

RANGELAND

HEALTH

ASSESSMENTS

FOR

GERMAN VALLEY ALLOTMENT

FUNDAMENTALS OF RANGELAND HEALTH
Standards and Guidelines Assessment
German Valley Allotment

Utah Standards for Rangeland Health were assessed by and an interdisciplinary team on 8/20/2002 on the German Valley (#04026) allotment. The interdisciplinary team (consisting of Rangeland Management Specialists, Wildlife Biologists, and Natural Resource Specialists) utilized the Tooele County Soil Survey (USDA-NRCS 2000), Range Site Descriptions (USDA-SCS 1994), and Interpreting Indicators of Rangeland Health (USDI-BLM et al. 2000). Specific Upland sites were selected based on land ownership, representative range sites, livestock use patterns, and the permittees (figure 1).

PART 1. CONFORMANCE REVIEW

STANDARD#1 Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.

Site Number	Soil Stability	Hydrologic Function
Trend Site #1	Stable	Functioning
Trend Site #2	Stable	Functioning
Trend Site #3	Stable	Functioning
Site #4	Stable	Functioning

RESOURCE CONDITIONS WITHIN THE ALLOTMENT MEET THE STANDARD? Yes

Rationale: The Ecological Sites in this allotment included Desert loam (Shadscale) (#122), Desert gravelly loam (Shadscale) (#120), Desert Flat (Shadscale) (#126). There were no signs of gullies, wind scours, or blowouts. Bare ground was considered adequate for site potential and litter was found to be in place. No sign of compaction was observed. There were no current Flow patterns, pedestals, and deposition areas. The vegetation on the site is adequate to protect the site from erosion. These factors indicate that the existing soil resource is stable and functioning hydrologically.

STANDARD#2 Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.

Stream/Spring	PFC Rating
No Riparian Areas on allotment	N/A

RESOURCE CONDITIONS WITHIN THE ALLOTMENT MEET THE STANDARD? N/A

Rationale: There are no riparian areas on the German Valley Allotment. Standard #2 does not apply.

STANDARD#3 Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved.

Site Number	Species Diversity
Trend Site #1	Intact
Trend Site #2	Intact
Trend Site #3	Intact
Site #4	At Risk

RESOURCE CONDITIONS WITHIN THE ALLOTMENT MEET THE STANDARD? Yes

Rationale: The allotment nearly matches the Range site descriptions, biotic diversity is for the most part "Intact." All native plant species are present and in abundance on all sites studied and the condition of the allotment was considered to be improving. The Rangeland health assessment team determined that Site #4 is "At Risk" of fire due to a Cheat grass (*Bromus tectorum*) understory. The team was concerned about the potential for a fire to carry through the shadscale community by the Cheat grass. The general condition of the Biotic community at Site #4 was determined to be in good condition, with a concern over the Cheat grass.

STANDARD#4 BLM will apply and comply with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands will fully support the designated beneficial uses described in the Utah Water Quality Standards (R.317-2) for surface and groundwater.

RESOURCE CONDITIONS WITHIN THE ALLOTMENT MEET THE STANDARD? Yes

Rationale: The allotment is not located near a water body, water source, or wetland.

PART 2. ARE LIVESTOCK A CONTRIBUTING FACTOR TO NOT MEETING THE STANDARDS?

Standard #1

No. The German Valley Allotment is currently meeting the standard for Soil Stability and Hydrologic Function.

Standard #2

No. This standard does not apply to the German Valley allotment.

Standard #3

No. The German Valley Allotment is currently meeting the standard for Biotic Diversity.

The Rangeland Health Assessment team found that Site #4 was “At Risk” to fire because of the Cheat grass understory. The ecological site for Site #4 is a Desert Gravelly Loam (Shadscale), important native species located on the site were Shadscale (*Atriplex confertifolia*), Indian ricegrass (*Oryzopsis hymenoides*), Bottlebrush squirreltail (*Sitanion hystrix*), and Bud sage (*Artemisia spinosa*). These plant species were present on the study site along with Cheat grass and Halogeton (*Halogeton glomeratus*), both invasive non-native species. The condition of the native plant species were determined to be in good condition, but the Biotic Integrity of the study site was considered to be “At Risk” to burn because of the Cheat grass component in the understory.

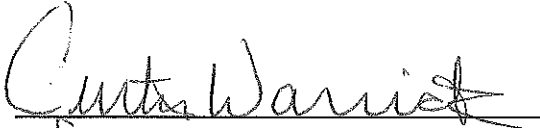
The “At Risk” condition on study Site #4 is not due to the current livestock management practices.

Standard #4

No. This standard does not apply to the German Valley allotment.

PART 3. GUIDELINES FOR GRAZING MANAGEMENT TO IMPLEMENT

The German Valley Allotment is currently meeting the standards for all Rangeland Health assessments. Site #4 was determined to be "At Risk" due to Cheat grass (*Bromus tectorum*) as an understory component. It was determined that the "At Risk" condition of Site #4 was due to historic livestock overuse and not the current livestock grazing management. Therefore, Guidelines for Grazing Management to Implement are not required at this time.


