

**Written/Fax/E-mail Comments, Public Hearings on
11/7/07 Revised Proposed Rule for the Preble's Meadow
Jumping Mouse**

Updated 2/14/08

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United States
Department of
Agriculture

Forest
Service

Medicine Bow – Routt
National Forests

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Date: January 18, 2008

Field Supervisor
Care of Peter Plage
Colorado Field Office, Ecological Services,
P.O. Box 25486, DFC ms65412
Denver, Colorado 80225

Dear Mr. Plage,

Attached are several documents which should be entered into the project record for your consideration regarding a change in status for the Preble's meadow jumping mouse. This information pertains specifically to mouse habitat on the Laramie Ranger District of the Medicine Bow – Routt National Forests and Thunder Basin National Grasslands.

Results of Range Utilization Surveys

Attached is a summary of range utilization surveys in Preble's habitat, conducted in the Pole Mountain Area of the Laramie Ranger District. These surveys are used to manage livestock grazing in a manner which maintains vegetation and riparian conditions consistent with our Forest Plan and our allotment management plan for the area. In particular, figures from 2004 through 2007 demonstrate that forage utilization in pastures with Preble's meadow jumping mouse habitat is kept at 55% or below and thus, is consistent with figures that were originally consulted on to arrive at a Not Likely to Adversely Affect determination for the project as it affects the mouse. On occasion, utilization at the pasture level is above the 55% figure, at which point the Forest Service adjusts livestock grazing practices the following grazing season to reduce potential negative effects to habitat.

Photopoints

The enclosed photopoints are located in Preble's mouse suitable habitat. They demonstrate that current grazing practices (permitted as a result of a 1998 decision) resulted in the maintenance or improvement of Preble's mouse habitat. This improvement is shown by increased grasses, sedges, willows and healing of eroded streambanks as seen in comparison between the 1996 photos and 2001 photos in the same locations. Additional photopoint comparisons are planned for the 2008 season.

Mouse Study

The Wyoming Natural Diversity Database prepared a "Study of Factors Affecting Jumping Mice on the Medicine Bow National Forest, Wyoming." Attached is the Year Four Project Report which provides information regarding recent capture rates for Preble's mouse and other information.

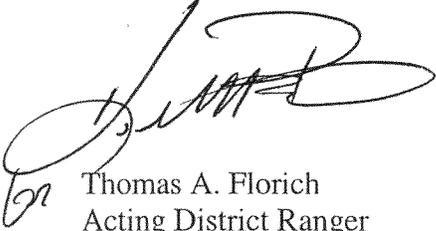
Finding by the Tenth Circuit Court of Appeals

The court found in favor of the Defendant (US Forest Service) regarding claims made in relationship to livestock grazing, the Endangered Species Act, and the Preble's meadow jumping mouse. Details can be found in the attached published document.



In summary, I hope you find this information useful in helping you consider the status of the Preble's meadow jumping mouse. If you find you need additional documentation or supporting information, please contact Steve Kozlowski, Wildlife Biologist of my staff at 307 745-2343.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Florich', with a large, stylized flourish at the end.

Thomas A. Florich
Acting District Ranger

Attachments (4)

Pasture Utilization Data in Preble's Habitat Pole Mountain 1998-2007

Allotment	Pasture	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Crow Creek											
	#1 North	--	--	--	--	82%	79%	61%	35%	29%	52%
	#3 South	--	--	--	40%	73%	64%	57%	48%	35%	47%
Green Mountain											
	#1A North	33%	--	--	--	--	64%	28%	36%	40%	29%
	#1B Northcentral	40%	--	--	42%	68%	62%	37%	40%	27%	71%
	#3A West	--	--	60%	--	--	68%	67%	42%	74%	39%
	#3B Southwest	--									
	#4B Southeast	--	--	--	53%	63%	--	52%	15%	34%	44%
	#4A East	--	--	65%	--	82%	66%	76%	53%	33%	54%
	Allot Average										
Horse Creek											
	#3 East	--	65%	50%	--	52%	--	50%	31%	18%	31%
North Pasture											
	#1 Northeast	--	--	--	62%	83%	59%	68%	29%	61%	48%
	#2 West	49%	86%	60%	86%	--	77%	61%	50%	42%	55%
	#3 Southeast	53%	--	--	67%	70%	--	48%	52%	37%	67%

The utilization percentages for each pasture are an average of data collected at key areas.

The symbol -- indicates no data was collected.

Data was collected more intensely starting in 2004 to monitor potential grazing concerns and adjust grazing management where necessary.

#8



PHOTO DATE: 05/1996
ALLOT/UNIT: CROW CREEK/NORTH
DRAINAGE: SOUTH LODGEPOLE CREEK
LEGAL DESCR.: SW $\frac{1}{4}$, SEC. 13, T. 15N.; R. 71W.



PHOTO DATE: 09/2001

#7



PHOTO DATE: 06/1996
ALLOT/UNIT: CROW CREEK/SOUTH
DRAINAGE: NORTH BRANCH CROW CREEK
LEGAL DESCR.: NW 1/4, SEC. 25, T. 15N.; R. 71W.



PHOTO DATE: 09/2001

#2

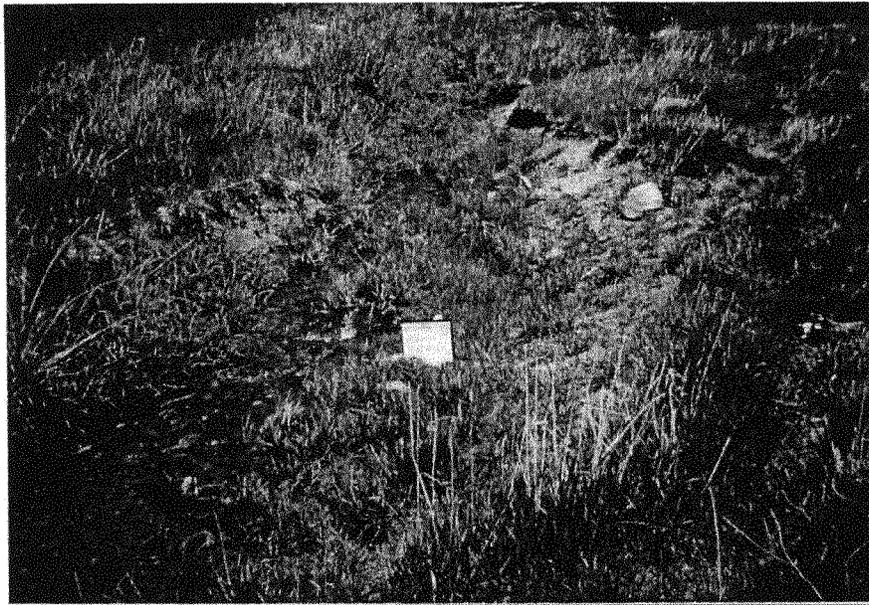


PHOTO DATE: 06/1996

ALLOT/UNIT: CROW CREEK/ SOUTH

DRAINAGE: NORTH BRANCH CROW CREEK

LEGAL DESCR.: NE 1/4, Sec. 25, T. 15N.; R. 71W.



PHOTO DATE: 08/2001

#3



PHOTO DATE: 06/1996
ALLOT/UNIT: CROW CREEK/ SOUTH
DRAINAGE: NORTH BRANCH CROW CREEK
LEGAL DESCR.: NE 1/4, SEC. 25, T. 15N., R. 71W.



PHOTO DATE: 08/2001

#19



PHOTO DATE: 06/1996

ALLOT/UNIT: GREEN MNT./NORTH CENTRAL

DRAINAGE: BRUSH CR.

LEGAL DESCR.: SW $\frac{1}{4}$, SEC. 11, T. 14.N.; R. 7.W.



PHOTO DATE: 09/2001

#17

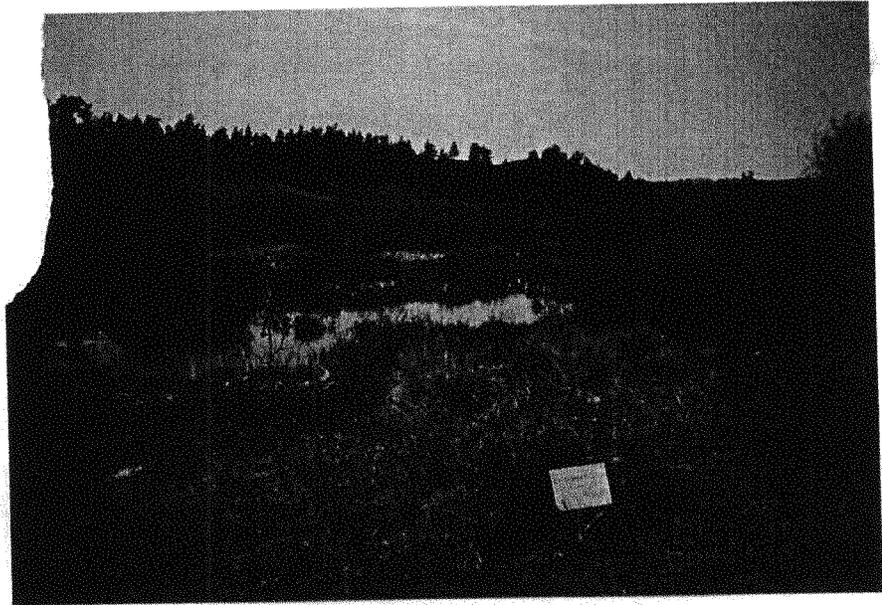


PHOTO DATE: 06/1996

ALLOT/UNIT: NORTH PASTURE/SOUTH

DRAINAGE: NORTH BRANCH - MIDDLE LODGEPOLE

LEGAL DESCR.: SE 1/4, SEC. 11, T.15N.; R. 71W.

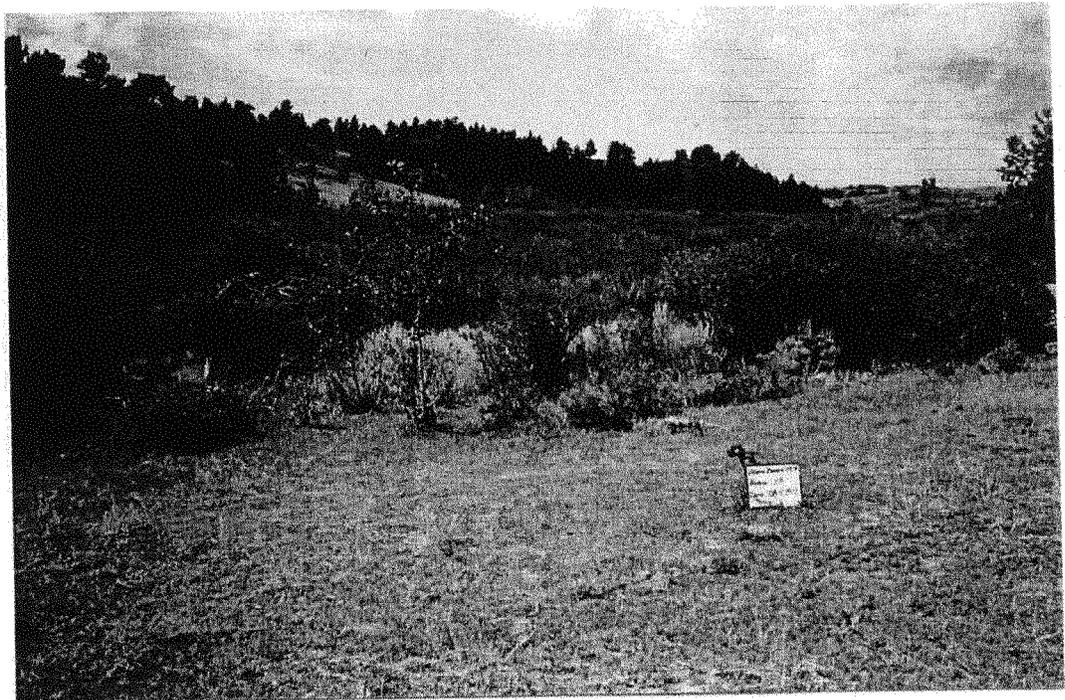


PHOTO DATE: 08/2001

#16

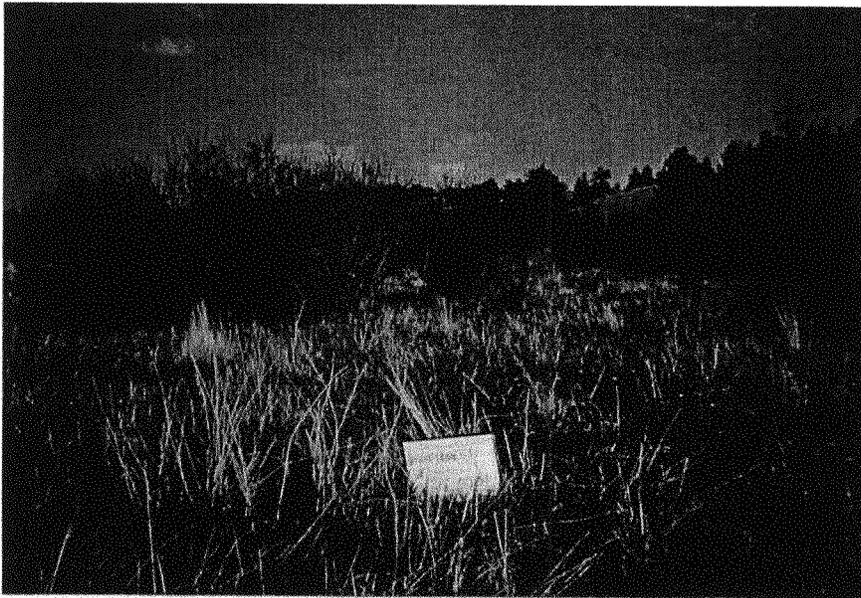


PHOTO DATE: 06/1996

ALLOT/UNIT: NORTH PASTURE - WEST

DRAINAGE: NORTH BRANCH - MIDDLE LODGEPOLE

LEGAL DESCR.: SE1/4, sec. 10, T. 15N, R. 71W



PHOTO DATE: 08/2001

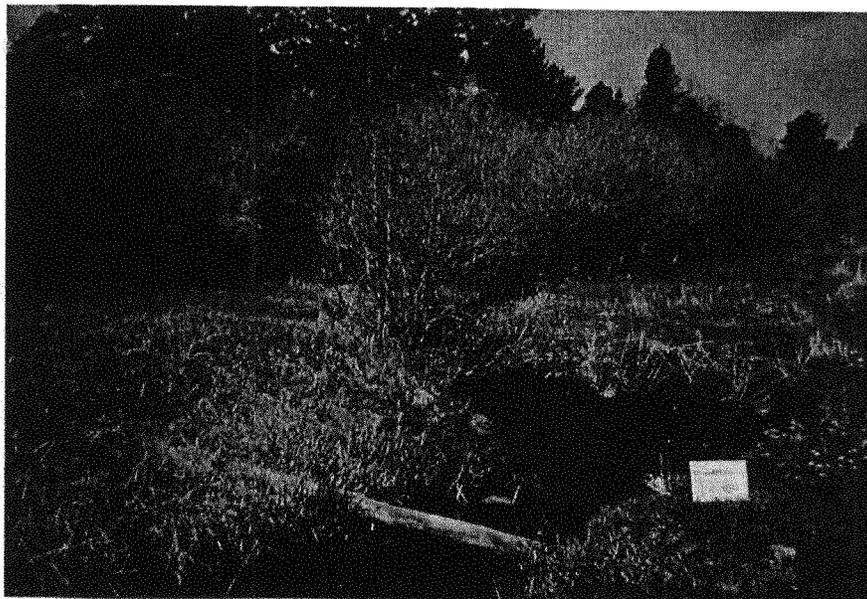


PHOTO DATE: 06/1996

ALLOT/UNIT: NORTH PASTURE / SOUTH

DRAINAGE: NORTH BRANCH - MIDDLE LODGEPOLE

LEGAL DESCR.: SW $\frac{1}{4}$, SEC. 12, T. 15N.; R. 71W.



PHOTO DATE: 08/2001

#14



PHOTO DATE: 06/1996

ALLOT/UNIT: NORTH PASTURE/SOUTH

DRAINAGE: NORTH Branch - Middle LODGEPOLE

LEGAL DESCR.: SE 1/4, Sec. 10, T.15.N.; R.71.W.



PHOTO DATE: 08/2001

#12

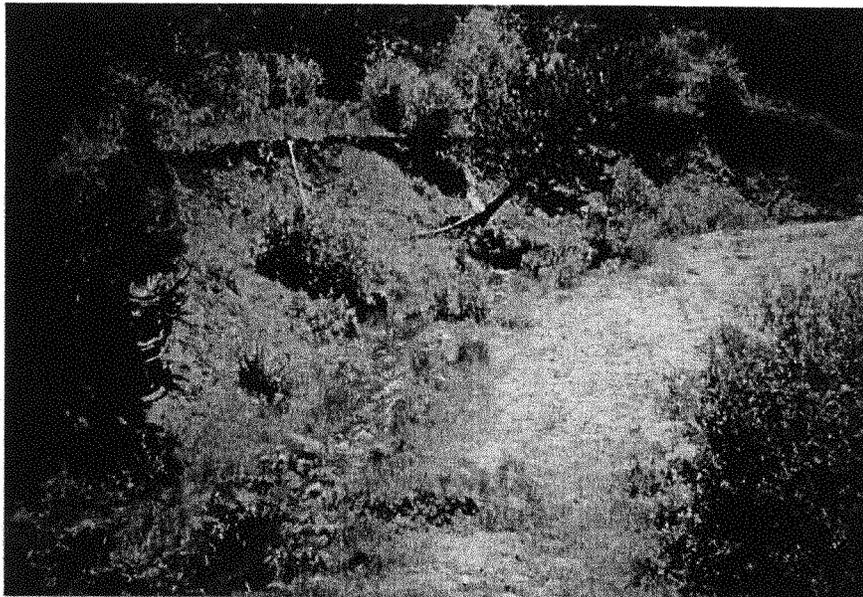


PHOTO DATE: 06/1996

ALLOT/UNIT: CROW CREEK/SOUTH

DRAINAGE: NORTH BRANCH CROW CREEK

LEGAL DESCR.: NE $\frac{1}{4}$, Sec. 26, T. 15N., R. 71W.



PHOTO DATE: 08/2001

#10



PHOTO DATE: 05/1996
ALLOT/UNIT: CROW CREEK/NORTH
DRAINAGE: SOUTH LODGEPole CREEK
LEGAL DESCR: NE 1/4, Sec. 24, T.15N; R.71W.

