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Inter-Mountain Basins Greasewood Flat

BpS Model/Description Version: Aug. 2020

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Vegetation Type

Mixed Upland and Wetland

Map Zones

28

Geographic Range

Occurs throughout much of the western US in intermountain basins and extends onto the western Great Plains.

Biophysical Site Description

Typically occurs near drainages, on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils, shallow water table and flood intermittently, but remain dry for most growing seasons. The water table remains high enough to maintain vegetation, despite salt accumulations.

Vegetation Description

This system sometimes occurs as a mosaic of multiple communities, with open to moderately-dense shrublands dominated or co-dominated by *Sarcobatus vermiculatus* (greasewood). *Atriplex canescens*, *Atriplex confertifolia* (shadscale) or *Krascheninnikovia lanata* (winterfat) may be present or co-dominant. Occurrences are often surrounded by mixed salt desert scrub. Herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of *Sporobolus airoides* (alkali sacaton), *Distichlis spicata* (saltgrass) or *Eleocharis palustris* (spikerush).

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
SARCO	<i>Sarcobatus</i>	Greasewood
DISTI	<i>Distichlis</i>	Saltgrass
SPAI	<i>Sporobolus airoides</i>	Alkali sacaton
ATCA2	<i>Atriplex canescens</i>	Fourwing saltbush

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

Disturbance Description

Historically, fire was extremely infrequent. May be killed by standing water that lasts greater than 40 days. Vigorous resprouts follow low to moderate severity fires, although severe fires may result in some mortality. Some re-seeding may occur from nearby remnant plants. Drought impacts greasewood communities by lowering the water table, and mortality may result.

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement	204	100	100	800
Moderate (Mixed)				
Low (Surface)				
All Fires	204	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

Large patch, tens to hundreds of acres

Adjacency or Identification Concerns

May have been completely overtaken by non-native annual grasses (cheatgrass and red brome). Cheatgrass and red brome invasion have resulted in higher fire frequencies.

Issues or Problems

The precise effects of flooding (ie, whether a transition from class C to class A or B would occur) are unknown, and were difficult to model here.

Native Uncharacteristic Conditions

Comments

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	B	B	C	C	C	C	C	C
Shrub	0.5-1.0	A	A	B	B	C	C	C	C	C	C
Shrub	1.0-3.0	A	A	B	B	C	C	C	C	C	C
Shrub	>3.0	A	A	B	B	C	C	C	C	C	C
Tree	0-5	C	C	C	C	C	UN	UN	UN	UN	UN
Tree	5-10	C	C	C	C	C	UN	UN	UN	UN	UN
Tree	10-25	C	C	C	C	C	UN	UN	UN	UN	UN
Tree	25-50	C	C	C	C	C	UN	UN	UN	UN	UN
Tree	>50	C	C	C	C	C	UN	UN	UN	UN	UN

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	3	Early Development 1 - All Structures
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
DISTI	Distichlis	Saltgrass	Lower
SPAI	Sporobolus airoides	Alkali sacaton	None
SARCO	Sarcobatus	Greasewood	Lower

Description

Some grasses, with greasewood sprouts present. Some representation of other sprouting species may be present (creosotebush and rabbitbrush). Grass species varies geographically.

Maximum Tree Size Class

None

Class B	29	Mid Development 1 - Open
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
SARCO	Sarcobatus	Greasewood	Upper
DISTI	Distichlis	Saltgrass	Lower
SPAI	Sporobolus airoides	Alkali sacaton	Lower

Description

Greasewood shrubs are maturing, with a good mix of perennial grasses. Other shrub species that may be found with greasewood include: creosotebush and rabbitbrush, and in transition zones, may occur with various sagebrush species and salt desert shrub vegetation.

Maximum Tree Size Class

None

Class C	68	Late Development 1 - Open
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Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
SARCO	Sarcobatus	Greasewood	Upper
DISTI	Distichlis	Saltgrass	Lower
SPAI	Sporobolus airoides	Alkali sacaton	Lower

Description

Greasewood shrubs have reached maturity, and will increase canopy closure. Perennial grasses will still be in the understory.

Maximum Tree Size Class

None

Model Parameters

Deterministic Transitions

From Class	Begins at (yr)	Succeeds to	After (years)
Early1:ALL	0	Mid1:OPN	2
Mid1:OPN	3	Late1:OPN	20
Late1:OPN	21	Late1:OPN	999

Probabilistic Transitions

Disturbance Type	Disturbance occurs In	Moves vegetation to	Disturbance Probability	Return Interval (yrs)	Reset Age to New Class Start Age After Disturbance?	Years Since Last Disturbance
Replacement Fire	Mid1:OPN	Early1:ALL	0.005	200	Yes	0
Wind or Weather or Stress	Mid1:OPN	Early1:ALL	0.013	77	Yes	0
Replacement Fire	Late1:OPN	Early1:ALL	0.005	200	Yes	0
Wind or Weather or Stress	Late1:OPN	Mid1:OPN	0.0075	133	Yes	0
Wind or Weather or Stress	Late1:OPN	Early1:ALL	0.0075	133	Yes	0

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