

## Ecological Reference Worksheet

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<p><b>Indicators.</b> 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 &amp; (3) cite data. Continue descriptions on separate sheet.</p>
<p><b>1. Number and extent of rills:</b> Expect to find few on steeper slopes that should be short and discontinuous. They should be infrequent.</p>
<p><b>2. Presence of water flow patterns:</b> Few and occupy &lt;5% of area, broken by rock and gravel cover, highly discontinuous. Flow patterns are very few, disconnected and &lt; one foot.</p>
<p><b>3. Number and height of erosional pedestals or terracettes:</b> Infrequent occurrence of terracettes and pedestals. Occasional erosional pedestals &lt; 1/2 inch. Wind blown deposition in plant crowns may give false appearance of taller pedestals.</p>
<p><b>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground):</b> ++ Bare ground in respect to ground cover (average percent of surface area) is approximately 18%, surface gravel 20%, cobble/stone 25%, litter 15%, grasses/forbs 18%. Considerations: climatic conditions, past management.</p>
<p><b>5. Number of gullies and erosion associated with gullies:</b> None present on this site. ++Hazard for water erosion is very high.</p>
<p><b>6. Extent of wind scoured, blowouts and/or depositional areas:</b> ++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><b>7. Amount of litter movement (describe size and distance expected to travel):</b> Generally all litter size classes staying in place. Although on slopes &gt;8% small sizes transported in flow paths, occasionally forming litter terracettes following intense rain events. +Mostly fine (&lt;3/8 inch) and some moderately coarse litter. Movement is less than 2 feet.</p>
<p><b>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values):</b> Soils found on this site are generally shallow to very shallow over sandstone. +Low to Moderate resistance is expected varies on aspect and slope. Abrazo soil: Runoff is very rapid and the hazard for water erosion is very high. The hazard for wind blowing is moderate. K Factor 0. 20. Wind erodibility group 6. Expect soil stability values from class 5 or 4 under plants and class 3 or 2 in interspaces.</p>
<p><b>9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness):</b> Soils are typically shallow over acid igneous bedrock, although pockets of deeper soils occur in saddles, between ledges, and lower side slopes. They may be loams, clay loams, or sandy loams, and are usually stony, gravelly, or cobbly. +Abrazo 472—15 to 50% slopes; moderately deep and well drained, the surface layer is brown gravelly about 9 inches thick. The subsoil is dark reddish brown and reddish brown cobbly clay about 19 inches thick. The substratum is reddish yellow cobbly clay loam about 5 inches thick. Tuff is at a depth of 33 inches.</p>
<p><b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b> +Grasses are the dominant component in the historic plant community. Permeability is slow to moderate. Runoff is very rapid. The potential natural plant community of this site varies, depending of steepness of slope and exposure. Plant community cover (distribution and amount) should reflect the historic plant community.</p>
<p><b>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):</b> There should be None present on this site.</p>
<p><b>12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: &gt;&gt;, &gt;, = to indicate much greater than, greater than, and equal to):</b> Perennial warm season mid grasses = Perennial cool season mid grasses &gt; short grasses &gt; Tree/shrub/vine &gt; perennial forbs&gt; annual forbs;</p>
<p><b>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):</b> 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><b>14. Average percent litter cover ( <u>15</u> %) and depth ( <u>0.8</u> inches). ESD data</b></p>
<p><b>15. Expected annual production (this is TOTAL above-ground production, not just forage production):</b> ++ 638 lbs/acre Normal precipitation ---900 lbs/acre Favorable precipitation---375 lbs/acre Unfavorable precipitation</p>
<p><b>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”:</b> If the plant community deteriorates, the cool season grasses, little bluestem, New Mexico feathergrass, black grama and sideoats grama decrease and there is an increase in plants such as blue grama, ring muhly, threeawn, rubber rabbitbrush, fringed sagewort, broom snakeweed, pinyon, and juniper. +P/J should occur on this site (5 to 15% by weight)</p>
<p><b>17. Perennial plant reproductive capability:</b> 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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+Motoqua 555, 612 (Catron): 20 to 60% slopes; Motoqua soil is shallow and well drained. The surface layer is brown very gravelly loam about 3 inches thick. The subsoil is dark brown very cobbly clay loam about 7 inches thick. Rhyolitic tuff is at a depth of 10 inches. Permeability is moderate. AWC is very low. Effective rooting depth is 10 to 20 inches. Runoff is very rapid and the hazard of water erosion is very high. The hazard of soil blowing is moderate. K Factor 0.10. Wind erodibility group 7;  
404, 472 (Socorro)