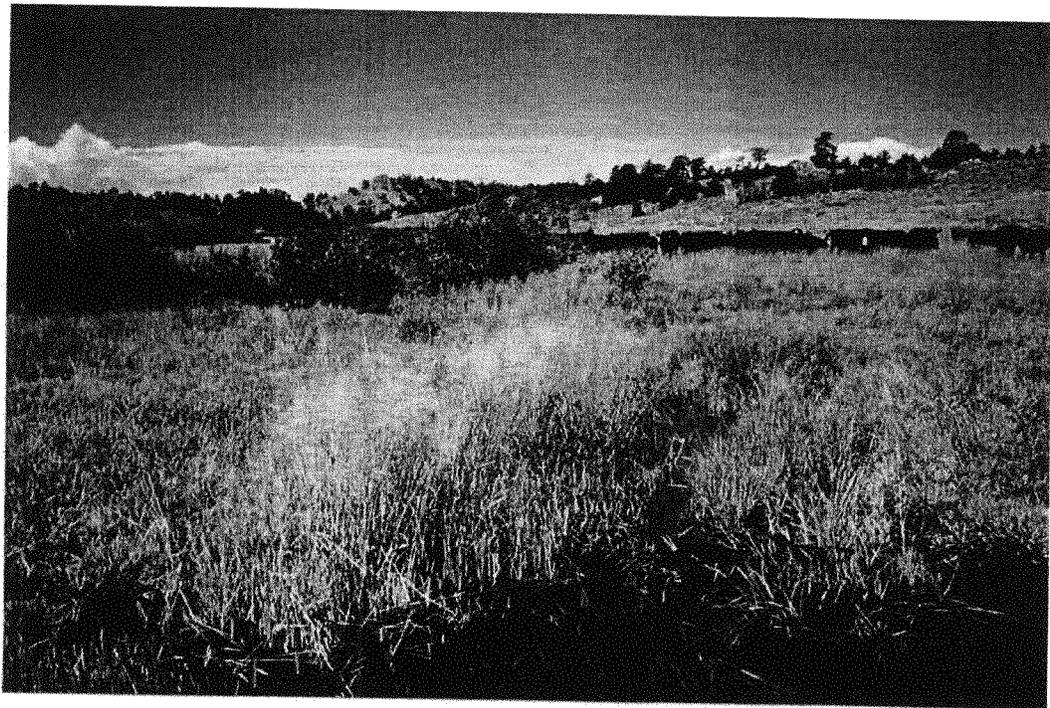


PHOTO DATE: 09/2001

6

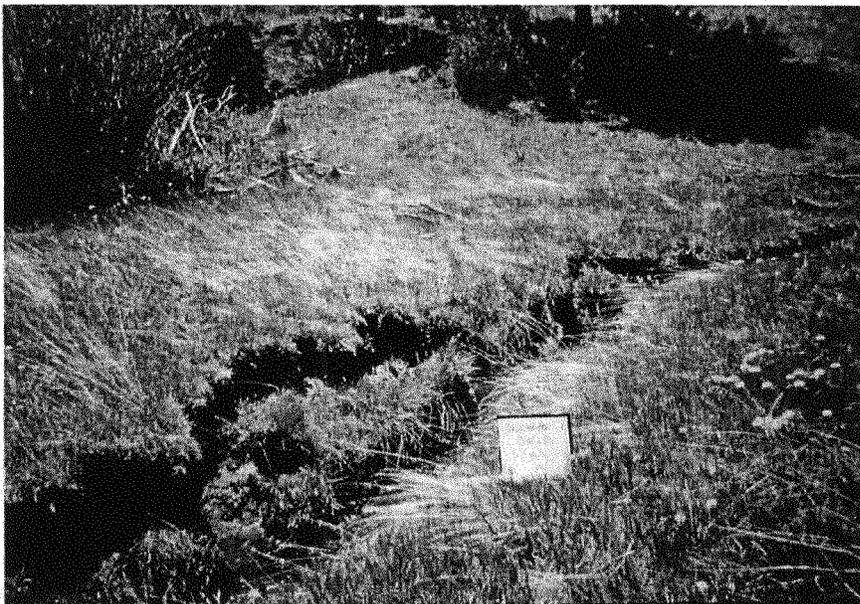


PHOTO DATE: 06/1996
ALLOT./ UNIT: CROW CR./ NORTH
DRAINAGE: SOUTH LODGEPOLE CREEK
LEGAL DESCR.: SW 1/4, SEC. 13, T. 15N, R. 71W



PHOTO DATE: 08/2001

**STUDY OF FACTORS AFFECTING JUMPING MICE (*Zapus sp.*) ON THE
MEDICINE BOW NATIONAL FOREST, WYOMING:**

YEAR FOUR PROJECT REPORT

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October 2007

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INTRODUCTION

This report details the results of a small mammal survey performed in 2007 as part of an ongoing administrative study aimed at Preble's meadow jumping mouse (*Zapus hudsonius preblei*) (a Threatened Species under the Endangered Species Act). Surveys were conducted on the Douglas and Laramie Ranger Districts of the Medicine Bow National Forest which represent the northern and southern ends of the subspecies' range within Wyoming. The 5-7 year project is intended to inventory and monitor Preble's populations at fixed points, correlate population trends with general habitat characteristics, and measure population responses to fire and livestock grazing. In addition to a detailed report of trapping results from 2007, a summary of findings since the project's inception in 2004 is discussed. Acknowledging the ongoing taxonomic uncertainty of meadow jumping mouse subspecies in Wyoming, we refer to individuals of *Zapus* documented on the Medicine Bow National Forest, and elsewhere in the region, as "suspected" Preble's meadow jumping mice or simply *Zapus* sp.

METHODS

Study area – Survey effort was divided equally between the Laramie Peak Unit of the Douglas Ranger District and Pole Mountain Unit of the Laramie Ranger District. Eight perennial stream reaches were surveyed, four in each District (Figure 1, Table1). In 2004, collaboration with District Biologists (Tim Byer and Steve Kozlowski) and Rangeland Management Specialists (Charlie Bradshaw and Darin Jons) resulted in the selection of appropriate study sites where the effects of variation in grazing pressure and fire application could be assessed (Table 2). Within the Laramie Peak Unit, transects were located along Friend Creek, Cottonwood Creek, and two tributaries of Cottonwood Creek. Pole Mountain Unit transects are located on Middle Lodgepole Creek, South Lodgepole Creek, Middle Crow Creek and South Fork Middle Crow Creek (see Appendix for maps and aerial photos of the transects).

Small mammal surveys – The first year of the study was primarily an inventory year, designed to confirm presence or absence of *Zapus* sp. in habitats where management impacts could be

monitored. Two transect locations were modified in the second year but have remained unchanged since then are expected to remain so for the duration of the project. Trapping methods conform to the guidelines established by the U.S. Fish and Wildlife Service (1999) and have remained relatively unchanged since the beginning of the project in 2004. Transect surveys consist of two lines of 100 Sherman live traps (H. B. Sherman Traps, Inc., Tallahassee, Florida), one line on either side of the stream. Traps are placed five meters apart and are staggered alternately in vegetation adjacent to the creek bank and in upland vegetation approximately five meters from the stream channel. No traps are set greater than ten meters from a stream channel. All traps contain polyester bedding material, 3-way livestock feed, and are set in the evening and checked early the following morning. Captured animals are identified in the field and released at the capture site.

To determine the exact number of jumping mice captured, each *Zapus* sp. was marked individually with semi-permanent paint. The paint colors persisted throughout the week of trapping so recaptured animals could be identified. Photos were taken of each jumping mouse and geographic coordinates of the capture locations logged with a GPS unit. Data gathered for the US Fish and Wildlife Service during processing of *Zapus* sp. specimens included sex, evidence of reproduction, evidence of disease, and distance from water. Because of a possible inverse relationship between *Zapus* sp. and voles/deer mice, a new effort was employed in 2007 to better quantify vole and deer mouse abundance (previous efforts at ear-hole punching the animals were not reliable). All captured voles and deer mice were generically paint-marked upon capture, and recorded as 'recaptured' if caught in subsequent nights. For the purposes of this report, however, new *and* recaptured deer mice and voles are reported in order to compare with data from previous years.

One baited, open trap is equivalent to one raw trap night. Therefore, one evening of trapping effort on each transect is the equivalent to 200 raw trap nights (2 lines with 100 traps each). Each transect is surveyed for a minimum of 800 raw trap nights over four consecutive nights. For analyses, raw effort per transect was corrected for disturbed (i.e., tripped-but-empty) and occupied traps using the technique of Beauvais and Buskirk (1999) and reported as adjusted, or net trap nights. Adjusted trap night figures are based on an assumed probability of trap

availability prior to closure. Therefore, the number of closed traps per night (disturbed + captures) is divided in half and subtracted from the total number of traps that remained open during the trapping effort.

Raccoon (*Procyon lotor*) disturbance of traps has been a problem during past small mammal surveys in southeastern Wyoming (e.g., Young et al. 2000, Keinath 2001). In the event of visible trap disturbance by small carnivores, two baited Tomahawk live traps (Model 608, Tomahawk Live Trap, Tomahawk, Wisconsin) are employed per transect to minimize such disturbance. However in 2007, there was little evidence of disturbance by raccoons and no Tomahawk traps were set.

Vegetation Monitoring – *Zapus* sp. habitat is highly correlated with proximity to open water and high percent cover of wetland shrubs (such as *Salix spp.*), grasses, sedges and rushes (Trainor et al., 2007; Smith et al., 2004b). Vegetation measurements were taken in 2004 at all transects in an effort to capture these characteristics. A detailed look at the data, however, suggested that the methods were insufficient to capture *Zapus* sp. habitat at a significant scale (Smith et al. 2004a). For this reason, the vegetation methods used in 2004 were not repeated in subsequent years. In October of 2007, a cursory analysis using aerial photos indicated that willow cover and riparian width were good indicators of *Zapus* sp. abundance in 2007 at the transects. WYNDD hopes to collaborate with Forest Service biologists during the fall of 2007 to discuss which methods will be needed in order to capture changes in habitat before and after grazing and fire regimes are changed in the next few years.

RESULTS AND DISCUSSION

Summary of Small Mammal Captures

During the fourth project year (2007), trapping surveys were conducted between June 25 and July 27. The small mammal trapping effort included data collection from roughly 3,900 meters of streamside habitat; 1,990 m on the Laramie Peak Unit and 1,900 m on the Pole Mountain Unit (see Table 3). A total of 38 meadow jumping mice (*Zapus* sp.) were captured in 2007 with at least 1 capture at each transect. The South Lodgepole Creek transect had the highest number of

individuals captured (13) and also the highest estimated density of *Zapus* sp. (27 mice/ km) (Table 3). The Friend Park transect also had a relatively high density (23 *Zapus*/ km). Lowest densities were seen at the Cottonwood Creek and Schoolhouse transects (2 *Zapus*/ km).

Eight taxonomic groups of small mammals were documented in 2007, all of which occurred on the Pole Mountain Unit and 6 occurred on the Laramie Peak Unit. Deer Mice (*Peromyscus maniculatus*) were by far the most abundant small mammal captured in 2007 with voles (primarily *Microtus* spp.) being the second most abundant (Table 4; Figure 2). *Zapus* sp. was the third most abundant small mammal captured. Deer mice captures have increased dramatically every year since 2005 with a near four-fold increase across all transects. Conversely, the number of voles captured has decreased by half in 3 years (Figure 2). Since 2005, total *Zapus* captures fluctuated very little (39 in 2005, 43 in 2006, and 38 in 2007). At most transects, *Zapus* sp. captures fluctuated considerably across years but there is no inter-annual trend across transects (Figure 3). This fact, along with comparable levels of total captures over the last 3 years, indicates that *Zapus* sp. populations are relatively stable across sites.

Keinath and Beauvais (2007) reported a weak inverse relationship between *Zapus* sp. and deer mice/voles abundance based on data from 2004 to 2006. However, looking only at the data since transects have been fixed (2005), and including data from 2007, the relationship does not seem to hold. Figure 4 shows deer mouse and vole capture rates have increased steadily since 2005, while *Zapus* sp. captures have remained relatively low and constant. Another examination of the data in Figure 5 plots *Zapus* sp. capture rates as a function of deer mouse and vole captures. There is no clear negative or positive relationship between the two variables indicating that there is probably little to no competitive exclusion occurring between jumping mice and deer mice/voles.

Potential Impacts on Jumping Mice

A partial goal of this study was to test the possible effects of three influences on the abundance of jumping mice on the Medicine Bow National Forest: an increase in grazing pressure, a decrease in grazing pressure, and fire. As far as we know, there has only been one change in

resource management over this period: a grazing enclosure was removed from the South Fork Middle Crow Creek (SFMCC) transect during the year after trapping began. The absence of additional management activities on other transects greatly limits our ability to draw conclusions about the response of *Zapus* sp. to grazing and fire pressure.

Grazing

The grazing enclosure formerly in place at the South Fork of Middle Crow Creek (SFMCC) was removed between the 2004 and 2005 trapping efforts. Reduced trapping success of *Zapus* sp. since 2005 suggests that livestock grazing may have reduced the local *Zapus* sp. population (Figure 4). SFMCC is essentially one data point ($N = 1$), however, so it cannot be statistically compared to other sites.

The extent of grazing within the transects is unknown to us at this time. To address this lack of information, in October of 2007, technicians were asked to (post hoc) rank grazing intensity across sites. They saw very little evidence of livestock at Cottonwood Creek, Friend Park, Hubbard's Cupboard, Middle Lodgepole Creek, and South Fork Middle Crow Creek. Middle Crow Creek and Schoolhouse Creek, on the other hand, were very heavily grazed. With additional information from the Medicine Bow National Forest regarding permitting along the transects, we should be able to recommend candidate transects where the removal or addition of grazing would most likely result in a change in vegetation structure and thus *Zapus* sp. abundance. We predict that 2 to 3 years will be needed after grazing pressure is altered before *Zapus* sp. populations respond. Also, the extent of change in grazing pressure must be carefully documented for the small mammal trapping results to have any meaning.

Fire

We can make no inference to the effects of wildfire on jumping mice, since none of the streams in this study have undergone a burn. The Hubbard's Cupboard site was initially selected because it was possible that a prescribed burn could be implemented there. Barring a naturally occurring fire, a prescribed burn is the only way we can investigate the impacts of fire. This burn should occur soon, so we are able to monitor the jumping mouse population for several years following the fire. The timing and intensity of the burn should be determined ahead of time and carefully

coordinated with our trapping efforts so we can insure accurate results. Finally, if this burn indicates a possible effect on jumping mice, it would represent a single sample point ($N = 1$). Thus, before robust conclusions can be drawn, it must be replicated at one or more other sites with parallel monitoring of jumping mouse populations.

SUMMARY

- Small mammal trapping during the summer of 2007 resulted in the capture and release of 38 individual *Zapus* sp. across eight fixed transects in the Medicine Bow National Forest.
- Although populations of deer mice and voles have fluctuated greatly at these sites since 2005, *Zapus* sp. populations have remained stable overall.
- Baseline population densities of *Zapus* sp. have now been well documented. In order to meet the goals of the project, we recommend that grazing pressure be removed from 2 transects per Unit and prescribed fire needs to be applied to at least 2 transects in 2008. This will allow WYNDD to measure the effects of these actions on *Zapus* sp. populations.
- WYNDD also hopes to collaborate with biologists at the Medicine Bow National Forest in the design of an appropriate vegetation measuring protocol that will help capture *Zapus* sp. habitat changes before and after management actions are taken.

ACKNOWLEDGEMENTS

We would like to thank Billy Reiter-Marolf and Emilene Ostiland for conducting all of the project field work in 2007. Their hard work and attention to detail made this project report possible.

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TABLES

Table 1. Transect Trap Line Endpoint Coordinates (Universal Transverse Mercator projection, Zone 13, North American Datum of 1983). Where: FS1 = First trapping Station on one side of stream; FS2 = First trapping Station on opposite side of stream; LS1 = Last trapping Station on one side of stream; LS2 = Last trapping Station on opposite side of stream; UTME = Easting coordinate in meters; UTMN = Northing coordinate in meters.

Transect	FS1 UTME	FS1 UTMN	FS2 UTME	FS2 UTMN	LS1 UTME	LS1 UTMN	LS2 UTME	LS2 UTMN
<u>Douglas Ranger District - Laramie Peak Unit</u>								
Cottonwood Creek (CWC)	0471685	4683670	0471654	4683547	0471727	4683400	0471731	4683371
Hubbard's Cupboard (HC)	0471132	4682691	0471141	4682732	0471299	4682503	0471310	4682504
Friend Park (FP)	0459967	4678128	0459964	4678120	0460048	4678197	0460050	4678198
School House Creek (SH)	0470718	4681994	0470718	4681989	0470561	4681980	0470563	4681971
<u>Laramie Range District - Pole Mountain Unit</u>								
Middle Lodgepole Creek (MLC)	0473778	4569563	0473774	4569548	0474043	4569692	0474057	4569682
South Lodgepole Creek (SLC)	0471210	4568079	0471230	4568047	0471439	4568049	0471446	4568035
Middle Crow Creek (MCC)	0475341	4558354	0475355	4558346	0475518	4558355	0475525	4558353
South Fork Middle Crow Creek (SFMCC)	0474317	4555784	0474315	4555777	0474419	4555761	0474418	4555746

Table 2. Criteria for selection of small mammal trapping sites on the Medicine Bow National Forest based on habitat quality parameters (PMJM Critical Habitat, Water Quality) and management actions (Grazing, Potential Prescribed Burn, and Recent Fire).

	Currently Grazed ¹	PMJM Critical Habitat ²	Poor H ₂ O Quality ³	Potential for Prescribed Burn	Recent Fire
<u>Douglas R.D.</u>					
Cottonwood Ck.	√	√			
Hubbard's Cbrd.				√	
Schoolhouse	√	√			
Friend Park					
<u>Laramie R.D.</u>					
M. Lodgepole Ck.		√			
S. Lodgepole Ck.	√				
Middle Crow Ck.	√		√		
S.Fk M.Crow Ck.	√				

¹Annual grazing as of the 2006 field season; ² Designated by U.S. Fish and Wildlife Service (2002a); ³ Documentation provided by personal communication with S. Kozlowski (February 24, 2004)

Table 3. Summary of *Zapus* sp. captured during small mammal trapping efforts on the Medicine Bow National Forest in the summer of 2007.

Transect (Survey Dates)	Trap Nights		Zapus sp. Captured		Meters Trapped	Zapus sp. per km
	Raw	Adjusted	Total	Unique	(+/- 20 m)	
<u>Douglas Ranger District - Laramie Peak Unit</u>						
Cottonwood Creek (July 16-20)	800	747	2	1	500	2
Friend Park (July 16-20)	800	765	11	8	350	23
Hubbard's Cupboard (July 23-27)	800	752	3	3	720	4
Schoolhouse (July 23-27)	800	782	1	1	420	2
<u>Laramie Range District - Pole Mountain Unit</u>						
Middle Crow Creek (July 9-13)	800	711	9	7	450	16
Middle Lodgepole Creek (June 25-29)	800	678	4	3	641	5
South Fork Middle Crow Creek (July 9-13)	800	772	4	2	330	6
South Lodgepole Creek (June 25-29)	800	746	26	13	480	27

Table 4. All captures by species and transect, during summer 2007 surveys for jumping mice (*Zapus* sp.) on the Medicine Bow National Forest.

Species	Douglas Ranger District Laramie Peak Unit				Laramie Ranger District Pole Mountain Unit			
	CWC	FP	HC	SH	MCC	MLC	SFMCC	SLC
Deer mouse (<i>Peromyscus maniculatus</i>)	86	55	84	29	155	200	19	61
Unidentified microtus vole (<i>Microtus</i> sp.)		2		1	1	6	31	16
Suspected Preble's meadow jumping mouse (<i>Zapus hudsonius preblei</i>)	2	11	3	1	9	4	4	26
Unidentified Shrew (<i>Sorex</i> sp.)		2				3	1	4
Red Squirrel (<i>Tamiasciurus hudsonicus</i>)			7	1	1	1		
Least chipmunk (<i>Tamias minimus</i>)	12		6	5	5	18		3
Bushy-tailed wood rat (<i>Neotoma cinerea</i>)						8		1
Golden-mantled ground squirrel (<i>Spermophilus lateralis</i>)					4	5		
<u>Non-target species seen</u>								
Leopard frog (<i>Rana pipiens</i>)	11	6	2		1	3	14	44
Crayfish			1					
Total Trap Nights (Adjusted)	747	765	752	782	711	678	772	746
Captures per 100 trap nights	13.4	9.2	13.3	4.7	24.6	36.1	7.1	14.9

Transect Codes: CWC = Cottonwood Creek
 FP = Friend Park
 HC = Hubbard's Cupboard
 SH = Schoolhouse
 MCC = Middle Crow Creek
 MLC = Middle Lodgepole Creek
 SFMCC = South Fork Middle Crow Creek
 SLC = South Lodgepole Creek

FIGURES

Figure 1. Study Area in the Medicine Bow National Forest showing locations of 8 survey transects for jumping mice (*Zapus* sp.).

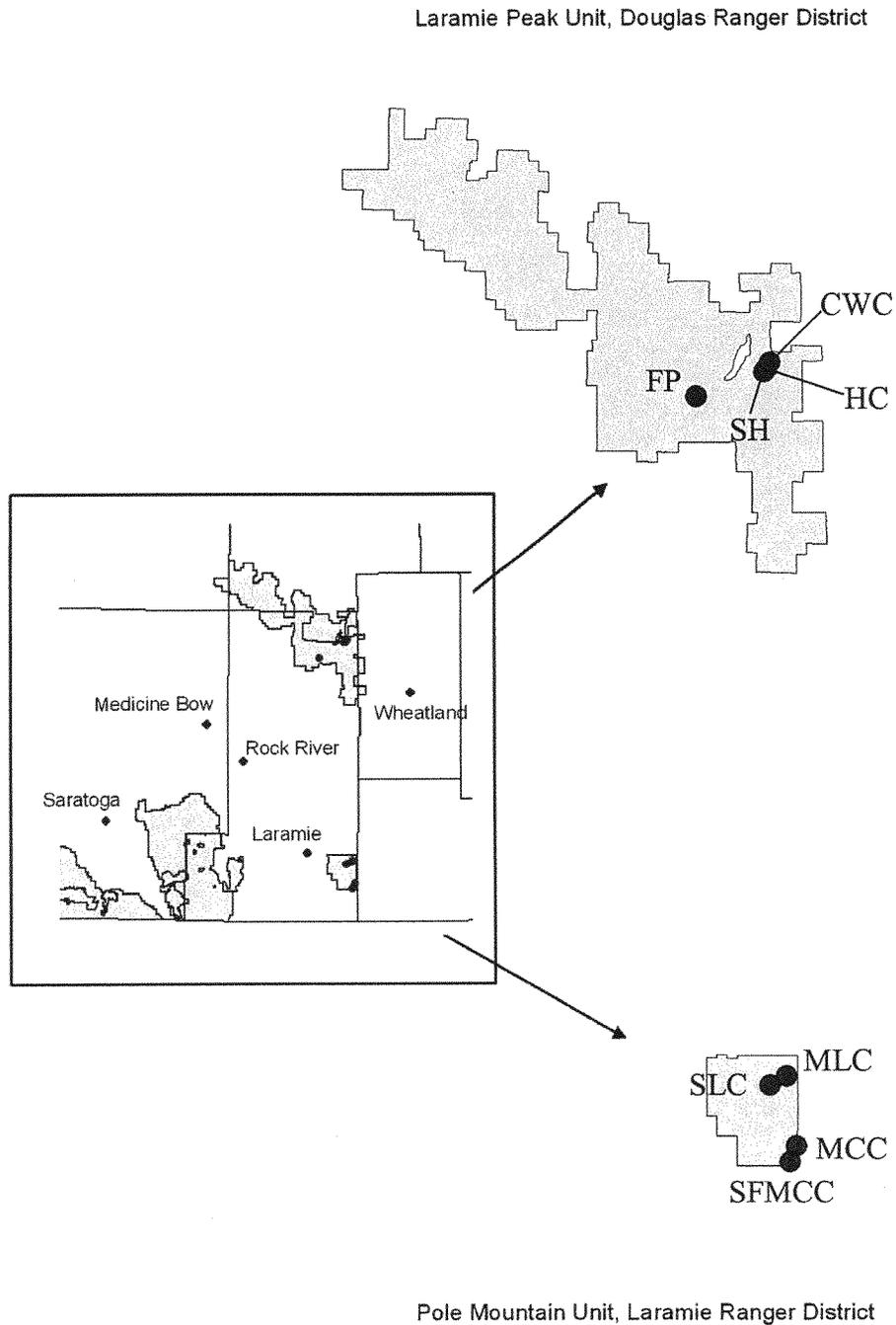


Figure 2. Captures of Deer Mice, Voles, *Zapus* sp., and other species at all eight fixed small mammal transects in the Medicine Bow National Forest.

