

Ecological site R006XB009OR Wet Pumice Terrace 14-26 PZ

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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.

Associated sites

| | |
|-------------|---|
| R006XB011OR | Meadow Knoll 14-26 PZ The site is situated in the midst of wetter, meadow sites. It may also be associated with Meadow Knoll sites on remnant fans and terraces (from pre-Mazama materials). Complexes of Wet Pumice Terrace, Wet Pumice Meadow, and Meadow Swale are common, often with only micro-relief between sites. |
|-------------|---|

Table 1. Dominant plant species

| | |
|------------|---------------|
| Tree | Not specified |
| Shrub | Not specified |
| Herbaceous | Not specified |

Physiographic features

Alluvial fan and terrace remnants.

Table 2. Representative physiographic features

| | |
|--------------------|--|
| Landforms | (1) Alluvial fan (2) Stream terrace |
| Flooding duration | Brief (2 to 7 days) to long (7 to 30 days) |
| Flooding frequency | Rare |
| Elevation | 4,000–6,000 ft |
| Slope | 0–1% |
| Ponding depth | 0 in |
| Water table depth | 0–60 in |
| Aspect | Aspect is not a significant factor |

Climatic features

This site is characterized by relatively short, hot summers and cold, snowy winters. The site receives approximately 20 inches of precipitation per year, the bulk of which is snowfall. There are frequent thunderstorms in the summer months.

Table 3. Representative climatic features

| | |
|------------------------------|---------|
| Frost-free period (average) | 20 days |
| Freeze-free period (average) | 49 days |

Precipitation total (average) | 25 in

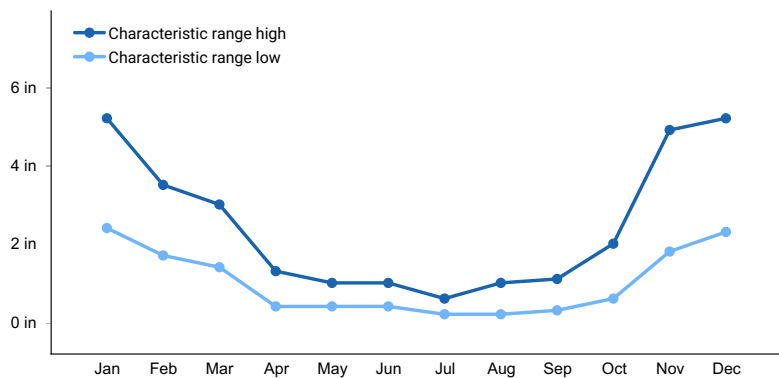


Figure 1. Monthly precipitation range

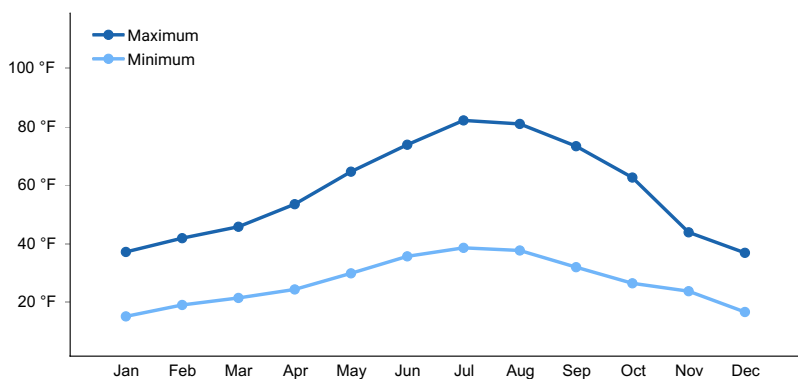


Figure 2. Monthly average minimum and maximum temperature

Influencing water features

None (usually adjacent to seasonally ponded wetlands).

Soil features

Soils for this site typically have a thick organic layer, layers of coarse pumice over clay. There is an apparent water table present for most of the year that comes to within 30 inches of the surface early in the growing season. These moderately aged soils have been deposited over older, remnant fans and terraces. Variations and intergrades of soil characteristics are common.

Table 4. Representative soil features

| | |
|---------------------------------------|-------------------------|
| Surface texture | (1) Mucky loam |
| Family particle size | (1) Clayey |
| Drainage class | Somewhat poorly drained |
| Permeability class | Slow |
| Soil depth | 38–60 in |
| Surface fragment cover <=3" | 5% |
| Surface fragment cover >3" | 5% |
| Available water capacity (0-40in) | 5–6.5 in |
| Calcium carbonate equivalent (0-40in) | 1% |

| | |
|--|--------------|
| Electrical conductivity (0-40in) | 0-2 mmhos/cm |
| Sodium adsorption ratio (0-40in) | 1 |
| Soil reaction (1:1 water) (0-40in) | 2 |
| Subsurface fragment volume <=3" (Depth not specified) | 5% |
| Subsurface fragment volume >3" (Depth not specified) | 5% |

Ecological dynamics

This site occurs on alluvial fans and terraces adjacent to deeper and lower marshy sites or stream channels. The water table is apparently below the effective rooting depth for the grass species present for a major portion of the growing season (depth to water table during the period of rapid growth appears to have a significant influence on the plant community). Wet Pumice Terraces are slightly elevated moist to wet sites within larger complexes of meadow and wetlands sites. The interpretative plant community for this site is the Historic Climax Plant Community (HCPC).

