

Cascadia Wild Wolverine Tracking Project 2014-5 Season Report

The Wolverine Tracking Project is a grassroots citizen science project in which trained volunteers conduct surveys for rare carnivores while at the same time teaching animal tracking and other naturalist skills to participants. The project has three objectives - to collect data on the occurrence of target rare carnivore species in the Mt Hood National Forest, to get people involved in their local national forest, and to teach participants about the natural world. Snow tracking surveys are carried out during the winter, and camera surveys are year-round. This report documents the 2014-15 winter tracking season and camera surveys from the spring of 2014 until the end of winter season in 2015.

Project Description

Primary target species are wolverine and wolves. These species are not known to currently exist around Mt Hood but have a high likelihood of dispersing in, and this project provides a monitoring system to be able to detect their presence. A third target species is montane red fox, to assist a regional study on their population dynamics. Information is also collected on all mammals present, with emphasis on carnivore species. The project follows the same protocol as previous years; more detail is given in Appendix A.

2014-5 Season Results

Tracking Surveys

Weather this year was very unusual, with snowpack for the year being one of the lowest on record, less than a quarter of the normal amount. Lack of snow seriously hampered the snow tracking surveys. Five out of 22 trips were canceled due to lack of snow and four trips had snow with too poor quality to be able to show tracks (snow quality = 0). The poor snow conditions limited many trips to looking at sign other than tracks, or restricted the track identification to those species we were familiar enough with to be able to identify from partial clues.

Tracking surveys covered 49 miles, a greater distance than expected, since less time was spent looking at tracks and recording data. Surveys were done in similar spots to previous years. No tracks from primary target species were seen. However, many non-target species were documented, including an unusual number of deer and elk. Additionally, two potential scat from montane red fox were also collected for genetic analysis from previously unsampled locations. Survey locations are shown in Figure 1 and results presented in Table 1.

Camera Surveys

This year we had from ten to twenty cameras operating at a given time, including nine on loan for the winter from Cascade Carnivore Project, and five personal cameras on loan from a volunteer. The majority of the cameras targeted montane red fox. During the summer, they were placed at higher elevation habitat suitable for fox, while in the winter, they were placed at mid elevation sites ringing the mountain, thought to be unsuitable for fox. As expected, no fox were detected at the mid elevation

sites, while at the high elevation sites, there was one detection. Two additional scat samples were also collected during these surveys. The remaining cameras were placed on the eastern side of the forest, targeting wolves, which were not detected. Camera survey locations are given in Figure 2 and results presented in Tables 2 and 3. Locations in the tables are organized clockwise around the mountain.

Volunteers

Volunteers put in an immense number of hours to make this project successful. A total of 97 people were involved in the project. Fourteen trip leaders and four assistant trip leaders volunteered over 400 hours leading tracking trips and an additional 150 hours doing other administrative activities. An additional 450 field hours were put in by the 58 tracking survey participants. For the camera surveys, volunteers put in a phenomenal 1330 hours of field time, plus an additional 270 hours taking care of equipment and sorting pictures. Participants additionally donated over 7000 miles of driving. The level of enthusiasm and commitment from volunteers is what continues to make this project a success.

