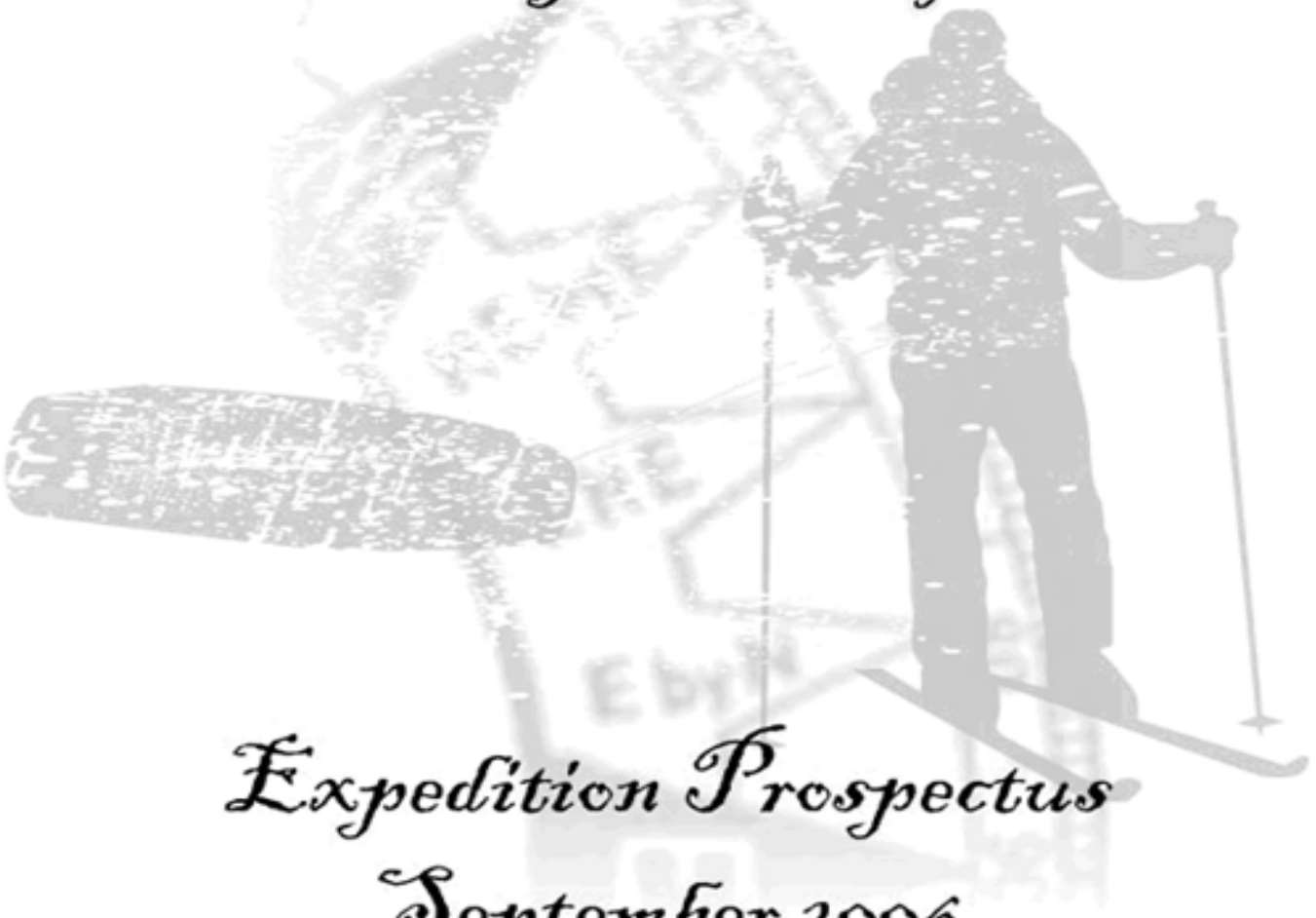
Footsteps on the Arctic Ocean
Winter Expedition 2007-2009
Documenting the World of Sea Ice



Expedition Prospectus
September 2006

www.soloice.com

Contents

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Expedition Overview

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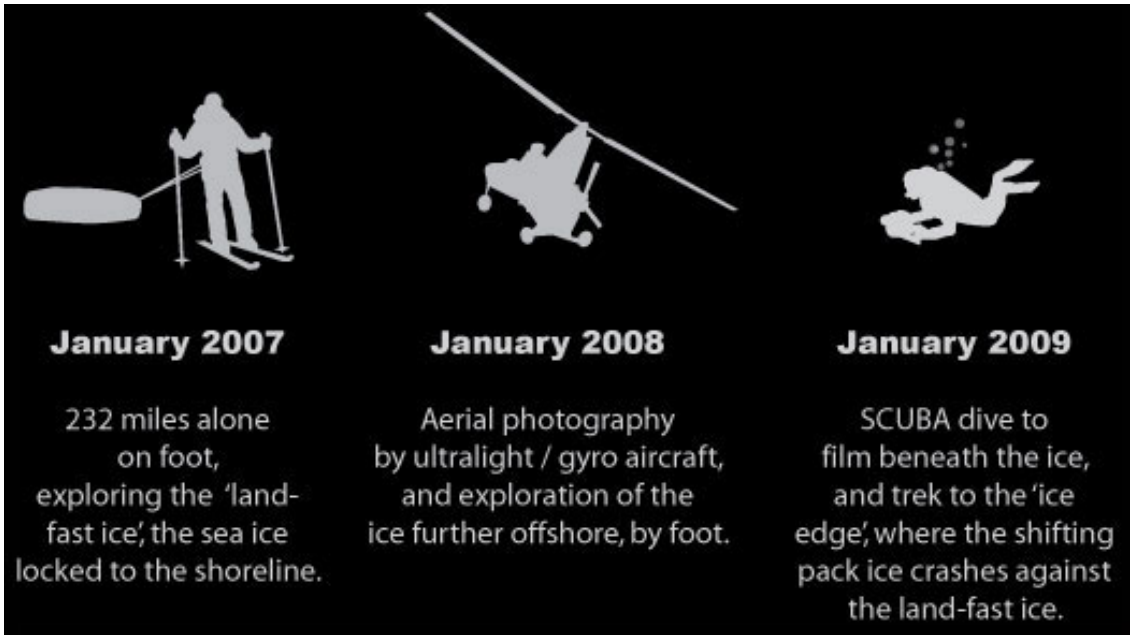
Every winter, the surface of the Arctic Ocean freezes in one of Nature's most spectacular transformations, turning the Arctic into a windswept wilderness almost as desolate as the Moon.

To document the fascinating world of Sea Ice, in early 2007 I'll make my fourth solo winter Arctic expedition, pulling my supply sled nearly 300 miles on the sea ice off Alaska's north shore, filming, photographing, and making sound recordings of this unique wilderness.

In the Winters of 2008 and 2009, I'll supplement the film by returning to Alaska to shoot aerials from an ultralight aircraft, and underwater footage by diving under the sea ice. I'll also cover another 400 miles or so of sea ice, giving me invaluable experience for a solo trek to the North Pole in the coming years.



***T**he expedition's records will be archived at polar research centers worldwide as an invaluable documentation of the world of Sea Ice in the early 21st Century. An educational DVD will also be produced, bringing together the worlds of science and adventure.*

CONTACT:

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Expedition Team

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Cameron McPherson Smith

I'm an archaeologist at Portland State University (PhD, Simon Fraser University, 2004), and a freelance writer. My expeditions over the past 15 years have taken me to Kenya, Alaska, Canada, Colombia, Scotland and Ecuador; from 2000 to 2004, I was working on my SoloIce expeditions, in which (on my fifth attempt) I was finally successful in making the first solo Winter crossing of Iceland's Vatnajökull Ice Cap. My expeditions have been featured on National Geographic Television, the Outdoor Life Network, PBS, and printed in magazines including *National Geographic Adventure* as well as the books *Voyage of the Manteño*, by John F. Haslett, *Sea Drift* by P.J. Capelotti and *They Lived to Tell the Tale; True Stories of Adventure from the Legendary Explorers Club* edited by R.C. Weise. I work hard to obtain mass-media coverage of my expeditions, and am confident that I'll continue my past successes in this field with the Alaska expeditions. My objectives are to bring my passion for the outdoors to the widest audience possible, hopefully moving some youngsters away from their computers and out into the real, windy, unpredictable, baking or icy *wildernesses* of our world.

Charles Sullivan

Chuck (seen here communicating with me in Iceland) will manage communications and rations, as he did for the 2004 SoloIce expedition to Iceland. He's also integral in gear testing and production, and I meet with him weekly to build and modify all manner of special expedition equipment, from the sled-kayak to the polar-bear tripwire alarm system. Chuck will also accompany me to Alaska on the first few days of the first expedition, to help finalize all systems before heading back to Portland, Oregon to monitor my communications and update the expedition website. Chuck, who has Masters degrees in Philosophy and Writing, teaches a variety of courses at Portland Community College, and is a freelance writer. Chuck can be reached by phone at 503-236-7812.

John Haslett

John Haslett (seen here navigating under the Golden Gate Bridge) is a world-class expeditioner, and the world authority on the building and sailing of aboriginal sailing rafts of South America. That's because for the past 15 years, he's been obsessed with making and sailing replicas of these fascinating vessels in expeditions now documented at balsaraft.com. His story is revealed in his book, *Voyage of the Manteño*, available from St. Martins Press in Fall 2006 and previewed in the special December 2006 double-issue of *National Geographic Adventure* magazine. John will be managing the SCUBA and aviation elements of the expedition, and will fly the second ultralight aircraft in the 2008 expedition. He is available via email at johnf.haslett@verizon.net.

