

## Ecological site R040XB227AZ Saline Bottom 7"-10" p.z.

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### General information

**Provisional.** A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

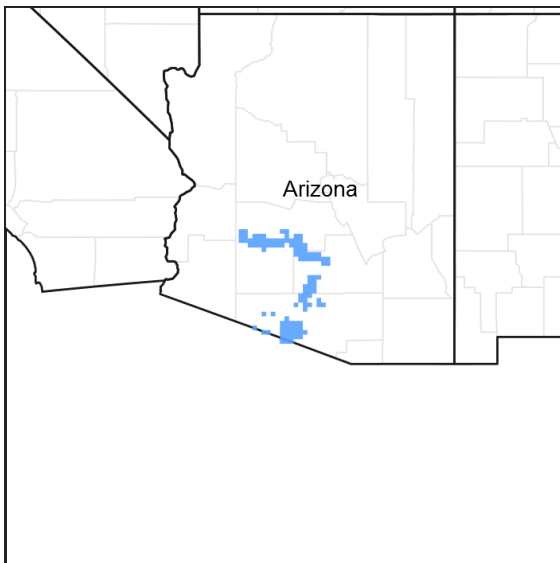


Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

### MLRA notes

Major Land Resource Area (MLRA): 040X–Sonoran Basin and Range

AZ 40.2 – Middle Sonoran Desert

Elevations range from 1200 to 2000 feet and precipitation averages 7 to 10 inches per year. Vegetation includes saguaro, palo verde, creosotebush, triangle bursage, brittlebush, prickly pear, cholla, desert saltbush, wolfberry bush muhly, threeawns, and big galleta. The soil temperature regime is hyperthermic and the soil moisture regime is typic aridic. This unit occurs within the Basin and Range Physiographic Province and is characterized by numerous mountain ranges that rise abruptly from broad, plain-like valleys and basins. Igneous and metamorphic rock classes dominate the mountain ranges and sediments filling the basins represent combinations of fluvial, lacustrine, colluvial and alluvial deposits.

Table 1. Dominant plant species

|            |   |
|------------|---|
| Tree       | Not specified   |
| Shrub      | (1) <i>Prosopis velutina</i><br>(2) <i>Atriplex polycarpa</i>   |
| Herbaceous | (1) <i>Sporobolus airoides</i><br>(2) <i>Trichloris crinita</i> |

## Physiographic features

This site occurs on floodplains and alluvial fans. It benefits on a regular basis from extra moisture received as overbank flooding and/or runoff from adjacent upland sites.

**Table 2. Representative physiographic features**

|           |                                     |
|-----------|-------------------------------------|
| Landforms | (1) Flood plain<br>(2) Alluvial fan |
| Elevation | 900–2,050 ft                        |
| Slope     | 0–1%                                |

## Climatic features

Precipitation in the sub-resource area ranges from 7 to 10 inches. Elevations range from 900 to 2050 feet. Winter-summer rainfall ratios range from 40% to 60% in the southern part along the international boundary, to 60% to 40% in the central and northern parts of the sub-resource area. As one moves from east to west in this resource area rains become more unpredictable and variable with Coefficients of Variation of annual rainfall equal to 38% at Florence and 46% at Aguila. Summer rains fall July- September, originate in the Gulf of Mexico, and are convective, usually brief, intense thunderstorms. Summer precipitation is extremely erratic and undependable in this area. Cool season moisture tends to be frontal, originates in the Pacific and Gulf of California, and falls in widespread storms with long duration and low intensity. This is the dependable moisture supply for vegetation in the area. Snow is very rare and usually melts on contact. May-June is the driest time of the year. Humidity is very low.

Winter temperatures are very mild with very few days recording freezing for short periods of time. Summertime temperatures are hot to very hot with many days in June-July exceeding 105 degrees F. Frost-free days range from 280 at stations in major river valleys with cold air drainage to 320 to 350 days at upland stations.

Both the spring and the summer growing seasons are equally important for perennial grass, forb and shrub growth. Cool and warm season annual forbs and grasses can be common in their respective seasons with above average rainfall. Perennial forage species can remain green throughout the year with available moisture.

