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)

R0WERC **Western Red Cedar**

General Information

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

Modelers

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Reviewers

Vegetation Type

Forested

Dominant Species*

THPL
ABGR
LAOC

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

Type occurs in the maritime-influenced zone of Northern Idaho and Northwestern Montana.

Biophysical Site Description

Wet canyon bottoms and toeslopes below 5000 feet elevation; generally small to moderate size "stringer" groves dominated by Thuja plicata that often escape burning during fires on adjacent slopes.

Vegetation Description

Sheltered groves of nearly pure uneven aged T. plicata, with occasional minor associates Abies grandis, Tsuga heterophylla, Larix occidentalis; Understories are usually dominated by low growing forbs and ferns such as Asarum caudatum, Viola orbiculata, Clintonia uniflora, Tiarella trifoliata, Coptis occidentalis, Oplopanax horridum, Athyrium filix-femina, and Adiantum pedatum.

Disturbance Description

Long-interval stand-replacement fire regime (200-500 years) with occasional mixed severity fires (i.e., burn margin effect from fires on adjacent drier slopes).

Adjacency or Identification Concerns

Type transitions to mixed conifer R0MCCH model with increasing slope steepness and elevation.

Scale Description

Sources of Scale Data [x] Literature [x] Local Data [x] Expert Estimate

Stand replacing disturbances tended to be extensive in the surrounding landscape, but smaller patches of mixed severity fire can occur during less-severe fire weather. This vegetation type represents relatively small imbedded "fire refugia," where Thuja plicata groves can persist for 500-1000 years between stand-replacement fires.

Issues/Problems

Should seek reviewer advice about the roles of diseases; root rots and other fungi were important in stand

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

successional patterns & pathways, but mostly for producing local gap phase- openings rather than stand replacement.

Model Evolution and Comments

This type was created based upon peer review feedback after the Rapid Assessment workshop.

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

Post-burn sites dominated by forbs, ferns, and shrubs; tree regeneration generally consists of red cedar & grand fir seedlings to saplings.

Dominant Species* and Canopy Position

CLUN
ADPE
ATFE

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	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:

Class B 40 %

Mid1 Closed

Description

Moderate- to heavy regeneration of pole size red cedar, grand fir, with occasional western larch and other species

Dominant Species* and Canopy Position

THPL
ABGR

LAOC

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	40 %	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:

Class C 5 %

Mid1 Open

Description

Uncommon mid-open successional class resulting after mixed severity fire and blowdowns; dominated by red cedar, grand fir, occasional western larch. The scale of open classes would be primarily local rather than landscape (i.e., gap-phase openings within stands)

Dominant Species* and Canopy Position

THPL
ABGR
LAOC

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	20 %	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:

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Class D 5 %

Late1 Open

Description

Uncommon mid-late open successional class resulting after mixed severity fire, blowdowns, disease; dominated by red cedar, grand fir, occasional western larch. The scale of open classes would be primarily local rather than landscape (i.e., gap-phase openings within stands)

Dominant Species* and Canopy Position

THPL
ABGR

Structure Data (for upper layer lifeform)

	Min	Max
Cover	20 %	40 %
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 40 %

Late1 Closed

Description

Moderately dense- to densely stocked old growth groves dominated by red cedar; generally depauperate understories as a result of heavy shading

Dominant Species* and Canopy Position

THPL
ABGR

Structure Data (for upper layer lifeform)

	Min	Max
Cover	80 %	100 %
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: 5

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	385	75	1000	0.0026	86
Mixed	2500	25	1000	0.0004	13
Surface					
All Fires	334			0.00301	

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