USDA Natural Resources
Conservation Service

Ecological site R024XY120OR
SILTY LOW SODIC TERRACE 6-10 PZ

Accessed: 05/13/2025

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.

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.

Ecological site concept

This ESC is only mapped in MLRA 23 - limited extent in OR635 & OR636. Consider correlating this site to 024XY003NV.

Associated sites

R024XY001OR	**SODIC FLAT** Sodic Flat
R024XY003OR	**SODIC BOTTOM** Sodic bottom
R024XY004OR	**DRY FLOODPLAIN 6-10 PZ** Dry floodplain
R024XY005OR	**SODIC DUNES** Sodic dunes
R024XY013OR	**LOW SODIC TERRACE 6-10 PZ** Low sodic terrace 6-10 PZ
R024XY121OR	**SILTY SODIC TERRACE 6-10 PZ** Silty sodic terrace 6-10 pZ

Similar sites

R024XY013OR	**LOW SODIC TERRACE 6-10 PZ** Low sodic terrace 6-10 PZ (higher pH, coarser texture)
R024XY121OR	**SILTY SODIC TERRACE 6-10 PZ** Silty sodic terrace 6-10 PZ (lower pH, higher production)

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) *Sarcobatus vermiculatus* (2) *Atriplex confertifolia*
Herbaceous	(1) *Leymus triticoides*

Physiographic features

This site occurs on low terraces adjacent to lake basins. Slopes range from 0 to 3 percent. Elevation varies from 4000 to 4500 feet.

Table 2. Representative physiographic features

Landforms	(1) Terrace (2) Lake (3) Basin floor
Elevation	1,219–1,372 m
Slope	0–3%
Water table depth	152 cm
Aspect	Aspect is not a significant factor

Climatic features

The annual precipitation ranges from 6 to 10 inches, most of which occurs during the months of December through March. The mean annual air temoperature is 48 degrees F. Temperature extremes range from 110+ to -30 degrees F. The period of optimum plant growth is from the first of April through June.

Table 3. Representative climatic features

Frost-free period (average)	0 days
Freeze-free period (average)	0 days
Precipitation total (average)	203 mm

Influencing water features

Soil features

The sols of this site are very deep over lacustrine sediments. The surface layer is a thin loam over a silty to silty clay loam subsoil. They are moderately sodium affective. Playettes are common. Permeability is moderate. The available water holding capacity (AWC) is about 6 inches for the profile. Depth to a seasonal water table is normally greater than 60 incehs. The potential for erosion is moderate. See Appendix II for soils on which this site occurs.

