

## 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):

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**

- Literature
- Local Data
- Expert Estimate

**LANDFIRE Mapping Zones**

10	21
19	22
20	29

**Rapid Assessment Model Zones**

- |   |  |
|---|--|
| <input type="checkbox"/> California                 | <input type="checkbox"/> Pacific Northwest |
| <input type="checkbox"/> Great Basin                | <input type="checkbox"/> South Central     |
| <input type="checkbox"/> Great Lakes                | <input type="checkbox"/> Southeast         |
| <input type="checkbox"/> Northeast                  | <input type="checkbox"/> S. Appalachians   |
| <input type="checkbox"/> Northern Plains            | <input type="checkbox"/> Southwest         |
| <input checked="" type="checkbox"/> N-Cent. Rockies |  |

**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 ROMCCH model with increasing slope steepness and elevation.

**Scale Description**

Sources of Scale Data  Literature  Local Data  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.

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

## Issues/Problems

Should seek reviewer advice about the roles of diseases; root rots and other fungi were important in stand 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](http://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.

##### Indicator 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

##### Indicator 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)

##### Indicator 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:

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

**Class D 5%**

Late I 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)

**Indicator Species\* and Canopy Position**

THPL  
ABGR

**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:

**Class E 40%**

Late I Closed

**Description**

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

**Indicator Species\* and Canopy Position**

THPL  
ABGR

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

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

	Min	Max
Cover	80 %	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: 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 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.

**Historical Fire Size (acres)**

Avg:  
Min:  
Max:

**Sources of Fire Regime Data**

- Literature
- Local Data
- Expert Estimate

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement	385	75	1000	0.0026	86
Mixed	2500			0.0004	13
Surface					
All Fires	334			0.00301	

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

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