

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)

R0PSMEms Warm Mesic Interior Douglas-Fir

General Information

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

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Vegetation Type

Forested

General Model Sources

- Literature
- Local Data
- Expert Estimate

Rapid Assessment Model Zones

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

Dominant Species*

PSME

PICO

POTR5

ABLA

LANDFIRE Mapping Zones

10	21	18
19	22	16
20	29	

Geographic Range

West of the Continental Divide in the northern Rocky Mountains, primarily western Montana and northern Idaho. Also extends into the northern Great Basin.

Biophysical Site Description

PNVG generally occurs within the forest interior on moderately dry sites at mid- to high elevations. PNVG occupies primarily north-facing slopes and drainages on both sides of the continental divide.

Vegetation Description

Douglas-fir dominated mixed conifer forests that may support lodgepole pine and subalpine fir. Western larch may be present (within its range), but its presence may also indicate a different Potential Natural Vegetation Group (see Adjacency/ Identification Concerns below). In some locations ponderosa pine is present but generally as a minor component.

Disturbance Description

Fire regime is predominantly mixed-severity with generally small severely burned areas (<400 ac) and landscape MFI's between 30 and 80 years. Although stand-replacing and mixed-severity fires are less common than low-severity fires, their influence on forest landscape structure is profound.

Adjacency or Identification Concerns

This PNVG corresponds with moist Douglas-fir habitat types (Pfister et al. 1977). It typically occupies sites between the lower subalpine zone (at higher elevations) and the ponderosa pine or xeric Douglas-fir zone (at lower elevations). Western larch may be present, but its presence may also indicate a different Potential Natural Vegetation Group that has larch as a dominant.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

This PNVG is usually highly heterogeneous because of micro-climate, topography, and patchy burning patterns. The spatial variability results in relatively small patches and fire effects that are highly variable

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

over fine scales.

Issues/Problems

Most fire studies have used primarily fire scar data to characterize this PVNG. Mixed-severity fire regimes have high spatial heterogeneity, which would be better captured in a spatial model.

Model Evolution and Comments

Workshop code was DFIR2.

This PVNG replaces the PVNG R2PSMEms from the Great Basin model zone because they are nearly identical and the extent in the Great Basin is largely adjacent to the Northern and Central Rockies.

Peer review incorporated on 03/03/2005. Review comments requested a longer overall fire return interval (from about 35 years to approximately 50 years), which resulted in more mid-development and closed conditions. There is some question about whether larch should be included in this type, as its presence may indicate a different potential natural vegetation group.

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

Class A 10 %

Early1 PostRep

Description

Grass, forbs, seedling to sapling sized aspen, Douglas-fir, western larch, and ponderosa pine.

Dominant Species* and Canopy Position

POTR5
 PICO
 PSME
 LAOC

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	100 %
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 25 %

Mid1 Closed

Description

Closed canopy stand with young pole-sized trees, frequently with an upper age cap. Composition is pure or mixed conifer with Douglas-fir, lodgepole pine western larch, and/or ponderosa pine. Low variability in tree diameters or heights. Aspen may be abundant.

Dominant Species* and Canopy Position

PSME
 PICO
 LAOC
 POTR5

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	40 %	100 %
Height	no data	no data
Tree Size Class	no data	

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

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Class C 15%

Mid1 Open
Description

Open canopy, young stands, frequently with upper age cap. Tree density is low and there is high variability in tree diameters and height. Grassy understory, often with shrubs. Overstory composition can be pure or mixed conifer with Douglas-fir, ponderosa pine, western larch, and/or lodgepole pine.

Dominant Species* and Canopy Position

PSME
PICO
POTR5
LAOC

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	<i>Min</i>	<i>Max</i>
Cover	0 %	40 %
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 30%

Late1 Open
Description

Open canopy, multi-age Douglas-fir forest with western larch, lodgepole pine, subalpine fir, and/or ponderosa pine. Numerous size classes (including large diameters trees) and relatively open understory, often dominated by grass, shrub, and forbs.

Dominant Species* and Canopy Position

PSME
PICO
ABLA
POTR5

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	<i>Min</i>	<i>Max</i>
Cover	0 %	40 %
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 20%

Late1 Closed
Description

Closed canopy, multi-age mixed conifer forest with large diameter Douglas-fir, lodgepole pine, subalpine fir, western larch, and/or ponderosa pine. Usually, there is sparse understory vegetation and high variability in tree size classes.

Dominant Species* and Canopy Position

PSME
ABLA
PICO
LAOC

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	<i>Min</i>	<i>Max</i>
Cover	40 %	100 %
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

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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: 3

- 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.

	<i>Avg FI</i>	<i>Min FI</i>	<i>Max FI</i>	<i>Probability</i>	<i>Percent of All Fires</i>
<i>Replacement</i>	170	80	400	0.00588	28
<i>Mixed</i>	65	50	250	0.01538	72
<i>Surface</i>					
<i>All Fires</i>	47			0.02128	

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