Ecological Reference Worksheet

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Contact for lead author : 505-285-6963 ext. 106 **Reference site used? Yes/No** No

Date: 10/2/2009 **MLRA:** 35 **Ecological Site:** R035XA130NM Shale Hills 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)** site data. Continue description on separate sheet.

1. Number and extent of rills :

None

2. Presence of water flow patterns:

Flow patterns naturally exist between coarse fragments.

3. Number and height of erosional pedestals or terracettes:

Small pedestals (<1 inch) and terracettes may exist in relation to coarse fragment-induced flow patterns.

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

30-40%

5. Number of gullies and erosion associated with gullies:

Uncommon except in coarse fragment-induced flow patterns.

6. Extent of wind scoured, blowouts and/or depositional areas

Rare.

7. Amount of litter movement (describe size and distance expected to travel) :

Litter may travel short distances (1-2 feet) during heavy thunderstorms.

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) :

Soil stability values range from 4-6.

9. Soil surface structures and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different) :

very fine and fine roots; common very fine and fine irregular pores; .25 inch thick surface crust; 30 percent stones, 30 percent cobbles, 20 percent

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff:

High proportion of perennial bunchgrasses and overall uniform distribution of grasses, shrubs, and forbs maximize infiltration, although the fine texture of the soil naturally has slow permeability, and runoff increases with increasing slope.

11. Prescence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction):

None. Hospah series: 2BC horizon (3 to 15 inches) is clay; may give the false impression of a compaction layer relative to the clay loam A horizon (0-3 inches).

12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: indicate much greater than (>>) , greater than (>) , and equal to (=) :

Grasses (80%) >> shrubs (10%) > trees (7%) > forbs (3%).

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

Under proper grazing management, perennial bunchgrasses should show little or no decadence. Shrubs may show 10% decadence, possibly more, if grazing management promotes bunchgrass vitality at the expense of existing shrubs. Ideally, multispecies grazing that includes browsing species (e.g., goats) will maintain the reference-community-mix of grass and shrubs with little decadence in either.

14. Average percent litter cover (4 %) and depth (0.5 inches).

15. Expected annual production (this is TOTAL above-ground production, not just forage production):

Low-production year, 230 lbs/ac; RV, 420 lbs/ac; high-production year, 600 lbs/ac.

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":

Oneseed juniper may encroach from adjacent sites if herbaceous understory is reduced, resulting in lack of fire. If herbaceous understory is reduced and cheatgrass invades, it may gain and retain dominance if allowed to increase fire frequency (this may require poor land management combined with years of wet winter-spring; dry summer-fall conditions) where coarse fragments are few; where coarse fragments are common, fires are likely to be patchy which may inhibit cheatgrass dominance.

17. Perennial plant reproductive capability :

No limitations other than short-term, climate-induced effects (e.g., drought).