

Ecological Reference Worksheet

MT-NRCS

Author(s)/participant(s): Loretta Metz

Contact for lead author: Bozeman, MT Reference site used? No

Date: 04/23/2005 MLRA: 58AC Ecological Site: Clayey-Steep 11-14" p.z. (formerly Thin Clayey 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>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 for each community within the reference state (when appropriate), and (3) cite data. Continue descriptions on separate sheet if needed. Weight factors 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>Wgt. Factor</p>
<p>1. Number and extent of rills: Rills are rare on slopes between 15–35% that are well-covered (90-95% cover) with live vegetation and litter. On slopes over 35%, plant cover, basal area and litter are generally reduced, and narrow rills approximately 5-10 feet in length may be apparent.</p>	<p>1.0</p>
<p>2. Presence of water flow patterns: Will generally be rare on this site, but with the steeper slopes (>35%), and 15-30% bare ground, there may be areas which show accumulations of litter due to water movement, especially after severe storms.</p>	<p>1.0</p>
<p>3. Number and height of erosional pedestals or terracettes: Wind and water erosion is rare on this site, but with the steeper slopes (>35%) there may be some plants with pedestals up to 0.5 inch in height.</p>	<p>1.0</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 should not exceed 15% where slopes are approx 15-35%, and should not exceed 30% where slopes are over 35% slope when in the reference state.</p>	<p>1.0</p>
<p>5. Number of gullies and erosion associated with gullies: Gully erosion is not evident in the reference state.</p>	<p>1.0</p>
<p>6. Extent of wind scoured, blowouts and/or depositional areas: These are not evident in the reference state.</p>	<p>1.0</p>
<p>7. Amount of litter movement (describe size and distance expected to travel): Because there is little bare ground, litter movement will be minimal at most. Because the site is dominated by the taller bunchgrasses, litter size will reflect the height and diameter of the reproductive culms and leaves of these grasses as well as the lesser dominant mid-size grasses.</p>	<p>1.0</p>
<p>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): Stability values of 4-5 in plant interspaces. Stability values of 5-6 under plant canopies and at plant bases.</p>	<p>1.0</p>
<p>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): Organic matter in the A-horizon is between 0.5–2.0%. A-horizon is 2-4 inches thick in the reference state. Surface structure should be moderate or strong granular.</p>	<p>1.0</p>
<p>10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Deep-rooted native perennial grasses optimize infiltration and runoff. Grasses should be spaced approx 1.5-3.0 feet apart in the reference state.</p>	<p>1.0</p>
<p>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): No compaction layer present in reference state.</p>	<p>1.0</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): cool season, mid-height, native perennial bunchgrasses > warm season, mid- and short- height native perennial bunchgrasses >> native shrubs = native perennial and annual forbs.</p>	<p>1.0</p>
<p>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Plant mortality is very low; decadence is minimal except in prolonged periods of drought.</p>	<p>1.0</p>
<p>14. Average percent litter cover (40-60%) and depth (0.1 to 1.0 inches).</p>	<p>1.0</p>
<p>15. Expected annual production (this is TOTAL above-ground production, not just forage production): 1100 -1400 #/acre.</p>	<p>1.0</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, “will continue to increase regardless of the management of the site” and may eventually dominate the site: plains pricklypear, broom snakeweed, cheatgrass, Japanese brome, Wyoming big sagebrush, fringed sagewort, cudweed sagewort, blue grama (in excess of 200 pounds/acre, or canopy cover value >20%).</p>	<p>1.0</p>
<p>17. Perennial plant reproductive capability: This is not impaired in the reference state.</p>	<p>1.0</p>