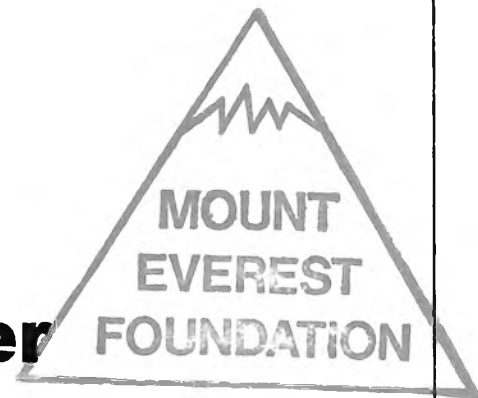


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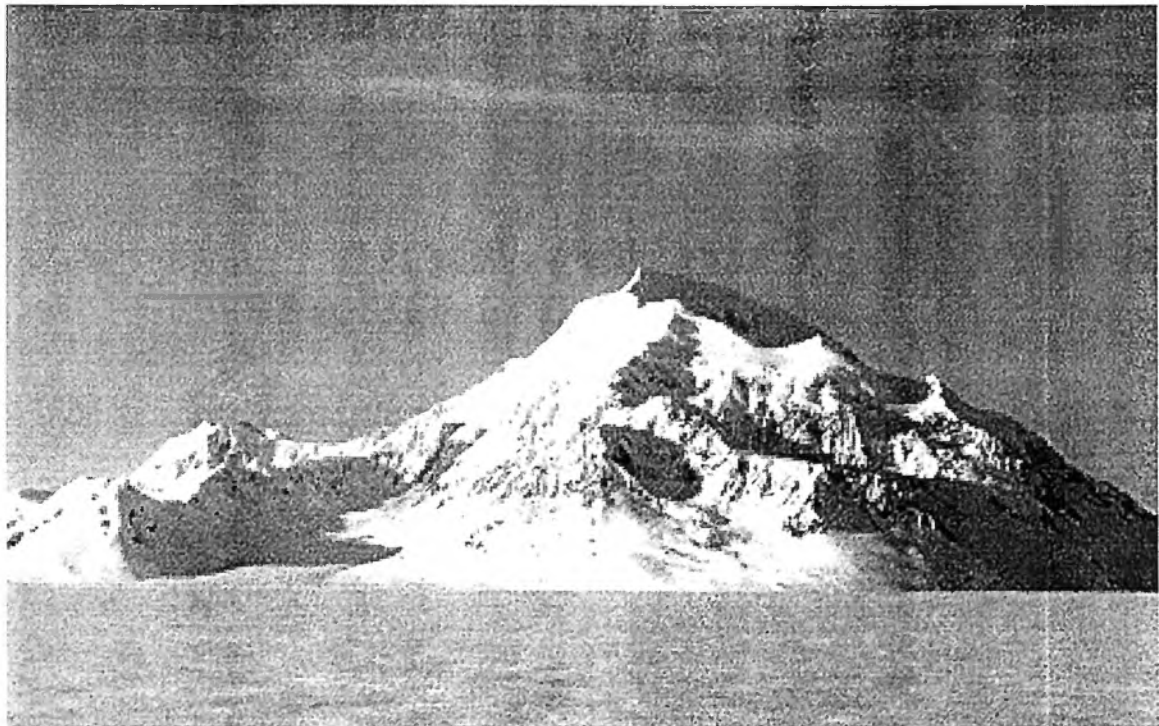


