

Ecological Reference Worksheet

Author(s)/participant(s): M. Rasmussen

Contact for lead author: _____ Reference site used? Yes/No

Date: 5-20-04 MLRA: 58AE Ecological Site: Shallow 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.

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 & (3) cite data. Continue descriptions on separate sheet.

1. Number and extent of rills: Due to the wide slope range associated with this site, the number and extent of rills will vary from none on sites with slopes of < 9% to common on slopes > 25%.

2. Presence of water flow patterns: Due to the wide slope range associated with this site, water flow patterns will vary from barely observable on sites with slopes of < 9% from broken and irregular in appearance to continuous on slopes > 25%..

3. Number and height of erosional pedestals or terracettes: Not evident on slopes < 9%. Erosional pedestals will be present with terracettes present at debris dams on slopes >9%.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are *not* bare ground): Bare ground is 25 to 40%.

5. Number of gullies and erosion associated with gullies: Active gullies restricted to concentrated water flow patterns.

6. Extent of wind scoured, blowouts and/or depositional areas: None.

7. Amount of litter movement (describe size and distance expected to travel): Little to no plant litter movement occurs on slopes < 9%. Litter movement does occur on slopes > 25%.

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): Plant cover and litter is at 60% or greater of soil surface and maintains soil surface integrity. Stability class anticipated to be 5 or greater.

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): Use soil series description for depth and color of A-horizon.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Plant canopy (60% maximum), very slow to slow infiltration rates, the amount of bare ground, and steepness of slopes results in a naturally high runoff rate on slopes > 25%, even in HCPC.

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 would be expected except for the naturally occurring rooting restriction (bedrock or decomposing shale) at 10 to 20 inches.

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): Mid-stature, cool season bunch grasses > mid-stature, cool season rhizomatous grass > mid stature, warm season bunch grass > shrubs > forbs

13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Very low.

14. Average percent litter cover (20 to 30 %) and depth (0.25 to 0.5_ inches). Litter cover is in contact with soil surface.

15. Expected annual production (this is TOTAL above-ground production, not just forage production):
1000 to 1100 #/acre (13 to 14 inch precip. Zone) 450 to 900 #/ac (10 to 12 inch precip. Zone).

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”: Blue grama, buffalo grass, greasewood, rabbitbrush, boom snakeweed.

17. Perennial plant reproductive capability: No limitations.