

Decision-tree for MLRA 41.1, SA-1, Ecological Sites in Southwest New Mexico.				Site Description	Site Name	Site code
I. Flooded (low lying landscape position, evidence of water flow and/or high production, narrow inset fans, bottomlands, river flood plains or meadows; Flooded soils group)						
	A. Flooding is none to occasional					
				Gentle slopes to undulating landform. Deep to very deep soils that range from loams to silty loams. Aspect is grass dominated, with <i>Sporobolus wrightii</i> / <i>Bouteloua curtipendula</i> / <i>Panicum obtusum</i> being key indicator plants.	Loamy Bottom	R041XA006NM
				These are deep clay soils from volcanic origin. Aspect is warm season perennial grass dominated, with <i>Muhlenbergia richardsonis</i> / <i>Elymus elymoides</i> / <i>Panicum obtusum</i> being key indicator plants.	Clay Bottom	R041XA007NM
	B. Flooding is occasional to very frequent. If tree canopy over 25% go to C.					
				Churning and cracking cause very rough surfaces. Soils are deep clays. Aspect is grass dominated, with <i>Panicum obtusum</i> / <i>Pleuraphis mutica</i> being key indicator plants.	Clayey Swale 16-20" p.z.	R041XA101AZ
				These are young soils on loamy to clayey alluvium of mixed origin. They are deep and dark colored. Aspect is grass dominated, with <i>Sporobolous wrightii</i> being the key indicator plant species.	Loamy Bottom 16-20" p.z.	R041XA114AZ
				These are young soils on loamy to clayey alluvium of mixed origin. They are deep and dark colored. Aspect is grass dominated, with <i>Bouteloua gracilis</i> / <i>Bouteloua curtipendula</i> being the key indicator plant species.	Loamy Swale 16-20" p.z.	R041XA115AZ
	C. Tree overstory is over 25% canopy cover.					
				These are deep, young soils on gravelly and sandy alluvium of mixed origins. They are well drained and dark colored throughout. Soil surface textures range from very cobbly sandy loam to cobbly sand. Soils are sandy to coarse loamy. Aspect is evergreen woodland with <i>Quercus arizonica</i> / <i>Quercus emoryi</i> being the key indicator plant species and key understory vegetation consisting of <i>Leptochloa dubia</i> / <i>Bouteloua curtipendula</i> .	Quercus emoryi-Quercus arizonica/Bouteloua curtipendula-Leptochloa dubia	F041XA112AZ

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				These are very young soils on sandy and gravelly alluvium of mixed origins. They are deep and dark colored. They are well drained to somewhat poorly drained. Surface textures range from very cobbly sand to gravelly sandy loam. Soils range from very cobbly sand to coarse loamy. Aspect is deciduous riparian woodland with <i>Platanus wrightii</i> / <i>Populus fremontii</i> being the key indicator plant species and key understory vegetation consisting of <i>Muhlenbergia rigens</i> / <i>Carex</i> spp.	Platanus wrightii- Populus fremontii/Vitis arizonica/Muhlenbergia rigens-Sporobolus wrightii	F041XA113AZ
II. Not flooded (hills, convex portions of piedmont slopes, broad basin floors)						
	A. Slopes generally < 15%, no exposed rock, piedmont and basin floor landforms.					
		1. Soil surface is loamy sand to medium sandy loam. Subsoil is nongravelly and not finer than clay loam. (Sandy soils group)				
				Soils are deep that have formed in clayey alluvium of mixed origin. Surfaces are sandy clayloam to clayloam and sticky when wet. Dense clay horizons occur near the surface. These horizons are mixed clay materials and exhibit some soil cracking due to moderately high shrink-swell potentials. Soil surfaces are dark colored. Aspect is grassland with <i>Bouteloua gracilis</i> / <i>Hilaria belangeri</i> being the key indicator plant species.	Clay Loam Upland 16-20" p.z.	R041XA109AZ
		2. Soil surface is fine sandy loam to clay loam, subsoil is non gravelly loam to clay (Loamy soils group)				
				Soils are deep that have formed in clayey alluvium. Surfaces are silty clayloam to clay and sticky when wet. Dense clay horizons occur at or near the surface. These horizons consist of smectitic clay materials and exhibit severe soil cracking and churning. Soil surfaces are dark colored. Aspect is grassland with <i>Pleuraphis mutica</i> / <i>Panicum obtusum</i> being the key indicator plant species.	Clayey Upland 16-20" p.z.	R041XA126AZ
		3. Soil surface gravelly, soil profile gravelly to skeletal, does not have carbonates. (Gravelly soils group) If carbonates present go to 4.				
			i. Soils Deep			

