

Major Land Resource Area 042B Southern Rio Grande Rift

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Ecological site group keys

MLRA 42.2 Ecological Site Group Key

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. In a river floodplain ... ESG10 – Riparian

B. Not in a river floodplain

1 Level lake plains occupying lowest part of closed depressions in which flood waters persist long enough to prevent perennial vegetation in most areas ... ESG9 – Playas and lakebeds

2 Swales and depressions within upland landforms or at the margins of playas featuring highly productive vegetation ... ESG8 – Bottomlands

II. Not flooded (hills, convex portions of piedmont slopes, broad basin floors)

A. Exposed bedrock absent and few if any cobbles and stones

1 Soil surface texture loamy sand to medium sandy loam, subsoil non gravelly, gypsum absent

i. Soil is shallow (< 50 cm) or has a calcic, cambic, or argillic horizon within 1 m, dunes may occur but are separated by areas of finer soil texture ... ESG1 – Sandy

ii. Soil is not shallow (? 50 cm) and does not have a clear pedogenic horizon, continuous undulating surface or dunes ... ESG2 – Deep sand

2 Soil surface textures are fine sandy loam to clay loam, subsoil non gravelly, gypsum may or may not be present

i. Subsoil moderately to strongly saline, often with visible salt accumulation or crusts ... ESG4 – Saline

ii. Subsoil not moderately to strongly saline

a. Subsoil has a gypsic horizon and/or gypsiferous materials evident at the soil surface ... ESG7 – Gypsic

b. Subsoil lacks a gypsic horizon and gypsum not evident at the surface ... ESG3 – Loamy to clayey

3 Soil surface gravelly, soil profile gravelly to skeletal ... ESG5 – Gravelly

B. Exposed bedrock present or surface cobbles and stones common

1 Rock at lithic contact is basalt, may be a carbonate layer on top of it ... ESG11 – Malpais

2 Rock at lithic contact is not basalt ... ESG6 – Bedrock and colluvium

1a Site occurs on a water-collecting landform such as a swale, drainageway bottom, floodplain, or playa. ...

1b Site does not meet the criteria for 1a.

2a Soils contain visible masses of gypsum in the upper 100 cm. ...

2b. Soils lack visible masses of gypsum in the upper 100 cm.

3a Root-restrictive layer occurs within 50 cm of the soil surface. ...

3b Soils are >50 cm to root-restrictive layer.

4a Soil texture is fine sandy loam or coarser at the surface, and sand percentage is ?50 in all horizons in the upper 100 cm. ...

4b Soils do not meet the criteria in 4a.

5a Soils meet both of the following criteria: 1) soil at the surface reacts strongly or violently to 1N HCl. 2) ?5% calcareous or carbonate-coated fragments at the surface. ...

5b All other sites. ...

Ecological Site Group Ke for MLRA 70D

1a. Site occurs on a water-collecting landform such as a floodplain, swale or drainageway bottom. ...

1b. Site does not meet the criteria for 1a.

2a Root-restrictive layer occurs within 50 cm of the soil surface. ...

2b Soils are >50 cm to root-restrictive layer. ...

National Park Service

I. Additional water

A. Subsurface EC >4 - 040XESG10 Saline Bottoms

B. Subsurface EC <4

1 Sand >50% & clay <25% for surface and subsurface - 040XESG13 Sandy Bottoms

2 Sand <50% or clay >25% for surface and subsurface - 040XESG01 Bottoms

II. Uplands

A. Surface SAR >8

1 Elevation - 2500-3700 ft - 041XESG62 Thornscrub Saline Hills

2 Elevation - 3700-4500 ft ... 042BESG63 – Semi-Desert Grassland Saline Hills

3 Elevation - 4500-6000 ft ... 042BESG38 – Madrean Woodland Saline Hills

B. Surface SAR <8

1 Gypsum >5% surface or >10% subsurface

i. Elevation - 3700-4500 ft ... 042BESG55 – Gypsum Semi-Desert Grassland

ii. Elevation - 4500-6000 ft - 042AESG69 Gypsum Madrean Woodland

2 Gypsum <5% surface and <10% subsurface

i. Subsurface EC >8 or surface EC >4

- a. Elevation - 2500-3700 ft - 041XESG62 Thornscrub Saline Hills
 - b. Elevation - 3700-4500 ft ... 042BESG63 – Semi-Desert Grassland Saline Hills
 - c. Elevation - 4500-6000 ft ... 042BESG38 – Madrean Woodland Saline Hills
- ii. Subsurface EC <8 and surface EC <4
- a. EC >1.5 surface or >2 subsurface
 - 1) Elevation - 2500-3700 ft - 041XESG39 Thornscrub Saline Uplands
 - 2) Elevation - 3700-4500 ft - 041XESG65 Semi-Desert Grassland Saline Uplands
 - 3) Elevation - 4500-6000 ft ... 042BESG66 – Madrean Woodland Saline Uplands
 - 4) Elevation - >6000 ft - 070BESG67 Temperate Forest Saline Uplands
 - b. EC <1.5 surface and <2 subsurface
 - 1) Slope >35% & >40% surface rock
 - a) Elevation - 4500-6000 ft - 038XESG19 Madrean Woodland Breaks
 - b) Elevation - >6000 ft - 042CESG20 Temperate Forest Breaks
 - 2) Slope <35% or <40% surface rock
 - a) Depth <30cm
 - (1) Elevation 2500-3700 ft - 040XESG46 Very Shallow Thornscrub
 - (2) Elevation - 3700-4500 ft - 042AESG47 Very Shallow Semi-Desert Grassland
 - (3) Elevation - 4500-6000 ft - 042AESG48 Very Shallow Madrean Woodland
 - b) Depth: 30-55cm
 - (1) Elevation - 2500-3700 ft - 040XESG42 Shallow Thornscrub
 - (2) Elevation - 3700-4500 ft - 042AESG43 Shallow Semi-Desert Grassland
 - (3) Elevation - 4500-6000 ft - 038XESG44 Shallow Madrean Woodland
 - c) Depth >55cm
 - (1) Rock >30% surface or >30% subsurface
 - (a) Elevation - 3700-4500 ft - 042AESG26 Deep Rocky Semi-Desert Grassland
 - (b) Elevation - 4500-6000 ft ... 042BESG27 – Deep Rocky Madrean Woodland
 - (2) Rock <30% surface and <30% subsurface
 - (a) Clay >30% surface or >35% subsurface - 041XESG22 Semi-Desert Grassland Clay Uplands
 - (b) Clay <30% surface and <35% subsurface
 - (1) Sand >75% or texture is loamy sand or sandier in surface & subsurface
 - (a) Elevation - 3700-4500 ft ... 042BESG41 – Semi-Desert Grassland Sandy Uplands
 - (b) Elevation - 4500-6000 ft ... 042BESG68 – Madrean Woodland Sandy Uplands
 - (2) Sand <75% or texture is sandy loam or finer in surface & subsurface
 - (a) Clay <20% or texture is sandy loam or sandier in surface
 - (1) Elevation - 3700-4500 ft - 041XESG35 Semi-Desert Grassland Loamy Uplands
 - (2) Elevation - 4500-6000 ft ... 042BESG36 – Madrean Woodland Loamy Uplands
 - (b) Clay >20% or texture is finer than sandy loam in surface

(1) Elevation - 3700-4500 ft - 041XESG30 Semi-Desert Grassland Finer Uplands

(2) Elevation - 4500-6000 ft - 070BESG31 Madrean Woodland Finer Uplands