White Ranch
Wetlands Biological Survey
and
Permanent Vegetation Monitoring Plots

Prepared for:

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WHITE RANCH WETLANDS BIOLOGICAL SURVEY AND PERMANENT VEGETATION MONITORING PLOTS

Introduction

In May of 1997, the U. S. Fish and Wildlife Service contracted the Colorado Natural Heritage Program (CNHP) to conduct a rapid ecological assessment of the White Ranch wetlands. In addition we set up permanent plots along transects to collect baseline vegetation and small mammal trapping data. A biological inventory of vertebrates, invertebrates, plants, and plant communities was conducted by CNHP scientists during June-August, 1997. This report includes a description of the purpose and methodology, along with the following appendixes:

- a map showing the locations of the vegetation monitoring transects (Appendix A)
- the vegetation plot and mammal trapping raw data (Appendix B and C),
- a species list (Appendix D),
- element occurrence records (Appendix E),
- characterization abstracts of rare vertebrate found on White Ranch (Appendix F)
- a site profile for the larger Weisman Lake complex (Appendix G),
- explanations of CNHP imperilment ranks and federal and state status designations (Appendix H).

Slides of each transect are also included.

Methods

Species inventory

The following field census techniques were used to sample the biota of the White Ranch wetlands. Mammal trapping and wetland plant communities were the most systematic and will be explained in detail.

Amphibians: visual and random surveys
Mammals: Sherman live traps, both random and along transects
Birds: visual or by song/call, evidence of breeding sought
Insects: aerial net, moth lighting
Wetland plant communities: visual, collect qualitative and quantitative species composition

When appropriate, voucher specimens were collected and deposited in local university museums and herbaria.

Wetland Plant Communities/Vegetation Monitoring

In order to assess the abundance and composition of the wetland vegetation types found at White Ranch, we developed six permanent transects. Each transect begins on the eastern edge of the playa complex and runs due west. The eastern edge of each transect

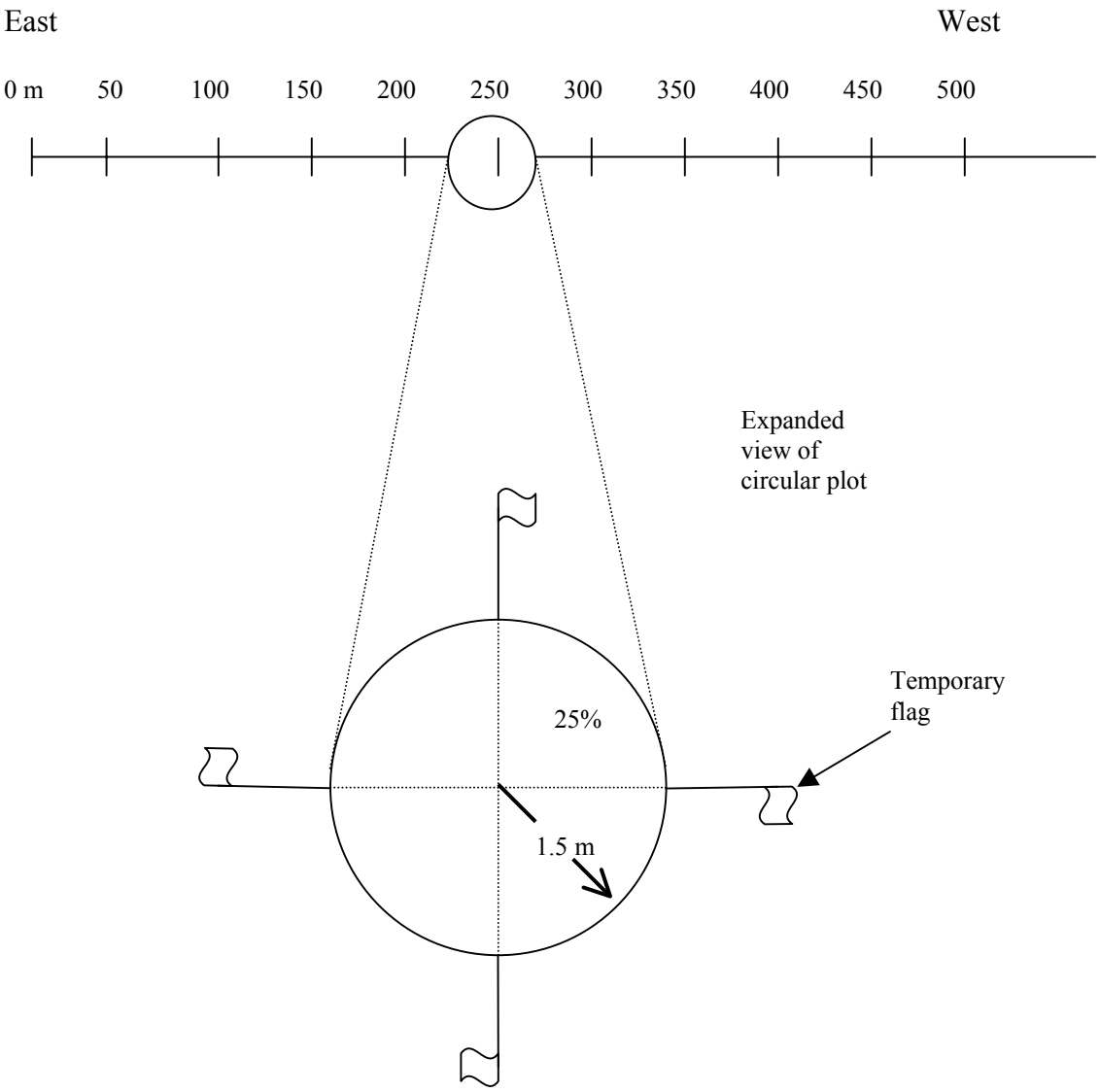
is marked with a 5-foot ½" reinforcing bar (rebar). The transect number is reflected on the rebar by the addition of hose clamps. For example transect one has one hose clamp and transect six has six hose clamps. Transect one is in the southern end of the playa lake complex and the following transects are north, with number six near the northern boundary. See Appendix A for 7.5 minute quadrangle and Appendix B (raw data sheets) for exact locations.

Along each transect we estimated the vegetation cover and bare ground with circular (1.5 m radius) microplots placed every 50 m. A permanent marker (rebar) was established every 200 m along the transect. Between the permanent markers plots were located using a 50 m measuring tape. Each circular plot was established by placing temporary flags, in each cardinal direction, 1.5 m from the center of the circle (Fig. 1). Once the flags were in place a plant species list was compiled. The coverage for each species and bare ground was estimated and recorded by using cover class codes (Fig. 1).

Mammals

Small mammals were surveyed systematically along transects 2, 4, and 6, and unsystematically in areas off the transects that appeared likely to contain target species. Along the permanent transects, Sherman live traps were placed along the transect every 50 m beginning with 0 m (i.e., at each point were vegetation was sampled). The traps were baited with oats, and monitored for a period of 24 hours on September 8, 1997. As with the vegetation sampling, this approach can be repeated each year to monitor changes in populations. In addition to the transect traps we randomly placed 30 Sherman live traps in the saltgrass (*Distichlis spicata*) and greasewood (*Sarcobatus vermiculatus*) shrublands which are adjacent to the wetlands.

Figure 1. Transect and circular plots with cover codes. Permanent rebar marker every 200 m, including 0 m. At the 0 m mark of each transect we recorded UTM coordinates from a hand held GPS unit and photographed the western view (these slides are included with this report. Within each circular plot we estimated coverage for each species and amount of bare ground.



Cover Code	Percent Range
1	<1
2	1-5
3	5-25
4	25-50
5	50-75
6	75-100

Results

Vegetation

There are primarily two dominant plants found in the White Ranch plays lake system: western wheat grass (*Pascopyrum smithii*) and saltgrass (*Distchlis spicata*). Both of these can form ubiquitous stands or grow with each other. Both grasses were present in all of the transects, and aside from transect one, both grasses had nearly equal representation throughout a transect (Fig. 2).

In general if western wheat grass was present at greater than 1% cover, than saltgrass was not (Table 1). Out of 108 microplots with either western wheat grass or slatgrass present, 72 of them had either western wheat grass or saltgrass but not both, where as 36 microplots had both species present (Table 1). Our general observation was that areas with standing water were dominated by western wheat grass, where as the areas where the water was more ephemeral were dominated by saltgrass.

Most of the transects had at least a few microplots with baltic sedge (*Juncus balticus*), although it seldom dominated. A total of 31 microplots (out of 125) had at least a presence of baltic sedge. The other species recorded but not dominate are listed in the species list in Appendix D. Appendix B includes the raw data sheets.

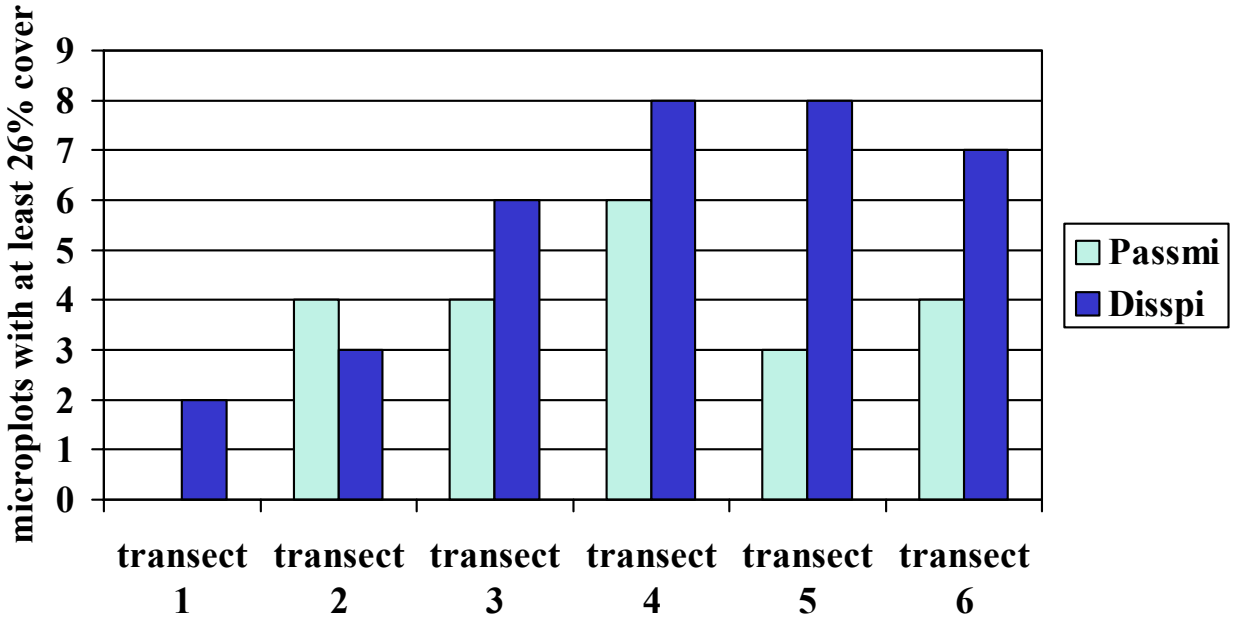


Figure 2. Number of microplots with at least 26% cover of western wheat grass *Pascopyrum smithii* (Passmi) and salt grass, *Distchlis spicata* (Disspi) along transects.

Table 1. Presence/absence (greater than 1%) of western wheat grass, *Pascopyrum smithii*, (Pas smi) and saltgrass (*Disthclis spicata,* (Dis spi) in each microplot per transect (T1-T6).

	Micro plot #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
T1	Pas smi		X	X	X					X		X										X
	Dis spi					X	X	X	X	X		X		X		X	X	X	X			
T2	Pas smi	X		X	X	X	X	X	X					X							X	
	Dis spi			X	X						X	X				X						
T3	Pas smi		X	X	X	X	X	X	X	X		X	X	X	X							
	Dis spi		X							X	X					X	X	X		X		X
T4	Pas smi			X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
	Dis spi	X	X		X					X	X	X	X					X		X	X	X
T5	Pas smi		X	X	X		X	X	X	X		X	X	X	X						X	
	Dis spi	X		X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
T6	Pas smi		X	X	X	X	X				X	X										
	Dis spi	X									X	X	X	X	X	X		X	X	X	X	

Mammals

Two rare San Luis Valley endemic subspecies of rodents were found. On August 9, 1997, the thirteen-lined ground squirrel (*Spermophilus tridecemlineatus blanca*) was captured on Transect 4 and 6 in four different traps (2 juvenile males, 1 juvenile female, 1 adult male). While greasewood shrublands occur across the site, the occurrence of this species appears to be predominantly in the saltgrass meadows. Transect 2 yielded a silky pocket mouse (*Perognathus flavus sanluisi*) on a greasewood-dominated "island" among saltgrass flats. There were abundant burrows present at this location. See appendix C for the raw data from the small mammal trapping along transects.

On June 24, 1997, thirty traps were set randomly in saltgrass meadows adjacent to greasewood shrublands near the former White Ranch residence. One of these traps yielded a silky pocket mouse (*Perognathus flavus sanluisi*). No extensive burrow system was found.

Insects

One rare insect was found using the wetland complex. The sandhills skipper (*Polites sabuleti ministigma*) was found in the saltgrass meadows. This skipper uses *Distchlis spicata* as its host plant. This subspecies of skipper is endemic to the San Luis Valley and relies on the salt grass meadows for its survival.

Proposed Conservation Site

The White Ranch is part of a Colorado Natural Heritage Program proposed conservation site called Weisman Lakes. This proposed conservation site contains over 7,800 acres and includes private and state lands as well as the U.S. Fish and Wildlife lands. Appendix G gives a more detailed description of the site and it's biological significance.

Discussion

The White Ranch is part of a potential conservation site that is highly significant on a global scale. This wetland site includes at least eight occurrences of globally and state imperiled fish, mammals, birds, and invertebrates, as well as excellent examples of significant plant communities. On the White Ranch proper, CNHP has documented two globally vulnerable small mammal subspecies (*Perognathus flavus sanluisi* and *Spermophilus tridecemlineatus blanca*) and one globally vulnerable butterfly subspecies (*Polites sabuleti ministigma*). The greasewood (*Sarcobatus vermiculatus*) and saltgrass (*Distichlis spicata*) plant communities are part of a large, outstanding occurrence of these saline bottomland communities that support the rare mammals and butterfly.

Changes in the hydroperiod of the wetland will almost certainly change the plant species composition across the site. Given the habitat requirements of the dominant plants at White Ranch and the changes that have already occurred on the northern end of the

property, it seems that with more extensive and enduring flooding saltgrass (*Distichlis spicata*) will probably decrease in abundance while western wheatgrass (*Pascopyrum smithii*) and wiregrass (*Juncus balticus*) will probably increase in abundance. The permanent transects established for vegetation and small mammal monitoring should be re-sampled once per growing season (preferably in July or August). This repeated, systematic monitoring will allow for documentation and better understanding of changes taking place on the site.