Hubbard Glacier Mountaineering Expedition

May - June 1999

MEF Reference: 99/38

Final Report



Mt Seattle from the N

Expedition sponsors

Mount Everest Foundation

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Summary

Area visited:	St Elias Mountains, Alaska/Yukon border
Objectives:	E Rib Mt Vancouver; New routes on Mt Seattle, Mt Foresta.
Outcome:	<p>During a prolonged spell of unsettled weather we had a minor epic trying to approach the E Rib of Mt Vancouver (4812m) through the complex icefall guarding the route. Cutting our losses, we opted to attempt Mt Seattle (3069m). We climbed the N Summit via the E Ridge, which turned out to be a serious route although the most direct on the N side of the mountain. This was a new route, the first ascent of the N Summit (marked on the maps and forming Boundary Peak 178 on the Alaska/Canada border), and the second ascent (first British ascent) of the mountain as a whole. Visually, the S Summit is about 30m higher, but it is also 3km distant along an undulating ridge.</p> <p>Overall the range lived up to expectations in providing big-mountain atmosphere and conditions in an easily accessible area.</p>
Contacts:	<p>Paul Knott: Dept of Management, University of Canterbury, Private Bag 4800, Christchurch, New Zealand. EMail: P.Knott@mang.canterbury.ac.nz</p> <p>Ade Miller: EMail: ade@summsoft.com</p>

Area introduction and climbing history

The St Elias Range is straddles the border between South East Alaska and the Yukon. Many of its major peaks form turning points on this border. The peaks and glaciers of the range are on a huge scale. The range includes Canada's highest peak, Mount Logan, which in terms of its bulk above the surrounding glacier is described as the largest mountain in the world.

Being close to the Pacific Ocean the range receives considerable snowfall. This is a boon for devotees of big white mountains, and ensures that much of the loose rock is covered, but also produces the unsettled weather and challenging snow conditions for which the range is also known. These problems, combined with the scale and the complex broken glaciers guarding many potential routes, constitute the main reasons why the range has never become a popular climbing destination.

The area and its climbing history are well covered in the major North American climbing journals. Care should be taken in interpreting the survey maps of the area, which contain significant inaccuracies.

Routes and topography – Mount Vancouver

Mount Vancouver is one of the major peaks of the range, forming a huge mass between the Hubbard and Seward Glaciers. Despite its bulk the mountain looks attractive from most angles. This and the large number of ridges have led to a considerable number of routes.

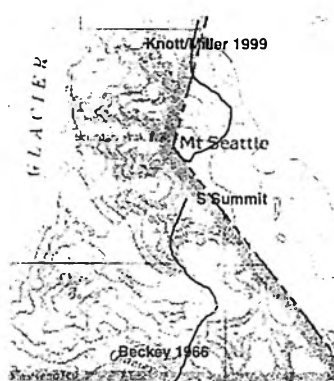
The mountain has 2 main summits on a ridge running N-S. Their highest summit is misidentified on most maps. The N summit is highest at 4812m (15787ft) and takes the name Mount Vancouver. The S summit was originally thought the highest so was used to form the Alaska/Yukon boundary, hence its name Good Neighbour Peak (4785m, 15700ft). Heights are different on every map and in every reference.

1948	NW Ridge to c.4000m	Partial ascent	Including Bob McCarter. Considered to have completed 'hard' sections.
1949	NW Ridge	1 st ascent	Via Institute Peak. Arctic Institute/ AAC party led by Walter A Wood. Summited 5 Jul. 3 camps on the mtn. Summiters Bob McCarter, William Hainsworth, Noel Odell, Alan Bruce-Robertson. Wood sick with gasoline poisoning.
1967	S Ridge of SE Buttress	1 st ascent of Good Neighbour Peak.	2nd ascent of Mt Vancouver (traversed to N summit). Montague Ewart Alford, John Vincent Hoeman. Summited 25 June. Centennial climb for the Confederation of Canada & US purchase of Alaska.
1968	SW Ridge	New route.	2nd ascent of Good Neighbour Peak. Japanese team. 3 killed in avalanche.
1975	N Buttress	New route.	Japanese expedition. Summited 7 June.
1975	NE Ridge	New route	MIT Outing Club including Rob Milne. Summited 29 June. Approached ridge from S, via same crevassed basin that leads to E Rib.
1976	W Face	New route.	5th ascent of Mt Vancouver. Alpine Club of Canada trip.
1979	SE Ridge	New route (no summit).	Vancouver college trip. Jun 1 to Jul 1. Badly corniced, forcing climbing on steep slopes. Turned back 700ft below summit but by then had joined 1967 route. Had failed on same route in 1978 due to bad weather.
1979	'S-most E Ridge'	Failed attempt	Fred Beckey found the approach to this ridge 'nearly hopeless'. Moved to Mt Foresta by helicopter.
1987		Failed attempt	Canadians failed on NW ridge.
1993	S Spur	1 st complete traverse	Bill Pilling and Carl Diedrich. Summited 16 May after 3 days. Missed N peak. Crevasse accident near Institute Peak on descent of NW Ridge.
1994	S Spur	Repeat of 1993 route.	Seth Shaw & Kennan Harvey. Poor weather. 12 day storm after their descent during which they only moved 6 miles on walkout to Kluane.
1995-98			No reported ascents.

