

GERBER WATERSHED CARNIVORE SURVEY

Bureau of Land Management – Klamath Falls Resource Area

2003

Annual Report

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28 June 2003

Abstract

In 2003, 16320 acres of Fremont National Forest land, 2880 acres of Klamath Falls Resource Area Bureau of Land Management (BLM) land, and 2400 acres of associated private land were surveyed to determine the presence of carnivore species within the Gerber Watershed. A total of ten carnivore species were detected. 2003 is the second year of this three year study that ends in 2004.

Introduction

The Gerber Watershed encompasses a diverse region of 7000 ft. peaks, river canyons, mixed conifer forest, sagebrush steppe, juniper woodland, riparian, and a myriad of other ecological zones. Within these zones, there are ongoing habitat disturbing activities occurring (i.e. logging, juniper treatments, mechanical fuels reduction, prescribe fire, and a current proposal to raise the dam level of Gerber Reservoir) while land managers lack a clear understanding of carnivore populations and their associated habitat use within this important watershed.

Study Areas

The Gerber Watershed has been organized into six study areas that involve a mosaic of Fremont National Forest, Klamath Falls Resource Area BLM lands, and associated private lands. Study areas were chosen for their unique habitat and landscape components that provide a greater likelihood of supporting populations of forest carnivore species. Within each study area, two square mile “study units” were created, which represent the approximate size of the smallest home range for the targeted species. In 2003, the Yainax Butte Study Area and Strawberry Butte Study Area were surveyed (Figure 1).

