USDA Natural Resources
Conservation Service

Ecological site R149BY001NY
Serpentine Till Uplands

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Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

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Date	08/13/2013
Approved by	Nels Barrett
Approval date	
Composition (Indicators 10 and 12) based on	Foliar Cover

Indicators

1. **Number and extent of rills:** Rills are uncommon due to the rocky nature of the site.

2. **Presence of water flow patterns:** Water infiltrates rapidly due to the rocky nature of the site.

3. **Number and height of erosional pedestals or terracettes:** n/a

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Large areas of bare ground exist in the sparsely vegetated, excavated barrens and also to a limited extent under the dense canopy of woody shrubs of low stature.

5. **Number of gullies and erosion associated with gullies:** n/a

6. **Extent of wind scoured, blowouts and/or depositional areas:** n/a

7. **Amount of litter movement (describe size and distance expected to travel):** minimal where litter is sparse otherwise

litter movement unknown.

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Resistance high due to the rocky nature of the soil surface; lower resistance in areas of steeper slopes.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A horizon weak to medium granular structure; 10YR3/2; SOM 9 -12 % in A Horizon; thickness 4 to 18 cm.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Variable effects - directly related to plant densities and slopes. However, low effects due to the rocky nature of the soil

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** none.

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant: SCSC *Schizachyrium scoparium* little bluestem

    Sub-dominant: SONU2 *Sorghastrum nutans* Indiangrass

    Other: PAVI *Panicum virgatum* switchgrass

    Additional:

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

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14. **Average percent litter cover (%) and depth (in):** unknown

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** unknown; destructive sampling prohibited on conservation lands

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** ACPL Acer platanoides Norway maple
    AIAL *Ailanthus altissima* tree of heaven

ALJU *Albizia julibrissin* silktree / mimosa
BETH *Berberis thunbergii* Japanese barberry
CEOR7 *Celastrus orbiculatus* Oriental bitterwseet
ROPS *Robinia pseudoacacia* black locust
AREL8 *Aralia elata* Japanese angelica tree
ROMU *Rosa multiflora* multiflora rose
EUAL13 Euonymus alatus winged spindletree
FAJA2 Fallopia japonica Japanese knotweed
FRAL4 Frangula alnus glossy buckthorn
LOJA *Lonicera japonica* Japanese honeysuckle
LOMO2 *Lonicera morrowii* Morrow""s honeysuckle
RUAL *Rubus allegheniensis* Allegheny blackberry
ARVU *Artemisia vulgaris* mugwort, common wormwood
MIVI Microstegium vimineum Japanese stiltgrass
PHAU7 Phragmites australis var. australis common reed

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17. **Perennial plant reproductive capability:** Variable. Reproduction limited in barren sites.
