.8
Matricaria discoidea	0.15	15.4
Camissonia chamaenerioides	0.13	30.8
Erodium texanum	0.12	23.1
Cryptantha	0.12	23.1
unknown herb 1	0.10	15.4
Astragalus	0.10	15.4
Ambrosia confertifolia	0.10	15.4
Draba cuneifolia	0.08	30.8
Parietaria floridana	0.08	7.7
Eriophyllum lanosum	0.06	23.1
Sonchus oleraceus	0.04	15.4
Ambrosia ambrosioides	0.04	15.4
Crassula connata	0.04	15.4
Oenothera	0.04	15.4
Mentzelia	0.02	7.7
Lappula occidentalis	0.02	7.7
Brassica tournefortii	0.02	7.7
Uropappus lindleyi	0.02	7.7
Sum for Structure Class:	41.38	
Structural Growth Form 5. Grasses		
Schismus arabicus	17.08	92.3
Muhlenbergia microsperma	10.33	46.2
Vulpia octoflora	0.19	23.1
Cynodon dactylon	0.10	15.4
Bromus	0.02	7.7
Poa bigelovii	0.02	7.7
Sum for Structure Class:	27.73	

Scientific Name	Avg. % Cover	% Constancy
<i>Mountain Upland</i>		
<i>(Summary Data Based on 36 Plots)</i>		
Structural Growth Form 1. Trees		
Parkinsonia microphylla	0.94	38.9
Prosopis velutina	0.29	19.4
Vauquelinia californica ssp.	0.03	2.8
Quercus turbinella	0.01	2.8
Phoradendron californicum	0.01	2.8
Sum for Structure Class:	1.28	
Structural Growth Form 2. Shrubs		
Canotia holacantha	3.85	69.4
Yucca baccata	3.05	63.9
Ephedra aspera	2.56	86.1
Viguiera parishii	1.69	66.7
Fouquieria splendens	1.66	75.0
Aloysia wrightii	1.35	47.2
Larrea divaricata tridentata	1.26	44.4
Lycium	1.25	61.1
Zinnia acerosa	1.05	38.9
Acacia constricta	0.94	36.1
Eriogonum fasciculatum	0.92	41.7
Tiquilia canescens	0.88	27.8
Acacia greggii	0.71	27.8
Gallium stellatum	0.54	33.3
Encelia farinosa farinosa	0.51	19.4
Celtis pallida pallida	0.51	16.7
Krameria grayi	0.47	33.3
Menodora scabra	0.45	44.4
Calliandra eriophylla	0.37	22.2
Eriogonum wrightii	0.31	13.9
Condalia warnockii	0.26	19.4
Krameria erecta	0.25	22.2
Artemisia ludoviciana	0.25	22.2

Scientific Name	Avg. % Cover	% Constancy
Agave deserti simplex	0.24	55.6
unknown shrub 1	0.24	16.7
Gutierrezia sarothrae	0.20	13.9
Bernardia incana	0.20	13.9
Ambrosia deltoidea	0.19	2.8
Psilostrophe cooperi	0.16	22.2
Gymnosperma glutinosum	0.11	8.3
Coursetia glandulosa	0.11	2.8
Trixis californica	0.10	22.2
Lycium berlandieri	0.09	5.6
Lycium exsertum	0.08	2.8
Koeberlinia spinosa	0.06	8.3
Ziziphus obtusifolia canescens	0.06	5.6
Carlowrightii arizonica	0.06	5.6
Ericameria laricifolia	0.06	5.6
Crossosma bigelovii	0.06	5.6
Ayenia microphylla	0.05	11.1
Brickellia coulteri	0.04	8.3
Jatropha cardiophylla	0.04	8.3
Porophyllum gracile	0.04	8.3
Atriplex canescens	0.03	5.6
Ditaxis lanceolata	0.03	5.6
Hibiscus coulteri	0.03	11.1
Hyptis emoryi	0.03	2.8
Bebbia juncea aspera	0.03	2.8
Keckiella antirrhinoides	0.03	2.8
Machaeranthera pinnatifida	0.01	5.6
Abutilon	0.01	2.8
Anisacathus thurberi	0.01	2.8
Mirabilis laevis v villosa	0.01	2.8
Forestiera phillyreoides	0.01	2.8
Thymophylla pentachaeta	0.01	2.8
Abutilon incanum	0.01	2.8
Tragia nepetifolia var dissecta	0.01	2.8

Scientific Name	Avg. % Cover	% Constancy
Talinum auantiacum Englemann	0.01	2.8
Tidestromia lanuginosa	0.01	2.8
Sum for Structure Class:	27.53	
Structural Growth Form 3. Cactus		
Opuntia	1.79	36.1
Opuntia engelmannii	0.90	11.1
Opuntia chlorotica	0.44	11.1
Cylindropuntia acanthocarpa	0.36	52.8
Echinocereus engelmannii	0.27	36.1
Echinocereus	0.21	16.7
Carnegiea gigantea	0.10	22.2
Cylindropuntia leptocaulis	0.08	11.1
Ferocactus emoryi	0.05	19.4
Mammillaria grahamii	0.04	8.3
Opuntia phaeacantha	0.03	2.8
Mammillaria	0.01	2.8
Ferocactus cylindraceus	0.01	2.8
Sum for Structure Class:	4.27	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	4.47	61.1
Phacelia coerulea	2.62	47.2
Cryptantha pterocarya	2.42	75.0
Phacelia distans	1.63	16.7
Lesquerella gordonii	1.54	36.1
Eschscholzia mexicana	1.51	11.1
Descurania pinnata	1.21	61.1
Plantago patagonica	0.94	38.9
Eucrypta micrantha	0.91	38.9
Amsinckia intermedia	0.88	38.9
Caulanthus lasiophyllus	0.60	30.6
Thysanocarpis curvipes	0.52	47.2
Pholistoma auritum var	0.47	22.2
Androsace occidentalis	0.45	27.8

Scientific Name	Avg. % Cover	% Constancy
Lappula texana	0.36	11.1
Erodium cicutarium	0.35	27.8
Sphaeralcea ambigua	0.31	44.4
Plantago ovata	0.30	19.4
Eriastrum diffusum	0.25	30.6
Lappula occidentalis	0.24	16.7
Chorizanthe brevicornus	0.21	8.3
Cryptantha maritima	0.20	5.6
Daucus pusillus	0.19	41.7
Phacelia	0.19	11.1
Draba cuneifolia	0.19	33.3
Eriogonum abertianum	0.17	25.0
Uropappus lindleyi	0.17	50.0
Rafinesquia neomexicana	0.15	33.3
Parietaria floridana	0.15	22.2
Plantago	0.14	5.6
Gutierrezia arizonica	0.14	5.6
Streptanthus carinatus	0.13	22.2
Acleisanthes longiflora	0.10	16.7
Acourtia nana	0.10	22.2
Calycoseris wrightii	0.08	16.7
Stephanomeria pauciflora	0.08	16.7
Phacelia ambigua	0.08	13.9
Pectocarya recurvata	0.08	13.9
Acourtia wrightii	0.08	13.9
Dichelostemma capitatum ssp.	0.07	27.8
Senecio lemmonii	0.07	19.4
Gilia	0.07	19.4
Stylocline micropoides	0.07	19.4
Delphinium scaposum	0.06	16.7
Eucrypta chrysanthemifolia	0.06	5.6
Amsinckia tessellata	0.06	2.8
Gilia flavocincta	0.06	2.8
Gilia stellata	0.05	19.4

Scientific Name	Avg. % Cover	% Constancy
Chaenactis stevioides	0.05	11.1
Chenopodium neomexicana	0.05	11.1
Sphaeralcea coulteri	0.04	8.3
Linanthus jonesii	0.03	13.9
Hedeona nanum var marocalyx	0.03	13.9
Teucrium glandulosum	0.03	5.6
Sisymbrium irio	0.03	5.6
Mentzelia	0.03	5.6
Myosurus cupulatus	0.03	5.6
Allium macropetalon	0.03	11.1
Eriophyllum lanosum	0.03	11.1
unknown herb 1	0.03	11.1
Yabea microcarpa	0.03	11.1
Silene antirrhina	0.03	11.1
Cryptantha barbigera	0.03	11.1
Rafinesquia californica	0.03	11.1
Verbena	0.03	2.8
Sphaeralcea laxa	0.03	2.8
Chenopodium murale	0.03	2.8
Castilleja lanata	0.02	8.3
Cirsium neomexicana	0.01	5.6
Astragalus nuttallianus	0.01	5.6
Erodium texanum	0.01	5.6
Euphorbia	0.01	5.6
Pectocarya	0.01	5.6
Pectocarya platycarpa	0.01	5.6
Lupinus	0.01	5.6
Euphorbia eriantha	0.01	5.6
Cryptantha	0.01	5.6
Filago	0.01	5.6
Filago arizonica	0.01	5.6
Sphaeralcea	0.01	2.8
Arabis perennans	0.01	2.8
Chaenactis	0.01	2.8

Scientific Name	Avg. % Cover	% Constancy
Camissonia californica	0.01	2.8
Camissonia	0.01	2.8
Calocortus kennedeyi	0.01	2.8
Bowlesia incana	0.01	2.8
Atriplex elegans	0.01	2.8
Mentzelia affinis	0.01	2.8
Camissonia chamaenerioides	0.01	2.8
Penstemon	0.01	2.8
Monoptilon bellioides	0.01	2.8
Chenopodium	0.01	2.8
Eriogonum maculatum	0.01	2.8
Lupinus sparsiflorus	0.01	2.8
Malacothrix sonorae	0.01	2.8
Penstemon pseudospectabilis	0.01	2.8
Lotus	0.01	2.8
Linum perenne ssp lewisii	0.01	2.8
Lactuca serrulata	0.01	2.8
Hybanthus verticillatus var.	0.01	2.8
Euphorbia polycarpa	0.01	2.8
Rafinesquia	0.01	2.8
Oenothera primaveris	0.01	2.8
Sum for Structure Class:	26.13	
Structural Growth Form 5. Grasses		
Muhlenbergia porteri	6.45	80.6
Pleuraphis mutica	3.94	30.6
Poa bigelovii	1.32	63.9
unknown grass 1	0.78	25.0
Vulpia octoflora	0.71	66.7
Schismus arabicus	0.67	47.2
Pleuraphis rigida	0.62	11.1
Bromus rubens	0.53	33.3
Elymus elymoides	0.50	8.3
Bouteloua	0.17	2.8

Scientific Name	Avg. % Cover	% Constancy
Tridens muticus	0.07	11.1
Aristida purpurea	0.07	8.3
Muhlenbergia microsperma	0.03	2.8
Bouteloua repens	0.03	2.8
unknown grass 2	0.01	2.8
Heptochloa panicea ssp.	0.01	2.8
Bromus carinatus	0.01	2.8
Digitaria californica	0.01	2.8
Heteropogon contortus	0.01	2.8
Sum for Structure Class:	15.90	
Structural Growth Form 6. Vines		
Janusia gracile	1.12	66.7
Matelea parvifolia	0.04	8.3
Sarcostemma cynanchoides	0.03	13.9
Galium aparine	0.01	5.6
Nissolia schottii	0.01	2.8
Metastelma arizonicum	0.01	2.8
Maurandya antirrhinifolia	0.01	2.8
Phaseolus filiformis	0.01	2.8
Sum for Structure Class:	1.24	
Structural Growth Form 7. Ferns		
Selaginella arizonica	4.53	27.8
Astrolepis cochisensis	0.17	33.3
Pellaea truncata	0.10	25.0
Notholaena standleyi	0.05	11.1
unknown fern 1	0.03	5.6
Cheilanthes yavapensis	0.03	2.8
Astrolepis sinuata sinuata	0.02	8.3
Sum for Structure Class:	4.93	

Scientific Name	Avg. % Cover	% Constancy
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Mountain Xeroriparian Scrub
(Summary Data Based on 16 Plots)

Structural Growth Form 1. Trees

Parkinsonia microphylla	5.00	75.0
Parkinsonia florida	2.88	18.8
Prosopis velutina	1.44	37.5
Olneya tesota	0.97	43.8
Phoradendron californicum	0.19	37.5
Quercus turbinella	0.13	6.3
Vauquelinia californica ssp.	0.02	6.3

Sum for Structure Class:	10.61	
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Structural Growth Form 2. Shrubs

Acacia constricta	4.70	68.8
Celtis pallida pallida	3.63	37.5
Acacia greggii	2.70	62.5
Ephedra aspera	2.47	68.8
Calliandra eriophylla	1.58	50.0
Lycium	1.39	75.0
Lycium berlandieri	1.19	18.8
Encelia farinosa farinosa	1.17	62.5
Ambrosia deltoidea	1.16	43.8
Eriogonum fasciculatum	1.08	68.8
Larrea divaricata tridentata	1.08	56.3
Brickellia coulteri	1.08	37.5
Coursetia glandulosa	0.69	12.5
Fouquieria splendens	0.67	62.5
Simmondsia chinensis	0.63	6.3
Trixis californica	0.56	62.5
Krameria grayi	0.56	50.0
Condalia warnockii	0.52	12.5
Viguiera parishii	0.41	31.3
Jatropha cardiophylla	0.39	31.3
Ditaxis lanceolata	0.38	56.3

Scientific Name	Avg. % Cover	% Constancy
<i>Anisacathus thurberi</i>	0.38	12.5
<i>Eriogonum wrightii</i>	0.34	31.3
<i>Hyptis emoryi</i>	0.31	12.5
<i>Bernardia incana</i>	0.31	12.5
<i>Brickellia frutescens</i>	0.31	6.3
<i>Lycium exsertum</i>	0.31	6.3
<i>Lycium andersonii</i>	0.31	6.3
<i>Sebastiania bilocularis</i>	0.25	6.3
<i>Fagonia californica</i> ssp <i>longipes</i>	0.19	12.5
<i>Crossosma bigelovii</i>	0.19	6.3
<i>Menodora scabra</i>	0.14	18.8
<i>Forestiera phillyreioides</i>	0.13	6.3
<i>Ambrosia dumosa</i>	0.13	6.3
<i>Gallium stellatum</i>	0.11	25.0
<i>Mirabilis laevis</i> v <i>villosa</i>	0.09	18.8
<i>Carlowrightii arizonica</i>	0.08	12.5
<i>Aloysia wrightii</i>	0.08	12.5
<i>Ziziphus obtusifolia canescens</i>	0.08	12.5
<i>Tragia nepetifolia</i> var <i>dissecta</i>	0.06	25.0
<i>Baccharis sarothroides</i>	0.06	6.3
<i>Artemisia ludoviciana</i>	0.05	18.8
unknown shrub 1	0.05	18.8
<i>Abutilon incanum</i>	0.05	18.8
<i>Senna covesii</i>	0.03	12.5
<i>Hibiscus coulteri</i>	0.03	12.5
<i>Psilostrophe cooperi</i>	0.03	12.5
<i>Gymnosperma glutinosum</i>	0.03	12.5
<i>Ayenia microphylla</i>	0.03	12.5
<i>Adenophyllum porophylloides</i>	0.02	6.3
<i>Zinnia acerosa</i>	0.02	6.3
<i>Ericameria laricifolia</i>	0.02	6.3
<i>Tiquilia canescens</i>	0.02	6.3
<i>Agave deserti simplex</i>	0.02	6.3
<i>Machaeranthera pinnatifida</i>	0.02	6.3

Scientific Name	Avg. % Cover	% Constancy
Atriplex canescens	0.02	6.3
Ayenia filiformis	0.02	6.3
Bebbia juncea aspera	0.02	6.3
Justicia longii	0.02	6.3
Brickellia atrostyloides	0.02	6.3
Canotia holacantha	0.02	6.3
Hibiscus denudatus	0.02	6.3
Sum for Structure Class:	32.38	
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	0.45	62.5
Cylindropuntia leptocaulis	0.28	18.8
Opuntia	0.27	25.0
Carnegiea gigantea	0.22	50.0
Echinocereus engelmannii	0.06	25.0
Ferocactus emoryi	0.03	12.5
Mammillaria grahamii	0.02	6.3
Opuntia engelmannii	0.02	6.3
Cylindropuntia	0.02	6.3
Sum for Structure Class:	1.36	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	2.45	87.5
Phacelia coerulea	2.20	50.0
Cryptantha pterocarya	2.19	81.3
Amsinckia intermedia	1.30	68.8
Eucrypta micrantha	1.28	68.8
Erodium cicutarium	1.02	43.8
Descurania pinnata	0.89	75.0
Lesquerella gordonii	0.78	43.8
Gilia stellata	0.61	56.3
Ambrosia ambrosioides	0.59	37.5
Phacelia ambigua	0.53	50.0
Pholistoma auritum var	0.53	37.5
Cryptantha maritima	0.52	43.8

Scientific Name	Avg. % Cover	% Constancy
Caulanthus lasiophyllus	0.45	50.0
Silene antirrhina	0.45	43.8
Chenopodium neomexicana	0.44	50.0
Chorizanthe brevicornus	0.42	62.5
Sisymbrium irio	0.41	37.5
Phacelia	0.39	31.3
Pectocarya recurvata	0.36	43.8
Androsace occidentalis	0.34	25.0
Plantago ovata	0.33	43.8
Salvia pinguifolia	0.31	6.3
Cryptantha barbigera	0.30	37.5
Plantago patagonica	0.25	37.5
Gilia	0.25	31.3
Sphaeralcea ambigua	0.23	37.5
Linanthus jonesii	0.22	68.8
Camissonia californica	0.22	50.0
Draba cuneifolia	0.22	50.0
Camissonia	0.22	50.0
Eriastrum diffusum	0.19	56.3
Chaenactis stevioides	0.19	56.3
Daucus pusillus	0.17	31.3
Euphorbia polycarpa	0.16	18.8
Herissantia crispa	0.14	12.5
Lappula occidentalis	0.14	12.5
Eriogonum maculatum	0.14	12.5
Acourtia wrightii	0.14	12.5
Stylocline micropoides	0.13	50.0
Calycoseris wrightii	0.13	31.3
Lupinus sparsiflorus	0.13	31.3
Amsinckia tessellata	0.13	6.3
Phacelia distans	0.13	6.3
Filago	0.11	43.8
Rafinesquia neomexicana	0.11	43.8
Stephanomeria pauciflora	0.11	25.0

Scientific Name	Avg. % Cover	% Constancy
Eriogonum abertianum	0.11	25.0
Uropappus lindleyi	0.11	25.0
Hedeonana nanum var marocalyx	0.09	18.8
Eriogonum inflatum	0.09	18.8
Astragalus nuttallianus	0.09	18.8
Eriophyllum lanosum	0.08	31.3
Chorizanthe rigida	0.08	12.5
Camissonia chamaenerioides	0.08	12.5
Eriogonum thomasi	0.08	12.5
Filago arizonica	0.08	12.5
Pectocarya	0.08	12.5
Acleisanthes longiflora	0.08	12.5
Thysanocarpis curvipes	0.06	25.0
Ditaxis neomexicana	0.06	25.0
Mentzelia	0.06	25.0
Dichelostemma capitatum ssp.	0.06	25.0
Amsinkia	0.06	6.3
Mentzelia affinis	0.06	6.3
Mentzelia involucrata	0.06	6.3
Linanthus bigelovii	0.06	6.3
Eriogonum deflexum	0.05	18.8
Allionia incarnata	0.05	18.8
Eschscholzia mexicana	0.05	18.8
Marina parryi	0.05	18.8
Delphinium scaposum	0.05	18.8
Sphaeralcea coulteri	0.05	18.8
Nemacladus glanduliferous var.	0.05	18.8
Euphorbia albomarginata	0.03	12.5
Lactuca serrulata	0.03	12.5
Streptanthus carinatus	0.03	12.5
Euphorbia	0.03	12.5
Cryptantha micrantha	0.03	12.5
Lotus	0.03	12.5
Castilleja exserta ssp. Exserta	0.02	6.3

Scientific Name	Avg. % Cover	% Constancy
Senecio lemmonii	0.02	6.3
Trifolium wormskioldii	0.02	6.3
Sphaeralcea laxa	0.02	6.3
unknown herb 1	0.02	6.3
Verbena neomexicana	0.02	6.3
Castilleja lanata	0.02	6.3
Sonchus oleraceus	0.02	6.3
Silene	0.02	6.3
Lupinus	0.02	6.3
Eriogonum	0.02	6.3
Astragalus arizonicus	0.02	6.3
Machaeranthera tagetina	0.02	6.3
Malacothrix sonorae	0.02	6.3
Acourtia nana	0.02	6.3
Lesquerella tenella	0.02	6.3
Malvastrum bicuspidatum	0.02	6.3
Penstemon pseudospectabilis	0.02	6.3
Perityle emoryi	0.02	6.3
Filago californica	0.02	6.3
Ambrosia confertifolia	0.02	6.3
Euphorbia pediculifera	0.02	6.3
Plagiobothrys jonesii	0.02	6.3
Euphorbia eriantha	0.02	6.3
Euphorbia arizonica	0.02	6.3
Rafinesquia californica	0.02	6.3
Parietaria floridana	0.02	6.3
Sum for Structure Class:	25.41	
Structural Growth Form 5. Grasses		
Poa bigelovii	2.53	75.0
Schismus arabicus	2.36	81.3
Muhlenbergia porteri	1.86	43.8
Vulpia octoflora	1.30	75.0
Bromus rubens	1.00	43.8

Scientific Name	Avg. % Cover	% Constancy
Pleuraphis	0.33	12.5
Pleuraphis rigida	0.14	12.5
Aristida purpurea	0.09	18.8
unknown grass 1	0.06	6.3
Pleuraphis mutica	0.06	6.3
unknown grass 2	0.06	6.3
Heteropogon contortus	0.05	18.8
Bromus carinatus	0.03	12.5
Aristida	0.03	12.5
Trisetum interruptum	0.02	6.3
Bouteloua curtipendula	0.02	6.3
Pennisetum ciliare	0.02	6.3
Erioneuron pulchellum	0.02	6.3
Aristida adensionis	0.02	6.3
Sum for Structure Class:	9.98	
Structural Growth Form 6. Vines		
Janusia gracile	0.73	56.3
Sarcostemma cynanchoides	0.05	18.8
Rhynchosia senna var. texana	0.02	6.3
Nissolia schottii	0.02	6.3
Matelea parvifolia	0.02	6.3
Galium aparine	0.02	6.3
Cucurbita digitata	0.02	6.3
Antirrhinum filipes	0.02	6.3
Lyrocarpa coulteri	0.02	6.3
Sum for Structure Class:	0.89	
Structural Growth Form 7. Ferns		
Selaginella arizonica	0.64	12.5
Astrolepis cochisensis	0.14	12.5
Pellaea truncata	0.05	18.8
Notholaena standleyi	0.02	6.3
Sum for Structure Class:	0.84	

Scientific Name

Avg. % Cover

% Constancy

Paloverde - Mixed Cacti - Mixed Scrub on Bajadas

(Summary Data Based on 35 Plots)

Structural Growth Form 1. Trees

Parkinsonia microphylla	3.05	71.4
Olneya tesota	1.75	28.6
Parkinsonia florida	0.49	11.4
Prosopis velutina	0.29	11.4
Phoradendron californicum	0.04	14.3

Sum for Structure Class: 5.62

Structural Growth Form 2. Shrubs

Larrea divaricata tridentata	5.51	100.0
Ambrosia deltoidea	4.69	97.1
Krameria grayi	0.86	51.4
Hymenoclea salsola	0.55	11.4
Fouquieria splendens	0.47	45.7
Ambrosia dumosa	0.26	22.9
Acacia constricta	0.24	20.0
Lycium	0.18	25.7
Lycium macrodon	0.09	2.9
Trixis californica	0.06	8.6
Lycium parishii	0.06	5.7
Krameria erecta	0.06	2.9
Acacia greggii	0.06	2.9
Ditaxis lanceolata	0.04	17.1
Encelia farinosa farinosa	0.04	14.3
Jatropha cardiophylla	0.03	2.9
Fagonia californica ssp longipes	0.03	2.9
Ephedra aspera	0.03	2.9
Lycium andersonii	0.01	5.7
Calliandra eriophylla	0.01	2.9
Ayenia filiformis	0.01	2.9
Lycium berlandieri	0.01	2.9

Sum for Structure Class: 13.29

Scientific Name	Avg. % Cover	% Constancy
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	0.92	68.6
Carnegiea gigantea	0.40	65.7
Opuntia	0.29	5.7
Cylindropuntia fulgida	0.15	22.9
Cylindropuntia leptocaulis	0.09	14.3
Mammillaria grahamii	0.06	22.9
Ferocactus emoryi	0.06	14.3
Echinocereus engelmannii	0.04	17.1
Cylindropuntia	0.03	2.9
Cylindropuntia bigelovii	0.02	8.6
Echinocereus	0.01	5.7
Peniocereus greggii	0.01	2.9
Mammillaria	0.01	2.9
Opuntia engelmannii	0.01	2.9
Ferocactus	0.01	2.9
Mammillaria tetrancistra	0.01	2.9
Sum for Structure Class:	2.11	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	4.52	94.3
Pectocarya	2.80	45.7
Pectocarya recurvata	1.81	31.4
Cryptantha maritima	1.79	48.6
Plantago ovata	1.28	74.3
Chorizanthe brevicornus	1.26	74.3
Lesquerella gordonii	1.03	57.1
Eriogonum thomasii	0.74	11.4
Caulanthus lasiophyllus	0.54	62.9
Pectocarya platycarpa	0.46	28.6
Cryptantha pterocarya	0.45	62.9
Chorizanthe rigida	0.36	60.0
Chaenactis stevioides	0.34	37.1
Cryptantha barbigera	0.26	17.1

Scientific Name	Avg. % Cover	% Constancy
Amsinckia intermedia	0.25	37.1
Phacelia ambigua	0.24	22.9
Eriophyllum lanosum	0.23	42.9
Descurania pinnata	0.18	31.4
Cryptantha	0.18	8.6
Camissonia chamaenerioides	0.14	14.3
Erodium cicutarium	0.12	5.7
Euphorbia polycarpa	0.11	20.0
Amsinckia tessellata	0.11	8.6
Phacelia	0.11	17.1
Draba cuneifolia	0.08	14.3
Filago	0.07	11.4
Sisymbrium irio	0.07	8.6
Amsinckia	0.06	17.1
Lappula occidentalis	0.06	2.9
Eriastrum diffusum	0.05	20.0
Camissonia	0.05	20.0
Filago arizonica	0.05	11.4
Stylocline micropoides	0.04	17.1
Camissonia californica	0.04	8.6
Euphorbia	0.04	8.6
Gilia	0.04	5.7
Ditaxis neomexicana	0.04	5.7
Eriogonum	0.04	5.7
Eucrypta micrantha	0.03	11.4
Eschscholzia mexicana	0.03	2.9
Astragalus	0.03	2.9
Lotus salsuginosus	0.03	2.9
Mentzelia involucrata	0.03	2.9
Plagiobothrys	0.03	2.9
Linanthus jonesii	0.02	8.6
Mentzelia	0.02	8.6
Lupinus sparsiflorus	0.02	8.6
Nama hispidum	0.01	5.7

Scientific Name	Avg. % Cover	% Constancy
Rafinesquia neomexicana	0.01	5.7
Orobanche cooperi	0.01	5.7
Eriogonum inflatum	0.01	5.7
Calycoseris wrightii	0.01	5.7
Daucus pusillus	0.01	5.7
Erodium texanum	0.01	5.7
Lotus	0.01	5.7
Loeflingia squarrosa ssp.	0.01	5.7
Monoptilon bellioides	0.01	2.9
Lupinus	0.01	2.9
Thysanocarpis curvipes	0.01	2.9
Sphaeralcea	0.01	2.9
Chaenactis carphoclinia	0.01	2.9
Eriogonum deflexum	0.01	2.9
Cryptantha micrantha	0.01	2.9
Allium macropetalon	0.01	2.9
Marina parryi	0.01	2.9
Parietaria floridana	0.01	2.9
Oligomeris linifolia	0.01	2.9
Nicotiana obtusifolia	0.01	2.9
Euphorbia pediculifera	0.01	2.9
Senecio	0.01	2.9
Sum for Structure Class:	20.49	
Structural Growth Form 5. Grasses		
Schismus arabicus	7.44	100.0
Vulpia octoflora	0.24	28.6
Erioneuron pulchellum	0.05	11.4
Aristida	0.04	8.6
Poa bigelovii	0.04	8.6
Aristida adsensionis	0.01	2.9
Aristida purpurea	0.01	2.9
Muhlenbergia porteri	0.01	2.9
Sum for Structure Class:	7.84	
Structural Growth Form 6. Vines		
Janusia gracile	0.04	5.7
Sum for Structure Class:	0.04	

Scientific Name	Avg. % Cover	% Constancy
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Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes

(Summary Data Based on 64 Plots)

Structural Growth Form 1. Trees

Parkinsonia microphylla	6.02	92.2
Olneya tesota	0.36	15.6
Parkinsonia florida	0.16	3.1
Phoradendron californicum	0.01	4.7

Sum for Structure Class:	6.54	
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Structural Growth Form 2. Shrubs

Ambrosia deltoidea	3.32	67.2
Encelia farinosa farinosa	2.72	73.4
Larrea divaricata tridentata	1.88	70.3
Fouquieria splendens	1.68	82.8
Krameria grayi	0.80	57.8
Lycium	0.69	59.4
Viguiera parishii	0.53	20.3
Eriogonum fasciculatum	0.52	18.8
Ephedra aspera	0.46	39.1
Hyptis emoryi	0.41	20.3
Acacia constricta	0.30	20.3
Calliandra eriophylla	0.22	12.5
Gallium stellatum	0.21	17.2
Jatropha cardiophylla	0.21	12.5
Lycium berlandieri	0.20	14.1
Fagonia californica ssp longipes	0.19	25.0
Ditaxis lanceolata	0.12	32.8
Eriogonum wrightii	0.11	4.7
Agave deserti simplex	0.11	18.8
Menodora scabra	0.11	12.5
Acacia greggii	0.10	9.4
Trixis californica	0.09	21.9
Krameria erecta	0.08	3.1
Mirabilis laevis v villosa	0.07	10.9

Scientific Name	Avg. % Cover	% Constancy
Brickellia coulteri	0.07	7.8
Hibiscus denudatus	0.07	3.1
Ambrosia dumosa	0.06	3.1
Sebastiania bilocularis	0.06	1.6
Machaeranthera pinnatifida	0.05	12.5
Porophyllum gracile	0.05	6.3
Ayenia microphylla	0.03	7.8
Adenophyllum porophylloides	0.03	6.3
Celtis pallida pallida	0.03	6.3
Condalia warnockii	0.02	4.7
Crossosma bigelovii	0.02	3.1
Tiquilia canescens	0.02	3.1
Ziziphus obtusifolia canescens	0.02	1.6
Simmondsia chinensis	0.02	1.6
Lycium exsertum	0.02	1.6
Lycium parishii	0.02	1.6
Lycium andersonii	0.01	3.1
Abutilon	0.00	1.6
Carlowrightii arizonica	0.00	1.6
Senna covesii	0.00	1.6
Koeberlinia spinosa	0.00	1.6
Aloysia wrightii	0.00	1.6
Gymnosperma glutinosum	0.00	1.6
Abutilon incanum	0.00	1.6
Sum for Structure Class:	15.77	
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	1.34	82.8
Cylindropuntia bigelovii	0.77	15.6
Carnegiea gigantea	0.36	76.6
Echinocereus engelmannii	0.14	40.6
Opuntia phaeacantha	0.09	9.4
Mammillaria grahamii	0.08	31.3
Cylindropuntia leptocaulis	0.08	10.9

Scientific Name	Avg. % Cover	% Constancy
Cylindropuntia fulgida	0.07	6.3
Opuntia	0.07	6.3
Opuntia engelmannii	0.05	4.7
Ferocactus emoryi	0.04	15.6
Ferocactus cylindraceus	0.02	7.8
Ferocactus	0.02	7.8
Echinocereus	0.02	7.8
Opuntia chlorotica	0.02	1.6
Mammillaria	0.01	3.1
Mammillaria tetrancistra	0.00	1.6
Cylindropuntia	0.00	1.6
Sum for Structure Class:	3.18	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	5.86	85.9
Cryptantha pterocarya	2.81	70.3
Lesquerella gordonii	2.05	31.3
Erodium cicutarium	1.38	21.9
Plantago ovata	1.26	42.2
Perityle emoryi	1.16	25.0
Pectocarya recurvata	1.13	42.2
Phacelia	1.07	35.9
Pectocarya	0.96	15.6
Cryptantha barbiger	0.95	29.7
Caulanthus lasiophyllus	0.78	56.3
Phacelia coerulea	0.74	17.2
Cryptantha maritima	0.72	39.1
Amsinckia intermedia	0.63	42.2
Eucrypta micrantha	0.54	35.9
Descurania pinnata	0.35	48.4
Phacelia ambigua	0.32	25.0
Chorizanthe brevicornis	0.29	60.9
Thysanocarpis curvipes	0.26	25.0
Sphaeralcea ambigua	0.26	25.0

Scientific Name	Avg. % Cover	% Constancy
Phacelia distans	0.25	4.7
Gilia	0.24	31.3
Daucus pusillus	0.21	29.7
Stylocline micropoides	0.21	20.3
Linanthus jonesii	0.20	21.9
Chenopodium neomexicana	0.15	17.2
Gilia stellata	0.14	18.8
Sisymbrium irio	0.13	3.1
Eriophyllum lanosum	0.11	26.6
Plantago patagonica	0.11	7.8
Eriogonum inflatum	0.09	12.5
Euphorbia	0.09	10.9
Amsinkia	0.08	12.5
Camissonia	0.08	21.9
Rafinesquia neomexicana	0.08	10.9
Chenopodium	0.08	1.6
Draba cuneifolia	0.07	25.0
Stephanomeria pauciflora	0.07	7.8
Pectocarya platycarpa	0.07	7.8
Erodium texanum	0.07	6.3
Plantago	0.07	3.1
Sphaeralcea	0.07	3.1
Eriastrum diffusum	0.06	15.6
Camissonia chamaenerioides	0.06	15.6
Chaenactis stevioides	0.06	15.6
Amsinckia tessellata	0.06	6.3
Filago arizonica	0.06	9.4
Euphorbia polycarpa	0.06	7.8
Senecio lemmonii	0.05	6.3
Androsace occidentalis	0.05	3.1
Lupinus sparsiflorus	0.05	14.1
Chaenactis carphoclinia	0.05	1.6
Filago	0.04	12.5
Camissonia californica	0.04	12.5

Scientific Name	Avg. % Cover	% Constancy
Lotus	0.04	7.8
Astragalus nuttallianus	0.04	9.4
Dichelostemma capitatum ssp.	0.03	10.9
Eriogonum abertianum	0.03	10.9
Calycoseris wrightii	0.03	6.3
Marina parryi	0.03	6.3
Silene antirrhina	0.03	6.3
Sphaeralcea coulteri	0.03	6.3
Eriogonum thomasii	0.03	6.3
Eschscholzia mexicana	0.03	6.3
unknown herb 1	0.02	4.7
Mentzelia involucrata	0.02	4.7
Eriogonum deflexum	0.02	7.8
Linum perenne ssp lewisii	0.02	3.1
Streptanthus carinatus	0.02	3.1
Cryptantha	0.02	3.1
Calandrinia ciliata	0.02	6.3
Gilia flavocincta	0.02	6.3
Uropappus lindleyi	0.02	6.3
Ditaxis neomexicana	0.02	6.3
Allionia incarnata	0.02	1.6
Pholistoma auritum var	0.02	1.6
Delphinium scaposum	0.01	4.7
Bowlesia incana	0.01	4.7
Lotus salsuginosus	0.01	4.7
Chorizanthe rigida	0.01	4.7
Linanthus bigelovii	0.01	4.7
Astragalus	0.01	4.7
Acleisanthes longiflora	0.01	4.7
Senecio	0.01	3.1
Sonchus	0.01	3.1
Cryptantha micrantha	0.01	3.1
Parietaria floridana	0.01	3.1
Nicotiana obtusifolia	0.01	3.1

Scientific Name	Avg. % Cover	% Constancy
Euphorbia arizonica	0.01	3.1
Eriogonum	0.01	3.1
Lesquerella tenella	0.00	1.6
Salsola tragus	0.00	1.6
Crassula connata	0.00	1.6
Euphorbia capitellata	0.00	1.6
Euphorbia pediculifera	0.00	1.6
Antirrhinum cyathiferum	0.00	1.6
Dudleya arizonica	0.00	1.6
Ditaxis adenophora	0.00	1.6
Brassica tournefortii	0.00	1.6
Camissonia boothii ssp	0.00	1.6
Nemacladus glanduliferous var.	0.00	1.6
Lappula occidentalis	0.00	1.6
Monoptilon bellioides	0.00	1.6
Lupinus	0.00	1.6
Euphorbia albomarginata	0.00	1.6
Mentzelia	0.00	1.6
Eucrypta chrysanthemifolia	0.00	1.6
Silene	0.00	1.6
Lupinus Arizonicus	0.00	1.6
Sum for Structure Class:	27.55	
Structural Growth Form 5. Grasses		
Schismus arabicus	3.37	85.9
Muhlenbergia porteri	1.17	34.4
Vulpia octoflora	1.01	57.8
Tridens muticus	0.32	9.4
Erioneuron pulchellum	0.17	12.5
Aristida	0.11	18.8
Poa bigelovii	0.09	21.9
unknown grass 1	0.06	7.8
Aristida purpurea	0.06	7.8
Bromus rubens	0.05	7.8

Scientific Name	Avg. % Cover	% Constancy
Muhlenbergia	0.05	3.1
Muhlenbergia microsperma	0.04	4.7
Pleuraphis rigida	0.02	4.7
Pleuraphis mutica	0.01	3.1
Aristida adsensionis	0.01	3.1
Trisetum interruptum	0.00	1.6
Sum for Structure Class:	6.55	
Structural Growth Form 6. Vines		
Janusia gracile	0.94	43.8
Matelea parvifolia	0.00	1.6
Sarcostemma cynanchoides	0.00	1.6
Sum for Structure Class:	0.95	
Structural Growth Form 7. Ferns		
Selaginella arizonica	4.66	29.7
Notholaena standleyi	0.07	21.9
Astrolepis cochisensis	0.03	10.9
Pellaea truncata	0.01	3.1
Cheilanthes parryi	0.01	3.1
Astrolepis sinuata sinuata	0.00	1.6
Sum for Structure Class:	4.78	

Scientific Name	Avg. % Cover	% Constancy
<i>Rock Outcrop</i>		
<i>(Summary Data Based on 7 Plots)</i>		

Structural Growth Form 1. Trees

Parkinsonia microphylla	0.68	57.1
Vauquelinia californica ssp.	0.14	14.3
Prosopis velutina	0.04	14.3

Sum for Structure Class: 0.86

Structural Growth Form 2. Shrubs

Encelia farinosa farinosa	2.50	85.7
Larrea divaricata tridentata	1.21	71.4
Eriogonum wrightii	1.14	42.9
Ephedra aspera	0.46	42.9
Acacia greggii	0.46	42.9
Viguiera parishii	0.43	42.9
Ambrosia deltoidea	0.43	28.6
Lycium	0.39	57.1
Hyptis emoryi	0.32	28.6
Trixis californica	0.32	28.6
Gutierrezia sarothrae	0.29	14.3
Brickellia coulteri	0.21	42.9
Aloysia wrightii	0.18	28.6
Krameria erecta	0.14	14.3
Agave deserti simplex	0.07	28.6
Gallium stellatum	0.07	28.6
Celtis pallida pallida	0.07	28.6
Fouquieria splendens	0.07	28.6
Ayenia microphylla	0.04	14.3
Bebbia juncea aspera	0.04	14.3
unknown shrub 1	0.04	14.3
Koeberlinia spinosa	0.04	14.3
Menodora scabra	0.04	14.3
Ditaxis lanceolata	0.04	14.3
Krameria grayi	0.04	14.3

Scientific Name	Avg. % Cover	% Constancy
Eriogonum fasciculatum	0.04	14.3
Hibiscus coulteri	0.04	14.3
Gymnosperma glutinosum	0.04	14.3
Acacia constricta	0.04	14.3
Senna covesii	0.04	14.3
Sum for Structure Class:	9.21	
Structural Growth Form 3. Cactus		
Carnegiea gigantea	0.39	71.4
Opuntia	0.18	28.6
Cylindropuntia bigelovii	0.18	28.6
Cylindropuntia acanthocarpa	0.14	57.1
Mammillaria grahamii	0.07	28.6
Echinocereus engelmannii	0.07	28.6
Ferocactus emoryi	0.04	14.3
Mammillaria	0.04	14.3
Sum for Structure Class:	1.11	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	0.54	57.1
Cryptantha	0.43	14.3
Perityle emoryi	0.32	42.9
Sphaeralcea ambigua	0.21	85.7
Descurania pinnata	0.18	71.4
Eucrypta micrantha	0.18	28.6
Stephanomeria pauciflora	0.18	28.6
Phacelia	0.14	57.1
Nicotiana obtusifolia	0.14	14.3
Pholistoma auritum var	0.14	14.3
Trifolium wormskioldii	0.14	14.3
Chorizanthe brevicornus	0.14	14.3
Cirsium neomexicana	0.14	14.3
Euphorbia melanadenia	0.07	28.6
Lotus	0.07	28.6
Plantago patagonica	0.07	28.6

Scientific Name	Avg. % Cover	% Constancy
Phacelia ambigua	0.07	28.6
Cryptantha pterocarya	0.07	28.6
Thysanocarpis curvipes	0.07	28.6
Camissonia	0.07	28.6
Cryptantha maritima	0.07	28.6
Rafinesquia californica	0.04	14.3
Stylocline micropoides	0.04	14.3
unknown herb 1	0.04	14.3
Uropappus lindleyi	0.04	14.3
Penstemon parryi	0.04	14.3
Pectocarya recurvata	0.04	14.3
Verbena	0.04	14.3
Delphinium scaposum	0.04	14.3
Filago	0.04	14.3
Acourtia nana	0.04	14.3
Amsinckia intermedia	0.04	14.3
Castilleja lanata	0.04	14.3
Parietaria floridana	0.04	14.3
Chaenactis carphoclinia	0.04	14.3
Draba cuneifolia	0.04	14.3
Eriogonum abertianum	0.04	14.3
Erodium cicutarium	0.04	14.3
Erodium texanum	0.04	14.3
Euphorbia albomarginata	0.04	14.3
Filago arizonica	0.04	14.3
Gutierrezia arizonica	0.04	14.3
Myosurus cupulatus	0.04	14.3
Caulanthus lasiophyllus	0.04	14.3
Sum for Structure Class:	4.29	
Structural Growth Form 5. Grasses		
Muhlenbergia porteri	0.32	28.6
Schismus arabicus	0.18	71.4
Vulpia octoflora	0.18	28.6

Scientific Name	Avg. % Cover	% Constancy
Pleuraphis mutica	0.14	14.3
Aristida purpurea	0.14	14.3
Poa bigelovii	0.11	42.9
Bouteloua	0.07	28.6
Bromus rubens	0.07	28.6
Aristida parishii	0.04	14.3
Aristida adsensionis	0.04	14.3
Muhlenbergia microsperma	0.04	14.3
Sum for Structure Class:	1.32	
Structural Growth Form 6. Vines		
Janusia gracile	0.11	42.9
Matelea parvifolia	0.04	14.3
Maurandya antirrhinifolia	0.04	14.3
Rhynchosia texana	0.04	14.3
Sum for Structure Class:	0.21	
Structural Growth Form 7. Ferns		
Selaginella arizonica	1.43	14.3
Astrolepis cochisensis	0.07	28.6
Notholaena standleyi	0.07	28.6
Astrolepis sinuata sinuata	0.04	14.3
Sum for Structure Class:	1.61	

Scientific Name	Avg. % Cover	% Constancy
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Desert Spring
(Summary Data Based on 3 Plots)

Structural Growth Form 1. Trees

Prosopis velutina	5.00	100.0
Parkinsonia microphylla	3.00	66.7

Sum for Structure Class:	8.00	
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Structural Growth Form 2. Shrubs

Acacia greggii	3.00	100.0
Coursetia glandulosa	2.08	100.0
Eriogonum wrightii	2.00	66.7
Celtis pallida pallida	1.67	66.7
Ephedra aspera	1.42	100.0
Simmondsia chinensis	1.42	66.7
Encelia farinosa farinosa	1.42	66.7
Acacia constricta	1.33	100.0
Lycium	1.33	66.7
Brickellia coulteri	1.08	100.0
Eriogonum fasciculatum	1.00	66.7
Calliandra eriophylla	0.75	66.7
Abutilon incanum	0.75	66.7
Jatropha cardiophylla	0.67	66.7
Justicia longii	0.67	66.7
Condalia warnockii	0.67	33.3
Krameria grayi	0.42	66.7
Menodora scabra	0.33	33.3
Trixis californica	0.33	33.3
Mirabilis laevis v villosa	0.33	33.3
Larrea divaricata tridentata	0.33	33.3
Fouquieria splendens	0.33	33.3
Ditaxis lanceolata	0.17	66.7
Ayenia filiformis	0.17	66.7
Ambrosia deltoidea	0.08	33.3
Aloysia wrightii	0.08	33.3

Scientific Name	Avg. % Cover	% Constancy
Ziziphus obtusifolia canescens	0.08	33.3
Hibiscus coulteri	0.08	33.3
Senna covesii	0.08	33.3
Gutierrezia sarothrae	0.08	33.3
Tiquilia canescens	0.08	33.3
Viguiera parishii	0.08	33.3
Yucca baccata	0.08	33.3
Sum for Structure Class:	24.42	
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	0.67	66.7
Carnegiea gigantea	0.50	100.0
Opuntia phaeacantha	0.08	33.3
Cylindropuntia bigelovii	0.08	33.3
Echinocereus engelmannii	0.08	33.3
Ferocactus emoryi	0.08	33.3
Mammillaria grahamii	0.08	33.3
Opuntia	0.08	33.3
Sum for Structure Class:	1.67	
Structural Growth Form 4. Herbs		
Amsinckia intermedia	6.33	100.0
Lepidium lasiocarpum	5.00	100.0
Phacelia coerulea	3.67	100.0
Cryptantha pterocarya	3.33	100.0
Caulanthus lasiophyllus	1.75	100.0
Chenopodium neomexicana	1.67	66.7
Cryptantha barbigera	1.33	66.7
Silene antirrhina	1.08	100.0
Pholistoma auritum var	1.08	66.7
Ambrosia ambrosioides	1.00	66.7
Sphaeralcea coulteri	1.00	66.7
Euphorbia albomarginata	0.75	66.7
Gilia stellata	0.67	66.7
Euphorbia polycarpa	0.67	33.3

Scientific Name	Avg. % Cover	% Constancy
<i>Daucus pusillus</i>	0.50	100.0
<i>Eucrypta micrantha</i>	0.42	66.7
<i>Eriogonum abertianum</i>	0.42	66.7
<i>Eschscholzia mexicana</i>	0.42	66.7
<i>Allionia incarnata</i>	0.42	66.7
<i>Plantago patagonica</i>	0.42	66.7
<i>Sphaeralcea ambigua</i>	0.42	66.7
<i>Lotus</i>	0.33	33.3
<i>Lesquerella gordonii</i>	0.33	33.3
<i>Pectocarya recurvata</i>	0.33	33.3
<i>Descurania pinnata</i>	0.33	33.3
<i>Phacelia ambigua</i>	0.33	33.3
<i>Castilleja exserta</i> ssp. <i>Exserta</i>	0.17	66.7
<i>Rafinesquia neomexicana</i>	0.17	66.7
<i>Erigeron divergens</i>	0.17	66.7
<i>Thysanocarpis curvipes</i>	0.17	66.7
<i>Erodium cicutarium</i>	0.17	66.7
<i>Linanthus jonesii</i>	0.17	66.7
<i>Lupinus sparsiflorus</i>	0.17	66.7
<i>Stylocline micropoides</i>	0.08	33.3
<i>Uropappus lindleyi</i>	0.08	33.3
<i>Plantago ovata</i>	0.08	33.3
<i>Perityle emoryi</i>	0.08	33.3
<i>Penstemon parryi</i>	0.08	33.3
<i>Chorizanthe brevicornus</i>	0.08	33.3
<i>Parietaria floridana</i>	0.08	33.3
<i>Ambrosia confertifolia</i>	0.08	33.3
<i>Typha domingensis</i>	0.08	33.3
<i>Atriplex elegans</i>	0.08	33.3
<i>Acourtia wrightii</i>	0.08	33.3
<i>Camissonia californica</i>	0.08	33.3
<i>Cryptantha maritima</i>	0.08	33.3
<i>Draba cuneifolia</i>	0.08	33.3
<i>Eriogonum deflexum</i>	0.08	33.3

Scientific Name	Avg. % Cover	% Constancy
Filago	0.08	33.3
Filago arizonica	0.08	33.3
Gilia	0.08	33.3
Marina parryi	0.08	33.3
Camissonia	0.08	33.3
Sum for Structure Class:	36.83	
Structural Growth Form 5. Grasses		
Bromus rubens	6.00	66.7
Schismus arabicus	4.67	66.7
Poa bigelovii	3.00	66.7
Pleuraphis rigida	0.67	66.7
Bouteloua repens	0.67	33.3
Vulpia octoflora	0.42	66.7
Muhlenbergia porteri	0.33	33.3
Heteropogon contortus	0.08	33.3
Pleuraphis mutica	0.08	33.3
Aristida ternipes var. ternipes	0.08	33.3
Aristida purpurea	0.08	33.3
unknown grass 1	0.08	33.3
Bromus carinatus	0.08	33.3
Sum for Structure Class:	16.25	
Structural Growth Form 6. Vines		
Janusia gracile	1.75	66.7
Sarcostemma cynanchoides	0.67	33.3
Nissolia schottii	0.33	33.3
Vicia ludoviciana var. ludoviciana	0.08	33.3
Lyrocarpa coulteri	0.08	33.3
Rhynchosia texana	0.08	33.3
Sum for Structure Class:	3.00	
Structural Growth Form 7. Ferns		
Astrolepis cochisensis	0.08	33.3
Notholaena standleyi	0.08	33.3
Selaginella arizonica	0.08	33.3
Sum for Structure Class:	0.25	

Scientific Name	Avg. % Cover	% Constancy
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Braided Channel Floodplain
(Summary Data Based on 21 Plots)

Structural Growth Form 1. Trees

Parkinsonia florida	6.04	61.9
Prosopis velutina	2.76	47.6
Olneya tesota	2.76	19.0
Phoradendron californicum	1.01	28.6
Parkinsonia microphylla	0.25	9.5

Sum for Structure Class:	12.82	
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Structural Growth Form 2. Shrubs

Lycium andersonii	2.76	23.8
Larrea divaricata tridentata	2.68	52.4
Acacia greggii	1.93	28.6
Hymenoclea salsola	1.21	42.9
Baccharis sarothroides	0.75	38.1
Lycium	0.45	19.0
Chilopsis linearis arcuata	0.23	28.6
Ambrosia deltoidea	0.18	23.8
Celtis pallida pallida	0.10	4.8
Bebbia juncea aspera	0.05	19.0
Acacia constricta	0.05	4.8
Petalonyx thurberi	0.01	4.8

Sum for Structure Class:	10.39	
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Structural Growth Form 3. Cactus

Cylindropuntia acanthocarpa	0.05	4.8
Cylindropuntia leptocaulis	0.05	4.8
Carnegiea gigantea	0.02	9.5
Echinocereus engelmannii	0.01	4.8
Ferocactus cylindraceus	0.01	4.8
Cylindropuntia bigelovii	0.01	4.8

Sum for Structure Class:	0.15	
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Scientific Name	Avg. % Cover	% Constancy
Structural Growth Form 4. Herbs		
Pectocarya	3.99	57.1
Lepidium lasiocarpum	1.95	81.0
Ambrosia ambrosioides	1.54	61.9
Plantago ovata	1.26	47.6
Pectocarya platycarpa	1.25	33.3
Amsinckia intermedia	0.99	85.7
Lupinus sparsiflorus	0.80	47.6
Sisymbrium irio	0.77	52.4
Descurania pinnata	0.62	61.9
Parietaria floridana	0.55	19.0
Cryptantha maritima	0.52	47.6
Cryptantha pterocarya	0.44	42.9
Lesquerella gordonii	0.39	66.7
Chorizanthe brevicornus	0.35	42.9
Pectocarya recurvata	0.33	9.5
Cryptantha	0.31	19.0
Gilia	0.31	14.3
Erodium cicutarium	0.30	52.4
Stylocline micropoides	0.24	28.6
Eriophyllum lanosum	0.23	61.9
Caulanthus lasiophyllus	0.20	33.3
Lappula occidentalis	0.20	28.6
Chaenactis stevioides	0.19	47.6
Camissonia chamaenerioides	0.18	42.9
Eriogonum deflexum	0.13	23.8
Euphorbia setiloba	0.12	19.0
Eucrypta micrantha	0.11	14.3
Cryptantha micrantha	0.08	19.0
Cryptantha barbigera	0.08	19.0
Lupinus concinnus	0.08	19.0
Euphorbia polycarpa	0.08	19.0
Chorizanthe rigida	0.06	23.8
Linanthus bigelovii	0.05	19.0

Scientific Name	Avg. % Cover	% Constancy
<i>Calycoseris wrightii</i>	0.05	19.0
<i>Phacelia ambigua</i>	0.05	4.8
<i>Nicotiana obtusifolia</i>	0.05	4.8
<i>Chenopodium</i>	0.05	4.8
<i>Sphaeralcea</i>	0.04	14.3
<i>Euphorbia albomarginata</i>	0.04	14.3
<i>Silene</i>	0.04	14.3
<i>Camissonia</i>	0.04	14.3
<i>Draba cuneifolia</i>	0.04	14.3
<i>Monoptilon bellioides</i>	0.04	14.3
<i>Mentzelia</i>	0.04	14.3
<i>Ambrosia confertifolia</i>	0.02	9.5
<i>Phacelia</i>	0.02	9.5
<i>Camissonia boothii</i> ssp	0.02	9.5
<i>Linanthus</i>	0.02	9.5
<i>Sphaeralcea ambigua</i>	0.02	9.5
<i>Perityle emoryi</i>	0.01	4.8
<i>Lotus strigosa</i> var <i>tomentellum</i>	0.01	4.8
<i>Oligomeris linifolia</i>	0.01	4.8
<i>Sphaeralcea coulteri</i>	0.01	4.8
<i>Gilia stellata</i>	0.01	4.8
<i>Euphorbia</i>	0.01	4.8
<i>Erodium texanum</i>	0.01	4.8
<i>Salvia columbariae</i>	0.01	4.8
<i>Astragalus</i>	0.01	4.8
<i>Plagiobothrys</i>	0.01	4.8
<i>Eriogonum</i>	0.01	4.8
unknown herb 1	0.01	4.8
<i>Eriastrum diffusum</i>	0.01	4.8
<i>Camissonia claviformis</i>	0.01	4.8
<i>Linanthus jonesii</i>	0.01	4.8
<i>Chenopodium neomexicana</i>	0.01	4.8
<i>Crassula connata</i>	0.01	4.8
<i>Lotus</i>	0.01	4.8

Scientific Name	Avg. % Cover	% Constancy
Lotus salsuginosus	0.01	4.8
Daucus pusillus	0.01	4.8
Ditaxis neomexicana	0.01	4.8
Bowlesia incana	0.01	4.8
Sum for Structure Class:	19.52	
Structural Growth Form 5. Grasses		
Schismus arabicus	22.45	95.2
Poa bigelovii	0.27	47.6
Vulpia octoflora	0.17	19.0
Erioneuron pulchellum	0.01	4.8
Sum for Structure Class:	22.90	
Structural Growth Form 6. Vines		
Clematis drummondii	0.06	9.5
Sarcostemma cynanchoides	0.01	4.8
Sum for Structure Class:	0.07	

Scientific Name	Avg. % Cover	% Constancy
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Valley Xeroriparian Scrub
(Summary Data Based on 25 Plots)

Structural Growth Form 1. Trees

Parkinsonia microphylla	8.37	68.0
Olneya tesota	6.24	52.0
Parkinsonia florida	4.96	44.0
Prosopis velutina	3.89	56.0
Phoradendron californicum	0.80	40.0

Sum for Structure Class:	24.26	
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Structural Growth Form 2. Shrubs

Larrea divaricata tridentata	2.77	92.0
Acacia greggii	2.07	32.0
Ambrosia deltoidea	1.59	68.0
Acacia constricta	1.49	36.0
Lycium andersonii	1.12	20.0
Lycium berlandieri	1.04	16.0
Hymenoclea salsola	0.96	20.0
Lycium	0.92	40.0
Condalia warnockii	0.65	12.0
Calliandra eriophylla	0.42	16.0
Celtis pallida pallida	0.33	20.0
Bebbia juncea aspera	0.24	8.0
Encelia farinosa farinosa	0.23	24.0
Krameria grayi	0.23	24.0
Ziziphus obtusifolia canescens	0.22	20.0
Brickellia coulteri	0.20	28.0
Trixis californica	0.19	24.0
Ephedra aspera	0.17	16.0
Lycium parishii	0.16	8.0
Ditaxis lanceolata	0.14	44.0
Anisacathus thurberi	0.12	8.0
Hyptis emoryi	0.10	16.0
Senna covesii	0.10	16.0

Scientific Name	Avg. % Cover	% Constancy
Fouquieria splendens	0.09	12.0
Lycium macrodon	0.08	4.0
Fagonia californica ssp longipes	0.06	12.0
Abutilon incanum	0.05	8.0
Jatropha cardiophylla	0.05	8.0
unknown shrub 1	0.05	8.0
Ambrosia dumosa	0.04	4.0
Aloysia wrightii	0.04	4.0
Lycium fremontii	0.04	4.0
Eriogonum fasciculatum	0.04	4.0
Mirabilis laevis v villosa	0.04	4.0
Sebastiania bilocularis	0.01	4.0
Tragia nepetifolia var dissecta	0.01	4.0
Atriplex canescens	0.01	4.0
Baccharis sarothroides	0.01	4.0
Hibiscus coulteri	0.01	4.0
Sum for Structure Class:	16.09	
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	0.15	36.0
Carnegiea gigantea	0.07	28.0
Cylindropuntia leptocaulis	0.05	20.0
Mammillaria grahamii	0.01	4.0
Sum for Structure Class:	0.28	
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	3.55	96.0
Cryptantha pterocarya	2.51	92.0
Lesquerella gordonii	1.08	88.0
Sisymbrium irio	1.08	44.0
Pectocarya	1.05	32.0
Amsinckia intermedia	0.88	52.0
Pectocarya recurvata	0.82	44.0
Pectocarya platycarpa	0.80	28.0
Descurania pinnata	0.73	72.0