State and transition model

Ecosystem states

| |
|------------------------------|
| 1. HCPC, POTR5/AGTR-POSE3 |
|------------------------------|

State 1 submodel, plant communities

| |
|--------------------------------|
| 1.1. HCPC, POTR5/AGTR-POSE3 |
|--------------------------------|

State 1 HCPC, POTR5/AGTR-POSE3

Community 1.1 HCPC, POTR5/AGTR-POSE3

Remnant Terrace (POTR5/AGTR-POSE): The site is characterized by the presence of Quaking Aspen and occasionally, Lodgepole Pine forming a sparse canopy over dense ground cover of various grasses, grass-like, and forbs.

Table 5. Annual production by plant type

| Plant Type | Low (Lb/Acre) | Representative Value (Lb/Acre) | High (Lb/Acre) |
|-----------------|---------------|--------------------------------|----------------|
| Grass/Grasslike | 2300 | 2950 | 3600 |
| Forb | 275 | 403 | 530 |
| Tree | 150 | 225 | 300 |
| Shrub/Vine | 45 | 58 | 70 |
| Total | 2770 | 3636 | 4500 |

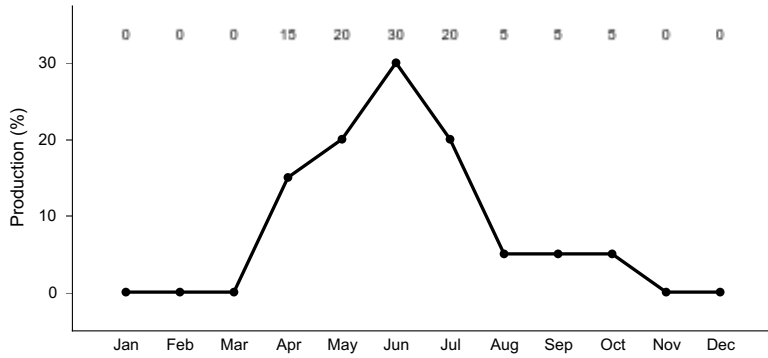


Figure 4. Plant community growth curve (percent production by month). OR1841, B6 Wet Pumice Terrace A. State A: RPC (POTR5/DECE-POSE3) B6 Wet Pumice Terrace .

Additional community tables

Table 6. Community 1.1 plant community composition

| Group | Common Name | Symbol | Scientific Name | Annual Production (Lb/Acre) | Foliar Cover (%) |
|------------------------|--------------------|--------|--|-----------------------------|------------------|
| Grass/Grasslike | | | | | |
| 1 | | | | 1667–2655 | |
| | slender wheatgrass | ELTRT | <i>Elymus trachycaulus ssp. trachycaulus</i> | 450–675 | – |
| | Sierra rush | JUNE | <i>Juncus nevadensis</i> | 315–450 | – |
| | Kentucky bluegrass | POPR | <i>Poa pratensis</i> | 225–450 | – |
| | Sandberg bluegrass | POSE | <i>Poa secunda</i> | 225–450 | – |
| | Maui reedgrass | CAEX | <i>Calamagrostis expansa</i> | 46–90 | – |
| | Tracy's bluegrass | POTR | <i>Poa tracyi</i> | 46–90 | – |
| 2 | | | | 363–720 | |
| | Kentucky bluegrass | POPR | <i>Poa pratensis</i> | 225–450 | – |
| | Tracy's bluegrass | POTR | <i>Poa tracyi</i> | 46–90 | – |
| | Maui reedgrass | CAEX | <i>Calamagrostis expansa</i> | 46–90 | – |
| | Nebraska sedge | CANE2 | <i>Carex nebrascensis</i> | 46–90 | – |
| | needle spikerush | ELAC | <i>Eleocharis acicularis</i> | 46–90 | – |
| | meadow barley | HOBR2 | <i>Hordeum brachyantherum</i> | 46–90 | – |
| | prairie Junegrass | KOMA | <i>Koeleria macrantha</i> | 46–90 | – |
| | mat muhly | MURI | <i>Muhlenbergia richardsonis</i> | 46–90 | – |
| 3 | | | | 46–90 | |
| | Nebraska sedge | CANE2 | <i>Carex nebrascensis</i> | 46–90 | – |
| 4 | | | | 406–765 | |
| | Sierra rush | JUNE | <i>Juncus nevadensis</i> | 315–450 | – |
| | needle spikerush | ELAC | <i>Eleocharis acicularis</i> | 46–90 | – |

