

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.

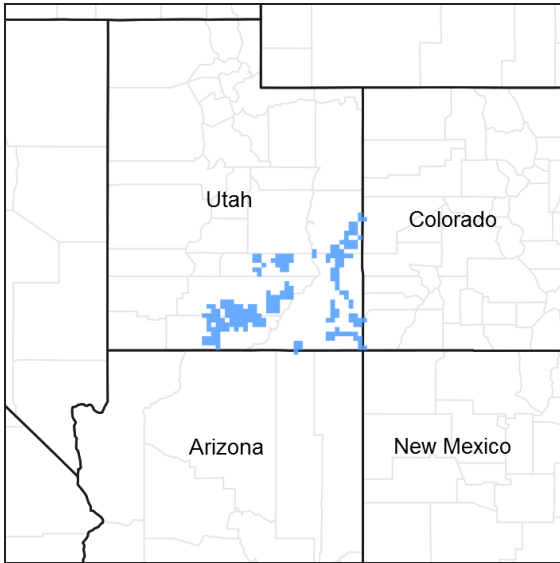


Figure 1. Mapped extent

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) <i>Salix exigua</i>
Herbaceous	(1) <i>Sporobolus airoides</i>

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

Landforms	(1) Valley floor (2) Inset fan (3) Terrace
Elevation	1,219–1,463 m
Slope	0–1%
Water table depth	51–152 cm

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)	305 mm

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	102–152 cm

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

1. Reference State

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 (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	572	841	1177
Shrub/Vine	334	491	687
Tree	48	71	99
Forb	48	71	99
Total	1002	1474	2062

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 (M)	Tree	Shrub/Vine	Grass/ Grasslike	Forb
<0.15	–	–	–	–
>0.15 <= 0.3	–	–	–	4-6%
>0.3 <= 0.6	–	–	49-51%	–
>0.6 <= 1.4	–	–	–	–
>1.4 <= 4	–	29-31%	–	–
>4 <= 12	–	–	–	–
>12 <= 24	9-11%	–	–	–
>24 <= 37	–	–	–	–
>37	–	–	–	–

Additional community tables

Table 8. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Tree					
0	Dominant Trees			15–73	
Shrub/Vine					
0	Domiant shrubs			306–437	
	narrowleaf willow	SAEX	<i>Salix exigua</i>	219–291	–
	Fremont cottonwood	POFR2	<i>Populus fremontii</i>	15–73	–
	rubber rabbitbrush	ERNA10	<i>Ericameria nauseosa</i>	44–73	–
	Fremont cottonwood	POFR2	<i>Populus fremontii</i>	44–73	–
3	Sub-Dominant Shrubs			160–408	
	Shrub (>.5m)	2SHRUB	<i>Shrub (>.5m)</i>	73–146	–
	fourwing saltbush	ATCA2	<i>Atriplex canescens</i>	15–44	–
	Emory's baccharis	BAEM	<i>Baccharis emoryi</i>	15–44	–
	Nevada jointfir	EPNE	<i>Ephedra nevadensis</i>	15–44	–
	skunkbush sumac	RHTRT	<i>Rhus trilobata var. trilobata</i>	15–44	–
	greasewood	SAVE4	<i>Sarcobatus vermiculatus</i>	15–44	–
	littleleaf horsebrush	TEGL	<i>Tetradymia glabrata</i>	15–44	–
Grass/Grasslike					
0	Dominant Grasses			583–874	
	alkali sacaton	SPAI	<i>Sporobolus airoides</i>	364–510	–
	saltgrass	DISP	<i>Distichlis spicata</i>	146–219	–
	Indian ricegrass	ACHY	<i>Achnatherum hymenoides</i>	73–146	–
1	Sub-Dominant Grasses			204–466	
	Grass, annual	2GA	<i>Grass, annual</i>	73–146	–
	Grass, perennial	2GP	<i>Grass, perennial</i>	73–146	–
	clustered field sedge	CAPR5	<i>Carex praegracilis</i>	15–44	–
	squirreltail	ELEL5	<i>Elymus elymoides</i>	15–44	–
	common reed	PHAU7	<i>Phragmites australis</i>	15–44	–
Forb					
2	Sub-Dominant Forbs			321–816	
	Forb, annual	2FA	<i>Forb, annual</i>	73–146	–
	Forb, perennial	2FP	<i>Forb, perennial</i>	73–146	–
	flatspine bur ragweed	AMAC2	<i>Ambrosia acanthicarpa</i>	15–44	–
	annual ragweed	AMAR2	<i>Ambrosia artemisiifolia</i>	15–44	–
	white sagebrush	ARLU	<i>Artemisia ludoviciana</i>	15–44	–
	silverleaf milkvetch	ASAR4	<i>Astragalus argophyllus</i>	15–44	–
	silverscale saltbush	ATAR2	<i>Atriplex argentea</i>	15–44	–
	meadow thistle	CISC2	<i>Cirsium scariosum</i>	15–44	–
	Canadian horseweed	COCA5	<i>Conyza canadensis</i>	15–44	–
	yellow blanketflower	GAFL	<i>Gaillardia flava</i>	15–44	–
	scarlet gilia	IPAGA3	<i>Ipomopsis aggregata ssp. aggregata</i>	15–44	–

	woolly plantain	PLPA2	<i>Plantago patagonica</i>	15-44	-
	scarlet globemallow	SPCO	<i>Sphaeralcea coccinea</i>	15-44	-
	Pursh seepweed	SUCA2	<i>Suaeda calceoliformis</i>	15-44	-

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	

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:

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**
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14. **Average percent litter cover (%) and depth (in):**
-

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**
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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:**
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17. **Perennial plant reproductive capability:**
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