Location and Route

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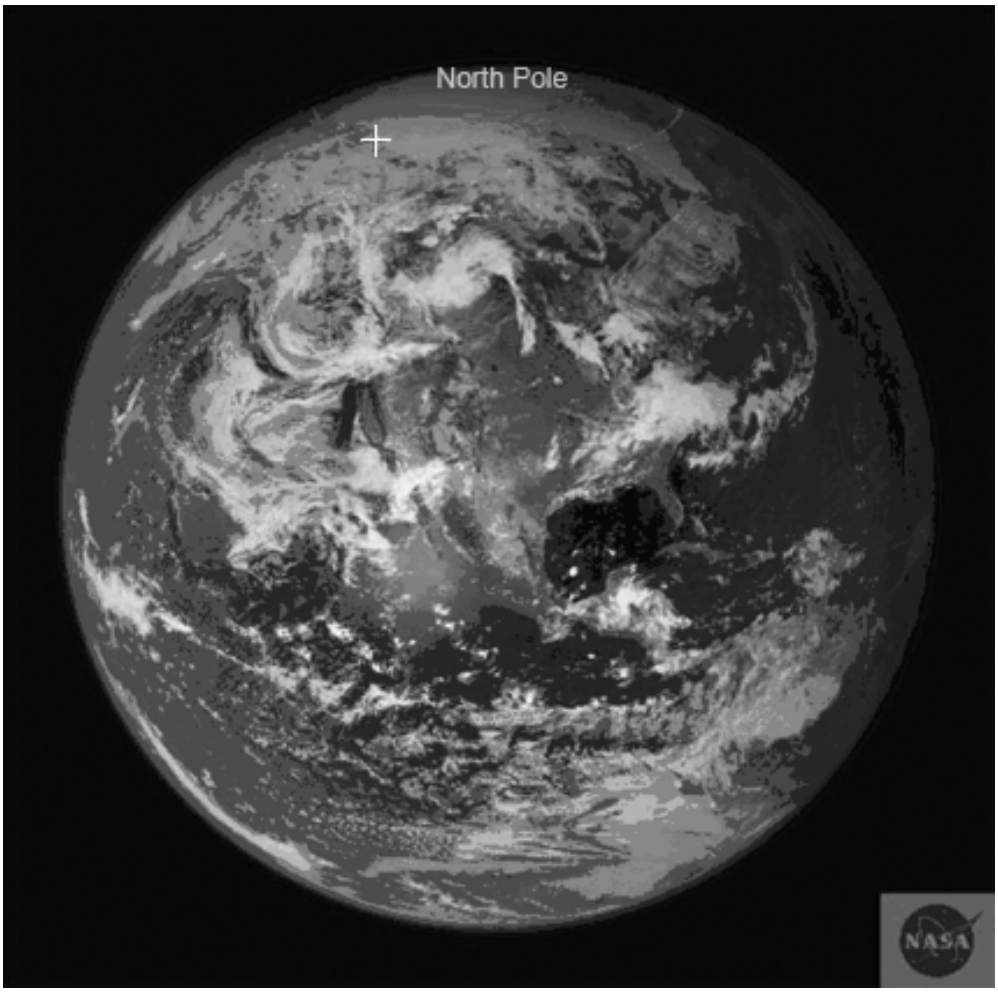
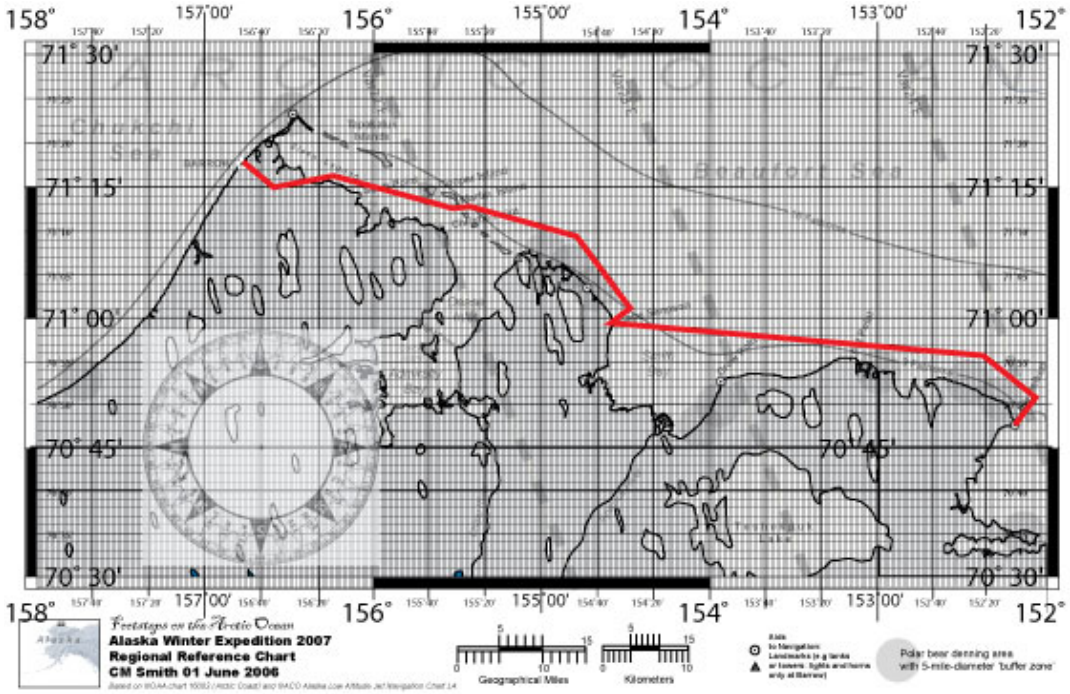


The expedition will take place on the North Shore of Alaska, starting at America's northernmost village, Barrow (near the cross on the image above). In the 2007 expedition, I'll pull my supply sledges nearly 300 miles in two months of travel across the frozen surface of the Arctic Ocean.

Because of the Winter season, the sun will be just below the horizon, making for a strange gloom throughout my trek. The conditions will be much colder than those I experienced in my last few expeditions to the Arctic -- but at least it won't be Iceland's diabolically *wet* cold. I can expect temperatures of -30 to -50 Farenheit, and windchills to 100 degrees below zero. Facing such conditions alone in the polar winter is a thrilling and terrifying proposition; I'm afraid, and yet I can't wait to get started.

Next to crippling temperatures, my other main worry is polar bears. Females often den and hibernate during Winter, but males don't. My route has been planned to avoid the main bear areas...but I'll still have to carry a 12-gauge shotgun loaded with slugs and a .44 magnum revolver as a backup.



Expedition region on the North shore of Alaska: chart at end of this prospectus shows details.

The expedition route is marked on the diagram above: it will essentially take me from Barrow to Cape Halkett, and back, largely traveling on the fast ice; some of the travel will be on or near the Winter Trail.

Schedule

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The expedition is currently scheduled as follows. As of 20 October 2006, I'm on-schedule with all items.

Dec 2005-Dec 2006	Gear preparations and testing, sponsorship: see calendar next page.
02 December 2006	Sled-kayak to be shipped to Barrow Arctic Science Consortium storage facility; also ship, separately, hazardous materials package, including handgun and shotgun ammunition, flares, smoke grenades, magnesium pouch.
10 December 2006	All permits to be completed and approved (BLM, BASC, Inupiat Corporation, North Slope Borough Search and Rescue).
28 December 2006	Cameron and Chuck fly to Alaska, carrying rations up as checked baggage. Set up base in Barrow Arctic Science Consortium barracks.
29-31December 2006	Cameron and Chuck re-pack rations, purchase fuel and any last food items. Cameron spends nights in tent outside BASC, testing systems. Comms test; gun tests; tripwire tests; photo and video sessions; Sullivan flies to Portland with all shot video and photos. New Years Eve celebration.
1 Jan – 22 Feb 2007	Cameron on trek, with 60 days' supplies. Second of Feb, Cameron celebrates 40th birthday in Arctic Winter. At end of trek, Cameron delivers presentation to natives of Barrow, Alaska, and at BASC facility.
28 Feb 2007	Cameron returns to Portland.

FOOTSTEPS EXPEDITION WORK SCHEDULE FALL 2006 – Winter 2007

	PUL-KAYAK	**SUIT**	**BEARS**	**CON-SUM-ABLES**	**HAB TUBE**	**COMMS**	**NAV**
Oct Week 1	Pontoons Nuts / split washers				Apply for tent sponsorship		
Oct Week 2	Cockpit cover Interior partitions Press release RE Wilammette Crossing		Order outdoor tripper mechanisms and ammunition			Apply for Phone Sponsorrship	
Oct Week 3	Cockpit cover Interior partitions Replace blue straps w/flat white		Purchase 8 used ski poles and tripwire (white spectra)				
Oct Week 4	Final pool test		Perimeter wire basic setup	Stove fuel test (assemble numbers) crushed ice test			
Nov Week 1	WILAMMETTE RIVER CROSSING	Tailoring decisions					FINALIZE ROUTE
Nov Week 2	Harness (Cam make at home)	Forearm checklists	Wire tests and modifications				Chart lamination and binding
Nov Week 3	Obtain kayak crate Modify for pulkayak	Go to tailor	Wire tests and modifications				Master charts for Chuck: Tracking Wall Chart
Nov Week 4	Mount Hood test	Suit back from tailor	Wire 'octopus' for quick system setup				ALMANAC data and planner
Dec Week 1	Pack pulkayak in crate ***SHIP PULKAYAK TO ALASKA***	Final suit modifications	Shotgun training		Receive OR BUY tent	Receive or BUY phone Prepare phone code and web tracker.	Planner work
Dec Week 2			Shotgun training	Make menus	Hab tube modifications		Complete and laminate Planner Pages for 'solo book'
Dec Week 3			Shotgun training	Purchase and prepare all rations; store in freezer	Shotgun pocket and latrine hole	Phone/web test.	
Dec Week 4					Flameproof liner	Phone/web test.	
	TO ALASKA	**TO ALASKA**	**TO ALASKA**	**TO ALASKA**	**TO ALASKA**	**TO ALASKA**	**TO ALASKA**

Sponsors

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Arctic expeditions are among the most expensive short of space travel. That's because you can only use the best products in the 'death zone', where hundred-below windchills can cripple you in seconds. And every item -- from timepiece to sleeping bag to parka -- costs hundreds of dollars. I'm grateful for even the most modest equipment donations, and I work hard to obtain the widest and best publicity for my sponsors' products.

Above you see my 2002 sled displaying advertising for PowerBar, Nestle/Nescafe, and Fujifilm, three of my main sponsors for the 2002 SoloIce expedition.

Below, shooting B-roll footage for National Geographic Television.

In addition to such ‘blanket’ ads that ride on equipment and clothing (which appear in most photography), I provide sponsors with equipment testimonials and free, high-quality, 35mm or digital images of equipment being used in the field, as below, in an ad for Blue Water;

Over the last eight years my expeditions have been televised, recounted in consumer magazines, and books, and I expect similar success in reaching

mass media for the Footsteps expeditions. My expeditions have appeared in or on:

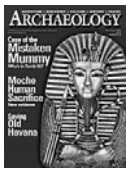
National Geographic Channel

The Lyons Press

St. Martins Press

Outdoor Life Network

Oregon Public Broadcasting



Archaeology Magazine

Spaceflight Magazine

South American Explorer Magazine

National Geographic Adventure Magazine

My Alaska expeditions are being covered by **explorersweb.com**, the premiere expedition website that receives half a million visitors monthly; explorersweb is the world web-headquarters for major expeditions, and is regularly consulted by CNN and other media for expedition information.

Of course, all sponsor websites are linked to the expedition website, which brings in thousands of daily visits while I'm in the field (posting daily reports via satellite phone link to Chuck Sullivan in Portland, Oregon).

Current sponsoring companies and supporting institutions.

David Gordon, the inventor of the ArcticShield system of polar garments, will be providing the clothes that will keep me alive.

At Nike's World Headquarters, here in Oregon, I'm collaborating with the world's most innovative footwear designers in a three-year project focusing on extreme-conditions boots.