Acting for Glenn A. Carpenter
Salt Lake Field Office Manager


Date

REFERENCES

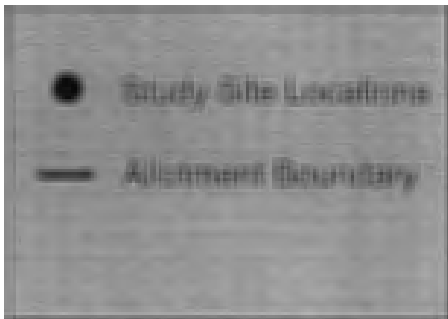
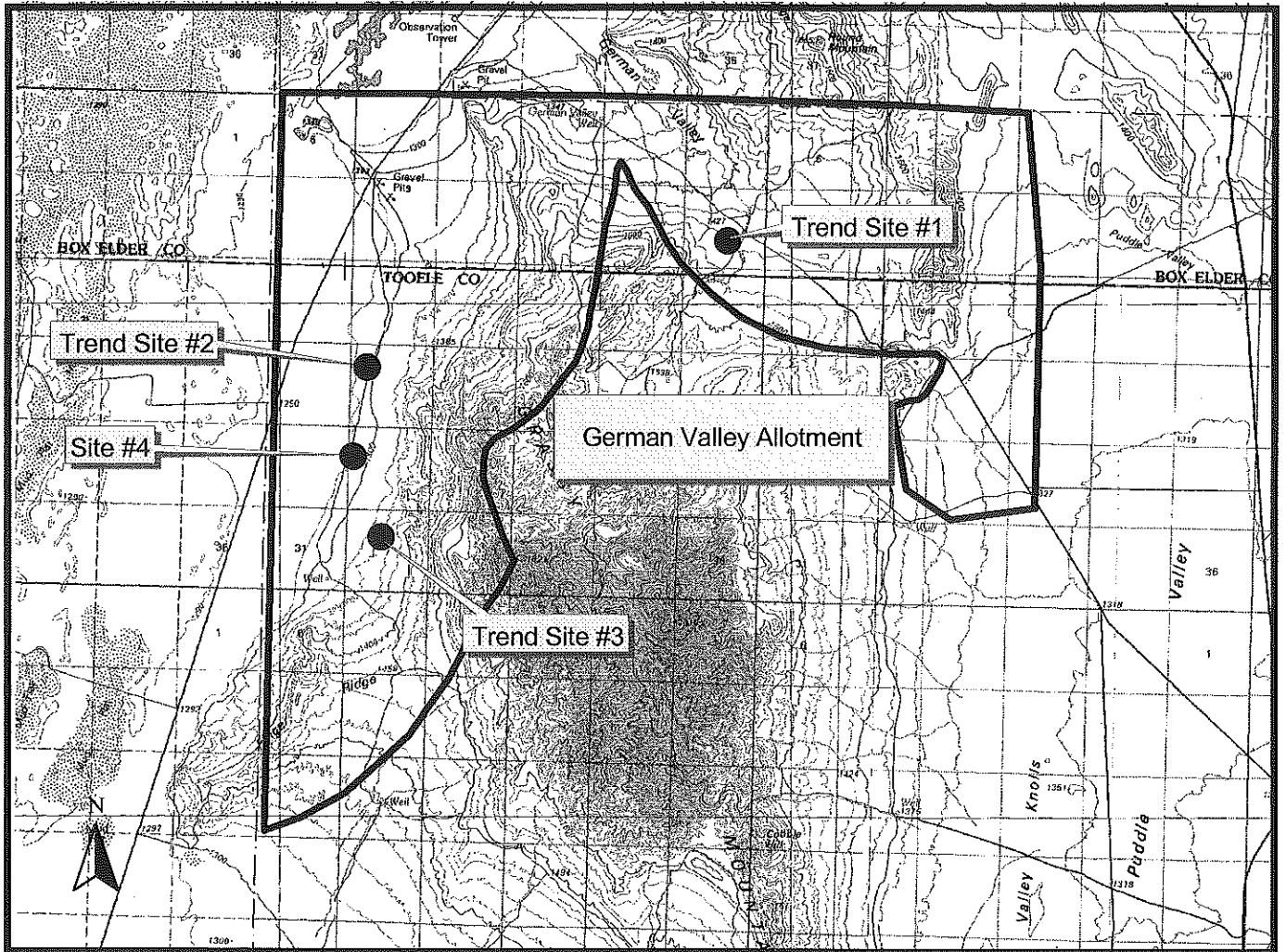
USDA-NRCS. 1997. Soil Survey of Tooele Area, Utah. US Government Printing Office:

USDA-SCS. 1994. Range Site Descriptions (059). Section II-E. Soil Conservation Service.

USDI-BLM. 2000. Rangeland Health Assessment Worksheets. Salt Lake Field Office.
Unpublished field data.

Utah-DEQ. 2000. Utah's 303(d) List of Impaired Waters. Utah Department of Environmental Quality. Salt Lake City, Utah.

German Valley Allotment



Bureau of Land Management
Salt Lake Field Office
2370 South 2300 West
Salt Lake City, UT 84119



This product may not meet BLM standards for accuracy and content. Different data sources and input may cause misalignment of data layers.

Figure 1. German Valley Allotment Rangeland Health Assessment Site Locations.