Figure 1: Tracking Survey Locations

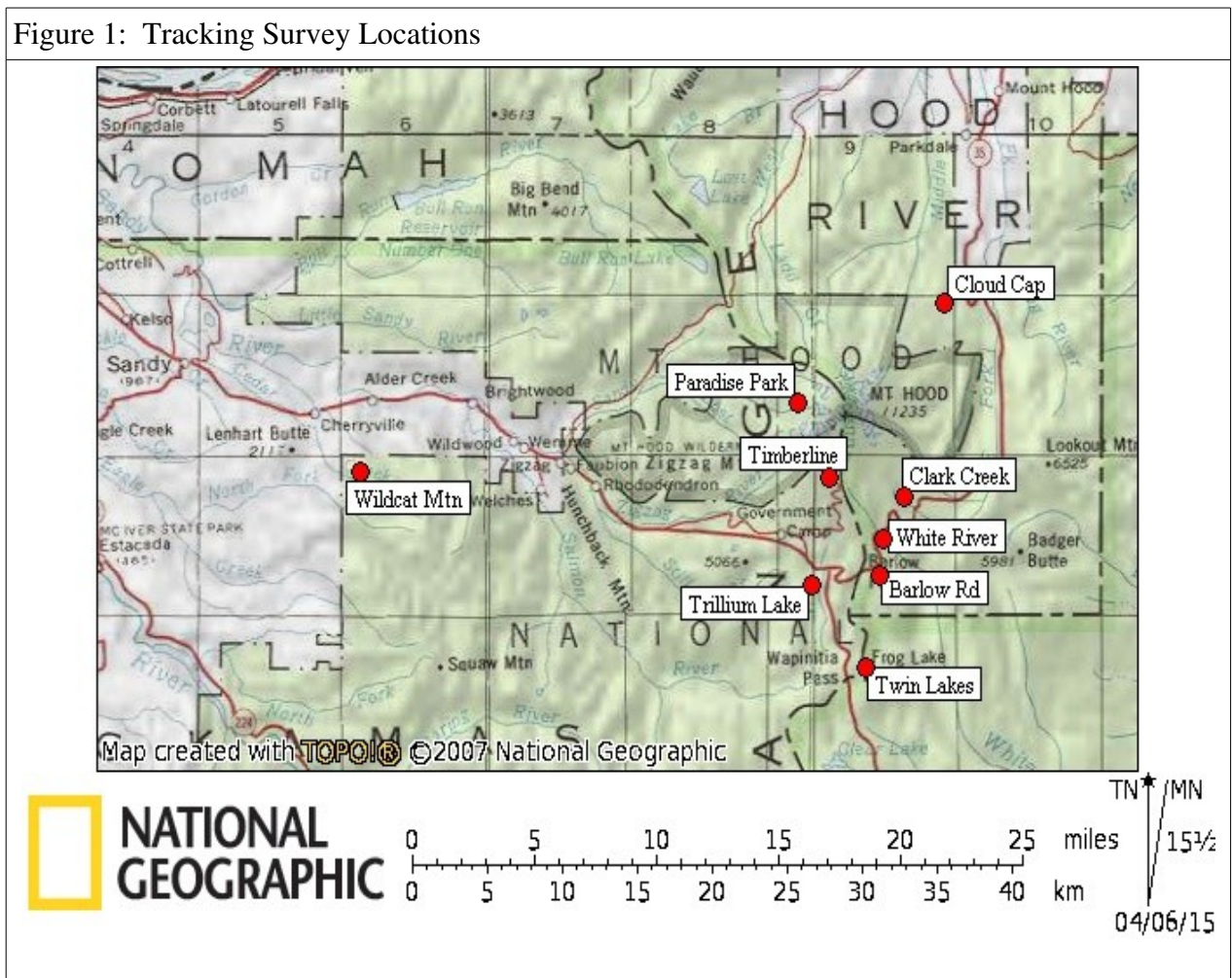
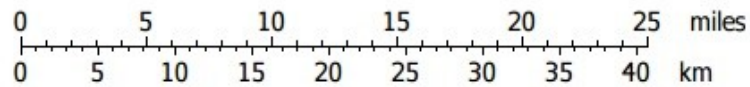
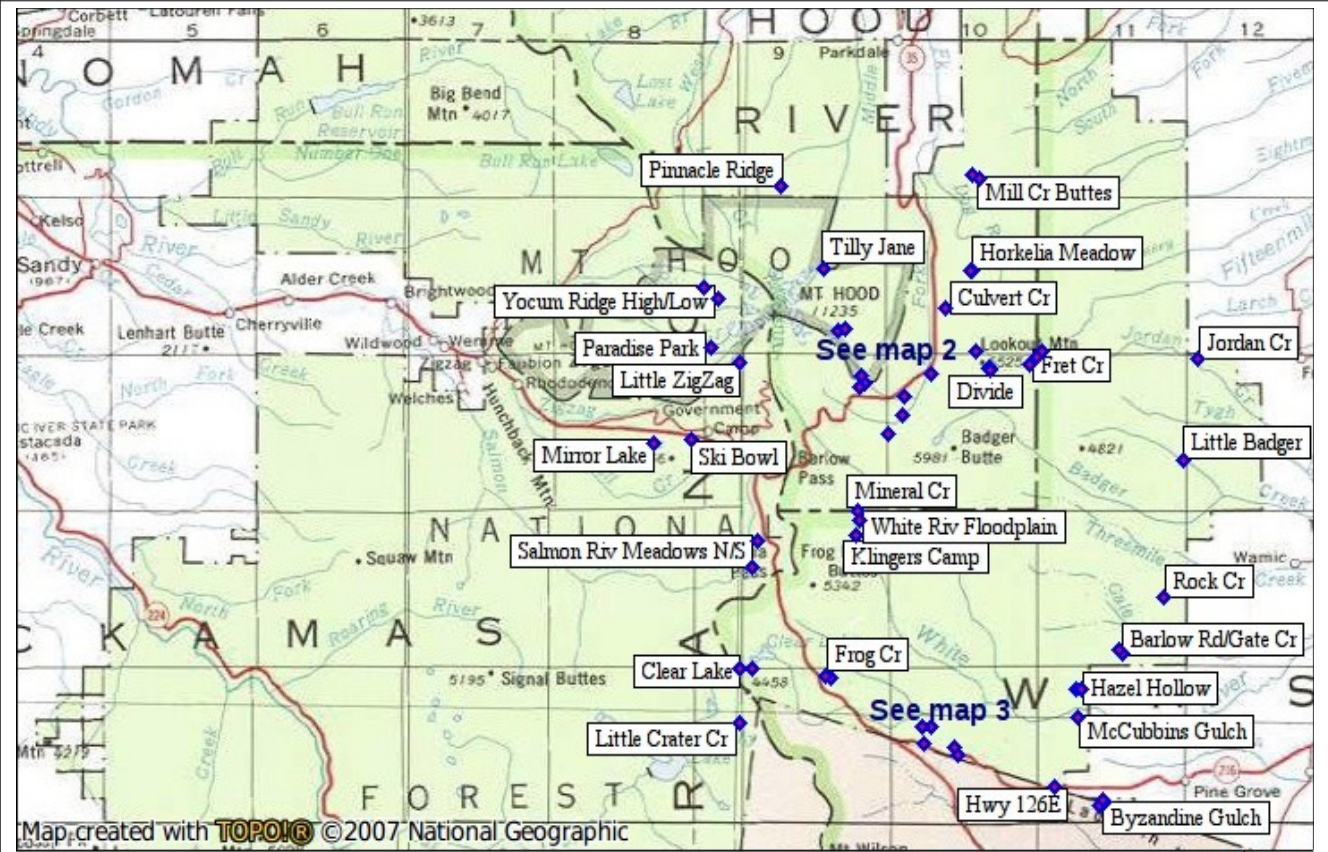


