

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)

R#OWOA Oregon White Oak

General Information

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

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Vegetation Type

Woodland

General Model Sources

- Literature
- Local Data
- Expert Estimate

Rapid Assessment Model Zones

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

Dominant Species*

QUGA
PIPO
PSME
RHDI6

LANDFIRE Mapping Zones

1	8
2	9
7	

Geographic Range

This PNVG occurs in Western Oregon & Washington, mostly in the lowlands. The Willamette Valley is the center of the range.

Biophysical Site Description

PNVG occurs in diverse climates, ranging from the cool, humid conditions near the coast to the hot, dry environment of inland valleys and foothill woodlands. Gentle topography; slopes may be steep but are typically gentle (less than 30 percent). Soils are characteristically poor, droughty and moderately to excessively well drained. Climate is Mediterranean, with hot, dry summers and cool, wet winters. Association Elevations range from sea level to 7,500 feet. May include Brewer oak.

Vegetation Description

Oregon white oak dominates a variable stand typically composed of widely spaced large individual trees with less than 35% canopy closure. Some stands in more protected settings could attain larger size and canopy closures. Understory typically perennial bunchgrass and perennial forbs. Other conspicuous species include ponderosa pine and madrone in the south and Douglas-fir in the north. Associated shrub species include poison oak, ceanothus, manzanita and garrya. Grass component includes Romer's fescue, Lemon's needle grass, California oatgrass, bluebunch wheat grass and brome.

Disturbance Description

Fire Regime I, primarily short -interval (e.g., <10 yr) surface fires. Surface fires every 3-10 years maintained an open savannah-like structure. Fires can be mixed severity especially when closed canopy conditions or additional species such as conifers and shrubs are present. Native burning was a significant factor in fire frequency of this type, but return intervals may increase significantly with a little distance from native settlements and valley bottoms.

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

Adjacency or Identification Concerns

In the south end of the range, Mixed Evergreen or Mixed Conifer may be adjacent. In the absence of frequent fire, ingrowth of both conifer and shrub species often occurs.

This PNVG may be similar to the PNVG R1OAWD for the California Model Zone.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

The distribution of this type is naturally patchy on the landscape controlled by soil and aspect along with variable incidence of fire. The result is a typically smaller patch size on the order of 100's of acres.

Issues/Problems

Peer review observed that the model appears to misrepresent the community in SW in regards to oak dominated communities with historically high canopy cover, especially in SW Oregon (Brewer's oak & transition into chaparral). A description of chaparral as a vegetation type adjacent to SW Oregon oak woodlands is necessary to prevent assumptions that chaparral with an oak component were historically more open. Similarly, naturally high canopy cover Brewer's oak communities that likely experienced stand replacement fire as a norm should also be better described. Poor assumptions about historic condition may lead to fuel reduction/restoration projects that detract from historic conditions, at least in a subset of woodland and adjacent communities in SW Oregon.

Model Evolution and Comments

This model was originally developed for Southwest Oregon. After meeting with Jane Kertis, it was expanded to include western OR & WA. Reviewers felt it generally encompasses the range of the species well but there are a wide variety of moisture regimes present in the range.

Succession Classes**															
<i>Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).</i>															
<p>Class A 10 %</p> <p>Early1 PostRep</p> <p><u>Description</u></p> <p>Bunchgrass/forb groundcover with resprouting oak and oak saplings following stand replacement fire.</p>	<p><u>Dominant Species* and Canopy Position</u></p> <p>QUGA4 CECU RHDI CEIN</p> <p><u>Upper Layer Lifeform</u></p> <p><input type="checkbox"/> Herbaceous <input type="checkbox"/> Shrub <input type="checkbox"/> Tree</p> <p><u>Fuel Model</u> no data</p>	<p><u>Structure Data (for upper layer lifeform)</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Min</th> <th style="text-align: center;">Max</th> </tr> </thead> <tbody> <tr> <td>Cover</td> <td style="text-align: center;">0 %</td> <td style="text-align: center;">80 %</td> </tr> <tr> <td>Height</td> <td style="text-align: center;">no data</td> <td style="text-align: center;">no data</td> </tr> <tr> <td>Tree Size Class</td> <td colspan="2" style="text-align: center;">no data</td> </tr> </tbody> </table> <p><input type="checkbox"/> Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:</p>		Min	Max	Cover	0 %	80 %	Height	no data	no data	Tree Size Class	no data		
	Min	Max													
Cover	0 %	80 %													
Height	no data	no data													
Tree Size Class	no data														
<p>Class B 1 %</p> <p>Mid1 Closed</p> <p><u>Description</u></p> <p>> 35% canopy cover oak sapling and pole.</p>	<p><u>Dominant Species* and Canopy Position</u></p> <p>QUGA4 CECU CEIN RHDI</p> <p><u>Upper Layer Lifeform</u></p> <p><input type="checkbox"/> Herbaceous <input type="checkbox"/> Shrub <input type="checkbox"/> Tree</p> <p><u>Fuel Model</u> no data</p>	<p><u>Structure Data (for upper layer lifeform)</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Min</th> <th style="text-align: center;">Max</th> </tr> </thead> <tbody> <tr> <td>Cover</td> <td style="text-align: center;">35 %</td> <td style="text-align: center;">100 %</td> </tr> <tr> <td>Height</td> <td style="text-align: center;">no data</td> <td style="text-align: center;">no data</td> </tr> <tr> <td>Tree Size Class</td> <td colspan="2" style="text-align: center;">no data</td> </tr> </tbody> </table> <p><input type="checkbox"/> Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:</p>		Min	Max	Cover	35 %	100 %	Height	no data	no data	Tree Size Class	no data		
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Class C 20 %

Mid1 Open
Description

< 35% canopy cover sapling and pole oak savanna.

Dominant Species* and Canopy Position

QUGA4
FERO
PIPO
DACA3

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	35 %
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 64 %

Late1 Open
Description

< 35% large oak savanna.

Dominant Species* and Canopy Position

QUGA4
FERO
PIPO
DACA3

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	35 %
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 5 %

Late1 Closed
Description

>35% canopy cover; mixture of large oak, Douglas-fir, ponderosa pine, incense cedar and/or misc shrub.

Dominant Species* and Canopy Position

QUGA4
RHDI
PIPO
PSME

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	35 %	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

- 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: 1

- 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.

	<i>Avg FI</i>	<i>Min FI</i>	<i>Max FI</i>	<i>Probability</i>	<i>Percent of All Fires</i>
<i>Replacement</i>	275			0.00364	4
<i>Mixed</i>	50			0.02	19
<i>Surface</i>	12.5			0.08	77
<i>All Fires</i>	10			0.10364	

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