Nielsen-Kellerman provide meteorological instruments that will allow me to make a complete weather record of the expedition.

Pelican Products has donated a 'bomb-proof' hard case for my electronic instruments.

Most of the time I'll be wearing heavy mittens, but in moments when I need dexterity, I'll be wearing Glacier Gloves.

In case of emergency, I'll be using Orion signaling devices.

One of the most important tools on a polar expedition is a good shovel, and I'll be using the same one donated to my SoloIce Expedition to Iceland -- back in 1999 -- by the great folks at Life-Link.

I'll be carrying the flag of the *The Explorers Club*, as I did in 1998 on the The Manteño Expedition.

The Royal Geographical Society's Expedition Advisory Centre will receive my fourth Expedition Report since 1999.

I'm preparing a report on some novel methods I'll be using for *The Society for Human Performance in Extreme Environments*.

The *Scott Polar Research Center,* in Cambridge, England will archive my still photos, sound recordings, and video footage.

The *Barrow Arctic Science Consortium* Is kindly providing a base of operations in Barrow.

Publicity and Press Releases

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NEWS FOR IMMEDIATE RELEASE
WINTER EXPLORER WILL WALK, FLY, SWIM IN THE ARCTIC
18 June 2006

PORTLAND, Oregon - In the winters of 2007-2009, explorer Cameron McPherson Smith (39) will explore Alaska's north shore to document the world of sea ice. The three-winter expedition will begin in January 2007 with a nearly 300-mile, 60-day trek, continue the next winter with a 200-mile flight by ultralight aircraft, and end with a 2009 dive beneath the sea ice to gather unique video and sound recordings.

"It's a huge and complex undertaking," said Smith, an archaeologist at Portland State University, "but I can't cram it all into one season, and this is the time to do it. The world of sea ice is changing with global warming. By combining science and adventure, I can excite and educate the public about this beautiful wilderness."

Dr. Smith, whose sailing, arctic, and archaeological expeditions have been widely televised, is currently raising sponsors for the expedition, and preparing his equipment. The expedition can be tracked at www.soloice.com.

Contact for text, interviews and/or images (video and still photography): Cameron M. Smith at: team@soloice.com.

Press material, including high-res images, are available at www.soloice.com or by direct link at:
http://www.cameronmsmith.com/footsteps/press.html.
or by phone at: 503-224-9522

END OF FILE

NEWS FOR IMMEDIATE RELEASE
ARCTIC EXPLORER WILL TEST AMPHIBIOUS SLED ON WILLAMETTE RIVER
07 November 2006

PORTLAND, Oregon – Arctic explorer Cameron McPherson Smith (39), an archaeologist at Portland State University, will test an amphibious sled in the Willamette River in downtown Portland, Oregon, on the 11th of November, 2006 from 3pm to roughly 6pm.

In late December Smith will travel to the Arctic to document the changing world of sea ice, trekking over 200 miles on the frozen surface of the Arctic Ocean. "But where the ice is cracked," Smith said, "I'll have to paddle between ice floes, and to do that I have to test my sled-kayak first." Smith will paddle the sled alone, but will be followed in a chase boat by Chuck Sullivan, the expedition Coordinator, and Rockwell Near, a local survival expert.

The test will begin with launch of the sled-kayak on the dock just downstream of the Oregon Museum of Science and Industry; from there, Smith will paddle across the Willamette, 1,400 feet to Waterfront Park, before paddling roughly a mile downstream to the dock near Burnside bridge. Media are advised that good footage can also be obtained from pedestrian bridges.

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Alaska Winter 2007: Cameron McPherson Smith Joining the Arctic's Legion of Ghosts

11:19 am EDT Jun 09, 2006

Cameron training at home in Portland, Oregon. His upcoming Alaska trip is also a training for an eventual solo expedition to the North Pole. All images courtesy of Cameron's website (click to enlarge).

(ThePoles.com) "After months of agonizing (should I go alone, or with a partner this time?) I've decided to stick with my original approach to the Arctic: to go alone - for me, this is the purest way, and the most challenging, and the most rewarding," reports American Cameron McPherson.

In late December 2006 Cameron will set off for the North shore of Alaska to travel nearly 300 miles on foot. Much of the journey will be on sea ice, but always keeping close to the coast – this time at least.

"The expedition will take place on the North Shore of Alaska, starting at America's northernmost village, Barrow," he said. "From there, I'll pull my supply sledges about 150 miles out, occasionally moving offshore on the sea ice. The return trek will take me another 150 or so miles, and I plan to be out for most of January and February."

Beware bears in the dim light

"I'll trek in the dead of winter, so that the sun will be just below the horizon, making for a strange gloom throughout my trek. The conditions will be much colder than those I experienced in my last few Arctic winter expeditions. I'll also have to keep wary of polar bears. Females often den and hibernate during winter, but males don't. My route has been planned to avoid the main bear areas...but I'll still have to carry a handgun, and a shotgun loaded with slugs."

First steps on the long way to the North Pole

In addition to making a documentary film on sea ice, spread over three winters, Cameron is also planning to trek alone to the North Pole, someday. His Alaska expeditions are focused to get further out from shore each time, thus training for an eventual solo journey to the NP.

“I'm building the experience that will give me a good chance of surviving a solo trek to the North Pole somewhere in the next few years. For me, the trail to the Pole starts on the sea ice off Alaska, this coming winter.”

Why the North Pole

“In going to the Pole you step into the footsteps of a legion of ghosts, men and women who tried that task, and came back (well, most of them) and told us about what it was like. Seeing how i'll do up there is significant to me. What's not significant to me are records, or speeds. I'm not much for contests of speed, starting-lines and finishing-lines in my beloved wilderness."

"I want to go because it will be very hard, perhaps the hardest thing I ever attempt, and because I love the history I've read about the Pole, and because I love to be alone and challenged in the Arctic, the most beautiful place I know.”

Cameron McPherson Smith is an archaeologist at Portland State University (PhD, Simon Fraser University, 2004), and a freelance writer. He has traveled extensively around the world for the past 15 years. In winter 2004 he trekked, alone in winter, across Iceland’s largest icecap on his fifth attempt. Cameron is currently planning a series of expeditions in the Arctic to build experience for a solo trek to the North Pole in the next few years.

Preparations

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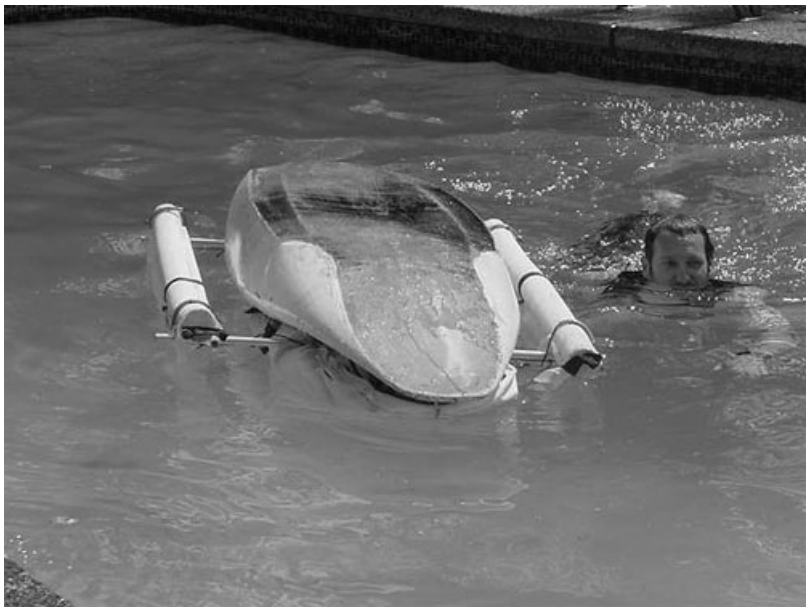
After 15 years of expeditions across the globe, I've sorted out a systematic approach to expedition preparations. Most of my expeditions now take roughly two years to prepare, including making sponsorship arrangements and the design, testing and modification of equipment, such as the amphibious sled shown above; the vessel is a converted river kayak, equipped with removable pontoons that prevent capsize. In Alaska, I'll pull it, loaded with my supplies, on the frozen surface of the Arctic Ocean. When I encounter 'leads' (pronounced 'leeds')—cracks in the ice – I'll paddle across them in the kayak/sled.

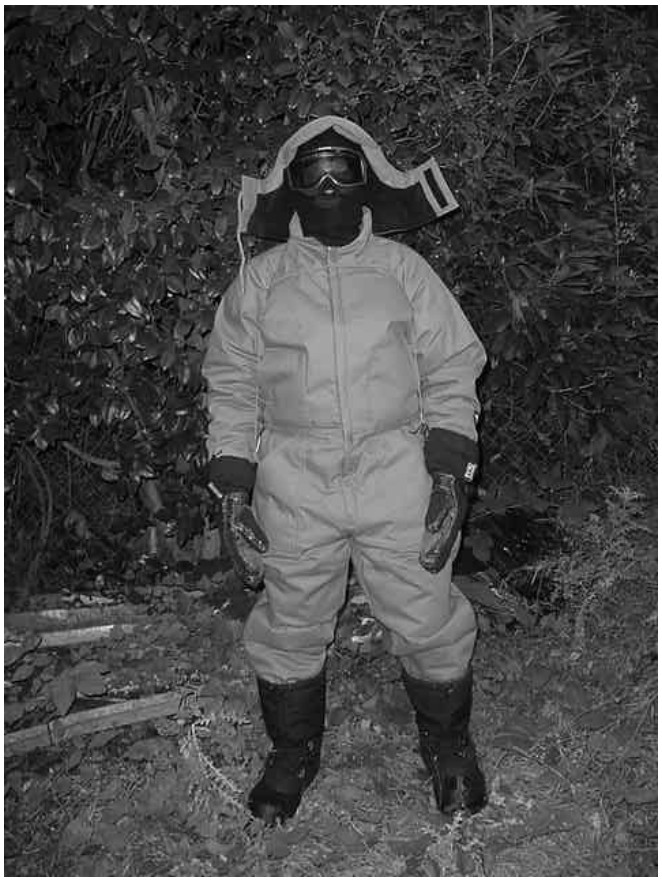
Here I'm adding rocks to simulate the weight of a fully-loaded sled.



Capsize! The nightmare scenario for the Arctic. Chuck Sullivan and I are improving the pontoon system to prevent this.

Ninety percent of an expedition is the year or two or more you spend raising support for it. Getting out there on the snow and ice is a relief: you've done it, you've drawn together every string you can pull and now you're on your way...here I'm on a recent visit to Nike World Headquarters, where I'm collaborating with the world's top footwear inventors -- in the 'top secret' Innovation Kitchen -- in the production of a revolutionary new Arctic Boot.

Examining the Arctic Suit; a few custom tailoring tasks have yet to be completed.



