

Ecological site R010XB081OR JD Claypan North 12-16 PZ

Accessed: 05/01/2024

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.



Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Table 1. Dominant plant species

| | |
|------------|--------------------------------|
| Tree | Not specified |
| Shrub | (1) <i>Artemisia arbuscula</i> |
| Herbaceous | (1) <i>Festuca idahoensis</i> |

Physiographic features

This site occurs on north facing aspects of terraces, tablelands, and mountain plateaus. Slopes range from 15% to 45%. Elevation varies from 3500 feet to 5700 feet.

Table 2. Representative physiographic features

| | |
|-----------|----------------------------|
| Landforms | (1) Terrace (2) Plateau |
| Elevation | 1,067–1,737 m |
| Slope | 15–45% |
| Aspect | N |

Climatic features

12 to 16 ppt primarily as snow from November through March; frigid soil temperature regime, frost-free period of 30 to 90 days.

Table 3. Representative climatic features

| | |
|-------------------------------|--------|
| Frost-free period (average) | 0 days |
| Freeze-free period (average) | 0 days |
| Precipitation total (average) | 0 mm |

Influencing water features

Soil features

Typically a shallow soil with a clay loam surface over a strongly developed claypan. The substratum is consolidated alluvium or bedrock.

Ecological dynamics

Production increases with increased soil depth. Low sagebrush and sandberg bluegrass strongly increase with disturbance. Western juniper increases moderately with disturbance, particularly in higher precipitation zones.

State and transition model

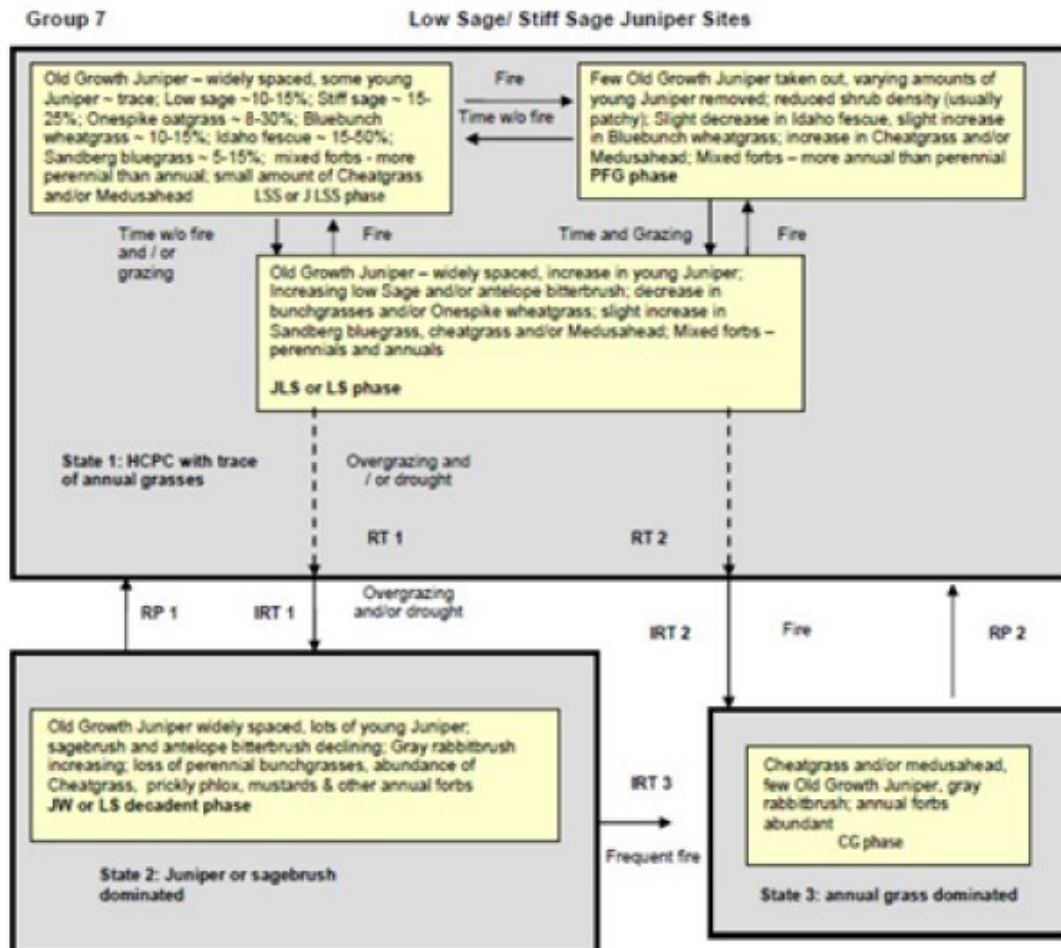


Figure 5. General STM for Claypan Sites

State 1
Reference State

Community 1.1
Reference Plant Community

Table 4. Annual production by plant type

| Plant Type | Low (Kg/Hectare) | Representative Value (Kg/Hectare) | High (Kg/Hectare) |
|-----------------|---------------------|--------------------------------------|----------------------|
| Grass/Grasslike | 504 | 673 | 841 |
| Shrub/Vine | 101 | 135 | 168 |
| Forb | 67 | 90 | 112 |
| Total | 672 | 898 | 1121 |

