

## Ecological site R041XB209AZ Loamy Swale 8-12" p.z.

Accessed: 02/10/2025

### 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.

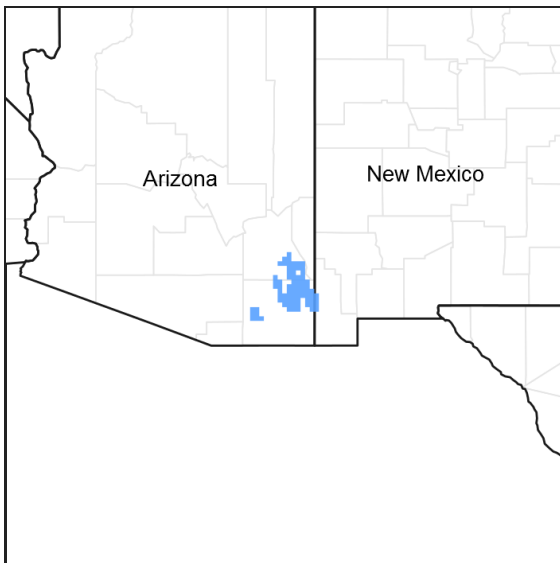


Figure 1. Mapped extent

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): 041X–Madrean Archipelago

AZ 41.2 – Chihuahuan – Sonoran Desert Shrubs

Elevations range from 2600 to 4000 feet and precipitation ranges from 8 to 12 inches per year. Vegetation includes mesquite, palo verde, catclaw acacia, soap tree yucca, creosote bush, whitethorn, staghorn cholla, desert saltbush, Mormon tea, burroweed, snakeweed, tobosa, black grama, threeawns, bush muhly, dropseed, and burrograss. The soil temperature regime is thermic 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.

### Associated sites

R041XB207AZ	<b>Limy Slopes 8-12" p.z.</b>
R041XB208AZ	<b>Limy Upland 8-12" p.z.</b>
R041XB213AZ	<b>Sandy Wash 8-12" p.z.</b>
R041XB216AZ	<b>Clayey Slopes 8-12" p.z.</b>

## Similar sites

R041XC302AZ	Clayey Swale 12-16" p.z.
R041XA114AZ	Loamy Bottom 16-20" p.z.

Table 1. Dominant plant species

Tree	(1) <i>Prosopis glandulosa</i> var. <i>torreyana</i>
Shrub	Not specified
Herbaceous	(1) <i>sporobolus wrightii</i>

## Physiographic features

This site occurs in the lowest elevations of the Madrean Basin and Range province in southeastern Arizona. It occurs on floodplains and low stream terraces of first and second order tributaries of major stream systems. It benefits on a regular basis from extra moisture received as over-bank flooding. It lacks any water table within the reach of mesquite roots.

Table 2. Representative physiographic features

Landforms	(1) Flood plain (2) Stream terrace
Flooding duration	Very brief (4 to 48 hours) to brief (2 to 7 days)
Flooding frequency	Occasional to frequent
Ponding duration	Very brief (4 to 48 hours)
Ponding frequency	None to rare
Elevation	2,600–4,000 ft
Slope	0–3%
Aspect	Aspect is not a significant factor

## Climatic features

Precipitation ranges from 8-12 inches annually. More than half falls during Jul-Sep in brief, but often heavy, thunderstorms. The rest of the moisture comes as light rain or snow that falls slowly for a day or more, but rarely lasts more than a day. May and June are normally the driest months. Humidity is generally very low.

Temperatures are mild throughout most of the year. Freezing temperatures are common at night Dec-Feb; brief 0 F may be observed some nights. During June, July & August, some days may exceed 100 F.

In years of average or greater winter precipitation, annual grasses and forbs occur abundantly in the interspaces.

Table 3. Representative climatic features

Frost-free period (average)	240 days
Freeze-free period (average)	0 days
Precipitation total (average)	0 in

## Influencing water features

There are no water features associated with this site.

## Soil features

These are young soils on loamy to clayey alluvium of mixed origin. They are deep and moderately dark colored. Plant-soil moisture relationships are excellent.

