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Contact: Missoula Area Office

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Reference site used? Yes

MLRA: 43A

Ecological Site: Shallow Droughty LRU A

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.

- 1. Number and extent of rills:** Slopes on this site range from 0-55%. Rills should not occur in the Taller Bunchgrass State on slopes less than 15%. As slope increases so will the number and length of rills. Rills on steep slopes (>35%) should be <5 feet long.
- 2. Presence of water flow patterns:** Water flow patterns are generally not evident in the reference state especially on slopes <4%. Following occasional (5-30% probability), heavy thunderstorms and winter thaw events, common short, sinuous, discontinuous flow patterns may be apparent on 8-35% slopes. On steeper slopes (>35%) water flow patterns may become more evident and there may be areas which show accumulations of litter due to water movement.
- 3. Number and height of erosional pedestals or terracettes:** Very slight to slight on slopes <8%. Occasionally pedestals up to 0.5 inches may be encountered. As slopes increase pedestals may become more numerous and prominent.
- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, and plant canopy are *not* bare ground):** Bare ground should be between 10-20% – bare areas tend to be inconspicuous and not connected.
- 5. Number of gullies and erosion associated with gullies:** Gullies should not occur in the Taller Bunchgrass State. If there is evidence of past erosion that has created gullies, these areas should be stabilized and have no active erosion.
- 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.
- 7. Amount of litter movement (describe size and distance expected to travel):** Litter will be evident across this site representing organic debris from the vegetation of the functional/structural groups and will not move. A severe convection storm or a significant thaw event could cause litter to move short distances, especially on slopes greater than 6%.
- 8. Soil surface (top few millimeters) 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 3 and 5 if not under plant canopy.
- 9. Soil surface structure and Soil Organic Matter (SOM) content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different):** Structure is granular at the soil surface. Organic matter is about 1.5%. The surface horizon is 4 to 8 inches thick.
- 10. Effect of plant community composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The reference plant community (1.1) is dominated by bluebunch wheatgrass which will maximize infiltration and minimize runoff throughout the site. With the increase of needleandthread in Plant community (1.2) infiltration may decrease and runoff may increase but overall this plant community will have only slight affects on infiltration and runoff.
- 11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** A compaction layer would not be expected on this ecological site. A platy soil surface structure would indicate a departure from the reference state.
- 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):** Plant community 1.1 – Taller cool season bunchgrasses (bluebunch wheatgrass) >>> mid-stature cool season bunchgrasses (needleandthread) > perennial forbs = shrubs > cool season rhizomatous grasses (western wheatgrass), shortgrasses (prairie junegrass) and grasslikes (sedges). Plant community 1.2 – bluebunch wheatgrass and needleandthread share dominance – the other functional/structural groups will remain the same in descending order.
- 13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Plant mortality for all functional groups will be low, but there will be some natural mortality of functional groups over time. Prolonged droughts and/or excessive rest may show increases in mortality and decadence for all plant groups.
- 14. Average percent litter cover (45-60%) and depth (0 to 0.5 inches).**  
Note: The majority of the litter in the plant community in the Taller Bunchgrass State will be non-persistent.
- 15. Expected annual production (this is TOTAL above-ground production, not just forage production):**  
850 #/acre – 1,250 #/acre for the reference community (1.1) with a Representative Value (RV) of 1,050 #/acre.  
Production varies based on effective precipitation and natural variability of soil properties for this ecological site.
- 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:** Cheatgrass, knapweed spp., leafy spurge, sulphur cinquefoil, dalmatian toadflax, Japanese brome, broom snakeweed, fringed sagewort, salsify and dandelion.
- 17. Perennial plant reproductive capability:** All native plants are capable of reproducing sexually and/or vegetatively.