

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. Please direct questions to helpdesk@landfire.gov.

Potential Natural Vegetation Group (PNVG):

R#DFHEdy

Douglas-fir Hemlock-Dry Mesic

General Information

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

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Vegetation Type

Forested

Dominant Species*

PSME
TSHE
THPL
ALRU2

General Model Sources

- Literature
 Local Data
 Expert Estimate

LANDFIRE Mapping Zones

1	8
2	9
7	

Rapid Assessment Model Zones

- | | |
|--|---|
| <input type="checkbox"/> California | <input checked="" 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 type="checkbox"/> N-Cent.Rockies | |

Geographic Range

This type occupies low montane elevations of western Washington and Oregon. In Washington it occurs on the east side of the Olympic Peninsula and along the Ross Lake drainage of the North Cascades. In Oregon this type is found along the upper foothills of the Willamette Valley, and in the eastern Coast Range and western Cascades in Oregon.

Biophysical Site Description

Soils are typically well drained. This type is most common on warm, southerly aspects up to 4000 ft in elevation.

Vegetation Description

Douglas-fir is the most common tree species found in this type. Western hemlock, western red cedar, grand fir, white pine, lodgepole pine, chinquapin are seral associates of this type.

Common understory herbs and shrubs include salal, dwarf Oregon grape, rhododendron, twinflower, vanilla leaf, and swordfern.

Disturbance Description

Fire is the major disturbance process. Mixed severity fires are more common than stand replacing events, occurring at 50-150 year frequencies. Stand replacement fires that reset large landscapes occur at 250-500 year frequencies. This fire regime is largely responsible for the dominance of Douglas-fir in these landscapes.

Insects, pathogens and windthrow also occur in this type at variable intervals, often interacting with drought and other extreme weather conditions. These disturbances affect smaller areas than fire.

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

Adjacency or Identification Concerns

This type is bounded to the south in the Cascades, in lower elevations in the Willamette Valley, and in drier microsities in the Ross Lake drainage by the mixed conifer type. The Douglas-fir Hemlock mesic/wet type occurs upslope and in moist topographic positions within this type's range.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

Although fires are often large (100s-1000 acres), fire severity patterns are quite variable, ranging from underburns to high severity patches within single events. Wind, insects and pathogens can create gaps of various sizes.

Issues/Problems

Model Evolution and Comments

One reviewer suggested that red alder (ALRU2) occurs at wetter sites, and may not be present throughout the PNVG.

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

Class A 5%

Early1 PostRep

Description

Post-stand replacement community consisting of herbs, and/or shrubs such as bracken fern, fireweed, ceanothus. Douglas-fir, western hemlock and western red cedar seedlings may be present.

Indicator Species* and Canopy Position

PTERI
 CHAN9
 PSME
 TSHE

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	<i>Min</i>	<i>Max</i>
<i>Cover</i>	0 %	70 %
<i>Height</i>	no data	no data
<i>Tree Size Class</i>	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Class B 15%

Mid1 Closed

Description

Closed-canopy young forest stands with trees up to 20 inches in diameter, usually conifers (especially Douglas-fir and western hemlock), but with hardwoods in some cases (e.g., chinquapin, bigleaf maple, or cascara). Understory tends to be minimal because of low light levels.

Indicator Species* and Canopy Position

PSME
 TSHE
 ALRU2
 ACMA3

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	<i>Min</i>	<i>Max</i>
<i>Cover</i>	60 %	100 %
<i>Height</i>	no data	no data
<i>Tree Size Class</i>	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 5%

Mid1 Open

Description

These are young forest stands that have been opened up by mixed-severity fire. Trees are up to 20 inches in diameter. The dominant tree species is Douglas-fir. Shrubs such as salal and Oregon grape dominate the understory, although herbs such as vanilla leaf, twinflower, and swordfern may have appreciable cover.

Indicator Species* and Canopy Position

PSME
GASH
MANE2
POMU

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	20 %	60 %
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 15%

Late1 Open

Description

These are mature to old-growth forest stands that have been opened up by mixed-severity fire. The largest trees are greater than 20 inches in diameter. The degree of canopy opening may be sufficient to permit recruitment of shade-intolerant species (e.g., Douglas-fir or western white pine), or may only permit recruitment of western hemlock and other shade-tolerant species. This class has a diverse understory with essentially the same species as class E.

Indicator Species* and Canopy Position

PSME
TSHE
GASH
MANE2

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	20 %	60 %
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 60%

Late1 Closed

Description

These are mature to old-growth forest stands dominated by large individuals (>20 inches in diameter) of Douglas-fir and western hemlock, with advanced regeneration of western hemlock. Understories can be a mixed of shrubs such as salal and Oregon grape, and herbs such as vanilla leaf, twinflower, swordfern, and

Indicator Species* and Canopy Position

PSME
TSHE
GASH
MANE2

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	60 %	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:

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path finder.

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

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>	300	250	500	0.00333	25
<i>Mixed</i>	100	50	150	0.01	75
<i>Surface</i>					
<i>All Fires</i>	75			0.01334	

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