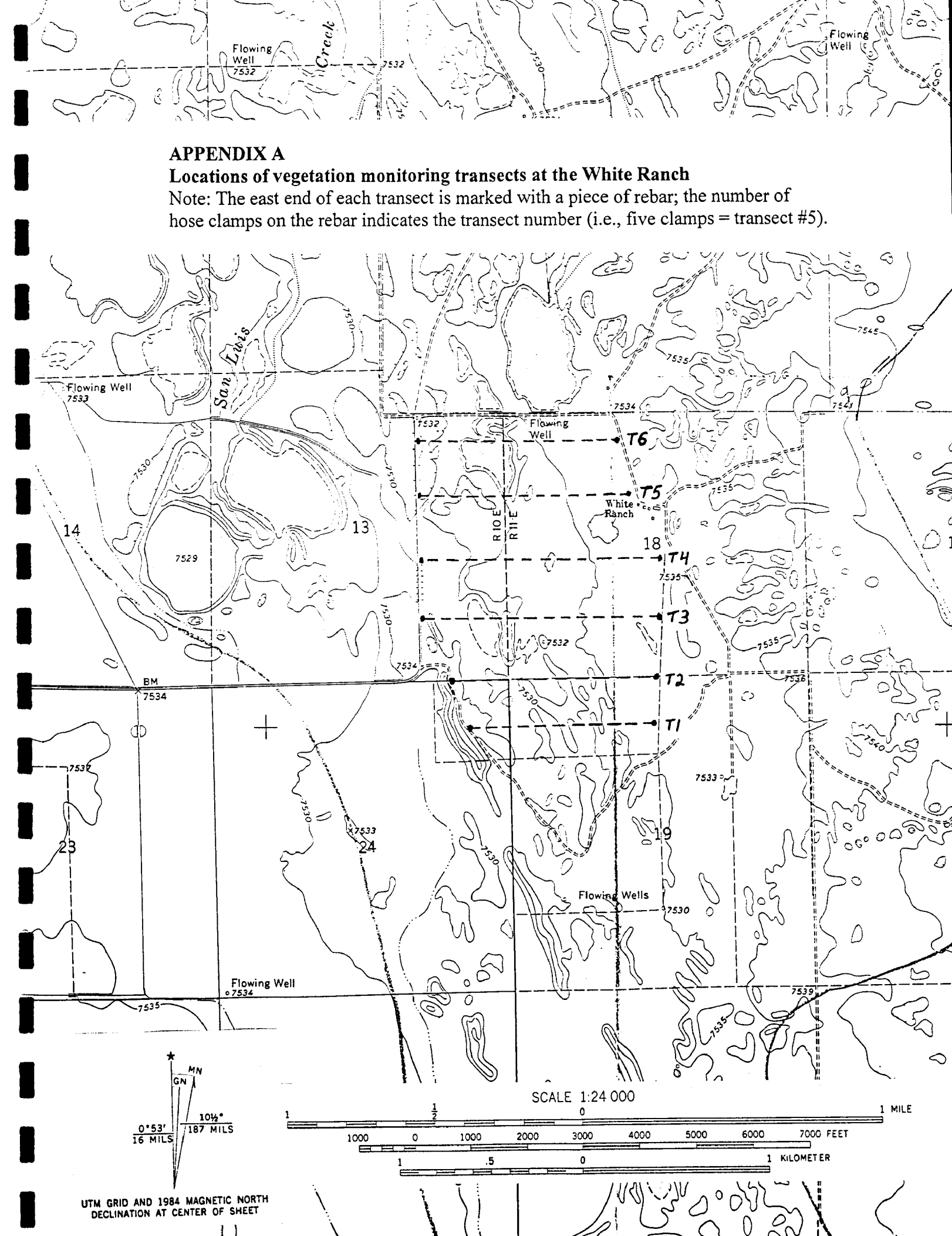
When considering hydrologic changes on the White Ranch, impacts on rare and imperiled species should be a primary concern. The San Luis sand hills skipper uses saltgrass meadows extensively, so changes in saltgrass abundance will likely affect this species. The microhabitat required by the silky pocket mouse (*Perognathus flavus sanluisi*) is not understood. Because it was documented within the area proposed for hydrologic alteration, it may also be affected by flooding. The thirteen-lined groundsquirrel, which was also found in the wetland basins, will also likely be impacted by changes to the current hydrologic regime. Finally, we do not know what other animals in the area, especially invertebrates, depend on the saltgrass meadows, so it is difficult to make conclusive statements about effects of hydrologic manipulation. "Going slow" is in order with respect to these rare and imperiled species.

It has been indicated that the White Ranch will be managed with a "natural" hydrologic regime. Unfortunately, given historic changes in the hydrology of the area (e.g., diversions on the Baca ranch and pumping from the Closed Basin project), it is nearly impossible to say what exactly a natural hydrologic regime is for the White Ranch. It does seem apparent that this wetland system cannot be characterized in the usual sense of "wetland." Unlike "typical" wetlands that are inundated most of the time during almost every year, those on the White Ranch were probably always subject to a highly variable hydrologic regime, both from month to month and year to year. In some years the area may have been flooded completely, then it may have remained dry for the next two or three years. The Fish and Wildlife Service is encouraged to support and interact with the several researchers in the Closed Basin who are currently trying to understand the ecological and hydrological mechanisms underlying wetlands in this area.

APPENDIX A

Locations of vegetation monitoring transects at the White Ranch

Note: The east end of each transect is marked with a piece of rebar; the number of hose clamps on the rebar indicates the transect number (i.e., five clamps = transect #5).



APPENDIX B. RAW DATA FROM VEGETATION TRANSECTS

TRANSECT #: Ø1

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch
Approx. 200m from TØ2 to South.
Starts approx. 20m S of small drainage.
UTM COORDINATES: From 0 m mark at East ent 13N 0428661 E 4183126 N

DATE: 8-9-91
SURVEYORS: RJR, AEO

RADIUS

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
mtc	*0	50	100	150	*200	250	300	350	*400	450	500	550	*600	650	700	750	*800		
Pascopyrum smithii		3	2	3			3	1	2	1	2			2			1		
distichlis ~~airoides~~ spicata					5	3	3	3	5		3		3		2	3	2		
Juncus balticus	6		4			3													
Artiplex confertaflora						2													
Kochia								1											
Sporobolus airoides												2							
Sarcobatus vermiculatus							1					4							
Bare ground	2	6	6	5	5	5	4	5	5	6	5	6	5	6	6	6	6		
Litter	6	3	3	5	5	5	6	5	5	3	5	4	5	3	2	3	2		
Basal veg.																			

continued on next page

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

3 5-25

TRANSECT #: 01

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE: 8-9-97
SURVEYORS: RJR, AEO

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																			
	850	900	950	1000																
Pascopyrum smithii		2		2																
distichlis ~~airoides~~ spicata	2	1	1																	
Juncus balticus																				
Sarcobatus vermiculatus																				
Bare ground	6	6	6	6																
Litter	2	3	3	3																
Basal veg.																				

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

4 5 6 → 3

5-25

TRANSECT #: ∅2

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE:
SURVEYORS:

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																		
	0 M	50	100	150	*210	250	300	350	*400	450	500	550	*600	650	700	750	*800	850	900
Pascopyrum smithii	4		4	4	3	4	2	3			3		3				1		2
distichlis ~~airoides~~ spicata			2		3		-		5	2	4			6	2	1	1	1	
Juncus balticus		5			4	1	-										4	1	
Aster																		1	
Brassicaceae																		1	
Sarcobatus vermiculatus												5				3			
Bare ground	5	3	6	5	5	4	5	6	4	5	3	5	6	3	5	4	3	6	5
Litter		6	2	5	5	5	4	3		5	5	3	3	5	5	5	5	4	4
Basal veg.																			

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

3 5-25

→ Perognathus flavus sanluisii
@ 4 28 217 E
41 83 265 N

TRANSECT #: ø2

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE:
SURVEYORS:

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																			
	950	1000																		
Pascopyrum smithii	2	1																		
distichlis ~~airoides~~ spicata	3	1																		
Juncus balticus																				
Sarcobatus vermiculatus																				
Bare ground	5	5																		
Litter	3	4																		
Basal veg.																				

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

5 4 6

—3 5-25

TRANSECT #: 03

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch
Approx. 300 m from fence that runs E-W on the south side of old house site (approx. 325 m from transect #4)
approx. 4.5m from fence that runs N-S.

UTM COORDINATES: at 0m - East End 13N 0428785 E 4183514 N

DATE: 8-8-97

SURVEYORS: RJR, AEO

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																		
	1 *0	2 50	3 100	4 150	5 *200	6 250	7 300	8 350	9 *400	10 450	11 500	12 550	13 *600	14 650	15 700	16 750	17 *800		
Pascopyrum smithii		2	4	5	5	3	4	2	3		3	2	3	3					
distichlis ~~airoides~~	4							6	4	4	1			3	3	2	5		
Juncus balticus	3	6		2	3									3					
Sueada								2											
Atriplex sp.								1											
Kochia														1					
Sarcobatus vermiculatus														3					
Bare ground	5	3	6	5	4	5	5	6	5	5	6	6	6	4	3	4	4		
Litter	5	6	4	5	6	5	5	4	5	5	4	3	3	6	6	5	6		
Basal veg.																			

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

4 5 6 → 3

5-25

TRANSECT #: 03

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE: 8-8-97
SURVEYORS:

SPECIES	CIRCULAR MICRO PLOTS (1.5 M DIAMETER) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END) — RADIUS
	850	900	950	*1000
Pascopyrum smithii				
distichlis ~~airoides~~		3		4
Juncus balticus			(NONE)	
Sarcobatus vermiculatus	~~4~~ 3			
Bare ground	6	6	6	5
Litter	3	2	2	5
Basal veg.				

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

4
5
6

3

5-25

TRANSECT #: 04

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch
75-100 m S of intersection of ditch with Eastern fence (South of old house site)

UTM COORDINATES: ~~13~~ at 0m on East end - 13 N 0428769 E 4183808 N

DATE: 8-8-97
SURVEYORS: RJR, AEO

Radius

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
	* 0	50	100	150	* 200	250	300	350	* 400	450	500	550	* 600	650	700	750	* 800		
11 *Pascopyrum smithii*			4	4	2	5	3	3		2	2	2	6	6	4	34	3		
distichlis ~~airoides~~ spicata	5	6		4				5	5	5	3	4				5	2		
Juncus balticus		1	2		4		2				3				2				
Aster					1	1		2											
Sueada					1	2		2	2	3									
Kochia								2											
Lepidium sp.																	1		
Sarcobatus vermiculatus																			
Bare ground	~~6~~ 5	5	5	6	6	5	5	5	6	5	5	5	3	5	4	3	6		
Litter	5	5	5	3	4	5	5	5	3	5	5	5	6	5	5	6	3		
Basal veg.																			

COVER CODE	% RANGE
1	<1
2	1-5
~~3~~ 4	25-50
~~4~~ 5	50-75
~~5~~ 6	75-100

3 5-25

* rebar posts

TRANSECT #: 04

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE: 8-8-97
SURVEYORS: RJR, AEO

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ Radius) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																			
	18	19	20	21																
	850	900	950	*1000																
Pascopyrum smithii	2	3	2	3																
distichlis ~~airoides~~ spicata	1	2	3	2																
Juncus balticus			1																	
Sarcobatus vermiculatus																				
Bare ground	6	5	5	3																
Litter	3	5	5	6																
Basal veg.																				

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

3 5-25

TRANSECT #: 05

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch
Approx. 40 m W of old house site. 270° transect E to W.

UTM COORDINATES: at 0 m mark - East End 13 N 0412856 E 4184244 N

DATE: 8-8-97
SURVEYORS: RJR, AEO

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	0	50	100	150	*200	250	300	350	*400	450	500	550	*600	650	700	750	*800
Pascopyrum smithii		2	6	2		2	3	3	3	1	4	3	5	3			
distichlis ~~airoides~~ spicata	5		4	3	3	5	2	5	5	5	3	6	5		2	2	2
Juncus balticus	2	5												2			
Trighlochein maritima	1																
Aster	1													1			
Cosha		2					2					2					
Sueada			1			3	6										
Hordeum jubatum						1											
Chenopodium							3										
Sarcobatus vermiculatus																	
Bare ground	5	5	4	6	6	5	6	6	5	6	6	6	5	6	5	5	5
Litter	5	5	6	2	2	5	2	3	5	4	4	4	5	3	5	5	5
Basal veg.																	

ditch area

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

4 5 6 — 3

5-25

TRANSECT #: 05 continued

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

UTM COORDINATES:

DATE: 8-8-97
SURVEYORS: RJR, AEO

RADIUS

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																			
	18	19	20	21																
	850	900	~~1000~~ 950	1000																
Pascopyrum smithii		2	2	1																
distichlis ~~airoides~~ spicata	2	2	2	2																
Juncus balticus																				
Sueada			1																	
Sarcobatus vermiculatus																				
Bare ground	6	6	6	5																
Litter	4	4	3	5																
Basal veg.																				

COVER CODE	% RANGE
1	<1
2	1-5
3	25-50
4	50-75
5	75-100

4 5 6
3

5 - 25

TRANSECT #: 6

GENERAL LOCATION AND DIRECTIONS: Saguache County, White Ranch

Far North

UTM COORDINATES: Eastern end 0 M mark is 13 N 04 28 441 E 41 84 482 N

DATE:

SURVEYORS:

RADIUS

SPECIES	CIRCULAR MICRO PLOTS (1.5 M ~~DIAMETER~~ RADIUS) EVERY 50M; PERMANENT MARKER EVERY 200 M (0 M ALWAYS AT EAST END)																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
Pascopyrum smithii		3	6	6	6	3	1	1	5	3	2						1		3	
distichlis ~~airoides~~ spicata	4	-	-	-	-	-			2	3	4	5	5	5	4	-	4	3	2	3
Juncus balticus	3	3	-	-	1	1	1			1							-	1	1	
Sporobolus airoides	5	-	-	-	-	-														
Hordeum jubatum				3	1				4	2										
Chenopodium				2		1														
Sueda				1		1	2									3				
unknown broadleaf				1																
Cardaria					1															
unknown other						1	2	1											1	
Sarcobatus vermiculatus																				
Chrysothamnus nauseosus	1																			
Chenopodium furinose						1					2									
Kochia							1													
Bare ground	3	5	4	3	5	6	6	2	4	5	5	5	5	5	5	6	5	5	6	5
Litter	4	3	4	4	3	3	1	6	6	5 6	3	5	5	5	5	2	5	5	3	5
Basal veg.																				
Triglochin maritima										4										
Scirpus mar										1										

COVER CODE	% RANGE
1	<1
2	1-5
~~3~~ 4	25-50
~~4~~ 5	50-75
~~5~~ 6	75-100
3	5-25

SPPI P EUA

Transect 6, page 1 of 1

APPENDIX C. RAW DATA FROM SMALL MAMMAL TRAPPING

TRANSECT 2

trap #	NIGHT	DAY
1	Peromyscus maniculatus	Open & Empty
2	Open & Empty	Open & Empty
3	Peromyscus maniculatus	Open & Empty
4	Open & Empty	Open & Empty
5	Open & Empty	Open & Empty
6	Peromyscus maniculatus	Open & Empty
7	Open & Empty	Open & Empty
8	Peromyscus maniculatus	Open & Empty
9	Open & Empty	Open & Empty
10	Peromyscus maniculatus	Open & Empty
11	Open & Empty	Open & Empty
12	Perognathus flavus sanluisi	Open & Empty
13	Open & Empty	Open & Empty
14	Open & Empty	Open & Empty
15	Open & Empty	Open & Empty
16	Peromyscus maniculatus	Open & Empty
17	Open & Empty	Open & Empty
18	Peromyscus maniculatus	Open & Empty
19	Onychomys leucogaster	Open & Empty
20	Peromyscus maniculatus	Open & Empty

TRANSECT 4

trap #	NIGHT	DAY
1	Open & Empty	Open & Empty
2	Open & Empty	Open & Empty
3	Open & Empty	Open & Empty
4	Open & Empty	Open & Empty
5	Open & Empty	Open & Empty
6	Peromyscus maniculatus	Spermophilus tridecemlineatus blanca
7	Peromyscus maniculatus	Spermophilus tridecemlineatus blanca
8	Open & Empty	Spermophilus tridecemlineatus blanca
9	Open & Empty	Open & Empty
10	Open & Empty	Open & Empty
11	Peromyscus maniculatus	Open & Empty
12	Open & Empty	Open & Empty
13	Open & Empty	Open & Empty
14	Peromyscus maniculatus	Open & Empty
15	Peromyscus maniculatus	Open & Empty
16	Open & Empty	Open & Empty
17	Peromyscus maniculatus	Open & Empty
18	Open & Empty	Open & Empty
19	Open & Empty	Open & Empty
20	Open & Empty	Open & Empty

TRANSECT 6

trap #	NIGHT	DAY
1	Peromyscus maniculatus	Open & Empty
2	Peromyscus maniculatus	Spermophilus tridecemlineatus blanca
3	Open & Empty	Open & Empty
4	Open & Empty	Open & Empty
5	Sprung & Empty	Open & Empty
6	Peromyscus maniculatus	Open & Empty
7	Dipodomys odrii montanus	Open & Empty
8	Open & Empty	Open & Empty
9	Open & Empty	Open & Empty
10	Dipodomys odrii montanus	Open & Empty
11	Open & Empty	Open & Empty
12	Sprung & Empty	Open & Empty
13	Peromyscus maniculatus	Open & Empty
14	Open & Empty	Open & Empty
15	Open & Empty	Open & Empty
16	Open & Empty	Open & Empty
17	Open & Empty	Open & Empty
18	Open & Empty	Open & Empty
19	Dipodomys odrii montanus	Open & Empty
20	Dipodomys odrii montanus	Open & Empty

Appendix D—Species documented on or immediately adjacent to the White Ranch.
Note: Since CNHP time on the site was limited to no more than several days, these lists should be considered preliminary.