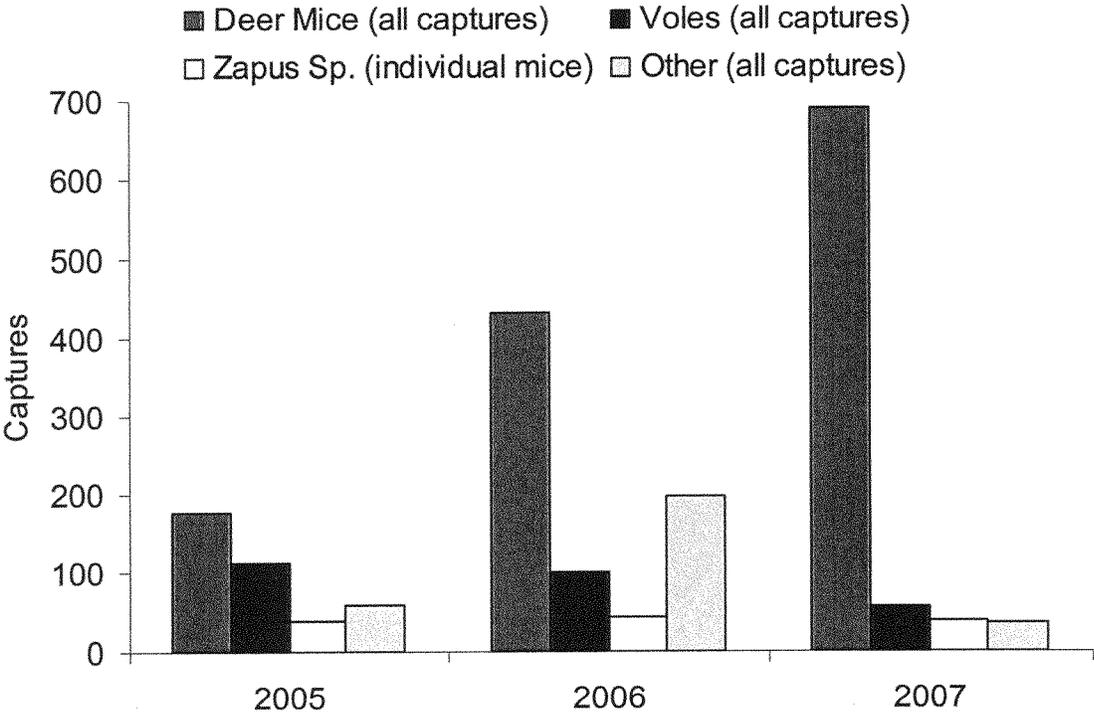


Figure 3. Number of *Zapus* sp. captured at all eight fixed small mammal transects from 2005 to 2007 in the Medicine Bow National Forest.

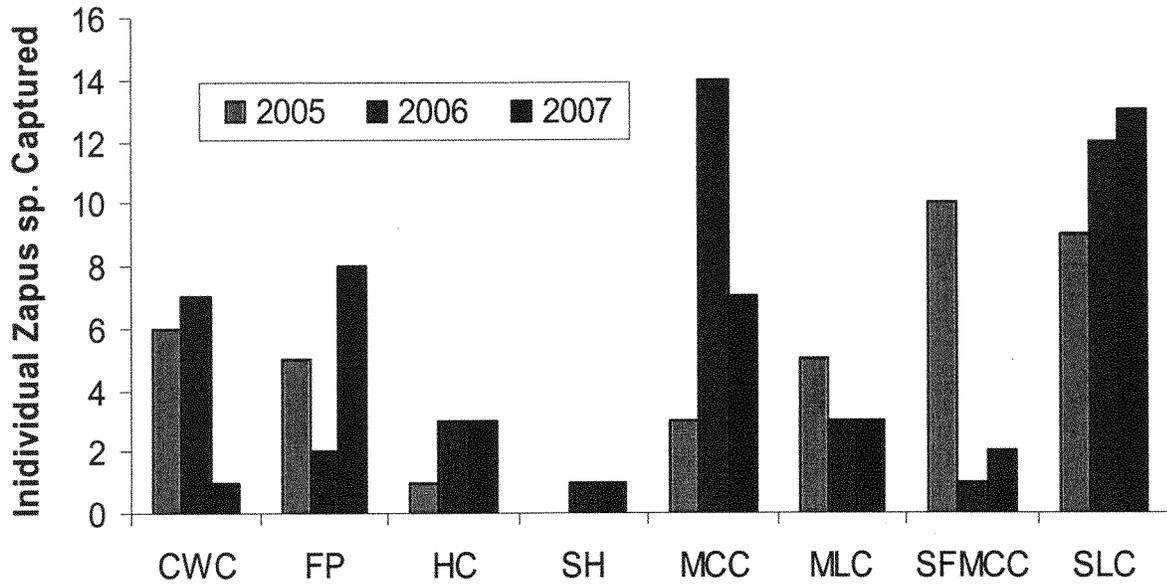


Figure 4. Jumping mouse (*Zapus* sp.) capture rates compared to those of voles and deer mice across all transects since 2005.

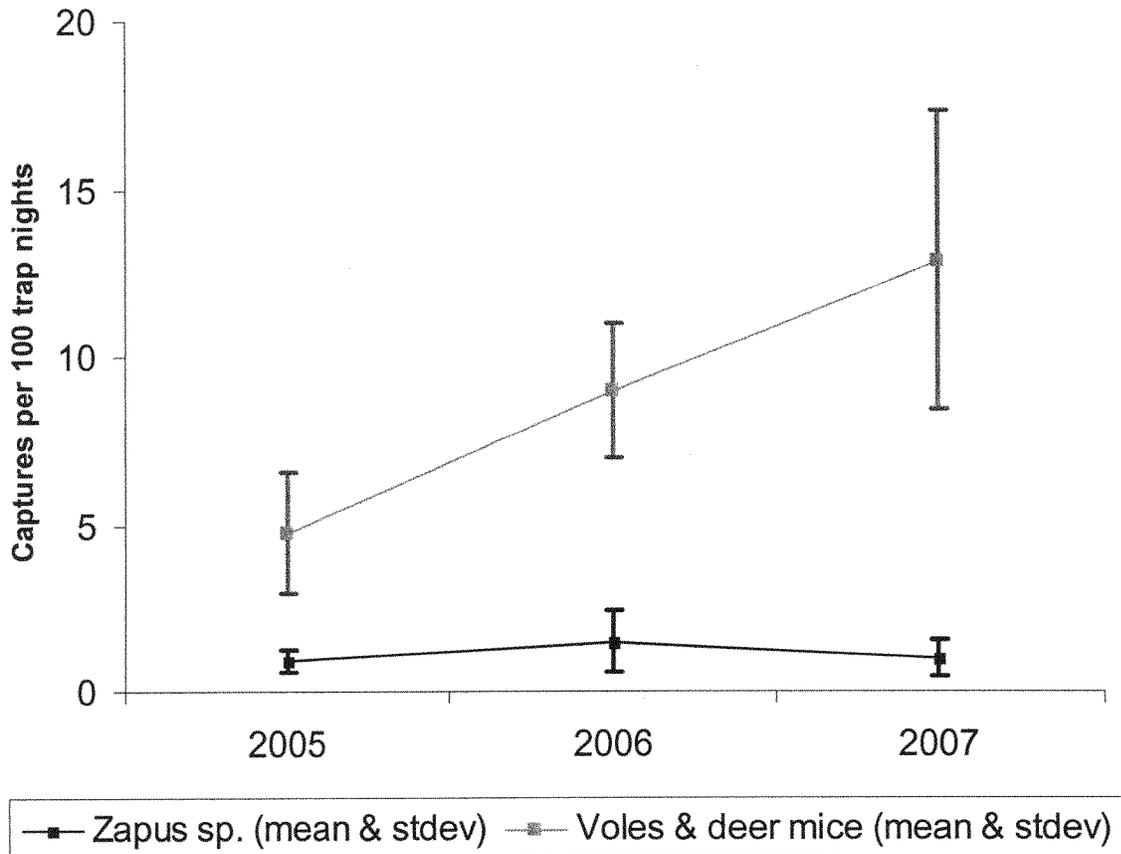


Figure 5. Capture rates of jumping mice (*Zapus* sp.) plotted as a function of capture rates of deer mice and voles. Each data point represents all the captures from a given transect in a given year. Linear, least-squares regression performed on all data points.

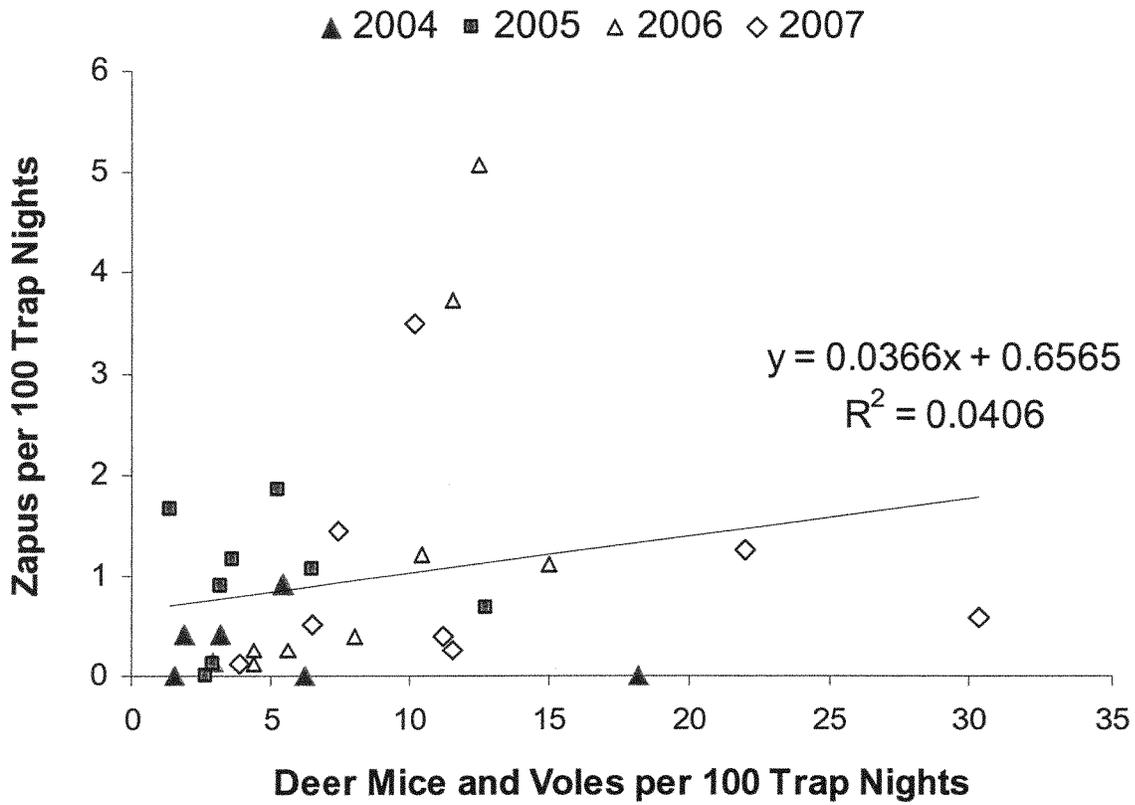
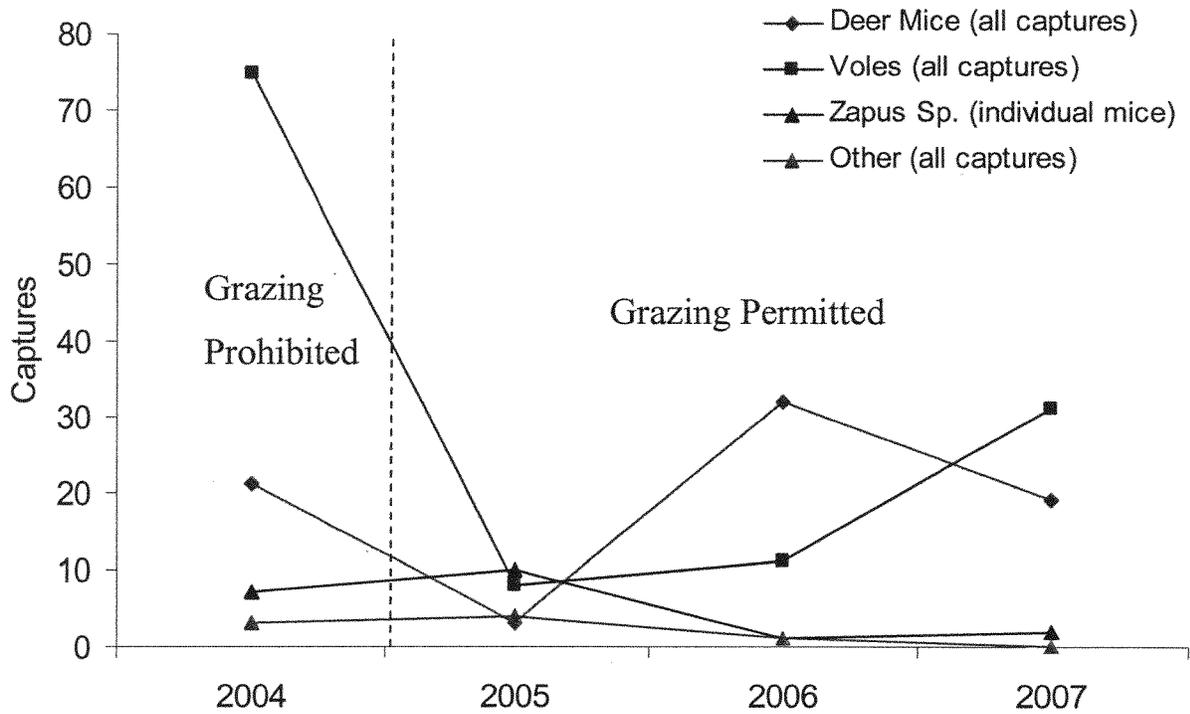


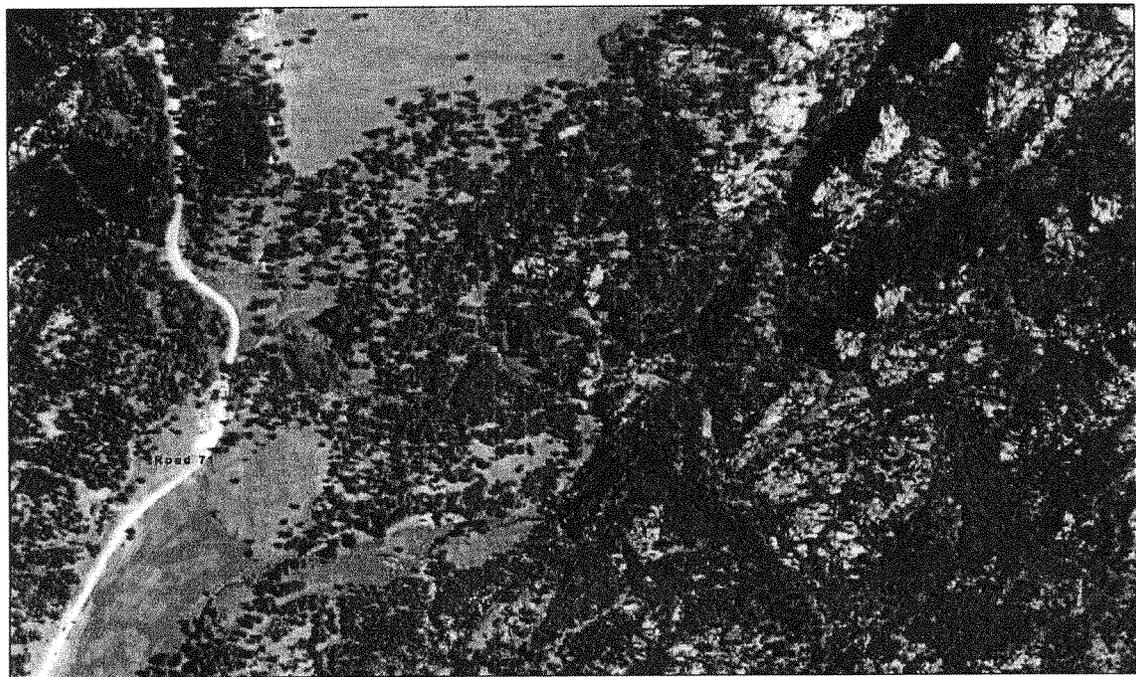
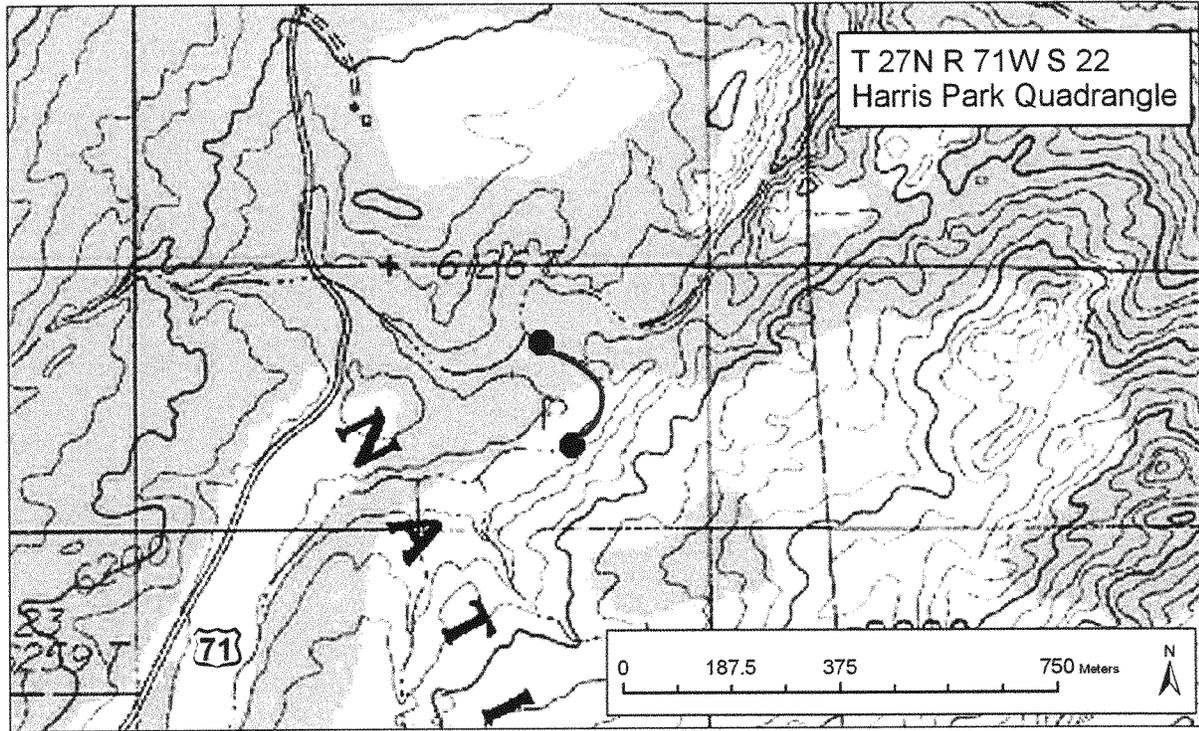
Figure 6. Trends in small mammal captures at the South Fork Middle Crow Creek transect over the last four years. A grazing exclosure around this transect was removed in the summer of 2004.



