

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#PIJEsp Pine Savannah - Ultramafic

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*

PIJE
 PIMO
 PSME
 ABMA

LANDFIRE Mapping Zones

1	8
2	9
7	

Geographic Range

This woodland type occurs in Southwest Oregon and Northern California on serpentine soils derived from ultramafic rocks.

Biophysical Site Description

These dry sites are easily recognized due to the serpentine soils, and are more pronounced on southern aspects. At elevations from 200 to 3500 ft ASL, the sites will likely be dominated by Jeffrey pine. White pine occurs at 5000-7000 feet. Soils are usually shallow, and surface rock averages 8-27 percent. However, the defining character for the soil is the mineral nutrition rather than its depth.

This type represents about 20 percent of the total range of Jeffrey pine.

Vegetation Description

Savanna woodland that can be divided into two subtypes: Jeffrey pine and western white pine.

Plant associations PIJE/ARCA5/FEID, PIJE/CECU/FEID. PIJE/FEID. -- Jeffrey pine subtype associated with incense-cedar and Douglas-fir. Herbaceous layer strongly dominated by grasses, notably Idaho fescue, and serpentine-adapted herbs. Occasional ceanothus and manzanita.

Plant association PIMO3/XETE. -- White pine subtype conifer associates include Shasta red fir. Understory dominated by beargrass, with a diversity of herb species common. Herbaceous layer strongly dominated by grasses, notably Idaho fescue, and serpentine-adapted herbs. Occasional ceanothus and manzanita.

Disturbance Description

Historically, these woodland types had frequent low-severity fire (Fire Regime I). However, now there is higher susceptibility to stand replacing fire because of fire exclusion.

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

Adjacency or Identification Concerns

Also found in northern California on similar sites. These woodlands are usually found within a matrix of mixed conifer and mixed evergreen stands. However, their identity lies in the soil conditions, rather than environmental gradients.

This PNVG may be similar to the PNVG R1PIJE from the California model zone.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

Regionally a relatively small part of the landscape, but of great value for plant diversity. Patches in thousands of acres. However, disturbance patches were occasionally smaller in mixed severity fires.

Issues/Problems

Other disturbances in this type include wind-weather-stress, insects-disease, and competition-lack of seed. However, these disturbances were not modeled in VDDT.

Model Evolution and Comments

Note this type is defined as only occurring on ultramafic geology-- model does not apply to Jeffrey pine on other areas.

One reviewer suggests that the range of fire frequency be qualified by the biomass productivity, which is keyed to soil chemistry. Furthermore, this PNVG is considered a 'woodland' type, but it includes some sites that are dominated by shrubs.

[Throughout the model, replacement fires reset to Class A, and surface fires recycle into the same class.]

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

Class A 15 %

Early1 PostRep

Description

Scattered Jeffrey pine and/or white pine and incense-cedar seedlings and saplings with herbaceous understory.

Dominant Species* and Canopy Position

PIJE
PIMO
CADE2

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	30 %
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 45 %

Mid1 Open

Description

Mixed stands of Jeffrey pine and/or white pine with other conifers, typically incense-cedar and Douglas-fir. Park-like.

Dominant Species* and Canopy Position

PIJE
CADE2
PIMO
PSME

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	10 %	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 C 40%

Late I Open
Description

Scattered large Jeffrey pine/white pine maintained by frequent low intensity fire.

Dominant Species* and Canopy Position

PIJE
PIMO

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	Max
Cover	10 %	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 D 0%

Late I Open
Description

Dominant Species* and Canopy Position

Structure Data (for upper layer lifeform)

	Min	Max
Cover	%	%
Height	no data	no data
Tree Size Class	no data	

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

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

Class E 0%

Late I Closed
Description

Dominant Species* and Canopy Position

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	%
Height	no data	no data
Tree Size Class	no data	

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model 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>	200	100	300	0.005	7
<i>Mixed</i>					
<i>Surface</i>	15	10	20	0.06667	93
<i>All Fires</i>	14			0.07168	

References

Atzet, T., D.E. White, L.A. McCrimmon, P.A. Martinez, P.R. Fong, and V.D. Randall. 1996. Field guide to the forested plant associations of Southwestern Oregon. Portland, OR: USDA For. Serv. Tech. Pap. R6-NR-ECOL-TP-17-96.

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