

Author(s)/participant(s): Siddoway/Bandy

Contact for lead author: Great Falls Area Office, Great Falls, MT Reference site used? No

Date: 04/19/2005 MLRA: 52XN Ecological Site: Dense Clay 10-14" p.z. This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

<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 for <b>each</b> community within the reference state (when appropriate), and (3) cite data. Continue descriptions on separate sheet if needed. <b>Weight factors</b> are either 0.5, 1.0 or 2.0. The default factor is 1.0. A maximum of 8 indicators may be changed to 0.5 or 2.0. The rest remain at 1.0.</p>	<p><b>Wgt. Factor</b></p>
<p><b>1. Number and extent of rills:</b> Slopes are between 0 – 12% and bare ground will be 40-50%, so past and current rill activity is expected on this site after rain storms or following melting of adequate snow depths within a short time period.</p>	<p><b>1.0</b></p>
<p><b>2. Presence of water flow patterns:</b> Because the soil surface is not well covered and slopes greater than zero are common on this site there will be evidence of water flow patterns. Sodium content in these soils restricts water intake into the soil.</p>	<p><b>1.0</b></p>
<p><b>3. Number and height of erosional pedestals or terracettes:</b> Where there is adequate slope and unsheltered distance, pedestals and terracettes will be shallower towards the top of the slope and deeper towards the bottom of the slope.</p>	<p><b>1.0</b></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 will be 40 – 50% across this site.</p>	<p><b>1.0</b></p>
<p><b>5. Number of gullies and erosion associated with gullies:</b> Past gully erosion may be evident on this site. Active gullies should not be present.</p>	<p><b>1.0</b></p>
<p><b>6. Extent of wind scoured, blowouts and/or depositional areas:</b> These areas will be rare on this site.</p>	<p><b>1.0</b></p>
<p><b>7. Amount of litter movement (describe size and distance expected to travel):</b> Litter movement may move over extensive distances relative to other sites due to the presence of larger areas of bare ground. Size of the litter would reflect the more common plant tissue (leaves &amp; reproductive culms) in the reference state – mainly western wheatgrass and green needlegrass.</p>	<p><b>1.0</b></p>
<p><b>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values for both plant canopy and interspaces, if different):</b> Soil stability values of 3 or 4 under plant canopies; areas of bare soil on this site will have values between 1 and 3.</p>	<p><b>1.0</b></p>
<p><b>9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different):</b> Soil surface structure is platy; A horizon depth is less than 1”.</p>	<p><b>1.0</b></p>
<p><b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b> Even with the dominance of taller, deeper-rooted bunchgrasses infiltration on this site is restricted due to the presence of sodium in the soil, and runoff will be more common on this site with more moderate storm events.</p>	<p><b>1.0</b></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> Will not be present generally, but there may be areas that have “healed” from former bison trails and wallows as well as from more current livestock trailing, which will have a compaction layer below the soil surface. The A or E horizon will have vesicular crusting which inhibits germination.</p>	<p><b>1.0</b></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> Cool season, rhizomatous grasses (Western wheatgrass,) &gt; cool season, taller bunchgrasses (Green needlegrass) &gt;&gt; cool season short grasses (Prairie junegrass) &gt; shrubs &gt; perennial forbs = warm season shortgrass (Blue grama).</p>	<p><b>1.0</b></p>
<p><b>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):</b> Will be low for all functional groups in a given year. Prolonged droughts which last more than 3 years may show increases in mortality and decadence for all plant groups.</p>	<p><b>1.0</b></p>
<p><b>14. Average percent litter cover (15 - 40%) and depth ( 0 – 0.5 inches).</b></p>	<p><b>1.0</b></p>
<p><b>15. Expected annual production (this is TOTAL above-ground production, not just forage production):</b> 600 - 1100 #/acre. This would be the expected production for the reference state during adequate moisture years. 900 pounds would be the expected production in a 12 inch precipitation zone.</p>	<p><b>1.0</b></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, “will continue to increase regardless of the management of the site” and may eventually dominate the site:</b> Blue grama, Japanese brome, a variety of annual or biennial weedy forbs, fringed sagewort, broom snakeweed, prickly pear cactus, cheatgrass.</p>	<p><b>1.0</b></p>
<p><b>17. Perennial plant reproductive capability:</b> Due to the soil restrictions on this site, seed production can be unpredictable. Bunchgrasses will generally produce seeds in good moisture years, however the cool season rhizomatous grasses may not necessarily produce seed even with adequate moisture.</p>	<p><b>1.0</b></p>