Routes and topography – Mount Seattle

Mount Seattle is a pretty but complex mountain sitting at a confluence on the Hubbard Glacier. Although not a high peak compared to others in the area Mt Seattle is still a serious and sizeable mountain, as both 1966 and 1999 teams discovered. There is no apparently straightforward route to the summit. Lines on the W face, including several ridges, would be hard to approach as the Hubbard Glacier falls off at this point and the lower part of the face is badly crevassed. The N Ridge has no obvious stoppers but is very long and undulating, and could easily have hidden difficulties.

The first and only previous ascent was by Fred Beckey and party in May 1966 (AAJ 1966-7 pp.265-268). After an air reconnaissance they concluded the S summit was the higher (a conclusion we can now support). They also felt that the N Ridge, their original objective, was corniced, exposed to the wind and devoid of campsites, and so opted for the SSW Ridge. Enthused about climbing from the sea and lacking convenient access to a ski plane, they sailed in via the Russell Fjord and approached via the Variegated Glacier. They almost lost their gear in the sinking boat after it struck ice, but eventually reached the S summit on 16 May after equipping 2 camps on the approach and 2 on the mountain. The trip was filmed by a Seattle company, resulting in a broadcast documentary.



Extract from USGS Survey map showing routes on Mt Seattle

The N and S summits are 2km apart as the crow flies, and 3km or so along the ridge line. The N peak is the boundary peak, marked as 10070ft (3069m). The S peak was given a height of 10185ft by the 1966 Beckey team; this is inconsistent with the maps but we did observe the S peak to be the higher top.

Notes on Mount Foresta

During the trip, and especially the walk from Mt Vancouver to Mt Seattle, we had the opportunity to view several of the surrounding peaks and glaciers. The following notes may be of help to prospective parties:

All potential routes on Mount Foresta from the Hubbard Glacier involved extremely long ridges or approaches up badly crevassed glaciers. Climbers dropped in the vicinity have apparently been commencing ski tours rather than intending to climb the mountain. One team is reported to have attempted a repeat of the 1979 Beckey route. Our observations from Mt Seattle support this team's claims concerning which is the highest summit.

1999 Ascents

During the 1999 season only 3 trips other than ours resulted in ascents recorded in the climbers' log in Yakutat. Apart from a 'glacier skills' course, we were the last climbers approaching from this side to leave the range. This information obviously excludes parties flying in from Kluane. The recorded ascents were:

- W Ridge of King Peak, 4 - 9 June by a Colorado team
- Mt Kennedy from the Cathedral Glacier by an Idaho team, 18 May - 6 June (failed on Hubbard due to weather)

- First ascents in the N Watson area of the Fairweather range, 4 peaks 9300ft - 10700ft of which the hardest was 2500ft of 60° ice on the N Face of Pk 10700ft. Weather from 17-30 April was acceptable, reportedly due to being in the rain shadow of Mt Fairweather.