Table 4. Representative soil features

Surface texture	(1) Loam
Family particle size	(1) Clayey

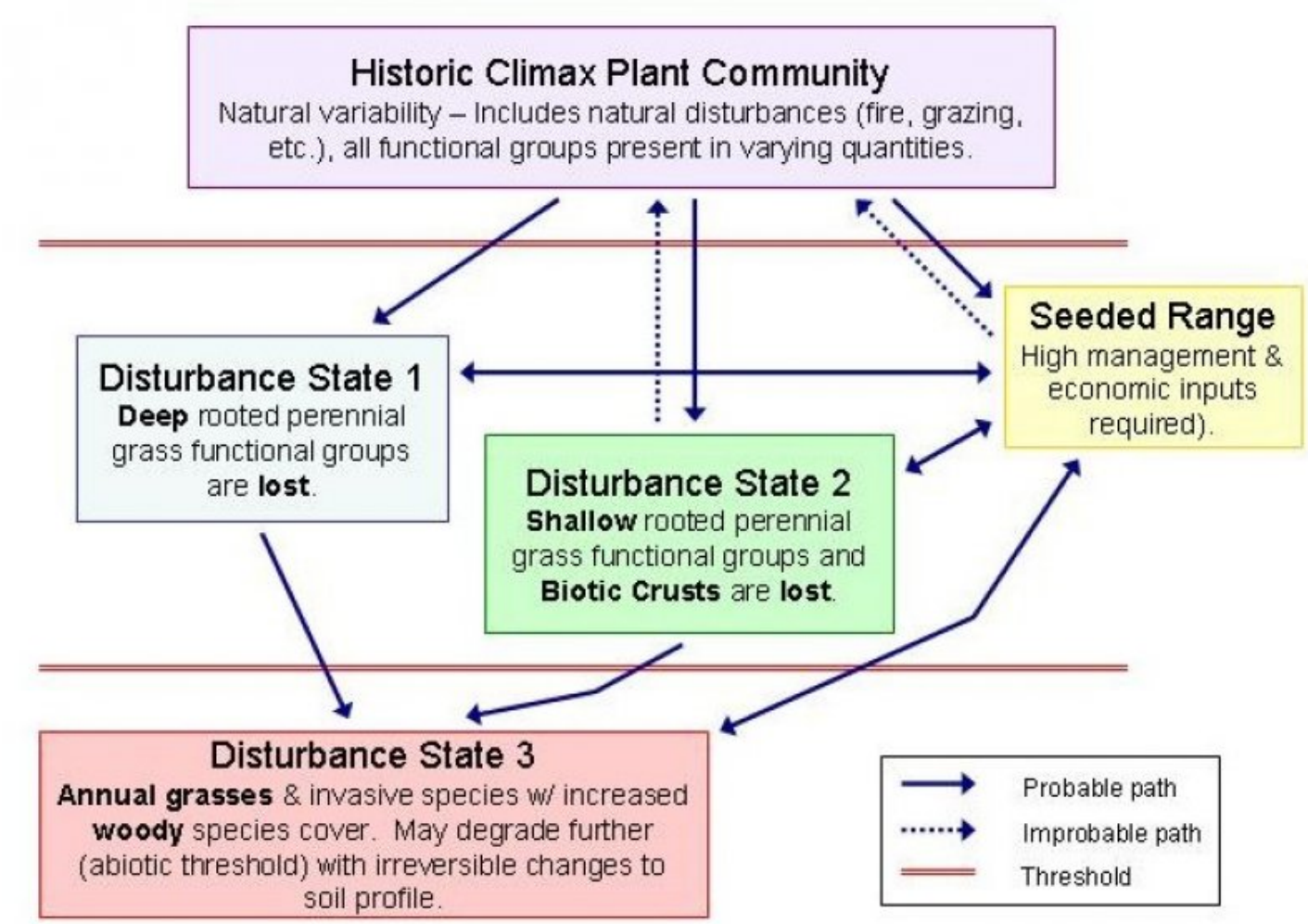
Permeability class	Moderate

Ecological dynamics

Range in Characteristics-
As the amount of silt in the surface increases and soil pH decreases, the amount of creeping wildrye increases. In areas of higher soil pH, black greasewood and other salt tolerant species make up a greater percentage of the stand.

Response to Disturbance-
If the condition of the site deteriorates as a reslut of overgrazing creeping wildrye decreases, blackgreasewood and spiny hopsage increase and annuals invade. With further deterioration the amount of bare ground in the interspaces rapidy increases surface pH increases, erosion accelerates and site productiviy decreases.

State and transition model



GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

the potential native plant community is dominated by black greasewood and creeping wildrye. Spiny hopsage and shadscale are common. Rabbitbrush, bottlebrush squirreltail and inland saltgrass are present. Big sagebrush is sparse. The vegetative composition of the community is approximately 60% shrubs, 30% grasses, and 5% forbs.

The approximate ground cover is 40-60 percent (basal and crown).

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Shrub/Vine	193	273	354
Grass/Grasslike	103	161	220
Forb	13	27	40
Total	**309**	**461**	**614**

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	**Perennial, Deep-rooted, Dominant**			90–179	
	beardless wildrye	LETR5	*Leymus triticoides*	90–179	–
5	**Perennial, Other (PPGG), All**			13–40	
	saltgrass	DISP	*Distichlis spicata*	4–13	–
	squirreltail	ELEL5	*Elymus elymoides*	4–13	–
	basin wildrye	LECI4	*Leymus cinereus*	4–13	–
Forb					
9	**Perennial, Other (PPFF), ALL**			13–40	
	povertyweed	IVAX	*Iva axillaris*	4–13	–
	dock	RUMEX	*Rumex*	4–13	–
	seepweed	SUAED	*Suaeda*	4–13	–
Shrub/Vine					
11	**Perennial, Evergreen, Dominant**			179–314	
	greasewood	SAVE4	*Sarcobatus vermiculatus*	90–135	–
	shadscale saltbush	ATCO	*Atriplex confertifolia*	45–90	–
	spiny hopsage	GRSP	*Grayia spinosa*	45–90	–
12	**Perennial, Evergreen, Sub-Dominant**			9–22	
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	9–22	–
15	**Perennial, Other(SSSS), ALL**			4–18	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	1–4	–
	yellow rabbitbrush	CHVI8	*Chrysothamnus viscidiflorus*	1–4	–
	bud sagebrush	PIDE4	*Picrothamnus desertorum*	1–4	–
	shortspine horsebrush	TESP2	*Tetradymia spinosa*	1–4	–

Animal community

Wildlife-
mule deer, pronghorn antelope, rabbits, rodents, and a variety of birds along with associated predators use this site for food and cover. When the ecological condition of this site is high it provides a good source of food and cover for deer, other mammals and a variety of birds. It is an important wintering area for antelope and mule deer.

Livestock grazing-
This site is suited to use by cattle, sheep and horses in the fall, winter and spring under a planned grazing system.

The key species is creeping wildrye. This site can be damaged if heavily grazed during spring periods when the soils are wet and creeping wildrye is actively growing. Heavy late winter/early spring grazing during periods of "bark slippage" can severely damage spiny hopsage and other palatable shrubs. If grazed in the spring, use should be postponed until the soils are firm enough to avoid trampling damage.

Hydrological functions

Watershed-
The hydrologic cover condition is fair when the ecological conditon is high.

Other information

This site is not suited for reseeding. Salt concentrations and droughtiness inhibit germination. Soils are corrosive to steel.

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)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

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

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

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

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

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

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

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

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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):**

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

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

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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):**

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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:

    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):**

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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):**

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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:

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17. **Perennial plant reproductive capability:**