Vascular Plants

USDA PLANTS Scientific Name	Weber and Wittmann (1992) Scientific Name	Common Name	Abundance	Introduced?
Amaranthus retroflexus L.	--	redroot amaranth	Present	Yes
Aster ascendens Lindl.	*Virgulaster ascendens* (Lindl.) Semple	Chile aster	Present	
Aster sp.	*Virgulus* sp.		Present	
Bassia hyssopifolia (Pallas) Kuntz	--	fivehorn smotherweed	Present	Yes
Bolboschoenus maritimus (L.) Palla	--		Present	
Chenopodium album L.	--	white goosefoot	Present	Yes
Chenopodium glaucum L.	--	oakleaf goosefoot	Present	Yes
Chenopodium rubrum L.	--	red goosefoot	Present	
Chenopodium watsonii A. Nels.	--	Watson's goosefoot	Present	
Chrysothamnus nauseosus (Pallas ex Pursh) Britt.	--	rabbitbrush	Present	
Chrysothamnus parryi (A. Gray) Greene	--	Parry's rabbitbrush	Present	
Cleome serrulata Pursh	--	Rocky Mountain beeplant	Present	
Distichlis spicata (L.) Greene	*Distichlis stricta* (Torrey) Rydberg	saltgrass	Abundant	
Eleocharis palustris (L.) Roemer & J.A. Schultes	--	common spikerush	Present	
Helianthus petiolaris Nutt.	--	prairie sunflower	Present	
Heliotropium curassavicum L. var. *oculatum* (Heller) I.M. Johnston	--	seaside heliotrope	Common	
Hordeum jubatum L.	*Critesion jubatum* (L.) Nevski	foxtail barley	Present	
Juncus balticus Willd. var. *montanus* Englm.	*Juncus ater* Rydberg	mountain rush	Common	
Kochia scoparia (L.) Schrad	*Bassia sieversiana* (Pallas) W.A. Weber	common kochia	Common	Yes
Lepidium latifolium L.	*Cardaria latifolia* (L.) Spach	broadleaved pepperweed	Present	Yes
Lepidium ramosissimum A. Nels.	--	manybranched pepperweed	Present	
Machaeranthera canescens (Pursh) Gray	--	hoary aster	Present	
Machaeranthera parviflora Gray	--	smallflower tansyaster	Present	
Pascopyrum smithii (Rydb.) A. Love	--		Abundant	
Puccinellia nuttalliana (J.A. Schultes) A.S. Hitchc.	*Puccinellia airoides* (Nutt.) S. Wats. & Coult.		Present	
Sarcobatus vermiculatus (Hook.) Torr.	--	greasewood	Abundant	

Schoenoplectus pungens (Vahl) Palla	--	threesquare	Present	
Scirpus nevadensis S. Wats.	*Amphiscirpus nevadensis* (S. Wats.) Oteng-Yeboah	Nevada bulrush	Present	
Sidalcea neomexicana Gray	--	New Mexico checkermallow	Present	
Sphaerophysa salsula (Pallas) DC.	--	alkali swainsonpea	Present	Yes
Sporobolus airoides (Torr.) Torr.	--	alkali sacaton	Present	
Triglochin maritimum L.	--	seaside arrowgrass	Present	
Zannichellia palustris L.	--	horned pondweed	Present	

Birds

American Avocet
Barn Swallow
Brewer's Blackbird
Brewer's Sparrow
Brown-headed Cowbird
Cliff Swallow
Gadwall
Horned Lark
Killdeer
Long-eared Owl
Mourning Dove
Northern Harrier
Red-winged Blackbird
Sage Thrasher
Savanna Sparrow
Song Sparrow
Swainson's Hawk
Tree Swallow
White-faced Ibis
Wilson's Phalarope

Mammals

Deer mouse (*Peromyscus maniculatus*)
Ord's kangaroo rat subspecies (*Dipodomys ordii montanus*)
Silky pocket mouse subspecies (*Perognathus flavus sanluisi*)
Northern grasshopper mouse (*Onychomys leucogaster*)
Thirteen-lined groundsquirrel (*Spermophilus tridecemlineatus blanca*)
Least chipmunk subspecies (*Tamias minimus caryi*)
Bison, domestic (*Bison bison*)
Black-tailed jackrabbit (*Lepus californicus*)
Coyote (*Canis latrans*)
Antelope (*Antilocapra americana*)
Mountain lion, scat only (*Felis concolor*)

Amphibians

Great Plains toad (*Bufo cognatus*)
Woodhouse's toad (*Bufo woodhousii*)
Striped chorus frog (*Pseudacris triseriata*)

Invertebrates
Saltgrass skipper (*Polites subuleti ministigma*)

APPENDIX E. ELEMENT OCCURRENCE RECORDS FOR RARE VERTEBRATES AND INVERTEBRATES AND SIGNIFICANT PLANT COMMUNITIES ON THE WHITE RANCH

GILA PANDORA

EOCODE: AFCJB13130*029*CO **IDENT:**
FONUM:
SCOMNAME: RIO GRANDE CHUB
GRANK: G3 **SRANK:** S1? **USESA:** **SPROT:** SC

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WEISMAN WETLANDS **LAT:** 375423N **S:**
PRECISION: S **LONG:** 1055002W **N:**

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:
Saguache	SHEDS CAMP	3710587	1	W:

TOWNRANGE:	SECTION:	TRS COMMENTS:
042N010E	1	[WUNDER ET AL. 1997:] S1 SW1/4 SW1/4

DIRECTIONS: [WUNDER ET AL. 1997:] UTM ZONE: 13, NORTHING: 4195543, EASTING: 426608. TAKE HWY 17 S FROM INTERSECTION WITH HWY 285. GO S ON HWY 17 TO MOFFAT, TURN E ON T ROAD. FOLLOW T ROAD TO S, E, N, AND E AGAIN. GO E ON T ROAD (FROM "U" SECTION) FOR APPROXIMATELY 2 MILES TO SERIES OF RED BUILDINGS ON N SIDE OF T ROAD. OPPOSITE THESE BUILDINGS ON S SIDE OF T ROAD IS AN ENTRANCE TO PRIVATE PROPERTY (ROAD 66-T). TRAVEL S ON TWO-TRACK, AVOID TURNING-OFF. CONTINUE S FOR APPROXIMATELY 5 MILES. AT MAJOR TURN, GO E, FOLLOW TWO-TRACK APPROXIMATELY 1/4 MILE, PAST OLD HOMESTEAD. TURN S FOR APPROXIMATELY 1/4 MILE TO RECLAMATION ROAD WHICH GOES W THEN N. STAY ON RECLAMATION ROAD THROUGH CATTLE GATE TO WETLANDS AREA. ELEVATION: 7500 FEET.

CDOW UTM:	PHYSPROV:	WATERSHED:
ZONE: 13		13010003
UTME/X: 426660		
UTMN/Y: 4195550		

SURVEYDATE: 1997-07-29 **LASTOBS:** 1997-07-29 **FIRSTOBS:** 1997-07-29
EORANK: B **EORANKDATE:** 1997-07-29
EORANKCOM: [WUNDER ET AL. 1997:] VIABILITY: B, NO TROUT PRESENT. AMPLE SUITABLE HABITAT. QUALITY: C, NOT SURE OF TOTAL POPULATION SIZE, ONLY SEINED ONE. FATHEAD MINNOWS WERE FAR MORE ABUNDANT. CONDITION: A, HABITAT IN EXCELLENT CONDITION. SUITABLE AND UNDISTURBED. SUMMARY COMMENT: HIGHER NUMBERS SUSPECTED IN SUITABLE HABITAT.

EODATA: [WUNDER ET AL. 1997:] NUMBER OF INDIVIDUALS: 1. EVIDENCE OF DISEASE, PREDATION OR INJURY: TAIL FIN PARTIALLY MISSING. COMMENT: FATHEAD MINNOWS FAR OUT NUMBERED CHUB, BUT MANY OF THE FISH WERE LARVAL AND DIFFICULT TO IDENTIFY.

EOTYPE:

GENDESC: [WUNDER ET AL. 1997:] SEDGE, RUSH, WESTERN WHEAT GRASS DOMINATED WETLAND IN GREASEWOOD FLATS ON VALLEY FLOOR. MUCH ALGAE PRESENT AS WELL AS OTHER SUBMERGENT AND EMERGENT VEGETATION IN LAKE. ASPECT: NONE. PERCENT SLOPE: 0%. MOISTURE: HYDRIC. RELIEF: VALLEY BOTTOM. ASSOCIATED VERTEBRATE TAXA: FATHEAD MINNOW, TIGER SALAMANDER, BUGO COGNATUS, AMERICAN AVOCET, KILLDEER, WILSON'S PHALAROPE. ELEVATION: 7500 FEET.

ELEV: 7500 - 7540 **SIZE:**
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [WUNDER ET AL. 1997:] ADEQUATE. NEED TO MAINTAIN WATER LEVEL. FUTURE MANAGEMENT OF WATER RIGHTS COULD CREATE A PROBLEM FOR WETLANDS AND LAKES. PREDOMINANT LAND USES: CATTLE GRAZING. PROTECTION COMMENT: CURRENT PROTECTION IS DOING WELL. FUTURE WATER RIGHTS MUST BE PROTECTED TO MAINTAIN WATER LEVEL.

PROTCOM:

OWNER: PRIVATE: GARY BOYCE **OWNER INFO:**

OWNERCOM: [WUNDER ET AL. 1997:] MUST RECEIVE OWNER'S PERMISSION BEFORE VISITING SITE.

COMMENTS: [WUNDER ET AL. 1997:] SUSPECT MORE CHUB, BUT SEINING WAS DIFFICULT BECAUSE OF DEPTH OF POND. [OCHS 1997:] QUADMAP DOES NOT DEPICT WETLANDS, OR CURRENT ROADS ON PROPERTY. LOCATION (DOT) WAS MAPPED BASED ON WRITTEN DIRECTIONS AND GPS/UTM COORDINATES. WETLANDS NEAR DOT ON MAP COULD HAVE EXPANDED DUE TO HIGH VOLUME OF RAIN DURING JULY. [CNHP:] MAP PROVIDED BY WUNDER ET AL. 1997.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: Y **BOUNDARIES:** Y **PHOTOS:** N

SPECIMENS: WUNDER, M., J. SIEMERS, A. OCHS. 1997. SPECIMEN. (COLLECTION #7-29-97-1) AT COLORADO STATE UNIVERSITY MUSEUM.

BESTSOURCE: WUNDER, M., J. SIEMERS, A. OCHS. 1997. CNHP SAGUACHE COUNTY INVENTORY.

SOURCECODE: F97WUN01COUS, S97WUNCSCOUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-08-18 AEO **MAPPER:** 97-08-27 AEO **DATARESP:** **CDREV:** **QC:**

AFCJB13130*029*CO **PRINTOUT DATE:** 28 MAY 1998

SPERMOPHILUS TRIDECEMLINEATUS BLANCA

EOCODE: AMAFB05094*002*CO **IDENT:**
FONUM:
SCOMNAME:
GRANK: G5T3 **SRANK:** S3 **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WHITE RANCH **LAT:** 374754N **S:** 374728N
PRECISION: S **LONG:** 1054847W **N:** 374822N
COUNTY: **QUADNAME:** **QUAD:** **DOT#:** **E:** 1054820W
Saguache DEADMAN CAMP 3710577 2 **W:** 1054906W

TOWNRANGE: **SECTION:** **TRS COMMENTS:**
041N011E 18,19

DIRECTIONS: [WUNDER 1997:] T41N R11E S18. UTM: ZONE 13, UTME/X: 428651, UTMN/Y: 4184097. WHITE RANCH. FROM HIGHWAY 17, TAKE COUNTY ROAD D EAST AND FOLLOW IT AROUND UNTIL IT COMES TO A DEAD END AT A SHED AND 2 COTTONWOOD TREES. PARK HERE AND HIKE WEST INTO THE PLAYA LAKES AND EOR. ELEVATION: 7530 FEET.

CDOW UTM: **PHYSPROV:** **WATERSHED:**
ZONE: 13 13010003
UTME/X: 428460
UTMN/Y: 4183580

SURVEYDATE: 1997-08-09 **LASTOBS:** 1997-08-09 **FIRSTOBS:** 1997-08-09
EORANK: A **EORANKDATE:** 1997-08-09
EORANKCOM: [WUNDER 1997:] GOOD REPRODUCTION IN CONTIGUOUS HABITAT WITH GOOD FOOD SOURCE. VIABILITY: A, PLENTY OF HABITAT, AMPLE FOOD SUPPLY. QUALITY: B, ALL INDIVIDUALS VERY VIGOROUS. NUMBER OF YOUNG INDICATES GOOD REPRODUCTION. CONDITION: A, HABITAT IS WONDERFUL FOR THIS GROUND SQUIRREL.

EODATA: [WUNDER 1997:] DIFFICULT TO OBSERVE IN THIS AREA BUT READILY CAPTURED IN SHERMAN LIVE TRAPS. NUMBER OF INDIVIDUALS: 4. AGE AND SEX: 2 JUVENILE MALES, 1 JUVENILE FEMALE, 1 ADULT MALE. REPRODUCTIVE EVIDENCE: JUVENILES PRESENT. EVIDENCE OF DISEASE, PREDATION OR INJURY: NONE.

EOTYPE:

GENDESC: [WUNDER 1997:] EPHEMERAL PLAYA WETLANDS THAT ARE DRY FOR A GOOD PART OF THE YEAR. MAJOR VEGETATION IS WESTERN WHEAT GRASS AND SALT MEADOW GRASS. OCCASIONALLY, AN ISLAND OF GREASEWOOD OCCURS ON THE HIGHER GROUND WHERE IT IS DRIER, BUT THE OCCURRENCE FOR THIS SQUIRREL IS ON THE PLAYA BOTTOMS. ASPECT: NONE. PERCENT SLOPE: 0%. MOISTURE: XERIC. RELIEF: VALLEY BOTTOM. DOMINANT PLANT COMMUNITY: SALT MEADOW GRASS. ASSOCIATED VERTEBRATE TAXA: TAMIAS MINIMUS, PEROMYSCUS MANICULATUS, ONYCHOMYS LEUCOGASTER, SWAINSON'S HAWK. ELEVATION: 7530 FEET.

ELEV: 7530 - 7530 **SIZE:** 300
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [WUNDER 1997:] USFWS HAS INITIATED A VEGETATION/SMALL MAMMAL MONITORING PROGRAM THAT WILL CONTINUE INDEFINITELY SO EFFECTS OF VARIOUS MANAGEMENT PLANS WILL BE DOCUMENTED. PREDOMINANT LAND USES: WILDLIFE REFUGE. EXOTIC SPECIES: NONE.

PROTCOM: [WUNDER 1997]: USFWS RECENTLY PURCHASED THIS PROPERTY AS A WILDLIFE REFUGE. PROTECTION PLANS ARE CURRENTLY EVOLVING.

OWNER: US FISH AND WILDLIFE SERVICE **OWNER INFO:**
OWNERCOM:

COMMENTS: [CNHP:] MAP PROVIDED BY WUNDER 1997.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: N **BOUNDARIES:** Y **PHOTOS:** N

SPECIMENS:

BESTSOURCE: WUNDER, M. 1997. CNHP SAGUACHE COUNTY INVENTORY.

SOURCECODE: F97WUN01COUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-11-04 MLH **MAPPER:** 97-09-26 JLS **DATARESP:** **CDREV:** **QC:**

AMAFB05094*002*CO **PRINTOUT DATE:** 28 MAY 1998

PEROGNATHUS FLAVUS SANLUISI

EOCODE: AMAFD01032*020*CO **IDENT:**
FONUM:
SCOMNAME: SILKY POCKET MOUSE SUBSP.
GRANK: G5T3 **SRANK:** S3 **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WHITE RANCH **LAT:** 374804N **S:**
PRECISION: S **LONG:** 1054834W **N:**

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:
Saguache	DEADMAN CAMP	3710577	4	W:

TOWNRANGE:	SECTION:	TRS COMMENTS:
041N011E	18	[WUNDER ET AL. 1997:] S18 SW1/4 NE1/4.

