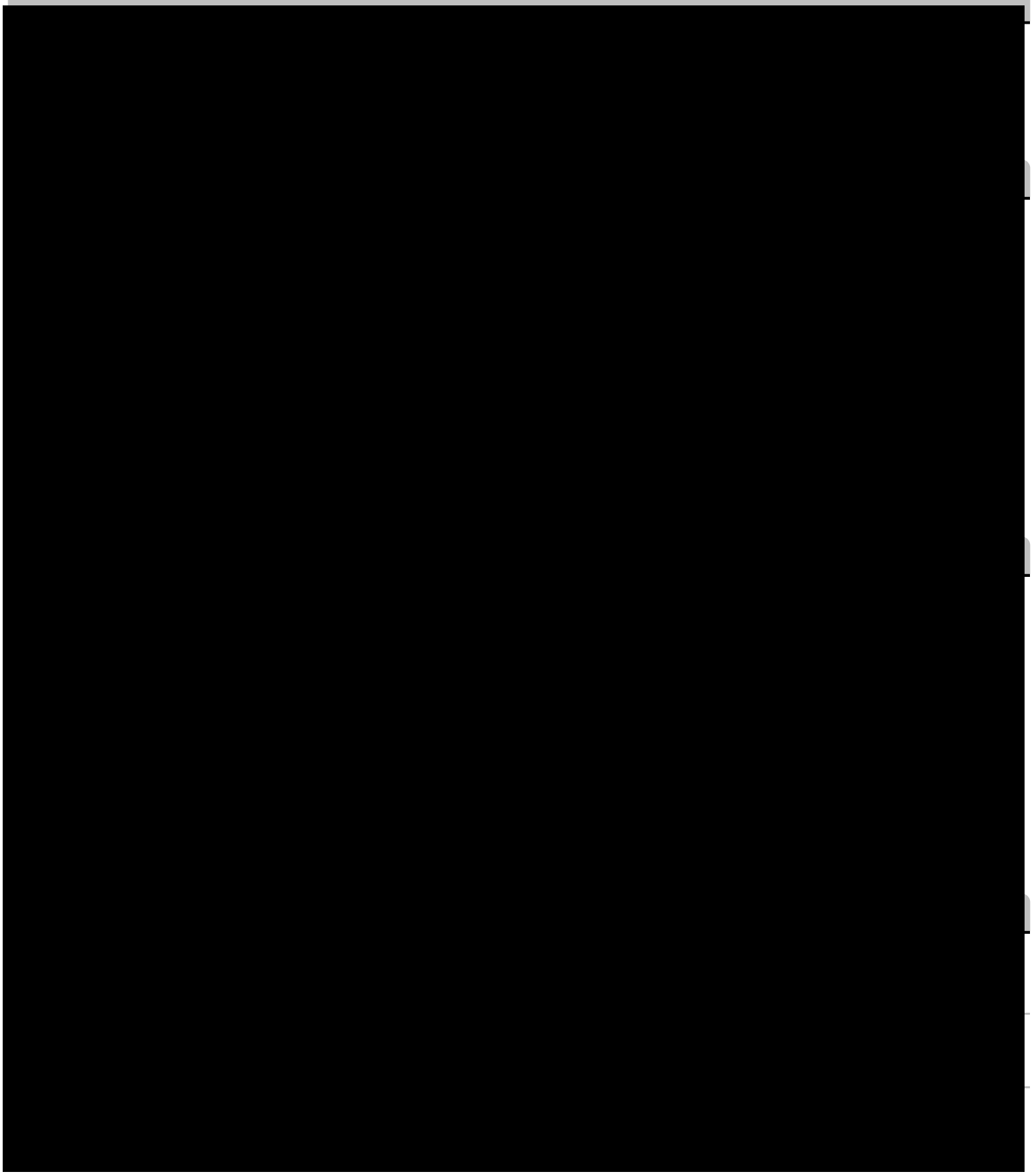
Ritt Kellogg Memorial Fund

Registration

Registration No. FFTT-BV8HT
Submitted Jan 11, 2017 2:53pm by Nina Riggio

Registration

Aug 29, 2016- Aug 27, 2017	Ritt Kellogg Memorial Fund **RKMF Expedition Grant** 2016-2017// Group Application This is the group application for a RKMF Expedition Grant. In this application you will be asked to provide important details concerning your expedition.	**Waiting for Approval**
Aug 29, 2016- Aug 27, 2017	Ritt Kellogg Memorial Fund **RKMF Expedition Grant** RKMF Expedition Grant (2016-1017//INDIVIDUAL) This is the individual application for a RKMF Expedition Grant. Each participant must fill this application out on their own. In this application you will be asked to provide important details concerning your experience and eligibility for your proposed expedition.	**Waiting for Approval**
Aug 29, 2016- Aug 27, 2017	Ritt Kellogg Memorial Fund **RKMF Educational Grant** 2016/2017 Ritt Kellogg Educational Grants are for current CC students wishing to gain training to better prepare them for a Ritt Kellogg Expedition Grant.	**Waiting for Approval**



I. Grant Summary

a. Expedition name:

Popeye's Revenge

b. What is the primary activity (or activities) of your expedition (i.e. rock climbing, packrafting and hiking, etc.)?

Rock climbing, sailing, hiking

c. Briefly describe the objective(s) of your expedition:

The objective of this trip is to use a sailboat to access Khartoum Lake and Princess Louisa Inlet. Khartoum Lake is difficult to access without a sailboat and Princess Louisa Inlet is exclusively accessible by sailboat. By traveling to these two locations, we plan to expand our sailing, climbing, and off-trail travel experience while remaining respectful to the environment by following LNT practices. By incorporating these different wilderness activities, we expect the trip to be more holistically beneficial than a trip that focuses exclusively on one activity. Above all, we would like to focus on exploring these areas as safely and efficiently as possible while using self supported sailing modes as our means of transportation.

The main objective of our expedition is to climb and sail to the traditional and alpine multi-pitch routes of Khartoum and Princess Louisa and a little bit of granite warming up at Malamute wall. We would like to expand our climbing experience, work as a self-reliant teams, and to remain respectful to our environment through LNT tactics. Above all, we would like to focus on exploring these areas as safely and efficiently as possible while using self supported sailing modes as our means of transportation.

d. Describe the location of the expedition:

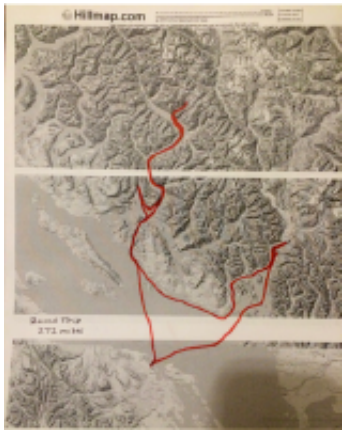
Sunshine Coast of British Columbia, Canada:

Howe Sound, Malamute Wall: Wall near The Chief in the Squamish sounds

Khartoum Lake: Located in the upper "Lois Valley" up Powell River, just past Khartoum Lake

Princess Louisa: Princess Louisa Inlet on the British Columbia Coast is 6 kilometres (3.7 mi) in length and lies at the north east end of Jervis Inlet. It is entered through Malibu Rapids off Queens Reach past Malibu. A portion of the area makes up Princess Louisa Marine Provincial Park.

Attach an area overview map.



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e. Expedition dates:

August 11-28

f. Number of days in the backcountry:

15 full days

g. Describe the wilderness character of your expedition (100 words or less):

Wilderness is “an area… where man himself is a visitor who does not remain.” While we will not be travelling through federally designated wilderness areas during our expedition, we will be entirely removed from civilization. The locations we plan to access are predominantly accessible by sailboat. This means that there is little to no infrastructure besides basic docks and logging roads. Furthermore, these locations are few and far between on the Sunshine Coast, with the vast majority of coastline being to rugged or inaccessible for development. Since our trip almost exclusively travels through these areas, the only other visitors we expect to see are other sailors enjoying the pristine nature of the British Columbia coastline. While the forests are not “protected and managed so as to preserve [their] natural conditions,” they do “have outstanding opportunities for solitude or a primitive and unconfined type of recreation.” (Wilderness Act, section 2c) given how infrequently they are traveled and that the areas we plan to climb in and use to access that climbing are not currently being logged.

h. Funding request, per person, in $USD:

$957.96

II. Participant Qualifications

a. Participants' Graduation Date

Erin Burk May 2017
Nate Mankovitch May 2017
Michael Hasson May 2019
Nina Riggio May 2017

b. Medical Certifications

Nina Riggio WFR exp 2017, Jan 20-22, 2017
Location: Slocum Hall
Provider: CC Outdoor Ed and NOLS WMI

Wilderness First Responder Recertification 2017
Sponsored by Hinsdale County EMS and the NOLS Wilderness Medicine Institute PROVIDER: Hinsdale County Emergency Medical Providers DATES: January 27-29, 2016

Location: Lake City, Colorado

Erin Burk: Recert: Jan 20-22, 2017
Location: Slocum Hall
Provider: CC Outdoor Ed and NOLS WMI

Nate Mankovitch:
NOLS WFR course winter 2012
Location: Coyhaique, Chile
December 8-18

WFR re-cert 2017
March 4 and 5: Golden, CO

Michael Hasson: WFR exp March 2018 sponsored by NOLS WMI
Re-certification dates: March 12-13, 2016

Instructor: Daniel DeKay
Location: Sausalito, CA

c. Additional Certifications

Nina Riggio:
WFR re-cert
AMGA SPI instructor course Jan2016
ASA 101 sailing course

Erin Burk:
WFR re-cert:
AMGA SPI Instructor course Jan2014
ASA 101 sailing course

Nate Mankovitch:
WFR recert:
ASA 101 sailing course

Michael Hasson:
US Sailing Level 1 Instructor, June 2012

d. Training Plan

Background: Before leaving our team plans to make time for some sailing and sailing classes.

As for climbing, the four of us have extensive climbing backgrounds.

Nate, Erin, and Nina have done some multi-pitches together, as a rope team, cragging, or just following. Michael and Nina went on a two week climbing trip to Joshua Tree and Red Rocks over winter break, and Michael and Nate have done some long multi-pitch trad routes

Plan:

-Erin and Nina are all taking WFR recert in January, Nate will take his recert in March

-Erin, Nate, and Nina are planning on taking ASA 101 sailing course in Denver in March

-Erin and Nina plan on going on a sailing trip during Spring break to practice with more experienced sailors over a longer period of time aboard.

- We will create a climbing/training schedule, consisting of indoor climbing at least 3 days (1 day of endurance) per week and outdoor climbing 1 day/week while weather permits.

-To keep up our endurance we plan on running at least two times a week.

-We will spend at least one block break in either Red Rocks, Nevada or Indian Creek, Utah or Joshua Tree, CA to keep up our training in trad climbing.

-We will spend at least one or two weekends in Eldorado Canyon and have Nate and his father show us the goodies.

-We plan to climb several longer routes in the South Platte in April or May in our respective teams, We hope that these longer days will help with practicing general team efficiency, communication, and dynamics during outdoor excursions.

Route options include: Wunsch’s Dihedral, Cynical Pinnacle (5.11d, 4p)

Center Route, Cynical Pinnacle (5.9+, 3p)

Throne Room, The Castle, Buffalo Creek (5.10, 3p)

-Most importantly, we plan on practicing our rescue skills/multi-pitch skills in the Ritt Kellogg climbing gym with Ryan Hammes and some other Future Ritt Trippers (Joe, Carson, Jack, Jamie)

III. Expedition Plan

a. Land Management

No permits are needed for the area.

b. LNT Principles

Yes

Empty

Plan Ahead and Prepare:

The first principle of LNT is Plan Ahead and Prepare. We have researched our grant area extensively so as to follow this expectation.

Dispose of Waste Properly: We will be using the toilet on the boat. To help preserve the natural values of the inlets we will not discharge sewage at docks or in anchorages, but keep sewage contained in holding tanks while at anchor.

