Biocomplexity of Patterned Ground
Data Report
Dalton Highway, 2001-2005

Tako Raynolds and Alexia Kelley contemplate non-sorted circles and barren inter-circle areas at Howe Island.

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Introduction

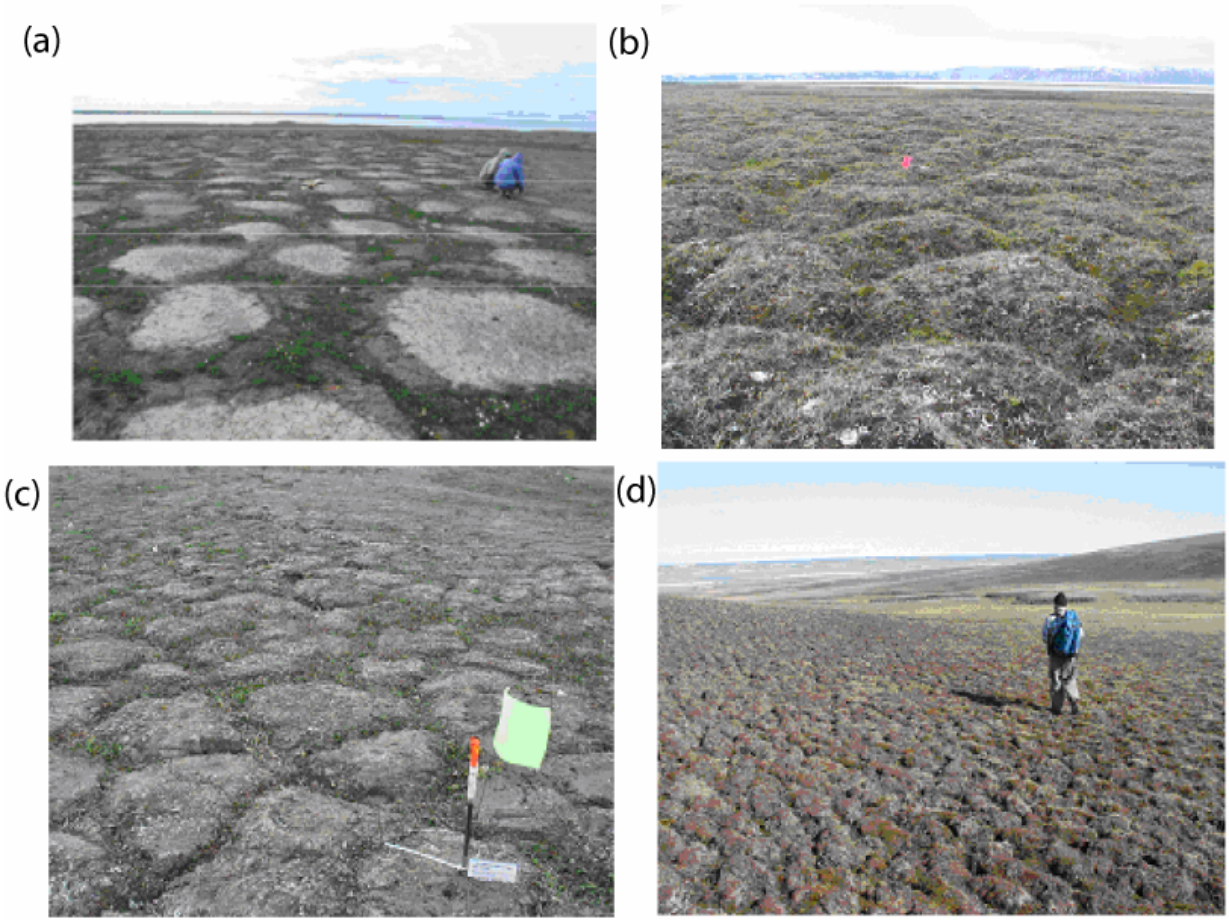


Figure 1. *Patterned ground formations found along the Arctic bioclimate gradient: (a) non-sorted circles at Howe Island, AK, (b) earth hummocks at Mould Bay, NWT, (c) small non-sorted polygons at Howe Island, AK, and (d) turf hummocks at Green Cabin, NWT.*

The Biocomplexity project studies small patterned-ground ecosystems along the Arctic bioclimate gradient in North America. Various types of patterned-ground formations are found in the Arctic (Figure 1). These are a significant component of nearly all Arctic landscapes. Although these features have been studied by geomorphologists, their role in ecosystems has been largely unstudied. The study of these systems is particularly important because:

1. Some processes involved in the formation of patterned-ground landscapes are not well understood.
2. The role of cryogenic processes with respect to tundra energy budgets, biogeochemical cycling, carbon sequestration, and other ecosystem processes are poorly known.
3. They are an ideal natural system to study the response of disturbed and undisturbed tundra to differences in climate.

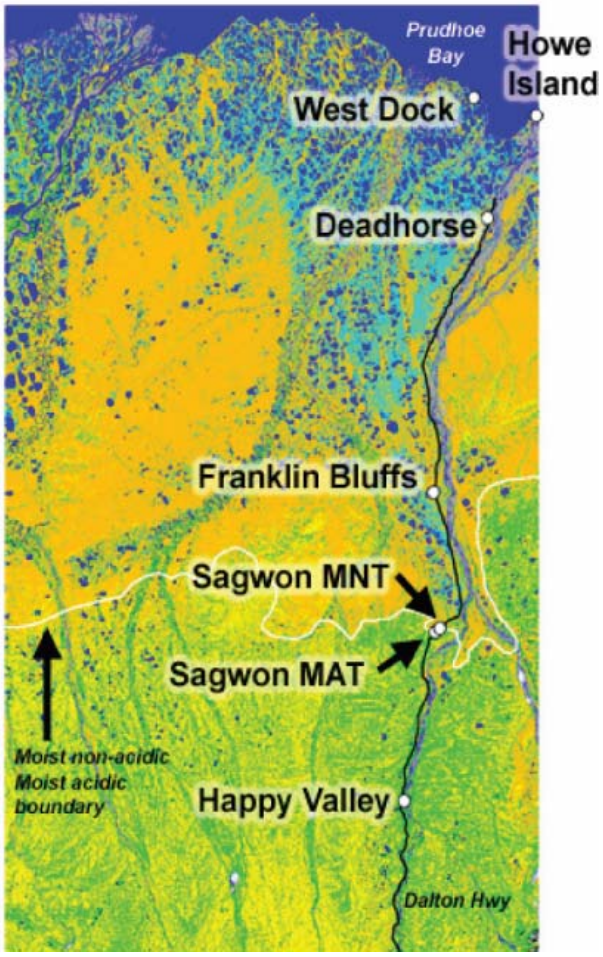


Figure 2. *The seven Low Arctic sites of the Biocomplexity project are found along the Dalton Highway in Northern Alaska.*

locations of the study sites are found in Table 1.

The project focuses on how climate influences the interactions between vegetation, soils, and patterned ground formation in order to better understand how climate change might affect these systems.

In June of 2000, researchers began studying patterned-ground ecosystems at seven locations along the Dalton Highway in northern Alaska. Twelve grids and one hundred seventeen relevés were established among the seven sites (Figure 2). Data types collected ranged from climate to vegetation. Thirteen scientists from a number of different disciplines and institutions collected data.

All of the study sites summarized in this data report are found in Alaska's Arctic Slope, which in its entirety is located north of the Arctic Circle. The Arctic Slope is 230,509 km^2 in size and is located at Alaska's uppermost section. The northern most biocomplexity study site is West Dock, while Happy Valley is the southern most site. The GPS

Study Site	Latitude	Longitude
Happy Valley	**N69º8'49.1"**	**W148º50'53.1"**
Sagwon MAT	**N69º25'32.6"**	**W148º41'33.6"**
Sagwon MNT	**N69º26'0.3"**	**W148º40'12.3"**
Franklin Bluffs	**N69º40'29.5"**	**W148º41'35.0"**
Deadhorse	**N70º9'42.4"**	**W148º27'49.6"**
West Dock	**N70º22'30.2"**	**W148º32'57.8"**
Howe Island	**N70º18'54.6"**	**W147º59'37.0"**

Table 1. *GPS coordinates of the seven Low Arctic study sites.*

The seven study sites are located in subzones C-E of the five circumpolar Arctic subzones. Subzone A experiences the coolest temperatures of the circumpolar Arctic, while subzone E experiences the warmest temperatures (Figure 3).

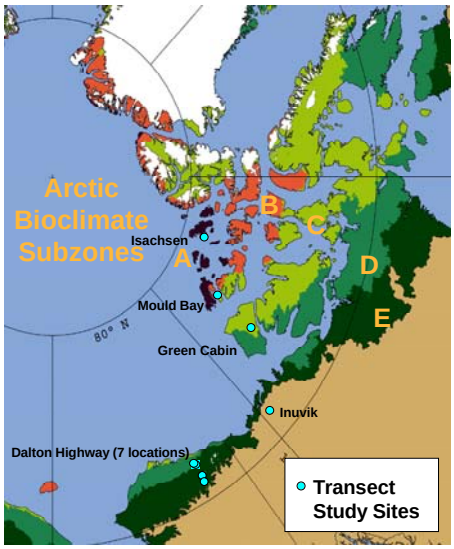


Figure 3. *The North American Arctic Transect includes seven locations in northern Alaska and four in Canada.*

Description of Study Locations

Happy Valley

The location (Figure 4) is located just west of the Dalton Highway in the foothills of the Arctic Slope approximately 82 km (52 mi) north of Toolik Lake, Alaska at an elevation of about 320 m. Within the five subzones of the circumpolar Arctic, Happy Valley is found in subzone E. Traveling north, green mile marker 334 is positioned just before the turn-off to the site. Turn left to the parking area for the site, which is along the short road to the old Happy Valley Camp. The sites are located on the hill across the creek. Three 10 x 10-m grids (Figure 5) are at this site. See appendix A for GPS coordinates of grids, relevés, climate station, soil pits, transects, and heave meters at each location.

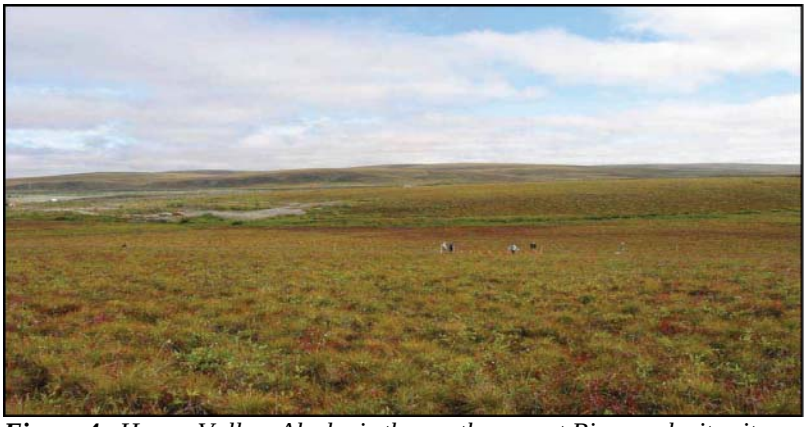


Figure 4*. Happy Valley, Alaska is the southernmost Biocomplexity site.*

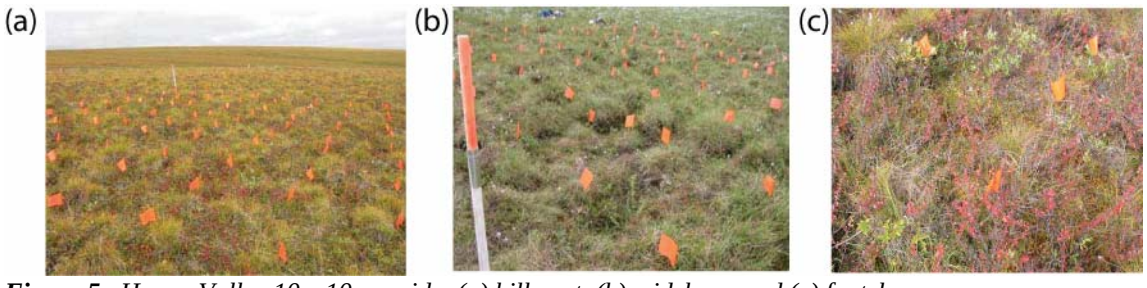


Figure 5. *Happy Valley 10 x 10-m grids: (a) hillcrest, (b) midslope, and (c) footslope.*

Sagwon Moist Acidic Tundra (MAT)

Sagwon MAT (Figure 6) is located 1.5 km south of Sagwon MNT at an elevation of 300 m. The site is found in subzone E at the northern edge of the Arctic Foothills overlooking the Arctic Coastal Plain. Traveling north from Fairbanks, green mile marker 353 is positioned right before the gravel pit turnoff of this site. A tall climate tower is located directly uphill from the site. One 10 x 10-m grid is located at this site.

Figure 6*. Sagwon MAT is located in subzone E of the circumpolar Arctic.*

Sagwon Moist Non-Acidic Tundra (MNT)

Sagwon MNT, seen in figure 9, is located 1.5 km northwest of the Dalton Highway at an elevation of 300 m. Found in subzone D of the circumpolar Arctic, the site can be accessed at a gravel pit on the left hand (west) side heading north on Dalton Highway just past green mile marker 353 as you head up a small pass. Two 10 x 10-m grids (figure 10), MNT1 and MNT2, have been established, along with fifteen relevés, numbering 29, 55, 58-61, 63-65, and 67-72, two 50 m transects, and two soil pits, designated 207 and 207a.

Figure 7. *Sagwon MNT is located in subzone D of the circumpolar Arctic.*

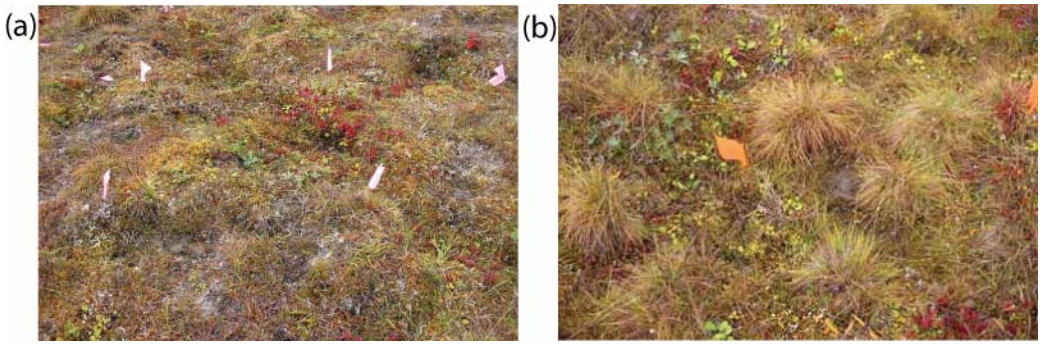


Figure 8. *Sagwon MNT 10 x 10-m grids: (a) MNT1 and (b) MNT2.*

Franklin Bluffs

Figure 9. *Franklin Bluffs is one of seven Biocomplexity study sites.*

At an elevation of 90 m, Franklin Bluffs (Figure 9) is located in Subzone D about 1 km west of the Dalton Highway across from the pipeline access road APL/AMS 130 near green mile marker 375. This access road provides parking at the site. Three 10 x 10-m grids (Figure 10), designated dry, moist, and wet, have been established at the location.

Figure 10. Franklin *Bluff 10 x 10-m grids: (a) dry, (b) moist, and (c) wet.*

Deadhorse

The deadhorse location is found in Subzone D at an elevation of 15 m (Figure 11). Traveling south on the Dalton Highway from Deadhorse, Alaska, turn onto a road on the east side of the highway just past green mile marker 411 to locate the site. One 10 x 10-m grid is at this location.

Figure 11. *Deadhorse is located in Ssubzone D.*

Figure 12*. West Dock is located at Prudhoe Bay in Alaska's North Slope oil fields.*

West Dock

The West Dock location (figure 12) is located in one of Alaska's North Slope the oil field at Prudhoe Bay and requires permission from the oil field for operator's access. The site is adjacent to the coast at an elevation of 1.5 m. To get there, exit out of Arctic Oilfield Parking Lot and make a right onto Spine Road. Follow Spine Road until you come to the oil field entrance guard station, which you will pass through, drive straight past two roads on the left-hand side, and then turn left when

the road hits a T-junction where you are forced to go either left or right. Follow this road until after the AGI site, then take a left on Lisburn/Pt. McIntyre and go over a bridge. You will see a climate tower after approximately 1 mile on the left. The West Dock site is on the opposite side of the road. One 10 x 10-m grid is at this location.

Howe Island

Howe Island (Figure 13) is located northeast of the Prudhoe Bay oil fields at sea level. The site can only be accessed by helicopter or boat. One 10 x 10-m grid is at this location.

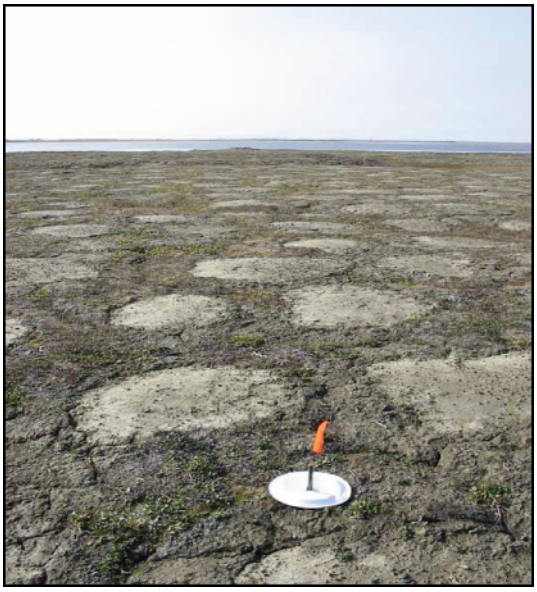


Figure 13. *Howe Island is the northernmost Alaskan Biocomplexity site.*

Methods and Types of Data Collected

Climate Stations

Climate/Soil Conditions Monitoring Stations (Figure 14) were installed at each site (see table 2 for locations), to measure air temperature, ground surface temperature, and ground temperature. Standard Campbell Scientific L107 thermistors were used for air and ground surface temperature, and MRC thermistor rods for ground temperature. Two sets of ground temperature sensors were installed six meters apart, one in a non-sorted circle and another in an inter-circle area. After pre-installment calibration, the precision of the sensors is better than 0.02 °C. Ground temperatures are collected at ten different depths down to 106 cm (roughly every 10 cm), measured every 5 minutes, and averaged and saved every hour.