Logistics and organisation

The expedition was conceived over several expensive pints of beer in a London pub. Subsequently the members dispersed to their separate continents and co-ordination was solely by Email. The team met up in Seattle late in the evening of 25 May, exhausted from work commitments and the complexities of trans-continental lifestyles. Doggedly we completed some last-minute shopping and stuffed four weeks' food into our already voluminous luggage.

The following morning at the Alaska Airlines desk we were found ourselves causing a scene. As Ade dug around for the fuel bottles the attendant was afraid might smell of petrol, the attendant commented on Paul's overweight rucksack. Unconvinced of the feigned surprise she asked whether we had any more heavy bags. Several minutes later Paul succeeded in lifting the 175l holdall onto the scale, which promptly read something over 100lbs. Luckily the check-in staff were placated by our submissive payment of an extra \$75 charge.

On arrival in a damp, overcast Yakutat we met some Australian climbers who had been waiting for almost a week to fly into Mount Logan, a substantial portion of their available climbing time. Observing a slight amelioration in the weather we quickly pulled our stuff together and within half an hour had queue-jumped our way into the air. Veteran Yakutat pilot Kurt Gloyer landed us as usual sportingly close to our chosen route through the icefall. Some weeks later he was somewhat regretting this as he circled in the flat light looking at the crevasse lines all around the camp. Luckily we convinced him the cracks were all small.

The logistics of visiting the range were described in the reports of our trips to Mount King George (1996) and Mount Augusta (1993).

Dates

19 May 1999	Paul commences outward journey overland from Morocco.
25 May	Team meets in Seattle.
26 May	Fly to Yakutat and on, in a marginal weather window, by ski plane to base camp on Hubbard Glacier E of Mt Vancouver.
28 May	Reconnoitre of the icefall approach to Mt Vancouver E Rib.
1 -4 June	Attempt on Mt Vancouver
6 June	Walk 35km down Hubbard Glacier to Mt Seattle. Start of continuous spell of settled weather.
7 - 11 June	Ascent of E Ridge of Mt Seattle
12 - 13 June	Return to base camp. Heavy rain on glacier shortly after arrival at camp.
15 June	Return to Yakutat by ski plane.

Mount Vancouver attempt

On 1 June we set off for a 10-day assault on the mountain, anticipating spending the first day finding a way through the icefall. This proved to be more complex than our brief reconnoitre had indicated, but eventually we found a tortuous route through a steep section of huge blocks, taking advantage of snow-choked areas. Above, obvious weak snowbridges over enormous crevasses had to be avoided by traversing steep avalanche cones overlooked by seracs on the N Face of Pt c.3000m. By 11am we had almost reached the flat upper glacier but an approaching warm front threatened avalanche and crevasse fall so we opted to camp.

On 2 and 3 June poor visibility and soft snow made it unsafe to move from our camp. On the morning of 4 June a dubious weather window opened up for just long enough to let us get down through the most complex and dangerous parts of the icefall. We had opted to retreat since we had already used most of our contingency food and fuel and there was no sign of real change in the weather. The last 2km to base camp, still in a crevassed area, were navigated in mist and flat light using GPS waypoints.

Assessing our chances on a second attempt, we were concerned about the added seriousness due to the icefall approach and also noted that there were further crevassed and avalanche-prone areas higher on the route. We concluded that success would require a lengthy period of mainly fine weather. The monthly weather report and long range forecast from the Yakutat weather service indicated that the unsettled pattern, related to El Niño, would continue for several more weeks.



Mount Seattle ascent



During the interminable plod down the Hubbard Glacier on 6 June we selected the most probable looking line leading to the unclimbed N Summit. We selected the E Ridge as offering the best combination of directness and icefall-free approach. The obvious crux was a serac band immediately below the summit ridge. There was no visible way through this but we assured ourselves using the 500ft contours on our 1:250 000 map that the ridge was broad and we could easily traverse left to avoid them.

On 7 June, we ascended from our camp at 1100m on the glacier and up a snow ramp near the top of the N spur leading to the E Ridge. We then shoveled our way over several unconsolidated snow mushrooms to camp below a large schrund on the main ridge at c.1865m. On the ridge, facing the rising sun, snow conditions became dangerously slushy after about 8am and only started to consolidate properly after 1am. Several areas on this side of the mountain poured constantly with avalanche and rockfall. The following day we continued, up steeper and very exposed slopes with unnerving windslab requiring snow stakes for upward progress, to a second camp at 2480m.

Mindful of the unseen ground on the long traverse below the seracs guarding the way to the summit ridge, we opted to continue carrying the tent. On 9 June we ascended steep slopes to just below the seracs, which it was now clear were only moderately stable. We commenced a nerve-racking traverse on mixed rock, hard ice and unreliable snow, listening to icicles fall off and tinkle down the slopes around us. Crossing the spur hiding the final part of the route we were confronted with an awkward rock and ice couloir barring our escape. Luckily this

turned out to be only moderately technical and the scoured ice succumbed to our specially sharpened tools. After a 50m pitch we were on easing slopes leading us, as the sun gained in strength, to the safety of the summit ridge.

We were on a rounded subsidiary peak on this ridge, between the N and S summits at 2947m. We left a temporary stash of gear and headed for our main objective, the N summit marked as the main and higher summit on the maps.

We were forced to descent 100m to a col, after which moderately steep icy slopes led directly to the distinctively shaped N summit. This we reached at around 9am, disappointed to find it was slightly but noticeably lower than the S summit climbed by the 1966 party. The intervening ground was not technical but the 3km or so of undulating snow ridge would have taken until well into the afternoon and we were concerned about our descent below the seracs early the next day.

After a camp on the subsidiary peak on the summit ridge we reversed the route without mishap. The first day of descent we curtailed at our Camp 2 just after 6am due to concern over rapidly softening snow. The following day, 11 June, we completed the descent, finding many features altered, including snowbridges weakened, due to melting.



Weather and conditions

During winter 1998-9 the coast including Seattle, Juneau and Yakutat experienced unusually heavy snowfall. Patches of snow remained in Yakutat despite our arrival in late May; usually less snow lies even in late April. Fortunately this heavy snowfall did not seem to have worsened the climbing conditions, and it may have helped us get through the icefall on Mt Vancouver.

A greater problem was the unstable weather prevailing for most of the climbing season. We felt extremely lucky to have had a complete ascent untrammelled by the weather. The period 6-13 June appears to have been the only significant weather window. Many parties climbing in May had been practically confined to camp.

We did find that the temperatures and the strength of the sun in June were detrimental to climbing, even during stable weather. Particularly on East facing routes and high on the mountain, the snow was wet as early as 8am and only froze from around 2am onwards.

Equipment notes

Our principal innovations regarding gear for this trip were the use of a single-skin Bibler tent, and a GPS receiver. The Bibler was ideal, being very light but also comfortably roomy. We experienced no problems of dampness, ice or cold. The tent was much more satisfactory than the cramped two-skin tents we have previously used on the mountain.

The GPS receiver performed to expectations and provided useful security in being able to navigate descents in poor visibility. Waypoints could be used to supplement or replace wands; we have found that wands often melt out and are impossible to find in mist. Using the GPS they can always be located even after diversions to avoid crevasses. A compass is of limited use in this situation.

Both expedition members used Buffalo gear or equivalent as a shell. This was more than adequate; no additional waterproof shell was taken on the mountain. The heavy rain experienced on 13 June would have been unpleasant had we been moving at this time, but this is very unusual.

VHF marine radio communication with Yakutat was effective only from the summit of Mt Seattle. The Hubbard Glacier area is especially poor in this respect as both line of sight and signal reflection are lacking. The radios work better on the Seward Glacier and in the Fairweather range.

After the prolonged spell of settled, sunny weather in June we returned to base camp to find the tents standing on a foot-high pedestal and all guying points melted out. It is worthwhile to ensure tents left for more than a few days contain heavy equipment, otherwise they could easily blow away even if left well-guyed with large snow pegs.

GPS Data

All waypoints are recorded on the UTM grid, as used on the 1:50 000 Canadian maps, with the GPS set to WGS84 map datum. Points with only 2D position fix are indicated.

Mount Vancouver attempt

Base Camp	82393	91367
Wand 4	81656	91279
Slope start	81305	91199
Slope top	81002	91383
Wand	80665	91394
Basin edge	80111	91316
Ice blocks start	79541	91294
Ice blocks top	79511	91398
Wand (2D fix)	79017	91468
Camp 1	78871	91730

Walk from base camp to Mt Seattle

Straight line distance bc-abc 29.7km

Base camp	582393	91367
Glacial hollow	584059	90725
Hubbard Glacier	591391	83433
Advanced Base	600691	67917

Mt Seattle ascent

Advanced Base	600691	67917
Ramp start (2D fix)	601841	63488
Ramp top	602228	62631
Camp 1 (wrong)	602056	62898
Camp 2	601243	62306

At Camp 1 the GPS never settled on a stable fix and the recorded coordinates are clearly wrong. Reason unknown.

Budget

Income

BMC/Sports Council grant	2100
MEF grant	850
Individual contributions	1273.16
TOTAL	4,223.16

Expenditure

The following details all expenditure relating to the expedition, excluding damage and depreciation to gear and miscellaneous expenses in Seattle. Most of the equipment we used was not purchased for this trip and hence is not included.

	Item	GB £	US \$	Totals (GB £)
Travel	Scheduled flights London to Seattle	261.00		
		434.00		
	Scheduled flights Seattle to Yakutat	255.38		
		285.60		
	Change fees for flight Yakutat to Seattle		70.00	
	Car hire Canterbury to Heathrow	45.00		
	Petrol Canterbury to Heathrow	7.00		
	Bus Heathrow to Victoria	6.00		
	Train Victoria to Canterbury	14.70		
	Taxi Bromley Heathrow	30.00		
	Additional driver charge, Budget Seattle		35.00	
	Excess baggage Alaska Airlines		75.00	
	Gulf Air Taxi – glacier flights		810.00	
Yakutat Lodge		23.00		
			92.00	
			42.00	
Ebb Tide café			25.00	2,089.96
Food	Booker food	29.25		
	Sainsbury's food	21.69		
	Tesco food	73.29		
	Safeway food		141.52	
	Safeway food		131.29	
	QFC food		54.99	
	REI food		105.00	
	PCC food		38.44	426.31
Other supplies	White Gas - Gulf Air Taxi		18.00	
	Batteries (GPS and torches)	9.37		
	Films	41.00		
	Suncream	11.28		
	Prescription painkillers and antibiotics	33.99		107.18
Equipment hire and purchase	Buffalo top	75.65		
	Windstopper gloves	25.50		
	2F Crampons	71.96		
	Grivel ball plates	17.99		
	Thermarest repair kit	3.99		
	Karrimat stuffsac	3.99		
	Radio hire (from Gulf Air Taxi)		180.00	
	Bibler El Dorado tent + vestibule		765.00	
	Rope		133.58	
	Pan set		24.97	
	Black Diamond gear		455.60	
GPS + case		173.71	1,309.89	
Kluane Park fees	Icefield Ranges and landing permits		106.00	67.95
Insurance	Foundry Travel	69.00		
	Additional cost on BMC Annual policy	109.50		178.50
Misc	Photocopying	10.00		
	Postage	5.00		
	1:50000 Mt Vancouver map	10.70		
	Faxes	5.00		
	Postcards		5.78	
	Showers, Yakutat		14.00	43.38
TOTAL		1,966.83	3,519.88	4,223.16