USDA Natural Resources
Conservation Service

Ecological site R024XY121OR
SILTY SODIC TERRACE 6-10 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.

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 ES only occurs in MLRA 23- limited extent in OR635 & OR636

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
R024XY014OR	**SODIC TERRACE 6-10 PZ** Sodic terrace 6-10 PZ
R024XY120OR	**SILTY LOW SODIC TERRACE 6-10 PZ** Silty Low Sodic Terrace 6-10 PZ

Similar sites

R024XY014OR	**SODIC TERRACE 6-10 PZ** Sodic terrace 6-10 PZ (higher pH, coarser texture)
R024XY013OR	**LOW SODIC TERRACE 6-10 PZ** Low sodic terrace 6-10 PZ (higher pH, coarser texture)
R024XY120OR	**SILTY LOW SODIC TERRACE 6-10 PZ** Silty Low Sodic Terrace 6-10 PZ (higher pH, lower production)

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) *Artemisia tridentata subsp. tridentata* (2) *Sarcobatus vermiculatus*
Herbaceous	(1) *Leymus triticoides*

Physiographic features

This site occurs on secondary terraces adjacent to lake basins. Slopes range from 0 to 2%. Elevation varies from 4000 to 4500 feet.

Table 2. Representative physiographic features

Landforms	(1) Terrace (2) Lakebed
Elevation	4,000–4,500 ft
Slope	0–2%
Water table depth	60 in
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 temperature 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 early June.

Table 3. Representative climatic features

Frost-free period (average)	0 days
Freeze-free period (average)	0 days
Precipitation total (average)	10 in

Influencing water features

Soil features

The soils of this site are very deep over lacustrine sediments. The surface layer is a thin loam over a silty clay loam to clay loam subsoil. They are moderately sodium affected. Playettes are present. Permeability 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 inches. the potential for erosion is moderate. See Appendix II for soils on which this site occurs.

Table 4. Representative soil features

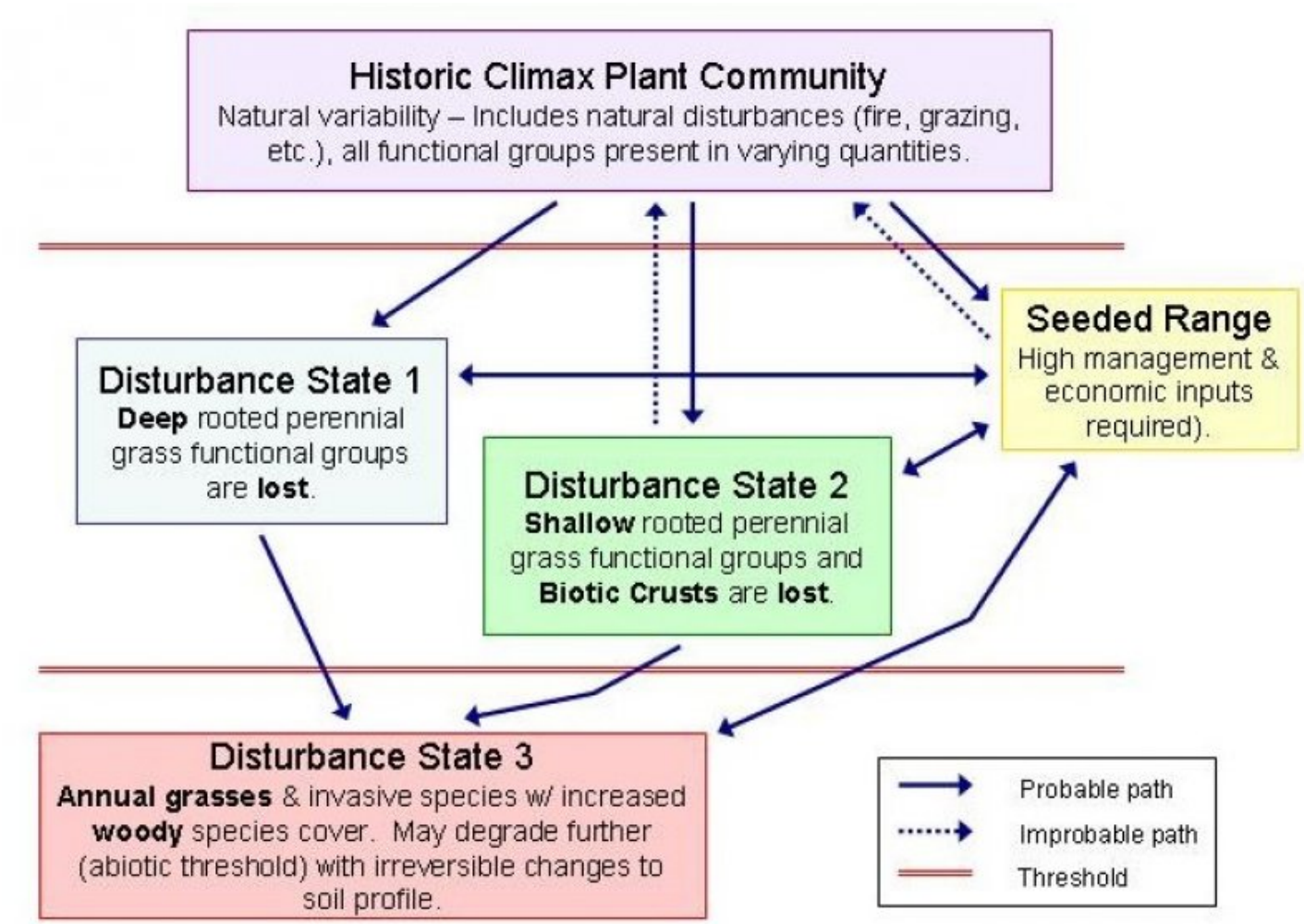
Surface texture	(1) Loam
Family particle size	(1) Clayey
Permeability class	Moderate