Table 1: Tracking Survey Results

Date	Nov 27	Dec 6	Dec 14	Dec 20	Dec 27	Jan 03	Jan 04	Jan 10	Jan 18	Jan 24	Jan 31	Jan 31-Feb 1	Feb 14	Feb 15	Feb 21	Feb 28	Mar 07
Location	Timberline	Wildcat Mtn	Timberline	Timberline	Cloud Cap	Cloud Cap	Twin Lakes	Barlow Rd West	Cloud Cap	Trillium Lake	White River East	Paradise Park	Clark Creek	Barlow Pass	White River West	White River East	Clark Cr
Red fox	1																
Coyote					2	2		1	1	1	2	8*	1	3*		1	1*
Cougar	1																
Bobcat					1							1*					1
Marten			1														
Weasel			1														
Black bear																	1*
Deer	3							1	1*	2	3	2	1	3*	5	2	
Elk					2	4		1						5*	2	1	3*
Snowshoe hare	2				12	20	9	11	6	15	1*		1	4*	1*	4	1*
Douglas squirrel	5	5*	2	1	30	20	33	28	1*	5	4*	12*		2*	7*	4	2*
Chipmunk		1*															
Mouse/vole		1*	2		11						2				4	3	2*
Mountain beaver											1*				3*		
Beaver		1*									2*						
Pika															2*		
Grouse			1									1*					
snow quality (rated from 0 to 4)	3	0	2	3	2	1	2	2	1	2	0	3	1	0	0	4	0