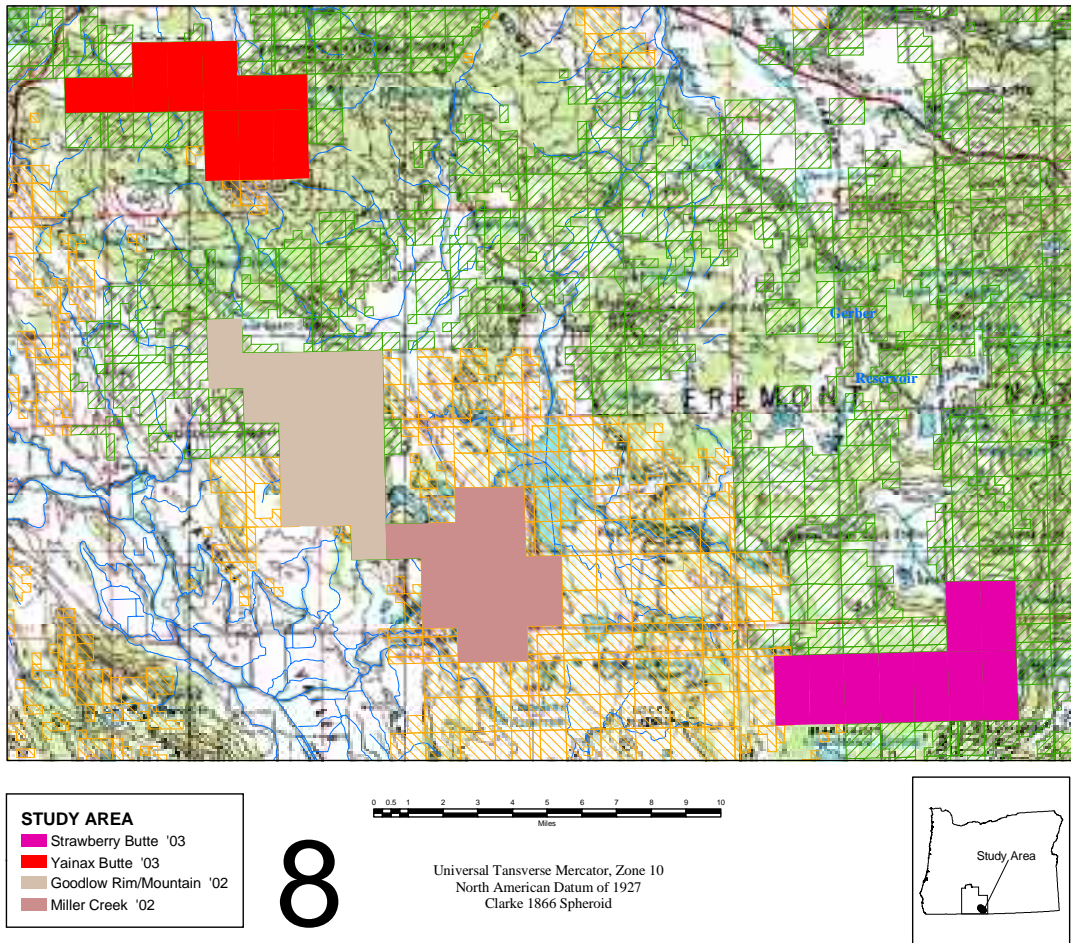
Methods

Within each study area, migratory corridors (landscape features that act as natural funnels or “pinch points”), ecological communities, and related wildlife habitat components (i.e. forest type, seral stage, canopy cover, understory composition, slope, aspect, and prey base) were identified and mapped prior to the selection of study units. Trailmaster 35mm infrared laser remote camera systems, using a standardized protocol method as described by Zeilinski and Kucera in USDA General Technical Report 157, were placed in areas that have the highest likelihood of the targeted species presence within each study unit. Whole deer carcasses were used as bait at each station. Prior studies have shown this method to work superior to quartered carcasses. Visual and scent attractants were used in conjunction with the bait at each station. Stations were established for approximately six weeks at each location and monitored weekly or as detection frequency required.

Snow track surveys were performed within each study area and surrounding habitats where favorable snow conditions allowed by biologist trained in forest carnivore winter tracking. These surveys involved area search and transect techniques. Targeted species presence was verified with the use of track, stride, straddle and gait measurements following established protocols, Discriminate Analysis calculations, plaster castings, and photographic techniques.

Plate track stations may be established in the future to assist in gathering baseline data or to facilitate in species identification.

Figure 1. 2003 Study Areas



Results

Yainax Butte Study Area

In 2003, 7680 acres of Fremont National Forest land, 1280 acres of Klamath Falls Resource Area BLM land, and 800 acres of associated private land within the Yainax Butte Study Area were surveyed. This study area was divided into eight 1,280 acre study units in which photographic baited stations were placed and snow track surveys were performed (Figure 2). Fifteen mammal species were detected (Table 1), including seven carnivore species.

While conducting snow track surveys in units 6 & 7 of the YBSU, what appeared to be numerous Snowshoe Hare tracks were detected. Tracks were first encountered along the 823-12 summit road, from around the 5900 ft. elevation mark to near summit of the Yainax Butte (7226 ft). The detection and frequency of tracks were associated with

fir/mixed conifer stands, that had a greater canopy cover and down woody debris accumulations than surrounding habitats. Track length, width, stride, straddle, and gait measurements were taken, which were consistent for Snowshoe Hare. However, due to apparent similarities between these tracks and known track measurements of Black-tailed Jackrabbits (a common species at lower elevations), species identification based solely on tracks is difficult. I did not encounter jackrabbit tracks elsewhere within the YBSA. Black Bears were detected in study unit 6 as well – it is the first detection of this species within the Gerber Watershed Carnivore Survey boundary. Snow/weather conditions this winter presented a tremendous obstacle to being able to consistently survey/access study units which comprised the best higher elevation forest carnivore habitat (i.e. units 6 & 7) and should be resurveyed during the 2004 season.

Strawberry Butte Study Area

In 2003, 8640 acres of Fremont National Forest land, 1600 acres of Klamath Falls Resource Area BLM land, and 1600 acres of associated private land within the Strawberry Butte Study Area were surveyed. This study area was divided into nine 1280 acre study units in which photographic baited stations were placed and snow track surveys were performed (Figure 3). Seventeen mammal species were detected (Table 2), including nine carnivore species. Snow/weather conditions this winter presented a tremendous obstacle to being able to consistently survey/access study units which comprised the best higher elevation forest carnivore habitat (i.e. units 8 & 9) and should be resurveyed during the 2004 season.

Discussion

Within the Yainax Butte Study Area and Strawberry Butte Study Area, snow track surveys accounted for the detection of seventeen species of mammals, including eight species of carnivores. Whereas, the photographic bait stations accounted for the detection of seven species of mammals and six species of carnivores. Tracks or other sign of mammals were found at or near the immediate vicinity of photographic bait stations, but these animals were not captured by the camera systems. This data clearly illustrates the importance of snow track surveys and stresses the need for increased snow track surveying in 2004.