We also plan to pack out all of our trash. When we are on land we will dig a cat hole 6-8” deep, at least 200 feet from camp and water sources.

Minimize Campfire Impact: A fire will be created only if necessary due to safety concerns. We will avoid making fires just “for fun”. If we have to make a fire we will dig a campfire ring, put out the fire completely and re-fill the ring. We will store our food properly and cook well away from our campsite when we are sleeping in tents. When we are sailing we will avoid disturbing wildlife on the shores. We will travel quietly and respectfully.

Travel and Camp on Durable Surfaces: We will choose to hike and camp on rocks whenever possible. We will adjust how we camp and travel depending on the nature of our environment. We will try to stay on durable surfaces so our passage will leave no impact. When this is not possible, we will disperse our hiking on untraveled areas so as not to create trails, but stay to trails when we find them already in place. If we find evidence of a previous camp we will try to disguise it and we will camp somewhere else. In this way we can insure that campsites will not be evident to future users.

Climbing

LNT principles also apply to climbing ethics. We feel it is important to minimize impact on the routes we climb so that they remain in good condition for other parties. We will adhere to alpine style ethics by being “light” in both style and impact. This means respecting routes by leaving little to no fixed gear, fixed ropes, or any other trash. When we find fixed gear on routes that doesn’t belong there, we will remove it and pack it out. That said, for our safety we may back up sketchy rappels with our own gear. Furthermore, we believe in clean climbing. We will not be bringing a bolt kit, hammer, or pitons. We want to leave no trace of our passage on and off the rock.With safety as a primary concern, we will only leave gear on the climb when absolutely necessary. If we have to poop on the wall we will use wag bags.

c. Cultural Considerations

No

Empty

Princess Louisa park was created in June 24, 1965, but historically it is the land of the Sechelt Nation. Princess Louisa

Inlet, referred to as Suivoolot or “sunny and warm” by natives, served as an active part of native lore for such groups as the Sechelt Nation. the Sechelt First Nations people have struggled in recent centuries, facing a depleting population, loss of land and endangered traditions. In the Jervis Inlet, logging corporations have recognized the richness of their forest and capitalized on the environment to which they had traditionally sustained themselves. Still, the Sechelt First Nation is taking strides to strengthen their area presence and preserve their language and traditions.

The Louisa International Society, a canadian nonprofit handles relations between the park and the Sechelt people. We will not be coming across any known Sechelt people in our time in the Jervis Inlet, but knowledge of the cultures and people that exist within the area we think is very important.

Powell River was traditionally the land of the Tla’amin people. The community resides just north of the city of Powell River in British Columbia, along Highway 101. The Tla’amin people is one of the many indigenous Coast Salish tribes inhabiting the Pacific Northwest Coast. Traditional territory spanned along the northern part of B.C.’s Sunshine Coast, extending down both sides of the Straight of Georgia, occupying an area over 400 square kilometers in size. But now most community members live in or around the town of Sliammon so we will not have any contact, but again, we feel it is important to understand the cultural connections the places we travel to have.

d. Re-Ration Plans

No

No re-ration will be necessary since we will be able to store all necessary food on the sailboat.

e. Expedition Itinerary

Daily itinerary.RittRatt.docx (5.3MB)
Uploaded Jan 11, 2017 1:28pm by Nina Riggio

Appendix A

f. Equipment List

Gear list.docx (62KB)
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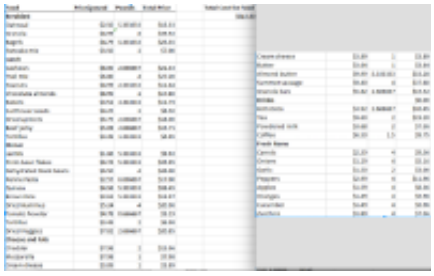
Appendix B

g. Food List



Appendix C

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Food Storage

When we are camping out of the sailboat we will store our food and trash in bear cans. We will cook and store food at least 200 feet away from where we are sleeping. When there are good trees for hanging we will utilize the ability to hang the bear bags/cans.

IV. Risk Management

a. Travel

We will drive carefully to and from Vancouver.

b. Objective Hazards

Sailing:

Man overboard: To mitigate this risk, all members of the expedition will be wearing life jackets at all times when traveling on the water. We will also have safety lines (jacklines) rigged along the length of the boat so that, if we have to go forward, we will be tethered to the boat and reduce the risk of falling overboard. Finally, all members will have practiced driving the boat through man overboard procedures so that if any member of the expedition happens to go overboard, any other member will know how to retrieve them.

Inclement weather: Though our trip will be in summer when weather is typically best, bad weather is always a possibility and is our biggest concern for the sailing portion of this trip. In order to mitigate risks posed by bad weather, we will take several precautions. First, we will all be wearing life jackets while sailing so that if weather comes up quickly we will not have to find them. Second, we will have sheltered stops planned for each sailing leg of the trip so that if we are forced to stop we will know where should be safe. Thirdly, in order to remain safe while sailing to one of these sheltered spots, we will have jacklines and tethers running the length of the boat so that, if we need to walk forward to take down sails, we will be tethered and reduce the risk of a man overboard. In case there happens to be a man overboard situation, we will have practiced man overboard drills in high winds prior to the trip, using a floating buoy to imitate a victim. Finally, all of our belongings will be secured so that there will be nothing to stop us moving freely.

Many sailboat charter companies suggest the trip up Jervis Inlet to Princess Louisa Inlet since it is usually calm waters, medium winds and small waves. Getting to Princess Louisa Inlet involves navigating the Malibu Rapids at the head of the inlet. This is a narrow, rocky section that can have extremely fast currents of up to 16 knots. In order to navigate this safely, we will obtain local knowledge and plan to travel through at slack tide (when little to no water is moving through the rapid) on both the way in and the way out. This will likely be the most significant navigational obstacle of the entire trip and we will plan to be extremely cautious when approaching it.

Fog is another significant navigational hazard that we are prepared to deal with. If fog is approaching or if fog is present on a day of planned travel, we are prepared to modify our itinerary in order to avoid traveling with decreased visibility. The majority of our travel will occur close to shorelines where, if fog rolls in, we will use navigational charts to travel safely to the nearest anchorage spot.

Jervis Inlet weather conditions from Environment and Climate Change Center of Canada:

- When a ridge of high pressure builds over the Interior of the province, outflow winds blow out of Bute, Jervis, and Toba inlets and through Howe Sound. These winds can be very strong but usually end a short distance from the opening of the inlets. The wind patterns that occur in the main part of the Strait as the result of an outflow event follow a predictable cycle: a ridge builds over the northern part of the Interior and then slowly extends farther south. Parts of the cycle are sometimes compressed or skipped altogether.
- Post-storm front winds: Strong southwest winds often develop just after the skies break, following the passage of the front. Very rapid pressure rises at locations on the west side of Vancouver Island--such as Tofino and Amphitrite Point--could provide very short advance warning of the onset of these winds.
- The most dangerous conditions for mariners are often due not only to strong winds but also to the rough seas created by these winds and the ways they are affected by opposing tidal currents. With strong southeast winds and opposing tides, conditions near Cape Mudge and at the south end of Texada Island, near Sabine Channel, can be extremely challenging. The seas off Jervis Inlet can reach 1.5 m when southeast winds blow against an ebb tide and as much as 2.5 m when strong outflow winds oppose a flood tide.

- “A change in visibility is often a forerunner of northwest winds: when things stand up like a mirage, northwest winds are soon approaching.”
- “Westerlies are kind of predictable – more sun, more wind.”

A list of sheltered anchorages from Nanaimo to Princess Louisa Inlet can be found here:
http://threesheetsnw.com/blog/2015/06/first-timers-guide-to-princess-louisa-inlet/

Crossings and cliffed out: Since we have given ourselves enough weather days to allow us to make conservative decisions when it comes to sailing in inclement weather, as previously stated the areas of most objective hazard will be areas where we cannot land given quickly worsening weather. Such areas include crossings and sections of the shoreline too cliffed to allow a landing. This will be of most concern the last leg of our journey. We will only travel on such days under the best of weather conditions. The amount of rest days we have given ourselves allows for enough time to wait out poor conditions, rely only on responsible decision-making and still stay on schedule.

Mechanical issues: Michael has several years of experience performing basic boat maintenance and repair including everything from winch repair to sail repair. If anything major arises, he also has a membership to BoatUS, an organization that provides on-the-water assistance and towing and is valid in Canada, which we will call if needed. We will have an InReach device and VHF radio so if anything happens we will have access to local mechanics.

General emergencies:
While we do not anticipate any serious emergency, we will all be familiar with pan-pan and mayday calls on the radio so that if any member is incapacitated for any reason all other members will know how to call for help on the VHF radio.

We will also be carrying an Waterproof and floating Personal locator (an InReach in a waterproof and floating case). We will perform the test function (which alerts a few people on a mailing list we are OK, and confirms the ability to show our position if the emergency button is pushed) a few scheduled times during the course of the trip. If everything goes wrong and prevents us from self rescuing the InReach has an “Emergency” button that sends our location out to the closest relevant search and rescue (British Columbia coast guard.)

Hiking/approach:

As with the sailing portion of the trip, bad weather is a concern even though the trip is planned for the most optimal time of year for the area. Generally we will be below tree line in case of lightning. We will all keep layers in waterproofed compartments within our packs to reduce the risk of hypothermia. All members have extensive hiking and approach backgrounds. Michael, Nina, and Nate all have thru-hiking experience and Erin has done a lot of hiking around the Alaskan bush with no trails. While all this experience prepares us for what is ahead we know that with any outdoor experience risks are to be mitigated. We plan on taking great care of each other and checking and rechecking to prevent any issues.

Climbing:

Rock fall: In order to reduce the risk of injury from rock fall, all team members will wear helmets at all times when climbing and belaying, and they will all use an auto locking belay device so that if the belayer is knocked unconscious from rock fall the climber will still be protected. In the event that rock fall injures a team member, all team members will have gone through basic rock rescue techniques with Ryan Hammes, in order to handle the situation as efficiently as possible. Also, in order to protect ourselves while rappelling we will back up our rappels using a friction hitch so that if

we lose consciousness for any reason we will not fall. Erin and Nina both have taken the Single Pitch Instructor courses and are well versed in risks and mitigations.

Technical climbing: In order to reduce risk of injury while climbing, all party members will be experienced with placing traditional climbing protections (cams, nuts, etc.). Each party member will also be wearing a UIAA-certified harness and helmet and be properly tied into a UIAA-certified rope with a figure-eight follow through knot. Each member will have his own auto-locking belay device so that if the belayer becomes unconscious for any reason the climber will still be protected. Furthermore, we will use our experience to judge whether the 4th class sections of routes and approaches require the use of ropes and climb them accordingly. And above all else we will always watch out for each other, mitigating risks one step at a time

See list of hazards

c. Subjective Hazards

Nina and Erin have extensive experience climbing together--they completed a Ritt trip last year to the Cirque of the Towers, and have done many other routes together such as Jah Man in Castle Valley, Yellow Spur in Eldorado Canyon, and longer routes in the South Platte. Michael and Nate have spent a number of weekend days climbing together, and have climbed one larger objective as a team: Wunsch's Dihedral on Cynical Pinnacle. Nina and Michael just spent winter break climbing together in Red Rocks and Joshua Tree. All four climbers have spent numerous days together at Thunder Ridge, Turkey Rocks, and Indian Creek. However, as a team of four, we have never taken an extended climbing trip together. We will have to learn how to work as a team both on the boat and on the wall.

Some challenges we know we will face is learning how to live in close quarters and stay organized on a small sailboat, different levels of sailing knowledge, and bad conditions for sailing and climbing.

To prevent any problems once we have left the dock, we will spend as much time as we need organizing the boat before we set sail. We will make sure we all know where to find the climbing gear, camping gear, and food. Another challenge we might encounter could be in navigating the sailboat. Michael has lots of experience navigating larger boats. Nina taught sailing after graduating from high school and has been on many long sailing trips with her family off the eastern coasts and even in the British Virgin Islands. Nate and Erin only have basic knowledge on how to navigate smaller boats. As a team, we have agreed to let Michael be the boss when it comes to sailing. Nina, Nate and Erin will be capable enough to engage in sailing commands and responses and help with the basics such as anchoring, docking, tying knots, bearing away, rigging, and obeying rules of the road.