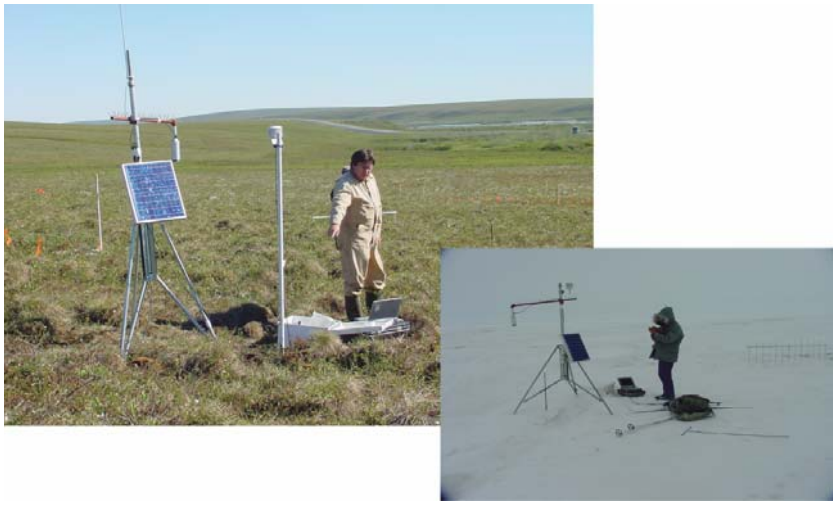


Figure 14. *Vladimir Romanovsky installed climate stations, like the ones shown here at Happy Valley, at each site.*

Table 2. *GPS coordinates of Dalton Highway sites' climate stations. All sites are adjacent to 10 x 10-m grids. See Appendix for grid locations where coordinates are not available.*

Study Site	Latitude	Longitude
Happy Valley	n/a (midslope grid)	n/a
Sagwon MAT	69° 25’ 28.6”N	148° 41’ 44.1”W
Sagwon MNT	n/a (grid 1)	n/a
Franklin Bluffs	69° 40’ 26.0”N	148° 43’ 19.2”W
Deadhorse	70° 09’ 43.4”N	148° 27’ 54.1”W
West Dock	70° 22’ 28.0”N	148° 33’ 8.1”W
Howe Island	n/a (near grid)	n/a

Ground moisture (including the unfrozen water content in winter) is measured at two different depths within the non-sorted circles and at two different depths in the inter-circle area. VITEL volumetric water content sensors (based on TDR technique) were used. Each of the VITEL sensors was paired with an additional L107 temperature probe. Moisture content was recorded hourly during the entire year. Two Campbell Scientific heat flux probes were also installed at a depth of 8 cm, one within the non-sorted circle and another in the inter-circle area.

Heave measurements

Frost heave was monitored using a ten-pin heavometer (Figure 15). The horizontal bar is bolted to the vertical support members, which are deeply anchored in permafrost. The thin vertical rods ride up and down with frost heave and settlement. Each bar is attached to a small foot that is buried just below the soil surface. Readings are periodically taken from each vertical rod.

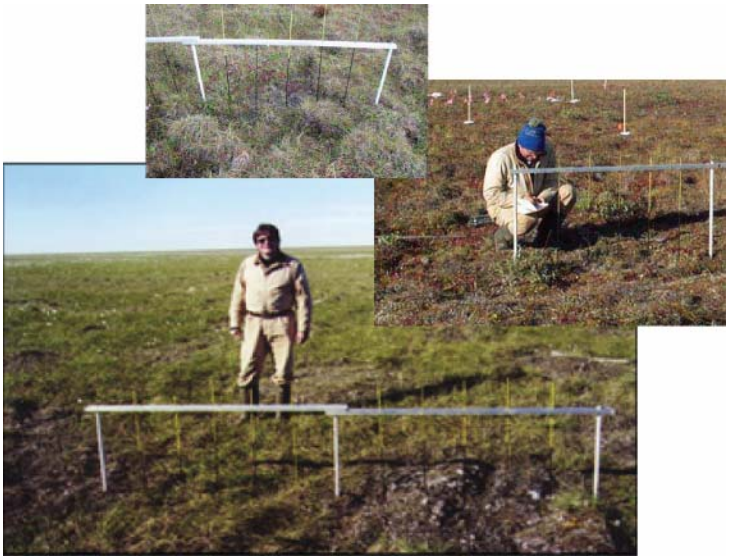


Figure 15. *Ten-pin heavometers were used to measure heave at all the Dalton Highway sites.*

Each instrument measured heave at ten points along a short transect traversing a representative non-sorted circle and the adjacent inter-circle area. One heave instrument was located adjacent to each original 10 x 10-m grid at each site. Two heavometers were located at each site, except for Deadhorse, which had three, and West Dock, which had only one. Known GPS coordinates and general locations of the heavometers are listed in table 3.

Study Site	Heavometer	Latitude	Longitude
Happy Valley	hv1	69° 8.8'N	148° 50.88'W
	hv2	n/a	n/a
Sagwon MAT	sa1	69° 25' 31.3"N	148° 41' 44.1"W
	sa2	n/a	n/a
Sagwon MNT	sn1	69° 25' 58.7"N	148° 40' 23.3"W
	sn2	n/a	n/a
Franklin Bluffs	fb1	69° 40' 28.0"N	148° 43' 17.1"W
	fb2	n/a	n/a
Deadhorse	dh1	70° 09' 42.9"N	148° 27' 47.6"W
	dh2	70° 09' 42.8"N	148° 27' 48.7"W
	dh3	70° 09' 41.6"N	148° 28' 00.9"W
West Dock	wd1	70° 22' 28.9"N	148° 33' 7.9"W
Howe Island	hi1	n/a	n/a
	hi2	n/a	n/a

Table 3. *Known GPS coordinates of all Dalton Highway sites heavometers (n/a not available). All heavometers are near 10 x 10-m grids.*

At Happy Valley and Sagwon MAT, heave was measured on two types of son-sorted circles:

1. large, well-vegetated hummocks
2. small, barren inter-tussock non-sorted circles

Maximum heave was recorded in mid-May of 2002 at all sites except Howe Island, where data were collected in May 2003. Base heave were recorded when the soils had thawed to their maximum thaw-layer thickness in late August. Heave measurements have also been collected in subsequent years at the Dalton Highway sites.

10 x 10-m grids

Vegetation Mapping

Maps of the vegetation types within each grid were created. Following identification of the vegetation communities, their location within the marked 10 x 10-m grid was mapped by hand on a 15 cm paper grid (1:66.7 scale). Maps of grid vegetation were hand-digitized as ARC/INFO polygon coverages (Figure 47).

Active Layer Measurements

Thaw depth was measured every half-meter in each 10 x 10-m grid by using a graduated metal probe 1 cm in diameter. The data were entered into a Microsoft Excel spreadsheet, and then transferred into Transform 3.4 software to create active layer maps for each grid.

Vegetation communities were noted every half-meter in each 10 x 10-m grid, as well. The data were entered in an Excel spreadsheet and summarized by vegetation type. The summaries appear in tables 4, 5, and 6.

Snow measurements

Snow depth is continuously recorded at the site (at hourly intervals) using a CSC Ultrasonic Distance Sensor. A Campbell Scientific CR10-X logger operates the station and saves the data. A 20-watt regulated solar panel coupled with a 12 v battery is used for power supply. The air temperature sensor, the ultrasonic snow sensor, and the solar panel are mounted on a 3 m tripod.

Figure 16. *Snow depth was measured at each site to create snow maps in Transform software.*

Snow measurements are also taken by hand (Figure 16) using a probe at each grid point located every meter on the 10 x 10-m grids. With Transform 3.4 software, this data is used to create snow maps of each grid. Field data were entered into an Excel spreadsheet and exported into Transform. Snow maps are created in blue, black, and white, with lighter shades representing the least amount of snow and darker shades representing greater depths of snow. Snow was sampled with a federal corer to measure snow water equivalent of the snow pack, and snow pits were dug to characterize the snow pack.

Relevés

Species

Vegetation sampling was conducted during the summer periods of 2000 through 2003 using the centralized replicate sampling procedure (Mueller-Dombois and Ellenberg 1974). The minimum sampling area of the relevés was 1 m^2 per plot. The Braun-Blanquet cover-abundance scale was used to score the cover of each species (Westhoff and van der Maarel 1978). In addition, the cover of plant functional types and the average vegetation height were estimated.

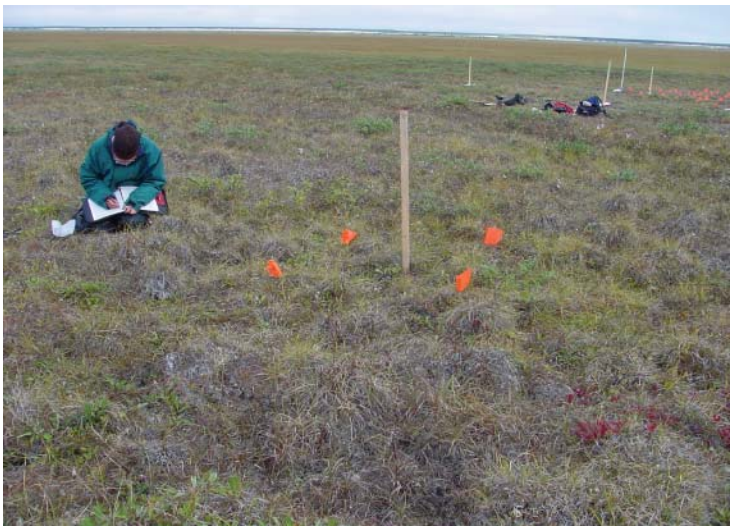


Figure 17. *Anja Kade records data at relevé 19 near Franklin Bluffs moist grid.*

Site Factors

At each relevé, the following site information was recorded: percent bare soil, percent salt crust, cover of standing water, site moisture, glacial history, topography, site stability, and elevation. The maximum snow depths in mid-April 2002 to 2004 and maximum thaw depths in late August 2002 to 2004 were measured using a metal probe.

Soils

At each relevé site, the depth of the organic horizon was measured and soil samples of the upper 10 cm of the mineral horizon were collected. Calculation of bulk density and volumetric soil moisture was accomplished by drying field samples at 105 °C for 72 hours and determining percentage weight loss. All other analyses were completed on air-dried samples. Particle size was determined using the hydrometer method (Gee and Bauder 1986). Soil pH values were measured using the saturated paste method with a glass electrode pH meter (Jackson 1958). Total carbon and nitrogen were determined by dry combustion using a LECO CNS 2000 analyzer at 1350 °C (Robertson et al. 1999). The availability of cations (K^+, Na^+, Ca^{2+}, Mg^{2+}) was determined with Mehlich-3 extractions (Mehlich 1984).

N-factor

The insulation effect of the vegetation and soil organic layer on mineral soils in the summer and the insulation effect of snow in the winter were examined by determining the modified n-factor. The n-factor is a simple indicator of the energy balance at the mineral soil surface. It is defined as the ratio of seasonal degree-day sums at the mineral soil surface to that in the air (Carlson 1952). Temperature sensors were buried at relevés to record data for calculating the n-factor (Klene et al. 2001).

Vegetation Manipulation

Twenty-eight non-sorted circles with similar environmental characteristics were selected and an area of 0.5 m^2 in the center of each plot was marked for manipulation. In July 2002, four groups, each of which contained seven non-sorted circles, randomly received one of the following treatments:

1. Vegetation removal: The existing vegetation mat was cleared from the non-sorted circles with a knife and the underlying mineral soil was exposed.
2. Vegetation removal and sedge transplants: Small *Eriophorum vaginatum* tussocks were collected from the surrounding tundra, which was transplanted at 10 cm intervals into the non-sorted circles after the vegetation was removed. Each plot received a total of 49 small tussocks, which were about 10 cm tall.
3. Vegetation removal and moss-carpet transplants: Moss slabs consisting mainly of *Hylocomium splendens* and *Tomentypnum nitens* of about 15 cm thickness were cut from the surrounding tundra and placed on the non-sorted circles once the vegetation was removed.
4. Control: The plots were not manipulated. Each summer, the bare and sedge plots were weeded to maintain the treatment.

At each plot, the soil temperature at 1 cm depth was recorded hourly during September 2002 through August 2005 with a Hobo H8 data logger (Onset Computer Corporation 2000). Maximum thaw depth was measured in early September 2003-2005 by pushing a 1 cm diameter rod through the active layer. A 1.5 cm diameter rebar was pounded at least 80 cm into the permafrost at the center of each study plot and the distance from the

top of the bar to the ground surface was measured in the summer and at the end of the winter. The heave was calculated as the difference between the summer and winter measurements. The maximum frost heave and maximum snow depth was recorded in mid-April 2003-2005. The soil-surface instability, most likely due to needle-ice formation, was determined with the help of a "toothpick index". In July 2002, each plot received 25 evenly distributed toothpicks, which were inserted upright half their length (3 cm) into the ground. The moss treatments received 25-30 cm long shish kebab sticks per plot, as it was difficult to locate the toothpicks under the moss mat. Although not directly comparable, we inserted the shish kebab sticks to the same depth as the toothpicks (3 cm). After one year, the number of straight, tilted, or expelled toothpicks and shish kebab sticks were recorded. Picks that were moved upward due to frost action and expelled from the soil, but still supported by the surrounding vegetation, were reported as expelled. The toothpick measurements were repeated over the course of three years.

Soil Pits

A soil pit (1.5 m x 1 m x 1 m deep) was dug at each grid site. A gas-powered jackhammer was used to dig the frozen portion of the soil pit. Soil profiles exposed in the pits were described and sampled according to USDA-NRCS procedures. Samples were analyzed according to NRCS-NSSL procedures (pH: 1:1 water, EC: water-paste, available nitrogen by 2N-KCl, available P and cations by Mehlich-3 extract, CEC and cations by 1M-ammonium acetate, water content by drying to 100 °C, bulk density by dimensional block measurement-weight, texture by hydrometer, TC and TN by LECO carbon analyzer, IC by acid dissolution/carbon evolution measurement, OC by difference of TC-IC, carbon stocks calculated using horizon areas in pit OC and BD, and water content on BD samples by drying to 100 °C).

Figure 18. *Soil pits were dug at each study site.*

Soil samples to represent surface soil conditions (crust soils), were taken from areas within non-sorted circles that were under various conditions ranging from bare to crusted and fully vegetated with vascular plants (having thin O-horizons). Small soil pits were opened adjacent to these areas on the non-sorted circles, exposing the surface 10-cm profile and samples were collected from the pit walls in an area of 15 cm x 15-cm to the 10-cm depth. These samples were collected with a knife, in incremental depths, usually about 2-cm increments down to the 10-cm depth. Soils from each incremental depth were analyzed by the same methods mentioned for the horizon samples above.

LAI and NDVI

Leaf area index (LAI) was measured every meter along two 50-m transects adjacent to each grid, using a LICOR LAI-2000 Plant Canopy Analyzer. An above/outside-canopy reading (control) was followed by four below-canopy readings, taken above the moss layer along the axes of the grid at 20 cm from the center of the grid. The LAI sensor sits a minimum of approximately 2 cm above the ground, so any plant canopy that has a height <2 cm is not measured. All LAI measurements were taken in the observer's shadow to provide as consistent ambient light conditions as possible. A 90° field-of-view opening was used to prevent interference from the observer. The Normalized Difference Vegetation Index (NDVI) was measured every meter along the two 50 m transects using an Analytical Spectral Devices Field spectrometer. The sensor was held 90 cm above the ground to include an area of approximately 314 cm^2. Cover at each point was noted as vegetated, bare, or mixed.

Measurements of NDVI and LAI were made at three points within each patterned-ground feature and between the features at each site. Above-ground biomass clippings were also taken at each sample location. These samples were sorted by plant functional type, dried at 50 °C, and the dry weight was measured and recorded for each sample. Vascular plants were clipped at the top of the moss layer or at the bottom of the green shoot. Mosses were clipped at the base of the green moss.

Biogeochemistry

Three representative patterned-ground features were selected at the following sites: Happy Valley, Sagwon MAT, Sagwon MNT, and Franklin Bluffs. Measurements were made at four points within each sample site. At each sample site, several soil samples were collected within the feature and also between the features to determine the nitrogen and carbon content of the first 5 cm of soil in each area. The samples were then analyzed for percent carbon and nitrogen using a Carlo Erba elemental analyzer.

In order to determine the differences in nitrogen cycling, several processes were measured, including net nitrogen mineralization and nitrogen fixation. Nitrogen mineralization was measured using the buried bad method (Eno 1960) over a period of eight weeks. At four locations within each frost feature and between the features, a soil core (2 cm in diameter and 5 cm in depth) was taken, and 10 g of the soil were extracted in 50 mL of 0.5 M KCl. Another soil core was taken as close as possible to the original core. This soil core was placed into a polyurethane plastic bag and incubated in the soil for eight weeks. A 10 g sub-sample of the core was then extracted in 50 mL of 0.5M KCl. The samples were then mixed on a shaking table for 2 hours. The extracts were filtered and then analyzed for NO_3^- and NH_4^+ with a Lachat/Hach autoanalyzer.