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				Clay dominated surface horizon		
				Soils are deep with gravelly and/or cobbly medium textured surface layer and fine textured subsoil. Aspect is grassland with few shrubs. <i>Bouteloua curtipendula</i> / <i>Bouteloua eriopoda</i> / <i>Pleuraphis mutica</i> are key indicator plant species.	Clay Hills	R041XA003NM
				Loamy Surface horizon and continuing throughout		
				Soils are deep, well drained, reddish-brown loam or gravelly loam surface layer and moderately fine or fine textured subsoil. Aspect is grassland with few shrubs. <i>Bouteloua/Eragrostis</i> are key indicator plant species.	Loamy Upland	R041XA001NM
				Soils are deep which have formed in loamy alluvium of mixed origin. Surface textures range from sandy loam to cobbly sandy loams. These soils are sandyloam in texture throughout. Soil surfaces are very dark colored. Aspect is open grassland to oak-grass savannah with <i>Quercus arizonica</i> / <i>Eriogonum wrightii</i> / <i>Bouteloua curtipendula</i> / <i>Bothriochloa barbinodis</i> being key indicator plant species.	Sandy Loam Upland 16-20" p.z. Deep	R041XA127AZ
				Loamy Surface horizon with high clay horizon just below		
				Soils are deep which have formed in old alluvium of mixed origin. Surface textures range from very gravelly sandy loam to gravelly loam. Sandy loam surfaces can be no thicker than 4 inches (eight inches for CBV-SL). These soils all have clayey (argillic) horizons near the surface. They are non calcareous in the upper 20 inches. Soil surfaces are dark colored. Aspect is open grassland to oak-grass savannah with <i>Baccharis pteronioides</i> / <i>Agave palmeri</i> / <i>Bouteloua gracilis</i> / <i>Eragrostis intermedia</i> being key indicator plant species.	Loamy Upland 16-20" p.z.	R041XA108AZ
				Soils are deep which have formed in loamy alluvium of mixed origin. Surface textures range from sandy loam to cobbly sandy loams. Course textured surfaces must be at least four inches thick (eight inches for CBV-SL). These soils have clayey textured argillic horizons at shallow depths. Soil surfaces are dark colored. Aspect is open grassland to oak-grass savannah with <i>Baccharis pteronioides</i> / <i>Bouteloua curtipendula</i> / <i>Bouteloua gracilis</i> being key indicator plant species.	Sandy Loam Upland 16-20" p.z.	R041XA110AZ
			ii. Soils Shallow			