DIRECTIONS: [WUNDER ET AL. 1997:] T41N R11E S18 SW1/4 NE1/4. UTM: ZONE: 13, UTME/X: 428711, UTMN/Y: 4183983. GPS COORDINATE: LAT: 374801.6N, LONG: 1054835.9W. FROM HOOPER, GO NORTH ON HWY 17 TO D ROAD. TURN RIGHT (EAST) AND FOLLOW ROAD AS IT CURVES NORTH THEN EAST, THEN SOUTH TO TREES AND BARN. PARK AND WALK CA. 200 YARDS ALONG DITCH. ELEVATION: 7539 FEET.

CDOW UTM:	PHYSPROV:	WATERSHED:
ZONE: 13		13010003
UTME/X: 428780		
UTMN/Y: 4183870		

SURVEYDATE: 1997-06-24 **LASTOBS:** 1997-06-24 **FIRSTOBS:** 1997-06-24
EORANK: B **EORANKDATE:** 1997-07-14
EORANKCOM: [WUNDER ET AL. 1997:] VIABILITY: B, ALL REQUIREMENTS PRESENT. QUALITY: B, REMARKABLE TO CATCH EVEN ONE IN 30 TRAP NIGHTS, BUT FAILED TO FIND EXTENSIVE BURROUGH SYSTEM. CONDITION: B, ADJACENT UPLANDS IN UNTOUCHED CONDITION, PLAYA LOWLANDS SOMEWHAT GRAZED.

EODATA: [WUNDER ET AL. 1997:] TRAPPED IN 30 TRAP NIGHTS IN GRASSY AREA ADJACENT TO GREASEWOOD SHRUBLANDS. NUMBER OF INDIVIDUALS: 1. AGE AND SEX: ADULT MALE. REPRODUCTIVE EVIDENCE: SCROTAL. EVIDENCE OF DESEASE, PREDATION OR INJURY: MITES PRESENT.

EOTYPE:

GENDESC: [WUNDER ET AL. 1997:] SALT MEADOW GRASS HABITAT NEAR IRRIGATION DITCH. ASPECT: NONE. PERCENT SLOPE: NONE. MOISTURE: XERIC. RELIEF: VALLEY BOTTOM. DOMINANT PLANT COMMUNITY: SALT MEADOW GRASS. ASSOCIATED VERTEBRATE TAXA: ORD'S KANGAROO RAT, RED WINGED BLACKBIRD, AMERICAN AVOCET, DEER MICE, BUFO COGNATUS, BUFO WOODHOUSII, PSEUDALRIS TRIBERIATA. ELEVATION: 7539 FEET.

ELEV: 7535 - 7535 **SIZE:**
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [WUNDER ET AL. 1997:] ADJACENT LANDOWNER'S BISON HAD ENTERED AREA DUE TO DOWNED FENCE. THEY MUST BE KEPT OUT. AREA COULD BE FLOODED TO PROVIDE SHOREBIRD HABITAT IN THE FUTURE BY LANDOWNER (USFWS). PREDOMINANT LAND USES: NATURE PRESERVE. EXOTIC SPECIES: WHITE TOP, DOMESTIC UNGULATES.

PROTCOM: [WUNDER ET AL. 1977:] USFWS HAS PURCHASED THE RANCH FOR A WETLANDS AND SHOREBIRD ORIENTED NATURE PRESERVE. PLANS FOR MANAGEMENT ARE NOW BEING CONSIDERED.

OWNER: US FISH AND WILDLIFE SERVICE **OWNER INFO:**
OWNERCOM: [WUNDER ET AL. 1997:] CONTACT USFWS.

COMMENTS: [WUNDER ET AL. 1997:] 30 TRAPS SET RANDOMLY WITH ONLY ONE PEROGNATHUS SP. TRAPPED. PHOTO NUMBERS: C-13,14 (AEO). [CNHP:] MAP PROVIDED BY WUNDER ET AL. 1997.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: N **BOUNDARIES:** Y **PHOTOS:** Y

SPECIMENS: WUNDER, M., A. OCHS, J. SIEMERS, J. BELAK, L. RAWINSKI, R.RONDEAU. 1997. SPECIMEN (COLLECTION #1997-06-24-1) AT UNKNOWN LOCATION.

BESTSOURCE: WUNDER, M., A. OCHS, J. SIEMERS, J. BELAK, L. RAWINSKI, AND R. RONDEAU. 1997. CNHP SAGUACHE COUNTY INVENTORY.

SOURCECODE: F97WUN01COUS, U97RON02COUS , S97WUN01COUS

UPDATE: **TRANCRIBER:** 97-11-04 MLH **MAPPER:** 97-09-26 AEO **DATARESP:** **CDREV:** **QC:**

AMAFD01032*020*CO **PRINTOUT DATE:** 28 MAY 1998

PEROGNATHUS FLAVUS SANLUISI

EOCODE: AMAFD01032*021*CO **IDENT:**
FONUM:
SCOMNAME: SILKY POCKET MOUSE SUBSP.
GRANK: G5T3 **SRANK:** S3 **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WHITE RANCH **LAT:** 374745N **S:**
PRECISION: S **LONG:** 1054856W **N:**

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:
Saguache	DEADMAN CAMP	3710577	5	W:

TOWNRANGE:	SECTION:	TRS COMMENTS:
041N011E	18	[WUNDER ET AL. 1997:] S18 SW1/4 SW1/4.

DIRECTIONS: [WUNDER ET AL. 1997]: T41N R11E S18, SW1/4 SW1/4. WHITE RANCH. FROM HWY 17, TAKE COUNTY ROAD D EAST AND FOLLOW IT AROUND UNTIL IT COMES TO A DEAD END AT A SHED AND 2 COTTONWOOD TREES. PARK HERE AND WALK SOUTHWEST APPROXIMATELY 3/4 MILES TO EOR. ELEVATION: 7530 FEET.

CDOW UTM:
ZONE: 13
UTME/X: 428220
UTMN/Y: 4183280

PHYSPROV:

WATERSHED:
13010003

SURVEYDATE: 1997-08-09 **LASTOBS:** 1997-08-09 **FIRSTOBS:** 1997-08-09
EORANK: B **EORANKDATE:** 1997-08-10
EORANKCOM: [WUNDER ET AL. 1997]: LOCATION SUGGESTS CONTINUITY WITH OTHER NEARBY LOCATIONS. VIABILITY: B, FOUND IN APPARENT ISLAND REFUGE IN PLAYA SYSTEM. QUALITY: B, ONE INDIVIDUAL TRAPPED, BUT BURROWS ABUNDANT. CONDITION: A, GOOD GREASEWOOD ISLAND IN PLAYA SYSTEM.

EODATA: [WUNDER ET AL. 1997:] MOUSE WAS TRAPPED ON SMALL GREASEWOOD-DOMINATED HILL (ISLAND) IN PLAYA LAKE SYSTEM. NUMBER OF INDIVIDUALS: 1. AGE AND SEX: ADULT FEMALE. REPRODUCTIVE EVIDENCE: NONE. EVIDENCE OF DISEASE, PREDATION OR INJURY: NONE.

EOTYPE:

GENDESC: [WUNDER ET AL. 1997]: EPHEMERAL PLAYA WETLANDS THAT ARE DRY FOR MOST OF THE YEAR, BUT EXPERIENCE SEASONAL FLOODING. SALT MEADOW AND WESTERN WHEAT GRASSES DOMINATE THE LANDSCAPE, BUT SCATTERED ACROSS THE SYSTEM ARE SMALL ISLANDS (HILLS) THAT REMAIN DRY AND ARE DOMINATED BY GREASEWOOD. ASPECT: NONE. PERCENT SLOPE: NONE. MOISTURE: XERIC. RELIEF: VALLEY BOTTOM. DOMINANT PLANT COMMUNITY: GREASEWOOD. ASSOCIATED VERTEBRATE TAXA: PEROMYSCUS MANICULATUS, ONYCHOMYS LEUCOGASTER, SWAINSON'S HAWK, LONG-EARED OWL. ELEVATION: 7530 FEET.

ELEV: 7530 - 7530 **SIZE:**
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [WUNDER ET AL. 1997]: USFWS HAS INITIATED A VEGETATION/SMALL MAMMAL MONITORING PROGRAM THAT WILL CONTINUE INDEFINITELY SO AS TO MONITOR EFFECTS OF VARIOUS MANAGEMENT REGIMES. PREDOMINANT LAND USES: WILDLIFE REFUGE. EXOTIC SPECIES: NONE. PROTECTION COMMENT: THIS PROPERTY WAS PURCHASED BY THE USFWS AS A WILDLIFE REFUGE.

PROTCOM:

OWNER: USFWS **OWNER INFO:**
OWNERCOM:

COMMENTS: [CNHP:] MAP PROVIDED BY WUNDER ET AL. 1997.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: N **BOUNDARIES:** Y **PHOTOS:** N

SPECIMENS: WUNDER, M. AND B. OCHS. 1997. SPECIMEN (COLLECTION #MBW-8-9-97-1) AT UNKNOWN LOCATION.

BESTSOURCE: WUNDER, M. AND B. OCHS. 1997. CNHP SAGUACHE COUNTY INVENTORY.

SOURCECODE: F97WUN01COUS, S97WUN01COUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-09-17 MBW **MAPPER:** 97-10-23 DCZ **DATARESP:** **CDREV:** **QC:**

AMAFD01032*021*CO **PRINTOUT DATE:** 28 MAY 1998

PODICEPS NIGRICOLLIS *

EOCODE: ABNCA03030*061*CO **IDENT:**
FONUM:
SCOMNAME: EARED GREBE *
GRANK: G5 **SRANK:** S3B,SZ **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WEISMAN LAKE AREA **LAT:** 375303N **S:**
PRECISION: S **LONG:** 1054917W **N:**

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:
Saguache	SHEDS CAMP	3710587	3	W:

TOWNRANGE: 042N010E **SECTION:** 13 **TRS COMMENTS:**

DIRECTIONS: [WUNDER ET AL. 1997:] FROM HWY 285 TRAVEL S ON HWY 17 TO MOFFAT. TURN E ON T ROAD. FOLLOW T ROAD TO S, E, N, AND E AGAIN. GO E ON T ROAD (FROM "U" SECTION) FOR APPROXIMATELY 2 MILES TO SERIES OF RED BUILDINGS ON N SIDE OF T ROAD. OPPOSITE THESE BUILDINGS ON S SIDE OF T ROAD IS ENTRANCE TO PRIVATE PROPERTY, ROAD 66-T. TRAVEL S ON TWO-TRACK, AVOID TURNING OFF. CONTINUE S FOR APPROXIMATELY 5 MILES. AT MAJOR TURN GO E. FOLLOW TWO-TRACK APPROXIMATELY 1/4 MILE, PAST OLD HOMESTEAD. TURN S FOR APPROXIMATELY 1/4 MILE TO RECLAMATION ROAD, WHICH GOES W THEN N. STAY ON RECLAMATION ROAD THROUGH CATTLE GATE TO WETLANDS AREA. UTM: ZONE 13, NORTHING: 4193128, EASTING: 427754. ELEVATION: 7500 FEET.

CDOW UTM:
ZONE: 13
UTME/X: 427780
UTMN/Y: 4193100

PHYSPROV:

WATERSHED:
13010003

SURVEYDATE: 1997-07-28 **LASTOBS:** 1997-07-28 **FIRSTOBS:** 1997-07-28
EORANK: A **EORANKDATE:** 1997-07-28
EORANKCOM: [WUNDER ET AL. 1997:] SUCCESSFUL FAMILY UNIT IN GOOD EXPANSIVE HABITAT. VIABILITY: A, GOOD FOOD SOURCE AND NESTING AREA IN REMOTE, ISOLATED TERRITORY. QUALITY: B, ONE PAIR, BUT FOUR YOUNG. ALL EATING VERY WELL. CONDITION: A, EXCELLENT CONDITION.

EODATA: [WUNDER ET AL. 1997:] NUMBER OF INDIVIDUALS: 6. AGE AND SEX: 2 ADULT, 4 JUVENILE. REPRODUCTIVE EVIDENCE: ADULTS OBSERVED FEEDING YOUNG. EVIDENCE OF DISEASE, PREDATION OR INJURY: NONE. [CNHP:] BREEDING RECORD CONFIRMED.

EOTYPE:

GENDESC: [WUNDER ET AL. 1997:] WETLAND AREA DOMINATED BY RUSHES AND SEDGES, SURROUNDED BY GREASEWOOD/RABBITBRUSH UPLANDS ON VALLEY FLOOR. THE POND IS HOME TO FISH AND TOADS, HAS CLEAR WATER AND LOTS OF SUBMERGENT VEGETATION. MOISTURE: HYDRIC. RELIEF: VALLEY BOTTOM. DOMINANT PLANT COMMUNITY: RUSHES. ASSOCIATED VERTEBRATE TAXA: AMERICAN AVOCET, RED-WINGED BLACKBIRD, GADWALL, BREWER'S BLACKBIRD, BUFO COGNATUS. ELEVATION: 7500 FEET.

ELEV: 7500 - 7540 **SIZE:**
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [WUNDER ET AL. 1997:] MAINTAIN WETLANDS AS THEY ARE. PREDOMINANT LAND USES: CATTLE GRAZING. PROTECTION COMMENT: THIS LAND IS VERY PRIVATE AND THE SITE IS THEREFOR NOT VISITED NOR DISTURBED VERY OFTEN. PROTECTED BY DEFAULT.

PROTCOM:

OWNER: PRIVATE: GARY BOYCE **OWNER INFO:**
OWNERCOM: [WUNDER ET AL. 1997:] CONTACT OWNER FOR PERMISSION TO VISIT LOCATION.

COMMENTS: [OCHS 1997:] QUADMAP DOES NOT DEPICT WETLANDS, OR CURRENT ROADS ON PROPERTY. LOCATION (DOT) WAS MAPPED BASED WRITTEN DIRECTIONS AND GPS/UTM COORDINATES. ALTHOUGH THE QUADMAP DOES NOT DEPICT WETLANDS AT OR NEAR THE LOCATI AERIAL PHOTOGRAPHS SHOW AN EXPANSIVE WETLANDS AREA AT THE LOCATION. [WUNDER ET AL. 1997:] PHOTO #'S: F: 6-24. [CNHP:] MAP PROVIDED BY WUNDER 1997. TRS EXTRAPOLATED FROM MAP.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: N **BOUNDARIES:** Y **PHOTOS:** Y

SPECIMENS:

BESTSOURCE: WUNDER, M., A. OCHS, J. SIEMERS. 1997. CNHP SAGUACHE COUNTY INVENTORY.

SOURCECODE: F97WUN01COUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-09-16 AEO **MAPPER:** 97-09-16 AEO **DATARESP:** **CDREV:** **QC:**

ABNCA03030*061*CO **PRINTOUT DATE:** 28 MAY 1998

POLITES SABULETI MINISTIGMA

EOCODE: IILEP66024*002*CO **IDENT:**
FONUM:
SCOMNAME: SAN LUIS SANDHILL SKIPPER
GRANK: G5T3 **SRANK:** S5 **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES
SURVEYSITE: WHITE RANCH **LAT:** 374823N **S:**
PRECISION: S **LONG:** 1054910W **N:**

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:
Alamosa	DEADMAN CAMP	3710577	6	W:

TOWNRANGE: 041N010E **SECTION:** 13 **TRS COMMENTS:**

DIRECTIONS: [PINEDA 1997:] FROM HIGHWAY 17 IN ALAMOSA COUNTY, TAKE COUNTRY ROAD "D" EAST AND FOLLOW TO WHITE RANCH HOMESTEAD. HOUSE BEING REMOVED FROM SITE AT TIME OF SURVEY. T41N R10E S13. ELEVATION: 7530 FEET.

CDOW UTM:
ZONE: 13
UTME/X: 427840
UTMN/Y: 4184480

PHYSPROV:

WATERSHED:
13010003

SURVEYDATE: 1997-06-24 **LASTOBS:** 1997-06-24 **FIRSTOBS:** 1997-06-24
EORANK: C **EORANKDATE:** 1997-06-26
EORANKCOM: [PINEDA 1997:] HABITAT AND HOSTPLANT AFFECTED BY FLUCTATIONS IN GROUNDWATER, DIVERSION OF SURFACE WATER, AND FUTURE PROPOSED WATER DEVELOPMENTS IN THE VALLEY.

