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 and 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
BASA

General Model Sources

- ☐ Literature
- ☐ Local Data
- ☑ Expert Estimate

LANDFIRE Mapping Zones

1 2 7 8 9

Rapid AssessmentModel Zones

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

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 Sporobolis 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 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.

Dominant Species* and Canopy Position

PSSP
POSE

Structure Data (for upper layer lifeform)

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

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

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

Fuel Model no data

Class B 70 %

Mid1 Closed

Description

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

Dominant Species* and Canopy Position

PSSP
POSE

Structure Data (for upper layer lifeform)

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

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

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

Fuel Model no data

Class C 25 %

Late1 Closed

Description

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

Dominant Species* and Canopy Position

PSSP
POSE

Structure Data (for upper layer lifeform)

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

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

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

Fuel Model no data

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Class D **0 %**

Late1 Open

Description

Dominant Species* and Canopy Position

Structure Data (for upper layer lifeform)

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

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

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

Fuel Model no data

Class E **0 %**

Late1 Closed

Description

Dominant Species* and Canopy Position

Structure Data (for upper layer lifeform)

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

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

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

Fuel Model no data

Disturbances

Disturbances Modeled

☑ Fire
☐ Insects/Disease
☐ Wind/Weather/Stress
☐ Native Grazing
☑ Competition
☐ Other:
☐ Other

Historical Fire Size (acres)

Avg: no data
Min: no data
Max: no data

Sources of Fire Regime Data

☐ Literature
☐ Local Data
☑ Expert Estimate

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

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 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.

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement	18	5	20	0.05556	47
Mixed	16	5	20	0.0625	53
Surface					
All Fires	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.

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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.