

Major Land Resource Area 030X

Mojave Basin and Range

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Ecological site keys

Mountains, Foothills, and Plateaus-non volcanic, bedrock controlled landforms

I. Generally > 3300 in elevation; mean annual air temperature is between 13oC (55.5 oF) and 17oC (62.5 oF)]; effective precipitation is between -800 to -400 mm (-31.5 to -15.75 inches); generally an increase in both the number of species and abundance of perennial grasses and other shrubs occurs in these regions compared to the more arid regions.

A. Shallow soils to a lithic or paralithic contact or a shallow argillic or calcic horizon

1 Colluvium and residuum derived from igneous and plutonic metamorphosed material

- i. Surface fragments larger than 10 inches cover less than 20% of the surface ... R030XA036CA – Shallow Granitic Hill
- ii. Surface fragments larger than 10 inches cover less than 20% of the surface. December and January average minimum temperatures are above 32 degrees Fahrenheit (0 C) ... R030XB076NV – SHALLOW GRAVELLY SLOPE 6-8 P.Z.
- iii. Surface fragments larger than 10 inches cover less than 20% of the surface. December and January average minimum temperatures are below 32 degrees Fahrenheit (0 C) ... R030XA055CA – Calcareous Hill
- iv. Surface fragments larger than 10 inches cover more than 20% of the surface
 - a. Colluvium and residuum from granodiorite ... R030XB151CA – Shallow Gravelly Loam 5-7" P.Z.
 - b. alluvium derived from granite and/or residuum weathered from granite on dissected pediment surfaces. ... R030XB171CA – Dissected Pediment
 - c. Slopes are generally greater than 30 percent. Creosote bush (*Larrea tridentate*) and Parish's goldeneye (*Viguiera parishi*) dominate the site, but a high diversity of other shrub species may be present. ... R030XB172CA – Warm Gravelly Shallow Hills
 - d. Slopes are typically 15 to 75 percent. Elevations are 5100 to about 8900 feet. Site supports pinyon-juniper ... F030XC238NV – Shallow Metamorphic Mesic Mountains
 - e. This ecological site occurs on moderately sloping, undulating low hills or rock pediment. Soils are very shallow to shallow, and have loamy skeletal textures. ... R030XC002CA – Shallow Loamy-Skeletal Ustic Low Slopes
 - f. There is a high percentage of granitic rock outcrops throughout the site, with very shallow to shallow sandy soils on open expanses of slope between outcrops. Single-leaf pinyon pine (*Pinus monophylla*), California juniper (*Juniperus California*) and Muller's oak (*Quercus cornelius-mulleri*) are dominant around rock outcrops, and blackbrush (*Coleogyne ramosissima*) is dominant on shallow soils among outcrops. ... R030XB170CA – Bouldery Very Shallow To Shallow Gravelly Slopes
 - g. With the exception of the Seanna series, there is an argillic horizon within 5 inches of the soil surface. ... R030XB193CA – Very Shallow To Moderately Deep Gravelly Slopes
- v. . Stones and boulders over 10 inches wide and rock outcrop compose less than 15 % of the surface cover. Slopes >15% ... R030XB140CA – Shallow Hill 4-6" P.Z.
- vi. Cobbles, stones and boulders over 3 inches wide and rock outcrop cover less than 15 % of the soil surface. Greater than 15% slope ... R030XB056NV – SHALLOW GRANITIC SLOPE 5-7 P.Z.

