

## ALYSSA WINKLER

Junior - Wildlife Resources  
University of Idaho College of Natural Resources

### DeVlieg Taylor Undergraduate Research Scholar 2012

Research: "Habitat use by different species during various weather conditions  
in the Frank Church River Wilderness 2012"

October 8, 2012

Dear DeVlieg Foundation,

My name is Alyssa Winkler and I want to thank you so much for the opportunity to conduct research this summer at Taylor Wilderness Research Station. I am currently a junior studying wildlife resources and I worked with Dr. Kerry Reese on a project focusing on how weather variation affects what habitats species occupy.



To begin conducting my research, I completed 10 vegetation surveys to distinguish 5 different habitats. One camera was placed in each of the 10 locations and began recording pictures on June 2<sup>nd</sup> and continued to record data until taken down on July 31<sup>st</sup>. I collected weather data for every day that the cameras were operating. While the cameras were capturing data, I was also conducting scat surveys on 15 sites of the same habitat types. Results have shown that 7 of the 10 cameras collected picture data of deer, elk and one wolf. Scat surveys have provided a variety of species in few locations, including elk, deer, mountain cotton-tail and red fox.



This opportunity to conduct research taught me about being patient and thinking on my feet about fixing problems in the field. I got creative when hanging my cameras and often have to use sticks and rocks to get it to the correct position needed. I have gained appreciation for those who work in the field all the time collecting data. Also, I understand the process of getting data, analyzing it and writing results. All of these experiences will help me in the future to become a successful biologist.



My experience at Taylor was fantastic. I enjoyed every moment of my time out there and wish I could go back and spend more time there. I had a daily routine of having a cup of tea on the front porch, going down the river to go look at birds for an hour and then working on my project by conducting scat surveys and checking the memory cards on the cameras. On the weekends I always tried to do something different and fun. I attempted to get to the top of Dave Lewis Peak and only made it part of the way, I hiked to the middle fork, cabin creek and to the top of the benches. At the end of the day I would go down to the confluence of Rush Creek and Big Creek and go fishing until the sun went down.

Overall, I appreciate this chance to learn and grow as a student at Taylor Ranch. I feel that I have gained knowledge about research and will be able to apply that knowledge in future endeavors. Thank you so much for giving me this chance and helping me to become a better student and researcher.

Sincerely, **Alyssa Winkler**





# Habitat use by different species during various weather conditions in the Frank Church River of No Return Wilderness



Alyssa Winkler  
Dr. Kerry Reese

University of Idaho Department of Fish and Wildlife

September 2012



September 28, 2012

Alyssa Winkler

University of Idaho

[wink6478@vandals.uidaho.edu](mailto:wink6478@vandals.uidaho.edu)

## **Habitat use by different species in various habitats during various weather conditions in the Frank Church River of No Return Wilderness**

ALYSSA M. WINKLER, Department of Wildlife Resources, University of Idaho Moscow ID 83843, USA

### **INTRODUCTION**

Predators play an important role in the way ecosystems work. They can affect the abundance of herbivores, and thus affect the trophic levels of any given ecosystem (Schmitz, 2007). The predators that can be found in the Frank Church River of No Return Wilderness are fisher, martin, coyotes, bobcats, wolves, bear and mountain lions; and the prey expected to be found are elk, deer, rabbit, big horn sheep, and other small mammals. This study will test the question of whether or not species are present in specific habitats during various weather patterns and various times during the day. This study will also look at the vegetative features of scat deposition sites to determine if different species defecate in different habitats. The variables that I will be looking at to distinguish the habitat types will be canopy cover, type of ground cover, the presence of burned trees and living trees as well as inclination. From that, I will place camera traps in each habitat around the perimeter of Taylor Wilderness Research Station and receive data on the types of species present in each habitat, while also looking at the time of day and weather patterns each species is photographed during. Finally, scat surveys will be conducted to determine the vegetative features of scat deposition sites.

### **OBJECTIVE**

The objective of this project is to find out which species are present in different land habitats during various times and weather conditions around the Taylor Wilderness Research Station (TWRS) in the Frank Church River of No Return Wilderness. Research will be conducted in riparian, forested, rocky slopes, previously burned, and open grassland areas located along the perimeter of the station. By using trail cameras and all predator scent lure, I will determine which species are present in the various habitats at various times during the day and during a variety of weather conditions.

### **METHODS**

#### **Vegetation surveys:**

Vegetation surveys were conducted to differentiate habitats around TWRS. Sites were chosen at random to be surveyed. Surveys consisted of a 30 meter transect. Along that transect, at 0, 15, and 29 meters, canopy cover, percent ground cover of mineral soil, rock, grass, forbs and litter, and number of living or burned trees was noted. The inclination, elevation and bearing at 0 meters were also recorded. After five distinct habitats were established, two of the same habitats were designated as camera trap locations.

#### **Camera Traps:**

From the results of the vegetation surveys, five different habitats were distinguished and the cameras were placed in ten total locations; two cameras in each type of habitat. The habitats chosen were riparian, forested, an area previously burned, a grass meadow and a rocky area. All cameras were located on the most level surface possible in each habitat. Each camera will be positioned facing approximately breast height. Scent lure will be placed 5-8 meters away, either on a tree approximately two feet above the ground, or on surrounding shrubs. All cameras will be marked in a GPS unit labeled cameras one through ten respectively. Cameras were accessed



once every two weeks to check battery life and remove any pictures on the memory cards. Scent lure was also reapplied after the cameras were up for 5 weeks.