Rangeland Health Evaluation Summary Worksheet

Part 1. Area of Interest Documentation (Bold items require completion, other information is optional)

State Ut Office Ut-020 Management Unit German Valley

Pasture/Watershed _____ ID# _____ Major Land Resource Area _____

Location (description) _____

Legal T _____, R _____, Sec _____, _____ 1/4, _____ 1/4 or Lat _____, Long _____ or UTM Coord N4841787
E382589

Size of Evaluation Area _____ Photo(s) Taken Yes _____ No

Observer(s) Gates, Heaton, Torres Date 8/20/02

Ecological Site Desert Loam (Shadscale) Soil Map Unit Name Tooele Fine Sandy Loam #169

Soil/Site Verification

Rangeland Ecological Site Description and/or Soil Survey _____ Area of Interest Determination _____

Surface Texture _____ Surface Texture _____

Depth: Very Shallow Shallow Moderate Deep Depth: Very Shallow Shallow Moderate Deep
(<10") (10"-20") (20"-40") (>40") (<10") (10"-20") (20"-40") (>40")

List diagnostic horizons in profile and depth _____ List diagnostic horizons in profile and depth _____

1 _____ 3 _____ 1 _____ 3 _____
2 _____ 4 _____ 2 _____ 4 _____

Parent Material _____ Slope 2 % Elevation 4648 ft Topographic Position _____ Aspect W-NW

Avg Annual Precip _____ Recent Weather (last 2 years) Drought Normal _____ Wet _____

Describe wildlife and livestock use and recent disturbances Sheep allotment, important antelope habitat

Describe offsite influences on area of interest Large gullies associated w/road West of site.

*This trend site was not found. We did a site in the general area.

Species Dominance Worksheet

Part 1 (Required)

The most common species, noxious weeds (state-listed plants), invasive natives, invasive exotics (non-noxious) are **ranked** according to dominance using cover or weight .

Dominant Species on Site

- 1 Shadscale
- 2 Salina wild rye
- 3 ORHY
- 4 _____

Noxious Weeds

- 1 None
- 2 _____
- 3 _____

Invasive Natives

- 1 None
- 2 _____
- 3 _____

Invasive Exotics

- 1 BRTG
- 2 Burr Buttercup
- 3 _____

Part 2 (Optional) Dominant Species by Life Form

The most common species are ranked according to dominance using cover or weight by life form.

Annual Grasses

- 1 BRTG
- 2 _____
- 3 _____

Annual Forbs

- 1 Lepidium
- 2 Halimolobos
- 3 Burr Buttercup

Perennial Grasses

- 1 Salina wild rye POSE
- 2 ORHY KRLA
- 3 SIHY EPNE

Perennial Forbs

- 1 Globe mallow
- 2 _____
- 3 _____

Shrubs and Trees

- 1 APNO ARSP AKTR
- 2 ATCO GUSA TESP
- 3 CHNA CHVI

Succulents

- 1 None
- 2 _____
- 3 _____

Biological Crust (rate by component not species, e.g., lichen, moss, or algae)

- 1 Black crust
- 2 _____
- 3 _____

Functional/Structural Groups Worksheet

State VT Office 020 Ecological Site _____ Site ID _____

Observer(s) Gates, Henton, Torres Date 8/20/02

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
A. Forbs	15	10	
P. Forbs		1	
Shrub	40	45	
P. Grass	45	36	
A. Grass	0	8	
Biological Crust ³			

Indicate whether each "structural/functional group" is a **Dominant (D)** (roughly 41-100% composition), a **Subdominant (S)** (roughly 11-40% composition), a **Minor Component (M)** (roughly 3-10% composition), or a **Trace Component (T)** (<3 % composition) based on weight or cover composition in the area of interest (e.g., "Actual²" column) relative to the "Potential¹" column derived from information found in the ecological site description and/or at the ecological reference area.

Biological Crust³ dominance is evaluated solely on **cover** not composition by weight.

Cover Worksheet

State UT Office 020 Ecological Site _____
 Observer(s) Gates, Heaton, Torres Date 8/20/02 Site ID _____

COVER CLASSES (% Canopy)

LIFE FORMS ¹	0	0-1	2-5	6-15	16-30	31-50	51-75	76-100
I - Grass								
I Annual			4					
Native Perennial					20			
Exotic Perennial	0							
II - Forb								
Annual				8				
Perennial		1						
III - Shrub								
III - Shrub					20			
IV - Tree								
V - Succulent								
VI - Biological Crust								
% GROUND COVER ²	0	0-1	2-5	6-15	16-30	31-50	51-75	76-100
I - Vascular Plants							53	
II - Standing Dead Vegetation				8				
III - Litter (in contact with the soil surface)				8				
IV - Biological Crust				10				
V - Rock/Gravel			4					
VI - Bare Ground				1	17			

¹ **Life Forms Cover** - Record multiple canopy cover classes; total plant canopy may exceed 100%. Small openings (less than 2" in diameter) are included as cover.

² **Ground Cover** - Category I is an estimate of total vascular plant cover; overlapping canopies are counted as only **one** canopy (record life form with first point of contact). Total vascular plant cover (I) together with the sum of cover in Categories II-VI should total to approximately 100%.

