

Albert Icefields General Mountaineering Camp

Management Plan for The Alpine Club of Canada

I. Background

The Alpine Club of Canada has been running General Mountaineering Camps (GMC) annually since its inception in 1906. The purpose of these camps is to allow the **exploration of new mountainous areas to our members in a safe manner through mountaineering, hiking, scrambling and climbing** with certified fully accredited Association of Canadian Mountain Guides (ACMG).

Proposed Use – Over the course of July and August, we will set up a base camp consisting of multiple large canvas tents for dining, cooking, and relaxing. Smaller structures will be used for showers and outhouses. Numerous small camping tents will be set up for our participants personal use. Once set up is complete, we host 6 one week camps. No changes will be made until the end of the 6th week consisting of our tear down. All gear, supplies and participants will be flown in via helicopter.

The set up date will begin July 1, with the first participants arriving July 8. Five weeks will allow us to include up to 30 participants and 12 staff each week and one final week with up to 16 participants and 6 staff.

The weeks being:

Set-up: July 1 - 8

Week 1: July 8 – 15 (max 30 participants + 12 staff)

Week 2: July 15 – 22 (max 30 participants + 12 staff)

Week 3: July 22 – 29 (max 30 participants + 12 staff)

Week 4: July 29 – Aug 5 (max 30 participants + 12 staff)

Week 5: Aug 5 – 12 (max 30 participants + 12 staff)

Week 6: Aug 12 – 17 (max 16 participants + 6 staff and only 5 nights)

Tear down: Aug 17 - 20

The Albert Icefield area was chosen for a number of factors.

- Relative ease of access
 - A relative short drive down Hwy#1 from Revelstoke, BC to the helicopter staging area near the Albert Canyon. The flight is approximate 12km distance to basecamp.
- New area of exploration
 - The ACC's Mission states that we “promote alpine experiences, knowledge and culture; responsible access; and excellence in mountain skills and leadership”. Choosing an area that we have not visited before helps broaden the experience and enjoyment of our members. This area is also great because it lends itself towards learning mountain skills and developing leadership.
- Variety of objectives for varying participants skills and fitness
 - Hosting the GMC annually, we open our registration for any and all participants no matter their skills or fitness level. Our locations are based on allowing us to offer a variety of objectives for our participants.

Whether you're an experienced alpinist or you're new to the mountains, we chose sites that can cater to all levels of experience and fitness.

Preliminary scouting of the area via helicopter was conducted in August 2015 and 2016 for evaluation based on criteria mentioned above.

There are no current zoning issues.

II. Location & Access

The land use for this proposed management plan is for mountaineering and climbing objectives over the course of 6 weeks. This should not interfere with any public recreational areas due to its remote location. If recreational users pass through the area, they will be allowed any and all access to the area we are working in. The ACC will not impede any other parties' working/recreating in this area.

We have been in contact with us a letter in full support of our camp in their tenure. They state they have no objections to our proposal of our mountaineering camp in the Sorcerer Mountain area.

The location of our GMC is located near the Albert Icefield and Primrose Icefield set on a bench just west of Cassiope Peak in the Southern Selkirk Mountains in British Columbia. The separate General Location Map (GLM) (Refer to Fig.1) provides a more detailed location where our base camp will be and the area we will be hiking in. The area is on the Natural Resource Canada topo map Illecillewaet 82-N/4. Our basecamp will be a total of 2ha and will be located on this map at 51deg 2.8377N 117deg 44.3413W at approximately 2100m elevation. (Refer to Fig.2 basecamp map for camp layout)

Sitting on an alpine environment just north of Albert Icefield, we will have rock slabs that will lead into glaciers, morains and rocky ridges. Basing our camp near a small outflow creek, this will be our primary water source. Trips from basecamp will vary based on participant's expectations and limitations. Virtue Mtn. and Justice Mtn will be the two main climbing objectives. Additional objectives from our base camp will be Cassiope Peak, Primrose Peak, Champion Peak, Prudence Peak, Faith Peak and Charity Peak. Based on the exploratory nature of our GMC's other nearby objectives will be explored in the direct use area, many named and unnamed. Objectives will range in difficulty and duration based on safety and clients ability. No other parcel of land will be used outside of the GLM. People will travel routes within a 50m wide variance of the red dashed trails as indicated on the proposed routes map (Refer to Fig. 3 Route Map) This variance is to allow for people to travel safely around crevasses that may change throughout the summer, to avoid melted areas, to avoid cliff bands, The hiking and climbing routes are shown leaving from the basecamps. The farthest route that may be walked from basecamp is 8km.

Extensive Activity Use Area:

The proposed routes detailed by distance are listed below.

From:	Objective:	Distance:
Basecamp	Virtue Mountain	5km
Basecamp	Faith Peak	7km
Basecamp	Charity Peak	8km
Basecamp	Cassiope Peak	1.5km
Basecamp	Primrose + Campion Peaks	2km
Basecamp	Mt.Justice + Prudence Peak	4km
Basecamp	Fulgurite + Greydike Peaks	7km

Width of trail would generally be 1 meter wide. Just wide enough to walk single file following the guides. To allow for safe travel, it could vary up to 50m wide to avoid crevasses, new forms of water, cliff bands.

