



719 389-6943

**Registration Summary**

**RKMF Expedition Grant (GROUP APPLICATION)**  
2014/2015

Need Hel ?



**Ritt Kellogg Memorial Fund  
Registration**

Registration No. 8257-93B11  
Submitted Jan 5, 2015 9:51am

**Registration**

Oct 30, 2014-  
Aug 31

Ritt Kellogg Memorial Fund  
**RKMF Expedition Grant GROUP APPLICATION**  
This is the group application for a RKMF Expedition Grant. If you have received approval, you may fill out this application as a group. In this application you will be asked to provide important details concerning your expedition.

**Registered**

**Participant**



**Will Cohn**

**I. Expedition Summary**

**Expedition Name**

Glaciers and Granite; Ski Mountaineering in the Beartooths

**Objectives**

First, and foremost, our most important objective is to return home safely and have fun. We also wish to enjoy 12 days of climbing, skiing, and camping in one of the lesser known regions of the Rocky Mountains. In doing so, we will continue to practice and further hone the many skills that will be required for this trip. Regardless of whether or not we successfully ski every objective or spend 12 days hunkered in our tents, this experience will be an amazing time for all of us.

**Location**

Beartooth Mountains, Absaroka Beartooth Wilderness, Montana

**Departure Date**

May 15, 2015 12:00am

**Return Date**

Jan 28, 2015 12:00am

**Days in the Field**

12

**Wilderness Character**

In written testimony, those that have been fortunate enough to experience the Beartooth Mountains are incapable of truly explaining the beauty and exceptional wilderness character of the range. Although not the most remote or undisturbed area of the Rockies, the Absaroka Beartooth Wilderness is an area rarely visited by anyone but the locals of Cooke City, Montana, a tiny town just north of Yellowstone National Park and a dead end on Highway 212 during the winter months. Despite the close proximity of the range to the town of Cooke City, it remains quite rugged; boasting more than 25 peaks exceeding 12,000ft, ~25 small glaciers, and the state's high point, Granite Peak (12,807ft). Due to the fact that we will be spending the majority of our time in a wilderness area, where motorized vehicles are prohibited, we don't anticipate seeing many other people. Separating ourselves from the locals of Cooke City, who occasionally take snowmobiles to the edge of the wilderness area, will provide us with an environment in which we will be able to grow stronger and learn more as a team.

## II. Participant Qualifications

**Participants' Graduation Date**

Will Cohn, graduation May 2016

Andrew DesLauriers, graduation May 2016

Fischer Hazen, graduation May 2016

**Medical Certifications**

Will Cohn, WFR expiration 5/30/2015

Andrew DesLauriers, WFR expiration 5/30/2015

Fischer Hazen, WFR expiration 1/20/2016, EMT certification 3/1/2015 (will recertify for two more years before 3/1/2015)

**Does your group have adequate experience?**

Yes

**Training Plan**

All members of our expedition have the experience necessary to make this expedition safe and successful. Although we acknowledge that each member has more experience in different aspects and environments that we will encounter on our trip, we plan to take advantage of our different areas of expertise to ensure we remain safe in all aspects of the trip. Fischer Hazen and Will Cohn are experienced climbers with strong backgrounds leading traditionally protected climbs, as well as aspiring rock climbing guides. Fischer is heavily involved with CC Outdoor Ed's rock climbing program, leading climbing clinics in the on-campus climbing gym and teaching the

Level II Climbing Leader course. Fischer and Will have gained countless hours of rock climbing experience together, throughout a variety of areas in Colorado, Wyoming and Utah. Although not anticipated, they are prepared to act in more of a guide role when moving on rock, or making traditional anchors that may incorporate pieces of rock protection. Fisher and Andrew both grew up backcountry skiing in the San Juan and Green Mountains of Colorado and Vermont, respectively. Although Will is a native of Chicago, he has spent the last two and a half years backcountry skiing and mountaineering in and around Colorado with both Fischer and Andrew. Andrew and Will have spent the last year and a half honing their skills for ski mountaineering, climbing and skiing many steep snow filled couloirs. As a result, all three members of our team are experienced backcountry skiers who are capable of successfully descending each of our objectives. We recognize that all three members have little glacier travel experience and could use additional mountaineering experience. We will address these issues during the spring of 2015 by gaining experience in Colorado on our own and through a course in crevasse rescue and steep snow skiing if awarded the grant. Andrew will also gain additional traditional climbing experience during this time.

