USDA Natural Resources
Conservation Service

Ecological site F006XY704OR
East Crater Lake Pumice Basins

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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.

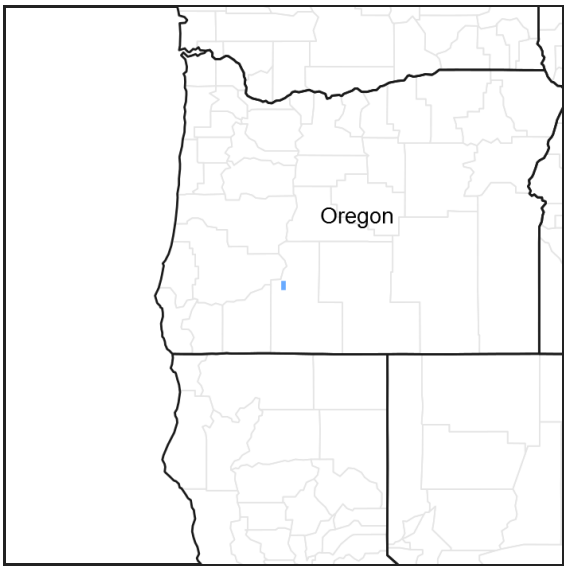

Figure 1. Mapped extent

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.

Table 1. Dominant plant species

Tree	(1) *Pinus contorta*
Shrub	Not specified
Herbaceous	(1) *Carex inops*

Physiographic features

This site is found on well drained, deep soils; on flat to gentle sloping landscapes that developed from volcanic ash flows.

Table 2. Representative physiographic features

Landforms	(1) Ash flow
Flooding frequency	None
Ponding frequency	None
Elevation	4,000–6,000 ft
Slope	0–7%
Water table depth	60 in

Aspect	Aspect is not a significant factor

Climatic features

Precipitation occurs mostly in the fall winter and spring . Much of it occurs as snow. Some rain can occur in the summer due to thunder storms. Winters are cold and wet and summers are warm and dry.

Table 3. Representative climatic features

Frost-free period (average)	60 days
Freeze-free period (average)	90 days
Precipitation total (average)	40 in

Influencing water features

None

Soil features

This site is found on soils developed in volcanic ash flows deposits in valleys.

Table 4. Representative soil features

Surface texture	(1) Very gravelly loamy sand (2) Ashy loamy sand
Family particle size	(1) Sandy
Drainage class	Somewhat excessively drained to excessively drained
Permeability class	Rapid to very rapid
Soil depth	60 in
Surface fragment cover <=3"	10–50%
Surface fragment cover >3"	0–20%
Available water capacity (0-40in)	3.9–7.1 in
Calcium carbonate equivalent (0-40in)	0%
Electrical conductivity (0-40in)	0 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	6.1–7.3
Subsurface fragment volume <=3" (Depth not specified)	15–50%
Subsurface fragment volume >3" (Depth not specified)	0–25%

Ecological dynamics

Lodgepole pine is the only tree specie in the overstory of the historic climax plant community. The position of this site, flat basins, is influenced by cold air drainage which affects tree seedling survival. Lodgepole pine seedlings are the only ones that have adapted to these conditions.

Heavy to very heavily stocked stands are susceptible to mountain pine beetle infestations. If an outbreak occurs all lodgepole can be killed. If seedlings are present then a new stand will start. Large areas killed may take many years to return to a lodgepole forest. Planting seedlings will quicken the successional process.

State and transition model

State 1
Lodgepole Pine

Community 1.1
Lodgepole Pine

The Lodgepole pine plant community is the historic climax plant community. Understory ground cover is low, generally under 30 per cent. The specie mix is also low. Carex dominates the specie composition with small and very small amounts of other species. Three or more Carex species are present.

Forest overstory. The typical overstory composition of the Lodgepole pine plant community.

Forest understory. The typical annual production of the understory species to a height of 4.5 feet (excluding boles of trees) under low, high, and representative canopy covers.

Plant composition is expressed as "percent canopy cover". Species listed as "0" percent are present at less than 1 percent canopy cover.

Table 5. Ground cover

Tree foliar cover	20-30%
Shrub/vine/liana foliar cover	3-5%
Grass/grasslike foliar cover	15-20%
Forb foliar cover	0-1%
Non-vascular plants	0%
Biological crusts	0%
Litter	25-35%
Surface fragments >0.25" and <=3"	1-3%
Surface fragments >3"	1-2%
Bedrock	0%
Water	0%
Bare ground	8-12%

Table 6. Soil surface cover

Tree basal cover	0%
Shrub/vine/liana basal cover	0%
Grass/grasslike basal cover	0-3%
Forb basal cover	0-1%
Non-vascular plants	0%
Biological crusts	0%
Litter	50-60%
Surface fragments >0.25" and <=3"	1-5%
Surface fragments >3"	1-2%
Bedrock	0%
Water	0%
Bare ground	15-20%

Table 7. Canopy structure (% cover)

Height Above Ground (Ft)	Tree	Shrub/Vine	Grass/ Grasslike	Forb
<0.5	–	0-1%	3-5%	–
>0.5 <= 1	–	–	15-20%	–
>1 <= 2	–	–	–	–
>2 <= 4.5	–	1-3%	–	–
>4.5 <= 13	1-2%	–	–	–
>13 <= 40	3-5%	–	–	–
>40 <= 80	30-35%	–	–	–
>80 <= 120	–	–	–	–
>120	–	–	–	–

Additional community tables

Recreational uses

Limited to hiking and camping

Wood products

Fire wood, Poles, Sawtimber,

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:**

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

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

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

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

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:**