All access into camp will be via helicopters. (Refer to Fig.4 Flight Plan map) All flights will be scheduled on Saturdays, with the exception of set up and tear down. During Saturdays, numerous flights will be made to transport new participants in and exiting participants out along with their personal gear. These flights will also transport new staff and volunteers. Separate flights will be included for the purpose of flying in new fresh food and flying out any garbage. No other flights are planned during the week unless emergencies dictate the need for them.

The area in which the Albert Icefield GMC is held, has no direct contact with transportation outside that of helicopters. The closest highway (#1) is located approximately 12 km north east. With the helicopter staging location near Albert Canyon.

51 degrees 8.0000N
117 degrees 51.5000W

All participants and half of the staff will be driven to and dropped off at the staging area on a shuttle bus from Revelstoke. Very few participant and staff vehicles will be parked in the staging parking area for their week up at the camp. Estimating a maximum of 3 vehicles parked on site each week. The Front Country Manager will lead the convoy of staff vehicles and the shuttle bus.

III. Infrastructure & Camp Operations

All facilities and infrastructure proposed for the GMC are temporary installments and nothing permanent will be left on site. Several tents will be set up ranging from a large

dinning tent, cooking tent, and “tea room” to smaller two person tents where participants will have access for overnight accommodation and gear storage.

On initial flights during set up, lumber will be flown in for assisting the set up of the larger tents.

Out houses for human waste are also set up in a safe and sanitary manner. A four-foot deep hole is dug for waste containment. All human waste is collected in our sump holes with measures taken to minimize leaching into soil or water. It is incinerated as best as possible during tear down. It is then covered for the minimization of smells and attraction to local animals.

During our tear down, we will subscribe to a Category 2 open fire with the lumber used in the construction of the temporary outhouses. This fire will be conducted on top of these holes to help incinerate human waste. It is then covered over with loam and surrounding rock upon departing the site. Measures are taken to reduce the chance of any water contamination or serious ground leaching. These sites will be minimum 30 meters away from camp, downstream. No recreational fires will be held during the GMC. Following the Wildfire Act and proper use through Category 2 Fire Use codes.

Power is provided at the GMC through solar arrays, propane and a gas generator. Solar electric power is used for lighting and heating (if necessary) as well as charging batteries for satellite phones, staff radios and the emergency locating beacon (InReach device) Propane is used for cooking purposes mainly and also through gas generators if the solar arrays aren't providing enough power.

The GMC's water needs aren't high. Used primarily for cooking, drinking and cleaning purposes. A shower for personal hygiene is set up but is not used by everyone everyday. Showers are kept short and warm water is in short supply. Water will be brought into camp through a pump and there will be no water diversion. Average water use is approx. 20 liter/person/day. Maximum amount of water for any one day should not exceed 1000 liters or just over 200 gallons. Drinking water is treated chemically and with UV light to allow safe consumption.

The GMC employs three cooks for each week. Any food waste is collected and thrown out. All dishes and cutlery are washed using a three sink method; washing rinsing and disinfection. Quality of food and sanitation are key to making the GMC successful. Any excess food waste is collected and flown out.

All garbage is collected and sorted into waste and recycling and flown out every Saturday. This allows a clean and fresh feel to the GMC without having a “dump” located behind camp distracting participants from the views or unnecessarily attracting wildlife.

We have developed a relationship over the past few years with a BC Environmental Health Officer and they have inspected our water system. Under their suggestion we post that the water does not meet their full requirements. But to allow for potable water, to

follow a system that it is put through a filtration, UV light disinfection and treated. We have followed this system since meeting with them approximately 4 years ago.

IV. Environmental Impacts

a. Land Impacts

As the Albert Icefield GMC basecamp will be in an alpine environment, land disturbances will be kept to a minimum. The ACC strives to minimize all impact on the environment on all camps. Tents will be set up on hardened areas. Travel through treeline areas may occur on non-established trails. Care will be taken to mitigate any major disturbances during this time. No trails will be intentionally developed.

It is a rarely visited area of the Southern Selkirk Mountains. Visual impacts will be next to zero based on no known external expeditions to this area in the summer of 2017.

b. Atmospheric Impacts

Sound: Basecamp will only be fully housed early mornings and late into the evenings. No artificial noises will be used beyond that of our gas generator which is used as little as possible.

Odor: Odor will arise from the cooking and dining tent as well as our outhouses. Smells from the kitchen will be temporary as will outhouses as waste will be covered with soil at the end of the Camp.

Fuel Emissions: Propane will be used for cooking and cleaning purposes and potentially heating and lighting. A gas generator will be used to recharge solar batteries if solar charging is not enough. This will be a limited amount of use.

c. Water or Land covered by water impacts

As with established huts located in the Alpine that the Alpine Club of Canada manages, grey water will be strained for any solids and deposited down a 1 meter sump hole. When fluid reaches 20 cm, soil will be deposited on top and another sump hole will be used.