Ecological dynamics

Range in Characteristics-
With an increase in soil sodic conditions, sagebrush decreases and black greasewood and other salt tolerant species increase. As the percent of silt increases in the surface layer the amount of creeping wildrye increases.

Response to Disturbance-
If the condition of the site deteriorates as a result of overgrazing creeping wildrye decreases, black greasewood and spiny hopsage increase and annuals invade. With further deterioration the amount of bare ground in the interspaces increases, surface salts increase, erosion accelerates adn site productivity 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 basin big sagebrush, black greasewood and creeping wildrye. Spiny hopsage is common. Shadscale, rabbitbrush and bottlebrush squirreltail and inland saltgrass are present. The vegetative composition of the community is approximately 50% shrubs, 40% grasses, and 5% forbs. The approximate ground cover is 50-60% (basal and crown).

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Shrub/Vine	140	233	325
Grass/Grasslike	190	235	280
Forb	10	15	20
Total	**340**	**483**	**625**

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	**Perennial, Deep-rooted, Dominant**			150–200	
	beardless wildrye	LETR5	*Leymus triticoides*	150–200	–
2	**Perennial, Deep-rooted, Sub-Dominant**			25–50	
	squirreltail	ELEL5	*Elymus elymoides*	25–50	–
5	**Perennial, Other (PPGG), All**			15–30	
	saltgrass	DISP	*Distichlis spicata*	8–15	–
	basin wildrye	LECI4	*Leymus cinereus*	8–15	–
Forb					
9	**Perennial, Other (PPFF), ALL**			10–20	
	povertyweed	IVAX	*Iva axillaris*	5–10	–
	scarlet globemallow	SPCO	*Sphaeralcea coccinea*	5–10	–
Shrub/Vine					
11	**Perennial, Evergreen, Dominant**			100–200	
	basin big sagebrush	ARTRT	*Artemisia tridentata ssp. tridentata*	50–100	–
	greasewood	SAVE4	*Sarcobatus vermiculatus*	50–100	–
12	**Perennial, Evergreen, Sub-Dominant**			35–100	
	spiny hopsage	GRSP	*Grayia spinosa*	25–75	–
	shadscale saltbush	ATCO	*Atriplex confertifolia*	10–25	–
15	**Perennial, Other(SSSS), ALL**			5–25	
	Wyoming big sagebrush	ARTRW8	*Artemisia tridentata ssp. wyomingensis*	1–5	–
	yellow rabbitbrush	CHVI8	*Chrysothamnus viscidiflorus*	1–5	–
	rubber rabbitbrush	ERNA10	*Ericameria nauseosa*	1–5	–
	bud sagebrush	PIDE4	*Picrothamnus desertorum*	1–5	–
	littleleaf horsebrush	TEGL	*Tetradymia glabrata*	1–5	–

Animal community

Wildlife-
Mule deer, pronghorn antelope, rabbits, rodents and an assorted variety of birds along with associated predators use this site for food and cover. When the ecological condion is high this site provides good 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 springunder 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 and soil compaction.

Hydrological functions

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

Other information

This site is not well 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:**

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

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):**

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:**

17. **Perennial plant reproductive capability:**