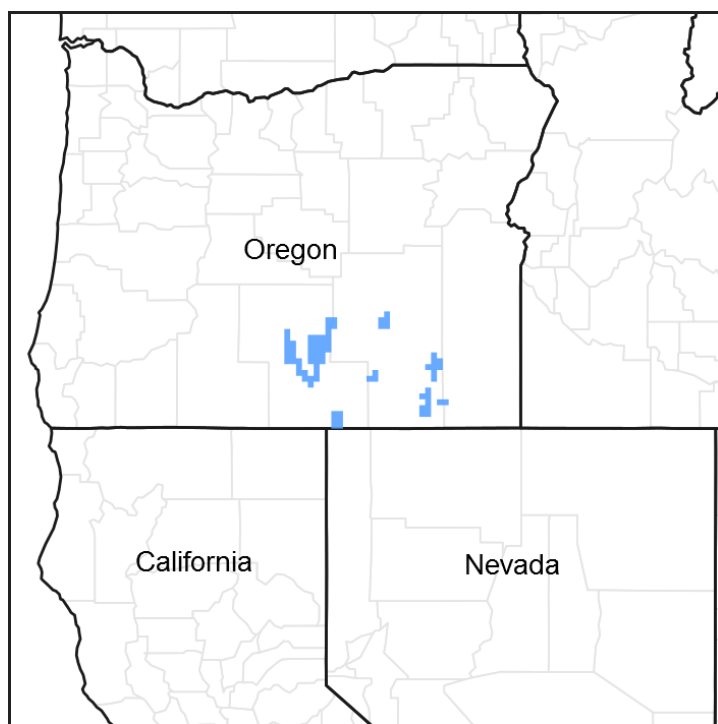


# **Ecological site R024XY031OR** **DROUGHTY SHALLOW SLOPES 6-10 PZ**

Accessed: 05/20/2025

## **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.

## **Associated sites**

|             |   |
|-------------|---|
| R024XY015OR | <b>DESERT LOAM 6-10 PZ</b><br>Desert Loam 6-10 PZ |
| R024XY016OR | <b>LOAMY 8-10 PZ</b><br>Loamy 8-10 PZ             |

|             |   |
|-------------|---|
| R024XY017OR | <b>SHALLOW LOAM 8-10 PZ</b><br>Shallow Loam 8-10 PZ         |
| R024XY020OR | <b>SHRUBBY LOAM 8-10 PZ</b><br>Shrubby Loam 8-10 PZ         |
| R024XY030OR | <b>LOAMY SLOPES 6-10 PZ</b><br>Shallow Loamy Slopes 6-10 PZ |
| R024XY032OR | <b>ARID SOUTH SLOPES 6-10 PZ</b><br>South Slopes 6-10PZ     |
| R024XY033OR | <b>ARID NORTH SLOPES 6-10 PZ</b><br>North Slopes 6-10 PZ    |

## Similar sites

|             |   |
|-------------|---|
| R024XY032OR | <b>ARID SOUTH SLOPES 6-10 PZ</b><br>Shallow Loamy Slopes 6-10 PZ (deeper, lower soluble salts, higher production) |
| R024XY030OR | <b>LOAMY SLOPES 6-10 PZ</b><br>South Slopes 6-10 PZ (lower soluble salts)   |

**Table 1. Dominant plant species**

|            |   |
|------------|---|
| Tree       | Not specified   |
| Shrub      | (1) <i>Atriplex confertifolia</i><br>(2) <i>Picrothamnus desertorum</i> |
| Herbaceous | (1) <i>Achnatherum hymenoides</i><br>(2) <i>Elymus elymoides</i>        |

## Physiographic features

This site occurs on south facing sideslopes of basin hills and low mountains. Slopes range from 30-70%. Elevation varies from 4400-5500 feet.

