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Columbia Plateau Steppe and Grassland

BpS Model/Description Version: Aug. 2020

Modelers		Reviewers	
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None	None	None	None
None	None	None	None

Vegetation Type

Steppe/Savanna

Map Zones

10, 18

Geographic Range

Idaho, Nevada, and Oregon. This system occurs throughout much of the Columbia Plateau.

Biophysical Site Description

Elevations range from 5,000-5,500ft. This type is mostly found with basalt or rhyolite substrate. Soils range from relatively very deep, medium- to fine-textured, imperfectly drained and non-saline often with a microphytic crust. Biophysical Setting (BpS) is often associated with large depressions that accumulate soil moistures. Temperature regime is usually frigid. Slopes are generally <2%.

Vegetation Description

These are grasslands within the sagebrush shrub-steppe ecological system and share the same species but in different proportions. This grassland is dominated by rhizomatous perennial grasses and forbs (>75% cover), sometimes with a sparse (<10% cover) shrub layer. Associated graminoids include creeping wildrye, mat muhly, and slender wheatgrass. Common forbs are poverty weed and dandelion. Grasslands are used abundantly by greater sage grouse, antelope, and other native herbivores.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
LETR5	<i>Leymus triticoides</i>	Beardless wildrye
MURI	<i>Muhlenbergia richardsonis</i>	Mat muhly
ARCAV 2	<i>Artemisia cana ssp. viscidula</i>	Silver sagebrush
ELTR7	<i>Elymus trachycaulus</i>	Slender wheatgrass

Species names are from the NRCS PLANTS database. Check species codes at <http://plants.usda.gov>.

Disturbance Description

Wet cycles (mean 55yrs) or fire eliminated shrubs from the community. Fire frequency is presumed to be ~50yrs, maintaining this system as a grassland. Fire interval was probably coupled to those of the surrounding sagebrush steppe.

Fire Frequency

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Percent of all fires is the percent of all fires modeled in that severity class. Minimum and Maximum FIs show the relative range of fire intervals as estimated by model contributors, if known.

[illegible]

Tree	0-5	B	B	B	B	B	UN	UN	UN	UN	UN
Tree	5-10	B	B	B	B	B	UN	UN	UN	UN	UN
Tree	10-25	B	B	B	B	B	UN	UN	UN	UN	UN
Tree	25-50	B	B	B	B	B	UN	UN	UN	UN	UN
Tree	>50	B	B	B	B	B	UN	UN	UN	UN	UN

Succession class letters A-E are described in the Succession Class Description section. Some classes use a leafform distinction where a qualifier is added to the class letter: Brdl (broadleaf), Con (conifer), or Mix (mixed conifer and broadleaf). UN refers to uncharacteristic native or a combination of height and cover that would not be expected under the reference condition. NP refers to not possible or a combination of height and cover which is not physiologically possible for the species in the BpS.

Description

Class A 67 Early Development 1 - Open

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
LETR5	Leymus triticoides	Beardless wildrye	Upper
MURI	Muhlenbergia richardsonis	Mat muhly	Lower

Description

Grassland dominated by rhizomatous grasses.

Maximum Tree Size Class

None

Class B 33 Mid Development 1 - Open

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
ARCAV2	Artemisia cana ssp. viscidula	Silver sagebrush	Upper
LETR5	Leymus triticoides	Beardless wildrye	Upper
MURI	Muhlenbergia richardsonis	Mat muhly	Lower

Description

Grasslands with significant shrubs (mountain silver sagebrush). Dominant cover is herbaceous (generally <60% cover). Wet cycles remove shrubs.

Maximum Tree Size Class

None

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:OPN	0	Mid1:OPN	54

Mid1:OPN	55	Mid1:OPN	999
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Probabilistic Transitions

Disturbance Type	Disturbance occurs In	Moves vegetation to	Disturbance Probability	Return Interval (yrs)	Reset Age to New Class Start Age After Disturbance?	Years Since Last Disturbance
Replacement Fire	Early1:OPN	Early1:OPN	0.02	50	No	0
Wind or Weather or Stress	Mid1:OPN	Early1:OPN	0.018	56	Yes	0
Replacement Fire	Mid1:OPN	Early1:OPN	0.02	50	Yes	0
Native Grazing	Mid1:OPN	Mid1:OPN	0.05	20	No	0

References

Hironaka, M., M.A. Fosberg and A.H. Winward. 1983. Sagebrush-Grass Habitat Types of Southern Idaho. Forest, Wildlife and Range Experiment Station, University of Idaho, Moscow, ID.

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Peck, N.L. and M.E. Jensen. 1987. Sagebrush-Grass Community Types of the Humboldt National Forest. Elko, NV

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