When it comes to climbing, Nina and Erin will always be a team, and Nate and Michael will always be a team (except in cragging situations). Because we will all be climbing the same routes in Khartoum and Eldred Valley, we will have to consider how we might handle a situation in which one team feels the need to bail. We will need to coordinate how many ropes we bring and which team goes first.

We will make weather calls for climbing and sailing the night before using the InReach device and the radio. This will be a group decision every night and every morning. Making sure that everyone is comfortable with the decisions made it will have to be unanimous.

In regards to health concerns, we feel that all team members are exceptionally healthy and fit enough to complete long days hiking and climbing. Michael does have a peanut allergy, but he will carry epi-pens and benadryl in case of an allergic reaction. Nina, Nate, and Erin will be alert and ready to respond to in case Michael begins to show signs of an allergic reaction.

See list of hazards.

d. Emergency Preparedness

If we have an emergency in the first four days we will travel to Squamish or Vancouver. There are a few towns along the coast as we travel from Howe Sound to the Jervis Inlet. So if we have an emergency that does not require a hospital visit we can use these towns as evacuation points. If we need to visit a hospital then we will go to Sechelt. Once we are in the Jervis Inlet, there are still a few small towns in the inlet that do not have hospitals. So if we have an emergency and need to self-evacuate we will sail to the nearest town (i.e. Egmont or Malibu). If we are unable to sail anywhere then we will contact the Royal Canadian Marine Search and Rescue using the VHF radio or use the InReach device.
If an emergency occurs when we are traveling on foot to and from Khartoum and Eldred we will evaluate the severity of the emergency and decide whether we can make it back to the sailboat or not. If we cannot, we will use the InReach device to call for search and rescue. It may take search and rescue more than a day to arrive so if it is a medical emergency we will need to rely on our WFR skills to keep the patient stable.

In terms of skill sets, all members have basic rock rescue knowledge from past expeditions. We will continue to hone these skills as mentioned in the training plan section of the application. Additionally, all members will have knowledge of how to operate the sailboat so that if any team member becomes incapacitated for any reason, any other team member will be able to safely maneuver the boat to a town where we can receive definitive help. This will be achieved by having Nate, Nina and Erin take ASA 101 courses that will teach basics of sailing and sailboat mechanics.

e. Emergency Resources

Personal Locator Beacon (inReach)

-Hospitals

-Squamish General Hospital

38140 Behrner Drive

Squamish, B.B. V8B 0J3

604.892.5211

-Sechelt Hospital

5544 Sunshine Coast Hwy

Sechelt, BC V0N 3A0

604.885.2224

-Royal Canadian Marine Search and Rescue

778.352.1780

http://rcmsar.com/

We will communicate with the Hospital and the RCMSAR via personal locator beacon or cell phone depending on whether we have service.

Sailboat related emergencies (out of gas, mechanical problems, etc.):
BoatUS:
24/7 towing service available in Canada
Hailed using "TowBoatUS" on VHF Channel 16
or calling: 1-800-391-4869

Closest BoatUS Company to:
Nanaimo and Malamute Wall: TowBoatUS Strait of Georgia - 250-247-8934

Princess Louisa Inlet and Khartoum Lake:
Egmont Marina - 604-883-2298

V. Budget

Budget

Budget.docx (109KB)
Uploaded Jan 11, 2017 1:52pm by Nina Riggio

Appendix D

Transportation

2506.33

Food and Fuel

1240.09

Maps and Books

0

Communication Device Rental

0

Permits/Fees

84.65

Gear Rentals

0

Total Funding Request

$3,831.94

Cost Minimization Measures

We acknowledge that this trip is very costly. However, we see the skill set of our group as being ideal to expand the range of trips that receive Ritt Kellogg Memorial Fund grants. This type of trip has never been attempted before and would combine two activities in an extended wilderness format that would be very difficult to achieve without the sailboat that accounts for the vast majority of the trip's proposed budget. So we have tried to mitigate costs in many forms.

First, we have proposed to charter the smallest and least expensive sailboat in the Sunshine Coast area or Seattle. While chartering a sailboat may seem extravagant, we propose to use the most utilitarian boat possible as its purpose is to be a tool that lets us access otherwise inaccessible locations.

Michael and Erin are going to drive up from California so to mitigate costs we plan to grocery shop in the US at a large bulk food store instead of shopping at small stores in Canada. They also plan to fill two ten-gallon containers with diesel in the US before crossing the border. The use of ferries is highly subsidized by the Canadian government and therefore relatively inexpensive in comparison to driving or using a more expensive charter rental business.

We have also chosen to buy 1 fishing pass instead of four, and only a 5 day pass instead of a annual which would

cost $166.00. We are choosing to fish on this trip not for pure entertainment but as a way to supplement our diet, thus having only one of us buy the permit and fish for the group, we should maximize the cost versus benefits of this plan.

Since the boat would only come with one anchor, Michael will bring the anchor and anchor chain from his family's boat so that we do not have to buy or rent another one. This anchor is sized for a 35'+ boat rather than the 27' boat that we are proposing to charter.

VI. Expedition Agreement

Expedition Agreement

exp agreement .PDF (2.1MB)
Uploaded Jan 11, 2017 10:18am by Nina Riggio

Appendix E

Appendix A- Expedition Itinerary

Daily itinerary (including maps, elevations, route topos, tide charts, ect)

Day 1: August 11

Michael will drive to Seattle from San Francisco, picking up Erin in Berkeley along the way. Nina will drive from Denver to meet in Seattle on August 11. We will all stay with Erin's uncle in Seattle for the night. We will do all of our grocery shopping here to save money.

Distance from San Francisco: 808 miles, 14 hours.

From Montana:

Day 2: August 12

We will drive from Seattle to Vancouver, where we will meet Nate in Vancouver (he will be in Canada for the summer). We will all drive to Nanaimo together to pick up the Catalina 27 boat from Nanaimo Yacht Charters. We will sleep at the dock on the boat.

Distance: 194 miles, 5 hours.

Day 3: August 13

We will sail from Nanaimo to Malamute near Squamish (see Map 2). We will sleep aboard the sailboat, anchored near the coast.

Distance: 51.77 miles (~10 hours).

For this stretch, we will be sure to check radio channel 3 to make sure that the Whiskey-Golf military area is available for passage and if it is not, we will adjust our route accordingly. If a typical northeast wind is present, we will sail to the east of the closed area to make the crossing from Nanaimo to Seal Cove.

Day 4: August 14

We will move from Nanaimo to crag to crag at Malamute, located across Desolation Sound (See Map 2). There are a wide variety of routes on the Malamute ranging from 1-3 pitches (See Topo 2). We will sleep aboard the sailboat, anchored near the coast.

Distance: 5.23 miles (~1 hour).

Day 5: August 15

We will spend another day at Malamute learning the rock. We will then sleep aboard the boat and prepare for a very early departure on day 6 so as to make as much progress as possible on the trip to our anchorage in Jervis Inlet. This way we will be able to be fully organized before starting the hike into Khartoum.

Day 6: August 16

We will sail out of the Howe Sound and head north along the Sunshine Coast of BC, headed for Khartoum (See Map 3). We will sleep aboard the sailboat, anchored near the coast, on the way to Khartoum.

Distance: 50-60 miles (~10-12 hours).

Day 7: August 17

We will complete our sail to Khartoum and anchor the boat on the coast of the Jervis inlet, adjacent to the climbing area (See Map 3). We will hike off-trail using a map and compass to navigate (See Map 4). We will set up base camp and sleep below the cliff.

Distance (sailing): 24-34 miles (~4.5-6.5 hours)

Distance (hiking): 2.99 miles, 1867 ft. gained.

Day 8: August 18

We will split into two teams of two (Nate & Michael, Erin & Nina). We will all climb Star Wars (5.10+, 9 pitches). The route is not sustained--the only 5.10+ part is a short, bolted section on the second pitch. There are 3 other pitches rated 5.10a, and the rest are 5.9 or below. This will be well within the abilities of Michael and Nate, and a welcomed

challenge for Erin and Nina. Pitches 1-4 and 8 have bolted belays, so bailing low on the wall will be easy if need be. To descend, we will rappel the route. We will bring extra webbing, quick links, and stoppers to build anchors where there are no bolts. We will sleep at base camp below the cliff (See Topo 3).

Day 9: August 19

We will take down our base camp and hike back to the sailboat (See Map 4). We will sleep aboard the sailboat, anchored near the coast.
Distance: 2.99 miles, 1867 ft. lost.

Day 10: August 20

We will continue sailing into the Jervis Inlet, until we reach Princess Lousia Inlet (See Map 5). There is a small dock at the end of the inlet in Princess Louisa Provincial Park. We will dock the boat and sleep aboard.
Distance: 46.63 miles, (~9 hours)

Day 11: August 21

We will spend the day hiking around Princess Louisa Provincial Park, enjoying the scenic views of the granite walls and Chatterbox waterfall. We will set up camp near the dock and sleep on the land.
Distance: ~4-6 miles, day hike

Day 12: August 22

We will spend one more day exploring the Princess Louisa Provincial Park, and one more night at our camp near the dock.
Distance: ~4-6 miles, day hike

Day 13: August 23

We will begin sailing back toward Nanaimo (See Map 6). We expect to make it to the end of the Jervis outlet, where we will anchor near the coast and sleep aboard the boat.
Distance: 40-50 miles (~8-10 hours).

Day 14: August 24

We will finish sailing back to Nanaimo (See Map 6), but will anchor and sleep near the coast one last night before we return the boat (See Map 7).
Distance: 35-45 miles (~7-9 hours).

Day 15-16: August 25-26

We have given ourselves two extra days in case the weather turns and we are not able to sail. If we have good weather, we will stay and hike around Princess Louisa or take our time sailing back to Nanaimo.

