Non-Mechanized Winter Recreational Use in Stagleap Provincial Park

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Abstract

My study examined what areas of Stagleap Provincial Park non-mechanized backcountry winter recreationists used through February and March of 2006. Key objectives of my research were: 1. To determine the most common used routes by recreationists, 2. To determine how often these routes were being used, 3.To display the risk of avalanche exposure along these routes on a GIS map. This information could then be used by the Resource Managers of Stagleap Provincial Park, so they could improve the effectiveness of their management plan to better suit Stagleap Park recreational activities.

The primary method I used to collect the data was personal surveys with the recreationists in the parking lot at the top of the Kootenay Pass. Other methods were interviews with the Highways Avalanche Control staff and Park staff. The demographics of the recreationists at the Pass, the experience and training, the amount of time that the participants spend at the park, and the information on what areas are used the most were some questions on the survey.

I broke Stagleap Park into different sections to look at the amount of use in the different areas. First I divided the park into the north and south sides of highway 3, and then into smaller areas on these sides of the highway to get a closer look at were exactly the recreationists were traveling. The different aspects of each of these smaller area traveled were then taken into consideration to determine why people were choosing these routes. Some of the recommendations I have for Stagleap Park Managers are to install an area were recreationists could find maps of potential routes and avalanche terrain in the park. Also, I recommend adding additional trails and cabins to draw recreationists to the safe areas where the Resource Managers want them to be traveling in.

1.0 Introduction

Today's non- mechanized winter recreationists continue to move more and more into our wilderness environments in the efforts to find untouched, unoccupied and untravelled terrain to recreate in. The mountain parks in BC are seeing increased use by backcountry recreationists due to an increased interest in adventure and fitness, improved access to the parks and easier access to backcountry equipment (National Parks 2000). Recent studies by National and Provincial Parks have been looking at different ways they can manage their Parks so both recreationists and wildlife can use these areas without conflict. Stagleap Provincial Park is one of the BC Provincial Parks that is dealing with this issue at the moment (Cale 2006).

Stagleap Provincial Park is the highest year round mountain pass in BC (BC Parks Website) enabling skiers to drive up to 1769 meters in elevation. It is situated in the Kootenays region of Southern British Columbia, Canada, between Salmo and Creston. Stagleap Park is also near a number of other cities that have winter backcountry recreation high on the list of popular things to do. Most of the park is in the ESSF Biogeoclimatic Ecosystem Classification Zone (BEC) with some mountain peaks in the Alpine Tundra BEC zone. The ESSF is prime winter habitat for Mountain Caribou (*Rangifer tarandus caribou)* as it provides lichens for winter forage. Stagleap Park has a number of different mountain peaks in it, on the north side of highway 3 is Cornice Ridge (2104 meters) and on the south side of the highway is The Crags (2195 meters), Baldy Rocks (2134 meters) and Lightning Strike Ridge (2165 meters).

The primary objective of Stagleap Park is to protect the remaining caribou herd in the area, and their second objective is to provide quality recreation opportunities to the public (Stetski 2003). In order for the resource managers at Stagleap Park to manage the public in an appropriate style and achieve these objectives, they require some basic background information on what was happening in the park. A group of Selkirk College students were assembled to research the activities in the park. We looked at a wide array of different topics including who was using the park, where recreationists were going, what they were doing when they got there, where the caribou in the park were, and how caribou reacted to human activity.

In this report I will discuss what areas of Stagleap Provincial Park are being used the most by non-mechanized winter backcountry recreationists and the avalanche terrain associated with these areas. I offer my suggestions as to why the recreationists are using certain areas of the park more often than others. This information could be used by Parks Managers to help manage the wildlife/recreation conflicts at Stagleap Park. Also, by understanding where people are going and if these areas are prone to avalanche hazard, the managers will be able to implement effective management strategies for avalanche accident prevention. The data could also be used to get a basic feel for the level of user in the park, and could also be used by the recreationists to find new safe routes through the terrain.

Study Objectives

Four main objectives in conducting this study;

1. To determine the common routes used by winter recreationists in Stagleap Park.
2. To determine the frequency of recreational usage within these areas.
3. To map the backcountry routes and the avalanche terrain using Arc GIS.
4. To determine the risk of human exposure to avalanche hazards within the identified routes.

2.0 Literature Review

2.1 Title: *Human factors- lesson for avalanche education*

Authors: Jill Fredston, Doug Fesler and Bruce Tremper

Published: 1997 Alaska Mountain Safety Center, Anchorage Alaska

http://www.sunrockice.com/docs/the_human_factor.pdf

Accessed on: February 24, 2006

Summary:

The article goes through the thought process used by humans for recognizing risks in the backcountry and discusses how humans factors like incorrect assumption, attitude, bad communication and money, play a critical role in the decision making process. The authors go through a number of different variables (ego, peer pressure, denial) that get backcountry recreationists in trouble. To conclude the authors discuss the bulls eye method for teaching avalanche safety. This method teaches recreationists how to take all of the information and filter it down to the relevant information and from there, take the meaningful information. The Bulls eye method helps recreationists realize what information is important data to collect to determine snow stability and what data is not necessary.

