

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)

R3SDSH Salt Desert Scrubland

General Information

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

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Vegetation Type

Shrubland

General Model Sources

- Literature
 Local Data
 Expert Estimate

Rapid Assessment Model Zones

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

Dominant Species*

ATRIP

LANDFIRE Mapping Zones

14 24 28
15 25
23 27

Geographic Range

Inter-mountain west with limited distribution to the east into southern Great Plains, and south into Chihuahuan and Sonoran regions. Distribution by states include AZ, CA, CO, ID, MT, NM, NV, OR, TX, UT, WA, WY (NatureServe 2004).

Biophysical Site Description

This type typically occurs on poorly drained lands, such as flats, borders of playas, undrained catchment areas, and at the base of draws or fans where salts tend to accumulate and substrates are typically fine-textured.

Vegetation Description

Vegetation is shrubland with saltbush (*Atriplex* spp.) occurring throughout this types range. Other dominant species can include greasewood (*Sarcobatus vermiculatus*), bud sagebrush (*Picrothamnus desertorum*), winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), and saltgrass (*Distichlis* spp.) with intermingled forbs. Floristic differences occur between the inter-mountain west and Chihuahuan and Sonoran distribution. This type correlates with Kuchler's (1964) type 40. Associated with existing vegetation Terrestrial Ecological Classifications: Chihuahuan Mixed Salt Desert Scrub (S116 or CES302.017), Inter-Mountain Basins Mixed Salt Desert Scrub (CES304.78 or S065), Intermountain Basins Greasewood Flat (S096 or CES304.780) but may not be limited to these divisions (NatureServe. 2004).

Disturbance Description

Fire regime group III, infrequent mixed. The mean fire interval is about 30 years with high variation due to periods of drought and poorly drained and fine textured soils that can range from wet to extremely droughty. Saltgrass production is highly variable in relation to moisture availability. Flammability of shrubs varies depending on drought. This complex interaction tends to reduce fire frequency during both moist and drought periods, with increase frequency during intermediate conditions. Grazing of the grassy fuels by

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

large ungulates can substantially influenced fire mosaic patterns in this type. In moist years these areas may produce green forage when upland forage has cured out.

Adjacency or Identification Concerns

Likely less than three percent of total SW area. Likely adjacent to playas, barren land, and desert shrub (R3DESH).

This PNVG may be very similar to the PNVG R2SDSH from the Great Basin model zone, but fire regimes differ significantly due to changes in dominant species, climatic patterns, and geographic variability.

Scale Description

Sources of Scale Data Literature Local Data Expert Estimate

This type is often ecotonal to catchment areas, it often can occur in patches that are linear; however, patches can also have low amount of edge and large interior.

Issues/Problems

Information concerning fire regime is largely anecdotal.

Model Evolution and Comments

Peer review suggested a much longer fire return interval (e.g., 1000 year MFI, Fire Regime Group V) and adopting other salt desert shrub models from other regions. However, based potential geographic variability and the local southwestern data that contributed to this model, it was left unchanged. It should, however, be compared to similar models from the Northern and Central Rockies (R0SDSH) or Great Basin (R2SDSH) if local fire regimes are considered longer.

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 PostRep

Description

Dominated by resprouts of shrubs and saltgrass and post-fire associated forbs. This type typically occurs where fires burn relatively hot in classes B and C.

Dominant Species* and Canopy Position

ATRIP

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

| | Min | Max |
|-----------------|---------|---------|
| Cover | 5 % | 20 % |
| 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 65%

Late1 Open

Description

Total cover up to 50 percent with shrub comprising more than 15 percent and grasses 20-30 percent grass and forb cover. Generally associated with flats and transition to upland slopes and benches that have less accumulated salts and clay.

Dominant Species* and Canopy Position

ATRIP

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

| | Min | Max |
|-----------------|---------|---------|
| Cover | 30 % | 50 % |
| 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 30%

Late2 Open
Description

Less than 15 percent shrub cover, and less than 20 percent grass and forb cover.

Generally associated with very poorly drained areas with high accumulated salts and clays or very dry areas. This state generally does not obtain the cover of state B.

Dominant Species* and Canopy Position

ATRIP

Upper Layer Lifeform

- Herbaceous
- Shrub
- Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

| | Min | Max |
|-----------------|---------|---------|
| Cover | 15 % | 35 % |
| 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%

Late1 Open
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:

Class E 0%

Late1 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 | 13 |
| <i>Mixed</i> | 31 | 20 | 100 | 0.03226 | 87 |
| <i>Surface</i> | | | | | |
| <i>All Fires</i> | 27 | | | 0.03727 | |

References

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