

# Major Land Resource Area 013X

## Eastern Idaho Plateaus

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### Ecological site keys

#### MLRA 13 LRU 01 Bear River Valley

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- I. Site in a lowland position (bottom) that receives significant additional moisture from runoff of adjacent slopes or intermittent/perennial streams or a water table (HIGH productivity potential)
- A. Site moderately to strongly saline (>8mmhos/cm) within 20" (50cm) and dominated by salt tolerant species
    - 1 Site has a water table within rooting depth of herbaceous species (20-40" (50-100cm)) during most of the growing season ... BX013X01B142 – Saline Subirrigated Bear River Valley 10-14" P.Z.
  - B. Site not saline
    - 1 Water table within rooting depth of herbaceous species
      - i. Site has fluctuating water table above surface part of growing season (redox features in top 12" (30cm)) ... BX013X01G178 – Wetland Bear River Valley
      - ii. Site has a water table within rooting depth of herbaceous species (12-24" (30-60cm)) during most of the growing season ... BX013X01B174 – Subirrigated Bear River Valley
    - 2 Redox features are below 40" (100cm).
      - i. iii. Surface textures range from sandy loam to light silty clay loam (if redox features are present they are below 40" (100cm)) ... BX013X01B030 – Overflow Bear River Valley 10-14" P.Z.
- II. Soil depth very shallow (<10" (25cm)), shallow (10-20" (25-50cm)) OR moderately deep to deep (>20" (>50cm), skeletal (>35% coarse fragments by volume in top 20" (50cm)) soils on south and west aspects and/or with a root restricting layer which react like shallow soils (LOW productivity potential)
- A. Site with a highly calcareous subsoil (<10" (25cm)), often gravelly or skeletal subsoil OR underlain by soft calcareous materials and slopes >15%
    - 1 Moderately deep to deep soil (>20" (50cm)) with highly calcareous (violent effervescence (>15% CCE)) subsoil at <10" (25cm), often gravelly or skeletal and on 15 to 35% slopes ... BX013X01B063 – Shallow Loamy Calcareous Bear River Valley 10-14" P.Z.
  - B. Site without highly calcareous subsoil or bedrock, OR if lime horizon present, accompanied by high volume of coarse fragments at soil surface, slopes variable. Soil is skeletal with coarse fragments common on surface and throughout profile (>35% by volume in top 20" (50cm))
    - 1 Site occurs along terrace breaks, steep slopes, or terraces with coarse fragments up to 10" diameter covering 50-75% of surface and making up 40-50% volume in top 20" (50cm), may have lime horizon below 12", often westerly aspect and windswept ridges, soils are excessively well drained loamy sands, sandy loams and fine sandy loams, productivity potential VERY LOW ... BX013X01B012 – Gravelly Bear River Valley 10-14" P.Z.
  - C. Soils without high amount of coarse fragments at soil subsurface, but still shallow to bedrock or root restricting layer
    - 1 Well drained loamy sand, sandy loams, or fine sandy loams over sedimentary bedrock or calcium carbonate or similar layer that restricts rooting depth ... BX013X01B166 – Shallow Sandy Bear River Valley 10-14" P.Z.
    - 2 Well-drained fine sandy loam to silty loams over sedimentary bedrock or loams with root restricting layer (i.e. rock layer and/or similar layer) ... BX013X01B062 – Shallow Loamy Bear River Valley 10-14" P.Z.

III. Soil depth moderately deep to deep (>20" (50cm)) without root restricting layer that inhibits the productivity potential

A. Site affected by soil chemistry (salinity, sodicity, and/or calcium carbonates) within the rooting depth of herbaceous plants (Top 20" (50cm)).

1 Surface textures range from sandy loam to clay loam, moderately saline or greater (>8mmhos/cm), or sodic (SAR >13, EC <4mmhos) ... BX013X01B144 – Saline Upland Bear River Valley 10-14" P.Z.

B. Soils highly calcareous (>15% CCE within top 20" (50cm)), but not saline (<4mmhos/cm)

1 Soils very fine sandy loams to sandy clay loams, with violent effervescence (>15%CCE) between 10" (25cm) and 20" (50cm) of the soil surface ... BX013X01B026 – Loamy Calcareous Bear River Valley 10-14" P.Z.

C. Sites are not affected by soil chemistry

1 Sites with a high volume of coarse fragments in top 20" (>35% by volume). Site occurs along terrace breaks, steep slopes, or terraces with coarse fragments up to 10" diameter covering 50-75% of surface and making up 40-50% volume in top 20" (50cm), may have lime horizon below 12", often westerly aspect and windswept ridges, soils are excessively well drained loamy sands, sandy loams and fine sandy loams, productivity potential VERY LOW ... BX013X01B012 – Gravelly Bear River Valley 10-14" P.Z.

2 Sites without high volume of coarse fragments

i. Soil textures are heavy, slight to severe soil cracking in dry conditions may occur.

a. Silty clay loam and clay loams soil cracking common during dry summer months, though not severe (>36% clay in subsurface) ... BX013X01B004 – Clayey Bear River Valley 10-14" P.Z.

b. Root restricting (7-15" 18-30cm) clay loam to clay subsoil layer (>40% clay) with sharply contrasting loam to clay loam surface textures, soil may develop large cracks when dry. ... BX013X01B024 – Loamy Argillic Bear River Valley 10-14" P.Z.

ii. Sites not as above

a. Soils loamy fine sand to fine sandy loam, (Note: Soils with <6" (15cm) sandy loam surface layer over sandy clay loam or clay loams are excluded. ... BX013X01B050 – Sandy Bear River Valley 10-14" P.Z.

b. Slopes <15%, productivity potential is high, well-drained site (Note: soils with <6" (15cm) sandy loam surface layer over sandy clay loam or clay loam is included) ... BX013X01B022 – Loamy Bear River Valley 10-14" P.Z.