Relevance:

In order to understand why the recreationists at Stagleap Park are choosing the routes they do it is important for me to understand their thought processes. It is also important to know what information they should be basing their results on before they decide to accept these risks. This report helped me to understand what factors influence recreationists decision making processes.

2.2 Title: *Snow avalanche risk management: decision causing disaster*

Author: Michael J Wilson

Published: In the Department of Geography. University of Geography. © April 2004

http://office.geog.uvic.ca/dept2/undergrad/honours/wilson_m.pdf

Accessed on: February 24 2006

Summary:

This article discusses the basic properties of avalanche terrain and the different factors that can increase the risk of avalanches in this terrain. It outlines the different natural (weather, aspect, snow stability) and human (attitude, education) factors associated with avalanches and ways to mitigate these hazards. The article also walks through the deadly decisions made by a guide in the Kootenay Valley that lead to the death of 7 clients.

Relevance:

In order to determine where the avalanche terrain occurs in Stagleap Park it is essential to understand what avalanche terrain is. This article has the basic standards used by guides in Canada to determine if the terrain is prone to avalanches, this information will be helpful when determining the risks of avalanches along the routes used in Stagleap Park.

2.3 Title: *Avalanche terrain ratings for backcountry touring in National Parks* (second addition)

Author: Parks Canada

Published: By Canada Parks 2000 http://www.pc.gc.ca/pn-np/inc/PM-MP/visit/visit7a1_e.pdf

Accessed on: February 25 2006

Summary:

This article outlines the standard rating system used to assess the avalanche terrain in the Canadian National Parks. It outlines what each rating should mean to the winter recreationists using National Parks.

Relevance:

The information in this article is what I used to determine the rating of the avalanche terrain in Stagleap Provincial Park. This hazardous terrain will later be mapped out on a GIS map of the area.

2.4 Title: *Stagleap Provincial Park: purpose statement and zoning plan*

Authors: Wayne Stetski and Nancy Wilkin

Published: BC Parks, February 2003

Accessed on: February 25 2006

Summary:

This document states that the primary role of Stagleap Park is to preserve the local Caribou populations in the park. The second role is to provide backcountry recreations opportunities in mountainous terrain. The plan discusses the different management issues like the local mountain caribou at risk, loss of caribou habitat, avalanche control impacts, and recreational use in Stagleap Provincial Park, and outlines the different zoning areas of the park. The park has 99.3% of the land zoned for intensive recreation, 0.5% zoned natural environment and 0.2% zoned special features.

Relevance:

This zoning plan helped me for different phases of my research. It discusses how the park plans on managing different issues like recreational use and increasing awareness of potential avalanche terrain to recreationists. In order to do any work in the park it is important to know what the parks plans are and what areas they are focusing their energy on.

2.5 Title: *Parks canada's backcountry avalanche risk review*

Authors: Denis O'Gorman, Phil Hein, William Leiss

Published: By the Parks Canada, June 30 2003

http://www.alpineclubofcanada.ca/services/safety/Final%20Report%20July%202003.pdf

Accessed on: February 25 2006

Summary:

This report looked at the effectiveness of the management strategies used by Parks Canada to communicate and mitigate the potential risks to winter backcountry recreationists in avalanche terrain. The report focused on the methods used by Parks, including how they could increase the awareness of the hazards and communicate them effectively. They also discussed the concept of applying travel restrictions in hazardous avalanche terrain, and many other areas that concern the park. The report outlines Parks Canada's policies and procedures for risk management and their responsibilities related to mitigating them.

This report was very relevant to my study as it outlines the standards used by National Parks to deal with potential risks. The authors give Parks Canada a number of recommendations to mitigate the exposure of visitors to these risks and ways to effectively communicate the risk to the public.

Useful Result:

Results from the research that will be useful for my reports was that the number of recreationists using the parks continues to increase. The number of people using the avalanche bulletin has increased. The authors go through the basic frame work used by parks to approach risky issues.

Although there is an increase in the total number of people using the parks for recreation the total number of deaths from avalanches has not increased. In fact it has decreased. The authors believe this was due to the increased awareness and training of the recreationists. Communicating the level of risk of avalanche to the public is a difficult job; in order to communicate it in a manner that the public will not misinterpret the potential for risk (O'Gorman, Hein and Leiss 2003) Parks must find the clearest way to explain the potential risks. This can be done quantativly (giving a percentage of the chance of risk) or qualitative (expressing the risk through words like high or low) so the level of risk the visitor is facing is clear to all visitors using the information. The recommendations of this study suggest that more Park staff would be required to enforce travel restrictions in Parks.

2.6 Title: *A review of colour and cartography in avalanche danger visualization*

Author: Steven Conger

Published: 2004, International Snow Science Workshop Proceedings, Jackson Hole Wyoming

Data Collected:

The author out lines the basic principals that should be used when creating colored maps. This is important for my research as one of my final outcomes will be a GIS map that indicates the potential avalanche hazards along common routes used in the park. In order

for me to produce a map that can be used by the park it is essential to follow the basic principals of map making.