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				Soils are shallow and non-calcareous. Soil surfaces are well covered by gravels and small stones. Aspect is grassland with few shrubs and trees. <i>Quercus emoryi/Calliandra eriophylla/Fouquieria splendens/Bouteloua chondrosioides/Bouteloua hirsuta</i> are key indicator plant species.	Granitic Upland 16-20" p.z.	R041XA117AZ
		4. Soils have Carbonates and are in an upland position				
				Soils are deep, well-drained soils with moderately fine and gravelly moderately fine textured surface layers and moderately fine and fine textured subsoils, which can contain lime. Aspect is grassland with few shrubs. <i>Pleuraphis mutica/Bouteloua curtipendula</i> are key indicator plant species.	Clay Loam Upland	R041XA002NM
				Soils are shallow to lime cemented pans and are calcareous throughout. Soil surfaces range in texture from very cobbly sandy loam to very gravelly loam. The surface soil is dark colored. Soil surfaces are well protected by covers of rocks, cobbles, and/or gravels. Aspect is open grassland to savannah with <i>Krameria erecta/Nolina microcarpa/Bouteloua eriopoda/Aristida purpurea</i> being key indicator plant species.	Limy Upland 16-20" p.z.	R041XA105AZ
	B. Slopes generally > 15%, often revealing exposed rock, pediments, hills, mountains, lava flows.					
		1. Soil depth <50 cm				
				Soils are cobbly loam to gravelly loam, well covered with broken stones and coarse gravel. The subsoil is clay loam or clay over andesitic or rhyolitic bedrock within 20 inches. Aspect is open stand of oak/juniper woodland with a good understory of shrubs, grasses, forbs and cacti. <i>Bouteloua curtipendula/Eragrostis intermedia/Bothriochloa barbinodis/Quercus</i> spp. are key indicator plant species.	Hills	R041XA005NM
				Soils are shallow with surface textures ranging from very stony sandy loam to very cobbly loam. Sub-surface soils are coarse loamy or loamy and have well-developed surface covers of boulders, rocks, cobbles, and/or gravels. They are dark colored on the surface. Aspect is savannah grassland with <i>Quercus emoryi/Quercus arizonica/Nolina microcarpa/Erythrina flabelliformis/Bouteloua curtipendula/Schizachyrium cirratum</i> being key indicator plant species.	Granitic Hills 16-20" p.z.	R041XA102AZ

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				Soils are shallow and parent material is carbonatic. Soil surface textures range from cobbly loam to very gravelly sandy loam. Surface soil is dark colored and well protected by rocks, cobbles and gravels. Aspect is a grassy shrub-land with <i>Vauquelinia californica/Agave palmeri/Cercocarpus montanus/Bouteloua curtipendula/Tridens muticus</i> being key indicator plant species.	Limestone Hills 16-20 p.z.	R041XA103AZ
				Soils are shallow and formed on basic and intermediate igneous rocks like basalt and andesite and on shale and clay-stones. Bedrock is hard and unweathered. Soil surface textures range from very cobbly clayloam to gravelly loam. Soils are fine loamy to clayey textured. They have well developed covers of rocks, cobbles and/or gravels. They are dark colored throughout. Aspect is savannah grassland with <i>Quercus emoryi/Juniperus deppeana/Eriogonum wrightii/Nolina microcarpa/Bouteloua curtipendula/Eragrostis intermedia</i> being key indicator plant species.	Volcanic Hills 16-20" p.z.	R041XA111AZ
		2. Soil depth >50 cm				
				Soils are usually gravelly loam or loamy mixed with stones and gravel. Aspect is short/mid grassland with few shrubs. <i>Bouteloua</i> spp. are the key indicator plant species.	Gravelly Slopes	R041XA004NM
				Soils are moderately deep to deep and calcareous throughout. Soil surfaces range in texture from very cobbly sandy loam to gravelly loam. Surface soil is very dark colored. Soil surfaces are well protected by covers of rocks, cobbles, and/or gravels. Aspect is open grassland to savannah with <i>Krameria erecta/Dalea formosa/Bouteloua eriopoda/Hesperostipa neomexicana</i> being key indicator plant species.	Limy Slopes 16-20" p.z.	R041XA104AZ
				Soils are deep which have formed in loamy alluvium of mixed origin. Surface textures range from cobbly sandy loam to very gravelly loam. Very gravelly surface horizons are usually several inches thick. Soils have well-developed covers of rocks, cobbles and gravels. Surface soil is dark colored. Clayey subsoils occur at shallow depths. Some soils have calcic horizons at moderate depths. Aspect is open grassland to savannah with <i>Agave palmeri/Nolina microcarpa/Bouteloua curtipendula/Eragrostis intermedia</i> being key indicator plant species.	Loamy Slopes 16-20" p.z.	R041XA107AZ