

# Major Land Resource Area 036X

## Southwestern Plateaus, Mesas, and Foothills

Accessed: 05/12/2025

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### Ecological site keys

#### New Mexico MLRA 36 Ecological Site Key

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- 1a. Temperature regime is mesic and annual precipitation is 10-16" and mesic - (36.2 NM)
- 2a. Soils receive extra beyond normal precipitation water either by having a water table or being in a run-in position
  - 3a. Water table is less than 12" in depth
    - 4a. Soil is coarse-loamy in control section
      - 5a. Soils are  $\geq 40$ " in depth; surface textures range from fine sandy loam and silt loam; Landforms are abandoned channels on flood plains of valley floors with intermittent streams ... R036XB138NM – Marshy
      - 5b. Site not as above. Unclassified
    - 4b. Soil is fine-loamy in control section
      - 6a. Water table 6-48" in depth; slopes 0-5%; soils are deep, Surface textures are silty clay loam, clay loam, loam, and gravelly loam with a subsoil of stratified loam, silt loam, silty clay loam, clay loam, very gravelly sand, and gravelly sand. Landform is in a stream terrace, valley floors and alluvial flats positions. This site is subirrigated. It may occur adjacent to streams, springs, and seeps ... R036XB008NM – Meadow
      - 6b. Site not as above. Unclassified
    - 4c. Site not as above. Unclassified.
  - 3b. Water table is greater than 12" in depth
    - 7a. Water table is greater than 6 ft. (72") in depth
      - 8a. Sites not influenced by salts and/or sodium
        - 9a. Soils are deep to very deep soils that have surface textures of silty clay loam, clay loam, silt loam, and fine sandy loam with loamy subsoil. Landforms are flood plains, alluvial fans, valley floors, valley flats, stream terraces, broad valley bottoms, depressions (swales) and other low-lying areas which receive runoff moisture from adjacent sites. This site is enhanced by runoff during periods of high runoff (intermittent) ... R036XB017NM – Swale
        - 9b. Site not as above. Unclassified.
      - 8b. Sites influences by salts and/or sodium
        - 10a. Water table 72"+ in depth; slopes 0-5%; soils are deep, high in sodium. Surface textures are loam, clay loam, or silty clay with a subsoil of clay or clay loam. Landform is nearly level to gently sloping playas, alluvial fans, floodplains, lake plains, stream terraces, and lake terraces. It commonly forms a narrow band adjacent to a flowing or intermittent stream ... R036XB010NM – Salty Bottomland
        - 10b. Site not as above. Unclassified
    - 7b. Water table between 12-72" in depth
      - 11a. Sites influences by salts and/or sodium
        - 12a. Water table 4-50" in depth; slopes are 0-5%; soils are deep, Surface textures are loam, clay loam, or silty clay with a subsoil of clay or clay loam. Landform is nearly level to gently sloping

playas, alluvial fans, floodplains, lake plains, stream terraces, and lake terraces. It commonly forms a narrow band adjacent to a flowing stream ... R036XB009NM – Salt Meadow

12b. Site not as above. Unclassified

11b. Sites not influenced by salts and/or sodium

13a. Soils are fine-loamy, fine or fine-loamy over sandy or sandy-skeletal in the soils control section

14a. Water table 6-48" in depth, slopes 0-5%, soils are deep. Surface textures are silty clay loam, clay loam, loam, and gravelly loam with a subsoil of stratified loam, silt loam, silty clay loam, clay loam, very gravelly sand, and gravelly sand. Landform is in a stream terrace, valley floors and alluvial flats positions. This site is subirrigated. It may occur adjacent to streams, springs, and seeps ... R036XB008NM – Meadow

14b. Site not as above. Unclassified

13b. Coarse-loamy, sandy skeletal, ashy or fine-loamy over sandy or sandy-skeletal in soils control section; if fine-loamy over sandy or sandy-skeletal there is strongly contrasting textural stratification as a restriction kind and water table is above 12" when fine-loamy over sandy or sandy-skeletal in the control section

15a. Site has a water table at 12-48" ; slopes 0-3%; soils are deep; Surface textures are a very fine sandy loam, fine sandy loam, very gravelly coarse sand, and ashy loam; subsoils textures are coarse-loamy. Landforms are flood plains, stream terraces, flood-plain steps on valley floors, natural levees flood plains on valley floors and swales ... F036XA005NM – Riverine Riparian

15b. Site not as above. Unclassified.

13c. Site not as above. Unclassified.