Scientific Name	Avg. % Cover	% Constancy
Ambrosia ambrosioides	0.73	40.0
Erodium cicutarium	0.73	32.0
Caulanthus lasiophyllus	0.68	68.0
Plantago ovata	0.63	44.0
Cryptantha maritima	0.60	52.0
Cryptantha barbigera	0.50	40.0
Nicotiana obtusifolia	0.45	32.0
Eucrypta micrantha	0.44	52.0
Chorizanthe brevicornus	0.43	68.0
Phacelia	0.43	40.0
Gilia	0.38	32.0
Phacelia coerulea	0.38	24.0
Parietaria floridana	0.33	12.0
Camissonia chamaenerioides	0.30	36.0
Chorizanthe rigida	0.27	24.0
Stylocline micropoides	0.25	48.0
Chaenactis stevioides	0.24	44.0
Perityle emoryi	0.23	16.0
Lupinus sparsiflorus	0.21	48.0
Draba cuneifolia	0.20	36.0
Euphorbia	0.19	28.0
Cryptantha micrantha	0.19	20.0
Eriophyllum lanosum	0.18	32.0
Camissonia californica	0.18	20.0
Rafinesquia neomexicana	0.17	8.0
Linanthus jonesii	0.16	40.0
Eriastrum diffusum	0.15	32.0
Phacelia ambigua	0.14	16.0
Sphaeralcea ambigua	0.14	16.0
Amsinckia tessellata	0.13	12.0
Phacelia distans	0.13	8.0
Acourtia nana	0.12	4.0
Amsinckia	0.11	20.0
Gilia stellata	0.10	28.0

Scientific Name	Avg. % Cover	% Constancy
<i>Silene antirrhina</i>	0.08	32.0
<i>Daucus pusillus</i>	0.08	20.0
<i>Filago</i>	0.08	20.0
<i>Sphaeralcea coulteri</i>	0.08	20.0
<i>Pholistoma auritum</i> var	0.08	4.0
<i>Loeflingia squarrosa</i> ssp.	0.08	4.0
<i>Euphorbia polycarpa</i>	0.07	16.0
<i>Chenopodium neomexicana</i>	0.07	16.0
<i>Calycoseris wrightii</i>	0.06	24.0
<i>Eriogonum deflexum</i>	0.06	24.0
<i>Crassula connata</i>	0.06	12.0
<i>Camissonia</i>	0.05	20.0
<i>Euphorbia albomarginata</i>	0.05	20.0
<i>Filago arizonica</i>	0.05	20.0
<i>Eriogonum thomasi</i>	0.05	8.0
<i>Mentzelia</i>	0.05	8.0
<i>Eschscholzia mexicana</i>	0.04	16.0
<i>Nama hispidum</i>	0.04	4.0
<i>Ambrosia confertifolia</i>	0.04	4.0
<i>Evax multicaulis</i>	0.04	4.0
<i>Lupinus Arizonicus</i>	0.04	4.0
<i>Chaenactis carphoclinia</i>	0.04	4.0
<i>Allionia incarnata</i>	0.03	12.0
<i>Astragalus nuttallianus</i>	0.03	12.0
<i>Salvia columbariae</i>	0.03	12.0
<i>Plantago patagonica</i>	0.02	8.0
<i>Mentzelia affinis</i>	0.02	8.0
<i>Marina parryi</i>	0.02	8.0
<i>Eriogonum abertianum</i>	0.02	8.0
unknown herb 1	0.02	8.0
<i>Chenopodium murale</i>	0.02	8.0
<i>Monoptilon bellioides</i>	0.02	8.0
<i>Orobanche cooperi</i>	0.01	4.0
<i>Acourtia wrightii</i>	0.01	4.0

Scientific Name	Avg. % Cover	% Constancy
Delphinium scaposum	0.01	4.0
Sphaeralcea	0.01	4.0
Eriogonum maculatum	0.01	4.0
Plagiobothrys	0.01	4.0
Lupinus	0.01	4.0
Cryptantha angustifolia	0.01	4.0
Lappula occidentalis	0.01	4.0
Erodium texanum	0.01	4.0
Lotus strigosa var tomentellum	0.01	4.0
Lupinus concinnus	0.01	4.0
Camissonia claviformis	0.01	4.0
Nemacladus glanduliferous var.	0.01	4.0
Langloisia setosissima ssp.	0.01	4.0
Ditaxis neomexicana	0.01	4.0
Camissonia boothii ssp	0.01	4.0
Euphorbia arizonica	0.01	4.0
Lotus salsuginosus	0.01	4.0
Sum for Structure Class:	24.71	
Structural Growth Form 5. Grasses		
Schismus arabicus	9.38	100.0
Poa bigelovii	0.57	52.0
Vulpia octoflora	0.46	48.0
Aristida purpurea	0.13	12.0
Muhlenbergia microsperma	0.09	8.0
Bromus rubens	0.06	12.0
Aristida	0.03	12.0
Muhlenbergia porteri	0.02	8.0
unknown grass 1	0.02	8.0
Pleuraphis mutica	0.01	4.0
Erioneuron pulchellum	0.01	4.0
Sum for Structure Class:	10.78	
Structural Growth Form 6. Vines		
Janusia gracile	0.18	20.0

Scientific Name	Avg. % Cover	% Constancy
Lyrocarpa coulteri	0.10	12.0
Asclepias subulata	0.04	4.0
Commicarpas scandens	0.02	8.0
Clematis drummondii	0.01	4.0
Maurandya antirrhinifolia	0.01	4.0
Sum for Structure Class:	0.36	
Structural Growth Form 7. Ferns		
Notholaena standleyi	0.01	4.0
Astrolepis cochisensis	0.01	4.0
Sum for Structure Class:	0.02	

APPENDIX D

Natural Community Composition and Structure Sorted by Constancy

Scientific Name

% Constancy

Avg. % Cover

Creosotebush-Bursage Desert Scrub (Summary Data Based on 87 Plots)

Structural Growth Form 1. Trees

Prosopis velutina	28.7	1.46
Parkinsonia florida	9.2	0.61
Olneya tesota	9.2	0.28
Parkinsonia microphylla	8.0	0.07
Phoradendron californicum	4.6	0.04

Sum for Structure Class:

2.47

Structural Growth Form 2. Shrubs

Larrea divaricata tridentata	97.7	7.92
Ambrosia deltoidea	42.5	0.84
Krameria grayi	12.6	0.13
Ambrosia dumosa	12.6	0.09
Acacia constricta	8.0	0.05
Fouquieria splendens	6.9	0.10
Encelia farinosa farinosa	4.6	0.04
Lycium	4.6	0.03
Acacia greggii	4.6	0.02
Lycium andersonii	4.6	0.01
Ditaxis lanceolata	3.4	0.02
Senna covesii	3.4	0.01
Fagonia californica ssp longipes	2.3	0.01
Celtis pallida pallida	2.3	0.01
Baccharis sarothroides	1.1	0.03
Krameria erecta	1.1	0.01
Tamarix ramosissima	1.1	0.01
Boerhavia wrightii	1.1	0.00
Abutilon incanum	1.1	0.00
Physalis crassifolia	1.1	0.00

Scientific Name	% Constancy	Avg. % Cover
Yucca baccata	1.1	0.00
Ziziphus obtusifolia canescens	1.1	0.00
Hymenoclea salsola	1.1	0.00
Sum for Structure Class:		9.34
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	19.5	0.11
Carnegiea gigantea	17.2	0.04
Cylindropuntia fulgida	5.7	0.16
Cylindropuntia bigelovii	3.4	0.05
Cylindropuntia leptocaulis	3.4	0.02
Ferocactus	3.4	0.01
Ferocactus wislizeni	3.4	0.01
Mammillaria grahamii	2.3	0.01
Echinocereus	1.1	0.00
Echinocereus engelmannii	1.1	0.00
Ferocactus cylindraceus	1.1	0.00
Ferocactus emoryi	1.1	0.00
Grusonia parishii	1.1	0.00
Mammillaria	1.1	0.00
Opuntia	1.1	0.00
Sum for Structure Class:		0.43
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	92.0	7.16
Plantago ovata	77.0	5.55
Lesquerella gordonii	71.3	1.32
Amsinckia intermedia	54.0	0.51
Caulanthus lasiophyllus	39.1	0.41
Chaenactis stevioides	39.1	0.26
Chorizanthe rigida	39.1	0.19
Erodium cicutarium	37.9	2.37
Pectocarya	34.5	1.78
Eriophyllum lanosum	34.5	0.22
Chorizanthe brevicornus	34.5	0.22

Scientific Name	% Constancy	Avg. % Cover
<i>Erodium texanum</i>	31.0	0.44
<i>Cryptantha maritima</i>	28.7	0.29
<i>Pectocarya platycarpa</i>	21.8	1.35
<i>Amsinkia</i>	17.2	0.14
<i>Sisymbrium irio</i>	16.1	0.94
<i>Cryptantha pterocarya</i>	16.1	0.16
<i>Pectocarya recurvata</i>	11.5	1.07
<i>Brassica tournefortii</i>	11.5	0.09
<i>Phacelia</i>	11.5	0.08
<i>Lupinus sparsiflorus</i>	10.3	0.03
<i>Eriogonum deflexum</i>	8.0	0.08
<i>Descurania pinnata</i>	8.0	0.03
<i>Cryptantha</i>	8.0	0.03
<i>Draba cuneifolia</i>	8.0	0.02
<i>Sphaeralcea coulteri</i>	6.9	0.18
<i>Cryptantha barbigera</i>	6.9	0.09
<i>Camissonia chamaenerioides</i>	6.9	0.03
<i>Daucus pusillus</i>	6.9	0.02
<i>Camissonia</i>	6.9	0.02
<i>Astragalus nuttallianus</i>	5.7	0.04
<i>Filago</i>	5.7	0.03
<i>Linanthus jonesii</i>	5.7	0.01
<i>Nicotiana obtusifolia</i>	4.6	0.07
<i>Euphorbia</i>	4.6	0.04
<i>Chenopodium murale</i>	4.6	0.04
<i>Malva parviflora</i>	4.6	0.03
<i>Cryptantha micrantha</i>	4.6	0.02
<i>Sphaeralcea ambigua</i>	4.6	0.02
<i>Eriastrum diffusum</i>	4.6	0.02
<i>Oligomeris linifolia</i>	4.6	0.01
<i>Filago arizonica</i>	4.6	0.01
<i>Gilia</i>	4.6	0.01
<i>Ambrosia ambrosioides</i>	3.4	0.20
<i>Monoptilon bellioides</i>	3.4	0.09

Scientific Name	% Constancy	Avg. % Cover
<i>Euphorbia polycarpa</i>	3.4	0.07
<i>Ditaxis neomexicana</i>	3.4	0.03
<i>Sonchus</i>	3.4	0.03
<i>Amsinckia tessellata</i>	3.4	0.02
<i>Astragalus</i>	3.4	0.02
unknown herb 1	3.4	0.01
<i>Lappula occidentalis</i>	3.4	0.01
<i>Eriogonum thomasi</i>	2.3	0.26
<i>Chaenactis carphoclinia</i>	2.3	0.05
<i>Verbena bracteata</i>	2.3	0.05
<i>Teucrium cubense</i> ssp depressum	2.3	0.04
<i>Phacelia ambigua</i>	2.3	0.04
<i>Plagiobothrys</i>	2.3	0.03
<i>Loeflingia squarrosa</i> ssp.	2.3	0.03
<i>Veronica peregrina</i> ssp xalapensis	2.3	0.01
<i>Eriogonum</i>	2.3	0.01
<i>Eucrypta micrantha</i>	2.3	0.01
<i>Lupinus</i>	2.3	0.01
<i>Lotus salsuginosus</i>	2.3	0.01
<i>Chenopodium</i>	2.3	0.01
<i>Rafinesquia neomexicana</i>	2.3	0.01
<i>Chenopodium neomexicana</i>	2.3	0.01
<i>Herniaria cinerea</i>	2.3	0.01
<i>Nama hispidum</i>	2.3	0.01
<i>Chenopodium pratericola</i>	2.3	0.01
<i>Sphaeralcea</i>	1.1	0.06
<i>Monolepis nuttalliana</i>	1.1	0.02
<i>Conyza canadensis</i>	1.1	0.01
<i>Datura discolor</i>	1.1	0.01
<i>Amaranthus albus</i>	1.1	0.00
<i>Uropappus lindleyi</i>	1.1	0.00
unknown herb 2	1.1	0.00
<i>Phacelia coerulea</i>	1.1	0.00
<i>Spermolepis echinata</i>	1.1	0.00

Scientific Name	% Constancy	Avg. % Cover
Sphaeralcea laxa	1.1	0.00
Salsola tragus	1.1	0.00
Plantago	1.1	0.00
Sonchus oleraceus	1.1	0.00
Silene antirrhina	1.1	0.00
Penstemon parryi	1.1	0.00
Silene	1.1	0.00
Salvia columbariae	1.1	0.00
Stylocline micropoides	1.1	0.00
Gilia stellata	1.1	0.00
Castilleja exserta ssp. Exserta	1.1	0.00
Cirsium neomexicana	1.1	0.00
Conyza coulteri	1.1	0.00
Camissonia californica	1.1	0.00
Dalea mollissima	1.1	0.00
Eriogonum abertianum	1.1	0.00
Eriogonum trichopes	1.1	0.00
Calycoseris wrightii	1.1	0.00
Eschscholzia mexicana	1.1	0.00
Eucrypta chrysanthemifolia	1.1	0.00
Euphorbia albomarginata	1.1	0.00
Perityle emoryi	1.1	0.00
Filago depressa	1.1	0.00
Plantago patagonica	1.1	0.00
Ambrosia confertifolia	1.1	0.00
Chaenactis	1.1	0.00
Linanthus bigelovii	1.1	0.00
Machaeranthera tagetina	1.1	0.00
Malacothrix	1.1	0.00
Mentzelia affinis	1.1	0.00
Nemacladus glanduliferous var.	1.1	0.00
Oenothera	1.1	0.00
Oenothera primaveris	1.1	0.00
Orthocarpus purpurascens	1.1	0.00

Scientific Name	% Constancy	Avg. % Cover
Bowlesia incana	1.1	0.00
Evax multicaulis	1.1	0.00
Sum for Structure Class:		26.70
Structural Growth Form 5. Grasses		
Schismus arabicus	93.1	11.11
Vulpia octoflora	12.6	0.07
Poa bigelovii	9.2	0.04
Pleuraphis mutica	4.6	0.34
Muhlenbergia porteri	3.4	0.03
Cynodon dactylon	2.3	0.05
Erioneuron pulchellum	2.3	0.04
Phalaris minor	1.1	0.09
Eragrostis lehmanniana	1.1	0.01
Bromus rubens	1.1	0.00
Heteropogon contortus	1.1	0.00
Pleuraphis rigida	1.1	0.00
Bromus	1.1	0.00
Aristida	1.1	0.00
Bromus carinatus	1.1	0.00
Sum for Structure Class:		11.80
Structural Growth Form 6. Vines		
Janusia gracile	1.1	0.00
Sum for Structure Class:		0.00

Scientific Name	% Constancy	Avg. % Cover
<i>Desert Grassland</i>		
<i>(Summary Data Based on 13 Plots)</i>		
Structural Growth Form 1. Trees		
Prosopis velutina	100.0	3.15
Sum for Structure Class:		3.15
Structural Growth Form 2. Shrubs		
Koeberlinia spinosa	7.7	0.08
Larrea divaricata tridentata	7.7	0.02
Lycium	7.7	0.02
Acacia constricta	7.7	0.02
Sum for Structure Class:		0.13
Structural Growth Form 3. Cactus		
Grusonia parishii	23.1	0.06
Cylindropuntia spinosior	15.4	0.04
Cylindropuntia	7.7	0.08
Cylindropuntia fulgida	7.7	0.02
Ferocactus	7.7	0.02
Sum for Structure Class:		0.21
Structural Growth Form 4. Herbs		
Lesquerella gordonii	100.0	9.69
Erodium cicutarium	100.0	6.54
Monolepis nuttalliana	84.6	2.12
Sphaeralcea coulteri	61.5	0.21
Amsinkia	53.8	1.33
Chaenactis stevioides	53.8	0.19
Astragalus nuttallianus	46.2	0.62
Amsinckia tessellata	46.2	0.58
Eriophyllum lanosum	46.2	0.17
Plantago rodosperma	38.5	1.12
Plantago	38.5	1.00
Plantago patagonica	38.5	0.56
Plantago ovata	30.8	0.13

Scientific Name	% Constancy	Avg. % Cover
<i>Calycoseris wrightii</i>	30.8	0.13
<i>Bowlesia incana</i>	23.1	0.17
<i>Sisymbrium irio</i>	23.1	0.12
<i>Taraxacum</i>	23.1	0.12
<i>Cryptantha maritima</i>	23.1	0.06
<i>Uropappus lindleyi</i>	23.1	0.06
<i>Phacelia ambigua</i>	23.1	0.06
<i>Mavella sagittiloba</i>	23.1	0.06
<i>Malacothrix</i>	23.1	0.06
<i>Erigeron divergens</i>	15.4	0.10
<i>Atriplex elegans</i>	15.4	0.04
<i>Erodium texanum</i>	15.4	0.04
<i>Monoptilon bellioides</i>	15.4	0.04
<i>Pectocarya platycarpa</i>	7.7	0.08
<i>Argemone pleiacantha</i>	7.7	0.02
<i>Astragalus</i>	7.7	0.02
<i>Camissonia chamaenerioides</i>	7.7	0.02
<i>Chenopodium</i>	7.7	0.02
<i>Sonchus</i>	7.7	0.02
<i>Chorizanthe brevicornus</i>	7.7	0.02
<i>Cryptantha angustifolia</i>	7.7	0.02
<i>Descurania pinnata</i>	7.7	0.02
<i>Draba cuneifolia</i>	7.7	0.02
<i>Eriogonum deflexum</i>	7.7	0.02
<i>Linanthus jonesii</i>	7.7	0.02
<i>Euphorbia albomarginata</i>	7.7	0.02
<i>Pectocarya</i>	7.7	0.02
<i>Oligomeris linifolia</i>	7.7	0.02
<i>Evax verna</i>	7.7	0.02
<i>Lactuca</i>	7.7	0.02
<i>Mentzelia affinis</i>	7.7	0.02
<i>Lappula occidentalis</i>	7.7	0.02
<i>Matricaria discoidea</i>	7.7	0.02
<i>Malacothrix fendleri</i>	7.7	0.02

Scientific Name	% Constancy	Avg. % Cover
Malacothrix coulteri	7.7	0.02
Lepidium lasiocarpum	7.7	0.02
Phacelia	7.7	0.02
Sum for Structure Class:		25.81
Structural Growth Form 5. Grasses		
Pleuraphis mutica	100.0	15.23
Schismus arabicus	84.6	1.77
Pleuraphis rigida	7.7	0.02
Sum for Structure Class:		17.02

Scientific Name	% Constancy	Avg. % Cover
<i>Mesquite Woodland</i> <i>(Summary Data Based on 13 Plots)</i>		
Structural Growth Form 1. Trees		
Prosopis velutina	100.0	49.92
Parkinsonia florida	30.8	1.10
Phoradendron californicum	15.4	0.31
Olneya tesota	7.7	0.02
Sum for Structure Class:		51.35
Structural Growth Form 2. Shrubs		
Larrea divaricata tridentata	84.6	17.38
Ambrosia deltoidea	69.2	3.19
Lycium	46.2	1.67
Ambrosia dumosa	38.5	1.38
Lycium andersonii	30.8	0.37
Castela emoryi	15.4	0.04
Celtis pallida pallida	7.7	0.02
Sum for Structure Class:		24.06
Structural Growth Form 3. Cactus		
Ferocactus	7.7	0.02
Cylindropuntia leptocaulis	7.7	0.02
Sum for Structure Class:		0.04
Structural Growth Form 4. Herbs		
Erodium cicutarium	84.6	15.29
Lepidium lasiocarpum	84.6	1.13
Amsinckia intermedia	76.9	2.52
Lesquerella gordonii	76.9	1.77
Sisymbrium irio	69.2	7.63
Filago arizonica	61.5	2.85
Sphaeralcea coulteri	61.5	0.87
Plantago ovata	61.5	0.85
Bowlesia incana	46.2	1.35
Herniaria cinerea	38.5	1.08

Scientific Name	% Constancy	Avg. % Cover
Daucus pusillus	38.5	0.37
Pectocarya platycarpa	30.8	2.25
Pectocarya	30.8	0.73
Evax multicaulis	30.8	0.38
Descurania pinnata	30.8	0.35
Plagiobothrys	30.8	0.19
Camissonia chamaenerioides	30.8	0.13
Draba cuneifolia	30.8	0.08
Cryptantha	23.1	0.12
Erodium texanum	23.1	0.12
Eriophyllum lanosum	23.1	0.06
Allionia incarnata	15.4	0.54
Matricaria discoidea	15.4	0.15
unknown herb 1	15.4	0.10
Ambrosia confertifolia	15.4	0.10
Astragalus	15.4	0.10
Ambrosia ambrosioides	15.4	0.04
Oenothera	15.4	0.04
Crassula connata	15.4	0.04
Sonchus oleraceus	15.4	0.04
Parietaria floridana	7.7	0.08
Uropappus lindleyi	7.7	0.02
Lappula occidentalis	7.7	0.02
Mentzelia	7.7	0.02
Brassica tournefortii	7.7	0.02
Sum for Structure Class:		41.38
Structural Growth Form 5. Grasses		
Schismus arabicus	92.3	17.08
Muhlenbergia microsperma	46.2	10.33
Vulpia octoflora	23.1	0.19
Cynodon dactylon	15.4	0.10
Poa bigelovii	7.7	0.02
Bromus	7.7	0.02
Sum for Structure Class:	27.73	

Scientific Name	% Constancy	Avg. % Cover
<i>Mountain Upland</i> <i>(Summary Data Based on 36 Plots)</i>		
Structural Growth Form 1. Trees		
Parkinsonia microphylla	38.9	0.94
Prosopis velutina	19.4	0.29
Vauquelinia californica ssp.	2.8	0.03
Quercus turbinella	2.8	0.01
Phoradendron californicum	2.8	0.01
Sum for Structure Class:		1.28
Structural Growth Form 2. Shrubs		
Ephedra aspera	86.1	2.56
Fouquieria splendens	75.0	1.66
Canotia holacantha	69.4	3.85
Viguiera parishii	66.7	1.69
Yucca baccata	63.9	3.05
Lycium	61.1	1.25
Agave deserti simplex	55.6	0.24
Aloysia wrightii	47.2	1.35
Larrea divaricata tridentata	44.4	1.26
Menodora scabra	44.4	0.45
Eriogonum fasciculatum	41.7	0.92
Zinnia acerosa	38.9	1.05
Acacia constricta	36.1	0.94
Gallium stellatum	33.3	0.54
Krameria grayi	33.3	0.47
Tiquilia canescens	27.8	0.88
Acacia greggii	27.8	0.71
Calliandra eriophylla	22.2	0.37
Artemisia ludoviciana	22.2	0.25
Krameria erecta	22.2	0.25
Psilostrophe cooperi	22.2	0.16
Trixis californica	22.2	0.10
Encelia farinosa farinosa	19.4	0.51

Scientific Name	% Constancy	Avg. % Cover
<i>Condalia warnockii</i>	19.4	0.26
<i>Celtis pallida pallida</i>	16.7	0.51
unknown shrub 1	16.7	0.24
<i>Eriogonum wrightii</i>	13.9	0.31
<i>Bernardia incana</i>	13.9	0.20
<i>Gutierrezia sarothrae</i>	13.9	0.20
<i>Ayenia microphylla</i>	11.1	0.05
<i>Hibiscus coulteri</i>	11.1	0.03
<i>Gymnosperma glutinosum</i>	8.3	0.11
<i>Koeberlinia spinosa</i>	8.3	0.06
<i>Jatropha cardiophylla</i>	8.3	0.04
<i>Porophyllum gracile</i>	8.3	0.04
<i>Brickellia coulteri</i>	8.3	0.04
<i>Lycium berlandieri</i>	5.6	0.09
<i>Ziziphus obtusifolia canescens</i>	5.6	0.06
<i>Carlowrightii arizonica</i>	5.6	0.06
<i>Ericameria laricifolia</i>	5.6	0.06
<i>Crossosma bigelovii</i>	5.6	0.06
<i>Ditaxis lanceolata</i>	5.6	0.03
<i>Atriplex canescens</i>	5.6	0.03
<i>Machaeranthera pinnatifida</i>	5.6	0.01
<i>Ambrosia deltoidea</i>	2.8	0.19
<i>Coursetia glandulosa</i>	2.8	0.11
<i>Lycium exsertum</i>	2.8	0.08
<i>Bebbia juncea aspera</i>	2.8	0.03
<i>Keckiella antirrhinoides</i>	2.8	0.03
<i>Hyptis emoryi</i>	2.8	0.03
<i>Forestiera phillyreiodes</i>	2.8	0.01
<i>Abutilon</i>	2.8	0.01
<i>Abutilon incanum</i>	2.8	0.01
<i>Tidestromia lanuginosa</i>	2.8	0.01
<i>Thymophylla pentachaeta</i>	2.8	0.01
<i>Talinum auantiacum Englemann</i>	2.8	0.01
<i>Anisacathus thurberi</i>	2.8	0.01

Scientific Name	% Constancy	Avg. % Cover
Mirabilis laevis v villosa	2.8	0.01
Tragia nepetifolia var dissecta	2.8	0.01
Sum for Structure Class:		27.53
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	52.8	0.36
Opuntia	36.1	1.79
Echinocereus engelmannii	36.1	0.27
Carnegiea gigantea	22.2	0.10
Ferocactus emoryi	19.4	0.05
Echinocereus	16.7	0.21
Opuntia engelmannii	11.1	0.90
Opuntia chlorotica	11.1	0.44
Cylindropuntia leptocaulis	11.1	0.08
Mammillaria grahamii	8.3	0.04
Opuntia phaeacantha	2.8	0.03
Ferocactus cylindraceus	2.8	0.01
Mammillaria	2.8	0.01
Sum for Structure Class:		4.27
Structural Growth Form 4. Herbs		
Cryptantha pterocarya	75.0	2.42
Lepidium lasiocarpum	61.1	4.47
Descurania pinnata	61.1	1.21
Uropappus lindleyi	50.0	0.17
Phacelia coerulea	47.2	2.62
Thysanocarpis curvipes	47.2	0.52
Sphaeralcea ambigua	44.4	0.31
Daucus pusillus	41.7	0.19
Plantago patagonica	38.9	0.94
Eucrypta micrantha	38.9	0.91
Amsinckia intermedia	38.9	0.88
Lesquerella gordonii	36.1	1.54
Draba cuneifolia	33.3	0.19
Rafinesquia neomexicana	33.3	0.15

Scientific Name	% Constancy	Avg. % Cover
<i>Caulanthus lasiophyllus</i>	30.6	0.60
<i>Eriastrum diffusum</i>	30.6	0.25
<i>Androsace occidentalis</i>	27.8	0.45
<i>Erodium cicutarium</i>	27.8	0.35
<i>Dichelostemma capitatum</i> ssp.	27.8	0.07
<i>Eriogonum abertianum</i>	25.0	0.17
<i>Pholistoma auritum</i> var	22.2	0.47
<i>Parietaria floridana</i>	22.2	0.15
<i>Streptanthus carinatus</i>	22.2	0.13
<i>Acourtia nana</i>	22.2	0.10
<i>Plantago ovata</i>	19.4	0.30
<i>Gilia</i>	19.4	0.07
<i>Senecio lemmonii</i>	19.4	0.07
<i>Stylocline micropoides</i>	19.4	0.07
<i>Gilia stellata</i>	19.4	0.05
<i>Phacelia distans</i>	16.7	1.63
<i>Lappula occidentalis</i>	16.7	0.24
<i>Acleisanthes longiflora</i>	16.7	0.10
<i>Stephanomeria pauciflora</i>	16.7	0.08
<i>Calycoseris wrightii</i>	16.7	0.08
<i>Delphinium scaposum</i>	16.7	0.06
<i>Acourtia wrightii</i>	13.9	0.08
<i>Pectocarya recurvata</i>	13.9	0.08
<i>Phacelia ambigua</i>	13.9	0.08
<i>Hedeoma nanum</i> var <i>marocalyx</i>	13.9	0.03
<i>Linanthus jonesii</i>	13.9	0.03
<i>Eschscholzia mexicana</i>	11.1	1.51
<i>Lappula texana</i>	11.1	0.36
<i>Phacelia</i>	11.1	0.19
<i>Chaenactis stevioides</i>	11.1	0.05
<i>Chenopodium neomexicana</i>	11.1	0.05
<i>Cryptantha barbigera</i>	11.1	0.03
<i>Silene antirrhina</i>	11.1	0.03
<i>Yabea microcarpa</i>	11.1	0.03

Scientific Name	% Constancy	Avg. % Cover
Rafinesquia californica	11.1	0.03
Eriophyllum lanosum	11.1	0.03
unknown herb 1	11.1	0.03
Allium macropetalon	11.1	0.03
Chorizanthe brevicornus	8.3	0.21
Sphaeralcea coulteri	8.3	0.04
Castilleja lanata	8.3	0.02
Cryptantha maritima	5.6	0.20
Plantago	5.6	0.14
Gutierrezia arizonica	5.6	0.14
Eucrypta chrysanthemifolia	5.6	0.06
Myosurus cupulatus	5.6	0.03
Mentzelia	5.6	0.03
Teucrium glandulosum	5.6	0.03
Sisymbrium irio	5.6	0.03
Cryptantha	5.6	0.01
Cirsium neomexicana	5.6	0.01
Erodium texanum	5.6	0.01
Pectocarya platycarpa	5.6	0.01
Pectocarya	5.6	0.01
Euphorbia eriantha	5.6	0.01
Filago	5.6	0.01
Lupinus	5.6	0.01
Filago arizonica	5.6	0.01
Astragalus nuttallianus	5.6	0.01
Euphorbia	5.6	0.01
Amsinckia tessellata	2.8	0.06
Gilia flavocincta	2.8	0.06
Verbena	2.8	0.03
Sphaeralcea laxa	2.8	0.03
Chenopodium murale	2.8	0.03
Chenopodium	2.8	0.01
Penstemon pseudospectabilis	2.8	0.01
Atriplex elegans	2.8	0.01

Scientific Name	% Constancy	Avg. % Cover
Bowlesia incana	2.8	0.01
Calocortus kennedeyi	2.8	0.01
Camissonia	2.8	0.01
Camissonia californica	2.8	0.01
Chaenactis	2.8	0.01
Arabis perennans	2.8	0.01
Eriogonum maculatum	2.8	0.01
Euphorbia polycarpa	2.8	0.01
Monoptilon bellioides	2.8	0.01
Penstemon	2.8	0.01
Camissonia chamaenerioides	2.8	0.01
Oenothera primaveris	2.8	0.01
Sphaeralcea	2.8	0.01
Mentzelia affinis	2.8	0.01
Malacothrix sonora	2.8	0.01
Rafinesquia	2.8	0.01
Hybanthus verticillatus var.	2.8	0.01
Lupinus sparsiflorus	2.8	0.01
Lotus	2.8	0.01
Linum perenne ssp lewisii	2.8	0.01
Lactuca serrulata	2.8	0.01
Sum for Structure Class:		26.13
Structural Growth Form 5. Grasses		
Muhlenbergia porteri	80.6	6.45
Vulpia octoflora	66.7	0.71
Poa bigelovii	63.9	1.32
Schismus arabicus	47.2	0.67
Bromus rubens	33.3	0.53
Pleuraphis mutica	30.6	3.94
unknown grass 1	25.0	0.78
Pleuraphis rigida	11.1	0.62
Tridens muticus	11.1	0.07
Elymus elymoides	8.3	0.50

Scientific Name	% Constancy	Avg. % Cover
Aristida purpurea	8.3	0.07
Bouteloua	2.8	0.17
Bouteloua repens	2.8	0.03
Muhlenbergia microsperma	2.8	0.03
Heteropogon contortus	2.8	0.01
Heptochloa panicea ssp.	2.8	0.01
Digitaria californica	2.8	0.01
unknown grass 2	2.8	0.01
Bromus carinatus	2.8	0.01
Sum for Structure Class:		15.90
Structural Growth Form 6. Vines		
Janusia gracile	66.7	1.12
Sarcostemma cynanchoides	13.9	0.03
Matelea parvifolia	8.3	0.04
Galium aparine	5.6	0.01
Metastelma arizonicum	2.8	0.01
Nissolia schottii	2.8	0.01
Phaseolus filiformis	2.8	0.01
Maurandya antirrhinifolia	2.8	0.01
Sum for Structure Class:		1.24
Structural Growth Form 7. Ferns		
Astrolepis cochisensis	33.3	0.17
Selaginella arizonica	27.8	4.53
Pellaea truncata	25.0	0.10
Notholaena standleyi	11.1	0.05
Astrolepis sinuata sinuata	8.3	0.02
unknown fern 1	5.6	0.03
Cheilanthes yavapensis	2.8	0.03
Sum for Structure Class:		4.93

Scientific Name	% Constancy	Avg. % Cover
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Mountain Xeroriparian Scrub
(Summary Data Based on 16 Plots)

Structural Growth Form 1. Trees

Parkinsonia microphylla	75.0	5.00
Olneya tesota	43.8	0.97
Prosopis velutina	37.5	1.44
Phoradendron californicum	37.5	0.19
Parkinsonia florida	18.8	2.88
Quercus turbinella	6.3	0.13
Vauquelinia californica ssp.	6.3	0.02

Sum for Structure Class:		10.61
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Structural Growth Form 2. Shrubs

Lycium	75.0	1.39
Acacia constricta	68.8	4.70
Ephedra aspera	68.8	2.47
Eriogonum fasciculatum	68.8	1.08
Acacia greggii	62.5	2.70
Encelia farinosa farinosa	62.5	1.17
Fouquieria splendens	62.5	0.67
Trixis californica	62.5	0.56
Larrea divaricata tridentata	56.3	1.08
Ditaxis lanceolata	56.3	0.38
Calliandra eriophylla	50.0	1.58
Krameria grayi	50.0	0.56
Ambrosia deltoidea	43.8	1.16
Celtis pallida pallida	37.5	3.63
Brickellia coulteri	37.5	1.08
Viguiera parishii	31.3	0.41
Jatropha cardiophylla	31.3	0.39
Eriogonum wrightii	31.3	0.34
Gallium stellatum	25.0	0.11
Tragia nepetifolia var dissecta	25.0	0.06
Lycium berlandieri	18.8	1.19

Scientific Name	% Constancy	Avg. % Cover
<i>Menodora scabra</i>	18.8	0.14
<i>Mirabilis laevis</i> v <i>villosa</i>	18.8	0.09
<i>Artemisia ludoviciana</i>	18.8	0.05
<i>Abutilon incanum</i>	18.8	0.05
unknown shrub 1	18.8	0.05
<i>Coursetia glandulosa</i>	12.5	0.69
<i>Condalia warnockii</i>	12.5	0.52
<i>Anisacathus thurberi</i>	12.5	0.38
<i>Hyptis emoryi</i>	12.5	0.31
<i>Bernardia incana</i>	12.5	0.31
<i>Fagonia californica</i> ssp <i>longipes</i>	12.5	0.19
<i>Carlowrightii arizonica</i>	12.5	0.08
<i>Aloysia wrightii</i>	12.5	0.08
<i>Ziziphus obtusifolia canescens</i>	12.5	0.08
<i>Psilostrophe cooperi</i>	12.5	0.03
<i>Gymnosperma glutinosum</i>	12.5	0.03
<i>Hibiscus coulteri</i>	12.5	0.03
<i>Ayenia microphylla</i>	12.5	0.03
<i>Senna covesii</i>	12.5	0.03
<i>Simmondsia chinensis</i>	6.3	0.63
<i>Lycium exsertum</i>	6.3	0.31
<i>Lycium andersonii</i>	6.3	0.31
<i>Brickellia frutescens</i>	6.3	0.31
<i>Sebastiania bilocularis</i>	6.3	0.25
<i>Crossosma bigelovii</i>	6.3	0.19
<i>Forestiera phillyreiodes</i>	6.3	0.13
<i>Ambrosia dumosa</i>	6.3	0.13
<i>Baccharis sarothroides</i>	6.3	0.06
<i>Justicia longii</i>	6.3	0.02
<i>Agave deserti simplex</i>	6.3	0.02
<i>Zinnia acerosa</i>	6.3	0.02
<i>Atriplex canescens</i>	6.3	0.02
<i>Tiquilia canescens</i>	6.3	0.02
<i>Bebbia juncea aspera</i>	6.3	0.02

Scientific Name	% Constancy	Avg. % Cover
Brickellia atrostyloides	6.3	0.02
Canotia holacantha	6.3	0.02
Adenophyllum porophylloides	6.3	0.02
Machaeranthera pinnatifida	6.3	0.02
Ericameria laricifolia	6.3	0.02
Hibiscus denudatus	6.3	0.02
Ayenia filiformis	6.3	0.02
Sum for Structure Class:		32.38
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	62.5	0.45
Carnegiea gigantea	50.0	0.22
Opuntia	25.0	0.27
Echinocereus engelmannii	25.0	0.06
Cylindropuntia leptocaulis	18.8	0.28
Ferocactus emoryi	12.5	0.03
Mammillaria grahamii	6.3	0.02
Cylindropuntia	6.3	0.02
Opuntia engelmannii	6.3	0.02
Sum for Structure Class:		1.36
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	87.5	2.45
Cryptantha pterocarya	81.3	2.19
Descurania pinnata	75.0	0.89
Amsinckia intermedia	68.8	1.30
Eucrypta micrantha	68.8	1.28
Linanthus jonesii	68.8	0.22
Chorizanthe brevicornus	62.5	0.42
Gilia stellata	56.3	0.61
Eriastrum diffusum	56.3	0.19
Chaenactis stevioides	56.3	0.19
Phacelia coerulea	50.0	2.20
Phacelia ambigua	50.0	0.53
Caulanthus lasiophyllus	50.0	0.45

Scientific Name	% Constancy	Avg. % Cover
<i>Chenopodium neomexicana</i>	50.0	0.44
<i>Camissonia</i>	50.0	0.22
<i>Camissonia californica</i>	50.0	0.22
<i>Draba cuneifolia</i>	50.0	0.22
<i>Stylocline micropoides</i>	50.0	0.13
<i>Erodium cicutarium</i>	43.8	1.02
<i>Lesquerella gordonii</i>	43.8	0.78
<i>Cryptantha maritima</i>	43.8	0.52
<i>Silene antirrhina</i>	43.8	0.45
<i>Pectocarya recurvata</i>	43.8	0.36
<i>Plantago ovata</i>	43.8	0.33
<i>Filago</i>	43.8	0.11
<i>Rafinesquia neomexicana</i>	43.8	0.11
<i>Ambrosia ambrosioides</i>	37.5	0.59
<i>Pholistoma auritum</i> var	37.5	0.53
<i>Sisymbrium irio</i>	37.5	0.41
<i>Cryptantha barbigera</i>	37.5	0.30
<i>Plantago patagonica</i>	37.5	0.25
<i>Sphaeralcea ambigua</i>	37.5	0.23
<i>Phacelia</i>	31.3	0.39
<i>Gilia</i>	31.3	0.25
<i>Daucus pusillus</i>	31.3	0.17
<i>Lupinus sparsiflorus</i>	31.3	0.13
<i>Calycoseris wrightii</i>	31.3	0.13
<i>Eriophyllum lanosum</i>	31.3	0.08
<i>Androsace occidentalis</i>	25.0	0.34
<i>Uropappus lindleyi</i>	25.0	0.11
<i>Eriogonum abertianum</i>	25.0	0.11
<i>Stephanomeria pauciflora</i>	25.0	0.11
<i>Thysanocarpis curvipes</i>	25.0	0.06
<i>Mentzelia</i>	25.0	0.06
<i>Dichelostemma capitatum</i> ssp.	25.0	0.06
<i>Ditaxis neomexicana</i>	25.0	0.06
<i>Euphorbia polycarpa</i>	18.8	0.16

Scientific Name	% Constancy	Avg. % Cover
Hedeona nanum var marocalyx	18.8	0.09
Astragalus nuttallianus	18.8	0.09
Eriogonum inflatum	18.8	0.09
Eschscholzia mexicana	18.8	0.05
Marina parryi	18.8	0.05
Allionia incarnata	18.8	0.05
Eriogonum deflexum	18.8	0.05
Nemacladus glanduliferous var.	18.8	0.05
Sphaeralcea coulteri	18.8	0.05
Delphinium scaposum	18.8	0.05
Acourtia wrightii	12.5	0.14
Eriogonum maculatum	12.5	0.14
Herissantia crispa	12.5	0.14
Lappula occidentalis	12.5	0.14
Pectocarya	12.5	0.08
Acleisanthes longiflora	12.5	0.08
Camissonia chamaenerioides	12.5	0.08
Eriogonum thomasii	12.5	0.08
Chorizanthe rigida	12.5	0.08
Filago arizonica	12.5	0.08
Cryptantha micrantha	12.5	0.03
Euphorbia	12.5	0.03
Euphorbia albomarginata	12.5	0.03
Streptanthus carinatus	12.5	0.03
Lotus	12.5	0.03
Lactuca serrulata	12.5	0.03
Salvia pinguifolia	6.3	0.31
Phacelia distans	6.3	0.13
Amsinckia tessellata	6.3	0.13
Amsinckia	6.3	0.06
Mentzelia involucrata	6.3	0.06
Mentzelia affinis	6.3	0.06
Linanthus bigelovii	6.3	0.06
Euphorbia pediculifera	6.3	0.02

Scientific Name	% Constancy	Avg. % Cover
Parietaria floridana	6.3	0.02
Sonchus oleraceus	6.3	0.02
Castilleja exserta ssp. Exserta	6.3	0.02
Sphaeralcea laxa	6.3	0.02
Filago californica	6.3	0.02
Acourtia nana	6.3	0.02
Trifolium wormskioldii	6.3	0.02
unknown herb 1	6.3	0.02
Euphorbia eriantha	6.3	0.02
Verbena neomexicana	6.3	0.02
Euphorbia arizonica	6.3	0.02
Castilleja lanata	6.3	0.02
Malvastrum bicuspidatum	6.3	0.02
Penstemon pseudospectabilis	6.3	0.02
Perityle emoryi	6.3	0.02
Eriogonum	6.3	0.02
Lesquerella tenella	6.3	0.02
Astragalus arizonicus	6.3	0.02
Silene	6.3	0.02
Plagiobothrys jonesii	6.3	0.02
Malacothrix sonora	6.3	0.02
Ambrosia confertifolia	6.3	0.02
Rafinesquia californica	6.3	0.02
Machaeranthera tagetina	6.3	0.02
Lupinus	6.3	0.02
Senecio lemmonii	6.3	0.02
Sum for Structure Class:		25.41
Structural Growth Form 5. Grasses		
Schismus arabicus	81.3	2.36
Poa bigelovii	75.0	2.53
Vulpia octoflora	75.0	1.30
Muhlenbergia porteri	43.8	1.86
Bromus rubens	43.8	1.00

Scientific Name	% Constancy	Avg. % Cover
Aristida purpurea	18.8	0.09
Heteropogon contortus	18.8	0.05
Pleuraphis	12.5	0.33
Pleuraphis rigida	12.5	0.14
Bromus carinatus	12.5	0.03
Aristida	12.5	0.03
unknown grass 1	6.3	0.06
Pleuraphis mutica	6.3	0.06
unknown grass 2	6.3	0.06
Aristida adsensionis	6.3	0.02
Pennisetum ciliare	6.3	0.02
Trisetum interruptum	6.3	0.02
Bouteloua curtipendula	6.3	0.02
Erioneuron pulchellum	6.3	0.02
Sum for Structure Class:		9.98
Structural Growth Form 6. Vines		
Janusia gracile	56.3	0.73
Sarcostemma cynanchoides	18.8	0.05
Antirrhinum filipes	6.3	0.02
Rhynchosia senna var. texana	6.3	0.02
Nissolia schottii	6.3	0.02
Matelea parvifolia	6.3	0.02
Lyrocarpa coulteri	6.3	0.02
Galium aparine	6.3	0.02
Cucurbita digitata	6.3	0.02
Sum for Structure Class:		0.89
Structural Growth Form 7. Ferns		
Pellaea truncata	18.8	0.05
Selaginella arizonica	12.5	0.64
Astrolepis cochisensis	12.5	0.14
Notholaena standleyi	6.3	0.02
Sum for Structure Class:		0.84

Scientific Name	% Constancy	Avg. % Cover
<i>Paloverde - Mixed Cacti - Mixed Scrub on Bajadas</i>		
<i>(Summary Data Based on 35 Plots)</i>		

Structural Growth Form 1. Trees

Parkinsonia microphylla	71.4	3.05
Olneya tesota	28.6	1.75
Phoradendron californicum	14.3	0.04
Parkinsonia florida	11.4	0.49
Prosopis velutina	11.4	0.29

Sum for Structure Class:		5.62
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Structural Growth Form 2. Shrubs

Larrea divaricata tridentata	100.0	5.51
Ambrosia deltoidea	97.1	4.69
Krameria grayi	51.4	0.86
Fouquieria splendens	45.7	0.47
Lycium	25.7	0.18
Ambrosia dumosa	22.9	0.26
Acacia constricta	20.0	0.24
Ditaxis lanceolata	17.1	0.04
Encelia farinosa farinosa	14.3	0.04
Hymenoclea salsola	11.4	0.55
Trixis californica	8.6	0.06
Lycium parishii	5.7	0.06
Lycium andersonii	5.7	0.01
Lycium macrodon	2.9	0.09
Acacia greggii	2.9	0.06
Krameria erecta	2.9	0.06
Ephedra aspera	2.9	0.03
Fagonia californica ssp longipes	2.9	0.03
Jatropha cardiophylla	2.9	0.03
Lycium berlandieri	2.9	0.01
Ayenia filiformis	2.9	0.01
Calliandra eriophylla	2.9	0.01

Sum for Structure Class:		13.29
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Scientific Name	% Constancy	Avg. % Cover
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	68.6	0.92
Carnegiea gigantea	65.7	0.40
Cylindropuntia fulgida	22.9	0.15
Mammillaria grahamii	22.9	0.06
Echinocereus engelmannii	17.1	0.04
Cylindropuntia leptocaulis	14.3	0.09
Ferocactus emoryi	14.3	0.06
Cylindropuntia bigelovii	8.6	0.02
Opuntia	5.7	0.29
Echinocereus	5.7	0.01
Cylindropuntia	2.9	0.03
Ferocactus	2.9	0.01
Mammillaria	2.9	0.01
Mammillaria tetrancistra	2.9	0.01
Opuntia engelmannii	2.9	0.01
Peniocereus greggii	2.9	0.01
Sum for Structure Class:		2.11
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	94.3	4.52
Plantago ovata	74.3	1.28
Chorizanthe brevicornus	74.3	1.26
Caulanthus lasiophyllus	62.9	0.54
Cryptantha pterocarya	62.9	0.45
Chorizanthe rigida	60.0	0.36
Lesquerella gordonii	57.1	1.03
Cryptantha maritima	48.6	1.79
Pectocarya	45.7	2.80
Eriophyllum lanosum	42.9	0.23
Chaenactis stevioides	37.1	0.34
Amsinckia intermedia	37.1	0.25
Pectocarya recurvata	31.4	1.81
Descurania pinnata	31.4	0.18

Scientific Name	% Constancy	Avg. % Cover
<i>Pectocarya platycarpa</i>	28.6	0.46
<i>Phacelia ambigua</i>	22.9	0.24
<i>Euphorbia polycarpa</i>	20.0	0.11
<i>Eriastrum diffusum</i>	20.0	0.05
<i>Camissonia</i>	20.0	0.05
<i>Cryptantha barbiger</i>	17.1	0.26
<i>Phacelia</i>	17.1	0.11
<i>Amsinckia</i>	17.1	0.06
<i>Stylocline micropoides</i>	17.1	0.04
<i>Camissonia chamaenerioides</i>	14.3	0.14
<i>Draba cuneifolia</i>	14.3	0.08
<i>Eriogonum thomasii</i>	11.4	0.74
<i>Filago</i>	11.4	0.07
<i>Filago arizonica</i>	11.4	0.05
<i>Eucrypta micrantha</i>	11.4	0.03
<i>Cryptantha</i>	8.6	0.18
<i>Amsinckia tessellata</i>	8.6	0.11
<i>Sisymbrium irio</i>	8.6	0.07
<i>Camissonia californica</i>	8.6	0.04
<i>Euphorbia</i>	8.6	0.04
<i>Linanthus jonesii</i>	8.6	0.02
<i>Mentzelia</i>	8.6	0.02
<i>Lupinus sparsiflorus</i>	8.6	0.02
<i>Erodium cicutarium</i>	5.7	0.12
<i>Ditaxis neomexicana</i>	5.7	0.04
<i>Eriogonum</i>	5.7	0.04
<i>Gilia</i>	5.7	0.04
<i>Orobancha cooperi</i>	5.7	0.01
<i>Lotus</i>	5.7	0.01
<i>Loeflingia squarrosa</i> ssp.	5.7	0.01
<i>Erodium texanum</i>	5.7	0.01
<i>Nama hispidum</i>	5.7	0.01
<i>Eriogonum inflatum</i>	5.7	0.01
<i>Daucus pusillus</i>	5.7	0.01

Scientific Name	% Constancy	Avg. % Cover
Rafinesquia neomexicana	5.7	0.01
Calycoseris wrightii	5.7	0.01
Lappula occidentalis	2.9	0.06
Plagiobothrys	2.9	0.03
Eschscholzia mexicana	2.9	0.03
Mentzelia involucrata	2.9	0.03
Astragalus	2.9	0.03
Lotus salsuginosus	2.9	0.03
Marina parryi	2.9	0.01
Thysanocarpis curvipes	2.9	0.01
Sphaeralcea	2.9	0.01
Chaenactis carphoclinia	2.9	0.01
Senecio	2.9	0.01
Eriogonum deflexum	2.9	0.01
Euphorbia pediculifera	2.9	0.01
Lupinus	2.9	0.01
Parietaria floridana	2.9	0.01
Allium macropetalon	2.9	0.01
Oligomeris linifolia	2.9	0.01
Nicotiana obtusifolia	2.9	0.01
Monoptilon bellioides	2.9	0.01
Cryptantha micrantha	2.9	0.01
Sum for Structure Class:		20.49
Structural Growth Form 5. Grasses		
Schismus arabicus	100.0	7.44
Vulpia octoflora	28.6	0.24
Erioneuron pulchellum	11.4	0.05
Aristida	8.6	0.04
Poa bigelovii	8.6	0.04
Aristida adsensionis	2.9	0.01
Muhlenbergia porteri	2.9	0.01
Aristida purpurea	2.9	0.01
Sum for Structure Class:		7.84
Structural Growth Form 6. Vines		
Janusia gracile	5.7	0.04
Sum for Structure Class:	0.04	

Scientific Name	% Constancy	Avg. % Cover
<i>Paloverde - Mixed Cacti - Mixed Scrub on Rocky Slopes</i> <i>(Summary Data Based on 64 Plots)</i>		
Structural Growth Form 1. Trees		
Parkinsonia microphylla	92.2	6.02
Oleña tesota	15.6	0.36
Phoradendron californicum	4.7	0.01
Parkinsonia florida	3.1	0.16
Sum for Structure Class:		6.54
Structural Growth Form 2. Shrubs		
Fouquieria splendens	82.8	1.68
Encelia farinosa farinosa	73.4	2.72
Larrea divaricata tridentata	70.3	1.88
Ambrosia deltoidea	67.2	3.32
Lycium	59.4	0.69
Krameria grayi	57.8	0.80
Ephedra aspera	39.1	0.46
Ditaxis lanceolata	32.8	0.12
Fagonia californica ssp longipes	25.0	0.19
Trixis californica	21.9	0.09
Viguiera parishii	20.3	0.53
Hyptis emoryi	20.3	0.41
Acacia constricta	20.3	0.30
Eriogonum fasciculatum	18.8	0.52
Agave deserti simplex	18.8	0.11
Gallium stellatum	17.2	0.21
Lycium berlandieri	14.1	0.20
Calliandra eriophylla	12.5	0.22
Jatropha cardiophylla	12.5	0.21
Menodora scabra	12.5	0.11
Machaeranthera pinnatifida	12.5	0.05
Mirabilis laevis v villosa	10.9	0.07
Acacia greggii	9.4	0.10
Brickellia coulteri	7.8	0.07

Scientific Name	% Constancy	Avg. % Cover
Ayenia microphylla	7.8	0.03
Porophyllum gracile	6.3	0.05
Adenophyllum porophylloides	6.3	0.03
Celtis pallida pallida	6.3	0.03
Eriogonum wrightii	4.7	0.11
Condalia warnockii	4.7	0.02
Krameria erecta	3.1	0.08
Hibiscus denudatus	3.1	0.07
Ambrosia dumosa	3.1	0.06
Tiquilia canescens	3.1	0.02
Crossosma bigelovii	3.1	0.02
Lycium andersonii	3.1	0.01
Sebastiania bilocularis	1.6	0.06
Lycium parishii	1.6	0.02
Ziziphus obtusifolia canescens	1.6	0.02
Simmondsia chinensis	1.6	0.02
Lycium exsertum	1.6	0.02
Aloysia wrightii	1.6	0.00
Carlowrightii arizonica	1.6	0.00
Abutilon incanum	1.6	0.00
Abutilon	1.6	0.00
Senna covesii	1.6	0.00
Gymnosperma glutinosum	1.6	0.00
Koeberlinia spinosa	1.6	0.00
Sum for Structure Class:		15.77
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	82.8	1.34
Carnegiea gigantea	76.6	0.36
Echinocereus engelmannii	40.6	0.14
Mammillaria grahamii	31.3	0.08
Cylindropuntia bigelovii	15.6	0.77
Ferocactus emoryi	15.6	0.04
Cylindropuntia leptocaulis	10.9	0.08

Scientific Name	% Constancy	Avg. % Cover
Opuntia phaeacantha	9.4	0.09
Echinocereus	7.8	0.02
Ferocactus	7.8	0.02
Ferocactus cylindraceus	7.8	0.02
Cylindropuntia fulgida	6.3	0.07
Opuntia	6.3	0.07
Opuntia engelmannii	4.7	0.05
Mammillaria	3.1	0.01
Opuntia chlorotica	1.6	0.02
Mammillaria tetrancistra	1.6	0.00
Cylindropuntia	1.6	0.00
Sum for Structure Class:		3.18
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	85.9	5.86
Cryptantha pterocarya	70.3	2.81
Chorizanthe brevicornus	60.9	0.29
Caulanthus lasiophyllus	56.3	0.78
Descurania pinnata	48.4	0.35
Plantago ovata	42.2	1.26
Pectocarya recurvata	42.2	1.13
Amsinckia intermedia	42.2	0.63
Cryptantha maritima	39.1	0.72
Phacelia	35.9	1.07
Eucrypta micrantha	35.9	0.54
Lesquerella gordonii	31.3	2.05
Gilia	31.3	0.24
Cryptantha barbigera	29.7	0.95
Daucus pusillus	29.7	0.21
Eriophyllum lanosum	26.6	0.11
Perityle emoryi	25.0	1.16
Phacelia ambigua	25.0	0.32
Sphaeralcea ambigua	25.0	0.26
Thysanocarpis curvipes	25.0	0.26

Scientific Name	% Constancy	Avg. % Cover
<i>Draba cuneifolia</i>	25.0	0.07
<i>Erodium cicutarium</i>	21.9	1.38
<i>Linanthus jonesii</i>	21.9	0.20
<i>Camissonia</i>	21.9	0.08
<i>Stylocline micropoides</i>	20.3	0.21
<i>Gilia stellata</i>	18.8	0.14
<i>Phacelia coerulea</i>	17.2	0.74
<i>Chenopodium neomexicana</i>	17.2	0.15
<i>Pectocarya</i>	15.6	0.96
<i>Chaenactis stevioides</i>	15.6	0.06
<i>Camissonia chamaenerioides</i>	15.6	0.06
<i>Eriastrum diffusum</i>	15.6	0.06
<i>Lupinus sparsiflorus</i>	14.1	0.05
<i>Eriogonum inflatum</i>	12.5	0.09
<i>Amsinkia</i>	12.5	0.08
<i>Filago</i>	12.5	0.04
<i>Camissonia californica</i>	12.5	0.04
<i>Euphorbia</i>	10.9	0.09
<i>Rafinesquia neomexicana</i>	10.9	0.08
<i>Dichelostemma capitatum</i> ssp.	10.9	0.03
<i>Eriogonum abertianum</i>	10.9	0.03
<i>Filago arizonica</i>	9.4	0.06
<i>Astragalus nuttallianus</i>	9.4	0.04
<i>Plantago patagonica</i>	7.8	0.11
<i>Stephanomeria pauciflora</i>	7.8	0.07
<i>Pectocarya platycarpa</i>	7.8	0.07
<i>Euphorbia polycarpa</i>	7.8	0.06
<i>Lotus</i>	7.8	0.04
<i>Eriogonum deflexum</i>	7.8	0.02
<i>Erodium texanum</i>	6.3	0.07
<i>Amsinckia tessellata</i>	6.3	0.06
<i>Senecio lemmonii</i>	6.3	0.05
<i>Silene antirrhina</i>	6.3	0.03
<i>Calycoseris wrightii</i>	6.3	0.03

Scientific Name	% Constancy	Avg. % Cover
Marina parryi	6.3	0.03
Sphaeralcea coulteri	6.3	0.03
Eschscholzia mexicana	6.3	0.03
Eriogonum thomasii	6.3	0.03
Gilia flavocincta	6.3	0.02
Calandrinia ciliata	6.3	0.02
Ditaxis neomexicana	6.3	0.02
Uropappus lindleyi	6.3	0.02
Phacelia distans	4.7	0.25
Mentzelia involucrata	4.7	0.02
unknown herb 1	4.7	0.02
Bowlesia incana	4.7	0.01
Lotus salsuginosus	4.7	0.01
Astragalus	4.7	0.01
Linanthus bigelovii	4.7	0.01
Chorizanthe rigida	4.7	0.01
Delphinium scaposum	4.7	0.01
Acleisanthes longiflora	4.7	0.01
Sisymbrium irio	3.1	0.13
Plantago	3.1	0.07
Sphaeralcea	3.1	0.07
Androsace occidentalis	3.1	0.05
Linum perenne ssp lewisii	3.1	0.02
Cryptantha	3.1	0.02
Streptanthus carinatus	3.1	0.02
Senecio	3.1	0.01
Sonchus	3.1	0.01
Nicotiana obtusifolia	3.1	0.01
Parietaria floridana	3.1	0.01
Eriogonum	3.1	0.01
Cryptantha micrantha	3.1	0.01
Euphorbia arizonica	3.1	0.01
Chenopodium	1.6	0.08
Chaenactis carphoclinia	1.6	0.05

Scientific Name	% Constancy	Avg. % Cover
Pholistoma auritum var	1.6	0.02
Allionia incarnata	1.6	0.02
Crassula connata	1.6	0.00
Salsola tragus	1.6	0.00
Ditaxis adenophora	1.6	0.00
Eucrypta chrysanthemifolia	1.6	0.00
Euphorbia pediculifera	1.6	0.00
Lappula occidentalis	1.6	0.00
Mentzelia	1.6	0.00
Brassica tournefortii	1.6	0.00
Nemacladus glanduliferous var.	1.6	0.00
Euphorbia capitellata	1.6	0.00
Antirrhinum cyathiferum	1.6	0.00
Silene	1.6	0.00
Lupinus Arizonicus	1.6	0.00
Camissonia boothii ssp	1.6	0.00
Lesquerella tenella	1.6	0.00
Lupinus	1.6	0.00
Dudleya arizonica	1.6	0.00
Monoptilon bellioides	1.6	0.00
Euphorbia albomarginata	1.6	0.00
Sum for Structure Class:		27.55
Structural Growth Form 5. Grasses		
Schismus arabicus	85.9	3.37
Vulpia octoflora	57.8	1.01
Muhlenbergia porteri	34.4	1.17
Poa bigelovii	21.9	0.09
Aristida	18.8	0.11
Erioneuron pulchellum	12.5	0.17
Tridens muticus	9.4	0.32
unknown grass 1	7.8	0.06
Aristida purpurea	7.8	0.06
Bromus rubens	7.8	0.05