Soils mapped on this site include: SSA-662 Safford area MU's Ac & Ag Agua, AhA Anthony, GgA Gila and Pm Pima; SSA-664 San Simon area MU's 1 & 24 Gila, 24 Glendale, 33 & 34 Pima and 34 Grabe; SSA-666 Cochise county Northwest part MU 42 Glendale; SSA-671 Cochise county Douglas-Tombstone part MU's 36 Ugyp and 111 Ugyp stream terraces.

**Table 4. Representative soil features**

Surface texture	(1) Fine sandy loam (2) Silt loam (3) Loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderately slow to slow
Soil depth	60 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0–1%
Available water capacity (0-40in)	5.8–10.8 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–6
Soil reaction (1:1 water) (0-40in)	7–8.2
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0–1%

## 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.

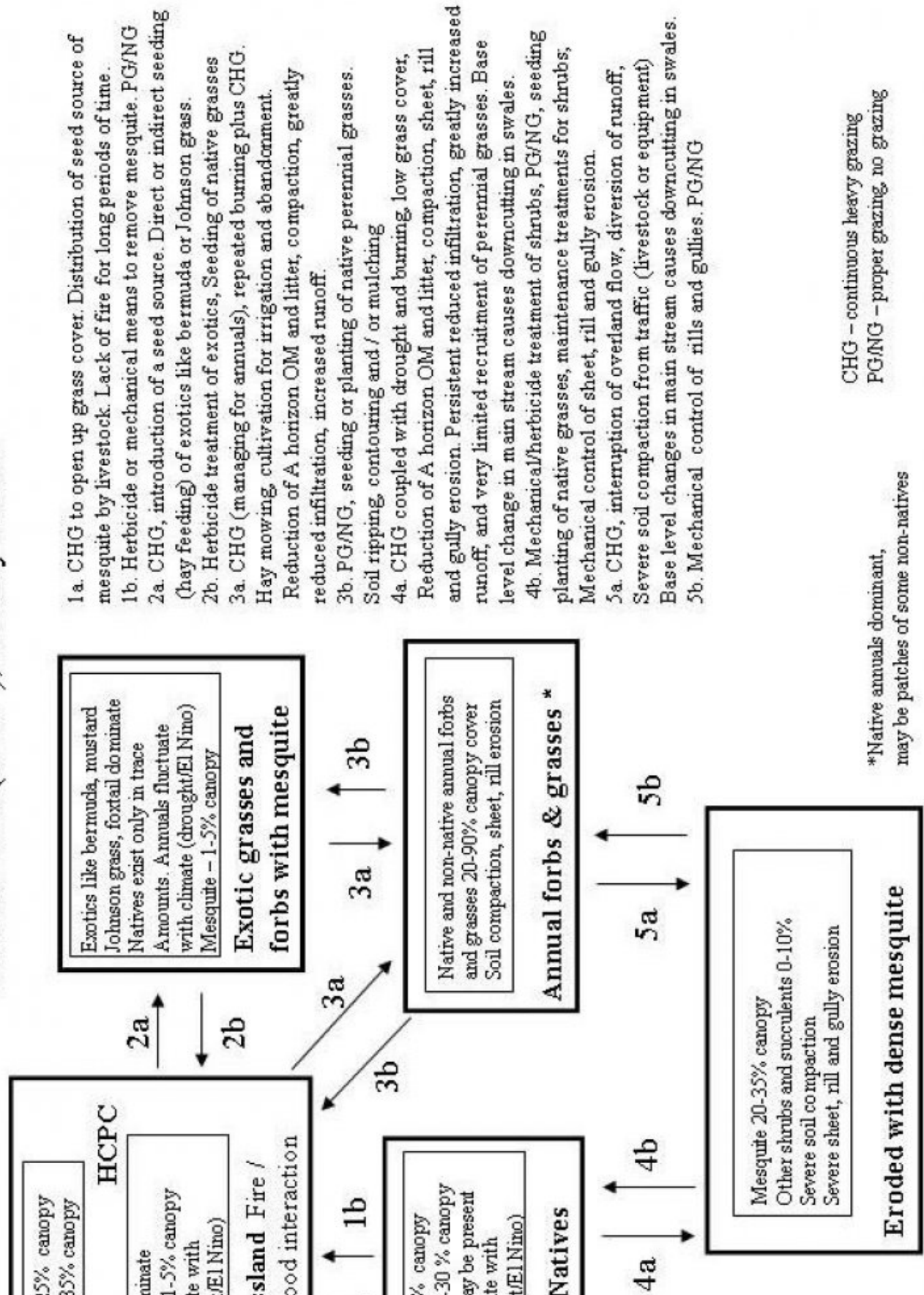
Production data provided in this site description is standardized to air dry weight at the end of the summer growing season. The plant communities described in this site description are based on near normal rainfall years.