**Table 3. Representative climatic features**

|                               |          |
|-------------------------------|----------|
| Frost-free period (average)   | 350 days |
| Freeze-free period (average)  | 0 days   |
| Precipitation total (average) | 10 in    |

## Influencing water features

### Soil features

Soils are deep, well-drained, saline and sodic. Texture is loamy. Subsurface texture group includes fine loamy and coarse silty. Plant-soil moisture relationships are good due to the extra water these soils receive as runoff from adjacent upland areas.

Soils mapped on this site include: SSA-651 Central Maricopa county MU's Cashion-Cn, Gadsden (saline)-Gd, Gilman-Gf, Gh, GL & Gp, Glenbar-Gs & Gu; SSA-658 Gila River Indian Reservation MU's Cuerda-12, Gadsden (saline)-15 & 16, Glenbar-15 & 17; SSA-703 Tohono O'odham area MU's Kamato-8, Tatai-57 & Valencia-9.

**Table 4. Representative soil features**

|                 |  |
|-----------------|--|
| Surface texture | (1) Loam<br>(2) Clay loam<br>(3) Silty clay loam |
|-----------------|--|

|  |                       |
|--|-----------------------|
| Family particle size                                     | (1) Loamy             |
| Drainage class   | Well drained          |
| Permeability class                                       | Very slow to moderate |
| Soil depth   | 60 in                 |
| Surface fragment cover <=3"                              | 0%                    |
| Surface fragment cover >3"                               | 0%                    |
| Available water capacity<br>(0-40in)                     | 9.6–11.4 in           |
| Calcium carbonate equivalent<br>(0-40in)                 | 1–10%                 |
| Electrical conductivity<br>(0-40in)                      | 2–16 mmhos/cm         |
| Sodium adsorption ratio<br>(0-40in)                      | 13–30                 |
| Soil reaction (1:1 water)<br>(0-40in)                    | 7.9–9                 |
| Subsurface fragment volume <=3"<br>(Depth not specified) | 0%                    |
| Subsurface fragment volume >3"<br>(Depth not specified)  | 0%                    |

## Ecological dynamics

The plant communities found on an ecological site are naturally variable. Composition and production will vary with yearly conditions, location, aspect, and the natural variability of the soils. The Historical Climax Plant Community represents the natural potential plant communities found on relict or relatively undisturbed sites. Other plant communities described here represent plant communities that are known to occur when the site is disturbed by factors such as fire, grazing, or drought.

Production data provided in this site description is standardized to air dry weight at the end of the summer growing season. The plant communities described in this site description are based on near normal rainfall years.

NRCS uses a Similarity Index to compare existing plant communities to the plant communities described here. Similarity index is determined by comparing the production and composition of a plant community to the production and composition of a plant community described in this site description. To determine Similarity index, compare the production (air dry weight) of each species to that shown in the plant community description. For each species, count no more than the maximum amount shown for the species, and for each group, count no more than the maximum amount shown for each group. Divide the resulting total by the total normal year production shown in the plant community description. If the rainfall has been significantly above or below normal, use the total production shown for above or below normal years. If field data is not collected at the end of the summer growing season, then the field data must be corrected to the end of the year production before comparing it to the site description. The growth curve can be used as a guide for estimating production at the end of the summer growing season.

## State and transition model



The State and Transition Model and Accompanying Narrative Descriptions are Still To Be Developed for this Ecological Site. For More Information Contact The Arizona NRCS State Rangeland Management Specialist.

**State 1  
Historic Climax Plant Community**

**Community 1.1  
Historic Climax Plant Community**

The native plant community on this site is dominated by a diverse mixture of perennial grasses, salt desert shrubs, and desert trees. The aspect is shrubland. With continuous heavy grazing, midgrasses are removed from the plant community. When perennial grass cover is depleted, the site is extremely susceptible to gully erosion. Mesquite can increase quickly to dominate the plant community under conditions of heavy grazing and accelerated erosion and/or sedimentation. Base level changes in large watersheds will lead to eventual gullying of the site. With severe erosion, the effectiveness of flooding is greatly reduced as is the site's ability to produce vegetation. PLant populations of major tree and shrub species range from 100-400 trees/ac. for both Andersons wolfberry and iodinebush. Tree canopy ranges from 10-20%. Perennial plant basal cover ranges from 5-10%. The atriplex species are very sensitive to fires in the summer.