Results

Aerial Photos

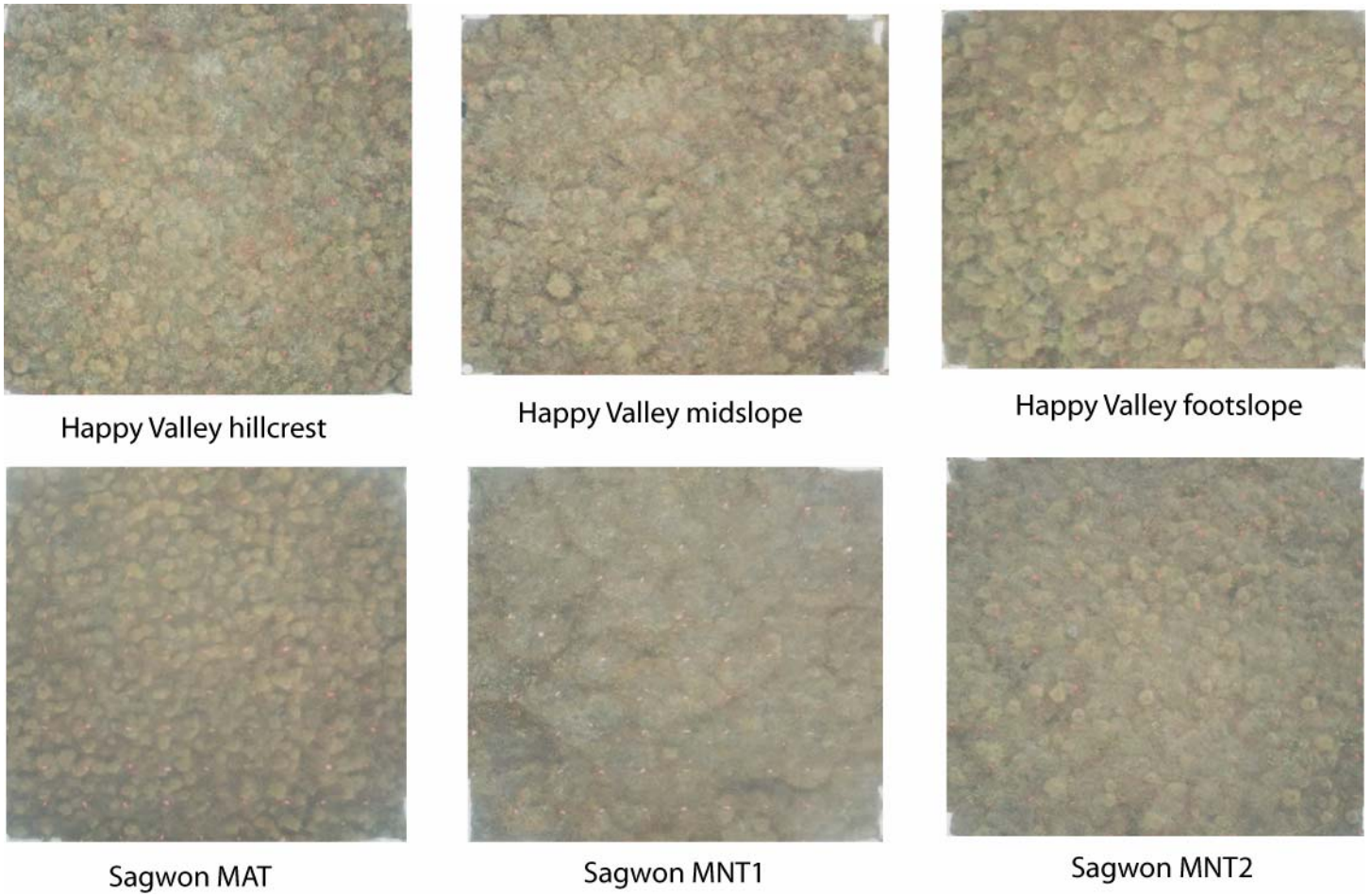
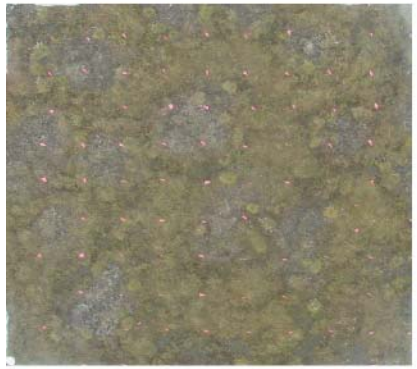


Figure 19. *An aerial photo was taken of each grid.*

Franklin Bluffs dry

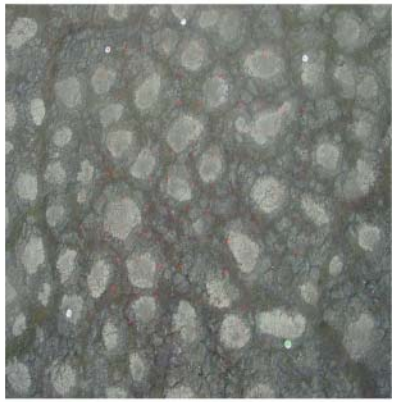
Franklin Bluffs moist

Franklin Bluffs wet



Deadhorse

West Dock



Howe Island

Figure 19 continued.

Climate Data

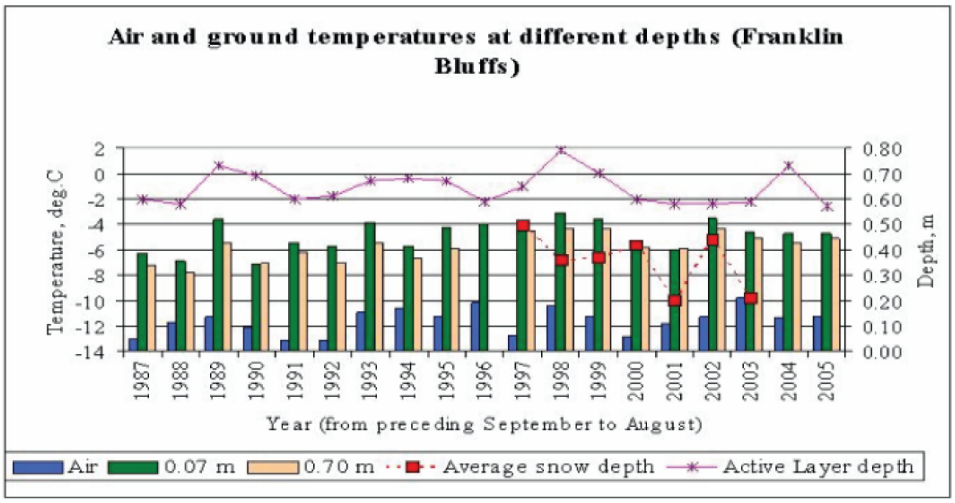


Figure 20. *Temperature in the tundra adjacent to the non-sorted circles was recorded for several years at Franklin Bluffs.*

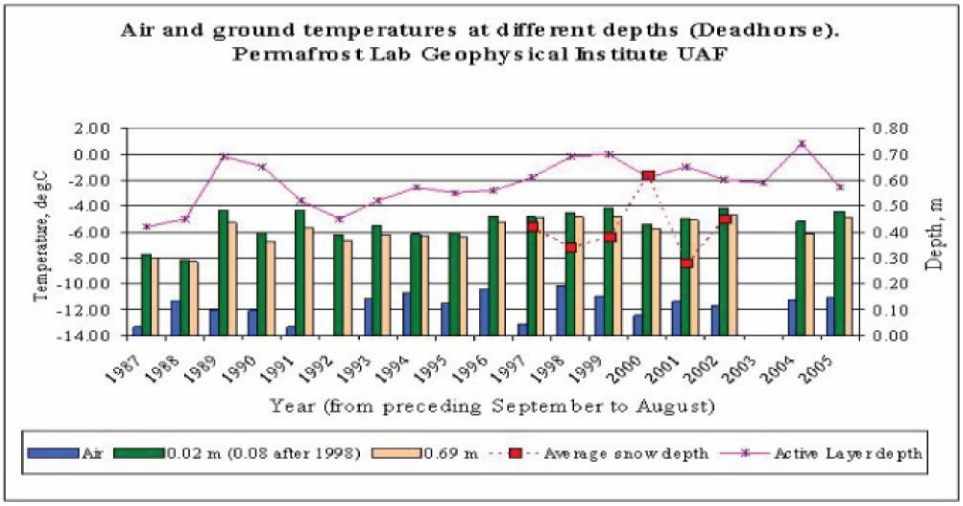


Figure 21. *Temperature was recorded at several depths in the tundra adjacent to the non-sorted circles at Deadhorse over several years*

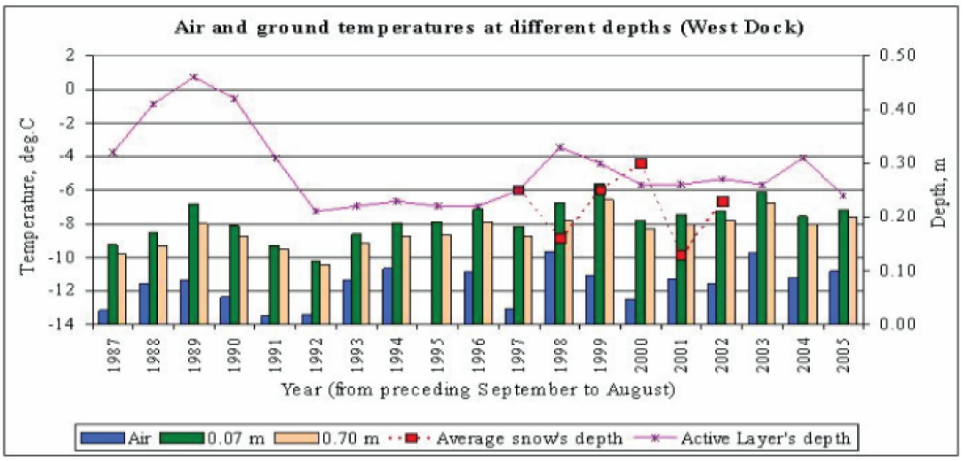


Figure 22. *Temperature was recorded at several different depths in the tundra adjacent to the flat centered polygons at West Dock over several years.*

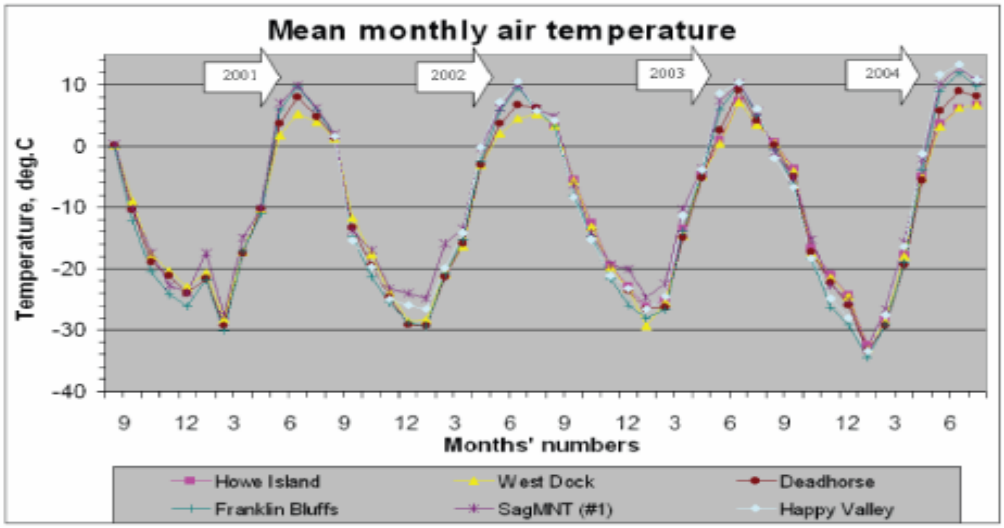


Figure 23. *Air temperature was recorded at each site for a period of several years.*

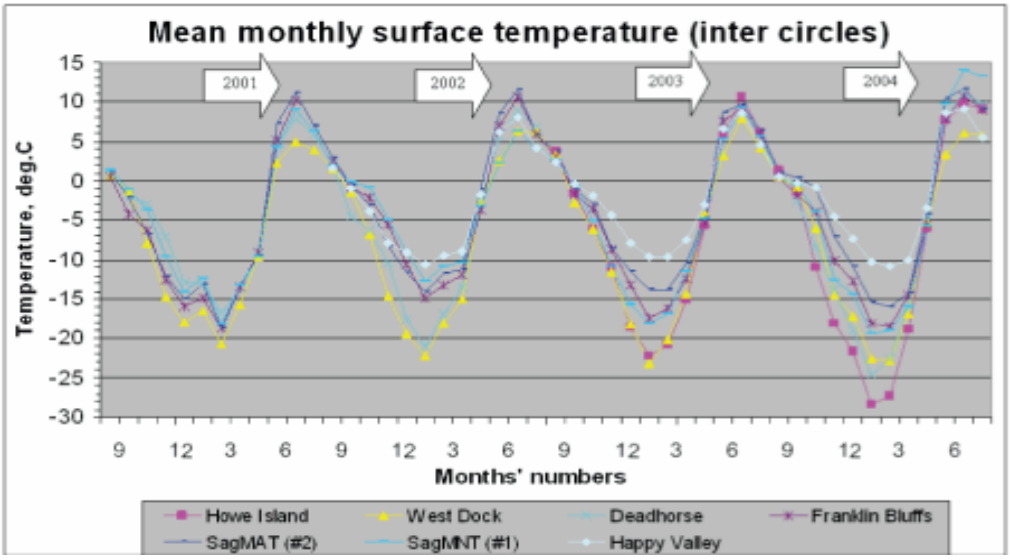


Figure 24. *Surface temperatures were recorded at all the sites for a period of several years.*

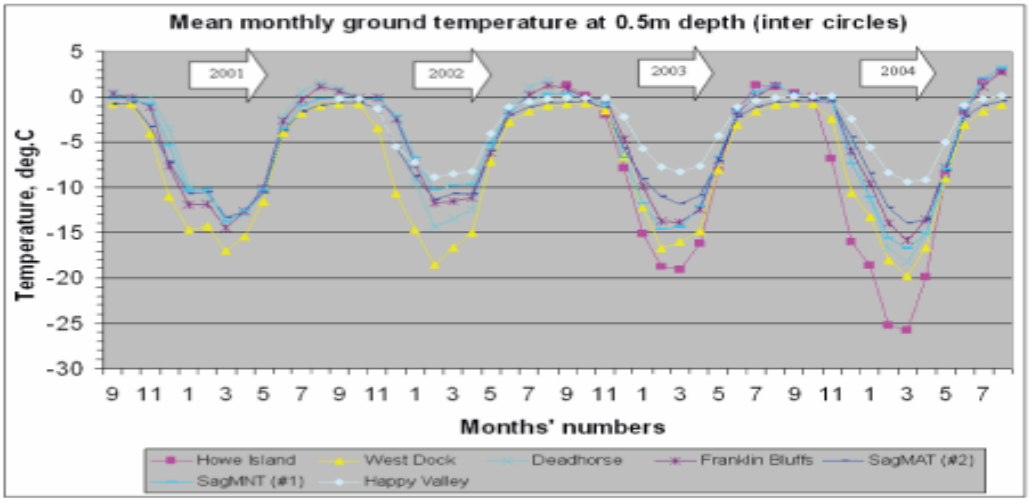


Figure 25. *Temperatures at a depth of 0.5m were recorded over a period of several years.*

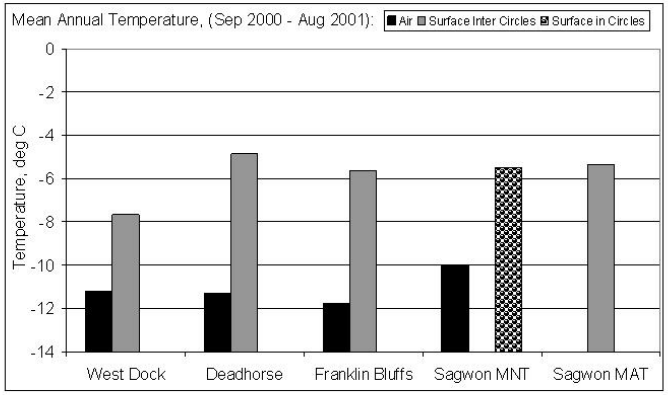


Figure 26. *Mean annual temperature was determined for each site between September 2000 and August 2001.*

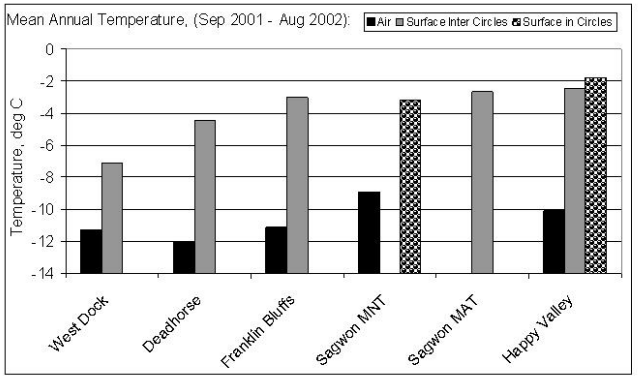


Figure 27. *Mean annual temperature was determined for each site between September 2001 and August 2002.*

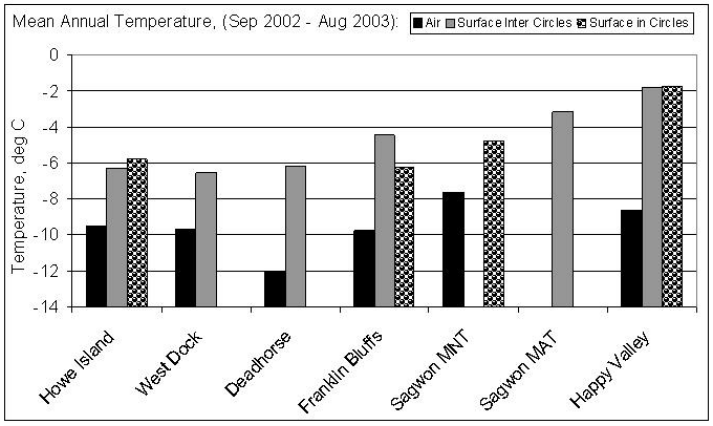


Figure 28. *Mean annual temperatures were determined for each site between September 2002 and August 2003.*

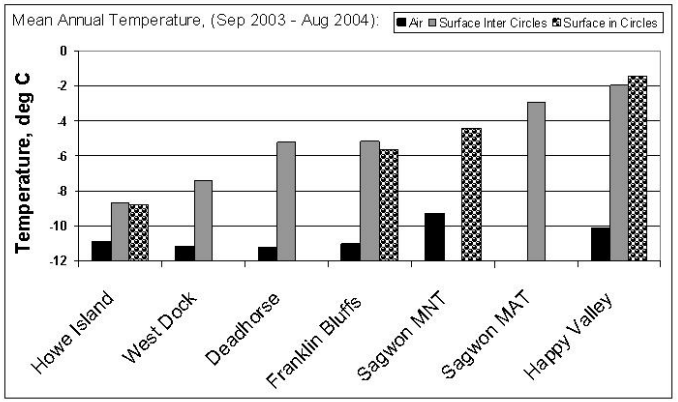


Figure 29. Mean annual temperatures among the sites between Sep 2003 and Aug 2004 were determined.

