Major Land Resource Area 012X
Lost River Valleys and Mountains

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Ecological site keys

Key Selection

I. The site is forested - greater than 10 tree stems per acre.

A. Forested Ecological Site Key

II. Site is rangeland.

A. The site is in the Lost River Mountains LRU

1 Use the Lost River Mountain LRU Key

B. The site is in the Lost River Valley LRU

1 Use the MLRA 12, MLRA Wide Key

MLRA 12 Forested Site Key

I. Forested ecological sites occurring within the Lost River Mountains LRU 02 - MLRA12 - Lost River Mountains and Valleys

A. Sites receive additional moisture in addition to effective precipitation.

1 Site has a seasonal water table within 100cm (40 inches) and occurs in a floodplain. - Forested Riparian

2 Site has a seasonal water table within 100cm (40 inches) of the soils surface but occurs outside of a floodplain. - Forested Subirrigated

B. Site does not receive additional moisture outside of effective precipitation.

1 Site is shallow or very shallow to bedrock (≤50cm).

i. Site is skeletal (greater than 35 percent coarse fragments). -
Forested Shallow skeletal

ii. Site is not skeletal (greater than 35 percent coarse fragments). Forested Shallow

2 Site is moderately deep or deep to bedrock.

i. Site has calcareous soils in the top 50cm of the soil profile (pH of 7.8 or

higher). - Forested Calcareous

ii. Site is not affected by soil chemistry.

a. Soil is skeletal in the top 50cm of the soil profile (≥ 35 percent coarse fragments).

1) Slope is ≥30 percent. - Forested Steep Skeletal

2) Slope is <30 percent - Forested Skeletal.

b. Soil is not skeletal in the top 50cm of the soil profile.

1) Slope is ≥30 percent.

a) Soil has a texture of clay, clay loam, silty clay, or sandy clay in the top 50cm. - Forested Steep Clayey

b) Soil does not have textures of clay, clay loam, silty clay, or sandy clay.

(1) Soil has textures of sandy, sandy loam, sandy clay loam, coarse sandy loam, or fine sandy loam in the top 50cm. - Forested Steep Sandy

(2) Soil does not have textures of sandy, sandy loam, sandy clay loam, coarse sandy loam, or fine sandy loam in the top 50cm.

(a) Soil has textures of loams, silt loams, or loamy sands. - Forested Steep Loamy

2) Slope is <30 percent.

a) Soil has a texture of clay, clay loam, silty clay, or sandy clay in the top 50cm. - Forested Clayey

b) Soil does not have a texture of clay, clay loam, silty clay, or sandy clay in the top 50cm.

(1) Soil has textures of sandy, sandy loam, sandy clay loam, coarse sandy loam, or fine sandy loam in the top 50cm. - Forested Sandy

(2) Soil does not have textures of sandy, sandy loam, sandy clay loam, coarse sandy loam, or fine sandy loam in the top 50cm.

(a) Soil has textures of loams, silt loams, or loamy sands. - Forested Loamy

II. Range sites occurring in the Lost River Mountain LRU MLRA within 12 boundaries -

MLRA 12 - Lost River Mountains and Valleys: Rangeland Ecological Site Key. ... Key 4 – MLRA 12 MLRA Wide Key

MLRA 12: Lost River Mountain LRU Key

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

A. Soil is organic with organic surface ≥20 cm thick ... BX012X02G082 – Marsh Lost River Mountains

B. Organic surface <20cm thick

1 Site located in the flood plain

i. Seasonal high-water table < 60 cm ... BX012X02G085 – Riparian Wet Meadow Lost River Mountains

ii. Seasonal high-water table 60 to 100 cm ... BX012X02G088 – Wet Gravelly Lost River Mountains

2 Site not located in the floodplain

i. Seasonal high-water table < 60 cm

a. Seasonal water table < 30 cm ... BX012X02G089 – Wet Meadow Lost River Mountains

b. Seasonal high-water table 30 to 60 cm ... BX012X02G083 – Meadow Lost River Mountains

ii. Seasonal high-water table 60 to 100 cm ... BX012X02G080 – Dry Meadow Lost River Mountains