Table 5. Annual production by plant type

| Plant Type      | Low (Lb/Acre) | Representative Value (Lb/Acre) | High (Lb/Acre) |
|-----------------|---------------|--------------------------------|----------------|
| Shrub/Vine      | 810           | 945                            | 1080           |
| Grass/Grasslike | 540           | 675                            | 810            |
| Forb            | 180           | 225                            | 270            |
| <b>Total</b>    | <b>1530</b>   | <b>1845</b>                    | <b>2160</b>    |

## Additional community tables

Table 6. Community 1.1 plant community composition

| Group                  | Common Name           | Symbol | Scientific Name                              | Annual Production (Lb/Acre) | Foliar Cover (%) |
|------------------------|-----------------------|--------|--|-----------------------------|------------------|
| <b>Grass/Grasslike</b> |                       |        |  |                             |                  |
| 1                      |                       |        |  | 101–169                     |                  |
|                        | alkali sacaton        | SPAI   | <i>Sporobolus airoides</i>                   | 101–169                     | –                |
|                        | false Rhodes grass    | TRCR9  | <i>Trichloris crinita</i>                    | 101–169                     | –                |
| 2                      |                       |        |  | 34–68                       |                  |
|                        | Havard's threeawn     | ARHA3  | <i>Aristida havardii</i>                     | 34–68                       | –                |
|                        | spidergrass           | ARTEG  | <i>Aristida ternipes var. gentilis</i>       | 34–68                       | –                |
|                        | Arizona cottontop     | DICA8  | <i>Digitaria californica</i>                 | 34–68                       | –                |
|                        | bush muhly            | MUPO2  | <i>Muhlenbergia porteri</i>                  | 34–68                       | –                |
|                        | plains bristlegrass   | SEVU2  | <i>Setaria vulpisetata</i>                   | 34–68                       | –                |
| 3                      |                       |        |  | 7–34                        |                  |
|                        | Parish's threeawn     | ARPUP5 | <i>Aristida purpurea var. parishii</i>       | 7–34                        | –                |
|                        | cane bluestem         | BOBA3  | <i>Bothriochloa barbinodis</i>               | 7–34                        | –                |
|                        | saltgrass             | DISP   | <i>Distichlis spicata</i>                    | 7–34                        | –                |
|                        | tanglehead            | HECO10 | <i>Heteropogon contortus</i>                 | 7–34                        | –                |
|                        | vine mesquite         | PAOB   | <i>Panicum obtusum</i>                       | 7–34                        | –                |
|                        | tobosagrass           | PLMU3  | <i>Pleuraphis mutica</i>                     | 7–34                        | –                |
|                        | big galleta           | PLRI3  | <i>Pleuraphis rigida</i>                     | 7–34                        | –                |