Mapping avalanche terrain using GIS is a very common practice that has been used for many individuals in GIS programs. This indicates that some type of standards should be required to allow all the maps to be comparable.

Useful Results:

The final results of the study indicate these colors to identify the different level of hazards: Blue- no hazard, Yellow- moderate hazard, Red- considerable, Red- with black outlines extreme. The author also indicated that the use of a solid color can take away from the over all map and that color symbols should be used to identify hazardous areas. I will use this information when I make my map of the Stagleap Park and if the map is used by BC Parks it will be representative of the Canadian Avalanche Association's (CAA) standards.

2.7 Title: *Supporting sound decisions: A professional perspective on recreational avalanche accident prevention in Canada*

Author: Laura Adams

Published: Selkirk Geospatial Research Centre, 2004

Data Collected:

Adams (2004) determined the main sources of accidences in avalanche terrain were due to "human factors" and 'choices of terrain". The participants of her survey included professional members of the Canadian Avalanche Association and experienced helicopter ski guides. Participants were asked what knowledge or skill would improve the decision making abilities, terrain and route finding was selected as key areas of training that would result in improved recreational decision making.

As my research examined at the avalanche terrain along the most commonly used routes this was useful information.

Useful Discussion:

The report discusses how experience is a key factor to making good decisions in avalanche terrain. Adams found that professional avalanche guides experienced lower encounter with avalanches in avalanche terrain.

Since the majority of the recreationists using Stagleap Park are not professionals this information will be useful to my study.

3.0 Methods

3.1 Data Collection

In order to determine the most common routes and frequency of use in Stagleap Park, my partner Corinne Bexson and I created a survey. Our survey was designed to determine where in the park the recreationists are going, how they plan to get there and why they chose these routes. Some basic demographic information was also gathered in the survey such as: level of avalanche training, age of users, group size, safety equipment carried, along with other information. A crew of two were responsible for distributing these surveys up at the pass on 5 different occasions. We spent three days during the week (February 17th, 24th and March 3$^{rd)}$, and two days on the weekend (February 18th and March 4th) in an attempt to capture all the different groups using the park. The surveys were administered to the recreationists in the parking lot while they were getting ready to head up the mountain or packing up at the end of the day. One survey was filled out for each group of skiers, however individual answers for each person were recorded. A total of 36 surveys were handed out and a total of 82 people were surveyed.

I also conducted personal interviews with two of the Highway Avalanche Control Staff (John Tweedy on February 24th and Kevin Maloney on March 4th) to determine the areas where they see the highest frequency of use by non-mechanized winter backcountry recreationists. They were also asked to identify the areas where they see avalanche activity commonly occur.

Finally on March 16th and 17th our Recreation, Fish and Wildlife class did a reconnaissance on the avalanche terrain in the Cornice Ridge basin. During this reconnaissance we did snow stability tests, using snow profiles, compaction and rutschblock tests on north, south and east facing aspect. I collected this data from the different groups and it is included in my report

3.2 Analyzing the Data

I subsequently spent two days entering all the information into an Excel spread sheet and I analyzed the relevant data. Charts or graphs were created to help express the data in a meaningful way.

4.0 Results

4.1 Demographics Of The Users At Stagleap Provincial Park

A total of 82 people were surveyed. Of which 71% (n=58) of the participants were male and 29% (n=24) of them where females.

Over 62% of the recreationists using Stagleap Park were between 30-34 (38%) or over 40 (24%) years of age. Seventeen percent of the recreationists were between19-24, twelve percent were between 25-29 and six percent were between 35-39 years of age. Only two percent of the recreationists using Stagleap Park were under the age of 19 years old (Figure 1).

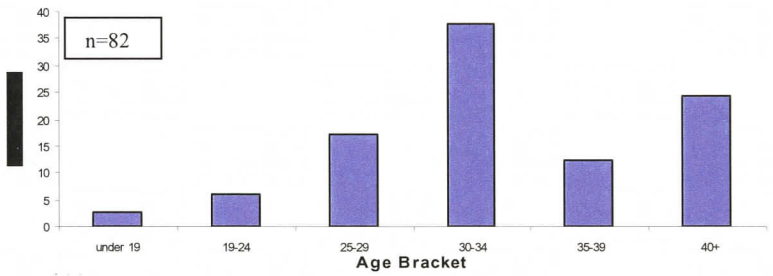

Figure 1: Age brackets for the recreationists surveyed at Stagleap Provincial Park from February to March 2006.

Eighty-eight percent of the recreationists using Stagleap Provincial Park were traveling on skis or snowboards. The other twelve percent of the participants were on snowshoes cross-country skis or walking (Figure 2).

