

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)

R0GFDF Grand Fir/Douglas-Fir/Larch Mix

General Information

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

Modelers

Pat Green pgreen@fs.fed.us
Jason Cole jcole@fs.fed.us
Sue Hagle shagle@fs.fed.us

Reviewers

Cathy Stewart cstewart@fs.fed.us
Kris Hazelbaker khazelbaker@fs.fed.us
Jane Kapler Smith jsmith09@fs.fed.us

Vegetation Type

Forested

General Model Sources

- Literature
 Local Data
 Expert Estimate

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 | |

Dominant Species*

PSME
PIPO
ABGR
LAOC

LANDFIRE Mapping Zones

10	21
19	22
20	29

Geographic Range

Northern Rocky Mountains in Idaho, eastern Washington, eastern Oregon, and western Montana. It is very important in Bailey's section M332.

Biophysical Site Description

Below 4500 feet elevation on northerly aspects, and below about 6000 feet only on southerly aspects of slopes > 45%, above the ponderosa pine/Douglas-fir zone. It is on warmer sites than R0GFLP. Soils are underlain by granitics, metamorphics, and minor volcanic rocks. Most have a volcanic ash influenced loess surface layer.

Vegetation Description

Stands range from relatively open to densely stocked, and are usually dominated by a mix of early to mid seral species, including Douglas-fir, western larch, ponderosa pine, with lesser amounts of grand fir, lodgepole pine, and Englemann spruce. Western white pine occurs incidentally at the north end of this PNVG. Lodgepole occurs more frequently at the south end of the zone. Grand fir increases markedly during mid- to late successional stages, in the absence of fire and in response to pathogens that affect other species, like bark beetles. Western larch will be more limited in Bailey's section M332E (southwestern Montana near the MT/ID border).

Stand understories range from moderately open to dense and include queencup beadlily, wild ginger, mountain maple, twinflower, mountain huckleberry, and goldthread.

Disturbance Description

Fire regime group III, with stand replacing fires typically punctuated by more frequent mixed severity fires. Root disease, ips, Douglas fir beetle and western pine beetle are all active in this PNVG. Root disease is less prevalent south of the Salmon river. Fire regimes were probably more mixed and more frequent south of the Salmon River. These areas represent only a small portion of this PNVG in the northern Rockies.

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

Adjacency or Identification Concerns

This PNVG represents the warm/moderately moist grand fir habitat types (Pfister et al. 1977). This PNVG grades into ponderosa pine Douglas-fir at lower elevations and grand fir with more lodgepole pine on cooler areas at higher elevations or more easterly toward the Bitterroot divide. It may be difficult to differentiate this PNVG from ROGFLP and ROWLLPDF, as the three types commonly overlap. This PNVG typically supports more grand fir, Douglas fir, and larch and less surface fire than the adjacent ponderosa pine Douglas-fir types, and less lodgepole pine than other grand fir types. The mosaic of open versus closed canopy is similar between this type and ROGFLP, but the fire return interval is shorter.

This PNVG may be similar to the PNVG R#MCONms from the Pacific Northwest model zone.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

Terrain ranges from highly dissected steep slopes to rolling uplands and plateaus, so both fire and patch sizes may be highly variable, ranging from 10's to 100's acres, with infrequent occurrences of patches of 1000's of acres.

Issues/Problems

Some peer-review comments suggested lumping this type with ROGFLP, as they are often intermingled and may be difficult to discern. They were kept separate, and descriptions enhanced to help identify them in the field.

Model Evolution and Comments

Workshop code was GFDF1.

Sources on historic composition are derived from Losensky (1993) and Sub-basin Assessments from the 1930s (US Department of Agriculture 1997-2003). Additional review provided by Steve Barrett (sbarrett@mtdig.net).

Review comments incorporated on 3/16/2005. As a result of the peer-review process, this type was modified in the following ways:

- Alternative succession pathways to open conditions were eliminated, as these are highly productive sites.
- Mixed fire from late-development classes (D and E) to mid-development open (class C) were eliminated, as fire may not select older trees, but uniformly open the canopy. Mixed fire from both late-development types maintained a late-development open condition.
- Insect and disease pathways were reduced slightly for a total average frequency of 80 years.

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

Class A 20 %

Early1 PostRep

Description

Post stand-replacing fire, lasting about 30 years. This class is initially dominated by resprouting forbs and shrubs, and transitions to seedling and sapling-dominated within 25 years. Douglas-fir, western larch, ponderosa pine and grand fir often establish early. Grand fir and Engelmann spruce may also establish early and

Dominant Species* and Canopy Position

VAGL
ACGL
LIBO
PSME

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:

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densely on north aspects or in riparian areas. Residual large western larch or ponderosa pine often survive all but the most severe fire to serve as seed sources.

Class B 10 %

Mid1 Closed

Description

Pole and immature tree forest of 30 to 100 years. Tree canopy cover of 40 percent or more. Grand fir and Douglas-fir are common dominants. Larch may be reduced by grand fir competition, in the absence of fire.

Dominant Species* and Canopy Position

PSME
ABGR
LAOC
PIPO

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 30 %

Mid1 Open

Description

Pole and immature forest of 30 to 100 years. Tree canopy cover less than 40 percent. Low canopy cover may be due to mixed severity fire, in which case larch, pine and Douglas-fir would be dominant and stand may be one to two storied. Root disease may also result in this class in the absence of fire, but this is of minor occurrence. In this case, if the original stand was primarily Douglas-fir and grand fir, the resultant stand would tend to be multistoried and dominated by grand fir and persistent in the absence of fire.

Dominant Species* and Canopy Position

PSME
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LAOC
PIPO

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:

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Class D 20%

Late I Open

Description

Mature to old growth forest 100 years or more. This class is dominated by ponderosa pine, larch, and Douglas-fir when created or maintained by mixed severity fire.

Dominant Species* and Canopy Position

PSME
LAOC
PIPO
ABGR

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 20%

Late I Closed

Description

Mature to old growth forest 100 years or more. This class is dominated by Douglas-fir, grand fir, western larch, and ponderosa pine, and Engelmann spruce in riparian areas.

Dominant Species* and Canopy Position

ABGR
PSME
LAOC
PIPO

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

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

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 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.

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement	150	100	200	0.00667	29
Mixed	60	3	75	0.01667	71
Surface					
All Fires	43			0.02334	

Sources of Fire Regime Data

- Literature
- Local Data
- Expert Estimate

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