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):

R3DGRAst　　　　　　**Desert Grassland with Shrub and Tree**

General Information

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

Modelers		Reviewers	
Mike Babler	mbabler@tnc.org	Reese Lolley	rlolley@tnc.org
		Tim Christiansen	tchristiansen@tnc.org

Vegetation Type

Grassland

Dominant Species*

BOGR2
PLMU3
PLEUR12

General Model Sources

☑ Literature
☑ Local Data
☑ Expert Estimate

LANDFIRE Mapping Zones

14	24	28
15	25	
23	27	

Rapid Assessment Model Zones

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

Geographic Range

Interior Southwest, AZ, NM and Southern Great Plains to West TX.

Biophysical Site Description

This type typically occurs in foothills where the plains transition to foothills and mountain landforms.

Vegetation Description

Vegetation is grassland dominated by blue gramma, tobosa grass, and galleta grass with intermingled forbs and half-shrubs. Within the natural disturbance and succession regime trees (pinyon, juniper, long needle pines, oak, mahogany, mesquite) are a minor component (less than 5%) of this type, typically occurring on rock outcrops or edges of steep draws and ravines. However, if fire is substantially reduced or excluded trees and shrubs will encroach and substantially increase.

Disturbance Description

Fire regime group II, frequent replacement. The mean fire interval is about 10 years with high variation due to drought, which reduces fire frequency and moist periods that increase fire frequency. Grazing of the grassy fuels by large ungulate herds (buffalo) also substantially influenced fire mosaic patterns in this type. This type typically burns during the late spring (May, June, early July) and fall (late September, October, November) in association with the hot, dry periods that follow the winter and late spring (December through April) rainy season and summer (late July, August, early September) monsoon season.

Adjacency or Identification Concerns

Scale Description

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

Large Patch, 50-2000 ha.

Issues/Problems

Model Evolution and Comments

This model is based on DGRA2 and DGRA3, Wendel Hann 9/25/2005. Original models were reviewed by Tim Christiansen and Reese Lolley, Albuquerque, Oct 2004. The two models were combined by Mike Babler, mbabler@tnc.org, as suggested by Tim Christiansen to create R3DGRAst.

Succession Classes

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

Class A   5%

Early1 All Structures

Description

Dominated by resprouts of desert grassland species and post-fire associated forbs and half-shrubs. This type typically occurs where fires burn relatively hot in classes B, D, or E.

Indicator Species* and Canopy Position

BOGR2   Upper
PLMU3   Upper
PLEUR12 Upper

Upper Layer Lifeform
☑ Herbaceous
☐ Shrub
☐ Tree

Fuel Model 1

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	40 %
Height	Herb Short <0.5m	Herb Short <0.5m
Tree Size Class	no data	

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

Class B   15%

Mid1 Closed

Description

Greater than 40 percent grasses and forbs; generally associated with productive soils on gentle slopes, flats, and mesa tops.

Indicator Species* and Canopy Position

BOGR2   Upper
PLMU3   Upper
PLEUR12 Upper

Upper Layer Lifeform
☑ Herbaceous
☐ Shrub
☐ Tree

Fuel Model 1

Structure Data (for upper layer lifeform)

	Min	Max
Cover	40 %	100 %
Height	Herb Short <0.5m	Herb Medium 0.5-0.9m
Tree Size Class	no data	

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

Class C   60%

Mid1 Open

Description

Less than 40 percent grasses and forbs generally associated with gravelly and cobbly soils of the steeper more rugged slopes.

Indicator Species* and Canopy Position

BOGR2   Upper
PLMU3   Upper
PLEUR12 Upper

Upper Layer Lifeform
☑ Herbaceous
☐ Shrub
☐ Tree

Fuel Model 1

Structure Data (for upper layer lifeform)

	Min	Max
Cover	0 %	40 %
Height	NONE	NONE
Tree Size Class	no data	

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

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

Class D   15%

Late1 Open
Description
5-15 percent cover of mature pinyon, juniper, mature oaks, mahogany, mesquite, sagebrush, yucca, opuntia, saltbush, and other shrub species.

Indicator Species* and Canopy Position

BOGR2	Middle
PLMU3	Middle
PLEUR12	Middle

Upper Layer Lifeform
☐ Herbaceous
☐ Shrub
☑ Tree

Fuel Model   1

Structure Data (for upper layer lifeform)

	Min	Max
Cover	5 %	15 %
Height	None	Tree Short 5-9m
Tree Size Class	Medium 9-21"DBH	

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

Grasses and forbs are dominant cover. Trees and woody shrubs included at <15% cover.

Class E   5%

Late1 Closed
Description
Greater than 15 percent cover of pinyon, juniper, long needle pines, oaks, mahogany, mesquite, oaks, mahogany, mesquite, sagebrush, yucca, opuntia, saltbush, other tree and shrub species; typically have multiple layers with young ingrowth and thick litter/duff accumulation; often associated with small areas that escape 1-3 fire cycles because of grazing patterns or terrain; typically occurs on the more productive soils; can become somewhat fire resistant as a result of dense shade over thick litter, but during dry years when this type burns it burns very hot.

Indicator Species* and Canopy Position

BOGR2	Middle
PLMU3	Middle
PLEUR12	Middle

Upper Layer Lifeform
☐ Herbaceous
☐ Shrub
☑ Tree

Fuel Model   1

Structure Data (for upper layer lifeform)

	Min	Max
Cover	15 %	30 %
Height	NONE	Tree Short 5-9m
Tree Size Class	Medium 9-21"DBH	

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

Grasses and forbs are dominant cover. Tree cover will be greater than 15%, but would not exceed 30%.

Disturbances

Non-Fire Disturbances Modeled

☐ Insects/Disease
☐ Wind/Weather/Stress
☐ Native Grazing
☐ Competition
☐ Other:
☐ Other:

Fire Regime Group: 2
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

Historical Fire Size (acres)

Avg:

Min:

Max:

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.

Sources of Fire Regime Data

☑ Literature
☐ Local Data
☑ Expert Estimate

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement	12			0.08333	85
Mixed	70			0.01429	15
Surface					
All Fires	10			0.09763	

References

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