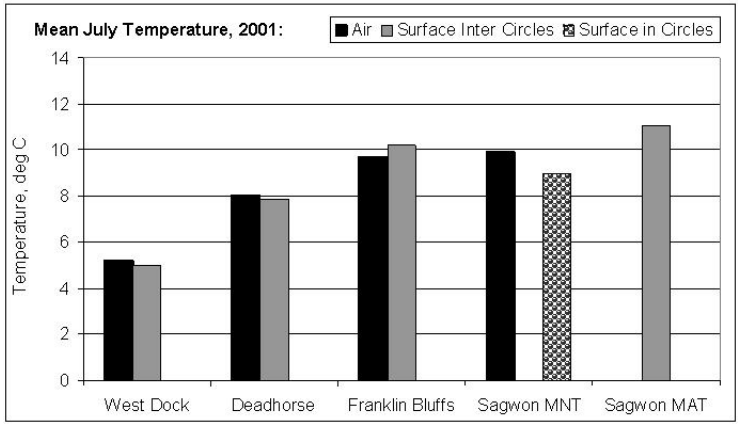


Figure 30. *Mean July temperatures were determined for 2001 at each site.*

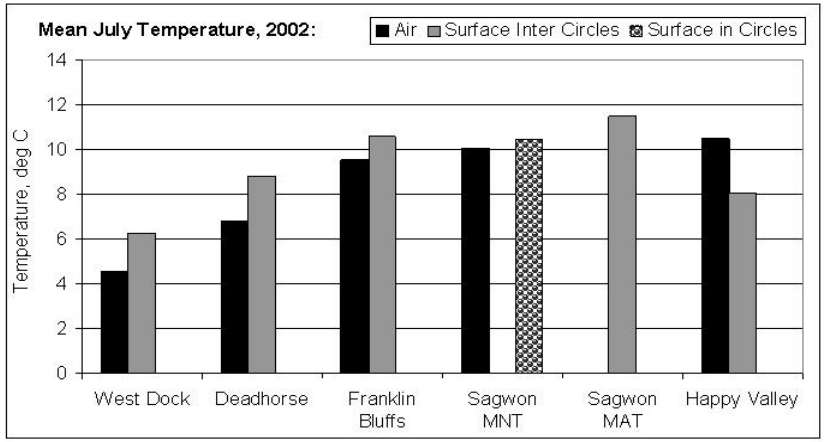


Figure 31. *Mean July temperatures were determined for 2002 at each site.*

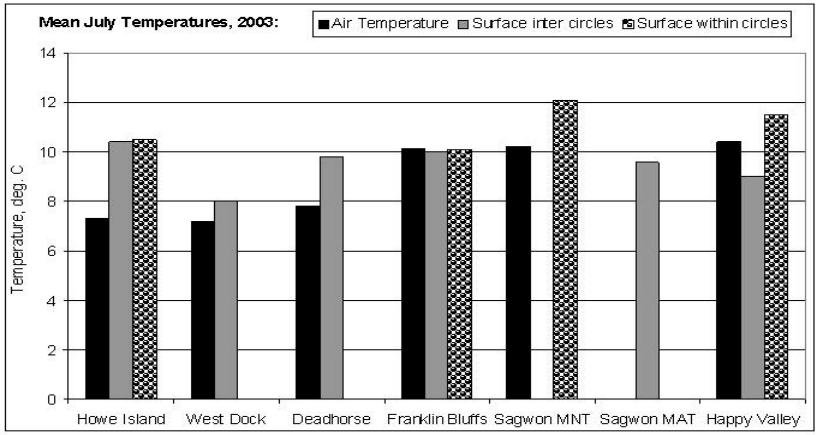


Figure 32. *The mean July temperature was determined for each site in the Low Arctic in 2003.*

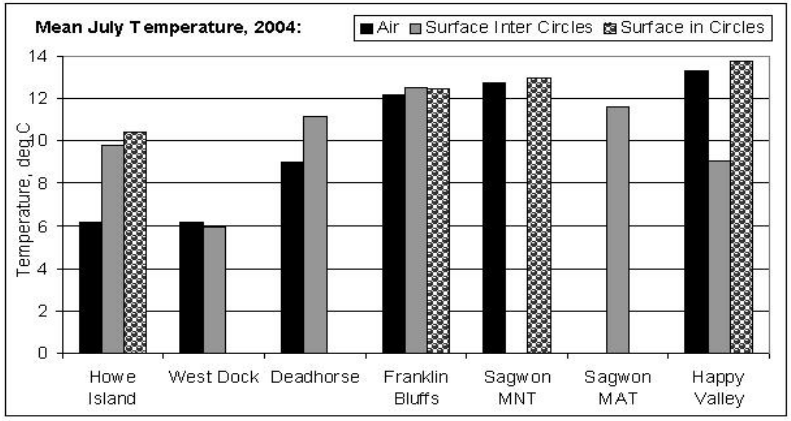


Figure 33. *The mean July temperature across the Low Arctic was compared for 2004.*

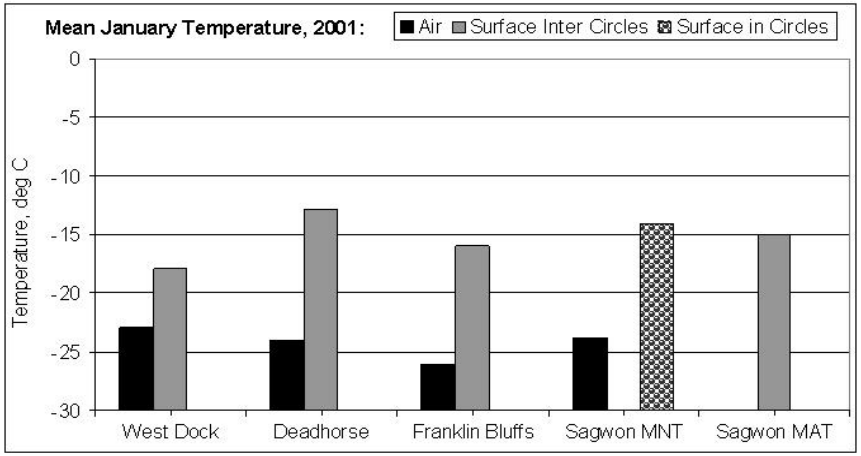


Figure 34. *Mean January temperatures were determined in 2001 at each site.*

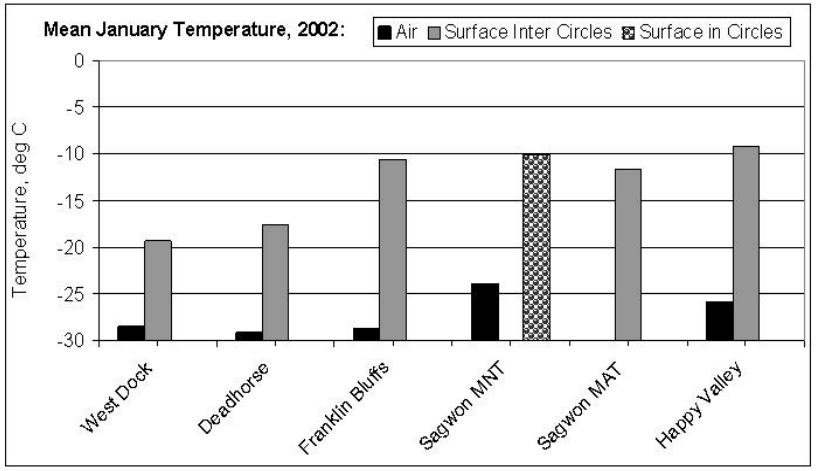


Figure 35. Mean *January temperatures were determined in 2002 at each site.*

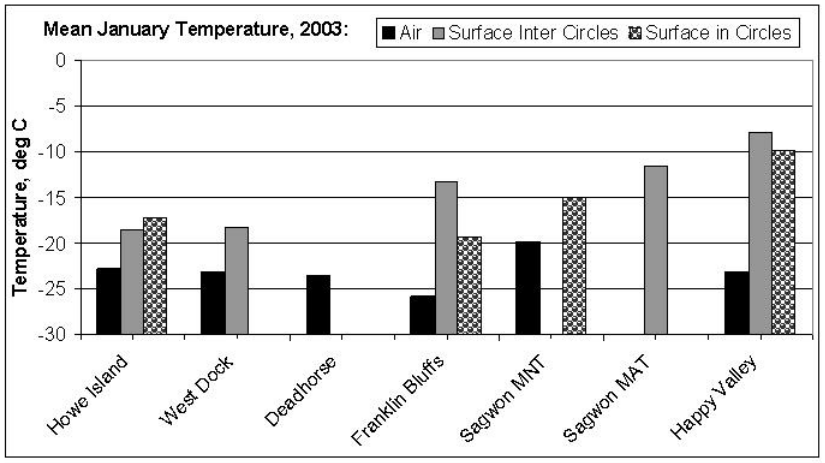


Figure 36. *Mean January temperatures were determined in 2003 at each site.*

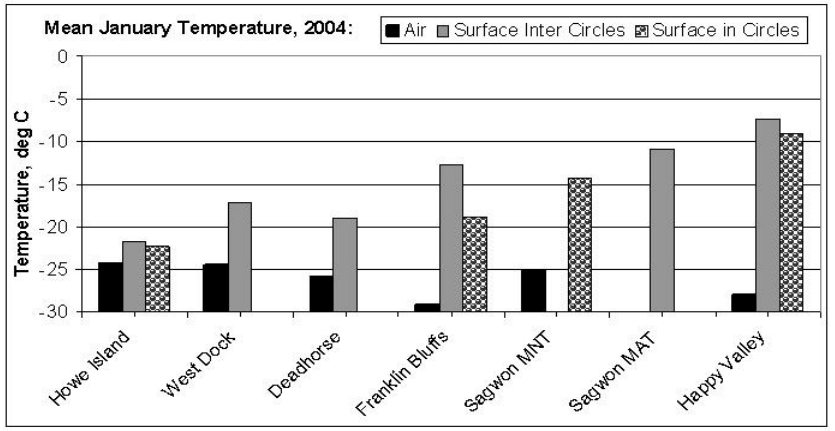


Figure 37. *Mean January temperatures were determined for 2004 at each site.*

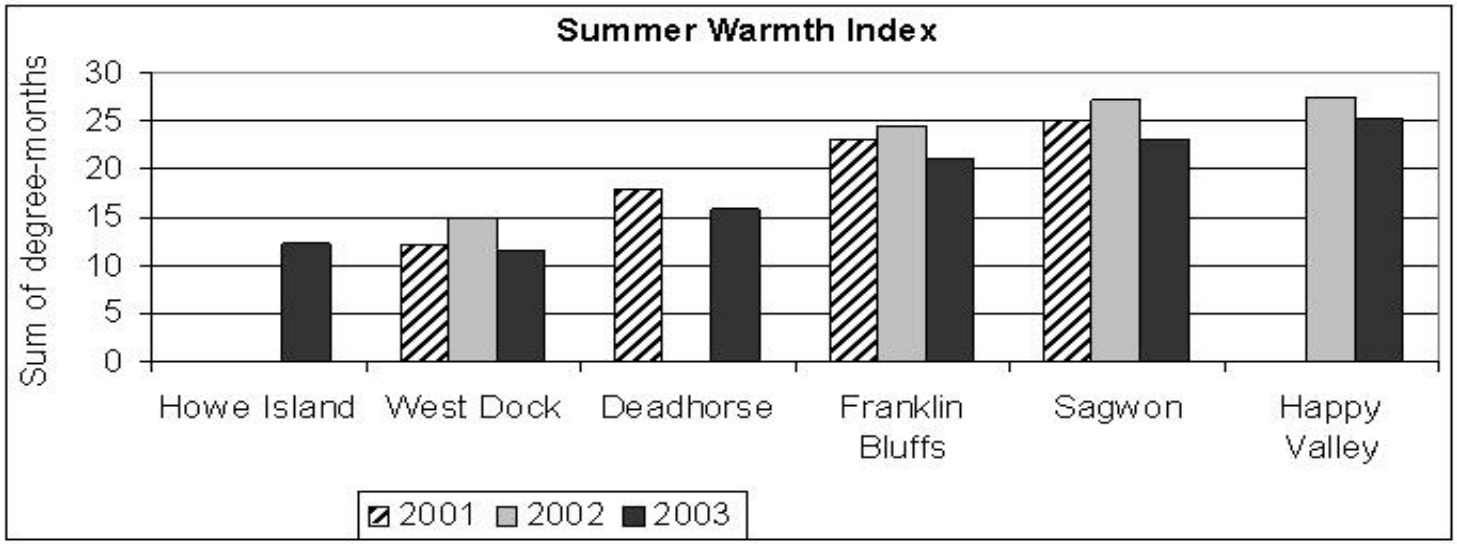
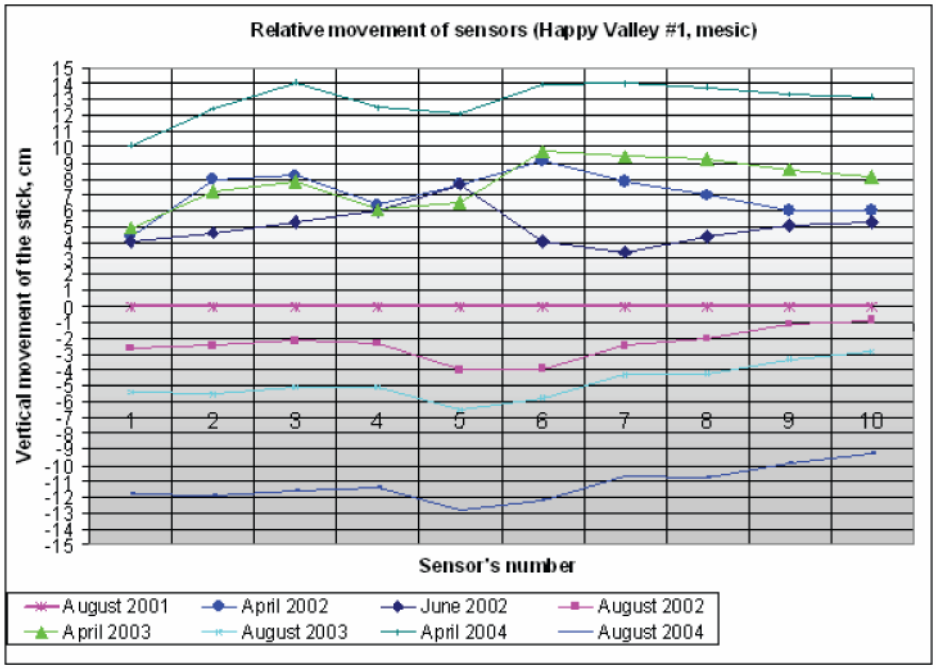


Figure 38. *The summer warmth index was determined at each site for several years.*

Heave Measurements



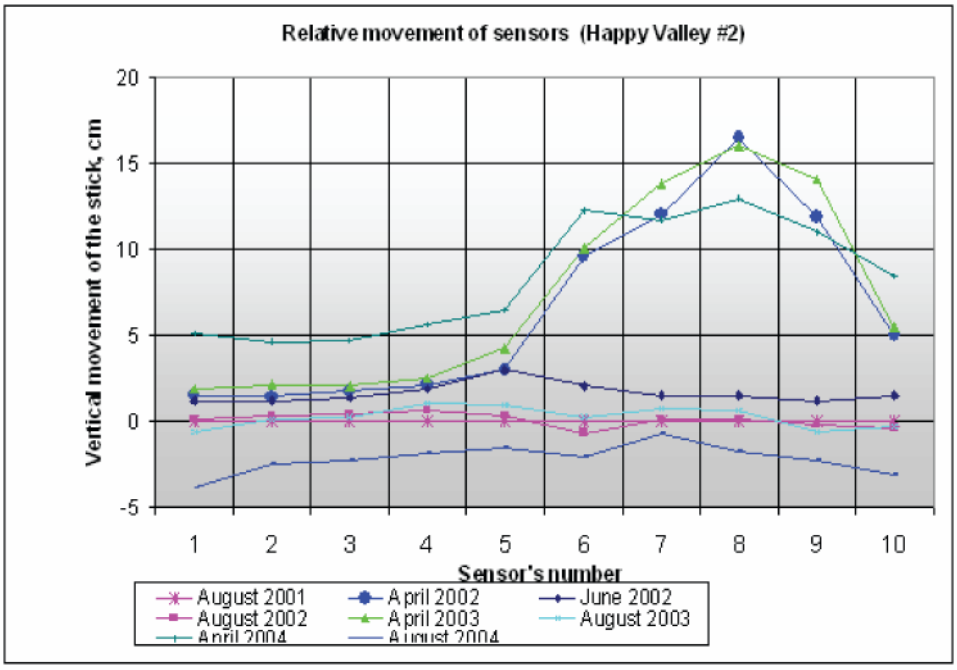


Figure 39. *Two heavometers collected heave measurements at Happy Valley for analyses.*