Footwear is obviously critical. I'll be wearing Sorel Glacier boots rated to -100F: one is seen here next to one of my Nike *Skylon* running shoes. The Nikes won't be coming to Alaska ☺ However, I am working with Nike designers to revolutionize extreme-conditions boot design based on a lot of the feedback I'll bring back from Alaska.

Surviving an accidental plunge into the Arctic Ocean, in the Winter dark and cold, is a tough proposition. I've practiced crashing into a pool, with all my gear on, quite a lot, and it has been very instructive. The lessons I've learned will be sewn to a card on the forearm of my survival suit, so that to keep my head clear and work the problem systematically, I'll look to that card and follow the 4-step procedure I've developed for getting to shore and getting out of the water.

Expedition gear costs a lot…but considering the consequences of failure of cheap equipment, it's worth every penny. This is my main stove (I also carry a backup, which is a duplicate of this MSRXGK-II); it retails for around $100.

In addition, Chuck Sullivan and I are planning out a daily timeline, breaking the 60-day trek down into 2-hour segments. The next page is a mockup of this daily planner; the real one is still being filled in with critical data. The planner keeps track of the rise and set of celestial bodies that could help in navigation, as well as provides me with daily reminders of procedures I should follow. I copied this format from the old Apollo lunar expedition flight timelines, and it's extremely
useful;

leave blank for binding

NOTES

SEA ICE PREP PROCEDURE

1. REMOVE PUMP FROM BAG
2. INFLATE BOUYS 1 & 2
3. ATTACH BOUYS
4. STOW PUMP AND BAG
5. DON LIFE JACKET
6. UNBUCKLE PACK WAISTBELT
7. SWITCH TO GATELESS TRACE CARABIENERS
8. ICE DAGGER TO BELT
9. STOW RIFLE HOLSTER
10. RIFLE TO SLED HOLSTER

SEA ICE TRANSFER PROCEDURE

-- TO BE DETERMINED --

PHOTOG SESSION 2

1. TRIPOD
2. COLOR 35MM (NO VIDEO)
3. FLASH UNIT & BATT
4. ONG SHOT * B.O.D. * (FRAMES 1-2)
5. AURORA (FRAMES 3-4)
6. SUN AREA (21 DEG BELOW HORIZON) (FRAMES 5-6)
7. OPPORTUNISTIC PHOTOS (FRAMES 6-8)

Training

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I train for expeditions by running, using free and machine weights, swimming, and occasionally dragging a 200-lb log in Forest Park, here in Portland, Oregon. I also stay generally active, surfing and sailing whenever I can.

Aboard the Annie B*, John Haslett's International Folkboat, at Monterey, CA.*

Heading down a canyon for some surf in San Diego, California.

Pulling 'Mr. Log' at Forest Park, here in Portland, Oregon.

Supplies

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Preparing equipment is takes years; I'm always tinkering with some item of gear or another, attempting to customize it or make it more durable. One of my Iceland equipment lists (from a 2002 expedition) is provided below; the Alaska list has some similarities, but more very substantial differences. A current **To Do** list follows.

SoloIce2 Expedition Preliminary Gear List

CLOTHING	MANUFACTURER	COUNT	STATUS (*=prepared, TBA=to be arranged)
one-piece thermal underwear suit	Lowe Alpine	1	*
thermal underwear-top	Patagonia	1 pair	*
liner gloves	Patagonia	1 pair	*
wool/thermax gloves	Woolrich	1 pair	*
windstopper fleece gloves	Manzella	1 pair	*
neoprene gloves	Glacier-Glove	1 pair	*
down mittens	US Air Force	1 pair	*
pile jacket	Patagonia	1	*
one-piece shell suit	Patagonia	1	*
down jacket with custom hood	Lowe Alpine	1	*
boots	Koflach	1 pair	*
overboots	Outdoor Research	1 pair	*

wool socks, insulating	Woolrich	2 pair	*
polypropelene socks, liner	Thor-Lo	2 pair	TBA
VBL socks	bagel bags	many pairs	TBA
ski goggles	Smith	1 pair	*
glacier goggles	Reinhold Messner	1 pair	*
windstopper fleece bomber hat	Columbia Sprayway	1	*
balaclava	Patagonia	1	*
neoprene face mask (model Gorilla)	Outdoor Research	1	*
woolen scarf	custom (thanks, Mom!)	1	*
TRANSPORTATION			
backpack, 63 liter	Karrimor	1	*
skis, 175cm titanium-ceramic	Head	1 pair	*
ski skins	Snake Skins	1 pair	* (prepare glue)
si bindings with spare bails (model Classic 200)	Ramer	1 pair	*
crampons, rigid/flexible convertible (model 2F)	Grivel	1 pair	*
ski poles	to be decided	3	TBA
SLEEPING SYSTEM			
synthetic bag (winter rating)	Mountain Hardware	1	*
down bag (summer rating)	Feathered Friends	1	*
shell overbag	REI	1	*
insulation pad (foam)	Cascade Designs	1	*
SAFTEY EQUIPMENT			
ice axe, 70cm (model Alpamayo)	Chouinard Equipment	1	*
ice hammer, 55cm (model Blackbird)	Charlet Moser	1	*
snow shovel	Life Link	1	*
snow saw	SMC	1	*
titanium ice screw	Irbis	6	TBA
snow picket	SMC	2	*
carabieners, nonlocking	Kong-Bonatti	3	*
carabieners, locking	Black Diamond	1	*
avalanche/crevasse probe (250cm)	Life-Link	1	*
rope, 50m x 9mm (crevasse lead line)	Blue Water	1	*
rope, 50m x 7mm (reepschunr)	Blue Water	1	*
v-anchor sling	Blue-Water	assorted	TBA
climbing harness, slings, prussiks	Black Diamond	assorted	* (get prussik perlon)
crevasse route marker flags	Pathfinder	13	* (ordered)
rescue signal tarp	Orion	1	*
MISCELLANEOUS CAMP EQUIPMENT			
headlamp (model Zoom)	Petzl	1	*
spare headlamp bulbs	Petzl	5	*

4.5v headlamp batteries	Duracell	4	*
fuel bottles, 1.2 liter (medical)	Nalgene	to be decided	*
themos flask, 1 liter	Thermos	1	*
thermos mug, .25 liter	Nissan	1	*
cook kit (lid, pot, handle, bag, spoon)	MSR	1	*
stove (model XGK-II)	MSR	1	*
stove repair kit (extensive)	MSR & custom	1	*
general repair kit	custom	1	* (add artificial sinew spool)
first aid kit	Outdoor Research & custom	1	* (add vitamins & painkillers)
tent brush	custom	1	*
books	Assorted	Assorted	TBA
knife with lanyard	Victorinox	1	*
toothbrush and dental kit	custom	1	* (prep dental kit)
smoke and flare pistol, three charges	Orion	1	*
signal mirror and whistle (model Starflash)	Ultimate Survival	1	*
food	custom assorted	30+ day supply	TBA
DOCUMENTATION			
AA batteries	Duracell lithium	10 pair	TBA
35mm camera	Rollei	1	*
35mm camera	Canon	1	*
Hi-8 video camera	Sony	1	*
still and video film	Assorted	Assorted	TBA
photography tripod	Bogen	1	TBA
notebook & drawing kit	Rite-in-the-Rain	1	*
wind, temperature and pressure gauge	Nielsen-Kellerman	1	*
watch (alt., press, compass: model X-Lander)	Suunto Finland (thanks, Mark!)	1	*
NAVIGATION			
compass, hand-held (model Ranger)	Silva	1	*
ship's compass, chest-mounted (Model LB70)	Nexus Sweden	1	*
GPS unit (model eTrex)	Garmin	1	*
latitude hook for 64deg28min N	home-made	1	TBA
map kit (maps, ruler, dividers)	custom	1	*
COMMUNICATIONS			
satellite telephone & batteries	to be decided	1	TBA
SHELTER			
sled-hut	custom	1	*

Last Updated on 11/16/02
By C M S

TO DO LIST
FOOTSTEPS ON THE ARCTIC OCEAN WINTER 2007

04 October 2006

Barrow Arctic Science Consortium
Glenn Sheehan – Permits

PULKAYAK
Sercure nuts / split washers
Cockpit cover (tautening straps?)
Interior Velcro patches and compartmentalization
Fore & aft wedge-bags
Wax bottom with ski wax
Paint duct tape repair / all sled touc-ups before shipping
Shipping crate
Replace blue straps with white flat 1-inch webbing straps
Set up shovel mount
Ski system for crossbeams or extant crossbeams?
Longer hoops on float crossbeams
Rocky – arrange boat crossing
CAM make pulling harness & traces (white low-elasticity Perlon)
Schedule Mt. Hood test; need non-shifting weights
Kayak paddle (used from The Next Adventure)

SUIT
Tailor size; sew down hood; coyote fur ruff
Reminder windows to forearms; make procedures cards
Bleach? Call Dave
Suspenders

FOOD / FUEL
All consumables issues to be dealt with in December
Crushed ice test
Find and write down data from fuel burn test
2-3 day project to make and freeze rations

CHUCK in ALASKA
Come to Cameron's to get Arctic gear (CAM; remember Arctic Coveralls)
Contact lenses (get Chuck's prescription)

BEAR ISSUES
Tripwire non-battery alarm / shotgun shell (purchase)
Tripwire powered alarm for ear bud (make or buy)
8 used ski poles + tripwires + eyes; buy and assemble; bag also
Shotgun; buy 12-guage pump action, de-luibe, arrange with Rocky, practice
Ship to Alaska / BASC
Bear spray (sponsor attempt)
Hazardous items special shipment to BASC (ammo, bear spray, flares, smoke grenades)
Perimeter system: purchase 8 used ski poles, drill for eye attachment
'octopus' for pre-determining placement of perimeter poles
Spectra or other line for perimeter

ROUTE
Finalize route / expedition duration
Final navigation tables and charts
Day planner by 2-hour chunks CRITICAL add final Almanac data / bind
Laminate charts

SKIS/BOOTS
Decide on bindings – PIKA or Eric's?

HAB TUBE / TENT
Tent purchase or get sponsored IMMEDIATELY
Attach sleeping bag foot to tent via Velcro patch
Sew pulling line to overbag only, not foot of sleeping bag
Magnets / hoop securing system (?)
Refrigerator bag for water crossings
Hab tube hoop tensioner

Shotgun / handgun anticondensation pockets
Tent latrine hole
Tent windows
Capsiacum spray container with safety trigger device
Flameproof liner / frost liner
White fly?
Stove base (home-made)

AUXILLIARY SLED

Attach cover (Velcro opening only) (purchase cover material)
Towing line attachment
Pontoon securing straps (white 1-inch flat tape)

MISCELLANEOUS

Backpack (GoLite white?)

Polar Bears

*

The polar bear – *Ursus maritimus* – is the world's largest land carnivore, and one of the few know to actively hunt humans. Polar bears are big, beautiful, lethal killers. To protect myself, I'll carry a 12-guage shotgun loaded with slugs, as well as a .44 magnum revolver. Hopefully I'll never have to use them. I'll sleep when the bears sleep so that if I do meet one, hopefully it'll be when I'm up and alert. To give me a few seconds to get my gun, in the event that a bear investigates the tent when I'm asleep, I'll be using a tripwire system that sets off an alarm in an earbud in my ear, a flare, a can of mace, and several 12-guage shotgun shell blanks; hopefully these audio, visual, and smell stimuli will give the bear something to think about as I get out of my sleeping bag and get outside to confront it. The worst scenario is to be attacked while in my sleeping bag, so when the alarms go off, I'll have to move fast and get outside.

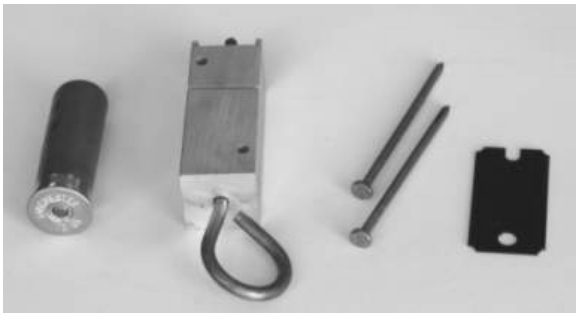
An old male polar bear. Hopefully most older bears will know that people have guns and that guns are dangerous. Younger bears, though, and any that are starving, might not realize this (or care), and press an attack regardless.

Unwelcome night visitor to an Arctic hut. This is not something I want to see in the dark. This picture terrifies me. From Vidar's Jan Mayen Page (http://home.online.no/~vteigen/index_e.html).

My main armament against such an encounter will be some kind of 12-guage shotgun with the lube removed (to prevent jamming; lube jams when cold) loaded with one plastic deterrent round followed by several lead slugs. Canadian and Alaskan wilderness agencies have confirmed that these are effective in destroying problem bears if need be. I have yet to decide whether the gun will be semi-automatic or pump, or what model: the Weatherby SAS (below) is highly recommended.

My backup armament will be a similarly-'winterized' .44 magnum Ruger double-action revolver;

My polar bear alarm system will use a series of tripwires to set off flares and noisemakers. Chuck Sullivan and I are devising a tripwire system that pulls the pin on a unit (manufactured by Hi-Vel of Utah) that fires a 12-guage blank:



I've been consulting with Chris Bray and Clark Carter, two Aussies who've just completed 58 days in the Arctic, and sent me the following photo of themselves setting up their bear tripwire:

My situation will be a bit more like Ben Saunders' North Pole camps (photo below, from www.bensaunders.com) camp – that is, more ice -- although I will have the tripwire further out from the tent to give me more time to react.

Emergency Scenarios

*

I'm coordinating all my activities with the North Slope Borough's Search and Rescue team.

NSB-SAR will get daily reports of my progress and position, and I've been approved to borrow one of their EPIRB units, a satellite beacon that can be used to call for help in dire emergency. The North Slope SAR operates a Bell 230 Jet Ranger equipped with night vision, medevac, and light hoisting capacity. North Slope SAR will have my entire expedition plan on file, as well as a list of all my gear, communications equipment, and so on. I'll personally visit with the pilots before heading out for the sea ice. We'll discuss comprehensive plans and rescue coordination procedures for a variety of scenarios, so that if 'X' goes wrong, as opposed to 'Y', specific procedures would be followed.

Bell 222/230 as used by NSB-SAR

Writing

*

Just for fun, an account of my expeditions to Iceland's Vatnajokull Ice Cap, between 2000 and 2004, when I finally made the first solo winter crossing, followed by an account of part of a sailing expedition off Colombia; the second story will be published in March 2007 – alongside stories by Buzz Aldrin and Sir Edmund Hillary -- in the compilation *They Lived to Tell the Tale: True Stories of Survival and Exploration from the Legendary Explorers Club* edited by R.C. Weise.

Elemental Lessons

Alone in Winter Across Iceland's Ice Cap

First published on www.summitjournal.com

water

The stream rushed through the night with the white sound of eternity, a sound that preceded all humanity and would succeed all humanity. I stood on the volcanic gravel shore and watched faces slip by in the foams. The tumbling water conjured them from memories of my father's drawings, faces floating in abstracted swirls. In the river they whispered, grinning: *You spark* they sighed, like a grandmother tickling a wriggling baby, *You little bugger, You little gitchie-goo.* From Africa to Alaska to Colombia I'd heard the same ghostly whisper in wind-washed trees. Here in treeless Iceland it was the water that spoke, but the words were the same.

I kicked a spray of dark cinders into the water. They instantly vanished in the turbulent rush. The spell broken, I looked up. The edge of the Vatnajökull ice cap, a 100-mile wide, mile-high relic of the ice age, lay just a mile ahead. The moon was up and the ice sheet glowed ghastly white, like a vast, low, mushrooming fungus.

It was February, 2004, yet it was too warm. The stream guarded the ice sheet like an enormous medieval moat. I had to wait for a hard freeze. Picking my way back toward the hut across a dark moonscape of low hills and ragged rubble, I thought back on my last three attempts to cross the Vatnajökull, alone, on foot, in winter. Perhaps I could learn something from them, something that could vault me across that hurrying wash and get me onto the ice cap again.

wind

Halldor Kvaran -- the bullet-shaped, bullet-hard, gruff, stubble-scalped President of the Icelandic Alpine Club -- shook my hand as he climbed back into

his truck. "This is as far as I can take you," he said. My sled and other gear were laid out on snowy gravel near the head of a small valley, below a seven-mile long tongue of tumbled ice, studded with glints of moonlight, that led up to the ice cap plateau. The sky was clear and the stars burned evenly.

Halldor switched on his headlights and wheeled the truck around to point down the valley. "Remember, nobody has ever tried this before," he barked. "Be careful! I don't want to see you in…how do you say…a non-living condition!" I held up a mittened fist as the truck crawled up a hill like a moon-rover and then, with a last flare of cherry-red brake lights, went down the other side, swallowed by the night. I turned to set up camp. It was late December, 2000.

Only 48 hours later my first expedition to Iceland, and my composure, were being pierced and pried by spears of wind. For fifteen hours I'd been supporting the tent with my back braced against masses of supercooled air avalanching off the ice cap. The blasts overran my campsite like a division of Panzer tanks. Sabers of wind slashed beneath the tent, raising the floor with a rippling rush that passed and dropped the tent with a bump. I wore all my clothes against the -40°F temperatures and hung a knife around my neck to cut myself free of the tent when it was finally destroyed.

When my mind finally broke, I shoved survival supplies into my pack and crawled outside, choosing to run for my life rather than be swept down the valley in my little tent, a ready-made body bag.

The valley's braided melt water streams were flash-frozen with a skin of ice. Barnloads of snow, swept off the ice cap above, descended steeply and then whirled and twisted down the little valley, piling up in enormous drifts on the lee side of truck-sized boulders. I could barely stand against the wind, and several times I was knocked over. At least the wind was to my back as I descended the valley. Sometimes I let it blow me, flat on my belly, across frozen pools or streams. My headlamp illuminated the racing billows of snow with a maddening strobe-light effect, so I switched it off. In a moment of morbid fascination, I risked frostbite to take the wind speed with my little anemometer. It topped out at over 70 miles per hour. The pressure dropped to 888mb. In the tropics, this would be a hurricane that ripped trees from the ground.

Seven staggered, stumbled miles later I found a perfect bubble of still air in the lee of a huge boulder. When I sat to open my pack I slipped into an infantile state, fascinated by the minute details of one of my backpack zippers. A last mental shudder warned me of hypothermia, and I shook myself from the night's frigid grasps.

In the morning I straggled to a small fishing village on the coast. I was thoroughly beaten. My dream, apparently, was larger than I was. How could I have so underestimated Iceland's winter, and overestimated myself? I had no answers, and I was kitten-weak with fear and self-loathing.

Two days later I sat in a cafe watching a banner of snow being torn from the ice cap plateau, thirty miles distant. Could I actually go home now? No. I packed, and went back up, carrying my lesson of humility like a scarlet letter.

ice

Glassy ice crunched beneath my crampons with each slow kick-step atop the narrow vane of ice. Ice chips tinkled down the crevasses to either side. The sled slid along almost without friction, too-easily riding the narrow ridge-top between crevasses. The routine was mind-numbing, slow, and careful: two cautious steps backward, stop, slowly pull the sled a few feet-- not letting it tip down either side of the ice vane we were perched atop -- look behind....two steps backward, stop...It was only nine miles to the firn line, but moving so carefully, alone and unroped in the crevasses, sometimes I made less than a mile a day.

It was slow and dangerous work and I checked my crampon straps repeatedly. If one loosened I'd slip and fall straight down a crevasse, and that would be the end. I'd imagined the scene a hundred times over the last year; the embarrassed shriek, the thuds and the falling, the clatter of the 150-pound sled crashing down the narrow walls above me; the silence.

I calculated every move and step, and by the end of each day I lay aching and exhausted as the ignored physical and mental strains finally crashed together like cymbals.

It was the third day on the glacier, the third day of winding my way through a labyrinth of ice, trying to reach the ice cap plateau. It was January 2001, but the 30 feet of snow that normally capped the glacier hadn't fallen this year. The exposed ice was so wracked with fissures, hollows, caves, cracks, and crevasses that sometimes there was more open space than ice to stand on. I moved ahead, and then back, left and then right, my crampon-spike trail twisting a knotted path through the maze. The sun, crawling low across the Southern horizon, ignited the tips of the ice vanes with a wet gold. Darkness fell by early afternoon, and most days I worked in dark silence until I found a patch of ice wide and level enough for my tent.

That ice was a fountain of wonders. Once, sitting on my sled for a mid-day rest, I saw that the ice beneath my boots was spring-clear. When I knelt down to look closer, I saw shapes in the ice below. Clouds of white or gray air were trapped in the ice, five, eight, ten feet or more below. When I moved my head from side to side, they writhed through the thick, irregular lens of ice. There were also nebular bursts of blue and white, locked in mid-explosion. There were blue-white frozen rivulets, worm-twisting along an ancient ice surface. There were swirls and smears of black volcanic dust, fallen, maybe, in the days of Egypt. The menagerie of rippling shapes hypnotized me, and to keep them in their surreal, pleasantly drunken motion, I moved my head back and forth, and from side to side, like a mesmerized snake. The ice had brought me to my knees with a beautiful charm, and I dimly imagined it trapping me, imagined a cold hand closing around my ankle. The lore of Iceland is populated by a hundred ghouls and

spooks, a hundred conjurers, witches, and tricksters. Perhaps the spectacle in the ice was an ancient spell, meant to trick or distract winter travelers. I blinked and stood, smiling at the thought.