2b. Soils without a water table and not in a run-position

16a. Shallow soils ( $\leq 20$ " in depth)

17a. Non-skeletal (<35% rock fragments in soil profile-can have gravels, cobbles, stones and channers on the surface)

18a. Surface texture modifier used (ie. gravelly, cobby)

19a. Slopes 3-20%; soils are very shallow to shallow and non-skeletal; soil surface gravelly loam or gravelly fine sandy loam; gravelly sandy loam; subsoil is sandy loams to loams. Landforms located adjacent to narrow ridges, hills, breaks structural benches and mesas of bedrock controlled landscapes ... R036XB013NM – Shallow Gravelly

19b. Site not as above. Unclassified

18b. Stony, cobbly or channery modifier on surface texture

1) Slopes 1-55%; very shallow to shallow soils and non-skeletal; very cobbly loam, very cobbly sandy loam, loam, cobbly clay loam, and channery clay loam over a clayey subsoil. Bedrock can be sandstone, shale or basalt. Landforms narrow ridges, hills, breaks and mesas of bedrock controlled landscapes ... R036XB015NM – Shallow Savanna

2) Slopes 1-15%; soils are skeletal and not skeletal; soil surface are loam, stony to very stony loam, very cobbly loam, fine sandy loam, very cobbly fine sandy loam, stony silt loam, stony silty clay loam, and cobbly silty clay loam; Parent materials are basalt influences but can have sometimes influence from sandstone and/or shale. Landforms are mesas, lava plateaus, lava flows, lava flows on valley floors, and ridges ... R036XB007NM – Malpais

3) Slope 1-35%; Soils are very shallow to shallow and non-skeletal; soil surface is loam, channery loam or clay loam. Landforms are broad mesas, cuevas, and hills interspersed with numerous deep canyons and dry washes ... F036XA001NM – Pinyon Upland

4) Site not as above. Unclassified

18c. No surface texture modifier or not as above in 18a or 18b

1) Slopes 1-25%; soils are non-skeletal; soil surface is sandy loam to loam with a loamy subsoil from basalt and eolian materials. Landform is ridges, hills, interfluvies on undulating plateaus,

escarpments on cuestras, and escarpments on mesas ... R036XB014NM – Shallow Loam

2) Slopes 1-15%; soils are skeletal and not skeletal; soil surface are loam, stony to very stony loam, very cobbly loam, fine sandy loam, very cobbly fine sandy loam, stony silt loam, stony silty clay loam, and cobbly silty clay loam; Parent materials are basalt influences but can have sometimes influence from sandstone and/or shale. Landforms are mesas, lava plateaus, lava flows, lava flows on valley floors, and ridges ... R036XB007NM – Malpais

3) Site not as above. Unclassified

17b. Skeletal ( $\geq 35\%$  rock fragments in soil profile-may or may not have gravels, cobbles, stones and channers on the surface)

1) Slopes 1-15%; soils are skeletal and not skeletal; soil surface are loam, stony to very stony loam, very cobbly loam, fine sandy loam, very cobbly fine sandy loam, stony silt loam, stony silty clay loam, and cobbly silty clay loam; Parent materials are basalt influences but can have sometimes influence from sandstone and/or shale. Landforms are mesas, lava plateaus, lava flows, lava flows on valley floors, and ridges ... R036XB007NM – Malpais

2) Slopes 10-55%; soils are very shallow to moderately deep and skeletal; Surface soil textures are loams to clay with loamy subsoil. Landforms are scarp slope (along canyon edges, side-slopes, ridges, and benches) ... R036XB001NM – Breaks

3). Site not as above. Unclassified

16b. Moderately deep to very deep soils ( $\geq 20$ " in depth)

19a. Non-skeletal ( $< 35\%$  rock fragments in soil profile)

20a. Calcareous (very calcareous throughout the profile);

21a. Slopes are 3-8%; soils are deep; surface is generally a silt loam and subsoil textures range from loam to silt loam. Landforms are gently alluvial fans and valley sides ... R036XB005NM – Limy

21b. Site not as above. Unclassified.

20b. Non- calcareous (Calcium carbonate equivalent is  $< 10\%$  within 40" in depth)

22a. Slopes  $\geq 25\%$

23a. No surface texture modifier

24a. Slopes are 15-40%. Soils are moderately deep to deep; Surface textures are loamy fine sand, loamy very fine sand, sandy loam and loamy sand with sandy subsoil.