EODATA: [PINEDA 1997:] CAPTURED ONE INDIVIDUAL BY AERIAL NET IN A DISTICHLIS SPICATA (HOSTPLANT) MEADOW (TEMPORARY AND SEASONAL PLAYA LAKE).

EOTYPE:

GENDESC: [PINEDA 1997:] MEADOW OF CAPTURE CONTAINED A VERY NICE SPREAD OF DISTICHILIS SPICATA WITHIN THE PLAYA, SURROUNDED BY MIXED VEGETATION OF PASCOPYRUM SMITHII, JUNCUS BALTICUS, SARCOBATES VERMICULATUS. SOIL: BIEDELL CLAY LOAM, SALINE-ALKALI AFFECTED SOIL IN DRY LAKEBED ON VALLEY FLOOR. VERY LITTLE TOPOGRAPHY. ELEVATION: 7530 FEET.

ELEV: 7530 - 7530 **SIZE:**
MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [PINEDA 1997:] PROTECTION COMMENT: HABITAT AND HOSTPLANT MAY BE AFFECTED BY FLUCTUATIONS IN GROUNDWATER, DIVERSION OF SURFACE WATER, AND FUTURE PROPOSED WATER DEVELOPMENTS IN THE VALLEY.

PROTCOM:

OWNER: PRIVATE: GARY BOYCE **OWNER INFO:**
OWNERCOM: [PINEDA 1997:] MUST OBTAIN PERMISSION FROM OWNER, GARY BOYCE, PRIOR TO ACCESS.

COMMENTS: [CNHP:] MAP PROVIDED BY PINEDA 1997. SITE UNSURVEYED, SECTION EXTRAPOLATED. <<TOPIC.KEYWORDS>>SAGUACHE COUNTY - NEW

TOPIC.KEYWORDS:

DATASENS: N **BOUNDARIES:** **PHOTOS:**

SPECIMENS: PINEDA, P.M. 1997. SPECIMEN (COLLECTION #UNKNOWN) AT THE COLORADO STATE UNIVERSITY C.P. GILLETTE INSECT BIODIVERSITY MUSEUM.

BESTSOURCE: PINEDA, P.M. 1997. CNHP FIELD SURVEY TO SAGUACHE COUNTY.

SOURCECODE: F97PIN02COUS, S97PINGICOUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-11-04 MLH **MAPPER:** 97-09-15 KML **DATARESP:** **CDREV:** **QC:**

IILEP66024*002*CO **PRINTOUT DATE:** 28 MAY 1998

ELEOCHARIS PALUSTRIS

EOCODE: CWWAELPA3A*009*CO **IDENT:**

FONUM:

SCOMNAME: EMERGENT WETLAND

GRANK: G5 **SRANK:** S4 **USESA:** **SPROT:**

SITECODE: S.USCOHP*10836 **SITENAME:** WEISMAN LAKES

SURVEYSITE: NORTH WEISMAN LAKE **LAT:** 375400N **S:** 375321N

PRECISION: S **LONG:** 1055005W **N:** 375450N

COUNTY:	QUADNAME:	QUAD:	DOT#:	E:	W:
Saguache	SHEDS CAMP	3710587	2 A-B	1054936W	1055032W

TOWNRANGE:	SECTION:	TRS COMMENTS:
042N010E	1,2,11,12,13	[SARR AND SANDERSON 1997:] NW4.

DIRECTIONS: [SARR AND SANDERSON 1997:] T42N R10E S12 NW4. FROM HIGHWAY 17 PROCEED EAST 2 MILES ON COUNTY ROAD "G", TURN NORTH AT LOCKED GATE AND CONTINUE 3.4 MILES NORTH TO THE SOUTH EDGE OF WEISMAN LAKE. PARK VEHICLE AND CONTINUE NORTHWEST 3/4 MILE TO SITE. ELEMENT EXTENDS NORTH ONE MILE FROM NORTHERN EDGE OF WEISMAN LAKE. ELEVATION: 7540 FEET.

CDOW UTM:
ZONE: 13
UTME/X: 426640
UTMN/Y: 4194840

PHYSPROV:

WATERSHED:
13010003

SURVEYDATE: 1997-06-29 **LASTOBS:** 1997-06-29 **FIRSTOBS:** 1997-06-29

EORANK: B **EORANKDATE:** 1997-06-29

EORANKCOM: [SARR AND SANDERSON 1997:] GOOD EXAMPLE OF A SEASONAL ELEOCHARIS PALUSTRIS WETLAND, NATURAL TOPOGRAPHY AND HYDROLOGY. QUALITY: A. CONDITION: B. VIABILITY: B. DEFENSIBILITY: C.

EODATA: [SARR AND SANDERSON 1997:] APPROXIMATELY 1000 ACRES OF MIXED ELEOCHARIS PALUSTRIS (60%) WITH STANDS OF JUNCUS BALTICUS (15%) AND PASCOPYRUM SMITHII ON EDGES AND ISLANDS POPULATIONS OF KILLDEER, AVOCET AND PHALAROPE, RELATIVELY LARGE "EDGE" BECAUSE OF SLOUGHS AND ISLANDS.

EOTYPE:

GENDESC: [SARR AND SANDERSON 1997:] DEPRESSIONAL WETLAND IN SARCOBATUS/DISTICHLIS PLAYA VEGETATION. GEOLOGY: STABILIZED DUNES. SOIL: ALKALINE SANDS. HABITAT COMMENTS: APPEARS TO BE GOOD HABITAT FOR SHOREBIRDS, PLAINS TOADS AND AQUATIC INVERTEBRATES [FAIRY SHRIMP?]. SLOPE: MINIMAL. TOPOGRAPHICAL POSITION: VALLEY SWALE. HYDROLOGIC REGIME: SEASONALLY FLOODED. ELEVATION: 7540 FEET.

ELEV: 7535 - 7555 **SIZE:** 1000

MACODE: **MANAME:** **CONTAINED:**

MGMTCOM: [SARR AND SANDERSON 1997:] DISTURBANCE: LIVESTOCK GRAZING. PROTECTION COMMENTS: ELEMENT COULD BE EFFECTED BY HYDROLOGICAL ALTERATIONS.

PROTCOM:

OWNER: **OWNER INFO:**

OWNERCOM: [SARR AND SANDERSON 1997:] STATE LANDS. CONTACT GRAZING LESSEE GARY BOYCE.

COMMENTS: [CNHP:] MAP PROVIDED BY SARR AND SANDERSON 1997. PRIMARY LAT/LONG MEASURED TO DOT 2A. [DOT 2B:] PRIMARY LAT/LONG-375307N/1054943W, (S) 375301, (N) 375312, (E) 1054924W, (W) 1054954W.

TOPIC.KEYWORDS: SAGUACHE COUNTY - NEW

DATASENS: Y **BOUNDARIES:** Y **PHOTOS:**

SPECIMENS:

BESTSOURCE: SARR, D. AND J. SANDERSON. 1997. A NATURAL HERITAGE ASSESSMENT OF WETLANDS OF THE CLOSED BASIN, SAN LUIS VALLEY.

SOURCECODE: F97SAR01COUS , U97RON02COUS

UPDATE: **TRANCRIBER:** 97-09-09 MLH **MAPPER:** 97-09-09 MLH **DATARESP:** **CDREV:** **QC:**

CWWAELPA3A*009*CO **PRINTOUT DATE:** 28 MAY 1998

APPENDIX F. CHARACTERIZATION ABSTRACTS FOR RARE VERTEBRATES DOCUMENTED ON THE WHITE RANCH

Vertebrate Characterization Abstract for Colorado

GILA PANDORA
RIO GRANDE CHUB

Taxonomy:

TAXCLASS:	OSTEICHTHYES	ORDER:	CYPRINIFORMES
FAMILY:	CYPRINIDAE	GENUS:	GILA

GLOBAL TAXONOMIC COMMENTS:
Hybridizes with RHINICHTHYS CATARACTAE (may be due to breeding-season crowding caused by drought and/or withdrawals of water for irrigation). Morphological variation among populations in Canadian River, Pecos River, and Rio Grande are believed to represent ecophenotypic variation (B90SUB01NA).

Status:

GLOBAL RANK: G3 STATE RANK: S1?
FED. LEGAL STATUS: STATE LEGAL STATUS: SC
FED. AGENCY STATUS:

Habitat:

MINIMUM ELEV:
MAXIMUM ELEV:

HABITAT COMMENTS:
Pools of small to moderate streams near areas of current. Small impoundments in the san luis valley, undercut banks. (Woodling 1985)

GLOBAL REPRODUCTIVE HABITAT COMMENTS:
Spawns in spring and early summer.

Distribution:
GLOBAL RANGE:

STATE RANGE: Native, restricted to rio grande basin; found in scattered locations; 1984- collected from upper dome lake in cochetopa creek basin (in co river basin) [b85woo01cous]

COUNTY NAME:	REFERENCE:
Alamosa	Woodling 1985
Archuleta	
Conejos	
Costilla	
Hinsdale	
Rio Grande	
Mineral	
Saguache	

Phenology:

JANA:	APRA:	JULA:	OCTA:
JANB:	APRB:	JULB:	OCTB:
FEBA:	MAYA:	AUGA:	NOVA:
FEBB:	MAYB:	AUGB:	NOVB:
MARA:	JUNA:	SEPA:	DECA:
MARB:	JUNB:	SEPB:	DECB:

"P" = Present (resident populations or regular migrants).
"A" = Present and active (eg. not hibernating).
"R" = Present, active and reproducing.
"Reproducing" is defined as follows:
Fish = spawning; Amphibians = breeding through egg hatching;
Reptiles = mating and egg laying through hatching;
Birds = earliest nest building/egg laying through fledging
Mammals = breeding, and birth through independence from a nest/den site or from lactation, whichever comes first

PHENOLOGY COMMENTS:

SREPROCOM:

Management:

MANAGEMENT COMMENTS:
Biology unknown, population from upper dome lake probably originated as part of fish stocking activities or as a bait bucket transfer. [b85woo01cous]

References:

ABBREVIATED CITATION:	FULL CITATION:
Lee 1980	Lee, D. S., et al. 1980. Atlas of North American Freshwater Fishes. North Carolina State Mus. of Nat. His. 867 pp.
Page, et al., 1991	Page, L. M., and B. M. Burr. 1991. A Field Guide to Freshwater Fishes: North America North of Mexico. Houghton Mifflin Co., Boston. 432 pp.
Robins 1991	Robins, C. R., et al. 1991. Common and Scientific Names of Fishes From the United States and Canada. Am. Fish. Soc., Spec. Publ. 20. 183 pp.
Sublette, et al., 1990	Sublette, J. E., M. D. Hatch, and M. Sublette. 1990. The Fishes of New Mexico. Univ. New Mexico Press, Albuquerque. 393 pp.
Woodling 1985	Woodling, J. 1985. Colorado's Little Fish: A Guide to the Minnows and Other Lesser Known Fishes in the State of Colorado. Colorado Division of Wildlife, Denver.

DATA PROVIDED BY THE COLORADO NATURAL HERITAGE PROGRAM;
CURRENT TO DEC 1995

Vertebrate Characterization Abstract for Colorado

SPERMOPHILUS TRIDECEMLINEATUS
THIRTEEN-LINED GROUND SQUIRREL

Taxonomy:

TAXCLASS:	MAMMALIA	ORDER:	RODENTIA
FAMILY:	SCIURIDAE	GENUS:	SPERMOPHILUS

GLOBAL TAXONOMIC COMMENTS:
Known to hybridize at several localities with S. MEXICANUS (see Hoffmann et al., in Wilson and Reeder 1993).

Status:

GLOBAL RANK: G5 STATE RANK: S5
FED. LEGAL STATUS: STATE LEGAL STATUS:
FED. AGENCY STATUS: FS

Habitat:

MINIMUM ELEV:
MAXIMUM ELEV:

HABITAT COMMENTS:

GLOBAL REPRODUCTIVE HABITAT COMMENTS:
Breeding period: April-June. Gestation 27-28 days. Litter averages 8 (13 maximum), perhaps larger in older females than in younger ones; 1 litter per year. Young weaned in 26 days, emerge from burrow about 5 weeks after birth. Sexually mature by first spring.

Distribution:

GLOBAL RANGE: South-central Canada to Texas and east of the Rocky Mountains to the Great Lakes.

STATE RANGE:

COUNTY NAME: REFERENCE:

Phenology:

JANA:	APRA:	JULA:	OCTA:
JANB:	APRB:	JULB:	OCTB:
FEBA:	MAYA:	AUGA:	NOVA:
FEBB:	MAYB:	AUGB:	NOVB:
MARA:	JUNA:	SEPA:	DECA:
MARB:	JUNB:	SEPB:	DECB:

"P" = Present (resident populations or regular migrants).
"A" = Present and active (eg. not hibernating).
"R" = Present, active and reproducing.

"Reproducing" is defined as follows:
Fish = spawning; Amphibians = breeding through egg hatching;
Reptiles = mating and egg laying through hatching;
Birds = earliest nest building/egg laying through fledging
Mammals = breeding, and birth through independence from a nest/den site or from lactation, whichever comes first

PHENOLOGY COMMENTS:

GLOBAL PHENOLOGY COMMENTS:
Enters hibernation by October (adults may hibernate beginning in July), emerges in March or early April.

SREPROCOM:

Management:
MANAGEMENT COMMENTS:

References:

ABBREVIATED CITATION:	FULL CITATION:
Baker 1983	Baker, Rollin H. 1983. Michigan Mammals. Michigan State University Press. 642 pp.
Banfield 1974	Banfield, A. W. F. 1974. The Mammals of Canada. University of Toronto Press, Toronto.
Caire 1989	Caire, W., et al. 1989. Mammals of Oklahoma. Univ. Oklahoma Press, Norman. 567 pp.
Gunderson 1976	Gunderson, H.L. 1976. Mammalogy. McGraw-Hill Book Co., NY 483 pp.
Hall 1981	Hall, E. Raymond. 1981. The Mammals of North America, Vols. I & II. John Wiley & Sons, New York, New York. 1181 p.
Hamilton, et al., 1979	Hamilton, William J., Jr., and John O. Whitaker, Jr. 1979. Mammals of the Eastern United States. Cornell University Press. Ithaca, NY. 346 pp.
Murie, et al., 1984	Murie, J. O., and G. R. Michener, editors. 1984. The biology of ground-dwelling squirrels: annual cycles, behavioral ecology and sociality. Univ. Nebraska Press, Lincoln. xvi + 459 pp.
Schwartz, et al., 1981	Schwartz, Charles W., and Elizabeth R. Schwartz. 1981. The wild mammals of Missouri. University of Missouri Press, Columbia. 356 pp.

Streubel — Streubel, D. P., and J. P. Fitzgerald. 1978. SPERMOPHILUS TRIDECEMLINEATUS. Am. Soc. Mamm., Mammalian Species No. 103:1-5.

Wilson, et al., 1993 — Wilson, D. E., and D. M. Reeder, Editors. 1993. Mammal Species of the World: A Taxonomic and Geographic Reference. Second edition. Smithsonian Inst. Press, Washington. xviii + 1206 pp.

DATA PROVIDED BY THE COLORADO NATURAL HERITAGE PROGRAM;
CURRENT TO DEC 1995

Vertebrate Characterization Abstract for Colorado

PEROGNATHUS FLAVUS SANLUISI
SILKY POCKET MOUSE SUBSP.