| | floral structure | LEAF | FRUIT/SEED CHARACTERISTICS | 70-80 | |
|-------------------|-------------------------|--------|--|---------|---|
| Forb | | | | | |
| 3 | | | | 275-530 | |
| | slender cinquefoil | POGR9 | <i>Potentilla gracilis</i> | 135-225 | - |
| | Chamisso arnica | ARCHI4 | <i>Arnica chamissonis</i> ssp. <i>foliosa</i> var. <i>incana</i> | 45-90 | - |
| 4 | | | | 6-360 | |
| | common yarrow | ACMI2 | <i>Achillea millefolium</i> | 6-90 | - |
| | Tatarian aster | ASTA | <i>Aster tataricus</i> | 6-90 | - |
| | fleabane | ERIGE2 | <i>Erigeron</i> | 6-90 | - |
| | Virginia strawberry | FRVI | <i>Fragaria virginiana</i> | 6-90 | - |
| | Rainier pleated gentian | GECA | <i>Gentiana calycosa</i> | 6-90 | - |
| | bingleaf lupine | LUPO2 | <i>Lupinus polyphyllus</i> | 6-90 | - |
| | buttercup | RANUN | <i>Ranunculus</i> | 6-90 | - |
| 5 | | | | 180-315 | |
| | cinquefoil | POTEN | <i>Potentilla</i> | 135-225 | - |
| | arnica | ARNIC | <i>Arnica</i> | 45-90 | - |
| 6 | | | | 6-360 | |
| | common yarrow | ACMI2 | <i>Achillea millefolium</i> | 6-90 | - |
| | aster | ASTER | <i>Aster</i> | 6-90 | - |
| | erigenia | ERIGE | <i>Erigenia</i> | 6-90 | - |
| | Virginia strawberry | FRVI | <i>Fragaria virginiana</i> | 6-90 | - |
| | old man's whiskers | GETR | <i>Geum triflorum</i> | 6-90 | - |
| | bingleaf lupine | LUPO2 | <i>Lupinus polyphyllus</i> | 6-90 | - |
| | buttercup | RANUN | <i>Ranunculus</i> | 6-90 | - |
| Shrub/Vine | | | | | |
| 5 | | | | 45-70 | |
| | golden currant | RIAU | <i>Ribes aureum</i> | 45-90 | - |
| 7 | | | | 45-70 | |
| | golden currant | RIAU | <i>Ribes aureum</i> | 45-90 | - |
| Tree | | | | | |
| 6 | | | | 150-300 | |
| | quaking aspen | POTR5 | <i>Populus tremuloides</i> | 90-225 | - |
| | willow | SALIX | <i>Salix</i> | 45-135 | - |
| | lodgepole pine | PICO | <i>Pinus contorta</i> | 45-90 | - |
| 8 | | | | 150-300 | |
| | quaking aspen | POTR5 | <i>Populus tremuloides</i> | 90-225 | - |
| | coastal blacksnakeroot | SALA7 | <i>Sanicula laciniata</i> | 45-135 | - |
| | lodgepole pine | PICO | <i>Pinus contorta</i> | 45-90 | - |

Animal community

The site is an important source of forage for grazing animals. Mule deer, elk, anelope, and nesting birds use the site seasonally. The site is usually associated with stream channels which provide additional wildlife habitat, particularly

for birds. The site usually has a slightly higher elevation than adjacent wetter sites making it slightly drier. The presence of a tree canopy gives a measure of shade that is not found on adjacent sites.

Hydrological functions

The site has a moderate potential in low seral condition to produce run-off to receiving waters. In some years, the site may be flooded with water backed up in the adjacent wetter sites. There are usually fingers of wetter and lower sites threading throughout the site providing extra ground water that may move laterally through the Wet Pumice Terrace site. In good condition, the site provides stability to adjacent streambanks and floodplains; vegetation is usually resistant to flows. Woody materials add to the stability of stream systems and provide habitat for aquatic insects not found on adjacent, wetter meadow sites.

Recreational uses

There is little recreation use on this site other than big game hunting and bird watching.

Wood products

Generally not productive enough for harvest of wood products.

Other products

None

Other information

Grazing-The site is frequently used for grazing by domestic livestock and wildlife (mule deer, elk, and antelope). There are several species that are preferred that are available for most of the growing season. Forages stay green (and presumable high in protein and digestible organic matter) well into the fall each year. The site can be heavily used because the slightly higher elevation and convex shape of this site makes it drier than adjacent meadow sites and therefore more attractive for resting, ruminating, and grazing. Livestock may seek out the shade and cover from the woody plants on this site (adjacent wetter sites are treeless).

Wildlife- The site provides important habitat for grazing animals, shorebirds, raptors, and waterfowl. Lesser Sandhill Cranes may use the site in their search for food. The cranes scratch or till the ground to find and consume invertebrates. Larger grazing animals use the site for resting and shade. Raptors made use of the larger woody plants for perches and nests.

Contributors

Jeffrey P. Repp

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) | |
| Contact for lead author | |
| Date | |
| Approved by | |
| Approval date | |

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

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

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

5. **Number of gullies and erosion associated with gullies:**

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

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

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

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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

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:

Sub-dominant:

Other:

Additional:

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

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

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**
-

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:**
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17. **Perennial plant reproductive capability:**
-