Landforms are hills, ridges, escarpments on cuestras, and escarpments on plateaus ... R036XB111NM – Sandy Slopes

24b. Site not as above. Unclassified

23b. Surface texture modifier of gravelly, very gravelly extremely gravelly, or para-gravelly, very cobbly, extremely cobbly or ashy

24a. Loamy subsoils (loam, clay loam (loamy or fine loamy in particle control section (18-35% clay))). Can have surface textures of sandy loam, fine sandy loam, sandy clay loam, loam, silt loam, clay loam, and loamy fine sand.

1) Slopes are 1-65%; Soils are moderately deep to deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly sandy loam, very gravelly loam, loam, para-gravelly-ashy loamy coarse sand, and extremely cobbly coarse sandy loam with a sandy subsoil. Landform is mesas, hills, fan piedmonts, valley sides, plateaus, mountain slopes, structural benches, breaks and ridges ... F036XB133NM – Pinyon-Utah juniper/skunkbush sumac

2) Soils can be skeletal or non-skeletal; Surface textures can be gravelly to extremely gravelly loam, loam, very gravelly to extremely gravelly coarse sandy loam, extremely cobbly fine sandy loam, extremely gravelly sandy clay loam, fine sandy loam, very gravelly fine sandy loam, sandy loam, or gravelly sandy loam with a subsoil that is loamy ... F036XA136NM – Pinyon-Utah juniper/Apache plume

3) Site not as above. Unclassified

24b. Sandy subsoils (Coarse loamy or Sandy in the particle control section; <18% clay)  
(Loamy sand, loamy fine sand, loamy very fine sandy, sandy loam, or fine sandy loam)

25a. Slopes are (10-65%); Soils are very deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly fine sandy loam, very gravelly sandy loam, very cobbly loam, or gravelly loam with a sandy subsoil. Landforms are escarpments, fan piedmonts, mesas, hills, ridges and knolls ... R036XB132NM – Gravelly Hills

25b. Site not as above. Unclassified

24c. Site not as above. Unclassified

23c. Site not as above. Unclassified

22b. Slopes are 25% or less; non-skeletal

26a. Sandy subsoils (Coarse loamy or Sandy in the particle control section; <18% clay)  
(Loamy sand, loamy fine sand, loamy very fine sandy, sandy loam, fine sandy loam. Some may have a loam soil surface

(1) Slopes are 1-25%; soils are deep; Surface textures are loamy sand, loamy fine sand, and sandy loam with sandy subsoil. Landforms are plateaus, mesas, upland plains ...  
R036XB012NM – Sandy Savanna

(2) Slopes are 15-40% Soils are moderately deep to deep; Surface textures are loamy fine sand, loamy very fine sand, sandy loam and loamy sand with sandy subsoil. Landforms are hills, ridges, escarpments on cuestas, and escarpments on plateaus ...  
R036XB111NM – Sandy Slopes

(3) Slopes are 1-15%; soils are deep to very deep; Surface textures are loamy sand, gravelly loamy sand, loamy fine sand, fine sandy loam and sandy loam with sandy subsoil. Landforms are nearly level to gently sloping landscapes on dunes, fan remnant and alluvial fans ... R036XB011NM – Sandy

(4) Slopes are (10-65%); Soils are very deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly fine sandy loam, very gravelly sandy loam, very cobbly loam, or gravelly loam with a sandy subsoil. Landforms are escarpments, fan piedmonts, mesas, hills, ridges and knolls ... R036XB132NM – Gravelly Hills

(5) Slopes are 1-65%; Soils are moderately deep to deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly sandy loam, very gravelly loam, loam, para-gravelly-ashy loamy coarse sand, and extremely cobbly coarse sandy loam with a sandy subsoil. Landform is mesas, hills, fan piedmonts, valley sides, plateaus, mountain slopes, structural benches, breaks and ridges ... F036XB133NM – Pinyon-Utah juniper/skunkbush sumac

(6) Site not as above. Unclassified

26b. Soils with  $\geq 18\%$  clay in the particle control section

27a. Clayey subsoils (Fine, clayey. Fine silty in particle control section; >35% clay)

(1) Slopes are 0-15%; Soils are moderately deep to deep; soil surface loam, clay loam, silty clay loam, and silty clay over clayey subsoil with textures of clay loam, clay to silty clay loam or silty clay. Landforms are stream terraces, valley floors, fan remnants, alluvial fans, dipslopes on cuestas, mesas, hills, and valley floors ...  
R036XB002NM – Clayey

(2) Slopes are 1-15%; Soils are moderately deep to deep; soil surface range from very fine sandy loam to clay loam. Subsoil is fine-textured. Landforms are nearly level to undulating plains, hills, ridges, and mesa tops, although it may occur on more rolling landscapes ... R036XB016NM – Loamy Savanna

(3) Site not as above. Unclassified

27b. Loamy subsoils (loam, clay loam (loamy or fine loamy in particle control section)). Can have surface textures of sandy loam, fine sandy loam, sandy clay loam, loam, silt loam, clay loam, and loamy fine sand.