Scientific Name	% Constancy	Avg. % Cover
Muhlenbergia microsperma	4.7	0.04
Pleuraphis rigida	4.7	0.02
Muhlenbergia	3.1	0.05
Aristida adsensionis	3.1	0.01
Pleuraphis mutica	3.1	0.01
Trisetum interruptum	1.6	0.00
Sum for Structure Class:		6.55
Structural Growth Form 6. Vines		
Janusia gracile	43.8	0.94
Matelea parvifolia	1.6	0.00
Sarcostemma cynanchoides	1.6	0.00
Sum for Structure Class:		0.95
Structural Growth Form 7. Ferns		
Selaginella arizonica	29.7	4.66
Notholaena standleyi	21.9	0.07
Astrolepis cochisensis	10.9	0.03
Cheilanthes parryi	3.1	0.01
Pellaea truncata	3.1	0.01
Astrolepis sinuata sinuata	1.6	0.00
Sum for Structure Class:		4.78

Scientific Name	% Constancy	Avg. % Cover
<i>Rock Outcrop</i> <i>(Summary Data Based on 7 Plots)</i>		
Structural Growth Form 1. Trees		
Parkinsonia microphylla	57.1	0.68
Vauquelinia californica ssp.	14.3	0.14
Prosopis velutina	14.3	0.04
Sum for Structure Class:		0.86
Structural Growth Form 2. Shrubs		
Encelia farinosa farinosa	85.7	2.50
Larrea divaricata tridentata	71.4	1.21
Lycium	57.1	0.39
Eriogonum wrightii	42.9	1.14
Acacia greggii	42.9	0.46
Ephedra aspera	42.9	0.46
Viguiera parishii	42.9	0.43
Brickellia coulteri	42.9	0.21
Ambrosia deltoidea	28.6	0.43
Trixis californica	28.6	0.32
Hyptis emoryi	28.6	0.32
Aloysia wrightii	28.6	0.18
Gallium stellatum	28.6	0.07
Fouquieria splendens	28.6	0.07
Celtis pallida pallida	28.6	0.07
Agave deserti simplex	28.6	0.07
Gutierrezia sarothrae	14.3	0.29
Krameria erecta	14.3	0.14
Ayenia microphylla	14.3	0.04
Acacia constricta	14.3	0.04
Eriogonum fasciculatum	14.3	0.04
unknown shrub 1	14.3	0.04
Menodora scabra	14.3	0.04
Bebbia juncea aspera	14.3	0.04
Krameria grayi	14.3	0.04

Scientific Name	% Constancy	Avg. % Cover
Koeberlinia spinosa	14.3	0.04
Hibiscus coulteri	14.3	0.04
Gymnosperma glutinosum	14.3	0.04
Ditaxis lanceolata	14.3	0.04
Senna covesii	14.3	0.04
Sum for Structure Class:		9.21
Structural Growth Form 3. Cactus		
Carnegiea gigantea	71.4	0.39
Cylindropuntia acanthocarpa	57.1	0.14
Cylindropuntia bigelovii	28.6	0.18
Opuntia	28.6	0.18
Echinocereus engelmannii	28.6	0.07
Mammillaria grahamii	28.6	0.07
Ferocactus emoryi	14.3	0.04
Mammillaria	14.3	0.04
Sum for Structure Class:		1.11
Structural Growth Form 4. Herbs		
Sphaeralcea ambigua	85.7	0.21
Descurania pinnata	71.4	0.18
Lepidium lasiocarpum	57.1	0.54
Phacelia	57.1	0.14
Perityle emoryi	42.9	0.32
Eucrypta micrantha	28.6	0.18
Stephanomeria pauciflora	28.6	0.18
Cryptantha pterocarya	28.6	0.07
Cryptantha maritima	28.6	0.07
Phacelia ambigua	28.6	0.07
Camissonia	28.6	0.07
Thysanocarpis curvipes	28.6	0.07
Euphorbia melanadenia	28.6	0.07
Lotus	28.6	0.07
Plantago patagonica	28.6	0.07
Cryptantha	14.3	0.43

Scientific Name	% Constancy	Avg. % Cover
Nicotiana obtusifolia	14.3	0.14
Pholistoma auritum var	14.3	0.14
Cirsium neomexicana	14.3	0.14
Chorizanthe brevicornus	14.3	0.14
Trifolium wormskioldii	14.3	0.14
Rafinesquia californica	14.3	0.04
Stylocline micropoides	14.3	0.04
Pectocarya recurvata	14.3	0.04
Uropappus lindleyi	14.3	0.04
Penstemon parryi	14.3	0.04
Verbena	14.3	0.04
unknown herb 1	14.3	0.04
Chaenactis carphoclinia	14.3	0.04
Filago arizonica	14.3	0.04
Parietaria floridana	14.3	0.04
Acourtia nana	14.3	0.04
Amsinckia intermedia	14.3	0.04
Caulanthus lasiophyllus	14.3	0.04
Delphinium scaposum	14.3	0.04
Draba cuneifolia	14.3	0.04
Eriogonum abertianum	14.3	0.04
Erodium cicutarium	14.3	0.04
Erodium texanum	14.3	0.04
Euphorbia albomarginata	14.3	0.04
Filago	14.3	0.04
Gutierrezia arizonica	14.3	0.04
Myosurus cupulatus	14.3	0.04
Castilleja lanata	14.3	0.04
Sum for Structure Class:		4.29
Structural Growth Form 5. Grasses		
Schismus arabicus	71.4	0.18
Poa bigelovii	42.9	0.11
Muhlenbergia porteri	28.6	0.32

Scientific Name	% Constancy	Avg. % Cover
Vulpia octoflora	28.6	0.18
Bouteloua	28.6	0.07
Bromus rubens	28.6	0.07
Pleuraphis mutica	14.3	0.14
Aristida purpurea	14.3	0.14
Muhlenbergia microsperma	14.3	0.04
Aristida adsensionis	14.3	0.04
Aristida parishii	14.3	0.04
Sum for Structure Class:		1.32
Structural Growth Form 6. Vines		
Janusia gracile	42.9	0.11
Matelea parvifolia	14.3	0.04
Maurandya antirrhinifolia	14.3	0.04
Rhynchosia texana	14.3	0.04
Sum for Structure Class:		0.21
Structural Growth Form 7. Ferns		
Astrolepis cochisensis	28.6	0.07
Notholaena standleyi	28.6	0.07
Selaginella arizonica	14.3	1.43
Astrolepis sinuata sinuata	14.3	0.04
Sum for Structure Class:		1.61

Scientific Name	% Constancy	Avg. % Cover
<i>Desert Spring</i>		
<i>(Summary Data Based on 3 Plots)</i>		
Structural Growth Form 1. Trees		
Prosopis velutina	100.0	5.00
Parkinsonia microphylla	66.7	3.00
Sum for Structure Class:		8.00
Structural Growth Form 2. Shrubs		
Acacia greggii	100.0	3.00
Coursetia glandulosa	100.0	2.08
Ephedra aspera	100.0	1.42
Acacia constricta	100.0	1.33
Brickellia coulteri	100.0	1.08
Eriogonum wrightii	66.7	2.00
Celtis pallida pallida	66.7	1.67
Simmondsia chinensis	66.7	1.42
Encelia farinosa farinosa	66.7	1.42
Lycium	66.7	1.33
Eriogonum fasciculatum	66.7	1.00
Abutilon incanum	66.7	0.75
Calliandra eriophylla	66.7	0.75
Jatropha cardiophylla	66.7	0.67
Justicia longii	66.7	0.67
Krameria grayi	66.7	0.42
Ditaxis lanceolata	66.7	0.17
Ayenia filiformis	66.7	0.17
Condalia warnockii	33.3	0.67
Mirabilis laevis v villosa	33.3	0.33
Menodora scabra	33.3	0.33
Trixis californica	33.3	0.33
Larrea divaricata tridentata	33.3	0.33
Fouquieria splendens	33.3	0.33
Ambrosia deltoidea	33.3	0.08
Ziziphus obtusifolia canescens	33.3	0.08

Scientific Name	% Constancy	Avg. % Cover
Senna covesii	33.3	0.08
Viguiera parishii	33.3	0.08
Tiquilia canescens	33.3	0.08
Gutierrezia sarothrae	33.3	0.08
Aloysia wrightii	33.3	0.08
Hibiscus coulteri	33.3	0.08
Yucca baccata	33.3	0.08
Sum for Structure Class:		24.42
Structural Growth Form 3. Cactus		
Carnegiea gigantea	100.0	0.50
Cylindropuntia acanthocarpa	66.7	0.67
Cylindropuntia bigelovii	33.3	0.08
Opuntia phaeacantha	33.3	0.08
Opuntia	33.3	0.08
Mammillaria grahamii	33.3	0.08
Echinocereus engelmannii	33.3	0.08
Ferocactus emoryi	33.3	0.08
Sum for Structure Class:		1.67
Structural Growth Form 4. Herbs		
Amsinckia intermedia	100.0	6.33
Lepidium lasiocarpum	100.0	5.00
Phacelia coerulea	100.0	3.67
Cryptantha pterocarya	100.0	3.33
Caulanthus lasiophyllus	100.0	1.75
Silene antirrhina	100.0	1.08
Daucus pusillus	100.0	0.50
Chenopodium neomexicana	66.7	1.67
Cryptantha barbigera	66.7	1.33
Pholistoma auritum var	66.7	1.08
Ambrosia ambrosioides	66.7	1.00
Sphaeralcea coulteri	66.7	1.00
Euphorbia albomarginata	66.7	0.75
Gilia stellata	66.7	0.67

Scientific Name	% Constancy	Avg. % Cover
Plantago patagonica	66.7	0.42
Allionia incarnata	66.7	0.42
Eucrypta micrantha	66.7	0.42
Eschscholzia mexicana	66.7	0.42
Sphaeralcea ambigua	66.7	0.42
Eriogonum abertianum	66.7	0.42
Erigeron divergens	66.7	0.17
Erodium cicutarium	66.7	0.17
Castilleja exserta ssp. Exserta	66.7	0.17
Thysanocarpis curvipes	66.7	0.17
Rafinesquia neomexicana	66.7	0.17
Lupinus sparsiflorus	66.7	0.17
Linanthus jonesii	66.7	0.17
Euphorbia polycarpa	33.3	0.67
Descurania pinnata	33.3	0.33
Pectocarya recurvata	33.3	0.33
Phacelia ambigua	33.3	0.33
Lesquerella gordonii	33.3	0.33
Lotus	33.3	0.33
Typha domingensis	33.3	0.08
Uropappus lindleyi	33.3	0.08
Perityle emoryi	33.3	0.08
Stylocline micropoides	33.3	0.08
Penstemon parryi	33.3	0.08
Plantago ovata	33.3	0.08
Atriplex elegans	33.3	0.08
Acourtia wrightii	33.3	0.08
Camissonia	33.3	0.08
Camissonia californica	33.3	0.08
Draba cuneifolia	33.3	0.08
Eriogonum deflexum	33.3	0.08
Filago	33.3	0.08
Filago arizonica	33.3	0.08
Gilia	33.3	0.08

Scientific Name	% Constancy	Avg. % Cover
Ambrosia confertifolia	33.3	0.08
Chorizanthe brevicornus	33.3	0.08
Marina parryi	33.3	0.08
Parietaria floridana	33.3	0.08
Cryptantha maritima	33.3	0.08
Sum for Structure Class:		36.83
Structural Growth Form 5. Grasses		
Bromus rubens	66.7	6.00
Schismus arabicus	66.7	4.67
Poa bigelovii	66.7	3.00
Pleuraphis rigida	66.7	0.67
Vulpia octoflora	66.7	0.42
Bouteloua repens	33.3	0.67
Muhlenbergia porteri	33.3	0.33
unknown grass 1	33.3	0.08
Pleuraphis mutica	33.3	0.08
Heteropogon contortus	33.3	0.08
Bromus carinatus	33.3	0.08
Aristida purpurea	33.3	0.08
Aristida ternipes var. ternipes	33.3	0.08
Sum for Structure Class:		16.25
Structural Growth Form 6. Vines		
Janusia gracile	66.7	1.75
Sarcostemma cynanchoides	33.3	0.67
Nissolia schottii	33.3	0.33
Rhynchosia texana	33.3	0.08
Lyrocarpa coulteri	33.3	0.08
Vicia ludoviciana var. ludoviciana	33.3	0.08
Sum for Structure Class:		3.00
Structural Growth Form 7. Ferns		
Astrolepis cochisensis	33.3	0.08
Notholaena standleyi	33.3	0.08
Selaginella arizonica	33.3	0.08
Sum for Structure Class:	0.25	

Scientific Name	% Constancy	Avg. % Cover
<i>Braided Channel Floodplain</i> <i>(Summary Data Based on 21 Plots)</i>		
Structural Growth Form 1. Trees		
Parkinsonia florida	61.9	6.04
Prosopis velutina	47.6	2.76
Phoradendron californicum	28.6	1.01
Olneya tesota	19.0	2.76
Parkinsonia microphylla	9.5	0.25
Sum for Structure Class:		12.82
Structural Growth Form 2. Shrubs		
Larrea divaricata tridentata	52.4	2.68
Hymenoclea salsola	42.9	1.21
Baccharis sarothroides	38.1	0.75
Acacia greggii	28.6	1.93
Chilopsis linearis arcuata	28.6	0.23
Lycium andersonii	23.8	2.76
Ambrosia deltoidea	23.8	0.18
Lycium	19.0	0.45
Bebbia juncea aspera	19.0	0.05
Celtis pallida pallida	4.8	0.10
Acacia constricta	4.8	0.05
Petalonyx thurberi	4.8	0.01
Sum for Structure Class:		10.39
Structural Growth Form 3. Cactus		
Carnegiea gigantea	9.5	0.02
Cylindropuntia leptocaulis	4.8	0.05
Cylindropuntia acanthocarpa	4.8	0.05
Echinocereus engelmannii	4.8	0.01
Ferocactus cylindraceus	4.8	0.01
Cylindropuntia bigelovii	4.8	0.01
Sum for Structure Class:		0.15

Scientific Name	% Constancy	Avg. % Cover
Structural Growth Form 4. Herbs		
Amsinckia intermedia	85.7	0.99
Lepidium lasiocarpum	81.0	1.95
Lesquerella gordonii	66.7	0.39
Ambrosia ambrosioides	61.9	1.54
Descurania pinnata	61.9	0.62
Eriophyllum lanosum	61.9	0.23
Pectocarya	57.1	3.99
Sisymbrium irio	52.4	0.77
Erodium cicutarium	52.4	0.30
Plantago ovata	47.6	1.26
Lupinus sparsiflorus	47.6	0.80
Cryptantha maritima	47.6	0.52
Chaenactis stevioides	47.6	0.19
Cryptantha pterocarya	42.9	0.44
Chorizanthe brevicornus	42.9	0.35
Camissonia chamaenerioides	42.9	0.18
Pectocarya platycarpa	33.3	1.25
Caulanthus lasiophyllus	33.3	0.20
Stylocline micropoides	28.6	0.24
Lappula occidentalis	28.6	0.20
Eriogonum deflexum	23.8	0.13
Chorizanthe rigida	23.8	0.06
Parietaria floridana	19.0	0.55
Cryptantha	19.0	0.31
Euphorbia setiloba	19.0	0.12
Lupinus concinnus	19.0	0.08
Euphorbia polycarpa	19.0	0.08
Cryptantha barbigera	19.0	0.08
Cryptantha micrantha	19.0	0.08
Calycoseris wrightii	19.0	0.05
Linanthus bigelovii	19.0	0.05
Gilia	14.3	0.31
Eucrypta micrantha	14.3	0.11

Scientific Name	% Constancy	Avg. % Cover
Silene	14.3	0.04
Mentzelia	14.3	0.04
Sphaeralcea	14.3	0.04
Camissonia	14.3	0.04
Monoptilon bellioides	14.3	0.04
Draba cuneifolia	14.3	0.04
Euphorbia albomarginata	14.3	0.04
Pectocarya recurvata	9.5	0.33
Phacelia	9.5	0.02
Ambrosia confertifolia	9.5	0.02
Linanthus	9.5	0.02
Camissonia boothii ssp	9.5	0.02
Sphaeralcea ambigua	9.5	0.02
Phacelia ambigua	4.8	0.05
Nicotiana obtusifolia	4.8	0.05
Chenopodium	4.8	0.05
Eriastrum diffusum	4.8	0.01
Sphaeralcea coulteri	4.8	0.01
Astragalus	4.8	0.01
Gilia stellata	4.8	0.01
Plagiobothrys	4.8	0.01
unknown herb 1	4.8	0.01
Eriogonum	4.8	0.01
Perityle emoryi	4.8	0.01
Salvia columbariae	4.8	0.01
Lotus salsuginosus	4.8	0.01
Crassula connata	4.8	0.01
Chenopodium neomexicana	4.8	0.01
Bowlesia incana	4.8	0.01
Lotus	4.8	0.01
Lotus strigosa var tomentellum	4.8	0.01
Daucus pusillus	4.8	0.01
Camissonia claviformis	4.8	0.01
Euphorbia	4.8	0.01

Scientific Name	% Constancy	Avg. % Cover
Oligomeris linifolia	4.8	0.01
Erodium texanum	4.8	0.01
Ditaxis neomexicana	4.8	0.01
Linanthus jonesii	4.8	0.01
Sum for Structure Class:		19.52
Structural Growth Form 5. Grasses		
Schismus arabicus	95.2	22.45
Poa bigelovii	47.6	0.27
Vulpia octoflora	19.0	0.17
Erioneuron pulchellum	4.8	0.01
Sum for Structure Class:		22.90
Structural Growth Form 6. Vines		
Clematis drummondii	9.5	0.06
Sarcostemma cynanchoides	4.8	0.01
Sum for Structure Class:		0.07

Scientific Name	% Constancy	Avg. % Cover
Valley Xeroriparian Scrub (Summary Data Based on 25 Plots)		
Structural Growth Form 1. Trees		
Parkinsonia microphylla	68.0	8.37
Prosopis velutina	56.0	3.89
Oleña tesota	52.0	6.24
Parkinsonia florida	44.0	4.96
Phoradendron californicum	40.0	0.80
Sum for Structure Class:		24.26
Structural Growth Form 2. Shrubs		
Larrea divaricata tridentata	92.0	2.77
Ambrosia deltoidea	68.0	1.59
Ditaxis lanceolata	44.0	0.14
Lycium	40.0	0.92
Acacia constricta	36.0	1.49
Acacia greggii	32.0	2.07
Brickellia coulteri	28.0	0.20
Encelia farinosa farinosa	24.0	0.23
Krameria grayi	24.0	0.23
Trixis californica	24.0	0.19
Lycium andersonii	20.0	1.12
Hymenoclea salsola	20.0	0.96
Celtis pallida pallida	20.0	0.33
Ziziphus obtusifolia canescens	20.0	0.22
Lycium berlandieri	16.0	1.04
Calliandra eriophylla	16.0	0.42
Ephedra aspera	16.0	0.17
Senna covesii	16.0	0.10
Hyptis emoryi	16.0	0.10
Condalia warnockii	12.0	0.65
Fouquieria splendens	12.0	0.09
Fagonia californica ssp longipes	12.0	0.06
Bebbia juncea aspera	8.0	0.24

Scientific Name	% Constancy	Avg. % Cover
Lycium parishii	8.0	0.16
Anisacathus thurberi	8.0	0.12
Jatropha cardiophylla	8.0	0.05
unknown shrub 1	8.0	0.05
Abutilon incanum	8.0	0.05
Lycium macrodon	4.0	0.08
Lycium fremontii	4.0	0.04
Eriogonum fasciculatum	4.0	0.04
Ambrosia dumosa	4.0	0.04
Aloysia wrightii	4.0	0.04
Mirabilis laevis v villosa	4.0	0.04
Atriplex canescens	4.0	0.01
Baccharis sarothroides	4.0	0.01
Sebastiania bilocularis	4.0	0.01
Tragia nepetifolia var dissecta	4.0	0.01
Hibiscus coulteri	4.0	0.01
Sum for Structure Class:		16.09
Structural Growth Form 3. Cactus		
Cylindropuntia acanthocarpa	36.0	0.15
Carnegiea gigantea	28.0	0.07
Cylindropuntia leptocaulis	20.0	0.05
Mammillaria grahamii	4.0	0.01
Sum for Structure Class:		0.28
Structural Growth Form 4. Herbs		
Lepidium lasiocarpum	96.0	3.55
Cryptantha pterocarya	92.0	2.51
Lesquerella gordonii	88.0	1.08
Descurania pinnata	72.0	0.73
Caulanthus lasiophyllus	68.0	0.68
Chorizanthe brevicornus	68.0	0.43
Amsinckia intermedia	52.0	0.88
Cryptantha maritima	52.0	0.60
Eucrypta micrantha	52.0	0.44

Scientific Name	% Constancy	Avg. % Cover
Stylocline micropoides	48.0	0.25
Lupinus sparsiflorus	48.0	0.21
Sisymbrium irio	44.0	1.08
Pectocarya recurvata	44.0	0.82
Plantago ovata	44.0	0.63
Chaenactis stevioides	44.0	0.24
Ambrosia ambrosioides	40.0	0.73
Cryptantha barbiger	40.0	0.50
Phacelia	40.0	0.43
Linanthus jonesii	40.0	0.16
Camissonia chamaenerioides	36.0	0.30
Draba cuneifolia	36.0	0.20
Pectocarya	32.0	1.05
Erodium cicutarium	32.0	0.73
Nicotiana obtusifolia	32.0	0.45
Gilia	32.0	0.38
Eriophyllum lanosum	32.0	0.18
Eriastrum diffusum	32.0	0.15
Silene antirrhina	32.0	0.08
Pectocarya platycarpa	28.0	0.80
Euphorbia	28.0	0.19
Gilia stellata	28.0	0.10
Phacelia coerulea	24.0	0.38
Chorizanthe rigida	24.0	0.27
Eriogonum deflexum	24.0	0.06
Calycoseris wrightii	24.0	0.06
Cryptantha micrantha	20.0	0.19
Camissonia californica	20.0	0.18
Amsinkia	20.0	0.11
Filago	20.0	0.08
Sphaeralcea coulteri	20.0	0.08
Daucus pusillus	20.0	0.08
Camissonia	20.0	0.05
Euphorbia albomarginata	20.0	0.05

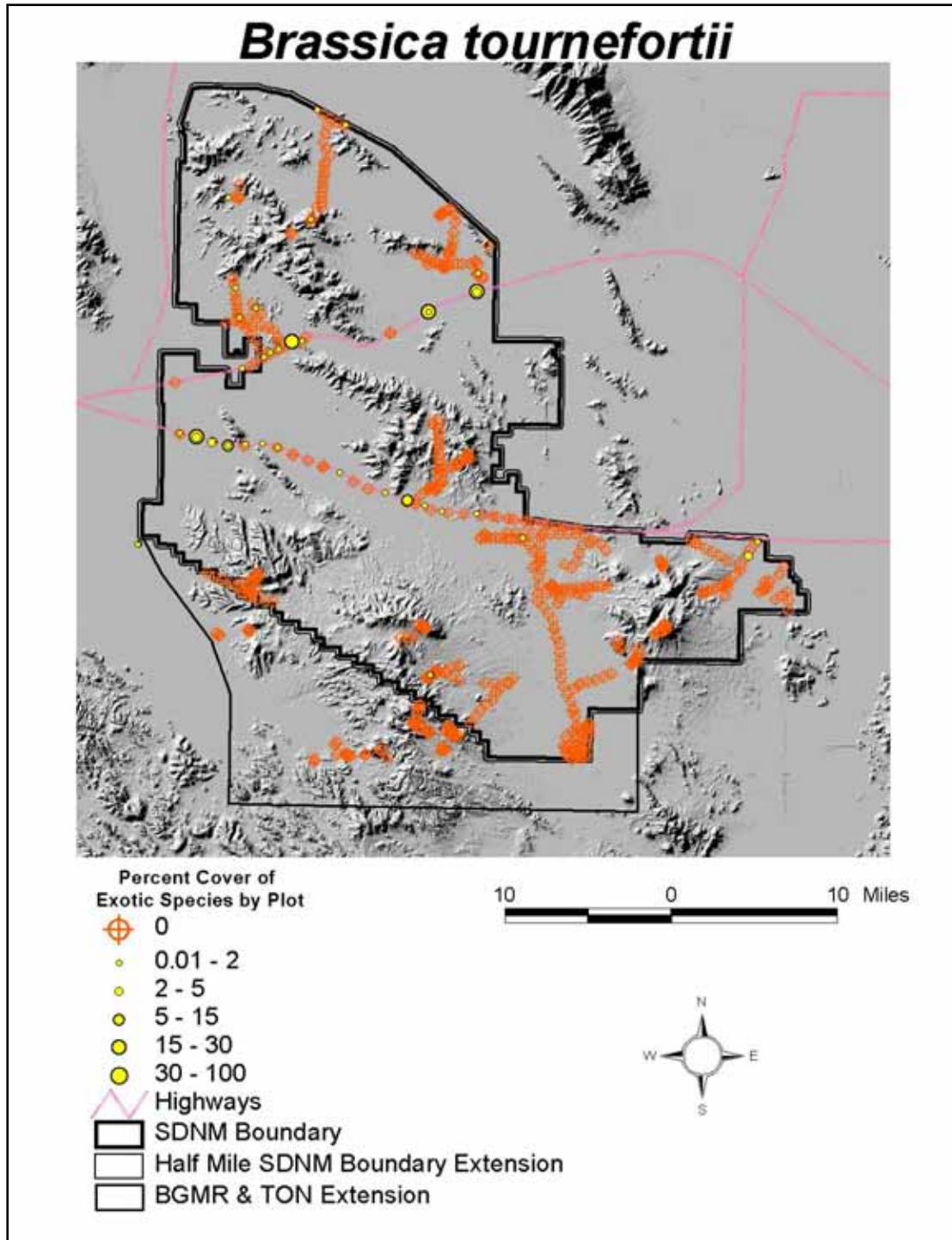
Scientific Name	% Constancy	Avg. % Cover
Filago arizonica	20.0	0.05
Perityle emoryi	16.0	0.23
Sphaeralcea ambigua	16.0	0.14
Phacelia ambigua	16.0	0.14
Chenopodium neomexicana	16.0	0.07
Euphorbia polycarpa	16.0	0.07
Eschscholzia mexicana	16.0	0.04
Parietaria floridana	12.0	0.33
Amsinckia tessellata	12.0	0.13
Crassula connata	12.0	0.06
Astragalus nuttallianus	12.0	0.03
Allionia incarnata	12.0	0.03
Salvia columbariae	12.0	0.03
Rafinesquia neomexicana	8.0	0.17
Phacelia distans	8.0	0.13
Eriogonum thomasi	8.0	0.05
Mentzelia	8.0	0.05
Plantago patagonica	8.0	0.02
Eriogonum abertianum	8.0	0.02
Chenopodium murale	8.0	0.02
unknown herb 1	8.0	0.02
Marina parryi	8.0	0.02
Mentzelia affinis	8.0	0.02
Monoptilon bellioides	8.0	0.02
Acourtia nana	4.0	0.12
Pholistoma auritum var	4.0	0.08
Loeflingia squarrosa ssp.	4.0	0.08
Nama hispidum	4.0	0.04
Chaenactis carphoclinia	4.0	0.04
Ambrosia confertifolia	4.0	0.04
Lupinus Arizonicus	4.0	0.04
Evax multicaulis	4.0	0.04
Acourtia wrightii	4.0	0.01
Langloisia setosissima ssp.	4.0	0.01

Scientific Name	% Constancy	Avg. % Cover
Plagiobothrys	4.0	0.01
Lappula occidentalis	4.0	0.01
Nemacladus glanduliferous var.	4.0	0.01
Sphaeralcea	4.0	0.01
Euphorbia arizonica	4.0	0.01
Erodium texanum	4.0	0.01
Lotus salsuginosus	4.0	0.01
Ditaxis neomexicana	4.0	0.01
Lotus strigosa var tomentellum	4.0	0.01
Orobanche cooperi	4.0	0.01
Delphinium scaposum	4.0	0.01
Cryptantha angustifolia	4.0	0.01
Eriogonum maculatum	4.0	0.01
Lupinus concinnus	4.0	0.01
Camissonia claviformis	4.0	0.01
Camissonia boothii ssp	4.0	0.01
Lupinus	4.0	0.01
Sum for Structure Class:		24.71
Structural Growth Form 5. Grasses		
Schismus arabicus	100.0	9.38
Poa bigelovii	52.0	0.57
Vulpia octoflora	48.0	0.46
Aristida purpurea	12.0	0.13
Bromus rubens	12.0	0.06
Aristida	12.0	0.03
Muhlenbergia microsperma	8.0	0.09
unknown grass 1	8.0	0.02
Muhlenbergia porteri	8.0	0.02
Pleuraphis mutica	4.0	0.01
Erioneuron pulchellum	4.0	0.01
Sum for Structure Class:		10.78
Structural Growth Form 6. Vines		
Janusia gracile	20.0	0.18

Scientific Name	% Constancy	Avg. % Cover
Lyrocarpa coulteri	12.0	0.10
Commicarpas scandens	8.0	0.02
Asclepias subulata	4.0	0.04
Clematis drummondii	4.0	0.01
Maurandya antirrhinifolia	4.0	0.01
Sum for Structure Class:		0.36
Structural Growth Form 7. Ferns		
Notholaena standleyi	4.0	0.01
Astrolepis cochisensis	4.0	0.01
Sum for Structure Class:		0.02

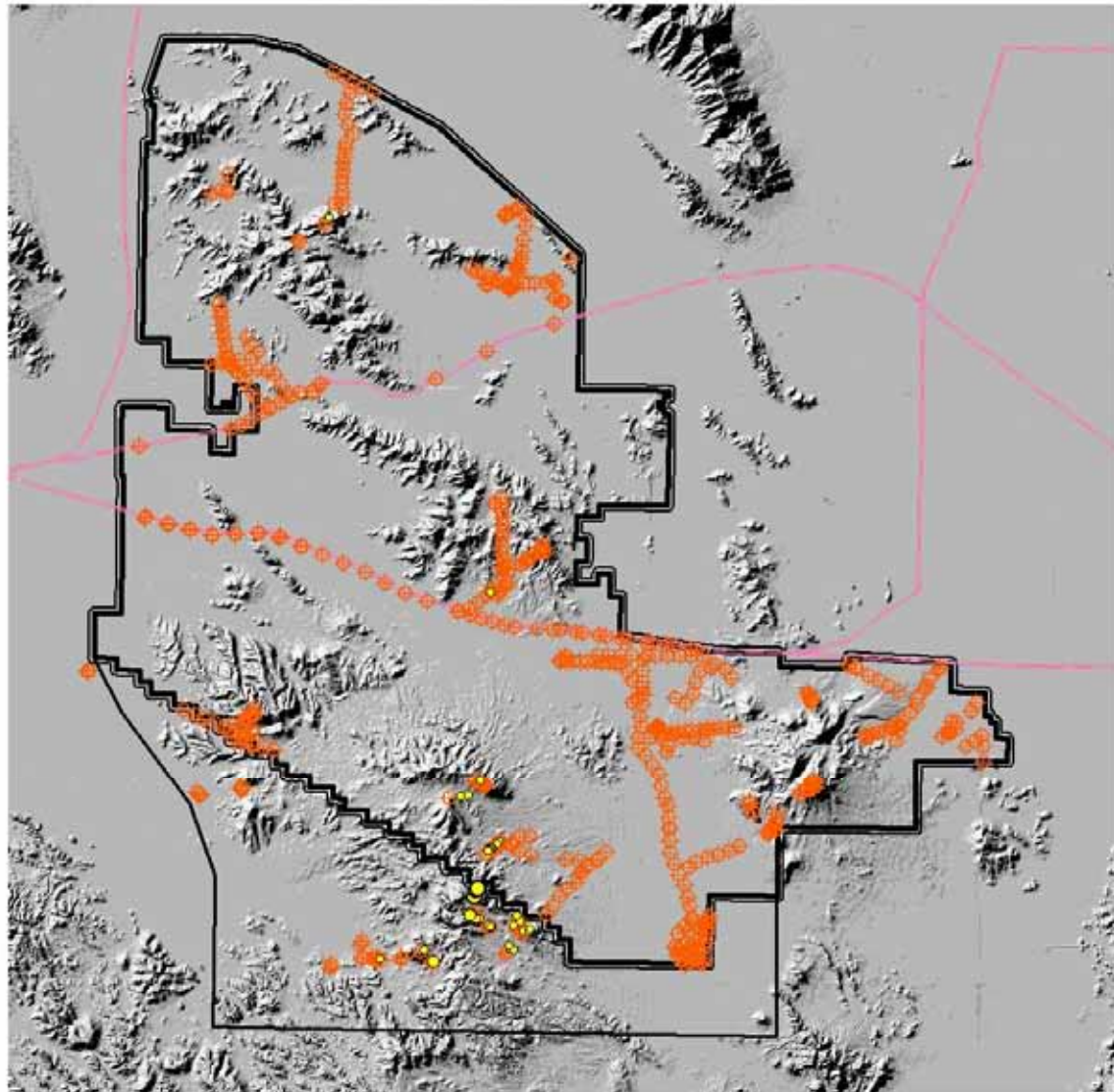
APPENDIX E

DISTRIBUTION OF INDIVIDUAL EXOTIC SPECIES



Brassica tournefortii percent cover by plot.

Bromus rubens



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

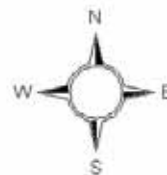
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

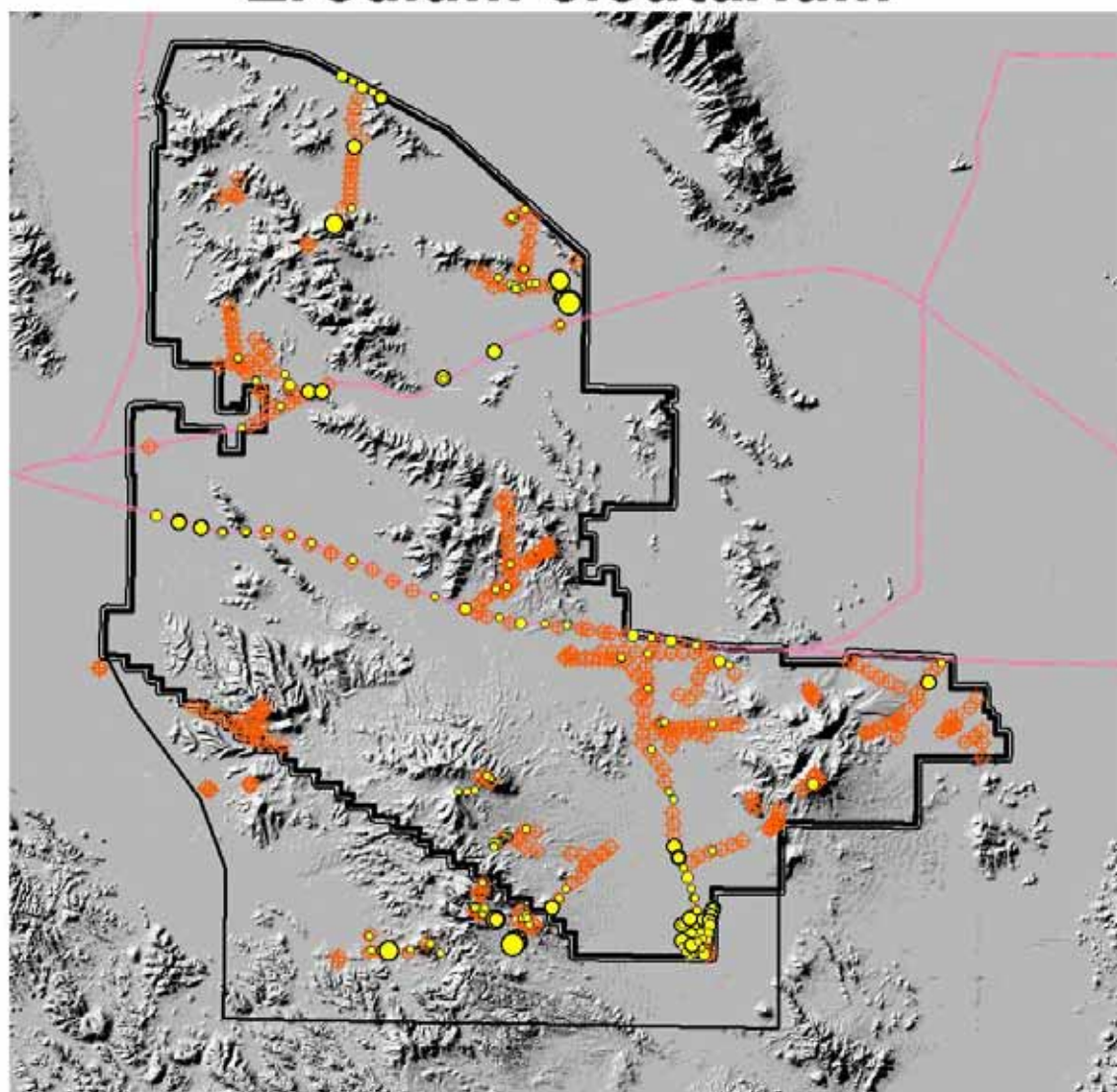
BGMR & TON Extension

10 0 10 Miles



Bromus rubens percent cover by plot.

Erodium cicutarium



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

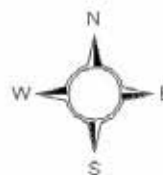
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

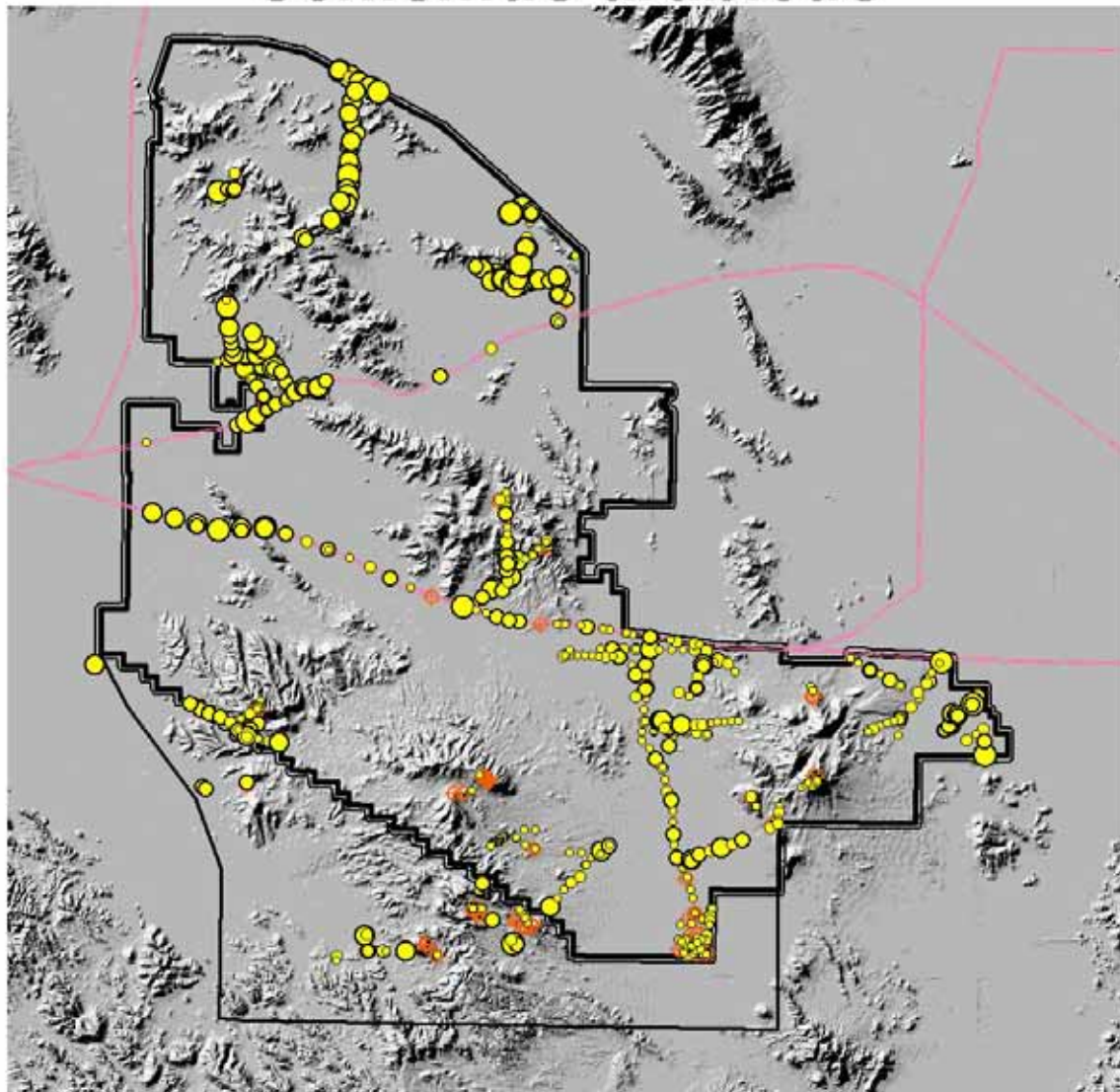
BGMR & TON Extension

10 0 10 Miles



Erodium cicutarium percent cover by plot.

Schismus arabicus



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

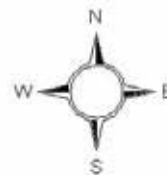
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

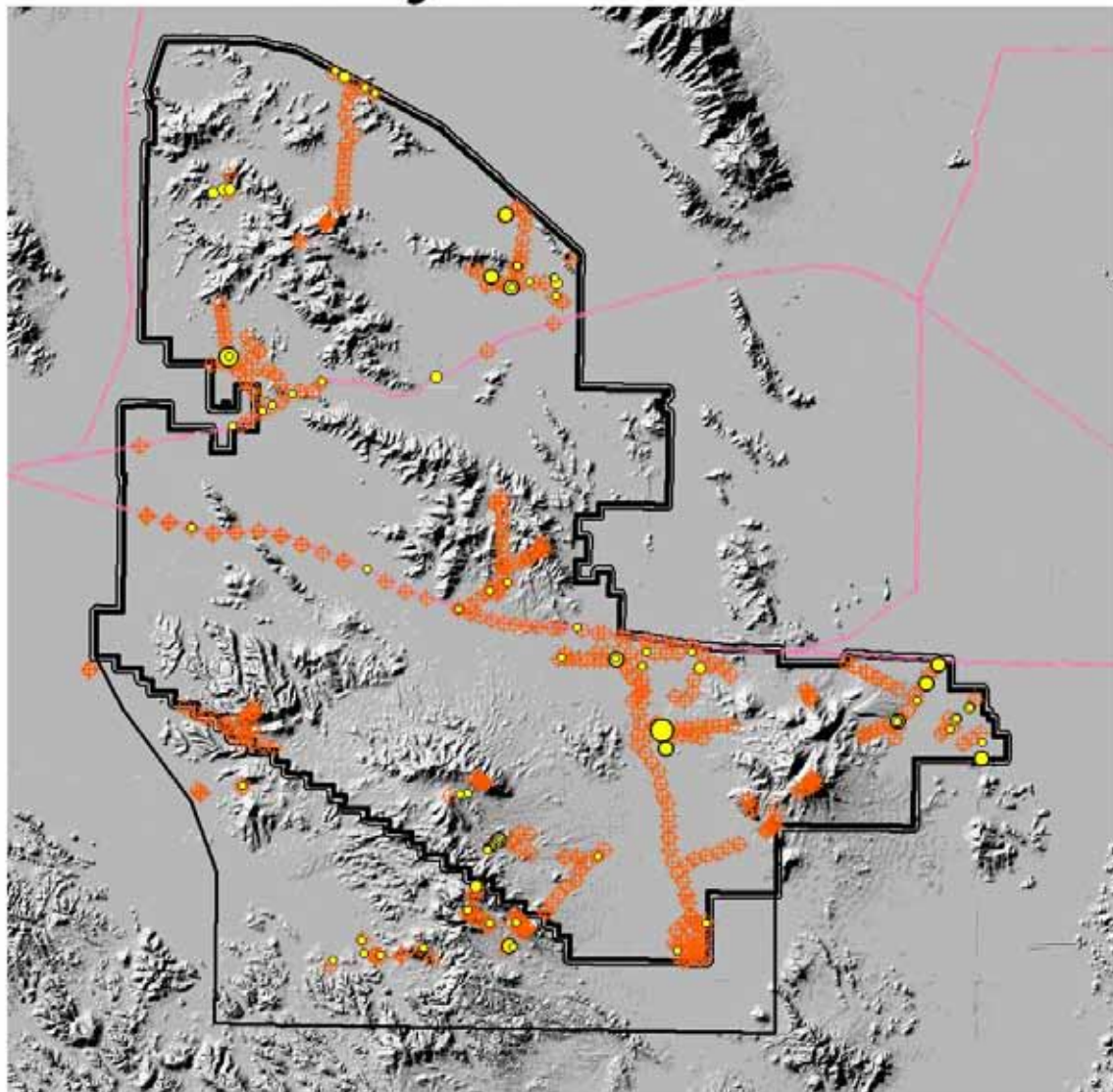
BGMR & TON Extension

10 0 10 Miles



Schismus arabicus percent cover by plot.

Sisymbrium irio



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

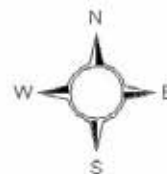
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

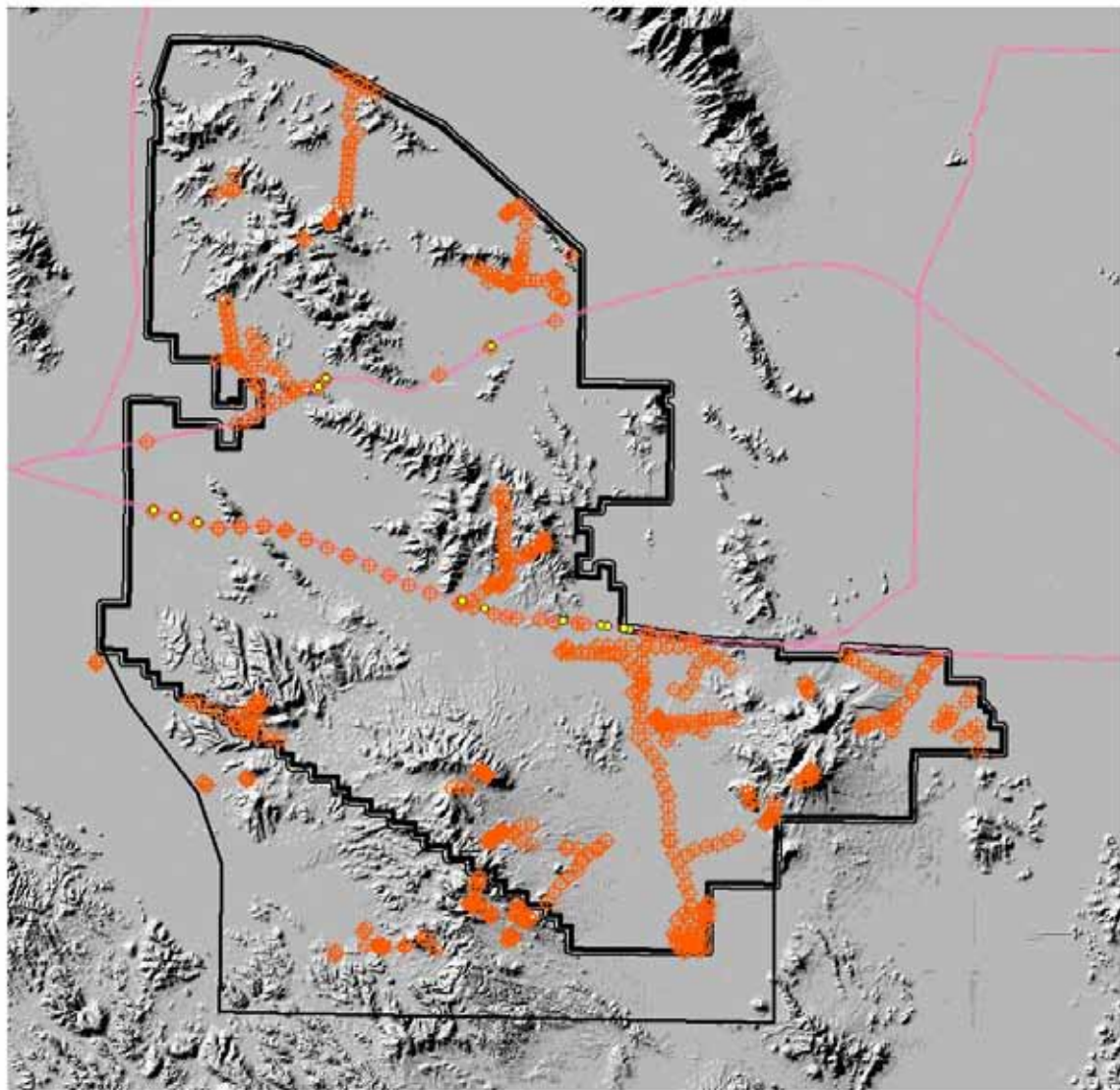
BGMR & TON Extension

10 0 10 Miles



Sisymbrium irio percent cover by plot.

Avena fatua



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

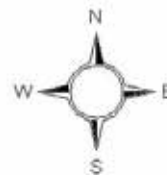
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

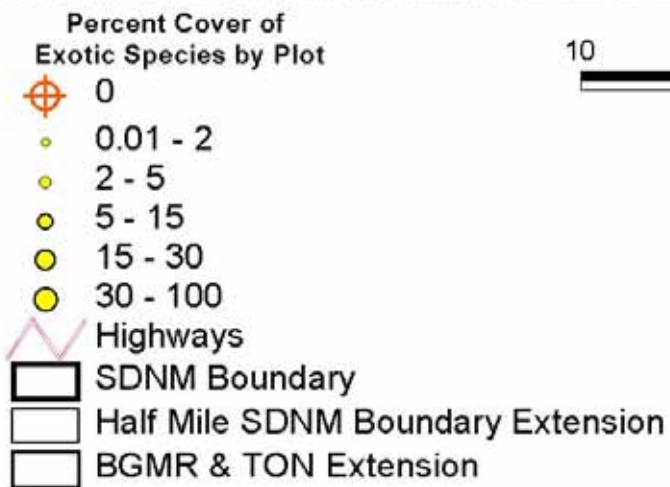
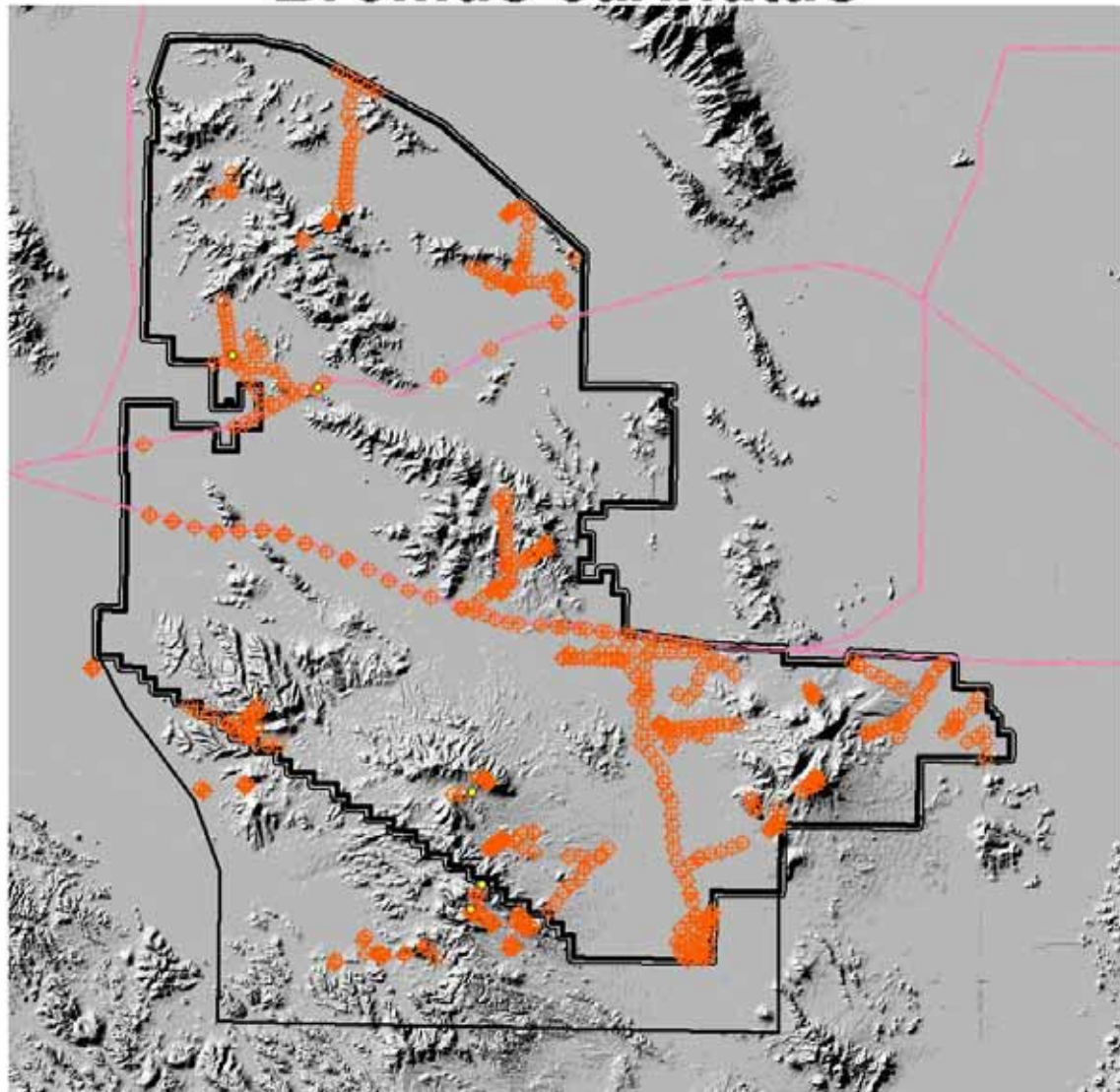
BGMR & TON Extension

10 0 10 Miles

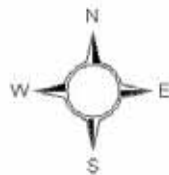


Avena fatua percent cover by plot.

Bromus carinatus

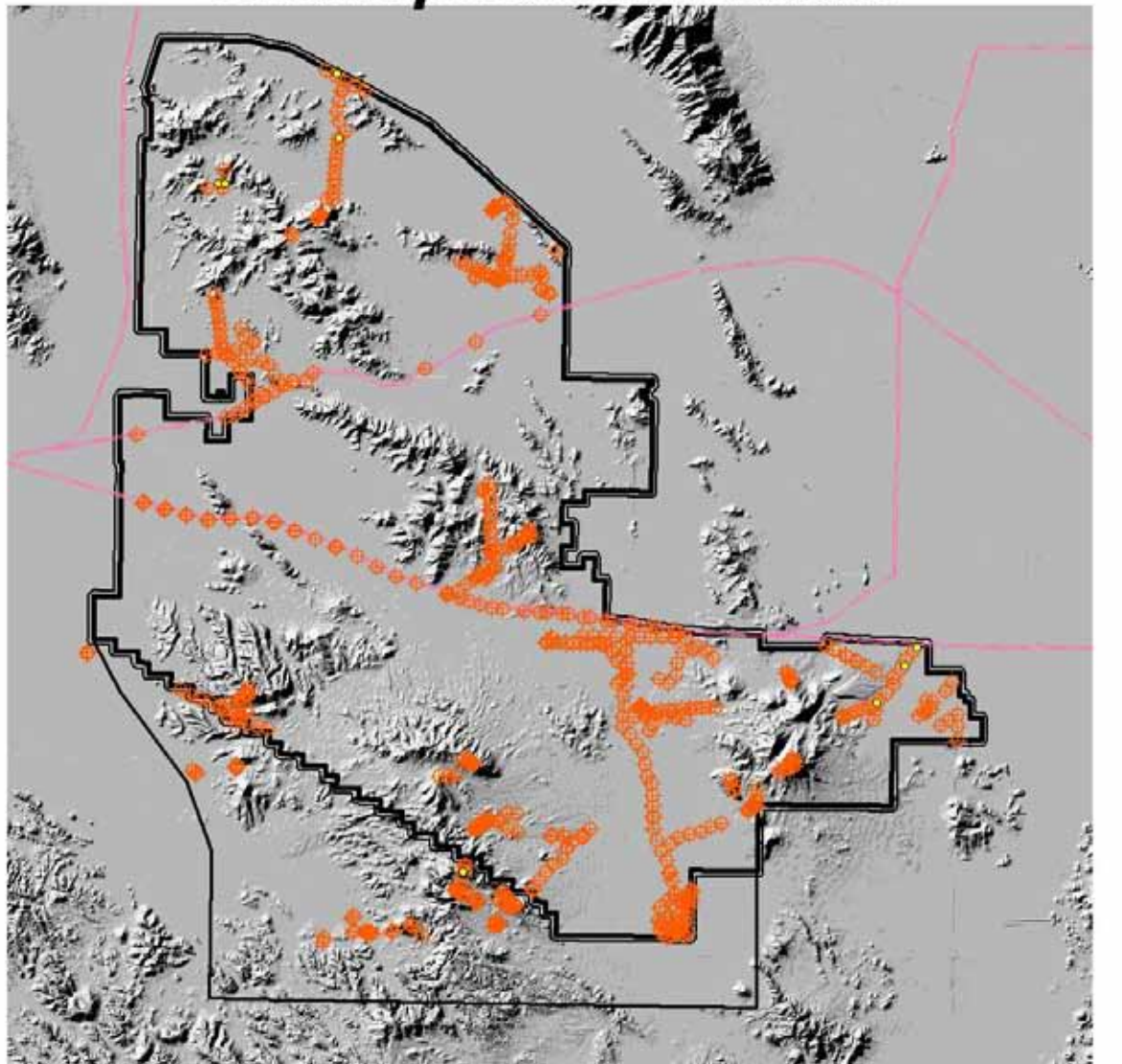


10 0 10 Miles



Bromus carinatus percent cover by plot.