Notes: Include source of cover data (e.g., estimates or measurements)

Part 2. Indicator Rating

Attribute	Indicators	Departure from Ecological Site Description/ Ecological Reference Area(s)				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S,H	1. Rills					
Comments:						
S,H	2. Water Flow Patterns				X	
Comments:						
S,H	3. Pedestals and/or Terracettes				X	
Comments: <i>Past pedestaling</i>						
S,H	4. Bare Ground					
Comments:						
S,H	5. Gullies					
Comments:						
S	6. Wind-Scoured, Blowouts, and/or Deposition Areas					
Comments:						
H	7. Litter Movement					
Comments: <i>Litter doesn't seem to be moving much.</i>						
S,H,B	8. Soil Surface Resistance to Erosion					
Comments: <i>Adequate veg cover, bio. crust</i>						
S,H,B	9. Soil Surface Loss or Degradation					
Comments:						
H	10. Plant Community Composition and Distribution Relative to Infiltration and Runoff					
Comments:						
S,H,B	11. Compaction Layer					
Comments:						
B	12. Functional/Structural Groups				X	
Comments: <i>Slight ↓ in P. grass</i>						
B	13. Plant Mortality/Decadence				X	
Comments: <i>Shrubs seem to be dying off... w/ good recruitment</i>						
H,B	14. Litter Amount					
Comments:						
B	15. Annual Production					
Comments: <i>looking good.</i>						
B	16. Invasive Plants			X		
Comments: <i>BRTE & burr buttercup</i>						
B	17. Reproductive Capability of Perennial Plants					
Comments: <i>Also looking good</i>						

Part 3. Summary
A. Indicator Summary

Departure from Ecological Site Description/
 Ecological Reference Area(s)

Rangeland Health Attributes		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight	Σ
S	Soil/Site Stability (Indicators 1-6, 8, 9 & 11)				Z		9
H	Hydrologic Function (Indicators 1-5, 7-11 & 14)				Z		11
B	Biotic Integrity (Indicators 8-9 & 11-17)				Z		9

B. Attribute Summary - Check the category that best fits the "preponderance of evidence" for each of the three attributes relative to the distribution of indicator ratings in the preceding Indicator Summary table.

Attribute	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability Rationale:					
Hydrologic Function Rationale:					
Biotic Integrity Rationale:				X	

Attribute Rating- Check one in each row

Soil/Site Stability	Not Stable <input type="checkbox"/>	At Risk <input type="checkbox"/>	Stable <input checked="" type="checkbox"/>
Biotic Integrity	Not Intact <input type="checkbox"/>	At Risk <input type="checkbox"/>	Intact <input checked="" type="checkbox"/>
Watershed Function	Non-Functioning <input type="checkbox"/>	At Risk <input type="checkbox"/>	Functioning <input checked="" type="checkbox"/>

Comments on Indicator(s) on other side of this page

Appendix 6

Biotic is intact, but cheatgrass & burr buttercup are present.

T-2

Rangeland Health Evaluation Summary Worksheet

Part 1. Area of Interest Documentation (Bold items require completion, other information is optional)

State UT Office UT-000 Management Unit German Valley

Pasture/Watershed _____ ID# _____ Major Land Resource Area _____

Location (description) _____

Legal T _____, R _____, Sec _____, _____ 1/4, _____ 1/4 or Lat _____, Long _____ or UTM Coord N: 4883495
E: 1053712

Size of Evaluation Area _____ Photo(s) Taken Yes No _____

Observer(s) Heaton, Gates, Torres Date 8/20/02

Ecological Site Desert Flat (Shadscale) Soil Map Unit Name Skunkah S/H loam
56

Soil/Site Verification

Rangeland Ecological Site Description and/or Soil Survey Area of Interest Determination

Surface Texture _____ Surface Texture _____

Depth: Very Shallow Shallow Moderate Deep Depth: Very Shallow Shallow Moderate Deep
(<10") (10"-20") (20"-40") (>40") (<10") (10"-20") (20"-40") (>40")

List diagnostic horizons in profile and depth List diagnostic horizons in profile and depth

1 _____ 3 _____ 1 _____ 3 _____
2 _____ 4 _____ 2 _____ 4 _____

Parent Material _____ Slope 0 % Elevation 4264 ft Topographic Position _____ Aspect NA

Avg Annual Precip _____ Recent Weather (last 2 years) Drought Normal _____ Wet _____

Describe wildlife and livestock use and recent disturbances sheep allotment, possible
antelope winter habitat

Describe offsite influences on area of interest military bombing!

Species Dominance Worksheet

Part 1 (Required)

The most common species, noxious weeds (state-listed plants), invasive natives, invasive exotics (non-noxious) are **ranked** according to dominance using cover or weight .

Dominant Species on Site

- 1 Kochia
- 2 ATCO
- 3 Saltbush
- 4 _____

Noxious Weeds

- 1 None
- 2 _____
- 3 _____

Invasive Natives

- 1 None
- 2 _____
- 3 _____

Invasive Exotics

- 1 Halogeton
- 2 Russian Thistle
- 3 Lepidium

Part 2 (Optional) Dominant Species by Life Form

The most common species are ranked according to dominance using cover or weight by life form.