All three of us have skied and camped together over the past two years. Currently we are all on a backcountry ski trip that has taken us from Montana, up towards the Kootenay Boundary region and Rogers Pass area of the Selkirk Mountains in British Columbia. We are continuing towards Yoho national park in BC over the next few days, and will wrap up in Sun Valley, ID. The trip has been a mixture of low angle single day tours and high angle, 800 meter plus vertical, ski tours. We will be staying at two different huts over the next 7 days. This trip has been, and will continue to be, a great test of our interaction and abilities. We work, communicate, assess danger and cohabitate really well together. The trip has included a focus on snowpack assessment (Fischer wrote a venture grant for snowpack assessment) and therefore extra attention is paid towards risk and hazard management. The safety oriented focus is a major priority for all of us.

Our training plan incorporates a range of steep snow climbs we feel will adequately prepare us for conditions we may face in the Beartooths. They are a mix of climbs of which some will test our limits, and some will give us a chance to practice acting in more of a guide role. Andrew will also take the Rock Rescue clinics offered through the CC climbing gym to learn different rescue techniques. Andrew and Will have both completed the AIARE Level 1 avalanche course. Although an experienced backcountry skier, Fischer plans to enroll in an AIARE 1 course in the spring. He is waitlisted for the Block 5 AIARE course offered by CC at this moment. To maximize our physical readiness we will run laps on the Manitou Incline in the spring and train like animals in the newly constructed Adam F. Press Fitness Center.

Torreys Peak, Dead Dog Couloir: The couloir is a long, moderate snow climb up Torreys Peak. Although most parties do not rope up for the climb, we will use ropes and protection to practice moving as a rope team using running protection.

Pikes Peak, Little Italy Couloir: Much like the Dead Dog Couloir, the Little Italy Couloir will help us gain experience in a rope team moving on snow. Along with spending time climbing the couloir, we will spend time in the base of Glen Cove doing mock crevasse rescue, self-arrest practice, and glacier travel as a rope team.

Pikes Peak, Y Couloir: Although already completed by Andrew and Will, the Y Couloir will provide our team additional experience climbing and skiing steep snow. With the added bonus of being conveniently located in our own backyard.

Rocky Mountain National Park: RMNP has the largest density of steep snow climbs that are easily accessible to us at Colorado College. Below is a short list of couloirs we intend to climb and ski in the Park during the spring of 2015. Additionally, all three members of the group plan on taking a Steep Skiing Clinic through Colorado Mountain School, which focuses on climbing and skiing techniques in steep, exposed terrain. This course is taught in Rocky Mountain National Park, and will allow all three members to gain further knowledge and experience in the area.

RMNP, Dragon's Tail Couloir:

RMNP, Mini AK Couloir:

RMNP, Notchtop Couloir:

RMNP, Notchtop Spire Couloir:

RMNP, Corral Couloir:

RMNP, Lambslide Couloir:

### III. Expedition Logistics, Gear and Food

#### Travel Plan

We will be leaving May 15, two days after the completion of Block 8, in order to return back to campus with time to participate in internships and summer employment opportunities. On May 15th we will drive directly from Colorado Springs to Cooke City Montana. On May 27th we will return to Colorado Springs via the same route.

Colorado Springs to Cooke City, MT ~ 750 miles x 2 = 1500 miles

1500 miles/16 mpg = 94 gallons

~3.20/gal x 75 = **\$300**

#### Expedition Itinerary

##### Itinerary:

The following is our ideal trip itinerary. If all goes according to plan, the weather cooperates, and we do not experience any unexpected setbacks due to injury or route-finding, we will follow this itinerary. However the specific days of activities may change dependant upon objective factors, as well as on group strength.

- May 15: drive from Colorado Springs, CO to Cooke City, MT. We will only be taking one day for the drive and will be staying at the Colter Campground, just outside of Cooke City. \$8/night/group
- May 16: We plan to get towed to the wilderness boundary by the Beartooth Powder Guides, using snowmobiles. Given the amount of food and gear we will be bringing in, this initial aid will allow us to maximize our time in the wilderness area. We will then set up base camp near Goose Lake.
  - 10 miles, 2,500 feet elevation gain
- May 17: North Couloir, Iceberg Peak. This objective will provide us with a good idea of the surrounding snow conditions. It will also act as a warmup day for some of the longer and steeper objectives we have planned for our trip. We will ascend via the North Ridge, and will descend the North/Northwest Couloir. If we are not comfortable with snow conditions we will descend back down the ridge.

