

# Ecological site R035XY012UT Semiwet Saline Streambank (Fremont Cottonwood)

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# **General information**

**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.



Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

#### Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) Salix exigua
Herbaceous	(1) Sporobolus airoides

# **Physiographic features**

This site occurs on valley bottoms, inset fans and low lying terraces adjacent to live streams and rivers.

Table 2. Representative	physiographic	features
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Landforms	<ul><li>(1) Valley floor</li><li>(2) Inset fan</li><li>(3) Terrace</li></ul>
Elevation	4,000–4,800 ft
Slope	0–1%
Water table depth	20–60 in

## **Climatic features**

Average annual precipitation is 6 to 12 inches. Approximately 77% occurs as rain from March through October. On the average, February, May and June are the driest months and August, September and October are the wettest months. The mean annual air temperature is 11-13 degrees celsius and the soil temperatures are in the mesic regime. The average freeze-free period is 160 to 220 days. This site is frequently flooded and has a watertable. These factors over-ride climate as a controlling factor. This site occurs primarily in the semidesert and desert climatic zones. In average years, plants begin growth around March 20 and end growth around October. Optimum growth on cool season plants occurs in May. Warm season plants make their optimum growth in July and August.

#### Table 3. Representative climatic features

Frost-free period (average)	0 days
Freeze-free period (average)	220 days
Precipitation total (average)	12 in

# Influencing water features

## **Soil features**

Characteristic soils in this site are deep and somewhat poorly drained. They formed in alluvium derived mainly from mixed parent materials. Soils contain 4 to 16 mmhos/cm of salt and have a water table at a depth of 20 to 60 inches during most of the plant growing season. Soils are flooded during spring runoff and frequently as the result of intense summer convection storms. Average annual soil loss in potential is approximately 0.1 tons/acre.

#### Table 4. Representative soil features

Drainage class	Somewhat poorly drained
Soil depth	40–60 in

## **Ecological dynamics**

As ecological condition deteriorates due to overgrazing, alkali sacaton and coyote willow decrease while salt cedar and rubber rabbitbrush increase to dominate the site. Cheatgrass and annual weeds are most likely to invade this site.

## State and transition model

#### Ecosystem states



#### State 1 submodel, plant communities

1.1. Reference State

# State 1 Reference State

## Community 1.1 Reference State

The dominant aspect of the plant community is fremont cottonwood and sandbar willow. The composition by air-dry weight is approximately 60 percent perennial grasses, 5 percent forbs, 35 percent shrubs, and 5 percent trees.

#### Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	510	750	1050
Shrub/Vine	298	438	613
Tree	43	63	88
Forb	43	63	88
Total	894	1314	1839

#### Table 6. Ground cover

Tree foliar cover	9-11%
Shrub/vine/liana foliar cover	29-31%
Grass/grasslike foliar cover	49-51%
Forb foliar cover	4-6%
Non-vascular plants	0%
Biological crusts	0%
Litter	0%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	0%

#### Table 7. Canopy structure (% cover)

Height Above Ground (Ft)	Tree	Shrub/Vine	Grass/ Grasslike	Forb
<0.5	-	-	-	-
>0.5 <= 1	-	_	-	4-6%
>1 <= 2	-	_	49-51%	-
>2 <= 4.5	-	-	-	-
>4.5 <= 13	-	29-31%	-	-
>13 <= 40	-	-	-	-
>40 <= 80	9-11%	_	-	-
>80 <= 120	-	_	-	-
>120	-	_	-	-