- vii. The site is dominated by blackbrush (*Coleogyne ramosissima*) and Utah juniper (*Juniperus osteosperma*). ... R030XC189CA – Bi-Modal Semi-Arid Shallow Cool Hills
- viii. Single-leaf pinyon pine (*Pinus monophylla*) and Muller oak (*Quercus cornelius-mulleri*) dominate. ... R030XE196CA – Sandy Xeric-Intergrade Slopes

2 Colluvium and residuum derived from limestone or dolomite

- i. Surface fragments larger than 10 inches cover less than 15% of the surface ... R030XA035CA – Sedimentary Hill
- ii. Surface fragments larger than 10 inches cover less than 15% of the surface plus soils are higher in Ph creating a shadscale community. ... R030XB002NV – LOAMY HILL 5-7 P.Z.
- iii. Cobbles, stones and boulders over 3 inches wide and rock outcrop cover more than 15 % of the soil surface ... R030XB068NV – LIMESTONE HILL 5-7 P.Z.
- iv. Cobbles, stones and boulders over 3 inches wide and rock outcrop cover less than 15 % of the soil surface. Site is a blackbrush site. ... R030XB135NV – Steep Limestone Hill
- v. Stones and boulders over 10 inches wide and rock outcrop compose less than 15 % of the surface cover. White bursage and big galleta dominate the reference plant community. ... R030XB123NV – LIMESTONE SLOPE 5-7 P.Z.
- vi. Cobbles, stones and boulders over 3 inches wide and rock outcrop cover more than 15 % of the soil surface. Within the Colorado River Watershed. ... R030XB112NV – STONY LIMESTONE SLOPE 5-7 P.Z.
- vii. Very shallow (less than 25 cm deep) soils over exposed bedrock ... R030XC036NV – STEEP GRAVELLY SLOPE 9-11 P.Z.
- viii. Site is above 8500 feet
 - a. Site is <15% slope ... F030XC279NV – *Pinus ponderosa* var. *scopulorum*-*Juniperus scopulorum*/*Cercocarpus ledifolius* var. *intermontanus*/*Bouteloua gracilis*
 - b. Site is >15% slopes ... F030XC284NV – *Pinus longaeva*-*Pinus flexilis*/*Juniperus communis* var. *depressa*/*Carex rossii*
 - c. Site is >15% slopes; site is mostly on south facing aspects. ... F030XC287NV – *Pinus ponderosa* ssp. *scopulorum*-*Abies concolor* var. *concolor*/*Ericameria compacta*/*Pseudoroegneria spicata* ssp. *spicata*
 - d. Site is above 10,000 Ft ... R030XC028NV – ALPINE SLOPE
 - e. This site occurs on high windswept ridges and shoulders of mountains. Slopes range from 8 to 75 percent, but slopes of 15 to 50 percent are most typical. Elevations range from 9600 to 9933 feet. ... R030XC030NV – MOUNTAIN RIDGE
- ix. Forested site between 6500 feet (2000 m) and 7500 feet (2300 m). Slopes >15%. Mostly northern aspects. ... F030XC252NV – LIMESTONE SLOPES
- x. The soils associated with this site are shallow to bedrock. Slope gradients from 30 to 40 percent is most typical. ... R030XC040NV – STEEP NORTH SLOPE 9-11 P.Z.
- xi. Site is shallow to a lithic contact and surface fragments larger than 10 inches cover < 15% of the surface. ... R030XC008NV – SHALLOW LIMESTONE SLOPE 7-9 P.Z.

3 Soils are formed in colluvium and residuum mostly from sandstone and are shallow to densic material. May also have some limestone

- i. The dominant species are blackbrush (*Coleogyne ramosissima*), and creosote bush (*Larrea tridentata*). ... R030XB094CA – Shallow Limestone Hill
- ii. Site is formed in residuum and colluvium derived from mudstone, or gypsiferous sandstone and siltstone. Reaction is moderately to strongly alkaline. ... R030XB116NV – SHALLOW PEDIMENT 3-5 P.Z.
- iii. The soils associated with this site are shallow to very shallow to sandstone bedrock. Slopes typically range from 15 to about 75 percent. Elevations are 3700 to about 7020 feet. The reference plant

community is dominated by turbinella oak, manzanita, and black sagebrush. ... R030XC020NV – SHALLOW SANDSTONE HILL 11-13 P.Z.

iv. Elevations range from 4000 to 7000 feet. Soils are formed in residuum and colluvium from calcareous sandstone and siltstone. ... R030XC027NV – SHALLOW GRAVELLY SANDSTONE 7-9 P.Z.