- 3rd Class: Crux: Ski descent of areas with 55 degree slope. Approximately 4 hours round trip from Goose Lake Camp
  - 3.5 miles, 1,700 feet elevation gain
- May 18: North Couloir, Fox Peak. The couloir is actually located on the peak just north of Fox Peak. This objective is slightly larger than Iceberg Peak and we anticipate entering the couloir to be more technical than anything we will encounter on Iceberg Peak, due to the high possibility of encountering a large cornice. We will ascend the saddle connecting Fox Peak and our objective peak. We will then continue up the south ridge and will descend the north couloir. If we are uncomfortable with entering the couloir we will descend back down the south ridge. If we are able to ski the couloir we will hike out of the basin via the saddle to our west and ski back to camp.
- 3rd Class: Crux: Entering the couloir, if we encounter a stable cornice. Approximately 5 hours round trip from Goose Lake Camp
  - 3.5 miles, 1,300 feet elevation gain
- May 19: Move base camp to Star Lake. We will take this day to push farther into the wilderness area. This will allow us to spend more time alone and separated from others that may be skiing the Goose Lake area. It will also provide us with a better vantage point to possibly make an attempt on Granite Peak (later discussed). This will be our first exposure to glacier travel on this trip. At the top of the Goose Creek saddle we will rope up to travel across the Grasshopper Glacier. Once safely past, we will unrope and ski down to our new camp.
- 4.5 miles, 1,300 feet elevation loss (large elevation gain and loss throughout)
- May 20: West Couloirs, Glacier Peak. The west side of Glacier peak is littered with a countless number of steep, narrow couloirs. We will spend the first day at our new camp exploring the area and scoping new lines. If we feel up to it, we will push for one of the smaller couloirs. However, more likely than not, this day will serve as a rest.
- May 21: West Couloirs, Glacier Peak. On this day we will ski one of the couloirs on Glacier, determined the day before during on scouting mission. Ideally, we will be able to summit Glacier Peak via one of the North, west facing, couloirs. This couloir will be our largest elevation gain and will prepare us well for a possible attempt at Granite. Although aforementioned, an alpine start will be of the utmost importance for this route given its west facing slope.
- 3rd Class: Crux: Ski descent of areas with 55 degree slope. Approximately 6 hours round trip.
  - 3 miles, 3,600 feet elevation gain
- May 22: West Couloirs, Mystic Mountain. Similar to Glacier Peak, Mystic Mountain has a large number of steep narrow couloirs. We will be focused on making a summit attempt of Mystic Mountain via one of the south, west-facing couloirs. Summitting Mystic Mountain's

plateau like summit would provide us with incredible views of the surrounding area, including Granite Peak.

- 3rd Class: Crux: ski descent of areas with 55 degree slope. Approximately 4 hours round trip.
  - 2 miles, 3,500 feet elevation gain
- May 23: Rest Day. We will use this day as a rest before our main objective, Granite Peak. It will also be used to prepare for our fast and light attempt at the Peak.
  - May 24: Star Lake to Granite Bivy:

\*Due to the removed nature of the attempt on Granite Peak, we will attempt the peak during the best weather conditions. Should we have a better window from May 20 - May 23, we will attempt Granite then, shifting the couloirs slated for the 20-23 to later in the trip, following an earlier attempt on Granite.\*

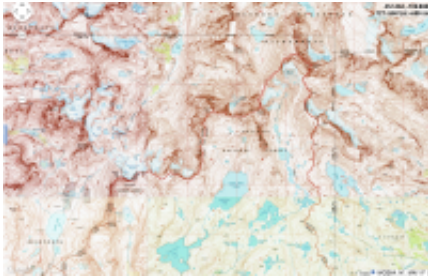
If all goes according to plan, the weather holds and the snow conditions are good, we will take all necessary gear for an ascent on Granite and our lightweight, minimalist three person tent. Depending on temperatures, we may opt for bivy sacks instead of the tent. We will set up camp below Granite and prepare for the ascent on the following day.