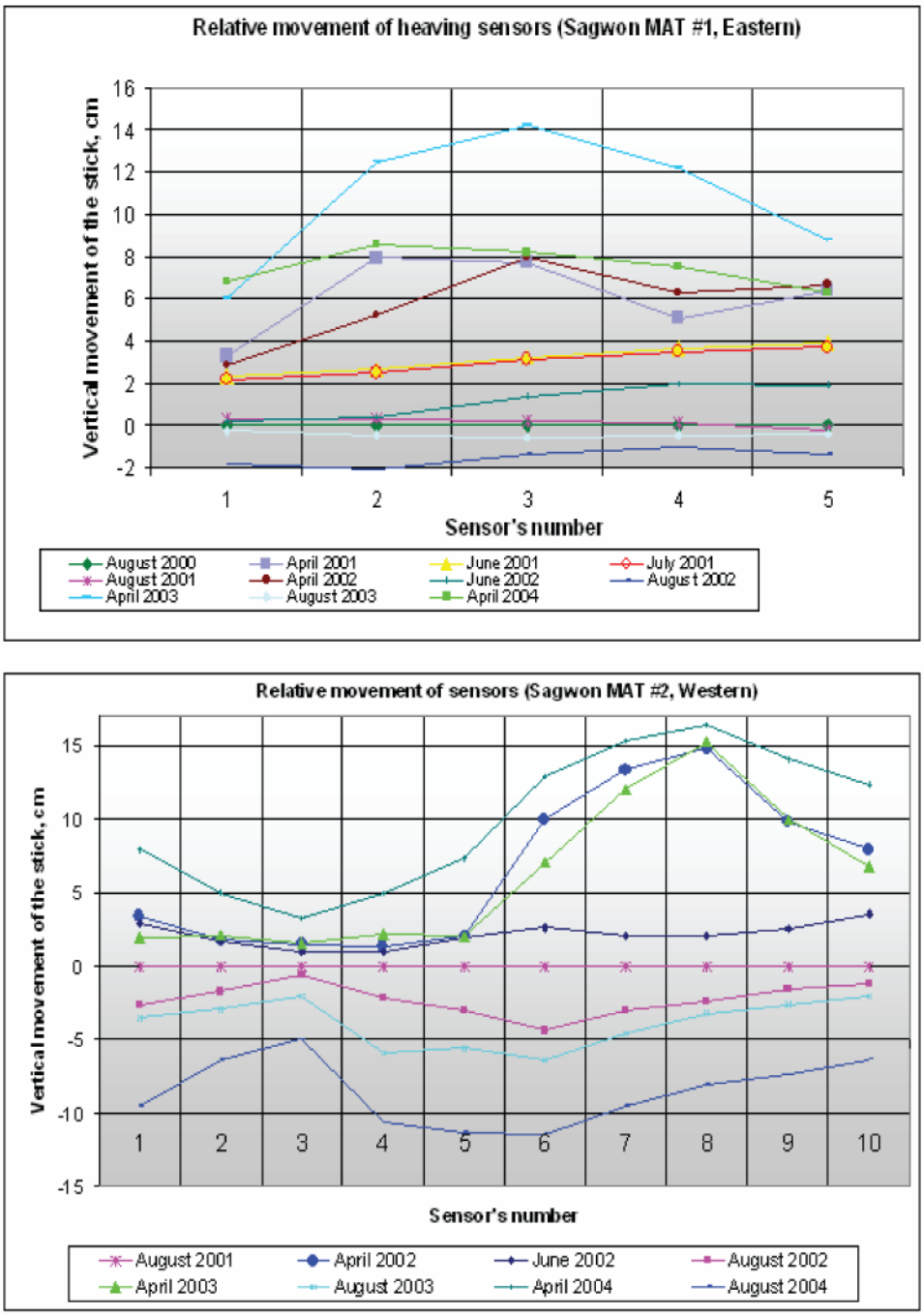


Figure 40. *Two heavometers recorded heave at Sagwon MAT for analyses.*

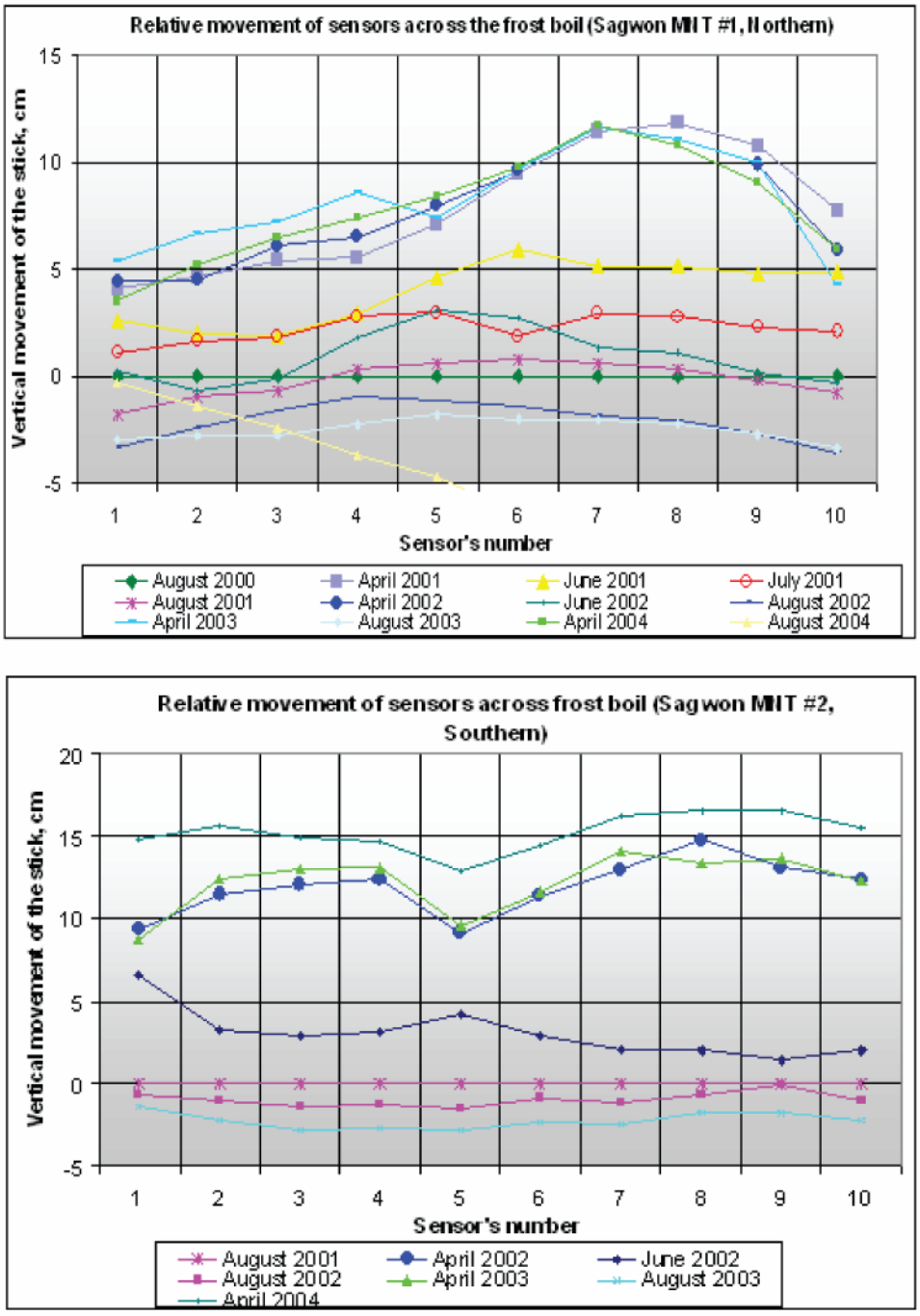


Figure 41. *Two heavometers measured frost heave at Sagwon MNT for analyses.*

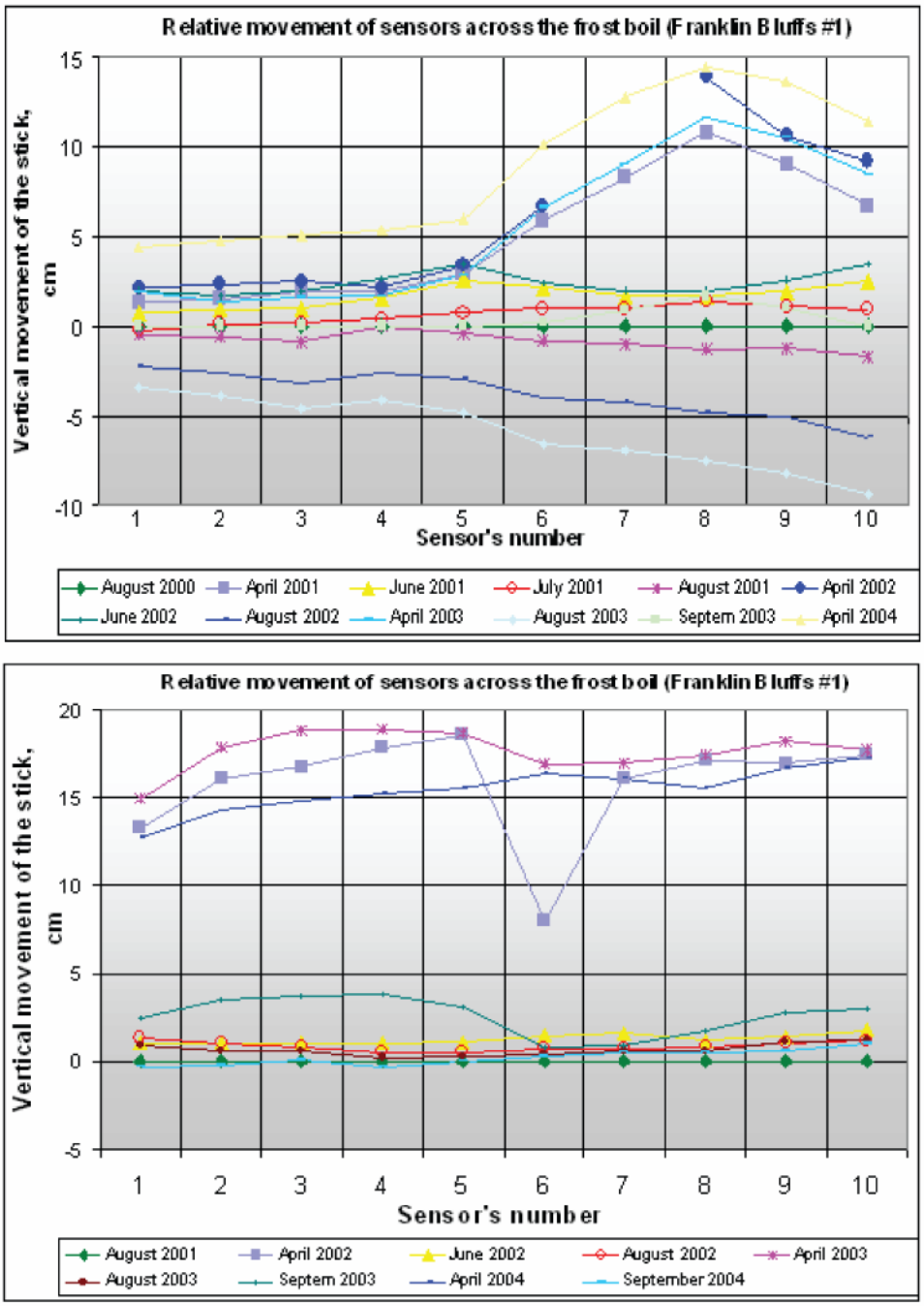


Figure 42. *Three heavometers recorded heave data for analyses at Franklin Bluffs.*

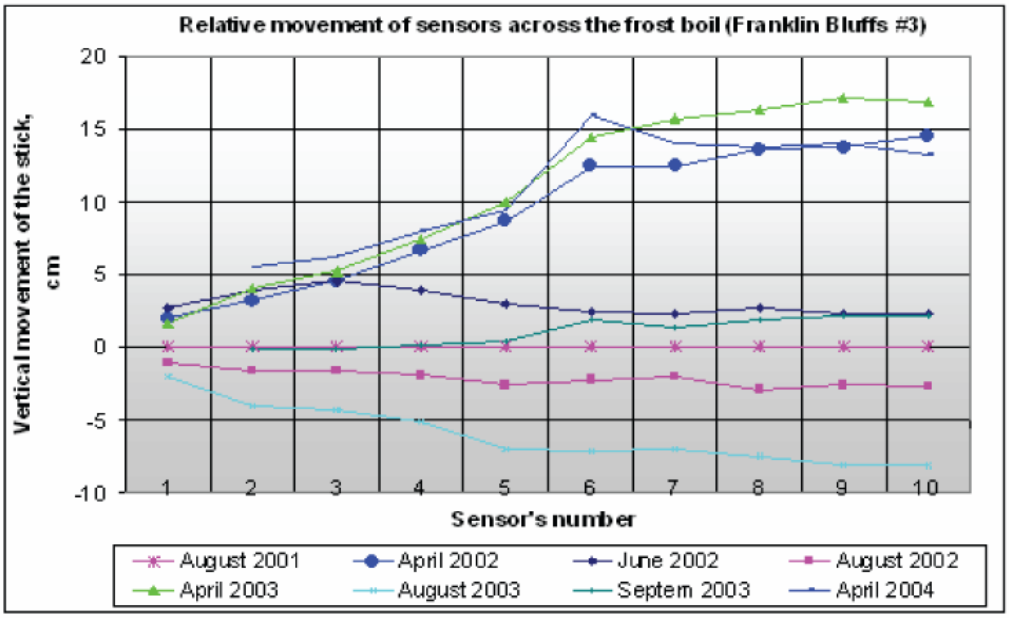


Figure 42 continued.

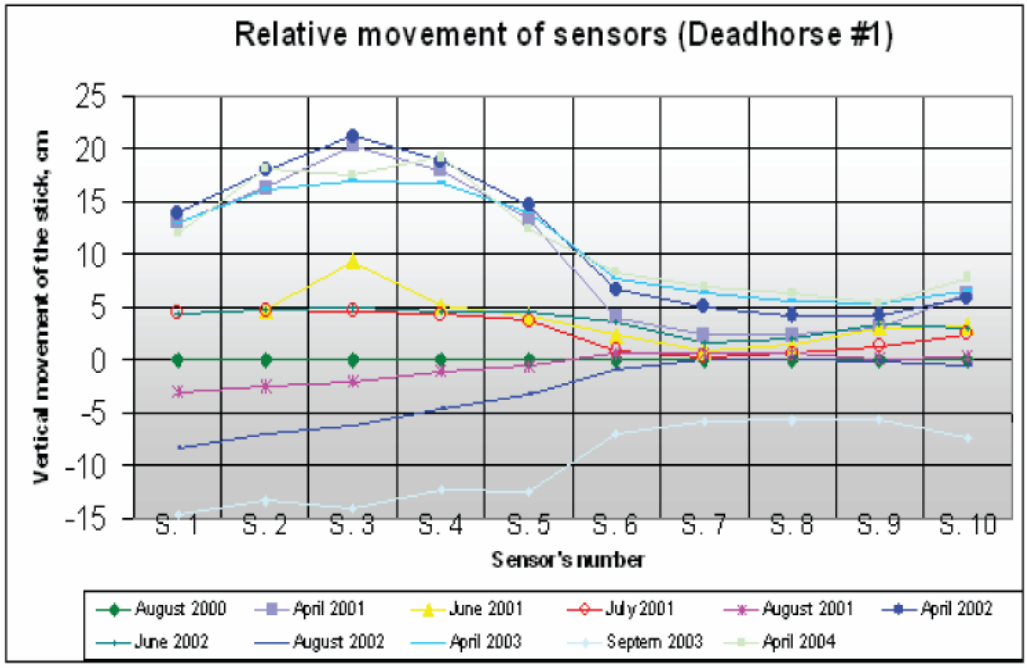
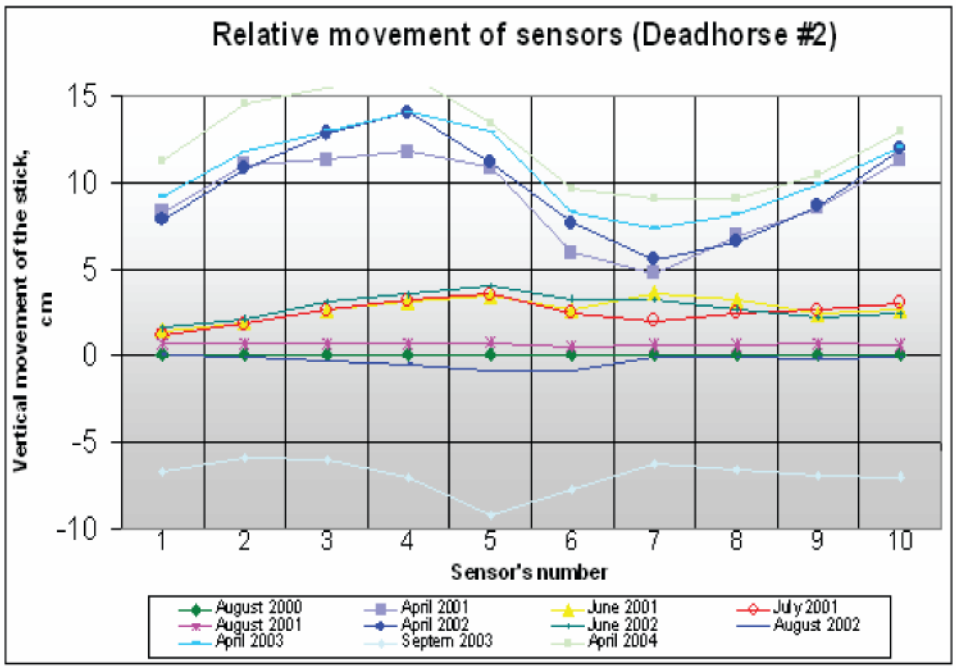


Figure 43. *Three heavometers measured heave at Deadhorse for analyses.*



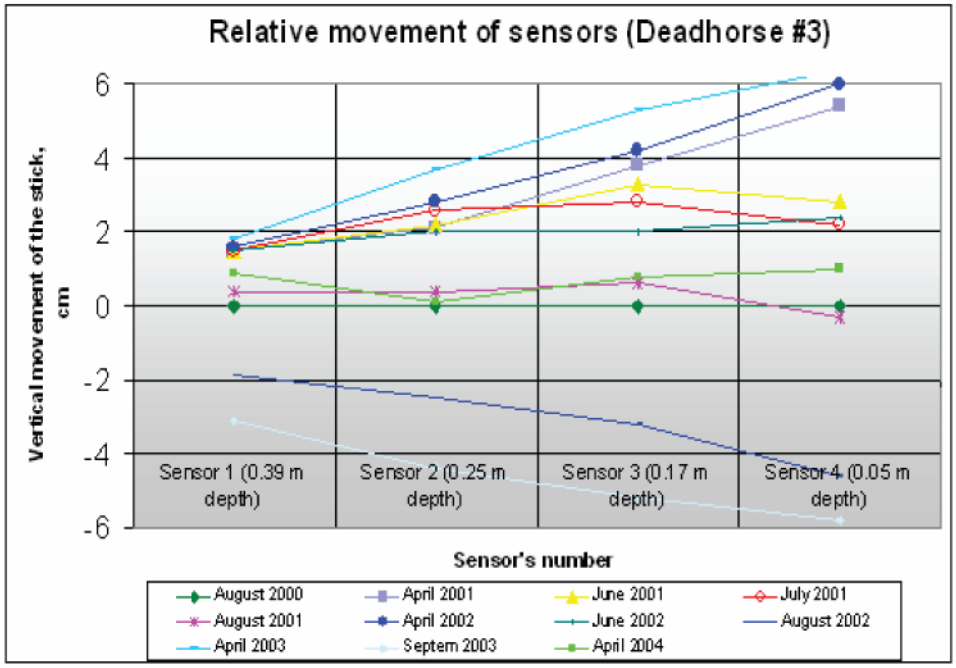


Figure 43 continued.