Chenopodium murale



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

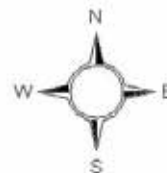
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

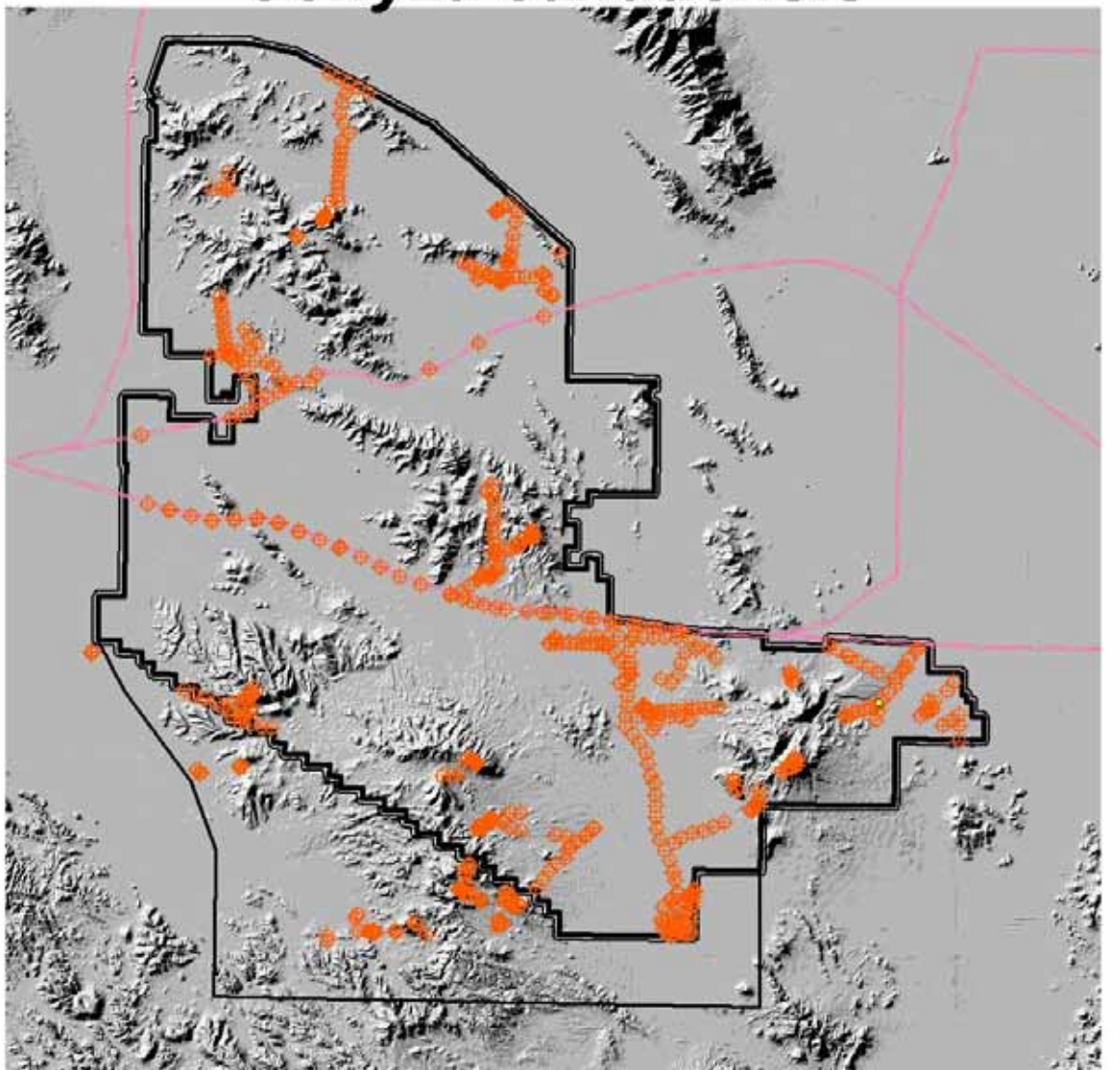
BGMR & TON Extension

10 0 10 Miles



Chenopodium murale percent cover by plot.

Conyza canadensis



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

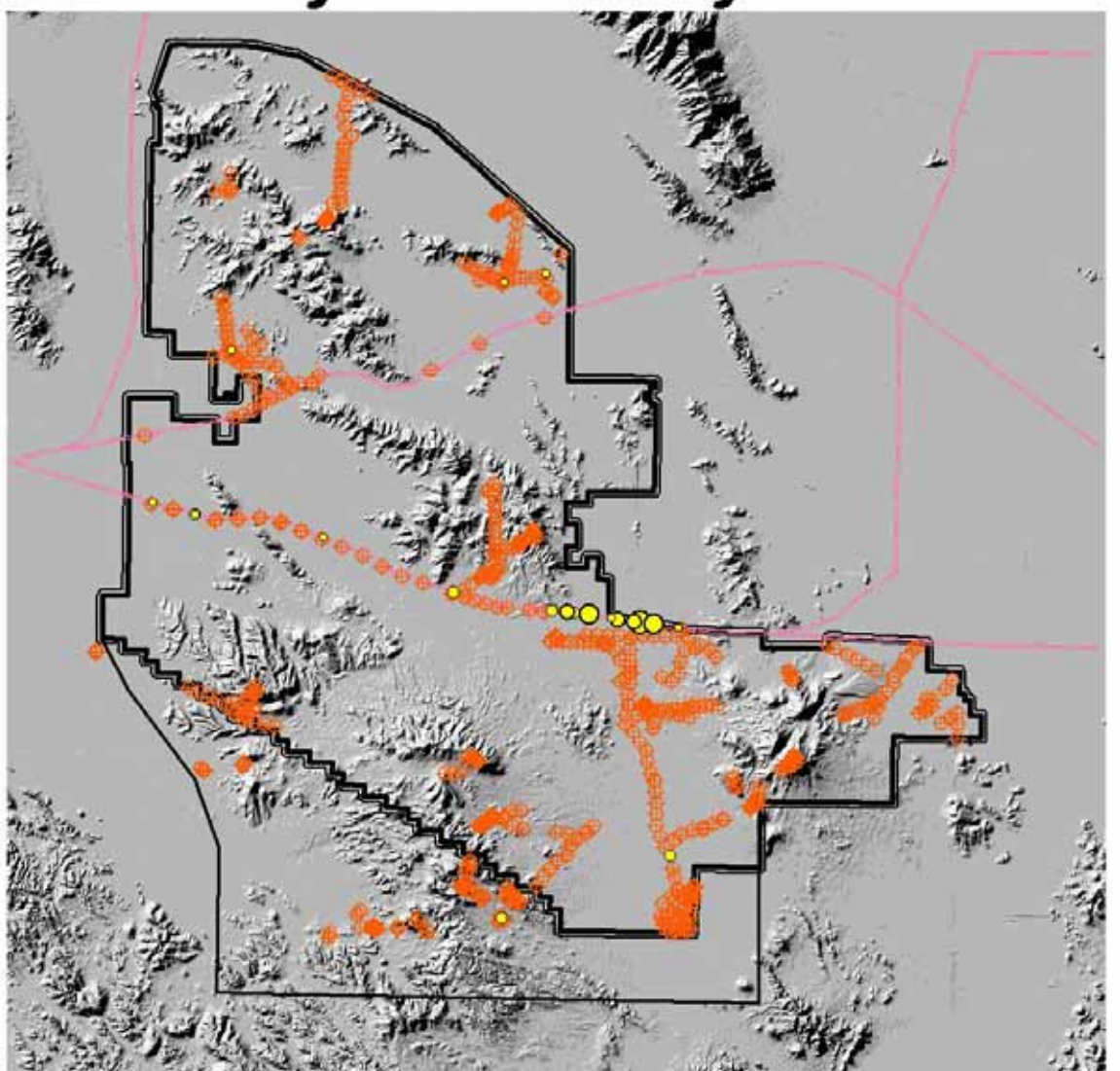
BGMR & TON Extension

10 0 10 Miles



Conyza canadensis percent cover by plot.

Cynodon dactylon



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

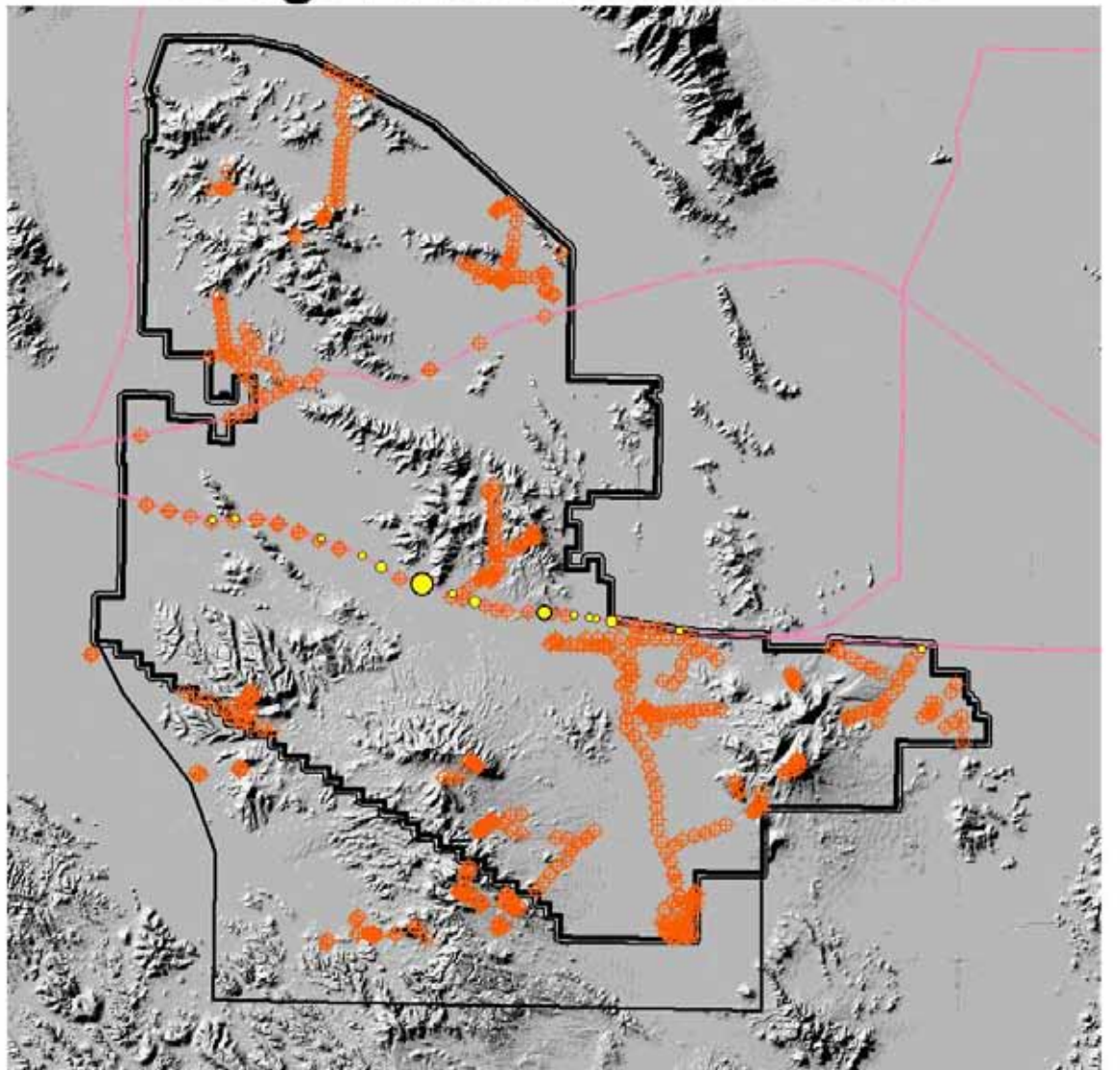
BGMR & TON Extension

10 0 10 Miles



Cynodon dactylon percent cover by plot.

Eragrostis lehmanniana



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

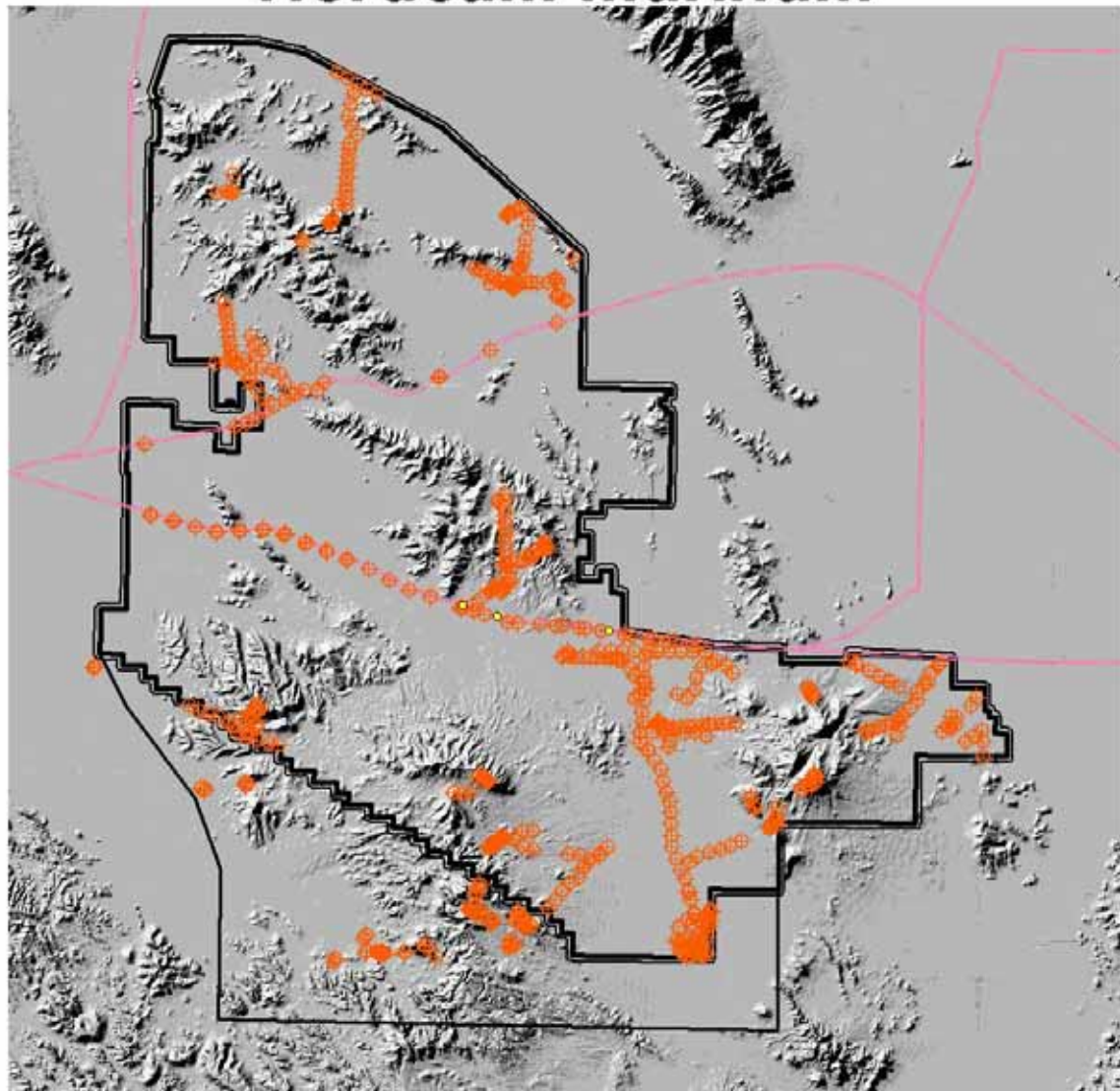
BGMR & TON Extension

10 0 10 Miles



Eragrostis lehmanniana percent cover by plot.

Hordeum murinum



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

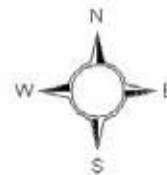
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

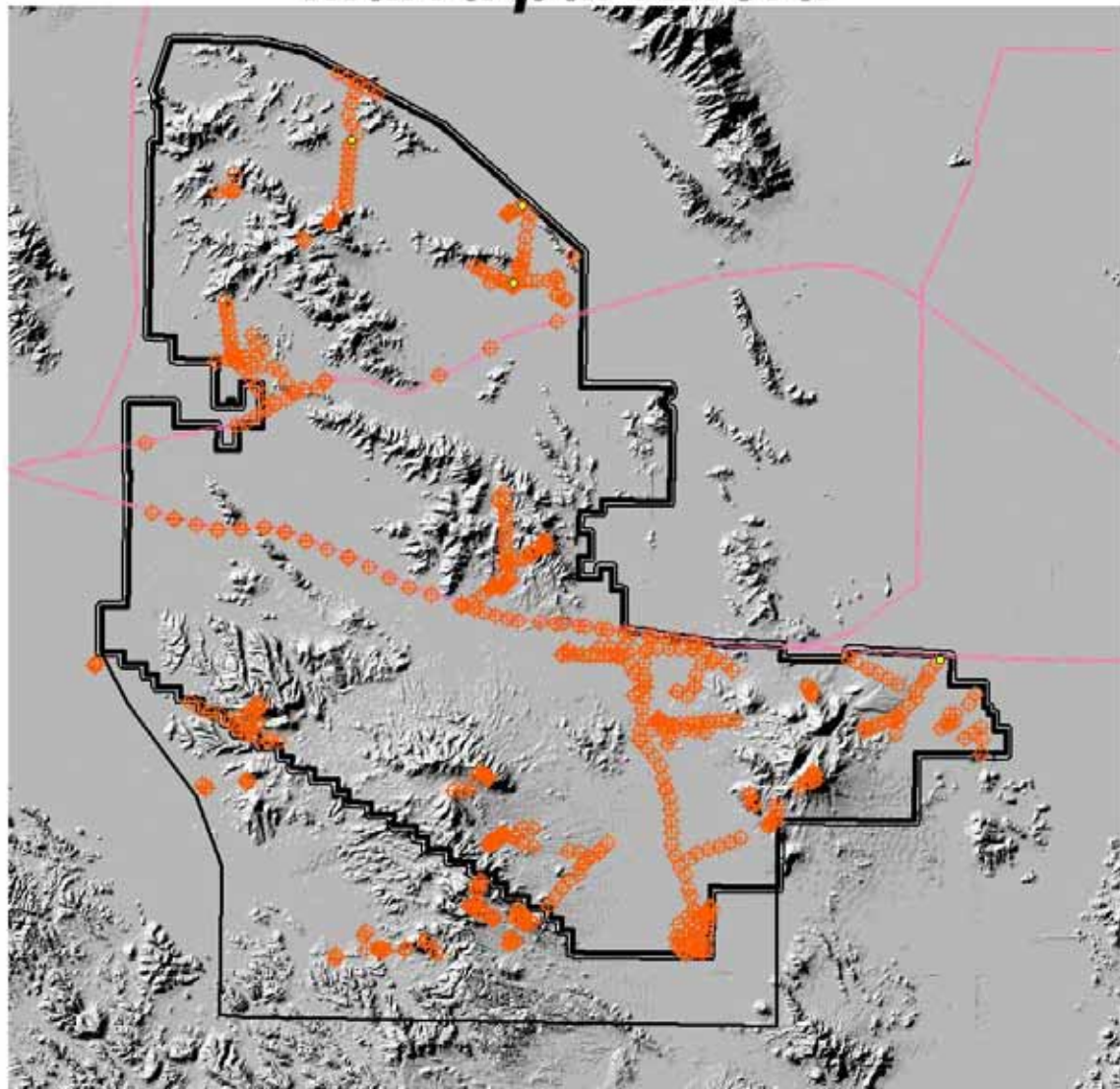
BGMR & TON Extension

10 0 10 Miles



Hordeum murinum percent cover by plot.

Malva parviflora



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

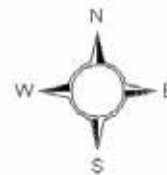
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

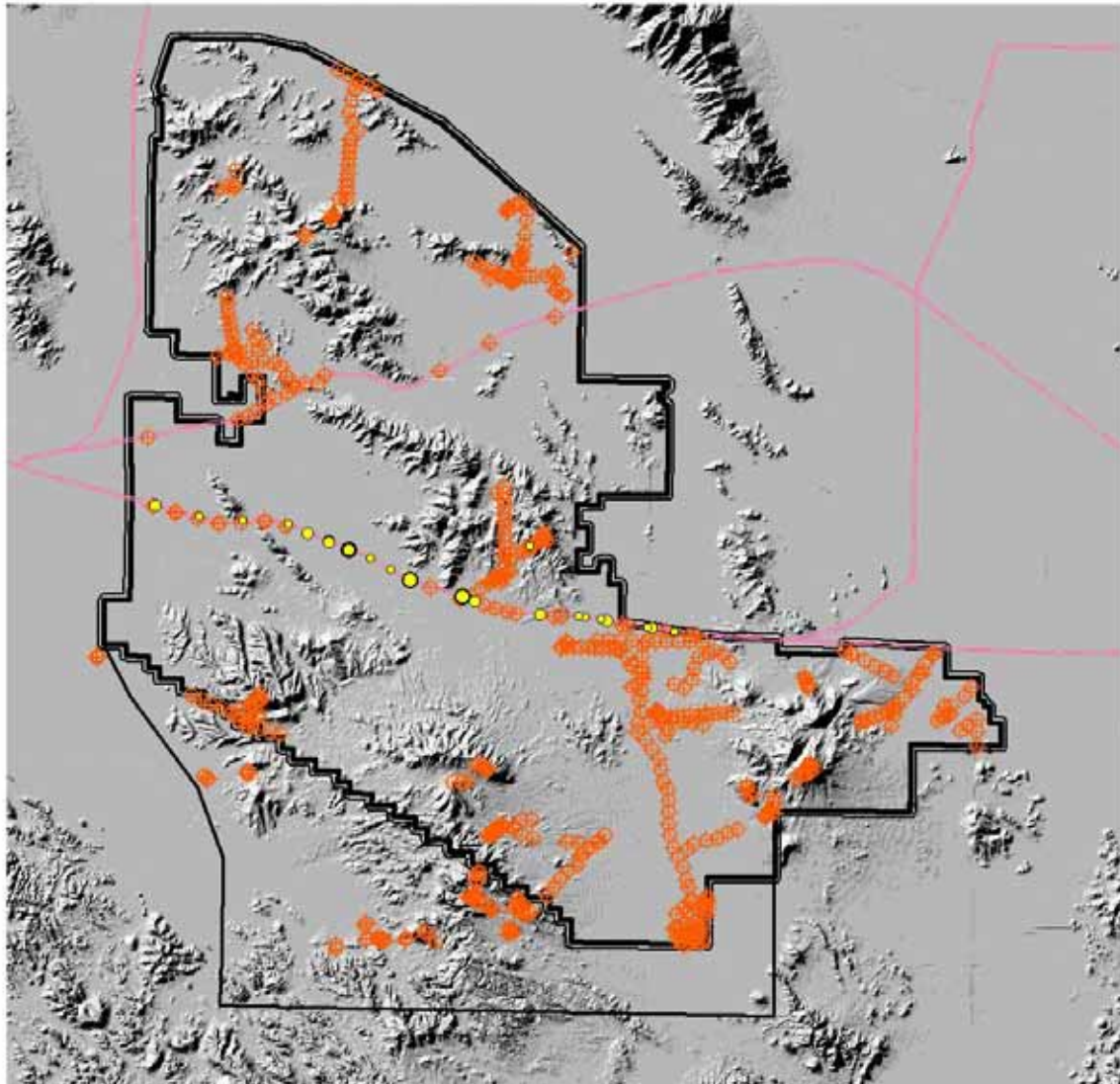
BGMR & TON Extension

10 0 10 Miles



Malva parviflora percent cover by plot.

Pennisetum ciliare



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

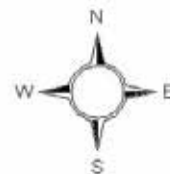
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

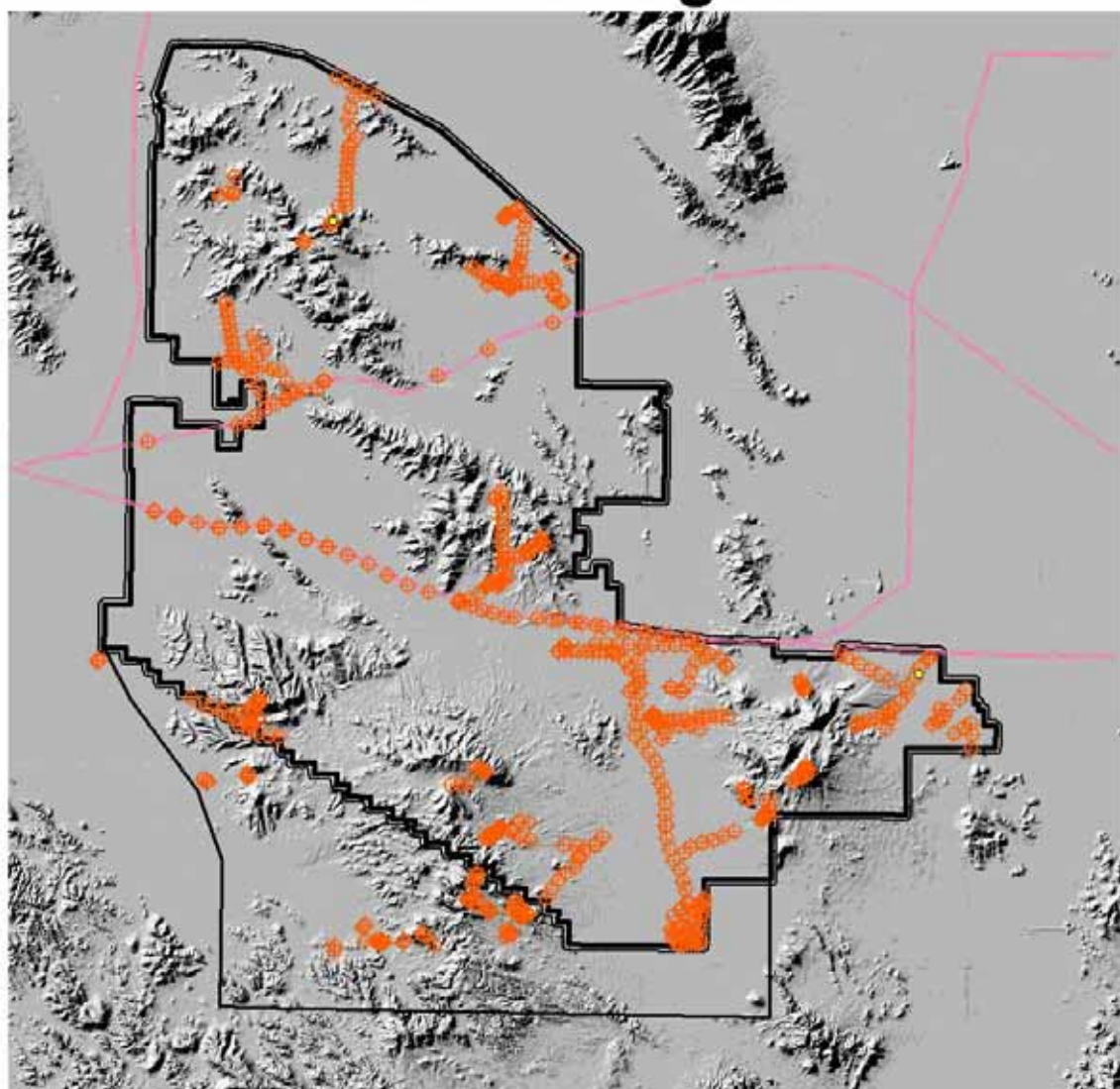
BGMR & TON Extension

10 0 10 Miles



Pennisetum ciliare percent cover by plot.

Salsola tragus



Percent Cover of
Exotic Species by Plot

- 0
- 0.01 - 2
- 2 - 5
- 5 - 15
- 15 - 30
- 30 - 100

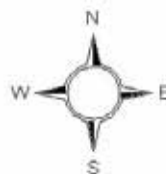
Highways

SDNM Boundary

Half Mile SDNM Boundary Extension

BGMR & TON Extension

10 0 10 Miles



Salsola tragus percent cover by plot.

APPENDIX F

Summary of Condition Classes and Related Statistics by Natural Community

Natural Community CB

Condition Class 1

	<i>imprvd</i> <i>dist</i>	<i>roaddist</i>	<i>Livestock</i> <i>Index</i>	<i>Vehicle</i> <i>Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (18 detail records)											
Avg	405.67	301.61	83.00	28.94	16.78	3.33	48.28	26.28	37.67	0.56	0.22
Min	7	12	0	0	4	1	9.75	4	4	0	0
Max	2402	1731	206	300	53	8	113.75	77.75	85	3	1

Condition Class 2

	<i>imprvd</i> <i>dist</i>	<i>roaddist</i>	<i>Livestock</i> <i>Index</i>	<i>Vehicle</i> <i>Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 2 (66 detail records)											
Avg	1875.71	760.41	11.02	4.79	11.42	1.44	31.34	12.14	29.32	0.26	0.56
Min	25	7	0	0	4	0	5	0	0	0	0
Max	12493	3689	114	200	29	3	81.75	57	90	3	15

Condition Class 3

	<i>imprvd</i> <i>dist</i>	<i>roaddist</i>	<i>Livestock</i> <i>Index</i>	<i>Vehicle</i> <i>Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (3 detail records)											
Avg	11113.67	1454.67	0.00	0.00	20.67	1.33	63.25	4.08	6.75	1.67	1.83
Min	8310	482	0	0	18	1	53.5	1	5.25	0	0
Max	12573	2013	0	0	26	2	76.25	8	9	3	5

Summary for 'NaturalCommunity1' = CB (87 detail records)

Avg	1890.11	689.43	25.53	9.62	12.85	1.83	35.95	14.78	30.27	0.37	0.53
Min	7	7	0	0	4	0	5	0	0	0	0
Max	12573	3689	206	300	53	8	113.75	77.75	90	3	15

Natural Community DG

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (13 detail records)											
Avg	516.54	440.77	113.15	0.00	13.69	2.15	37.88	8.44	47.77	1.08	15.25
Min	304	63	80	0	5	1	10.25	1	25	1	1
Max	965	848	135	0	27	3	64.5	16.25	80	2	38.25

Summary for 'NaturalCommunity1' = DG (13 detail records)

Avg	516.54	440.77	113.15	0.00	13.69	2.15	37.88	8.44	47.77	1.08	15.25
Min	304	63	80	0	5	1	10.25	1	25	1	1
Max	965	848	135	0	27	3	64.5	16.25	80	2	38.25

Natural Community M

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (10 detail records)											
Avg	792.80	367.10	68.40	0.00	15.10	3.10	100.85	34.70	20.13	0.60	4.98
Min	110	5	1	0	8	2	30.25	7.5	0	0	0
Max	1438	1012	300	0	28	5	184.25	78	66	3	47.5

Condition Class 2

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 2 (3 detail records)											
Avg	1620.67	925.67	24.33	0.00	16.00	2.00	116.25	58.33	8.67	1.67	29.17
Min	1420	212	0	0	11	1	68.75	35	0	1	2.25
Max	1743	1335	51	0	26	3	183.25	70	16	2	80.25

Summary for 'NaturalCommunity1' = M (13 detail records)

Avg	983.85	496.00	58.23	0.00	15.31	2.85	104.40	40.15	17.48	0.85	10.56
Min	110	5	0	0	8	1	30.25	7.5	0	0	0
Max	1743	1335	300	0	28	5	184.25	78	66	3	80.25

Natural Community MU

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (36 detail records)											
Avg	3870.72	1670.83	0.00	0.00	35.53	1.19	79.67	1.62	4.15	3.25	14.70
Min	1476	306	0	0	17	0	24.75	0	0	1	0.25
Max	4967	3255	0	0	55	5	133.25	10	28	6	98.25

Summary for 'NaturalCommunity1' = MU (36 detail records)

Avg	3870.72	1670.83	0.00	0.00	35.53	1.19	79.67	1.62	4.15	3.25	14.70
Min	1476	306	0	0	17	0	24.75	0	0	1	0.25
Max	4967	3255	0	0	55	5	133.25	10	28	6	98.25

Natural Community MXR

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
<i>Summary for Condition Class = 3 (16 detail records)</i>											
Avg	4365.19	1319.38	0.06	0.13	49.25	2.31	76.63	4.84	13.98	3.13	6.58
Min	1727	5	0	0	17	0	29	0	0	0	0
Max	11695	6000	1	1	76	5	134	17.5	50	7	29.25

Summary for 'NaturalCommunity1' = MXR (16 detail records)

Avg	4365.19	1319.38	0.06	0.13	49.25	2.31	76.63	4.84	13.98	3.13	6.58
Min	1727	5	0	0	17	0	29	0	0	0	0
Max	11695	6000	1	1	76	5	134	17.5	50	7	29.25

Natural Community PVMCB

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (1 detail record)											
Avg	61.00	2.00	200.00	0.00	8.00	3.00	11.25	61.00	20.00	0.00	0.00
Min	61	2	200	0	8	3	11.25	61	20	0	0
Max	61	2	200	0	8	3	11.25	61	20	0	0

Condition Class 2

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 2 (20 detail records)											
Avg	1315.00	292.05	2.80	0.00	18.85	1.05	37.79	4.78	22.08	0.40	0.14
Min	107	48	0	0	8	1	14	0.25	1	0	0
Max	1997	1091	20	0	34	2	62.5	20	57	2	1

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (14 detail records)											
Avg	5217.00	1298.07	0.93	0.14	25.57	1.14	49.59	7.91	11.82	1.07	0.79
Min	2000	112	0	0	17	1	22	0.25	3	0	0
Max	10415	4292	4	1	35	3	77	30.5	40	4	3.5

Summary for 'NaturalCommunity1' = PVMCB (35 detail records)

Avg	2839.97	686.17	7.69	0.06	21.23	1.14	41.75	7.64	17.91	0.66	0.39
Min	61	2	0	0	8	1	11.25	0.25	1	0	0
Max	10415	4292	200	1	35	3	77	61	57	4	3.5

Natural Community PVMCR

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (64 detail records)											
Avg	4706.34	1896.67	1.02	1.58	29.50	1.25	60.37	4.94	4.71	1.91	3.13
Min	1074	12	0	0	7	0	20	0	0	0	0
Max	11740	6000	50	101	54	4	141.75	42	31	4	37.5

Summary for 'NaturalCommunity1' = PVMCR (64 detail records)

Avg	4706.34	1896.67	1.02	1.58	29.50	1.25	60.37	4.94	4.71	1.91	3.13
Min	1074	12	0	0	7	0	20	0	0	0	0
Max	11740	6000	50	101	54	4	141.75	42	31	4	37.5

Natural Community RO

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (7 detail records)											
Avg	3429.14	838.71	0.00	0.00	25.86	1.14	18.32	0.29	1.82	2.00	1.07
Min	1560	132	0	0	5	0	1.25	0	0	0	0
Max	4290	2424	0	0	75	2	36.25	0.5	6	8	3.5

Summary for 'NaturalCommunity1' = RO (7 detail records)

Avg	3429.14	838.71	0.00	0.00	25.86	1.14	18.32	0.29	1.82	2.00	1.07
Min	1560	132	0	0	5	0	1.25	0	0	0	0
Max	4290	2424	0	0	75	2	36.25	0.5	6	8	3.5

Natural Community S

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (3 detail records)											
Avg	4805.67	1767.00	20.67	0.00	60.00	2.33	79.50	10.92	2.50	4.33	5.50
Min	3658	29	0	0	36	1	63.5	0.25	1.25	1	0.25
Max	5382	2640	60	0	87	3	90	27.25	3.25	8	10.25

Summary for 'NaturalCommunity1' = S (3 detail records)

Avg	4805.67	1767.00	20.67	0.00	60.00	2.33	79.50	10.92	2.50	4.33	5.50
Min	3658	29	0	0	36	1	63.5	0.25	1.25	1	0.25
Max	5382	2640	60	0	87	3	90	27.25	3.25	8	10.25

Natural Community BCF

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (1 detail record)											
Avg	1128.00	633.00	121.00	0.00	19.00	3.00	45.50	47.25	28.00	0.00	0.00
Min	1128	633	121	0	19	3	45.5	47.25	28	0	0
Max	1128	633	121	0	19	3	45.5	47.25	28	0	0

Condition Class 2

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 2 (20 detail records)											
Avg	1133.80	556.60	65.70	0.50	20.25	1.95	42.19	22.34	32.98	0.75	0.48
Min	602	38	0	0	6	0	1.5	0	5	0	0
Max	3399	2039	202	6	35	3	107.25	68	86	2	3

Summary for 'NaturalCommunity1' = VBF (21 detail records)

Avg	1133.52	560.24	68.33	0.48	20.19	2.00	42.35	23.52	32.74	0.71	0.45
Min	602	38	0	0	6	0	1.5	0	5	0	0
Max	3399	2039	202	6	35	3	107.25	68	86	2	3

Natural Community VXR

Condition Class 1

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 1 (10 detail records)											
Avg	1789.00	181.10	1.30	0.00	32.80	1.90	55.68	9.95	30.90	1.20	1.33
Min	15	60	0	0	23	1	33.25	2	10	0	0
Max	12400	865	5	0	53	4	89.75	24	65	4	8.25

Condition Class 2

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 2 (14 detail records)											
Avg	2748.64	931.64	14.14	0.00	33.00	2.07	70.80	11.95	19.98	1.86	1.43
Min	604	40	0	0	17	1	42.75	0.25	3.25	0	0
Max	10243	4268	150	0	53	4	139.75	60.25	56	3	4

Condition Class 3

	<i>imprvdist</i>	<i>roaddist</i>	<i>Livestock Index</i>	<i>Vehicle Index</i>	<i>Nativespecies</i>	<i>Exoticspecies</i>	<i>PercCovNatives</i>	<i>PercCovExotics</i>	<i>PercSandSoil</i>	<i>NativeGrasses</i>	<i>PercCovNatGrass</i>
Summary for Condition Class = 3 (1 detail record)											
Avg	7884.00	1093.00	0.00	0.00	28.00	1.00	82.75	15.00	8.25	1.00	0.25
Min	7884	1093	0	0	28	1	82.75	15	8.25	1	0.25
Max	7884	1093	0	0	28	1	82.75	15	8.25	1	0.25

Summary for 'NaturalCommunity1' = VXR (25 detail records)

Avg	2570.20	637.88	8.44	0.00	32.72	1.96	65.23	11.27	23.88	1.56	1.34
Min	15	40	0	0	17	1	33.25	0.25	3.25	0	0
Max	12400	4268	150	0	53	4	139.75	60.25	65	4	8.25

APPENDIX G

Creosotebush-Bursage Desert Scrub Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **1** **Number of Plots in Group:** 29

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	0.01	1
Parkinsonia florida	0.01	1
Parkinsonia microphylla	0.02	2
Prosopis velutina	0.86	9
Sum of Percent Cover by Growth Form	0.90	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.03	1
Acacia greggii	0.01	1
Ambrosia deltoidea	0.26	7
Ambrosia dumosa	0.21	8
Celtis pallida pallida	0.01	1
Encelia farinosa farinosa	0.01	1
Fagonia californica ssp longipes	0.02	2
Fouquieria splendens	0.14	2
Krameria grayi	0.17	2
Larrea divaricata tridentata	7.10	29
Senna covesii	0.01	1
Yucca baccata	0.01	1
Sum of Percent Cover by Growth Form	7.97	

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.02	2
Cylindropuntia acanthocarpa	0.15	3
Cylindropuntia bigelovii	0.01	1
Cylindropuntia leptocaulis	0.03	1
Ferocactus	0.01	1
Mammillaria grahamii	0.01	1
Sum of Percent Cover by Growth Form	0.22	

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group

1

Number of Plots in Group:

29

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Amsinckia intermedia</i>	0.13	6
<i>Amsinckia tessellata</i>	0.01	1
<i>Amsinckia</i>	0.11	10
<i>Astragalus nuttallianus</i>	0.03	1
<i>Bowlesia incana</i>	0.01	1
<i>Brassica tournefortii</i>	0.01	1
<i>Calycoseris wrightii</i>	0.01	1
<i>Camissonia</i>	0.01	1
<i>Camissonia chamaenerioides</i>	0.01	1
<i>Caulanthus lasiophyllus</i>	0.05	3
<i>Chaenactis stevioides</i>	0.31	20
<i>Chorizanthe brevicornus</i>	0.06	7
<i>Chorizanthe rigida</i>	0.23	13
<i>Cryptantha</i>	0.01	1
<i>Cryptantha barbigera</i>	0.07	2
<i>Cryptantha maritima</i>	0.07	5
<i>Cryptantha micrantha</i>	0.01	1
<i>Cryptantha pterocarya</i>	0.02	2
<i>Eriogonum deflexum</i>	0.02	2
<i>Eriogonum thomasi</i>	0.79	2
<i>Eriophyllum lanosum</i>	0.07	8
<i>Erodium cicutarium</i>	0.54	14
<i>Erodium texanum</i>	0.28	12
<i>Eucrypta micrantha</i>	0.01	1
<i>Euphorbia</i>	0.01	1
<i>Filago arizonica</i>	0.01	1
<i>Gilia stellata</i>	0.01	1
<i>Lappula occidentalis</i>	0.01	1
<i>Lepidium lasiocarpum</i>	1.09	27
<i>Lesquerella gordonii</i>	1.85	21
<i>Linanthus jonesii</i>	0.01	1
<i>Malva parviflora</i>	0.01	1
<i>Monoptilon bellioides</i>	0.03	1
<i>Oenothera</i>	0.01	1
<i>Oligomeris linifolia</i>	0.03	4
<i>Pectocarya</i>	0.08	6
<i>Pectocarya platycarpa</i>	0.56	5
<i>Pectocarya recurvata</i>	0.07	1
<i>Phacelia</i>	0.10	1
<i>Phacelia ambigua</i>	0.10	1

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	1	<i>Number of Plots in Group:</i>	29
Plagiobothrys	0.01	1	
Plantago ovata	1.76	24	
Sisymbrium irio	0.09	4	
Sonchus	0.03	1	
Sonchus oleraceus	0.01	1	
Sphaeralcea coulteri	0.01	1	
Veronica peregrina ssp xalapensis	0.03	1	
Sum of Percent Cover by Growth Form	8.79		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Erioneuron pulchellum	0.10	1	
Muhlenbergia porteri	0.03	1	
Pleuraphis mutica	0.21	1	
Schismus arabicus	1.38	24	
Vulpia octoflora	0.04	2	
Sum of Percent Cover by Growth Form	1.77		

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **2**

Number of Plots in Group: **14**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Prosopis velutina	0.02	1

Sum of Percent Cover by Growth Form 0.02

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	0.23	3
Larrea divaricata tridentata	6.79	14
Lycium andersonii	0.02	1

Sum of Percent Cover by Growth Form 7.04

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.04	2

Sum of Percent Cover by Growth Form 0.04

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.68	8
Astragalus	0.07	1
Caulanthus lasiophyllus	0.14	5
Chenopodium murale	0.14	1
Chorizanthe rigida	0.04	2
Cryptantha	0.05	3
Cryptantha maritima	0.02	1
Cryptantha micrantha	0.02	1
Eriastrum diffusum	0.02	1
Eriogonum trichopes	0.02	1
Eriophyllum lanosum	0.18	3
Erodium cicutarium	1.38	3
Erodium texanum	2.00	6
Filago depressa	0.02	1
Lepidium lasiocarpum	12.36	14
Lesquerella gordonii	0.55	8
Linanthus bigelovii	0.02	1
Malva parviflora	0.07	1

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	2	<i>Number of Plots in Group:</i>		14
Monolepis nuttalliana	0.14		1	
Pectocarya	3.64		8	
Pectocarya platycarpa	1.52		5	
Plagiobothrys	0.14		1	
Plantago ovata	18.29		14	
Sum of Percent Cover by Growth Form		41.50		

<i>Growth Form</i>	<i>5. Grasses and Sedges</i>		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Schismus arabicus	25.64	14	
Vulpia octoflora	0.07	1	
Sum of Percent Cover by Growth Form		25.71	

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **3**

Number of Plots in Group: **6**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Phoradendron californicum	0.50	1
Prosopis velutina	7.00	4
Sum of Percent Cover by Growth Form	7.50	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	0.83	1
Ambrosia dumosa	0.04	1
Larrea divaricata tridentata	25.50	6
Sum of Percent Cover by Growth Form	26.38	

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Cylindropuntia leptocaulis	0.04	1
Grusonia parishii	0.04	1
Sum of Percent Cover by Growth Form	0.08	

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.17	1
Amsinckia	0.58	4
Camissonia chamaenerioides	0.17	1
Caulanthus lasiophyllus	1.67	1
Chaenactis stevioides	0.17	4
Chorizanthe brevicornus	0.04	1
Chorizanthe rigida	0.04	1
Cryptantha	0.17	1
Cryptantha maritima	0.17	1
Cryptantha pterocarya	0.17	1
Descurania pinnata	0.04	1
Draba cuneifolia	0.04	1
Eriophyllum lanosum	0.04	1
Erodium cicutarium	5.21	6
Erodium texanum	0.08	2
Filago	0.33	1

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	3	<i>Number of Plots in Group:</i>	6
Filago arizonica	0.04	1	
Lappula occidentalis	0.04	1	
Lepidium lasiocarpum	0.54	3	
Lesquerella gordonii	3.67	5	
Malva parviflora	0.04	1	
Orthocarpus purpurascens	0.04	1	
Pectocarya	0.50	1	
Pectocarya recurvata	1.67	1	
Plantago	0.04	1	
Plantago ovata	2.67	2	
Sphaeralcea ambigua	0.17	1	
unknown herb 1	0.04	1	
Sum of Percent Cover by Growth Form	18.54		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Pleuraphis mutica	3.83	2	
Poa bigelovii	0.04	1	
Schismus arabicus	5.50	6	
Sum of Percent Cover by Growth Form	9.38		

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **23**

Number of Plots in Group: **1**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	1.00	1
Parkinsonia florida	2.00	1
Prosopis velutina	13.00	1

Sum of Percent Cover by Growth Form 16.00

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	0.25	1

Sum of Percent Cover by Growth Form 0.25

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinkia	5.00	1
Brassica tournefortii	0.25	1
Camissonia chamaenerioides	0.25	1
Daucus pusillus	0.25	1
Erodium cicutarium	0.25	1
Evax multicaulis	0.25	1
Herniaria cinerea	0.25	1
Lepidium lasiocarpum	60.00	1
Lesquerella gordonii	2.00	1
Malacothrix	0.25	1
Pectocarya	2.00	1
Sisymbrium irio	10.00	1
Sphaeralcea	5.00	1
Teucrium cubense ssp depressum	3.00	1
Verbena bracteata	4.00	1

Sum of Percent Cover by Growth Form 92.75

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Poa bigelovii	1.00	1
Schismus arabicus	5.00	1

Sum of Percent Cover by Growth Form 6.00

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **24**

Number of Plots in Group: **16**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	1.27	3
<i>Parkinsonia florida</i>	0.38	2
<i>Parkinsonia microphylla</i>	0.20	3
<i>Phoradendron californicum</i>	0.03	2
<i>Prosopis velutina</i>	2.00	6

Sum of Percent Cover by Growth Form **3.88**

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Abutilon incanum</i>	0.02	1
<i>Acacia constricta</i>	0.09	3
<i>Ambrosia deltoidea</i>	2.14	11
<i>Ambrosia dumosa</i>	0.06	1
<i>Baccharis sarothroides</i>	0.19	1
<i>Ditaxis lanceolata</i>	0.08	2
<i>Encelia farinosa farinosa</i>	0.19	2
<i>Fouquieria splendens</i>	0.27	3
<i>Krameria grayi</i>	0.28	5
<i>Larrea divaricata tridentata</i>	5.50	16
<i>Lycium</i>	0.02	1
<i>Lycium andersonii</i>	0.02	1
<i>Physalis crassifolia</i>	0.02	1
<i>Senna covesii</i>	0.03	2
<i>Tamarix ramosissima</i>	0.06	1
<i>Ziziphus obtusifolia canescens</i>	0.02	1

Sum of Percent Cover by Growth Form **8.97**

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.08	5
<i>Cylindropuntia acanthocarpa</i>	0.22	8
<i>Cylindropuntia bigelovii</i>	0.25	2
<i>Cylindropuntia fulgida</i>	0.02	1
<i>Echinocereus</i>	0.02	1
<i>Echinocereus engelmannii</i>	0.02	1
<i>Ferocactus emoryi</i>	0.02	1

Sum of Percent Cover by Growth Form **0.61**

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group

24

Number of Plots in Group:

16

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amaranthus albus	0.02	1
Ambrosia ambrosioides	1.06	2
Amsinckia intermedia	1.09	15
Amsinckia tessellata	0.06	1
Astragalus nuttallianus	0.02	1
Brassica tournefortii	0.34	4
Camissonia	0.08	5
Caulanthus lasiophyllus	0.64	11
Chaenactis	0.02	1
Chaenactis carphoclinia	0.27	2
Chaenactis stevioides	0.34	4
Chenopodium	0.02	1
Chenopodium murale	0.03	2
Chenopodium neomexicana	0.02	1
Chenopodium pratericola	0.02	1
Chorizanthe brevicornus	0.69	11
Chorizanthe rigida	0.27	8
Conyza canadensis	0.06	1
Cryptantha	0.03	2
Cryptantha barbiger	0.34	3
Cryptantha maritima	0.70	9
Cryptantha micrantha	0.06	1
Cryptantha pterocarya	0.44	5
Dalea mollissima	0.02	1
Datura discolor	0.06	1
Daucus pusillus	0.06	4
Descurania pinnata	0.05	3
Ditaxis neomexicana	0.08	2
Draba cuneifolia	0.06	4
Eriastrum diffusum	0.02	1
Eriogonum deflexum	0.34	3
Eriophyllum lanosum	0.45	7
Erodium cicutarium	1.13	3

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	24	<i>Number of Plots in Group:</i>	16
Erodium texanum	0.05	3	
Euphorbia	0.02	1	
Euphorbia albomarginata	0.02	1	
Euphorbia polycarpa	0.31	2	
Filago	0.05	3	
Filago arizonica	0.03	2	
Gilia	0.03	2	
Lepidium lasiocarpum	3.22	15	
Lesquerella gordonii	0.45	13	
Linanthus jonesii	0.05	3	
Loeflingia squarrosa ssp.	0.14	2	
Cactorum			
Lotus salsuginosus	0.02	1	
Lupinus	0.02	1	
Lupinus sparsiflorus	0.03	2	
Monoptilon bellioides	0.44	1	
Nama hispidum	0.02	1	
Nemacladus glanduliferous var.	0.02	1	
orienta			
Nicotiana obtusifolia	0.31	2	
Oenothera primaveris	0.02	1	
Pectocarya	4.39	9	
Pectocarya platycarpa	0.09	3	
Pectocarya recurvata	1.06	2	
Perityle emoryii	0.02	1	
Phacelia	0.19	5	
Plantago ovata	3.58	10	
Rafinesquia neomexicana	0.03	2	
Salsola tragus	0.02	1	
Salvia columbariae	0.02	1	
Silene	0.02	1	
Sisymbrium irio	2.44	4	
Sonchus	0.06	1	
Spermolepis echinata	0.02	1	
Sphaeralcea ambigua	0.03	2	
Sphaeralcea coulteri	0.95	3	
Stylocline micropoides	0.02	1	
unknown herb 1	0.02	1	
Veronica peregrina ssp xalapsis	0.02	1	
Sum of Percent Cover by Growth Form	27.05		

Natural Community *Creosotebush-Bursage Desert Scrub*

16

5. Grasses and Sedges

of plots containing

1

1

1

5

16

6

12.92

6. Vines

of plots containing

1

0.02

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **32** *Number of Plots in Group:* **11**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.02	1
<i>Parkinsonia florida</i>	0.02	1
<i>Parkinsonia microphylla</i>	0.18	1
<i>Prosopis velutina</i>	0.09	1

Sum of Percent Cover by Growth Form 0.32

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Acacia constricta</i>	0.02	1
<i>Ambrosia deltoidea</i>	1.20	8
<i>Ambrosia dumosa</i>	0.09	1
<i>Ditaxis lanceolata</i>	0.02	1
<i>Fouquieria splendens</i>	0.02	1
<i>Krameria grayi</i>	0.14	3
<i>Larrea divaricata tridentata</i>	6.27	11
<i>Lycium andersonii</i>	0.02	1

Sum of Percent Cover by Growth Form 7.80

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.09	4
<i>Cylindropuntia acanthocarpa</i>	0.11	5
<i>Cylindropuntia fulgida</i>	0.18	1
<i>Ferocactus</i>	0.02	1
<i>Ferocactus cylindraceus</i>	0.02	1
<i>Ferocactus wislizeni</i>	0.05	2
<i>Mammillaria</i>	0.02	1
<i>Mammillaria grahamii</i>	0.02	1

Sum of Percent Cover by Growth Form 0.52

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Amsinckia intermedia</i>	0.23	7
<i>Amsinckia tessellata</i>	0.02	1
<i>Astragalus</i>	0.02	1

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	32	<i>Number of Plots in Group:</i>	11
Astragalus nuttallianus	0.20	2	
Brassica tournefortii	0.05	2	
Camissonia chamaenerioides	0.07	3	
Caulanthus lasiophyllus	0.52	7	
Chaenactis stevioides	0.55	3	
Chenopodium	0.02	1	
Chorizanthe brevicornus	0.39	8	
Chorizanthe rigida	0.36	7	
Cryptantha maritima	0.20	6	
Cryptantha pterocarya	0.11	2	
Descurania pinnata	0.02	1	
Eriogonum	0.11	2	
Eriophyllum lanosum	0.48	7	
Erodium texanum	0.07	3	
Euphorbia polycarpa	0.09	1	
Filago	0.02	1	
Lepidium lasiocarpum	21.45	11	
Lesquerella gordonii	1.43	9	
Linanthus jonesii	0.02	1	
Lotus salsuginosus	0.02	1	
Lupinus sparsiflorus	0.11	5	
Monoptilon bellioides	0.02	1	
Pectocarya	0.93	3	
Pectocarya platycarpa	0.30	3	
Pectocarya recurvata	0.45	1	
Phacelia	0.07	3	
Plantago ovata	6.09	11	
Sphaeralcea coulteri	0.02	1	
Sum of Percent Cover by Growth Form	34.48		

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Schismus arabicus	10.45	11
Sum of Percent Cover by Growth Form	10.45	

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **37**

Number of Plots in Group: 4

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.56	2
<i>Parkinsonia florida</i>	11.25	3
<i>Prosopis velutina</i>	1.50	2

Sum of Percent Cover by Growth Form 13.31

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Acacia greggii</i>	0.31	2
<i>Ambrosia deltoidea</i>	1.31	3
<i>Boerhavia wrightii</i>	0.06	1
<i>Encelia farinosa farinosa</i>	0.06	1
<i>Hymenoclea salsola</i>	0.06	1
<i>Larrea divaricata tridentata</i>	10.25	4
<i>Lycium</i>	0.25	1
<i>Lycium andersonii</i>	0.06	1

Sum of Percent Cover by Growth Form 12.38

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Cylindropuntia fulgida</i>	0.25	1
<i>Ferocactus</i>	0.06	1
<i>Opuntia</i>	0.06	1

Sum of Percent Cover by Growth Form 0.38

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Amsinckia intermedia</i>	1.31	4
<i>Brassica tournefortii</i>	0.31	2
<i>Caulanthus lasiophyllus</i>	0.81	2
<i>Chaenactis stevioides</i>	0.06	1
<i>Chenopodium murale</i>	0.25	1
<i>Chenopodium neomexicana</i>	0.06	1
<i>Chorizanthe rigida</i>	0.06	1
<i>Cryptantha maritima</i>	0.25	1
<i>Cryptantha pterocarya</i>	0.81	2

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

<i>Group</i>	37	<i>Number of Plots in Group:</i>	4
Descurania pinnata	0.25	1	
Ditaxis neomexicana	0.25	1	
Eriogonum deflexum	0.25	1	
Eriophyllum lanosum	0.13	2	
Erodium cicutarium	5.31	3	
Eucrypta micrantha	0.25	1	
Gilia	0.06	1	
Lepidium lasiocarpum	9.00	3	
Lesquerella gordonii	1.50	2	
Malva parviflora	0.25	1	
Nicotiana obtusifolia	0.25	1	
Pectocarya	4.00	2	
Pectocarya recurvata	2.25	2	
Plantago ovata	3.00	3	
Sisymbrium irio	3.75	3	
Sphaeralcea ambigua	0.06	1	
Sphaeralcea coulteri	0.06	1	
Sum of Percent Cover by Growth Form	34.56		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Eragrostis lehmanniana	0.25	1	
Muhlenbergia porteri	0.06	1	
Poa bigelovii	0.06	1	
Schismus arabicus	37.50	4	
Sum of Percent Cover by Growth Form	37.88		

Community Statistics by Cluster Group

Natural Community Creosotebush-Bursage Desert Scrub

Group **40**

Number of Plots in Group: **3**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	0.08	1

Sum of Percent Cover by Growth Form 0.08

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	1.42	3
Krameria grayi	0.08	1
Larrea divaricata tridentata	6.33	3
Lycium	0.33	1

Sum of Percent Cover by Growth Form 8.17

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.08	1
Ferocactus wislizeni	0.08	1

Sum of Percent Cover by Growth Form 0.17

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.50	3
Astragalus	0.08	1
Caulanthus lasiophyllus	0.42	2
Chorizanthe brevicornus	0.33	1
Chorizanthe rigida	0.08	1
Erodium cicutarium	0.08	1
Euphorbia	1.08	2
Lepidium lasiocarpum	10.33	3
Lesquerella gordonii	0.08	1
Pectocarya platycarpa	25.00	3
Plantago ovata	8.00	3

Sum of Percent Cover by Growth Form 46.00

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Erioneuron pulchellum	0.08	1
Schismus arabicus	20.00	3

Sum of Percent Cover by Growth Form 20.08

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **54** *Number of Plots in Group:* **1**

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Larrea divaricata tridentata	8.00	1

Sum of Percent Cover by Growth Form 8.00

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Cylindropuntia fulgida	9.00	1

Sum of Percent Cover by Growth Form 9.00

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	1.00	1
Astragalus nuttallianus	0.25	1
Caulanthus lasiophyllus	1.00	1
Chaenactis stevioides	1.00	1
Chorizanthe brevicornus	0.25	1
Cryptantha barbigera	0.25	1
Cryptantha maritima	7.00	1
Eriastrum diffusum	1.00	1
Eriophyllum lanosum	1.00	1
Erodium texanum	0.25	1
Lepidium lasiocarpum	0.25	1
Lupinus sparsiflorus	0.25	1
Pectocarya recurvata	45.00	1
Phacelia	0.25	1
Sisymbrium irio	0.25	1

Sum of Percent Cover by Growth Form 59.00

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Pleuraphis rigida	0.25	1
Schismus arabicus	3.00	1
Vulpia octoflora	0.25	1

Sum of Percent Cover by Growth Form 3.50

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group **56**

Number of Plots in Group: **2**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Phoradendron californicum	0.13	1
Prosopis velutina	4.00	1

Sum of Percent Cover by Growth Form **4.13**

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.63	2
Acacia greggii	0.13	1
Celtis pallida pallida	0.13	1
Krameria erecta	0.50	1
Larrea divaricata tridentata	5.00	1
Lycium	0.13	1

Sum of Percent Cover by Growth Form **6.50**

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.13	1
Cylindropuntia acanthocarpa	0.50	1
Cylindropuntia fulgida	1.00	1
Cylindropuntia leptocaulis	0.13	1

Sum of Percent Cover by Growth Form **1.75**

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	0.13	1
Ambrosia confertifolia	0.13	1
Amsinckia intermedia	1.13	2
Camissonia californica	0.13	1
Castilleja exserta ssp. Exserta	0.13	1
Caulanthus lasiophyllus	0.25	2
Chaenactis stevioides	0.13	1
Chenopodium pratericola	0.13	1
Chorizanthe brevicornus	0.13	1
Chorizanthe rigida	0.13	1
Cirsium neomexicana	0.13	1