- 
- May 25: Granite Peak SW Couloir. This is the main objective for the trip. We will ascend via the SW face below the couloir, after which we will ascend the couloir to the summit of Granite Peak. Should we not be comfortable with the snow conditions, we will return to the bivy site and head back to the Star Lake camp.
  - Granite Peak ascent: 3rd class: Crux: ski descent of steep couloir. 1.2 mile round trip, ~1500 feet elevation gain
  - Return to Star Lake: 2.75 miles, ~3000 ft elevation decrease
- May 26: Move Base camp to Goose Lake. We will retrace our previous path from the Goose Lake campsite to Star Lake. This will be our second exposure to glacier travel on this trip. Below the Goose Creek saddle, we will rope up to travel across the Grasshopper Glacier. Once safely past on the saddle, we will unrope and ski down to our new camp at Goose Creek.
  - 4.5 miles, ~1500 feet elevation difference
- May 27: South Ridge of Sawtooth Mountain and return to Car. Depending on the skin track in from the road to Goose Lake, we may be able to complete the S ridge of Sawtooth mountain and break camp/return to the car in the same day. Should we judge it appropriate to attempt the South ridge of Sawtooth, we plan to ascend via the south ridge, which will then be our descent. We will return to camp in the mid afternoon, break camp and travel from Goose Lake down to the car. It is primarily downhill and will hopefully be a quick

descent.

- South Ridge Sawtooth: 1.4 miles, ~2500 feet elevation gain from camp to top of Sawtooth
  - Goose Lake - Car: 7 miles, ~2,500 feet elevation decrease
- May 28: Drive from Cooke City, MT to Colorado Springs, CO. We will only be taking one day for the drive.

### Maps/Topos/Charts



**Screen Shot 2015-01-04 at 11.12.52 PM.png** (1.3MB, 1034x660px)

Uploaded Jan 5 by Will Cohn



**Screen Shot 2015-01-05 at 12.22.29 AM.png** (371KB, 538x400px)

Uploaded Jan 5 by Will Cohn



**Screen Shot 2015-01-05 at 12.22.11 AM.png** (621KB, 538x595px)

Uploaded Jan 5 by Will Cohn



Screen Shot 2015-01-05 at 1.36.17 AM.png (419KB, 614x523px)

Uploaded Jan 5 by Will Cohn

### Re-Ration Plans

N/A

### Food Storage

We will rent bear canisters for effectively storing food in an area that contains both grizzly and black bears. A 15 day rental of three 900 cubic ft canisters will cost \$270, \$90 per box/15 days.

### Food List

Our food list, both amount and type, is based off recommendations from the NOLS cookery. We are carrying approximately 2.25 pounds per person per day, the NOLS recommendation for strenuous activity with cool days and cold nights. We plan on buying our food in bulk from both Costco and Mountain Mamas.

Number of people	Days in field	Food Days	PPPPD	Total Pounds
3	12	36	2.25	81

### 2.25 PPPPD category multipliers

Category	Multiplier	People	Days	Rounded weight
Breakfast	.43	3	12	15.5
Dinner	.47	3	12	17
Cheese and Meat	.31	3	12	11
Trail food	.46	3	12	16.5
Sugar and fruit drinks	.15	3	12	5.5
Soups, bases, desserts	.12	3	12	4
Milk, eggs, margarine, cocoa	.31	3	12	11



**Fuel:**

Stove	Fuel cost per unit	Amount	Total
MSR XGK	\$8.00/quart	9 quarts	\$72.00
JetBoil	\$5.95/canister	2 canisters	\$11.90

Breakfast Food	Cost per unit	Amount	Total
Instant oatmeal	\$1.55/pound	6 pounds	\$6.20
Dehydrated hashbrowns	6.99/8 4.2 oz cartons	3 pounds	\$10.08
Granola	\$4.99/pound	5 pounds	\$24.95
Bagels	\$6.89/dozen	24 bagels	\$13.78
<b>Breakfast Total</b>			\$58.41

Dinner Food	Cost per unit	Amount	Total
Quinoa	\$6.02/pound	3 pounds	\$18.06
Rice	\$2.86/pound	3 pounds	\$8.58
Instant Beans	\$5.49/pound	2 pound	\$10.98
Potato Flakes	\$1.00/4oz	2 pounds	\$8.00
Pasta	\$2.55/pound	4 pounds	\$10.20
Couscous	\$3.79/12oz	2 pound	\$7.58
Tortillas	\$3.49/36 count bag	36 tortillas	\$3.49
<b>Dinner Total</b>			\$66.89

Cheese and Meat	Cost per unit	Amount	Total
Cheddar	\$13.49/5 lb	1 pounds	\$2.70
Pepper Jack	\$7.99/2.5 lb	4 pounds	\$12.78

Parmesan	\$10.59/2 pack 16 oz bags	1 pounds	\$5.29
Summer Sausage	\$5.99/pound	2 pounds	\$11.98
Salami	\$5.99/pound	1 pound	\$5.99
Cream cheese	\$6.69/3 lb container	2 pound	\$4.45
<b>Cheese and Meat Total</b>			\$43.19