(1) Slopes are 1-15%; surface textures range from loam, gravelly loam, loamy fine sand, fine sandy loam, sandy loam, silt loam, and clay loam; Subsoil ranges from loam to clay loam (loamy); Found on mesas, plateaus, fan remnants, terraces, dipslopes on cuestras, and valley sides ... R036XB006NM – Loamy

(2) Soils can be skeletal or non-skeletal; Surface textures can be gravelly to extremely gravelly loam, loam, very gravelly to extremely gravelly coarse sandy loam, extremely cobbly fine sandy loam, extremely gravelly sandy clay loam, fine sandy loam, very gravelly fine sandy loam, sandy loam, or gravelly sandy loam with a subsoil that is loamy ... F036XA136NM – Pinyon-Utah juniper/Apache plume

(3) Slopes 3-20%; soils are moderately deep and fine-loamy. Surface soil textures are loam. The subsoil is loamy. Landforms are hills ... R036XB003NM – Gravelly Fan

(4) Slopes 0-15%; soils are deep to very deep and skeletal and non-skeletal; Surface soil textures are cobbly loam, or loam. Subsoils are loamy. Landforms are nearly level alluvial fans, stream terraces, plateaus, mesas and volcanic cones ... R036XB018NM – Stony Loam

(5) Site not as above. Unclassified

27c. Site not as above. Unclassified

19b. Skeletal (>35% rock fragments in soil profile-can have gravels, cobbles, stones and channers on the surface)

28a. Sandy subsoils (Coarse loamy or Sandy in the particle control section; <18% clay) (Loamy sand, loamy fine sand, loamy very fine sandy, sandy loam, fine sandy loam. Some may have a loam soil surface.

1) Slopes are 1-65%; Soils are moderately deep to deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly sandy loam, very gravelly loam, loam, para-gravelly-ashy loamy coarse sand, and extremely cobbly coarse sandy loam with a sandy subsoil. Landform is mesas, hills, fan piedmonts, valley sides, plateaus, mountain slopes, structural benches, breaks and ridges ... F036XB133NM – Pinyon-Utah juniper/skunkbush sumac

2) Slopes are (10-65%); Soils are very deep and skeletal and non-skeletal. Surface texture of gravelly to very gravelly fine sandy loam, very gravelly sandy loam, very cobbly loam, or gravelly loam with a sandy subsoil. Landforms are escarpments, fan piedmonts, mesas, hills, ridges and knolls ... R036XB132NM – Gravelly Hills

3) Site not as above. Unclassified

28b. Loamy subsoils (loam, clay loam (loamy or fine loamy in particle control section (18-35% clay))). Can have surface textures of sandy loam, fine sandy loam, sandy clay loam, loam, silt loam, clay loam, and loamy fine sand.

1) Slopes 10-55%; soils are very shallow to moderately deep and skeletal; Surface soil textures are loams to clay with loamy subsoil. Landforms are scarp slope (along canyon edges, side-slopes, ridges, and benches) ... R036XB001NM – Breaks

2) Slopes are 3-25%; Soils are skeletal and deep. Soil surface textures are gravelly to very gravelly loam or cobbly loam with subsoil that are loams to clay loam. Landforms are rolling hills, divides, and ridges ... R036XA004NM – Gravelly Slopes

3) Soils can be skeletal or non-skeletal; Surface textures can be gravelly to extremely gravelly loam, loam, very gravelly to extremely gravelly coarse sandy loam, extremely cobbly fine sandy loam, extremely gravelly sandy clay loam, fine sandy loam, very gravelly fine sandy loam, sandy loam, or gravelly sandy loam with a subsoil that is loamy ... F036XA136NM – Pinyon-Utah juniper/Apache plume

4) Slopes 0-15%; soils are deep to very deep and skeletal and non-skeletal; Surface soil textures are cobbly loam, or loam. Subsoils are loamy. Landforms are nearly level alluvial fans, stream terraces, plateaus, mesas and volcanic cones ... R036XB018NM – Stony Loam

5) Site not as above. Unclassified

28c. Site not as above. Unclassified

1b. Temperature regime is mesic and annual precipitation is 16-20" and mesic/frigid (36.1 NM) - Site not as above.  
Unclassified