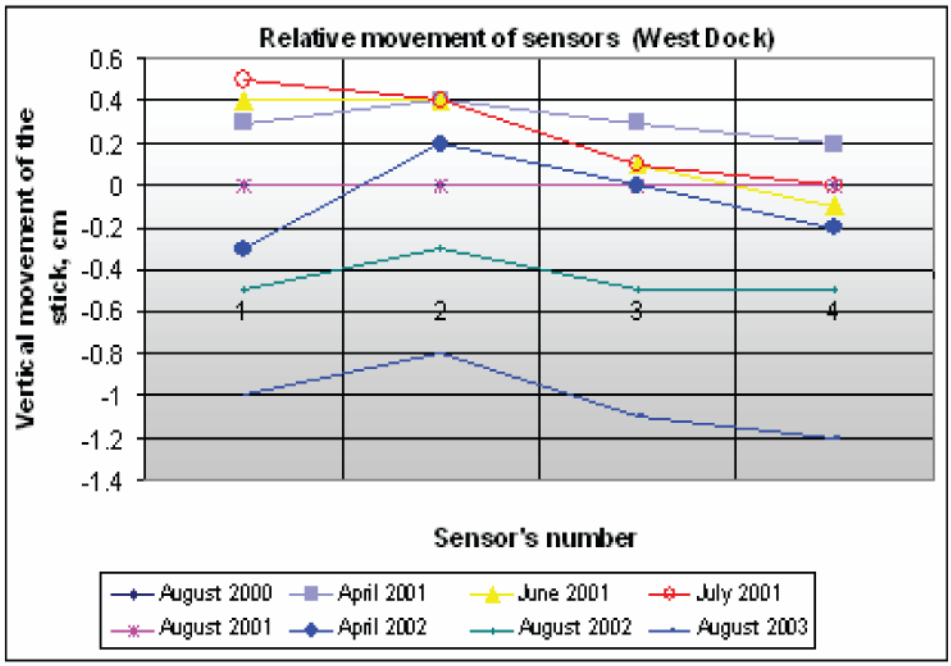


Figure 44. *One heavometer recorded heave data at West Dock for analyses.*

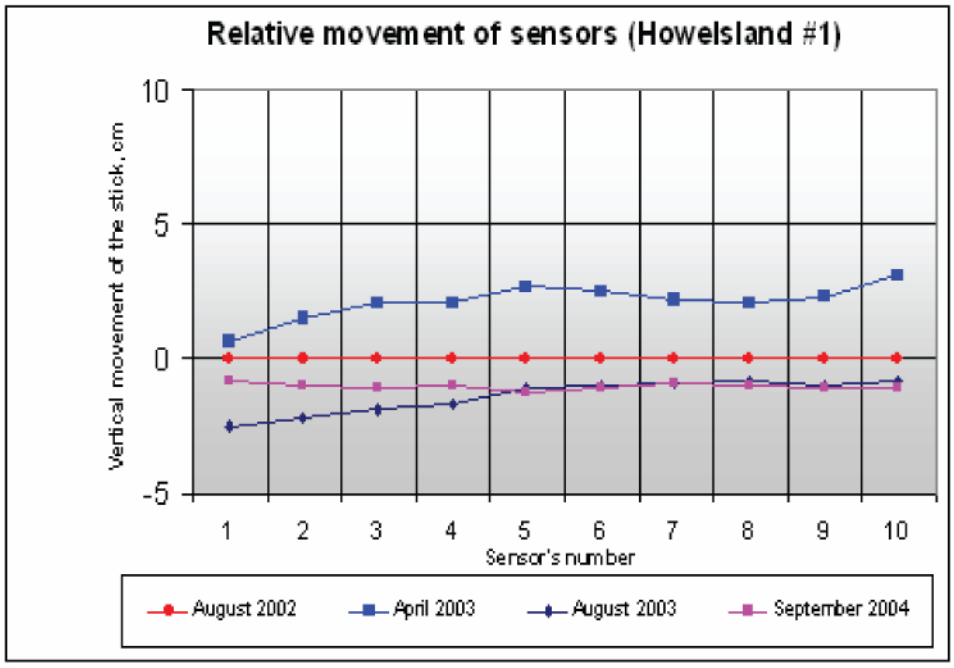


Figure 45. *Two heavometers recorded heave data at Howe Island for analyses.*

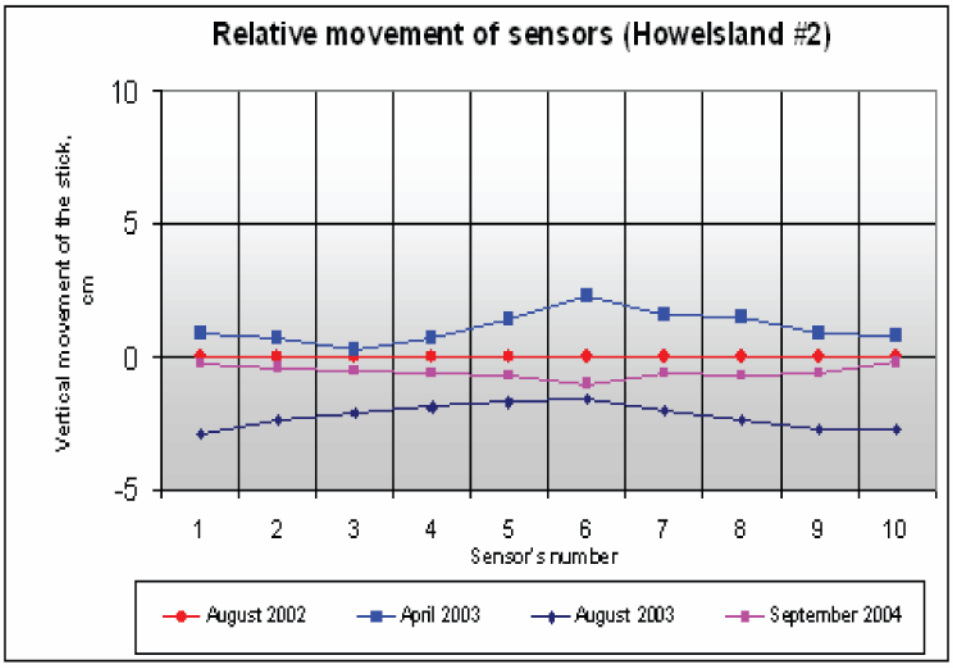


Figure 45 continued.

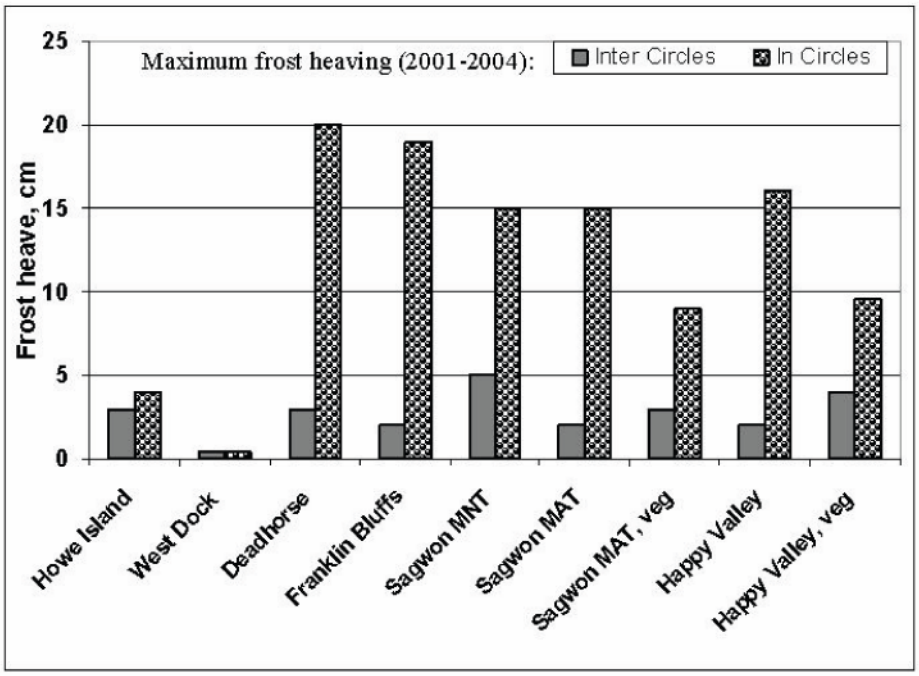


Figure 46. *Frost heave maxima were determined for all Low Arctic sites.*

10 x 10-m grids

Vegetation Mapping

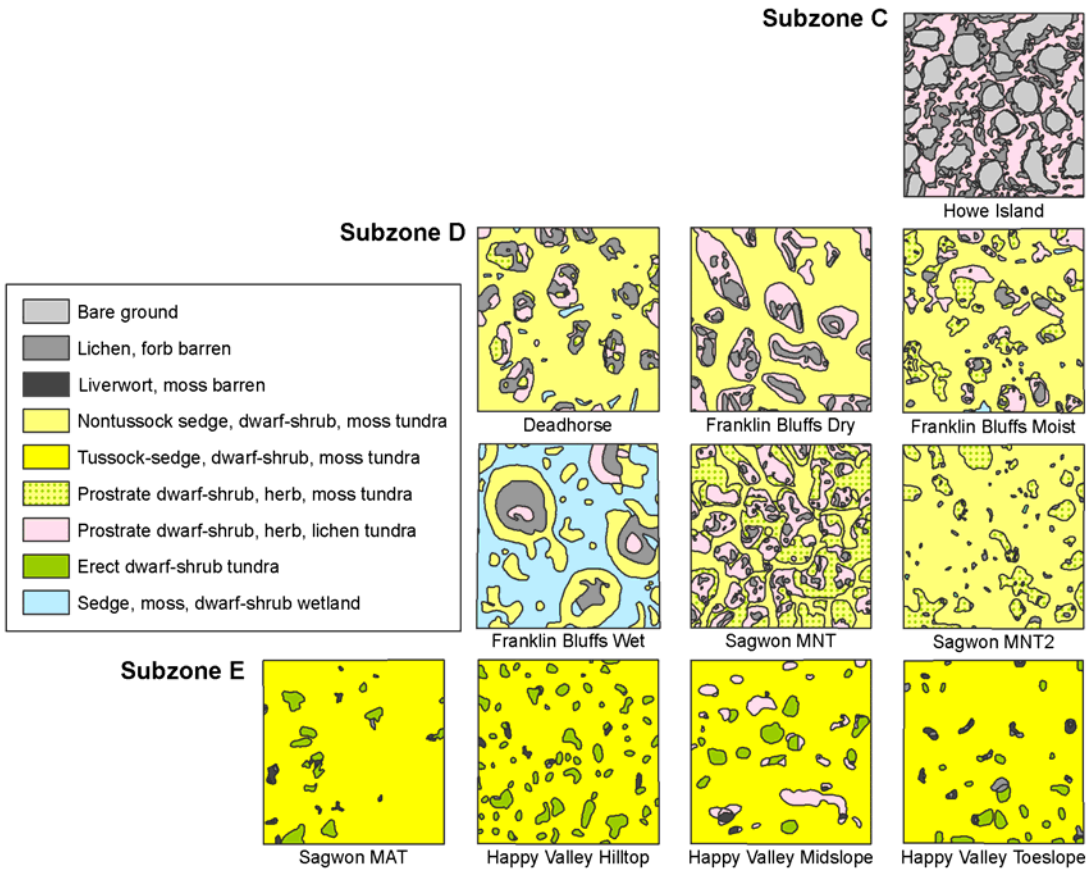


Figure 47. *Vegetation maps were created in ArcGIS for each grid.*

Active Layer Measurements

Table 4. *Microsite grid thaw depth data for August 2000. Thaw is measured in cm. n = sample size s.d =standard deviation, and s.e. = standard error.*

Microsite	Values	Sagwon MAT	Sagwon MNT 1	Franklin Bluffs Moist	Dead Horse	West Dock
Bare Circles	Mean	39.5	62.6	62.3	67.0	
	n	2	32	91	60	
	s.d.	0.7	5.9	5.6	4.1	
	s.e.	0.5	1.1	0.6	0.5	
Thin Organic (<3cm) on Circles	Mean	45.8	60.9	61.5	65.3	
	n	5	109	52	59	
	s.d.	6.0	6.8	3.9	6.3	
	s.e.	2.7	0.6	0.5	0.8	
Thick Organic (>3cm) on Circles	Mean		53.8			
	n		185			
	s.d.		9.8			
	s.e.		0.7			
Hummock	Mean	42.6				
	n	20				
	s.d.	9.1				
	s.e.	2.0				
Intercircle	Mean	30.1	47.2	56.6	54.1	
	n	414	115	246	305	
	s.d.	9.4	11.5	5.5	6.2	
	s.e.	0.5	1.1	0.4	0.4	
Rims	Mean					27.5
	n					15
	s.d.					1.6
	s.e.					0.4
Trough/ Depression	Mean			49.0	50.9	22.0
	n			41	17	8
	s.d.			4.1	4.2	3.0
	s.e.			0.6	1.0	1.1

Table 4 continued.

Microsite	Values	Sagwon MAT	Sagwon MNT 1	Franklin Bluffs Moist	Dead Horse	West Dock
Flat-Centered Polygon	Mean					25.2
	n					98
	s.d.					1.3
	s.e.					0.1
Tussock	Mean			63.2		
	n			5		
	s.d.			5.7		
	s.e.			2.6		
Willow	Mean			52.0		
	n			6		
	s.d.			4.4		
	s.e.			1.8		
Total Circles and Hummocks	Mean	42.9	57.1	62.0	66.1	
	n	27	326	143	119	
	s.d.	8.3	9.3	5.0	5.4	
	s.e.	1.6	0.5	0.4	0.5	
Total Grid	Mean	30.9	54.5	57.7	57.2	25.3
	n	441	441	441	441	121
	s.d.	9.8	10.8	6.5	8.0	1.9
	s.e.	0.5	0.5	0.3	0.4	0.2

Table 5. Microsite grid thaw depth data for August 2001. Thaw is measured in cm. n = sample size, s.d. = standard deviation, and s.e. = standard error.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley FootSlope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Bare Circles	Mean	39.0	52.8	50.6	38.5	65.7	48.8	75.3	67.3	72.0	69.4		67.8
	n	1	4	7	2	32	10	66	91	31	60		39
	s.d.		11.3	6.2	0.7	5.4	6.3	4.6	4.9	8.6	3.9		4.1
	s.e.		5.6	2.4	0.5	0.9	2.0	0.6	0.5	1.6	0.5		0.7
Thin Organic (<3cm) on Circles	Mean		48.0	58.0	50.8	64.6		73.6	64.3	79.6	68.7		
	n		4	2	5	109		110	52	10	59		
	s.d.		5.2	18.4	11.3	7.4		5.8	4.2	7.6	6.7		
	s.e.		2.6	13.0	5.0	0.7		0.6	0.6	2.4	0.9		
Thick Organic (>3cm) on Circles	Mean	44.3	46.9	41.0		55.9				79.8			
	n	3	31	6		185				5			
	s.d.	8.4	6.5	12.9		9.3				15.4			
	s.e.	4.8	1.2	5.2		0.7				6.9			
Hummock	Mean	32.3	47.2	25.1	42.2		49.7						
	n	52	20	19	20		86						
	s.d.	11.9	14.4	8.3	6.9		8.4						
	s.e.	1.7	3.2	1.9	1.5		0.9						
Intercircle	Mean	24.6	37.0	31.6	31.3	52.6	41.6	67.6	67.6	57.4	56.8		61.7
	n	385	382	407	414	115	343	261	261	395	305		41
	s.d.	11.9	9.3	12.4	8.7	9.7	8.3	7.0	7.0	9.0	5.9		4.8
	s.e.	0.6	0.5	0.6	0.4	0.9	0.4	0.4	0.4	0.5	0.3		0.7

Table 5 continued.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley FootSlope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Cryptogamic Crust on Circles	Mean												65.2
	n												41
	s.d.												4.3
	s.e.												0.7
Intercircle Crust	Mean												63.4
	n												82
	s.d.												4.8
	s.e.												0.5
Rims	Mean											27.3	
	n											64	
	s.d.											1.5	
	s.e.											0.2	
Trough/ Depression	Mean						38.5		51.7		53.7	22.9	
	n						2		41		17	31	
	s.d.						10.6		5.7		3.5	2.9	
	s.e.						7.5		0.9		0.9	0.5	
Flat-Centered Polygon	Mean											25.0	
	n											346	
	s.d.											1.9	
	s.e.											0.1	

Table 5 continued.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley Footslope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Tussock	Mean								66.8				
	n								5				
	s.d.								6.1				
	s.e.								2.7				
Willow	Mean							61.5	57.7				
	n							4	6				
	s.d.							10.5	6.7				
	s.e.								2.7				
Total Circles and Hummocks	Mean	33.1	47.4	35.1	43.5	59.8	19.6	74.2	66.2	74.5	69.0		66.5
	n	56	59	34	27	326	96	176	143	46	119		80
	s.d.	11.9	10.0	15.1	8.2	9.5	8.2	5.5	4.8	9.8	5.5		4.4
	s.e.	1.6	1.3	2.6	1.6	0.5	0.8	0.4	0.4	1.4	0.5		0.5
Total Grid	Mean	25.7	38.4	31.8	32.0	57.9	43.3	70.2	60.8	59.1	60.0	25.2	64.9
	n	441	441	441	441	441	441	441	441	441	441	441	121
	s.d.	12.2	10.0	12.6	9.2	10.0	8.9	7.2	6.9	10.4	8.0	2.2	5.0
	s.e.	0.6	0.5	0.6	0.4	0.5	0.4	0.3	0.3	0.5	0.4	0.1	0.5

Table 6. Microsite grid thaw depth data for August 2002. Thaw is measured in cm. n = sample size, s.d. = standard deviation, and s. e. = standard error.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley FootSlope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Bare Circles	Mean	44.0	50.0	45.6	41.5	69.3	48.9	78.1	66.3	78.7	71.4		69.2
	n	1	4	7	2	32	10	13	91	31	60		140
	s.d.		10.1	10.0	2.1	6.3	11.1	7.4	6.2	4.2	3.9		4.6
	s.e.		5.0	3.8	1.5	1.1	3.5	2.1	0.7	0.8	0.5		0.4
Thin Organic (<3cm) on Circles	Mean		42.8	57.5	44.4	67.3		73.8	64.8	87.7	70.3		
	n		4	2	5	109		26	52	10	59		
	s.d.		5.5	13.4	4.9	7.3		5.5	4.7	4.3	5.6		
	s.e.		2.8	9.5	2.2	0.7		1.1	0.6	1.4	0.7		
Thick Organic (>3cm) on Circles	Mean	46.0	39.3	45.8		58.5				79.4			
	n	3	31	6		185				5			
	s.d.	4.6	7.7	5.6		10.4				13.5			
	s.e.	2.6	1.4	2.3		0.8				6.0			
Hummock	Mean	43.4	33.7	27.5	40.7		48.1						
	n	52	20	19	20		86						
	s.d.	8.9	13.1	6.9	8.9		9.7						
	s.e.	1.2	2.9	1.6	2.0		1.0						
Intercircle	Mean	36.8	29.0	33.5	30.6	53.7	44.8	66.9	59.3	61.4	59.7		64.2
	n	385	382	407	414	115	343	86	246	395	305		159
	s.d.	9.0	11.0	10.5	8.7	11.4	9.9	7.7	6.1	8.9	5.8		5.2
	s.e.	0.5	0.6	0.5	0.4	1.1	0.5	0.8	0.4	0.4	0.3		0.4

Table 6 continued.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley FootSlope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Cryptogamic Crust on Circles	Mean												66.4
	n												142
	s.d.												4.6
	s.e.												0.4
Intercircle Crust	Mean												65.3
	n												301
	s.d.												5.0
	s.e.												0.3
Rims	Mean											27.0	
	n											64	
	s.d.											1.6	
	s.e.											0.2	
Trough/ Depression	Mean						46.5		51.2		56.4	22.6	
	n						2		41		17	31	
	s.d.						7.8		7.1		4.3	2.8	
	s.e.						5.5		1.1		1.0	0.5	
Flat-Centered Polygon	Mean											25.4	
	n											346	
	s.d.											2.0	
	s.e.											0.1	

Table 6 continued.

