

Evaluation Matrix

Cal Poly Sheep Unit

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Indicator	Extreme to Total	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
1. Rills	Active and aggressively eroding rills throughout the site	Active rills present throughout site, although small in sizes	Active rills in exposed areas only, with size small	No recent rills, old rills revegetating	None
2. Water Flow Patterns	Extensive water flow patterns transporting litter offsite and eroding soil surface throughout the site	Patterns transporting litter and soil across small areas, patterns sometimes connected and common	Patterns transporting litter but not soil for distances less than a few meters, patterns unconnected but common	Patterns moderately common but limited in extent to less than 2 meters. Patterns unconnected and have no soil movement	<1 meter, uncommon, soil erosion slight. 1-2 inch accumulation of grass and seeds in depositional areas
3. Pedestals and/or Terracettes	Pedestals and terracettes present throughout the site	Pedestals and terracettes common in water flow patterns	Occasional pedestals or terracettes in water flow patterns or exposed slopes	Active pedestals or terracettes rare, past formation visible in water flow patterns	None
4. Bare Ground	Bare areas large and connected. 36%+ bare, 81%+ on hilltops	Bare areas large and sometimes connected. 26-35% bare, 71-80% on hilltops	Bare areas of moderate size and sometimes connected. 16-25% bare, 61-70% bare on hilltops	Bare areas small and rarely connected, usually associated with gopher activity. 7-15% bare, 50-60% bare on hilltops	Based upon line-point intercept data, grassland bare ground is 0-6%. Bare ground is often associated with gopher mounds. Hilltops with poorer soils have more bare ground, estimated at 44%.
5. Gullies	Extensive active gullies present in all drainages	Headcuts present in most drainages, active gullies common	Gullies in <50% of drainages	Gullies uncommon, past gullies revegetating	No gully formation in drainages

6. Wind Scoured Blowout, and/or Depositional Areas	Extensive	Common	Occasionally present	Infrequent and few	None
7. Litter Movement (wind or water)	Most litter is moving offsite and accumulating in lower areas, leaving barren areas on the site	Litter is accumulating in lower-lying areas of the site	Moderately-sized litter is transported moderate distances in water flow patterns	Small litter is transported in short water flow patterns, leaving occasional areas with low litter	Little to no movement except along trails and bedding areas where disturbed and from water flow patterns. Little is composed primarily of grass fragments and seeds.
8. Soil Surface Resistance to Erosion	1-2	3	4	5	6 very resistant to erosion
9. Soil Surface Loss or Degradation	Soil has eroded to bedrock	Only a few inches of soil remain on top of bedrock and supports little vegetation	Half of the topsoil has eroded, vegetation roots and organic matter minimal	Several inches of topsoil lost, especially in plant interspaces, but little effect on species composition	No soil surface loss or degradation, soil granular, with many, very fine roots throughout A horizon to 18 inches.
10. Plant Community Composition and Distribution Relative to Infiltration and Runoff	Total loss of vegetation promoting runoff and low infiltration	Major changes in species composition are promoting runoff and reducing infiltration	Moderate degradation of species composition reducing infiltration and promoting runoff	Plant species changes present but have low effect on infiltration and runoff	Roots of perennial and annual grasses promote infiltration by creating ped interspaces. The high amount of cover from living and dead grasses reduce raindrop impact and slow overland flow, limiting erosion

					and increasing infiltration time.
11. Compaction Layer (below soil surface)	Soil compacted throughout the site	Compacted areas common	Compacted soil occasionally found in heavily-grazed areas	Compacted soil rare and barely noticeable except along trails	A compaction layer may be present 1 inch below the surface on trails, with a platy structure. None elsewhere.
12. Functional/Structural Grous	Annual forbs, FOVU, or shrubs dominate the site. Perennial grasses absent	Forbs reducing forage production. Perennial grasses uncommon	Forbs common but less so than grasses. Perennial grasses below average	Perennial grasses common but sometimes out-competed by annuals and forbs.	Dominants: Annual grasses Sub-dominants: Perennial grasses (NAPU, PHAQ) Other: Annual forbs (e.g. ERBO, ERMO, PIEC, thistles) > Perennial shrubs > FOVU
13. Plant Mortality/Decadence	Few living perennials on the site	Dead perennials common, including young plants	Dead perennials somewhat common	Slight mortality of perennials, usually associated with grazing	Perennial grasses are long-lived and exhibit a variety of bunch sizes representing ages. Annual grasses and forbs exhibit yearly mortality during the dry summer.
14. Litter Amount	Litter absent throughout the site	Areas lacking litter common and connected	Litter cover 60-75% and covers soil surface, 25-40% on hilltops	Litter cover >75% and >1/4 inch, >40% on hilltops	Average percent litter cover (99%) and depth (1/2 inch) Litter is high in grasslands but may be lower (42%) on hilltops

					dominated by <i>Erodium</i> .
15. Annual Production	<600 lbs/acre	600-900 lbs/acre	900-1200 lbs/acre	1200 lbs/acre	1200-2500 lbs/acre, normal year 1800 lbs/acre
16. Invasive Plants	Invasives dominate the site	Invasives common, occurring in sometimes connected patches	Invasive species occurring in unconnected patches	Few, isolated patches of invasive species	No invasive species present
17. Reproductive Capability of Perennial Plants	No reproductive structures present and no plants of reproductive age present	Reproductive structures uncommon	Reproductive structures in about half of plants of suitable age	Reproductive structures on the majority of perennials	<i>Nassella</i> seed stalks are present on mature plants if not grazed. <i>Nassella</i> seedlings are common. <i>Phalaris aquatica</i> plants typically have seed stalks present and plants may become wolfy from selective grazing.