**Table 2. Representative physiographic features**

|           |                          |
|-----------|--------------------------|
| Landforms | (1) Hill<br>(2) Mountain |
| Elevation | 1,341–1,676 m            |
| Slope     | 30–70%                   |
| Aspect    | S                        |

## 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 100 to -31 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) | 254 mm |

## Influencing water features

### Soil features

The soils of this site are very shallow over a strongly cemented duripan or bedrock. Typically the surface is a very cobbly clay loam over a cobbly clay loam subsoil. They are sodium affected. Permeability is moderate to moderately slow. The available water holding capacity (AWC) is about .5 to 3 inches for the profile. The potential for erosion is high. See Appendix II for soils on which this site occurs.

Representative Soil for this Site-

Skedaddle very cobbly clay loam, 30-70% slopes

Skedaddle (shallow): Loamy-skeletal, mixed, natric, mesic, Lithic Xeric Torriorthents

**Table 4. Representative soil features**

|                      |                             |
|----------------------|-----------------------------|
| Surface texture      | (1) Clay loam               |
| Family particle size | (1) Clayey                  |
| Permeability class   | Moderate to moderately slow |

## Ecological dynamics

Range in Characteristics-

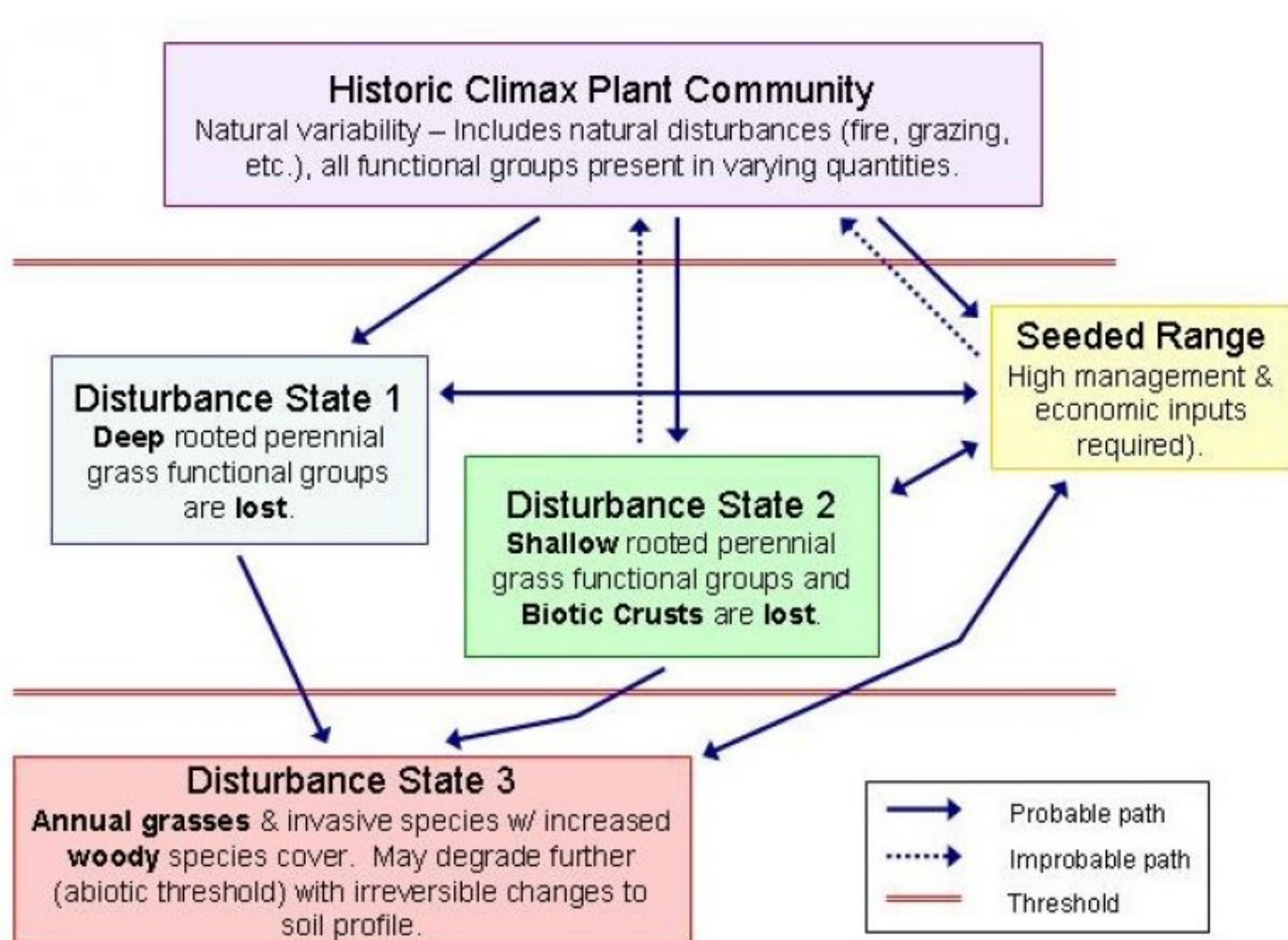
The depth to a restrictive layer and aspect influences the composition and production of the site. Production will increase with greater soil depth. Indian ricegrass will increase on coarser soils and warmer slopes. Squirreltail will increase on older surfaces with heavy erosion pavement.