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

### MLRA 41-2 (8-12''), Loamy Swale



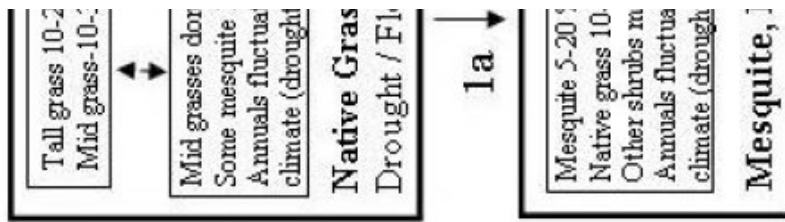


Figure 4. State and Transition, Loamy Swales 8-12" p.z.

**State 1  
Historic Climax Plant Community**

**Community 1.1  
Historic Climax Plant Community**

The historic native state includes the native plant communities that occur on the site, including the historic climax plant community. This state includes other plant communities that naturally occupy the site following fire, drought, flooding, herbivores, and other natural disturbances. The historic plant community represents the natural climax community that eventually re-occupies the site with proper management. The potential plant community is dominated by western honey mesquite and giant sacaton and other grasses. Periodic flooding accounts for very productive stands of trees and grass. Naturally occurring fires, June thru August, were an important factor in maintaining the plant community on this site. Mesquite can increase to dominate the native plant community in the absence of high intensity fires. Sediment accumulation around the stem bases of established mesquite can occur with flooding. Even repeated fires will not remove established mesquite if their bud zones are buried by sediment.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	535	1500	2100
Tree	200	400	600
Forb	20	100	350
Shrub/Vine	1	20	50
<b>Total</b>	<b>756</b>	<b>2020</b>	<b>3100</b>

Table 6. Soil surface cover

Tree basal cover	1%
Shrub/vine/liana basal cover	0-1%
Grass/grasslike basal cover	10-15%
Forb basal cover	0-2%
Non-vascular plants	0%
Biological crusts	1-20%
Litter	10-50%
Surface fragments >0.25" and <=3"	0-5%
Surface fragments >3"	0-1%
Bedrock	0%
Water	0%
Bare ground	10-80%

Table 7. Canopy structure (% cover)

Height Above Ground (Ft)	Tree	Shrub/Vine	Grass/ Grasslike	Forb
<0.5	–	–	1-5%	1-10%
>0.5 <= 1	–	0-1%	1-5%	1-10%
>1 <= 2	–	0-1%	5-10%	1-10%
>2 <= 4.5	–	1-2%	15-25%	0-5%
>4.5 <= 13	5-10%	1-2%	0-5%	0-1%
>13 <= 40	5-10%	–	–	–
>40 <= 80	–	–	–	–
>80 <= 120	–	–	–	–
>120	–	–	–	–

## State 2 Annuals

### Community 2.1 Annuals

Some areas of this state have been created by cultivation for irrigated farming and subsequent abandonment. Former cultivated areas usually have been altered by the diversion of floodwaters with dikes or drainage ditches. In other areas mesquite has been cleared or harvested and annual species dominate. Native and non-native annual forbs and grasses dominate the plant community with minor amounts of other native and non-native perennial grasses.

## State 3 Mesquite, eroded

### Community 3.1 Mesquite, eroded



Figure 6. Loamy Swale 8-12" pz. eroded

The down-cutting of major stream systems and subsequent "valley side" gullying have left many areas of this state in and along second order tributaries. The site no longer benefits from flooding. The plant community is dominated by mature mesquite trees with little or no perennial under-story. This state is not recognized as a mesquite woodland site. Usually canopy cover is less than 30% and groundwater is too deep for mesquite roots to reach it and allow the formation of bosques. Maximum height of mesquite on this site (in this state) is about 20 feet.

