USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 067A
Central High Plains, Northern Part

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Ecological site keys

MLRA 67A Abiotic Key

I. I.Sites occur in a lower landscape position that receives additional moisture from runoff, intermittent or perennial streams, or from a water table.

A. Sites have a high water table (0-36”) present for all or a portion of the growing season.

1 Water table at or near surface (0-18”). Site is poorly drained. ... R067AY178WY – Wetland (WL)

2 Water table within rooting depth (6-36”) of herbaceous species during some or most of the growing season.

i. Soils are alkaline and/or saline. ... R067AY142WY – Saline Subirrigated (SS)

ii. Soils are not alkaline or saline. ... R067AY174WY – Subirrigated (Sb)

B. Site occurs adjacent to intermittent or perennial streams. Water table within rooting depth of woody plants, typically > 7’; if shallower, not within the rooting depth of herbaceous plants.

1 Soils are either alkaline and/or saline. ... R067AY138WY – Saline Lowland (SL)

2 Soils are not alkaline or saline.

i. Soil surface textures are loam, silt loam or occasionally very fine sandy loam. ... R067AY124WY – Loamy Lowland (LyL)

ii. Soil surface textures are loamy sand, loamy fine sand, sandy loam, fine sandy loam, or sand. ... R067AY152WY – Sandy Lowland (SyL)

C. Site receives periodic run-off from adjacent slopes or intermittent streams following precipitation events, no water table.

1 Site is in a closed depression and is prone to ponding. The subsurface texture is silty clay, silty clay loam, clay, or clay loam. ... R067AY106WY – Closed Depression (Cd)

2 Site is not in a closed depression. Surface textures are loam or silt loam, and subsoil textures are loam, silt loam or clay loam. ... R067AY126WY – Loamy Overflow (LyO)

II. Upland sites that do not receive additional moisture from runoff, streams, or water table.

A. Soil depth is 20” or less to a root restrictive layer.

1 Soils are very shallow (<10”) to a root restrictive layer of sandstone or siltstone and may include areas of exposed bedrock. ... R067AY176WY – Very Shallow (VS)

2 Soils are shallow (10-20”) to a root restrictive layer of sandstone or siltstone. ... R067AY162WY – Shallow (Sw)

B. Soil depth is moderately deep to very deep (>20”).

1 Soils are alkaline and/or saline. ... R067AY144WY – Saline Upland (SU)

2 Soils are not alkaline or saline.

i. Soils contain a high volume of rock fragments on the surface and throughout the soil profile. ... R067AY112WY – Gravelly (Gr)

ii. Soils do not contain high volume of rock fragments on the surface.

a. Soil textures are clay, clay loam, silty clay, or silty clay loam, but may include loam on the surface. Soil cracking is common during dry months. ... R067AY104WY – Clayey (Cy)

b. Soil textures range from sand to sandy loam.

1) Soil surface textures are fine sandy loam, very fine sandy loam or loamy very fine sand; sites are nearly level to slightly sloping (<6%). ... R067AY150WY – Sandy (Sy)

2) Soil surface textures are fine sand, loamy fine sand, loamy sand, or sand.

a) Rolling dunes or hills with slopes of 6-24%. ... R067AY146WY – Sands (Sa)

b) Steep dunes with slopes exceeding 24%; blowouts may be present. ... R067AY102WY – Choppy Sands (CS)

c. Soil textures are loam, very fine sandy loam, fine sandy loam, or silt loam.

1) Soils are calcareous at or near the surface (<6") and effervesce when acid is applied to the soil. ... R067AY120WY – Limy Upland (LiU)

2) Soils are not calcareous near the surface. ... R067AY122WY – Loamy (Ly)

MLRA 67A Biotic Key

I. Site is in a lowland position that receives additional moisture from runoff of adjacent slopes, from intermittent/perennial streams, or from a water table (HIGH Productivity Potential).

A. Sites that are saline and/or alkaline, dominated by salt tolerant species (greasewood, inland saltgrass, alkali sacaton).

1 Water table within rooting depth of herbaceous species (6-36") during some or most of the growing season, dominated by salt-tolerant grasses such as alkali sacaton and inland saltgrass on floodplains, floodplain-steps, or drainageways - Production (Prod.) 3,200-3,500 lbs./ac. ... R067AY142WY – Saline Subirrigated (SS)

2 Site in a lowland position and water table greater than 7 feet (within rooting depth of woody plants, but not within rooting depth of herbaceous plants, dominated by alkali sacaton, and greasewood (not known in 15-17" PZ) Prod. 1,500 lbs./ac. ... R067AY138WY – Saline Lowland (SL)

B. Sites that are not saline and/or alkaline.

1 Sites have a high water table (36" or less from the soil surface).

i. Site is poorly drained with a water table at the surface (0-18") for part of the growing season. Prairie cordgrass, reedgrasses, and willows common species. Production 5,000 lbs. /ac. ... R067AY178WY – Wetland (WL)

ii. Site has a water table within the rooting depth of herbaceous species (6-36") during part of the growing season, rhizomatous wheatgrasses, bluestems, and willows may be present, as site deteriorates Kentucky bluegrass and Baltic rush invade. Prod. 3,500-4,500 lbs./ac. ... R067AY174WY – Subirrigated (Sb)

2 Sites not as above-water table deeper than 36".

i. Site in a lowland position, adjacent to intermittent/perennial streams, water table greater than 7 feet (within rooting depth of woody plants, but not within rooting depth of herbaceous plants).

a. Surface textures of loam or silt loam, but may include very fine sandy loam; cottonwoods, boxelder, or remnants thereof may be present. More western wheatgrass and green needlegrass than Sandy Lowland Prod. 2,500 lbs./ac. ...