Response to Disturbance-

If the condition of the site deteriorates as a result of overgrazing, Indian ricegrass will decrease in the stand. With further deterioration, bud sagebrush will decrease followed by

shadscale and squirreltail. Bare ground will increase, erosion accelerates and site productivity decreases. The invasion of annuals and reestablishment of perennials is limited to eroded surfaces and in areas of dense cobbles and heavy erosion pavement.

## 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 shadscale. Bud sagebrush, spiny hopsage and Indian ricegrass are prominent in the stand. The vegetation composition of the community is approximately 70% grass, 25% shrubs and 5% forbs. the approximate ground cover is 20-40% (basal and Crown).

Table 5. Annual production by plant type

| Plant Type      | Low<br>(Kg/Hectare) | Representative Value<br>(Kg/Hectare) | High<br>(Kg/Hectare) |
|-----------------|---------------------|--------------------------------------|----------------------|
| Shrub/Vine      | 211                 | 309                                  | 408                  |
| Grass/Grasslike | 90                  | 157                                  | 224                  |
| Forb            | 4                   | 20                                   | 36                   |
| <b>Total</b>    | <b>305</b>          | <b>486</b>                           | <b>668</b>           |

## Additional community tables

Table 6. Community 1.1 plant community composition

| Group                  | Common Name                             | Symbol | Scientific Name                 | Annual Production<br>(Kg/Hectare) | Foliar Cover<br>(%) |
|------------------------|---|--------|---------------------------------|-----------------------------------|---------------------|
| <b>Grass/Grasslike</b> |   |        |                                 |                                   |                     |
| 1                      | <b>Perennial, Deep-rooted, Dominant</b> |        |                                 | 67–135                            |                     |
|                        | Indian ricegrass                        | ACHY   | <i>Achnatherum hymenoides</i>   | 45–90                             | –                   |
|                        | squirreldtail                           | ELEL5  | <i>Elymus elymoides</i>         | 22–67                             | –                   |
| 5                      | <b>Perennial, Others (PPGG), ALL</b>    |        |                                 | 22–67                             |                     |
|                        | desert needlegrass                      | ACSP12 | <i>Achnatherum speciosum</i>    | 6–17                              | –                   |
|                        | Thurber's needlegrass                   | ACTH7  | <i>Achnatherum thurberianum</i> | 6–17                              | –                   |
|                        | Webber needlegrass                      | ACWE3  | <i>Achnatherum webberi</i>      | 6–17                              | –                   |
|                        | Sandberg bluegrass                      | POSE   | <i>Poa secunda</i>              | 6–17                              | –                   |
| <b>Forb</b>            |   |        |                                 |                                   |                     |
| 9                      | <b>Perennial, Other (PPFF), ALL</b>     |        |                                 | 4–36                              |                     |
|                        | milkvetch                               | ASTRA  | <i>Astragalus</i>               | 0–4                               | –                   |
|                        | Indian paintbrush                       | CASTI2 | <i>Castilleja</i>               | 0–4                               | –                   |
|                        | skeletonweed                            | CHAET  | <i>Chaetadelpha</i>             | 0–4                               | –                   |
|                        | Douglas' dustymaiden                    | CHDO   | <i>Chaenactis douglasii</i>     | 0–4                               | –                   |
|                        | tapertip hawksbeard                     | CRAC2  | <i>Crepis acuminata</i>         | 0–4                               | –                   |
|                        | buckwheat                               | ERIOG  | <i>Eriogonum</i>                | 0–4                               | –                   |
|                        | pricklyphlox                            | LEPTO2 | <i>Leptodactylon</i>            | 0–4                               | –                   |
|                        | phlox                                   | PHLOX  | <i>Phlox</i>                    | 0–4                               | –                   |

