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Rocky Mountain Aspen Forest and Woodland

BpS Model/Description Version: Aug. 2020

Modelers		Reviewers	
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None	None	None	None

Vegetation Type

Forest and Woodland

Map Zone

9

Geographic Range

This model is for LANDFIRE map zone (MZ) 9. Aspen does not occur enough in LANDFIRE MZ08 to warrant a model. In MZ09, aspen occurs in scattered small patches of <10ac and is somewhat more extensive in riparian zones. Extensive areas of aspen (100s of acres) in this zone are rare. Steens Mountain provides an example of an extensive area, as does the Unity District of the Wallowa Whitman NF.

Biophysical Site Description

Commonly on moderate, mid-elevation slopes as small, scattered inclusions in the Douglas-fir ponderosa pine biophysical setting (BpS). Also in riparian zone at lower elevations. Primarily occurs in the mid-elevation zone (3,000-5,000ft).

Vegetation Description

Small, scattered patches of aspen. In the existing vegetation condition, Douglas-fir, grand fir, and ponderosa pine are common in these stands because of fire exclusion; aspen is often decadent.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
POTR5	<i>Populus tremuloides</i>	Quaking aspen

Species names are from the NRCS PLANTS database. Check species codes at <http://plants.usda.gov>.

Disturbance Description

Historically burned as part of a mixed-severity vegetation mosaic with Douglas-fir and ponderosa pine.

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement	59	46	50	300
Moderate (Mixed)	50	54	20	60
Low (Surface)				
All Fires	27	100		

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. Percent of all fires is the percent of all fires modeled in that severity class. Minimum and Maximum FIs show the relative range of fire intervals as estimated by model contributors, if known.

Scale Description

Primarily at fine scale (<10ac) in this MZ. A few areas in the 100s of acres. This is a rare map unit in this zone; normally, aspen is a fine-scale component mapped as part of another BpS.

Adjacency or Identification Concerns

Issues or Problems

Map only where aspen occurs in large enough areas to represent a range of aspen seral stages.

Native Uncharacteristic Conditions

Comments

During the 2017 BpS Review Kori Blankenship found that the reported fire frequency and succession class percents did not match the modeled results. It was unclear why the results differed. Blankenship was able to produce similar results by changing the modeled Alt Succession probability from .25 to .0125.

LANDFIRE National quality control resulted in changing the minimum height of Class C from 5.1m to 10.1m to distinguish from Class B.

Succession Classes

Mapping Rules

Upper Layer Lifeform	Height (m)	Canopy Cover (%)									
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Herb	0-0.5	A	A	A	A	A	A	A	A	A	A
Herb	0.5-1.0	A	A	A	A	A	A	A	A	A	A
Herb	>1.0	A	A	A	A	A	A	A	A	A	A
Shrub	0-0.5	A	A	A	A	A	A	A	A	A	A
Shrub	0.5-1.0	A	A	A	A	A	A	A	A	A	A
Shrub	1.0-3.0	A	A	A	A	A	A	A	A	A	A
Shrub	>3.0	A	A	A	A	A	A	A	A	A	A
Tree	0-5	A	A	A	A	A	A	A	A	A	A
Tree	5-10	D	D	D	D	B	B	B	B	B	B
Tree	10-25	D mix	D mix	D mix	D mix	E mix	E mix	E mix	E mix	E mix	E mix
Tree	10-25	D con	D con	D con	D con	E con	E con	E con	E con	E con	E con
Tree	10-25	D brdlf	D brdlf	D brdlf	D brdlf	C brdlf	C brdlf	C brdlf	C brdlf	C brdlf	C brdlf
Tree	25-50	E	E	E	E	E	E	E	E	E	E
Tree	>50	E	E	E	E	E	E	E	E	E	E

Succession class letters A-E are described in the Succession Class Description section. Some classes use a leafform distinction where a qualifier is added to the class letter: Brdl (broadleaf), Con (conifer), or Mix (mixed conifer and broadleaf). UN refers to uncharacteristic native or a combination of height and cover that would not be expected under the reference condition. NP refers to not possible or a combination of height and cover which is not physiologically possible for the species in the BpS.

Description

Class A	48	Early Development 1 - All Structures
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
POTR5	Populus tremuloides	Quaking aspen	Upper

Description

Aspen suckers and saplings. Grass and forbs present.

Maximum Tree Size Class

Seedling <4.5ft

Class B	22	Mid Development 1 - Closed
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
POTR5	Populus tremuloides	Quaking aspen	Upper

Description

Aspen >6ft tall dominate. Canopy cover highly variable. Mixed-severity fire consumes litter and woody debris and may stimulate suckering.

Maximum Tree Size Class

Sapling >4.5ft; <5" DBH

Class C	13	Mid Development 2 - Closed
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
POTR5	Populus tremuloides	Quaking aspen	Upper

Description

True stable aspen trees 5-16in DBH. Solid aspen stands, no evergreens. Canopy cover is highly variable. The fire return interval of mixed-severity fire does not change with age.

Maximum Tree Size Class

Medium 9-21" DBH

Class D	14	Late Development 1 - All Structures
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Indicator Species

Alternative Succession	Mid1:CLS	Mid2:CLS	0.0125	80	Yes	0
Replacement Fire	Mid1:CLS	Early1:ALL	0.017	59	Yes	0
Mixed Fire	Mid1:CLS	Mid1:CLS	0.02	50	No	0
Insects or Disease	Mid2:CLS	Mid1:CLS	0.005	200	Yes	0
Replacement Fire	Mid2:CLS	Early1:ALL	0.017	59	Yes	0
Mixed Fire	Mid2:CLS	Mid2:CLS	0.02	50	No	0
Replacement Fire	Late1:ALL	Early1:ALL	0.017	59	Yes	0
Mixed Fire	Late1:ALL	Late1:ALL	0.02	50	No	0
Insects or Disease	Late1:CLS	Late1:ALL	0.003	333	Yes	0
Replacement Fire	Late1:CLS	Early1:ALL	0.017	59	Yes	0
Mixed Fire	Late1:CLS	Late1:ALL	0.02	50	Yes	0

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