*denotes sign other than tracks

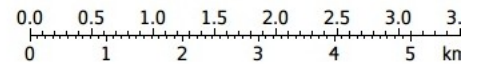
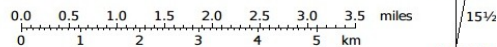
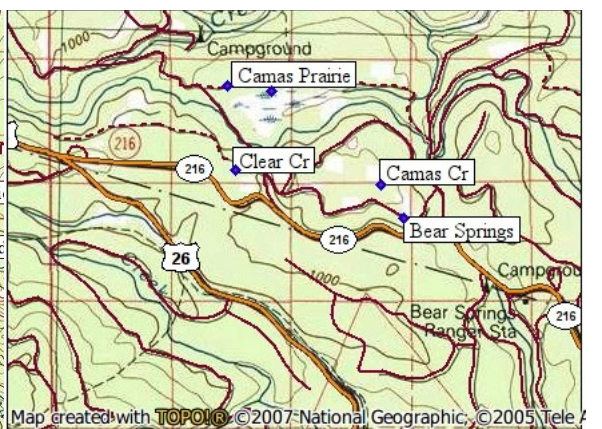
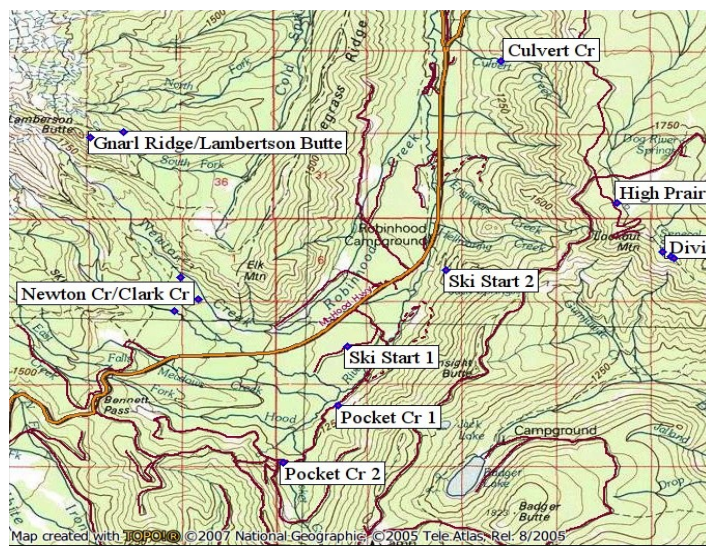
Figure 2: Camera Survey Locations