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group	56	Number of Plots in Group:	2
<i>Conyza coulteri</i>	0.13	1	
<i>Cryptantha maritima</i>	0.13	1	
<i>Cryptantha micrantha</i>	0.13	1	
<i>Cryptantha pterocarya</i>	0.25	2	
<i>Daucus pusillus</i>	0.13	1	
<i>Descurania pinnata</i>	0.13	1	
<i>Draba cuneifolia</i>	0.25	2	
<i>Eriastrum diffusum</i>	0.13	1	
<i>Eriogonum abertianum</i>	0.13	1	
<i>Eriogonum deflexum</i>	0.13	1	
<i>Eriophyllum lanosum</i>	0.13	1	
<i>Erodium cicutarium</i>	50.00	2	
<i>Eschscholzia mexicana</i>	0.13	1	
<i>Eucrypta chrysanthemifolia</i>	0.13	1	
<i>Gilia</i>	0.13	1	
<i>Herniaria cinerea</i>	0.13	1	
<i>Lappula occidentalis</i>	0.13	1	
<i>Lepidium lasiocarpum</i>	0.25	2	
<i>Lesquerella gordonii</i>	0.25	2	
<i>Lupinus</i>	0.13	1	
<i>Lupinus sparsiflorus</i>	0.13	1	
<i>Machaeranthera tagetina</i>	0.13	1	
<i>Mentzelia affinis</i>	0.13	1	
<i>Nama hispidum</i>	0.13	1	
<i>Nicotiana obtusifolia</i>	0.13	1	
<i>Pectocarya recurvata</i>	2.63	2	
<i>Penstemon parryi</i>	0.13	1	
<i>Phacelia ambigua</i>	0.13	1	
<i>Phacelia coerulea</i>	0.13	1	
<i>Plantago patagonica</i>	0.13	1	
<i>Silene antirrhina</i>	0.13	1	
<i>Sisymbrium irio</i>	7.50	1	
<i>Sonchus</i>	0.13	1	
<i>Sphaeralcea laxa</i>	0.13	1	
<i>Teucrium cubense</i> ssp depressum	0.13	1	
unknown herb 1	0.13	1	
unknown herb 2	0.13	1	
<i>Uropappus lindleyi</i>	0.13	1	
<i>Verbena bracteata</i>	0.13	1	
Sum of Percent Cover by Growth Form	67.63		

Community Statistics by Cluster Group

Natural Community *Creosotebush-Bursage Desert Scrub*

Group

56

Number of Plots in Group:

2

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Bromus	0.13	1
Bromus rubens	0.13	1
Cynodon dactylon	2.00	1
Heteropogon contortus	0.13	1
Muhlenbergia porteri	0.50	1
Phalaris minor	4.00	1
Pleuraphis mutica	0.50	1
Schismus arabicus	0.13	1
Vulpia octoflora	0.50	1

Sum of Percent Cover by Growth Form

8.00

APPENDIX H

Paloverde - Mixed Cacti – Mixed Scrub on Bajadas *Community Statistics by Cluster Group*

Natural Community PVMCB

Group **0 - outlier** *Number of Plots in Group:* **1**
Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	0.25	1
Phoradendron californicum	0.25	1
Prosopis velutina	4.00	1

Sum of Percent Cover by Growth Form 4.50

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Larrea divaricata tridentata	0.25	1

Sum of Percent Cover by Growth Form 0.25

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Erodium cicutarium	4.00	1
Lepidium lasiocarpum	0.25	1
Lesquerella gordonii	0.25	1
Pectocarya	5.00	1
Plagiobothrys	1.00	1
Sisymbrium irio	2.00	1

Sum of Percent Cover by Growth Form 12.50

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Schismus arabicus	55.00	1

Sum of Percent Cover by Growth Form 55.00

Community Statistics by Cluster Group

Natural Community PVMCB

Group 1

Number of Plots in Group: 3

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	1.75	3
Sum of Percent Cover by Growth Form	1.75	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	2.00	3
Ditaxis lanceolata	0.17	2
Fouquieria splendens	0.33	1
Krameria grayi	0.83	3
Larrea divaricata tridentata	4.67	3
Sum of Percent Cover by Growth Form	8.00	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.50	3
Cylindropuntia acanthocarpa	0.75	3
Cylindropuntia bigelovii	0.08	1
Cylindropuntia fulgida	0.17	2
Cylindropuntia leptocaulis	0.08	1
Echinocereus	0.08	1
Ferocactus emoryi	0.08	1
Mammillaria grahamii	0.17	2
Opuntia	3.33	1
Sum of Percent Cover by Growth Form	5.25	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.42	2
Camissonia	0.08	1
Caulanthus lasiophyllus	0.75	3
Chaenactis stevioides	0.08	1
Chorizanthe brevicornus	5.08	3
Chorizanthe rigida	0.08	1
Cryptantha maritima	1.00	2
Cryptantha pterocarya	0.17	2

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	1	<i>Number of Plots in Group:</i>	3
Descurania pinnata	0.08	1	
Draba cuneifolia	0.08	1	
Eriastrum diffusum	0.17	2	
Eriophyllum lanosum	0.17	2	
Erodium texanum	0.08	1	
Euphorbia polycarpa	0.67	2	
Filago	0.42	2	
Lepidium lasiocarpum	4.00	3	
Lesquerella gordonii	1.67	1	
Pectocarya	20.00	3	
Plantago ovata	5.00	2	
Stylocline micropoides	0.08	1	
Sum of Percent Cover by Growth Form	40.08		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.33	1	
Schismus arabicus	1.67	3	
Vulpia octoflora	0.67	2	
Sum of Percent Cover by Growth Form	2.67		

Community Statistics by Cluster Group

Natural Community PVMCB

Group 2

Number of Plots in Group: 3

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia deltoidea	1.67	3
Ambrosia dumosa	0.42	2
Krameria grayi	0.08	1
Larrea divaricata tridentata	19.00	3

Sum of Percent Cover by Growth Form 21.17

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Amsinckia intermedia	0.67	1
Amsinckia	0.08	1
Camissonia	0.08	1
Camissonia chamaenerioides	0.08	1
Caulanthus lasiophyllus	0.42	2
Chaenactis stevioides	0.67	2
Chorizanthe brevicornus	0.50	3
Chorizanthe rigida	1.00	3
Cryptantha pterocarya	0.08	1
Descurania pinnata	0.08	1
Eriastrum diffusum	0.08	1
Eriogonum deflexum	0.08	1
Eriophyllum lanosum	0.08	1
Euphorbia polycarpa	0.08	1
Lepidium lasiocarpum	4.67	2
Lesquerella gordonii	1.33	3
Lupinus sparsiflorus	0.08	1
Mentzelia	0.08	1
Pectocarya	1.08	2
Plantago ovata	1.67	3
Stylocline micropoides	0.08	1

Sum of Percent Cover by Growth Form 13.00

Growth Form 5. Grasses and Sedges

Scientific Name	Average % Cover by Species	# of plots containing
Schismus arabicus	2.42	3

Sum of Percent Cover by Growth Form 2.42

Community Statistics by Cluster Group

Natural Community PVMCB

Group 3

Number of Plots in Group: 7

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Oleña tesota	2.57	3
Parkinsonia microphylla	1.18	5
Phoradendron californicum	0.07	2
Prosopis velutina	0.75	2

Sum of Percent Cover by Growth Form 4.57

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.57	2
Ambrosia deltoidea	2.04	7
Ambrosia dumosa	0.32	2
Ditaxis lanceolata	0.04	1
Encelia farinosa farinosa	0.04	1
Fouquieria splendens	0.18	2
Hymenoclea salsola	0.04	1
Krameria erecta	0.29	1
Krameria grayi	0.89	3
Larrea divaricata tridentata	5.71	7
Lycium	0.46	3
Lycium andersonii	0.04	1
Trixis californica	0.14	1

Sum of Percent Cover by Growth Form 10.75

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.36	3
Cylindropuntia acanthocarpa	0.36	4
Cylindropuntia fulgida	0.14	1
Cylindropuntia leptocaulis	0.04	1
Mammillaria grahamii	0.04	1
Opuntia engelmannii	0.04	1
Peniocereus greggii	0.04	1

Sum of Percent Cover by Growth Form 1.00

Community Statistics by Cluster Group

Natural Community PVMCB

Group 3

Number of Plots in Group: 7

Growth Form

4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Amsinckia tessellata	0.29	1
Amsinkia	0.07	2
Camissonia chamaenerioides	0.04	1
Caulanthus lasiophyllus	0.21	3
Chaenactis carphoclinia	0.04	1
Chaenactis stevioides	0.21	3
Chorizanthe brevicornus	0.61	3
Chorizanthe rigida	0.57	6
Cryptantha	0.61	2
Cryptantha maritima	0.29	1
Cryptantha pterocarya	0.29	2
Eriastrum diffusum	0.04	1
Eriophyllum lanosum	0.50	3
Eucrypta micrantha	0.04	1
Euphorbia	0.04	1
Filago arizonica	0.04	1
Lepidium lasiocarpum	2.61	7
Lesquerella gordonii	0.75	4
Linanthus jonesii	0.04	1
Oligomeris linifolia	0.04	1
Parietaria floridana	0.04	1
Pectocarya	1.57	4
Pectocarya platycarpa	0.32	2
Pectocarya recurvata	0.04	1
Phacelia	0.18	2
Phacelia ambigua	0.14	1
Plantago ovata	0.96	6
Stylocline micropoides	0.04	1

Sum of Percent Cover by Growth Form 10.57

Growth Form

5. Grasses and Sedges

Scientific Name	Average % Cover by Species	# of plots containing
Aristida purpurea	0.04	1
Poa bigelovii	0.14	1
Schismus arabicus	3.00	7
Vulpia octoflora	0.29	1

Sum of Percent Cover by Growth Form 3.46

Community Statistics by Cluster Group

Natural Community PVMCB

Group 7

Number of Plots in Group: 1

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	14.00	1
Sum of Percent Cover by Growth Form		14.00

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia greggii	2.00	1
Ambrosia deltoidea	5.00	1
Hymenoclea salsola	14.00	1
Larrea divaricata tridentata	2.00	1
Lycium macrodon	3.00	1
Lycium parishii	1.00	1
Sum of Percent Cover by Growth Form		27.00

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	1.00	1
Cylindropuntia acanthocarpa	0.25	1
Sum of Percent Cover by Growth Form		1.25

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinkia	0.25	1
Camissonia	0.25	1
Chorizanthe rigida	0.25	1
Cryptantha maritima	3.00	1
Cryptantha pterocarya	0.25	1
Ditaxis neomexicana	0.25	1
Draba cuneifolia	1.00	1
Eriastrum diffusum	0.25	1
Euphorbia pediculifera	0.25	1
Filago arizonica	0.25	1
Lepidium lasiocarpum	2.00	1
Linanthus jonesii	0.25	1
Nama hispidum	0.25	1
Pectocarya recurvata	2.00	1
Stylocline micropoides	0.25	1
Sum of Percent Cover by Growth Form		10.75

Community Statistics by Cluster Group

Natural Community PVMCB

Group **7** *Number of Plots in Group:* **1**

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Schismus arabicus	20.00	1

Sum of Percent Cover by Growth Form	20.00
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Community Statistics by Cluster Group

Natural Community PVMCB

Group 8

Number of Plots in Group: 4

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
<i>Olneya tesota</i>	0.56	2
<i>Parkinsonia florida</i>	0.25	1
<i>Parkinsonia microphylla</i>	1.63	3
<i>Phoradendron californicum</i>	0.06	1

Sum of Percent Cover by Growth Form 2.50

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
<i>Ambrosia deltoidea</i>	8.00	4
<i>Ambrosia dumosa</i>	0.31	2
<i>Fouquieria splendens</i>	0.31	2
<i>Hymenoclea salsola</i>	0.75	1
<i>Larrea divaricata tridentata</i>	8.75	4
<i>Lycium parishii</i>	0.25	1

Sum of Percent Cover by Growth Form 18.38

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing
<i>Carnegiea gigantea</i>	0.88	3
<i>Cylindropuntia acanthocarpa</i>	0.38	3
<i>Cylindropuntia fulgida</i>	0.56	2
<i>Ferocactus emoryi</i>	0.25	1
<i>Mammillaria grahamii</i>	0.06	1
<i>Mammillaria tetrancistra</i>	0.06	1

Sum of Percent Cover by Growth Form 2.19

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
<i>Amsinckia intermedia</i>	0.13	2
<i>Amsinckia tessellata</i>	0.25	1
<i>Amsinckia</i>	0.06	1
<i>Camissonia</i>	0.13	2
<i>Camissonia chamaenerioides</i>	0.06	1
<i>Caulanthus lasiophyllus</i>	0.50	2
<i>Chorizanthe brevicornus</i>	0.44	4

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	8	<i>Number of Plots in Group:</i>		4
Chorizanthe rigida	0.06		1	
Cryptantha barbigera	0.25		1	
Cryptantha maritima	7.25		4	
Cryptantha pterocarya	0.19		3	
Descurania pinnata	0.38		3	
Ditaxis neomexicana	0.25		1	
Draba cuneifolia	0.06		1	
Eriastrum diffusum	0.06		1	
Eriophyllum lanosum	0.19		3	
Euphorbia polycarpa	0.06		1	
Filago	0.06		1	
Filago arizonica	0.25		1	
Lepidium lasiocarpum	0.56		3	
Loeflingia squarrosa ssp. Cactorum	0.13		2	
Orobanch cooperi	0.06		1	
Pectocarya	2.50		1	
Pectocarya platycarpa	0.25		1	
Pectocarya recurvata	3.25		3	
Stylocline micropoides	0.06		1	
Sum of Percent Cover by Growth Form	17.44			

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.06	1	
Erioneuron pulchellum	0.06	1	
Schismus arabicus	10.00	4	
Vulpia octoflora	0.13	2	
Sum of Percent Cover by Growth Form	10.25		

Community Statistics by Cluster Group

Natural Community PVMCB

Group 12

Number of Plots in Group: 7

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	1.57	4
<i>Parkinsonia microphylla</i>	10.14	7
<i>Phoradendron californicum</i>	0.04	1

Sum of Percent Cover by Growth Form 11.75

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Acacia constricta</i>	0.29	2
<i>Ambrosia deltoidea</i>	10.14	7
<i>Ambrosia dumosa</i>	0.61	2
<i>Ayenia filiformis</i>	0.04	1
<i>Calliandra eriophylla</i>	0.04	1
<i>Ditaxis lanceolata</i>	0.07	2
<i>Encelia farinosa farinosa</i>	0.07	2
<i>Ephedra aspera</i>	0.14	1
<i>Fagonia californica ssp longipes</i>	0.14	1
<i>Fouquieria splendens</i>	1.50	7
<i>Jatropha cardiophylla</i>	0.14	1
<i>Krameria grayi</i>	2.18	7
<i>Larrea divaricata tridentata</i>	1.82	7
<i>Lycium</i>	0.25	4
<i>Lycium andersonii</i>	0.04	1
<i>Lycium berlandieri</i>	0.04	1
<i>Trixis californica</i>	0.18	2

Sum of Percent Cover by Growth Form 17.68

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.46	7
<i>Cylindropuntia</i>	0.14	1
<i>Cylindropuntia acanthocarpa</i>	0.89	5
<i>Cylindropuntia bigelovii</i>	0.04	1
<i>Cylindropuntia fulgida</i>	0.04	1
<i>Echinocereus</i>	0.04	1
<i>Echinocereus engelmannii</i>	0.14	4

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	12	<i>Number of Plots in Group:</i>	7
Ferocactus	0.04	1	
Ferocactus emoryi	0.11	3	
Mammillaria	0.04	1	
Mammillaria grahamii	0.11	3	
Sum of Percent Cover by Growth Form	2.04		

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.18	2
Amsinckia tessellata	0.14	1
Calycoseris wrightii	0.04	1
Camissonia chamaenerioides	0.14	1
Caulanthus lasiophyllus	0.43	3
Chaenactis stevioides	0.32	2
Chorizanthe brevicornus	2.11	7
Chorizanthe rigida	0.54	5
Cryptantha maritima	2.04	4
Cryptantha pterocarya	1.07	7
Daucus pusillus	0.04	1
Descurania pinnata	0.07	2
Draba cuneifolia	0.18	2
Eriogonum	0.18	2
Eriogonum inflatum	0.04	1
Eriogonum thomasii	0.04	1
Eriophyllum lanosum	0.25	4
Eucrypta micrantha	0.04	1
Euphorbia	0.04	1
Euphorbia polycarpa	0.18	2
Filago arizonica	0.04	1
Gilia	0.14	1
Lappula occidentalis	0.29	1
Lepidium lasiocarpum	4.21	7
Lesquerella gordonii	1.75	5
Lotus	0.04	1
Marina parryi	0.04	1
Mentzelia	0.04	1
Mentzelia involucrata	0.14	1
Pectocarya	0.04	1

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	12	<i>Number of Plots in Group:</i>	7
Pectocarya platycarpa	0.50	4	
Pectocarya recurvata	2.86	3	
Phacelia	0.04	1	
Phacelia ambigua	0.75	4	
Plantago ovata	0.82	7	
Rafinesquia neomexicana	0.04	1	
Senecio	0.04	1	
Sphaeralcea	0.04	1	
Stylocline micropoides	0.04	1	

Sum of Percent Cover by Growth Form 19.86

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.04	1
Erioneuron pulchellum	0.07	2
Poa bigelovii	0.07	2
Schismus arabicus	1.89	7
Vulpia octoflora	0.07	2

Sum of Percent Cover by Growth Form 2.14

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	0.04	1

Sum of Percent Cover by Growth Form 0.04

Community Statistics by Cluster Group

Natural Community PVMCB

Group 14

Number of Plots in Group: 5

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	0.40	1
Parkinsonia microphylla	1.10	3
Sum of Percent Cover by Growth Form	1.50	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.40	1
Ambrosia deltoidea	2.00	5
Ditaxis lanceolata	0.05	1
Fouquieria splendens	0.45	3
Hymenoclea salsola	0.40	1
Krameria grayi	0.80	3
Larrea divaricata tridentata	4.40	5
Lycium	0.05	1
Sum of Percent Cover by Growth Form	8.55	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.15	3
Cylindropuntia acanthocarpa	3.45	5
Cylindropuntia fulgida	0.20	1
Cylindropuntia leptocaulis	0.45	2
Echinocereus engelmannii	0.05	1
Sum of Percent Cover by Growth Form	4.30	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.45	3
Camissonia	0.05	1
Camissonia californica	0.25	2
Caulanthus lasiophyllus	1.05	5
Chaenactis stevioides	1.10	4
Chorizanthe brevicornus	0.25	2
Chorizanthe rigida	0.10	2
Cryptantha barbigera	1.50	3

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	14	<i>Number of Plots in Group:</i>	5
Cryptantha maritima	1.25	3	
Cryptantha micrantha	0.05	1	
Cryptantha pterocarya	0.45	3	
Daucus pusillus	0.05	1	
Descurania pinnata	0.15	3	
Eriastrum diffusum	0.05	1	
Eriogonum thomasi	0.10	2	
Eriophyllum lanosum	0.05	1	
Erodium texanum	0.05	1	
Eucrypta micrantha	0.05	1	
Euphorbia polycarpa	0.05	1	
Filago	0.20	1	
Gilia	0.05	1	
Lepidium lasiocarpum	13.00	5	
Lesquerella gordonii	1.05	3	
Linanthus jonesii	0.05	1	
Lupinus	0.05	1	
Lupinus sparsiflorus	0.05	1	
Mentzelia	0.05	1	
Nama hispidum	0.05	1	
Nicotiana obtusifolia	0.05	1	
Orobancha cooperi	0.05	1	
Pectocarya	1.05	2	
Pectocarya platycarpa	1.85	3	
Pectocarya recurvata	0.20	1	
Phacelia	0.40	2	
Phacelia ambigua	0.20	1	
Plantago ovata	1.45	5	
Rafinesquia neomexicana	0.05	1	
Sisymbrium irio	0.05	1	
Thysanocarpis curvipes	0.05	1	

Sum of Percent Cover by Growth Form 27.00

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida adsensionis	0.05	1
Erioneuron pulchellum	0.20	1
Muhlenbergia porteri	0.05	1
Schismus arabicus	6.20	5
Vulpia octoflora	0.65	3
Sum of Percent Cover by Growth Form	7.15	

Community Statistics by Cluster Group

Natural Community PVMCB

Group

14

Number of Plots in Group:

5

Growth Form

6. Vines

Scientific Name

Average % Cover by Species

of plots containing

Janusia gracile

0.20

1

Sum of Percent Cover by Growth Form

0.20

Community Statistics by Cluster Group

Natural Community PVMCB

Group 16

Number of Plots in Group: 1

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	0.25	1
Sum of Percent Cover by Growth Form	0.25	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.25	1
Ambrosia deltoidea	1.00	1
Encelia farinosa farinosa	0.25	1
Fouquieria splendens	0.25	1
Krameria grayi	2.00	1
Larrea divaricata tridentata	2.00	1
Sum of Percent Cover by Growth Form	5.75	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.25	1
Cylindropuntia acanthocarpa	1.00	1
Sum of Percent Cover by Growth Form	1.25	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.25	1
Camissonia	0.25	1
Camissonia californica	0.25	1
Caulanthus lasiophyllus	0.25	1
Chaenactis stevioides	0.25	1
Chorizanthe brevicornus	0.25	1
Chorizanthe rigida	0.25	1
Cryptantha barbigera	0.25	1
Eriogonum inflatum	0.25	1
Eriogonum thomasi	25.00	1
Lepidium lasiocarpum	3.00	1
Lesquerella gordonii	1.00	1
Pectocarya	0.25	1
Phacelia ambigua	1.00	1
Plantago ovata	2.00	1
Sum of Percent Cover by Growth Form	34.50	

Community Statistics by Cluster Group

Natural Community PVMCB

Group

16

Number of Plots in Group:

1

Growth Form

5. Grasses and Sedges

Scientific Name

Average % Cover by Species

of plots containing

Schismus arabicus

7.00

1

Sum of Percent Cover by Growth Form

7.00

Community Statistics by Cluster Group

Natural Community PVMCB

Group 22

Number of Plots in Group: 1

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	30.00	1
Parkinsonia microphylla	2.00	1
Prosopis velutina	1.00	1

Sum of Percent Cover by Growth Form 33.00

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	5.00	1
Larrea divaricata tridentata	2.00	1
Lycium	1.00	1

Sum of Percent Cover by Growth Form 8.00

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Mammillaria grahamii	0.25	1

Sum of Percent Cover by Growth Form 0.25

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinkia	1.00	1
Caulanthus lasiophyllus	0.25	1
Chorizanthe brevicornus	1.00	1
Cryptantha pterocarya	1.00	1
Lepidium lasiocarpum	3.00	1
Pectocarya	3.00	1
Plantago ovata	1.00	1

Sum of Percent Cover by Growth Form 10.25

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Schismus arabicus	1.00	1

Sum of Percent Cover by Growth Form 1.00

Community Statistics by Cluster Group

Natural Community PVMCB

Group 24

Number of Plots in Group: 2

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	4.00	2

Sum of Percent Cover by Growth Form 4.00

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.13	1
Ambrosia deltoidea	7.50	2
Encelia farinosa farinosa	0.13	1
Larrea divaricata tridentata	3.00	2

Sum of Percent Cover by Growth Form 10.75

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.63	2
Cylindropuntia acanthocarpa	0.63	2
Cylindropuntia bigelovii	0.13	1
Cylindropuntia fulgida	0.13	1
Cylindropuntia leptocaulis	0.13	1
Echinocereus engelmannii	0.13	1
Opuntia	0.13	1

Sum of Percent Cover by Growth Form 1.88

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Allium macropetalon	0.13	1
Amsinckia intermedia	0.63	2
Astragalus	0.50	1
Calycoseris wrightii	0.13	1
Camissonia chamaenerioides	1.50	1
Caulanthus lasiophyllus	1.63	2
Chorizanthe brevicornus	2.13	2
Chorizanthe rigida	0.13	1
Cryptantha	1.00	1
Cryptantha barbiger	0.13	1
Cryptantha maritima	2.63	2

Community Statistics by Cluster Group

Natural Community PVMCB

<i>Group</i>	24	<i>Number of Plots in Group:</i>	2
Cryptantha pterocarya	0.63	2	
Descurania pinnata	1.50	1	
Eriophyllum lanosum	0.50	1	
Erodium cicutarium	0.13	1	
Eschscholzia mexicana	0.50	1	
Eucrypta micrantha	0.13	1	
Euphorbia	0.50	1	
Lepidium lasiocarpum	4.50	2	
Lesquerella gordonii	1.50	2	
Lotus	0.13	1	
Lotus salsuginosus	0.50	1	
Lupinus sparsiflorus	0.13	1	
Monoptilon bellioides	0.13	1	
Pectocarya recurvata	13.50	2	
Phacelia	0.13	1	
Phacelia ambigua	0.13	1	
Plantago ovata	1.00	1	
Sisymbrium irio	0.13	1	
Sum of Percent Cover by Growth Form	36.13		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Schismus arabicus	30.00	2	
Sum of Percent Cover by Growth Form	30.00		

APPENDIX I

Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes *Community Statistics by Cluster Group*

Group 1 *Number of Plots in Group: 10*
Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	0.43	2
Parkinsonia microphylla	7.50	10

Sum of Percent Cover by Growth Form 7.93

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.50	2
Adenophyllum porophylloides	0.03	1
Agave deserti simplex	0.03	1
Ambrosia deltoidea	2.40	6
Ayenia microphylla	0.05	2
Brickellia coulteri	0.03	1
Calliandra eriophylla	0.10	1
Carlownrightii arizonica	0.03	1
Celtis pallida pallida	0.03	1
Ditaxis lanceolata	0.30	6
Encelia farinosa farinosa	7.60	10
Ephedra aspera	0.23	3
Eriogonum fasciculatum	0.10	1
Eriogonum wrightii	0.03	1
Fagonia californica ssp longipes	0.20	5
Fouquieria splendens	1.25	8
Gallium stellatum	0.03	1
Hibiscus denudatus	0.43	2
Hyptis emoryi	0.73	3
Jatropha cardiophylla	0.05	2
Krameria grayi	0.78	8
Larrea divaricata tridentata	1.33	6
Lycium	0.83	5
Lycium berlandieri	0.63	3
Lycium exsertum	0.10	1
Machaeranthera pinnatifida	0.05	2
gooddingii		
Menodora scabra	0.30	1
Mirabilis laevis v villosa	0.13	2
Tiquilia canescens	0.03	1
Trixis californica	0.20	5
Viguiera parishii	0.13	2

Sum of Percent Cover by Growth Form 18.58

Community Statistics by Cluster Group

Natural Community PVMCR

Group

1

Number of Plots in Group:

10

Growth Form

3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.40	9
Cylindropuntia	0.03	1
Cylindropuntia acanthocarpa	0.85	8
Cylindropuntia bigelovii	0.53	4
Echinocereus	0.03	1
Echinocereus engelmannii	0.10	4
Ferocactus cylindraceus	0.03	1
Ferocactus emoryi	0.03	1
Mammillaria	0.03	1
Mammillaria grahamii	0.13	5

Sum of Percent Cover by Growth Form

2.13

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acleisanthes longiflora	0.03	1
Allionia incarnata	0.10	1
Amsinckia intermedia	0.08	3
Amsinckia tessellata	0.10	1
Amsinkia	0.10	1
Antirrhinum cyathiferum	0.03	1
Astragalus	0.03	1
Bowlesia incana	0.03	1
Calandrinia ciliata	0.03	1
Calycoseris wrightii	0.03	1
Camissonia	0.18	4
Camissonia californica	0.03	1
Camissonia chamaenerioides	0.15	3
Caulanthus lasiophyllus	0.18	4
Chaenactis stevioides	0.03	1
Chenopodium neomexicana	0.53	2
Chorizanthe brevicornus	0.15	6
Crassula connata	0.03	1
Cryptantha barbigera	0.13	2

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	1	<i>Number of Plots in Group:</i>	10
Cryptantha maritima	0.83	6	
Cryptantha micrantha	0.03	1	
Cryptantha pterocarya	1.15	6	
Daucus pusillus	0.05	2	
Descurania pinnata	0.83	7	
Ditaxis adenophora	0.03	1	
Draba cuneifolia	0.10	4	
Eriogonum abertianum	0.05	2	
Eriogonum deflexum	0.03	1	
Eriogonum inflatum	0.23	3	
Eriophyllum lanosum	0.05	2	
Eucrypta chrysanthemifolia	0.03	1	
Eucrypta micrantha	0.30	2	
Euphorbia	0.23	2	
Euphorbia albomarginata	0.03	1	
Euphorbia arizonica	0.03	1	
Euphorbia polycarpa	0.23	2	
Filago	0.08	3	
Gilia	0.08	3	
Gilia flavocincta	0.03	1	
Gilia stellata	0.35	3	
Lepidium lasiocarpum	1.73	8	
Lesquerella gordonii	0.10	1	
Linanthus bigelovii	0.03	1	
Linanthus jonesii	0.20	2	
Lupinus sparsiflorus	0.03	1	
Marina parryi	0.05	2	
Mentzelia involucrata	0.13	2	
Monoptilon bellioides	0.03	1	
Nemacladus glanduliferous var. orientalis	0.03	1	
Parietaria floridana	0.03	1	
Pectocarya	0.03	1	
Pectocarya platycarpa	0.03	1	
Pectocarya recurvata	0.18	4	
Perityle emoryi	0.05	2	
Phacelia	0.75	6	
Phacelia ambigua	0.20	2	
Phacelia coerulea	0.30	1	
Plantago ovata	0.33	3	

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	1	<i>Number of Plots in Group:</i>	10
Senecio lemmonii	0.03	1	
Silene antirrhina	0.03	1	
Sphaeralcea	0.40	1	
Sphaeralcea ambigua	0.05	2	
Stephanomeria pauciflora	0.03	1	
Streptanthus carinatus	0.13	2	
Stylocline micropoides	0.13	2	
Thysanocarpis curvipes	0.15	3	
Sum of Percent Cover by Growth Form	11.70		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.20	2	
Aristida purpurea	0.03	1	
Bromus rubens	0.10	1	
Muhlenbergia porteri	0.20	2	
Pleuraphis mutica	0.03	1	
Pleuraphis rigida	0.15	3	
Poa bigelovii	0.05	2	
Schismus arabicus	1.55	8	
Tridens muticus	0.53	3	
unknown grass 1	0.03	1	
Vulpia octoflora	0.43	3	
Sum of Percent Cover by Growth Form	3.28		

<i>Growth Form</i>	6. Vines		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Janusia gracile	0.90	4	
Matelea parvifolia	0.03	1	
Sarcostemma cynanchoides	0.03	1	
Sum of Percent Cover by Growth Form	0.95		

<i>Growth Form</i>	7. Ferns and Club Mosses		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Astrolepis cochisensis	0.08	3	
Astrolepis sinuata sinuata	0.03	1	
Notholaena standleyi	0.18	4	
Selaginella arizonica	1.70	4	
Sum of Percent Cover by Growth Form	1.98		

Community Statistics by Cluster Group

Natural Community PVMCR

Group 4

Number of Plots in Group: 5

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.40	1
<i>Parkinsonia microphylla</i>	21.60	5
Sum of Percent Cover by Growth Form	22.00	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Ambrosia deltoidea</i>	8.25	5
<i>Ayenia microphylla</i>	0.05	1
<i>Brickellia coulteri</i>	0.05	1
<i>Calliandra eriophylla</i>	0.60	1
<i>Ditaxis lanceolata</i>	0.05	1
<i>Encelia farinosa farinosa</i>	0.90	4
<i>Ephedra aspera</i>	0.05	1
<i>Eriogonum fasciculatum</i>	0.80	1
<i>Fagonia californica ssp longipes</i>	0.85	3
<i>Fouquieria splendens</i>	1.45	5
<i>Gallium stellatum</i>	0.05	1
<i>Hyptis emoryi</i>	0.20	1
<i>Krameria grayi</i>	1.20	2
<i>Larrea divaricata tridentata</i>	1.05	4
<i>Lycium</i>	1.85	4
<i>Lycium berlandieri</i>	0.05	1
Sum of Percent Cover by Growth Form	17.45	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.25	2
<i>Cylindropuntia acanthocarpa</i>	1.00	4
<i>Echinocereus engelmannii</i>	0.05	1
<i>Mammillaria grahamii</i>	0.10	2
Sum of Percent Cover by Growth Form	1.40	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Amsinckia intermedia</i>	0.05	1

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	4	<i>Number of Plots in Group:</i>	5
Amsinkia	0.45	2	
Camissonia chamaenerioides	0.05	1	
Caulanthus lasiophyllus	0.25	2	
Chaenactis stevioides	0.20	1	
Chenopodium	1.00	1	
Chorizanthe brevicornus	0.35	4	
Cryptantha barbiger	0.15	3	
Cryptantha maritima	0.55	5	
Cryptantha pterocarya	1.25	4	
Daucus pusillus	0.05	1	
Descurania pinnata	0.25	2	
Draba cuneifolia	0.10	2	
Eriastrum diffusum	0.05	1	
Eriogonum inflatum	0.05	1	
Erodium cicutarium	0.05	1	
Eucrypta micrantha	0.25	2	
Euphorbia	0.05	1	
Gilia	0.20	1	
Gilia stellata	0.20	1	
Lepidium lasiocarpum	3.25	4	
Lesquerella gordonii	0.25	2	
Linanthus jonesii	0.05	1	
Lupinus sparsiflorus	0.05	1	
Pectocarya	1.20	1	
Perityle emoryi	0.40	1	
Phacelia ambigua	0.85	3	
Plantago ovata	2.70	4	
Sphaeralcea ambigua	0.20	1	
unknown herb 1	0.20	1	
Sum of Percent Cover by Growth Form	14.70		

<i>Growth Form</i>	<i>5. Grasses and Sedges</i>	
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.20	1
Aristida adsensionis	0.05	1
Aristida purpurea	0.10	2
Muhlenbergia	0.05	1
Muhlenbergia microsperma	0.05	1

Community Statistics by Cluster Group

Natural Community PVMCR

Group	4	Number of Plots in Group:	5
Schismus arabicus	2.10	5	
Vulpia octoflora	0.40	1	
Sum of Percent Cover by Growth Form	2.95		

Growth Form	6. Vines		
Scientific Name	Average % Cover by Species	# of plots containing	
Janusia gracile	0.05	1	
Sum of Percent Cover by Growth Form	0.05		

Community Statistics by Cluster Group

Natural Community PVMCR

Group 5

Number of Plots in Group: 12

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
<i>Olneya tesota</i>	0.02	1
<i>Parkinsonia microphylla</i>	6.35	12
Sum of Percent Cover by Growth Form	6.38	

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
<i>Acacia constricta</i>	0.44	4
<i>Acacia greggii</i>	0.44	4
<i>Adenophyllum porophylloides</i>	0.13	3
<i>Agave deserti simplex</i>	0.23	4
<i>Aloysia wrightii</i>	0.02	1
<i>Ambrosia deltoidea</i>	3.19	6
<i>Brickellia coulteri</i>	0.08	1
<i>Celtis pallida pallida</i>	0.10	2
<i>Ditaxis lanceolata</i>	0.17	5
<i>Encelia farinosa farinosa</i>	2.71	9
<i>Ephedra aspera</i>	1.17	9
<i>Eriogonum fasciculatum</i>	1.94	7
<i>Eriogonum wrightii</i>	0.58	2
<i>Fouquieria splendens</i>	1.71	10
<i>Gallium stellatum</i>	0.81	5
<i>Hyptis emoryi</i>	0.27	3
<i>Jatropha cardiophylla</i>	0.08	1
<i>Krameria grayi</i>	0.94	7
<i>Larrea divaricata tridentata</i>	0.96	6
<i>Lycium</i>	0.83	8
<i>Lycium andersonii</i>	0.02	1
<i>Lycium berlandieri</i>	0.13	3
<i>Menodora scabra</i>	0.29	5
<i>Mirabilis laevis v villosa</i>	0.13	3
<i>Porophyllum gracile</i>	0.04	2
<i>Sebastiania bilocularis</i>	0.33	1
<i>Simmondsia chinensis</i>	0.08	1
<i>Trixis californica</i>	0.15	4
<i>Viguiera parishii</i>	1.79	6
Sum of Percent Cover by Growth Form	19.75	

Community Statistics by Cluster Group

Natural Community PVMCR

Group

5

Number of Plots in Group:

12

Growth Form

3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.23	8
Cylindropuntia acanthocarpa	1.04	11
Cylindropuntia bigelovii	0.50	2
Echinocereus	0.06	3
Echinocereus engelmannii	0.04	2
Ferocactus emoryi	0.02	1
Mammillaria grahamii	0.08	4
Opuntia phaeacantha	0.02	1

Sum of Percent Cover by Growth Form

2.00

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acleisanthes longiflora	0.04	2
Amsinckia intermedia	0.73	8
Amsinckia tessellata	0.08	1
Amsinckia	0.02	1
Astragalus	0.02	1
Astragalus nuttallianus	0.02	1
Bowlesia incana	0.02	1
Calandrinia ciliata	0.04	2
Camissonia	0.06	3
Camissonia chamaenerioides	0.15	4
Caulanthus lasiophyllus	0.60	5
Chaenactis stevioides	0.02	1
Chorizanthe brevicornus	0.25	6
Cryptantha	0.02	1
Cryptantha barbigeria	0.92	2
Cryptantha maritima	0.29	3
Cryptantha pterocarya	3.96	11
Daucus pusillus	0.19	2
Descurania pinnata	0.23	4
Draba cuneifolia	0.06	3
Eriastrum diffusum	0.25	6
Eriogonum abertianum	0.02	1

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	5	<i>Number of Plots in Group:</i>	12
Eriogonum deflexum	0.02	1	
Eriogonum inflatum	0.10	2	
Eriophyllum lanosum	0.04	2	
Erodium cicutarium	0.10	2	
Eschscholzia mexicana	0.10	2	
Eucrypta micrantha	0.27	7	
Euphorbia	0.08	1	
Euphorbia pediculifera	0.02	1	
Euphorbia polycarpa	0.02	1	
Filago	0.08	1	
Filago arizonica	0.19	3	
Gilia	0.15	4	
Gilia flavocincta	0.04	2	
Gilia stellata	0.17	5	
Lepidium lasiocarpum	3.38	10	
Lesquerella gordonii	0.50	1	
Linanthus bigelovii	0.02	1	
Linanthus jonesii	0.42	3	
Lotus salsuginosus	0.02	1	
Lupinus Arizonicus	0.02	1	
Lupinus sparsiflorus	0.04	2	
Marina parryi	0.10	2	
Nicotiana obtusifolia	0.02	1	
Pectocarya	0.04	2	
Pectocarya platycarpa	0.17	1	
Pectocarya recurvata	1.38	7	
Perityle emoryi	0.10	2	
Phacelia	1.75	4	
Phacelia ambigua	0.02	1	
Phacelia coerulea	2.42	3	
Phacelia distans	0.33	1	
Pholistoma auritum var arizonicum	0.08	1	
Plantago ovata	0.17	2	
Plantago patagonica	0.44	2	
Rafinesquia neomexicana	0.25	2	
Salsola tragus	0.02	1	
Senecio lemmonii	0.25	2	
Sisymbrium irio	0.08	1	
Sphaeralcea ambigua	0.54	5	

Community Statistics by Cluster Group

Natural Community PVMCR

Group	5	Number of Plots in Group:	12
Sphaeralcea coulteri	0.04	2	
Stephanomeria pauciflora	0.35	3	
Stylocline micropoides	0.25	3	
Thysanocarpis curvipes	0.40	7	
Uropappus lindleyi	0.02	1	

Sum of Percent Cover by Growth Form 23.02

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.04	2
Aristida adsensionis	0.02	1
Aristida purpurea	0.25	1
Bromus rubens	0.13	3
Muhlenbergia microsperma	0.17	2
Muhlenbergia porteri	0.33	2
Poa bigelovii	0.19	6
Schismus arabicus	1.31	9
Vulpia octoflora	1.77	10

Sum of Percent Cover by Growth Form 4.21

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	2.04	9

Sum of Percent Cover by Growth Form 2.04

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Astrolepis cochisensis	0.04	2
Cheilanthes parryi	0.02	1
Notholaena standleyi	0.04	2
Pellaea truncata	0.02	1
Selaginella arizonica	23.33	12

Sum of Percent Cover by Growth Form 23.46

Community Statistics by Cluster Group

Natural Community PVMCR

Group 6

Number of Plots in Group: 5

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.80	1
<i>Parkinsonia florida</i>	0.20	1
<i>Parkinsonia microphylla</i>	1.80	3
Sum of Percent Cover by Growth Form	2.80	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Agave deserti simplex</i>	0.05	1
<i>Ambrosia deltoidea</i>	6.00	4
<i>Brickellia coulteri</i>	0.60	1
<i>Ditaxis lanceolata</i>	0.10	2
<i>Encelia farinosa farinosa</i>	2.80	5
<i>Ephedra aspera</i>	0.20	1
<i>Fagonia californica ssp longipes</i>	0.65	3
<i>Fouquieria splendens</i>	1.60	3
<i>Hyptis emoryi</i>	1.80	2
<i>Krameria grayi</i>	0.65	3
<i>Larrea divaricata tridentata</i>	0.65	3
<i>Lycium</i>	0.45	3
<i>Machaeranthera pinnatifida gooddingii</i>	0.25	2
Sum of Percent Cover by Growth Form	15.80	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.20	4
<i>Cylindropuntia acanthocarpa</i>	0.50	4
<i>Cylindropuntia bigelovii</i>	6.00	2
<i>Cylindropuntia fulgida</i>	0.05	1
<i>Echinocereus</i>	0.05	1
<i>Echinocereus engelmannii</i>	0.05	1
<i>Ferocactus</i>	0.05	1
<i>Ferocactus cylindraceus</i>	0.05	1
<i>Ferocactus emoryi</i>	0.05	1
<i>Mammillaria</i>	0.05	1
<i>Mammillaria grahamii</i>	0.05	1
<i>Opuntia</i>	0.05	1
Sum of Percent Cover by Growth Form	7.15	

Community Statistics by Cluster Group

Natural Community PVMCR

Group **6**

Number of Plots in Group: **5**

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia tessellata	0.20	1
Amsinkia	0.20	1
Camissonia	0.10	2
Camissonia boothii ssp condensata	0.05	1
Camissonia chamaenerioides	0.05	1
Caulanthus lasiophyllus	0.05	1
Chaenactis carphoclinia	0.60	1
Chorizanthe brevicornus	0.30	3
Chorizanthe rigida	0.05	1
Cryptantha barbigera	4.60	2
Cryptantha maritima	1.65	2
Cryptantha micrantha	0.05	1
Cryptantha pterocarya	0.25	2
Descurania pinnata	0.70	4
Ditaxis neomexicana	0.05	1
Eriogonum deflexum	0.05	1
Eucrypta micrantha	0.40	1
Euphorbia	0.20	1
Euphorbia arizonica	0.05	1
Euphorbia capitellata	0.05	1
Euphorbia polycarpa	0.25	2
Gilia	0.45	2
Lepidium lasiocarpum	2.80	4
Nicotiana obtusifolia	0.05	1
Pectocarya recurvata	0.20	1
Perityle emoryii	1.45	3
Phacelia	0.60	2
Phacelia ambigua	1.05	3
Phacelia coerulea	0.80	1
Plantago	0.05	1
Plantago ovata	1.00	1
Silene	0.05	1
Sphaeralcea ambigua	0.60	2
unknown herb 1	0.05	1
Sum of Percent Cover by Growth Form	19.05	

Community Statistics by Cluster Group

Natural Community PVMCR

Group

6

Number of Plots in Group:

5

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Erioneuron pulchellum	0.25	2
Muhlenbergia porteri	0.05	1
Pleuraphis mutica	0.05	1
Schismus arabicus	0.55	5
Tridens muticus	0.05	1
unknown grass 1	0.05	1
Vulpia octoflora	0.05	1

Sum of Percent Cover by Growth Form

1.05

Growth Form

6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	0.05	1

Sum of Percent Cover by Growth Form

0.05

Growth Form

7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Notholaena standleyi	0.15	3

Sum of Percent Cover by Growth Form

0.15

Community Statistics by Cluster Group

Natural Community PVMCR

Group 7

Number of Plots in Group: 5

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	3.05	5

Sum of Percent Cover by Growth Form 3.05

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	0.80	3
Ditaxis lanceolata	0.05	1
Encelia farinosa farinosa	3.60	5
Fagonia californica ssp longipes	0.05	1
Fouquieria splendens	0.30	3
Hyptis emoryi	0.40	2
Larrea divaricata tridentata	1.05	4
Lycium	0.50	3
Lycium andersonii	0.05	1
Machaeranthera pinnatifida gooddingii	0.05	1

Sum of Percent Cover by Growth Form 6.85

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.40	5
Cylindropuntia acanthocarpa	0.70	4
Echinocereus engelmannii	0.05	1
Ferocactus	0.10	2
Ferocactus emoryi	0.05	1
Mammillaria grahamii	0.05	1

Sum of Percent Cover by Growth Form 1.35

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.05	1
Amsinckia	0.05	1
Astragalus nuttallianus	0.05	1
Camissonia	0.10	2
Camissonia californica	0.05	1
Camissonia chamaenerioides	0.05	1

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	<i>7</i>	<i>Number of Plots in Group:</i>	<i>5</i>
Caulanthus lasiophyllus	0.10	2	
Chaenactis stevioides	0.05	1	
Chorizanthe brevicornus	0.15	3	
Cryptantha barbigera	0.85	2	
Cryptantha maritima	0.30	3	
Cryptantha pterocarya	0.05	1	
Descurania pinnata	0.05	1	
Eriogonum inflatum	0.20	1	
Eriophyllum lanosum	0.05	1	
Eucrypta micrantha	0.10	2	
Filago arizonica	0.05	1	
Gilia	0.05	1	
Gilia stellata	0.05	1	
Lepidium lasiocarpum	1.05	2	
Lesquerella gordonii	0.05	1	
Lesquerella tenella	0.05	1	
Lotus salsuginosus	0.05	1	
Lupinus sparsiflorus	0.05	1	
Mentzelia involucrata	0.05	1	
Pectocarya	0.05	1	
Pectocarya platycarpa	0.05	1	
Pectocarya recurvata	0.05	1	
Perityle emoryi	11.80	5	
Phacelia	1.40	2	
Phacelia ambigua	0.45	2	
Phacelia coerulea	1.60	2	
Sonchus	0.05	1	
Sphaeralcea	0.05	1	
Sphaeralcea ambigua	0.10	2	
unknown herb 1	0.05	1	
Sum of Percent Cover by Growth Form	19.35		

<i>Growth Form</i>	<i>5. Grasses and Sedges</i>		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.15	3	
Muhlenbergia porteri	0.40	2	
Schismus arabicus	1.70	4	
Vulpia octoflora	0.05	1	

Sum of Percent Cover by Growth Form 2.30

Natural Community **PVMCR**

7

5

7. Ferns and Club Mosses

of plots containing

2

0.10

Community Statistics by Cluster Group

Natural Community PVMCR

Group 8

Number of Plots in Group: 4

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.50	1
<i>Parkinsonia microphylla</i>	5.00	4
<i>Phoradendron californicum</i>	0.06	1

Sum of Percent Cover by Growth Form 5.56

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Agave deserti simplex</i>	0.31	2
<i>Ambrosia deltoidea</i>	2.31	4
<i>Condalia warnockii</i>	0.25	1
<i>Ditaxis lanceolata</i>	0.13	2
<i>Encelia farinosa farinosa</i>	2.00	2
<i>Ephedra aspera</i>	0.75	2
<i>Fouquieria splendens</i>	1.50	4
<i>Gallium stellatum</i>	0.06	1
<i>Hyptis emoryi</i>	0.75	1
<i>Krameria grayi</i>	0.56	3
<i>Larrea divaricata tridentata</i>	0.13	2
<i>Lycium</i>	0.19	3
<i>Machaeranthera pinnatifida gooddingii</i>	0.06	1
<i>Menodora scabra</i>	0.06	1
<i>Trixis californica</i>	0.31	2
<i>Viguiera parishii</i>	0.75	1

Sum of Percent Cover by Growth Form 10.13

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.13	2
<i>Cylindropuntia acanthocarpa</i>	0.81	3
<i>Cylindropuntia leptocaulis</i>	0.06	1
<i>Echinocereus engelmannii</i>	0.13	2
<i>Ferocactus</i>	0.06	1
<i>Ferocactus emoryi</i>	0.06	1
<i>Opuntia</i>	1.00	3

Sum of Percent Cover by Growth Form 2.25

Community Statistics by Cluster Group

Natural Community PVMCR

Group

8

Number of Plots in Group:

4

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	2.25	3
Amsinkia	0.06	1
Androsace occidentalis	0.75	1
Astragalus nuttallianus	0.06	1
Calycoseris wrightii	0.06	1
Camissonia	0.38	3
Caulanthus lasiophyllus	1.94	4
Chaenactis stevioides	0.06	1
Chenopodium neomexicana	0.31	2
Chorizanthe brevicornus	0.19	3
Cryptantha barbigera	2.00	1
Cryptantha maritima	0.25	1
Cryptantha pterocarya	15.50	4
Daucus pusillus	0.31	2
Delphinium scaposum	0.13	2
Descurania pinnata	0.19	3
Draba cuneifolia	0.06	1
Dudleya arizonica	0.06	1
Eriastrum diffusum	0.06	1
Eriophyllum lanosum	0.06	1
Erodium cicutarium	0.50	1
Eucrypta micrantha	2.75	2
Gilia	1.31	3
Lappula occidentalis	0.06	1
Lepidium lasiocarpum	5.25	4
Lesquerella gordonii	1.31	2
Linanthus jonesii	0.63	3
Pectocarya	13.00	3
Perityle emoryii	0.50	1
Phacelia ambigua	0.25	1
Phacelia distans	3.00	2
Plantago	1.00	1
Plantago ovata	1.56	2
Rafinesquia neomexicana	0.25	1

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	8	<i>Number of Plots in Group:</i>		4
Senecio	0.06		1	
Sphaeralcea ambigua	0.31		2	
Sphaeralcea coulteri	0.06		1	
Stylocline micropoides	0.38		3	
Thysanocarpis curvipes	1.25		1	

Sum of Percent Cover by Growth Form 58.13

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.06	1
Muhlenbergia	0.75	1
Muhlenbergia porteri	0.63	3
Poa bigelovii	0.19	3
Schismus arabicus	0.88	3
Vulpia octoflora	1.31	4

Sum of Percent Cover by Growth Form 3.81

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	1.75	3

Sum of Percent Cover by Growth Form 1.75

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Notholaena standleyi	0.13	2
Selaginella arizonica	0.06	1

Sum of Percent Cover by Growth Form 0.19

Community Statistics by Cluster Group

Natural Community PVMCR

Group 15

Number of Plots in Group: 4

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Olneya tesota</i>	0.75	1
<i>Parkinsonia microphylla</i>	3.00	3
<i>Phoradendron californicum</i>	0.06	1

Sum of Percent Cover by Growth Form 3.81

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Acacia constricta</i>	0.06	1
<i>Acacia greggii</i>	0.06	1
<i>Ambrosia deltoidea</i>	7.56	4
<i>Ditaxis lanceolata</i>	0.06	1
<i>Encelia farinosa farinosa</i>	0.31	2
<i>Fouquieria splendens</i>	0.56	2
<i>Krameria grayi</i>	0.06	1
<i>Larrea divaricata tridentata</i>	4.00	4
<i>Lycium</i>	0.25	1
<i>Lycium parishii</i>	0.25	1

Sum of Percent Cover by Growth Form 13.19

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Carnegiea gigantea</i>	0.38	3
<i>Cylindropuntia acanthocarpa</i>	1.06	3
<i>Cylindropuntia fulgida</i>	1.06	2
<i>Cylindropuntia leptocaulis</i>	0.25	1
<i>Echinocereus engelmannii</i>	0.06	1
<i>Ferocactus emoryi</i>	0.06	1
<i>Opuntia phaeacantha</i>	0.06	1

Sum of Percent Cover by Growth Form 2.94

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
<i>Amsinckia intermedia</i>	2.25	2
<i>Amsinckia tessellata</i>	0.25	1
<i>Astragalus nuttallianus</i>	0.25	1

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	15	<i>Number of Plots in Group:</i>	4
Caulanthus lasiophyllus	1.25	3	
Chenopodium neomexicana	0.06	1	
Chorizanthe brevicornus	0.88	3	
Chorizanthe rigida	0.06	1	
Cryptantha maritima	4.00	2	
Cryptantha pterocarya	0.81	3	
Descurania pinnata	0.25	1	
Eriogonum thomasii	0.06	1	
Eriophyllum lanosum	0.31	2	
Erodium texanum	0.56	2	
Eschscholzia mexicana	0.06	1	
Euphorbia	0.25	1	
Filago	0.06	1	
Lepidium lasiocarpum	6.75	4	
Lesquerella gordonii	2.00	2	
Linanthus jonesii	0.06	1	
Lotus	0.06	1	
Pectocarya	0.50	1	
Pectocarya recurvata	2.75	3	
Phacelia	0.31	2	
Plantago ovata	2.25	2	
Silene antirrhina	0.06	1	
Sisymbrium irio	1.75	1	
Sphaeralcea coulteri	0.25	1	

Sum of Percent Cover by Growth Form 28.13

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.06	1
Muhlenbergia porteri	0.50	1
Schismus arabicus	28.25	4
Vulpia octoflora	0.50	2

Sum of Percent Cover by Growth Form 29.31

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	0.06	1

Sum of Percent Cover by Growth Form 0.06

Community Statistics by Cluster Group

Natural Community PVMCR

Group 27

Number of Plots in Group: 8

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	0.38	1
Parkinsonia florida	1.13	1
Parkinsonia microphylla	4.38	7
Phoradendron californicum	0.03	1

Sum of Percent Cover by Growth Form 5.91

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Abutilon	0.03	1
Acacia constricta	0.66	2
Acacia greggii	0.13	1
Agave deserti simplex	0.06	2
Ambrosia deltoidea	0.78	4
Ambrosia dumosa	0.13	1
Ayenia microphylla	0.03	1
Calliandra eriophylla	0.63	2
Celtis pallida pallida	0.03	1
Condalia warnockii	0.03	1
Crossosma bigelovii	0.16	2
Ditaxis lanceolata	0.06	2
Encelia farinosa farinosa	1.44	6
Ephedra aspera	0.28	3
Eriogonum fasciculatum	0.50	2
Fagonia californica ssp longipes	0.06	2
Fouquieria splendens	1.94	7
Gallium stellatum	0.38	2
Gymnosperma glutinosum	0.03	1
Hyptis emoryi	0.13	1
Jatropha cardiophylla	1.13	2
Koeberlinia spinosa	0.03	1
Krameria grayi	0.91	5
Larrea divaricata tridentata	1.81	7
Lycium	0.97	5
Lycium berlandieri	0.38	1
Mirabilis laevis v villosa	0.13	1
Porophyllum gracile	0.13	1

Community Statistics by Cluster Group

Natural Community PVMCR

Group

27

Number of Plots in Group:

8

Trixis californica	0.03	1
Viguiera parishii	0.63	2

Sum of Percent Cover by Growth Form 13.59

Growth Form

3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing
Carnegiea gigantea	0.53	7
Cylindropuntia acanthocarpa	2.63	7
Cylindropuntia bigelovii	0.50	1
Echinocereus engelmannii	0.22	4
Ferocactus cylindraceus	0.06	2
Ferocactus emoryi	0.06	2
Mammillaria grahamii	0.06	2
Opuntia chlorotica	0.13	1
Opuntia engelmannii	0.13	1
Opuntia phaeacantha	0.25	1

Sum of Percent Cover by Growth Form 4.56

Growth Form

4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Amsinckia intermedia	1.31	5
Bowlesia incana	0.03	1
Brassica tournefortii	0.03	1
Calandrinia ciliata	0.03	1
Calycoseris wrightii	0.13	1
Camissonia californica	0.22	4
Caulanthus lasiophyllus	1.81	7
Chaenactis stevioides	0.19	3
Chenopodium neomexicana	0.13	1
Chorizanthe brevicornus	0.31	4
Chorizanthe rigida	0.03	1
Cryptantha barbigera	1.00	3
Cryptantha maritima	0.38	1
Cryptantha pterocarya	5.03	7
Daucus pusillus	0.22	4
Descurania pinnata	0.09	3
Dichelostemma capitatum ssp. Pauciflor	0.06	2
Draba cuneifolia	0.09	3

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	<i>27</i>	<i>Number of Plots in Group:</i>	<i>8</i>
Eriastrum diffusum	0.03	1	
Eriogonum	0.06	2	
Eriophyllum lanosum	0.16	2	
Erodium cicutarium	0.53	2	
Erodium texanum	0.13	1	
Eucrypta micrantha	1.13	4	
Filago	0.06	2	
Filago arizonica	0.03	1	
Gilia	0.41	3	
Gilia flavocincta	0.03	1	
Gilia stellata	0.28	2	
Lepidium lasiocarpum	16.13	8	
Lesquerella gordonii	0.03	1	
Linanthus jonesii	0.16	2	
Lupinus	0.03	1	
Lupinus sparsiflorus	0.19	3	
Mentzelia	0.03	1	
Parietaria floridana	0.03	1	
Pectocarya	0.03	1	
Pectocarya recurvata	3.66	3	
Perityle emoryi	0.28	2	
Phacelia	3.44	5	
Phacelia ambigua	0.13	1	
Phacelia coerulea	0.13	1	
Plantago ovata	2.72	7	
Plantago patagonica	0.03	1	
Rafinesquia neomexicana	0.03	1	
Senecio	0.03	1	
Sonchus	0.03	1	
Sphaeralcea ambigua	0.50	2	
Stylocline micropoides	0.75	1	
Thysanocarpis curvipes	0.66	4	
Uropappus lindleyi	0.09	3	
Sum of Percent Cover by Growth Form	43.03		

Community Statistics by Cluster Group

Natural Community PVMCR

Group

27

Number of Plots in Group:

8

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.25	2
Aristida purpurea	0.03	1
Erioneuron pulchellum	0.03	1
Muhlenbergia porteri	0.41	3
Poa bigelovii	0.06	2
Schismus arabicus	1.84	7
Tridens muticus	0.03	1
unknown grass 1	0.38	1
Vulpia octoflora	2.28	6

Sum of Percent Cover by Growth Form

5.31

Growth Form

6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	1.53	4

Sum of Percent Cover by Growth Form

1.53

Growth Form

7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Astrolepis cochisensis	0.03	1
Cheilanthes parryi	0.03	1
Notholaena standleyi	0.03	1
Pellaea truncata	0.03	1
Selaginella arizonica	0.13	1

Sum of Percent Cover by Growth Form

0.25

Community Statistics by Cluster Group

Natural Community PVMCR

Group **36**

Number of Plots in Group: **6**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Oleña tesota	0.71	2
Parkinsonia microphylla	2.08	5
Sum of Percent Cover by Growth Form	2.79	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Abutilon incanum	0.04	1
Acacia constricta	0.21	2
Agave deserti simplex	0.17	1
Ambrosia deltoidea	4.38	5
Calliandra eriophylla	0.04	1
Ditaxis lanceolata	0.04	1
Encelia farinosa farinosa	0.33	1
Ephedra aspera	0.08	2
Fagonia californica ssp longipes	0.33	2
Fouquieria splendens	3.83	6
Jatropha cardiophylla	0.04	1
Krameria erecta	0.17	1
Krameria grayi	1.21	4
Larrea divaricata tridentata	3.38	4
Lycium	0.29	4
Sum of Percent Cover by Growth Form	14.54	