2004 field season

The Horsefly Mountain Study Area, Barnes Valley Creek Study Area, and selected forested stringers along the northern boundary of Gerber Reservoir are scheduled to be surveyed in 2004. The breakdown of study area ownership and acreages are as follows:

2004	Horsefly Mountain
	USFS 5760 ac
	BLM 2240 ac
	Barnes Valley Creek
	USFS 3840 ac

BLM 5600 ac

Northern Gerber Reservoir

BLM 2584 ac

Acknowledgments:

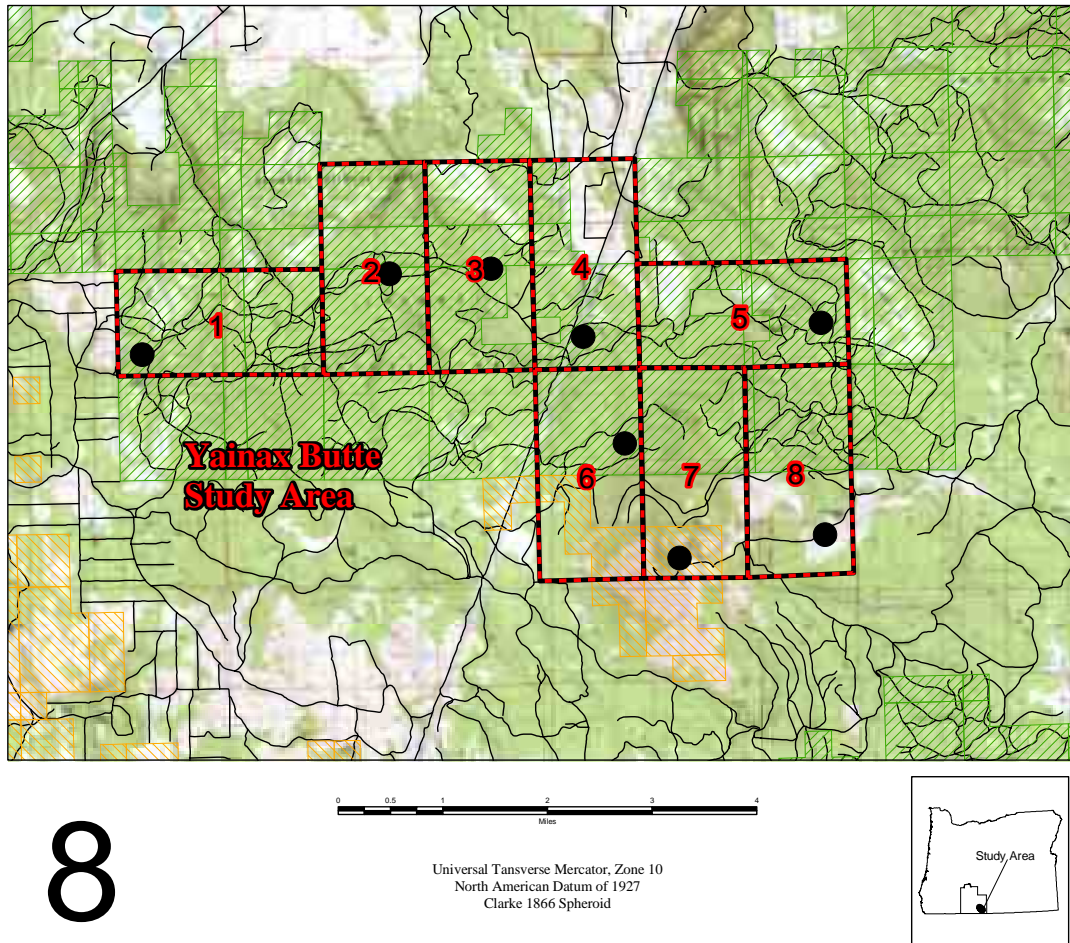
Thanks to Brent Frazier, the Winema N.F. Forest Biologist, for his time and effort in acquiring Challenge Cost Share matching funds for this study, and the many people who provided expertise and assisted with the field surveys in 2003:

Name	Affiliation
Dave Cantrell	BLM Fuels
Larry Frazier	BLM Wildlife
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Rob Roninger	BLM Wildlife
Gayle Sitter	BLM Wildlife

Literature Cited:

Zielinski, W.J.; Kucera, T.E. 1995. **A detection Manual for Wolverine, Fisher, Lynx, and Marten in the United States.** USDA PSW-GTR-157