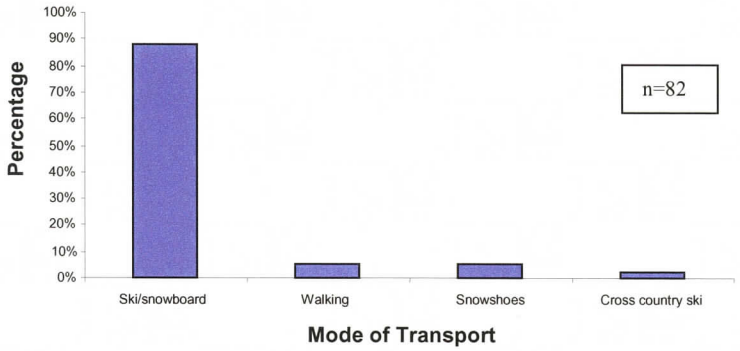

Figure 2: The type of transportation methods used by winter backcountry recreationists at Stagleap Provincial Park between February and March 2006.

The total number of people in each group of recreationists ranged from 2 to 10 people. Only 4% of the recreationists were heading out into the backcountry by themselves, and none of the groups I surveyed were bigger the 10 people (Figure 3).

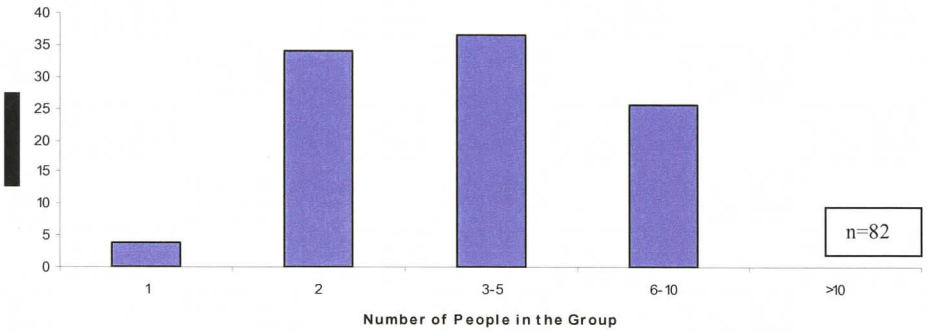

Figure 3: The number of people traveling in each group surveyed at Stagleap Provincial Park from February to March 2006.

Over fifty percent of the people using Stagleap Park for recreational purposes were local residents of the Kootenay area. Twenty three percent of the recreationists had traveled up from the United States, eleven percent were international travelers, and nine percent of the people were from other places in Canada (Figure 4).

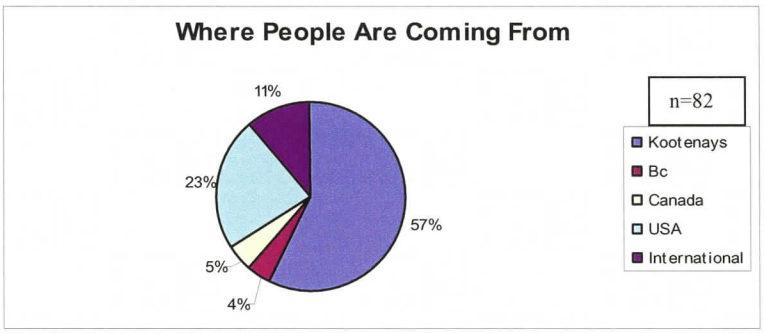

Figure 4: Where the people came from to use Stagleap Provincial Park for winter recreation.

Over 85 % of the recreationists using Stagleap Provincial Park were carrying beacons, shovels and probes on their trip (Figure 5). Very few of the recreationists (11%) were traveling with none of this equipment.

Figure 5: Compares the number of recreationists carrying beacons, shovels and probes while they tour at Stagleap Provincial Park to the number of recreationists that do not carry beacons, shovels and probes from February to March 2006.

4.2 Experience And Training Of Skiers

Most of the people using Stagleap Park for winter recreational purposes have some experience traveling in the backcountry. There were 33% of recreationists that had spent three to five years and 29% had spent greater then 10 years traveling in the backcountry. Sixteen percent of the people claimed to have six to ten years of experience and another 16% had only one or two years experience traveling in the backcountry. There was only 6% that had less than one year of backcountry experience (Figure 6).

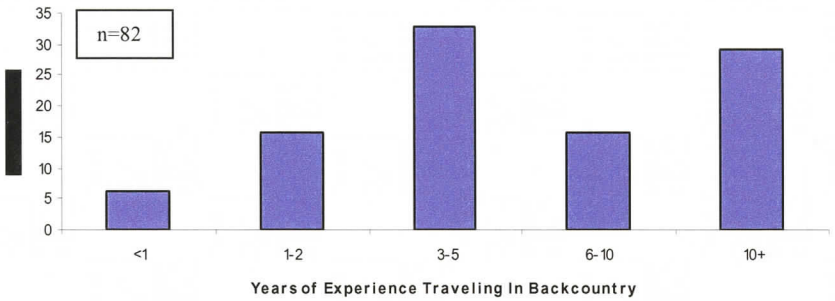

Figure 6: The number of years of experience that survey participants had traveling in avalanche terrain.