APPENDIX: MAPS OF TRANSECTS

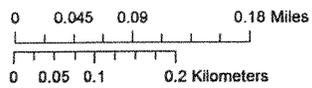
Cottonwood Creek (CWC)..... A-2
Hubbard's Cupboard (HC)..... A-3
Schoolhouse (SH)..... A-4
Friend Park (FP)..... A-5
Middle Lodgepole Creek (MLC) A-6
South Lodgepole Creek (SLC)..... A-7
Middle Crow Creek (MCC) A-8
South Fork Middle Crow Creek (SFMCC)..... A-9

Cottonwood Creek

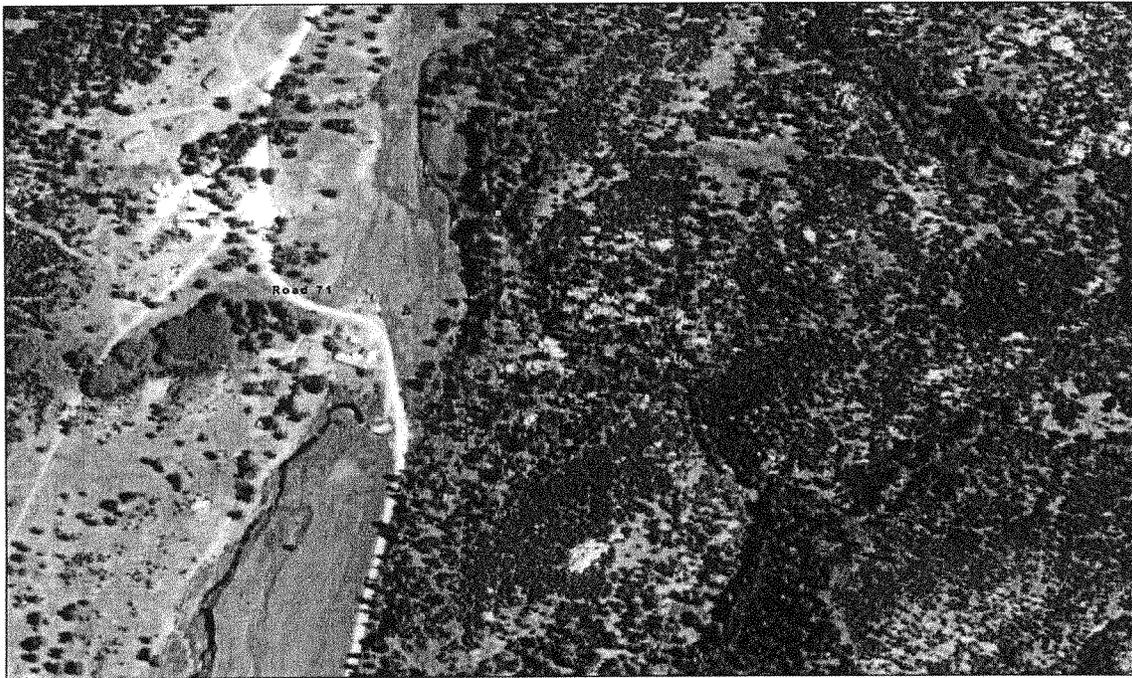
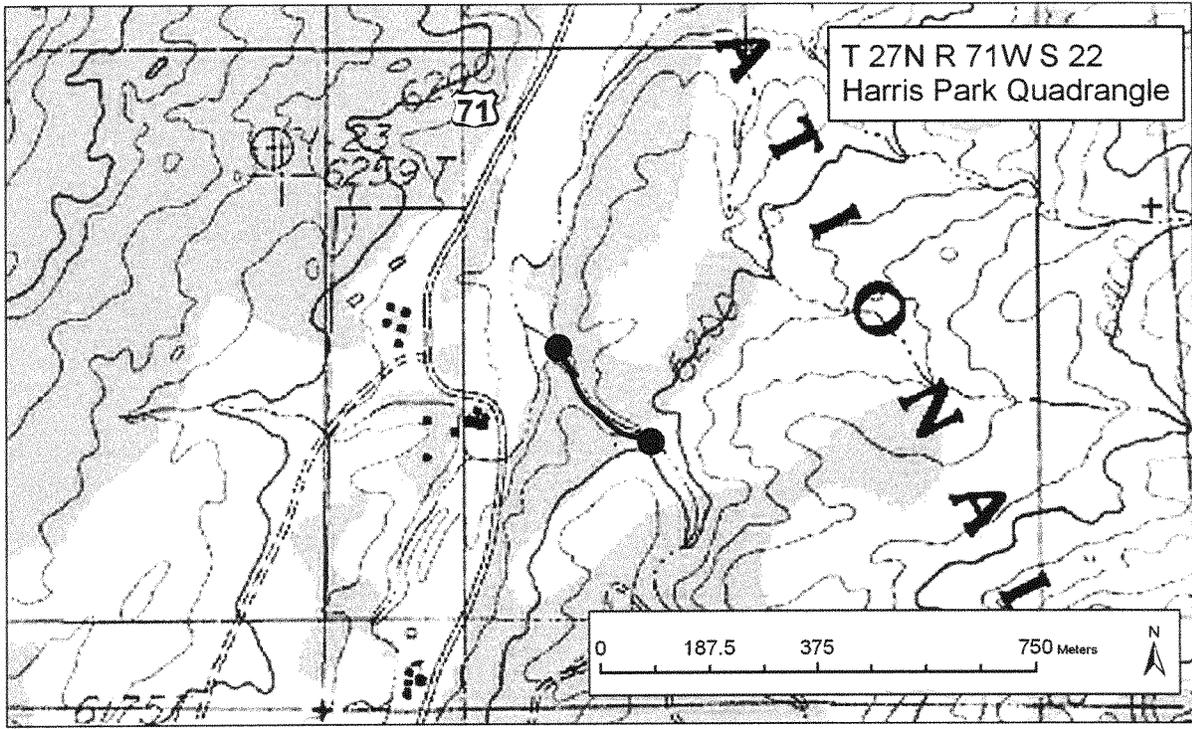


Cottonwood Creek (CWC)

Legend	
TransEndPts_06	
Start	
End	
Forest Boundary	

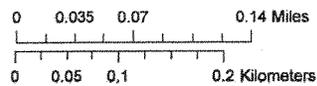


Hubbard's Cupboard (Cottonwood Creek tributary)

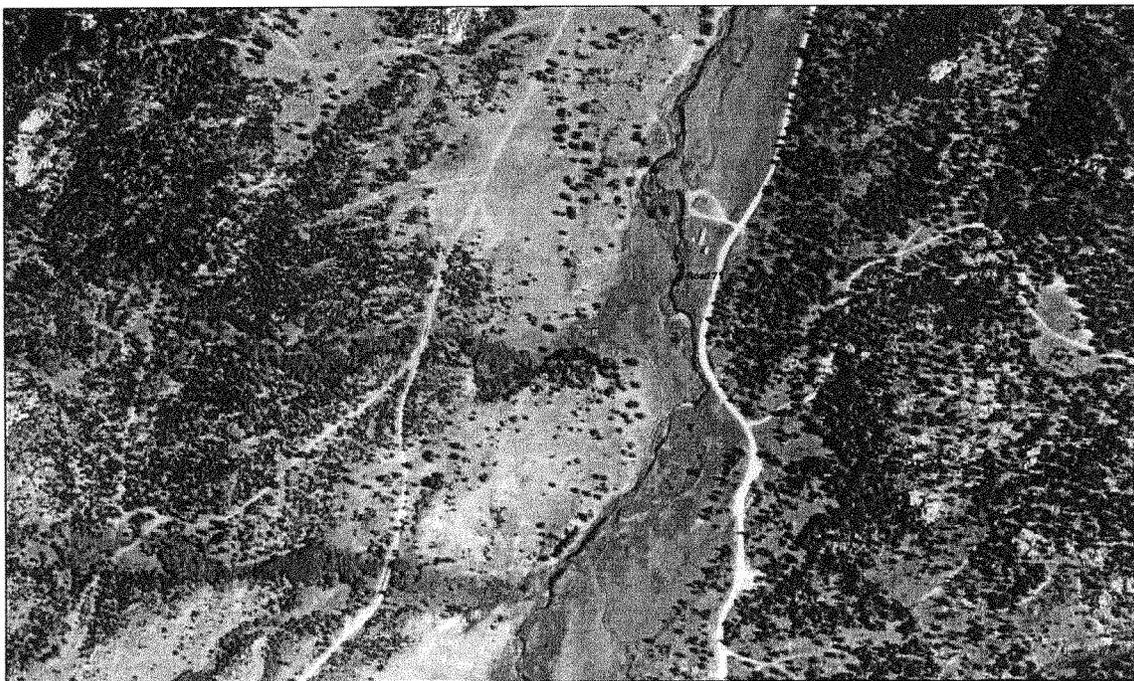
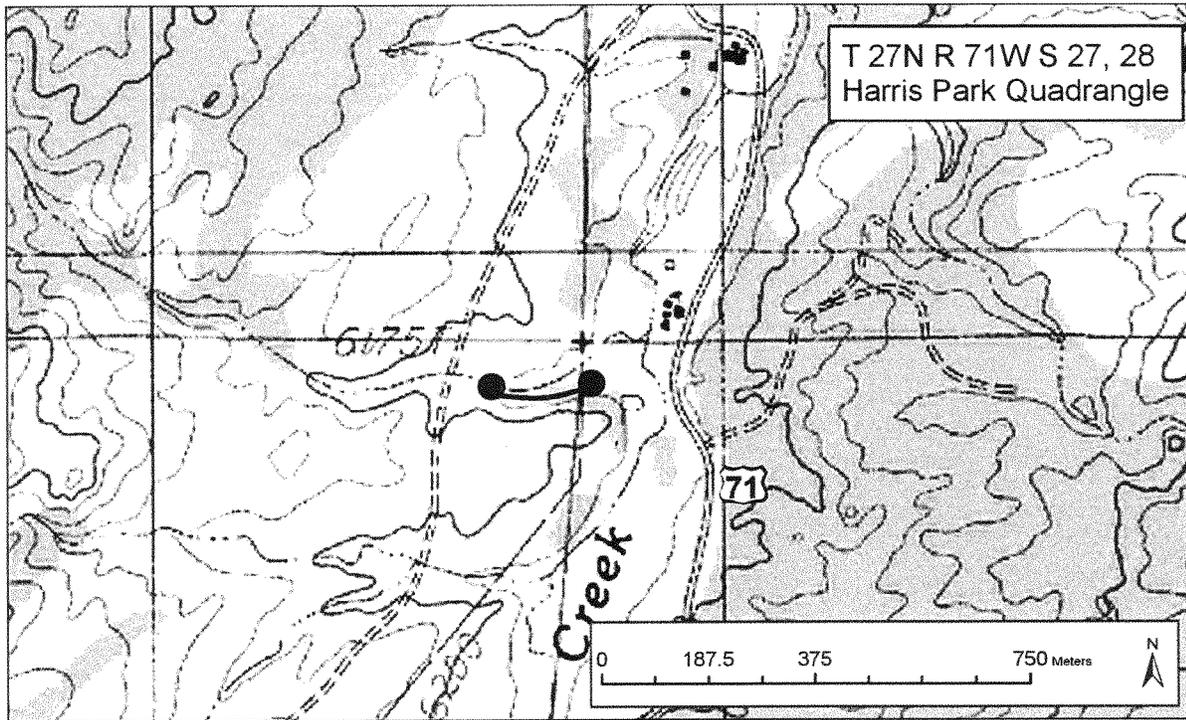


Hubbard's Cupboard (HC)

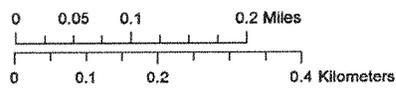
Legend
TransEndPts_06
Start
End
Forest Boundary



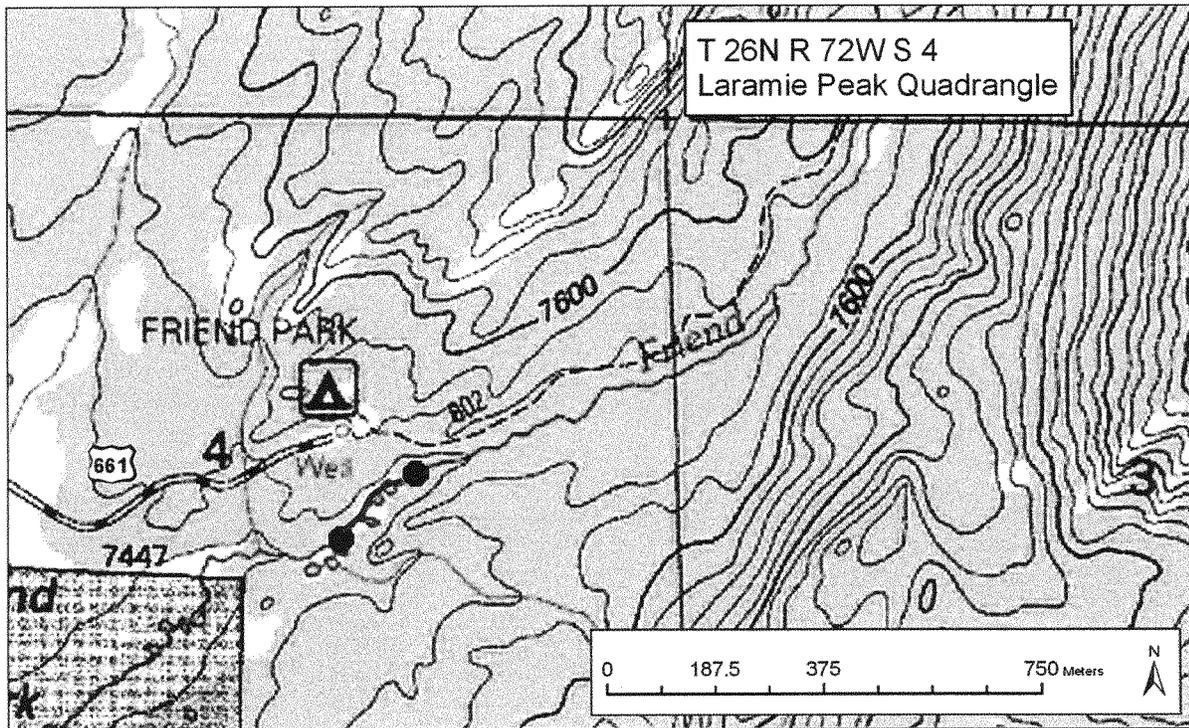
Schoolhouse (Cottonwood Creek tributary)



School House (SH)



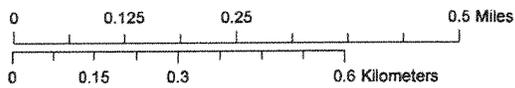
Friend Park



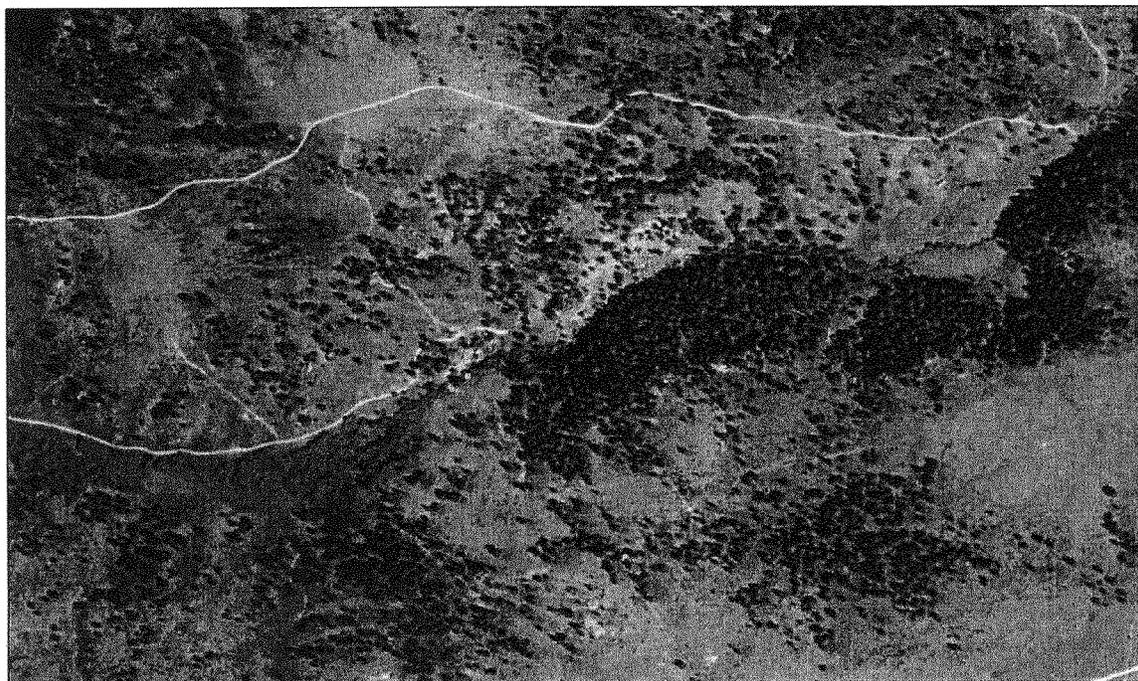
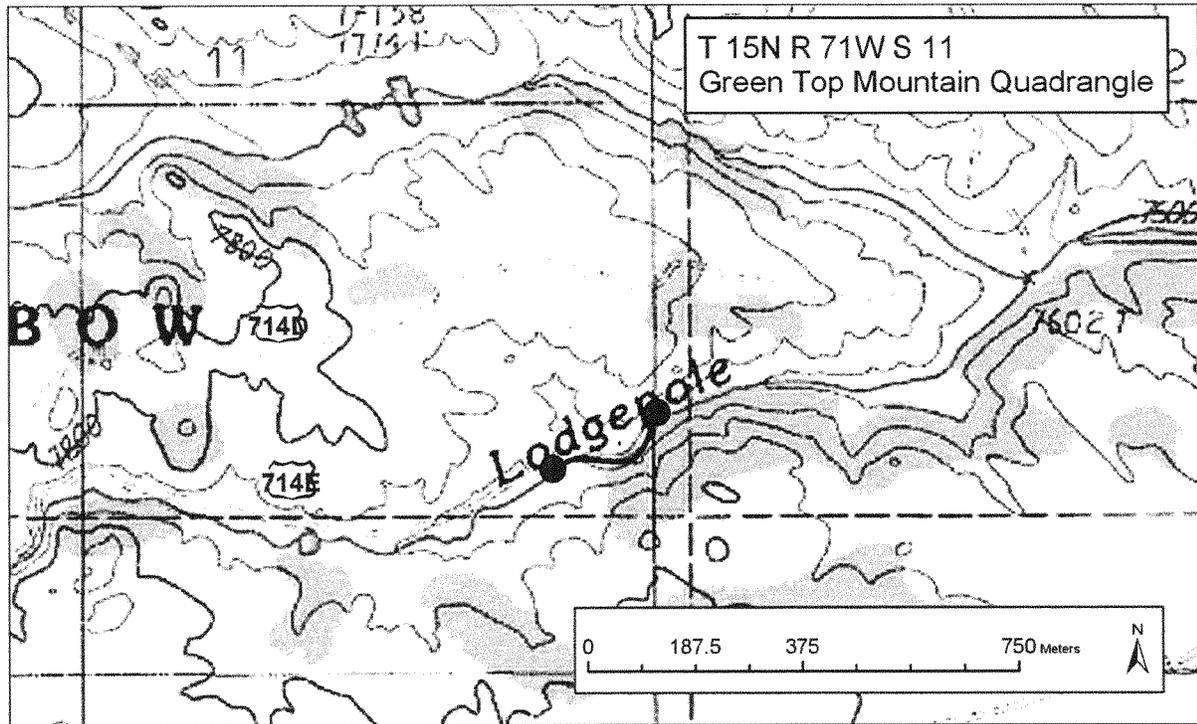
Friend Park (FP)