II. Upland site that does not receive additional moisture

A. Upland sites that are shallow or very shallow (<50cm)

1 Site with a highly calcareous subsoil (<25cm), often gravelly or skeletal subsoil OR underlain by soft calcareous materials. Shallow sandy and loamy soils, often cobbly or channery with slopes >30%, often underlain by soft calcareous materials with many outcrops of sedimentary rock (mountain mahogany present).

i. Site in the 10-14 inch effective precipitation range. ... BX012X02B034 – Rocky Hills 10-14 Inch Precipitation Zone Lost River Mountains

ii. Site in the 15-19 inch effective precipitation range. ... BX012X02C034 – Rocky Hills 15-19 Inch Precipitation Zone Lost River Mountains

2 Soil is skeletal with coarse fragments on surface and throughout profile (>35% by volume) in top 50cm

i. Site occurs on summits, ridges, shoulders and steep slopes with coarse fragments up to < 250 cm (10 inch) diameter covering 50-75% of surface and making up 40-50% volume in top 50cm, may have lime horizon below 12”, often westerly aspect and windswept ridges, soils are excessively well drained or somewhat excessively well drained loamy sands, sandy loams and fine sandy loams, productivity potential is low

a. Site in the 15-19 inch effective precipitation range ... BX012X02C060 – Shallow Gravelly 15-19 Inch Precipitation Zone Lost River Mountains

b. Site in the 20-35 inch effective precipitation range

1) Site in the 20-24 inch effective precipitation range ... BX012X02D060 – Shallow Gravelly 20-24 Inch Precipitation Zone Lost River Mountains

2) Site in the 25-35 inch effective precipitation range ... BX012X02E060 – Shallow Gravelly 25-35 Inch Precipitation Zone Lost River Mountains

ii. Site occurs on mountain slopes

a. Site has >3% stones or boulders by surface area on soil surface and in soil profile and is skeletal throughout soil profile (>35% by volume) ... BX012X02C067 – Shallow Stony 15-19 Inch Precipitation Zone Lost River Mountains

b. Sites with <3% stones or boulders by surface area but soils have high amount of larger coarse fragments (=35% by volume) in soil subsurface ... BX012X02C065 – Shallow Skeletal 15-19 Inch Precipitation Zone Lost River Mountains

B. Upland Sites that are Moderately Deep to Very Deep (≥50cm)

1 Site occurs only in glacial till with or without large boulders on surface, soils are well drained, sandy loam or loam surface, and have 35% or more coarse fragments (gravel, cobble, stone, and flagstone) within 50cm of the surface and generally increasing with depth

i. Site is in the 15-19 inch effective precipitation range ... BX012X02C008 – Coarse Upland 15-19 Inch Precipitation Zone Lost River Mountains

ii. Site located in the 20-35 inch effective precipitation range

a. Site is located in the 20-24 inch effective precipitation range ... BX012X02D008 – Coarse Upland 20-24 Inch Precipitation Zone Lost River Mountains

b. Site is located in the 25-35 inch effective precipitation range ... BX012X02E008 – Coarse Upland 25-35 Inch Precipitation Zone Lost River Mountains

2 Site is not in glacial till parent material

i. Site affected by soil chemistry (calcium carbonates) within the rooting depth of herbaceous plants (0-50cm)

a. Soils are sandy loams, loams, silt loams, and/or sandy clay loams, ≥15% CCE (calcium carbonate equivalency) at the soil surface (<10cm). Site is in the 10-14 inch effective precipitation range ... BX012X02B020 – Limy 10 to 14 Inch Precipitation Zone Lost River Mountains

b. Soils are sandy loams, loams, silt loams, and/or sandy clay loams, ≥15% CCE (calcium carbonate equivalency) between 10-50cm of the soil surface

1) Soils with highly calcareous ≥15% CCE) subsoil at 10-25cm, often gravelly or skeletal

a) Site is in the 10-14 inch effective precipitation range ...