Annual Grasses

- 1 BPTC
- 2 _____
- 3 _____

Annual Forbs

- 1 Lepidium Russian Thistle
- 2 _____
- 3 Halogeton

Perennial Grasses

- 1 SIH4
- 2 _____
- 3 _____

Perennial Forbs

- 1 Shrubby seepweed
- 2 _____
- 3 _____

Shrubs and Trees

- 1 ATCO
- 2 Basin saltbush
- 3 Kochia americana

Succulents

- 1 None
- 2 _____
- 3 _____

Biological Crust (rate by component not species, e.g., lichen, moss, or algae)

- 1 Black crust
- 2 _____
- 3 _____

Functional/Structural Groups Worksheet

State VT Office 020 Ecological Site _____ Site ID _____

Observer(s) Gates, Heaton, Torres Date 8/20/02

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
P. Grass	10	1	
A. Grass	0	1	
P. Forb	5	3	
A. Forb		5	
Shrub	85	90	
Biological Crust ³			

Indicate whether each "structural/functional group" is a **Dominant (D)** (roughly 41-100% composition), a **Subdominant (S)** (roughly 11-40% composition), a **Minor Component (M)** (roughly 3-10% composition), or a **Trace Component (T)** (<3 % composition) based on weight or cover composition in the area of interest (e.g., "Actual²" column) relative to the "Potential¹" column derived from information found in the ecological site description and/or at the ecological reference area.

Biological Crust³ dominance is evaluated solely on **cover** not composition by weight.

Cover Worksheet

State UT Office 020 Ecological Site _____
 Observer(s) Gates, Heaton, Torres Date 8/20/02 Site ID _____

COVER CLASSES (% Canopy)

LIFE FORMS ¹	0	0.1	2.5	6-15	16-30	31-50	51-75	76-100
I - Grass								
Annual		T						
Native Perennial		T						
Exotic Perennial	0							
II - Forb								
Annual			5					
Perennial			4					
III - Shrub								
IV - Tree	0					32		
V - Succulent								
VI - Biological Crust	0							
% GROUND COVER²								
I - Vascular Plants						41		
II - Standing Dead Vegetation				12				
III - Litter (in contact with the soil surface)				9				
IV - Biological Crust						20		
V - Rock/Gravel	0							
VI - Bare Ground					18			

¹ **Life Forms Cover** - Record multiple canopy cover classes; total plant canopy may exceed 100%. Small openings (less than 2" in diameter) are included as cover.

² **Ground Cover** - Category I is an estimate of total vascular plant cover; overlapping canopies are counted as only **one** canopy (record life form with first point of contact). Total vascular plant cover (I) together with the sum of cover in Categories II-VI should total to approximately 100%.

Notes: Include source of cover data (e.g., estimates or measurements)

Part 2. Indicator Rating

Attribute	Indicators	Departure from Ecological Site Description/ Ecological Reference Area(s)				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S,H	1. Rills					
Comments:						
S,H	2. Water Flow Patterns					
Comments: <i>Sheep trailing</i>						
S,H	3. Pedestals and/or Terracettes					
Comments:						
S,H	4. Bare Ground				X	
Comments: <i>Slightly more than expected... due to slight lack of veg.</i>						
S,H	5. Gullies					
Comments:						
S	6. Wind-Scoured, Blowouts, and/or Deposition Areas					
Comments:						
H	7. Litter Movement					
Comments:						
S,H,B	8. Soil Surface Resistance to Erosion					
Comments: <i>Good due to very cover & bio. crust.</i>						
S,H,B	9. Soil Surface Loss or Degradation					
Comments:						
H	10. Plant Community Composition and Distribution Relative to Infiltration and Runoff					
Comments:						
S,H,B	11. Compaction Layer					
Comments:						
B	12. Functional/Structural Groups				X	
Comments: <i>Grass component almost completely absent... slightly lacking shadscale</i>						
B	13. Plant Mortality/Decadence			X		
Comments: <i>Dead plants... mainly shadscale... winter die-out</i>						
H,B	14. Litter Amount					
Comments:						
B	15. Annual Production					
Comments:						
B	16. Invasive Plants				X	
Comments:						
B	17. Reproductive Capability of Perennial Plants					
Comments: <i>Fairly good recruitment & production considering drought.</i>						

Part 3. Summary

Departure from Ecological Site Description/
Ecological Reference Area(s)

A. Indicator Summary

Rangeland Health Attributes		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight	Σ
S	Soil/Site Stability (Indicators 1-6, 8, 9 & 11)				1		9
H	Hydrologic Function (Indicators 1-5, 7-11 & 14)				1		11
B	Biotic Integrity (Indicators 8-9 & 11-17)				2		9

B. Attribute Summary - Check the category that best fits the "preponderance of evidence" for each of the three attributes relative to the distribution of indicator ratings in the preceding Indicator Summary table.

Attribute	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability Rationale:					
Hydrologic Function Rationale:					
Biotic Integrity Rationale:				X	

Attribute Rating- Check one in each row

Soil/Site Stability	Not Stable <input type="checkbox"/>	At Risk <input type="checkbox"/>	Stable <input checked="" type="checkbox"/>
Biotic Integrity	Not Intact <input type="checkbox"/>	At Risk <input type="checkbox"/>	Intact <input checked="" type="checkbox"/>
Watershed Function	Non-Functioning <input type="checkbox"/>	At Risk <input type="checkbox"/>	Functioning <input checked="" type="checkbox"/>

Comments on Indicator(s) on other side of this page

Appendix 6

Biotic - lacking grass component

Rangeland Health Evaluation Summary Worksheet

Part 1. Area of Interest Documentation (Bold items require completion, other information is optional)