The results of the survey indicate that there was a number of different training courses used by the recreationists to obtain their knowledge on avalanche safety. Forty-four percent of the participants had taken either a recreational or advanced recreational avalanche training course, 5% of the participants had Canadian Avalanche Association Industry Training (either level 1 or 2, which are basic and advanced avalanche safety operational training programs). Twelve percent of the participants had completed international training courses, twenty-six percent of the people said they had gained their knowledge through personal experience, and thirteen percent of the people had no avalanche training at all (Figure 7).

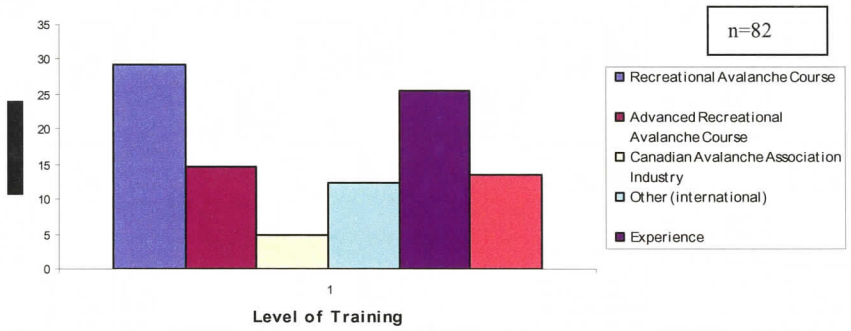

Figure 7: The different avalanche courses or training obtained by the recreationists using Stagleap Provincial Park.

4.3 Amount Of Time Spent At Stagleap Park

Fifty percent of the people surveyed indicated that they only made one trip a year to ski at Stagleap Park. Sixteen of the people visited the park on a weekly basis, while seventeen percent of the recreationists indicated that they came to the pass either 3-5 trip a month or 1 trip a month (Figure 8).

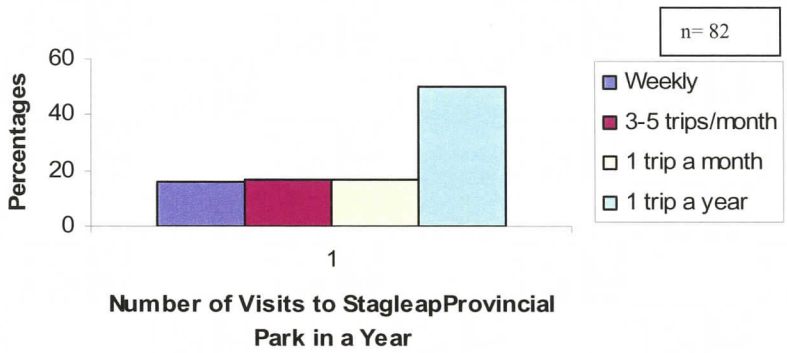

Figure 8: The frequency of winter recreational usage in Stagleap Provincial Park on an annual basis.

Sixty-seven percent of the recreationists traveling in the backcountry at Stagleap Park were spending one day at the park and then leaving that night. Twenty-one percent of the participants surveyed spending two days and one night at the pass, and twelve percent of the people were spending two or more nights at the park (Figure 9).

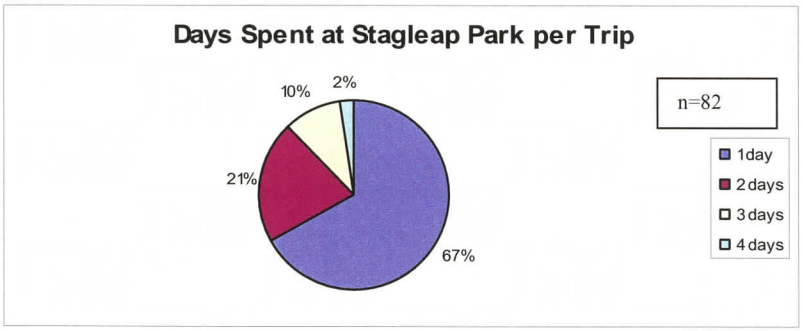

Figure 9: The number of days that the people recreating at Stagleap Park spend at the park in one trip from February to March 2006.

4.4 Areas Used At Stagleap Provincial Park

There are a number of different areas that the recreationists used while in Stagleap Provincial Park. The Park is divided by highway 3 and the southern side of the park received over 85% of the recreational use, where the northern side saw about 10% of the use (Appendix 1). Four percent of the participants did not indicate where they where going (Figure 10).

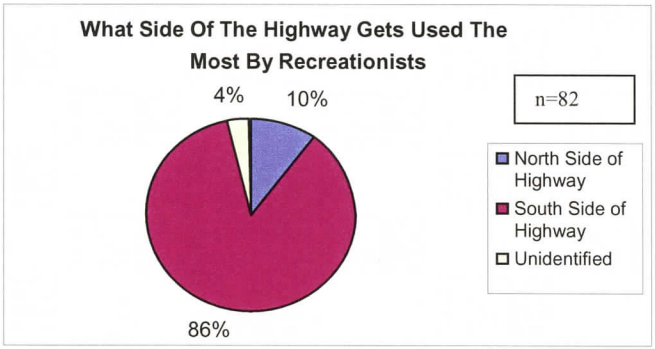

Figure 10: The frequency of visits to the north and south side of highway 3 during the months of February and March 2006.

