

11590

Rocky Mountain Montane Riparian Systems

BpS Model/Description Version: Aug. 2020

Modelers		Reviewers	
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None	None	None	None
None	None	None	None

Vegetation Type

Woody Wetland

Map Zones

12, 17

Geographic Range

This system is found throughout the Rocky Mountains and Colorado Plateau regions.

Biophysical Site Description

This system occurs within a broad elevation range from ~900-2,800m within the flood zone of rivers, on islands, sand or cobble bars, and immediate streambanks. Typically this system exists in large, wide occurrences on mid-channel islands in larger rivers or narrow linear bands on small, rocky canyon tributaries and well-drained benches and hillslopes below seeps/springs. May also include backwater channels, floodplain swales, and irrigation ditches. Surface water is generally high for variable periods. Soils are typically alluvial deposits of sand, clays, silts, and cobbles that are highly stratified with depth due to flood scour and deposition.

Vegetation Description

This ecological system occurs as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. Dominant trees may include *Acer negundo*, *Populus angustifolia*, *Populus balsamifera*, *Populus deltoides*, *Populus fremontii*, *Pseudotsuga menziesii*, *Picea pungens*, *Salix amygdaloides*, or *Juniperus scopulorum*. Dominant shrubs include *Acer glabrum*, *Alnus incana*, *Betula occidentalis*, *Cornus sericea*, *Crataegus rivularis*, *Forestiera pubescens*, *Prunus virginiana*, *Rhus trilobata*, *Salix monticola*, *Salix drummondiana*, *Salix exigua*, *Salix irrorata*, *Salix lucinda*, *Shepherdia argentea*, or *Symphoricarpos* spp. Generally the adjacent upland vegetation surrounding this riparian system is different and ranges from grasslands to forests.

BpS Dominant and Indicator Species

Symbol	Scientific Name	Common Name
POPUL	<i>Populus</i>	Cottonwood
SALIX	<i>Salix</i>	Willow
ACER	<i>Acer</i>	Maple
CAREX	<i>Carex</i>	Sedge
ABLA	<i>Abies lasiocarpa</i>	Subalpine fir
PICEA	<i>Picea</i>	Spruce

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

Disturbance Description

This system is dependent on a natural hydrologic regime, especially annual to episodic flooding. Flood events of increasing magnitude will cause maintenance to stand-replacing disturbances. Beaver (*Castor canadensis*) crop younger cottonwoods (*Populus* spp.) and willows (*Salix* spp.) and frequently influence the hydrologic regime through construction of dams. Beavers show considerable movement along rivers as available trees are felled. Fire disturbances occur but are infrequent catastrophic events (>100yrs).

Fire Frequency

Severity	Avg FI	Percent of All Fires	Min FI	Max FI
Replacement	378	100		
Moderate (Mixed)				
Low (Surface)				
All Fires	378	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

These systems can exist as small to large linear features in the landscape. In larger, low-elevation riverine systems, this system may exist as mid-large patches.

Adjacency or Identification Concerns

Exotic trees of *Elaeagnus angustifolia* and *Tamarix* spp. are common in some stands.

Livestock grazing is a major influence in the alteration of structure, composition, and function of the community.

Issues or Problems

Native Uncharacteristic Conditions

Comments

Models and descriptions for map zone (MZ) 12 and MZ17 were duplicates. The description from MZ17 was used for this BpS in these two zones.

Hydrological processes (e.g., flooding) are the determining factors in these systems. This BpS encompasses the mid- and lower-elevation riparian systems within the eastern Great Basin. Higher elevation riparian systems are covered in BpS 1160. The VDDT model for this system was taken from BpS 1160 and modified to highlight the dominance of the hydrologic regime.

Suggested reviewer: Dave Weixelman (Tahoe NF) (dweixelman@fs.fed.us).

Succession Classes

Mapping Rules

	Canopy Cover (%)
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Upper Layer Lifeform	Height (m)	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	B	B	B	B	B	B	B	B	B
Shrub	>3.0	B	B	B	B	B	B	B	B	B	B
Tree	0-5	B	B	B	B	B	B	C	C	C	C
Tree	5-10	C	C	C	C	C	C	C	C	C	C
Tree	10-25	C	C	C	C	C	C	C	C	C	C
Tree	25-50	C	C	C	C	C	C	C	C	C	C
Tree	>50	C	C	C	C	C	C	C	C	C	C

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 22 Early Development 1 - All Structures

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
POPUL	Populus	Cottonwood	Upper
SALIX	Salix	Willow	Upper
ALNUS	Alnus	Alder	Upper
CAREX	Carex	Sedge	Lower

Description

Immediate post-disturbance responses are dependent on pre-burn vegetation composition. This class is typically shrub-dominated, but grass may co-dominate; species composition is highly variable. Silt, gravel, cobble, and woody debris may be common.

Maximum Tree Size Class

None

Class B 51 Mid Development 1 - Open

Indicator Species

Symbol	Scientific Name	Common Name	Canopy Position
POPUL	Populus	Cottonwood	Upper
SALIX	Salix	Willow	Mid-Upper

Wind or Weather or Stress	Late1:CLS	Mid1:OPN	0.005	200	Yes	0
Replacement Fire	Late1:CLS	Early1:ALL	0.01	100	Yes	0

Optional Disturbances

Optional 1: Beaver

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