Legend
TransEndPts_08

- Start
- End
- Forest Boundary



Middle Lodgepole Creek



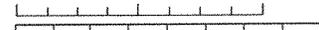
TransEndPts_06

Begin/End

to: Start

of: End

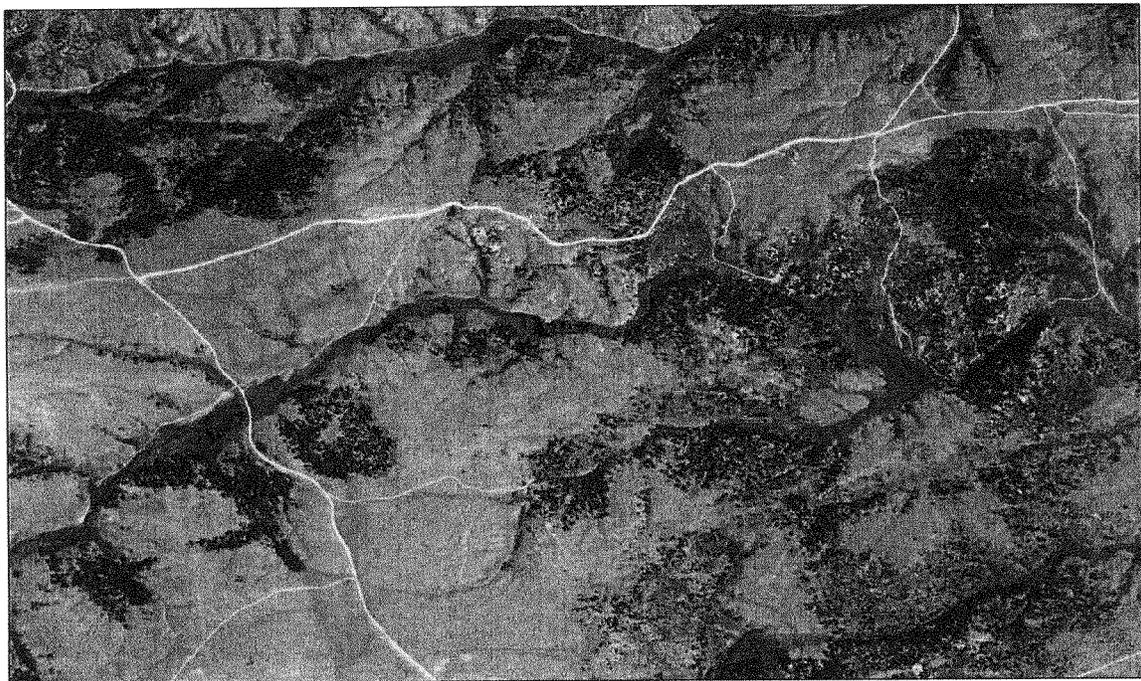
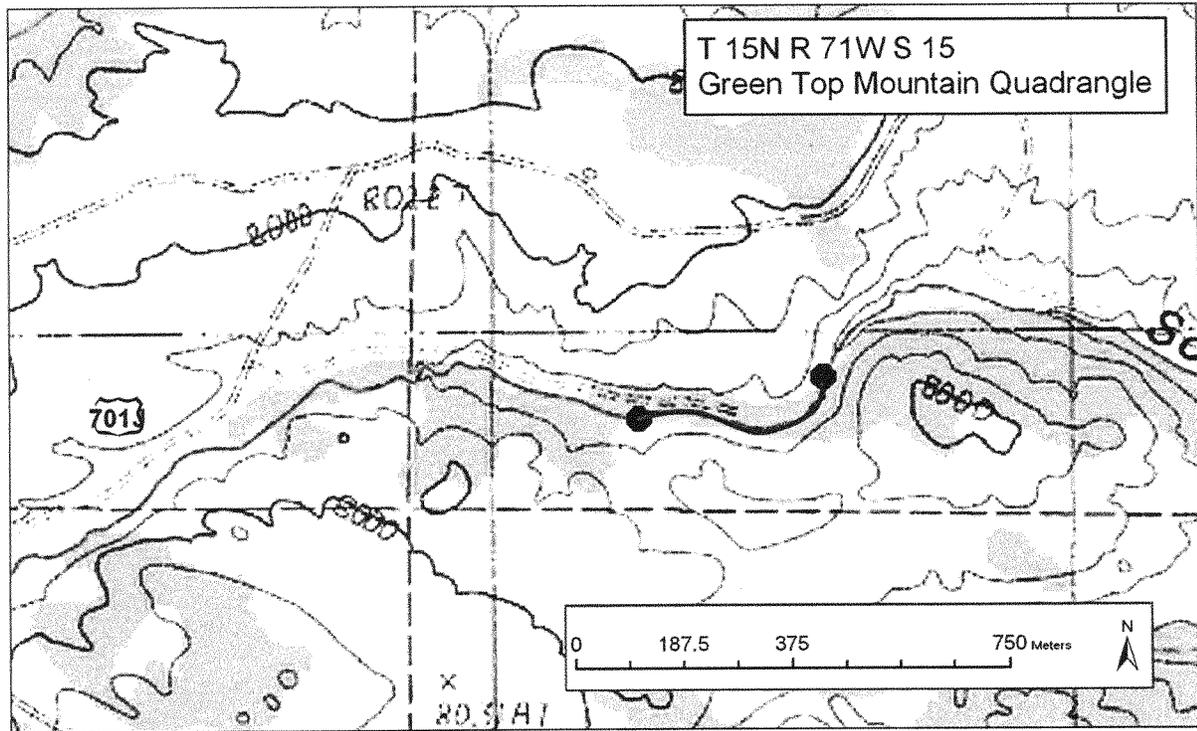
0 0.05 0.1 0.2 Miles



0 0.1 0.2 0.4 Kilometers



South Lodgepole Creek

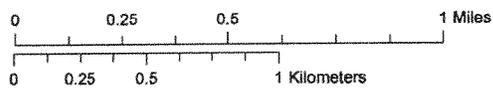


TransEndPts_06

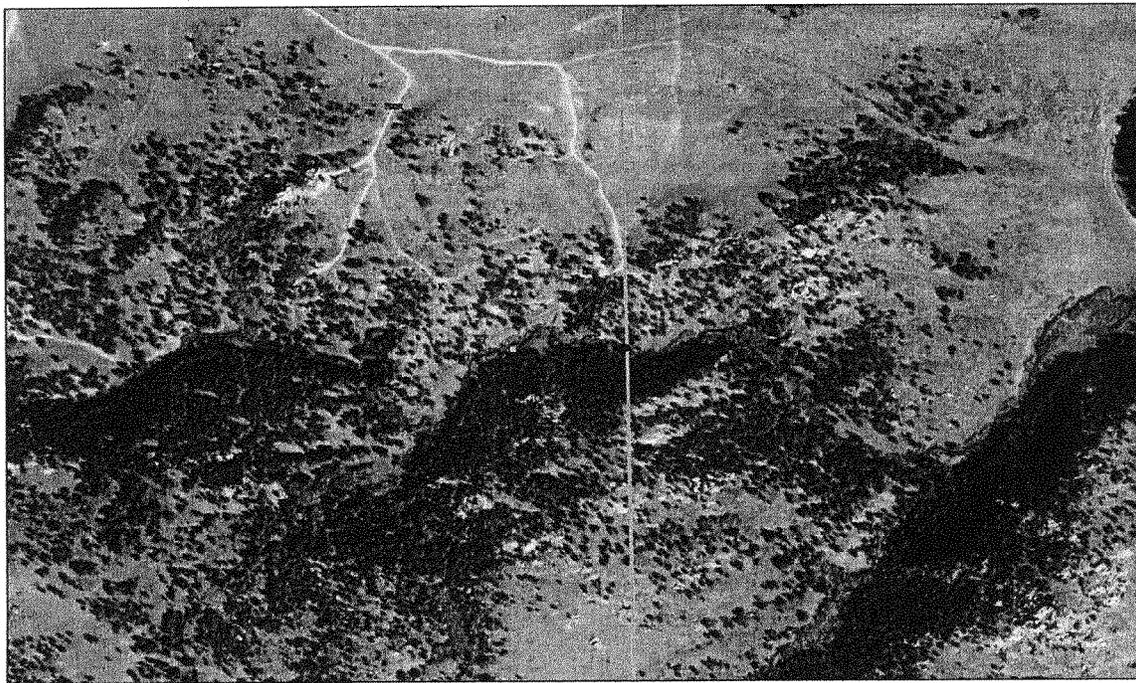
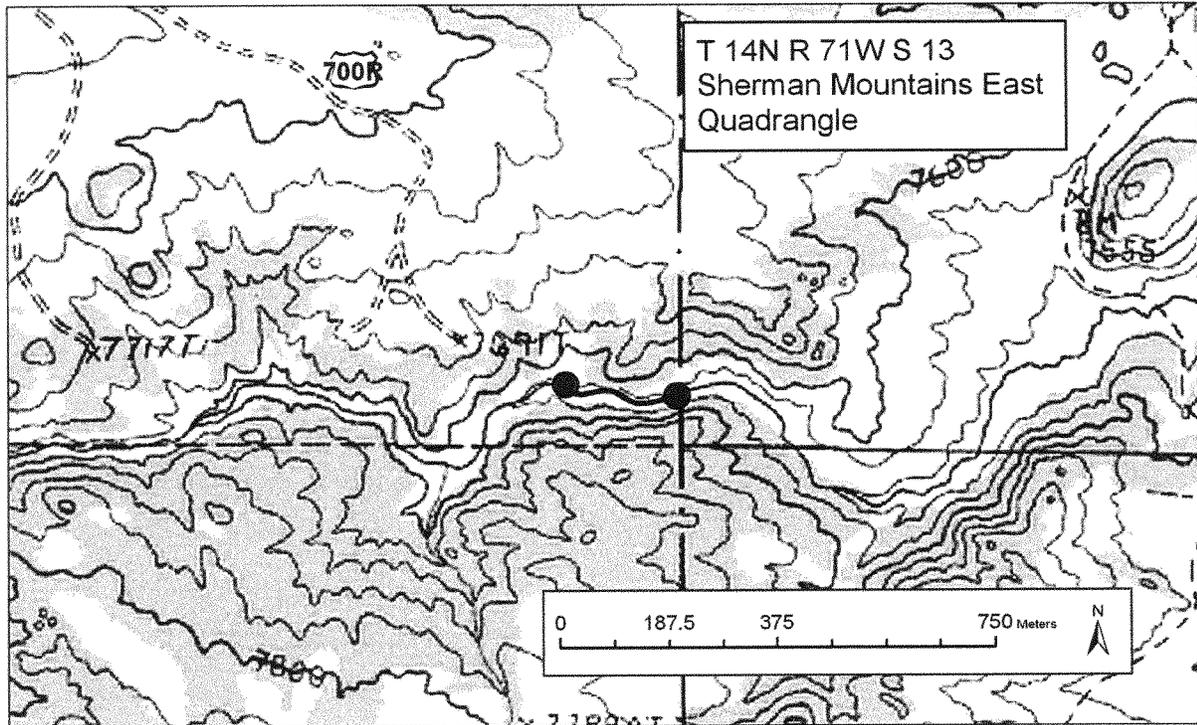
BeginEnd

U. Star

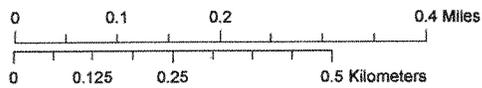
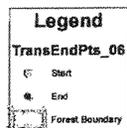
End



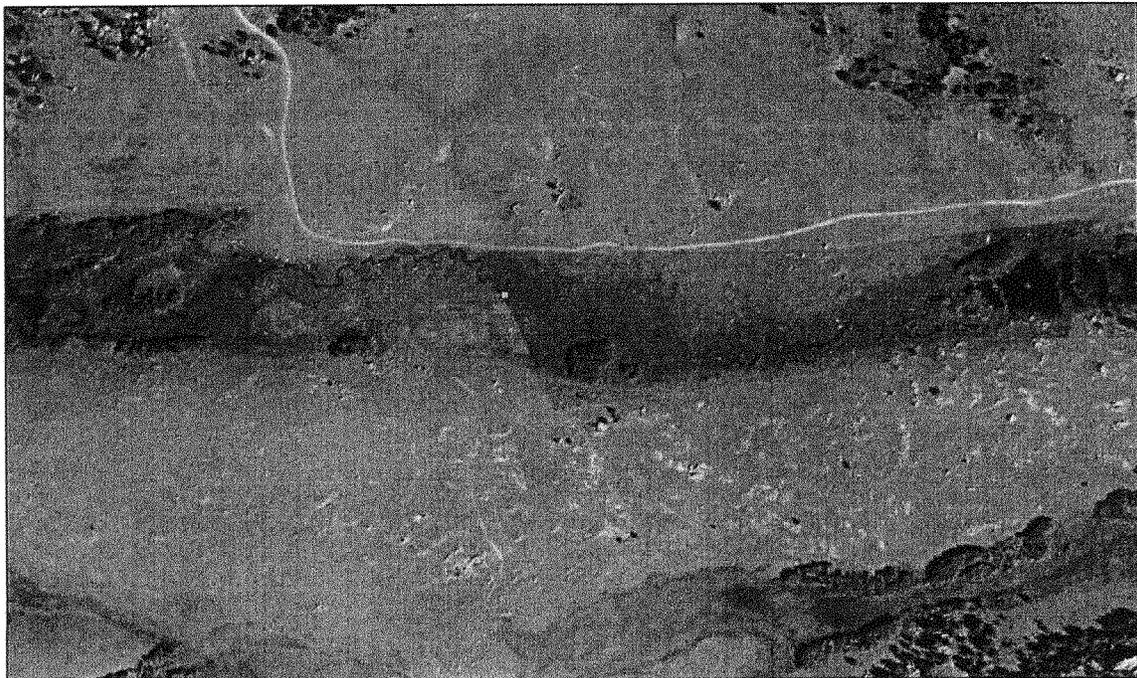
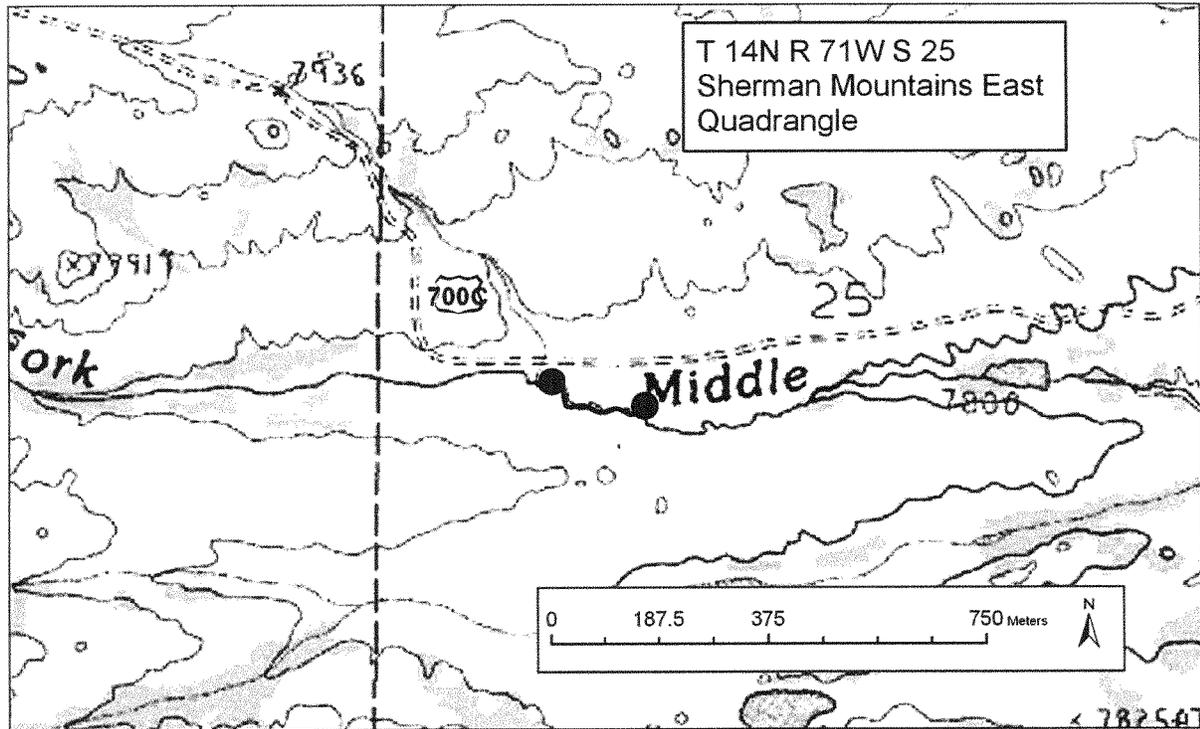
Middle Crow Creek



Middle Crow Creek (MCC) - Fig. 8

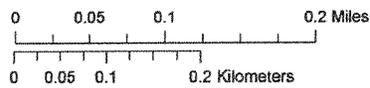


South Fork Middle Crow Creek



South Fork Middle Crow Creek (SFMCC) - Fig. 9

Legend
TransEndPts_06
|| Start
● End



December 17, 2007

Elisabeth A. Shumaker
Clerk of Court

PUBLISH

UNITED STATES COURT OF APPEALS
TENTH CIRCUIT

CENTER FOR NATIVE
ECOSYSTEMS; BIODIVERSITY
CONSERVATION ALLIANCE; and
FOREST GUARDIANS,

Plaintiffs - Appellants,

v.

RICK CABLES, in his official
capacity as Regional Forester, Region
2, United States Forest Service; and
UNITED STATES FOREST
SERVICE,

Defendants - Appellees,

and

POLE MOUNTAIN CATTLEMEN'S
ASSOCIATION, an Unincorporated
Association, and its members; BATH
SISTERS, LLC, a Wyoming Limited
Liability Company; MARK EISELE;
WARREN LIFESTOCK, LLC, a
Wyoming Limited Liability Company;
PETER HANSEN; BONHAM
RANCH, LLC, a Wyoming Limited
Liability Company; C. C. DAVIS &
CO., LLC, a Wyoming Limited
Liability Company; FERGUSON
RANCH, INC., a Wyoming
Corporation; GARDNER BROS.;
WILLADSEN BROS.; QUARTER
CIRCLE F QUARTER CIRCLE LONE
TREE RANCH, INC., a Wyoming

No. 06-1130

Corporation; WYOMING STOCK GROWERS ASSOCIATION, a nonprofit Wyoming Corporation on behalf of its members; LARAMIE COUNTY FARMERS UNION, a nonprofit Wyoming Corporation on behalf of its members; WYOMING FARM BUREAU FEDERATION, a nonprofit Wyoming Corporation on behalf of its members; WYOMING ASSOCIATION OF CONSERVATION DISTRICTS, a nonprofit Wyoming Corporation on behalf of its members,

Defendant-Intervenors -
Appellees.

STATE OF WYOMING;
PACIFIC LEGAL FOUNDATION;
NATIONAL ASSOCIATION OF
HOME BUILDERS; AMERICAN
FOREST & PAPER ASSOCIATION,

Amici Curiae.

**APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
(D.C. NO. 04-cv-2409-PSF-OES)**

McCrystie Adams (Neil Levine with her on brief), of Earthjustice, Denver, Colorado, for Plaintiffs - Appellants

Mark R. Haag, Environment & Natural Resources Division, Department of Justice, Washington, D.C., (Sue Ellen Wooldridge, Assistant Attorney General,

and David Shilton, Department of Justice, Washington, D.C.; Diane M. Conolly, Deputy Regional Attorney, and Kenneth P. Pitt, General Attorney, Office of the General Counsel, Department of Agriculture, Golden, Colorado, with him on the brief), for Defendants - Appellees.

Karen Budd-Falen and Marc R. Stimpert, Budd-Falen Law Offices, LLC, Cheyenne, Wyoming, for Defendant-Intervenor - Appellees Wyoming Association of Conservation Districts.

Daniel B. Frank, Frank Law Office, P.C., Cheyenne, Wyoming, for Defendant-Intervenor - Appellees Pole Mountain Cattlemen's Association, Wyoming Stock Growers Association, Wyoming Farm Bureau Federation, and Laramie County Farmers Union.

Thomas R. Lundquist, J. Michael Klise, Crowell & Moring, LLP, Washington, D.C., and Duane J. Desiderio, Staff Vice President, Legal Affairs, National Association of Home Builders, Washington, D.C., filed an amicus curiae brief for the National Association of Home Builders and American Forest & Paper Association.

Patrick J. Crank, Attorney General, and Thomas W. Rumpke, Cheyenne, Wyoming, filed an amicus curiae brief for the State of Wyoming.

M. Reed Hopper and Scott Sommerdorf, Pacific Legal Foundation, Sacramento, California, filed an amicus curiae brief for Pacific Legal Foundation.

Before **BRISCOE**, **EBEL**, and **HARTZ**, Circuit Judges.

HARTZ, Circuit Judge.

The Center for Native Ecosystems, the Biodiversity Conservation Alliance, and the Forest Guardians (collectively CNE) appeal the district court's order denying a petition for review of the United States Forest Service's authorization of livestock grazing in Medicine Bow National Forest. CNE first contends that

the Forest Service violated § 7(a)(2) of the Endangered Species Act, 16 U.S.C. § 1536(a)(2), because (1) its consultation with the United States Fish and Wildlife Service (FWS) after the designation of portions of the forest as critical habitat for the Preble's meadow jumping mouse (Preble's mouse) failed to consider how grazing in the mouse's critical habitat would affect its recovery, and (2) it must reinitiate consultation with the FWS regarding the effects of grazing on the mouse itself because grazing has exceeded previously established limits. CNE also contends that the Forest Service has violated § 313(a) of the Clean Water Act because it has not complied with Wyoming water-quality requirements "in the same manner, and to the same extent as any nongovernmental entity," 33 U.S.C. § 1323(a). The Pole Mountain Cattlemen's Association, the Wyoming Stock Growers Association, the Wyoming Farm Bureau Federation, and the Laramie County Farmers Union (collectively the Cattlemen's Association), along with the Wyoming Association of Conservation Districts, intervened in the district-court proceeding as defendants in support of the Forest Service's actions. The State of Wyoming, the Pacific Legal Foundation, and the National Association of Home Builders in conjunction with the American Forest and Paper Association have filed amicus briefs supporting various aspects of the Forest Service's actions. We have jurisdiction under 28 U.S.C. § 1291 and affirm the district court's decision.

I. BACKGROUND

A. The Pole Mountain Area in Medicine Bow National Forest

The Forest Service has long permitted livestock grazing in the Pole Mountain area of Medicine Bow National Forest, near Laramie, Wyoming. Under federal regulations the Forest Service may allow grazing on national forest land by issuing an allotment management plan, 36 C.F.R. § 222.2, and grazing or livestock-use permits, *id.* § 222.3(a). The allotment management plan must be consistent with the land management plan for the area, *id.* § 222.2(c), which in this case is the “Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan” (the Forest Plan), issued in October 1985.