## State 4

## Exotic grasses and forbs

### Community 4.1

#### Exotic grasses and forbs

This state exists where non-native grasses and forbs dominate the under-story with mesquite canopy. Grasses include bermuda, Johnson grass, red brome, foxtail barley and barnyard grass. Forbs include London rocket, filaree, purslane, tumbleweed and cheeseweed. These species may affect the native flora of grasses and forbs negatively by reducing the seed bank of annuals and direct competition with perennials.

### State 5

#### Mesquite, natives

### Community 5.1

#### Mesquite, natives



Figure 7. Loamy Swale 8-12" pz. mesquite

This state occurs where mesquite has increased in canopy cover and density to dominate the site. Mesquite canopy ranges from 5 to 20%. Native perennial and annual grasses and forbs dominate the under-story.

## Additional community tables

Table 8. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Dominant perennial grasses</b>			500–1800	
	big sacaton	SPWR2	<i>Sporobolus wrightii</i>	200–1000	–
	sideoats grama	BOCU	<i>Bouteloua curtipendula</i>	100–400	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	100–300	–
	vine mesquite	PAOB	<i>Panicum obtusum</i>	100–300	–
	alkali sacaton	SPAI	<i>Sporobolus airoides</i>	0–150	–
	whiplash pappusgrass	PAVA2	<i>Pappophorum vaginatum</i>	25–100	–
	tobosagrass	PLMU3	<i>Pleuraphis mutica</i>	0–50	–
2	<b>miscellaneous perennial grasses</b>			25–150	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	10–50	–
	spidergrass	ARTE3	<i>Aristida ternipes</i>	10–30	–
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	0–25	–
	squirreltail	ELELE	<i>Elymus elymoides ssp. elymoides</i>	0–25	–

	green sprangletop	LEDU	<i>Leptochloa dubia</i>	0–25	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	5–25	–
	creeping muhly	MURE	<i>Muhlenbergia repens</i>	0–15	–
	spidergrass	ARTEG	<i>Aristida ternipes var. gentilis</i>	0–15	–
	flatsedge	CYPER	<i>Cyperus</i>	0–15	–
	Parish's threeawn	ARPUP5	<i>Aristida purpurea var. parishii</i>	0–15	–
	purple threeawn	ARPU9	<i>Aristida purpurea</i>	0–10	–
	tanglehead	HECO10	<i>Heteropogon contortus</i>	0–10	–
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	0–10	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	0–5	–
	burrograss	SCBR2	<i>Scleropogon brevifolius</i>	0–5	–
3	<b>Annual grasses</b>			10–150	
	feather fingergrass	CHVI4	<i>Chloris virgata</i>	0–50	–
	mucronate sprangletop	LEPAB	<i>Leptochloa panicea ssp. brachiata</i>	0–25	–
	Mexican panicgrass	PAHI5	<i>Panicum hirticaule</i>	0–25	–
	Arizona signalgrass	URAR	<i>Urochloa arizonica</i>	0–25	–
	sixweeks fescue	VUOC	<i>Vulpia octoflora</i>	0–25	–
	needle grama	BOAR	<i>Bouteloua aristidoides</i>	0–20	–
	tapertip cupgrass	ERACA	<i>Eriochloa acuminata var. acuminata</i>	0–15	–
	Mexican sprangletop	LEFUJ	<i>Leptochloa fusca ssp. uninervia</i>	0–10	–
	sixweeks grama	BOBA2	<i>Bouteloua barbata</i>	0–5	–
	Arizona brome	BRAR4	<i>Bromus arizonicus</i>	0–5	–
	Bigelow's bluegrass	POBI	<i>Poa bigelovii</i>	0–5	–
	sticky sprangletop	LEVI5	<i>Leptochloa viscida</i>	0–5	–
	delicate muhly	MUFR	<i>Muhlenbergia fragilis</i>	0–5	–
	littleseed muhly	MUMI	<i>Muhlenbergia microsperma</i>	0–5	–
	witchgrass	PACA6	<i>Panicum capillare</i>	0–5	–
	Mexican lovegrass	ERME	<i>Eragrostis mexicana</i>	0–5	–
	desert lovegrass	ERPEM	<i>Eragrostis pectinacea var. miserrima</i>	0–5	–
	tufted lovegrass	ERPEP2	<i>Eragrostis pectinacea var. pectinacea</i>	0–5	–
	sixweeks threeawn	ARAD	<i>Aristida adscensionis</i>	0–5	–
	prairie threeawn	AROL	<i>Aristida oligantha</i>	0–5	–
<b>Forb</b>					
4	<b>Perennial forbs</b>			10–50	
	Missouri gourd	CUFO	<i>Cucurbita foetidissima</i>	0–50	–
	coyote gourd	CUPA	<i>Cucurbita palmata</i>	0–25	–
	wealeaf bur ragweed	AMCO3	<i>Ambrosia confertiflora</i>	1–25	–
	fingerleaf gourd	CUDI	<i>Cucurbita digitata</i>	0–25	–
	scarlet spiderling	BOCO	<i>Boerhavia coccinea</i>	0–15	–
	spreading fleabane	ERDI4	<i>Erigeron divergens</i>	0–10	–
	canaigre dock	RUHY	<i>Rumex hymenosepalus</i>	0–10	–
	Indian rushpea	HOGL2	<i>Hoffmannseggia glauca</i>	0–10	–
	desert globemallow	SPAM2	<i>Sphaeralcea ambigua</i>	0–10	–
	snear globemallow	SPHA	<i>Sphaeralcea hastulata</i>	0–10	–