Baldy Rocks and Lightning Strike Ridge experienced the most use in the park. Cornice Ridge, Ripple Ridge Cabin and Southwest of Ripple Ridge cabin all have similar amounts of recreationists using these areas, and very few recreationists were heading to The Crags. There was also a similar amount of recreationists using other areas of the park (Figure 11).

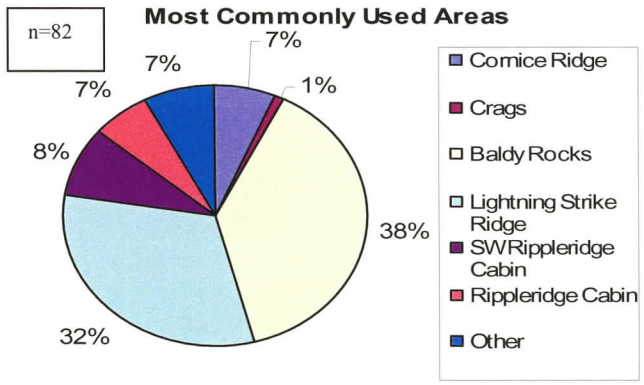

Figure 11: The main areas that non-mechanized winter recreationists were visiting in Stagleap Provincial Park in February and March 2006.

Based on the data collected, I divided Stagleap Park and some areas just beyond Stagleap Park into 16 different categories. The area that experienced the most use was North Baldy Rocks with 23% of total usage, followed by North Lightning Strike Ridge with 13% of use. South Baldy Rocks was the third most frequented area with 10% of the people, while 9% of the recreationists were heading northwest from Lightning Strike Ridge down to Twin Lakes. Eight percent of recreationists were traveling southwest of the Ripple Ridge Cabin and 7% of people surveyed claimed to be going to Lightning Strike Ridge but were undetermined as to where they would go from there. Seven percent of recreationists were using the logging road to Ripple Ridge Cabin as their route up and down the mountain, and 5% of the people headed to the east side of cornice ridge. There were another 5% of people who were travelled to Baldy Rocks but did not know which direction they would go from there. Two percent of the recreationists heading to South Cornice Ridge, Eastside of Lightning Strike Ridge, North of Camels Hump and to Loss

Creek Pass. Only 1% of the participants traveled to the north side of the Crags, and no one surveyed headed to the south side of the Crags. There were four people who headed to other areas but these areas were not identified (Figure 12).

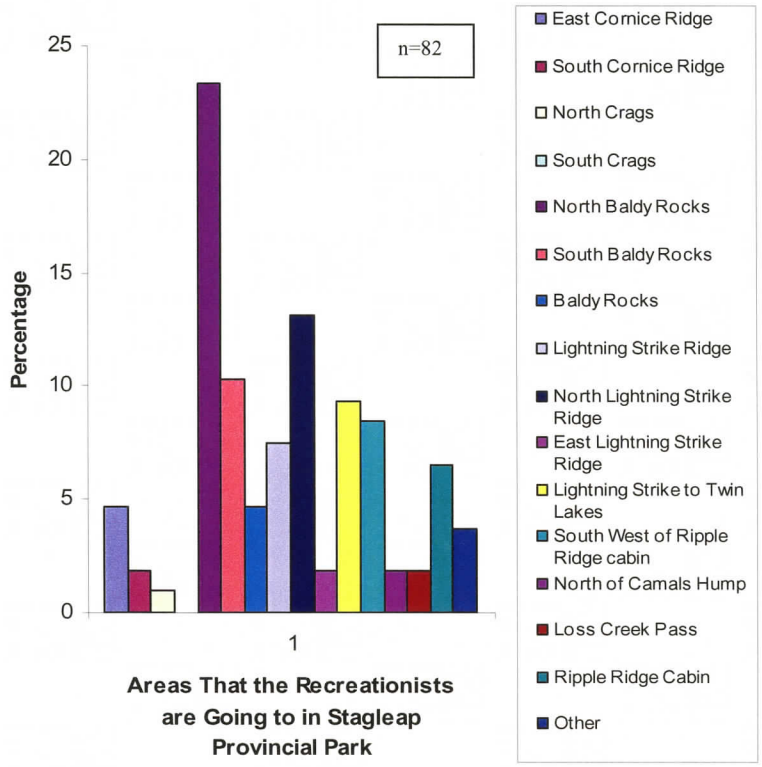

Figure 12: The areas that were visited by recreationists in Stagleap Provincial Park over the surveyed days in February and March 2006.

Most of the recreationists choose their routes because they had past experience in these areas. Other participants indicated that they were going to follow someone who knows where they were going. Other methods used to determine routes were looking at maps, visual inspection, Google Earth, and tips from someone that they knew (Figure 14).