|                   |   |        |                                    |         |   |
|-------------------|---|--------|------------------------------------|---------|---|
|                   | scarlet globemallow                       | SPCO   | <i>Sphaeralcea coccinea</i>        | 0–4     | – |
| <b>Shrub/Vine</b> |   |        |                                    |         |   |
| 11                | <b>Perennial, Evergreen, Dominant</b>     |        |                                    | 179–314 |   |
|                   | shadscale saltbush                        | ATCO   | <i>Atriplex confertifolia</i>      | 135–224 | – |
|                   | bud sagebrush                             | PIDE4  | <i>Picrothamnus desertorum</i>     | 45–90   | – |
| 12                | <b>Perennial, Evergreen, Sub-Dominant</b> |        |                                    | 22–67   |   |
|                   | spiny hopsage                             | GRSP   | <i>Grayia spinosa</i>              | 22–67   | – |
| 15                | <b>Perennial, Other(SSSS), ALL</b>        |        |                                    | 9–27    |   |
|                   | yellow rabbitbrush                        | CHVI8  | <i>Chrysothamnus viscidiflorus</i> | 2–6     | – |
|                   | rubber rabbitbrush                        | ERNA10 | <i>Ericameria nauseosa</i>         | 2–6     | – |
|                   | winterfat                                 | KRLA2  | <i>Krascheninnikovia lanata</i>    | 2–6     | – |
|                   | littleleaf horsebrush                     | TEGL   | <i>Tetradymia glabrata</i>         | 2–6     | – |
|                   | shortspine horsebrush                     | TESP2  | <i>Tetradymia spinosa</i>          | 2–6     | – |

## Animal community

### Wildlife-

This site is commonly used by mule deer, California bighorn sheep, rodents, upland birds and various predators. This site is important wintering area for many species of wildlife.

### Livestock grazing-

This site has limited suitability to use by cattle, sheep and horses in the late spring and fall under a planned grazing system. The key species are Indian ricegrass and bud sagebrush. Indian ricegrass can be severely damaged if heavily grazed during periods of flowering and grass seed formation before root reserves have accumulated and soil moisture is low. Bud sagebrush and shadscale can be severely damaged if heavily grazed in the late winter and early spring during periods of "bark slippage". Care should be taken to avoid plant crown damage and soil compaction when soils are wet. The shallow soils on the steep slopes of this site are very susceptible to movement and compaction from hoof action.

## Hydrological functions

### watershed-

The soils of this site have high runoff potential because of low intake rates, very shallow depths and steep slopes. The hydrologic cover condition is fair when the ecological condition is high.

## Other information

This site has virtually no potential for range seedig because it is steep, droughty and stony. In areas where dense cobbles and heavy erosion pavement exists, the potential for natural seeding reestablishment is low.

## 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):**

---

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:**
- 

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