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):

R0LPDFnr Lower Subalpine Lodgepole Pine

General Information

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

<table>
<thead>
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</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

Vegetation Type

- Forested

Dominant Species*

- PICO
- PSEUD7
- ABLA
- PIEN

General Model Sources

- Literature
- Local Data
- Expert Estimate

LANDFIRE Mapping Zones

<table>
<thead>
<tr>
<th>Zone</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>20</td>
<td>29</td>
</tr>
</tbody>
</table>

Rapid Assessment Model Zones

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

Geographic Range

This PNVG spans the entire northern and central Rocky Mountains, from Montana south into Wyoming and eastern Washington east into Montana and Wyoming.

Biophysical Site Description

Lower subalpine zone on gentle to moderately steep terrain (e.g. 10-60% slope).

Vegetation Description

This PNVG corresponds to dry, lower subalpine habitat types (Pfister et al. 1977). Relatively dry sites are generally dominated by lodgepole pine and relatively moist sites are dominated by various combinations of mixed conifers (e.g., lodgepole pine, Douglas-fir, Engelmann spruce, and subalpine fir).

Disturbance Description

Fire Regimes IV and II, moderately long- to long-interval (e.g., 50-300 year) stand replacement- and mixed-severity fires.

Mountain pine beetle would affect the system by both replacing patches (causing transitions to early-development, class A) and by opening up the canopy, causing transitions to mid- and late-development open classes (C and D). Blowdown and other weather-related disturbances would also affect this PNVG.

Adjacency or Identification Concerns

This type is generally below the upper subalpine PNVGs (e.g., R0WBLP, Whitebark Pine-Lodgepole Pine, Upper Subalpine) in elevation and just above mixed conifer types, including lodgepole pine, Douglas-fir, larch, grand fir, and aspen mixes.

Note that west of the Continental Divide, western larch is also a major seral dominant, and it also occurs in

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.
other lower subalpine and mesic montane PNVSs. If larch is present, the PNVG ROWLLPDF-- Western Larch, Lodgepole Pine, Douglas-Fir should be examined.

### Scale Description

<table>
<thead>
<tr>
<th>Sources of Scale Data</th>
<th>Literature</th>
<th>Local Data</th>
<th>Expert Estimate</th>
</tr>
</thead>
</table>

Patch sizes are generally 100's to 1000's acres in variable mosaics.

### Issues/Problems

### Model Evolution and Comments

Workshop code was LSAL1.

Peer review incorporated on 4/11/2005. Comments note that for mapzone 10 (northern Idaho), the insect and pathogen activity may be higher and the proportion of late-development conditions may be less than in the rest of the Northern and Central Rockies Model Zone. Mixed severity fire may be as frequent as 40 MFI in some parts of the Model Zone.

### Succession Classes

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

<table>
<thead>
<tr>
<th>Succession Class</th>
<th>Percent</th>
<th>Early Post Replacement</th>
<th>Description</th>
<th>Indicator Species* and Canopy Position</th>
<th>Structure Data (for upper layer lifeform)</th>
<th>Fuel Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>20%</td>
<td>Early1 PostRep</td>
<td>Shrub and tree sapling dominated early successional community after replacement and relatively severe mixed severity fires. In some early seral conditions there may be higher fine and coarse fuel loads owing to past fire-generated snags and downed wood, making this class burn more readily.</td>
<td>PICO, PSEUD7</td>
<td></td>
<td>no data</td>
</tr>
<tr>
<td>Class B</td>
<td>35%</td>
<td>Mid1 Closed</td>
<td>Shade intolerant- and mixed conifer saplings to poles.</td>
<td>PICO, PSEUD7</td>
<td></td>
<td>no data</td>
</tr>
</tbody>
</table>

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### Class C 15%

**Mid1 Open**  
**Description**  
Primarily shade intolerant saplings to poles.

<table>
<thead>
<tr>
<th>Indicator Species* and Canopy Position</th>
<th>Structure Data (for upper layer lifeform)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PICO</td>
<td>Min</td>
</tr>
<tr>
<td>PSEUD7</td>
<td></td>
</tr>
</tbody>
</table>

- **Upper Layer Lifeform**
  - Herbaceous
  - Shrub
  - Tree

- **Fuel Model**: no data

### Class D 10%

**Late1 Open**  
**Description**  
Moderate- to large-diameter, shade intolerant and mixed conifer species in small to moderate-sized patches, generally on south aspects.

<table>
<thead>
<tr>
<th>Indicator Species* and Canopy Position</th>
<th>Structure Data (for upper layer lifeform)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABLA</td>
<td>Min</td>
</tr>
<tr>
<td>PIEN</td>
<td></td>
</tr>
<tr>
<td>PSEUD7</td>
<td></td>
</tr>
</tbody>
</table>

- **Upper Layer Lifeform**
  - Herbaceous
  - Shrub
  - Tree

- **Fuel Model**: no data

### Class E 20%

**Late1 Closed**  
**Description**  
Moderate- to large-diameter shade intolerant and mixed conifer species, in moderate- to large-size patches, all aspects.

<table>
<thead>
<tr>
<th>Indicator Species* and Canopy Position</th>
<th>Structure Data (for upper layer lifeform)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABLA</td>
<td>Min</td>
</tr>
<tr>
<td>PIEN</td>
<td></td>
</tr>
<tr>
<td>PSEUD7</td>
<td></td>
</tr>
</tbody>
</table>

- **Upper Layer Lifeform**
  - Herbaceous
  - Shrub
  - Tree

- **Fuel Model**: no data

### Disturbances

- **Non-Fire Disturbances Modeled**
  - Insects/Disease
  - Wind/Weather/Stress
  - Native Grazing
  - Competition
  - Other:

- **Fire Regime Group**: 4
  - 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

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8/11/2008  
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**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.

<table>
<thead>
<tr>
<th>Sources of Fire Regime Data</th>
<th>Avg Fi</th>
<th>Min Fi</th>
<th>Max Fi</th>
<th>Probability</th>
<th>Percent of All Fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement</td>
<td>170</td>
<td>50</td>
<td>200</td>
<td>0.00588</td>
<td>72</td>
</tr>
<tr>
<td>Mixed</td>
<td>450</td>
<td>40</td>
<td>500</td>
<td>0.00222</td>
<td>27</td>
</tr>
<tr>
<td>Surface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Fires</td>
<td>123</td>
<td></td>
<td></td>
<td>0.00811</td>
<td></td>
</tr>
</tbody>
</table>

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