Day 17: August 27

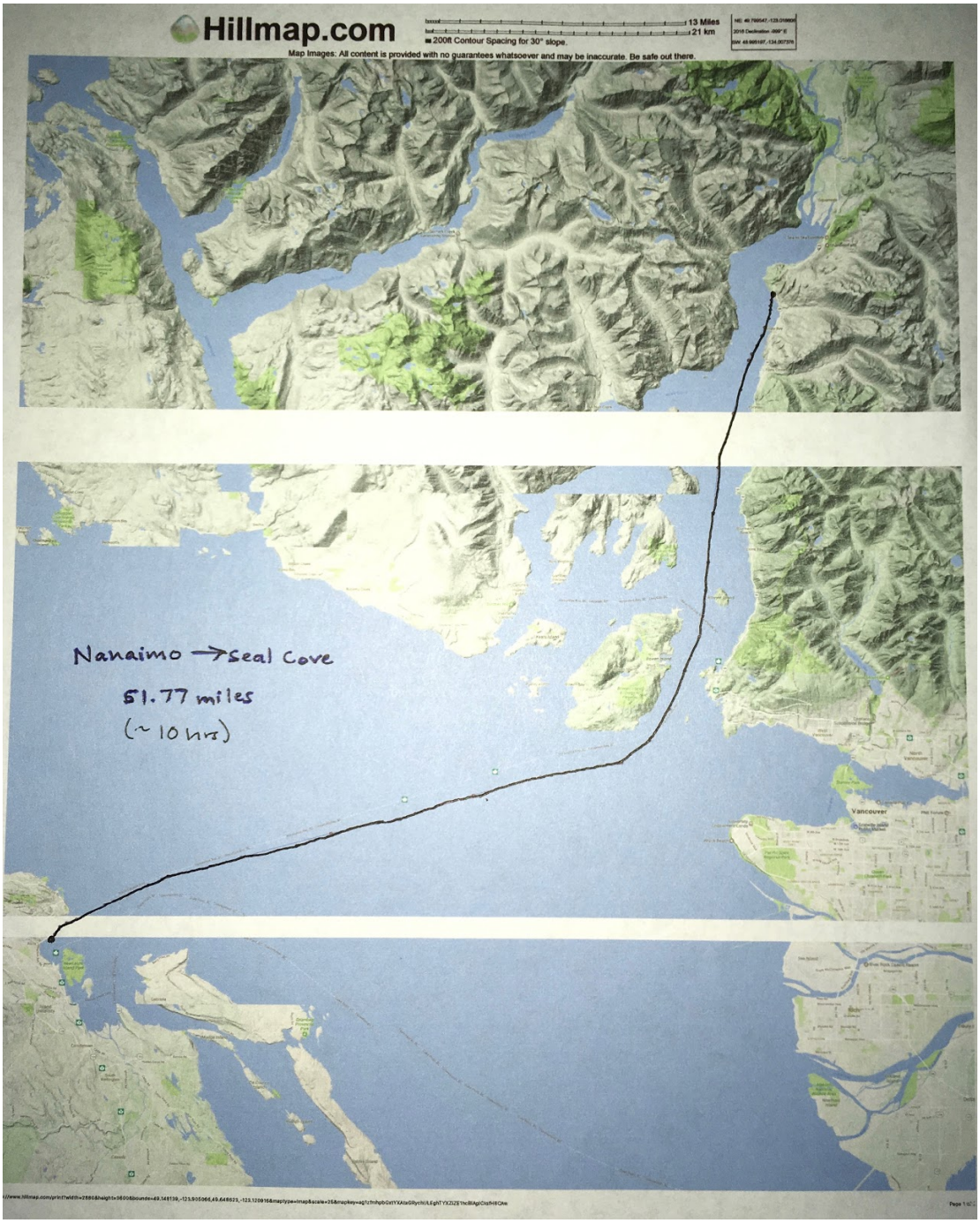
We will return the boat to Nanaimo Yacht Charters, and drive home.

Notes:

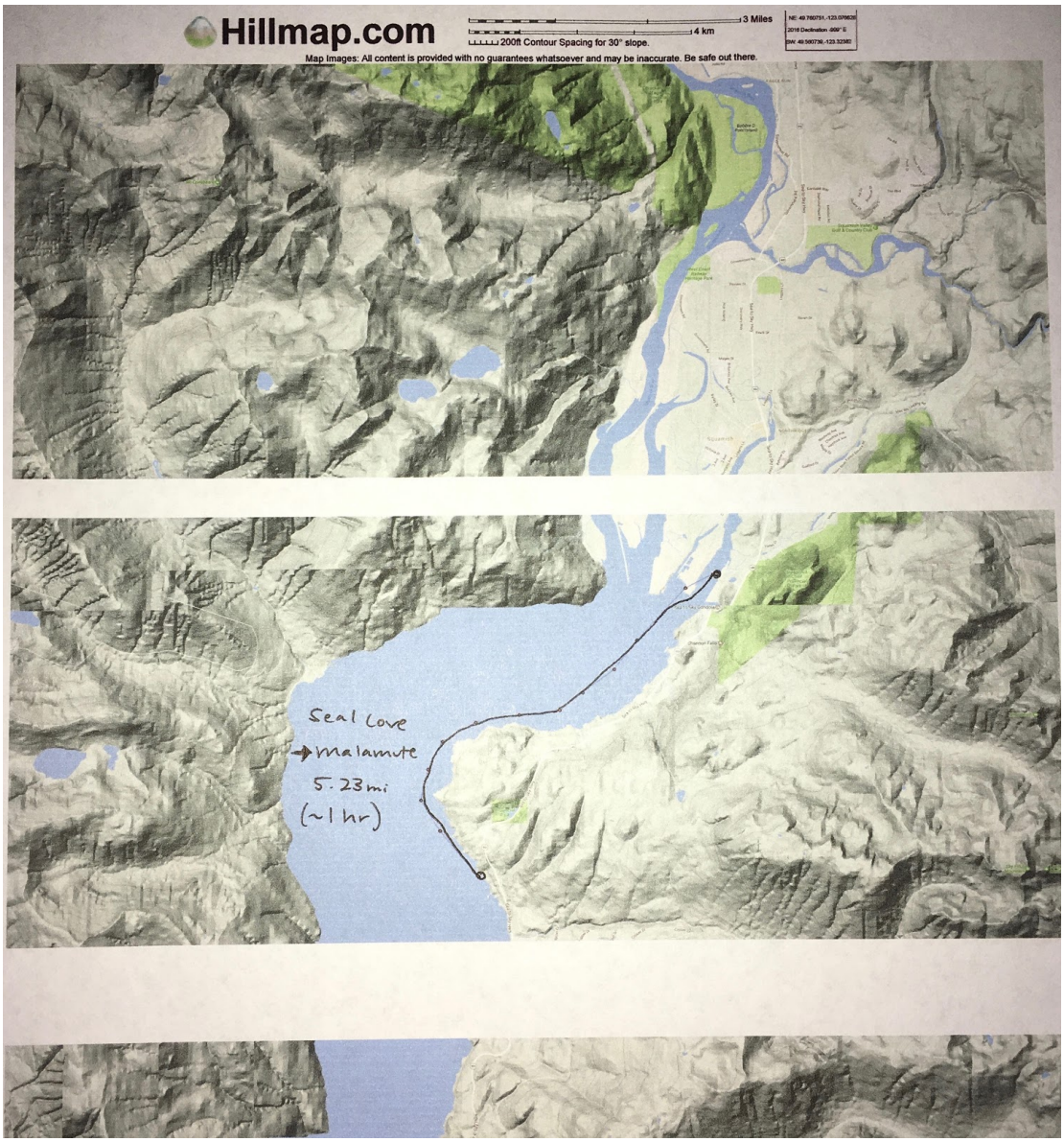
In order to anchor most safely, we will be using two anchors that are above standard size for a 27' boat (greater than 13lbs). This way, we will reduce the risk of dragging and ensure that the boat is stays safe while we are climbing. They will be placed in a "V" position off the bow of the boat, and we will be sure to leave at least a 5:1 scope to depth ratio and preferably a 7:1, thus further decreasing the risk of the boat dragging. Furthermore, we will have practiced "stern tie" anchoring which we will use if there is a danger of the boat swinging while at anchor. In this case, we will drop our front anchors and then reverse towards shore, where we will then tie a line around a tree to keep the boat from moving while at anchor. These are both considered very safe and secure anchoring practices.

If conditions are not appropriate for leaving the boat unattended, our safety and the safety of the boat will take priority over climbing. If the situation calls for it, we will either motor or sail

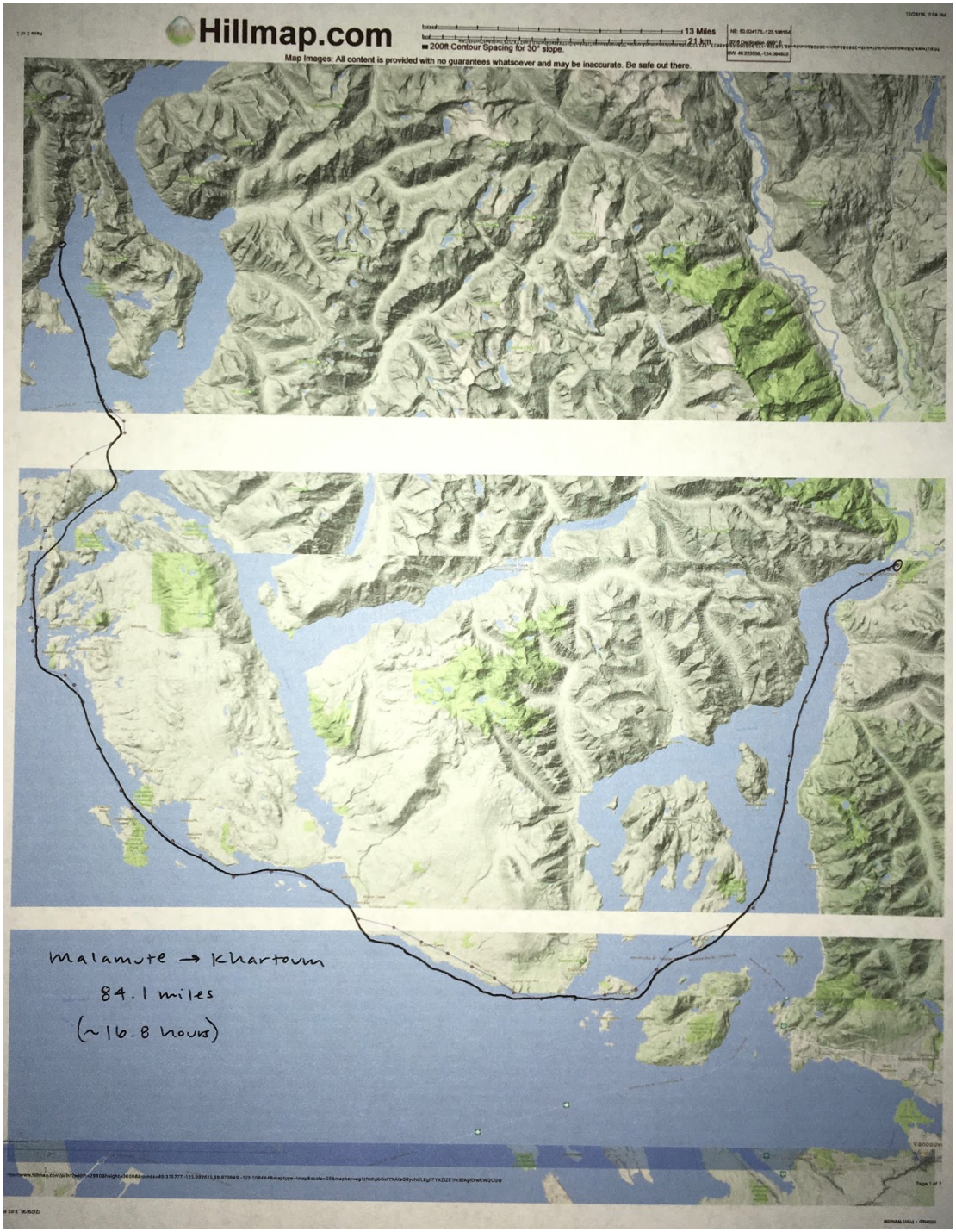
(depending on what is safest) to Powell River or Saltery Bay (closest to the anchoring location for Khartoum) or Squamish (closest to Seal Cove and Malamute). If we judge that moving location is too dangerous, we will remain at anchor until conditions change and we can sail to safety.



