KEY TO ECOLOGICAL SITES
MLRA 34A – COOL CENTRAL DESERTIC BASINS AND PLATEAUS
ZONE 4 – 7-9" GREEN RIVER AND GREAD DIVIDE BASINS (7-9" GR)

1. Site in a lowland position that receives significant additional moisture from runoff of adjacent slopes or from intermittent/perennial streams or a water table *(HIGH Productivity Potential)*……....**Group I**
1. Upland site that does not receive additional moisture as above……...2
    2. Soil depth very shallow (<10"), shallow (10-20") OR moderately deep to deep (>20") reacting like shallow soils due to root restrictive layer or on south and west facing slopes *(LOW productivity potential)*……..……**Group II**
    2. Soil depth moderately deep to deep (>20") without root restricting layer that inhibits the productivity potential……**Group III**

GROUP I – Additional Moisture Sites

1. Sites that are saline and/or alkaline, dominated by salt tolerant species (greasewood, inland saltgrass, alkali sacaton, alkali muhly)……2
    2. Water table within rooting depth of herbaceous species (20-40") during some or most of the growing season, dominated by grasses such as alkali sacaton, alkali muhly, alkali bluegrass, bearded wheatgrass (typically no shrubs present)…..……**Saline Subirrigated (SS)**
    2. Site not as above……3
        3. Site in a lowland position and water table usually >3 feet (within rooting depth of woody plants, but not within rooting depth of herbaceous plants), dominated by greasewood, inland saltgrass, basin wildrye (no big sage on this site)……..**Saline Lowland (SL)**
        3. Site may receive periodic overflow from adjacent slopes, may be in a lowland position but water is typically channeled into gullies so that plants are not receiving a lot of benefit from additional moisture, greasewood and Gardners saltbush common species, big sage may be present……..…**Saline Lowland, drained (SLdr)**
1. Sites that are not saline and/or alkaline……..……..……4
    4. Site poorly drained with water table above surface part of growing season, Nebraska sedge, water sedge, and willows common species……..……**Wetland (WL)**
    4. Site not as above……..5
        5. Water table within rooting depth of herbaceous species (typically above 20") during part of the growing season, tufted hairgrass, shrubby cinquefoil, some sedges, rushes, and willows may be present..……...**Subirrigated (Sb)**

5. Site in a lowland position, adjacent to intermittent/perennial stream and water table usually >3 feet (within rooting depth of woody plants, but not within rooting depth of herbaceous plants), cottonwoods or remnants thereof may be present, gravel bars and pockets of bare gravel often present, rhizomatous wheatgrass, woods rose and other woody species common.……....**Lowland (LL)**

GROUP II – Shallow Upland Sites (Low Productivity Potential)

1. Soils very shallow (<10”), but may include areas of exposed bedrock and pockets of deep soil, often on steep (up to 55%) south and west facing slopes with VERY LOW productivity potential……..2
   2. Soils are very fine textured and have a high concentration of exchangeable sodium throughout the profile, birdfoot sage common woody species……....**Impervious Clay (IC)**
   2. Site not as above……..……...3
      3. Site found in uplands, slopes typically 5-25%, with outcrops of clay shale bedrock that may be saline and/or alkaline in various degrees, gardners saltbush common woody species…..……....**Shale (Sh)**
      3. Site not as above, upland with steep slopes (25-50%), commonly on windswept ridges, fractured bedrock of various types, and Juniper occasionally found at higher elevations (if productivity is high and coarse fragments are present, see #6)...……..……..**Very Shallow (VS)**
1. Soils shallow (10-20”), but may include moderately deep to deep gravelly or cobbly soils, soils with a root restrictive layer, and/or south and west facing slopes that react like shallow soils, productivity potential is LOW……..4
      4. Soils are very fine textured and have a high concentration of exchangeable sodium throughout the profile, birdfoot sage common woody species……....**Impervious Clay (IC)**
      4. Site not as above……..……...5
         5. Coarse fragments common on surface and throughout profile (>35% by volume in top 20”)…….....6
            6. Site occurs along terrace breaks, steep slopes or stream terraces with coarse fragments up to 10” diameter covering 50-75% of surface and making up 40-50% volume in top 20”, may have lime horizon below 12 inches, bluebunch wheatgrass and variety of woody plants may be present, productivity potential VERY LOW……**Gravelly (Gr)**
            6. Site with fractured sedimentary bedrock at less than 15” with gravel, cobble, stone, and angular fragments on the surface and throughout soil profile, inclusions of very shallow to deep pockets of soil, juniper common woody species, (productivity potential higher than **Very Shallow (VS)** site) ……**Shallow Breaks (SwB)**
         5. Sites without a lot of coarse fragments……7