The Pole Mountain allotment management plan allows grazing of up to 2086 cattle and 1200 sheep during an annual season from June 1 to October 15. It divides Pole Mountain into eight livestock allotments, seven of which are used for grazing. It also adopts certain best management practices for grazing, including a prohibition on season-long grazing in a pasture, standards limiting the utilization of forage by livestock, and the use of a deferred-rotation grazing system in which “only one pasture in an allotment will be grazed at a time” and “the order in which the pastures are used will be rotated each grazing season.” *Aplts. App. Vol. 2 at 409.* Such practices are outlined in a publication of the Wyoming Department of Environmental Quality entitled “Grazing Best Management Practices.” *Aplees. Jt. Supp. App. Vol. 2 at 378.*

Grazing permits, which generally are for a 10-year term, *id.* § 222.3(c)(1), were issued for the seven Pole Mountain allotments in 1999. They identify the maximum number of livestock and maximum length of grazing season for each allotment. They also explain that they can

be cancelled, in whole or in part, or otherwise modified, at any time during the [10-year] term to conform with needed changes brought about by law, regulation, Executive order, allotment management plans, land management planning, numbers permitted or seasons of use necessary because of resource conditions, or the lands described otherwise being unavailable for grazing.

Aplees. Jt. Supp. App. Vol. 3 at 575. The permits explicitly incorporate the allotment management plan into their terms.

The limits set by the allotment management plan and permits on the length of the grazing season and number of permissible livestock may be altered by annual operating instructions issued by the Forest Service to grazing permittees. Annual operating instructions are not required by any statute or regulation; but the Forest Service Handbook for the Rocky Mountain Region contemplates their use and describes their function: They specify the annual actions necessary to implement the Forest Service's decision to authorize grazing in a particular area. They "identify the obligations of the permittee and the Forest Service, . . . articulate annual grazing management requirements and standards, and [set forth the] monitoring necessary to document compliance." Aplt. App. Vol. 2 at 321. They also take into account developments, such as a drought, occurring after

issuance of the allotment management plan and accordingly specify the maximum amount of grazing authorized for a particular allotment, the precise sequence of grazing on the allotment, and any other standards the permittee must follow that year when grazing.

B. Facts Related to Claims Under the Endangered Species Act

In 1998 the FWS added the Preble's mouse, which resided in areas of Pole Mountain where grazing was authorized, to the threatened-species list. *See* 63 Fed. Reg. 26,517 (May 13, 1998). The FWS's action triggered § 7(a)(2) of the Endangered Species Act (ESA), 16 U.S.C. § 1536(a)(2), which generally requires federal agencies—in this case the Forest Service—to consult with the FWS, on behalf of the Secretary of the Interior, to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined . . . to be critical.” (For some species, federal agencies are required to consult with the National Marine Fisheries Service on behalf of the Secretary of Commerce, instead of the FWS. *See Nat'l Ass'n of Home Builders v. Defenders of Wildlife*, Nos. 06-340 & 06-549, 2007 WL 1801745, at *5 (U.S. June 25, 2007); 50 C.F.R. § 402.01(b). That is not the case here.)

Following the threatened-species designation, the Forest Service began preparing revisions to the Pole Mountain allotment management plan. As it

explained at the time, one of the reasons for doing so was to “[i]ncorporate mitigation measures designed to protect sensitive and [threatened and endangered] species into [the Pole Mountain allotment management plan].” Aplees. Jt. Supp. App. Vol. 1 at 77. At the same time, the Forest Service sought to satisfy its consultation obligation under 16 U.S.C. § 1536(a)(2). FWS regulations provide that an agency’s consultation obligation may be satisfied through either formal or informal consultation, depending on the agency’s determination of the possible effect on the species or habitat at issue. If the agency action “may affect” the species or habitat, 50 C.F.R. § 402.14(a), formal consultation is generally required. If, however, “as a result of the preparation of a biological assessment . . . or as a result of informal consultation with the [FWS], the . . . agency determines, with the written concurrence of [the FWS], that the proposed action is not likely to adversely affect” the species or habitat, *id.* § 402.14(b)(1), formal consultation is not necessary, *id.*; §§ 402.14(a), 402.13(a).

In recognition of its ESA consultation obligation, the Forest Service completed a biological assessment (the 1998 BA) analyzing the effects on the Preble’s mouse of the proposed revisions to the allotment management plan. The 1998 BA identified nine “management requirements and mitigation measures” designed to ensure the conservation of the mouse. Aplt. App. Vol. 2 at 393; *see id.* at 392 (1998 BA) (“There currently exists adequate Forest Plan standards and

guidelines to allow for both livestock grazing in riparian areas and species conservation.”). These measures were:

1. In areas where documented jumping mouse populations exist, grazing management will maintain or enhance vegetative habitat characteristics for the jumping mouse.
2. Prohibit season-long grazing in riparian pastures.
3. Implement winter grazing or short duration spring or late fall grazing where possible to insure seed production for jumping mouse forage during the majority of the grazing season.
4. Implement total rest in riparian pastures with deteriorated range where conditions are not likely to improve with livestock grazing.
5. Remove livestock from grazing units when average stubble heights on carex species reach 3 to 4 inches in spring or winter use pastures and 4 to 6 inches in summer/fall pastures.
6. Remove livestock from the grazing unit when streambank disturbance (trampling, exposed soils, etc.), from current years livestock grazing reaches 20 to 25 percent of the key area stream reach.
7. Limit utilization of woody plants to 15 to 20 percent of current animal growth.
8. Control the length of grazing period in spring use riparian pastures to minimize utilization of re-growth. This is normally 20 to 30 days.
9. Limit utilization of herbaceous species to 40 to 45 percent.

Id. at 393–94. The 1998 BA also stated that “[l]ong-term trend monitoring shall be conducted in representative riparian community types on a 3 to 5 year cycle to determine effectiveness of the mitigation measures.” *Id.* at 394. It provided that these measures would be added to the grazing permits. The 1998 BA concluded that “[w]ith the implementation of the mitigation measures and monitoring,” grazing was “not likely to adversely affect” the mouse or its habitat. *Id.* (internal quotation marks omitted).

On September 9, 1998, the FWS concurred with the 1998 BA's conclusion that the allotment-management-plan revisions, "as described, [are] not likely to adversely affect Preble's [mouse]." *Id.* at 384; *see* 50 C.F.R. § 402.14(b)(1) (formal consultation not required "if, as a result of the preparation of a biological assessment . . . or as a result of informal consultation with the [FWS], the . . . agency determines, with the written concurrence of the [FWS], that the proposed action is not likely to adversely affect any listed species or critical habitat"). On October 19, 1998, the Forest Service informed the FWS that the appropriate forage-utilization standard for the ninth mitigation measure listed in the 1998 BA should be 45–55% rather than 40–45%; this change was necessary to ensure that the 1998 BA was consistent with the 1985 Forest Plan, which provided that "utilization on allotments," *Aplts. App. Vol. 2* at 421, was to be limited to 45–55% and that utilization levels could not exceed an amount 10% above the limit. (This results in a total permissible utilization rate of 60.5%.) On October 22, 1998, the FWS, having been advised of the proper forage-utilization standard, once again "concur[red] with [the Forest Service's] assessment that the project, as described, is not likely to adversely affect Preble's." *Id.* at 373. The same day, the Forest Service issued a Decision Notice and Finding of No Significant Impact for the revisions to the Pole Mountain allotment management plan. It added two mitigation measures to the nine that were previously identified in the 1998 BA:

10. Require the maintenance of a 4 inch stubble height of sedges and rushes in all riparian areas within grazing allotments.
11. Prior to weed spraying or other vegetation management activities (e.g. burning), site-specific analyses will be conducted and Biological Evaluations will be prepared.

Id. at 366. It then concluded that the revisions “would not cause significant environmental effects” and that no further environmental review was necessary.

Id. at 369. In particular, the revisions of the plan “‘may [a]ffect’ but [were] ‘not likely to adversely affect’ the Preble’s meadow jumping mouse or its habitat.”

Id. at 371.

The following year, 1999, the Forest Service issued grazing permits for each of the seven allotments; the 10-year permits incorporated the Pole Mountain allotment management plan and established the maximum number of livestock and season of use for each allotment. As explained above, they also provided that the Forest Service may alter the grazing season and livestock numbers to meet the objectives of the allotment management plan and the Forest Plan. Apparently there were no administrative appeals after the permits were issued, and annual operating instructions were later issued each year for each allotment.

In June 2003 the FWS designated certain areas of Pole Mountain as “critical habitat” for the Preble’s mouse. 68 Fed. Reg. 37,276, 37,308, 37,321 (June 23, 2003). This critical habitat, the FWS’s notice explained, consisted of those areas identified as essential to the mouse’s conservation. *Id.* at 37,295. The notice defined *conservation* as “the use of all methods and procedures that are

necessary to bring [the mouse] to the point at which listing under the [Endangered Species] Act is no longer necessary,” *id.*, rather than merely measures ensuring its survival and preventing extinction. The FWS incorporated into the mouse’s critical-habitat designation and conservation strategy certain analysis from a working draft of a recovery plan for the mouse, which “describe[d] actions considered necessary for [its] conservation . . . , establish[ed] criteria for downlisting or delisting the species, and estimate[d] time and cost for implementing the recovery measures needed.” *Id.* at 37,280. The portion of the Preble’s mouse’s critical habitat in Pole Mountain was “designated to address two of three small recovery populations called for . . . in our conservation strategy.” *Id.* at 37,308. It began along the eastern boundary of Pole Mountain and included roughly 4.9 miles of streams in the North Pasture and Horse Creek allotments. Critical habitat extended 360 feet from each side of these streams. *Id.* at 37,321.

In 2003 the Forest Service prepared a new biological assessment (the 2003 BA) analyzing the effects of a proposed revision to the Forest Plan on endangered species, including the mouse, and their critical habitats in the area. It concluded that “[t]here is no evidence of detrimental effects of livestock grazing on Preble’s meadow jumping mouse, if the grazing meets Plan Standards.” *Aplees. Jt. Supp. App. Vol. 1* at 53. The 2003 BA added that “[t]he assumption that current regulation of livestock grazing provides conditions compatible with the recovery of the Preble’s meadow jumping mouse will be tested in a study of the effects of

grazing and fire on Preble's meadow jumping mouse." *Id.* Initially, it also found that the proposed Plan's provision for prescribed fires was likely to adversely affect mice and their critical habitat. After formal consultation, however, the FWS concluded that the planned prescribed fires were not likely to jeopardize the continued existence of the mouse or adversely modify its critical habitat.

On March 16, 2004, CNE and others submitted to the Forest Service a Notice of Intent to File Suit. They contended in part that "[s]ince the designation of Critical Habitat [for the mouse], [the Forest Service] ha[d] not yet addressed how [the] designation affect[ed] domestic livestock grazing in the Pole Mountain Unit." Aplt. App. Vol. 2 at 237. It added that "[b]y failing to prepare a new biological assessment to address impacts to Preble's meadow jumping mouse Critical Habitat and by failing to reinitiate formal consultation with the [FWS]," the Forest Service was violating the Endangered Species Act. *Id.* at 239.

Shortly thereafter the Forest Service met with the FWS to review the 1998 BA. As the Forest Service said at the time, its review considered the following developments:

- Designation of Preble's [meadow jumping mouse] critical habitat within Pole Mountain Grazing Allotments.
- New livestock and grazing standards and guidelines in the Revised Forest Plan[.]
- Results of forage utilization monitoring in Preble's habitat[.]
- Ongoing drought conditions since 1998[.]

Aplts. App. Vol. 1 at 214. Among the review's observations was that forage-utilization levels specified in the 1998 BA had been exceeded in certain "key areas [within allotments] where vegetation was specifically sampled." *Id.* at 218. (A later Forest Service report, apparently quoting a 1996 Forest Service publication, defines key areas as "a portion of the range, which, because of its location, grazing or browsing value, and/or use, serves as an indicative sample of range conditions, trend, or degree of use seasonally. A key area guides the general management of the entire area of which it is part." *Id.* at 188 n.3 (internal quotation marks omitted).) The review added, however, that these forage-utilization measurements had been taken "in the hardest grazed areas of a pasture with the intention that, if we protect these areas, the rest of the drainage is in fairly good condition. As a result, exceedance of utilization standards in a key area does not indicate that utilization was exceeded across the entire pasture or riparian." *Id.* at 218. The review noted that the 1998 BA had "not clarif[ied] if utilization standards are to be met at a pasture level, on average across the allotments, or within each key area measured," and therefore recommended that a supplement to the biological assessment should, among other things, "[i]dentify the monitoring protocol used to evaluate [e]ffects to Preble's mouse and their habitat." *Id.* at 221.

The informal consultation between the Forest Service and the FWS resulted in a December 15, 2004, update to the 1998 BA. The update reviewed the nine

mitigation measures identified in the 1998 BA and the two mitigation measures added in the 1998 Decision Notice and Finding of No Significant Impact, which had found that the allotment-management-plan revisions would not cause significant environmental effects. These 11 mitigation measures, according to the update, had been “thought to be important to the conservation of” the Preble’s mouse and its habitat. *Id.* at 136. The update analyzed forage utilization by considering the average rate of utilization for all key areas within a given allotment. It explained:

By design, utilization cages were established in the most heavily grazed areas of a pasture with the intention that, if we protect these areas, the rest of the drainage would be in fairly good condition. As a result, higher utilization in a key area does not indicate that utilization was exceeded across the entire riparian area, pasture or allotment.

Id. at 143. The update concluded that forage-utilization standards were being met as of 2004. Average utilization exceeded 55% in only one allotment, North Pasture, where it was 59%, still within the permissible 60.5% limit. Furthermore, the only three key areas in Pole Mountain within the Preble’s mouse’s critical habitat all had permissible rates of utilization. The update observed that the 11 mitigation measures were accomplished as of 2004, “leading to a stable or improving trend in riparian areas. These areas provide the mainstay of Preble’s habitat and are most important to conservation of the species.” *Id.* at 146. In light of this analysis, the Forest Service determined that “[t]he effects occurring

to Preble's mouse from current grazing practices are the same as those considered in the [1998 BA]." *Id.* at 147.

Consistent with the December 15 update, on December 30, 2004, the Forest Service concluded that grazing in Pole Mountain was "[n]ot [l]ikely to [a]dversely [a]ffect [c]ritical [habitat] for the Preble's mouse." *Id.* at 124 (internal quotation marks omitted). It made no determination, however, whether grazing would adversely affect the *mouse*, an issue that had previously been addressed in the 1998 BA. In reaching its conclusion regarding the mouse's critical habitat, the Forest Service summarized the information in the December 15 update, observing in particular that "utilization in the Horse Creek Allotment and the North Pasture Allotment (which contain critical habitat) was within 1985 Forest Plan standards." *Id.* at 126. On January 12, 2005, the FWS concurred with the Forest Service's conclusion regarding the effects of grazing on critical habitat. It based its concurrence on information from the Forest Service, including that there was "appropriate utilization (meeting the 1985 Forest Plan standards) within the allotments." *Id.* at 121.

C. Facts Related to Claim Under the Clean Water Act

In 2000 the Pole Mountain area began suffering from a drought. Consequently, by 2002 the Forest Service was advising grazing permittees of the need to make operational adjustments. The 2002 annual operating instructions (AOIs) instituted moderate reductions in the amount of authorized grazing.

Through a combination of the AOIs' reductions and apparently voluntary adjustments by permittees, cattle grazing in Pole Mountain was reduced by 48% from the maximum allowed under the permits.

In October 2002 the Wyoming Department of Environmental Quality (WDEQ) found that at one of three tested locations in Pole Mountain—North Branch North Fork Crow Creek, in the Crow Creek allotment—the state water-quality standard for fecal coliform was exceeded. *See* 020-080-001 Wyo. Code R. § 27 (Weil 2007) (fecal-coliform standard). The level of coliform bacteria is used as an indicator of possible sewage contamination because they are commonly found in human and animal feces and suggest the presence of pathogenic bacteria, viruses, and protozoans. *See* Env'tl. Prot. Agency, *What Are Fecal Bacteria and Why Are They Important?*, available at <http://www.epa.gov/volunteer/stream/yms511.html>. The Forest Service was notified of the WDEQ's finding in November 2002.

For the 2003 grazing season, AOIs for Pole Mountain allotments further reduced the amount of authorized grazing. In Crow Creek, where the high fecal-coliform readings had been taken, the 2003 AOIs authorized only 1559 animal months of grazing, significantly less than the 2047 animal months allowed under the grazing permits and the 1932 animal months allowed under the 2002 AOIs. Ultimately there were only 1253 actual animal months of grazing in Crow Creek in 2003, a 39% reduction from the amount allowed under the grazing permits.

Overall, 2003 cattle grazing in Pole Mountain was 47% lower than that allowed under the permits.

The WDEQ took more samples in 2003. Samples in the spring showed no excessive levels of fecal coliform; fall samples, however, revealed excessive levels once again at North Branch North Fork Crow Creek in the Crow Creek allotment and now also at Middle Crow Creek in the Green Mountain allotment. As a result, in 2004 the State of Wyoming added these stream areas to its Clean Water Act (CWA) list of waters not meeting state standards. *See* 33 U.S.C. § 1313(d)(1); 40 C.F.R. § 130.7. The CWA requires states to prioritize all waters not meeting state standards, “taking into account the severity of the pollution and the uses to be made of such waters.” 33 U.S.C. § 1313(d)(1)(A). The prioritization identifies those waters for which the state will first calculate the maximum daily load of pollutants that the body of water can accept without violating water-quality standards. *See id.* § (d)(1)(C); 40 C.F.R. § 130.2(I) (definition of total maximum daily load); *id.* § (f) (water’s loading capacity is greatest amount of pollutant it can receive without violating water-quality standards). This process can take several years. *See id.* § 130.7(b)(4) (“The priority ranking shall specifically include the identification of waters targeted for [total maximum daily load] development in the next two years.”). The stream areas in Pole Mountain were given a low priority for development of these standards. WDEQ justified this low prioritization on the ground that the water

quality in these areas was to be addressed by the Crow Creek Watershed Steering Committee, which was comprised of conservation districts, local-government officials, and various interest groups.

Also in 2004 the Forest Service prepared a Water Quality Action Plan identifying the measures that it would take “to ensure [that] water quality in the impaired stream segments of the North Branch North Fork Crow Creek and Middle Crow Creek will consistently meet Wyoming State DEQ standards.” Aplees. Jt. Supp. App. Vol. 1 at 239. It once again reduced stock numbers from the maximums allowed under the permits by limiting authorization for grazing in the AOIs for the Crow Creek and Green Mountain allotments. The 2004 AOIs for Crow Creek authorized only 1368 animal months of grazing compared to the 2047 specified in the grazing permits and the 1559 authorized in the 2003 AOIs. The 2004 AOIs for Green Mountain authorized 1710 animal months of grazing compared to the 2252 specified in the grazing permits and 1535 in the 2003 AOIs. Ultimately, grazing in the Crow Creek allotment was 43% lower than that allowed under the permits, and grazing in the Green Mountain allotment was 30% lower.

At the end of the 2004 grazing season, only one location, North Branch North Fork Crow Creek, exceeded fecal-coliform standards, although the level was less than one-fourth of that in 2003. The Forest Service and conservation districts entered into a Memorandum of Understanding to amend the Crow Creek Watershed plan to address the high bacteria levels in the area. As the

memorandum explains, “The watershed plan would identify potential pollution sources and identify practices . . . intended to improve water quality.” *Id.* Vol. 2 at 257.

D. District-Court Proceedings

On November 19, 2004, CNE filed a complaint in the United States District Court for the District of Colorado, naming the Forest Service and Rick Cables, Regional Forester for Region 2, as defendants. On December 15, 2004, the Forest Service submitted to the FWS its update to the 1998 BA. In an amended complaint, also filed on December 15, and a later-filed petition for review, CNE challenged the Forest Service’s actions under two statutes. First, it claimed that the Forest Service violated § 7(a)(2) of the Endangered Species Act, 16 U.S.C. § 1536(a)(2), because (1) its consultation on critical habitat did not consider the effect of grazing on the mouse’s recovery, but only on its survival; and (2) it had not reinitiated consultation regarding grazing’s effect on the mouse itself even though there had been violations in multiple key areas of the forage-utilization standards in the 1998 BA. Second, it claimed that the Forest Service violated § 313(a) of the CWA, 33 U.S.C. § 1323(a), because fecal-coliform levels in the Pole Mountain area exceeded Wyoming standards. The Cattlemen’s Association and the Wyoming Association of Conservation Districts intervened as defendants. The Forest Service and the intervenors moved to dismiss the complaint on

multiple grounds, including lack of final agency action. The district court denied the motions on September 29, 2005.

The district court denied CNE's petition for review of agency action on January 9, 2006. On the claims under the Endangered Species Act, the court ruled that the Forest Service's consultations were reasonable. As to the claim under the CWA, it said that the Forest Service "appears to be complying with state water quality standards to the same extent as any nongovernmental entity" and accordingly concluded that 33 U.S.C. § 1323(a) was satisfied. Aplt. App. Vol. 1 at 32 (Order on Pet. for Review, Jan. 9, 2006) (internal quotation marks omitted). Final judgment was entered on February 14, 2006.