State UT Office Ut-020 Management Unit German Valley

Posture/Watershed _____ ID# _____ Major Land Resource Area _____

Location (description) _____

Legal T _____ , R _____ , Sec _____ , _____ 1/4, _____ 1/4 or Lat _____ , Long _____ or UTM Coord N:14869743
E:11056945

Size of Evaluation Area _____ Photo(s) Taken Yes No _____

Observer(s) Gates, Heaton, Torres Date 8/20/02

Ecological Site Desert ^{Gravelly} _{Loam} (Shadscale) Soil Map Unit Name Skumpah Silt Loam
#56

Soil/Site Verification

Rangeland Ecological Site Description and/or Soil Survey _____ Area of Interest Determination _____

Surface Texture _____ Surface Texture _____
Depth: Very Shallow Shallow Moderate Deep Depth: Very Shallow Shallow Moderate Deep
(<10") (10"-20") (20"-40") (>40") (<10") (10"-20") (20"-40") (>40")

List diagnostic horizons in profile and depth
1 _____ 3 _____ 1 _____ 3 _____
2 _____ 4 _____ 2 _____ 4 _____

Parent Material _____ Slope 1 % Elevation 4746 ft Topographic Position _____ Aspect NA

Avg Annual Precip _____ Recent Weather (last 2 years) Drought Normal _____ Wet _____

Describe wildlife and livestock use and recent disturbances Sheep allotment, some livestock
trailing.

Describe offsite influences on area of interest _____

Species Dominance Worksheet

Part 1 (Required)

The most common species, noxious weeds (state-listed plants), invasive natives, invasive exotics (non-noxious) are **ranked** according to dominance using cover or weight .

Dominant Species on Site

- 1 ATCO
- 2 ARSP
- 3 ORHY
- 4 Kochia Scoparia

Noxious Weeds

- 1 None
- 2 _____
- 3 _____

Invasive Natives

- 1 None
- 2 _____
- 3 _____

Invasive Exotics

- 1 Burr Buttercup
- 2 Halogeton
- 3 BRTE

Part 2 (Optional) Dominant Species by Life Form

The most common species are ranked according to dominance using cover or weight by life form.

Annual Grasses

- 1 BRTE
- 2 _____
- 3 _____

Annual Forbs

- 1 Halogeton
- 2 Burr Buttercup
- 3 _____

Perennial Grasses

- 1 ORHY Salina Wildrye
- 2 SIHY
- 3 POSE

Perennial Forbs

- 1 shaggy fleabane
- 2 _____
- 3 _____

Shrubs and Trees

- 1 ATCO ARNO
- 2 Kochia Scoparia
- 3 ARSP

Succulents

- 1 None
- 2 _____
- 3 _____

Biological Crust (rate by component not species, e.g., lichen, moss, or algae)

- 1 Black Crust
- 2 _____
- 3 _____

Functional/Structural Groups Worksheet

State VT Office 020 Ecological Site _____ Site ID _____
 Observer(s) Gates, Heaton, Torres Date 8/20/02

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
A. Forb	>	8	
P. Forb	10	1	
Shrub	50	70	
A. Grass	0	1	
P. Grass	46	20	
Biological Crust ³			

Indicate whether each "structural/functional group" is a **Dominant (D)** (roughly 41-100% composition), a **Subdominant (S)** (roughly 11-40% composition), a **Minor Component (M)** (roughly 3-10% composition), or a **Trace Component (T)** (<3 % composition) based on weight or cover composition in the area of interest (e.g., "Actual²" column) relative to the "Potential¹" column derived from information found in the ecological site description and/or at the ecological reference area.

Biological Crust³ dominance is evaluated solely on **cover** not composition by weight.

Cover Worksheet

State VT Office 020 Ecological Site _____
 Observer(s) Gates, Heaton, Todd Date 8/20/02 Site ID _____

COVER CLASSES (% Canopy)

LIFE FORMS ¹	0	0-1	2-5	6-15	16-30	31-50	51-75	76-100
I - Grass								
I Annual		1						
I Native Perennial				12				
I Exotic Perennial	0							
II - Forb								
II Annual				12				
II Perennial								
III - Shrub					30			
IV - Tree	0							
V - Succulent	0							
VI - Biological Crust								
% GROUND COVER ²	0	0-1	2-5	6-15	16-30	31-50	51-75	76-100
I - Vascular Plants							55	
I II - Standing Dead Vegetation			4					
I III - Litter (in contact with the soil surface)			4					
III IV - Biological Crust				14				
III V - Rock/Gravel				15				
III VI - Bare Ground				10				

¹ **Life Forms Cover** - Record multiple canopy cover classes; total plant canopy may exceed 100%. Small openings (less than 2" in diameter) are included as cover.

² **Ground Cover** - Category I is an estimate of total vascular plant cover; overlapping canopies are counted as only **one** canopy (record life form with first point of contact). Total vascular plant cover (I) together with the sum of cover in Categories II-VI should total to approximately 100%.