|                        | spike dropseed        | SPCO4  | <i>Sporobolus contractus</i>                 | 7–34                        | –                |
|                        | sand dropseed         | SPCR   | <i>Sporobolus cryptandrus</i>                | 7–34                        | –                |
|                        | mesa dropseed         | SPFL2  | <i>Sporobolus flexuosus</i>                  | 7–34                        | –                |
| 4                      |                       |        |  | 34–68                       |                  |
|                        | sixweeks threeawn     | ARAD   | <i>Aristida adscensionis</i>                 | 34–68                       | –                |
|                        | prairie threeawn      | AROL   | <i>Aristida oligantha</i>                    | 34–68                       | –                |
|                        | needle grama          | BOAR   | <i>Bouteloua aristidoides</i>                | 34–68                       | –                |
|                        | sixweeks grama        | BOBA2  | <i>Bouteloua barbata</i>                     | 34–68                       | –                |
|                        | Rothrock's grama      | BORO2  | <i>Bouteloua rothrockii</i>                  | 34–68                       | –                |
|                        | Arizona brome         | BRAR4  | <i>Bromus arizonicus</i>                     | 34–68                       | –                |
|                        | feather fingergrass   | CHVI4  | <i>Chloris virgata</i>                       | 34–68                       | –                |
|                        | tapertip cupgrass     | ERACA  | <i>Eriochloa acuminata var. acuminata</i>    | 34–68                       | –                |
|                        | desert lovegrass      | ERPEM  | <i>Eragrostis pectinacea var. miserrima</i>  | 34–68                       | –                |
|                        | tufted lovegrass      | ERPEP2 | <i>Eragrostis pectinacea var. pectinacea</i> | 34–68                       | –                |
|                        | Mexican sprangletop   | LEFUU  | <i>Leptochloa fusca ssp. uninervia</i>       | 34–68                       | –                |
|                        | mucronate sprangletop | LEPAB  | <i>Leptochloa panicea ssp. brachiata</i>     | 34–68                       | –                |
|                        | sticky sprangletop    | LEVI5  | <i>Leptochloa viscida</i>                    | 34–68                       | –                |
|                        | delicate muhly        | MUFR   | <i>Muhlenbergia fragilis</i>                 | 34–68                       | –                |
|                        | littleseed muhly      | MUMI   | <i>Muhlenbergia microsperma</i>              | 34–68                       | –                |
|                        | witchgrass            | PACA6  | <i>Panicum capillare</i>                     | 34–68                       | –                |
|                        | Bigelow's bluegrass   | POBI   | <i>Poa bigelovii</i>                         | 34–68                       | –                |
|                        | Madagascar dropseed   | SPPY2  | <i>Sporobolus pyramidatus</i>                | 34–68                       | –                |