BX012X02B063 – Shallow to Loamy, Calcareous 10-14 Inch Precipitation Zone Lost River Mountains

b) Site is in the 15-24 inch effective precipitation range

(1) Site is in the 15-19 inch effective precipitation range ... BX012X02C063 – Shallow to Loamy, Calcareous 15-19 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 20-24 inch effective precipitation range ... BX012X02D063 – Shallow Loamy, Calcareous 20-24 Inch Precipitation Zone Lost River Mountains

2) Soils with ≥15% CCE between 25cm and 50cm of the soil surface

a) Site is in the 10-14 inch effective precipitation range ... BX012X02B026 – Loamy Calcareous 10-14 Inch Precipitation Zone Lost River Mountains

b) Site is in the 15-24 inch effective precipitation range

(1) Site is in the 15-19 inch effective precipitation range ... BX012X02C026 – Loamy, Calcareous 15-19 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 20-24 inch effective precipitation range ... BX012X02D026 – Loamy, Calcareous 20-24 Inch Precipitation Zone Lost River Mountains

ii. Site not affected by soil chemistry

a. Sites with a high volume of coarse fragments in top 50cm (>35% by volume)

1) Slopes >30%

a) Site is in the 10-19 inch effective precipitation range

(1) Site is in the 10-14 inch effective precipitation range ... BX012X02B072 – Steep Skeletal 10-14 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 15-19 inch effective precipitation range ... BX012X02C072 – Steep Skeletal 15-19 Inch Precipitation Zone Lost River Mountains

b) Site is in the 20-35 inch effective precipitation range

(1) Site is in the 20-24 inch effective precipitation range ... BX012X02D072 – Steep Skeletal 20-24 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 25-35 inch effective precipitation range ... BX012X02E072 – Steep Skeletal 25-35 Inch Precipitation Zone Lost River Mountains

2) Slopes <30%

a) Site occurs along terrace breaks or terraces with coarse

fragments up to 10 inches in diameter covering 45-75% of surface and making up ≥40% volume in top 50cm. Soils are excessively or somewhat excessively well drained and/or have a texture class of loamy sands, sandy loams and fine sandy loams. Productivity potential VERY LOW (100-400lbs/AC). Site occurs in the 20-24 inch effective precipitation range ... BX012X02D012 – Gravelly 20-24 Inch Precipitation Zone Lost River Mountains

b) Site does not occur along terrace breaks or terraces with coarse fragments up to 10” diameter covering 45-75% of surface. Soil is skeletal in the top 50cm with a mix of rock sizes throughout the soil profile

(1) Site is in the15-19 inch effective precipitation range ... BX012X02C068 – Skeletal 15-19 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 20-35 inch effective precipitation range

(a) Site is in the 20-24 inch effective precipitation range ... BX012X02D068 – Skeletal 20-24 Inch Precipitation Zone Lost River Mountains

(b) Site is in the 25-35 inch effective precipitation range ... BX012X02E068 – Skeletal 25-35 Inch Precipitation Zone Lost River Mountains

b. Sites without a high volume of coarse fragments (<35% by volume)

1) Slopes >30%

a) Clay content is < 18% (ribbon < 5 cm long) and sand content > 45% sand in surface mineral 15 cm and clay content is <18% and sand content >45% sand in the 10 to 50 cm range. Site is in the 15-19 inch climatic subset ... BX012X02C071 – Steep Sandy 15-19 Inch Precipitation Zone Lost River Mountains

b) Soils are very fine sandy loams to clay loams, and site is well drained (Note: soils with <15cm sandy or silt loam surface layer over sandy clay loam or clay loam is included)

(1) Site is in the15-19 inch effective precipitation range ... BX012X02C070 – Steep Loamy 15-19 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 20-35 inch effective precipitation range

(a) Site is in the 20-24 inch effective precipitation range ... BX012X02D070 – Steep Loamy 20-24 Inch Precipitation Zone Lost River Mountains

(b) Site is in the 25-35 inch effective precipitation range ... BX012X02E070 – Steep Loamy 25-35 Inch Precipitation Zone Lost River Mountains