II. DISCUSSION

A. Standard of Review

CNE's claims in this case are governed by the Administrative Procedure Act (APA). 5 U.S.C. § 706; *see Bennett v. Spear*, 520 U.S. 154, 174–75, 179 (1997) (claim under 16 U.S.C. § 1536 reviewed under APA); *Ore. Natural Res. Council v. U.S. Forest Serv.*, 834 F.2d 842, 851 (9th Cir. 1987) (judicial review of 33 U.S.C. § 1323 claim under APA is appropriate). Although "[o]ur standard of review of the lower court's decision in an APA case is de novo," *N.M. Cattle Growers Ass'n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277, 1281 (10th Cir. 2001), the APA narrows the scope of our review of an agency's actions, *see id.* Under the APA we set aside the agency's action only if it is "arbitrary,

capricious, an abuse of discretion, or otherwise not in accordance with law.”

§ 706(2)(A).

The duty of a court reviewing agency action under the “arbitrary and capricious” standard is to ascertain whether the agency examined the relevant data and articulated a rational connection between the facts found and the decision made. In reviewing the agency’s explanation, the reviewing court must determine whether the agency considered all relevant factors and whether there has been a clear error of judgment.

Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1574 (10th Cir. 1994)

(footnote and citation omitted). We review each of CNE’s claims in turn.

B. Endangered Species Act Claim

CNE challenges the adequacy of the Forest Service’s consultation with the FWS after the Preble’s mouse’s critical habitat was designated in 2003. CNE first contends that the Forest Service violated the Endangered Species Act (ESA) because its consultation with the FWS considered only how livestock grazing in the mouse’s critical habitat would affect its survival or preservation and not how the grazing would affect its recovery. CNE also contends that the Forest Service failed to reinitiate consultation on the effects of grazing on the mouse itself, even though the forage-utilization standards identified in the 1998 BA had been violated in multiple key areas. We reject both contentions.

1. Recovery

CNE argues that the Forest Service’s consultation after designation of critical habitat violated the ESA because it “did not consider how livestock

grazing in critical habitat would impact the mouse's recovery and therefore did not satisfy the basic legal requirement of section 7 of the ESA." Aplt's Br. at 18. It asserts that agencies must insure that actions not only prevent the extinction of species but also allow for the recovery of the species, that is, allow the species to increase sufficiently in population that it can be removed from the list of endangered or threatened species (an action referred to as "delisting," *see* 50 C.F.R. § 424.11(d)).

We agree with CNE's interpretation of the law governing this case. Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), describes a federal agency's duty to consult:

Each Federal agency shall, in consultation with and with the assistance of the Secretary [of the Interior, *see* § 1532(15)], insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary [of the Interior], after consultation as appropriate with affected States, to be critical

The Forest Service is thus obligated to insure, through consultation with the FWS on behalf of the Secretary of the Interior, that its action "is not likely to . . . result in the destruction or adverse modification of" the Preble's mouse's critical habitat. FWS regulations explain that it may satisfy this obligation through either formal or informal consultation. As a general matter, formal consultation is required when agency action "may affect listed species or critical habitat."

50 C.F.R. § 402.14(a). An agency may forgo formal consultation, however, if it engages in informal consultation with the FWS and determines, with the written concurrence of the FWS, that even if the proposed action “may affect listed species or critical habitat,” *id.*, it “is not likely to adversely affect any listed species or critical habitat,” *id.* § (b)(1). Informal consultation “includes all discussions, correspondence, etc., between the [FWS] and the Federal agency.” *Id.* § 402.13(a).

Although neither § 1536(a)(2) nor the consultation regulations expressly describe what must be considered by a federal agency during consultation on critical habitat, the ESA’s definitions clarify the matter. In relevant part the definition of *critical habitat* is “the specific areas within the geographical area occupied by the species, at the time it is listed . . . , on which are found those physical or biological features (I) *essential to the conservation of the species* and (II) which may require special management considerations or protection.”

16 U.S.C. § 1532(5)(A)(I) (emphasis added). Thus, critical habitat is impaired when features essential to the species’ conservation are impaired. The definition of *conservation* is found in § 1532(3), which states that it “mean[s] to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.” Under this definition, conservation encompasses recovery. *See also* 68 Fed. Reg. at 37,280 (incorporating

information from Preble's mouse's recovery plan, which describes the actions "necessary for conservation of the species," into designation of critical habitat). It follows that critical habitat is "adverse[ly] modif[ied]" by actions that adversely affect a species' recovery and the ultimate goal of delisting.¹

Accordingly, we agree with CNE's view of what the Forest Service was required to do: Section 1536(a)(2) requires federal agencies, when considering the effect of their actions on a species' critical habitat, to consider the effect of those actions on the species' recovery. Contrary to CNE's contention, however, we read the record as showing that the Forest Service did what was required. As the Forest Service points out on appeal, after the critical habitat for the Preble's

¹We note that the FWS has promulgated a regulation to define when an agency's action results in "destruction or adverse modification." 16 U.S.C. § 1536(a)(2). The regulation defines destruction or adverse modification as occurring only when an action "appreciably diminishes the value of critical habitat for *both* the survival *and* recovery of a listed species." 50 C.F.R. § 402.02 (emphasis added). This definition was rejected in *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Service*, 378 F.3d 1059, 1069–71 (9th Cir. 2004), and *Sierra Club v. U.S. Fish & Wildlife Service*, 245 F.3d 434, 441–43 (5th Cir. 2001), on the ground that by requiring an effect on both the survival *and* recovery of a species, the regulation "reads the 'recovery' goal out of the adverse modification inquiry; a proposed action 'adversely modifies' critical habitat if, and only if, the value of the critical habitat for *survival* is appreciably diminished," *Gifford Pinchot*, 378 F.3d at 1069. We have previously recognized the questionable validity of this definition. See *N.M. Cattle Growers*, 248 F.3d at 1283 n.2 ("[F]ederal courts have begun to recognize that the results [that the regulatory definition of *adverse modification*] produce[s] are inconsistent with the intent and language of the ESA."). But the Forest Service does not rely on this regulatory definition to support its actions, and on December 9, 2004, the FWS apparently instructed its biologists not to rely on the definition pending adoption of a new definition. Therefore, we need not consider the validity of the definition in § 402.02.

mouse was designated in June 2003, it did in fact consider *recovery* when it considered the effect of grazing on the *conservation* of the Preble's mouse.

In 2004, shortly after CNE's notice to file suit was submitted, the Forest Service met with the FWS to review the 1998 BA because of several interim developments, including "[d]esignation of Preble's [mouse] critical habitat within Pole Mountain Grazing Allotments." Aplt. App. Vol. 1 at 214. The area of Pole Mountain identified as the Preble's mouse's critical habitat in 2003 had been expressly "designated to address two of three small *recovery* populations called for . . . in [the FWS's] conservation strategy." 68 Fed. Reg. at 37,308 (emphasis added). As the FWS's official notice of designation explained: "Restoring an endangered or threatened species to the point where it is recovered is a primary goal of our endangered species program." *Id.* at 37,280. In light of the purpose of the critical-habitat designation—*recovery* of the mouse—it is hard to see how the Forest Service's review in 2004, and the FWS's ultimate concurrence with the conclusions of that review, could have been directed at anything but recovery.

In any event, the review undeniably considered recovery by considering *conservation*. On December 30, 2004, the Forest Service sent to the FWS for concurrence the report by its wildlife biologist determining that "livestock grazing, as described in the Pole Mountain AMPs and implemented annually, is 'Not Likely to Adversely affect Critical Habitat for the Preble's mouse.'" Aplt. App. at 124. That report relied on prior reports, including the Forest Service's

December 15, 2004, update to the 1998 BA. The update, which reviewed the 11 previously identified mitigation measures, stated that measures considered in the 1998 BA and again in the update were “important to the conservation of Preble’s meadow jumping mice and their habitat.” Aplt. App. Vol. 1 at 136. Most importantly, the update’s conclusions addressed conservation. After a detailed review of the 11 measures, the update concluded that they were satisfied, “leading to a stable or improving trend in riparian areas. These areas provide the mainstay of Preble’s habitat and are most important to *conservation* of the species.” *Id.* at 146 (emphasis added). And the update’s plan of action was also directed at conservation. To counteract recent indications of “more intense grazing pressure in some areas of Preble’s mouse habitat,” said the update, the Forest Service was taking additional actions, including “reduced stocking, increased herding [apparently referring to movement of livestock], and pasture rotation adjustments in order to continue to provide the necessary *conservation* measures for Preble’s mouse.” *Id.* at 147 (emphasis added). Accordingly, it is clear that (1) the Forest Service had considered the conservation of Preble’s mouse when it forwarded the update to the FWS on December 30, 2004, and stated its determination that “livestock grazing . . . is Not Likely to Adversely Affect Critical Habitat for the Preble’s mouse,” *id.* at 124 (internal quotation marks omitted), and (2) the FWS likewise had considered conservation when it concurred in writing on January 12, 2005.

CNE nevertheless claims that ““implicit[.]” consideration of recovery violates “basic APA judicial review principles.” Aplt. Reply Br. at 3. We assume that CNE’s argument is targeted at the Forest Service’s alleged failure to use the word *recovery* in the 2004 update to the 1998 BA. But, as noted above, the ESA itself speaks only in terms of *conservation*, not *recovery*. It states that critical habitat is habitat “essential to the *conservation* of the species,” 16 U.S.C. § 1532(5)(A)(I) (emphasis added), and that *conservation* is the methods and procedures which are necessary to allow the species to recover “to the point at which the measures provided pursuant to [the ESA] are no longer necessary,” *id.* § 1532 (3). We cannot fault the Forest Service for employing the statutory term. Criticism would be more justifiable if it did not. For this reason, CNE’s reliance on *Gifford Pinchot*, 378 F.3d at 1072 n.9, is unavailing. In that case the Ninth Circuit rejected the Forest Service’s position because it had failed to consider explicitly either recovery *or* conservation. *See id.*; *id.* at 1072–73. That is not a problem here.

CNE also insists that the Forest Service could not have considered recovery because its 2004 consultation on critical habitat addressed no issues that it had not considered in 1998 when it consulted on the species itself. But the questions to be answered on the two occasions are intimately related, so it would not be surprising that the same considerations would control the answers. We find it significant that CNE never identifies for us any particular issue or factor relevant

to recovery of the mouse that the Forest Service failed to consider in 2004. In short, the Forest Service's consideration of the effect of grazing on the conservation of the Preble's mouse complied with 16 U.S.C. § 1536(a)(2). *See* 5 U.S.C. § 706(2)(A).

CNE half-heartedly argues that the Forest Service did not adequately raise below the ground on which we rely to affirm the district court's ruling. In a footnote in its brief-in-chief, and without citation to the record, it asserts that "The [Forest Service] did not argue to the district court that it did address recovery in this process, but rather that it need not consider recovery." Aplt. Br. at 24 n.5. But even if the assertion is correct, we may affirm a district-court judgment on any ground appearing from the record so long as the litigants had a fair opportunity to develop the record, *see Garrison v. Gambro, Inc.*, 428 F.3d 933, 939 (10th Cir. 2005), and to address the ground on which we rely, *see Gomes v. Wood*, 451 F.3d 1122, 1133 (10th Cir. 2006). The purpose of requiring presentation of the issue in the lower court is "to ensure that litigants may not be surprised on appeal by final decision there of issues upon which they have had no opportunity to introduce evidence or to present whatever legal arguments they may have." *Anixter v. Home-Stake Prod.*, 77 F.3d 1215, 1228 (10th Cir. 1996) (ellipsis, brackets, and internal quotation marks omitted). There is no unfairness here. First, because judicial review is based on the administrative record, *see* 5 U.S.C. § 706, we doubt that CNE could have introduced further evidence on the

matter, and it does not suggest otherwise. And second, CNE had ample opportunity to present its legal arguments in its briefs and at oral argument to this court. Indeed, its appellate opening brief argues that the Forest Service had not considered recovery.

In sum, we conclude that the Forest Service's analysis of the effect of its actions on the conservation of the mouse, and the FWS's concurrence with that analysis, satisfied § 1536(a)(2)'s requirement that recovery be considered.

2. Forage Utilization²

CNE next contends that the Forest Service has violated the 1998 BA's 45–55% forage-utilization standard for Pole Mountain and that the violations require reinitiation of consultation to consider the effects of the allegedly excessive forage utilization on Preble's mouse. *See* 50 C.F.R. § 402.16 (defining circumstances in which reinitiation of consultation is required). Although in 2004–2005 the Forest Service informally consulted with the FWS regarding the effects of grazing on the mouse's *critical habitat*, the FWS's concurrence at the end of this consultation did not explicitly address the effects of grazing on the mouse itself, a topic that had originally been addressed in the 1998 BA. CNE claims that the Forest Service must reinitiate consultation regarding the effects of grazing on the mouse either because “new information reveal[ed] effects of the

²We express no view on the merits of the ground relied on by Judge Briscoe's concurrence in disposing of this issue.

action that may affect listed species . . . in a manner or to an extent not previously considered,” *id.* § (b), or because “the identified action [was] subsequently modified in a manner that cause[d] an effect to the listed species . . . that was not considered in the biological opinion,” *id.* § (c).

We do not agree. Paragraphs (b) and (c) of § 402.16 both require reinitiation of consultation only when the effects to species that are revealed or caused are *different* from those effects previously considered. *See* 51 Fed. Reg. 19,926, 19,956 (June 3, 1986) (“[50 C.F.R. § 402.16(c)] show[s] that changes to the action that do not cause effects different from or additional to those considered in the biological opinion will not require reinitiation of formal consultation.”). But here the Forest Service found just the opposite. In its December 15, 2004, update to the 1998 BA, it reviewed the mitigation measures designed to minimize the effect of grazing on Preble’s mouse. In doing so it measured forage utilization in each allotment in Pole Mountain by averaging the utilization rates for the key areas within the allotment. Under this approach it found that the maximum forage-utilization rate of 60.5% was not exceeded in any allotment, and that, as a result, “[t]he effects occurring to Preble’s mouse from current grazing practices are the *same* as those considered in the [1998 BA].” *Aplts. App. Vol. 1* at 147 (emphasis added). Its decision not to reinitiate consultation, *see* § 402.16(b), (c), thus did not violate the ESA.

The Ninth Circuit's decision in *Forest Guardians v. Johanns*, 450 F.3d 455 (9th Cir. 2006), is not contrary to our conclusion. In *Forest Guardians* the court held that “[t]he material inadequacy of the Forest Service’s utilization monitoring and the results of the limited measurements that were taken constituted modifications to the allotment’s land management plan that affected listed species in a manner and to an extent not previously considered.” *Id.* at 465. It explained its holding as follows:

We do not hold that each isolated instance in which the Forest Service deviated from [the allotment’s] guidance criteria [on which the FWS’s concurrence in the “not likely to adversely affect” finding was premised] required the agency to re-initiate consultation. The Forest Service’s arguments to the contrary notwithstanding, the case before us is not comprised of infrequent and insignificant deviations. Rather, the undisputed facts are that (1) the guidance criteria expressly stated that the utilization levels specified by the land management plan were necessary to protect the ESA-listed species in [a particular grazing allotment], (2) the Forest Service regularly failed to meet the monitoring requirements on which the “not likely to adversely affect” determination for those species was premised, and (3) the evidence that the Forest Service did obtain as a result of its deficient monitoring suggested that maximum permissible utilization levels were being exceeded. In light of these facts, the Forest Service’s failure to re-initiate consultation violated the ESA.

Id. at 465–66. We agree that reinitiation of consultation would be required if (1) the FWS’s concurrence in a “not likely to adversely affect” finding expressly required utilization levels to be met in order for the concurrence to remain valid, (2) utilization levels were not monitored as specified by the FWS, and (3) the monitoring that was conducted showed excess utilization. In that event, the

Forest Service could not properly assert that the effects to species were not different from those previously considered. But that is not the circumstance here. As we shall show, neither the second nor the third condition has been met: The Forest Service has not failed to monitor utilization in Pole Mountain, and utilization rates have not exceeded the 1998 BA's standards. (We express no opinion on whether compliance with the utilization rates was essential to the FWS's concurrence. And we need not decide whether reinitiation of consultation would be required if just conditions (1) and (2) or conditions (1) and (3) were satisfied.)

We first address utilization rates. CNE acknowledges that the Forest Service determined in 2004 that forage-utilization standards were being met (so that the effects of grazing on the mouse were the same as those considered in the 1998 BA). It claims, however, that this determination was the result of an arbitrary change in the way that the Forest Service analyzed forage utilization. It contends that after its complaint was filed the Forest Service shifted from considering utilization in each key area separately to averaging utilization in all key areas in an allotment, and that this change allowed the Forest Service to avoid finding that forage utilization in Pole Mountain in 2004 exceeded standards. We are not persuaded.

To begin with, the mitigation measures in the 1998 BA do not refer specifically to key areas. The 1998 BA specified only that the Forest Service was

to “[I]imit utilization of herbaceous species to 40 to 45 percent.” Aplt’s App. Vol. 2 at 394. (Later that year, to ensure that the mitigation measures were consistent with the 1985 Forest Plan, the Forest Service, with the FWS’s concurrence, changed the permissible level of forage utilization to 45–55%. The Forest Plan had previously specified that “utilization on allotments” was not to exceed an amount 10% greater than the permissible utilization rate, *id.* at 421, thus setting the actual upper limit at 60.5%.) Although CNE is correct that the Forest Service uses key areas to measure forage utilization, the 1998 BA did not give key-area utilization rates independent significance. Rather, key-area data, according to a 1996 Forest Service publication, “serves as an indicative sample of range conditions, trend, or degree of use seasonally. A key area guides the general management of the entire area of which it is part” *Id.* Vol. 1 at 188 n.3 (internal quotation marks omitted). The Forest Service recognized that excessive utilization in one key area (of several in an allotment) was not representative of range conditions across the entire allotment. The December 2004 update to the 1998 BA explained:

By design, utilization cages were established in the most heavily grazed areas of a pasture with the intention that, if we protect these areas, the rest of the drainage would be in fairly good condition. As a result, higher utilization in a key area does not indicate that utilization was exceeded across the entire riparian area, pasture or allotment.

. . .

Localized areas of high grass utilization doesn't necessarily mean that there is a loss or decline of riparian condition. This lack of connection is shown by the facts that despite localized areas of high grass utilization, Forest Service monitoring does not show an overall change in vegetation type or a downward trend in stream stability. The monitoring does show an improving trend in shrub density, vigor, and recruitment.

Id. at 143–44; *see id.* at 146 (in the Pole Mountain area, “other indicators of riparian health ([heights of] shrubs and carex) demonstrate a stable or improving trend in habitat”). Consequently, the Forest Service measured utilization by averaging forage-utilization rates for all key areas within a particular allotment, on the ground that this would be more accurate.

As for CNE's contention that such averaging had not been used before 2004, there is evidence to the contrary, and, in any event, the Forest Service was not bound to continue its pre-2004 practice. The 1985 Forest Plan explained that the focus of monitoring was to determine “utilization [of forage] on *allotments*,” *id.* Vol. 2 at 421 (emphasis added), and said nothing about key areas.

Furthermore, the Forest Service's 1998 communication with the FWS, in which it sought concurrence with its “not likely to adversely affect” finding, explained that the forage-utilization standard helped guide how it “manage[d] the *allotments* on Pole Mountain,” *id.* at 374 (emphasis added). If it is utilization on the *allotment* that is important, one can infer that the proper measure is the average utilization throughout the allotment, from which it inevitably follows that the utilization on some portions will exceed the average and on some will fall below. Such

averaging can be found in a 1998 environmental assessment of the revisions to the Pole Mountain allotment management plan, which lists utilization rates in each key area and then states the average in each allotment. Thus, the Forest Service apparently had used such averages for several years. And nothing within the 1998 BA suggests that utilization needed to be evaluated separately for each key area.

On the other hand, we recognize that there is some doubt concerning whether averaging was to be used in assessing forage utilization. As noted in a 2004 report supplementing a 1998 environmental assessment of the revisions to the Pole Mountain allotment management plan, “The amended 1998 BA and consultation do not clarify if utilization standards and guidelines are to be met at a pasture level, on average across the allotments, or within each key area measured.” *Id.* Vol. 1 at 209. Thus, the use of averaging may have constituted a change in methodology. But even if averaging was initiated in 2004, change is not forbidden. An agency is not bound by its prior position. “The law does not require an agency to stand by its initial policy decisions in all circumstances.” *Exxon Corp. v. Lujan*, 970 F.2d 757, 762 n.4 (10th Cir. 1992). Changes in policy can be upheld when such change is explained with a reasoned analysis. *See id.* And in evaluating whether the analysis is reasoned, we must defer to the agency’s expertise. *See Wyoming v. United States*, 279 F.3d 1214, 1240 (10th Cir. 2002) (“[D]eference to agency action is appropriate where that action implicates

scientific and technical judgments within the scope of agency expertise.” (internal quotation marks omitted)); *Custer County Action Ass’n v. Garvey*, 256 F.3d 1024, 1036 (10th Cir. 2001) (“[T]he agency, not a reviewing court, is entrusted with the responsibility of considering the various modes of scientific evaluation and theory and choosing the one appropriate for the given circumstances.” (brackets and internal quotation marks omitted)). As the above discussion demonstrates, the Forest Service has provided a reasoned basis for concluding that a single key-area utilization rate may be misleading and that its averaging methodology is the proper measure of forage utilization in an allotment.