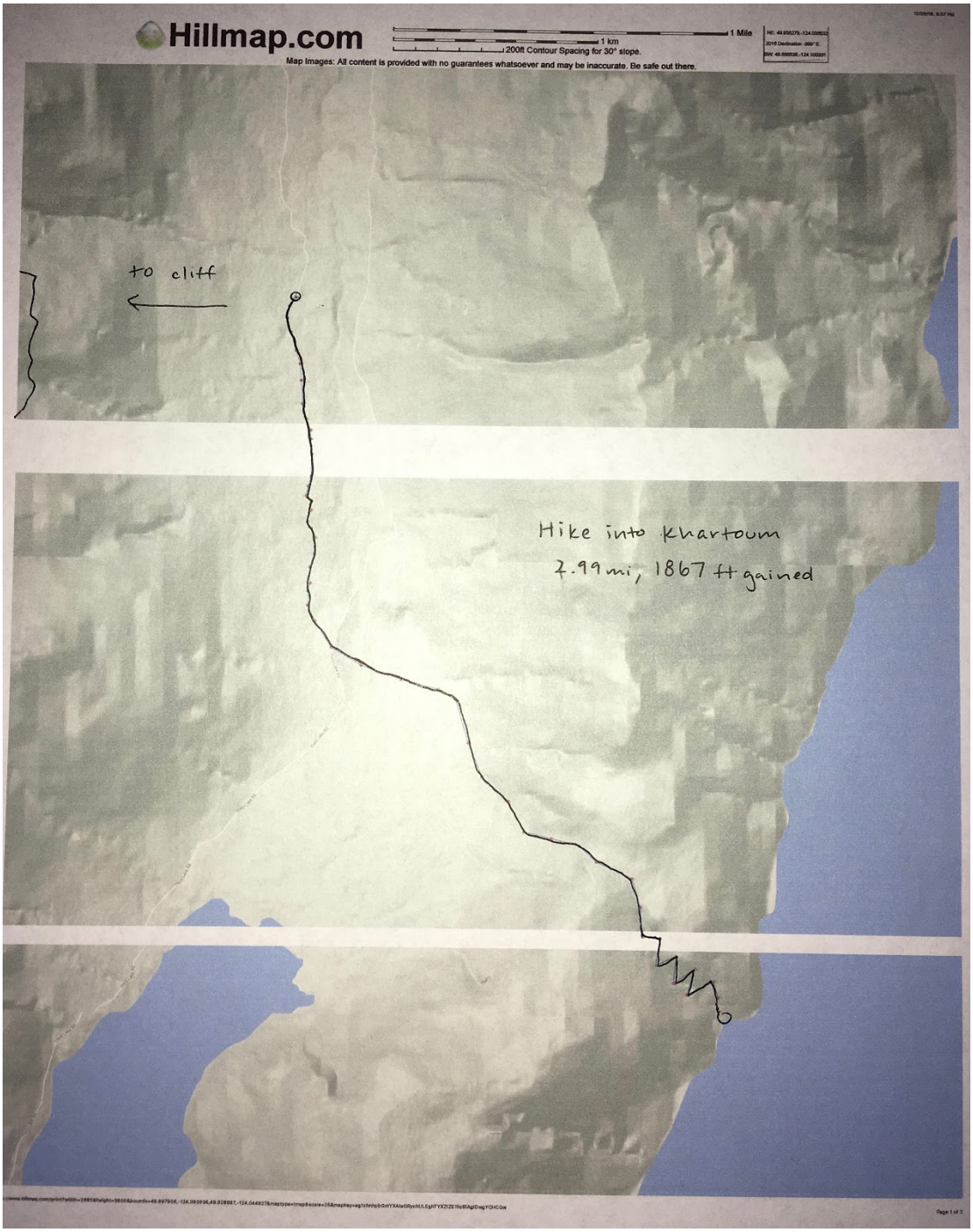
Map 1: Nanaimo to Seal Cove. 51.77 miles, ~10 hours.



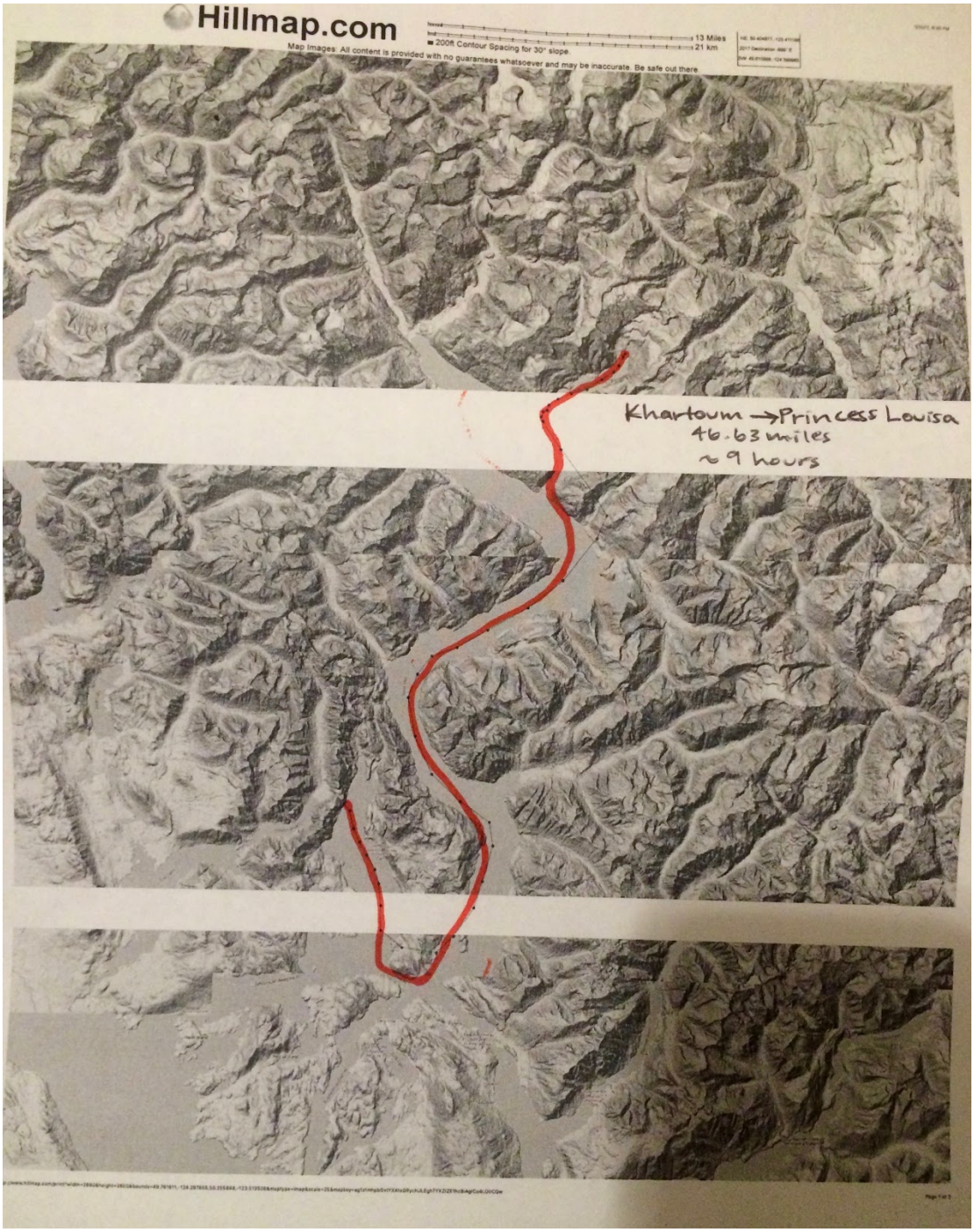
Map 2: Seal Cove to Malamute. 5.23 hours, ~1 hour.



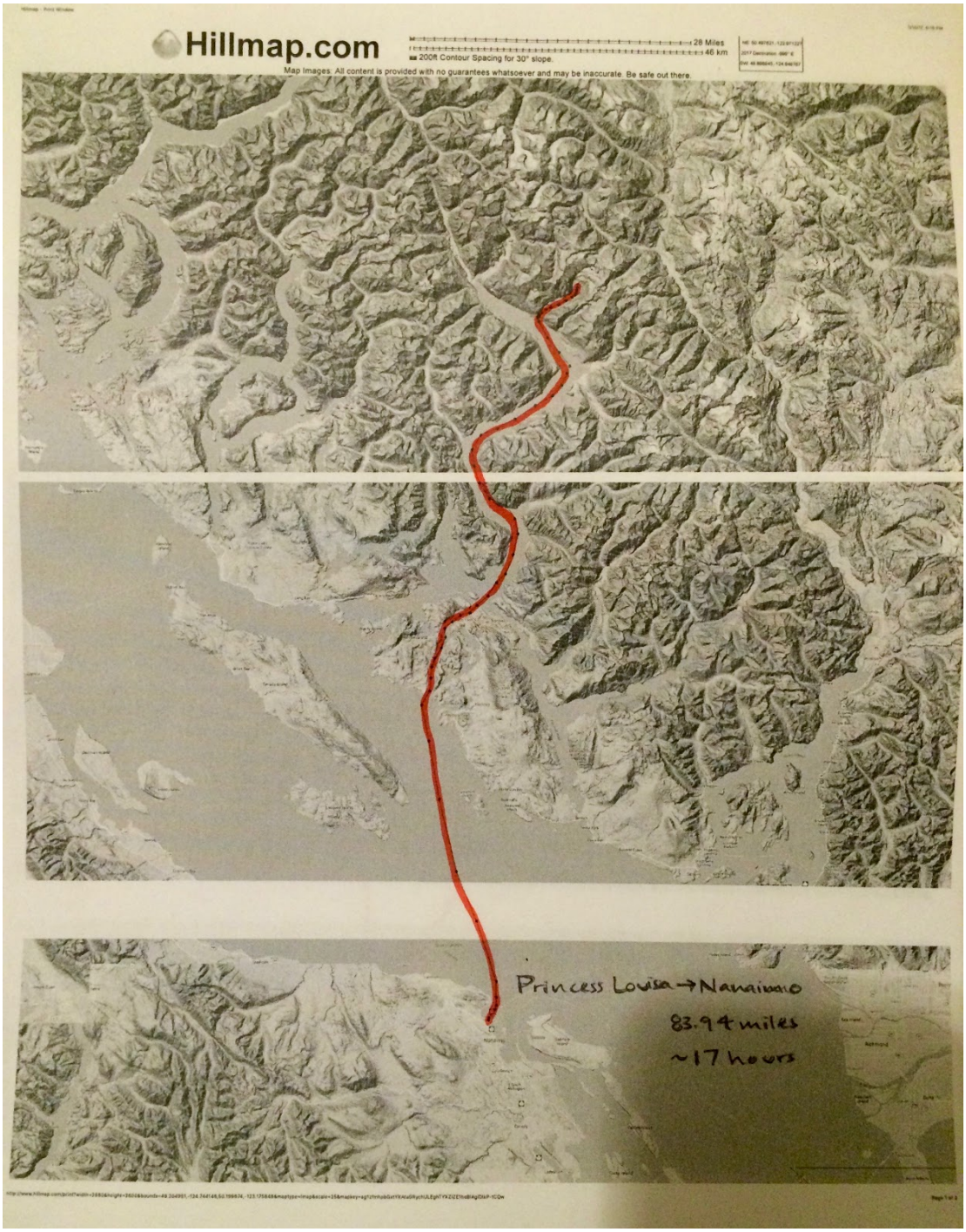
Map 3: Malamute to Khartoum. 84.1 miles, ~16.8 hours (split into two days).