TN / MN
15 1/2
04/14/15

Map 2

Map 3



TN / MN
15 1/2
04/14/15

Table 2: Camera Survey Results, High and low elevation sites

	High elevation											Low elevation									
	Ypocum Ridge Low	Yocum Ridge High	Paradise Park	Little ZigZag	Newton Cr/Clark Cr	Gnarl Ridge	Lamberson Butte	Divide	High Prairie	Fret Cr	Horkelia Meadow	Tilly Jane	Mill Cr Buttes	Hwy 126 E	Byzantine Gulch	McCubbins Gulch	Hazel Hollow	Gate Cr/Barlow Rd	Rock Cr	Jordan Cr	Little Badger
Start date	06/02/14	07/02/14	07/19/14	02/28/14	12/14/13	07/06/14	10/19/14	06/30/14	11/06/13	06/30/14	05/27/14	12/05/13	07/18/04	12/19/14	01/09/15	04/30/14	07/05/14	04/27/04	12/23/14	03/11/14	04/27/04
End date	07/02/14	pending	pending	07/04/14	07/04/14	10/19/14	pending	pending	06/16/14	pending	09/30/14	05/22/14	pending	pending	pending	07/10/14	11/01/14	09/30/14	pending	04/03/14	07/10/14
Elevation	5300	6050	5700	6300	4450	6000	6400	6350	6100	4900	5000	6250	4500	3100	2800	2700	2500	2400	2200	2600	2200
Species:																					
Red fox				X																	
Coyote	X	X	X		X	X			X	X	X	X	X	X	X			X	X		
Cougar		X					X													X	
Bobcat	X	X			X	X				X	X			X	X		X				
Marten					X	X						X									
Weasel							X														
Black bear		X							X	X	X		X			X	X	X			
Striped skunk								X						X	X		X	X		X	X
Spotted skunk													X								
Raccoon																					
Opossum																					
Deer	X	X	X		X	X		X		X	X		X	X	X	X	X	X	X	X	X
Elk						X				X	X		X				X	X			
Hare/rabbit					X				X				X	X		X	X	X			
Douglas squirrel						X		X	X	X	X	X	X				X				
Western gray squirrel													X		X		X	X	X	X	X
Flying Squirrel					X	X			X								X				
Golden mantled ground squirrel											X										
California ground squirrel													X								X
Chipmunk					X	X			X		X		X								
Bushy tailed woodrat																	X				X
Mouse					X				X	X								X			X

Discussion

Many species were documented during both the snow tracking and the camera surveys. Wide ranging carnivores such as coyote and bobcat were found all over. Montane red fox detections supported expectations that they only use higher elevation habitat. Marten, a secondary target species, were also found in suitable upper elevation forest habitat around Mt Hood. However, they were not detected in the High Prairie area, in spite of the fact there is a substantial area of forest above 4000 feet elevation and the fact that marten will come readily to camera bait. The reason why there were no detections is not known.

One unusual finding was the number of deer and elk tracks seen during the winter. Usually these animals migrate to lower elevations during the winter to avoid the difficulty of traveling in deep snow. It appears the lack of snow this year may have allowed them to remain at higher elevations for most of the year.

To draw animals to the cameras, most setups used a scent lure placed in a hanging container, and meat bait in front of the camera to draw the animal into the field of view. In a few set ups, the scent was placed directly on the ground in front of the camera and no meat was used. The most commonly used scent lure was Caven's Gusto, however several different predator lures, a canine lure, wolf urine, and wolf scat were also used. Casual examination did not show any correlation between animals captured on camera and scent or bait used. However, it was found that placing the scent on the ground was effective in drawing the animals in, as several coyotes, bobcats, cougar, deer, and others did come to investigate it, sometimes even rolling in the scent.

Acknowledgments

Cascadia Wild would like to thank the Mt Hood National Forest for their ongoing funding and support, and the Cascade Carnivore Project for use of their cameras.

Appendix A: Project Description

Snow tracking surveys were carried out on snowshoes, most weekends from mid December through March. Trips were lead by trained volunteer trip leaders, who were responsible for both collecting data and for mentoring survey participants. Wildlife cameras were maintained year round. Target species were wolverine, wolves, montane red fox, porcupine, and marten.

Survey locations: Surveys were done on the Mt Hood National Forest. Locations were chosen based on accessibility during the winter and lower human use, trying to cover as many different areas in the forest as possible. Surveys were generally conducted along recreational trails or closed roads, with the exact routes determined by the trip leader on the day of the trip. Trip dates were decided at the beginning of the season and could not be timed to coincide with good snow conditions for tracking.

Tracking data collection: Every animal trail that crossed the survey path was recorded. A GPS waypoint and additional documentation were also taken for all carnivores. Snow quality (the ability of the snow to record clear tracks) and habitat information were also collected.

Participant involvement: Tracking surveys were done in groups of up to 10 people, including two trip leaders. Before going on a survey trip, participants had to attend a two-part training. Four sets of trainings were offered, from October to December. On the trips, participants were given instruction in animal tracking, related natural history topics, awareness activities, and primitive survival. The aim of this blend of topics is to increase not only participant's knowledge, but also their feelings of being connected to their local area. Second year participants were invited to carry out camera surveys.