Figure 2. Yainax Butte Study Area 2003

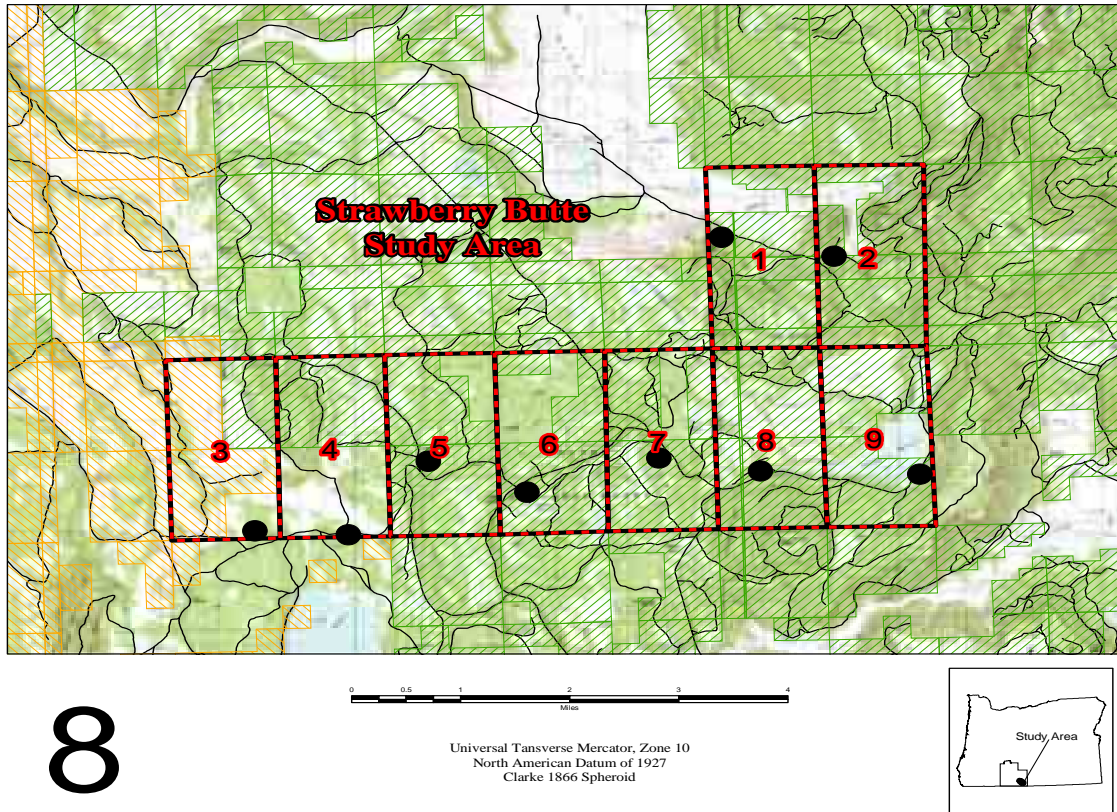


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Table 1. Yainax Butte Study Area species detected in 2003

Species Detected	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Striped Skunk			X	X	X			
Long Tailed Weasel				X			X	X
Gray Fox		X	X					
Coyote	X	X	X	X	X			X
Mountain Lion	X		X					X
Black Bear						X		
Bobcat	X		X	X			X	
Rocky Mountain Elk		X		X	X			
Mule Deer	X	X	X	X	X			X
Dusky-footed Woodrat			X	X	X			X
Bushy-tailed Woodrat				X				
Snowshoe Hare						X	X	
Mountain Cottontail	X	X	X	X	X			
G. Mantled Ground Squirrel			X	X	X			X
California Gray Squirrel		X	X					

Figure 3. Strawberry Butte Study Area 2003



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Table 2. Strawberry Butte Study Area species detected in 2003

Species Detected	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
American Badger				X					
Spotted Skunk									X
Striped Skunk	X				X	X	X		
Long Tailed Weasel							X	X	X
Common Raccoon	X	X							
Gray Fox	X	X	X	X	X		X		
Coyote	X	X	X	X	X	X	X	X	X
Mountain Lion		X		X	X		X		X
Bobcat			X	X	X	X	X	X	X
Pronghorn Antelope			X						
Rocky Mountain Elk	X	X					X	X	X
Mule Deer	X	X	X	X	X	X	X	X	X
Dusky-footed Woodrat	X	X			X	X			
Black-tailed Jackrabbit			X	X					
Mountain Cottontail		X	X		X	X	X	X	X
G. Mantled Ground Squirrel			X	X	X		X		
California Gray Squirrel							X	X	X

