

Ecological site R028AY022UT

Wet Fresh Streambank

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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.

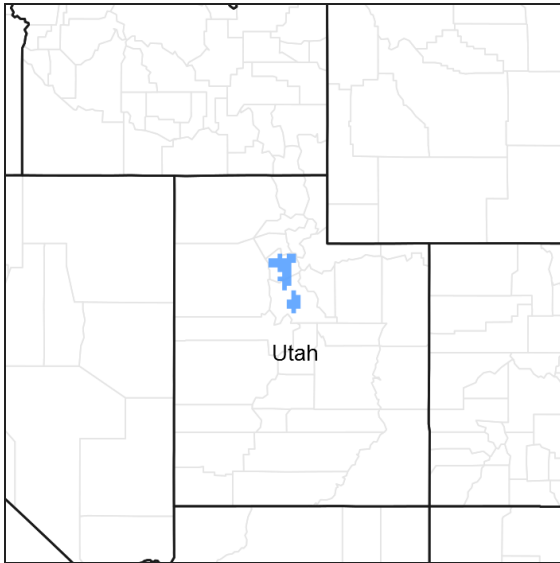


Figure 1. Mapped extent

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.

Associated sites

R028AY012UT	Semiwet Fresh Meadow
R028AY014UT	Semiwet Fresh Streambank This site is also a similar site with soil and hydrology differentiae.
R028AY020UT	Wet Fresh Meadow

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) <i>Salix exigua</i>
Herbaceous	Not specified

Physiographic features

This site occurs on gentle to moderate sloping riparian floodplains in canyons and small valley bottoms with permanent streams. It is found on all aspects at elevations ranging from 4,200 to 6,000 feet. Flooding may occur frequently on the site between March and September. In some areas, this site floods only on rare occasions.

Table 2. Representative physiographic features

Landforms	(1) Flood plain (2) Channel (3) Stream
Flooding duration	Brief (2 to 7 days) to long (7 to 30 days)
Flooding frequency	None to frequent
Ponding frequency	None
Elevation	1,280–1,829 m
Slope	0–10%
Aspect	Aspect is not a significant factor

Climatic features

Approximately 90 percent of the moisture for this site is received as run-in from March through October. June, July and August are the driest months for this site and April and May are the wettest months.

Table 3. Representative climatic features

Frost-free period (average)	185 days
Freeze-free period (average)	151 days
Precipitation total (average)	330 mm

Influencing water features

Soil features

Salt accumulations are not a problem with these soils. Profile textures are greatly stratified with alluvial deposits of varying sizes. Textures range within the moderately coarse and moderately fine texture classes with or without various amounts of rock fragments. Commonly, soils are underlain by sand, gravel, or cobble at depths of 10 to 20 inches. The water table is near the surface much of the time which maintains soil moisture. Water table depth fluctuates with stream flow. The soils are frequently overflowed and erosion and deposition are variable along the floodplain. Annual soil loss and soil surface factor (SSF) in potential is variable. These are dependent upon the variability of stream flow or flooding occurrence.

Table 4. Representative soil features

Surface texture	(1) Loam (2) Sand
Drainage class	Somewhat poorly drained to poorly drained
Permeability class	Slow to rapid
Soil depth	51–102 cm
Surface fragment cover ≤3"	0–13%
Surface fragment cover >3"	0%
Available water capacity (0-101.6cm)	2.54–13.97 cm
Calcium carbonate equivalent (0-101.6cm)	0–40%
Electrical conductivity (0-101.6cm)	0–8 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0–20

Soil reaction (1:1 water) (0-101.6cm)	6.6-9
Subsurface fragment volume <=3" (Depth not specified)	0-21%
Subsurface fragment volume >3" (Depth not specified)	0-3%

Ecological dynamics

As ecological condition deteriorates due to overgrazing redtop, bluegrass, and all forbs decrease, while sedge, willow, rabbitbrush, woods rose, big sagebrush, and trees increase.

When the potential natural plant community is burned, trees and some shrubs decrease while grasses and forbs increase.

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 willow and sedges. The composition by air-dry weight is approximately 50 percent perennial grasses, 15 percent forbs, 15 percent shrubs, and 10 percent trees. This riparian ecosystem is very dynamic and all stages of plant succession can be found.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	504	1093	1681
Shrub/Vine	151	328	504
Forb	151	328	504
Tree	101	219	336
Total	907	1968	3025

Table 6. Ground cover

Tree foliar cover	10-20%
Shrub/vine/liana foliar cover	10-20%

Grass/grasslike foliar cover	40-50%
Forb foliar cover	1-5%
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	–	–	–	0-10%
>0.3 <= 0.6	–	–	45-55%	–
>0.6 <= 1.4	–	–	–	–
>1.4 <= 4	–	15-25%	–	–
>4 <= 12	15-25%	–	–	–
>12 <= 24	–	–	–	–
>24 <= 37	–	–	–	–
>37	–	–	–	–