Microsite	Values	Happy Valley Hillcrest	Happy Valley Midslope	Happy Valley Footslope	Sagwon MAT	Sagwon MNT 1	Sagwon MNT 2	Franklin Bluffs Dry	Franklin Bluffs Moist	Franklin Bluffs Wet	Dead Horse	West Dock	Howe Island
Tussock	Mean								69.2				
	n								5				
	s.d.								7.0				
	s.e.								3.1				
Willow	Mean							59.0	56.5				
	n							1	6				
	s.d.								8.7				
	s.e.								3.6				
Total Circles and Hummocks	Mean	43.6	38.3	36.2	41.4	62.5	48.2	75.2	65.7	80.7	70.8	67.8	
	n	56	59	34	27	326	96	39	143	46	119	282	
	s.d.	8.6	10.6	12.7	8.0	10.2	9.8	6.4	5.7	6.7	4.8	4.8	
	s.e.	1.2	1.4	2.2	1.5	0.6	1.0	1.0	0.5	1.0	0.4	0.3	
Total Grid	Mean	37.6	30.3	33.8	31.3	60.2	45.5	69.4	60.7	63.4	62.6	25.4	66.5
	n	441	441	441	441	441	441	441	441	441	441	441	441
	s.d.	9.2	11.3	10.7	9.0	11.2	9.9	8.2	7.5	10.5	7.5	2.2	5.2
	s.e.	0.4	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.1	0.2

