USDA Natural Resources
Conservation Service

Ecological site R043BY023ID
Fen 22+ PZ Carex

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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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Approved by	Scott Woodall
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** do not occur on this site.

2. **Presence of water flow patterns:** Water flows over and through the plant community. Rarely are flows detrimental to the plants. The plants have adapted or evolved with this occurrence.

3. **Number and height of erosional pedestals or terracettes:** Do not occur on this site.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** data is not available. On sites in mid-seral status bare ground may range from 2-10 percent.

5. **Number of gullies and erosion associated with gullies:** None.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Do not occur.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move 6 feet or more due to seasonal flooding. Litter accumulates on the surface. There is little or no coarse litter developed on the site, and it will be removed from the site following seasonal flooding.

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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):** values should range from 4 to 6 but needs to be tested.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** No data.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep rooted perennial grasses and sedges slow run-off and increase infiltration. The total vegetation cover should be >80 percent to optimize infiltration. The plant community does not depend on water infiltration alone, but on the discharge of water to the surface.

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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):** is not present.

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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: Deep rooted perennial grasses and sedges

    Sub-dominant: Perennial forbs

    Other: shrubs

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal mortality of grass and grass-like is low and occurs as aging plants. This will go unnoticed due to regeneration from roots, seeds or other new plants filling the spaces.

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14. **Average percent litter cover (%) and depth (in):** Additional litter cover data is needed but is expected to be 45-60 percent to a depth of 0.5-1.5 inches. Litter accumulates on the soil surface.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Is 1500 pounds per acre (1666 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 80-90 percent of the total production, forbs 10-20 percent and shrubs 0-2 percent.

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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: No data.

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17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in most years. Many of the plants reproduce vegetatively.
