

## **Ecological site R009XY031ID Stony Riparian POBAT-ALNUS/ELYMU**

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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	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.

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2. **Presence of water flow patterns:** water flows over and through the plant community due to frequent flooding. Flows can scour the soil surface or deposit sediments. Rarely are flows detrimental to the tree components of the plant community. These plants have adapted or evolved with this occurrence. Understory species can be damaged, removed or buried.

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3. **Number and height of erosional pedestals or terracettes:** neither occurs on this site as classically defined. Scouring can expose some roots. Tree species have evolved with this occurrence and will sprout from the roots. Deposition areas can give a hummocky surface.

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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. Immediately following a significant flood event, bare ground may be as high as 40-50 percent.

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

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6. **Extent of wind scoured, blowouts and/or depositional areas:** from wind does not occur. Scouring and deposition areas do occur from flooding.
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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move 6 feet or more or off the site due to seasonal flooding. Coarse litter can move within the site or off the site due to 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 2 to 9 inches and is very dark grayish brown. Structure ranges from single grained loose to very weak very fine granular. Soil organic matter (SOM) ranges from .5 to 1 percent. The soils may not show distinct horizons due to their fluvial nature.
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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 trees and shrubs is needed to slow run-off and increase infiltration. The plant community is more dependent on moisture from the fluctuating water table than on infiltration. The water table controls rooting depth.
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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: trees are >>
- Sub-dominant: shrubs = 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 scouring and deposition from flooding. Some mortality can occur in the shrub and herbaceous layers as tree canopy closes. Decadence and mortality of black cottonwood can occur with age, disease, and beaver activity. Disease can increase as a result of tree damage from flooding. Young and middle-aged trees and most shrubs re-sprout below or from the damaged area.
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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 8000 pounds per acre (8960 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 10 percent of the total production, forbs 5 percent, shrubs 10 percent and trees 75 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:** includes whitetop, leafy spurge, dock, Canadian thistle, reed canarygrass, foxtail barley, perennial pepperweed, and teasel. Other invasive species may include meadow foxtail, redtop, and Kentucky bluegrass.
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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. Black cottonwoods require flooding to scour the surface or provide sediment deposition to germinate seeds.
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