

Decision-tree for MLRA 42.2., SD-2, Ecological Sites in southwest New Mexico*.

I.	Flooded (low-lying landscape position, evidence of water flow and/or high production, narrow inset fans, bottomlands, river flood plains or meadows; <i>Flooded soils group</i>)	
	A. Associated with a river	
	1. Saline, shallow water table near Rio Grande and Pecos rivers, meadow plants	Salt Meadow
	B. Not associated with a river	
	1. Inset fan, water flows through the site, flooding for a few hours at most	Draw
	2. Bottomland/vegetated playa, water may sit for days	
	i. Soils not salt-affected, indicators are <i>Sporobolus wrightii</i> , <i>Panicum obtusum</i>	Bottomland
	ii. Soils salt-affected, indicators are <i>Distichlis spicata</i> , <i>Sueda</i> spp.	Salty Bottomland
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. If gypsum present, go to 2. (<i>Sandy soils group</i>)	
	i. Soil is deep	
	a. Soil has a calcic, cambic, or argillic horizon within 1 m	Sandy
	b. Soil does not have a clear pedogenic horizon, usually torripsamments, indicators are <i>Sporobolus giganteus</i> and <i>Psorothamnus scoparius</i>	Deep sand
	ii. Soil is shallow (< 50 cm) to a petrocalcic horizon, <i>Prosopis</i> often small	Shallow sandy
	2. Soil surface is fine sandy loam to clay loam, subsoil is non gravelly loam to clay (<i>Loamy soils group</i>)	
	i Gypsum evident at surface, often hardened and with small mounds, dominated by cryptobiotic crusts and either <i>Sporobolus nealleyi</i> or <i>Tiquilia hispidissima</i> as well as <i>Ephedra torreyi</i>	Gyp Upland (gyp outcrop) [†]
	ii Subsoil has a gypsic horizon within 12 cm; indicators are <i>Sporobolus airoides</i> and/or <i>Sporobolus nealleyi</i> with high cover of <i>Atriplex</i> ; abundant cryptobiotic crusts. May have patches of gyp outcrop.	Gyp Upland
	iii. Subsoil has a gypsic horizon deeper than 12 cm; vegetation may feature	Gyp Upland (gyp loam) [†]

<i>Scleropogon brevifolius</i> , <i>Pleuraphis mutica</i> , <i>Atriplex</i> , <i>Prosopis</i> .	
iv. Subsoil is saline to sodic; indicators are <i>Sporobolus airoides</i> , high cover of <i>Atriplex</i> , salt accumulation on surface, no cryptobiotic crusts, large bare areas.	Salt flats
v. Subsoil has white, carbonatic (>40% calcium carbonate) calcic horizon; indicator is high cover of <i>Krascheninnikovia lanata</i> in lightly grazed condition.	Limy
vi. Subsoil contains a clay horizon, not as above, surface may reveal cracks	Clayey
vii. Surface soil effervescent, subsoil is calcareous silt loam, silty clay loam or loam/clay loam with high silt, not as above, often dominated by <i>Scleropogon brevifolius</i> and/or <i>Flourensia cernua</i>	Loamy (silt loam) [†]
viii. Subsoil loam to clay loam, not as above, variable mix of plants	Loamy
3. Soil surface gravelly, soil profile gravelly to skeletal (<i>Gravelly soils group</i>)	
i. Sandy clay loam, clay loam, or clay subsoil, <i>Pleuraphis mutica</i> and/or <i>Flourensia cernua</i> present.	Gravelly loam
ii. Sandy surface and subsoil, weak structure, no carbonate cementation, no more than stage I carbonate accumulation, may be hummocky and/or near arroyos/highly dissected landforms, indicators are <i>Larrea</i> mixed with <i>Sporobolus</i> spp., may have diverse plants	Gravelly sand
iii. Sandy loam to loam subsoil, stage II-early III carbonate accumulation, <i>Larrea</i> common, <i>Muhlenbergia porteri</i> , <i>Bouteloua eriopoda</i> may be present	Gravelly
iv. Soil is shallow (< 50 cm, often < 20 cm) to a petrocalcic horizon, <i>Larrea</i> plants short/stunted	Gravelly (shallow) [†]
B. Slopes generally > 15%, often revealing exposed rock, soil depth < 50 cm, pediments, hills, mountains, lava flows (<i>Lithic soils group</i>).	
1. Rock at lithic contact is basalt, may be carbonate layer on top of it	Malpais
2. Rock is other igneous (granite, andesite, rhyolite), consolidated conglomerates, or sandstone	Hills
3. Rock is limestone	Limestone Hills
4. Gypsum rock or a petrogypsic horizon is present, indicators are <i>Sporobolus nealleyi</i> , <i>Tiquilia hispidissima</i> .	Gyp Hills

* Note that plants mentioned here as indicators to aid in rapid identification based on commonly-observed relationships. Varying states may be observed so the indicators are not always reliable, soil properties are the ultimate criteria.

† Not a formal ecological site class, but may become so.