Biophysical Site Description

Ocurs on mesic sites on gentle to steep slopes. This type may be found on all aspects between elevations of 7,500 to 10,000 ft., although it may occur at lower elevations in the northern parts of its range.

Vegetation Description

Mountain shrub communities vary greatly between the eastern and western Great Basin. Dominant shrubs include Symphoricarpos, Amelanchier, and Prunus on mesic sites, with more Artemisia tridentata var. vaseyana, and Holodiscus on dry sites. In Utah, true mountain mahogany (Cercocarpus montanus) is a resprouting shrub that sometimes dominates this PNVG. Ribes, Acer, mountain ash (Sorbus scopulina), and Chrysothamnus are less common. Grasses and forbs may be abundant and patchy. Trees include pinyon pine, juniper, and limber pine. Douglas fir, white fir, and lodgepole pine may be found on more mesic sites.

Disturbance Description

Fire: This is a fire-dependent system, and is strongly influenced by the fire regime of the surrounding shrublands. Dominant species are resprouters (Anderson 2001, Esser 1995, Howard 1997, Uchytill 1990, Zlatnik 1999). Average FRIs vary between 100-200 yrs with longer intervals for older stands. The average mixed severity FRI varies between 25 yrs for younger stands to 100 yrs for older stands with greater tree encroachment.

Avalanche/rockslide: Sites on steep slopes experience rockslides and avalanches that favor resprouting shrubs.

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.
Weather/stress: Severe weather event, such as frost, can cause replacement type mortality every 200 yrs on average.

**Adjacency or Identification Concerns**
This type occurs in association or complex with mountain big sagebrush, although mountain shrublands are differentiated here by greater diversity.

This PNVG may be similar to the PNVG R3MSHB for the Southwest model zone, but the proportions of mixed versus replacement fire are opposite in the two regions, probably due to differences in weather and lightning patterns. This PNVG may also be similar to the PNVG R0MTSB for the Northern and Central Rockies model zone, but the Great Basin model has much more frequent fire and more mixed severity fire. There is discrepancy among experts about the amount of mixed severity fire in this system.

**Scale Description**
Usually, this community occurs on a small scale, on mesic sites near or within the mountain big sagebrush zone. However, it may occur on mesic sites outside this zone.

**Issues/Problems**
Dwarf aspen, willows, and alder may be present on moist sites. If those species are dominant, an aspen or riparian model would be more appropriate. Fire regime group is II and III, however FRG III is more likely.

**Model Evolution and Comments**

<table>
<thead>
<tr>
<th>Succession Classes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class A</strong></td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Early1 PostRep</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Grasses and forbs are abundant, as are resprouting shrubs. Shrub seedlings are also present. Replacement fire every 100 yrs and severe weather related mortality will reset the ecological clock to zero. Succession from classes A to B after 5 yrs.</td>
<td></td>
</tr>
<tr>
<td>Indicator Species* and Canopy Position</td>
<td>SYMPH</td>
<td>AMELA</td>
</tr>
<tr>
<td>Structure Data (for upper layer lifeform)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>Max</td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
<td></td>
</tr>
<tr>
<td>Upper Layer Lifeform</td>
<td>□ Herbaceous</td>
<td>□ Shrub</td>
</tr>
<tr>
<td>Fuel Model</td>
<td>no data</td>
<td></td>
</tr>
</tbody>
</table>

| **Class B** | 20% | |
| Mid1 Closed | | |
| **Description** | Shrub species are dominant, and grasses and forbs may be present, especially in gaps between shrubs. Many shrubs are small and immature. Both replacement fire every 100 yrs and severe weather related mortality every 200 yrs will cause a transition to class A. Mixed | |
| Indicator Species* and Canopy Position | SYMPH | AMELA | HOLOD | PRUNU | |
| Structure Data (for upper layer lifeform) | | | | | |
| Min | Max | | |
| Cover | 10% | 50% | | |
| Height | no data | no data | | |
| Tree Size Class | no data | | | |
| Upper Layer Lifeform | □ Herbaceous | □ Shrub | □ Tree | | |
| Fuel Model | no data | | | |

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.*
severity fire every 25 yrs will cause a transition from class B to itself, but this transition has no effect on successional dynamics. Succession to C after 15 yrs.

**Class C  65 %**

Late1 Closed

**Description**

Shrubs are dominant, with little decadence. Grasses and forbs may be present. Small tree seedlings may be present. Shrubs are larger and many are reproducing. Fire and severe weather events return interval are as in class B. Class C is the succession endpoint. However, vegetation will transition to class D in the absence of fire for 60 yrs (three FRIs).

**Indicator Species* and Canopy Position**

SYMPH  
AMELA  
PRUNU  
HOLOD

**Upper Layer Lifeform**

- [ ] Herbaceous  
- [ ] Shrub  
- [ ] Tree  

**Fuel Model**  no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>25 %</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

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

**Class D  10 %**

Late2 Open

**Description**

Shrubs are dominant, with more decadence. Trees are over-topping the shrub canopy. Vegetation is considered open because trees do not form a close canopy. FRIs are longer in this class. Replacement fire every 200 yrs and severe weather every 200 yrs will cause transitions to A. Mixed severity fire every 100 yrs simply maintains vegetation in class D, which is the endpoint for succession without stand replacement fire.

**Indicator Species* and Canopy Position**

JUNIP  
PIFL2  
ARTR2  
HOLOD

**Upper Layer Lifeform**

- [ ] Herbaceous  
- [ ] Shrub  
- [ ] Tree  

**Fuel Model**  no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>5 %</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

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

**Class E  0 %**

Late1 Closed

**Description**

**Indicator Species* and Canopy Position**

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>0 %</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

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

Mixed

Surface

Literature

Local Data

Expert Estimate

Insects/Disease

Wind/Weather/Stress

Competition

Other:

References


**Sources of Fire Regime Data**

### Upper Layer Lifeform
- [ ] Herbaceous
- [ ] Shrub
- [ ] Tree

### Fuel Model
- [ ] no data

### Disturbances

#### Non-Fire Disturbances Modeled
- [ ] Insects/Disease
- [X] Wind/Weather/Stress
- [ ] Native Grazing
- [ ] Competition
- [ ] Other:

#### 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 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.

#### Historical Fire Size (acres)

- Avg:
- Min:
- Max:

#### Fire Regime

- [ ] Literature
- [ ] Local Data
- [X] Expert Estimate

#### Disturbances

<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>105</td>
<td>100</td>
<td>200</td>
<td>0.00952</td>
<td>22</td>
</tr>
<tr>
<td>Mixed</td>
<td>29</td>
<td>25</td>
<td>100</td>
<td>0.03448</td>
<td>78</td>
</tr>
<tr>
<td>All Fires</td>
<td>23</td>
<td></td>
<td></td>
<td>0.04402</td>
<td></td>
</tr>
</tbody>
</table>

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