#### Table 8. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Tree	Tree				
0	D Dominant Trees			13–65	
Shrub	/Vine				
0	Domiant shrubs			273–390	
	narrowleaf willow	SAEX	Salix exigua	195–260	
	Fremont cottonwood	POFR2	Populus fremontii	13–65	_
	rubber rabbitbrush	ERNA10	Ericameria nauseosa	39–65	_
	Fremont cottonwood	POFR2	Populus fremontii	39–65	_
3	Sub-Dominant Shrub	S		143–364	
	Shrub (>.5m)	2SHRUB	Shrub (>.5m)	65–130	_
	fourwing saltbush	ATCA2	Atriplex canescens	13–39	_
	Emory's baccharis	BAEM	Baccharis emoryi	13–39	_
	Nevada jointfir	EPNE	Ephedra nevadensis	13–39	_
	skunkbush sumac	RHTRT	Rhus trilobata var. trilobata	13–39	_
	greasewood	SAVE4	Sarcobatus vermiculatus	13–39	
	littleleaf horsebrush	TEGL	Tetradymia glabrata	13–39	_
Grass	/Grasslike				
0	Dominant Grasses			520–780	
	alkali sacaton	SPAI	Sporobolus airoides	325–455	
	saltgrass	DISP	Distichlis spicata	130–195	
	Indian ricegrass	ACHY	Achnatherum hymenoides	65–130	
1	Sub-Dominant Grass	es		182–416	
	Grass, annual	2GA	Grass, annual	65–130	-
	Grass, perennial	2GP	Grass, perennial	65–130	-
	clustered field sedge	CAPR5	Carex praegracilis	13–39	
	squirreltail	ELEL5	Elymus elymoides	13–39	
	common reed	PHAU7	Phragmites australis	13–39	
Forb					
2	Sub-Dominant Forbs			286–728	
	Forb, annual	2FA	Forb, annual	65–130	_
	Forb, perennial	2FP	Forb, perennial	65–130	_
	flatspine bur ragweed	AMAC2	Ambrosia acanthicarpa	13–39	_
	annual ragweed	AMAR2	Ambrosia artemisiifolia	13–39	_
	white sagebrush	ARLU	Artemisia ludoviciana	13–39	_
	silverleaf milkvetch	ASAR4	Astragalus argophyllus	13–39	
	silverscale saltbush	ATAR2	Atriplex argentea	13–39	
	meadow thistle	CISC2	Cirsium scariosum	13–39	
	Canadian horseweed	COCA5	Conyza canadensis	13–39	
	yellow blanketflower	GAFL	Gaillardia flava	13–39	_
	scarlet gilia	IPAGA3	Ipomopsis aggregata ssp. aggregata	13–39	-
	woolly plantain	PLPA2	Plantago patagonica	13–39	—
	acculat glab amallaw	0000	Sphaaralaaa aaaainaa	12 20	

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Pursh seepweed	SUCA2	Suaeda calceoliformis	13–39	_

### **Animal community**

This site provides proper grazing for cattle and sheep during spring, summer, and fall.

This site is valuable for most species of wildlife due to the variety of grasses, forbs, shrubs, and trees and the interspersion of this vegetation with other range sites, which, in turn, provides a great diversity and abundance of food and cover. It provides valuable habitat for pheasants, mule deer, quail, elk, moose, squirrels, rabbits, coyotes, eagles, hawks, woodpeckers, wading birds, and numerous songbirds.

### Hydrological functions

Soils in this site are grouped mainly into c hydrologic group. They have moderately high runoff potential. When the vegetation is in climax (potential), the hydrologic curves are 75 to 72.

### **Recreational uses**

This site has good values for aesthetics and natural beauty. It has a large number of forbs and shrubs which have flowers in bloom from early spring throughout the summer and into the fall. It has a combination of grasses, forbs, small shrubs, large shrubs, and trees which offer excellent possibilities for screen and high value as camping and picnicking areas. Hunting for upland game birds, cottontail rabbits, elk, and mule deer is good to excellent on this site. Fishing is opportune on streams through this site. Summer homes are a possibility on this site, but detailed on-site investigation should be made to determine feasibility of the soils for septic tanks and sewage disposal facilities when specific locations are tentatively planned for summer homes or other building sites. Due to the high water table, sewage disposal is extremely difficult.

### Wood products

Some values exist for fence posts and fuel for fireplaces and campfires.

#### **Other references**

Modal Soil: Typic Haplaquepts

#### Contributors

Unknown

#### Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

#### Indicators

- 1. Number and extent of rills:
- 2. Presence of water flow patterns:
- 3. Number and height of erosional pedestals or terracettes:
- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):
- 5. Number of gullies and erosion associated with gullies:
- 6. Extent of wind scoured, blowouts and/or depositional areas:
- 7. Amount of litter movement (describe size and distance expected to travel):
- 8. Soil surface (top few mm) resistance to erosion (stability values are averages most sites will show a range of values):
- 9. Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):
- 10. Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:
- 11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):
- 12. Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):

Dominant:

Sub-dominant:

Other:

- 13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):
- 14. Average percent litter cover (%) and depth ( in):
- 15. Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annualproduction):
- 16. Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:
- 17. Perennial plant reproductive capability: