Ecological Reference Worksheet*

Author(s)/participant(s): Bruce Call, Willard Hall, Phil Smith, Lane Hauser, Bud Starnes, Sheila Richmond

Contact for lead author:_Phil Smith_____ Reference site used? No

Date: 7 October 2002 **MLRA:** 42 **Ecological Site:** Shallow Sandy **Applies to <u>All</u> (write year or AAll@)**

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range for poor B good production year and (3) cite data. Continue descriptions on a separate sheet.	**ERA Match?**
1. Number and extent of rills: There should not be any rills on this site.	
2. Presence of water flow patterns: Large storms can produce short, less than 1meter flow patterns across the bare patches.	
3. Number and height of erosional pedestals or terracettes: There should not be any pedestals and terracettes should be rare.	
4. Bare ground from Ecological Site Description or other studies: Bare ground can make up to 62% of the ground cover on this site according to the ESD. This value may be too high for a wet year.	
5. Number of gullies and erosion associated with gullies: There should not be any gullies or erosion associated with gullies on this site.	
6. Extent of wind scoured, blowouts and/or depositional areas: Wind scoured , blowouts and/or depositional areas should be rare and associated with disturbances (e.g. small mammal burrows, resting areas). Frequency of phenomena may increase on the steeper slopes.	
7. Amount of litter movement (describe size and distance expected to travel): The size of the litter (grass litter) should be small and its movement should be less than 1 meter across bare patches.	
8. Soil surface (top few mm) resistance to erosion (stability values are averages B most sites will show a range of values): Soil stability values can be approximately 4-6, (average 5). Typically, they are lower in the interspaces than the under grasses. These values from field examples at the Jornada Experimental Range**.**	
9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness): For the Simona Series in Dona Ana County, this sandy loam should have an A horizon that is 0-4 inches thick. It has a weak fine subangular blocky structure and is light brown (7.5 YR 6/4 dry) to brown (7.5YR 4/4 moist). The SOM content should be less than 1%.	
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: In a grassland with uniformly distributed grass patches on coarse-textured soils, runoff should be low to nil. Most water infiltrates at the plant bases as well as in the interspaces.	
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): There should not be any compaction layers on this site.	
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): Black grama > Short-lived perennial C4 bunchgrasses [Dropseeds, Threeawns] >> Long-lived perennial C4 bunchgrasses [bush muhly tobosa, cane bluestem] >forbs (croton, buckwheat, woolly paper flower, globemallow,etc.)>Winterfat > Yucca=Shrubs (not creosotebush and mesquite)<>other Forbs <> Plains bristlegrass = Short-statured grasses [Fluffgrass, Blue grama, annuals] > broom snakeweed	
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Short-lived perennial component can exhibit significant mortality in drought, black grama tends to exhibit mortality only when exposed to drought in addition to other stressors. Shrubs/yucca should exhibit low mortality rates.	
14. Expected litter amount: Average 10% **cover and** 0.4 **inch deep.** (As per ESD.)	
15. Expected annual production (this is TOTAL above-ground production, not just forage production): The annual production in years with unfavorable precipitation should be approximately 375 lbs/acre and 700 lbs/acre in years with favorable precipitation according to the ESD. More production expected than in Sandy site due to caliche layer holding water in root zone longer.	
16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, Awill continue to increase regardless of the management of the site@ and may eventually dominate the site: Mesquite and creosotebush (where gravel content high) can be invaders of this site.	
17. Perennial plant reproductive capability: Black grama reproduces by seed sporadically and reproduction by tiller and stolon can be common. The dropseeds should have high reproductive potential and rapidly recover from drought in the absence of additional stresses (grazing).	

*This sheet can also be used to describe Ecological Reference Areas (ERA=s). For ERA=s, you must also complete the following page and describe status of each indicator. In the far right column, write AYes@ (ERA matches expected for site) or ANo@ (ERA does not match expected for the site).