Ecological site R021XY503OR
EPHEMERAL LAKEBED 10-20 PZ

Accessed: 05/21/2025

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs in lakebeds or basins on broad plateaus. These closed basins become seasonal lakes after receiving winter and spring runoff from adjacent uplands. Typical slopes are 0 to 2%. Elevations typically range from 4300 to 5500 feet.

Table 2. Representative physiographic features

Landforms	(1) Basin floor (2) Lakebed
Elevation	1,311–1,676 m
Slope	0–2%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation is typically 10-20 inches. It occurs mainly between the months of November and June as both rain and snow. The soil temperature regime is normally frigid but may be marginal for frigid at the lowest elevations. The average annual air temperature is 43-45 degrees F with extreme temperatures ranging from 85 to -30 degrees F. The frost free period is typically 20 to 50 days or more. The optimum period for

plant growth is from June (or after the surface receeds) through August.

Table 3. Representative climatic features

Frost-free period (average)	50 days
Freeze-free period (average)	80 days
Precipitation total (average)	508 mm

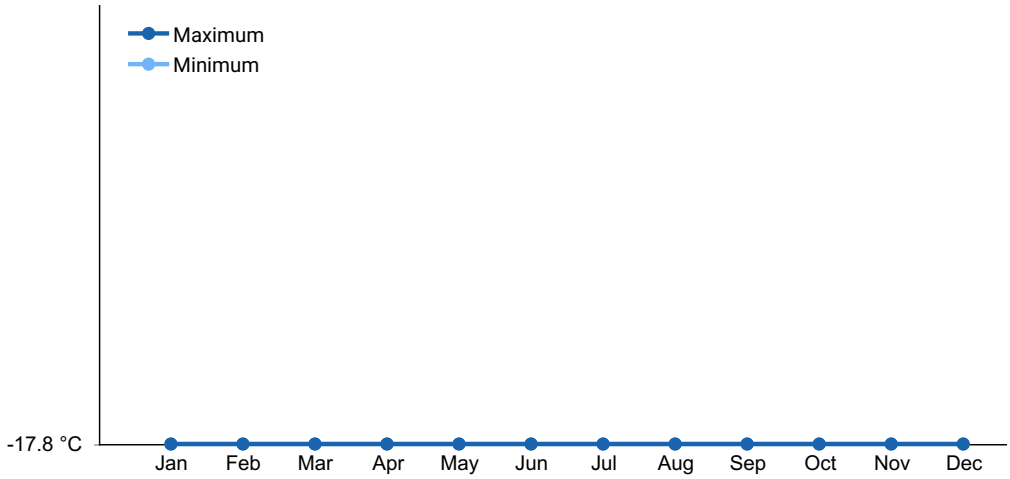


Figure 1. Monthly average minimum and maximum temperature

Influencing water features

Soil features

The soils of this site seasonally flood. They are deep or very deep, and somewhat poor or poorly drained, being wet or flooded in the winter and late spring becuse of runoff from adjacent uplands. They have clayey surface textures and subsoils that overlie bedrock or cemented hardpans. Soils here are formed in lacustrine sediments weathered from tuff, basalt, and/or diatomite. Permeability is slow or very slow. The available water holding cpacity is 9-11 inches for the profile.