Additional community tables

Table 5. Community 1.1 plant community composition

| Group | Common Name | Symbol | Scientific Name | Annual Production (Kg/Hectare) | Foliar Cover (%) |
|------------------------|---|--------|--------------------------------|--------------------------------|------------------|
| Grass/Grasslike | | | | | |
| 1 | Moderately Deep Rooted Bunch Grass | | | 359–538 | |
| | Idaho fescue | FEID | <i>Festuca idahoensis</i> | 359–538 | – |
| 2 | Moderately Deep Rooted Bunchgrass | | | 45–135 | |
| | bluebunch wheatgrass | PSSP6 | <i>Pseudoroegneria spicata</i> | 45–135 | – |
| 3 | Shallow Rooted Bunchgrass | | | 27–45 | |
| | Sandberg bluegrass | POSE | <i>Poa secunda</i> | 27–45 | – |
| 4 | Other Perennial Grass | | | 0–18 | |
| | prairie Junegrass | KOMA | <i>Koeleria macrantha</i> | 0–18 | – |
| Forb | | | | | |
| 8 | Perennial Forb | | | 45–90 | |
| | common yarrow | ACMI2 | <i>Achillea millefolium</i> | 0–18 | – |
| | pussytoes | ANTEN | <i>Antennaria</i> | 0–18 | – |
| | serrate balsamroot | BASE2 | <i>Balsamorhiza serrata</i> | 0–18 | – |
| | Indian paintbrush | CASTI2 | <i>Castilleja</i> | 0–18 | – |
| | fleabane | ERIGE2 | <i>Erigeron</i> | 0–18 | – |
| | buckwheat | ERIOG | <i>Eriogonum</i> | 0–18 | – |
| | desertparsley | LOMAT | <i>Lomatium</i> | 0–18 | – |
| | largehead clover | TRMA3 | <i>Trifolium macrocephalum</i> | 0–18 | – |
| Shrub/Vine | | | | | |
| 10 | Evergreen Shrub | | | 72–108 | |
| | little sagebrush | ARAR8 | <i>Artemisia arbuscula</i> | 72–108 | – |
| 11 | Deciduous Shrub | | | 0–18 | |
| | antelope bitterbrush | PUTR2 | <i>Purshia tridentata</i> | 0–18 | – |
| Tree | | | | | |
| 15 | Evergreen Tree | | | 0–18 | |
| | western juniper | JUOC | <i>Juniperus occidentalis</i> | 0–18 | – |

Contributors

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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.

| | |
|--------------------------|---|
| Author(s)/participant(s) | Jeff Repp and Bruce Frannsen |
| Contact for lead author | State Rangeland Management Specialist for NRCS – Oregon |
| Date | 08/07/2012 |

| | |
|---|-------------------|
| Approved by | Bob Gillaspy |
| Approval date | |
| Composition (Indicators 10 and 12) based on | Annual Production |

Indicators

1. **Number and extent of rills:** None, moderate sheet & rill erosion hazard

2. **Presence of water flow patterns:** None

3. **Number and height of erosional pedestals or terracettes:** None

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5-15%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** None, moderate wind erosion hazard

7. **Amount of litter movement (describe size and distance expected to travel):** Fine - limited movement

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Significantly resistant to erosion: aggregate stability = 4-6

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Shallow with a strongly developed claypan with silt loams, or silty clay loams 5-10" thick: moderate OM (2-4%)

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover (80-90%) and gentle to moderate slopes (15-45%) effectively limit rainfall impact and overland flow

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

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: Idaho fescue > Bluebunch wheatgrass > Scabland sagebrush > other grasses > forbs > Western Juniper

Sub-dominant:

Other:

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal decadence and mortality expected
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14. **Average percent litter cover (%) and depth (in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable: 1000, Normal: 800, Unfavorable: 600 lbs/acre/year at high RSI (HCPC)
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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:** Western Juniper readily invades the site. Cheatgrass and Medusahead invade sites that have lost deep rooted perennial grass functional groups.
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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually
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