|             |                             |        |  |           |   |
|-------------|-----------------------------|--------|--|-----------|---|
|             | Arizona signalgrass         | URAR   | <i>Urochloa arizonica</i>                            | 34–68     | – |
|             | sixweeks fescue             | VUOC   | <i>Vulpia octoflora</i>                              | 34–68     | – |
| <b>Forb</b> |                             |        |  |           |   |
| 5           |                             |        |  | 0–1       |   |
|             | dwarf desertpeony           | ACNA2  | <i>Acourtia nana</i>                                 | 0–1       | – |
|             | weakleaf bur ragweed        | AMCO3  | <i>Ambrosia confertiflora</i>                        | 0–1       | – |
|             | field anoda                 | ANPE4  | <i>Anoda pentaschista</i>                            | 0–1       | – |
|             | coyote gourd                | CUPA   | <i>Cucurbita palmata</i>                             | 0–1       | – |
|             | Indian rushpea              | HOGL2  | <i>Hoffmannseggia glauca</i>                         | 0–1       | – |
|             | desert tobacco              | NIOBO  | <i>Nicotiana obtusifolia</i> var. <i>obtusifolia</i> | 0–1       | – |
|             | violet wild petunia         | RUNU   | <i>Ruellia nudiflora</i>                             | 0–1       | – |
|             | desert globemallow          | SPAM2  | <i>Sphaeralcea ambigua</i>                           | 0–1       | – |
|             | spear globemallow           | SPHA   | <i>Sphaeralcea hastulata</i>                         | 0–1       | – |
| 6           |                             |        |  | 15–90     |   |
|             | Navajo Mountain beardtongue | PENA4  | <i>Penstemon navajoa</i>                             | 1000–5000 | – |
|             | alpine gooseberry           | RILA2  | <i>Ribes lasianthum</i>                              | 1000–5000 | – |
|             | Elliott's bluestem          | ANGYS  | <i>Andropogon gyrans</i> var. <i>stenophyllus</i>    | 0–5       | – |
|             | Watson's dutchman's pipe    | ARWA   | <i>Aristolochia watsonii</i>                         | 0–1       | – |
|             | clasping milkweed           | ASAM   | <i>Asclepias amplexicaulis</i>                       | 0–1       | – |
|             | milkvetch                   | ASTRA  | <i>Astragalus</i>                                    | 0–1       | – |
|             | desert marigold             | BAMU   | <i>Baileya multiradiata</i>                          | 0–1       | – |
|             | hoary bowlesia              | BOIN3  | <i>Bowlesia incana</i>                               | 0–1       | – |
|             | canaigre dock               | RUHY   | <i>Rumex hymenosepalus</i>                           | 0–1       | – |
|             | violet wild petunia         | RUNU   | <i>Ruellia nudiflora</i>                             | 0–1       | – |
|             | spreading fanpetals         | SIAB   | <i>Sida abutifolia</i>                               | 0–1       | – |
|             | sleepy silene               | SIAN2  | <i>Silene antirrhina</i>                             | 0–1       | – |
|             | silverleaf nightshade       | SOEL   | <i>Solanum elaeagnifolium</i>                        | 0–1       | – |
|             | desert globemallow          | SPAM2  | <i>Sphaeralcea ambigua</i>                           | 0–1       | – |
|             | spear globemallow           | SPHA   | <i>Sphaeralcea hastulata</i>                         | 0–1       | – |
|             | woollyhead neststraw        | STMI2  | <i>Stylocline micropoides</i>                        | 0–1       | – |
|             | brownplume wirelettuce      | STPA4  | <i>Stephanomeria pauciflora</i>                      | 0–1       | – |
|             | woolly tidestromia          | TILA2  | <i>Tidestromia lanuginosa</i>                        | 0–1       | – |
|             | Tumamoc globeberry          | TUMA   | <i>Tumamoca macdougalii</i>                          | 0–1       | – |
|             | manybristle chinchweed      | PEPA2  | <i>Pectis papposa</i>                                | 0–1       | – |
|             | phacelia                    | PHACE  | <i>Phacelia</i>                                      | 0–1       | – |
|             | orange fameflower           | PHAU13 | <i>Phemeranthus aurantiacus</i>                      | 0–1       | – |
|             | slimjim bean                | PHFI3  | <i>Phaseolus filiformis</i>                          | 0–1       | – |
|             | Arizona popcornflower       | PLAR   | <i>Plagiobothrys arizonicus</i>                      | 0–1       | – |
|             | desert Indianwheat          | PLOV   | <i>Plantago ovata</i>                                | 0–1       | – |
|             | purslane                    | PORTU  | <i>Portulaca</i>                                     | 0–1       | – |
|             | doubleclaw                  | PRPA2  | <i>Proboscidea parviflora</i>                        | 0–1       | – |
|             | New Mexico plumeseed        | RANE   | <i>Rafinesquia neomexicana</i>                       | 0–1       | – |