B. Soils deep to very deep

1 Slopes are greater than 15%

i. Soils derived from gypsiferous sedimentary rocks ... R030XB003NV – GYPSIC LOAM 5-7 P.Z.

ii. Parent material derived from non-foliated metamorphic rock types ... F030XC254NV – PIMO-JUOS/ARTRV

II. Generally < 3300 ft; mean annual air temperatures > 17 oC (62.5 oF)]; effective precipitation is between -1300 to -800 mm (-51 to -31.5 inches).

A. Slope >15%

1 Colluvium and/or residuum derived from igneous and foliated metamorphosed material where soils are shallow and/or a shallow diagnostic subsurface horizon is present (within top 50 cm). This keys out to both R030XA054NV and R030XA046CA. Soils have an argillic horizon. ... R030XA054NV – Limy Hill 5-7 P.Z.

2 Soils are slightly to moderately alkaline. Soils do not have an argillic diagnostic horizon. ... R030XA029CA – Shallow Limy 5-7

3 Gypsic horizon present ... R030XB118NV – GYPSIC HILL 3-5 P.Z.

4 52' Gypsic horizon is not present with a very shallow depth to a sandstone lithic contact. ... R030XB113NV – SANDSTONE HILL 3-5 P.Z.

5 The dominant soils associated with this ecological site are very shallow to shallow, and formed from alluvium derived from granitoid and/or residuum weathered from granitoid. ... R030XB164CA – Steep South Slopes

6 The soils have formed in residuum and colluvium from calcareous sandstone and limestone. ... R030XB127NV – SHALLOW SANDSTONE SLOPE 3-5 P.Z.

7 They are formed in residuum and colluvium from sandstone conglomerate. ... R030XB124NV – SHALLOW HILL 3-5 P.Z.

8 Colluvium and residuum derived from igneous and foliated metamorphosed material where soils are shallow and/or a shallow diagnostic horizon is present ... R030XB139CA – Shallow Dry Hill 4-6 P.Z.

9 The soils are formed in residuum and colluvium from calcareous sandstone and limestone. ... R030XB125NV – CHANNERY HILL 3-5 P.Z.

10 < 15% boulders and rock outcrop, with elevations ranging from 950 to 2390 feet. ... R030XD001CA – Hyperthermic Dry Hills

11 This site is associated with hot landscape positions, typically occurring on south-facing aspects, but at lower elevations it may occur on all aspects. ... R030XD003CA – Hyperthermic Steep South Slopes

12 Generally less than 15% cover of stones and boulders. These soils occur on mountain slopes and hills and formed from colluvium and residuum derived from granite and gneiss over bedrock. ... R030XD004CA – Low-Production Hyperthermic Hills

B. Slope < 15%

1 Soils are shallow, have an argillic horizon and formed in residuum from granodiorite. ... R030XA043CA – Calcareous Hill

2 Soils are shallow and exist on rock pediments with less than 5 percent slope. Soils are shallow and formed in residuum from granodiorite. There is no argillic horizon. ... R030XA030CA – Shallow Loam 5-7

3 This site occurs on flat-topped summits of mesas and plateaus overlying tertiary sediments. ... R030XB110NV – TABLELAND 3-5 P.Z.

4 Parent material is derived from sedimentary materials. Cobbles, stones and boulders over 3 inches wide and rock outcrop cover less than 15 % of the soil surface. ... R030XB086CA – Gravelly Pediment

5 The dominant soils associated with this ecological site are very shallow to shallow, and formed in

colluvium derived from granitoid over residuum weathered from granitoid, or in residuum weathered from granitoid. ... R030XB225CA – Warm Sloping Pediments

C. Soils derived from gypsiferous sedimentary rocks.

1 Pediment or landforms less than 15% slope ... R030XB115NV – GYPSIC SODIC LOAM 3-5 P.Z.