Moreover, the FWS accepted the validity of the Forest Service’s averaging methodology in January 2005 when it concurred in the “not likely to adversely effect” finding for the Preble’s mouse’s critical habitat. The FWS’s concurrence at that time was expressly based on the Forest Service’s finding that there was “appropriate utilization (meeting the 1985 Forest Plan standards [that set a limit of 60.5%]) within the allotments.” *Aplts. App. Vol. 1* at 121. The Forest Service’s finding, in turn, relied on the averaging of key areas within each allotment. Thus, the FWS itself relied on the average rate of forage utilization within an allotment’s key areas to analyze the effects of grazing. The FWS’s acceptance of the validity of this methodology for analyzing effects under the ESA supports the conclusion that the methodology is hardly arbitrary. (Perhaps it

is also worth observing that even without averaging, the utilization standard was not exceeded in 2004 in any of the three key areas within the critical habitat.)

A second premise of *Forest Guardians*—that the Forest Service’s monitoring of forage utilization had been deficient, 450 F.3d at 466—is also not present in this case. CNE claims that the Forest Service’s collection of forage-utilization data was inadequate because it was based on “[o]cular [e]stimate[s].” Aplt. App. Vol. 1 at 155. Citing only to some 2004 annual operating instructions indicating that “[u]tilization will be determined using the clipped plant weight method,” *id.* at 175, and a 2004 report noting that in previous years the Forest Service had used ocular estimates in “low budget years,” *id.* at 192, CNE asserts that “[q]uantitative monitoring data is mandated by the agency’s own requirements.” Aplt. Br. at 30. The record is to the contrary. The 1985 Forest Plan explains that “[t]hree methods may be used to determine utilization on allotments.” Aplt. App. Vol. 2 at 421. One of these three “standard procedures” is “visual estimates of grazing use.” *Id.* Furthermore, the same 2004 report cited by CNE explains that ocular estimates were the customary means of monitoring unless they revealed excessive utilization. As the report explains, “If ocular estimates indicated that a key area was not exceeding [utilization] standards, additional data were not collected.” *Id.* Vol. 1 at 193.

The Forest Service’s 2004 conclusion that the effects of grazing were the same as those considered in 1998 was not arbitrary or capricious, and hence its

determination that it need not reinitiate consultation on the effects of grazing on the Preble's mouse did not violate the ESA.

C. Clean Water Act

CNE next contends that the Forest Service's issuance of annual operating instructions (AOIs) in 2003 and 2004 for grazing in the Crow Creek and Green Mountain allotments was arbitrary and capricious under the APA and violated the CWA because the Forest Service did not protect water quality in those allotments to the same extent as required of private parties under CWA § 313(a), 33 U.S.C. § 1323(a). Section 1323(a) provides in pertinent part:

Each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government . . . engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity

Id.

We hold that issuance of the AOIs was lawful. Before our discussion of the merits, however, we must first address a challenge to the district court's jurisdiction to consider CNE's challenge.

1. Jurisdiction

The APA, under which CNE's CWA claim is brought, *see Ore. Natural Res. Council v. U.S. Forest Serv.*, 834 F.2d 842, 851 (9th Cir. 1987), limits

judicial review not otherwise provided by statute to “final agency action for which there is no other adequate remedy in a court.” 5 U.S.C. § 704. In the district court CNE identified the Forest Service’s issuance of AOIs for Crow Creek and Green Mountain as the basis for its CWA claim. The Forest Service and the Wyoming Association of Conservation Districts contend that the Crow Creek and Green Mountain AOIs issued in 2003 and 2004 for grazing in Pole Mountain do not constitute final agency action. As the Forest Service argues, “[i]t is the [grazing] permits that grant permission to graze livestock on the allotments,” Aplees. (Service) Br. at 48, whereas AOIs “are merely a tool for implementing the decisions made in the [allotment management plan] and permits,” *id.* at 49. We disagree and hold that the AOIs are final agency action.

The APA defines *agency action* to include “the whole or a part of an agency . . . license.” 5 U.S.C. § 551(13). *License* is defined to include “the whole or a part of an agency permit.” *Id.* § (8). The Crow Creek and Green Mountain AOIs are licenses because, as they expressly state, they are “included as part of” the previously issued grazing *permits*. *E.g.*, Aplt. App. Vol. 1 at 170, 172. Likewise, the Green Mountain and Crow Creek grazing permits identify the AOIs as a key source of management practices that are required of permittees and that are incorporated into the permits. As the permits explain,

The specific management practices required of the permittee, such as riding, salting, pasture rotations, herding, bedding, etc. *are incorporated into this permit through the approved Allotment*

Management Plan (AMP) and the *Annual Operating Instructions (AOI)*.

The permittee's grazing management practices will be in compliance with all applicable Forest Plan direction and Management Area standard[s] and guidelines. This direction and standards/guidelines [are] incorporated into this permit through the approved AMP and AOI's.

Id. Vol. 2 at 342 (Crow Creek) (emphasis added); *id.* at 351 (Green Mountain).

Hence, the AOIs are agency action.

The Crow Creek and Green Mountain AOIs also constitute *final* action. Under the Supreme Court's decision in *Bennett v. Spear*, agency action is final if it satisfies two requirements: "First, the action must mark the consummation of the agency's decisionmaking process—it must not be of a merely tentative or interlocutory nature. And second, the action must be one by which rights or obligations have been determined, or from which legal consequences will flow." 520 U.S. 154, 177–78 (1997) (citation and internal quotation marks omitted); accord *Pennaco Energy, Inc. v. U.S. Dep't of Interior*, 377 F.3d 1147, 1155 (10th Cir. 2004). The Supreme Court has "interpreted the 'finality' element in a pragmatic way." *FTC v. Standard Oil of Cal.*, 449 U.S. 232, 239 (1980) (internal quotation marks omitted). If an agency has issued a "definitive statement of its position, determining the rights and obligations of the parties," the agency's action is final notwithstanding "[t]he possibility of further proceedings in the agency" on related issues, so long as "judicial review at the time [would not]

disrupt the administrative process.” *Bell v. New Jersey*, 461 U.S. 773, 779–80 (1983); *see also Sierra Club v. U.S. Army Corps of Eng’rs*, 446 F.3d 808, 813 (8th Cir. 2006); *cf. Sierra Club v. Peterson*, 228 F.3d 559, 563, 566–67 (5th Cir. 2000) (groups’ challenge to timber-management program is not final agency action even though group identified particular timber sales because complaints filed in case indicated sales were simply “examples” of a general program of timber management the groups sought to challenge that included “past, ongoing, and future timber sales”).

As to *Bennett*’s first prong, the AOIs are undoubtedly the consummation of the Forest Service’s decisionmaking process. They identify when grazing may begin and when it will end, and which pastures may be used at particular times. They serve as the Forest Service’s annual determinations regarding how much grazing will be allowed each season, for they explicitly distinguish between grazing that was “permitted” under the term grazing permit and grazing that is actually “authorized” for a particular grazing season. *See, e.g., Aplats. App. Vol. 1* at 173. The distinction between “permitted” grazing and “authorized” grazing is significant, because, as the facts before us illustrate, the differences between the two amounts may be substantial. And no further agency action is required to make the AOI binding on permittees. *See Bennett*, 520 U.S. at 178.

We recognize that an AOI may be described as a “management tool” for the Forest Service, and events during the grazing season (such as a fire) can require

further modifications to what grazing is permitted. But AOIs are the last word before grazing begins and undoubtedly have clear and definite consequences for permittees, who need to make their plans based on what the AOIs authorize. In other words, AOIs “ha[ve] a direct and immediate effect on the day-to-day business” of permittees, and “immediate compliance with their terms [is] expected.” *Standard Oil Co. of Cal.*, 449 U.S. at 239–40 (ellipsis and internal quotation marks omitted). Moreover, the issuance of the AOIs presents a “legal issue . . . fit for judicial resolution.” *Id.* at 240 (internal quotation marks omitted). We note that the Forest Service does not contend that the reason why the AOIs lack finality is that there may be revisions during the grazing season.

Turning to the second prong of the *Bennett* test, we note that the Crow Creek and Green Mountain AOIs are actions “by which rights or obligations have been determined, or from which legal consequences will flow.” 520 U.S. at 178 (internal quotation marks omitted). The Forest Service Handbook for the Rocky Mountain Region explains that AOIs should “identify the obligations of the permittee and the Forest Service . . . [and] clearly articulate annual grazing management requirements and standards.” U.S. Forest Serv., Forest Service Handbook Rocky Mountain Region, § 2209.13.96.3. Among other things, an AOI sets forth “[t]he maximum permissible grazing use authorized on the allotment for the current grazing season.” *Id.* If a permittee fails to comply with the maintenance standards and management practices outlined in the AOIs, its permit

may be cancelled or suspended. *See, e.g.*, Aplt. App. Vol. 2 at 337 (Crow Creek grazing permit) (“[T]his permit may be suspended or cancelled . . . for failure to comply with any of the terms and conditions in Parts 1, 2, and 3 hereof”); *id.* at 341 (part 3 of grazing permit) (“Maintenance standards are identified annually in the [AOI].”); *id.* at 342 (part 3 of grazing permit) (“The specific management practices required of the permittee . . . are incorporated into this permit through the . . . [AOI].”). The AOIs accordingly satisfy *Bennett*’s second prong. *See also City of Dania Beach, Fla. v. Fed. Aviation Admin.*, 485 F.3d 1181, 1188–89 (D.C. Cir. 2007) (FAA letter is a “final” order because, in part, it “provides new marching orders about how air traffic will be managed at [a particular airport]”).

Oregon Natural Desert Ass’n v. United States Forest Service (ONDA), 465 F.3d 977, 990 (9th Cir. 2006), held that AOIs issued to permittees of livestock grazing on national forest land were final agency action. The Forest Service contends however, that *ONDA* is distinguishable because its determination that AOIs were the consummation of its decisionmaking process turned on the Forest Service’s failure in that case to issue allotment management plans for five of the six grazing permits at issue. *See id.* at 984. We do not share the Forest Service’s interpretation. *ONDA* focuses largely on the fact that an AOI is the only document that takes into account information, including drought conditions and water quality, not available when an allotment management plan or grazing permit is issued. *See id.* at 980–81, 984–85.

The Forest Service also urges us to adopt the views of Judge Fernandez's dissent in *ONDA*, which contended that "AOIs are merely a way of conducting the grazing program that was already authorized and decided upon when the permits were issued." *Id.* at 991 (Fernandez, J., dissenting). In Judge Fernandez's view, it is only the grazing permits and not the AOIs that constitute final agency action. *See id.* at 990. We disagree. As his dissent acknowledged, AOIs "provide[] for periodic changes and adjustments, as needed, for resource protection." *Id.* But such changes may be far more than insignificant "adjustments." Here, for instance, the 2003 Crow Creek AOIs authorized only 1559 animal months of grazing and the 2004 AOIs authorized only 1368 animal months, even though the grazing permits for that allotment allowed 2047 months. Declining to treat AOIs as final agency action would insulate from review significant decisions by the Forest Service that constitute much more than mere implementation of grazing permits. We conclude that the 2003 and 2004 AOIs for Crow Creek and Green Mountain constitute final agency action under the APA and turn to the merits of CNE's CWA claim.

2. Merits

CNE contends that the Forest Service's issuance of AOIs in Crow Creek and Green Mountain in 2003 and 2004 was arbitrary and capricious under the APA and violated CWA § 313(a), 33 U.S.C. § 1323(a), because nonpoint-source pollution in Pole Mountain had resulted in levels of fecal-coliform bacteria

violating Wyoming regulations. We disagree because, as we shall explain, Wyoming law does not make a nonpoint-source polluter a guarantor of water-quality compliance. Rather, because the Forest Service has implemented Wyoming's best management practices, it has "compl[ie]d with . . . State . . . requirements . . . respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity." *Id.*

The CWA is intended "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." *Id.* § 1251(a). It seeks to achieve this aim primarily through the regulation of point sources, which are "any discernible, confined and discrete conveyance[s] . . . from which pollutants are or may be discharged." *Id.* § 1362(14). Section 1311(a) of the CWA prohibits the discharge of pollutants from point sources unless certain requirements are met, *see id.* § 1311(a); *see also id.* § 1362(12) (defining "discharge of a pollutant" as the addition of a pollutant to protected water from any point source, with the exception of pollutants added to certain waters from vessels or floating crafts). Discharge of a pollutant may, however, be authorized under a National Pollutant Discharge Elimination System ("NPDES") permit. *Id.* § 1342. The State of Wyoming has authority to issue such permits within its borders. *Id.* § (a)(5); 40 Fed. Reg. 13,026 (Mar. 24, 1975).

The CWA's treatment of point-source discharges differs from its treatment of nonpoint-source pollution, which is the alleged form of pollution at issue in

this case. Indeed, the CWA does not even define nonpoint-source pollution. (This court, however, has adopted the description that it is ““nothing more than a water pollution problem not involving a discharge from a point source,”” *Am. Wildlands v. Browner*, 260 F.3d 1192, 1193 (10th Cir. 2001) (quoting *Nat’l Wildlife Fed’n v. Gorsuch*, 693 F.2d 156, 166 n.28 (D.C. Cir. 1982)) (brackets omitted).) Section 1311(a) does not regulate nonpoint-source pollution. See § 1311(a) (prohibiting “discharge of any pollutant”). And whereas the CWA requires a permitting system for point-source discharges—whether conducted by federal or state agencies—it deals with nonpoint-source pollution merely by “requir[ing] states to develop water quality standards for intrastate waters.” *Defenders of Wildlife v. U.S. Env’tl. Prot. Agency*, 415 F.3d 1121, 1124 (10th Cir. 2005); see also 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. § 130.3; *id.* § 131.6.

Section 1323(a), upon which CNE relies in this appeal, requires federal agencies to comply with state and local water-quality requirements “in the same manner, and to the same extent as any nongovernmental entity.” Congress intended this section to ensure that federal agencies were required to “meet all [water pollution] control requirements as if they were private citizens.” S. Rep. No. 92-414 (1971), as reprinted in 1972 U.S.C.C.A.N. 3668, 3734. The provision applies to activities resulting in either “discharge or runoff of pollutants.”

§ 1323(a). The parties do not contest that § 1323(a) applies to the form of nonpoint-source pollution at issue here, so we need not decide the provision’s

outer perimeters. *But see* Robin Kundis Craig, *Idaho Sporting Congress v. Thomas and Sovereign Immunity: Federal Facility Nonpoint Sources, the APA, and the Meaning of 'In the Same Manner and to the Same Extent as Any Nongovernmental Entity'*, 30 *Envtl. L.* 527, 553 (2000) (“[N]on-runoff sources of nonpoint source pollution, such as landslides, are probably *not* within [33 U.S.C. § 1323’s] waiver of sovereign immunity.”).

Wyoming water-quality regulations set limits on fecal-coliform concentrations. *See* 020-080-001 Wyo. Code R. § 27. They also provide that “no person shall cause, threaten or allow violation of a surface water quality standard contained herein.” *Id.* § 1. Relying on these provisions, CNE contends that the Forest Service has violated 33 U.S.C. § 1323(a) because fecal-coliform readings in Pole Mountain have exceeded permissible levels. The Forest Service does not dispute the applicability of the above state regulations. Nor does it dispute that there have been fecal-coliform readings that have exceeded the state limit.

The central issue with respect to this claim is what constitutes compliance with Wyoming’s water-quality requirements. The Forest Service contends that its current implementation of best management practices (BMPs) to address the elevated fecal-coliform readings in Pole Mountain means that it has complied with state water-quality requirements “to the same extent as any nongovernmental entity.” 33 U.S.C. § 1323(a). We agree. Wyoming water-quality regulations

explicitly distinguish between those nonpoint-source polluters who have implemented BMPs and those who have not:

The numerical and narrative standards contained within these regulations [which include the fecal-coliform standard] shall be used to establish effluent limitations for those discharges requiring control via permits to discharge in the case of point sources and best management practices in the case of nonpoint sources. If no permit or best management practice has been issued or implemented for a pollution source the state may, in addition to other appropriate legal action, take direct action to enforce these standards.

020-080-001 Wyo. Code R. § 5. This provision contemplates that Wyoming “control” nonpoint-source violations of water-quality standards with the implementation of BMPs; only if BMPs have not been implemented is nonpoint-source pollution not under “control” and subject to state enforcement action. The March 2000 Wyoming Nonpoint Source Management Plan Update explains how this is done:

The Wyoming [Nonpoint Source] Program has been developed as a voluntary program, providing guidelines for addressing nonpoint sources of pollution by adoption of the plan and BMPs included therein. Upon identification of water quality standards violations occurring as a result of nonpoint sources, the [Water Quality Division] will work with state, local, and federal management agencies, along with private landowners and operators, to select appropriate BMPs and to develop a plan and schedule for implementation.

Aplees. Jt. Supp. App. Vol. 2 at 326–27.

The Wyoming water-quality rules acknowledge that BMPs, even when implemented, may not necessarily stop nonpoint-source pollution from exceeding

water-quality standards. They define BMPs as “a practice or combination of practices that . . . are determined to be the most technologically and economically feasible means of *managing*, preventing or *reducing* nonpoint source pollution.” 020-080-001 Wyo. Code R. § 2(b)(v) (emphasis added). Neither the definition of BMPs nor section 5’s enforcement standard requires that the implementation of BMPs for nonpoint-source pollution lead to water-quality readings that meet all applicable standards.

It is undisputed that the Forest Service has in good faith implemented and continues to implement BMPs in Pole Mountain. Although CNE contends that these BMPs have failed because water-quality violations have allegedly continued, that is not the standard dictated by state regulations and the CWA. The March 2000 Wyoming Nonpoint Source Management Update even says that when BMPs are ineffective, the state agency will work with the polluters and others “to identify needed BMP modifications.” Aplees. Jt. Supp. App. Vol. 2. at 327. This hardly suggests that water-quality exceedances after BMPs have been implemented indicate that the BMP process has failed. Moreover, at the end of the 2004 grazing season, only one location in Pole Mountain exceeded standards, and at that location the fecal-coliform level was one-fourth the previous year’s level. In any event, so long as BMPs have been implemented, the state agency has no authority to take enforcement action, and the Forest Service cannot be said

to have failed to comply with state requirements “in the same manner, and to the same extent as any nongovernmental entity.” 33 U.S.C. § 1323(a).

The above analysis also leads us to conclude that the Forest Service’s issuance of AOIs for Crow Creek and Green Mountain was not arbitrary or capricious. Notably, the grazing reductions in the 2003 AOIs for Crow Creek and the 2004 AOIs for Crow Creek and Green Mountain yielded results; at the end of 2004 only one location exceeded fecal-coliform standards, and even at that location the level was greatly reduced. The Forest Service’s ongoing implementation of BMPs and its entry into a Memorandum of Understanding with local conservation districts reflect a reasoned approach to elevated fecal-coliform levels. We cannot say that there was “a clear error of judgment” in issuing the AOIs. *Olenhouse v. Commodity Credit Corp*, 42 F.3d 1560, 1574 (10th Cir. 1994) (addressing arbitrary-or-capricious standard).

The Forest Service’s issuance of AOIs in Crow Creek and Green Mountain while BMPs are being implemented was not contrary to the CWA nor arbitrary and capricious under the APA.

III. CONCLUSION

We AFFIRM the district court’s dismissal of CNE’s petition for review.

BRISCOE, Circuit Judge, concurring:

I join fully in Parts I, II.A, II.B.1, II.C, and III of the majority's opinion. I also agree with the result reached in Part II.B.2 of the majority's opinion, but write separately because my reasoning with regard to the issue discussed therein differs substantially from the majority's.

As the majority notes in Part II.B.2 of its opinion, CNE claims that the Forest Service violated the Endangered Species Act (ESA) by failing, after the relevant forage-utilization standards were allegedly violated, to reinstate consultation with the Fish and Wildlife Service (FWS). CNE bases its claim exclusively on the language of 50 C.F.R. § 402.16. That regulation, entitled "Reinitiation of formal consultation," reads as follows:

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
- (d) If a new species is listed or critical habitat designated that may be affected by the identified action.

Both the title and body of the regulation make abundantly clear that it applies only in circumstances where formal consultation has already occurred. In particular, the regulation's use of the word "reinitiation" clearly implies that "initiation" of formal consultation has previously occurred. Likewise, the references in subsections (a) and (c) of the regulation to "incidental take statements" and "biological opinions," both of which are products of the formal consultation process, clearly imply that formal consultation has previously occurred.

Given this interpretation of the regulation, CNE's "reconsultation" claim necessarily must fail. When the Forest Service issued its Biological Assessment in 1998, it concluded that, with certain grazing management steps in place, the revised Allotment Management Plan (AMP) "'m[ight] effect' but [wa]s 'not likely to adversely affect' the [Preble's mouse] or its habitat." *Aplees. Jt. Supp. App. Vol. 4 at 842*. In light of this conclusion, the ESA merely required the Forest Service to "informally consult" with the FWS, which it did (and the FWS agreed with the Forest Service's conclusion). In other words, the Forest Service was not required by the ESA to, and in fact did not, "formally consult" with the FWS. Thus, since formal consultation was never initiated regarding the revised AMP (and no biological opinion was ever issued by the FWS), § 402.16 is inapplicable here.