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.71	5
Cylindropuntia acanthocarpa	2.33	5
Cylindropuntia fulgida	0.04	1
Cylindropuntia leptocaulis	0.54	3
Echinocereus engelmannii	0.25	6
Ferocactus cylindraceus	0.04	1
Ferocactus emoryi	0.08	2
Mammillaria grahamii	0.08	2
Mammillaria tetrancistra	0.04	1
Opuntia phaeacantha	0.54	2
Sum of Percent Cover by Growth Form	4.67	

Community Statistics by Cluster Group

Natural Community PVMCR

Group 36

Number of Plots in Group: 6

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Amsinckia intermedia	0.08	2
Amsinckia	0.04	1
Astragalus nuttallianus	0.08	2
Calycosotis wrightii	0.04	1
Camissonia californica	0.04	1
Caulanthus lasiophyllus	1.38	4
Chaenactis stevioides	0.04	1
Chenopodium neomexicana	0.29	4
Chorizanthe brevicornis	0.38	3
Cryptantha barbigera	0.21	2
Cryptantha pterocarya	0.42	4
Daucus pusillus	0.58	4
Delphinium scaposum	0.04	1
Descurainia pinnata	0.21	2
Dichelostemma capitatum ssp. Pauciflor	0.13	3
Ditaxis neomexicana	0.04	1
Draba cuneifolia	0.17	1
Eriogonum abertianum	0.08	2
Eriogonum deflexum	0.04	1
Eriogonum thomasi	0.21	2
Eriophyllum lanosum	0.25	3
Erodium cicutarium	1.21	4
Filago arizonica	0.17	1
Gilia	0.04	1
Lepidium lasiocarpum	14.04	6
Lesquerella gordonii	16.17	6
Lotus	0.38	3
Pectocarya platycarpa	0.33	2
Pectocarya recurvata	0.58	3
Phacelia ambigua	0.54	2
Phacelia coerulea	0.04	1
Plantago ovata	2.33	5
Rafinesquia neomexicana	0.04	1
Silene antirrhina	0.17	1
Stylocline micropoides	0.21	2
Sum of Percent Cover by Growth Form	41.00	

Community Statistics by Cluster Group

Natural Community PVMCR

Group

36

Number of Plots in Group:

6

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Erioneuron pulchellum	1.04	4
Muhlenbergia porteri	1.83	4
Schismus arabicus	1.63	6
Trisetum interruptum	0.04	1
Vulpia octoflora	1.25	4

Sum of Percent Cover by Growth Form

5.79

Growth Form

6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	0.04	1

Sum of Percent Cover by Growth Form

0.04

Community Statistics by Cluster Group

Natural Community PVMCR

Group

42

Number of Plots in Group:

5

Growth Form

1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	4.40	5

Sum of Percent Cover by Growth Form

4.40

Growth Form

2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.40	2
Agave deserti simplex	0.20	1
Ambrosia deltoidea	0.65	2
Ambrosia dumosa	0.60	1
Ayenia microphylla	0.20	1
Brickellia coulteri	0.05	1
Calliandra eriophylla	1.00	3
Condalia warnockii	0.05	1
Encelia farinosa farinosa	1.25	3
Ephedra aspera	1.25	4
Eriogonum fasciculatum	0.20	1
Fouquieria splendens	2.20	5
Gallium stellatum	0.05	1
Jatropha cardiophylla	0.60	2
Krameria erecta	0.80	1
Krameria grayi	1.20	4
Larrea divaricata tridentata	6.10	5
Lycium	0.10	2
Lycium berlandieri	0.40	1
Machaeranthera pinnatifida gooddingii	0.25	2
Menodora scabra	0.05	1
Mirabilis laevis v villosa	0.20	1
Porophyllum gracile	0.40	1
Senna covesii	0.05	1
Tiquilia canescens	0.20	1
Trixis californica	0.10	2
Viguiera parishii	0.60	2
Ziziphus obtusifolia canescens	0.20	1

Sum of Percent Cover by Growth Form

19.35

Community Statistics by Cluster Group

Natural Community PVMCR

Group

42

Number of Plots in Group:

5

Growth Form

3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.35	4
Cylindropuntia acanthocarpa	2.25	4
Cylindropuntia bigelovii	0.80	1
Cylindropuntia leptocaulis	0.10	2
Echinocereus engelmannii	0.50	4
Ferocactus	0.05	1
Mammillaria grahamii	0.15	3
Opuntia engelmannii	0.40	2
Opuntia phaeacantha	0.05	1

Sum of Percent Cover by Growth Form

4.65

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	0.25	2
Androsace occidentalis	0.05	1
Astragalus	0.05	1
Camissonia californica	0.05	1
Caulanthus lasiophyllus	0.65	4
Chaenactis stevioides	0.05	1
Chenopodium neomexicana	0.05	1
Chorizanthe brevicornus	0.20	4
Cryptantha	0.20	1
Cryptantha barbigera	0.65	2
Cryptantha maritima	0.40	2
Cryptantha pterocarya	1.05	3
Daucus pusillus	0.85	4
Descurania pinnata	0.55	4
Dichelostemma capitatum ssp. Pauciflor	0.10	2
Ditaxis neomexicana	0.10	2
Draba cuneifolia	0.10	2
Eriastrum diffusum	0.05	1
Eriogonum abertianum	0.10	2
Eriogonum deflexum	0.05	1
Eriogonum inflatum	0.20	1
Eriogonum thomasi	0.05	1
Eriophyllum lanosum	0.35	4

Community Statistics by Cluster Group

Natural Community PVMCR

<i>Group</i>	42	<i>Number of Plots in Group:</i>	5
Erodium cicutarium	14.60	4	
Erodium texanum	0.20	1	
Eschscholzia mexicana	0.05	1	
Eucrypta micrantha	0.85	3	
Euphorbia	0.05	1	
Filago	0.05	1	
Gilia	0.10	2	
Lepidium lasiocarpum	4.05	5	
Lesquerella gordonii	2.45	4	
Linanthus bigelovii	0.05	1	
Linanthus jonesii	0.25	2	
Linum perenne ssp lewisii	0.25	2	
Lotus	0.05	1	
Lotus salsuginosus	0.05	1	
Lupinus sparsiflorus	0.05	1	
Pectocarya recurvata	1.85	5	
Phacelia	0.25	2	
Phacelia ambigua	0.20	1	
Phacelia coerulea	0.40	2	
Plantago ovata	1.20	1	
Plantago patagonica	0.25	2	
Rafinesquia neomexicana	0.10	2	
Senecio lemmonii	0.05	1	
Silene antirrhina	0.05	1	
Stephanomeria pauciflora	0.05	1	
Stylocline micropoides	0.10	2	
Thysanocarpis curvipes	0.05	1	
Sum of Percent Cover by Growth Form	33.80		

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Bromus rubens	0.20	1
Erioneuron pulchellum	0.60	1
Muhlenbergia porteri	9.60	4
Poa bigelovii	0.40	1
Schismus arabicus	4.30	4
Tridens muticus	3.00	1
unknown grass 1	0.10	2
Vulpia octoflora	0.75	5
Sum of Percent Cover by Growth Form	18.95	

Community Statistics by Cluster Group

Natural Community PVMCR

Group

42

Number of Plots in Group:

5

Growth Form

6. Vines

Scientific Name

Average % Cover by Species

of plots containing

Janusia gracile

1.25

4

Sum of Percent Cover by Growth Form

1.25

Growth Form

7. Ferns and Club Mosses

Scientific Name

Average % Cover by Species

of plots containing

Astrolepis cochisensis

0.05

1

Selaginella arizonica

0.05

1

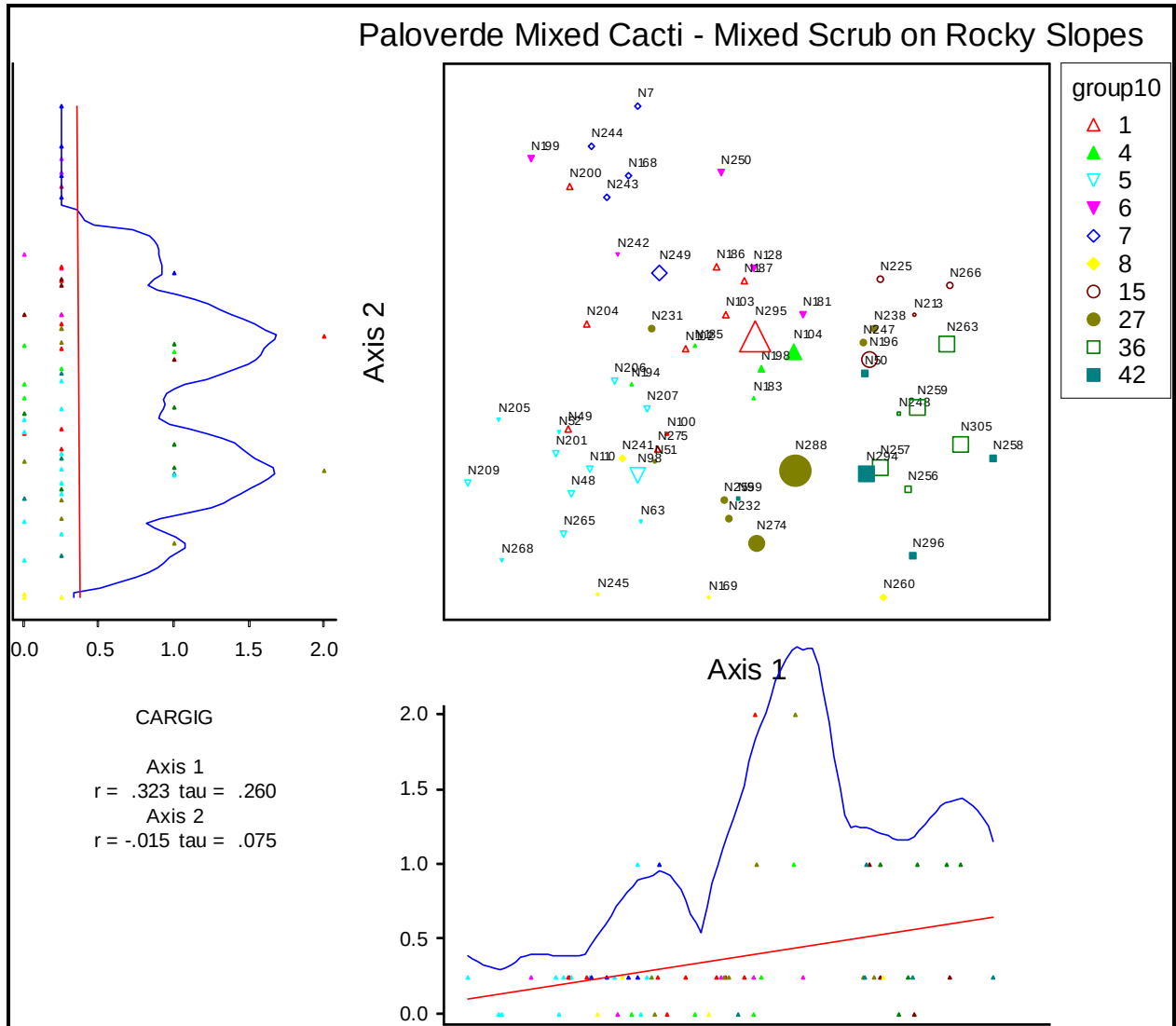
Sum of Percent Cover by Growth Form

0.10

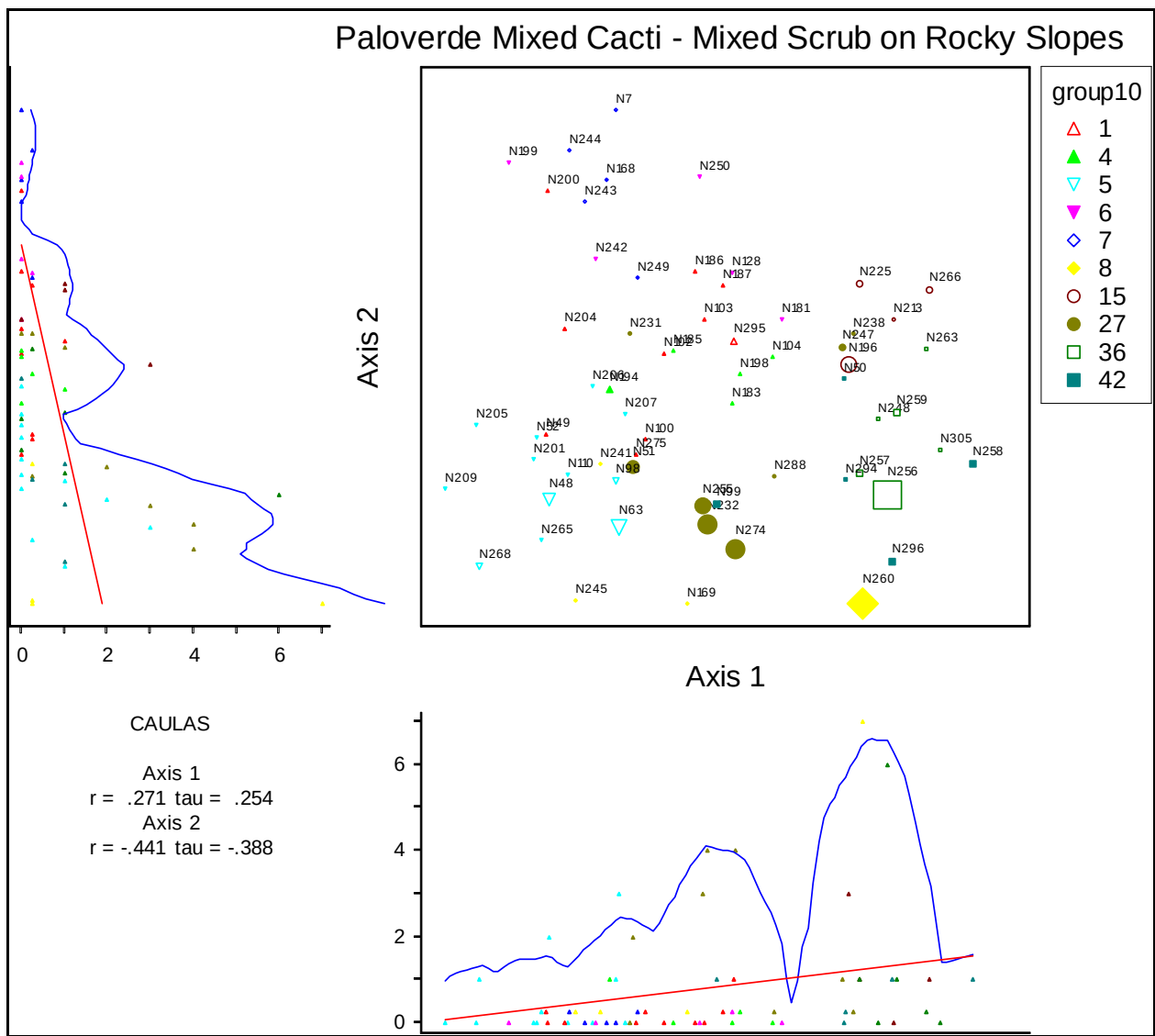
APPENDIX J

RELATIONSHIP OF MOST IMPORTANT SPECIES WITH DECORANA AXES

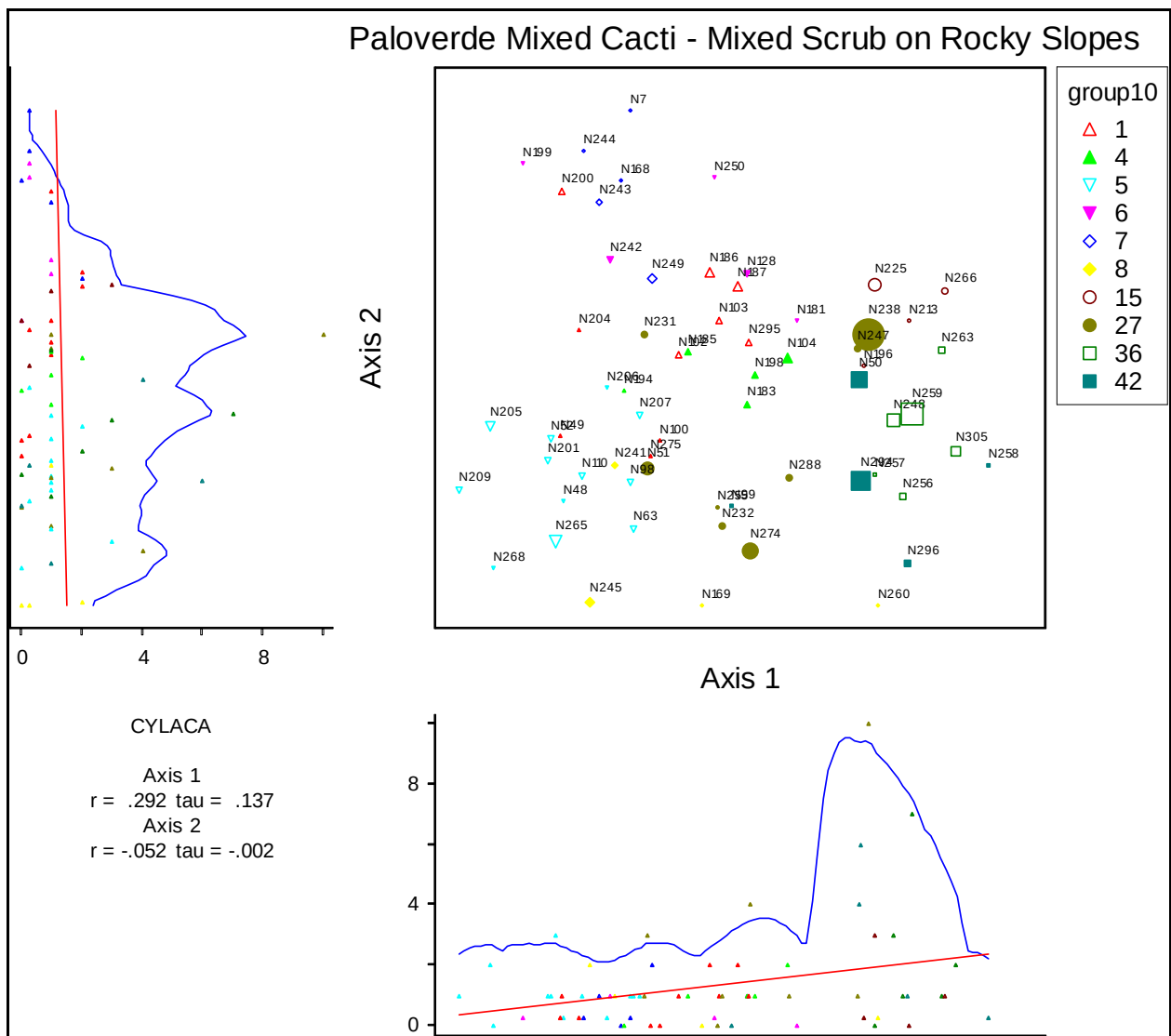
Paloverde - Mixed Cacti – Mixed Scrub on Rocky Slopes Community



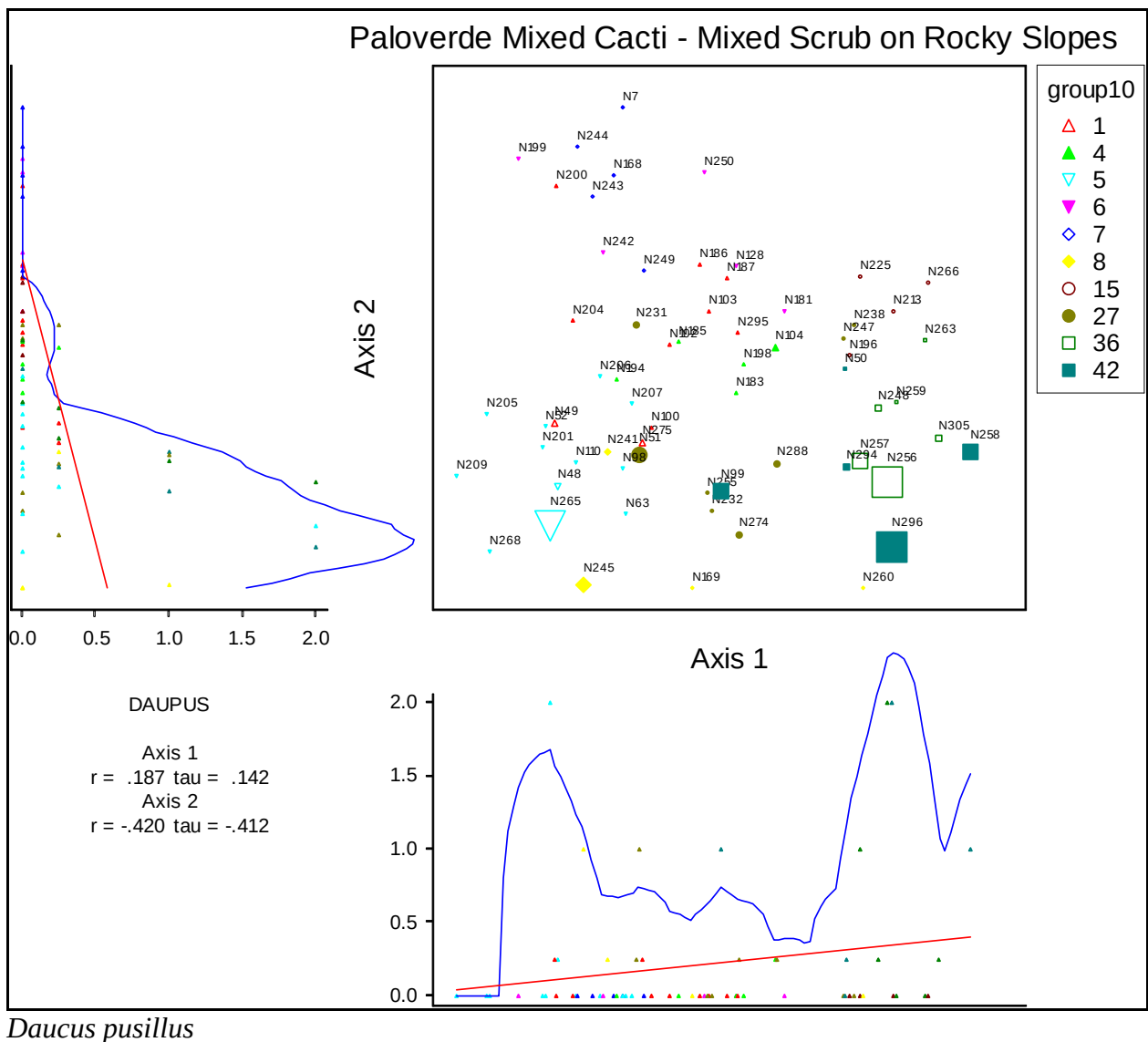
Carnegiea gigantea

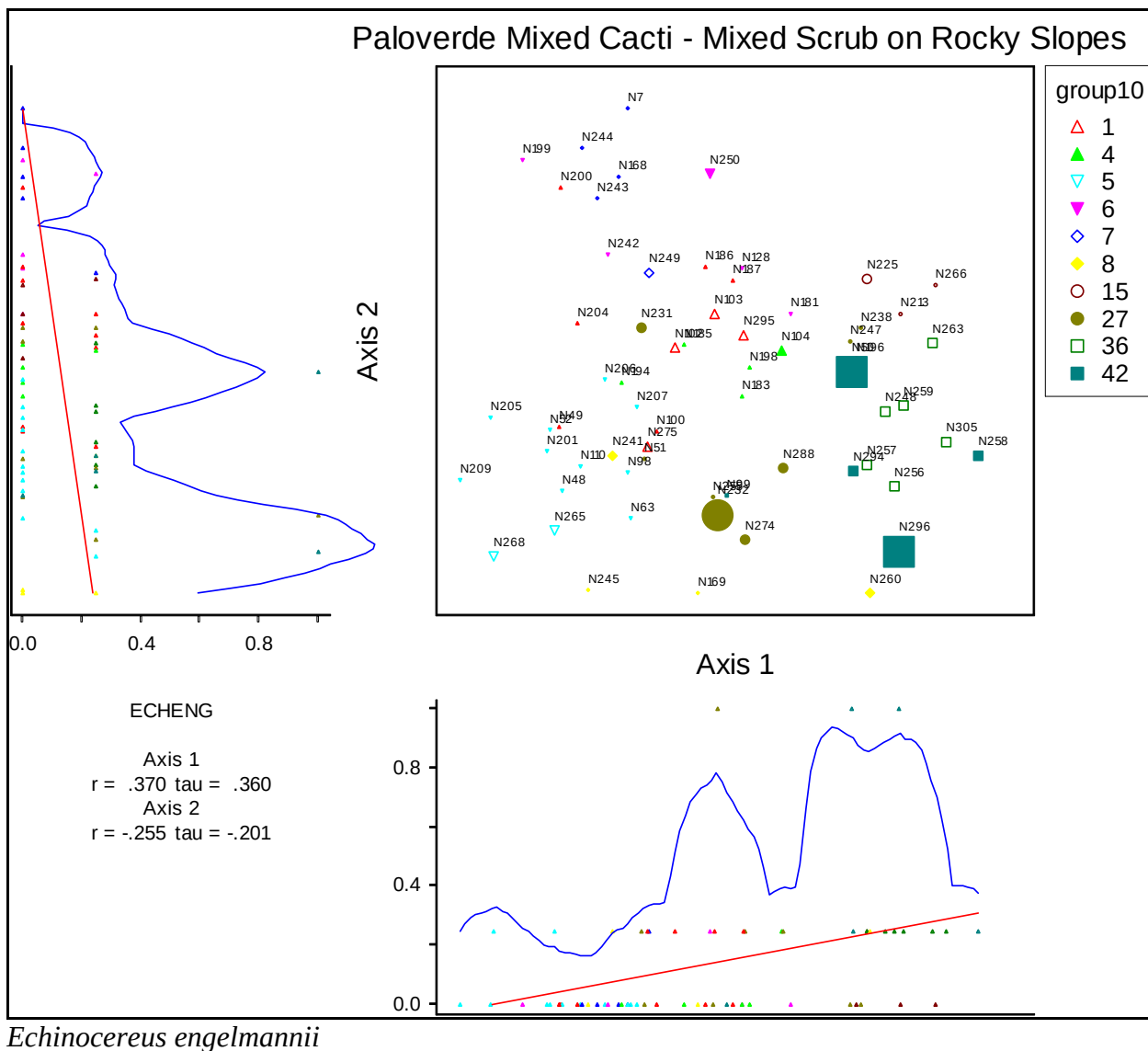


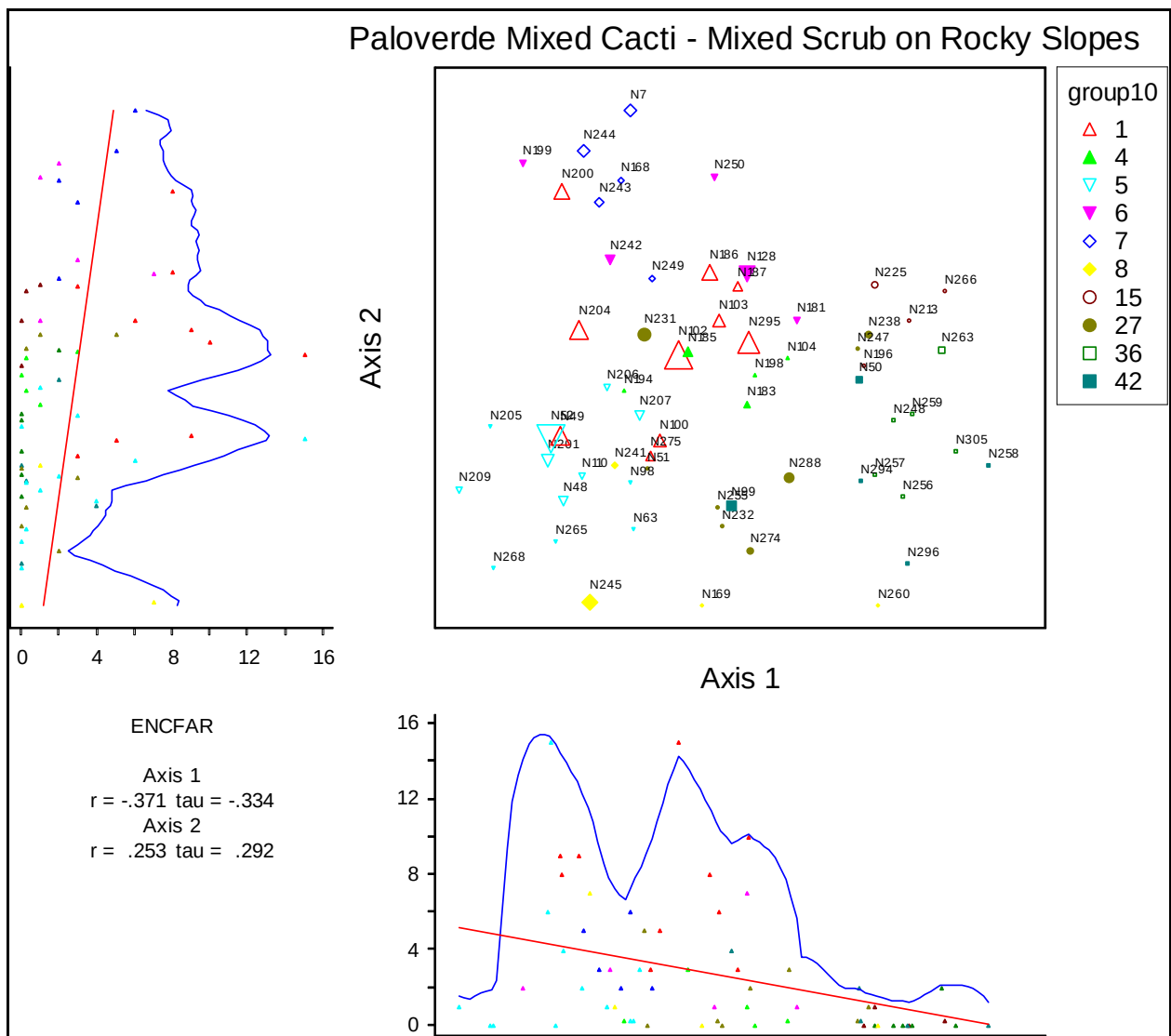
Caulanthus lasiophyllus



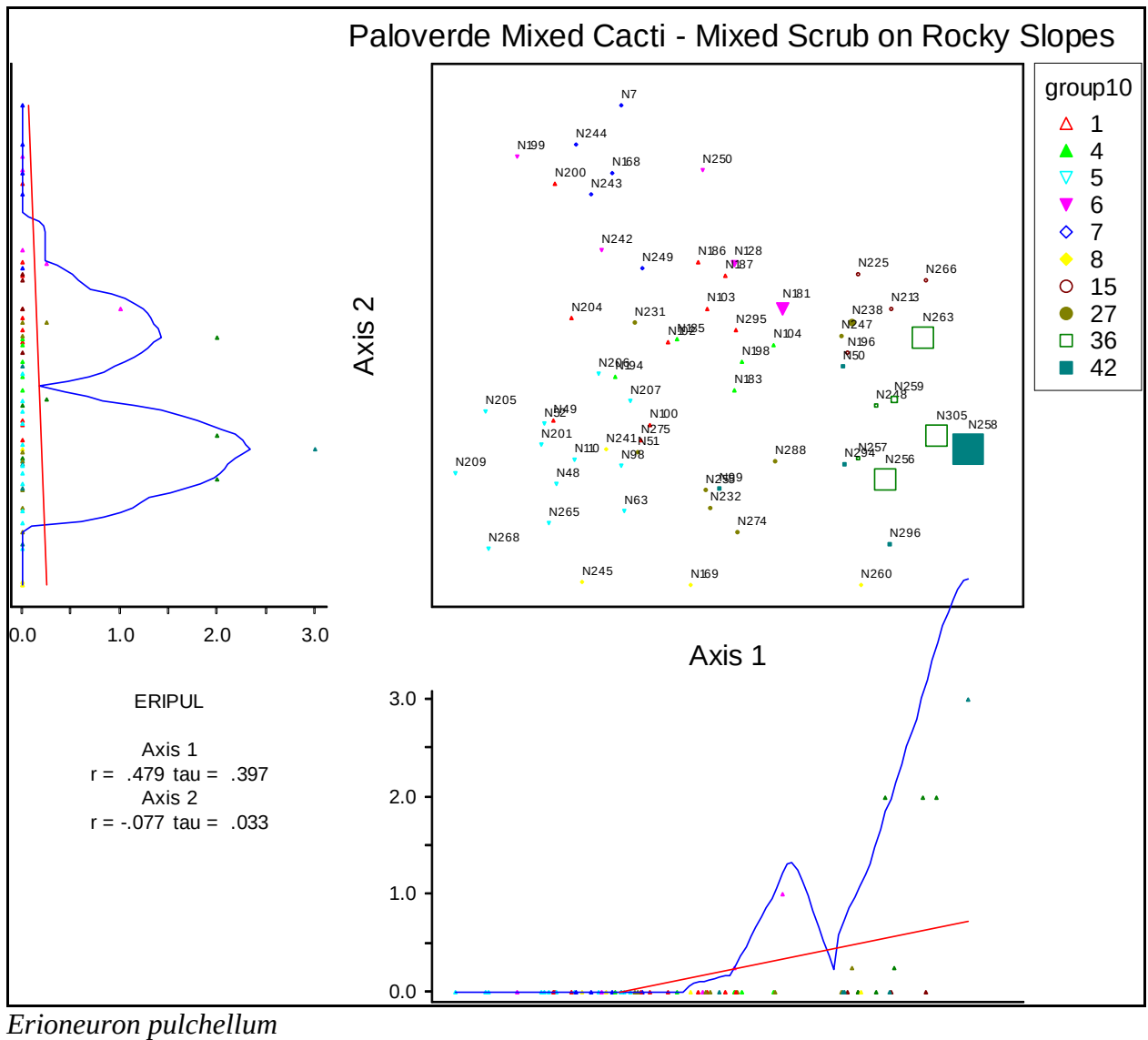
Cylindropuntia acanthocarpa

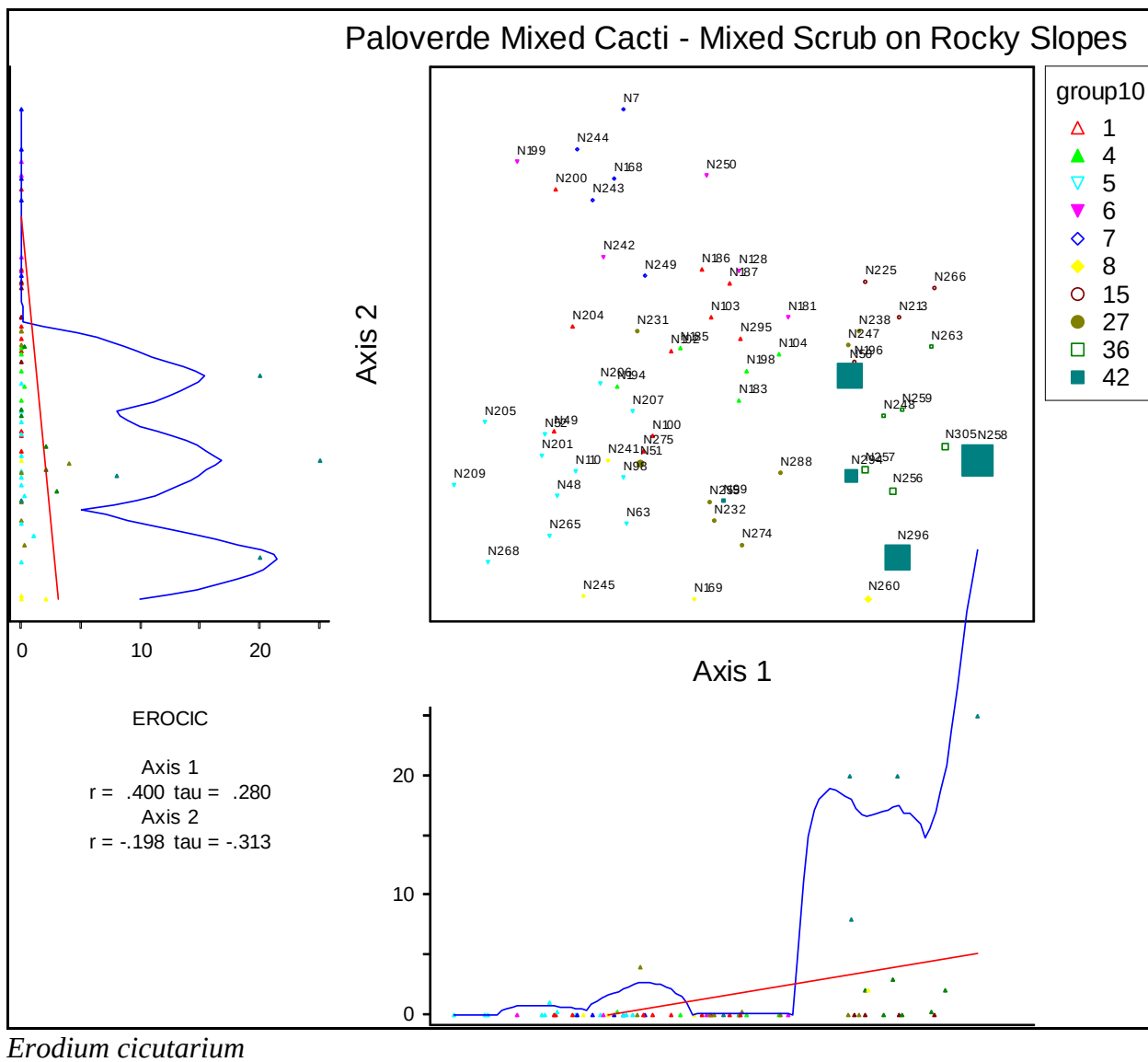




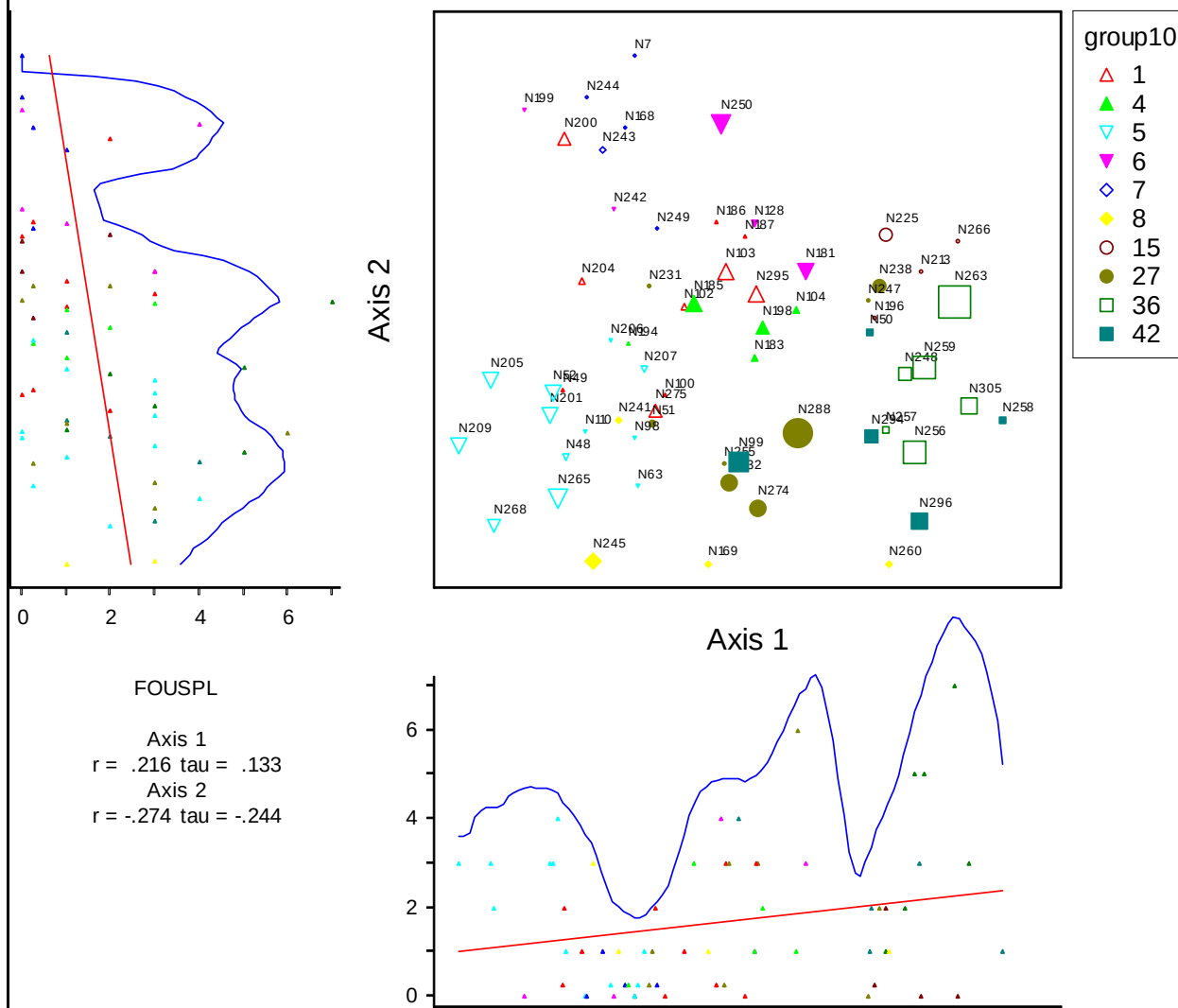


Encelia farinosa farinosa

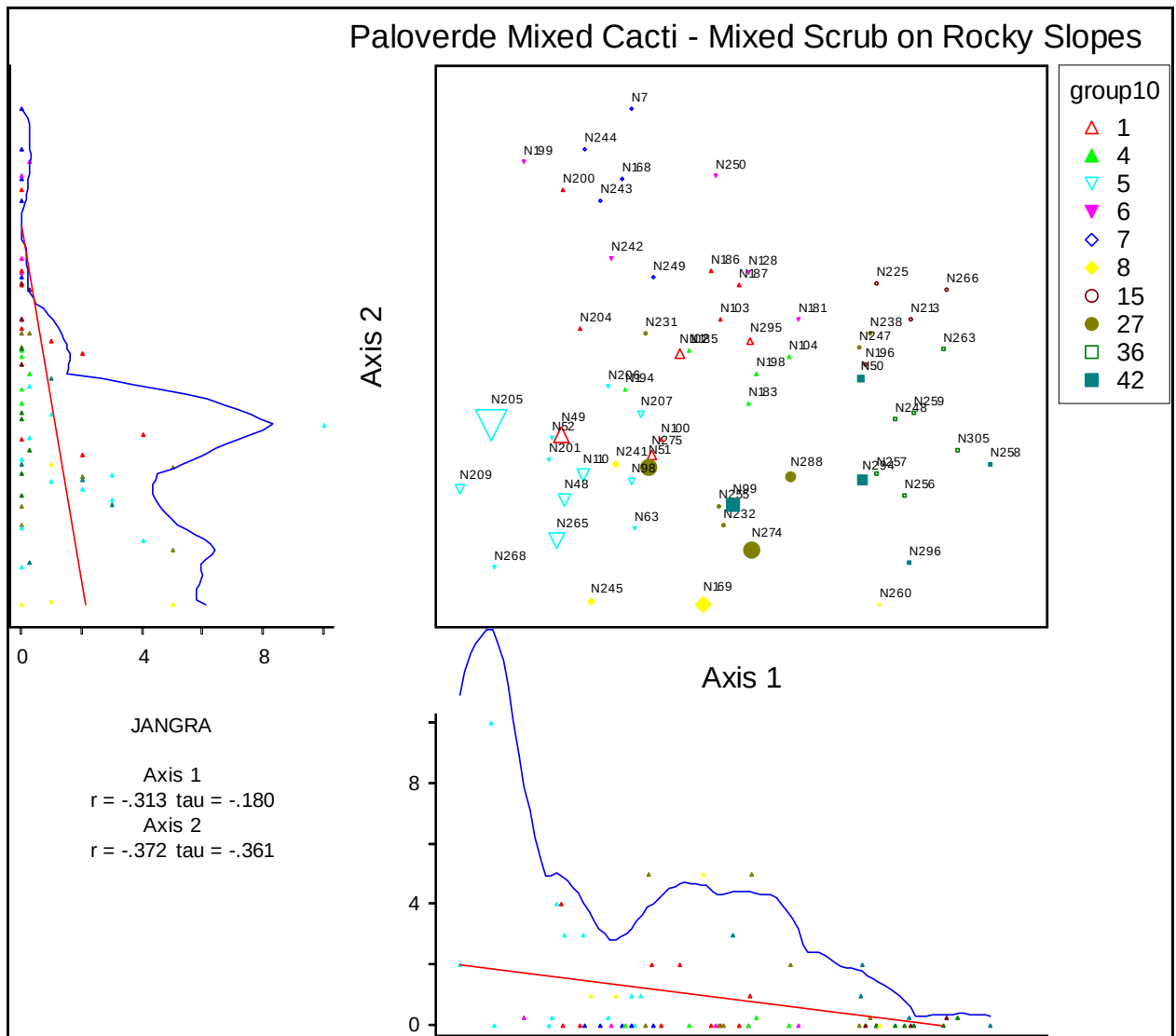




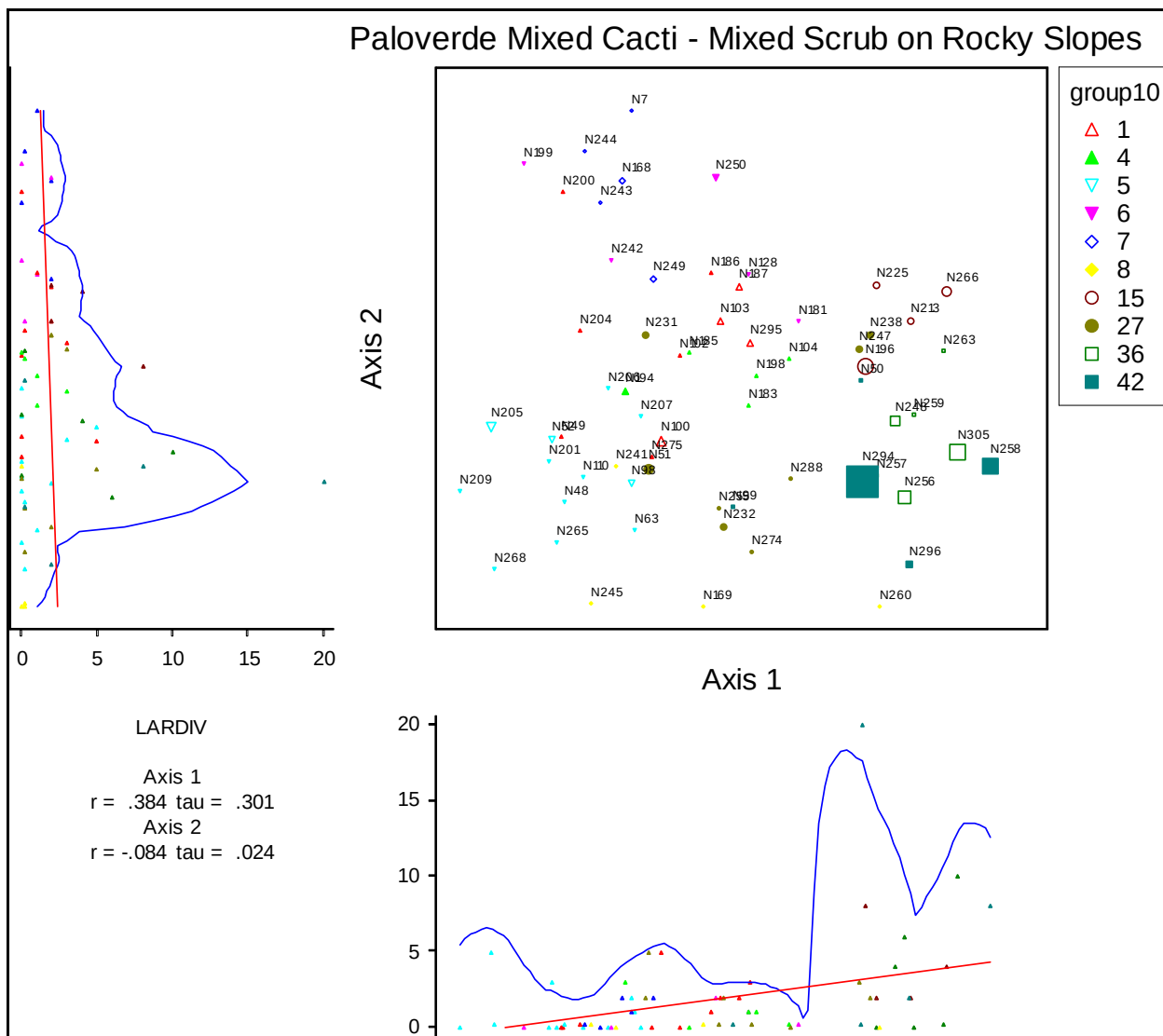
Paloverde Mixed Cacti - Mixed Scrub on Rocky Slopes