R067AY124WY – Loamy Lowland (LyL)

b. Soil textures are sandy loam, fine sandy loam, with more needle and thread and bluestems than Loamy Lowland. ...

R067AY152WY – Sandy Lowland (SyL)

ii. Site in a lowland position, no water table available for woody plants. Site receives periodic overflow from adjacent slopes or intermittent streams, silver sagebrush, western wheatgrass, needle and thread are common, generally more productive than adjacent upland sites that do not receive additional moisture-(1,800-2,000 lbs./ac) surface textures are loam or silt loam, subsurface textures are loam, silt loam, or clay loam. ... R067AY126WY – Loamy Overflow (LyO)

3 Site is in a closed depression that receives water as runoff from adjacent upland slopes, site is prone to ponding, surface textures are silty clay loam, silty loam, or loam, with silty clay, silty clay loam, clay, or clay loam subsurface textures, more western wheatgrass and green needlegrass than Loamy Overflow. This site was formerly called formerly Clayey Overflow CyO. ...

R067AY106WY – Closed Depression (Cd)

II. Site is in an upland landscape position that does not receive additional moisture from runoff of adjacent slopes, from intermittent/perennial streams, or from a water table.

A. Sites that have a root restrictive layer at or above 20" (LOW productivity potential).

1 Root restrictive layer is <10". ... R067AY176WY – Very Shallow (VS)

2 Root restrictive layer is between 10-20". This site combined former Shallow Loamy (SwLy) and Shallow Sandy (SwSy). ...

R067AY162WY – Shallow (Sw)

B. Sites that do not have a root restrictive layer at or above 20" or the restrictive layer is below 20" (Sites are moderately deep (20-40") to very deep (>60").

1 Sites that are saline and/or alkaline. Sites occur on fans or terraces. Surface textures are loam, clay loam, or clay, with a clay, clay loam, silty clay, or silty clay loam subsurface. Four-wing and Gardner's saltbush, western wheatgrass common with low production (700 lbs./ac) compared to Clayey site, bare ground 30-40%. ... R067AY144WY – Saline Upland (SU)

2 Sites that are not saline and/or alkaline.

i. Sites with a high volume of coarse fragments on the surface. Soils are very deep with surface textures of gravelly sandy loam, gravelly loam, or sandy loam, but may include gravelly fine sandy loam or very gravelly sandy loam. Coarse fragments are common on the surface and throughout profile. Site occurs hills or knobs and on crests or nose slopes of the ridges. ...

R067AY112WY – Gravelly (Gr)

ii. Sites without a high volume of coarse fragments on the surface.

a. Soil textures range from clay loam to silty clay, occurs on nearly level to gently sloping areas, soil cracking is common during dry summer months, western wheatgrass and green needlegrass common with blue grama increasing as site deteriorates. ... R067AY104WY – Clayey (Cy)

b. Soil textures are sand, fine sand, loamy sand, loamy fine sand, fine sandy loam very fine sandy loam or loamy very fine sand, (may include sandy loam).

1) Soil textures are sand, fine sand, loamy sand, loamy fine sand, fine sandy loam very fine sandy loam or loamy very fine sand, (may include sandy loam).

a) Soil textures are fine sand, loamy fine sand, or loamy sand, but may include sand, occur on undulating to rolling dunes and hills; slope 6-24%, dunes can remain active if frequent or severe disturbance occurs. Seldom has developed horizons in upper soil layers. ... R067AY146WY – Sands (Sa)

b) Similar to Sands site; however occurs on steeper slopes (24-60%) of stabilized to active dunes, and is less productive; catsteps, terracettes, and blowouts are common to the site. ... R067AY102WY – Choppy Sands (CS)

c) Productivity potential is similar to Sands site; however, surface texture is fine sandy loam, very fine sandy loam, or loamy very fine sand, but may include sandy loam or loamy fine sand. Occurs on nearly level to slightly sloping, hills, fans, and terraces. ... R067AY150WY – Sandy (Sy)

c. Soil textures are loam, silt loam, very fine sandy loam or fine sandy loam.

1) Soil textures are loam, very fine sandy loam, or fine sandy loam, but may include silt loam, a good variety and even mix of grass species. Productivity potential is similar to Sandy site, abundant western wheatgrass and green needlegrass (in a good condition) are common and differentiate Loamy from Sandy site. ... R067AY122WY – Loamy (Ly)

2) Similar to Loamy site, but calcareous at or near the surface. Occurs on fans or toeslopes, footslopes, or backslopes below bluffs or escarpments; can also be found on moderately sloping hillslopes. Less production and more mid warm season grasses than Loamy site. sideoats grama, little bluestem, and small soapweed likely occur. ...

R067AY120WY – Limy Upland (LiU)