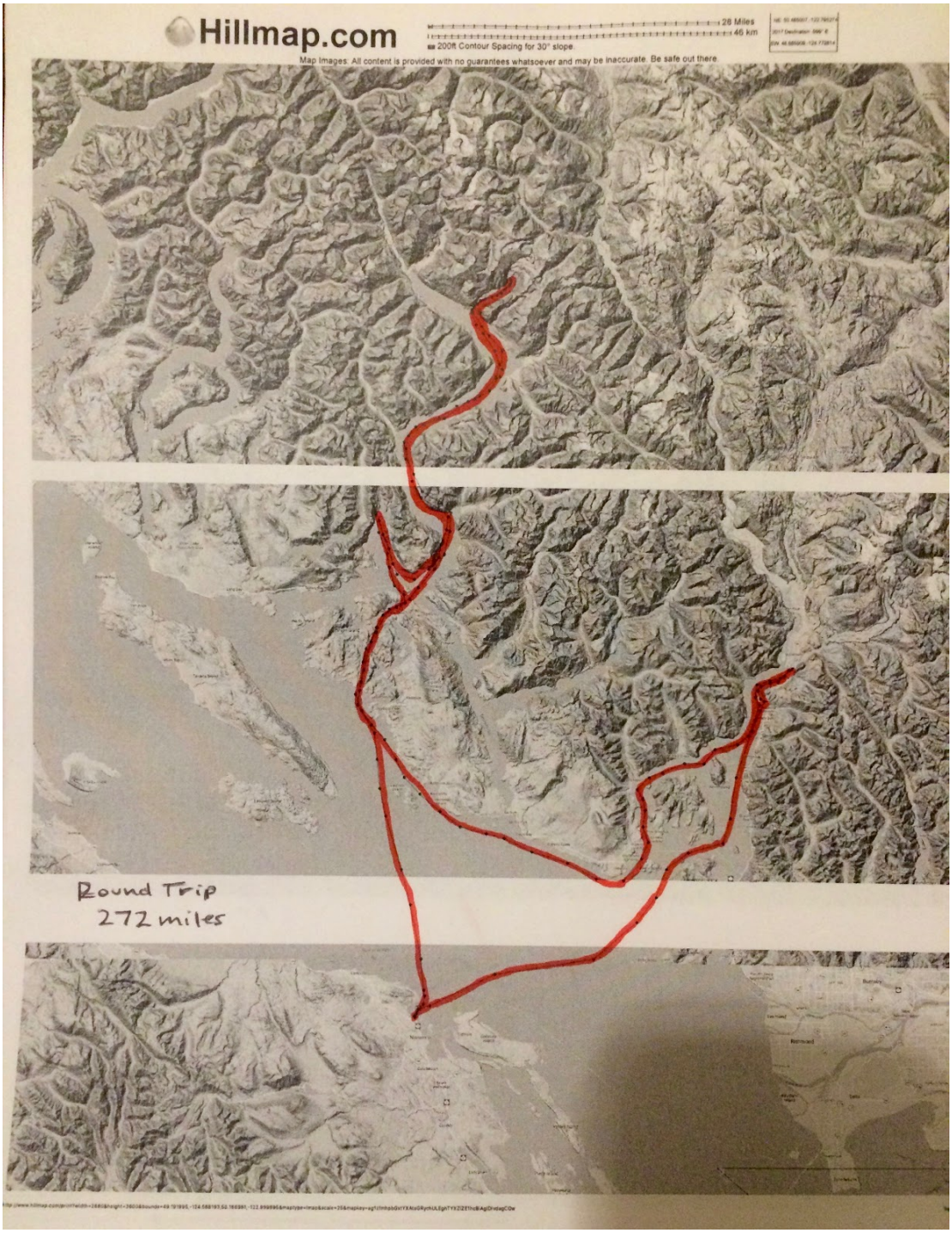
Map 4: Hike into Khartoum. 2.99 miles, 1867 ft. gained.



Map 5: Khartoum to Princess Louisa Inlet. 46.63 miles, ~9 hours



Map 6: Princess Louisa Inlet to Nanaimo. 83.94 miles, ~17 hours (split into 2 days)



Map 7: Round trip. 272 miles.

Topo 1: The Malamute.

Topo 2: Star Wars (5.10+). This route follows the line in the center of the photo, then trends left toward the top of the cliff. The route can be rappelled--rappel anchors are marked by down arrows.

Hazards:

Objective:

Sailing:

Man overboard: To mitigate this risk, all members of the expedition will be wearing life jackets at all times when traveling on the water. We will also have safety lines (jacklines) rigged along the length of the boat so that, if we have to go forward, we will be tethered to the boat and reduce the risk of falling overboard. Finally, all members will have practiced driving the boat through man overboard procedures so that if any member of the expedition happens to go overboard, any other member will know how to retrieve them.

Inclement weather: Though our trip will be in summer when weather is typically best, bad weather is always a possibility and is our biggest concern for the sailing portion of this trip. In order to mitigate risks posed by bad weather, we will take several precautions. First, we will all be wearing life jackets while sailing so that if weather comes up quickly we will not have to find them. Second, we will have sheltered stops planned for each sailing leg of the trip so that if we are forced to stop we will know where should be safe. Thirdly, in order to remain safe while sailing to one of these sheltered spots, we will have jacklines

and tethers running the length of the boat so that, if we need to walk forward to take down sails, we will be tethered and reduce the risk of a man overboard. In case there happens to be a man overboard situation, we will have practiced man overboard drills in high winds prior to the trip, using a floating buoy to imitate a victim. Finally, all of our belongings will be secured so that there will be nothing to stop us moving freely.
Many sailboat charter companies suggest the trip up Jervis Inlet to Princess Louisa Inlet since it is usually calm waters, medium winds and small waves. Getting to Princess Louisa Inlet involves navigating the Malibu Rapids at the head of the inlet. This is a narrow, rocky section that can have extremely fast currents of up to 16 knots. In order to navigate this safely, we will obtain local knowledge and plan to travel through at slack tide (when little to no water is moving through the rapid) on both the way in and the way out. This will likely be the most significant navigational obstacle of the entire trip and we will plan to be extremely cautious when approaching it.
Fog is another significant navigational hazard that we are prepared to deal with. If fog is approaching or if fog is present on a day of planned travel, we are prepared to modify our itinerary in order to avoid traveling with decreased visibility. The majority of our travel will occur close to shorelines where, if fog rolls in, we will use navigational charts to travel safely to the nearest anchorage spot.

Jervis Inlet weather conditions from Environment and Climate Change Center of Canada:

- When a ridge of high pressure builds over the Interior of the province, outflow winds blow out of Bute, Jervis, and Toba inlets and through Howe Sound. These winds can be very strong but usually end a short distance from the opening of the inlets. The wind patterns that occur in the main part of the Strait as the result of an outflow event follow a predictable cycle: a ridge builds over the northern part of the Interior and then slowly extends farther south. Parts of the cycle are sometimes compressed or skipped altogether.
- Post-storm front winds: Strong southwest winds often develop just after the skies break, following the passage of the front. Very rapid pressure rises at locations on the west side of Vancouver Island--such as Tofino and Amphitrite Point--could provide very short advance warning of the onset of these winds.
- The most dangerous conditions for mariners are often due not only to strong winds but also to the rough seas created by these winds and the ways they are affected by opposing tidal currents. With strong southeast winds and opposing tides, conditions near Cape Mudge and at the south end of Texada Island, near Sabine Channel, can be extremely challenging. The seas off Jervis Inlet can reach 1.5 m when southeast winds blow against an ebb tide and as much as 2.5 m when strong outflow winds oppose a flood tide.
- “A change in visibility is often a forerunner of northwest winds: when things stand up like a mirage, northwest winds are soon approaching.”
- “Westerlies are kind of predictable – more sun, more wind.”

A list of sheltered anchorages from Nanaimo to Princess Louisa Inlet can be found here: http://threesheetsnw.com/blog/2015/06/first-timers-guide-to-princess-louisa-inlet/

Crossings and cliffed out: Since we have given ourselves enough weather days to allow us to make conservative decisions when it comes to sailing in inclement weather, as previously stated the areas of most objective hazard will be areas where we cannot land given quickly worsening weather. Such areas include crossings and sections of the shoreline too cliffed to allow a landing. This will be of most concern the last leg of our journey. We will only travel on such days under the best of weather conditions. The amount of rest days we have given ourselves allows for enough time to wait out poor conditions, rely only on responsible decision-making and still stay on schedule.

Mechanical issues: Michael has several years of experience performing basic boat maintenance and repair including everything from winch repair to sail repair. If anything major arises, he also has a

membership to BoatUS, an organization that provides on-the-water assistance and towing and is valid in Canada, which we will call if needed. We will have an InReach device and VHF radio so if anything happens we will have access to local mechanics.

General emergencies:
While we do not anticipate any serious emergency, we will all be familiar with pan-pan and mayday calls on the radio so that if any member is incapacitated for any reason all other members will know how to call for help on the VHF radio.

We will also be carrying an Waterproof and floating Personal locator (an InReach in a waterproof and floating case). We will perform the test function (which alerts a few people on a mailing list we are OK, and confirms the ability to show our position if the emergency button is pushed) a few scheduled times during the course of the trip. If everything goes wrong and prevents us from self rescuing the InReach has an “Emergency” button that sends our location out to the closest relevant search and rescue (British Columbia coast guard.)

Hiking/approach:
As with the sailing portion of the trip, bad weather is a concern even though the trip is planned for the most optimal time of year for the area. Generally we will be below tree line in case of lightning. We will all keep layers in waterproofed compartments within our packs to reduce the risk of hypothermia. All members have extensive hiking and approach backgrounds. Michael, Nina, and Nate all have thru-hiking experience and Erin has done a lot of hiking around the Alaskan bush with no trails. While all this experience prepares us for what is ahead we know that with any outdoor experience risks are to be mitigated. We plan on taking great care of each other and checking and rechecking to prevent any issues.

Climbing:
Rock fall: In order to reduce the risk of injury from rock fall, all team members will wear helmets at all times when climbing and belaying, and they will all use an auto locking belay device so that if the belayer is knocked unconscious from rock fall the climber will still be protected. In the event that rock fall injures a team member, all team members will have gone through basic rock rescue techniques with Ryan Hammes, in order to handle the situation as efficiently as possible. Also, in order to protect ourselves while rappelling we will back up our rappels using a friction hitch so that if we lose consciousness for any reason we will not fall. Erin and Nina both have taken the Single Pitch Instructor courses and are well versed in risks and mitigations.

Technical climbing: In order to reduce risk of injury while climbing, all party members will be experienced with placing traditional climbing protections (cams, nuts, etc.). Each party member will also be wearing a UIAA-certified harness and helmet and be properly tied into a UIAA-certified rope with a figure-eight follow through knot. Each member will have his own auto-locking belay device so that if the belayer becomes unconscious for any reason the climber will still be protected. Furthermore, we will use our experience to judge whether the 4th class sections of routes and approaches require the use of ropes and climb them accordingly. And above all else we will always watch out for each other, mitigating risks one step at a time

Subjective Hazards:

Nina and Erin have extensive experience climbing together--they completed a Ritt trip last year to the Cirque of the Towers, and have done many other routes together such as Jah Man in Castle Valley, Yellow Spur in Eldorado Canyon, and longer routes in the South Platte. Michael and Nate have spent a number of weekend days climbing together, and have climbed one larger objective as a team: Wunsch’s

Dihedral on Cynical Pinnacle. Nina and Michael just spent winter break climbing together in Red Rocks and Joshua Tree. All four climbers have spent numerous days together at Thunder Ridge, Turkey Rocks, and Indian Creek. However, as a team of four, we have never taken an extended climbing trip together. We will have to learn how to work as a team both on the boat and on the wall.

Some challenges we know we will face is learning how to live in close quarters and stay organized on a small sailboat, different levels of sailing knowledge, and bad conditions for sailing and climbing.

To prevent any problems once we have left the dock, we will spend as much time as we need organizing the boat before we set sail. We will make sure we all know where to find the climbing gear, camping gear, and food.
Another challenge we might encounter could be in navigating the sailboat. Michael has lots of experience navigating larger boats. Nina taught sailing after graduating from high school and has been on many long sailing trips with her family off the eastern coasts and even in the British Virgin Islands. Nate and Erin only have basic knowledge on how to navigate smaller boats. As a team, we have agreed to let Michael be the boss when it comes to sailing. Nina, Nate and Erin will be capable enough to engage in sailing commands and responses and help with the basics such as anchoring, docking, tying knots, bearing away, rigging, and obeying rules of the road.

When it comes to climbing, Nina and Erin will always be a team, and Nate and Michael will always be a team (except in cragging situations). Because we will all be climbing the same routes in Khartoum and Eldred Valley, we will have to consider how we might handle a situation in which one team feels the need to bail. We will need to coordinate how many ropes we bring and which team goes first.

We will make weather calls for climbing and sailing the night before using the InReach device and the radio. This will be a group decision every night and every morning. Making sure that everyone is comfortable with the decisions made it will have to be unanimous.

In regards to health concerns, we feel that all team members are exceptionally healthy and fit enough to complete long days hiking and climbing. Michael does have a peanut allergy, but he will carry epi-pens and benadryl in case of an allergic reaction. Nina, Nate, and Erin will be alert and ready to respond to in case Michael begins to show signs of an allergic reaction.