2) Slopes <30%. Soils are very fine sandy loams to clay loams, site is well drained (Note: soils with <15cm sandy or silt loam surface layer over sandy clay loam or clay loam is included)

a) Site is in the15-19 inch effective precipitation range ... BX012X02C022 – Loamy 15 to 19 Inch Precipitation Zone Lost River Mountains

b) Site is in the 20-35 inch effective precipitation range

(1) Site is in the 20-24 inch effective precipitation range ... BX012X02D022 – Loamy 20-24 Inch Precipitation Zone Lost River Mountains

(2) Site is in the 25-35 inch effective precipitation range ... BX012X02E022 – Loamy 25-35 Inch Precipitation Zone Lost River Mountains

MLRA 12 MLRA Wide Key

I. Site occurs on uplands

A. Slopes greater than 30% on northerly aspects.

1 Soils are deep and loamy. Site occurs in 12-16" PZ at 6500-9000 ft. ... R012XY048ID – North Slope Deep Loamy 12-16 PZ ARTRV/FEID

2 Soils are generally moderately deep. Site occurs in 12-16" PZ at 5300-9000 ft. elevation. ... R012XY010ID – North Slope Loamy 12-16 PZ ARTR4/FEID

B. Slopes greater than 30% on southerly aspects.

1 Site occurs in 8-12" PZ at 4500-7000 ft. elevation. Soils are gravelly and extremely gravelly loams over fractured bedrock. Soils range from shallow to deep. ... R012XY017ID – Shallow Fractured South 8-12 PZ ARTRW8/PSSPS-LESAS2

2 Site occurs in 12-16" PZ at 5000-7500 ft. elevation. Soils have very cobbly clay loam or clay surfaces. Depth to bedrock or claypan is usually 16-30". ... R012XY029ID – Clayey South Slope 12-16 PZ ARAR8/PSSPS

C. Slopes generally less than 30% on all aspects.

1 Soils are affected by salts (saline).

i. Site occurs in <8" PZ on slopes less than 5%. Elevation ranges from 4700-5800 ft. Soils are deep and well drained. Textures are loams to very gravelly loams. ... R012XY003ID – Saline Flat <8 PZ ATGA/ACHY

ii. Site occurs in 7-9" PZ on slopes from 0-30%. Elevation ranges from 4800-7000 ft. Soils are deep and well drained. Textures are gravelly loams to extremely gravelly loams. ... R012XY009ID – Saline Gravelly 7-9 PZ

ATCO/ACHY-HECOC8

iii. Site occurs in 8-11" PZ on slopes less than 10%. Elevation ranges from 5000-6500 ft. Soils are deep and well drained. Textures are loams to extremely gravelly loams. ... R012XY018ID – Saline Loamy 8-11 PZ SAVE4/LECI4

2 Soils not affected by salts.

i. Soils have clayey subsoils.

a. Site occurs in 7-10" PZ with slopes from 1-10%. Elevation ranges from 4000-6000 ft. Depth to claypan is 8-14”. ... R012XY036ID – Clayey 7-10 PZ ARTRW8-ATCO/PSSPS

b. Site occurs in 12-16" PZ with slopes less than 30%. Elevation ranges from 4800-6500 ft. Depth to duripan or bedrock is 20-40”. ... R012XY034ID – Clayey 12-16 PZ ARARL/FEID

c. Site occurs in 13-16" PZ with slopes from 5-30%. Elevation ranges from 6500-8500 ft. Depth to clay horizon is 3-10”. ... R012XY020ID – Clayey 13-16 PZ ARAR8/FEID

ii. Site is above 7500 ft. in a subalpine environment.

a. Soils are shallow. ... R012XY025ID – Shallow Subalpine 16+ PZ ARART/FEID

b. Soils are moderately deep to deep. ... R012XY024ID – Subalpine Slope Loamy 20+ PZ ARTRS2/FEID

iii. Site is below 7500 ft. elevation in a semi-arid environment.

a. Soils are influenced by limestone.