Taxonomy:

TAXCLASS: MAMMALIA
ORDER: RODENTIA
FAMILY: HETEROMYIDAE
GENUS: PEROGNATHUS

Status:

GLOBAL RANK: G5T3
STATE RANK: S3
FED. LEGAL STATUS:
STATE LEGAL STATUS:
FED. AGENCY STATUS:

Habitat:

MINIMUM ELEV:
MAXIMUM ELEV:

HABITAT COMMENTS:

Distribution:

GLOBAL RANGE:

STATE RANGE:

COUNTY NAME:
Alamosa

REFERENCE:

Phenology:

JANA:	APRA:	JULA:	OCTA:
JANB:	APRB:	JULB:	OCTB:
FEBA:	MAYA:	AUGA:	NOVA:
FEBB:	MAYB:	AUGB:	NOVB:
MARA:	JUNA:	SEPA:	DECA:
MARB:	JUNB:	SEPB:	DECB:

"P" = Present (resident populations or regular migrants).
"A" = Present and active (eg. not hibernating).
"R" = Present, active and reproducing.
"Reproducing" is defined as follows:
Fish = spawning; Amphibians = breeding through egg hatching;
Reptiles = mating and egg laying through hatching;
Birds = earliest nest building/egg laying through fledging
Mammals = breeding, and birth through independence from a nest/den site or from lactation, whichever comes first

PHENOLOGY COMMENTS:

SREPROCOM:

Management:

MANAGEMENT COMMENTS:

References:
ABBREVIATED CITATION: FULL CITATION:

DATA PROVIDED BY THE COLORADO NATURAL HERITAGE PROGRAM;
CURRENT TO DEC 1995

Vertebrate Characterization Abstract for Colorado

PODICEPS NIGRICOLLIS *
EARED GREBE *

Taxonomy:

TAXCLASS:	AVES	ORDER:	PODICIPEDIFORMES
FAMILY:	PODICIPEDIDAE	GENUS:	PODICEPS

GLOBAL TAXONOMIC COMMENTS:
P. CASPICUS (Hablitzl, 1783), used by some authors for P. NIGRICOLLIS, has been officially suppressed (AOU 1983).

Status:

GLOBAL RANK: G5 STATE RANK: S3B,SZN
FED. LEGAL STATUS: STATE LEGAL STATUS:
FED. AGENCY STATUS:

Habitat:

MINIMUM ELEV: 3500
MAXIMUM ELEV: 5900

HABITAT COMMENTS:
Breeds mostly in shallow ponds and lakes bordered with cattails, although it breeds at some sites that lack cattails (Andrews and R 1992).

GLOBAL REPRODUCTIVE HABITAT COMMENTS:
Breeding begins mid-April in south, late May-June in north. In Minnesota, nest initiation dates ranged from late May through the third week in July; nesting was moderately to highly synchronous within a colony (Boe 1994). Both adults, in turn, incubate an average of 3-4 eggs for 20-22 days. Young reportedly are independent in 3 weeks. Usually nests in colony (100 pairs on 1 lake is not unusual) on larger lakes. In Minnesota, colonies included 15 to 580+ nests, with 3-41 nests per 100 sq m (Boe 1994).

Distribution:
GLOBAL RANGE:

STATE RANGE: Abundant summer resident in north park and the san luis valley. In years when water levels are favorable up to 750 pairs nest at walden res., jackson county and 450 pairs at san luis lakes, alamosa county. Uncommon to fairly lcommon in other mountain parks and on eastern plains and at browns park nwr, moffat county. Rare in western valleys with nesting records at unaweep canyon, mesa county and in southern gunnison county. Accidental in higher mountains. (Andrews and 1992)

COUNTY NAME:	REFERENCE:
Moffat	Andrews and R 1992
Jackson	
Grand	
Larimer	
Boulder	
Jefferson	
Weld	
Adams	
Denver	
Arapahoe	
Morgan	
Logan	
Sedgwick	
Garfield	
Clear Creek	
Park	
Mesa	
Gunnison	
Montezuma	
Saguache	
Rio Grande	
Alamosa	
Conejos	
Costilla	
Custer	
Huerfano	
Fremont	
Pueblo	
Crowley	
Otero	
Kiowa	
Bent	
Prowers	
Eagle	

Phenology:

JANA:	APRA: P	JULA: R	OCTA: P
JANB:	APRB: R	JULB: R	OCTB: P
FEBA:	MAYA: R	AUGA: R	NOVA: P
FEBB: P	MAYB: R	AUGB: R	NOVB: P
MARA: P	JUNA: R	SEPA: P	DECA: P
MARB: P	JUNB: R	SEPB: P	DECB: P

"P" = Present (resident populations or regular migrants).
"A" = Present and active (eg. not hibernating).
"R" = Present, active and reproducing.
"Reproducing" is defined as follows:
Fish = spawning; Amphibians = breeding through egg hatching;
Reptiles = mating and egg laying through hatching;
Birds = earliest nest building/egg laying through fledging
Mammals = breeding, and birth through independence from a nest/den site or from lactation, whichever comes first

PHENOLOGY COMMENTS:

SREPROCOM:

Management:
MANAGEMENT COMMENTS:

References:

ABBREVIATED CITATION:	FULL CITATION:
AOU Committee on Classification and Nomenclature 1983	AOU Committee on Classification and Nomenclature. 1983. Check-list of North American Birds, 6th ed. Amer. Ornithologists Union, Allen Press, Inc., Lawrence, Kansas.
Andrews and R 1992	Andrews, R. R. and R. R. Righter. 1992. Colorado Birds. Denver Museum of Natural History, Denver. 442 pp.
Boe 1992	Boe, J. S. 1992. wetland selection by eared grebes, PODICEPS NIGRICOLLIS, in Minnesota. Can. Field-Nat. 106:480-488.
Boe 1994	Boe, J. S. 1994. Nest site selection by eared grebes in Minnesota. Condor 96:19-35.
Harrison 1978	Harrison, C. 1978. A Field Guide to the Nests, Eggs and Nestlings of North American Birds. Collins, Cleveland.
Jehl 1988	Jehl, J. R. 1988. Biology og the eared grebe and Wilson's phalarope in the nonbreeding seson: a study of adaptations to saline lakes. Cooper Ornithol. Soc., Studies in Avian Biology No. 12. iv + 74 pp.
Johnsgard	Johnsgard, P. A. 1987. Diving birds of North America. Univ. Nebraska Press, Lincoln. xii + 292 pp.
Oberholser 1974	Oberholser, H. C. 1974. The Bird Life of Texas. 2 vols. Univ. of Texas Press, Austin.
Paton, et al., 1992	Paton, P. W., C. Kneedy, and E. Sorensen. 1992. Chronology of Shorebird and Ibis Use of Selected Marshes at Great Salt Lake. Utah Birds 8(1):1-19.
Root 1988	Root, T. 1988. Atlas of Wintering North American Birds. An Analysis of Christmas Bird Count Data. Univ. Chicago Press. 336 pp.
Stiles, et al., 1989	Stiles, F. G., and A. F. Skutch. 1989. A Guide

APPENDIX G. Weisman Lakes Site Profile

Biodiversity Rank: B3 (High significance)
This wetland site includes eight occurrences of globally and state imperiled fish, mammals, birds, and plant communities.

Protection Urgency Rank: P2
This site is comprised of private, state land board properties, and a U. S. Fish and Wildlife refuge on White Ranch. The state parcels are leased by an adjacent landowner, primarily for cattle grazing. There are no current easements on the property, and the status of the water that affects the site is volatile and may change dramatically within the next few years.

Management Urgency Rank: M4
In general, the landscape appears to be more or less intact, with only a few two-track roads and ditches crossing the site. However, the site hydrology is affected by numerous on-site and off-site disturbances. The White Ranch U.S. Fish and Wildlife refuge at the extreme southern end of this site has several active wells which are maintained to enhance waterbird habitat. The Baca Ranch, at the northern part of this site, diverts much of the incoming water from Cottonwood and Deadman creeks into irrigated hay meadows, severely limiting the direct flow into Weisman Lakes. Perturbations from the upper Closed Basin (e.g., water diversion on San Luis and Saguache creeks and center pivot irrigation) have complicated effects on downstream sites such as this one. In addition to agricultural development, which has affected the local hydrology for many years, the more recent Closed Basin project, located adjacent to the site, began pumping groundwater from the unconfined aquifer and transporting it to the Rio Grande in the late 1980s.

Due to the confusing array of hydrologic disturbances, it is extremely difficult to accurately estimate management needs and viability potential for the elements of concern at this site. Information needs are vast. Effective management will require a much better understanding of the hydrologic connections between surface and shallow and deep groundwater resources. Management of this site requires, therefore, not only local protection of on-site wetland elements, but secure water resources, and greater understanding of how current and anticipated water uses within the watershed will affect the wetlands.

Location: Western edge of the Luis Maria Baca Ranch and the adjacent state lands.

U.S.G.S. 7.5 minute quadrangles: Sheds Camp, Deadman Camp.

Legal Description:	T41N, R10E	S 1, 2, 11-14, 23-25, 36
	T41N, R11E	17-20, 30, 31 and unsurveyed
	T42N, R10E	S 1, 2, 11-15, 23-26, 35, 36
	T42N, R11E	unsurveyed

General Description: The Weisman Lakes site occurs in the middle of the playa lake system of the central Closed Basin (see following map). The playa lakes system in the Closed Basin includes ephemeral wetlands that generally support salt meadow grass (*Distichlis spicata*), western wheatgrass (*Pascopyrum smithii*), and spikerush (*Eleocharis palustris)* in the lake basins, and are often surrounded by greasewood (*Sarcobatus vermiculatus*) uplands.

The Weisman Lakes area occurs at the confluence of most of the prominent drainages of the closed basin including San Luis, Saguache, Deadman, Cottonwood, and Russell Creeks. This location allows wetlands to hold open water longer than in other areas of the playa lake system. These permanent wetlands support, spikerush (*Eleocharis palustris*), the native Rio Grande chub (*Gila pandora*), the introduced fathead minnow (*Pimephales promelas*), the eared grebe (*Podiceps nigricollis*), and many amphibians, including striped chorus frog (*Pseudacris triseriata*), plains spadefoot (*Spea bombifrons*), and Great Plains toad (*Bufo cognatus*). This diverse vertebrate biomass base no doubt provides forage for many of the state rare waterbirds that nest in the Closed Basin.

Basin wetlands at the southern end of the site become increasingly ephemeral and support salt meadow grass and western wheatgrass communities which are common throughout the playa lake system. These ephemeral basins abut the greater sand dunes ecosystem to the southeast, which may help to support the richness of endemic small mammals that occur on this site.

The site is approximately 7,800 acres in size and ranges in elevation from 7,500 to 7,515 feet (2,285-2,290 meters).

Biodiversity Rank Justification: In times of drought, the perennial wetlands in the northern portion of the site provide refuge for the globally rare Rio Grande chub (*Gila pandora*). Additionally, they provide nesting habitat for the state rare eared grebe (*Podiceps nigricollis*). The southern portion of the site is more arid and supports an excellent example of the globally rare saline bottomland shrubland (*Sarcobatus vermiculatus/Distichlis spicata*). This community in turn supports good populations of two globally rare and San Luis Valley endemic subspecies of small mammal, the silky pocket mouse (*Perognathus flavus sanluisi*), and the thirteen-lined groundsquirrel (*Spermophilus tridecemlineatus blanca*).

Natural Heritage elements at the Weisman Lakes site. Multiple listings of the same element represent suboccurrences. Elements responsible for the high biodiversity rank are in bold type face.

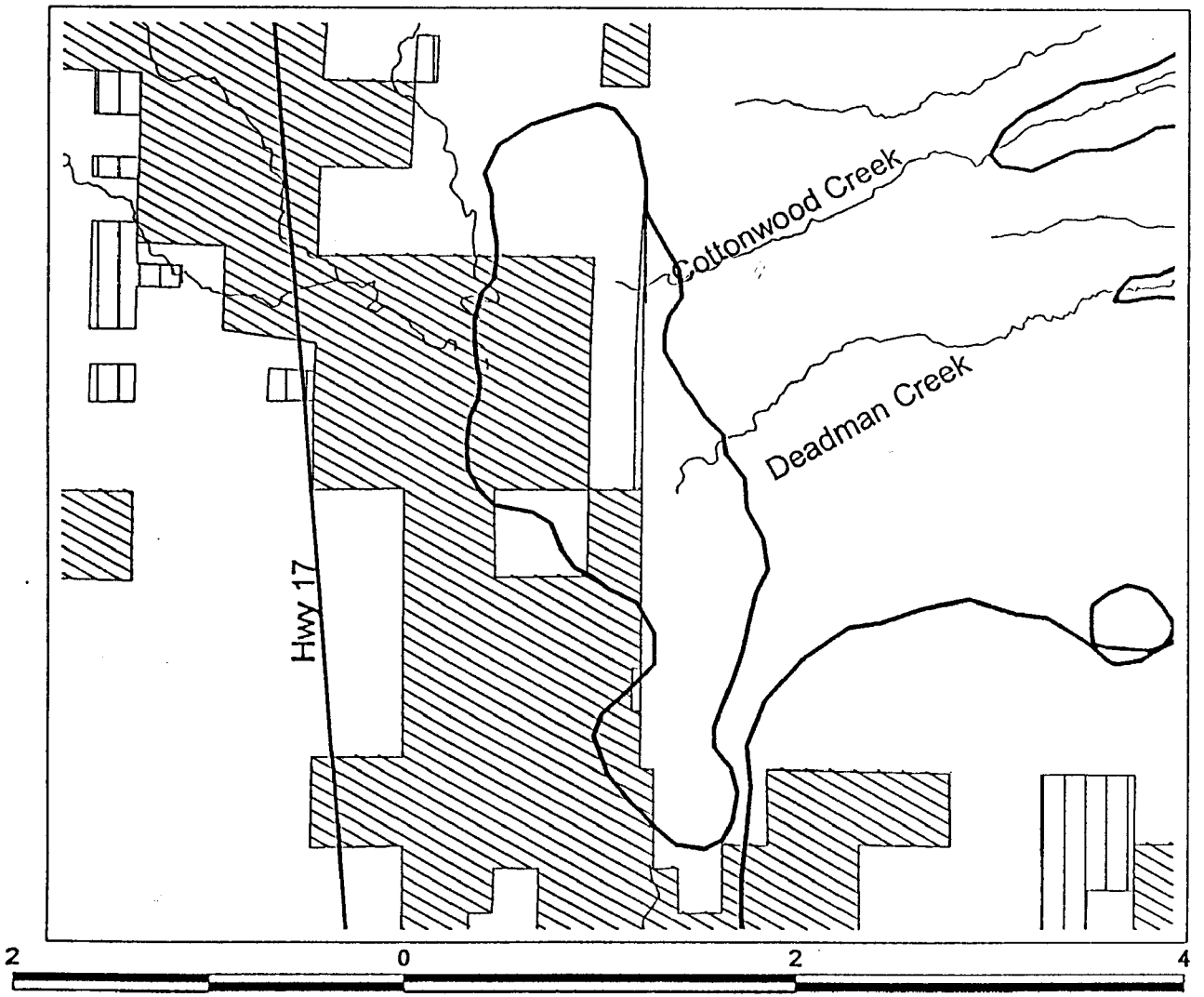
Element	Common Name	Global Rank	State Rank	Federal and State Status	EO* Rank and Date
Plant communities					
Eleocharis palustris	spikerush wetland	G5	S3S4		B 6/29/97
Sarcobatus vermiculatus/Distichlis spicata	**SALINE BOTTOMLAND SHRUBLAND**	**G3**	**S1**		**A 6/29/97**
Insects					
Polites sabuleti ministigma	San Luis sandhill skipper	G5T3	S5		B 6/24/97
Fish					
Gila pandora	**Rio Grande chub**	**G3**	**S1?**	**SC**	**B 7/29/97**
Mammals					
Perognathus flavus sanluisi	silky pocket mouse subsp.	G5T3	S3		B 8/9/97
Perognathus flavus sanluisi	silky pocket mouse subsp.	G5T3	S3		B 6/24/97
Podiceps nigricollis	eared grebe	G5	S3B,SZN		A 7/28/97
Spermophilus tridecemlineatus blanca	thirteen-lined ground squirrel subsp.	G5T3	S3		A 8/9/97

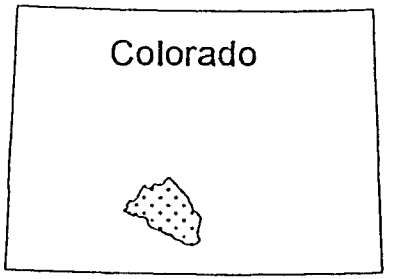
*EO=Element Occurrence; date indicates date of last observation

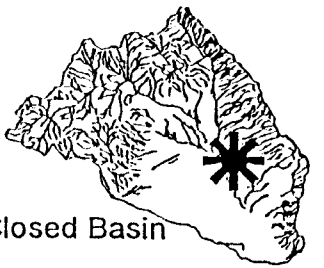
Boundary Justification: The boundaries for this site were drawn using satellite imagery at a scale of approximately 1:100,000. They include the wetland complex that supports the elements of biodiversity found at the site. The design is intended to encompass enough of the wetland areas in the north to provide refugia for the chub in times of drought or other stresses on the quality of the hydrology of the area. The southern boundary was drawn to include the areas where elements occur. However, it is important to stress that any project that affects surface or groundwater hydrology in the Closed Basin has the potential to affect the hydrology maintaining this site.