	brownplume wirelettuce	STPA4	<i>Stephanomeria pauciflora</i>	0–5	–
	Louisiana vetch	VILUL2	<i>Vicia ludoviciana ssp. ludoviciana</i>	0–5	–
	Trans-Pecos thimblehead	HYWI	<i>Hymenothrix wislizeni</i>	0–5	–
	beeblossom	GAURA	<i>Gaura</i>	0–5	–
	southwestern mock vervain	GLGO	<i>Glandularia gooddingii</i>	0–5	–
	small matweed	GUDED	<i>Guilleminea densa var. densa</i>	0–5	–
	silverleaf nightshade	SOEL	<i>Solanum elaeagnifolium</i>	0–5	–
	Missouri goldenrod	SOMI2	<i>Solidago missouriensis</i>	0–5	–
	Wright's cudweed	PSCAC2	<i>Pseudognaphalium canescens ssp. canescens</i>	0–5	–
	ivyleaf groundcherry	PHHE4	<i>Physalis hederifolia</i>	0–2	–
	wild dwarf morning-glory	EVAR	<i>Evolvulus arizonicus</i>	0–2	–
	whitemouth dayflower	COER	<i>Commelina erecta</i>	0–2	–
	milkweed	ASCLE	<i>Asclepias</i>	0–1	–
5	<b>Annual forbs</b>			10–300	
	sedge	CAREX	<i>Carex</i>	50–250	–
	flatsedge	CYPER	<i>Cyperus</i>	50–250	–
	slimleaf sneezeweed	HELI	<i>Helenium linifolium</i>	50–250	–
	rush	JUNCU	<i>Juncus</i>	50–250	–
	carelessweed	AMPA	<i>Amaranthus palmeri</i>	0–50	–
	western tansymustard	DEPI	<i>Descurainia pinnata</i>	0–50	–
	camphorweed	HESU3	<i>Heterotheca subaxillaris</i>	0–50	–
	ivyleaf morning-glory	IPHE	<i>Ipomoea hederacea</i>	0–25	–
	sensitive partridge pea	CHNI2	<i>Chamaecrista nictitans</i>	0–25	–
	New Mexico thistle	CINE	<i>Cirsium neomexicanum</i>	0–25	–
	wheelscale saltbush	ATEL	<i>Atriplex elegans</i>	0–25	–
	Coulter's spiderling	BOCO2	<i>Boerhavia coulteri</i>	0–25	–
	Wright's saltbush	ATWR	<i>Atriplex wrightii</i>	0–15	–
	horseweed	CONYZ	<i>Conyza</i>	0–15	–
	cryptantha	CRYPT	<i>Cryptantha</i>	0–15	–
	Arizona poppy	KAGR	<i>Kallstroemia grandiflora</i>	0–15	–
	crestrub morning-glory	IPCO2	<i>Ipomoea costellata</i>	0–15	–
	redstar	IPCO3	<i>Ipomoea coccinea</i>	0–15	–
	intermediate pepperweed	LEVIM	<i>Lepidium virginicum var. medium</i>	0–15	–
	Arizona popcornflower	PLAR	<i>Plagiobothrys arizonicus</i>	0–15	–
	Nuttall's povertyweed	MONU	<i>Monolepis nuttalliana</i>	0–15	–
	common sunflower	HEAN3	<i>Helianthus annuus</i>	0–10	–
	longleaf false goldeneye	HELOA2	<i>Heliomeris longifolia var. annua</i>	0–10	–
	longleaf false goldeneye	HELOL	<i>Heliomeris longifolia var. longifolia</i>	0–5	–
	scrambled eggs	COAU2	<i>Corydalis aurea</i>	0–5	–