|   |                             |         |   |       |   |
|---|-----------------------------|---------|---|-------|---|
|   | brownfoot                   | ACWR5   | <i>Acourtia wrightii</i>                      | 0-1   | - |
|   | wealeaf bur ragweed         | AMCO3   | <i>Ambrosia confertiflora</i>                 | 0-1   | - |
|   | fringed amaranth            | AMFI    | <i>Amaranthus fimbriatus</i>                  | 0-1   | - |
|   | carelessweed                | AMPA    | <i>Amaranthus palmeri</i>                     | 0-1   | - |
|   | bristly fiddleneck          | AMTE3   | <i>Amsinckia tessellata</i>                   | 0-1   | - |
|   | fringed redmaids            | CACI2   | <i>Calandrinia ciliata</i>                    | 0-1   | - |
|   | yellow tackstem             | CAPA7   | <i>Calycoseris parryi</i>                     | 0-1   | - |
|   | white tackstem              | CAWR    | <i>Calycoseris wrightii</i>                   | 0-1   | - |
|   | goosefoot                   | CHENO   | <i>Chenopodium</i>                            | 0-1   | - |
|   | hyssopleaf sandmat          | CHHY3   | <i>Chamaesyce hyssopifolia</i>                | 0-1   | - |
|   | New Mexico thistle          | CINE    | <i>Cirsium neomexicanum</i>                   | 0-1   | - |
|   | cryptantha                  | CRYPT   | <i>Cryptantha</i>                             | 0-1   | - |
|   | fingerleaf gourd            | CUDI    | <i>Cucurbita digitata</i>                     | 0-1   | - |
|   | coyote gourd                | CUPA    | <i>Cucurbita palmata</i>                      | 0-1   | - |
|   | desert thorn-apple          | DADI2   | <i>Datura discolor</i>                        | 0-1   | - |
|   | American wild carrot        | DAPU3   | <i>Daucus pusillus</i>                        | 0-1   | - |
|   | sacred thorn-apple          | DAWR2   | <i>Datura wrightii</i>                        | 0-1   | - |
|   | western tansymustard        | DEPI    | <i>Descurainia pinnata</i>                    | 0-1   | - |
|   | Palmer's spectaclepod       | DICA31  | <i>Dimorphocarpa candicans</i>                | 0-1   | - |
|   | miniature woollystar        | ERDI2   | <i>Eriastrum diffusum</i>                     | 0-1   | - |
|   | spreading fleabane          | ERDI4   | <i>Erigeron divergens</i>                     | 0-1   | - |
|   | buckwheat                   | ERIOG   | <i>Eriogonum</i>                              | 0-1   | - |
|   | Texas stork's bill          | ERTE13  | <i>Erodium texanum</i>                        | 0-1   | - |
|   | California poppy            | ESCAM   | <i>Eschscholzia californica ssp. mexicana</i> | 0-1   | - |
|   | Mexican fireplant           | EUHE4   | <i>Euphorbia heterophylla</i>                 | 0-1   | - |
|   | haplopappus                 | HAPLO11 | <i>Haplopappus</i>                            | 0-1   | - |
|   | Indian rushpea              | HOGL2   | <i>Hoffmannseggia glauca</i>                  | 0-1   | - |
|   | Arizona poppy               | KAGR    | <i>Kallstroemia grandiflora</i>               | 0-1   | - |
|   | biannual lettuce            | LALU    | <i>Lactuca ludoviciana</i>                    | 0-1   | - |
|   | Gordon's bladderpod         | LEGO    | <i>Lesquerella gordonii</i>                   | 0-1   | - |
|   | shaggyfruit pepperweed      | LELA    | <i>Lepidium lasiocarpum</i>                   | 0-1   | - |
|   | coastal bird's-foot trefoil | LOSAB   | <i>Lotus salsuginosus var. brevivexillus</i>  | 0-1   | - |
|   | Lindley's silverpuffs       | MILI5   | <i>Microseris lindleyi</i>                    | 0-1   | - |
|   | Nuttall's povertyweed       | MONU    | <i>Monolepis nuttalliana</i>                  | 0-1   | - |
|   | green carpetweed            | MOVE    | <i>Mollugo verticillata</i>                   | 0-1   | - |
|   | bristly nama                | NAHI    | <i>Nama hispidum</i>                          | 0-1   | - |
|   | desert tobacco              | NIOBO   | <i>Nicotiana obtusifolia var. obtusifolia</i> | 0-1   | - |
|   | evening primrose            | OENOT   | <i>Oenothera</i>                              | 0-1   | - |
|   | Florida pellitory           | PAFL3   | <i>Parietaria floridana</i>                   | 0-1   | - |
|   | combseed                    | PECTO   | <i>Pectocarya</i>                             | 0-1   | - |
| 8 |                             |         |   | 11-34 |   |
|   | wheelscale saltbush         | ATEL    | <i>Atriplex elegans</i>                       | 11-34 | - |
|   | wheelscale saltbush         | ATELF   | <i>Atriplex elegans var. fasciculata</i>      | 11-34 | - |
|   | aridland goosefoot          | CHDE    | <i>Chenopodium desiccatum</i>                 | 11-34 | - |