It was quiet on the glacier, but not silent. On the ninth day, rain and sleet washed over my tent with the hiss of tires on wet asphalt. When the rain stopped, there was only my breathing and the crunch of ice beneath my insulation pad. As I floundered in semi-consciousness, there was a single sharp crack, the sound of a distant rifle. I knew it was the birth of a new crevasse. I'd seen inch-wide, perfectly clean cracks in the ice. Another night there was the long crash of a chandelier thrown down a flight of stairs. I knew what this was, too: a skin of ice, once bridging a crevasse, had cracked and fallen apart. Now the shards clinked and rattled down the lethal slot.

On the 12th day I dragged the sled off the edge of the ice sheet and stood on black, porous volcanic gravel, right back where I'd started. Miles of backtracking, ten days of exploration with no escape found, and a light blanket of snow that crusted the crevasses with an insubstantial lid all sent me down. For the first time in nearly two weeks, I could walk without crampons. I was soaked and shuddering from the two-day retreat through driving sleet, but I didn't care. The labyrinth had beaten me, but I was alive, I could try again, and I was happy: the adventure had been pure. The next night one of my tent walls was suddenly bleached white in Halldor's powerful truck headlights. I squinted out to see the his squat silhouette jogging towards me through steady rain. The expedition was over: I didn't have to talk to myself any more.

mist

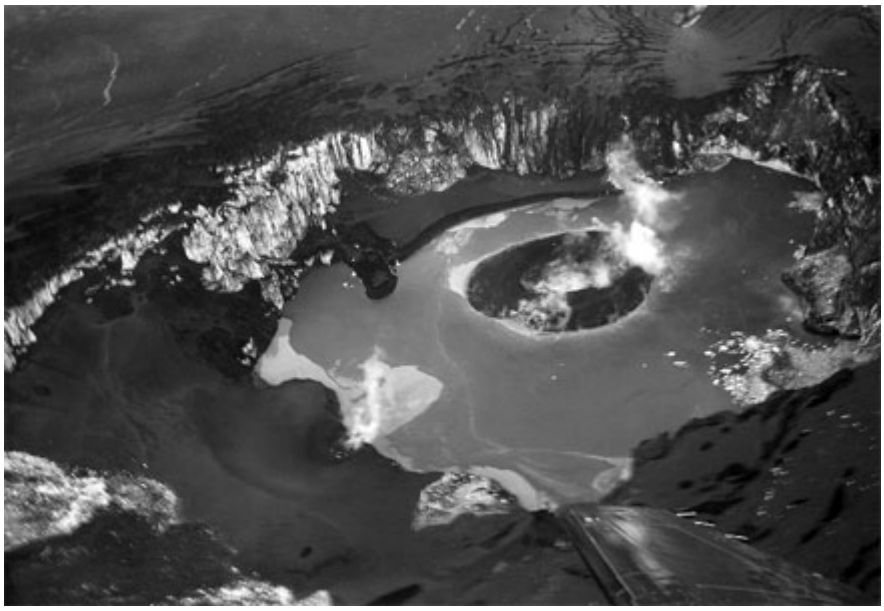
I stopped pulling the sled for the night and furiously windmilled my arms, driving blood back into my fingers. It was just before Christmas, 2003 and I was alone on the ice again. I huffed into my mitt-wrists before pulling out the GPS to log my position. The little gray digits settled into place: I was 24 miles into the ice cap, nearly at the Grimsvotn Ice Cauldron, a three-mile wide crater caused by volcanic vents a thousand feet beneath the ice.

Grimsvotn...it was one of the features of the ice cap that drew me, from the start, like a magnet draws a speck of iron. Below the crater was a sub-glacial volcano, a result of the stark fact that Iceland is being torn apart as two continental plates grind apart, one West, one East. The rift between them is a no-

man's land of volcanoes where the earth buckles and splits, gouting lava upon the black moors which are devoid of life. Beneath the ground lurk more volcanoes, like a great chain of deeply-buried explosives that run runs right through Iceland…and right beneath the Vatnajökull, creating the Grimsvotn Caldera.

Grimsvotn had been a source of wonder and terror for generations. As early as the 13th century, Icelanders watched towers of ash and soot climb high from somewhere near the middle of the ice sheet. From Reykjavik, 100 miles away, they witnessed blooms of orange light flashing and flaring silently above the ice. Not long after these eruptions, enormous masses of melted snow and ice burst forth from the Southern edge of the ice cap, blasting the countryside with a biblical spectacle. The roaring torrent -- equivalent to an instant Mississippi river -- carried away animals, people, and entire farmsteads. Choking gasses escaped as well, and of one 14th century eruption, The Abbot of Arngrimur wrote: "*From under these mountains at times falls a torrential stream, its volume enormous and its stench foul enough to kill birds in the air and men or beasts on the ground.*"

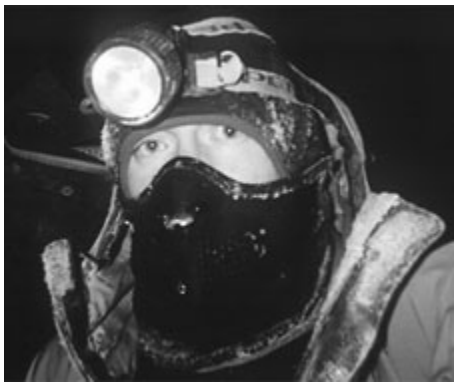
Grimsvotn was the single source of these dismal wonders, but nobody knew it until two Swedish explorers stumbled across the crater in the summer of 1919. When one of their sled-hauling pack-horses refused to take another step through the thick mist, they stepped ahead to coax it into continuing. At that moment, the mists parted, revealing that the pair stood on the brink of the massive crater. A thousand feet below a steaming lake and sputtering geysers formed a mist-shrouded, deliciously diabolical scene.



Without pack-horses to warn me, I knew I'd have to be careful not to wander into the crater. Unfastening my harness, I started setting up the 'sled-hut'. Halldor had built this contraption--a fiberglass-hulled 'sarcophagus on skis'--to allow the occupant to survive nearly any winds. I wriggled into the yard-wide shell and zipped up the door, shivering as my sweat froze inside my clothes. Normally I might want to leave a tent door open, to look at the snowscape, but for the past two days I'd been traveling through a dense fog, and there was nothing to see out there.

The next night I traveled again through thick blowing mists, white masses that blew silently by like the clouds you see out an airliner window. When they parted, for brief moments, I stopped dead, gasping at miles of moonlit snow spreading out in all directions. When they closed again, I kept my headlamp focused on the sluggishly-turning ship's compass mounted on my chest harness.

Occasionally I saw strange visions: a dim distant twinkle was an impossible city of ice-dwellers, miles ahead and a mile below the surface. A dark hollow was the Grimsvotn crater itself--until I arrived and found it only a few feet in diameter. The most disturbing and vivid hallucination was that of two giant legs, taking one, then two mile-wide strides far up ahead. They were distinct legs, slicing through low cloud at knee-height -- *Whoosh! Whoosh! Gone in the mist!* Was this a Frost Giant, the Ymir of the Icelandic mythos, up from Hell to inspect the ice cap? I scraped my goggles and kept moving.



When I arrived at Grimsvotn the clouds lifted. The three-mile wide crater was laid out before me, the bowl white with rime, the rim showing patches of black rock and rotting gray cliffs. Rising from the center of the crater was a gigantic plume of steam. Ice crystals blinked with moonlight as they rose and twirled away. The steam fuzzed the moon and stars with a high, colorless film. I veered away, threading a mile-wide gap between the crater to my left, and a huge dome of ice to my right. The surface was an expanse of gnarled rime ice, endless fields of ice-cauliflowers, spikes, and cracking, ropy ice formations that I couldn't explain. Later, the aurora borealis stopped me in my tracks once again. Immense columns of light, bottle-glass-green and impossibly huge, fluttered in slow motion like streamers in interstellar space. Suddenly a gout of amber light spilled from the column-tops, washing the sable sky with a screen that dimmed the stars. All I could do was croak the word, "Aurora!"

Later that evening I found myself traveling too fast down-slope. I'd been carefully skirting the edge of the Southeast rim of the crater, and was just about past it. Up to now I'd made less than three hundred feet of course error. But now my course veered North again and again, towards the edge. Normally I had to walk, but here I was skiing slowly downhill, and the giant sled-hut was beginning to creep up and overtake me. It was too fast, and I couldn't see more than fifty feet ahead. Suddenly a giant black gash showed through the mist, and I knew instantly that it was an enormous crevasse. *Impossible*! There was good snow this year, and I hadn't seen a single crevasse so far! But here was a monster, more than 25 miles into the ice cap, and I was going to crash over the edge in a few seconds. The crack was at least fifty feet across, and I knew it would be more than a hundred feet deep.

I threw myself onto my side and drove my skis into the loose snow as brakes. The sled hut kept going, passing me to the left and putting a bizarre twisting strain on my harness, dragging me ahead now, plumes of snow leaping from my shuddering skis. I was going to be dragged into the crevasse; the old, too-familiar nightmare scenario was actually unfolding, right here, right now. I don't remember thinking anything, just grinding my teeth as I shoved my skis deeper into the snow to try to stop.

I did stop, ten feet from the edge. I lay there in the snow, not daring to move. From years of mountaineering I knew that I could easily be perched on a ten-foot cornice, an unstable snow ledge overhanging the icy chasm.

Finally, thinking the lightest thoughts possible, I started dragging the sled away from the brink. Several hours of absurd labor, wallowing hip-deep in loose snow, took me far enough away to camp. I collapsed inside the sledhut, shaking with fatigue and shock. Only the random fact of a slightly thinner patch of fog, right there before the crevasse, had saved me. But I was still alive, and the expedition was still on.

But late on Christmas night I called for help with the sat-phone. The camp I'd set up camp, a hundred yards from the crevasse, was just below the rim of the crater I'd blundered into through the mist. Windblown snow, driving across the ice cap plateau above, lost velocity as it came over the crater edge, and it bombed down on my lee slope like a slow-motion avalanche, burying the sled hut in a thick white blanket. After two days of constant digging-out I was still buried and the sled hut was buckling inward under three feet of snow. There was only a small gap high in the door for me to crawl in and out, and between digging-out sessions I waited for the terrible implosion of the sledhut walls. My clothes and gear were soaked and freezing from a miserable freeze/thaw cycle. I could barely light my stove in the choking sled hut. I made the call and punched DISCONNECT and collapsed in my sleeping bag with a blank mind.

