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)

R0MCCH **Mixed Conifer-Upland Cedar/Hemlock**

General Information

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

Modelers

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Vegetation Type

Forested

Dominant Species*

LAOC
PSME
PIMO3
ABGR

General Model Sources

- [x] Literature
- [x] Local Data
- [x] Expert Estimate

LANDFIRE Mapping Zones

10 21
19 22
20 29

Rapid AssessmentModel Zones

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

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 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).

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).

Dominant 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).

Dominant 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 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.

Dominant 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.

Dominant 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.

Dominant 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

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Disturbances Modeled

- [x] Fire
- [x] 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

- [x] Literature
- [x] Local Data
- [x] Expert Estimate

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

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	225	150	300	0.00444	67
Mixed	450	35	500	0.00222	33
Surface					
All Fires	150			0.00668	

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