These holes will be at least 30m away from water sources. If drainage percolation isn't appropriate, the location will be moved.

Public access and flood potential do not exist in this area. Located on a platform of shale and rock, any water will drain quickly through. Participants will be well educated regarding their impacts upon the surrounding environment.

d. Fish and Wildlife Habitat

Wildlife can be present and passing through, the GMC staff and participants will respect all wildlife encounters and try and mitigate any disturbances to their home. If wildlife is spotted while out hiking, immediate action will be taken to increase separation distances with the species.

We have extensively reviewed the (2006) posted notes on Wildlife Guidelines for Backcountry Tourism/Commercial Rec in BC and compiled notes and mitigation strategies for several of your specific wildlife concerns and plan to use these in the operation of the camp.

A wildlife recording sheet will be printed and supplied at the camp for easy access for everyone to document any wildlife sightings. We understand it is most important to immediately alter our actions to offer the least possible effect on the species if wildlife is spotted. We also understand that if a complicated wildlife situation occurs, or is witnessed that the local conservation officer will be contacted.

Flight paths will allow a minimum 1500m distance from wildlife. If wildlife is spotted, immediate action will be taken to increase separation distances with the species. While out hiking, if wildlife is spotted, immediate actions will be taken to increase separation distances. The ACC has read and become more informed on helicopter impact concerns as it pertains to wildlife. We are better informed on ways to minimize disturbance of wildlife. Notes have been taken from the Ministry of Environment website.

d. Environment Education

At the start of each week, the camp manager will inform participants of sticking to trails around camp, to be aware of delicate flora and to avoid trampling, to try stick to walking and sitting on rocks instead of grasses. They will also inform participants of the wildlife recording sheet and will discuss ways to help avoid wildlife and action that should be taken if seen.

Mountain Goat –

- i) We will conduct preliminary helicopter flights in advance of the mountaineering camp, to determine suitable alternate flight path options if needed.
- ii) We will utilize these paths to avoid goats.
- iii) We will adapt our flight paths over the course of the season as necessary. We will change the flight path to avoid goats, if goats are newly discovered on a chosen flight path.

Grizzly Bears -

- i) Bear spray and bear bangers will be available in camp for staff and guided groups that depart for the day
- ii) With 42 people in camp on a regular basis, this will be a large deterrent for any passing bears
- iii) There will always be staff present at basecamp during the day time hours to reduce any bear encounters amongst staff and participants through proper education and deterrents
- iv) All food will be sealed in a bear proof container and kept sealed when not in use
- v) Food waste will be strained and kept with garbage in a sealed blue barrel away from camp until proper disposal is available.
- vi) Proper education will be provided for all participants and staff should bear encounters happen. This information is provided from [Safety Guide to Bears in the Wild](#) by the Environmental Stewardship Division of BC Environment.

Mountain Caribou –

- i) Stay at a sufficient distance from caribou to prevent changes to their behavior or their use of habitat (more than 1500m line of sight is default)
- ii) Record wildlife encounters, actions taken and responses of animals.
- iii) Take immediate action to increase separation distances when animals react to aircraft.
- iv) Stay at distances sufficient to prevent changes to the behavior of animals (more than 1500m line of sight)

Wolverines -

- i) If a wolverine is spotted by either the helicopter or by any of the participants out hiking, the area should be immediately avoided. Any wolverines, or dens, should be given a minimum 1500m avoidance birth.
- ii) Avoid flying or landing near known nesting habitat.
- iii) No intentional 'flight-seeing' of wolverine
- iv) Record wildlife encounters, actions taken and responses of animals.
- v) Take immediate action to increase separation distances when animals react to aircraft.
- vi) Stay at distances sufficient to prevent changes to the behavior of animals (more than 1500m line of sight)

These mitigation strategies will be passed onto our front country managers, basecamp managers and helicopter pilots.

As we will not be accessing any lakes, rivers or oceans with fish habitat, this will not be applicable.

V. Safety

As the GMC grows in popularity our ability to offer more remote locations, while maintaining safety, will always be a top priority. This has consistently been evaluated and points of actions have been made and acted upon. A rotating camp doctor is in attendance each week of the camp. They are prepared with 2 large medical kits, splint kit, oxygen tank and medications. This allows immediate action upon injury and can provide safe travel for any injured participant. Helicopter emergency assistance from Revelstoke would be called on the satellite phone if necessary.

The camp manager and lead cook on site each week is in communication every few days with our front country manager via InReach texting device and often the satellite phone. This is helpful with getting regular accurate weather forecasts and used for making the grocery order each week. A Satellite phone is also at the camp to allow immediate contact with the front country if an emergency has happened and a helicopter evacuation is required.

Each guide leading a group will be carrying a hand held radio with clear lines of communication to basecamp to allow fast communication and evacuation if needed. All guides will be up to date with their 80 wilderness first aid at a minimum. Evaluation of each injury is made and the necessary arrangements can be made, from helping a client walk back to camp, to calling in for an emergency heli evac to the nearest hospital in Revelstoke, B.C.