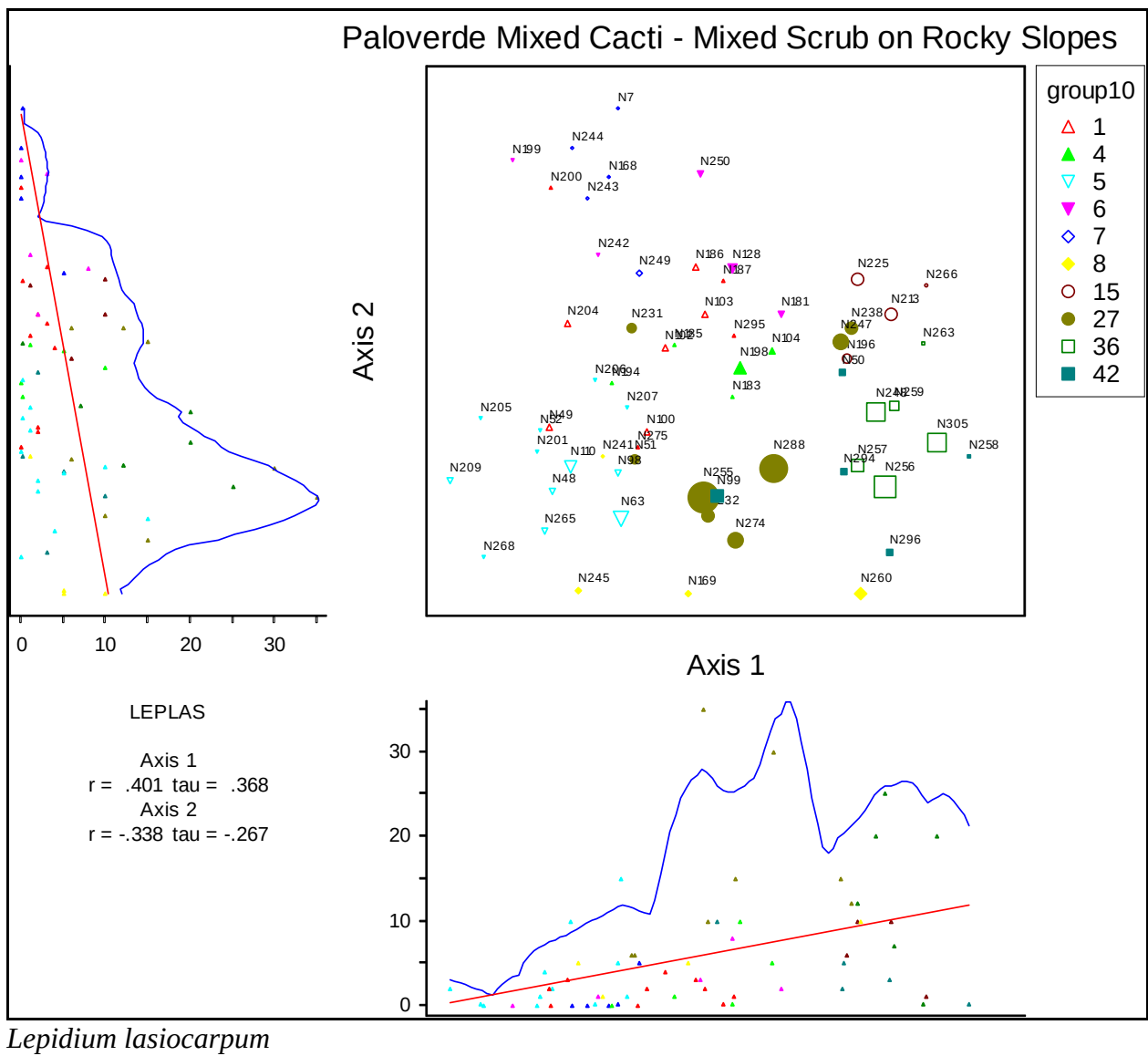
Fouquieria splendens

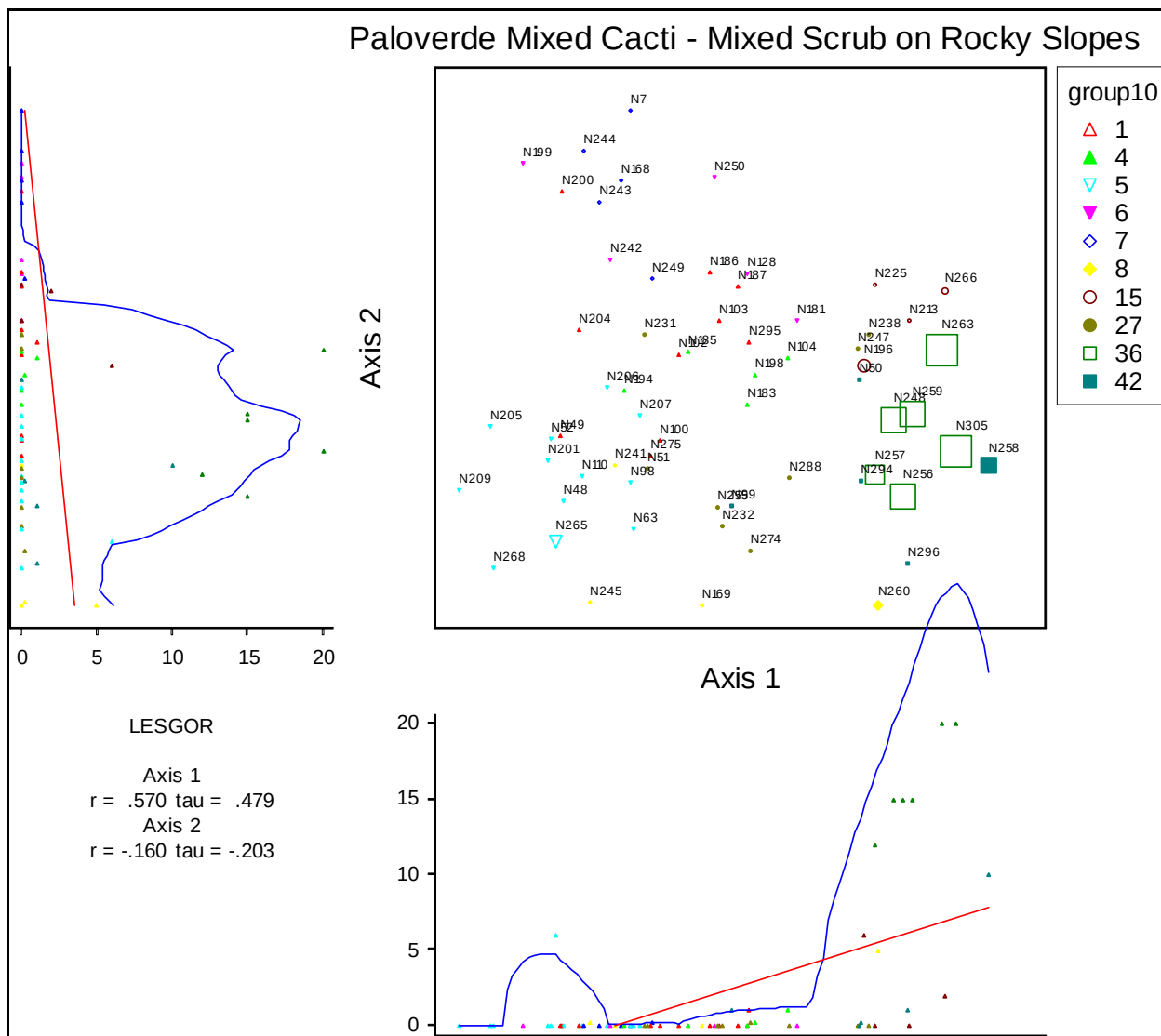


Janusia gracilis

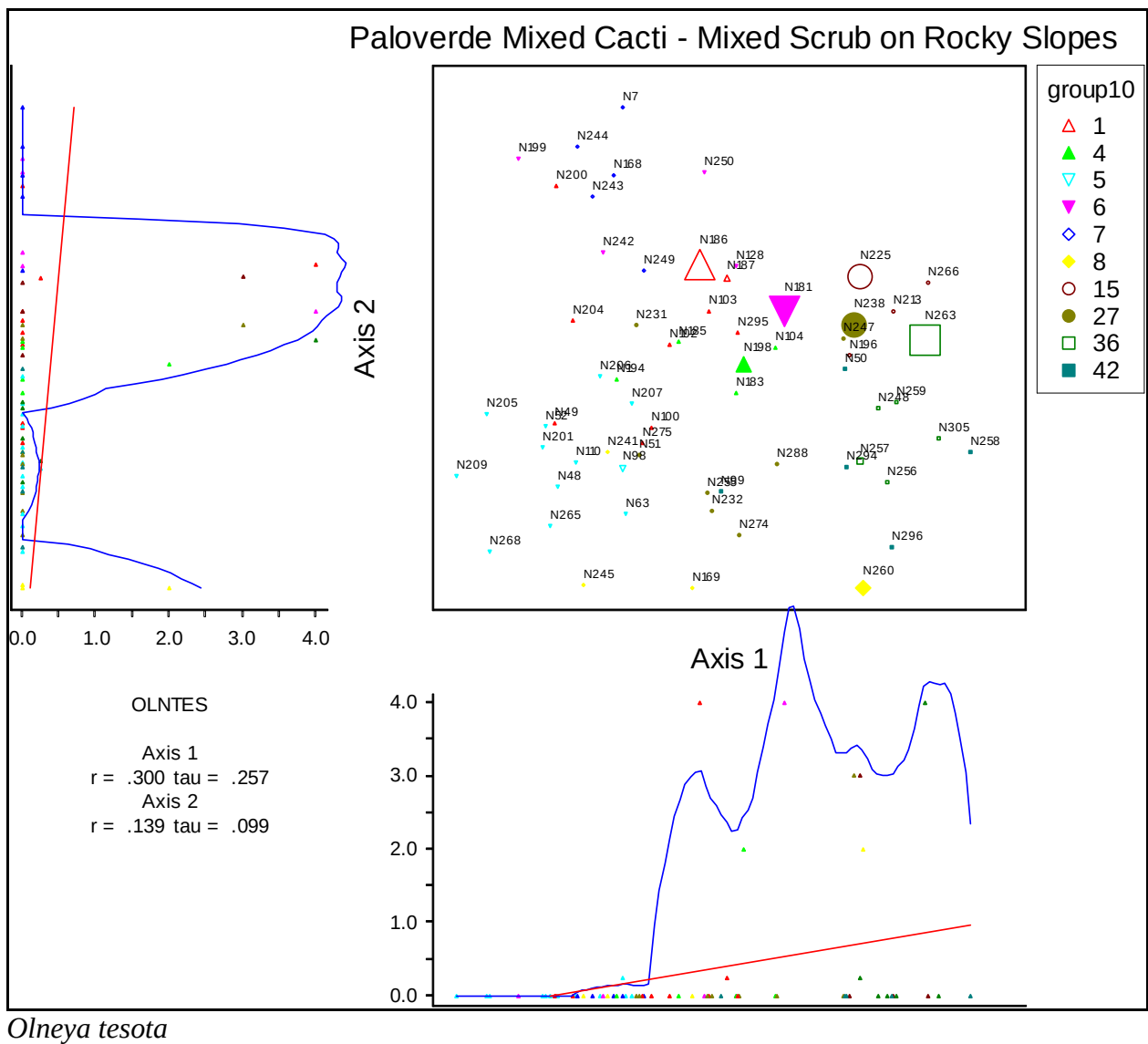


Larrea divaricata tridentata

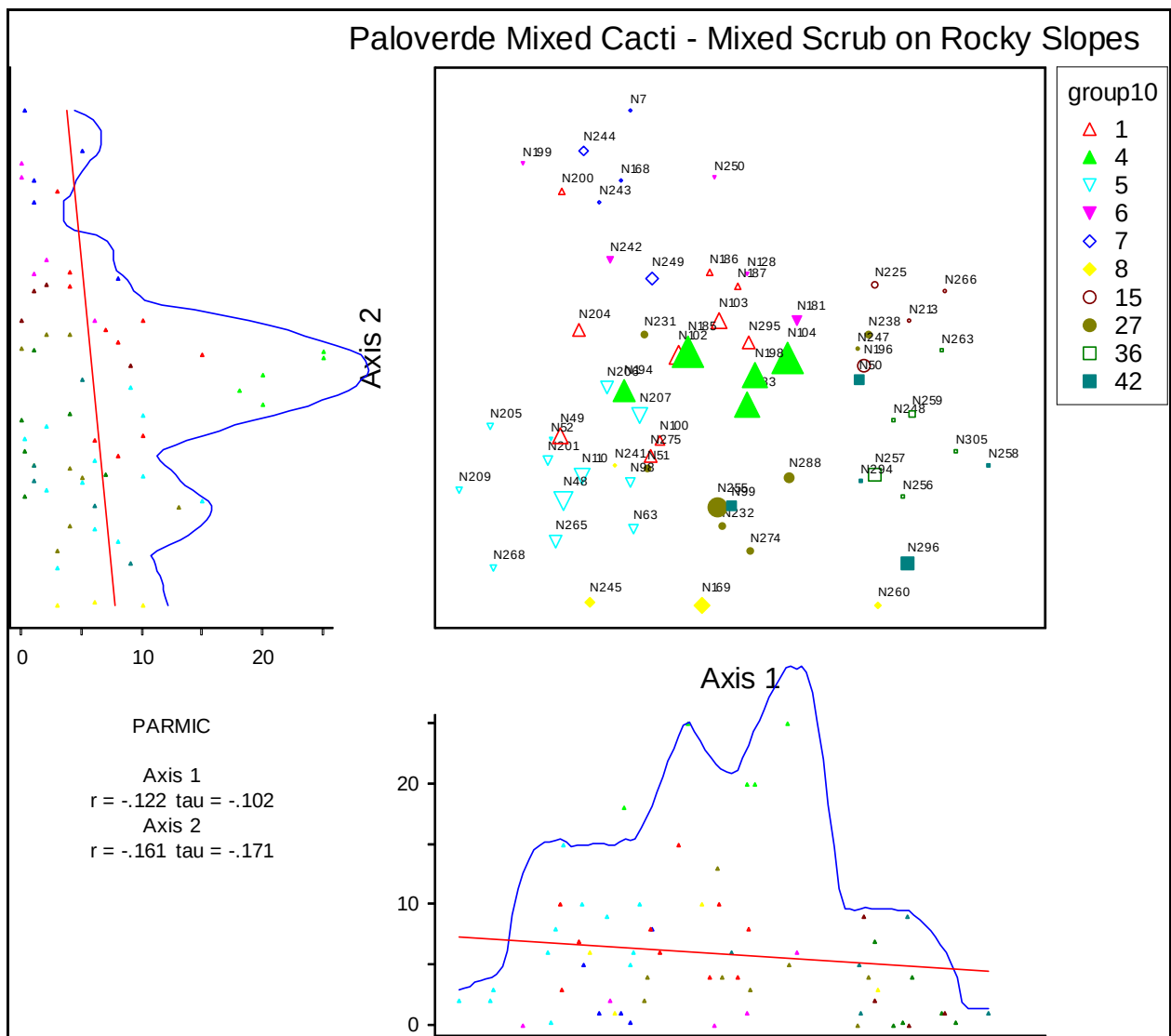




Lesquerella gordonii

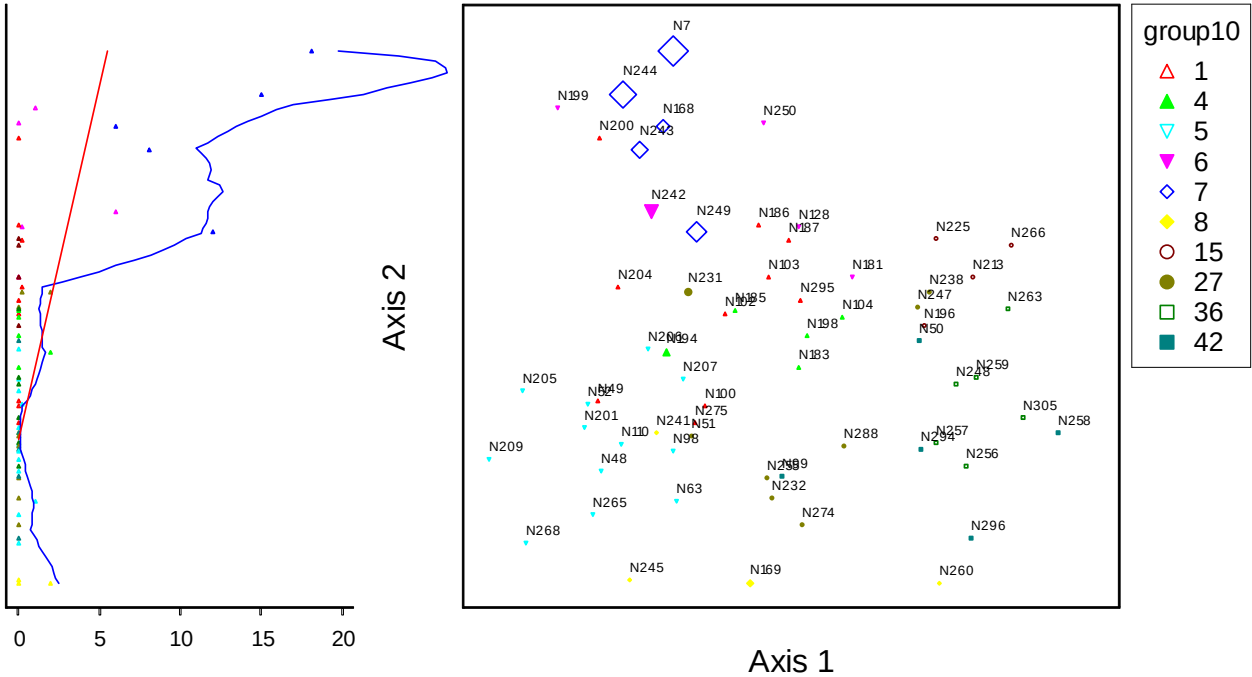


Olneya tesota



Parkinsonia microphylla

Paloverde Mixed Cacti - Mixed Scrub on Rocky Slopes

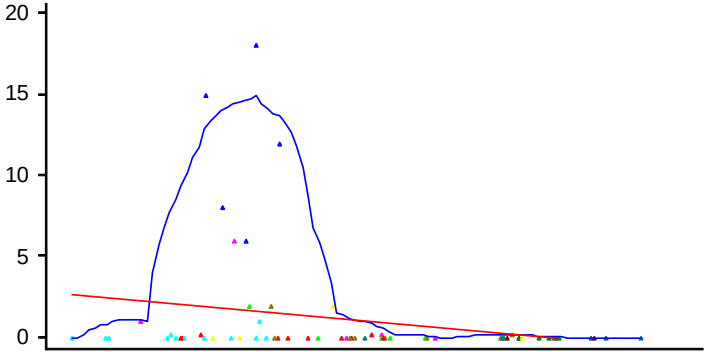


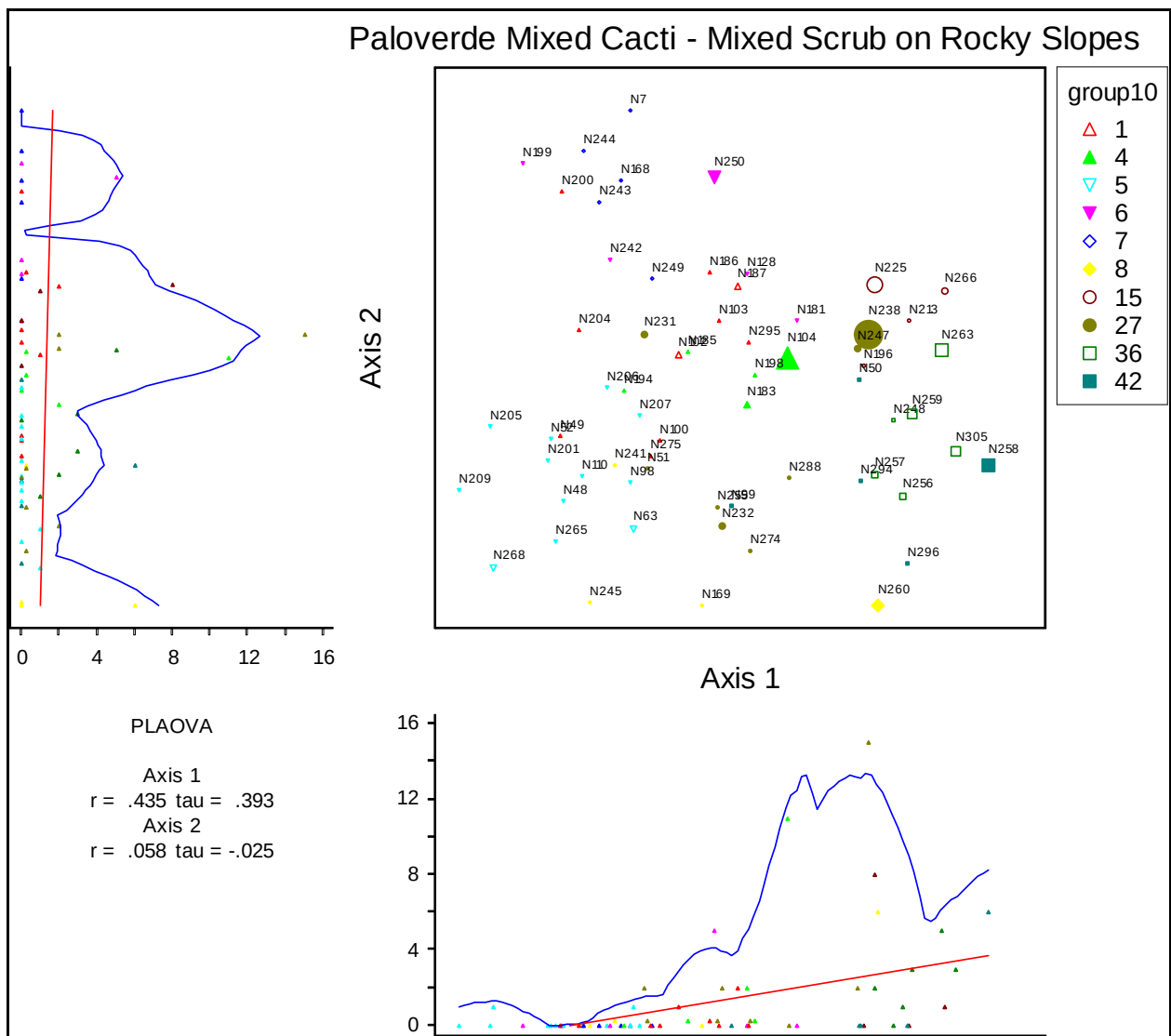
PERMO

Axis 1
 $r = -.232$ $\tau = -.248$

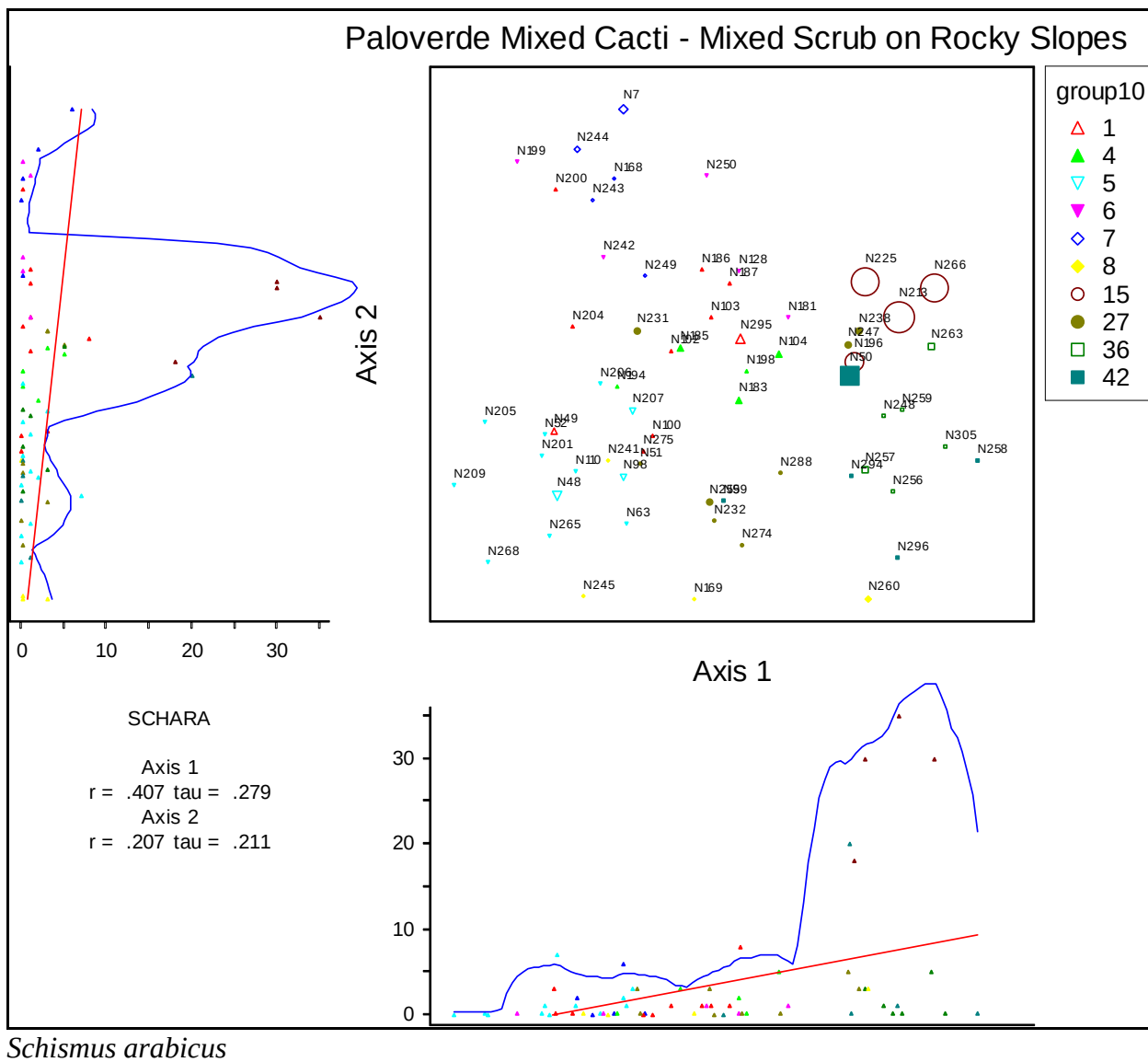
Axis 2
 $r = .523$ $\tau = .355$

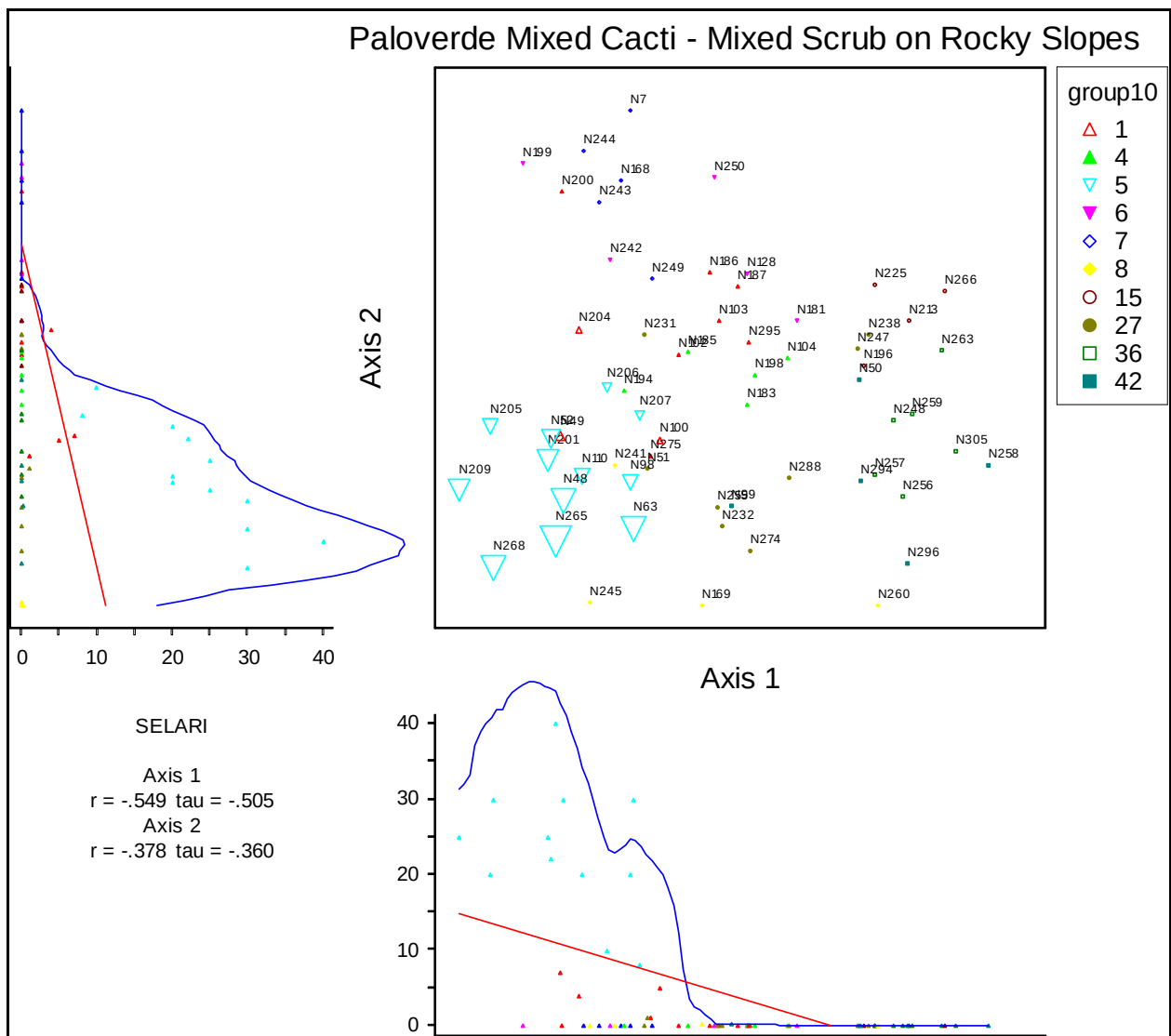
Perityle emoryi



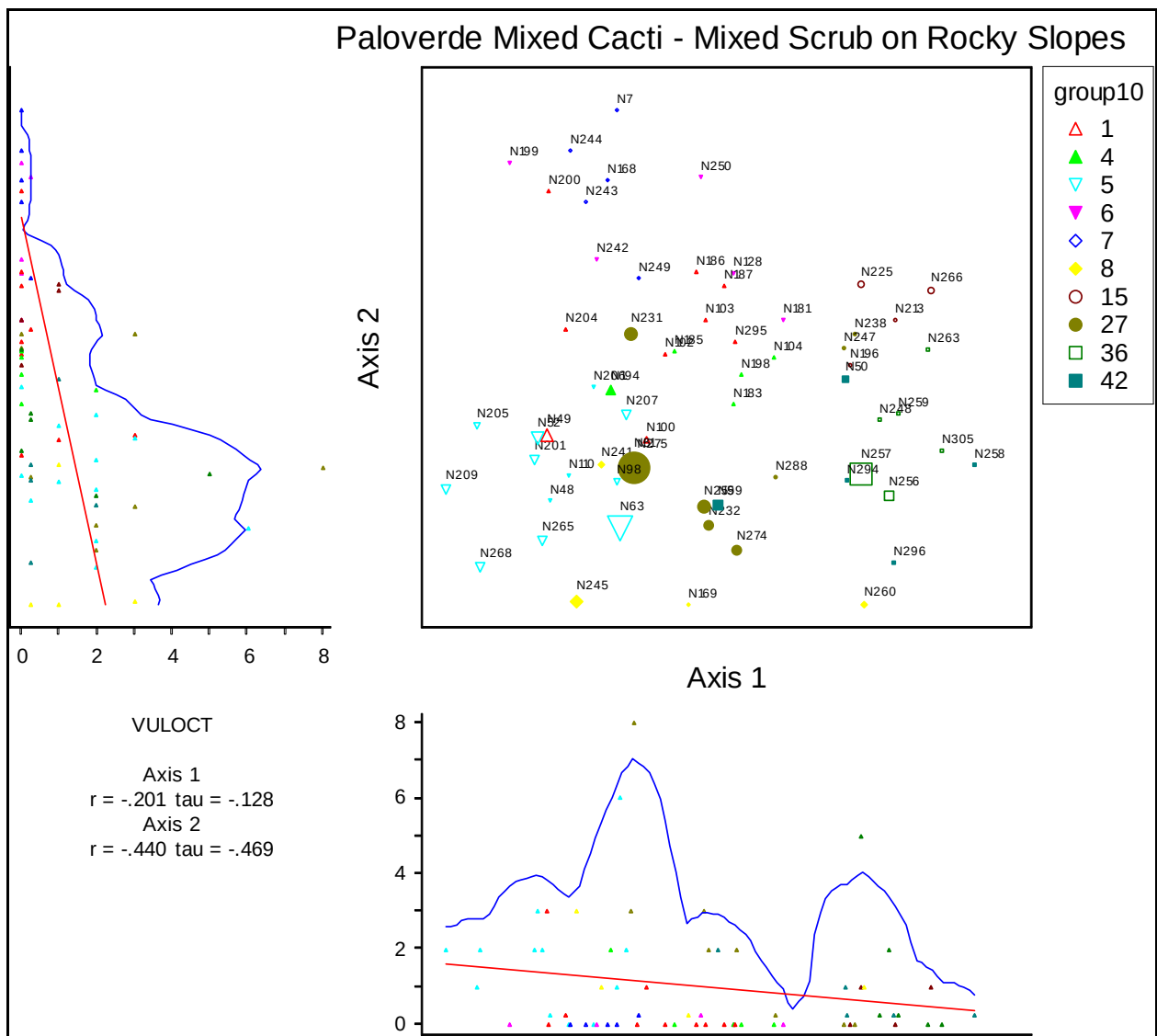


Plantago ovata





Selaginella arizonica



Vulpia octoflora

APPENDIX K

Mountain Uplands

Community Statistics by Cluster Group

Group 1 *Number of Plots in Group: 15*

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Parkinsonia microphylla	1.10	7
Prosopis velutina	0.08	2
Sum of Percent Cover by Growth Form	1.18	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Abutilon	0.02	1
Acacia constricta	0.68	5
Acacia greggii	1.13	5
Agave deserti simplex	0.32	7
Aloysia wrightii	1.08	7
Ambrosia deltoidea	0.47	1
Artemisia ludoviciana	0.28	3
Ayenia microphylla	0.08	2
Bernardia incana	0.02	1
Brickellia coulteri	0.07	1
Calliandra eriophylla	0.35	3
Canotia holacantha	6.55	12
Celtis pallida pallida	0.75	5
Condalia warnockii	0.53	5
Ditaxis lanceolata	0.02	1
Encelia farinosa farinosa	0.18	4
Ephedra aspera	3.02	12
Eriogonum fasciculatum	0.80	6
Forestiera phillyreiodes	0.02	1
Fouquieria splendens	1.85	11
Gallium stellatum	0.52	6
Gutierrezia sarothrae	0.08	2
Gymnosperma glutinosum	0.20	2
Hibiscus coulteri	0.07	4
Jatropha cardiophylla	0.02	1
Krameria erecta	0.28	3
Krameria grayi	1.07	9
Larrea divaricata tridentata	0.92	10
Lycium	1.15	10
Lycium berlandieri	0.22	2

Community Statistics by Cluster Group

Natural Community MU

<i>Group</i>	1	<i>Number of Plots in Group:</i>	15
Lycium exsertum	0.20	1	
Machaeranthera pinnatifida gooddingii	0.02	1	
Menodora scabra	0.12	4	
Porophyllum gracile	0.07	1	
Psilostrophe cooperi	0.13	2	
Thymophylla pentachaeta	0.02	1	
Tiquilia canescens	1.02	4	
Tragia nepetifolia var dissecta	0.02	1	
Trixis californica	0.03	2	
unknown shrub 1	0.08	2	
Viguiera parishii	1.82	11	
Yucca baccata	2.93	9	
Zinnia acerosa	0.68	5	
Ziziphus obtusifolia canescens	0.02	1	
Sum of Percent Cover by Growth Form	29.88		

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Carnegiea gigantea	0.17	4
Cylindropuntia acanthocarpa	0.42	7
Cylindropuntia leptocaulis	0.15	2
Echinocereus	0.03	2
Echinocereus engelmannii	0.30	6
Ferocactus cylindraceus	0.02	1
Ferocactus emoryi	0.07	4
Mammillaria grahamii	0.07	1
Opuntia	0.35	6
Opuntia chlorotica	1.00	1
Opuntia engelmannii	2.00	2
Sum of Percent Cover by Growth Form	4.57	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acleisanthes longiflora	0.13	2
Acourtia nana	0.03	2
Acourtia wrightii	0.08	2
Allium macropetalon	0.02	1
Amsinckia intermedia	0.80	5

Community Statistics by Cluster Group

Natural Community MU

Group	1	Number of Plots in Group:	15
Androsace occidentalis	0.22	4	
Arabis perennans	0.02	1	
Astragalus nuttallianus	0.03	2	
Bowlesia incana	0.02	1	
Calycoseris wrightii	0.17	4	
Camissonia chamaenerioides	0.02	1	
Castilleja lanata	0.02	1	
Caulanthus lasiophyllus	0.85	5	
Chaenactis	0.02	1	
Chaenactis stevioides	0.08	2	
Chenopodium	0.02	1	
Chenopodium neomexicana	0.10	3	
Chorizanthe brevicornus	0.50	3	
Cryptantha	0.02	1	
Cryptantha barbigera	0.02	1	
Cryptantha maritima	0.48	2	
Cryptantha pterocarya	3.27	11	
Daucus pusillus	0.15	6	
Delphinium scaposum	0.07	1	
Descurania pinnata	0.97	10	
Dichelostemma capitatum ssp. Pauciflor	0.03	2	
Draba cuneifolia	0.10	3	
Eriastrum diffusum	0.47	6	
Eriogonum abertianum	0.32	6	
Eriophyllum lanosum	0.07	4	
Erodium cicutarium	0.25	4	
Erodium texanum	0.02	1	
Eschscholzia mexicana	0.13	1	
Eucrypta micrantha	0.90	8	
Filago arizonica	0.02	1	
Gilia	0.03	2	
Gilia flavocincta	0.13	1	
Gilia stellata	0.02	1	
Hedeona nanum var marocalyx	0.02	1	
Hybanthus verticillatus var. verticill	0.02	1	
Lappula occidentalis	0.03	2	
Lappula texana	0.20	1	
Lepidium lasiocarpum	2.82	8	
Lesquerella gordonii	0.72	6	

Community Statistics by Cluster Group

Natural Community MU

<i>Group</i>	1	<i>Number of Plots in Group:</i>	15
Linanthus jonesii	0.07	4	
Mentzelia	0.08	2	
Mentzelia affinis	0.02	1	
Monoptilon bellioides	0.02	1	
Oenothera primaveris	0.02	1	
Parietaria floridana	0.32	6	
Pectocarya	0.02	1	
Pectocarya platycarpa	0.02	1	
Pectocarya recurvata	0.05	3	
Penstemon pseudospectabilis	0.02	1	
Phacelia	0.13	1	
Phacelia ambigua	0.08	2	
Phacelia coerulea	2.20	7	
Phacelia distans	0.55	3	
Pholistoma auritum var arizonicum	0.77	5	
Plantago ovata	0.27	2	
Plantago patagonica	1.08	6	
Rafinesquia	0.02	1	
Rafinesquia californica	0.05	3	
Rafinesquia neomexicana	0.12	4	
Senecio lemmonii	0.08	5	
Silene antirrhina	0.03	2	
Sphaeralcea	0.02	1	
Sphaeralcea ambigua	0.38	6	
Sphaeralcea coulteri	0.02	1	
Sphaeralcea laxa	0.07	1	
Stephanomeria pauciflora	0.07	1	
Streptanthus carinatus	0.05	3	
Stylocline micropoides	0.10	3	
Teucrium glandulosum	0.08	2	
Thysanocarpis curvipes	0.27	6	
unknown herb 1	0.02	1	
Uropappus lindleyi	0.15	6	
Yabea microcarpa	0.05	3	
Sum of Percent Cover by Growth Form	21.63		

Community Statistics by Cluster Group

Natural Community MU

Group

1

Number of Plots in Group:

15

Growth Form

5. Grasses and Sedges

Scientific Name	Average % Cover by Species	# of plots containing species
Aristida purpurea	0.02	1
Bouteloua repens	0.07	1
Bromus rubens	0.07	4
Digitaria californica	0.02	1
Elymus elymoides	1.20	3
Heptochloa panicea ssp. Brachiata	0.02	1
Muhlenbergia porteri	2.73	13
Pleuraphis mutica	0.70	4
Pleuraphis rigida	0.15	3
Poa bigelovii	1.20	10
Schismus arabicus	0.85	7
Tridens muticus	0.08	2
unknown grass 1	0.22	2
Vulpia octoflora	0.75	9

Sum of Percent Cover by Growth Form

8.07

Growth Form

6. Vines

Scientific Name	Average % Cover by Species	# of plots containing species
Janusia gracile	0.78	9
Matelea parvifolia	0.08	2
Maurandya antirrhinifolia	0.02	1
Metastelma arizonicum	0.02	1
Sarcostemma cynanchoides	0.02	1

Sum of Percent Cover by Growth Form

0.92

Growth Form

7. Ferns and Club Mosses

Scientific Name	Average % Cover by Species	# of plots containing species
Astrolepis cochisensis	0.15	3
Notholaena standleyi	0.05	3
Pellaea truncata	0.12	4
Selaginella arizonica	0.07	1
unknown fern 1	0.08	2

Sum of Percent Cover by Growth Form

0.47

Community Statistics by Cluster Group

Natural Community MU

Group

4

Number of Plots in Group:

4

Growth Form

2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Agave deserti simplex	0.13	2
Aloysia wrightii	4.81	3
Canotia holacantha	2.75	3
Ephedra aspera	1.38	4
Fouquieria splendens	3.06	4
Krameria erecta	0.81	2
Krameria grayi	0.06	1
Larrea divaricata tridentata	0.88	3
Lycium	0.06	1
Menodora scabra	2.50	4
Psilostrophe cooperi	0.25	1
Tiquilia canescens	4.00	4
Yucca baccata	1.63	4
Zinnia acerosa	5.50	4

Sum of Percent Cover by Growth Form

27.81

Growth Form

3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Cylindropuntia acanthocarpa	0.13	2
Echinocereus	1.50	3
Echinocereus engelmannii	0.75	1
Opuntia	11.75	4

Sum of Percent Cover by Growth Form

14.13

Growth Form

4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acleisanthes longiflora	0.31	2
Acourtia nana	0.25	1
Allium macropetalon	0.13	2
Calycoseris wrightii	0.13	2
Chaenactis stevioides	0.13	2
Cryptantha barbigera	0.06	1
Cryptantha pterocarya	0.31	2
Daucus pusillus	0.63	3
Delphinium scaposum	0.06	1

Community Statistics by Cluster Group

Natural Community MU

<i>Group</i>	4	<i>Number of Plots in Group:</i>		4
Descurania pinnata	0.50		2	
Eriastrum diffusum	0.25		1	
Eriogonum abertianum	0.31		2	
Erodium texanum	0.06		1	
Gilia	0.06		1	
Lappula occidentalis	1.56		3	
Lappula texana	2.50		3	
Lepidium lasiocarpum	0.56		2	
Lesquerella gordonii	10.00		3	
Linum perenne ssp lewisii	0.06		1	
Pectocarya	0.06		1	
Phacelia	0.50		1	
Phacelia distans	0.06		1	
Plantago	0.75		1	
Plantago ovata	1.06		2	
Plantago patagonica	1.75		2	
Sphaeralcea ambigua	0.38		3	
Stephanomeria pauciflora	0.06		1	
unknown herb 1	0.13		2	
Uropappus lindleyi	0.19		3	

Sum of Percent Cover by Growth Form 22.81

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Muhlenbergia porteri	3.25	3
Pleuraphis mutica	9.50	2
Schismus arabicus	2.06	4
unknown grass 1	5.75	3
Vulpia octoflora	0.06	1

Sum of Percent Cover by Growth Form 20.63

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	1.25	2

Sum of Percent Cover by Growth Form 1.25

Community Statistics by Cluster Group

Natural Community MU

Group 7

Number of Plots in Group: 2

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Parkinsonia microphylla	1.00	1
Prosopis velutina	1.00	1
Vauquelinia californica ssp. Sonorensi	0.50	1
Sum of Percent Cover by Growth Form	2.50	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acacia constricta	0.13	1
Acacia greggii	0.50	1
Agave deserti simplex	0.25	2
Aloysia wrightii	0.50	1
Anisacathus thurberi	0.13	1
Artemisia ludoviciana	0.13	1
Bernardia incana	0.50	1
Canotia holacantha	8.00	2
Ephedra aspera	2.50	2
Eriogonum fasciculatum	1.50	1
Fouquieria splendens	0.50	1
Gutierrezia sarothrae	1.00	1
Keckiella antirrhinoides	0.50	1
Krameria erecta	0.13	1
Larrea divaricata tridentata	0.50	1
Lycium	2.00	2
Menodora scabra	0.13	1
Mirabilis laevis v villosa	0.13	1
Psilostrophe cooperi	0.25	2
Trixis californica	0.13	1
Viguiera parishii	5.00	2
Yucca baccata	0.50	1
Sum of Percent Cover by Growth Form	24.88	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Carnegiea gigantea	0.13	1
Cylindropuntia acanthocarpa	0.63	2

Community Statistics by Cluster Group

Natural Community MU

Group	7	Number of Plots in Group:	2
Cylindropuntia leptocaulis	0.13	1	
Ferocactus emoryi	0.13	1	
Mammillaria	0.13	1	
Opuntia chlorotica	0.13	1	
Opuntia engelmannii	1.00	1	
Sum of Percent Cover by Growth Form	2.25		

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Amsinckia intermedia	1.00	1
Castilleja lanata	0.13	1
Caulanthus lasiophyllus	0.13	1
Cryptantha pterocarya	6.00	1
Daucus pusillus	0.63	2
Delphinium scaposum	0.13	1
Descurania pinnata	2.00	1
Draba cuneifolia	0.13	1
Eucrypta micrantha	4.00	1
Gutierrezia arizonica	1.50	1
Lepidium lasiocarpum	1.50	1
Malacothrix sonora	0.13	1
Parietaria floridana	0.13	1
Phacelia distans	25.00	2
Pholistoma auritum var arizonicum	0.50	1
Stephanomeria pauciflora	0.13	1
unknown herb 1	0.13	1
Sum of Percent Cover by Growth Form	43.13	

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Aristida purpurea	1.00	1
Bromus rubens	0.13	1
Muhlenbergia porteri	2.50	2
Pleuraphis mutica	1.00	1
Poa bigelovii	2.00	2
Vulpia octoflora	1.00	2
Sum of Percent Cover by Growth Form	7.63	

Community Statistics by Cluster Group

Natural Community MU

Group 7

Number of Plots in Group: 2

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Galium aparine	0.13	1
Janusia gracile	0.50	1
Nissolia schottii	0.13	1

Sum of Percent Cover by Growth Form 0.75

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Cheilanthes yavapensis	0.50	1
Pellaea truncata	0.50	1
Selaginella arizonica	1.50	1

Sum of Percent Cover by Growth Form 2.50

Community Statistics by Cluster Group

Natural Community MU

Group **14**

Number of Plots in Group: **1**

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Agave deserti simplex	0.25	1
Menodora scabra	2.00	1
Tiquilia canescens	0.25	1
Zinnia acerosa	3.00	1

Sum of Percent Cover by Growth Form **5.50**

Growth Form **3. Cactus**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Echinocereus	1.00	1
Opuntia	10.00	1

Sum of Percent Cover by Growth Form **11.00**

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acourtia nana	1.00	1
Atriplex elegans	0.25	1
Eriastrum diffusum	0.25	1
Lappula occidentalis	2.00	1
Lesquerella gordonii	4.00	1
Plantago	2.00	1
Sphaeralcea ambigua	1.00	1
Uropappus lindleyi	0.25	1

Sum of Percent Cover by Growth Form **10.75**

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Pleuraphis mutica	75.00	1
Schismus arabicus	1.00	1
unknown grass 1	1.00	1

Sum of Percent Cover by Growth Form **77.00**

Growth Form **6. Vines**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	2.00	1

Sum of Percent Cover by Growth Form **2.00**

Community Statistics by Cluster Group

Natural Community MU

Group 16

Number of Plots in Group: 1

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Phoradendron californicum	0.25	1
Prosopis velutina	3.00	1
Sum of Percent Cover by Growth Form	3.25	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acacia constricta	3.00	1
Acacia greggii	2.00	1
Aloysia wrightii	4.00	1
Brickellia coulteri	0.25	1
Celtis pallida pallida	7.00	1
Ephedra aspera	0.25	1
Krameria grayi	0.25	1
Larrea divaricata tridentata	25.00	1
Lycium	15.00	1
Trixis californica	0.25	1
Sum of Percent Cover by Growth Form	57.00	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acourtia wrightii	1.00	1
Amsinckia tessellata	2.00	1
Androsace occidentalis	0.25	1
Caulanthus lasiophyllus	6.00	1
Cryptantha pterocarya	5.00	1
Descurania pinnata	12.00	1
Draba cuneifolia	1.00	1
Eucrypta micrantha	5.00	1
Lesquerella gordonii	0.25	1
Myosurus cupulatus	1.00	1
Phacelia coerulea	2.00	1
Pholistoma auritum var arizonicum	4.00	1
Plantago ovata	0.25	1
Rafinesquia neomexicana	0.25	1
Senecio lemmonii	0.25	1
Silene antirrhina	0.25	1
Streptanthus carinatus	0.25	1
Sum of Percent Cover by Growth Form	40.75	

Community Statistics by Cluster Group

Natural Community MU

Group

16

Number of Plots in Group:

1

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Muhlenbergia porteri	0.25	1
Poa bigelovii	3.00	1
Schismus arabicus	0.25	1
Vulpia octoflora	2.00	1

Sum of Percent Cover by Growth Form 5.50

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	0.25	1
Sarcostemma cynanchoides	0.25	1

Sum of Percent Cover by Growth Form 0.50

Community Statistics by Cluster Group

Natural Community MU

Group 20

Number of Plots in Group: 1

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing species
Parkinsonia microphylla	5.00	1
Prosopis velutina	2.00	1

Sum of Percent Cover by Growth Form 7.00

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing species
Acacia constricta	3.00	1
Ayenia microphylla	0.25	1
Canotia holacantha	2.00	1
Ephedra aspera	1.00	1
Larrea divaricata tridentata	2.00	1
Lycium	3.00	1
Menodora scabra	0.25	1
Viguiera parishii	0.25	1

Sum of Percent Cover by Growth Form 11.75

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing species
Cylindropuntia leptocaulis	0.25	1
Ferocactus emoryi	0.25	1
Opuntia chlorotica	0.25	1

Sum of Percent Cover by Growth Form 0.75

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing species
Androsace occidentalis	10.00	1
Caulanthus lasiophyllus	2.00	1
Cryptantha pterocarya	6.00	1
Daucus pusillus	0.25	1
Descurania pinnata	2.00	1
Dichelostemma capitatum ssp. Pauciflor	0.25	1
Draba cuneifolia	0.25	1
Eriastrum diffusum	0.25	1
Eschscholzia mexicana	50.00	1
Eucrypta micrantha	1.00	1

Community Statistics by Cluster Group

Natural Community MU

<i>Group</i>	20	<i>Number of Plots in Group:</i>	1
Filago	0.25	1	
Gilia	0.25	1	
Lepidium lasiocarpum	25.00	1	
Lesquerella gordonii	0.25	1	
Lupinus	0.25	1	
Phacelia coerulea	7.00	1	
Pholistoma auritum var arizonicum	0.25	1	
Plantago patagonica	0.25	1	
Rafinesquia neomexicana	0.25	1	
Sphaeralcea coulteri	0.25	1	
Thysanocarpis curvipes	2.00	1	
Sum of Percent Cover by Growth Form	108.00		

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Aristida purpurea	0.25	1
Bromus rubens	0.25	1
Muhlenbergia porteri	3.00	1
Pleuraphis mutica	1.00	1
Poa bigelovii	0.25	1
Schismus arabicus	0.25	1
Vulpia octoflora	0.25	1
Sum of Percent Cover by Growth Form	5.25	

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	1.00	1
Sum of Percent Cover by Growth Form	1.00	

Community Statistics by Cluster Group

Natural Community MU

Group 21

Number of Plots in Group: 2

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Parkinsonia microphylla	1.00	1
Prosopis velutina	0.13	1

Sum of Percent Cover by Growth Form 1.13

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acacia constricta	0.13	1
Agave deserti simplex	0.13	1
Ayenia microphylla	0.13	1
Calliandra eriophylla	1.00	2
Canotia holacantha	2.00	2
Carlowrightii arizonica	0.13	1
Condalia warnockii	0.13	1
Encelia farinosa farinosa	0.13	1
Ephedra aspera	4.00	2
Fouquieria splendens	2.50	2
Gallium stellatum	0.13	1
Krameria grayi	0.13	1
Lycium	0.25	2
Machaeranthera pinnatifida gooddingii	0.13	1
Psilostrophe cooperi	0.50	1
Talinum auantiacum Englemann	0.13	1
Tiquilia canescens	0.13	1
Trixis californica	0.13	1
unknown shrub 1	0.50	1
Viguiera parishii	0.13	1
Yucca baccata	7.50	2
Zinnia acerosa	0.50	1
Ziziphus obtusifolia canescens	1.00	1

Sum of Percent Cover by Growth Form 21.38

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Carnegiea gigantea	0.13	1
Cylindropuntia acanthocarpa	0.63	2

Community Statistics by Cluster Group

Natural Community MU

Group 21

Number of Plots in Group: 2

Echinocereus engelmannii	0.63	2
Ferocactus emoryi	0.13	1
Mammillaria grahamii	0.13	1
Opuntia	0.13	1
Opuntia engelmannii	0.13	1

Sum of Percent Cover by Growth Form 1.88

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acourtia nana	0.25	2
Allium macropetalon	0.13	1
Androsace occidentalis	1.13	2
Caulanthus lasiophyllus	0.13	1
Chenopodium neomexicana	0.13	1
Cryptantha	0.13	1
Cryptantha barbiger	0.13	1
Cryptantha pterocarya	0.25	2
Daucus pusillus	0.13	1
Descurania pinnata	0.13	1
Dichelostemma capitatum ssp. Pauciflor	0.25	2
Draba cuneifolia	1.00	2
Eriogonum maculatum	0.13	1
Erodium cicutarium	2.50	2
Eucrypta micrantha	1.00	1
Gilia stellata	0.25	2
Hedeoma nanum var marocalyx	0.13	1
Lepidium lasiocarpum	30.00	2
Lesquerella gordonii	0.13	1
Lotus	0.13	1
Pectocarya recurvata	0.50	1
Phacelia ambigua	0.25	2
Phacelia coerulea	0.63	2
Plantago patagonica	4.00	2
Rafinesquia neomexicana	0.13	1
Silene antirrhina	0.13	1
Sphaeralcea ambigua	0.13	1
Streptanthus carinatus	0.13	1
Stylocline micropoides	0.25	2

Community Statistics by Cluster Group

Natural Community MU

Group	21	Number of Plots in Group:	2
Thysanocarpis curvipes	0.25	2	
Uropappus lindleyi	0.25	2	
Verbena	0.50	1	

Sum of Percent Cover by Growth Form 45.13

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Bouteloua	3.00	1
Bromus rubens	0.13	1
Muhlenbergia porteri	4.00	2
Poa bigelovii	0.13	1
unknown grass 1	0.13	1
Vulpia octoflora	1.00	2

Sum of Percent Cover by Growth Form 8.38

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	2.00	2
Sarcostemma cynanchoides	0.13	1

Sum of Percent Cover by Growth Form 2.13

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Astroblepis cochisensis	0.13	1

Sum of Percent Cover by Growth Form 0.13

Community Statistics by Cluster Group

Natural Community MU

Group 22

Number of Plots in Group: 1

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing species
Prosopis velutina	2.00	1

Sum of Percent Cover by Growth Form 2.00

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing species
Acacia constricta	1.00	1
Aloysia wrightii	1.00	1
Artemisia ludoviciana	0.25	1
Atriplex canescens	1.00	1
Bernardia incana	3.00	1
Canotia holacantha	1.00	1
Encelia farinosa farinosa	0.25	1
Ephedra aspera	1.00	1
Eriogonum fasciculatum	1.00	1
Eriogonum wrightii	3.00	1
Lycium	1.00	1
Trixis californica	0.25	1
Viguiera parishii	0.25	1

Sum of Percent Cover by Growth Form 14.00

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing species
Acourtia nana	0.25	1
Amsinckia intermedia	1.00	1
Cryptantha pterocarya	2.00	1
Daucus pusillus	0.25	1
Delphinium scaposum	0.25	1
Descurania pinnata	1.00	1
Dichelostemma capitatum ssp. Pauciflor	0.25	1
Gilia	0.25	1
Gutierrezia arizonica	2.00	1
Lepidium lasiocarpum	1.00	1
Parietaria floridana	0.25	1
Phacelia	1.00	1
Sphaeralcea ambigua	1.00	1
Thysanocarpis curvipes	1.00	1
Uropappus lindleyi	1.00	1
Sum of Percent Cover by Growth Form	12.50	

Community Statistics by Cluster Group

Natural Community MU

Group

22

Number of Plots in Group:

1

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Bromus rubens	3.00	1
Muhlenbergia porteri	70.00	1
Pleuraphis rigida	20.00	1
Poa bigelovii	8.00	1
Vulpia octoflora	0.25	1

Sum of Percent Cover by Growth Form 101.25

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Galium aparine	0.25	1
Janusia gracile	0.25	1

Sum of Percent Cover by Growth Form 0.50

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Astrolepis sinuata sinuata	0.25	1
Pellaea truncata	0.25	1

Sum of Percent Cover by Growth Form 0.50

Community Statistics by Cluster Group

Natural Community MU

Group 23

Number of Plots in Group: 6

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Parkinsonia microphylla	1.38	3

Sum of Percent Cover by Growth Form 1.38

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Abutilon incanum	0.04	1
Acacia constricta	0.67	2
Acacia greggii	0.04	1
Agave deserti simplex	0.33	5
Aloysia wrightii	0.38	2
Artemisia ludoviciana	0.21	2
Bebbia juncea aspera	0.17	1
Bernardia incana	0.33	1
Brickellia coulteri	0.04	1
Calliandra eriophylla	1.00	3
Canotia holacantha	0.38	3
Carlwrightii arizonica	0.33	1
Condalia warnockii	0.17	1
Coursetia glandulosa	0.67	1
Crossosma bigelovii	0.17	1
Ditaxis lanceolata	0.17	1
Encelia farinosa farinosa	2.50	1
Ephedra aspera	2.50	5
Eriogonum fasciculatum	1.83	4
Eriogonum wrightii	0.21	2
Fouquieria splendens	1.75	6
Gallium stellatum	1.38	3
Gutierrezia sarothrae	0.17	1
Gymnosperma glutinosum	0.17	1
Hyptis emoryi	0.17	1
Jatropha cardiophylla	0.21	2
Koeberlinia spinosa	0.38	3
Krameria erecta	0.17	1
Lycium	0.50	3
Menodora scabra	0.29	4
Porophyllum gracile	0.08	2

Community Statistics by Cluster Group

Natural Community MU

Group

23

Number of Plots in Group:

6

Psilostrophe cooperi	0.17	1
Tidestromia lanuginosa	0.04	1
Trixis californica	0.33	2
unknown shrub 1	1.00	2
Viguiera parishii	2.83	5
Yucca baccata	4.71	5
Zinnia acerosa	0.21	2

Sum of Percent Cover by Growth Form 26.67

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing species
Carnegiea gigantea	0.04	1
Cylindropuntia acanthocarpa	0.29	4
Echinocereus engelmannii	0.13	3
Mammillaria grahamii	0.04	1
Opuntia chlorotica	0.04	1

Sum of Percent Cover by Growth Form 0.54

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing species
Acleisanthes longiflora	0.08	2
Amsinckia intermedia	0.75	5
Calocortus kennedeyi	0.04	1
Camissonia	0.04	1
Camissonia californica	0.04	1
Caulanthus lasiophyllus	0.08	2
Cirsium neomexicana	0.04	1
Cryptantha barbiger	0.04	1
Cryptantha pterocarya	1.04	5
Daucus pusillus	0.04	1
Delphinium scaposum	0.04	1
Descurania pinnata	0.58	3
Dichelostemma capitatum ssp. Pauciflor	0.13	3
Draba cuneifolia	0.08	2
Eriastrum diffusum	0.08	2
Eriogonum abertianum	0.04	1
Erodium cicutarium	0.50	3
Eschscholzia mexicana	0.38	2

Community Statistics by Cluster Group

Natural Community MU

<i>Group</i>	23	<i>Number of Plots in Group:</i>	6
Eucrypta micrantha	0.54	2	
Euphorbia	0.08	2	
Euphorbia eriantha	0.08	2	
Euphorbia polycarpa	0.04	1	
Filago	0.04	1	
Gilia	0.04	1	
Gilia stellata	0.17	4	
Hedeona nanum var marocalyx	0.13	3	
Lactuca serrulata	0.04	1	
Lepidium lasiocarpum	4.04	6	
Linanthus jonesii	0.04	1	
Lupinus	0.04	1	
Lupinus sparsiflorus	0.04	1	
Myosurus cupulatus	0.04	1	
Pectocarya platycarpa	0.04	1	
Pectocarya recurvata	0.17	1	
Penstemon	0.04	1	
Phacelia	0.33	1	
Phacelia ambigua	0.17	1	
Phacelia coerulea	4.00	4	
Plantago ovata	0.33	1	
Plantago patagonica	0.38	3	
Rafinesquia neomexicana	0.13	3	
Senecio lemmonii	0.17	1	
Sisymbrium irio	0.17	1	
Sphaeralcea ambigua	0.08	2	
Sphaeralcea coulteri	0.17	1	
Stephanomeria pauciflora	0.25	3	
Streptanthus carinatus	0.04	1	
Stylocline micropoides	0.04	1	
Thysanocarpis curvipes	1.38	5	
Uropappus lindleyi	0.13	3	
Yabea microcarpa	0.04	1	
Sum of Percent Cover by Growth Form	17.46		

Community Statistics by Cluster Group

Natural Community MU

Group

23

Number of Plots in Group:

6

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Bromus rubens	0.88	2
Heteropogon contortus	0.04	1
Muhlenbergia porteri	2.83	3
Pleuraphis mutica	0.04	1
Poa bigelovii	1.00	4
Schismus arabicus	0.04	1
Tridens muticus	0.04	1
unknown grass 1	0.04	1
Vulpia octoflora	0.54	4

Sum of Percent Cover by Growth Form 5.46

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	2.17	5
Matelea parvifolia	0.04	1
Phaseolus filiformis	0.04	1
Sarcostemma cynanchoides	0.04	1

Sum of Percent Cover by Growth Form 2.29

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Astrolepis cochisensis	0.46	5
Astrolepis sinuata sinuata	0.04	1
Notholaena standleyi	0.17	1
Pellaea truncata	0.13	3
Selaginella arizonica	22.17	6

Sum of Percent Cover by Growth Form 22.96

Community Statistics by Cluster Group

Natural Community MU

Group 25

Number of Plots in Group: 3

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Parkinsonia microphylla	0.08	1
Quercus turbinella	0.08	1

Sum of Percent Cover by Growth Form 0.17

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Acacia constricta	4.00	1
Acacia greggii	1.75	2
Agave deserti simplex	0.17	2
Aloysia wrightii	1.67	2
Artemisia ludoviciana	1.00	1
Atriplex canescens	0.08	1
Bernardia incana	0.33	1
Canotia holacantha	1.33	1
Crossosma bigelovii	0.33	1
Ephedra aspera	3.67	3
Ericameria laricifolia	0.67	2
Eriogonum fasciculatum	2.08	3
Eriogonum wrightii	2.33	2
Fouquieria splendens	1.08	3
Gallium stellatum	1.08	2
Gutierrezia sarothrae	1.00	1
Krameria erecta	0.08	1
Lycium	0.33	1
Menodora scabra	0.08	1
Psilostrophe cooperi	0.08	1
unknown shrub 1	0.08	1
Viguiera parishii	2.00	3
Yucca baccata	5.00	2
Zinnia acerosa	0.08	1

Sum of Percent Cover by Growth Form 30.33

Community Statistics by Cluster Group

Natural Community MU

Group 25

Number of Plots in Group: 3

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing species
Carnegiea gigantea	0.08	1
Cylindropuntia acanthocarpa	0.67	2
Echinocereus engelmannii	0.08	1
Opuntia	0.67	1
Opuntia phaeacantha	0.33	1

Sum of Percent Cover by Growth Form 1.83

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing species
Acourtia nana	0.08	1
Acourtia wrightii	0.17	2
Amsinckia intermedia	4.08	2
Androsace occidentalis	0.17	2
Castilleja lanata	0.08	1
Chenopodium murale	0.33	1
Cirsium neomexicana	0.08	1
Cryptantha pterocarya	1.75	3
Delphinium scaposum	0.08	1
Descurania pinnata	1.42	2
Dichelostemma capitatum ssp. Pauciflor	0.08	1
Draba cuneifolia	0.42	2
Erodium cicutarium	0.33	1
Eucrypta chrysanthemifolia	0.75	2
Filago arizonica	0.08	1
Gilia	0.33	1
Lepidium lasiocarpum	1.00	1
Phacelia coerulea	9.00	2
Plantago ovata	0.08	1
Rafinesquia californica	0.08	1
Rafinesquia neomexicana	0.75	2
Sisymbrium irio	0.08	1
Sphaeralcea ambigua	0.42	2
Streptanthus carinatus	1.00	2
Stylocline micropoides	0.08	1
Thysanocarpis curvipes	1.00	2
Uropappus lindleyi	0.17	2

Sum of Percent Cover by Growth Form 23.92

Community Statistics by Cluster Group

Natural Community MU

Group

25

Number of Plots in Group:

3

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Bromus carinatus	0.08	1
Bromus rubens	3.00	2
Muhlenbergia microsperma	0.33	1
Muhlenbergia porteri	25.00	3
Pleuraphis mutica	5.00	1
Poa bigelovii	2.67	3
Schismus arabicus	0.42	2
Tridens muticus	0.33	1
unknown grass 1	0.08	1
unknown grass 2	0.08	1
Vulpia octoflora	1.42	3

Sum of Percent Cover by Growth Form

38.42

Growth Form

6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Janusia gracile	0.67	1
Sarcostemma cynanchoides	0.08	1

Sum of Percent Cover by Growth Form

0.75

Growth Form

7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing species</i>
Astrolepis cochisensis	0.25	3
Astrolepis sinuata sinuata	0.08	1
Selaginella arizonica	8.67	2

Sum of Percent Cover by Growth Form

9.00

APPENDIX L

Mesquite Woodlands

Community Statistics by Cluster Group

Group 1 *Number of Plots in Group:* **8**

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Oleña tesota	0.03	1
Parkinsonia florida	1.41	3
Phoradendron californicum	0.50	2
Prosopis velutina	53.00	8
Sum of Percent Cover by Growth Form	54.94	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	3.53	5
Ambrosia dumosa	2.13	4
Castela emoryi	0.06	2
Larrea divaricata tridentata	7.00	6
Lycium	2.56	4
Lycium andersonii	0.03	1
Sum of Percent Cover by Growth Form	15.31	

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Cylindropuntia leptocaulis	0.03	1
Ferocactus	0.03	1
Sum of Percent Cover by Growth Form	0.06	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Allionia incarnata	0.25	1
Ambrosia ambrosioides	0.03	1
Ambrosia confertifolia	0.03	1
Amsinckia intermedia	1.69	5
Astragalus	0.03	1
Bowlesia incana	0.78	4
Brassica tournefortii	0.03	1
Camissonia chamaenerioides	0.19	3
Cryptantha	0.03	1
Daucus pusillus	0.28	2
Descurania pinnata	0.56	4

Community Statistics by Cluster Group

Natural Community M

<i>Group</i>	1	<i>Number of Plots in Group:</i>	8
Draba cuneifolia	0.03	1	
Eriophyllum lanosum	0.06	2	
Erodium cicutarium	2.09	7	
Erodium texanum	0.03	1	
Evax multicaulis	0.25	2	
Filago arizonica	3.50	5	
Herniaria cinerea	0.63	2	
Lepidium lasiocarpum	1.66	8	
Lesquerella gordonii	1.13	7	
Matricaria discoidea	0.13	1	
Mentzelia	0.03	1	
Oenothera	0.03	1	
Pectocarya	0.06	2	
Pectocarya platycarpa	3.66	4	
Plagiobothrys	0.16	2	
Plantago ovata	1.09	5	
Sisymbrium irio	2.53	6	
Sonchus oleraceus	0.03	1	
Sphaeralcea coulteri	0.88	4	
unknown herb 1	0.16	2	
Sum of Percent Cover by Growth Form	22.03		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Bromus	0.03	1	
Cynodon dactylon	0.03	1	
Muhlenbergia microsperma	0.25	2	
Schismus arabicus	22.75	8	
Sum of Percent Cover by Growth Form	23.06		

Community Statistics by Cluster Group

Natural Community M

Group 2

Number of Plots in Group: 1

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Parkinsonia florida	3.00	1
Prosopis velutina	90.00	1