|                   |                        |        |   |         |   |
|-------------------|------------------------|--------|---|---------|---|
|                   | boraxweed              | NIOC2  | <i>Nitrophila occidentalis</i>                              | 11–34   | – |
|                   | Coulter's globemallow  | SPCO2  | <i>Sphaeralcea coulteri</i>                                 | 11–34   | – |
| <b>Shrub/Vine</b> |                        |        |   |         |   |
| 9                 |                        |        |   | 236–378 |   |
|                   | velvet mesquite        | PRVE   | <i>Prosopis velutina</i>                                    | 236–378 | – |
| 10                |                        |        |   | 142–189 |   |
|                   | fourwing saltbush      | ATCA2  | <i>Atriplex canescens</i>                                   | 142–189 | – |
|                   | cattle saltbush        | ATPO   | <i>Atriplex polycarpa</i>                                   | 142–189 | – |
|                   | water jacket           | LYAN   | <i>Lycium andersonii</i>                                    | 142–189 | – |
| 11                |                        |        |   | 9–47    |   |
|                   | slender sandbur        | CEGR3  | <i>Cenchrus gracillimus</i>                                 | 9–47    | – |
|                   | buckhorn cholla        | CYACA2 | <i>Cylindropuntia acanthocarpa</i> var. <i>acanthocarpa</i> | 9–47    | – |
|                   | Arizona pencil cholla  | CYAR14 | <i>Cylindropuntia arbuscula</i>                             | 9–47    | – |
|                   | jumping cholla         | CYFUF  | <i>Cylindropuntia fulgida</i> var. <i>fulgida</i>           | 9–47    | – |
|                   | Christmas cactus       | CYLE8  | <i>Cylindropuntia leptocaulis</i>                           | 9–47    | – |
|                   | walkingstick cactus    | CYSP8  | <i>Cylindropuntia spinosior</i>                             | 9–47    | – |
|                   | devil's cholla         | GRKU   | <i>Grusonia kunzei</i>                                      | 9–47    | – |
|                   | common fishhook cactus | MATE4  | <i>Mammillaria tetrancistra</i>                             | 9–47    | – |
|                   | limestone adderstongue | OPEN   | <i>Ophioglossum engelmannii</i>                             | 9–47    | – |
| 12                |                        |        |   | 9–47    |   |
|                   | whitethorn acacia      | ACCO2  | <i>Acacia constricta</i>                                    | 9–47    | – |
|                   | catclaw acacia         | ACGR   | <i>Acacia greggii</i>                                       | 9–47    | – |
|                   | iodinebush             | ALOC2  | <i>Allenrolfea occidentalis</i>                             | 9–47    | – |
|                   | Tucson bur ragweed     | AMCO4  | <i>Ambrosia cordifolia</i>                                  | 9–47    | – |
|                   | burrobush              | AMDU2  | <i>Ambrosia dumosa</i>                                      | 9–47    | – |
|                   | fourwing saltbush      | ATCAL2 | <i>Atriplex canescens</i> var. <i>laciniata</i>             | 9–47    | – |
|                   | desertbroom            | BASA2  | <i>Baccharis sarothroides</i>                               | 9–47    | – |
|                   | crucifixion thorn      | CAEM4  | <i>Castela emoryi</i>                                       | 9–47    | – |
|                   | Palmer's cock's comb   | CEPA5  | <i>Celosia palmeri</i>                                      | 9–47    | – |
|                   | Drummond's clematis    | CLDR   | <i>Clematis drummondii</i>                                  | 9–47    | – |
|                   | fringed twinevine      | FUCY   | <i>Funastrum cynanchoides</i>                               | 9–47    | – |
|                   | creosote bush          | LATRT  | <i>Larrea tridentata</i> var. <i>tridentata</i>             | 9–47    | – |
|                   | Arizona desert-thorn   | LYEX   | <i>Lycium exsertum</i>                                      | 9–47    | – |
|                   | Gila manroot           | MAGI   | <i>Marah gilensis</i>                                       | 9–47    | – |
|                   | Jerusalem thorn        | PAAC3  | <i>Parkinsonia aculeata</i>                                 | 9–47    | – |
|                   | blue paloverde         | PAFL6  | <i>Parkinsonia florida</i>                                  | 9–47    | – |
|                   | chokecherry            | PRVI   | <i>Prunus virginiana</i>                                    | 9–47    | – |
|                   | greasewood             | SAVE4  | <i>Sarcobatus vermiculatus</i>                              | 9–47    | – |
|                   | Mojave seablite        | SUMO   | <i>Suaeda moquinii</i>                                      | 9–47    | – |
|                   | soaptree yucca         | YUEL   | <i>Yucca elata</i>  | 9–47    | – |
|                   | lotebush               | ZIOB   | <i>Ziziphus obtusifolia</i>                                 | 9–47    | – |
| 13                |                        |        |   | 9–19    |   |
|                   | triangle bur ragweed   | AMDE4  | <i>Ambrosia deltoidea</i>                                   | 9–19    | – |