### Scat Surveys:

Scat surveys were conducted in each habitat as well as 5 additional replicate sites for a total of 15 sites; 3 in each habitat. Survey sites in camera sites began within 5 meters of the tree with a camera. The additional sites were chosen by relative vegetative features compared to the habitat types chosen. A 30 meter transect was placed in each site and a vegetation survey was conducted along each transect in the same manner as the camera sites. Along each transect, within 1 meter on either side, scat was located and recorded. Pictures were taken of any scat unable to be identified in the field and a location along the transect was also recorded. Each site was visited twice.

Camera	Location	GPS:
	Cougar pen area, East of DeVlieg cabin	N 45 06.157' W 114 50.938'
	Behind the Lab, along the trail	N 45 06.135' W 114 50.974'
	Along trails to Pioneer Creek, Parallel to the creek	N 45 06.063' W 114 51.030'
	Cliff creek just beyond the second bridge	N 45 06.341' W 115.50.977'
	West side of the meadow along Big Creek, East of Ranch	N 45 06.188' W 114 50.902'
	East side of meadow in the three trees along Big Creek, East of Ranch	N 45 06.084' W 114 50.809'
	Just to the East of the Solar Panels, beyond fence in the small trees	N 45 06.198' W 114 50.836'
	On the hill south of the Air Strip to the West of the large rock face	N 45 06.183' W 114 51.385'
	The very end of the air strip, on top of the corner knob between Rush and Big Creek	N 45 06.221' W 114.51.579'
0	In the trees on the North side of the Air Strip, behind the two small cabins	N 45 06.182' W 114 51.361'

## RESULTS

Currently, results are not analyzed. The following is a summary of what was found and will be evaluated for necessity to either analyze current data or begin this project again to gain more data.

### Camera Traps:

Cameras were placed in the following areas:

Of the ten cameras, only cameras 1, 5, 6, 7, 8, 9 and 10 captured pictures of wildlife. Of those that did take pictures, all captured deer, cameras 6 and 9 captured elk and camera 6 captured one wolf. Any animals besides deer that were caught only triggered the camera once or twice the whole summer.

### Weather:

Weather data was collected for every day beginning the first day cameras we set out and ending a few days after cameras were taken down. Two sets of weather was collect, one set was from the Ranch's weather station which measured high, low and current temperature and precipitation for the previous 24 hrs. The second set was for the exact moment each picture was taken which included temperature, wind speed, and solar radiation. Temperature was taken from the camera itself while wind speed and solar radiation was taken from the MESOWEST weather station on the ranch run by NOAA. Weather variation was minimal during the time the cameras were up since it was during summer months only. The beginning of the study had cooler temperatures and more precipitation but that quickly changed within the first week to be hot every day.



## **Scat Surveys:**

Scat surveys showed mostly deer and elk scat with horse, fox, and mountain cotton tail occasionally. When each scat survey was done, a vegetation survey for each site was also completed. There were 15 sites total; 3 of each of the five camera habitats. Four of the fifteen sites did not have any scat. Each site was visited twice with a 2 week space between each visit. Only 2 sites out of 15 recorded new scat deposits during the second visit.

## **TAYLOR RANCH EXPERIENCE**

When I learned of my acceptance as the DeVlieg Undergraduate Scholar I was completely ecstatic, and then I remembered I would have to fly for the first time ever on a single engine plane into the wilderness. To say the least, the flight was probably the easiest part of the whole experience. Arriving at Taylor Ranch was incredible; there are no words that can describe how it feels to actually be there. I could not wait to get started on my project and start exploring. As time went on and projects started rolling, I was realizing that much of what I was planning to do was changing. I was not able to follow my original methods exactly because I had no idea about the terrain or space I would be working with. Methods changed and parts of my project were taken out and then put back into motion. Once I finally thought I had cameras up and running I had a few problems with the rain washing away the scent lure and the cameras taking over 700 pictures of wind. I had to adapt and learn how to work with the things I was given, including the weather and branches that enjoyed swinging in front of the cameras and triggering them. Luckily, all of the students at Taylor were willing to help each other out and I was able to work with many of them on repositioning cameras and, somehow, convincing them to apply scent lure with me.

Aside from working on my research and helping others, we always found the time to get out and hike and swim. The best memories I have including hiking down to the Middle Fork of the Salmon River and swimming and playing in a huge waterfall that we found, fishing along Big Creek and chasing after Big horn sheep. We always found ways to entertain ourselves even on the nasty, rainy days; we played seemingly endless games of poker, watched scary movies and even sat out on the deck in the pouring rain to watch a lightning storm that ended up dumping 1.25 inches of rain overnight. There were many mornings when we would sit on the deck and listen to the wolves howl and try to scan the mountains to find them. We enjoyed many delicious pot lucks with visitors and took classes from some amazing professors. My favorite class was from Dr. Ed Galindo about indigenous families and working as a tribe. We were able to go to a place that he had blessed the previous year and made moccasins out of a tarp and a fish trap out of some sticks and twine. We actually got in the river to attempt to catch a Nalgene water bottle which simulated a fish. Overall, I learned so much from my peers, visitors and myself about working together and solving problems in the field without getting overwhelmed. I was sad to leave Taylor Ranch and I hope that this will not be my only opportunity to visit this incredible place.

## **ACKNOWLEDGEMENTS**

I would like to thank Dr. Kerry Reese for giving his support and encouragement as I conducted my first research project. I have learned so much from the experience and it makes me look forward to working on more projects in the future. I would also like to thank the DeVlieg Foundation for giving me the opportunity to conduct my research. Lastly, I would like to thank the other students at TWRS that helped me set up cameras in the pouring rain, had to smell the awful scent lure and those who took pictures of scat with me.

## **LITERATURE CITED**

Schmitz, Oswald J. "Predator Diversity And Trophic Interactions." *Ecology* 88.10 (2007): 2415-426. Print.