Trail Food	Cost per unit	Amount	Total
Peanuts	\$5.79/5 lb bag	5 pounds	\$5.79
M&Ms	\$8.99/56 oz. bag	3.5 pounds	\$8.99
Raisins	\$3.39/pound	1 pound	\$3.39
Clif Bars	\$19.89/24 pack	24 bars	\$19.89
Peanut butter	\$10.99/48 oz. 2 jar pack	4 jars	\$21.98
Clif Shotblocks	\$30/18 pack	18 packs	\$30.00
Clif Shot Gels	\$1.25 each	20 gels	\$25.00
Sunflower seeds	\$1.70/6oz	1 pound	\$4.42
Dried cranberries	\$7.79/48 oz. bag	2 pounds	\$5.19
Dried Mango	\$14.69/30 oz. bag	2 pounds	\$14.69
<b>Trail Food Total</b>			\$139.34

Sugar and Fruit Mix	Cost per unit	Amount	Total
Brown Sugar	\$2.69/4lb	2 pounds	\$1.34
Honey	\$13.79/5lb bottle	1 pound	\$2.76
Chocolate Chips	\$8.99/4.5 lb bag	2 pound	\$3.99
Tea bags	\$2.99/24 bags	48 bags	\$5.98
Coffee	\$9.95/12 pack	36 packets	\$29.85

<b>Sugar and Fruit Mix Total</b>			\$43.92
----------------------------------	--	--	---------

<b>Soups, bases, desserts</b>	<b>Cost per unit</b>	<b>Amount</b>	<b>Total</b>
Chocolate cake mix	\$1.89/1lb Betty crocker box	1 pound	\$1.89
Carrot cake mix	\$1.89/1lb Betty crocker box	1 pound	\$1.89
Bouillon cubes	\$2.59/8pk	8 cubes	\$2.59
Assorted soup packets	\$1.79/4-6oz bags	20 packets	\$8.95
Dried vegetables	\$12.76/pound	1 pounds	\$12.76
<b>Soups, bases, desserts total</b>			\$28.08

<b>Milk, butter, cocoa</b>	<b>Cost per unit</b>	<b>Amount</b>	<b>Total</b>
Powdered milk	\$16/64oz	4 pounds	\$16.00
Hot chocolate mix	\$5.39/60 ct box	60 packets	\$5.39
Butter	\$7.85/1 lb stick 4 pack	4 pounds	\$31.40
<b>Milk, butter, cocoa Total</b>			\$52.79

<b>Fresh Vegetables</b>	<b>Cost per unit</b>	<b>Amount</b>	<b>Total</b>
Onions	\$0.99/pound	2 pounds	\$1.98
Peppers	\$1.79 each	4 peppers	\$7.16
Carrots	\$0.79/pound	2 pounds	\$1.58
<b>Fresh Vegetables Total</b>			\$10.72

Total Food Cost	\$443.34
Total Fuel Cost	\$83.90
Total Cost	\$527.24

Cost per Person	\$175.75
Cost per Person per Day	\$14.65

Because we do not require large amounts of spices and they are relatively expensive, we plan to build our spice kit from spices we already have stocked in our respective kitchens. Our spice kit will include things such as cinnamon, curry powder, olive oil, salt, etc, stored in small nalgene screw-top bottles.

### Equipment List

Technical Gear (per person):

- Climbing harnesses
- ATC or equivalent belay device
- 6 wire gate carabiners
- 4 locking carabiners
- 2 double length runners and one quadruple length runner
- One Ice screw (22cm)
- Webbing (for chest harness, to secure pack straps, and anchors)
- Snow picket (with double length runner and carabiner attached)
- Cordellette (some for prussic cord, some for anchors, and some to attach duffel bags to sleds)
- Touring skis w/ touring bindings
- Climbing skins
- Ski crampons
- Beacon
- Shovel
- Probe
- Mountain axes
- Crampons
- Climbing helmet
- Ski poles (one touring pole and one black diamond whippet)
- AT ski boots
- Bivy Sac

Clothing:

- 2 polypro long underwear tops (one light weight, one heavy weight)

- down parkas
- fleece jacket
- waterproof jacket as a shell
- t-shirt
- 2 polypro long underwear bottoms (one light weight, one heavy weight)
- 2 pairs of boxers
- waterproof pants as a shell
- shorts
- warm hat
- balaclava
- 4 pairs of wool socks
- Polypro glove liners
- Heavy duty expedition gloves (with removable liners)
- Ski gloves with liners
- Down booties
- Sun hat