Figure 7. Plant community growth curve (percent production by month).
UT0221, PNC. Excellent Condition.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	5	15	40	30	5	5	0	0	0	0

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	Trees			–	
	boxelder	ACNE2	<i>Acer negundo</i>	–	–
	narrowleaf cottonwood	POAN3	<i>Populus angustifolia</i>	–	–
	Fremont cottonwood	POFR2	<i>Populus fremontii</i>	–	–
Shrub/Vine					
0	Primary Shrubs			112–224	
	narrowleaf willow	SAEX	<i>Salix exigua</i>	112–224	–
3	Secondary Shrubs			112–224	
	Utah serviceberry	AMUT	<i>Amelanchier utahensis</i>	22–67	–
	basin big sagebrush	ARTRT	<i>Artemisia tridentata ssp. tridentata</i>	22–67	–
	western white clematis	CLLI2	<i>Clematis ligusticifolia</i>	22–67	–
	golden currant	RIAU	<i>Ribes aureum</i>	22–67	–
	Woods' rose	ROWO	<i>Rosa woodsii</i>	22–67	–
	arroyo willow	SALA6	<i>Salix lasiolepis</i>	22–67	–
	silver buffaloberry	SHAR	<i>Shepherdia argentea</i>	22–67	–
	coralberry	SYOR	<i>Symphoricarpos orbiculatus</i>	22–67	–
Grass/Grasslike					
0	Primary Grasses			852–1233	
	Nebraska sedge	CANE2	<i>Carex nebrascensis</i>	560–673	–
	clustered field sedge	CAPR5	<i>Carex praegracilis</i>	112–224	–
	Kentucky bluegrass	POPR	<i>Poa pratensis</i>	112–224	–
	arctic rush	JUAR2	<i>Juncus arcticus</i>	67–112	–
1	Secondary Grasses			112–224	
	creeping bentgrass	AGST2	<i>Agrostis stolonifera</i>	22–67	–
	slender wheatgrass	ELTR7	<i>Elymus trachycaulus</i>	22–67	–
	basin wildrye	LECI4	<i>Leymus cinereus</i>	22–67	–
	western wheatgrass	PASM	<i>Pascopyrum smithii</i>	22–67	–
	timothy	PHPR3	<i>Phleum pratense</i>	22–67	–
Forb					
2	Forbs			224–336	
	common yarrow	ACMI2	<i>Achillea millefolium</i>	67–112	–
	silverweed cinquefoil	ARAN7	<i>Argentina anserina</i>	67–112	–
	white sagebrush	ARLU	<i>Artemisia ludoviciana</i>	67–112	–
	field horsetail	EQAR	<i>Equisetum arvense</i>	67–112	–
	Richardson's geranium	GERI	<i>Geranium richardsonii</i>	67–112	–
	redwool plantain	PLER	<i>Plantago eriopoda</i>	67–112	–
	common dandelion	TAOF	<i>Taraxacum officinale</i>	67–112	–
	strawberry clover	TRFR2	<i>Trifolium fragiferum</i>	67–112	–

Animal community

This is one of Utah's highest yielding range sites. The plants are predominantly grasses and grasslike plants with a

few forbs and practically no shrubs. To control soil erosion and degradation of the plant community, this site may be properly grazed early with animals being removed early to allow key plants to go ungrazed during the last part of the growing season. A stubble height of 4 to 6 inches should be adhered to.

Wildlife using this site include rabbit, coyote, mule deer, pheasants, songbirds, eagles, and hawks.

This is a short list of the more common species found. Many other species are present as well and migratory birds are present at times.

Hydrological functions

Soils in this site are in D hydrologic group due to water table. They have a high runoff potential. When the vegetation is in climax, the hydrologic curves will be 86 to 85. Refer to SCS National Engineering Handbook, Section 4, to determine runoff quantities from these curves when range condition has declined from the climax, field investigations are needed in order to determine hydrologic curve numbers.

Recreational uses

Recreation values are camping, hiking, fishing, and hunting. Natural beauty values exist in the diversity and abundance of plant growth coming from the moist soils found in the site.

Wood products

Values exist for saw logs primarily for sheathing, but in most instances it would be more feasible to leave the trees for aesthetic values and recreation. Posts and poles and crating lumber can be harvested from Cottonwoods, Box Elder, Water Birch, and Thinleaf Alder but They are of much inferior quality to Pine or Fir. These trees produce suitable wood for fireplaces, campfires, and materials for novelties and ornamental uses.

Other information

Threatened and endangered species include plants and animals.

Contributors

N/A
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:

Additional:

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 annual-production):**

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:**