Table 4. Representative soil features

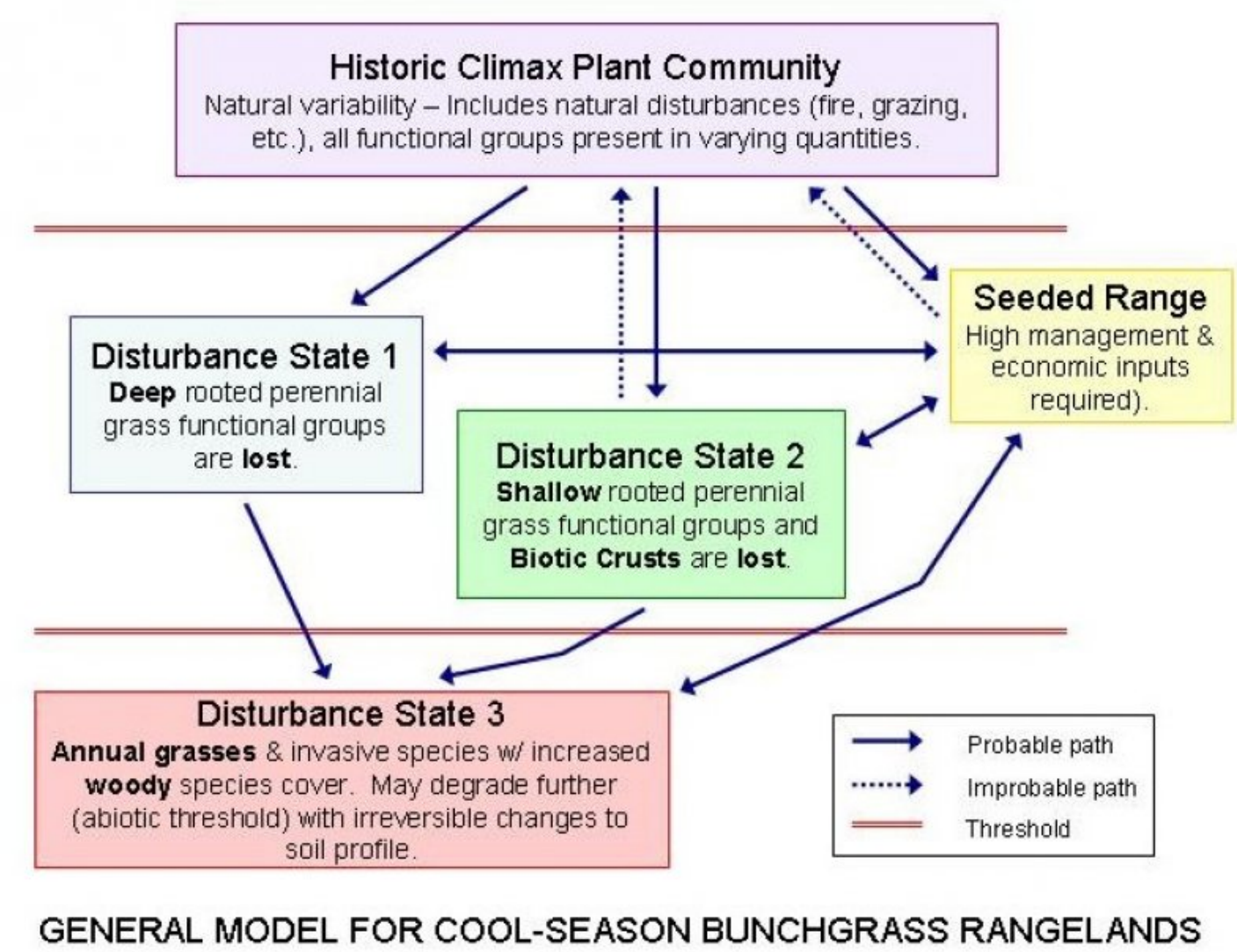
Surface texture	(1) Clay
Family particle size	(1) Clayey
Drainage class	Somewhat poorly drained to poorly drained
Permeability class	Slow to very slow
Soil depth	0 cm
Available water capacity (0-101.6cm)	22.86–27.94 cm

Calcium carbonate equivalent (0-101.6cm)	0%
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	7

Ecological dynamics

Sustained heavy, annual (or early) grazing pressure by livestock, especially when the site is wet, causes soil compaction and may cause mechanical damage to some species.

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1
HCPC, ELEOC-CAREX

Community 1.1
HCPC, ELEOC-CAREX

The potential native plant community is dominated by spikerush and rush. Sedge, aster and twin arnica are also common in the composition. Other species present are mat muhly, knotweed, primrose and clover. Vegetation composition on the basin edges is zoned into distinct plant communities that are related to the degree of wetness and are more pronounced in some lakebeds than others. Site variation will occur with soil wetness changes in the transitions at the edges of the basins, and between seasons due to yearly differences in runoff.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	928	1170	1412
Forb	40	155	269
Total	**968**	**1325**	**1681**