7. Silty clays or heavier textured soils OR root restricting clay subsoil layer with coarse to fine textures above, soil may develop large cracks when dry, early sage dominant shrub……....**Shallow Clayey (SwCy)**
7. Soils not as above……8
    8. Fine sandy loams or coarser textured soils over sandstone or sandy shale, needleandthread and Indian ricegrass dominant grass species on site……**Shallow Sandy (SwSy)**
    8. Very fine sandy loams to clay loam textured soils over various bedrock types ……....**Shallow Loamy (SwLy)**

GROUP III – Deep Upland Sites

1. Sites that are saline and/or alkaline……2
    2. Site may receive periodic overflow from adjacent slopes, may be in a lowland position but water is typically channeled into gullies so that plants are not receiving a lot of benefit from additional moisture, greasewood and Gardners saltbush common species, big sage may be present ……..……..…**Saline Lowland, drained (SLdr)**
    2. Site not as above.....3
        3. Soils are very fine textured and have a high concentration of exchangeable sodium throughout the profile, birdfoot sage common woody species.……....**Impervious Clay (IC)**
        3. Gardners saltbush and/or winterfat common species (if root restrictive layer present and productivity very low consider **Shale** site—Group II, 3).....**Saline Upland (SU)**
1. Sites not saline and/or alkaline……....4
    4. Site occurs along terrace breaks, steep slopes or stream terraces with coarse fragments up to 10” diameter covering 50-75% of surface and making up 40-50% volume in top 20”, may have lime horizon below 12 inches, bluebunch wheatgrass and variety of woody plants may be present, productivity potential VERY LOW..……..….**Gravelly (Gr)**
    4. Soils <u>without</u> high volume of coarse fragments…….……..5
        5. Soils textures are heavy and range from silty clay to heavy clay, slight to severe soil cracking in dry conditions ……....6
            6. Soil textures range from silty clay through finer silty and sandy clay loams, soil cracking common during dry summer months, though not severe, big sagebrush common, but sparse, with a lot of western wheatgrass……..…….…..**Clayey (Cy)**
            6. Heavy clay soils (silty clays or clays) at the surface or in a subsurface layer, low or early sage common……..7
                7. Silty clays or heavier textured soils OR root restricting clay subsoil layer with coarse to fine textures above, soil may develop large cracks when dry, early sage dominant shrub...…….....**Shallow Clayey (SwCy)**

7. Heavy clay soils with severe soil cracking in dry conditions, very sticky when wet, (slick spot), low sage common……..**Dense Clay (DC)**

5. Soil textures not as above……..…8
   8. Soil textures are very coarse (loamy sand to sand), sometimes as dunes, dark or light colored, spiny hopsage, needleandthread and Indian ricegrass are dominant species ……**Sands (Sa)**
   8. Soil textures range from very fine sandy loam to clay loam……9
      9. Soils fine sandy loams to loamy sands, needleandthread and Indian ricegrass are abundant species……10
         10. Productivity potential is low ……..…**Shallow Sandy (SwSy)**
         10. Productivity potential is high …….. **Sandy (Sy)**
      9. Soils very fine sandy loams to clay loams, a good variety and even mix of grass species…..…….11
         11. Productivity is low, low sage intermixed with Big Sage ……**Shallow Loamy (SwLy)**
         11. Productivity potential is high ……..……**Loamy (Ly)**