

Rapid Assessment Reference Condition Model

The Rapid Assessment is a component of the LANDFIRE project. Reference condition models for the Rapid Assessment were created through a series of expert workshops and a peer-review process in 2004-2005. For more information, please visit www.landfire.gov. Please direct questions to helpdesk@landfire.gov.

Potential Natural Vegetation Group (PNVG):

R#AGSP

Bluebunch Wheatgrass

General Information

Contributors (additional contributors may be listed under "Model Evolution and Comments")

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Vegetation Type

Grassland

Dominant Species*

PSSP

POSE

BASA3

General Model Sources

- Literature
 Local Data
 Expert Estimate

LANDFIRE Mapping Zones

1 8
2 9
7

Rapid Assessment Model Zones

- California Pacific Northwest
 Great Basin South Central
 Great Lakes Southeast
 Northeast S. Appalachians
 Northern Plains Southwest
 N-Cent.Rockies

Geographic Range

Eastern Washington, Eastern Oregon, Western Idaho, Western Montana, British Columbia (basically Columbia Basin)

Biophysical Site Description

Canyon grasslands and lower elevation plains in Columbia Basin, dry site, low elevation loess soils (Palouse) and sandy soils.

Vegetation Description

Grassland dominated by *Pseudoregnaria spicata*, (see Ecological Systems CES304.792, CES304.993 (NatureServe 2004)) with *Poa secunda*, *Heterostipa comata*, *Balsamorhiza sagittata*, *Leymus cinereus*, *Aristida longiseta*, and *Sporobolus cryptandrus*. *Festuca idahoensis* is often present on north slopes and moist sites.

Disturbance Description

Fire is the primary disturbance factor. Historically, fire resulted in topkill and some mortality, although the overall grassland was not changed. Fires were low intensity due to limited fuels and significant internal spacing between fuels. Currently, cheatgrass and other introduced grasses often invade these habitats after fire. The historic frequency was 5-20 years.

Adjacency or Identification Concerns

This type occurs in a mosaic with steppe vegetation. In the early 1900s, heavy sheep and cattle grazing led to an increase of shrubs into much of the area, although shrubs generally don't occur in the canyon grassland. Fescue montane grasslands occur on north aspects and moist sites, which have a lower fire frequency.

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

This PNVG can occur in large landscapes. Patch and disturbance sizes limited in canyons by broken topography and limited by extensive riparian areas. Large areas once occurred on the Umatilla Plateau and the lower areas of the Palouse, but are now broken up by farmland.

Issues/Problems

The plains forms which were extensive are now gone, replaced by farmland. Canyon grasslands are extensive, but long term fire studies in grasslands are not possible, since fire scars do not show up on grasslands.

Model Evolution and Comments

Succession Classes

Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).

Class A 5%

Early1 PostRep

Description

Grassland having just burned.
Young, green vegetation.

Indicator Species* and Canopy Position

PSSP
POSE

Upper Layer Lifeform

- Herbaceous
 Shrub
 Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	10 %	50 %
Height	no data	no data
Tree Size Class	no data	

- Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

Class B 70%

Mid1 Closed

Description

Perennial bunchgrass with limited cryptogam development, smaller bunches, higher percentage of POSE and forbs, lower forb diversity.

Indicator Species* and Canopy Position

PSSP
POSE

Upper Layer Lifeform

- Herbaceous
 Shrub
 Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	50 %	80 %
Height	no data	no data
Tree Size Class	no data	

- Upper layer lifeform differs from dominant lifeform.
Height and cover of dominant lifeform are:

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

Class C 25%

Late1 Closed

Description

Perennial bunchgrass with solid cryptogam cover, large bluebunch grasses, lower POSE and forb cover, greater forb diversity.

Indicator Species* and Canopy Position

PSSP
POSE

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	50 %	75 %
Height	no data	no data
Tree Size Class	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Class D 0%

Late1 Open

Description

Indicator Species* and Canopy Position

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	%
Height	no data	no data
Tree Size Class	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Class E 0%

Late1 Closed

Description

Indicator Species* and Canopy Position

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	%
Height	no data	no data
Tree Size Class	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Disturbances

Non-Fire Disturbances Modeled

- Insects/Disease
- Wind/Weather/Stress
- Native Grazing
- Competition
- Other:
- Other:

Fire Regime Group: 1

- I: 0-35 year frequency, low and mixed severity
- II: 0-35 year frequency, replacement severity
- III: 35-200 year frequency, low and mixed severity
- IV: 35-200 year frequency, replacement severity
- V: 200+ year frequency, replacement severity

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Historical Fire Size (acres)

Avg:
Min:
Max:

Fire Intervals (FI):

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. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class. All values are estimates and not precise.

Sources of Fire Regime Data

- Literature
- Local Data
- Expert Estimate

	<i>Avg FI</i>	<i>Min FI</i>	<i>Max FI</i>	<i>Probability</i>	<i>Percent of All Fires</i>
<i>Replacement</i>	18	5	20	0.05556	47
<i>Mixed</i>	16	5	20	0.0625	53
<i>Surface</i>					
<i>All Fires</i>	8			0.11807	

References

Daubenmire 1970, Steppe Vegetation of Eastern Washington. Crawford & Kagan, personal communication.
Brown and Smith, editors, 2000. Wildland Fire in Ecosystems. Effect of fire on flora. USDA RMRS GTR 42, Vol 2.

Miller RF, Seufert JM, Haferkamp. 1986. The ecology and management of bluebunch wheatgrass (*Agropyron spicatum*): A review. OSU Station Bulletin 669 39 pp.

NatureServe. 2004. International Ecological Classification Standard: Terrestrial Ecological Systems of the United States. Natural Heritage Central Databases. NatureServe, Arlington, VA.