

Author(s)/participant(s): Loretta Metz, Maxine Rasmussen, Jon Siddoway

Contact for lead author: Area Rangeland Management Specialist, Glasgow Area Office, MT Reference site used? **No**

Date: 05/04/05 MLRA: 52XC Ecological Site: Shallow to Gravel 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: Rills should not be present in HCPC. On slopes > 15%, careful examination will yield slight evidence of rills following a rainfall event in HCPC. On slopes > 15%, if in Plant community A, careful examination will yield slight evidence of rills regardless of precipitation event. On slopes > 15%, in HCPC and in plant community A, rill would be less than ½ inch deep, linear, but short in length	1.0
2. Presence of water flow patterns: Careful examination will yield slight evidence of water flow patterns following a rainfall event in HCPC on slopes > 15%. On slopes > 15%, if in Plant community A, careful examination will yield slight evidence of water flow patterns regardless of precipitation events.	1.0
3. Number and height of erosional pedestals or terracettes: Pedestals or terracettes would essentially be nonexistent in HCPC. On slopes > 8%, if in Plant community A, careful examination will yield occasional pedestals and terracettes approximately ¼ inch above the soil surface.	1.0
4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground): Up to 15% of the soil surface is bare ground in HCPC. In plant community A, 15-20% bare ground is possible.	1.0
5. Number of gullies and erosion associated with gullies: None.	1.0
6. Extent of wind scoured, blowouts and/or depositional areas: None.	1.0
7. Amount of litter movement (describe size and distance expected to travel): Litter movement is not expected in HCPC. On slopes > 8%, in Plant community A, litter, both fine and coarse, movement is readily observable.	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): Stability class anticipated to be 1 to 4, depending on soil surface texture.	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): The surface layer is 0.5" to 4" thick and typically very cobbly sandy loam or very gravelly sandy loam surface textures. Surface color ranges brown and very dark brown. Soil organic matter ranges steadily between 1-3%.	1.0
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: In HCPC, 80-90% plant canopy and 80-85% basal cover with small gaps between plants should reduce raindrop impact and slow overland flow, providing increased time for infiltration to occur. Healthy, deep rooted native grasses enhance infiltration and reduce runoff. Infiltration rate is moderate to moderately slow. If in plant community A, 70-80% plant canopy and 70-80% basal cover with small gaps between plants will still reduce raindrop impact and decrease overland flow. The site tends to be more xeric as runoff increases.	1.0
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 or soil surface crusting should be evident in any of the State 1 plant communities. Unconsolidated sand or gravel layer begins at 10-20 inches.	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): HCPC: Tall and mid stature cool season bunch grasses = mid stature warm season bunch grasses > mid-stature cool season rhizomatous grasses > forbs > shrubs. Plant community A: Mid-stature cool season bunch grasses > mid-stature cool season rhizomatous grasses > short warm season rhizomatous grasses > forbs > shrubs.	1.0
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Plant mortality and decadence very low in HCPC and Plant community A. In periods of drought, shrubs would exhibit decadence in the state 1 reference communities.	1.0
14. Average percent litter cover (50-60%) and depth (0.25 to 0.5 inches): Litter cover is in contact with soil surface. Litter decreases in Plant community A to 30-40% and depth is reduced to less than ¼ inch deep.	1.0
15. Expected annual production (this is TOTAL above-ground production, not just forage production): 700 - 1100 #/acre from Plant community A to HCPC.	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: Needle and thread, threadleaf sedge, plains prickly pear, blue grama, Hood's phlox, hairy goldenaster, dense clubmoss and fringed sagewort	1.0
17. Perennial plant reproductive capability: All species are capable of reproducing in HCPC. In Plant community A, plant seedlings will be weighed in favor of marginal and undesirable species. Replacement of desirable species will be very few.	1.0