

# Ecological site R021XY100OR

## DRY FLOODPLAIN 10+ PZ

Accessed: 05/06/2024

### 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.

### Associated sites

R021XY200OR	LOAMY 10-14 PZ
-------------	----------------

**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

### Physiographic features

This site occurs on floodplains.

**Table 2. Representative physiographic features**

Landforms	(1) Flood plain
Elevation	122–1,585 m
Slope	0–2%
Aspect	Aspect is not a significant factor

## Climatic features

The annual precipitation ranges from 10 to 14 inches, most of which occurs in the form of snow during the months of October through April. The soil temperature regime is mesic with the mean annual air temperature of about 47 degrees F. Temperature extremes range from 110 to -30 degrees F. The frost free period ranges from 70 to 110 days. The optimum period for plant growth is from early May through June.

Table 3. Representative climatic features

Frost-free period (average)	110 days
Freeze-free period (average)	0 days
Precipitation total (average)	356 mm

## Influencing water features

### Soil features

The soils of this site are very deep and moderately well drained. The soils are subject to occasional flooding for brief periods during the spring snow melt period. A water table is present below 30 inches throughout the summer. Typically the surface layer is loam or silty clay loam about 15 inches thick. The subsoil and substratum is loam, clay loam, or sandy clay loam. Permeability is moderately slow. The available water holding capacity is about 9 to 12 inches. Runoff is very slow. Erosion hazard by water is slight except along streambanks during periods of flooding.

Table 4. Representative soil features

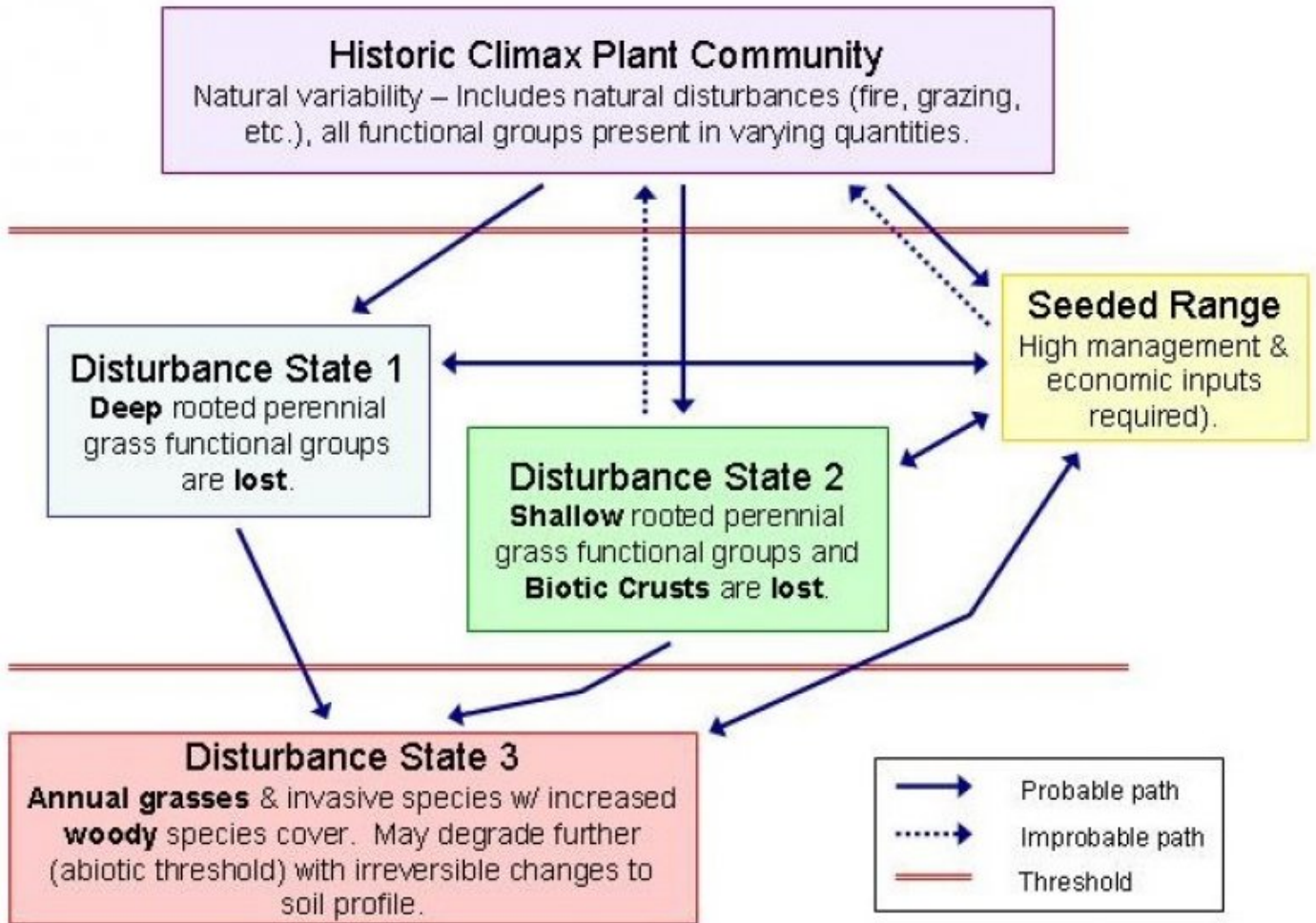
Surface texture	(1) Loam (2) Silt loam
Family particle size	(1) Loamy
Drainage class	Moderately well drained
Permeability class	Moderately slow
Soil depth	152 cm
Available water capacity (0-101.6cm)	22.86–30.48 cm

## Ecological dynamics

If the condition of the site deteriorates as a result of overgrazing, grasses will decrease and big sagebrush, green rabbitbrush and other shrubs will increase. Continual spring use will drastically reduce the basin wildrye. Long term degradation and lack of fire will encourage invasion of the site by western juniper.

