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)

R0LPSFcr **Lower Subalpine, Wyoming and Central Rockies**

General Information

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

Modelers		Reviewers	
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Vegetation Type

Forested

Dominant Species*

PICO
PIEN
ABLA

General Model Sources

- ☐ Literature
- ☐ Local Data
- ☐ Expert Estimate

LANDFIRE Mapping Zones

10	21
19	22
20	29

Rapid AssessmentModel Zones

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

Geographic Range

Common in the mountains of Wyoming in the upper montane and lower subalpine zones.

Biophysical Site Description

This PNVG occurs at approximately 8,000 feet (above foothill forests dominated by ponderosa pine and Douglas-fir) to 9,500 ft. This type is restricted to north slopes at lower elevations. Slopes may be gentle to moderately steep (e.g. 0-60% slope).

Vegetation Description

Lodgepole pine, Engelmann spruce, and subalpine fir are the dominants of this PNVG. Lodgepole pine is more common on drier sites and spruce and fir are more common on more mesic sites (such as north-facing slopes). Common associated species include aspen, grouse whortleberry, common juniper, heartleaf arnica, russet buffaloberry, elk sedge, and various grasses.

Disturbance Description

Fire Regime Group V or IV, but primarily moderately long- to long-interval stand replacement fires. Mixed-severity and surface fires may occur rarely in small patch sizes (i.e., <1,000s of acres) for this group, but are not modeled here.

Insects (mountain pine beetle) affect approximately 0.1% of the landscape every year and will either open the canopy, (maintaining or causing a transition to classes C and D), or replace the vegetation, causing a transition to early-development conditions (class A). Stand replacing insect outbreaks typically only occur in closed-canopy forests (classes B and E).

Blowdown events occur rarely (once every 1000 years), and are replacement events, causing a transition to early-development conditions (class A).

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

Adjacency or Identification Concerns

In Wyoming, this group is adjacent to lodgepole pine and Upper Subalpine groups, and will be found above Douglas-fir and Ponderosa types in elevation. Vegetation classes may vary significantly.

Scale Description

Sources of Scale Data ☑ Literature ☑ Local Data ☑ Expert Estimate

Patch sizes are generally 1,000's to 10,000's acres in variable mosaics, including forest land and meadows. Landscape are never in equilibrium , except possibly considering very large areas that exceed 300,000 acres.

Issues/Problems

This system will be highly heterogeneous and dynamic; this system has a very wide range of variability.

Model Evolution and Comments

Workshop code was LSAL2.

Additional edits from Dennis Knight and peer review incorporated on 4/11/2005. Peer review resulted in no changes to the model.

*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

Range of 3-50% of a landscape, depending on climatic conditions and size of landscape. Early succession after moderately long- to long interval replacement fires. Buttery and Gillam's (1987) HSS 1,2.

Dominant Species* and Canopy Position

PICO
PIEN
ABLA

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:

Class B 30 %

Mid1 Closed

Description

Range of 5-50% of a landscape, depending on climatic conditions and size of landscape. Saplings to poles. Buttery and Gillam's (1987) HSS 3B, 3C. Includes classic "Dog Hair" stands.

Dominant Species* and Canopy Position

PICO
PIEN
ABLA

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:

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

Class C 15 %

Mid1 Open

Description

Range of 3-50% of a landscape, depending on climatic conditions and size of landscape. Saplings to poles. Buttery and Gillam's (1987) HSS 3A.

Dominant Species* and Canopy Position

PICO
PIEN
ABLA

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 D 5 %

Late1 Open

Description

Range of 2-15% of a landscape, depending on climatic conditions and size of landscape. Edaphic conditions control the density of this class. Moderate- to large-diameter mixed conifer, generally on south aspects and shallow, intermittent rocky soils.

Dominant Species* and Canopy Position

PICO
PIEN
ABLA

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 30 %

Late1 Closed

Description

Range of 15-50% of a landscape, depending on climatic conditions and size of landscape. Moderate- to large-diameter trees largely on mesic sites (e.g. north slopes).

Dominant Species* and Canopy Position

PICO
PIEN
ABLA

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

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

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: **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

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	175	30	300	0.00571	100
Mixed					
Surface					
All Fires	175			0.00573	

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