#### Camping:

- Zero Degree Sleeping Bag
- Sleeping Bag Liner (adds up to 15 degrees of warmth)
- 2 sleeping pads (inflatable type and closed cell foam pad)
- Sleeping bag compression sack
- Bowl/Mug/Spork
- 2 one-liter water bottles
- 2 water bottle parkas
- Pee bottle
- Toiletries: toothbrush, toothpaste, etc

#### Miscellaneous:

- Large welded duffels for expedition sleds (around 80 L capacity) (1 each)
- Expedition sleds
- Small daypacks for each objective
- Ski goggles

- Sunglasses
- Sunscreen
- Headlamp
- Chap stick
- Toilet Paper (roughly 1 roll per person)
- Camera
- Trash bags (lining backpack, sleeping bag stuff sack, trash, etc)
- WAG Bags
- Watch
- Hand Sanitizer
- 1 airhorn
- 2 cans of bear spray

#### Group Gear

- one climbing rope (9mm x 60m)
- v-threading tool
- 40 bamboo wands
- 1 MSR XGK
- 1 JetBoil
- Two planks of wood for stoves
- One mega mid
- 1 three person 4-season tent
- Lots of extra batteries (AAA and AA)
- 2 pots with lids
- 1 pot grips
- 1 big plastic spoon
- 4 pocket knives
- 6 lighters
- Maps
- 2 Compasses
- GPS
- Spot Device
- Repair kit (for details see attached)

- Medical Kit (for details see attached)

#### Repair Kit:

- Sewing kit
- Spare parts for bindings (general parts and screws)
- Tools for bindings
- Super Glue
- Extra tent pole
- Duct Tape
- Wire
- Stove repair Kit (Comes with MSR stoves)
- Leatherman
- Thermarest repair kit
- Ripstop nylon and polyester scraps to repair clothing and tents
- Extra ski pole baskets
- Epoxy
- Nylon Cord
- Hose clamps
- Extra Buckles

#### Contents of First-Aid Kit

#### General Supplies:

- Nitrile Gloves: 5 pairs
- 12 cc irrigation syringe: 1
- Trauma shears: 1
- Tweezers: 1
- Pencil: 1
- SOAP notes: 5
- Face Shield: 1
- Safety Pins: 6
- WFR Book: 1
- Ziplock bag: 4

- Emergency Blanket: 1

#### Drugs/Meds

- Ibuprofen: 60 pills
- Diphenhydramine: 20 pills
- Pepto Bismol: 15 pills
- Acetaminophen: 30 pills
- Tincture of Benzoin: 5 ampules
- Iodine towelettes: 10
- Triple antibiotic ointment: 1 tube

#### Wound Care/Bandaging

- Wet Prep Soap Sponges: 4
- Antiseptic towelettes: 25
- 3" conforming gauze roll: 4
- 3 x 3" sterile gauze pads: 5
- 2 x 3" non-adherent dressings: 3
- 3 x 4" sterile gauze pads: 5
- Trauma Pads: 4
- Transparent Dressing: 4
- Closure strips ("steri-strips"): 3 sets of 4+ strips
- Ace Elastic bandage: 1
- Triangular bandage: 5
- 2nd Skin 2 x 3 pad: 6
- Band-aids: 25
- Sterile Cotton Tipped Applicator: 10
- 1" tape roll: 1
- 1.5" Athletic tape roll: 1
- Moleskin 2 x 3: 6

#### Leave No Trace

All members are well versed in Leave No Trace principles and are committed to making the practice of LNT a central part of the trip.

#### Plan for Minimizing Impacts

- Plan Ahead and Prepare: This application constitutes a large portion of our planning and



preparation. Additionally, we will take steps such as re-packing our food to minimize packaging waste in the backcountry.

- Travel and Camp on Durable Surfaces: We will be spending the majority of our time traveling and camping on snow and glaciers, which will allow us to minimize our impact when traveling and camping. In the event we encounter watermelon snow, we will carefully avoid disturbing it.
- Dispose of Waste Properly: We will take extra care to pack out all bits of trash we generate, especially micro-trash. We will use WAG bags to dispose of human waste during the course of our trip due to the fact that we will be spending the entire time in the alpine
- Minimize Campfire Use and Impact: We will not be using campfires on this trip.
- Leave What You Find: We intend to take only pictures and memories from the Beartooths.
- Respect Wildlife: If we see any wildlife we will observe it from a distance. The area we are camping in does not require bear canisters, but since options for hanging food are limited, we will still carry bear canisters to store our food in.
- Be Considerate of Other Visitors: We acknowledge that our first base camp is in a well traveled area. Since we will be staying longer than the average Beartooth trip, we will be cognizant of our presence in camps. We will of course introduce ourselves and offer copious amounts of coffee if we meet other skiers, but will absolutely respect the fact that many skiers are coming to the Beartooths for the same reasons as us: to experience the wildness.