This site is occasionally flooded and receives supplemental moisture from fluctuations in groundwater levels. Differences in productivity and plant composition may occur in cases where gravel stringers evidence that recent meanders of the stream channel. Where stream entrenchment has occurred, site production decreases and plant composition changes to more drought tolerant, upland species. As precipitation exceeds 14 inches or more, or where there is cold air drainage in the bottomland, currant and snowberry will increase.

## State and transition model



## GENERAL MODEL FOR COOL-SEASON BUNCHGRASS RANGELANDS

### State 1

HPCPC, LECI4/ARTRT-PUTR2

### Community 1.1

HPCPC, LECI4/ARTRT-PUTR2

The potential native plant community is strongly dominated by basin wildrye with lesser amounts of Nevada and Canby bluegrasses. Big sagebrush, antelope bitterbrush and snowberry are common. Vegetative composition of the community is approximately 85% grasses, 5% forbs, and 10% shrubs.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	1883	2125	2367
Shrub/Vine	135	242	350
Forb	108	202	296
<b>Total</b>	<b>2126</b>	<b>2569</b>	<b>3013</b>

Figure 4. Plant community growth curve (percent production by month).  
OR5501, D21 Low Elev., NA, Meadow/Lakebed/Irr.. RPC Growth Curve.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	15	30	35	10	5	0	0	0

## Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Dominant deep rooted perennial grasses</b>			1749–2018	
	basin wildrye	LECI4	<i>Leymus cinereus</i>	1749–2018	–
3	<b>Dominant shallow rooted perennial grasses</b>			81–215	
	Sandberg bluegrass	POSE	<i>Poa secunda</i>	81–215	–
5	<b>Other perennial grasses</b>			54–135	
	slender wheatgrass	ELTR7	<i>Elymus trachycaulus</i>	0–6	–
	Idaho fescue	FEID	<i>Festuca idahoensis</i>	0–6	–
	prairie Junegrass	KOMA	<i>Koeleria macrantha</i>	0–6	–
<b>Forb</b>					
7	<b>Dominant perennial forbs</b>			54–161	
	common yarrow	ACMI2	<i>Achillea millefolium</i>	27–81	–
	lupine	LUPIN	<i>Lupinus</i>	27–81	–
	common yarrow	ACMI2	<i>Achillea millefolium</i>	27–81	–
	lupine	LUPIN	<i>Lupinus</i>	27–81	–
9	<b>Other perennial forbs</b>			54–135	
	Brown's peony	PABR	<i>Paeonia brownii</i>	0–6	–
	phacelia	PHACE	<i>Phacelia</i>	0–6	–
	woolly plantain	PLPA2	<i>Plantago patagonica</i>	0–6	–
	mullein	VERBA	<i>Verbascum</i>	0–6	–
<b>Shrub/Vine</b>					
11	<b>Dominant evergreen shrubs</b>			108–215	
	basin big sagebrush	ARTRT	<i>Artemisia tridentata ssp. tridentata</i>	54–135	–
	antelope bitterbrush	PUTR2	<i>Purshia tridentata</i>	54–81	–
15	<b>Other shrubs</b>			27–135	
	green rabbitbrush	ERTE18	<i>Ericameria teretifolia</i>	0–6	–
	golden currant	RIAU	<i>Ribes aureum</i>	0–6	–
	wax currant	RICE	<i>Ribes cereum</i>	0–6	–
	rose	ROSA5	<i>Rosa</i>	0–6	–
	common snowberry	SYAL	<i>Symphoricarpos albus</i>	0–6	–

### Animal community

This site provides excellent food and cover for deer and quail.

### Hydrological functions

The soils are in hydrologic group C.

### Recreational uses

This site offers great potential for deer and upland game bird observation and hunting.

## Other products

This site is suited to cattle and sheep grazing in all seasons under a planned grazing system. The position of this site in the landscape and its productivity encourages livestock concentration, making it subject to heavy grazing pressure. Use should be postponed until soils are firm enough to prevent trampling damage and soil compaction.

## Other information

In fair conditions this site rapidly responds to good management. Fire is an excellent tool for the control of big sagebrush. In poor condition, this site has potential for reseeding.

## Contributors

Carlson, Barrett  
E Ersch (OSU)  
K.Kennedy

## 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
Contact for lead author	Oregon NRCS State Rangeland Management Specialist
Date	08/21/2012
Approved by	Bob Gillaspay
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

- 1. Number and extent of rills:** None, slight sheet & rill erosion hazard except along streambanks during periods of flooding  

---
- 2. Presence of water flow patterns:** None, except for natural overflow areas  

---
- 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%  

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

---

6. **Extent of wind scoured, blowouts and/or depositional areas:** None, slight wind erosion hazard
- 
7. **Amount of litter movement (describe size and distance expected to travel):** Fine to coarse - limited movement except during flooding
- 
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):** Very deep, moderately well drained loams and silty clay loams: Moderate OM (1-5%)
- 
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High ground cover (80-90%) and gentle slopes (0-2%) effectively limits rainfall impact and overland flow, infiltration can be limited by excess thatch
- 
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: Basin wildrye > Sandberg bluegrass = other forbs = dominant shrubs > dominant forbs > other shrubs
- 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
- 
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):** Favorable: 3000, Normal: 2400, Unfavorable: 1800 lbs/acre/year at high RSI (HCPC)
- 
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:** Perennial brush species will increase with deterioration of plant community. Western Juniper readily invades the site. Cheatgrass and Medusahead invade sites that have lost deep rooted perennial grass functional groups.

---

17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually
-