Sum of Percent Cover by Growth Form 93.00

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Celtis pallida pallida	0.25	1
Larrea divaricata tridentata	3.00	1
Lycium	1.00	1

Sum of Percent Cover by Growth Form 4.25

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Amsinckia intermedia	15.00	1
Draba cuneifolia	0.25	1
Lappula occidentalis	0.25	1
Pectocarya	8.00	1
Sisymbrium irio	75.00	1

Sum of Percent Cover by Growth Form 98.50

Growth Form 5. Grasses and Sedges

Scientific Name	Average % Cover by Species	# of plots containing
Schismus arabicus	3.00	1

Sum of Percent Cover by Growth Form 3.00

Community Statistics by Cluster Group

Natural Community M

Group 6

Number of Plots in Group: 2

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Prosopis velutina	7.00	2

Sum of Percent Cover by Growth Form 7.00

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia deltoidea	6.00	2
Ambrosia dumosa	0.50	1
Larrea divaricata tridentata	50.00	2
Lycium andersonii	0.25	2

Sum of Percent Cover by Growth Form 56.75

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Allionia incarnata	2.50	1
Amsinckia intermedia	0.63	2
Astragalus	0.50	1
Bowlesia incana	0.13	1
Camissonia chamaenerioides	0.13	1
Crassula connata	0.13	1
Cryptantha	0.13	1
Daucus pusillus	0.25	2
Draba cuneifolia	0.13	1
Eriophyllum lanosum	0.13	1
Erodium cicutarium	45.00	2
Erodium texanum	0.50	1
Evax multicaulis	1.00	1
Filago arizonica	3.00	2
Herniaria cinerea	3.50	2
Lepidium lasiocarpum	0.50	1
Lesquerella gordonii	0.50	1
Pectocarya	0.50	1
Plagiobothrys	0.13	1
Plantago ovata	0.50	1
Sisymbrium irio	1.00	1
Sphaeralcea coulteri	0.63	2

Sum of Percent Cover by Growth Form 61.38

Community Statistics by Cluster Group

Natural Community M

Group

6

Number of Plots in Group:

2

Growth Form

5. Grasses and Sedges

Scientific Name

Average % Cover by Species

of plots containing

Muhlenbergia microsperma

2.63

2

Schismus arabicus

6.50

2

Vulpia octoflora

1.00

1

Sum of Percent Cover by Growth Form

10.13

Community Statistics by Cluster Group

Natural Community M

Group 7

Number of Plots in Group: 2

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Prosopis velutina	60.50	2

Sum of Percent Cover by Growth Form 60.50

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia deltoidea	0.63	2
Larrea divaricata tridentata	33.50	2
Lycium	0.13	1
Lycium andersonii	2.00	1

Sum of Percent Cover by Growth Form 36.25

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia ambrosioides	0.13	1
Ambrosia confertifolia	0.50	1
Amsinckia intermedia	1.50	2
Bowlesia incana	5.50	1
Crassula connata	0.13	1
Cryptantha	0.50	1
Daucus pusillus	1.00	1
Draba cuneifolia	0.13	1
Erodium cicutarium	46.00	2
Erodium texanum	0.13	1
Evax multicaulis	0.50	1
Filago arizonica	1.50	1
Herniaria cinerea	1.00	1
Lepidium lasiocarpum	0.25	2
Lesquerella gordonii	6.50	2
Matricaria discoidea	0.50	1
Oenothera	0.13	1
Parietaria floridana	0.50	1
Plagiobothrys	0.50	1
Plantago ovata	0.63	2
Sisymbrium irio	1.00	1
Sonchus oleraceus	0.13	1
Sphaeralcea coulteri	1.50	2
Uropappus lindleyi	0.13	1
Sum of Percent Cover by Growth Form	70.25	

Community Statistics by Cluster Group

Natural Community M

Group

7

Number of Plots in Group:

2

Growth Form

5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Cynodon dactylon	0.50	1
Muhlenbergia microsperma	63.50	2
Poa bigelovii	0.13	1
Schismus arabicus	12.00	1
Vulpia octoflora	0.25	2

Sum of Percent Cover by Growth Form

76.38

APPENDIX M

Mountain Xeroriparian Scrub

Community Statistics by Cluster Group

Group 1 *Number of Plots in Group:* **4**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	2.00	3
Parkinsonia microphylla	11.50	4
Phoradendron californicum	0.06	1
Sum of Percent Cover by Growth Form	13.56	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	7.00	3
Acacia greggii	2.50	3
Ambrosia deltoidea	3.75	4
Ayenia filiformis	0.06	1
Ayenia microphylla	0.06	1
Brickellia coulteri	3.00	3
Brickellia frutescens	1.25	1
Calliandra eriophylla	4.25	4
Celtis pallida pallida	2.25	2
Ditaxis lanceolata	0.56	3
Encelia farinosa farinosa	2.25	3
Ephedra aspera	1.56	3
Eriogonum fasciculatum	1.25	3
Fagonia californica ssp longipes	0.75	2
Fouquieria splendens	0.56	3
Gallium stellatum	0.06	1
Hibiscus coulteri	0.06	1
Hibiscus denudatus	0.06	1
Hyptis emoryi	0.75	1
Jatropha cardiophylla	1.25	3
Krameria grayi	0.31	2
Larrea divaricata tridentata	0.56	3
Lycium	0.50	2
Lycium berlandieri	4.75	3
Menodora scabra	0.06	1
Mirabilis laevis v villosa	0.06	1
Tragia nepetifolia var dissecta	0.06	1
Trixis californica	1.31	4
Viguiera parishii	0.13	2
Sum of Percent Cover by Growth Form	41.00	

Community Statistics by Cluster Group

Natural Community MXR

Group 1

Number of Plots in Group: 4

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing
Carnegieia gigantea	0.44	4
Cylindropuntia acanthocarpa	0.63	4
Cylindropuntia leptocaulis	0.06	1
Opuntia	0.50	2

Sum of Percent Cover by Growth Form 1.63

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Acleisanthes longiflora	0.06	1
Allionia incarnata	0.06	1
Ambrosia ambrosioides	0.56	2
Amsinckia tessellata	0.50	1
Calycoseris wrightii	0.25	1
Camissonia	0.38	3
Camissonia californica	0.25	1
Camissonia chamaenerioides	0.25	1
Caulanthus lasiophyllus	0.31	2
Chaenactis stevioides	0.13	2
Chenopodium neomexicana	0.13	2
Chorizanthe brevicornus	0.69	4
Chorizanthe rigida	0.06	1
Cryptantha barbigera	0.38	3
Cryptantha maritima	1.50	4
Cryptantha pterocarya	2.50	4
Descurania pinnata	0.81	3
Eriastrum diffusum	0.44	4
Eriogonum deflexum	0.06	1
Eriogonum inflatum	0.25	1
Eriophyllum lanosum	0.13	2
Eucrypta micrantha	0.50	2
Euphorbia albomarginata	0.06	1
Euphorbia arizonica	0.06	1
Euphorbia polycarpa	0.50	1
Filago	0.13	2

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	1	<i>Number of Plots in Group:</i>	4
Filago californica	0.06	1	
Gilia	0.06	1	
Gilia stellata	1.25	3	
Herissantia crispa	0.50	1	
Lepidium lasiocarpum	1.00	3	
Lesquerella gordonii	0.25	1	
Linanthus jonesii	0.38	3	
Marina parryi	0.06	1	
Mentzelia	0.06	1	
Mentzelia involucrata	0.25	1	
Nemacladus glanduliferous var. orientalis	0.06	1	
Pectocarya recurvata	1.00	3	
Phacelia	0.75	2	
Phacelia distans	0.50	1	
Plantago patagonica	0.25	1	
Silene	0.06	1	
Silene antirrhina	0.06	1	
Sphaeralcea ambigua	0.56	3	
Stylocline micropoides	0.06	1	
Thysanocarpis curvipes	0.06	1	
Uropappus lindleyi	0.06	1	
Sum of Percent Cover by Growth Form	18.25		

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida	0.06	1
Heteropogon contortus	0.13	2
Muhlenbergia porteri	0.06	1
Pennisetum ciliare	0.06	1
Pleuraphis rigida	0.06	1
Poa bigelovii	0.31	2
Schismus arabicus	2.00	4
Vulpia octoflora	2.25	3
Sum of Percent Cover by Growth Form	4.94	

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	1.50	3
Sum of Percent Cover by Growth Form	1.50	

Community Statistics by Cluster Group

Natural Community MXR

Group **1**

Number of Plots in Group: **4**

Growth Form **7. Ferns and Club Mosses**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Astrolepis cochisensis	0.56	2

Sum of Percent Cover by Growth Form	0.56
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Community Statistics by Cluster Group

Natural Community MXR

Group

4

Number of Plots in Group:

7

Growth Form

1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	1.04	3
Parkinsonia florida	1.14	1
Parkinsonia microphylla	3.14	6
Phoradendron californicum	0.21	3
Prosopis velutina	1.29	2
Vauquelinia californica ssp. Sonorensi	0.04	1
Sum of Percent Cover by Growth Form	6.86	

Growth Form

2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Abutilon incanum	0.07	2
Acacia constricta	3.00	5
Acacia greggii	1.00	3
Agave deserti simplex	0.04	1
Aloysia wrightii	0.04	1
Ambrosia deltoidea	0.46	2
Ambrosia dumosa	0.29	1
Artemisia ludoviciana	0.07	2
Ayenia microphylla	0.04	1
Baccharis sarothroides	0.14	1
Bernardia incana	0.71	2
Brickellia coulteri	0.43	1
Calliandra eriophylla	0.43	2
Carlowrightii arizonica	0.18	2
Celtis pallida pallida	0.43	2
Condalia warnockii	1.14	1
Coursetia glandulosa	0.14	1
Ditaxis lanceolata	0.36	4
Encelia farinosa farinosa	0.82	6
Ephedra aspera	1.71	4
Eriogonum fasciculatum	1.04	5
Eriogonum wrightii	0.71	3
Fouquieria splendens	0.86	4
Gallium stellatum	0.18	2
Gymnosperma glutinosum	0.04	1
Hibiscus coulteri	0.04	1

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	4	<i>Number of Plots in Group:</i>	7
Jatropha cardiophylla	0.18	2	
Krameria grayi	0.79	4	
Larrea divaricata tridentata	1.86	5	
Lycium	1.61	6	
Menodora scabra	0.14	1	
Mirabilis laevis v villosa	0.14	1	
Sebastiania bilocularis	0.57	1	
Senna covesii	0.04	1	
Simmondsia chinensis	1.43	1	
Tiquilia canescens	0.04	1	
Tragia nepetifolia var dissecta	0.04	1	
Trixis californica	0.21	3	
unknown shrub 1	0.04	1	
Viguiera parishii	0.29	1	
Zinnia acerosa	0.04	1	
Ziziphus obtusifolia canescens	0.14	1	
Sum of Percent Cover by Growth Form	21.89		

<i>Growth Form</i>	3. Cactus		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Carnegiea gigantea	0.07	2	
Cylindropuntia	0.04	1	
Cylindropuntia acanthocarpa	0.39	4	
Cylindropuntia leptocaulis	0.04	1	
Echinocereus engelmannii	0.11	3	
Ferocactus emoryi	0.07	2	
Mammillaria grahamii	0.04	1	
Opuntia	0.29	1	
Opuntia engelmannii	0.04	1	
Sum of Percent Cover by Growth Form	1.07		

<i>Growth Form</i>	4. Herbs		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Acourtia wrightii	0.04	1	
Allionia incarnata	0.04	1	
Ambrosia ambrosioides	0.18	2	
Amsinckia intermedia	1.07	6	
Amsinckia	0.14	1	

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	4	<i>Number of Plots in Group:</i>	7
Androsace occidentalis	0.75	3	
Astragalus nuttallianus	0.18	2	
Calycoseris wrightii	0.07	2	
Camissonia	0.18	2	
Camissonia californica	0.29	5	
Castilleja lanata	0.04	1	
Caulanthus lasiophyllus	0.64	3	
Chaenactis stevioides	0.29	5	
Chenopodium neomexicana	0.71	3	
Chorizanthe brevicornus	0.50	4	
Chorizanthe rigida	0.14	1	
Cryptantha barbigera	0.18	2	
Cryptantha maritima	0.14	1	
Cryptantha micrantha	0.04	1	
Cryptantha pterocarya	2.14	5	
Daucus pusillus	0.21	3	
Delphinium scaposum	0.07	2	
Descurania pinnata	0.68	5	
Dichelostemma capitatum ssp. Pauciflor	0.07	2	
Ditaxis neomexicana	0.07	2	
Draba cuneifolia	0.29	5	
Eriastrum diffusum	0.07	2	
Eriogonum abertianum	0.07	2	
Eriogonum deflexum	0.04	1	
Eriogonum inflatum	0.04	1	
Eriogonum maculatum	0.32	2	
Eriogonum thomasii	0.04	1	
Eriophyllum lanosum	0.07	2	
Erodium cicutarium	1.75	4	
Eschscholzia mexicana	0.07	2	
Eucrypta micrantha	1.29	4	
Euphorbia	0.04	1	
Euphorbia albomarginata	0.04	1	
Euphorbia polycarpa	0.04	1	
Filago	0.11	3	
Filago arizonica	0.04	1	
Gilia	0.54	4	
Gilia stellata	0.32	2	
Hedeona nanum var marocalyx	0.18	2	

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	4	<i>Number of Plots in Group:</i>	7
Lepidium lasiocarpum	3.00	6	
Lesquerella gordonii	1.18	4	
Linanthus jonesii	0.18	5	
Lotus	0.04	1	
Lupinus	0.04	1	
Lupinus sparsiflorus	0.21	3	
Marina parryi	0.04	1	
Mentzelia	0.07	2	
Pectocarya	0.18	2	
Pectocarya recurvata	0.07	2	
Penstemon pseudospectabilis	0.04	1	
Perityle emoryi	0.04	1	
Phacelia	0.32	2	
Phacelia ambigua	0.50	5	
Phacelia coerulea	1.61	4	
Pholistoma auritum var arizonicum	1.04	4	
Plantago ovata	0.54	4	
Plantago patagonica	0.36	3	
Rafinesquia californica	0.04	1	
Rafinesquia neomexicana	0.11	3	
Silene antirrhina	0.18	2	
Sisymbrium irio	0.75	4	
Sonchus oleraceus	0.04	1	
Sphaeralcea ambigua	0.18	2	
Sphaeralcea coulteri	0.07	2	
Stephanomeria pauciflora	0.18	2	
Stylocline micropoides	0.18	5	
Thysanocarpis curvipes	0.11	3	
unknown herb 1	0.04	1	
Uropappus lindleyi	0.04	1	

Sum of Percent Cover by Growth Form 25.50

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida adsensionis	0.04	1
Aristida purpurea	0.04	1
Bouteloua curtipendula	0.04	1
Bromus carinatus	0.04	1

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	4	<i>Number of Plots in Group:</i>	7
Bromus rubens	2.14	3	
Erioneuron pulchellum	0.04	1	
Muhlenbergia porteri	1.29	3	
Pleuraphis	0.71	1	
Pleuraphis mutica	0.14	1	
Pleuraphis rigida	0.29	1	
Poa bigelovii	1.61	6	
Schismus arabicus	3.04	5	
Vulpia octoflora	0.89	5	

Sum of Percent Cover by Growth Form 10.29

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Antirrhinum filipes	0.04	1
Cucurbita digitata	0.04	1
Janusia gracile	0.64	4
Sarcostemma cynanchoides	0.04	1

Sum of Percent Cover by Growth Form 0.75

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Notholaena standleyi	0.04	1
Pellaea truncata	0.07	2
Selaginella arizonica	1.43	1

Sum of Percent Cover by Growth Form 1.54

Community Statistics by Cluster Group

Natural Community MXR

Group 6

Number of Plots in Group: 2

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Oleaya tesota	0.13	1
Parkinsonia florida	19.00	2
Phoradendron californicum	0.13	1
Prosopis velutina	3.00	1

Sum of Percent Cover by Growth Form 22.25

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.13	1
Acacia greggii	3.50	1
Adenophyllum porophylloides	0.13	1
Ambrosia deltoidea	0.13	1
Anisacathus thurberi	2.00	1
Atriplex canescens	0.13	1
Ditaxis lanceolata	0.50	1
Encelia farinosa farinosa	2.00	1
Ephedra aspera	0.13	1
Eriogonum fasciculatum	1.50	1
Fouquieria splendens	1.00	1
Gallium stellatum	0.13	1
Hyptis emoryi	1.00	1
Lycium	1.50	2
Mirabilis laevis v villosa	0.13	1
Psilostrophe cooperi	0.13	1
Trixis californica	0.50	1

Sum of Percent Cover by Growth Form 14.50

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.13	1
Cylindropuntia acanthocarpa	0.50	1

Sum of Percent Cover by Growth Form 0.63

Community Statistics by Cluster Group

Natural Community MXR

Group

6

Number of Plots in Group:

2

Growth Form

4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Allionia incarnata	0.13	1
Ambrosia ambrosioides	2.00	1
Amsinckia intermedia	0.63	2
Androsace occidentalis	0.13	1
Calycoseris wrightii	0.13	1
Camissonia	0.13	1
Camissonia californica	0.25	2
Camissonia chamaenerioides	0.13	1
Caulanthus lasiophyllus	0.50	1
Chaenactis stevioides	0.13	1
Chenopodium neomexicana	0.13	1
Chorizanthe brevicornus	0.13	1
Cryptantha maritima	0.63	2
Cryptantha micrantha	0.13	1
Cryptantha pterocarya	1.50	2
Descurania pinnata	0.50	1
Draba cuneifolia	0.13	1
Eriastrum diffusum	0.13	1
Eriogonum	0.13	1
Eriogonum abertianum	0.13	1
Eriogonum deflexum	0.13	1
Eriogonum inflatum	0.13	1
Eriophyllum lanosum	0.13	1
Erodium cicutarium	0.50	1
Eschscholzia mexicana	0.13	1
Eucrypta micrantha	2.63	2
Euphorbia eriantha	0.13	1
Euphorbia pediculifera	0.13	1
Euphorbia polycarpa	0.13	1
Filago	0.25	2
Gilia stellata	0.63	2
Lappula occidentalis	0.13	1
Lepidium lasiocarpum	1.63	2
Lesquerella gordonii	0.13	1
Linanthus jonesii	0.25	2
Lupinus sparsiflorus	0.13	1
Machaeranthera tagetina	0.13	1
Marina parryi	0.13	1
Mentzelia affinis	0.50	1

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	6	<i>Number of Plots in Group:</i>	2
Nemacladus glanduliferous var. orienta	0.13	1	
Parietaria floridana	0.13	1	
Pectocarya recurvata	0.50	1	
Phacelia ambigua	1.00	2	
Phacelia coerulea	2.00	1	
Pholistoma auritum var arizonicum	0.13	1	
Plagiobothrys jonesii	0.13	1	
Plantago ovata	0.13	1	
Rafinesquia neomexicana	0.13	1	
Silene antirrhina	0.13	1	
Sphaeralcea coulteri	0.13	1	

Sum of Percent Cover by Growth Form 20.00

Growth Form 5. Grasses and Sedges

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Aristida purpurea	0.50	1
Bromus rubens	0.13	1
Heteropogon contortus	0.13	1
Pleuraphis	0.13	1
Poa bigelovii	5.00	1
Schismus arabicus	1.63	2
Vulpia octoflora	0.25	2

Sum of Percent Cover by Growth Form 7.75

Growth Form 6. Vines

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Janusia gracile	0.13	1
Sarcostemma cynanchoides	0.13	1

Sum of Percent Cover by Growth Form 0.25

Growth Form 7. Ferns and Club Mosses

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Selaginella arizonica	0.13	1

Sum of Percent Cover by Growth Form 0.13

Community Statistics by Cluster Group

Natural Community MXR

Group 9

Number of Plots in Group: 1

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Parkinsonia microphylla	7.00	1
Phoradendron californicum	1.00	1
Prosopis velutina	1.00	1

Sum of Percent Cover by Growth Form 9.00

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Acacia constricta	25.00	1
Acacia greggii	0.25	1
Brickellia coulteri	0.25	1
Calliandra eriophylla	5.00	1
Condalia warnockii	0.25	1
Ephedra aspera	15.00	1
Fouquieria splendens	0.25	1
Krameria grayi	2.00	1
Larrea divaricata tridentata	2.00	1
Lycium	2.00	1
Senna covesii	0.25	1
Tragia nepetifolia var dissecta	0.25	1
Ziziphus obtusifolia canescens	0.25	1

Sum of Percent Cover by Growth Form 52.75

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing
Carnegiea gigantea	1.00	1
Cylindropuntia acanthocarpa	1.00	1
Cylindropuntia leptocaulis	4.00	1
Echinocereus engelmannii	0.25	1
Opuntia	0.25	1

Sum of Percent Cover by Growth Form 6.50

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Acleisanthes longiflora	1.00	1
Acourtia wrightii	2.00	1

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	9	<i>Number of Plots in Group:</i>	1
Ambrosia confertifolia	0.25	1	
Amsinckia intermedia	7.00	1	
Astragalus arizonicus	0.25	1	
Astragalus nuttallianus	0.25	1	
Calycoseris wrightii	0.25	1	
Castilleja exserta ssp. Exserta	0.25	1	
Caulanthus lasiophyllus	0.25	1	
Chaenactis stevioides	0.25	1	
Chenopodium neomexicana	0.25	1	
Chorizanthe brevicornus	0.25	1	
Cryptantha barbiger	2.00	1	
Cryptantha pterocarya	4.00	1	
Daucus pusillus	1.00	1	
Descurania pinnata	3.00	1	
Dichelostemma capitatum ssp. Pauciflor	0.25	1	
Ditaxis neomexicana	0.25	1	
Draba cuneifolia	1.00	1	
Eriastrum diffusum	0.25	1	
Eriogonum abertianum	1.00	1	
Eriogonum thomasii	1.00	1	
Erodium cicutarium	1.00	1	
Eucrypta micrantha	0.25	1	
Filago arizonica	1.00	1	
Gilia stellata	1.00	1	
Lappula occidentalis	2.00	1	
Lepidium lasiocarpum	3.00	1	
Lesquerella gordonii	3.00	1	
Linanthus bigelovii	1.00	1	
Lotus	0.25	1	
Malacothrix sonora	0.25	1	
Mentzelia	0.25	1	
Nemacladus glanduliferous var. orienta	0.25	1	
Phacelia ambigua	3.00	1	
Phacelia coerulea	2.00	1	
Plantago ovata	1.00	1	
Plantago patagonica	0.25	1	
Rafinesquia neomexicana	0.25	1	
Silene antirrhina	5.00	1	
Sisymbrium irio	0.25	1	

Community Statistics by Cluster Group

Natural Community MXR

Group	9	Number of Plots in Group:	1
Sphaeralcea laxa	0.25	1	
Stephanomeria pauciflora	0.25	1	
Stylocline micropoides	0.25	1	
Uropappus lindleyi	0.25	1	

Sum of Percent Cover by Growth Form 52.00

Growth Form 5. Grasses and Sedges

Scientific Name	Average % Cover by Species	# of plots containing
Aristida	0.25	1
Bromus rubens	0.25	1
Muhlenbergia porteri	0.25	1
Poa bigelovii	10.00	1
Schismus arabicus	5.00	1
Trisetum interruptum	0.25	1
unknown grass 1	1.00	1
unknown grass 2	1.00	1
Vulpia octoflora	2.00	1

Sum of Percent Cover by Growth Form 20.00

Growth Form 6. Vines

Scientific Name	Average % Cover by Species	# of plots containing
Matelea parvifolia	0.25	1

Sum of Percent Cover by Growth Form 0.25

Community Statistics by Cluster Group

Natural Community MXR

Group 13

Number of Plots in Group: 1

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Prosopis velutina	1.00	1
Quercus turbinella	2.00	1
Sum of Percent Cover by Growth Form	3.00	

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Abutilon incanum	0.25	1
Acacia greggii	15.00	1
Anisacathus thurberi	2.00	1
Artemisia ludoviciana	0.25	1
Bebbia juncea aspera	0.25	1
Brickellia atrostyloides	0.25	1
Brickellia coulteri	2.00	1
Calliandra eriophylla	0.25	1
Celtis pallida pallida	40.00	1
Coursetia glandulosa	10.00	1
Crossosma bigelovii	3.00	1
Ditaxis lanceolata	0.25	1
Ephedra aspera	5.00	1
Ericameria laricifolia	0.25	1
Eriogonum fasciculatum	1.00	1
Eriogonum wrightii	0.25	1
Forestiera phillyreiodes	2.00	1
Gymnosperma glutinosum	0.25	1
Justicia longii	0.25	1
Lycium andersonii	5.00	1
Lycium exsertum	5.00	1
Machaeranthera pinnatifida gooddingii	0.25	1
Tragia nepetifolia var dissecta	0.25	1
Trixis californica	1.00	1
unknown shrub 1	0.25	1
Viguiera parishii	1.00	1
Sum of Percent Cover by Growth Form	95.25	

Community Statistics by Cluster Group

Natural Community MXR

Group **13**

Number of Plots in Group: **1**

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acourtia nana	0.25	1
Amsinckia intermedia	2.00	1
Camissonia	0.25	1
Chenopodium neomexicana	1.00	1
Descurania pinnata	2.00	1
Ditaxis neomexicana	0.25	1
Eucrypta micrantha	3.00	1
Herissantia crispa	0.25	1
Lactuca serrulata	0.25	1
Lepidium lasiocarpum	4.00	1
Malvastrum bicuspidatum	0.25	1
Phacelia	1.00	1
Phacelia coerulea	3.00	1
Pholistoma auritum var arizonicum	1.00	1
Plantago ovata	0.25	1
Rafinesquia neomexicana	0.25	1
Salvia pinguifolia	5.00	1
Senecio lemmonii	0.25	1
Silene antirrhina	0.25	1
Sphaeralcea ambigua	0.25	1
Streptanthus carinatus	0.25	1
Trifolium wormskioldii	0.25	1
Sum of Percent Cover by Growth Form	25.25	

Growth Form **5. Grasses and Sedges**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Bromus rubens	0.25	1
Muhlenbergia porteri	0.25	1
Poa bigelovii	2.00	1
Sum of Percent Cover by Growth Form	2.50	

Growth Form **6. Vines**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Galium aparine	0.25	1
Janusia gracile	1.00	1
Nissolia schottii	0.25	1
Rhynchosia senna var. texana	0.25	1
Sum of Percent Cover by Growth Form	1.75	

Community Statistics by Cluster Group

Natural Community MXR

Group

13

Number of Plots in Group:

1

Growth Form

7. Ferns and Club Mosses

Scientific Name

Average % Cover by Species

of plots containing

Pellaea truncata

0.25

1

Sum of Percent Cover by Growth Form

0.25

Community Statistics by Cluster Group

Natural Community MXR

Group **16**

Number of Plots in Group: **1**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia microphylla	5.00	1
Prosopis velutina	6.00	1
Sum of Percent Cover by Growth Form	11.00	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	1.00	1
Acacia greggii	4.00	1
Aloysia wrightii	1.00	1
Canotia holacantha	0.25	1
Celtis pallida pallida	6.00	1
Ephedra aspera	1.00	1
Eriogonum fasciculatum	1.00	1
Eriogonum wrightii	0.25	1
Fouquieria splendens	0.25	1
Krameria grayi	0.25	1
Lycium	4.00	1
Menodora scabra	1.00	1
Psilostrophe cooperi	0.25	1
Trixis californica	0.25	1
unknown shrub 1	0.25	1
Viguiera parishii	3.00	1
Sum of Percent Cover by Growth Form	23.75	

Growth Form **4. Herbs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	2.00	1
Amsinckia intermedia	3.00	1
Camissonia	0.25	1
Caulanthus lasiophyllus	0.25	1
Cryptantha pterocarya	3.00	1
Daucus pusillus	0.25	1
Delphinium scaposum	0.25	1
Descurania pinnata	0.25	1
Dichelostemma capitatum ssp. Pauciflor	0.25	1

Community Statistics by Cluster Group

Natural Community MXR

<i>Group</i>	16	<i>Number of Plots in Group:</i>	1
Draba cuneifolia	0.25	1	
Eriastrum diffusum	0.25	1	
Erodium cicutarium	2.00	1	
Eucrypta micrantha	1.00	1	
Euphorbia	0.25	1	
Gilia stellata	0.25	1	
Hedeona nanum var marocalyx	0.25	1	
Lactuca serrulata	0.25	1	
Lepidium lasiocarpum	4.00	1	
Lesquerella tenella	0.25	1	
Linanthus jonesii	0.25	1	
Lupinus sparsiflorus	0.25	1	
Pectocarya recurvata	0.25	1	
Phacelia coerulea	15.00	1	
Plantago patagonica	0.25	1	
Rafinesquia neomexicana	0.25	1	
Silene antirrhina	0.25	1	
Sisymbrium irio	1.00	1	
Stephanomeria pauciflora	0.25	1	
Streptanthus carinatus	0.25	1	
Stylocline micropoides	0.25	1	
Uropappus lindleyi	1.00	1	
Verbena neomexicana	0.25	1	
Sum of Percent Cover by Growth Form	37.75		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida purpurea	0.25	1	
Bromus carinatus	0.25	1	
Bromus rubens	0.25	1	
Muhlenbergia porteri	20.00	1	
Poa bigelovii	6.00	1	
Schismus arabicus	0.25	1	
Vulpia octoflora	3.00	1	
Sum of Percent Cover by Growth Form	30.00		

Community Statistics by Cluster Group

Natural Community MXR

Group

16

Number of Plots in Group:

1

Growth Form

6. Vines

Scientific Name

Average % Cover by Species

of plots containing

Lyrocarpa coulteri

0.25

1

Sarcostemma cynanchoides

0.25

1

Sum of Percent Cover by Growth Form

0.50

APPENDIX N

Valley Xeroriparian Scrub

Community Statistics by Cluster Group

Group 1 *Number of Plots in Group:* **6**

Growth Form **1. Trees**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	5.17	4
Parkinsonia florida	1.33	1
Parkinsonia microphylla	27.50	6
Phoradendron californicum	0.50	3
Prosopis velutina	1.00	2
Sum of Percent Cover by Growth Form	35.50	

Growth Form **2. Shrubs**

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Abutilon incanum	0.04	1
Acacia constricta	3.00	4
Ambrosia deltoidea	2.92	6
Brickellia coulteri	0.38	3
Calliandra eriophylla	1.71	3
Celtis pallida pallida	1.00	3
Ditaxis lanceolata	0.25	3
Encelia farinosa farinosa	0.67	2
Ephedra aspera	0.04	1
Eriogonum fasciculatum	0.17	1
Fagonia californica ssp longipes	0.04	1
Fouquieria splendens	0.33	2
Hibiscus coulteri	0.04	1
Jatropha cardiophylla	0.21	2
Krameria grayi	0.54	3
Larrea divaricata tridentata	2.17	6
Lycium	1.50	3
Lycium andersonii	0.50	1
Lycium berlandieri	2.33	2
Lycium fremontii	0.17	1
Lycium parishii	0.17	1
Mirabilis laevis v villosa	0.17	1
Senna covesii	0.21	2
Tragia nepetifolia var dissecta	0.04	1
Trixis californica	0.42	4
unknown shrub 1	0.21	2
Sum of Percent Cover by Growth Form	19.21	

Community Statistics by Cluster Group

Natural Community VXR

Group 1

Number of Plots in Group: 6

Growth Form 3. Cactus

Scientific Name	Average % Cover by Species	# of plots containing
Carnegieia gigantea	0.17	4
Cylindropuntia acanthocarpa	0.46	5
Cylindropuntia leptocaulis	0.08	2

Sum of Percent Cover by Growth Form 0.71

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia ambrosioides	0.17	1
Amsinckia intermedia	1.00	2
Amsinckia	0.17	1
Astragalus nuttallianus	0.04	1
Calycoseris wrightii	0.08	2
Camissonia	0.08	2
Camissonia californica	0.33	1
Camissonia chamaenerioides	0.38	2
Caulanthus lasiophyllus	1.17	3
Chaenactis carphoclinia	0.17	1
Chaenactis stevioides	0.13	3
Chenopodium neomexicana	0.17	1
Chorizanthe brevicornus	0.63	4
Chorizanthe rigida	0.33	1
Cryptantha barbigera	0.67	2
Cryptantha maritima	0.33	2
Cryptantha pterocarya	2.50	5
Daucus pusillus	0.17	1
Delphinium scaposum	0.04	1
Descurania pinnata	1.21	4
Draba cuneifolia	0.54	2
Eriastrum diffusum	0.04	1
Eriogonum deflexum	0.04	1
Eriophyllum lanosum	0.21	2
Erodium cicutarium	0.04	1
Eschscholzia mexicana	0.04	1
Eucrypta micrantha	1.17	3

Community Statistics by Cluster Group

Natural Community VXR

<i>Group</i>	1	<i>Number of Plots in Group:</i>	6
Euphorbia	0.17	1	
Euphorbia albomarginata	0.04	1	
Filago	0.04	1	
Filago arizonica	0.13	3	
Gilia	1.21	2	
Gilia stellata	0.04	1	
Lepidium lasiocarpum	6.83	6	
Lesquerella gordonii	2.54	5	
Linanthus jonesii	0.25	3	
Lupinus sparsiflorus	0.13	3	
Mentzelia	0.17	1	
Parietaria floridana	1.00	1	
Pectocarya	0.33	1	
Pectocarya platycarpa	0.83	3	
Pectocarya recurvata	1.00	4	
Perityle emoryii	0.88	2	
Phacelia	0.88	2	
Phacelia ambigua	0.33	1	
Phacelia coerulea	0.83	1	
Phacelia distans	0.50	1	
Pholistoma auritum var arizonicum	0.33	1	
Plantago ovata	0.71	4	
Rafinesquia neomexicana	0.67	1	
Silene antirrhina	0.04	1	
Sphaeralcea ambigua	0.17	1	
Sphaeralcea coulteri	0.21	2	
Stylocline micropoides	0.08	2	
unknown herb 1	0.04	1	
Sum of Percent Cover by Growth Form	32.21		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.04	1	
Aristida purpurea	0.04	1	
Poa bigelovii	0.50	3	
Schismus arabicus	7.04	6	
unknown grass 1	0.04	1	
Vulpia octoflora	0.88	4	
Sum of Percent Cover by Growth Form	8.54		

Community Statistics by Cluster Group

Natural Community VXR

Group 1

Number of Plots in Group: 6

Growth Form 6. Vines

Scientific Name	Average % Cover by Species	# of plots containing
Janusia gracile	0.71	4

Sum of Percent Cover by Growth Form 0.71

Growth Form 7. Ferns and Club Mosses

Scientific Name	Average % Cover by Species	# of plots containing
Astrolepis cochisensis	0.04	1
Notholaena standleyi	0.04	1

Sum of Percent Cover by Growth Form 0.08

Community Statistics by Cluster Group

Natural Community VXR

Group 2

Number of Plots in Group: 15

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
<i>Olneya tesota</i>	1.80	6
<i>Parkinsonia florida</i>	5.40	9
<i>Parkinsonia microphylla</i>	2.62	8
<i>Phoradendron californicum</i>	1.13	7
<i>Prosopis velutina</i>	5.80	10

Sum of Percent Cover by Growth Form 16.75

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
<i>Abutilon incanum</i>	0.07	1
<i>Acacia constricta</i>	1.28	5
<i>Acacia greggii</i>	3.45	8
<i>Aloysia wrightii</i>	0.07	1
<i>Ambrosia deltoidea</i>	1.40	9
<i>Ambrosia dumosa</i>	0.07	1
<i>Anisacathus thurberi</i>	0.20	2
<i>Atriplex canescens</i>	0.02	1
<i>Baccharis sarothroides</i>	0.02	1
<i>Bebbia juncea aspera</i>	0.40	2
<i>Brickellia coulteri</i>	0.18	4
<i>Calliandra eriophylla</i>	0.02	1
<i>Celtis pallida pallida</i>	0.15	2
<i>Condalia warnockii</i>	1.08	3
<i>Ditaxis lanceolata</i>	0.08	5
<i>Encelia farinosa farinosa</i>	0.10	3
<i>Ephedra aspera</i>	0.27	3
<i>Fagonia californica ssp longipes</i>	0.08	2
<i>Fouquieria splendens</i>	0.02	1
<i>Hymenoclea salsola</i>	1.53	4
<i>Hyptis emoryi</i>	0.08	2
<i>Krameria grayi</i>	0.17	3
<i>Larrea divaricata tridentata</i>	2.88	13
<i>Lycium</i>	0.87	6
<i>Lycium andersonii</i>	0.67	3
<i>Lycium berlandieri</i>	0.13	1
<i>Lycium macrodon</i>	0.13	1

Community Statistics by Cluster Group

Natural Community VXR

<i>Group</i>	2	<i>Number of Plots in Group:</i>	15
Lycium parishii	0.20	1	
Sebastiania bilocularis	0.02	1	
Senna covesii	0.07	1	
Trixis californica	0.15	2	
Ziziphus obtusifolia canescens	0.37	5	

Sum of Percent Cover by Growth Form 16.22

Growth Form 3. Cactus

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.05	3
Cylindropuntia acanthocarpa	0.07	4
Cylindropuntia leptocaulis	0.05	3
Mammillaria grahamii	0.02	1

Sum of Percent Cover by Growth Form 0.18

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acourtia nana	0.20	1
Acourtia wrightii	0.02	1
Allionia incarnata	0.05	3
Ambrosia ambrosioides	0.95	7
Ambrosia confertifolia	0.07	1
Amsinckia intermedia	0.60	9
Amsinckia tessellata	0.22	3
Amsinckia	0.03	2
Astragalus nuttallianus	0.03	2
Calycoseris wrightii	0.07	4
Camissonia	0.05	3
Camissonia boothii ssp condensata	0.02	1
Camissonia californica	0.17	4
Camissonia chamaenerioides	0.13	5
Camissonia claviformis	0.02	1
Caulanthus lasiophyllus	0.63	12
Chaenactis stevioides	0.28	7
Chenopodium murale	0.02	1
Chenopodium neomexicana	0.05	3
Chorizanthe brevicornus	0.40	12
Chorizanthe rigida	0.12	4

Community Statistics by Cluster Group

Natural Community VXR

Group	2	Number of Plots in Group:	15
Crassula connata	0.10	3	
Cryptantha barbigera	0.43	7	
Cryptantha maritima	0.73	10	
Cryptantha micrantha	0.30	4	
Cryptantha pterocarya	2.83	14	
Daucus pusillus	0.05	3	
Descurania pinnata	0.52	11	
Ditaxis neomexicana	0.02	1	
Draba cuneifolia	0.12	7	
Eriastrum diffusum	0.22	6	
Eriogonum abertianum	0.03	2	
Eriogonum deflexum	0.08	5	
Eriogonum maculatum	0.02	1	
Eriogonum thomasii	0.08	2	
Eriophyllum lanosum	0.08	5	
Erodium cicutarium	1.18	6	
Erodium texanum	0.02	1	
Eschscholzia mexicana	0.05	3	
Eucrypta micrantha	0.25	9	
Euphorbia	0.17	4	
Euphorbia albomarginata	0.07	4	
Euphorbia arizonica	0.02	1	
Euphorbia polycarpa	0.10	3	
Evax multicaulis	0.07	1	
Filago	0.12	4	
Filago arizonica	0.03	2	
Gilia	0.12	4	
Gilia stellata	0.13	5	
Langloisia setosissima ssp. Setosissim	0.02	1	
Lappula occidentalis	0.02	1	
Lepidium lasiocarpum	1.98	14	
Lesquerella gordonii	0.68	14	
Linanthus jonesii	0.15	6	
Loeflingia squarrosa ssp. Cactorum	0.13	1	
Lotus salsuginosus	0.02	1	
Lotus strigosa var tomentellum	0.02	1	
Lupinus	0.02	1	
Lupinus Arizonicus	0.07	1	
Lupinus concinnus	0.02	1	

Community Statistics by Cluster Group

Natural Community VXR

<i>Group</i>	2	<i>Number of Plots in Group:</i>	15
Lupinus sparsiflorus	0.13	5	
Marina parryi	0.03	2	
Mentzelia	0.02	1	
Mentzelia affinis	0.03	2	
Monoptilon bellioides	0.03	2	
Nama hispidum	0.07	1	
Nemacladus glanduliferous var. orienta	0.02	1	
Nicotiana obtusifolia	0.73	7	
Orobancha cooperi	0.02	1	
Parietaria floridana	0.02	1	
Pectocarya	1.35	5	
Pectocarya platycarpa	0.20	3	
Pectocarya recurvata	0.97	7	
Perityle emoryi	0.03	2	
Phacelia	0.08	5	
Phacelia ambigua	0.10	3	
Phacelia coerulea	0.30	5	
Phacelia distans	0.02	1	
Plagiobothrys	0.02	1	
Plantago ovata	0.57	6	
Plantago patagonica	0.03	2	
Rafinesquia neomexicana	0.02	1	
Salvia columbariae	0.03	2	
Silene antirrhina	0.12	7	
Sisymbrium irio	0.53	8	
Sphaeralcea	0.02	1	
Sphaeralcea ambigua	0.03	2	
Sphaeralcea coulteri	0.03	2	
Stylocline micropoides	0.32	9	
unknown herb 1	0.02	1	

Sum of Percent Cover by Growth Form 21.05

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Aristida	0.03	2	
Aristida purpurea	0.20	2	
Bromus rubens	0.10	3	
Muhlenbergia microsperma	0.15	2	

Community Statistics by Cluster Group

Natural Community VXR

<i>Group</i>	2	<i>Number of Plots in Group:</i>		15
Muhlenbergia porteri	0.03		2	
Pleuraphis mutica	0.02		1	
Poa bigelovii	0.60		8	
Schismus arabicus	8.48		15	
unknown grass 1	0.02		1	
Vulpia octoflora	0.42		8	
Sum of Percent Cover by Growth Form	10.05			

<i>Growth Form</i>	6. Vines	<i>Average % Cover by Species</i>		<i># of plots containing</i>
<i>Scientific Name</i>				
Asclepias subulata	0.07		1	
Clematis drummondii	0.02		1	
Commicarpas scandens	0.03		2	
Janusia gracile	0.02		1	
Lyrocarpa coulteri	0.17		3	
Maurandya antirrhinifolia	0.02		1	
Sum of Percent Cover by Growth Form	0.32			

Community Statistics by Cluster Group

Natural Community VXR

Group 9

Number of Plots in Group: 3

Growth Form 1. Trees

Scientific Name	Average % Cover by Species	# of plots containing
Olneya tesota	32.67	3
Parkinsonia microphylla	1.67	3
Prosopis velutina	1.33	1

Sum of Percent Cover by Growth Form 35.67

Growth Form 2. Shrubs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia deltoidea	0.33	1
Ditaxis lanceolata	0.25	3
Encelia farinosa farinosa	0.08	1
Hymenoclea salsola	0.33	1
Hyptis emoryi	0.42	2
Larrea divaricata tridentata	3.00	3
Lycium	0.33	1
Lycium berlandieri	3.33	1
Senna covesii	0.08	1

Sum of Percent Cover by Growth Form 8.17

Growth Form 4. Herbs

Scientific Name	Average % Cover by Species	# of plots containing
Ambrosia ambrosioides	1.00	2
Amsinckia intermedia	0.33	1
Amsinckia	0.42	2
Camissonia chamaenerioides	0.08	1
Caulanthus lasiophyllus	0.08	1
Chaenactis stevioides	0.33	1
Chenopodium murale	0.08	1
Chorizanthe brevicornus	0.33	1
Chorizanthe rigida	1.00	1
Cryptantha barbiger	0.67	1
Cryptantha maritima	0.67	1
Cryptantha pterocarya	1.67	3
Daucus pusillus	0.08	1
Descurania pinnata	0.42	2
Eriastrum diffusum	0.08	1

Community Statistics by Cluster Group

Natural Community VXR

<i>Group</i>	9	<i>Number of Plots in Group:</i>	3
Euphorbia	0.42	2	
Euphorbia polycarpa	0.08	1	
Gilia	0.17	2	
Gilia stellata	0.08	1	
Lepidium lasiocarpum	2.67	3	
Lesquerella gordonii	0.42	2	
Linanthus jonesii	0.08	1	
Lupinus sparsiflorus	0.75	3	
Nicotiana obtusifolia	0.08	1	
Pectocarya	1.33	2	
Phacelia	1.42	3	
Salvia columbariae	0.08	1	
Sisymbrium irio	3.00	2	
Sphaeralcea ambigua	0.67	1	
Stylocline micropoides	0.33	1	
Sum of Percent Cover by Growth Form	18.83		

<i>Growth Form</i>	5. Grasses and Sedges		
<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Erioneuron pulchellum	0.08	1	
Poa bigelovii	0.08	1	
Schismus arabicus	5.00	3	
Sum of Percent Cover by Growth Form	5.17		

Community Statistics by Cluster Group

Natural Community VXR

Group 21

Number of Plots in Group: 1

Growth Form 1. Trees

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	35.00	1
Prosopis velutina	0.25	1
Sum of Percent Cover by Growth Form	35.25	

Growth Form 2. Shrubs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia deltoidea	0.25	1
Larrea divaricata tridentata	4.00	1
Lycium andersonii	15.00	1
Sum of Percent Cover by Growth Form	19.25	

Growth Form 4. Herbs

<i>Scientific Name</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Amsinckia intermedia	6.00	1
Camissonia chamaenerioides	3.00	1
Caulanthus lasiophyllus	0.25	1
Cryptantha angustifolia	0.25	1
Cryptantha micrantha	0.25	1
Cryptantha pterocarya	0.25	1
Descurania pinnata	2.00	1
Eriophyllum lanosum	2.00	1
Erodium cicutarium	0.25	1
Eucrypta micrantha	0.25	1
Lepidium lasiocarpum	10.00	1
Lesquerella gordonii	0.25	1
Lupinus sparsiflorus	0.25	1
Parietaria floridana	2.00	1
Pectocarya platycarpa	12.00	1
Plantago ovata	3.00	1
Sisymbrium irio	10.00	1
Sphaeralcea coulteri	0.25	1
Sum of Percent Cover by Growth Form	52.25	

Community Statistics by Cluster Group

Natural Community VXR

Group

21

Number of Plots in Group:

1

Growth Form

5. Grasses and Sedges

Scientific Name

Average % Cover by Species

of plots containing

Poa bigelovii

2.00

1

Schismus arabicus

50.00

1

Sum of Percent Cover by Growth Form

52.00

APPENDIX O

Braided Channel Floodplains

Community Statistics by Cluster Group

Group 1 *Number of Plots in Group: 1*

Growth Form *1. Trees*

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	2.00	1
Phoradendron californicum	4.00	1
Prosopis velutina	0.25	1

Sum of Percent Cover by Growth Form 6.25

Growth Form *2. Shrubs*

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia greggii	35.00	1
Ambrosia deltoidea	0.25	1
Baccharis sarothroides	0.25	1
Bebbia juncea aspera	0.25	1
Hymenoclea salsola	0.25	1
Larrea divaricata tridentata	13.00	1
Lycium andersonii	45.00	1

Sum of Percent Cover by Growth Form 94.00

Growth Form *4. Herbs*

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	0.25	1
Ambrosia confertifolia	0.25	1
Amsinckia intermedia	0.25	1
Bowlesia incana	0.25	1
Descurania pinnata	0.25	1
Eriophyllum lanosum	0.25	1
Erodium cicutarium	0.25	1
Lepidium lasiocarpum	1.00	1
Parietaria floridana	1.00	1
Pectocarya platycarpa	2.00	1
Plantago ovata	1.00	1
Sisymbrium irio	0.25	1

Sum of Percent Cover by Growth Form 7.00

Community Statistics by Cluster Group

Natural Community BCF

Group

1

Number of Plots in Group:

1

Growth Form **5. Grasses and Sedges**

<i>ScientificName</i>	<i>Average % Cover by Species</i>		<i># of plots containing</i>
Poa bigelovii	0.25	1	
Schismus arabicus	15.00		1
Sum of Percent Cover by Growth Form		15.25	

Growth Form **6. Vines**

<i>ScientificName</i>	<i>Average % Cover by Species</i>		<i># of plots containing</i>
Sarcostemma cynanchoides	0.25		1
Sum of Percent Cover by Growth Form		0.25	

Community Statistics by Cluster Group

Natural Community BCF

Group 2

Number of Plots in Group: 9

Growth Form 1. Trees

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Parkinsonia florida	0.39	5
Prosopis velutina	0.61	3
Sum of Percent Cover by Growth Form	1.00	

Growth Form 2. Shrubs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia constricta	0.11	1
Acacia greggii	0.03	1
Ambrosia deltoidea	0.03	1
Baccharis sarothroides	0.47	3
Bebbia juncea aspera	0.08	3
Chilopsis linearis arcuata	0.42	5
Hymenoclea salsola	0.36	2
Larrea divaricata tridentata	0.06	2
Petalonyx thurberi	0.03	1
Sum of Percent Cover by Growth Form	1.58	

Growth Form 4. Herbs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	0.86	7
Ambrosia confertifolia	0.03	1
Amsinckia intermedia	0.75	8
Astragalus	0.03	1
Calycoseris wrightii	0.11	4
Camissonia	0.06	2
Camissonia boothii ssp condensata	0.03	1
Camissonia chamaenerioides	0.11	4
Caulanthus lasiophyllus	0.11	4
Chaenactis stevioides	0.39	8
Chenopodium neomexicana	0.03	1
Chorizanthe brevicornus	0.36	7
Chorizanthe rigida	0.11	4
Crassula connata	0.03	1
Cryptantha	0.06	2
Cryptantha barbigera	0.08	3

Community Statistics by Cluster Group

Natural Community BCF

<i>Group</i>	2	<i>Number of Plots in Group:</i>	9
Cryptantha maritima	0.61	5	
Cryptantha micrantha	0.08	3	
Cryptantha pterocarya	0.86	6	
Daucus pusillus	0.03	1	
Descurania pinnata	0.22	5	
Ditaxis neomexicana	0.03	1	
Draba cuneifolia	0.03	1	
Eriastrum diffusum	0.03	1	
Eriogonum deflexum	0.28	4	
Eriophyllum lanosum	0.36	7	
Erodium cicutarium	0.28	7	
Erodium texanum	0.03	1	
Eucrypta micrantha	0.03	1	
Euphorbia albomarginata	0.08	3	
Euphorbia polycarpa	0.17	3	
Euphorbia setiloba	0.28	4	
Gilia	0.67	1	
Lappula occidentalis	0.08	3	
Lepidium lasiocarpum	0.97	8	
Lesquerella gordonii	0.58	8	
Linanthus	0.03	1	
Linanthus bigelovii	0.08	3	
Linanthus jonesii	0.03	1	
Lotus	0.03	1	
Lotus strigosa var tomentellum	0.03	1	
Lupinus concinnus	0.14	2	
Lupinus sparsiflorus	1.53	5	
Mentzelia	0.06	2	
Monoptilon bellioides	0.06	2	
Nicotiana obtusifolia	0.11	1	
Parietaria floridana	0.03	1	
Pectocarya	3.39	5	
Pectocarya platycarpa	1.36	4	
Phacelia ambigua	0.11	1	
Plagiobothrys	0.03	1	
Plantago ovata	0.08	3	
Silene	0.08	3	
Sisymbrium irio	0.11	4	
Sphaeralcea	0.06	2	

Community Statistics by Cluster Group

Natural Community BCF

Group	2	Number of Plots in Group:	9
Sphaeralcea ambigua	0.03	1	
Stylocline micropoides	0.06	2	
unknown herb 1	0.03	1	

Sum of Percent Cover by Growth Form 16.28

Growth Form 5. Grasses and Sedges

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Erioneuron pulchellum	0.03	1
Poa bigelovii	0.11	4
Schismus arabicus	5.50	8
Vulpia octoflora	0.14	2

Sum of Percent Cover by Growth Form 5.78

Growth Form 6. Vines

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Clematis drummondii	0.03	1

Sum of Percent Cover by Growth Form 0.03

Community Statistics by Cluster Group

Natural Community BCF

Group **3**

Number of Plots in Group: **3**

Growth Form **1. Trees**

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	18.33	2
Parkinsonia florida	36.67	3
Phoradendron californicum	2.00	2
Prosopis velutina	2.00	2

Sum of Percent Cover by Growth Form 59.00

Growth Form **2. Shrubs**

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia greggii	0.67	1
Baccharis sarothroides	0.08	1
Hymenoclea salsola	4.33	3
Larrea divaricata tridentata	0.08	1
Lycium	0.08	1
Lycium andersonii	2.33	2

Sum of Percent Cover by Growth Form 7.58

Growth Form **3. Cactus**

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Cylindropuntia leptocaulis	0.33	1

Sum of Percent Cover by Growth Form 0.33

Growth Form **4. Herbs**

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	0.67	2
Amsinckia intermedia	2.00	2
Camissonia chamaenerioides	0.42	2
Chaenactis stevioides	0.17	2
Cryptantha	1.67	1
Cryptantha maritima	0.33	1
Descurania pinnata	2.00	1
Draba cuneifolia	0.08	1
Eriogonum	0.08	1
Eriophyllum lanosum	0.08	1
Gilia	0.08	1
Lepidium lasiocarpum	3.75	3

Community Statistics by Cluster Group

Natural Community BCF

<i>Group</i>	3	<i>Number of Plots in Group:</i>		3
Lesquerella gordonii	0.33		1	
Lotus salsuginosus	0.08		1	
Lupinus concinnus	0.08		1	
Lupinus sparsiflorus	0.17		2	
Mentzelia	0.08		1	
Parietaria floridana	3.33		1	
Pectocarya	0.42		2	
Pectocarya platycarpa	1.00		1	
Phacelia	0.08		1	
Plantago ovata	0.08		1	
Sisymbrium irio	3.67		3	
Stylocline micropoides	0.08		1	
Sum of Percent Cover by Growth Form	20.75			

<i>Growth Form</i>	<i>5. Grasses and Sedges</i>		
<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>	
Poa bigelovii	0.67		1
Schismus arabicus	43.33		3
Sum of Percent Cover by Growth Form	44.00		

Community Statistics by Cluster Group

Natural Community BCF

Group

5

Number of Plots in Group:

6

Growth Form

1. Trees

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Olneya tesota	0.50	2
Parkinsonia florida	1.88	4
Parkinsonia microphylla	0.88	2
Phoradendron californicum	0.04	1
Prosopis velutina	0.21	2

Sum of Percent Cover by Growth Form

3.50

Growth Form

2. Shrubs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia greggii	0.21	2
Ambrosia deltoidea	0.38	2
Baccharis sarothroides	1.67	2
Chilopsis linearis arcuata	0.17	1
Hymenoclea salsola	1.50	3
Larrea divaricata tridentata	2.25	5
Lycium	0.04	1
Lycium andersonii	1.00	2

Sum of Percent Cover by Growth Form

7.21

Growth Form

3. Cactus

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Carnegiea gigantea	0.08	2
Cylindropuntia acanthocarpa	0.17	1
Cylindropuntia bigelovii	0.04	1
Echinocereus engelmannii	0.04	1
Ferocactus cylindraceus	0.04	1

Sum of Percent Cover by Growth Form

0.38

Growth Form

4. Herbs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	3.67	2
Amsinckia intermedia	0.46	5
Camissonia	0.04	1
Camissonia boothii ssp condensata	0.04	1
Camissonia chamaenerioides	0.21	2

Community Statistics by Cluster Group

Natural Community BCF

<i>Group</i>	5	<i>Number of Plots in Group:</i>	6
Camissonia claviformis	0.04	1	
Caulanthus lasiophyllus	0.21	2	
Chenopodium	0.17	1	
Chorizanthe brevicornus	0.67	2	
Chorizanthe rigida	0.04	1	
Cryptantha	0.17	1	
Cryptantha maritima	0.71	3	
Cryptantha micrantha	0.17	1	
Cryptantha pterocarya	0.21	2	
Descurania pinnata	0.75	5	
Eriogonum deflexum	0.04	1	
Eriophyllum lanosum	0.17	4	
Erodium cicutarium	0.58	3	
Eucrypta micrantha	0.17	1	
Euphorbia	0.04	1	
Euphorbia polycarpa	0.04	1	
Gilia	0.04	1	
Gilia stellata	0.04	1	
Lappula occidentalis	0.04	1	
Lepidium lasiocarpum	3.33	5	
Lesquerella gordonii	0.25	3	
Linanthus	0.04	1	
Linanthus bigelovii	0.04	1	
Lupinus concinnus	0.04	1	
Lupinus sparsiflorus	0.42	3	
Monoptilon bellioides	0.04	1	
Oligomeris linifolia	0.04	1	
Pectocarya	3.67	4	
Pectocarya platycarpa	1.50	1	
Pectocarya recurvata	0.33	1	
Perityle emoryi	0.04	1	
Phacelia	0.04	1	
Plantago ovata	3.88	3	
Salvia columbariae	0.04	1	
Sisymbrium irio	0.33	2	
Sphaeralcea ambigua	0.04	1	
Stylocline micropoides	0.71	3	
Sum of Percent Cover by Growth Form	23.50		

Community Statistics by Cluster Group

Natural Community BCF

Group

5

Number of Plots in Group:

6

Growth Form

5. Grasses and Sedges

ScientificName

Average % Cover by Species

of plots containing

Poa bigelovii

0.21

2

Schismus arabicus

42.83

6

Vulpia octoflora

0.04

1

Sum of Percent Cover by Growth Form

43.08

Community Statistics by Cluster Group

Natural Community BCF

Group 14

Number of Plots in Group: 2

Growth Form 1. Trees

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Phoradendron californicum	5.50	2
Prosopis velutina	22.50	2
Sum of Percent Cover by Growth Form	28.00	

Growth Form 2. Shrubs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Acacia greggii	1.00	1
Ambrosia deltoidea	0.50	1
Baccharis sarothroides	0.50	1
Celtis pallida pallida	1.00	1
Larrea divaricata tridentata	14.50	2
Lycium	4.50	2
Sum of Percent Cover by Growth Form	22.00	

Growth Form 4. Herbs

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Ambrosia ambrosioides	0.13	1
Amsinckia intermedia	2.50	2
Camissonia chamaenerioides	0.13	1
Caulanthus lasiophyllus	1.00	1
Cryptantha barbiger	0.50	1
Cryptantha maritima	0.13	1
Cryptantha pterocarya	0.13	1
Descurania pinnata	0.13	1
Draba cuneifolia	0.13	1
Eucrypta micrantha	0.50	1
Lappula occidentalis	1.63	2
Lesquerella gordonii	0.25	2
Parietaria floridana	0.13	1
Pectocarya	15.00	1
Pectocarya recurvata	2.50	1
Plantago ovata	0.63	2
Sisymbrium irio	1.00	1
Sphaeralcea	0.13	1
Sphaeralcea coulteri	0.13	1
Sum of Percent Cover by Growth Form	26.63	

Community Statistics by Cluster Group

Natural Community BCF

Group

14

Number of Plots in Group:

2

Growth Form

5. Grasses and Sedges

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Poa bigelovii	0.63	2
Schismus arabicus	10.00	2
Vulpia octoflora	1.00	1

Sum of Percent Cover by Growth Form

11.63

Growth Form

6. Vines

<i>ScientificName</i>	<i>Average % Cover by Species</i>	<i># of plots containing</i>
Clematis drummondii	0.50	1

Sum of Percent Cover by Growth Form

0.50