### Cultural Concerns

There are no significant cultural considerations in the Beartooths.

## IV. Risk Management

### Hazard Mitigation Plan

Although we all are very experienced wilderness travellers, we each bring a different skill set and area of mountain expertise to the table. To account for this, we plan on alternatively taking on more of a guide-style role in areas which we are more accomplished in and stepping back in environments where we are less experienced.

**Snow**: Given the time in which we will be visiting the Beartooths, our two main concerns, with regards to snow, will be wet slides when skiing and glacier travel.

In order to avoid triggering wet slides when skiing we will begin every day that incorporates a major objective with an alpine start. This will allow to approach and climb (if necessary) our objectives when the snow is more stable and has had less exposure to the sun and warming. It will also increase our chances of avoiding any loose rock that we may encounter. Alpine starts will also allow us to descend our objectives after it has softened to our liking and return to camp before dark and, ideally, before any weather systems have moved in. Every individual will also carry an actively transmitting beacon, shovel, and probe at all times during our trip, when we are away from camp.

Second, during the course of our trip, we will be crossing a few small glaciers. While we are spending very little time on glaciers, less than a total of 2 miles, and do not anticipate any major

crevasse or bergschrund issues, we will travel as a rope team across said glaciers. The leader and individual that will take up the rear will be decided after completing our glacier travel and crevasse rescue courses. This will allow us time to practice our skills and determine whom, specifically, our team would like to fill those positions. Every member will have both crampons and an ice axe. We will use our judgement as to whether to wear crampons or skis depending on snow conditions, but when travelling on glaciers, we will always have an ice axes out and ready to use.

**Weather and Exposure:** Weather in the Beartooths has the potential to be variable, and during the months of May and June, very wet. Based on U.S. Climate Data we anticipate temperatures to be between 20-50F. Although we would ideally be undertaking this trip during April, we must work around our academic schedules.

The two major weather-related concerns are lightning and hypothermia. We will minimize the danger from lightning by retreating off our objectives if we see a storm moving in and not climbing/skiing at all if we wake up to stormy weather. We will minimize the risk from hypothermia by carrying appropriate rain gear, and extra layers, up every objective we do and keeping appropriate self-care with a particular emphasis on remaining warm and dry. We will also make sure to wear sunglasses and apply sunscreen liberally everyday to avoid getting severe sunburn or snow blindness. The highest altitude we will be at is approximately 12,800 feet. All members of our team will be in Colorado for the semester, and will also be training at higher altitudes in an effort to prepare for the high altitudes we anticipate encountering. However, we will still remain cognizant of the possibility of altitude sickness and if one of us is affected, we will take appropriate medical actions to manage it. The best thing we can do to minimize the risk from most environmental hazards is to remain well fed, hydrated, and dry, all of which will improve our judgement and decision making. To this end, we will make sure to drink at least two liters of water a day, eat adequate amounts of food, and keep a dry camp to return to.

**Camping:** We will boil or treat any water before drinking or cooking with it to minimize the risk of getting sick. We will also be careful to set our camp away from any potential rock or icefall areas.

**Wildlife:** The Beartooths are home to both Black and Grizzly bears, and there are common sightings in the greater area. We will take usual precautions like making plenty of noise when traveling and will maintain a clean campsite with our kitchen located 100 yards downwind. We will also bring 1 airhorn in an attempt to scare off bears and 3 cans of bear spray in case we do encounter bears in close proximity.

## Evacuation Plan

Although we never plan on dealing with any injuries, and have taken steps to reduce the chance of any injury on the trip, the fact is that sometimes injuries, both large and small, happen outside of our control. In the event an injury occurs, our self-evacuation plan will be based on the severity and our assessment of the injury and scenario based on our WFR knowledge. Fischer, due to his more extensive medical experience as a WFR and practicing EMT, will function in the lead role for medical scenarios. Should Fischer be injured, Will and Andrew have necessary skills to effectively deal with that scenario.