California poppy	ESCAM	<i>Eschscholzia californica ssp. mexicana</i>	0-5	-
spurge	EUPHO	<i>Euphorbia</i>	0-5	-
Arizona blanketflower	GAAR2	<i>Gaillardia arizonica</i>	0-5	-
goosefoot	CHENO	<i>Chenopodium</i>	0-5	-
shaggyfruit pepperweed	LELA	<i>Lepidium lasiocarpum</i>	0-5	-
warty caltrop	KAPA	<i>Kallstroemia parviflora</i>	0-5	-
desert Indianwheat	PLOV	<i>Plantago ovata</i>	0-5	-
purslane	PORTU	<i>Portulaca</i>	0-5	-
desert unicorn-plant	PRAL4	<i>Proboscidea althaeifolia</i>	0-5	-
doubleclaw	PRPA2	<i>Proboscidea parviflora</i>	0-5	-
Florida pellitory	PAFL3	<i>Parietaria floridana</i>	0-5	-
combseed	PECTO	<i>Pectocarya</i>	0-5	-
phacelia	PHACE	<i>Phacelia</i>	0-5	-
phlox	PHLOX	<i>Phlox</i>	0-5	-
foothill deervetch	LOHU2	<i>Lotus humistratus</i>	0-5	-
coastal bird's-foot trefoil	LOSAB	<i>Lotus salsuginosus var. brevivexillus</i>	0-5	-
Arizona lupine	LUAR4	<i>Lupinus arizonicus</i>	0-5	-
Coulter's lupine	LUSP2	<i>Lupinus sparsiflorus</i>	0-5	-
slender goldenweed	MAGR10	<i>Machaeranthera gracilis</i>	0-5	-
tansyleaf tansyaster	MATA2	<i>Machaeranthera tanacetifolia</i>	0-5	-
whitestem blazingstar	MEAL6	<i>Mentzelia albicaulis</i>	0-5	-
American wild carrot	DAPU3	<i>Daucus pusillus</i>	0-5	-
jimsonweed	DAST	<i>Datura stramonium</i>	0-5	-
sacred thorn-apple	DAWR2	<i>Datura wrightii</i>	0-5	-
miniature woollystar	ERDI2	<i>Eriastrum diffusum</i>	0-5	-
sorrel buckwheat	ERPO4	<i>Eriogonum polycladon</i>	0-5	-
hoary bowlesia	BOIN3	<i>Bowlesia incana</i>	0-5	-
southwestern pricklypoppy	ARPL3	<i>Argemone pleiacantha</i>	0-5	-
milkvetch	ASTRA	<i>Astragalus</i>	0-5	-
golden crownbeard	VEEN	<i>Verbesina encelioides</i>	0-5	-
rough cocklebur	XAST	<i>Xanthium strumarium</i>	0-5	-
chia	SACO6	<i>Salvia columbariae</i>	0-5	-
sawtooth sage	SASU7	<i>Salvia subincisa</i>	0-5	-
spreading fanpetals	SIAB	<i>Sida abutifolia</i>	0-5	-
sleepy silene	SIAN2	<i>Silene antirrhina</i>	0-3	-
New Mexico plumeseed	RANE	<i>Rafinesquia neomexicana</i>	0-3	-
Goodding's bladderpod	LEGO2	<i>Lesquerella gooddingii</i>	0-2	-
star gilia	GIST	<i>Gilia stellata</i>	0-2	-
fringed redmaids	CACI2	<i>Calandrinia ciliata</i>	0-2	-
Texas stork's bill	ERTE13	<i>Erodium texanum</i>	0-2	-
woolly tidestromia	TILA2	<i>Tidestromia lanuginosa</i>	0-2	-
green carpetweed	MOVE	<i>Mollugo verticillata</i>	0-2	-