Evacuation Plans: If we have an emergency in the first four days we will travel to Squamish or Vancouver. There are a few towns along the coast as we travel from Howe Sound to the Jervis Inlet. So if we have an emergency that does not require a hospital visit we can use these towns as evacuation points. If we need to visit a hospital then we will go to Sechelt. Once we are in the Jervis Inlet, there are still a few small towns in the inlet that do not have hospitals. So if we have an emergency and need to self-evacuate we will sail to the nearest town (i.e. Egmont or Malibu). If we are unable to sail anywhere then we will contact the Royal Canadian Marine Search and Rescue using the VHF radio or use the InReach device.

If an emergency occurs when we are traveling on foot to and from Khartoum and Eldred we will evaluate the severity of the emergency and decide whether we can make it back to the sailboat or not. If we cannot, we will use the InReach device to call for search and rescue. It may take search and rescue more than a day to arrive so if it is a medical emergency we will need to rely on our WFR skills to keep the patient stable.

Tide Charts:

Vancouver:

Tidal Heights at Vancouver, British Columbia

August 2017 49°17.2'N123°6.6'W Map

	Tide	Tide	Tide	Tide
Time Zone is PDT				Units are feet
Tue 01 Aug	00:41 13.5H	08:17 5.2L	15:38 12.1H	20:07 10.6L
Wed 02 Aug	01:26 13.1H	09:09 4.7L	16:39 12.8H	21:29 10.9L
Thu 03 Aug	02:14 12.9H	09:57 4.2L	17:25 13.4H	22:32 10.9L
Fri 04 Aug	03:02 12.9H	10:40 3.8L	18:04 13.8H	23:17 10.8L
Sat 05 Aug	03:49 13.0H	11:20 3.4L	18:37 14.1H	23:55 10.6L
Sun 06 Aug	04:33 13.2H	11:57 3.0L	19:07 14.3H	
Mon 07 Aug ○	00:30 10.3L	05:16 13.3H	12:33 2.9L	19:36 14.5H
Tue 08 Aug	01:07 9.9L	05:59 13.4H	13:07 2.9L	20:04 14.6H
Wed 09 Aug	01:45 9.4L	06:44 13.3H	13:41 3.2L	20:34 14.7H
Thu 10 Aug	02:26 8.8L	07:32 13.1H	14:15 3.8L	21:02 14.8H
Fri 11 Aug	03:08 8.0L	08:23 12.7H	14:50 4.6L	21:32 14.8H
Sat 12 Aug	03:54 7.2L	09:20 12.3H	15:29 5.7L	22:03 14.8H
Sun 13 Aug	04:43 6.4L	10:26 11.9H	16:13 7.0L	22:37 14.7H
Mon 14 Aug ◑	05:37 5.6L	11:49 11.8H	17:05 8.4L	23:16 14.5H
Tue 15 Aug	06:35 4.8L	13:23 12.1H	18:10 9.7L	
Wed 16 Aug	00:02 14.2H	07:37 4.0L	14:52 12.8H	19:34 10.6L
Thu 17 Aug	00:57 14.1H	08:38 3.2L	16:05 13.7H	21:00 10.8L
Fri 18 Aug	02:00 14.0H	09:38 2.5L	17:01 14.3H	22:15 10.7L
Sat 19 Aug	03:05 14.0H	10:34 2.0L	17:49 14.8H	23:17 10.2L
Sun 20 Aug	04:08 14.1H	11:26 1.8L	18:31 15.1H	

Princess Louisa Inlet at Malibu (inlet opening)

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2017-08-19 Sat 12:21 AM PDT    3.8 knots  Max Flood
2017-08-19 Sat  3:10 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-19 Sat  6:11 AM PDT   Sunrise
2017-08-19 Sat  7:40 AM PDT   -8.9 knots  Max Ebb
2017-08-19 Sat 12:00 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-19 Sat  3:02 PM PDT    4.8 knots  Max Flood
2017-08-19 Sat  8:25 PM PDT   Sunset
2017-08-19 Sat  8:25 PM PDT    0.1 knots  Min Flood
2017-08-20 Sun  1:23 AM PDT    3.8 knots  Max Flood
2017-08-20 Sun  4:05 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-20 Sun  6:12 AM PDT   Sunrise
2017-08-20 Sun  8:29 AM PDT   -9.0 knots  Max Ebb
2017-08-20 Sun 12:41 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-20 Sun  3:42 PM PDT    5.2 knots  Max Flood
2017-08-20 Sun  8:01 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-20 Sun  8:23 PM PDT   Sunset
2017-08-20 Sun  9:19 PM PDT   -0.7 knots  Max Ebb
2017-08-20 Sun 10:41 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-21 Mon  2:21 AM PDT    3.8 knots  Max Flood
2017-08-21 Mon  4:58 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-21 Mon  6:14 AM PDT   Sunrise
2017-08-21 Mon  9:16 AM PDT   -8.7 knots  Max Ebb
2017-08-21 Mon 11:31 AM PDT   New Moon
2017-08-21 Mon  1:20 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-21 Mon  4:18 PM PDT    5.4 knots  Max Flood
2017-08-21 Mon  8:17 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-21 Mon  8:21 PM PDT   Sunset
2017-08-21 Mon 10:07 PM PDT   -1.5 knots  Max Ebb
2017-08-22 Tue 12:05 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-22 Tue  3:17 AM PDT    3.7 knots  Max Flood
2017-08-22 Tue  5:50 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-22 Tue  6:15 AM PDT   Sunrise
2017-08-22 Tue  1:55 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-22 Tue  4:53 PM PDT    5.5 knots  Max Flood
2017-08-22 Tue  8:19 PM PDT   Sunset
2017-08-22 Tue  8:39 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-22 Tue 10:53 PM PDT   -2.3 knots  Max Ebb
2017-08-23 Wed  1:17 AM PDT    0.0 knots  Slack, Flood Begins
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2017-08-22 Tue 12:05 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-22 Tue  3:17 AM PDT    3.7 knots  Max Flood
2017-08-22 Tue  5:50 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-22 Tue  6:15 AM PDT   Sunrise
2017-08-22 Tue 10:00 AM PDT   -8.1 knots  Max Ebb
2017-08-22 Tue  1:55 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-22 Tue  4:53 PM PDT    5.5 knots  Max Flood
2017-08-22 Tue  8:19 PM PDT   Sunset
2017-08-22 Tue  8:39 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-22 Tue 10:53 PM PDT   -2.3 knots  Max Ebb
2017-08-23 Wed  1:17 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-23 Wed  4:11 AM PDT    3.5 knots  Max Flood
2017-08-23 Wed  6:17 AM PDT   Sunrise
2017-08-23 Wed  6:42 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-23 Wed 10:43 AM PDT   -7.2 knots  Max Ebb
2017-08-23 Wed  2:28 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-23 Wed  5:27 PM PDT    5.4 knots  Max Flood
2017-08-23 Wed  8:17 PM PDT   Sunset
2017-08-23 Wed  9:05 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-23 Wed 11:38 PM PDT   -3.0 knots  Max Ebb
2017-08-24 Thu  2:24 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-24 Thu  5:05 AM PDT    3.2 knots  Max Flood
2017-08-24 Thu  6:18 AM PDT   Sunrise
2017-08-24 Thu  7:35 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-24 Thu 11:25 AM PDT   -6.0 knots  Max Ebb
2017-08-24 Thu  2:58 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-24 Thu  6:00 PM PDT    5.2 knots  Max Flood
2017-08-24 Thu  8:15 PM PDT   Sunset
2017-08-24 Thu  9:31 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-25 Fri 12:22 AM PDT   -3.5 knots  Max Ebb
2017-08-25 Fri  3:27 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-25 Fri  5:59 AM PDT    2.9 knots  Max Flood
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2017-08-24 Thu  2:23 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-24 Thu  5:05 AM PDT    3.2 knots  Max Flood
2017-08-24 Thu  6:18 AM PDT   Sunrise
2017-08-24 Thu  7:35 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-24 Thu 11:25 AM PDT   -6.0 knots  Max Ebb
2017-08-24 Thu  2:58 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-24 Thu  6:00 PM PDT    5.2 knots  Max Flood
2017-08-24 Thu  8:15 PM PDT   Sunset
2017-08-24 Thu  9:31 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-25 Fri 12:22 AM PDT   -3.5 knots  Max Ebb
2017-08-25 Fri  3:27 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-25 Fri  5:59 AM PDT    2.9 knots  Max Flood
2017-08-25 Fri  6:20 AM PDT   Sunrise
2017-08-25 Fri  8:31 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-25 Fri 12:07 PM PDT   -4.7 knots  Max Ebb
2017-08-25 Fri  3:25 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-25 Fri  6:34 PM PDT    4.8 knots  Max Flood
2017-08-25 Fri  8:13 PM PDT   Sunset
2017-08-25 Fri  9:58 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-26 Sat  1:06 AM PDT   -4.0 knots  Max Ebb
2017-08-26 Sat  4:32 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-26 Sat  6:21 AM PDT   Sunrise
2017-08-26 Sat  6:57 AM PDT    2.5 knots  Max Flood
2017-08-26 Sat  9:35 AM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-26 Sat 12:50 PM PDT   -3.3 knots  Max Ebb
2017-08-26 Sat  3:49 PM PDT    0.0 knots  Slack, Flood Begins
2017-08-26 Sat  7:08 PM PDT    4.3 knots  Max Flood
2017-08-26 Sat  8:11 PM PDT   Sunset
2017-08-26 Sat 10:26 PM PDT   -0.0 knots  Slack, Ebb Begins
2017-08-27 Sun  1:52 AM PDT   -4.3 knots  Max Ebb
2017-08-27 Sun  5:38 AM PDT    0.0 knots  Slack, Flood Begins
2017-08-27 Sun  6:23 AM PDT   Sunrise
2017-08-27 Sun  8:01 AM PDT    2.2 knots  Max Flood
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Nanaimo:

Sat 12 Aug	03:51	7.0L	09:28	11.8H	15:25	5.8L	22:05	14.4H
Sun 13 Aug	04:39	6.2L	10:36	11.6H	16:10	7.1L	22:38	14.2H
Mon 14 Aug ◑	05:33	5.5L	11:55	11.5H	17:03	8.5L	23:16	14.1H
Tue 15 Aug	06:31	4.7L	13:26	11.8H	18:08	9.7L		
Wed 16 Aug	00:00	13.8H	07:32	3.9L	14:58	12.3H	19:28	10.5L
Thu 17 Aug	00:54	13.6H	08:33	3.1L	16:14	13.1H	20:52	10.8L
Fri 18 Aug	01:56	13.4H	09:30	2.5L	17:10	13.8H	22:06	10.6L
Sat 19 Aug	03:01	13.3H	10:24	2.0L	17:54	14.3H	23:07	10.1L
Sun 20 Aug	04:03	13.3H	11:13	1.9L	18:33	14.6H		
Mon 21 Aug ●	00:00	9.4L	05:03	13.3H	12:00	2.1L	19:09	14.8H
Tue 22 Aug	00:48	8.7L	06:00	13.2H	12:43	2.7L	19:43	14.8H
Wed 23 Aug	01:33	8.0L	06:55	13.0H	13:26	3.5L	20:17	14.7H
Thu 24 Aug	02:17	7.4L	07:50	12.7H	14:08	4.5L	20:49	14.5H
Fri 25 Aug	03:01	6.8L	08:46	12.4H	14:49	5.8L	21:22	14.2H
Sat 26 Aug	03:46	6.4L	09:46	12.1H	15:32	7.0L	21:55	13.7H
Sun 27 Aug	04:32	6.1L	10:51	11.9H	16:19	8.3L	22:29	13.2H
Mon 28 Aug	05:21	5.9L	12:08	11.8H	17:13	9.4L	23:06	12.7H
Tue 29 Aug ◐	06:15	5.7L	13:38	11.9H	18:23	10.2L	23:48	12.2H
Wed 30 Aug	07:13	5.4L	15:06	12.2H	19:50	10.7L		

Appendix B- Equipment List

Equipment List (including contents of first aid kit and food details):

Individual Clothing:

Upper Layers

- 1 Sports Bra
- 1-2 Non-cotton T-shirts
- 1 Long-Sleeve Thermal Base Layer
- 1 Fleece Jacket
- 1 Down/Synthetic Insulated Coat
- 1 Goretex Rain Coat

Lower Layers

- 3 Non-cotton underwear
- 1 Shorts
- 1 Light climbing pants
- 1 Thermal Base Layer Pants
- 1 Fleece/Insulated Pants
- 1 Goretex Rain pants

Footwear

- 4-5 Pairs of wool hiking socks
- 1 Goretex Hiking boots
- 1 Neoprene socks/booties to be used with Chacos
- 1 Camp shoes (closed-toed)

Clothing Etc.