Weisman Lakes

(ownership status)







Public land element occurrences
- vertebrate
- invertebrate
- plant
- community

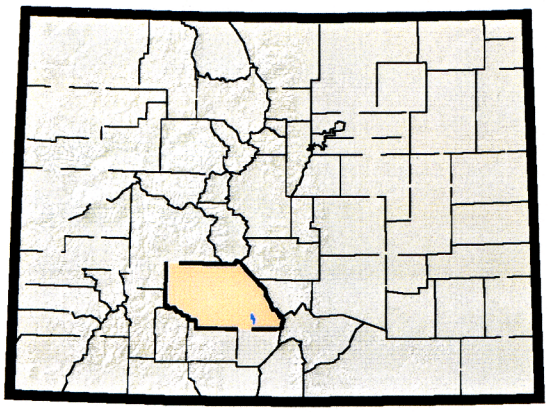
Closed basin
Roads
Streams
Suggested conservation sites

Land ownership
- USFS
- BLM
- NPS
- CDOW
- State
- Private

N

Element occurrences on private lands not shown.

Occurrence data and site boundaries are current as of 12 January, 1998. Map created by Anne Ochs.



Location in Colorado

LEGEND

Element Occurrences

- Mammals
- Natural Communities
- Insects
- Birds
- Fish

Natural Heritage Program COLORADO

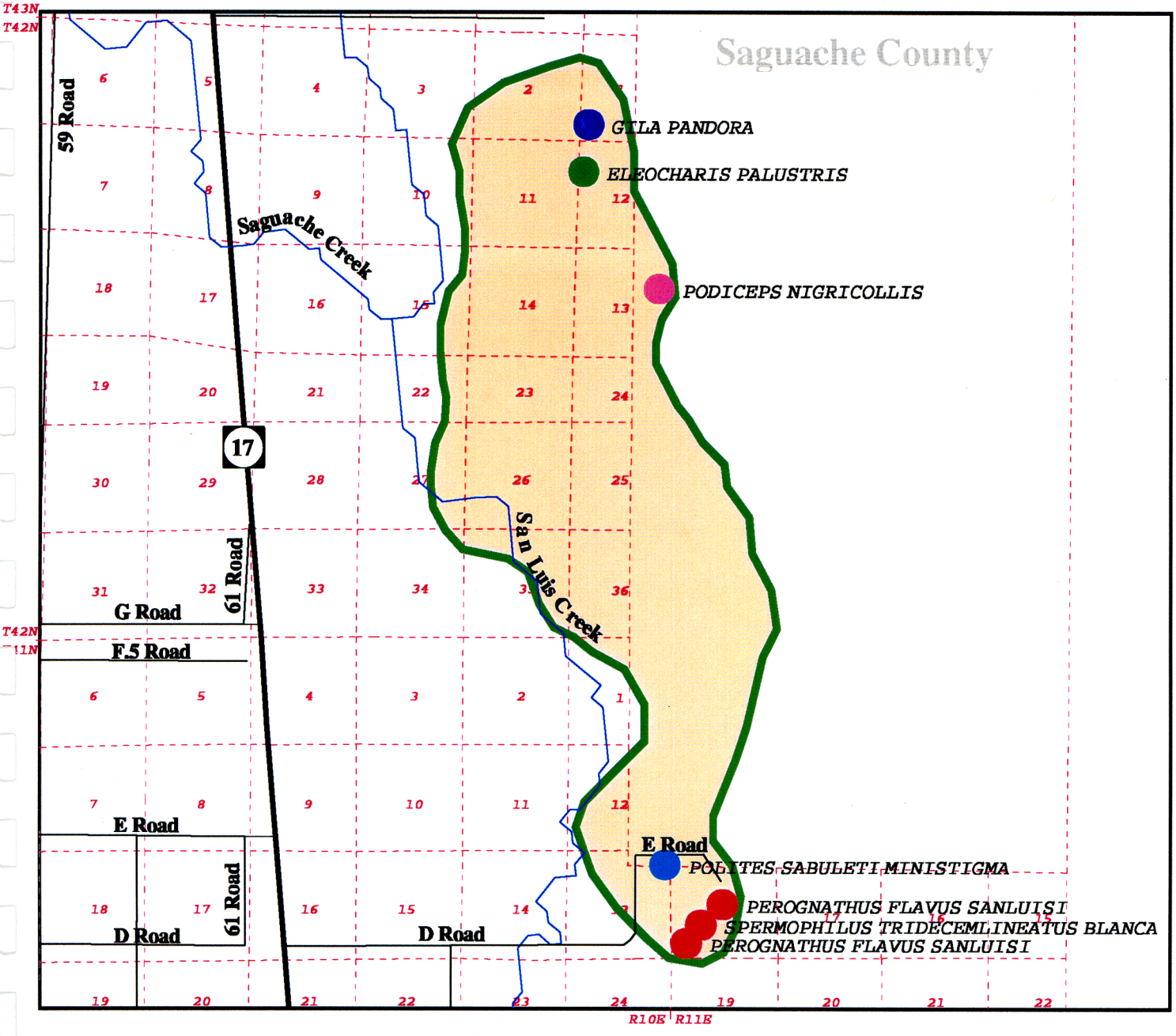
Kilometers

0 1 2 3

Map Date: 06/29/98

Map Prepared by CNHP GIS Laboratory

WEISMAN LAKES CONSERVATION PLANNING AREA



APPENDIX H. Explanations of CNHP Imperilment Ranks and Federal and State Status Designations

Definition of Colorado Natural Heritage Imperilment Ranks.

Global imperilment ranks are based on the range-wide status of a species. State imperilment ranks are based on the status of a species in an individual state. State and Global ranks are denoted, respectively, with an "S" or a "G" followed by a character. **These ranks should not be interpreted as legal**

G/S1 Critically imperiled globally/state because of rarity (5 or fewer occurrences in the world/state; or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction.
G/S2 Imperiled globally/state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
G/S3 Vulnerable through its range or found locally in a restricted range (21 to 100 occurrences).
G/S4 Apparently secure globally/state, though it might be quite rare in parts of its range, especially at the periphery.
G/S5 Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GX Presumed extinct.
G#? Indicates uncertainty about an assigned global rank.
G/SU Unable to assign rank due to lack of available information.
GQ Indicates uncertainty about taxonomic status.
G/SH Historically known, but not verified for an extended period, usually.
G#T# Trinomial rank (T) is used for subspecies or varieties. These species or subspecies are ranked on the same criteria as G1- G5.
S#B Refers to the breeding season imperilment of elements that are not permanent residents.
S#N Refers to the non-breeding season imperilment of elements that are not permanent residents. Where no consistent location can be discerned for migrants or non-breeding populations, a rank of SZN is used
SZ Migrant whose occurrences are too irregular, transitory, and/or dispersed to be reliable identified, mapped, and protected.
SA Accidental in the state.
SR Reported to occur in the state, but unverified.
S? Unranked. Some evidence that species may be imperiled, but awaiting formal rarity ranking.

Notes: Where two numbers appear in a state or global rank (e.g., S2S3), the actual rank of the element falls between the two numbers.

Legal Designations

Natural Heritage imperilment ranks are not legal designations and should not be interpreted as such. Although most species protected under state or federal endangered species laws are extremely rare, not all rare species receive legal protection. Legal status is designated by either the U.S. Fish and Wildlife Service under the Endangered Species Act or by the Colorado Division of Wildlife under Colorado Statutes 33-2-105 Article 2. In addition, the U.S. Forest Service recognizes some species as "Sensitive," as does the Bureau of Land Management. Table 2 defines the special status assigned by these agencies and provides a key to the abbreviations used by CNHP.

Please note that the U.S. Fish and Wildlife Service has issued a Notice of Review in the February 28, 1996 Federal Register for plants and animal species that are "candidates" for listing as endangered or threatened under the Endangered Species Act. The revised candidate list replaces an old system that listed many more species under three categories: Category 1 (C1), Category 2 (C2), and Category 3 (including 3A, 3B, 3C). Beginning with the February 28, 1996 notice, the Service will recognize as candidates for listing most species that would have been included in the former Category 1. This includes those species for which the Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act.

Candidate species listed in the February 28, 1996 Federal Register are indicated with a "C". While obsolete legal status codes (Category 2 and 3) are no longer used, CNHP will continue to maintain them in its Biological and Conservation Data system for reference.

Federal and State Agency Special Designations.

Federal Status:

1. U.S. Fish and Wildlife Service (58 Federal Register 51147, 1993) and (61 Federal Register 7598, 1996)

LE Endangered; species or subspecies formally listed as endangered.
E(S/A) Endangered due to similarity of appearance with listed species.
LT Threatened; species or subspecies formally listed as threatened.
P Proposed Endangered or Threatened; species or suabspecies formally proposed for listing as endangered or threatened.
C Candidate: species or subspecies for which the Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened.

2. U.S. Forest Service (Forest Service Manual 2670.5) (noted by the Forest Service as "S")

FS Sensitive: those plant and animal species identified by the Regional Forester for which population viability is a concern as evidenced by:
a. Significant current or predicted downward trends in population numbers or density.
b. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

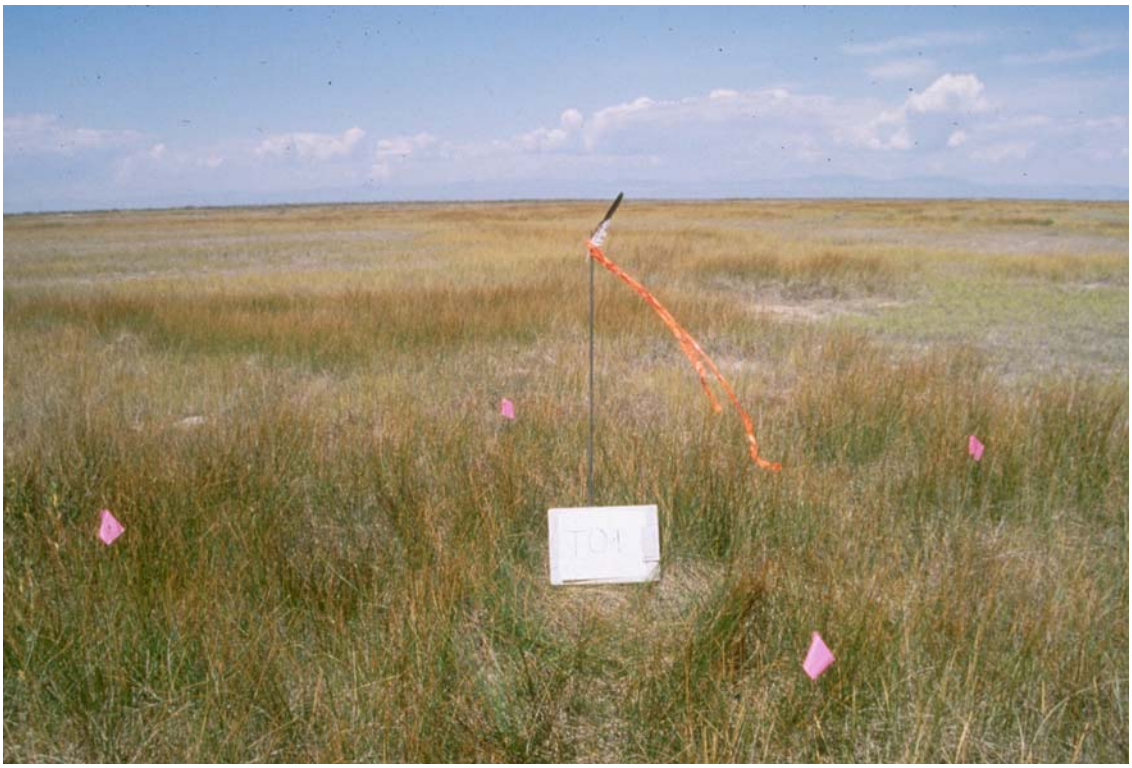
3. Bureau of Land Management (BLM Manual 6840.06D) (noted by BLM as "S")

BLM Sensitive: those species found on public lands, designated by a State Director, that could easily become endangered or extinct in a state. The protection provided for sensitive species is the same as that provided for C (candidate) species.

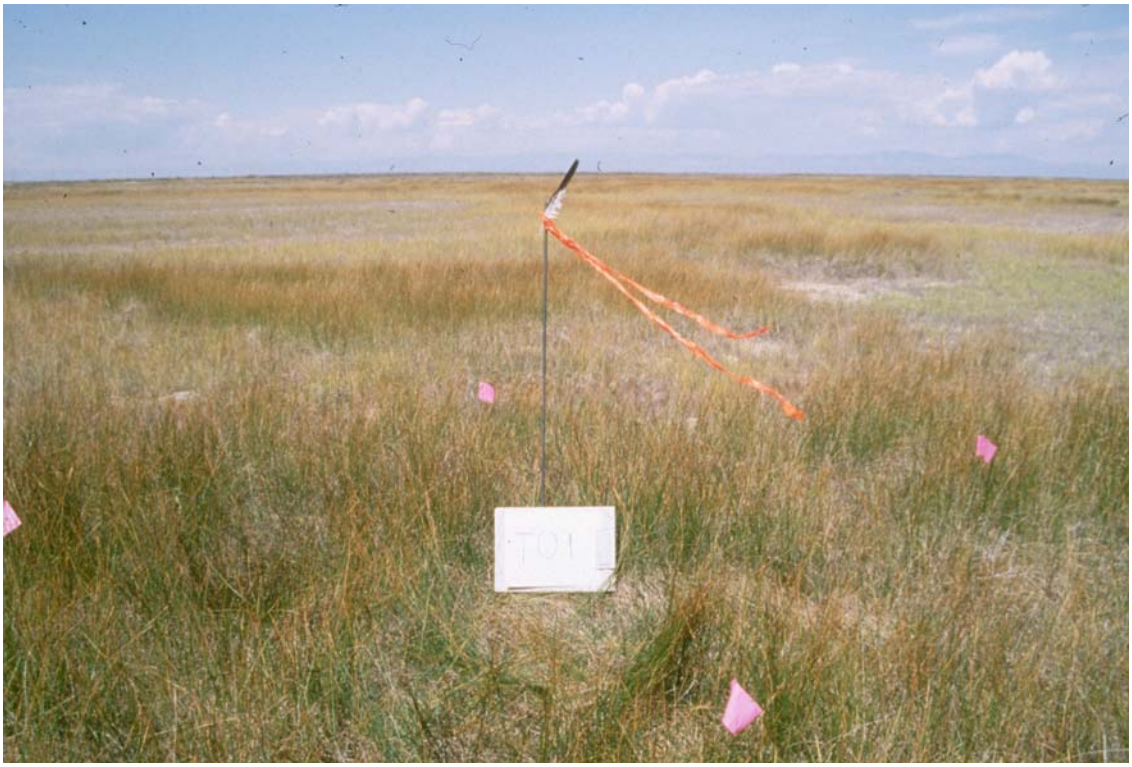
State Status:

1. Colorado Division of Wildlife

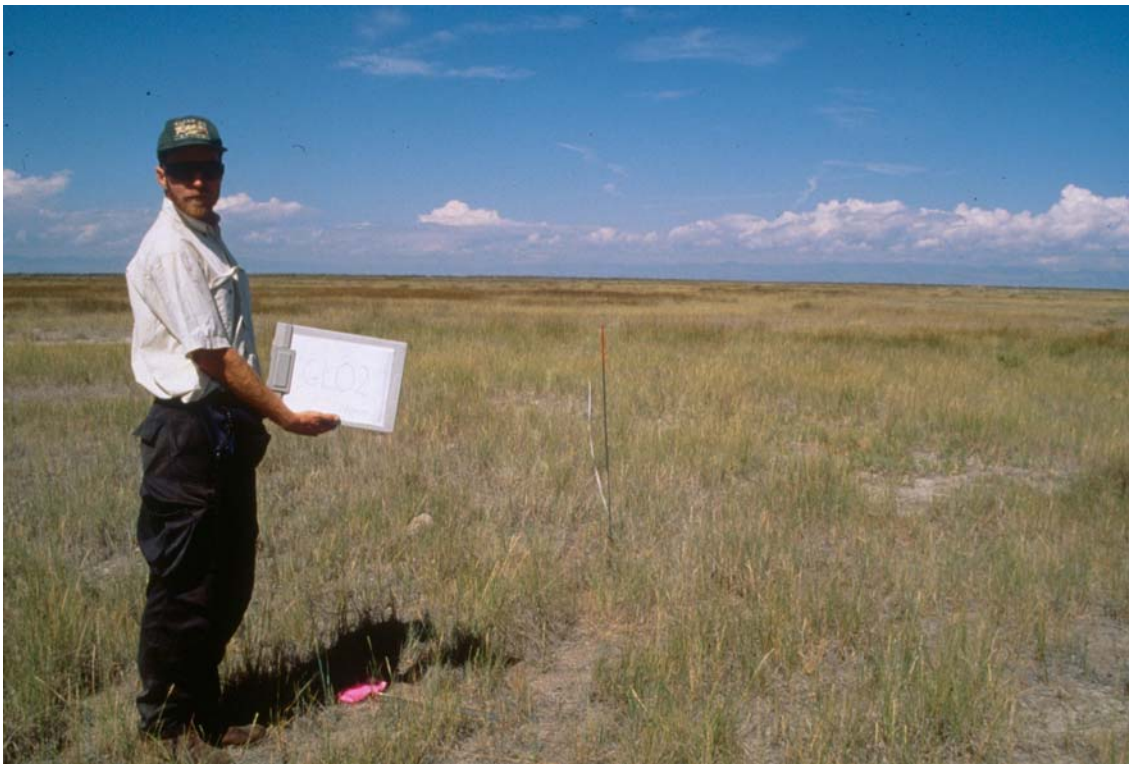
E Endangered
T Threatened
SC Special Concern



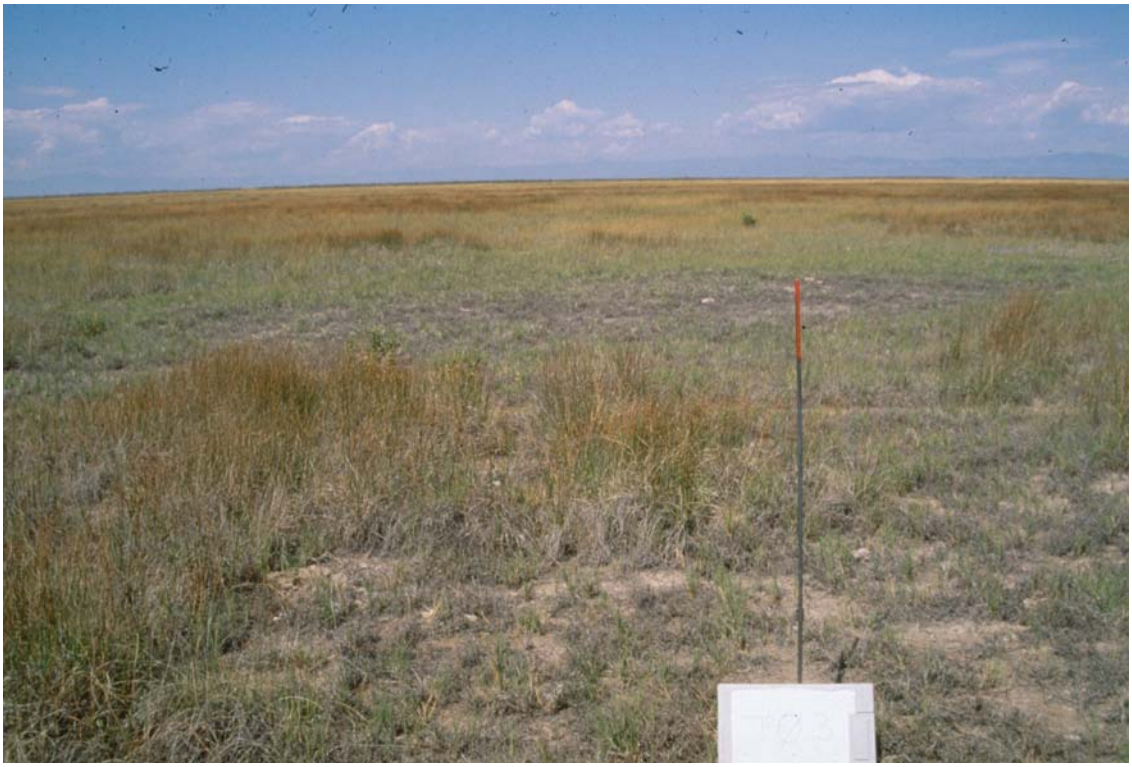
White Ranch Transect 1, east end



White Ranch Transect 1, east end



White Ranch Transect 2



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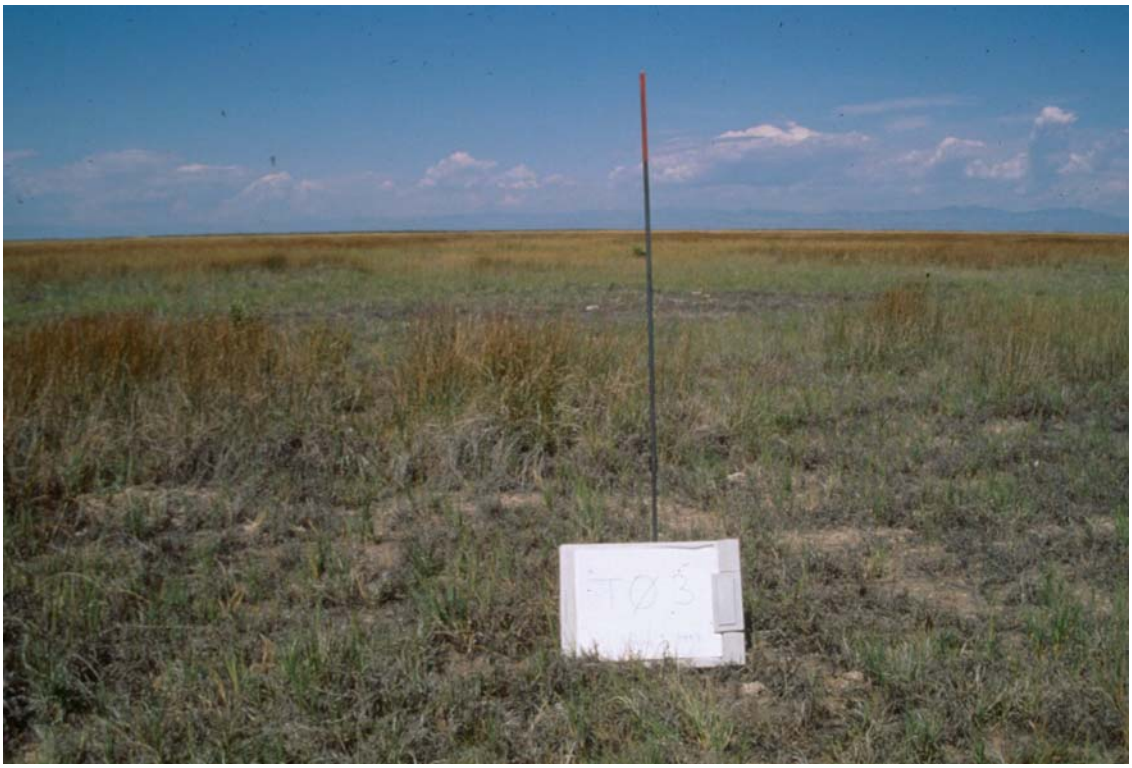

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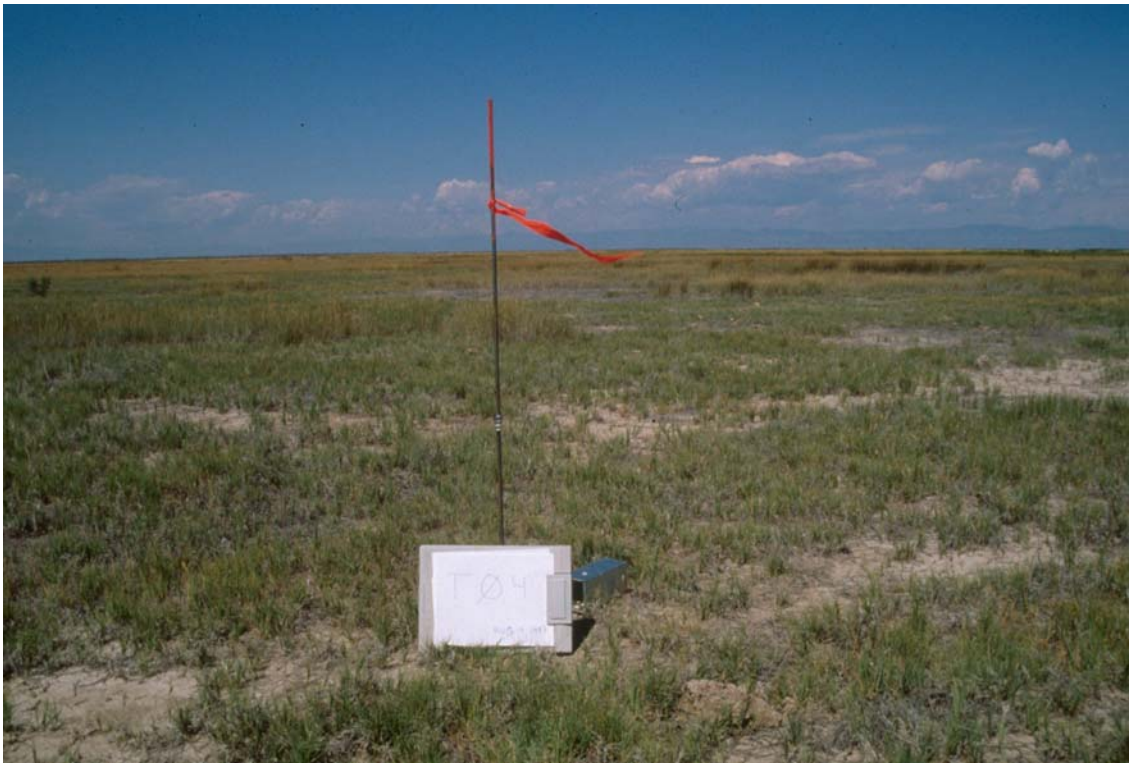
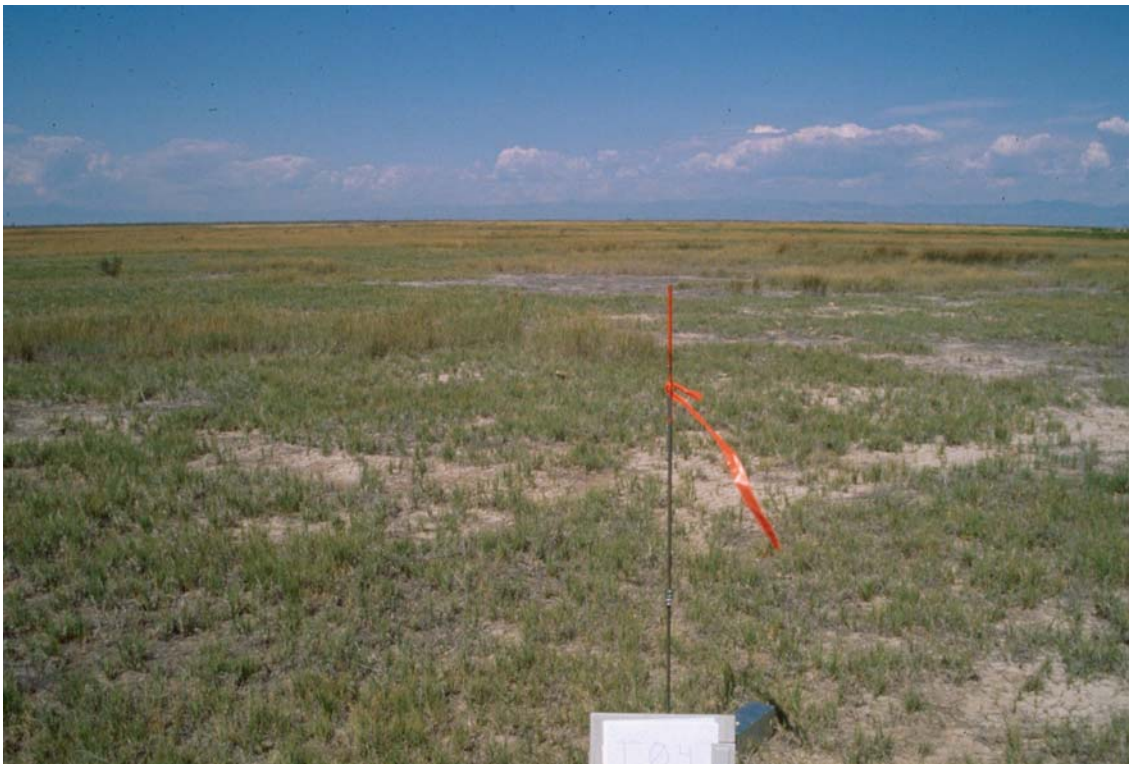


White Ranch Transect 4, east end



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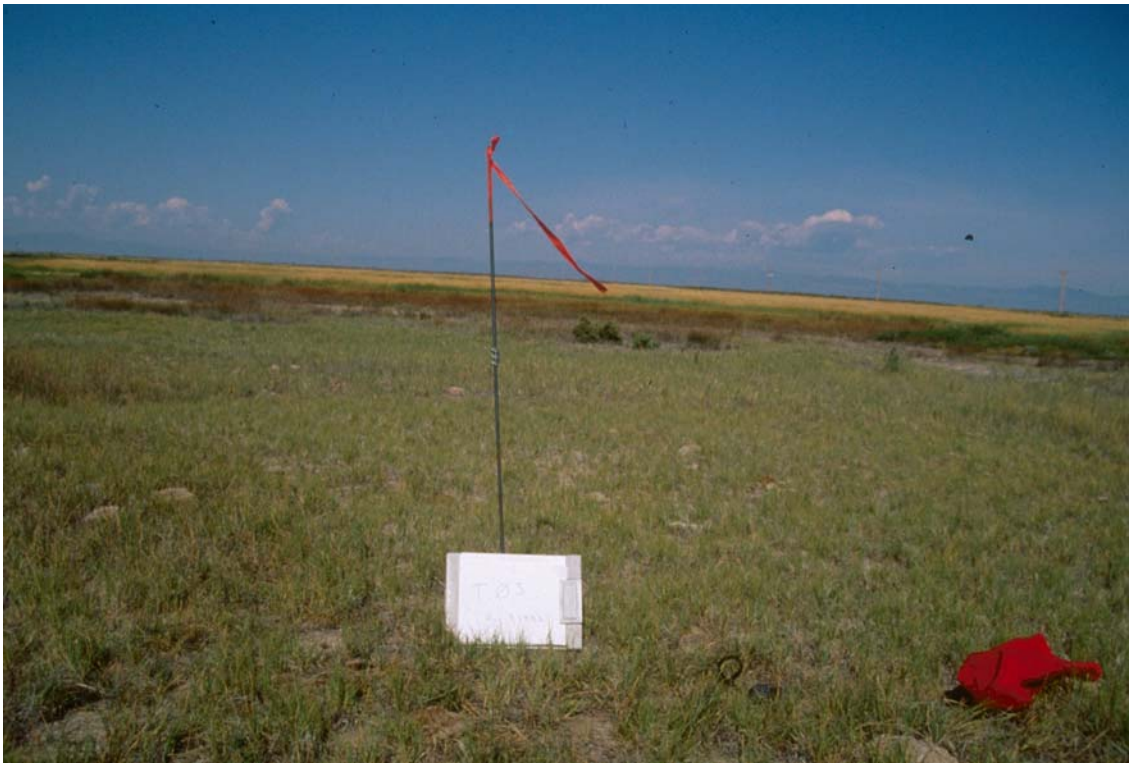

White Ranch Transect 5, east end

White Ranch Transect 4, east end

White Ranch Transect 4, east end