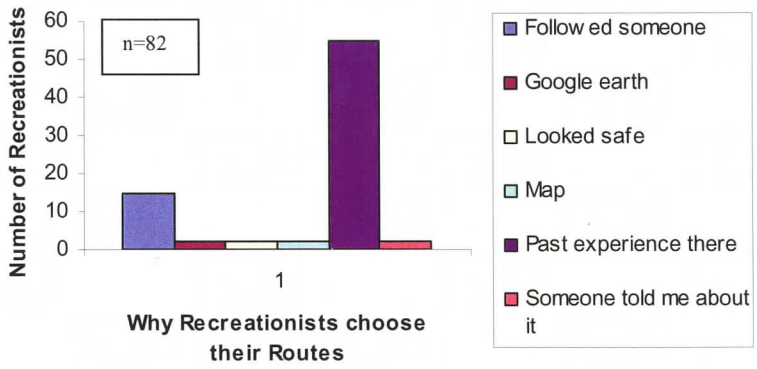

Figure 13: Reasons why recreationists chose their routes in Stagleap Provincial Park between February and March.

Most of the recreationists using Stagleap Provincial Park were skiing on slopes with northern aspects (60%); however, some chose to ski on slopes with southern aspects (21%). Two percent of the recreationists chose to ski slopes with west aspects, and none of the recreationists skied on slopes with eastern aspects (Figure 15).

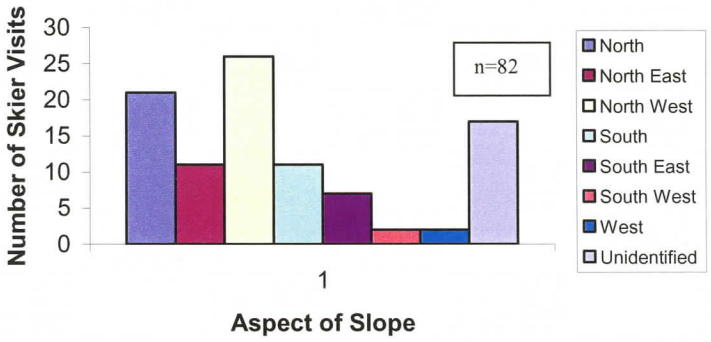

Figure 14: Aspects of the slope used by recreationists at Stagleap Provincial Park during the months of February and March 2006.

John Tweedy and Kevin Maloney, staff members for Highway Avalanche Control up at Stagleap Park, indicated the areas they see the most use over the winter months are Baldy Rocks, Lightning Strike Ridge, and Cornice Ridge with some other areas outside the park receiving a moderate level of use. The high level of use at Baldy Rocks and Lightning

Strike Ridge were similar to my result; however, my study indicate that Cornice Ridge experienced a low level of use.

5.0 Discussion

5.1 The Recreationists At Stagleap Provincial Park

The majority of the people using Stagleap Provincial Park for non-mechanized winter backcountry recreation were local males over the age of 30 and their primary mode of transportation was on skis and snowboards. Recreationists were traveling in groups that ranged from 2 to 10 people, and 90% of the recreationists were carrying avalanche safety equipment on them. Over 50% of the recreationists had more than 3 years of experience traveling in avalanche terrain and had taken some basic avalanche training. These finding suggests that the recreationists using Stagleap Park have a good background in decision-making regarding avalanche terrain. This could be a reason why to this date there has only been one fatal avalanche incident at Stagleap Provincial Park in 1997 (Tweedy 2006).

5.2 Areas Used At Stagleap Provincial Park

5.2.1 South Side Of Highway 3

The terrain on the south side of the highway experienced more use than the north side of the highway. Most of the recreationists using the south side followed the forest service road up the mountain until they reached the pass between Lightning Strike Ridge and Baldy Rocks. When asked why he chose this route, one of the participants indicated that this route was the safest route up the mountain, maintained a good steady incline, and was traveled frequently so there were few times that he needed to break his own trail. Once the recreationists reach the pass at the park boundary, there are a number of different areas that they can choose from, leaving the recreationist with the option of a large area of untracked terrain. Another one of the participants said that he choose to travel the south side of the park because the Ripple Ridge Cabin was a great spot to stop have lunch and warm up before heading out to do more runs. I observed two different

groups, (that had two male recreationists in them) that started to head up the north side of the highway and saw signs of instability (settling under their skies, cracking in the top layer of snow), so they decided to turn around and head up the south side of the highway instead. This was interesting to me as it indicated two different things;

1. Recreationists using Stagleap Park were aware of signs of instability and used these signs to aid in the decision making for their route finding. This is worthy of noting as a study by Laura Adams suggested that choice of terrain and inadequate snowpack assessment were primary causes for avalanche accidents.
2. Recreationists using Stagleap Park felt that traveling on the south side of the highway was safer during periods of instability.

Many of the recreationints using the south side of the highway were doing a number of short trips in one day. A common example would be, from the pass between Baldy Rocks and Lightning Strike Ridge, up to the top of Baldy Rocks then skiing down to the road and hiking back up to the pass. The south side of highway three allows skiers to choose between many different aspects and do more than one trip in a short period of time.