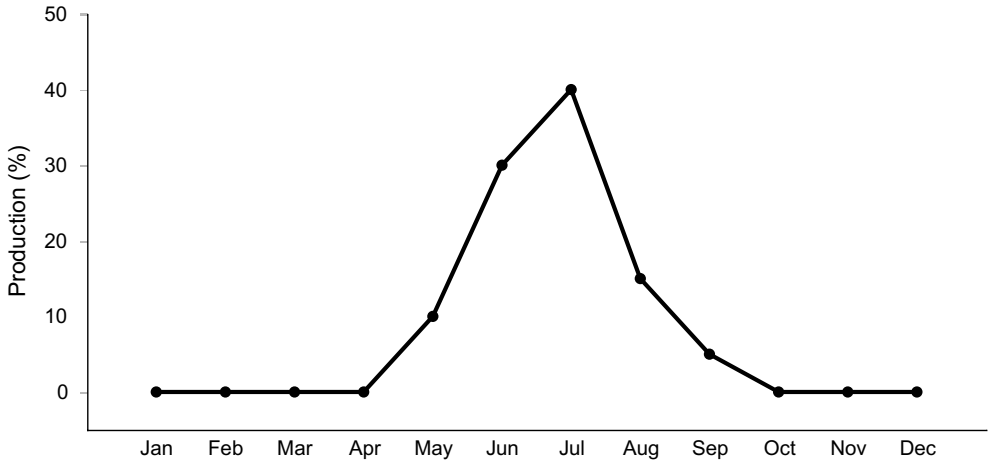


Figure 3. Plant community growth curve (percent production by month). OR5556, D21 Mid Elev., NA, Meadow. HCPC Growth Curve.

Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	**Dominant deep rooted perennial grasses**			807–942	
	spikerush	ELEOC	*Eleocharis*	807–942	–
2	**Sud-dominant deep rooted perennial grasses**			94–336	
	sedge	CAREX	*Carex*	67–202	–
	rush	JUNCU	*Juncus*	13–67	–
4	**Sub-dominant shallow rooted perennial grasses**			13–67	
	mat muhly	MURI	*Muhlenbergia richardsonis*	13–67	–
5	**Other perennial grasses**			13–67	
Forb					
7	**Dominant perennial forbs**			27–135	
	twin arnica	ARSO2	*Arnica sororia*	13–67	–
	aster	EUCEP2	*Eucephalus*	13–67	–
9	**Other perennial forbs**			13–135	
	povertyweed	IVAX	*Iva axillaris*	0–6	–
	evening primrose	OENOT	*Oenothera*	0–6	–
	owl's-clover	ORTHO	*Orthocarpus*	0–6	–
	knotweed	POLYG4	*Polygonum*	0–6	–
	curly dock	RUCR	*Rumex crispus*	0–6	–
	candytuft	SMELO	*Smelowskia*	0–6	–
	fiveleaf clover	TRAN	*Trifolium andersonii*	0–6	–
	clover	TRIFO	*Trifolium*	0–6	–

Animal community

Livestock grazing- This site is normally suitable for grazing after soils dry enough to reduce mechanical damage in the late spring and summer.
Wildlife- This site is important in late spring and summer for deer and antelope where grass and forbs are important food sources.

Hydrological functions

The soils of this site have slow infiltration rates and low runoff potential.

Recreational uses

Hunting and sight seeing.

Wood products

None

Other information

This site may be too wet at times for range seedings. The suggested species list has not been tested and may fail to establish, but includes meadow foxtail, tall fescue; reed canarygrass, smooth brome, and/or tall wheatgrass (all non-natives).

Type locality

Location 1: Klamath County, OR	
Township/Range/Section	T39S R13E S2
General legal description	Near NW side of Gerber Reservoir along main road to Ben Hall Creek: T39S, R13E, Sec 2 (and at weather station in bottom center of 2), Sec 11, Sec 15

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
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Date	09/05/2012
Approved by	Bob Gillaspy

Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, slight 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):** 10-50% depending on flooding/ponding/duration/depth

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 (may erode if soils are dry and plant cover is removed)

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):** Moderately resistant to erosion: aggregate stability = 3-5

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

and thickness): Seasonally flooded, deep or very deep, poorly drained clays, loams, or silty clay loams: Low OM (1-2%)

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Areas of the site with established stands of Spikerush, rush, and/or sedges and gentle slopes (1-2%) effectively limit rainfall impact and overland flow; infiltration is very slow

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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):** None

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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: Spikerush > sedge > other grasses > forbs

    Sub-dominant:

    Other:

    Additional:

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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: 1500, Normal: 1200, Unfavorable: 900 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:** Site is prone to compaction when soils are wet. Changes to plant community are related to changes in soil wetness. 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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