1) Slopes always less than 30% slope.

a) Soils are shallow. ... R012XY007ID – Shallow Gravelly Loam 8-12 PZ ARAR8/PSSPS-ACHY

b) Soils are shallow to hardpan or deep. Gravels can exceed 60% volume below 12" thus exert a shallow soil influence ... R012XY002ID – Gravelly Loam 12-16 PZ ARAR8/PSSP6-FEID

c) Soils are moderately deep to deep. ... R012XY032ID – Loamy 8-12 PZ ARTRW8/PSSPS

2) Slopes can be greater than 30%.

a) Site is below 13” PZ. ... R012XY001ID – Limy Gravelly 8-13 PZ ARNO4/PSSPS

b) Site is in 12-20” PZ. ... R012XY015ID – Steep Limestone 12-20 PZ CELE3/PSSPS-FEID

b. Soils not influenced by limestone.

1) Site at or below 8” PZ.

a) Slopes usually 0-3%. ... R012XY013ID – Playa <8 PZ

KRLA2/ACHY

b) Slopes range from 10-75%. ... R012XY019ID – Fragile Lands <8 PZ ATCO/LESAS2

2) Site usually within 8-12" PZ.

a) Soils are deep to very deep.

(1) Site occurs on alluvial fans and terraces. ... R012XY030ID – Loamy 7-10 PZ ARTRW8/POSE

(2) Soil surface is gravelly. ... R012XY004ID – Gravelly Loam 8-12 PZ ARTRW8/PSSPS

(3) High coarse fragments throughout soil profile. Colder temperature. ... R012XY040ID – Cold Gravelly 8-12 PZ ARNO4/HECOC8

b) Soils are shallow to moderately deep.

(1) High coarse fragments throughout soil profile. ... R012XY041ID – Gravelly 7-10 PZ ATCO/SPCR

(2) Shallow to heavy clay layer. ... R012XY026ID – Dry Loamy 7-10 PZ ATCO-ARFR4/PSSPS

(3) Site occupies the windswept portion of the ridgetop or mountain slope. ... R012XY006ID – Windswept 8-16 PZ ARFR4/POSE

(4) Site occurs on rocky and stony bedrock outcrops. ... R012XY022ID – Shallow Breaks 8-13 PZ JUOS/ARNO4/PSSPS

3) Site in the 12-16” PZ.

a) Soils are gravelly. ... R012XY008ID – Gravelly 13-16 PZ ARTR4/PSSPS-FEID

b) Soils are loamy. ... R012XY012ID – Loamy 12-16 PZ ARTRV/FEID-PSSPS

4) Site in the 16-22” PZ.

a) Soils are deep loams to gravelly loams. ... R012XY021ID – Loamy 16-22 PZ ARTRV/FEID

b) Soils are loamy and acidic. ... R012XY037ID – Ceanothus Thicket 16-22 PZ CEVE

II. Site occurs on bottomlands (slopes less than 8%). Water table is seasonal.

A. Site occurs at 4700-6800 ft elevation on 1-15% slopes. Soils are deep and well drained. Textures are loam and gravelly loam. ... R012XY011ID – Alluvial Bottom 8-13 PZ ARTRT/ELLAL-LECI4

III. Site occurs on bottomlands (slopes less than 8%). Water table present for most of the growing season.

A. Water standing at or above the surface into late summer. ... R012XY047ID – Marsh TYLA-SCAC3

B. Water at or near the surface at beginning of growing season and down to 10-20" at the end of the growing season. ... R012XY046ID – Wet Meadow Carex-Juncus

C. Water at or near the surface at beginning of growing season and down to 20-40" at the end of the growing season. ... R012XY038ID – Meadow DECA18/CANE2

D. Water at or near the surface at beginning of the growing season and greater than 40" at the end of the growing season. ... R012XY023ID – Dry Meadow PONE3-PHAL2

E. Permanent water table at 12" or less. Site occurs on linear to concave areas on floodplains. ... R012XY045ID – Riparian Wet Meadow Salix/Carex