

# Ecological site group DX035X01BESG01

## Circle Cliffs - Bottoms and Flats - riparian

Last updated: 10/05/2022  
Accessed: 05/02/2024

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### Key Characteristics

- Circle Cliffs
- Bottoms and Flats
- Extra water is from perennial or intermittent streamflow

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

### Physiography

These ecological sites are differentiated largely on the nature of the stream channel they include. The sites typically include streambanks, flood plains, flood plain steps, and other associated landforms immediately influenced by fluvial processes. Flooding varies from frequent to occasional. Duration is generally brief. Elevation ranges from 4000 to 6000 feet.

### Climate

The climate is characterized by hot summers and cool to warm winters, which can be slightly modified by local topographic conditions, such as aspect. Large fluctuations in daily temperatures are common. Precipitation is variable from month to month and year to year, but averages between 7 and 13 inches. Most of the precipitation comes as rain march through October. On average, July through October are the wettest months. Much of the summer precipitation occurs as convective thunderstorms.

### Soil features

Characteristic soils in this site are deep and somewhat poorly drained to somewhat excessively drained. They formed in alluvium derived mainly from mixed parent materials. Soils are nonsaline to strongly saline and have a water table at a depth of 20 to 60 inches during some part of the year. Soils are flooded during spring runoff and frequently as the result of intense summer convection storms. Soil moisture regime is aquic or oxyaquic due to proximity of streams. The climatic soil moisture regime is typic aridic or ustic aridic. Soil temperature regime is mesic.

### Vegetation dynamics

The main ecological drivers of these sites in the natural state are large magnitude floods usually occurring in the summer and fall as a result of heavy rainfall events. These events can scour out vegetation, but the native plants are well adapted to this system. There is little evidence that periodic fire was a major part of this ecosystem.

Historic land management practices may have influenced channel morphology directly or indirectly through upland degradation, prolonged heavy grazing of the riparian corridor, or diversion of water for irrigation and other uses. Under heavy grazing pressure perennial grasses, sedges, and palatable shrubs decrease while salt cedar, annuals, and rubber rabbitbrush increase. Salt cedar, cheatgrass, and annuals are most likely to invade these sites.

### Major Land Resource Area

MLRA 035X

Subclasses

- R035XY012UT–Semiwet Saline Streambank (Fremont Cottonwood)
- R035XY013UT–Semiwet Fresh Streambank (Fremont Cottonwood)
- R035XY020UT–Colorado Plateau Riparian Complex Perennial (Valley Type IV - B4C Stream Type)
- R035XY021UT–Colorado Plateau Riparian Complex Perennial (Valley Type VIII - B4C Stream Type)
- R035XY022UT–Colorado Plateau Riparian Complex Perennial (Valley Type IV - C5/F5 Stream Types)
- R035XY029UT–Colorado Plateau Riparian Complex (Valley Type IV - F1/G1 Stream Types)
- R035XY032UT–Ephemeral Canyon Scrub

Correlated Map Unit Components

22933793, 22601715, 22966912, 22966972, 22966850, 22966790, 22966786, 22966785, 22966954, 22966955, 22967042, 22967036, 22967037, 22967035, 22966756, 22966758, 22966765, 22967047, 22966977, 22965428, 22965434, 22964756, 22963767, 22963779, 22963773

Stage

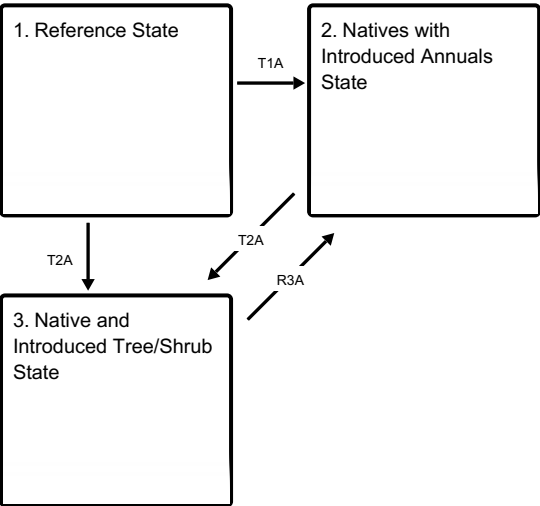
Provisional

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State and transition model

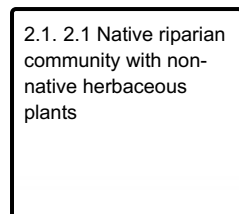
Ecosystem states



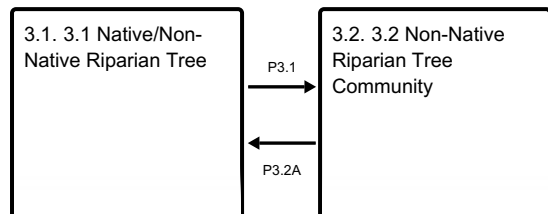
State 1 submodel, plant communities

1.1. 1.1 Historic Climax  
Plant Community  
cottonwood, willow,  
native shrubs, native  
perennial grasses and  
forbs

## State 2 submodel, plant communities



## State 3 submodel, plant communities



## State 1 Reference State

Cottonwood, willow, rubber rabbitbrush, perennial forbs and grasses, species dependent on salinity

### Community 1.1

**1.1 Historic Climax Plant Community cottonwood, willow, native shrubs, native perennial grasses and forbs**

## State 2

### Natives with Introduced Annuals State

Cottonwoods, willows, rubber rabbitbrush, native perennial grasses and forbs with non-native annuals

### Community 2.1

**2.1 Native riparian community with non-native herbaceous plants**

Cottonwood, willows, native perennial grasses and forbs with non-native grasses and forbs present

## State 3

### Native and Introduced Tree/Shrub State

This state is typically dominated by trees and shrubs. Under heavy use the herbaceous is depleted and the site is dominated by native woody vegetation. Under continued improper grazing management of severe disturbance the site may become dominated by non-native species, typically tamarisk and Russian olive.

### Community 3.1

**3.1 Native/Non-Native Riparian Tree**

Cottonwood, willows, introduced trees and shrubs. native and non-native herbaceous species

### Community 3.2

**3.2 Non-Native Riparian Tree Community**

Overstory dominated by non-native trees, typically salt cedar. Native and non-native herbaceous understory.

## Pathway P3.1

### Community 3.1 to 3.2

Loss of native trees from drought, fire, disease or unmanaged grazing

**Pathway P3.2A**  
**Community 3.2 to 3.1**

Control of non-native woody species. Manage grazing by livestock and wildlife. Reseeding/planting native species

**Transition T1A**  
**State 1 to 2**

Introduction of non-native herbaceous species

**Transition T2A**  
**State 1 to 3**

Introduction of non-native tree species

**Transition T2A**  
**State 2 to 3**

Introduction of non-native tree species

**Restoration pathway R3A**  
**State 3 to 2**

Control of non-native trees; planting of native tree and shrub species, manage grazing by livestock and wildlife

**Citations**