- 1 Baseball cap
- 1 Fleece or wool hat
- 1 Fleece or wool gloves

Miscellaneous

- 1 Knife
- 1 Headlamp with extra batteries
- 1-2 Lighters
- 1 Sunglasses
- 1 Compass
- 1 Whistle
- 1 Bear Bell
- 1 Plastic Bowl
- 1 Spoon/ Eating utensil
- 1 Mug
- 2-3 Water bottles (each 1L or more)
- 1-2 Bandanas/ small camp towel
- Camera
- Chap Stick
- Sunscreen
- Bug Spray
- Hand Sanitizer
- Toothbrush & Toothpaste
- Contacts/Glasses

Individual Camping:
-Synthetic 15 degree sleeping bag
-Closed cell foam pad
-4 husky garbage bags (for added waterproofing of sleeping bag, dry clothing, personal items and one extra)
-Small volume dry-bag for sleeping bag (as small as possible)
-Medium volume dry-bag for all personal gear and clothing (around 30 liters)
-Passport and laminated copied photo

Group Camping:

- 2 2-person tents with rain fly, ground tarp, and repair kit
- 2 Jetboil stoves
- 4 Large Jetboil fuel bottles
- 2 Cooking pots w/Lid
- 2 Small skillets
- Cooking Utensils
- Duct Tape
- Plastic Ziploc & Garbage bags
- First Aid Kit
- 1 Trowel
- 10 Wag bags
- Water Purification method: Hand pump, 2 bottles of Iodine tablets
- 1 InReach in pelican case
- 2 foldable extra paddles (?)
- 3 dry bags or stuff sacks lined with Husky trash bags for food storage
- 4 bear cans/Ursacks

Sailing Gear:
-Foul weather gear for everyone (jacket/pants)
-Life jackets with jackline attachments, whistles
-jacklines

Climbing Gear:
Individual:

- 1 Harness
- 1 Pair climbing shoes
- 1 Helmet
- 1 Chalk Bag
- 1 ATC & locking carabiner
- 1 Cordelette for anchors (15-20 ft. 7mm)
- 1 Personal anchor system
- Personal Gear for Self-Rescue: 1 double-length sling, prussik cord, extra locking carabiner, knife

Group:
-4 Racks of cams (#.3-3, 2x #4)
-2 Racks of nuts
-2 60m 9.5mm single ropes

-2 60m 6mm tagline
-16 Alpine draws
-4 Sets of anchor cord
-30m of 6mm cord for bailing
-4 Double length sewn runners
-4 Locking carabineers (in addition to the 3/person)
-10 Non-locking carabiners (in addition to those on cams or alpine draws)
-1 Extra ATC guide

Extra Gear for Rapelling/Bailing

1 set stoppers #4-13
4 rappel rings
50 ft. webbing
30 ft. 7mm cordelette

Med Kit Contents:
General supplies: -
Nitrile gloves- x4
-12 cc irrigation syringe
-Trauma shears Tweezers
-Biohazard bag- x2
-Pencil Soap notes: x5
-Medical history information for each member of the group Face shield- x4
-Thermometer Safety Pins- x2 WFR Text Ziplock Bags- x2
-Drugs: Ibuprofen- 50 pills
-Diphenhydramine- 30 pills
-Pepto Bismal- 30 pills
-Acetaminophen- 30 pills
-Benzoin tinctures- x5
-Iodine ointment
-Triple antibiotic ointment
-Antiseptic towelletes- x25

Wound Care/ Bandages:
-Wet prep soap sponges- x4
-3” conforming gauze roll- x2
-3x3 sterile gauze pads- x5
-2x3 non-adherent dressings- x3
-3x4 non-adherent dressings- x2
-Transparent dressing- x2
-Closure strips- x6
-Elastic bandage
-Triangular bandage
-Second Skin pads- x4
-2x3 adhesive patches- x2
-Bandaids- x15
-Butterfly bandages- x10
-Sterile cotton tipped applicators- x2
-1” tape roll
-1” Athletic tape roll

-Moleskin 2x3- x3
-Pressure wrap

Appendix C- Food List

Food	Price/pound	Pounds	Total Price	Total Cost for Food
Breakfast				$643.80
Oatmeal	$2.50	5.333333	$13.33	
Granola	$4.99	8	$39.92	
Bagels	$4.79	5.333333	$25.55	
Pancake mix	$3.50	2	$7.00	
Lunch				
Cashews	$8.00	2.666667	$21.33	
Trail mix	$6.80	4	$27.20	
Peanuts	$4.99	2.333333	$11.64	
Chocolate almonds	$8.90	2	$17.80	
Raisins	$3.52	3.333333	$11.73	
Sunflower seeds	$4.25	2	$8.50	
Dried apricots	$6.75	2.666667	$18.00	
Beef jerky	$5.89	2.666667	$15.71	
Tortillas	$3.49	1.333333	$4.65	
Dinner				
Lentils	$1.86	5.333333	$9.92	
Pinto bean flakes	$6.74	5.333333	$35.95	
Dehydrated black beans	$6.50	4	$26.00	
Penne Pasta	$2.55	6.666667	$17.00	
Quinoa	$4.96	5.333333	$26.45	
Brown Rice	$2.62	5.333333	$13.97	
Dried Hummus	$5.24	4	$20.96	
Tomato Powder	$4.78	0.666667	$3.19	
Tortillas	$3.49	2	$6.98	
Dried Veggies	$7.82	2.666667	$20.85	
Cheese and Fats				
Cheddar	$7.98	2	$15.96	
Mozzarella	$7.98	1	$7.98	
Cream cheese	$3.89	1	$3.89	
Cream cheese	$3.89	1	$3.89	
Butter	$3.64	1	$3.64	
Almond butter	$9.99	5.333333	$53.28	
Summer sausage	$9.40	4	$37.60	
Granola bars	$5.82	2.666667	$15.52	
Drinks				$0.00
Hot cocoa	$3.92	2.666667	$10.45	
Tea	$9.60	2	$19.20	
Powdered milk	$3.68	2	$7.36	
Coffee	$6.50	1.5	$9.75	
Fresh Items				
Carrots	$2.39	4	$9.56	
Onions	$1.29	4	$5.16	
Garlic	$1.50	2	$3.00	
Peppers	$2.99	4	$11.96	
Apples	$1.59	4	$6.36	
Oranges	$1.49	4	$5.96	
Cucumber	$1.49	4	$5.96	
Zucchini	$1.89	4	$7.56	

Appendix D- Budget

Fishing license:
-Full Sport fishing license one person for five days: $24.65 USD ($32.55 CAD)

Food: (itemized below)
-$643.80 USD ($850.23 CAD)

Food	Price/pound	Pounds	Total Price		Total Cost for Food
Breakfast					$643.80
Oatmeal	$2.50	5.333333	$13.33		
Granola	$4.99	8	$39.92		
Bagels	$4.79	5.333333	$25.55		
Pancake mix	$3.50	2	$7.00		
Lunch					
Cashews	$8.00	2.666667	$21.33		
Trail mix	$6.80	4	$27.20		
Peanuts	$4.99	2.333333	$11.64		
Chocolate almonds	$8.90	2	$17.80		
Raisins	$3.52	3.333333	$11.73		
Sunflower seeds	$4.25	2	$8.50		
Dried apricots	$6.75	2.666667	$18.00		
Beef jerky	$5.89	2.666667	$15.71		
Tortillas	$3.49	1.333333	$4.65		
Dinner					
Lentils	$1.86	5.333333	$9.92		
Pinto bean flakes	$6.74	5.333333	$35.95		
Dehydrated black beans	$6.50	4	$26.00		
Penne Pasta	$2.55	6.666667	$17.00		
Quinoa	$4.96	5.333333	$26.45		
Brown Rice	$2.62	5.333333	$13.97		
Dried Hummus	$5.24	4	$20.96		
Tomato Powder	$4.78	0.666667	$3.19		
Tortillas	$3.49	2	$6.98		
Dried Veggies	$7.82	2.666667	$20.85		
Cheese and Fats					
Cheddar	$7.98	2	$15.96		
Mozzarella	$7.98	1	$7.98		
Cream cheese	$3.89	1	$3.89		
Butter	$3.64	1	$3.64		
Almond butter	$9.99	5.333333	$53.28		
Summer sausage	$9.40	4	$37.60		
Granola bars	$5.82	2.666667	$15.52		
Drinks			$0.00		
Hot cocoa	$3.92	2.666667	$10.45		
Tea	$9.60	2	$19.20		
Powdered milk	$3.68	2	$7.36		
Coffee	$6.50	1.5	$9.75		
Fresh Items					
Carrots	$2.39	4	$9.56		
Onions	$1.29	4	$5.16		
Garlic	$1.50	2	$3.00		
Peppers	$2.99	4	$11.96		
Apples	$1.59	4	$6.36		
Oranges	$1.49	4	$5.96		
Cucumber	$1.49	4	$5.96		
Zucchini	$1.89	4	$7.56		

Gas:
-$83.29 USD ($110 CAD) total, estimating that we fill the 20 gallon diesel tank twice and that diesel prices remain constant until our trip.
-White gas for camping is $5 USD ($6.60 CAD/liter). Assuming we need 3 liters we need $15 USD ($19.81 CAD)
-Assuming $2.680 USD per gallon and Michael will be driving 1950 miles to and from Vancouver and gets on average 18 mpg we will need approximately $ **316.67** USD for car gas.
Nina is driving from Colorado Springs to Seattle to meet Michael and Erin. The cost will equate to $197.70 USD.

It will take **65.90** gallons or **249.46** litres of gas with fuel cost of **$197.70**.

Boat rental:
-$2,271.6 USD ($1500 CAD) per week
-$159.01 tax

Ferry Cost:
-$24.23 USD ($32 CAD) Tsawwassen Ferry Terminal
-$51.49 USD ($68 CAD) Ferry Nanaimo

Docking fees at Princess Louisa Inlet:
$60/3 nights

Total Trip Cost:
$3,831.94

Per person amount: 957.96$

Measures being taken to reduce costs:

We acknowledge that this trip is very costly. However, we see the skill set of our group as being ideal to expand the range of trips that receive Ritt Kellogg Memorial Fund grants. This type of trip has never been attempted before and would combine two activities in an extended wilderness format that would be very difficult to achieve without the sailboat that accounts for the vast majority of the trip's proposed budget. So we have tried to mitigate costs in many forms.

First, we have proposed to charter the smallest and least expensive sailboat in the Sunshine Coast area or Seattle. While chartering a sailboat may seem extravagant, we propose to use the most utilitarian boat possible as its purpose is to be a tool that lets us access otherwise inaccessible locations.

Michael and Erin are going to drive up from California so to mitigate costs we plan to grocery shop in the US at a large bulk food store instead of shopping at small stores in Canada. They also plan to fill two ten-gallon containers with diesel in the US before crossing the border. The

use of ferries is highly subsidized by the Canadian government and therefore relatively inexpensive in comparison to driving or using a more expensive charter rental business.

We have also chosen to buy 1 fishing pass instead of four, and only a 5 day pass instead of a annual which would cost $166.00. We are choosing to fish on this trip not for pure entertainment but as a way to supplement our diet, thus having only one of us buy the permit and fish for the group, we should maximize the cost versus benefits of this plan.

Since the boat would only come with one anchor, Michael will bring the anchor and anchor chain from his family's boat so that we do not have to buy or rent another one. This anchor is sized for a 35'+ boat rather than the 27' boat that we are proposing to charter.