

## 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](http://www.landfire.gov). Please direct questions to [helpdesk@landfire.gov](mailto:helpdesk@landfire.gov).

### Potential Natural Vegetation Group (PNVG):

R0MCCH

Mixed Conifer-Upland Cedar/Hemlock

### General Information

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

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#### Vegetation Type

Forested

#### Dominant Species\*

LAOC

PSME

PIMO3

ABGR

#### General Model Sources

Literature

Local Data

Expert Estimate

#### LANDFIRE Mapping Zones

10 21

19 22

20 29

#### 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

This PNVG occupies moist sites in north-central to northern Idaho and northwestern Montana within the range of western red cedar.

#### Biophysical Site Description

This PNVG occurs on low- to mid-elevation slopes within the montane mesic forest, generally on northerly aspects. It can also occur on east-facing slopes and lower slopes of west- or south-facing aspects in most maritime settings. This is primarily the Thpl/Asca, Tshe/Asca, Thpl/Clun, and Tshe/Clun habitat types, in North Idaho Fire Group 8.

#### Vegetation Description

Forests are typically even-aged (i.e., 1-3 fire-regenerated age classes present in patches) with moderately dense to dense stands dominated by various mixes of confers such as western larch, Douglas-fir, western white pine, grand fir, and western red cedar.

This type corresponds with warm/moderate, moist grand fir, western red cedar, western hemlock habitat types (Pfister et al. 1977).

#### Disturbance Description

Fire Regime Group IV or V. Fire are mostly stand replacing (67%), but mixed severity fires will open the canopy in a patchy nature.

Insects may be stand-replacing or cause patchy canopy openings.

#### Adjacency or Identification Concerns

White pine is almost non-existent today due to blister rust, mountain pine beetle, and logging.

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

This PNVG may be difficult to distinguish from similar mixed conifer types, including those where western larch, grand fir, and Douglas-fir are present. THPL and TSHE habitat type groups (Pfister et al. 1977) on steep north-facing aspects would be indicative of this PNVG.

### Scale Description

Sources of Scale Data  Literature  Local Data  Expert Estimate

Stand replacing disturbances tended to be extensive in area, with mixed severity fires smaller in area. Landscapes will typically be mosaics of single age-class patches resulting from stand-replacement fires.

### Issues/Problems

### Model Evolution and Comments

Peer review incorporated on 4/11/2005. Review resulted in lumping two original models (WPWL and WPGF; later renamed R0WPWL and R0WPGF) into this single type. The original models differed primarily by fire regimes, and fire regimes were adjusted in this final model to match peer review suggestions. Original model FRGs were III and V; the resulting lumped type is FRG IV. Sue Hagle provided input and references regarding insects and disease components of the original models.

## Succession Classes

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

### Class A 15%

Early1 PostRep

#### Description

Post-fire vegetation is shrub dominated with some seedling trees present. After 20 years, this class succeeds to mid-development closed (class B).

#### Indicator Species\* and Canopy Position

CEVE

RIVI

SASC

PIMO3

#### 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 40%

Mid1 Closed

#### Description

Seedlings and saplings of mixed conifer species have overtopped the shrubs and dominate the site. Canopy cover is dense. At 80 years post-fire, this class succeeds to late-closed (class E).

#### Indicator Species\* and Canopy Position

PIMO3

LAOC

ABGR

PSME

#### 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:

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

**Class C 10%**

Mid1 Open

**Description**

Mixed severity fires result in open, patchy stand conditions, and favor western larch where it is present. This condition will succeed to mid-development closed (B) after 25 years, unless mixed severity fires maintain the open condition.

**Indicator Species\* and Canopy Position**

PIMO3  
LAOC  
PSME  
ABGR

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

	Min	Max
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 5%**

Late1 Open

**Description**

Mixed severity fires continue to keep these stands in open condition. Root rot is beginning to remove grand fir from the site, letting cedar dominate the understory. This condition will succeed to late-development closed at 80 years.

**Indicator Species\* and Canopy Position**

PIMO3  
LAOC  
THPL  
ABGR

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

	Min	Max
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 30%**

Late2 Closed

**Description**

As openings regenerate (with high percentage of grand fir and cedar) a multi-storied, dense canopy develops. This class will shift back to open conditions with mixed severity fire, and fill in to closed conditions, until stand replacing fire resets conditions to early seral.

**Indicator Species\* and Canopy Position**

PIMO3  
LAOC  
THPL  
ABGR

**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:

**Disturbances**

**Non-Fire Disturbances Modeled**

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

**Fire Regime Group: 4**

- 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

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

**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>	225	150	300	0.00444	67
<i>Mixed</i>	450	35	500	0.00222	33
<i>Surface</i>					
<i>All Fires</i>	150			0.00668	

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