|  |                   |        |  |      |   |
|--|-------------------|--------|--|------|---|
|  | hollywood         | GUSA   | <i>Guaiacum sanctum</i>                        | 9–19 | – |
|  | alkali goldenbush | ISACA2 | <i>Isocoma acradenia</i> var. <i>acradenia</i> | 9–19 | – |
|  | burroweed         | ISTE2  | <i>Isocoma tenuisecta</i>                      | 9–19 | – |

## Animal community

The plant community on this site is suitable for grazing by all classes of horses and cattle. Because of water availability in the rainy seasons, long green periods, shade, and easy accessibility, this site is often overused. Large areas should be fenced and managed separately from adjacent upland areas. Grazing during the summer flood season will result in trampling damage to grasses and reduce livestock performance due to heat, humidity and insect pests. The plant community provides adequate nutrition throughout the year. Salt desert shrub species provide digestible protein. Perennial grasses provide energy.

Free water is available during rainy seasons in natural charcos and discontinuous gullies. Forage diversity, shade and cover are very good and make this site home to a great variety of wildlife, including large desert mammals. Water developments which prolong availability of free water are important to large wildlife. A moderate mesquite canopy makes the site home to a variety of tree-nesting bird species.

## Other information

T&E Species: Tumamoc Globe berry, perennial vine (*Tumomoca Macdougalii*)

## Contributors

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## Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

|   |  |
|---|--|
| Author(s)/participant(s)                    | Emilio Carrillo, Dave Womack, Dan Robinett |
| Contact for lead author                     | NRCS Tucson Area Office                    |
| Date  | 03/07/2005                                 |
| Approved by                                 | s. Cassady                                 |
| Approval date                               |  |
| Composition (Indicators 10 and 12) based on | Annual Production                          |

## Indicators

1. **Number and extent of rills:** Rills are present on the site, but are discontinuous due to low slopes.

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2. **Presence of water flow patterns:** Water flow patterns are uncommon due to low slopes.

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3. **Number and height of erosional pedestals or terracettes:** There are no pedestals or terracettes present.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5-50%. Expect low values in dry years.

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5. **Number of gullies and erosion associated with gullies:** None

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6. **Extent of wind scoured, blowouts and/or depositional areas:** No evidence of soil movement by wind.

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7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter can move by wind and water. Woody litter remains under shrub canopies except in very high flows.

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface resistance to erosion is good under shrub canopies to moderate in interspaces due to crusts formed by raindrop impact.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak thin platy to single grane; 7.5-10YR6/4 dry, 7.5-10YR3/4 Moist, entisol - no A horizon

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** 15-25%. Herbaceous litter is present in some years, absent in others. Large shrubs with large coppice mounds with high infiltration rates. Subshrubs with small mounds with high infiltration rates. Mounds occupy 15-30% of the surface and are evenly spaced over the area.

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant: mesquite > other trees shrubs > alkai sacaton > winter annuals > summer annuals > other perennial grasses and forbs > succulents > cryptogams

Sub-dominant:

Other:

Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** 30-70% canopy mortality on trees and shrubs, 50-60% mortality on perennial grasses.

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14. **Average percent litter cover (%) and depth ( in):** Herbaceous litter is not persistent on the site.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 800 lbs/ac unfavorable precipitation, 1800 lbs/ac normal precipitation, 3000 lbs/ac favorable precipitation

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** Sahara mustard (potential), London Rocket, Cheeseweed, salt cedar, mesquite, Bermuda grass, jimmyweed

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17. **Perennial plant reproductive capability:** Not impaired for shrubs; drought impaired for perenial grasses and forbs.

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