5.2.2 The North Side Of Highway 3

The area on the north side of the highway also offers many options for skiable terrain. The most common route skied on the north side was the south east slope off of Cornice Ridge down to the highway. This trip would take a typical recreationist about 2 to 3 hours to complete, but if the recreationists wanted to travel down a different aspect (like north or northwest) then they would need to spend more time traversing at the end of their run. Since most skiers were only up at Stagleap Park for a day, this could be one of the reasons that this side of the highway gets less use than the south side of the highway.

5.2.3 Northern Facing Aspects

I then divided the areas on the south and north sides of Highway 3 into smaller sections to determine the exact locations where winter recreationists travel. The north side of Baldy Rocks and Lightning Strike Ridge were the most commonly skied areas. I suggest this could be the result of these aspects having less sun exposure than the south facing slopes. This could cause a problem with avalanche formation as northern aspects tend to

be less stable than southern aspects. The direct sunlight on south aspects allows the snow crystals to round and form stronger bonds with each other (McClung and Schaerrer 2005). However, most of these areas enable recreationists to get back to the road so they can head back up the mountain or carry on down to their cars.

5.2.4 Southern Facing Aspects

The south side of Baldy Rocks and southwest of Ripple Ridge Cabin were other popular choice for skiers. These slopes are south facing, and although they experience a greater fluctuation of stability throughout the day, they tend have a stronger overall snowpack (McClung and Schaerrer 2005). The south side of Baldy Rocks again allowed the recreationists to travel back up to the pass on the forest service road and was a shorter trip back to the car than the bowl they would end up in if they headed southwest of the cabin.

5.2.5 Northwest to Twin Lakes

Another popular choice was to head down the northwest side of Lightning Strike Ridge to Twin Lakes. This area was a popular lunch spot for some of the recreationists. These recreationists then followed the Twin Lakes drainage back to the highway and either hitched to the parking lot or hiked up beside the highway.

5.2.6 The Crags

The Crags is the highest mountain peak in the Park, but it was cited the least often as a destination. One of the recreationists that was thinking about going there said that the safest route to get there was to head up to the top of Baldy Rocks and then travel east along the ridge. He decided not to do this trip as it requires the loss of elevation on a number of sections before you made it to the peak of The Crags. Instead, these recreationists decided to go up Baldy Rocks and do more than one run.

5.2.7 Ripple Ridge Cabin

There were also recreationists that hiked up to Ripple Ridge Cabin and then back down on the forest service road. A number of these were recreationints that were traveling on snowshoes or cross-country skis. They just wanted to enjoy a day in the mountains but

did not feel that they had the adequate training to leave the safety of the forest service road.

5.2.8 Why Recreationists Chose These Routes

The majority of the recreationists said that they were going to areas that they had past experience traveling in or that they were following someone that had been there before. Although fifty percent of the recreationists indicated that they came to Stagleap Park once a year, the reasons that some came to the Kootenays were to recreate with friends from the area that came to Stagleap Park on a regular basis. This suggests that most of the recreationists are traveling with someone that knows the terrain in the Park well and that they have already picked their favorite places to ski and stay around these areas.

6.0 Conclusion

Recreationists using Stagleap Provincial Park for non-mechanized backcountry winter recreation prefer to use the Ripple Ridge Forest Service Road as their main access in to the core of the Park. They prefer this road because it gets them to areas were they could do a number of short runs in a short amount of time. This was convenient as most recreationists were only up at Stagleap Park for a day trip. The road also gave them the option of many different aspects to choose from once they reached the top of the pass between Lightning Strike Ridge and Baldy Rocks. This gave recreationists the chance to test the snow pack stability on the different aspects and travel on the most desirable. To access any of the desired terrain at Stagleap Park the recreationists would be required to travel across or near avalanche terrain. The recreationists using Stagleap Park have a good level of avalanche experience and training to enable them to make sound decisions.

7.0 Recommendations

I recommend that the Resource Manages at Stagleap Provincial Park install an information area in the parking lot of Stagleap Provincial Park. This resource center could have maps indicating potential routes and a map indicating the potential avalanche terrain in Stagleap Park. This would give the recreationists additional tools to aid them in

route planning. Along with maps of the area, information on the current avalanche conditions could be posted here for the recreationists that did not check this information before they left home. Providing recreationists with more information on the park could help reduce their exposure to the avalanche terrain.

If Resource Managers want to try to control where recreationists are going, I would suggest they provide cabins or trails in areas that they want to draw the recreationists to. Giving recreationists a trail that travels through non-avalanche terrain would reduce their exposure to avalanches on their trip up the mountain. These trails should go to areas where the Resource Managers want to see the recreationists traveling and it may be a possible solution to pull recreationists away from more sensitive areas. Providing cabins in theses area would be an additional way to draw people to specific areas.

8.0 Limitations

One suggestion to increase the accuracy of the study would be to extend the study period over the shoulder months of November to May. Conversations with the Highway Avalanche staff at Kootenay Pass indicated that the park has a higher level of use before and after the ski hills are closed. Extending the study period would give a greater sample size of the non-mechanized winter backcountry recreationists using StagleapPark over the winter and more accurate data on what parts of the park they are using.

9.0 References

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