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

Date: 04/19/2005 MLRA: 52XN Ecological Site: Clayey-Steep 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.

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.	Wgt. Factor
1. Number and extent of rills: Slopes most common on this site are between 15–45% and with at least 90% of the soil surface well-covered, rills, if evident will be rare, but may occur in bare areas after extreme convection storms – rills in this case would be narrow and less than 5 feet in length.	1.0
2. Presence of water flow patterns: Will be rare, generally, on this site, but with the steeper slopes, and up to 10% bare ground, there may be areas which show accumulations of litter due to water movement, especially after severe storms.	1.0
3. Number and height of erosional pedestals or terracettes: Wind and water erosion will be rare on this site, but with the steeper slopes there may be rare plants that could have pedestals which could be 0.5 inch in height.	1.0
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 be 10% or less on this site.	1.0
5. Number of gullies and erosion associated with gullies: Gully erosion will not be evident on this site.	1.0
6. Extent of wind scoured, blowouts and/or depositional areas: Appearance or evidence of these erosional features on the landscape would not be present on this site.	1.0
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 dominate mid-size grasses.	1.0
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): Resistance to erosion will be high with soil stability values of 5 or 6; areas of bare soil on this site may have values between 1 and 4 if not under plant canopy.	1.0
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): Soil surface structure is granular; A horizon depth is 1 – 3”.	1.0
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Dominance of taller, deep rooted bunchgrasses will maximize infiltration and minimize runoff throughout the site.	1.0
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): Will not be present generally, but there may be areas that have “healed” from former bison trails and wallows as well as more current livestock trails which could have a compaction layer below the soil surface.	1.0
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, taller grasses (Bluebunch wheatgrass) >> cool season mid-grasses (Needleandthread) = cool season rhizomatous grasses (Western wheatgrass) > cool season short grasses (Sandberg bluegrass) = shrubs > warm season shortgrass (Blue grama) = perennial forbs.	1.0
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): 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.	1.0
14. Average percent litter cover (50 - 60%) and depth (0 – 0.5 inches).	1.0
15. Expected annual production (this is TOTAL above-ground production, not just forage production): 850 - 1450 #/acre. This would be the expected production for the reference state during adequate moisture years. 1200 pounds would be the expected production in a 12 inch precipitation zone.	1.0
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: Blue grama, Red threeawn, Japanese brome, a variety of annual or biennial weedy forbs, fringed sagewort, broom snakeweed, prickly pear cactus, cheatgrass.	1.0
17. Perennial plant reproductive capability: During adequate moisture years bunchgrasses will generally produce seeds, however the cool season rhizomatous grasses may not necessarily produce seed even with adequate moisture.	1.0