Shrub/Vine

6	<b>Miscellaneous shrubs</b>			1–50	
	catclaw acacia	ACGR	<i>Acacia greggii</i>	0–10	–
	fourwing saltbush	ATCA2	<i>Atriplex canescens</i>	0–10	–
	pale desert-thorn	LYPA	<i>Lycium pallidum</i>	0–5	–
	catclaw mimosa	MIACB	<i>Mimosa aculeaticarpa var. biuncifera</i>	0–5	–
	soaptree yucca	YUEL	<i>Yucca elata</i>	0–5	–
	Drummond's clematis	CLDR	<i>Clematis drummondii</i>	0–5	–
	fringed twinevine	FUCYC	<i>Funastrum cynanchoides ssp. cynanchoides</i>	0–5	–
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	0–2	–
	whitethorn acacia	ACCO2	<i>Acacia constricta</i>	0–2	–
	lotebush	ZIOB	<i>Ziziphus obtusifolia</i>	0–2	–
	desertbroom	BASA2	<i>Baccharis sarothroides</i>	0–2	–
	burroweed	ISTE2	<i>Isocoma tenuisecta</i>	0–2	–
	singlewhorl burrobrush	HYMO	<i>Hymenoclea monogyra</i>	0–1	–
7	<b>Succulents</b>			0–10	
	Christmas cactus	CYLE8	<i>Cylindropuntia leptocaulis</i>	0–2	–
	walkingstick cactus	CYSP8	<i>Cylindropuntia spinosior</i>	0–2	–
	cactus apple	OPEN3	<i>Opuntia engelmannii</i>	0–2	–
	tulip pricklypear	OPPH	<i>Opuntia phaeacantha</i>	0–2	–
	candy barrelcactus	FEWI	<i>Ferocactus wislizeni</i>	0–1	–
<b>Tree</b>					
8	<b>Common trees</b>			200–600	
	western honey mesquite	PRGLT	<i>Prosopis glandulosa var. torreyana</i>	200–500	–
	velvet mesquite	PRVE	<i>Prosopis velutina</i>	0–100	–
	catclaw acacia	ACGR	<i>Acacia greggii</i>	0–50	–
	netleaf hackberry	CELAR	<i>Celtis laevigata var. reticulata</i>	0–10	–
	desert willow	CHLI2	<i>Chilopsis linearis</i>	0–10	–
	western soapberry	SASAD	<i>Sapindus saponaria var. drummondii</i>	0–10	–

## Animal community

Big sacaton begins growth in the spring about the first of April. Other perennial grass species on the site usually green up in July or August with the first summer rains. The site produces abundant forage for year-round use by all classes of livestock.

These bottoms are very important habitat for a variety of birds and small mammals. They are important areas for javalina and mule deer as well. Water developments on this site are very important for both livestock and wildlife.

## Hydrological functions

These small floodplains are important in the hydrologic regime of southeastern Arizona stream systems. Intact floodplains can retain floodwaters for 1 to 2 weeks after major flooding events. Channeled or gullied bottomlands often pass the same flood in 1 or 2 days.

## Recreational uses

Hunting, bird-watching, hiking, horseback riding, photography.

## Wood products

Mesquite furnishes large quantities of fuel-wood and posts.

## Other products

Perennial grass seed

## 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)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

1. **Number and extent of rills:**

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2. **Presence of water flow patterns:**

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3. **Number and height of erosional pedestals or terracettes:**

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

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5. **Number of gullies and erosion associated with gullies:**

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6. **Extent of wind scoured, blowouts and/or depositional areas:**

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7. **Amount of litter movement (describe size and distance expected to travel):**

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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):**

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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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):**

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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:

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):**

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14. **Average percent litter cover (%) and depth ( in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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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:**

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17. **Perennial plant reproductive capability:**

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