

Ecological Reference Worksheet

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<p>Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years, when appropriate & (3) cite data. Continue descriptions on separate sheet.</p>
<p>1. Number and extent of rills: Expect to find few on steeper slopes that should be short and discontinuous. They should be infrequent.</p>
<p>2. Presence of water flow patterns: Few and occupy <5% of area, broken by rock and gravel cover, highly discontinuous. Flow patterns are very few, disconnected and < one foot.</p>
<p>3. Number and height of erosional pedestals or terracettes: Infrequent occurrence of terracettes and pedestals. Occasional erosional pedestals < 1/2 inch. Wind blown deposition in plant crowns may give false appearance of taller pedestals.</p>
<p>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground): + Bare ground in respect to ground cover (average percent of surface area) is approximately 18%, surface gravel 0%, cobble/stone 25%, litter 14%, grasses/forbs 18%. Considerations: climatic conditions, past management.</p>
<p>5. Number of gullies and erosion associated with gullies: None present on this site. +Hazard for water erosion is high.</p>
<p>6. Extent of wind scoured, blowouts and/or depositional areas: +No blow outs or depositional areas expected for this site. Wind scoured areas may be occasionally found on slopes which the prevailing wind continually disturbs the soil surface.</p>
<p>7. Amount of litter movement (describe size and distance expected to travel): Generally all litter size classes staying in place. Although on slopes >8% small sizes transported in flow paths, occasionally forming litter terracettes following intense rain events. +Mostly fine (<3/8 inch) and some moderately coarse litter. Movement is less than 2 feet.</p>
<p>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values): Soils found on this site are generally shallow to very shallow over sandstone. Low to Moderate resistance is expected varies on aspect and slope. Deamma soil. Runoff is rapid and the hazard for water erosion is high. The hazard for soil blowing is moderate. K Factor 0.10; Wind erodibility group 6. +Expect soil stability values from class 5 or 4 under plants and class 3 or 2 in interspaces.</p>
<p>9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness): Soils are typically shallow over limestone, although pockets of deeper soils may occur. There are loams, clay loams, or sandy loams, and are frequently stony, gravelly, or cobbly. ++Deamma 840-Socorro: very stony loam, 3 to 40% slopes, very shallow and shallow and is well drained; derived from limestone; typically the surface layer is dark brown very stony loam about 1 inch thick. The upper 8 inches of the subsoil is dark brown very flaggy loam, and the lower 10 inches is pale brown very flaggy loam. Limestone is at a depth of 19 inches. Permeability is moderate. AWC is very low. Effective rooting depth is 8 to 20 inches. Runoff is rapid and the hazard for water erosion is high. The hazard for soil blowing is moderate. K Factor 0.10; Wind erodibility group 6; SOM 1-3%.</p>
<p>10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: +Grasses are the dominant component in the historic plant community. Permeability is moderate to moderately rapid, but the available water capacity may be low due to the shallow nature of the soil. Runoff is very rapid. Plant community cover (distribution and amount) should reflect the historic plant community.</p>
<p>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): There should be None present on this site.</p>
<p>12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): Perennial warm season mid grasses > Perennial cool season mid grasses > short grasses > Tree/shrub/vine > perennial forbs > annual forbs;</p>
<p>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): These two indicators are expected at low levels. New plants, mature plants, and decadence of old plants are proportional to maintaining the dominant species. Warm and cool season bunch grasses are most susceptible to extended disturbances.</p>
<p>14. Average percent litter cover (<u>14</u> %) and depth (<u>0.8</u> inches). ESD data</p>
<p>15. Expected annual production (this is TOTAL above-ground production, not just forage production): + 600 lbs/acre Normal precipitation ----850 lbs/acre Favorable precipitation----350 lbs/acre Unfavorable precipitation</p>
<p>16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, “can, and often do, continue to increase regardless of the management of the site and may eventually dominate the site”: If the plant community deteriorates New Mexico feathergrass, black grama and sideoats grama decrease and there is an increase in plants such as blue grama, curly leaf muhly, slim tridens, hairy tridens, threeawn, fluffgrass, algerita, pinyon, one seed juniper, and banana yucca. +Scattered P/J may be present in varying amounts. (4 to 11% by weight)</p>
<p>17. Perennial plant reproductive capability: All plants are capable of reproduction. The only limitations are weather related or a natural disease affecting reproduction. Not affected even following several years of prolonged drought period for region.</p>

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++ Winona 845-Socorro: very flaggy loam, 5 to 45% slopes, very shallow and shallow and is well drained; derived from limestone; typically the surface layer is brown very flaggy loam about 2 inches thick. The upper 9 inches of the underlying material is pale brown very flaggy loam and the lower 4 inches is very pale brown very channery loam. Limestone is at a depth of 15 inches. Permeability is moderate. AWC is very low. Effective rooting depth is 7 to 20 inches. Runoff is rapid and the hazard for water erosion is moderate. The hazard for soil blowing is moderate. K Factor 0.10; Wind erodibility group 6; SOM1-2%.