Notes: Include source of cover data (e.g., estimates or measurements)

Part 2. Indicator Rating

Attribute	Indicators	Departure from Ecological Site Description/ Ecological Reference Area(s)				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S,H	1. Rills					
Comments:						
S,H	2. Water Flow Patterns				X	
Comments:						
S,H	3. Pedestals and/or Terracettes					
Comments:						
S,H	4. Bare Ground					
Comments:						
S,H	5. Gullies					
Comments: <i>Natural drainages</i>						
S	6. Wind-Scoured, Blowouts, and/or Deposition Areas					
Comments:						
H	7. Litter Movement					
Comments:						
S,H,B	8. Soil Surface Resistance to Erosion					
Comments: <i>Good veg. cover & Rock/gravel. Could use ↑ P. grass</i>						
S,H,B	9. Soil Surface Loss or Degradation					
Comments:						
H	10. Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments: <i>Missing grass in interspaces</i>						
S,H,B	11. Compaction Layer					
Comments:						
B	12. Functional/Structural Groups				X	
Comments: <i>Missing P. grass. Shrubs & Halogeton seem to be filling in for grass.</i>						
B	13. Plant Mortality/Decadence				X	
Comments: <i>Shadscale is decadent</i>						
H,B	14. Litter Amount					
Comments:						
B	15. Annual Production					
Comments:						
B	16. Invasive Plants			X		
Comments: <i>Halogeton - in interspaces & disturbed sites</i>						
B	17. Reproductive Capability of Perennial Plants					
Comments: <i>lookin good.</i>						

Part 3. Summary

Departure from Ecological Site Description/
Ecological Reference Area(s)

A. Indicator Summary

Rangeland Health Attributes		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight	Σ
S	Soil/Site Stability (Indicators 1-6, 8, 9 & 11)				1		9
H	Hydrologic Function (Indicators 1-5, 7-11 & 14)				2		11
B	Biotic Integrity (Indicators 8-9 & 11-17)				2		9

B. Attribute Summary - Check the category that best fits the "preponderance of evidence" for each of the three attributes relative to the distribution of indicator ratings in the preceding Indicator Summary table.

Attribute	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability Rationale:					
Hydrologic Function Rationale:					
Biotic Integrity Rationale:				X	

Attribute Rating- Check one in each row

Soil/Site Stability	Not Stable <input type="checkbox"/>	At Risk <input type="checkbox"/>	Stable <input checked="" type="checkbox"/>
Biotic Integrity	Not Intact <input type="checkbox"/>	At Risk <input type="checkbox"/>	Intact <input checked="" type="checkbox"/>
Watershed Function	Non-Functioning <input type="checkbox"/>	At Risk <input type="checkbox"/>	Functioning <input checked="" type="checkbox"/>

Comments on Indicator(s) on other side of this page

Appendix 6 ⁴⁰ Biotic ... lacking perennial grass. shrubs & halophytes seem to be filling in where grasses should be. Grass spp. are present, but not in the correct composition.

Site #4

Rangeland Health Evaluation Summary Worksheet

Part 1. Area of Interest Documentation (Bold items require completion, other information is optional)

State Ut Office Ut-020 Management Unit German Valley

Pasture/Watershed _____ ID# _____ Major Land Resource Area _____

Location (description) _____

Legal T _____ ,R _____ ,Sec _____ , _____ 1/4, _____ 1/4 or Lat _____ ,Long _____ or UTM Coord N: 14874514
E: 1057300

Size of Evaluation Area _____ Photo(s) Taken Yes No _____

Observer(s) Cates, Heaton, Torres Date 8/20/02

Ecological Site Desert Gravelly Loam (shadscale) Soil Map Unit Name Cliff down #12

Soil/Site Verification

Rangeland Ecological Site Description and/or Soil Survey

Surface Texture _____

Depth: Very Shallow Shallow Moderate Deep
(<10") (10"-20") (20"-40") (>40")

List diagnostic horizons in profile and depth

1 _____ 3 _____
2 _____ 4 _____

Area of Interest Determination

Surface Texture _____

Depth: Very Shallow Shallow Moderate Deep
(<10") (10"-20") (20"-40") (>40")

List diagnostic horizons in profile and depth

1 _____ 3 _____
2 _____ 4 _____

Parent Material _____ Slope 2 % Elevation 4589 ft Topographic Position _____ Aspect N/A

Avg Annual Precip _____ Recent Weather (last 2 years) Drought Normal _____ Wet _____

Describe wildlife and livestock use and recent disturbances Sheep allotment, Good Antelope habitat.

Describe offsite influences on area of interest _____

Species Dominance Worksheet

Part 1 (Required)

The most common species, noxious weeds (state-listed plants), invasive natives, invasive exotics (non-noxious) are **ranked** according to dominance using cover or weight .

Dominant Species on Site

- 1 ATCO
- 2 ORHY
- 3 _____
- 4 _____

Noxious Weeds

- 1 None
- 2 _____
- 3 _____

Invasive Natives

- 1 None
- 2 _____
- 3 _____

Invasive Exotics

- 1 BRTF
- 2 Halogeton
- 3 Lepidium

Part 2 (Optional) Dominant Species by Life Form

The most common species are ranked according to dominance using cover or weight by life form.