When the rescue team arrived, I reeled with sickness. As in the wind-storm two years before, I'd broken again, and this time my weakness had effected other peoples' lives. It was a horrible feeling, a free-fall into despair. I'd retreated from lots of mountains over the years--the last was from a third of the way up El Capitan, in winter, as plates of ice broke from the rim 2,000 feet above and exploded on my bivouac ledge--but I'd never called for help. I'd even gotten myself out of the ice maze on the last attempt, and that never fretted me because I'd done it alone. But now my ambition to cross the ice cap, alone, on foot, in winter, was making me break my own rules, and violate my own principle of self-sufficiency in the wilderness.

snow

Back in civilization, I felt cut off, as though a thick pane of glass separated me from the rest of humanity. The only way to shatter it was to return to the Vatnajokull and try again.

And so in February 2004 I found myself scuttling through the night moonscape of pock-marked volcanic boulders, shifting-underfoot gravels, and sucking quicksands, putting the rushing white river behind me and thinking on my past expeditions.

Had I learned anything that might get me across this time? As I crunched to the summit of a disintegrating hill of cinders, and the hut appeared half a mile of moonlit glacial outwash plain away, I realized I had indeed learned a

few things, things you can be told again and again but can only be appreciated through experience, and might have to be repeated: be patient; be careful; don't count on much at all. *Tomorrow*, I thought, *all this melt might be frozen*. *Tomorrow, the volcano might go off and blast a three-mile long, thousand-foot-deep chasm near Grimsvotn, like it did in 1996. Tomorrow, you might break your leg. Tomorrow you might just vanish in quicksand*.

None of those happened. The next day I crossed the river when it was half-frozen, dragging the sled hut like an icebreaker and shambling up the far bank like a slush-encrusted Tin Man. After a delay to repair the sled hut, I moved onto the ice again. I pushed hard to get to Grimsvotn as a storm whirled up from the South. Late one night, being killed by -40F temperatures and blinded by masses of speeding snow, I found, just in time, a bunker built into the ice by the Icelandic Glaciological Society. Rather than be buried again, I left the sled hut outside and took up a troll's existence in the plywood box as the storm roared above me and the volcano rumbled below.

Five days later the wind let up and I made my escape, pushing 30, 40, 50 miles into the ice cap interior over the next few days. Another storm cranked up, but I pushed ahead, leaning through bullying wind. I made pitiful daily distances and ended each day crusted with slush and sleet. Mornings were grisly, shaking, tooth-rattling times as I climbed into soaked long-johns and the ice-heavy shell suit, and then crawled out into the wind and snow.

Finally I ran into the Snow Swamp, a 20-mile stretch of snow loose and deep that even my skis sank. I took them off and resorted to post-holing. The snow was fluffy as ashes and I sank to my knees at every step. The sled-hut dragged like an anchor, and, alone, I was free to whimper at the feeling of dragging a refrigerator up a ski slope. I made just a few miles a day, whereas on compact snow I could make fifteen uphill. Looking back at my track-trench one day, I realized that I was traveling through the ice cap more than I was traveling across it.

I don't remember much: the mist never lifted long enough for me to see more than a few feet. Sometimes I inhabited a tiny bubble of consciousness, my past and future restricted to moments, my world limited to the few feet I could see in any direction. But most of the time my mind, maddeningly, wandered the halls of memory, retrieving irrelevant recollections, interweaving unconnected thoughts, constantly tilling over new combinations of ideas. Sometimes songs snagged my mind and wouldn't let go. For two days, Buddy Holly's *Rave On* wheeled through my mind like an unstoppable carousel.

At the 90th mile I rose out of the Snow Swamp on ramps of gloriously compact snow. Here the snow didn't squish and slide, it puffed up from my pounding boots and sparkled in the moonlight. I grinned made for the top of my exit glacier.

On the 29th morning of the expedition, at mile 93, I heard the buzz of a distant snowmobile. I whipped around, startled to see it coming up behind me. On the sat-phone I'd said I would assess the descent glacier, and get back in touch, but a snowmobile had already been sent up from a safer Southern glacier. I stopped and watched blankly as the machine approached.

The engine idled as the driver, an old farmer named Bjarni, hopped off and removed his helmet, dragging his fingers though a mat of sweaty gray hair. It was jarring to see another face after so many days alone. I pointed down the glacier and raised my eyebrows but Bjarni frowned and shook his head. "Bad cracks, you know? All bad," he said, pointing down the glacier and then drawing his finger across his throat. He shook his head and said "No, no, no, you come vit me, on de skidoo."

I'd come to Iceland to cross the ice cap alone, on foot, in winter. To me, that meant stepping from rock to ice on one side, and ice to rock on the other. This was the moment of truth. Would I gamble, or play it safe?

I thought through the variables. The sled-hut was hard to control on downhills; I'd learned that the hard way, when it nearly dragged me into the crevasse back in 2003. My sat-phone batteries were sputtering, and it would take

a week or more to thread the crevasses, if I could even find a route. I gave myself a 50% chance of making it.

Yes, I'd come to cross from one side to the other, but I hadn't forgotten my lessons. The decision was easy. I carved my initials into the snow with my ski pole, hopped on the back of the snowmobile, and tapped Bjarni on the shoulder. He twisted the throttle and we motored away South and West, floating across the deep loose snow.

I'd come 93 miles across the plateau and was seven miles short, but was content with my decision. I was alive and I could go back, if I really cared about those last seven miles. Some days, I do. Others, I leave them alone, reminders that will bring me home safe from future expeditions: *be patient; be careful; don't count on much at all*.

Escape from Darien

Forthcoming in the anthology "They Lived to Tell the Tale: True Stories of Survival and Exploration from the Legendary Explorers Club" (Lyons Press, March 2007).

Another big Pacific swell came up fast and silent, moonlight flashing on its face. Hurrying East, it lifted and then dropped our 60-foot raft with the smooth motion of an elevator. I caught my stomach and adjusted a steering plank. The glowing compass revolved slowly as the raft pointed back on course. I marveled at how quickly it responded, and in perfect measure.

But I didn't marvel for long. My mind was following the Eastward-driving swell, thinking on where it would end up. I knew exactly where it would end up, but I didn't want to believe it. I knew that eight miles East that swell would rise and then curl and crash as luminescent foam on a dark, stony beach that cowered beneath thick jungle vegetation. I sensed the Darien out there, to my right, like the open jaws of a medieval Hell-Mouth.

Darien. I said it softly aloud. "Darien..." How many conquistadores' tales ended there? How many human disasters had that monstrous jungle hosted, like a grinning spectre? How many old explorers' tales of the Darien had I read throughout my life, and had the jungle – like an enormous net – finally drawn me in?

I took a breath and told myself that none of that mattered. All that mattered now was the wind. If it gave up completely our raft would follow that swell and run aground on that beach. Nobody could help us. Our sailing raft, a replica of a native vessel encountered by Spaniards in 1526, was built of logs, rope, and canvas. We had no engine. Our radio took an hour to set up, and contact was intermittent. We were half-way up a 200-mile stretch of primordial jungle that for five centuries had shrugged off every bloody club and every subtle wedge of civilization.

Manila rope creaked and clicked as the raft wallowed ahead. I looked up at the mainsail, a three-story high triangle of dirty canvas glowing yellow from a kerosene lamp. The sail fluttered, barely tugging us along. If the wind died we'd have just a few hours before the swells drove us aground. I imagined six men scrambling in the dark to get clear of a heaving raft that weighed almost as much as a Sherman tank. The breakers would destroy the little bamboo deck-house, containing our supplies and the radio. And then what?

As another swell swiftly elevated the raft I turned and looked back at the deck-house. There was no light and I turned back to stare at the compass, like a warlock hunched over his seeing-stone.

La Manteña Huancavilca *off Colombia, October 1998*

Hours later the stars winked out as the Earth rolled sunward. Dowar Medina, a fit Ecuadorian fisherman, was slipping on a t-shirt as he came out of the deck-house. He inhaled deeply, smelling the jungle, and glanced at the scraps of vegetation floating in the water. He knew we were too close to shore, but he calmly put a hand on my shoulder.

"Todos OK?" he asked. "No," I said, too quickly for grace and pointing at the barely-inflated mainsail. "We're too close to land and the wind is dying," Dowar nodded absently and stepped back inside.

He returned with John Haslett, the mastermind of the expedition. John and Dowar had sailed this route three years before, on a raft that was eventually devoured by shipworms. They'd landed in Panama after 35 days at sea. Now it was reassuring to see them coldly assessing the conditions together. John stood with his arms folded and his legs spread wide against the swells. He sucked his teeth and said "This is no good," punching out the words as cold as ticker-tape. "We've got to get offshore. If the wind gives up," he said, jabbing his thumb Eastward, "we're done."

By noon all six of us were on deck, facing East. The wind had given up and the swells had driven us in. We were only three miles offshore. The entire Eastern horizon was a billowing chaos of vegetation that roiled skyward, tier upon tier, like oil-smoke. Here and there the greens were smudged gray by pockets of clinging mist.

Through my binoculars individual trees sharpened before swinging wildly away as the raft rolled. I looked up at the sails. They hung like great curtains. We were going in. Our charts weren't good enough to tell us where to drop our anchor. The desperate idea of letting it drag as we approached shore – in the hope of snagging rocks, sea-grass, anything – rattled around my mind.

I imagined the pieces of a horrible puzzle sliding into position; the raft would run aground, spinning and heaving against a nameless, cobbled beach; we would escape with minimal gear and perhaps a quick S.O.S.; we would be stranded in southern Darien, where F.A.R.C. guerrillas held

dominion; nobody could risk a rescue attempt; we'd try to hack our way out, alone. Maybe some of us would make it.

It was an old story. Darien had a bad reputation. Since the conquistadorres arrived in the early 1500's, expeditions had been swallowed up time and again. I imagined a legion of ghosts out there, rags of mist in the treetops.

Perhaps some of those mists were all that remained of a handful of Columbus' men; in 1502, on the Caribbean side of the jungle, they'd paddled up a river for wood and fresh water. They returned as arrow-pierced corpses floating downstream. Later, Balboa lost men by the score, forcing himself across the Isthmus of Panama for the first European glimpse of the Pacific. A little later, seven hundred Spaniards died in a year out there, enfeebled by disease as their colony failed. It was the same gruesome dysentery fate that withered and finally buckled a thousand Scots in their disastrous 1599 colonization effort. Even into the 1800's, Darien's appetite was sharp. In 1854 it took less than two months to reduce a disciplined American expedition crew to maggot-infested, crazed, and near-cannibalistic survivors. And the jungle produced weird tales, like prospector Thaddeus O'Shea's ravings about having shot a ten-foot ape. The jungle remained so impenetrable that a 1970's plan for a new Panama Canal seriously considered 'nuclear excavation'. The 'final solution' to this entangling forest, it was said, was to blast it with civilization's most devastating weapons. The idea sounded less like an engineering plan than deep human frustration with Nature in the same days that men walked on the Moon.

Not much has changed. In the late 1990's, the able adventurer Alvah Simon took on Darien against all advice. Clawing his way up a mere hill through grasping vegetation, he babbled into his video camera: "This has become something more than crazy, something that not anyone could call safe, or even prudent." He retreated not long after. More recently the Briton Karl Bushby successfully threaded the jungle from South to North, avoiding Colombian guerillas by disguising himself as a transient and then clinging to a log that floated him, like Gollum, down the sluggish rivers.

