

## 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):

**R0WBLP** Whitebark Pine and Lodgepole Pine - Upper Subalpine Northern and Central Rockies

### General Information

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

#### Modelers

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#### Vegetation Type

Forested

#### Dominant Species\*

PIAL

ABLA

PIEN

LALY

#### 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

Western Montana and northern Idaho.

#### Biophysical Site Description

Upper subalpine zone (6000-8500 feet) on moderately steep to steep terrain (e.g. 40-70% slope).

#### Vegetation Description

Historically, whitebark pine dominated on southerly aspects, while northerly aspects were dominated by alpine larch or subalpine fir and Engelmann spruce.

#### Disturbance Description

Fire Regime Groups III and IV, primarily long-interval (e.g. 100-200+ year) mixed severity and stand replacement fires. Mountain pine beetle was also an important disturbance process in lodgepole pine and whitebark pine.

#### Adjacency or Identification Concerns

This PNVG corresponds to cold, moist upper subalpine and timberline habitat types (Pfister et al. 1977). Lower subalpine forests border to lower elevations, including lodgepole pine, Douglas-fir, Engelmann spruce, and subalpine fir types.

#### Scale Description

Fires could range from 100's to 1000's of acres.

**Sources of Scale Data**  Literature  Local Data  Expert Estimate

#### Issues/Problems

Empirical data for the upper subalpine forest is generally sparse; quantifying fire regimes, succession, and other disturbances is difficult.

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

## Model Evolution and Comments

This PNVG was created by lumping two original Rapid Assessment models (USAL1/R0WBLPmt and USAL2/R0WBLPid), based on peer review comments (03/16/2005).

### 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 20%

Early1 PostRep

##### Description

Early succession after moderately long to long interval replacement fires, and highly variable interval mixed severity fires. Post-fire tree reproduction dominated by whitebark pine.

##### Indicator Species\* and Canopy Position

PIAL  
PICO

##### 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

Stands dominated by pole-sized (and smaller) shade intolerant and mixed conifers, often wind-stunted.

##### Indicator Species\* and Canopy Position

PIAL  
PICO  
ABLA  
PIEN

##### 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:

#### Class C 25%

Mid1 Open

##### Description

Stands dominated by pole-sized (and smaller) shade intolerant conifers, often wind-stunted.

##### Indicator Species\* and Canopy Position

PIAL  
PICO  
ABLA  
PIEN

##### 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:

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

**Class D 15%**

Late1 Open

**Description**

Pole to large diameter shade intolerant and mixed conifer species, often wind-stunted, in small to moderate size patches generally on southerly aspects.

**Indicator Species\* and Canopy Position**

PIAL  
PICO  
ABLA  
PIEN

**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 15%**

Late1 Closed

**Description**

Pole- to larger diameter shade intolerant and mixed conifer species, often wind-stunted, in small to moderate size patches, especially on sheltered aspects.

**Indicator Species\* and Canopy Position**

PIAL  
PICO  
ABLA  
PIEN

**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: 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 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	360			0.00278	38
Mixed	225			0.00444	61
Surface					
All Fires	138			0.00723	

\*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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