If an injury is minor, such as cuts, abrasions, or blisters, we will use our WFR knowledge to treat the injury and do our best to stay in the field. If an injury is more major and requires an evacuation we will follow similar procedures as laid out in the Colorado College Ahlberg Leadership Institute handbook. In the event of a non-life threatening injury that requires medical assistance beyond what we are able to provide, such as a broken bone, but where the patient can still walk, we will assess and treat the injury as best we can, and carefully walk ourselves out of the backcountry. We will be carrying SPOT Gen3 beacons which include a custom message function. We will use this function to alert family and friends that we are performing a self-evacuation, but do not currently require outside assistance.

Due to the topography of the Beartooth Range, the easiest evacuation route will be back down the Goose Lake drainage, which will take us back to Cooke City. Once in town or within cell

phone range we will contact emergency medical care to pick up the injured individual. Depending on the specific injury we have the option of also driving the injured individual to the nearest major hospital, Beartooths Billings Clinic in Red Lodge, Montana, an hour and fifteen minute drive from the town of Cooke City (note: that Beartooth pass is not currently open, but will be open during the course of our trip).

If an injury is more serious and poses a potential threat to life or limb if untreated, or if the patient cannot walk on their own, we will activate the SOS function on our SPOT beacon. However, in the unfortunate circumstance that Search and Rescue is unable to rescue us due to volatile weather, we will make our own evacuation effort. In the case that only one individual is injured, one member of our team will remain with the injured individual while the remaining individual returns to our camp to retrieve a sled and other necessary rescue gear that we may not have with us. We will then make an effort to carry the injured member of our team out on the expedition sled. If we are located in an area where we are incapable of doing so, we will take steps to stay warm and dry until Search and Rescue is able to reach us. This may involve such steps as building a snow cave to stay warm and/or having one individual return to camp for necessary supplies. In the case that two members of our party are severely injured, similar steps will be taken by the single healthy individual. However, the healthy member of the team will remain with the two injured individuals in order to monitor vitals and ensure they remain awake and oriented. The healthy member will only leave the injured individuals in the case of possible loss to life or limb.

### **Special Preparedness**

N/A

### **Emergency Resources**

Beartooth Ranger District

HC 49 BOX 3420

RED LODGE, MT 59068

Phone: 406-446-2103

Shoshone National Forest

808 MEADOW LANE

CODY, WY 82414

Phone: 307-527-6241

Park County Sheriff

Cody: (307) 527-8700

Powell: (307) 754-8700

Beartooth Billings Clinic

2525 North Broadway Avenue,

Red Lodge, MT 59068

(406) 446-2345

Mountain Rescue Services are available in the area, but prefer to be contacted via 911

### **Emergency Communication**

SPOT devices: <https://www.lowergear.com/product.php?id=261> We will rent 2 for \$79 a piece with a subscription included.

## V. Budget

### BUDGET

Transportation	\$320
Food & Fuel	Fuel: \$83.90 Food: \$443.34
Maps and Books	None!
Communication Device Rental	2 SPOT beacons at \$79 each, total: \$158
Permits & Fees	1 night at Colter Campground, \$8/night
Gear Rentals	\$30 for Megamid+\$29.90 for Aquamira+\$102.00 for Wag Bags+\$270 for Bear Canisters = Total=\$431.9
Bear Protection	164.85 (\$54.95/canister) for Bear Spray + \$12.99 Air Horn = Total = \$177.84
Total Requested	\$1622.98
Request per Person	\$540.99

#### Transportation

320

#### Food and Fuel

527.24

#### Maps and Books

0

#### Communication Device Rental

158

#### Permits/Fees

8

#### Gear Rentals

431.90

#### Total Funding Request

1622.98

#### Cost Minimization Measures

We are all driving from Colorado Springs, rather than flying to Seattle. As we write our grant in

December, round trip plane tickets from Colorado Springs to Seattle are \$376 per person, approximately the same amount we have budgeted for gas for the round trip for all of us. This saves us nearly \$1,400. Additionally, while driving, we will camp on National Forest land at night saving us campsite fees. The one exception is on the way to the Beartooth Range, we will stay at the Colter Campground just east of Cooke City. At \$8 per night per party, this the cheapest option around.

All food will be bought in bulk at Costco and Mountain Mamas to minimize our food costs. Maps, topos and route descriptions will all be printed using the CC GIS lab. We already own nearly all of the technical and camping gear we need with the exception of a Megamid which we intend to rent from the Ahlberg Gear House at \$10 per week for three weeks. We do need to rent SPOT devices, but are renting from the least expensive company we can find at \$79 per device, subscription included, for 21 days. Bear canisters will be rented as well from the website with the lowest prices we were able to find. For further bear protection, we will have to buy three bear spray canisters and an air horn for long range protection as we are unable to rent these items.