Part of the Darien is a Panamanian National Park now, but it's often closed, and it's never advertised as a destination. Panama doesn't have an army, and they don't confront the F.A.R.C. guerillas that wander freely across the border. A party or two make it through the Darien each year, and some researchers return year after year, without incident. But still others go in, and never come out.

As I recalled this history, my mind crafted an image of Darien as a diabolical mirror-house; a place of quarter-truths where you might look at your watch and see time running backwards; a dark, glistening place where water might flow uphill and only the Cuna Indians and the F.A.R.C. could expect to survive; the former because they'd been there for thousands of years, the latter because they were madmen. We couldn't survive: I was sure of it.

"OK," John said, breaking us from the spell. "We're closing in on the two-mile mark. If we landed here, the survivors would have to 50 miles overland down the coast to that last settlement."

Fifty miles overland, wrestling through mangrove swamps! The buccaneer Henry Morgan tried the same thing in 1670, and within a week his crew was eating leather. I gulped as I thought of my friend, Evan Davies, who'd spent months in the Congo and years later was still taking dog heartworm pills to combat the parasites he'd picked up. I looked at John's left leg. It was already swollen from a massive infection that had started from a scratch. I'd always been drawn to snowy mountains, expansive glaciers or open savannah, and now I felt sick.

Nobody liked the overland trek idea, least of all John. In 1995 he narrowly avoided landing on an island that turned out to be an unstaffed prison colony, an event that understandably soured him on uncontrolled landings in strange places.

"So," he said, coolly peeling a half-rotten pineapple, "We're going to turn South and try to sail down and make a controlled landing in that last settlement." We all knew that the settlement, a simple black dot on our chart, might be abandoned, or a drug-runner's lair, or a pirate's cove, or a

F.A.R.C. base. "But," John said, tossing a rind into the water with a quiet plop, "anything is better than landing here."

We set to work. Only the meagerest puffs of wind came from the southwest, but we worked the steering planks and the sails to hook a gust that wheeled us around, putting the bow South against the northward-flowing Humboldt current. We moved the sails to the landward side of the raft and worked their lines with the greatest finesse, coaxing them like horse reins. By nightfall we were still just under two miles from shore. Even my landlubber's nose detected the wet, crawling soil, and I could hear the occasional crash of a breaker. By midnight we'd slowed our Eastward drift, but we hadn't moved a mile South. Pointed South against the swift current, and shoved from the West by wind and swell, we were on the wrong side of just holding our position. We were edging in. Soon we were just a mile offshore.

Awash on the deck, the author repairs the mainsail late at night.

In the morning we didn't need binoculars to make out the huge, twisted limbs of ancient trees, netted with enormous vines. Someone spotted a white, box-like shape on the beach. It was a small house, almost overgrown. There was no sign of life, but we doubled our watch for pirates.

Early in the voyage, Ecuadorean fishermen had warned us to stay at least 30 miles offshore, particularly off Colombia, where pirates approached their victims in boats painted like those of the Colombian Coast Guard. We checked out our only armament, a rusty double-barreled shotgun purchased in a back alley in Ecuador. Even if it worked, what good would it be against half a dozen automatic rifles? We all knew we couldn't survive an attack. *Bloody Hell*, I thought, *if I ever come back here, I'm going to be armed to the teeth.*

After midnight I was on watch again. Now I could hear the soft crash of every wave on the shore. The sails hung limp. The rest of the crew slept, or pretended to sleep, saving their strength

for the disaster. Scott, my watch partner, produced a bottle of red wine. At least we would go down in style.

Crewman Scott Siekierski on night-watch, just off the Darien shore.

Just as he poured a wind crept up and the mainsail fully inflated for the first time in 48 hours. The wine bottle clattered away underfoot as we jumped up and yelled for the crew and set to work. By dawn we were seven miles offshore. The relief was enormous. But we still had to land safely in a friendly place.

At noon we were just five miles out from the bay and the little settlement dot on our chart. We'd successfully navigated the lumbering raft against the current, and with poor winds, to precisely where we needed to be. At two miles out we sailed through a narrow passage between enormous rocks. Soon the little harbor appeared, an ear carved neatly out of the coastline. Several vessels were anchored in the flat water and we were all out on deck for the moment of truth. Come what may, we were headed in, totally visible now, and we would meet the owners of those vessels in less than an hour. Peering through binoculars, John told us he saw a sophisticated vessel, possibly a warship. If it was F.A.R.C., we were finished. We'd be captured for ransom and probably killed even if the money was paid; that had happened to the brother of our Colombian crewmates.

Through binoculars I could see that the ship bore the insignia of the Colombian Coast Guard. I saw figures standing at the ship's railing, watching us as we came in. I couldn't tell if they wore uniforms.

When we were closer in it was clear that the vessel was armed with light cannon and heavy machine guns. We were all very quiet as we let off the sail a little and slowed our approach. A launch was lowered from the ship and motored out towards us. Again we saw the Colombian Coast Guard insignia. This was it. We could only wait; we were at their mercy.

Reprieve! It was the real Colombian armada, anchored here while on patrol for pirates. The executive officer inspected our passports and invited us to dine with the Captain that night. Laughing with disbelief at our luck, we anchored right next to the 100-foot *Simon del Benalcazar*, the greatest concentration of firepower on the entire Colombian coast. Even the F.A.R.C. would steer clear of her.

Early the next evening we paddled our inflatable dinghy towards the Darien and waded to shore, setting our feet on land for the first time in 17 days. The jungle was silent. We explored the weedy ruins of an abandoned settlement, a cluster of leaning houses.

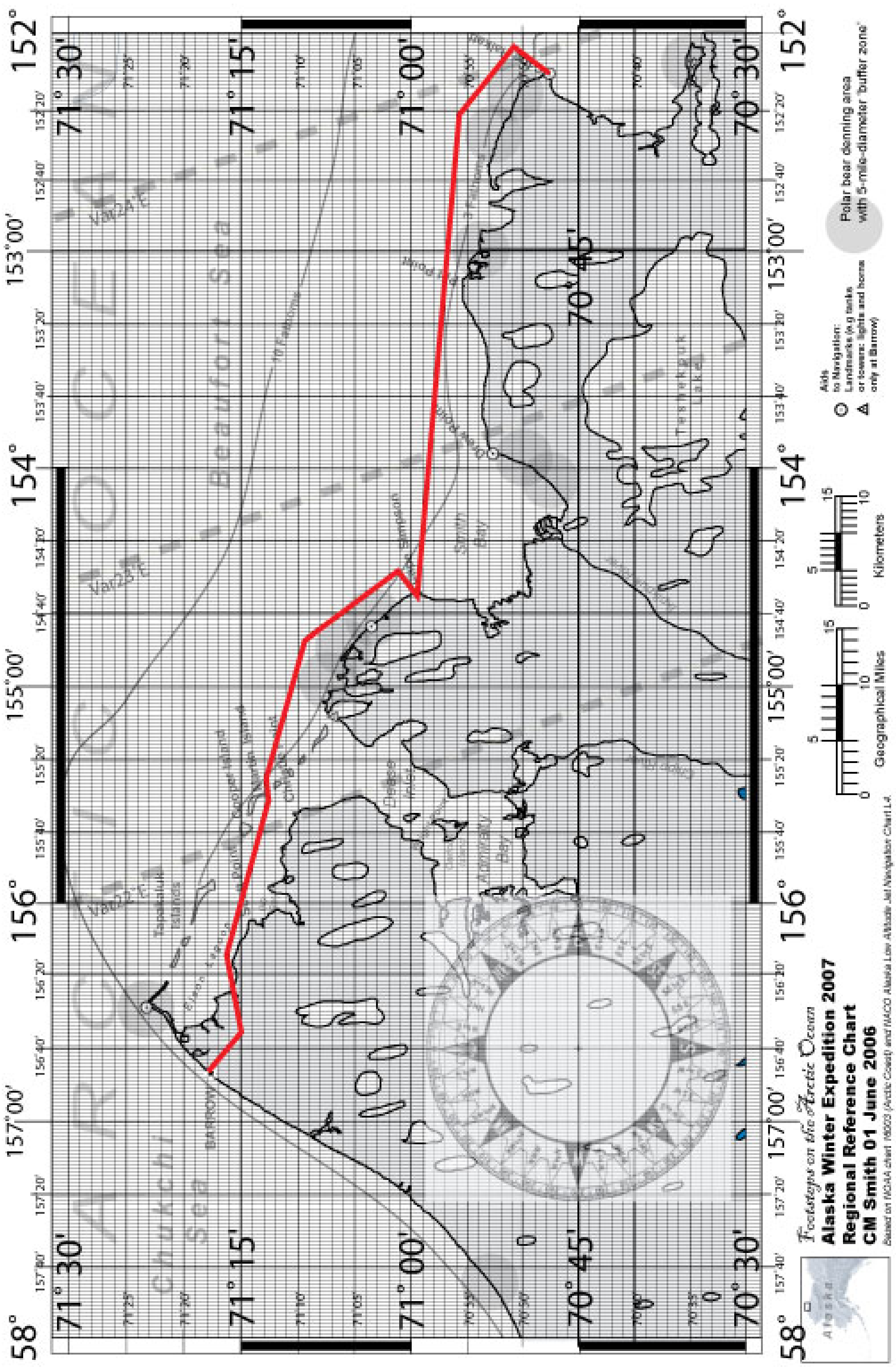
Landing site in Northern Colombia, where Pizarro battled with native Cuna Indians.

I was overawed by our connection with a bloody history. Over four hundred years ago Francisco Pizarro had landed exactly here, and fought a battle on this very beach. As we looked into the muddy house-frames, where filthy mattresses lay abandoned in bare rooms and blackening magazines rotted like leaves, I imagined Pizarro grunting as he poked through Indian huts, looking for food or gold. In the end, despite capturing the wealth of the Aztecs and the Inka, Spain was no better off, and declined as a European power. *All that effort*, I thought, *for what*?

In the end, all that remained here was the Darien; leering, stoic, unassailable as ever. Its greenery would crawl up and engulf whatever was built here. Only a rain of hydrogen bombs could annihilate this forest. And when that happened, nobody would be left to care.

About the Author

Dr. Cameron McPherson Smith, a Fellow of the Explorers Club and a Life Fellow of the Royal Geographical Society, is an archaeologist at Portland State University. The 1998 Manteño Voyage – an attempt to retrace a well-established maritime trade route between Ecuador and West Mexico on a replica of a native balsa sailing raft – was John Haslett's second balsa raft expedition. Smith and Haslett are currently planning another attempt, documented at www.balsaraft.com. Haslett's account of his expeditions to date, Voyage of the Manteño, *will be published by St. Martins Press in Fall 2006.*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