USDA Natural Resources
Conservation Service

# Ecological site R009XY033ID
# Stony Bottomland SYAL/PSSP6

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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 | 04/20/2009 |
| Approved by | Kendra Moseley |
| Approval date | |
| Composition (Indicators 10 and 12) based on | Annual Production |

## Indicators

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

2. **Presence of water flow patterns:** water flows over and through the plant community from run-on and rare flooding. Flows can deposit sediments. Rarely are flows detrimental to the shrub components of the plant community. These plants have adapted or evolved with this occurrence. Understory species can be damaged or buried.

3. **Number and height of erosional pedestals or terracettes:** pedestals do not occur on this site. Terracettes do not occur as classically defined, but deposition areas can give a hummocky surface.

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 15-20 percent. Immediately following a significant flood event, bare ground may be as high.

5. **Number of gullies and erosion associated with gullies:** does not exist.

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

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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move 2 feet or off the site due to rare flooding events. Coarse litter can move within the site or off the site due to rare flooding. Some debris may hang up or be deposited in piles within the site.

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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):** The thickness of the A or A1 horizon ranges from 8 to 16 inches. Structure is weak fine and medium granular. Soil organic matter (SOM) ranges from 2 to 4 percent. These soils may not show distinct horizons due to weak development.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** a mixed age stand of shrubs and herbaceous plants is needed to slow run-off and increase infiltration.

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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):** 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: shurbs are >

    Sub-dominant: perennial grasses

    Other: forbs

    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, grass-like, and forbs occur with deposition from run-on. Some mortality can occur in the herbaceous layer and may occur as the shrub canopy closes.

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14. **Average percent litter cover (%) and depth ( in):** additional litter cover data is needed but is expected to be ___percent to a depth of 0.5-1.5 inches at the end of the growing season, but may be removed following flooding.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 1800 pounds per acre (2016 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 30 percent of the total production, forbs 20 percent, and shrubs 50 percent.

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:** includes whitetop, leafy spurge, dock, Canadian thistle, reed canarygrass, foxtail barley, perennial pepperweed, and teasel. Other invasive species may include meadow foxtail and Kentucky bluegrass.

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