Annual Grasses

- 1 BRTF
- 2 _____
- 3 _____

Annual Forbs

- 1 Halogeton
- 2 Lepidium
- 3 _____

Perennial Grasses

- 1 ORHY
- 2 Salina wildrye
- 3 SIHY

Perennial Forbs

- 1 Spharaksa
- 2 pussytoes
- 3 _____

Shrubs and Trees

- 1 JWOS ARTR CHVI
- 2 ATCO Tetradymia EPNE
- 3 GUSA ARSP

Succulents

- 1 None
- 2 _____
- 3 _____

Biological Crust (rate by component not species, e.g., lichen, moss, or algae)

- 1 Black Crust
- 2 _____
- 3 _____

Functional/Structural Groups Worksheet

State UT Office 020 Ecological Site _____ Site ID _____

Observer(s) Gates, Heaton, Torres Date 8/20/02

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential ¹	Actual ²	Plant Names
P. Grass	40	25	
A. Grass	0	15	
P. Forb	10	1	
A. Forb		2	
Shrub	50	57	
Biological Crust ³			

Indicate whether each "structural/functional group" is a **Dominant (D)** (roughly 41-100% composition), a **Subdominant (S)** (roughly 11-40% composition), a **Minor Component (M)** (roughly 3-10% composition), or a **Trace Component (T)** (<3 % composition) based on weight or cover composition in the area of interest (e.g., "Actual²" column) relative to the "Potential¹" column derived from information found in the ecological site description and/or at the ecological reference area.

Biological Crust³ dominance is evaluated solely on **cover** not composition by weight.

Cover Worksheet

State VT Office 020 Ecological Site _____
 Observer(s) Gates, Heaton, Torres Date 8/20/02 Site ID _____

COVER CLASSES (% Canopy)

LIFE FORMS ¹	0	0.1	2-5	6-15	16-30	31-50	51-75	76-100
I - Grass								
Annual					16			
Native Perennial					24			
Exotic Perennial	0							
II - Forb								
Annual			2					
Perennial		T						
III - Shrub					20			
IV - Tree		J						
V - Succulent	0							
VI - Biological Crust								
% GROUND COVER²								
I - Vascular Plants							63	
II - Standing Dead Vegetation			5					
III - Litter (in contact with the soil surface)				6				
IV - Biological Crust				8				
V - Rock/Gravel				14				
VI - Bare Ground			4					

¹ **Life Forms Cover** - Record multiple canopy cover classes; total plant canopy may exceed 100%. Small openings (less than 2" in diameter) are included as cover.

² **Ground Cover** - Category I is an estimate of total vascular plant cover; overlapping canopies are counted as only **one** canopy (record life form with first point of contact). Total vascular plant cover (I) together with the sum of cover in Categories II-VI should total to approximately 100%.

Notes: Include source of cover data (e.g., estimates or measurements)

Part 2. Indicator Rating

Attribute	Indicators	Departure from Ecological Site Description/ Ecological Reference Area(s)				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S,H	1. Rills					
Comments:						
S,H	2. Water Flow Patterns				X	
Comments:						
S,H	3. Pedestals and/or Terracettes				X	
Comments: <i>Pedestals in waterflow patterns</i>						
S,H	4. Bare Ground					
Comments: <i>as expected</i>						
S,H	5. Gullies				X	
Comments: <i>vegetated - not active</i>						
S	6. Wind-Scoured, Blowouts, and/or Deposition Areas					
Comments:						
H	7. Litter Movement				X	
Comments:						
S,H,B	8. Soil Surface Resistance to Erosion					
Comments: <i>Good veg. cover, rock/gravel, could use P. grass in interspaces</i>						
S,H,B	9. Soil Surface Loss or Degradation					
Comments:						
H	10. Plant Community Composition and Distribution Relative to Infiltration and Runoff					
Comments:						
S,H,B	11. Compaction Layer					
Comments:						
B	12. Functional/Structural Groups				X	
Comments: <i>Lacking some P. grass, P. forbs also ↓</i>						
B	13. Plant Mortality/Decadence				X	
Comments:						
H,B	14. Litter Amount					
Comments:						
B	15. Annual Production					
Comments:						
B	16. Invasive Plants		X			
Comments: <i>Cheat grass - common in understory</i>						
B	17. Reproductive Capability of Perennial Plants					
Comments:						

Part 3. Summary
A. Indicator Summary

Departure from Ecological Site Description/
 Ecological Reference Area(s)

Rangeland Health Attributes		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight	Σ
S	Soil/Site Stability (Indicators 1-6, 8, 9 & 11)				3		9
H	Hydrologic Function (Indicators 1-5, 7-11 & 14)				4		11
B	Biotic Integrity (Indicators 8-9 & 11-17)		1		2		9

B. Attribute Summary - Check the category that best fits the "preponderance of evidence" for each of the three attributes relative to the distribution of indicator ratings in the preceding Indicator Summary table.

Attribute	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability Rationale:					
Hydrologic Function Rationale:					
Biotic Integrity Rationale:				X	

Attribute Rating- Check one in each row

Soil/Site Stability	Not Stable <input type="checkbox"/>	At Risk <input type="checkbox"/>	Stable <input checked="" type="checkbox"/>
Biotic Integrity	Not Intact <input type="checkbox"/>	At Risk <input checked="" type="checkbox"/>	Intact <input type="checkbox"/>
Watershed Function	Non-Functioning <input type="checkbox"/>	At Risk <input type="checkbox"/>	Functioning <input checked="" type="checkbox"/>

Comments on Indicator(s) on other side of this page

Appendix 6

Biotic community seems to be in good condition.
 But presence of cheatgrass understory might put it
 @ risk if fire were to occur.

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