Thaw Maps

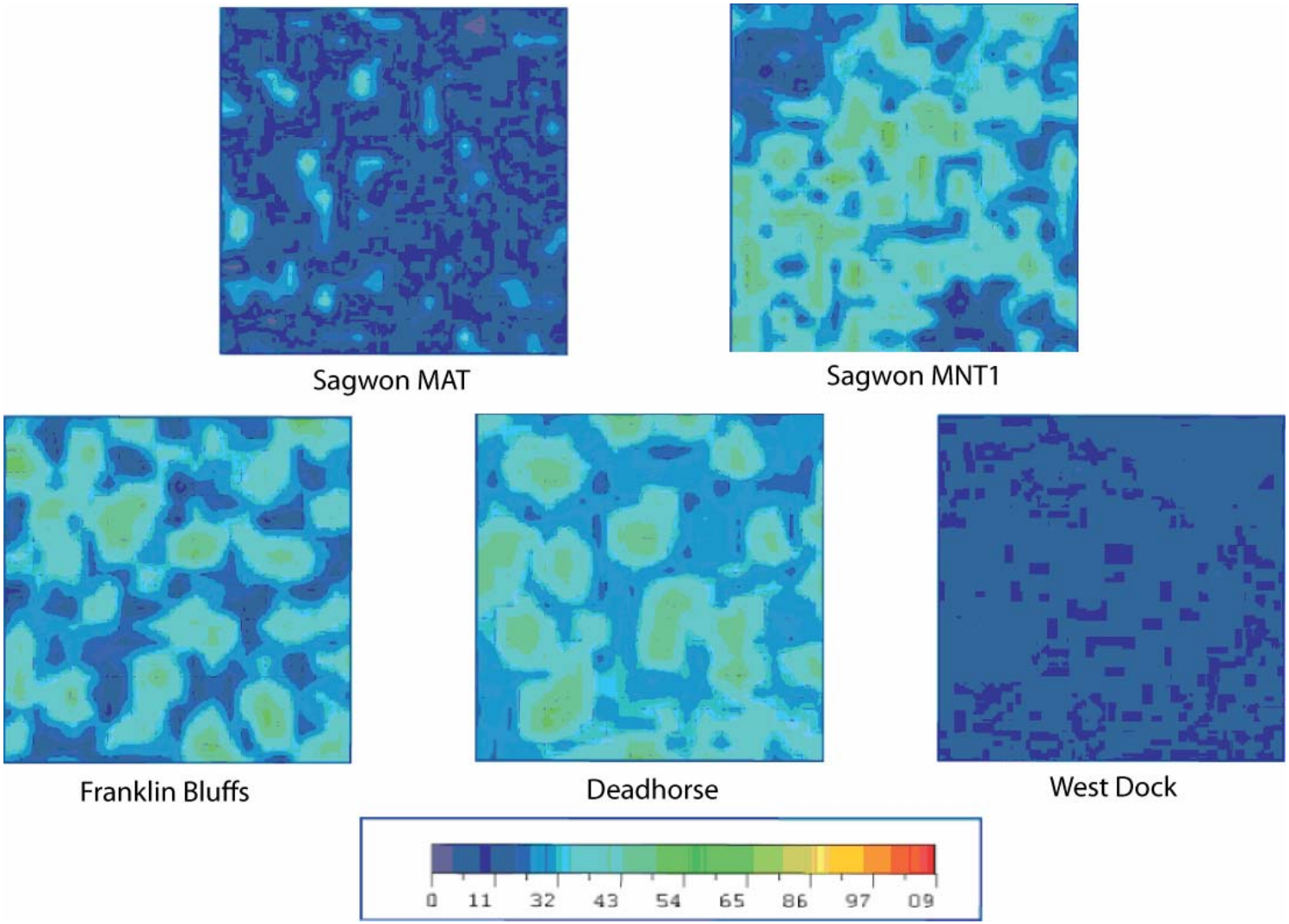


Figure 48. *Thaw maps were created from June 2001 thaw depth data.*

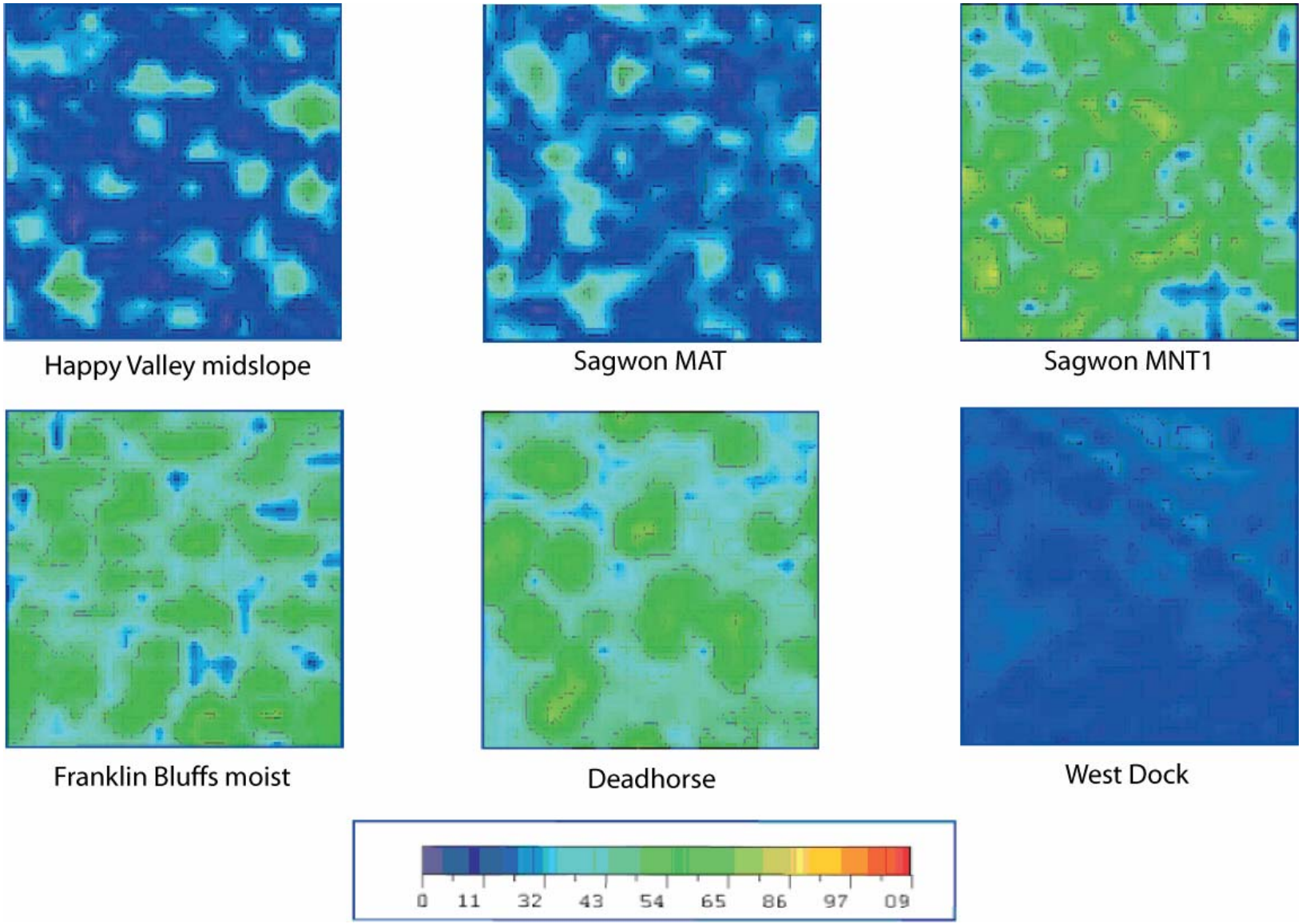


Figure 49. *Thaw maps were created from July 2001 thaw depth data.*

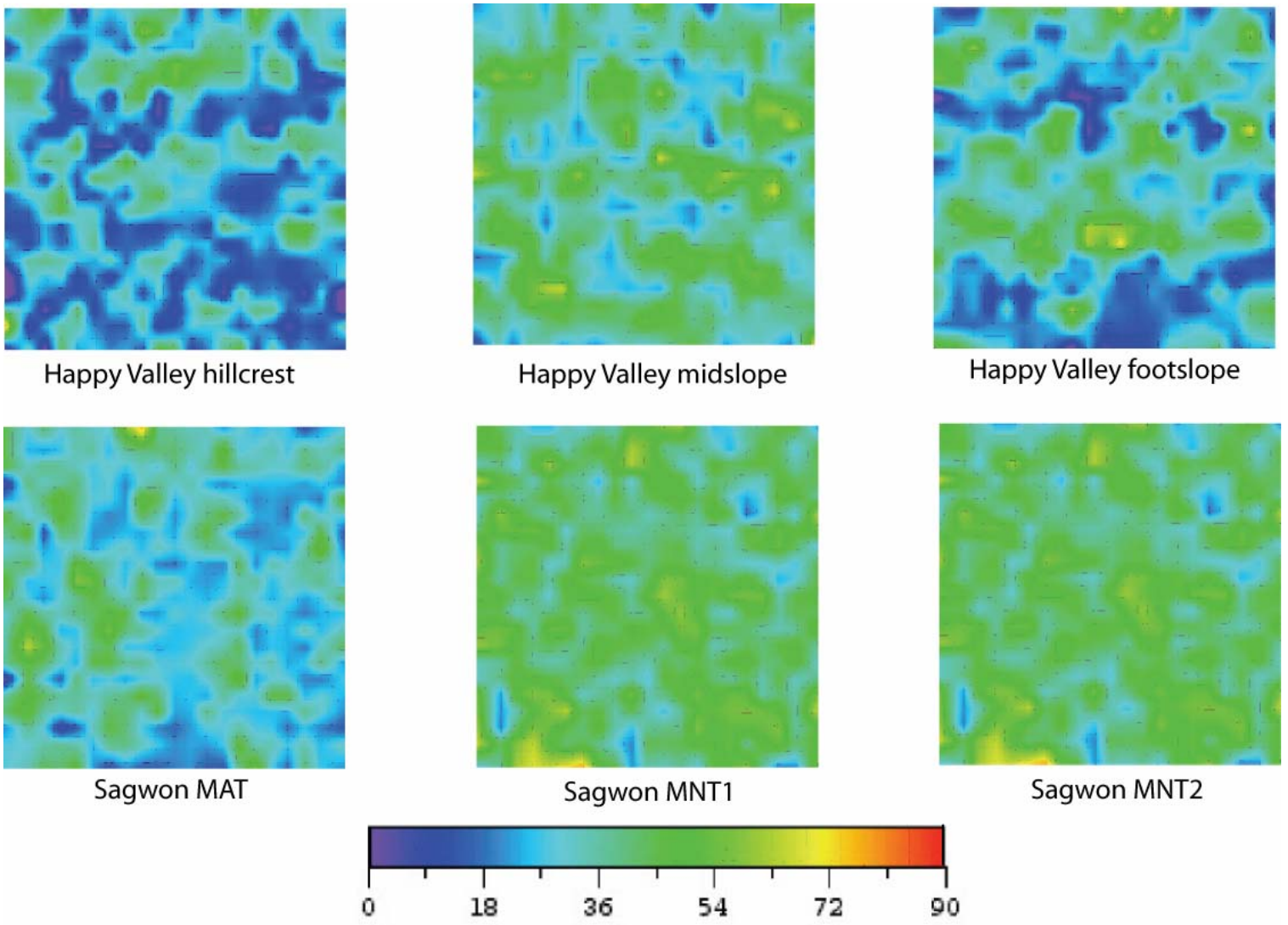


Figure 50. *Thaw maps were created from August 2001 thaw depth data.*

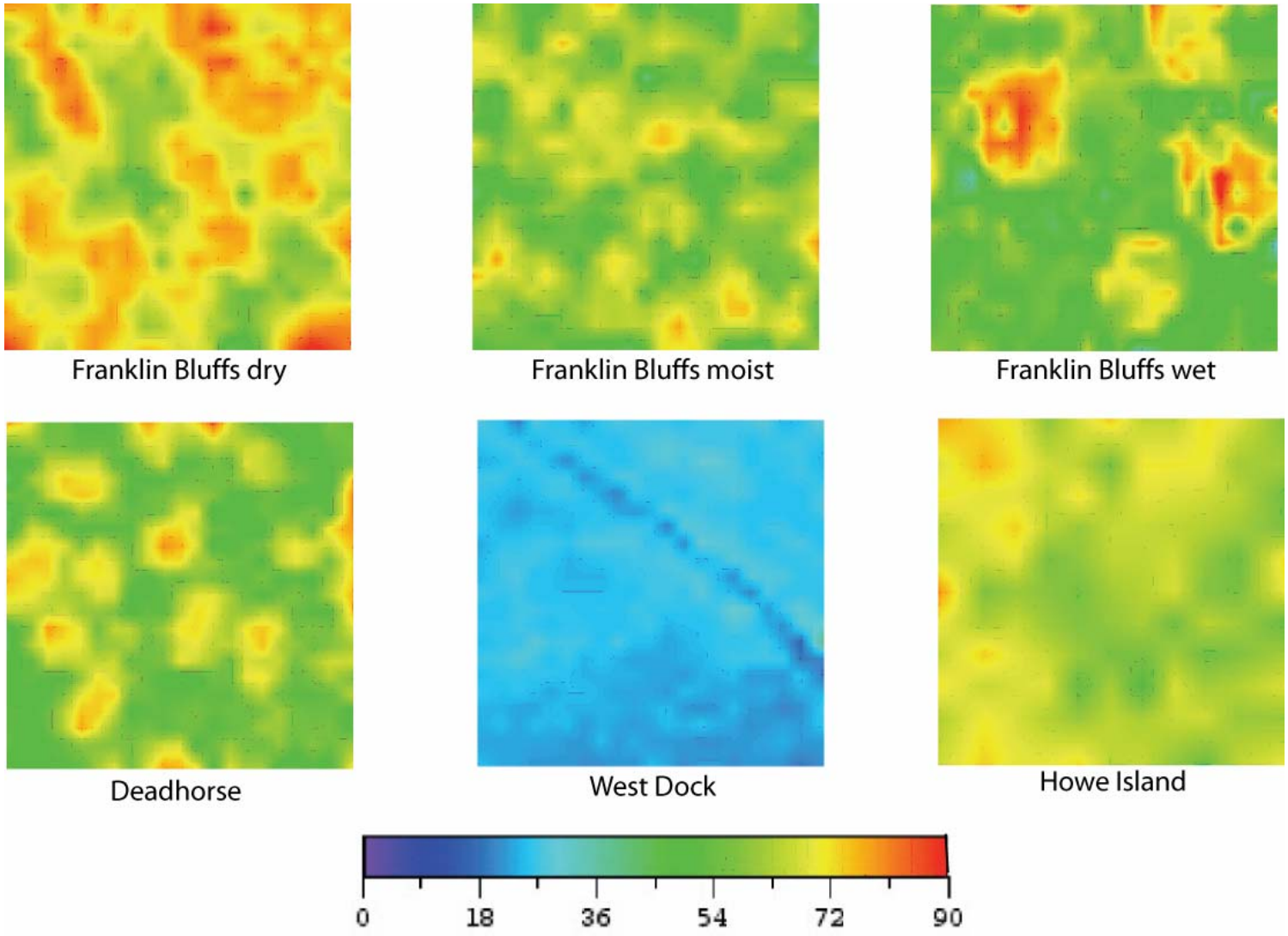


Figure 51. *Thaw maps were created from August 2001 thaw depth data.*

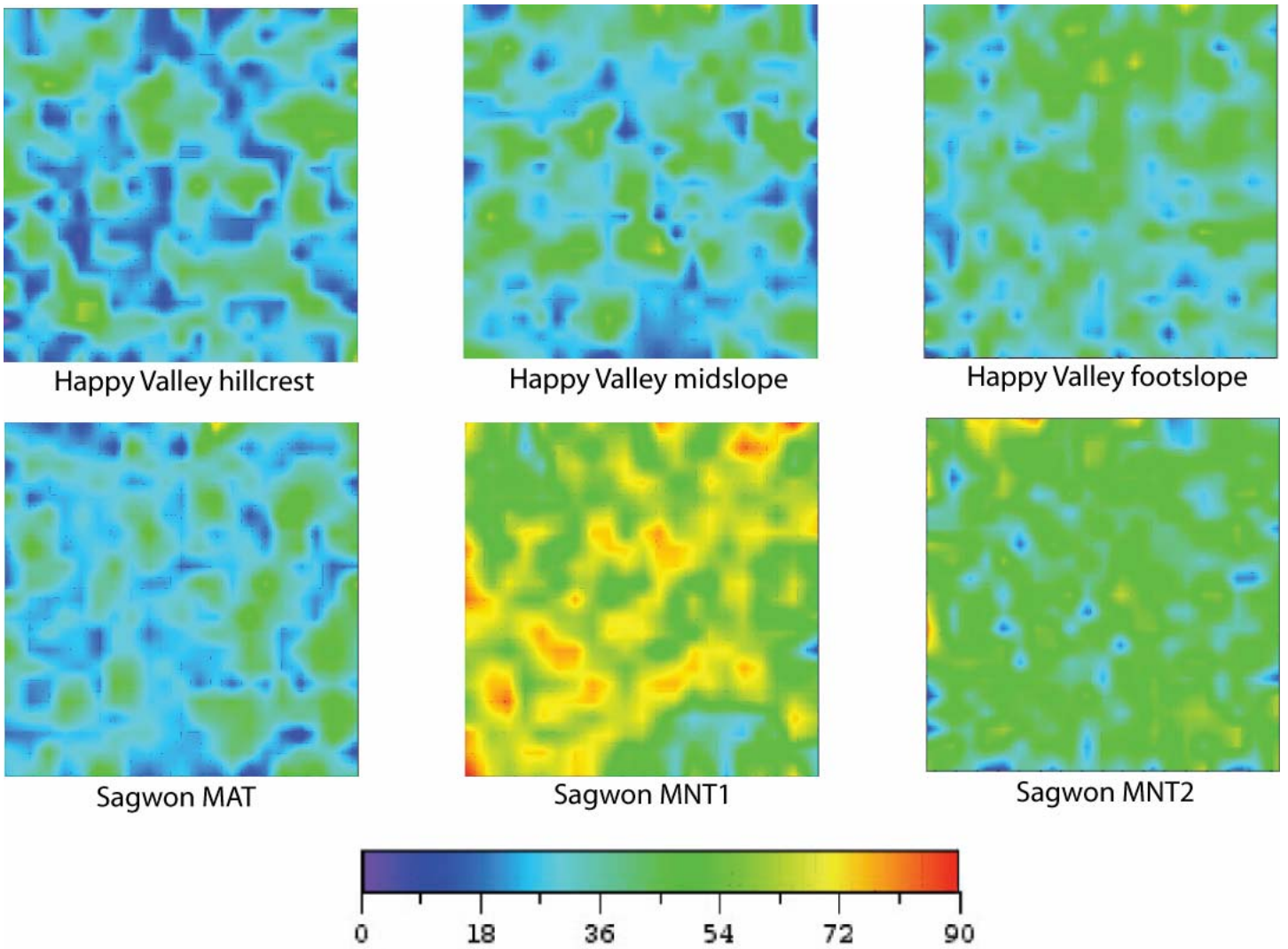


Figure 52. *Thaw maps were created from 2002 thaw depth data.*

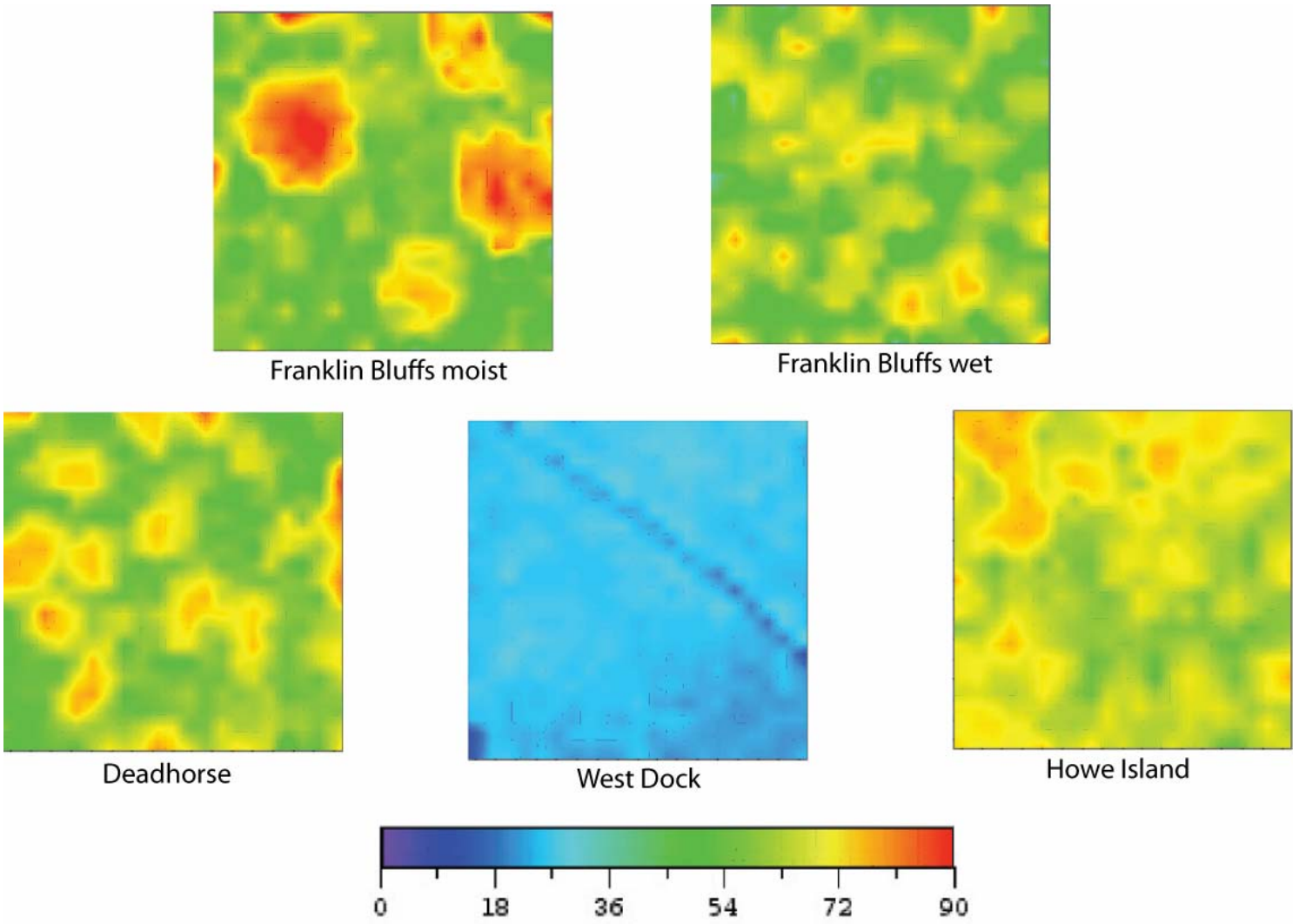


Figure 53. *Thaw maps were created from 2002 thaw depth data.*

Snow Measurements

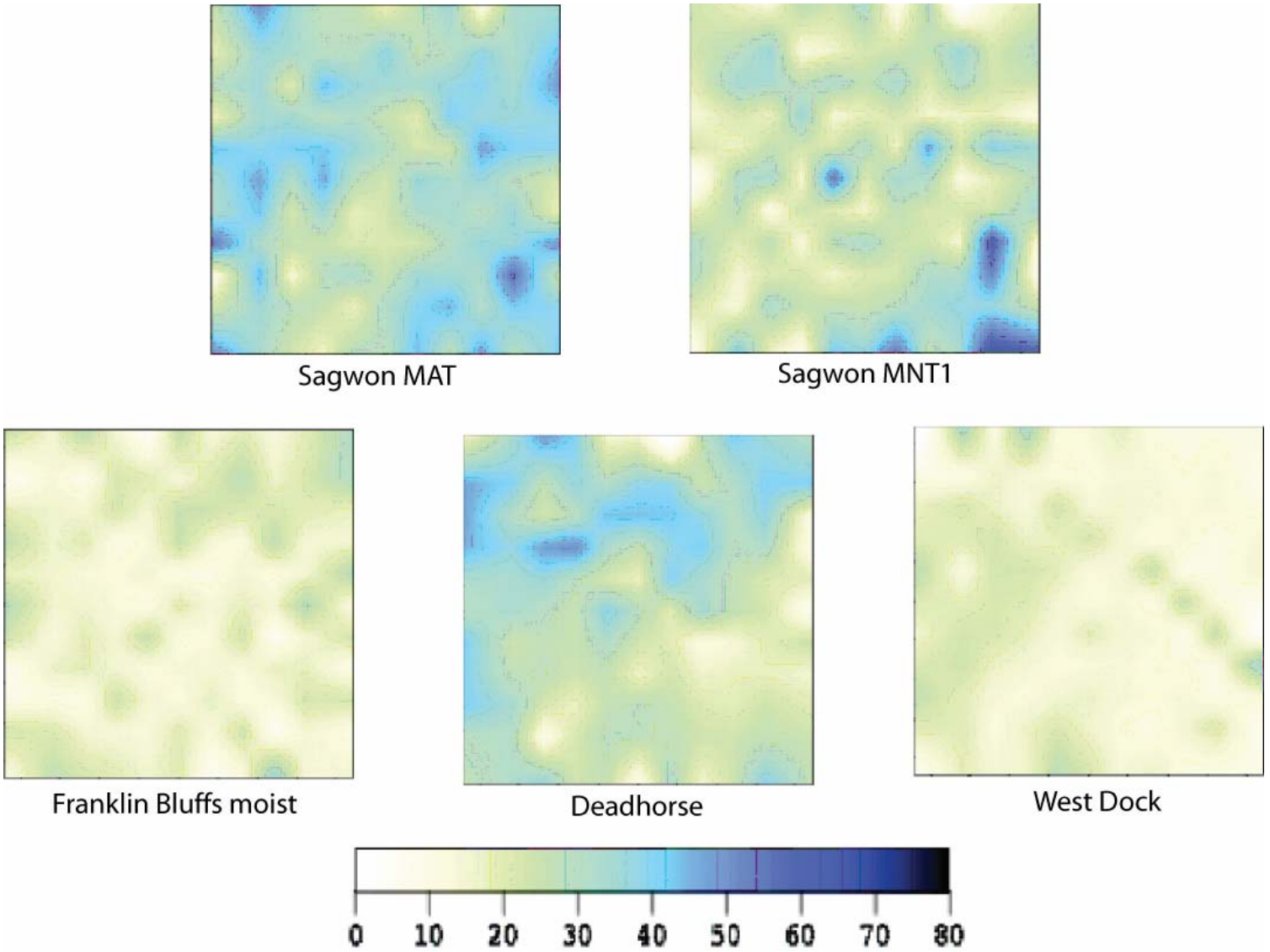


Figure 54. *Snow maps were created from 2001 snow depth data.*

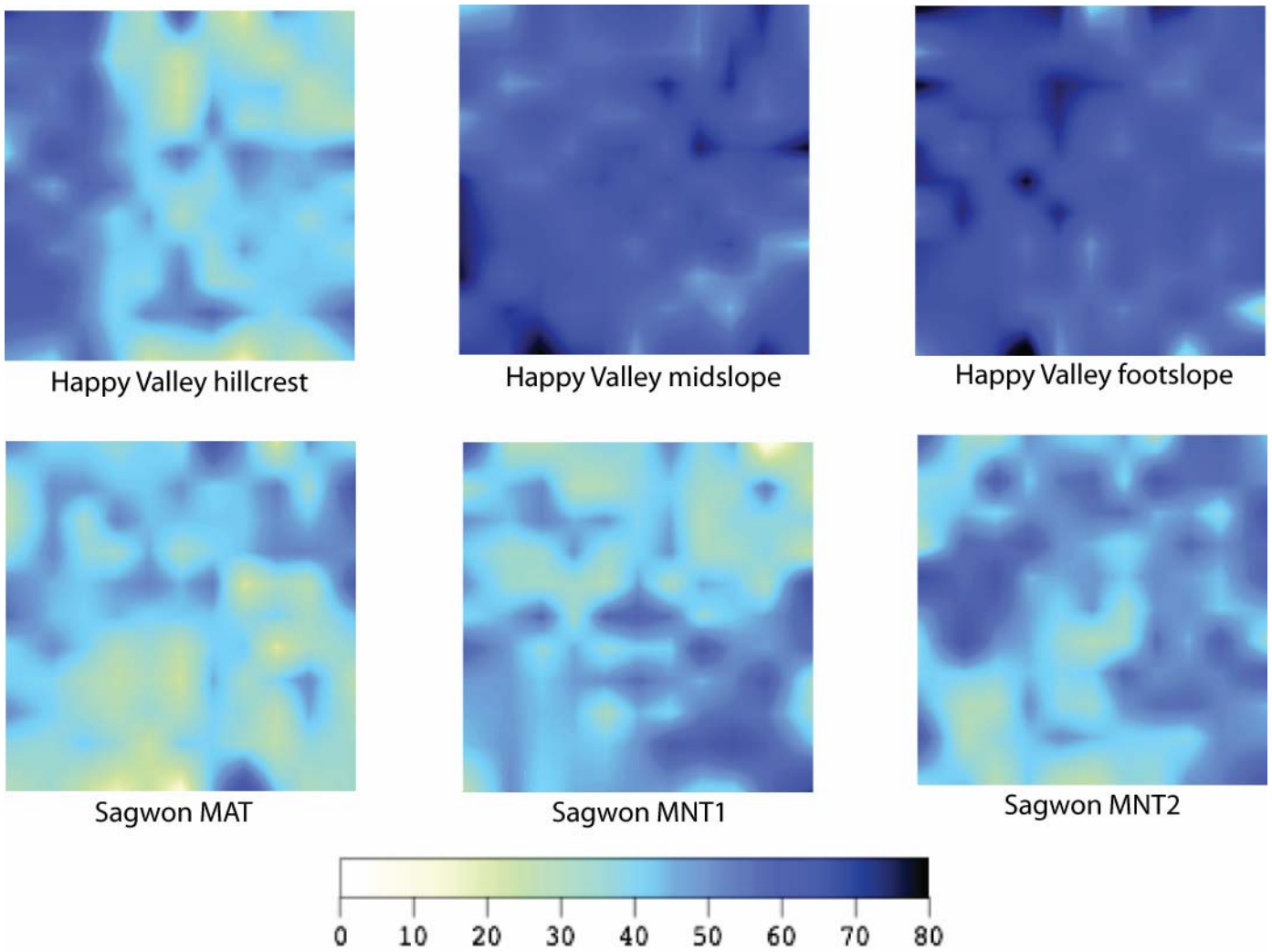


Figure 55. *Snow maps were created from 2002 snow depth data.*

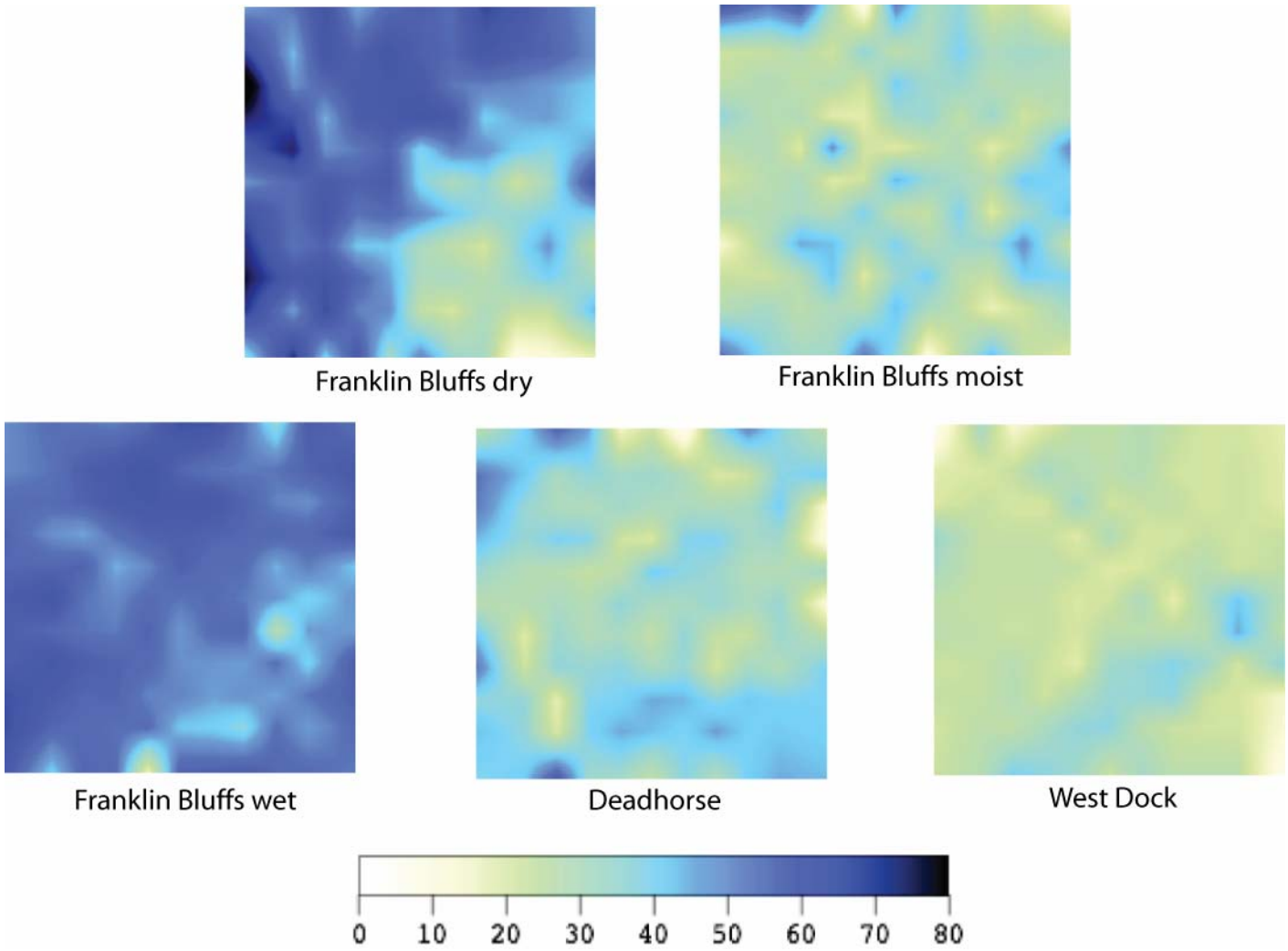


Figure 56. *Snow maps were created from 2002 snow depth data.*

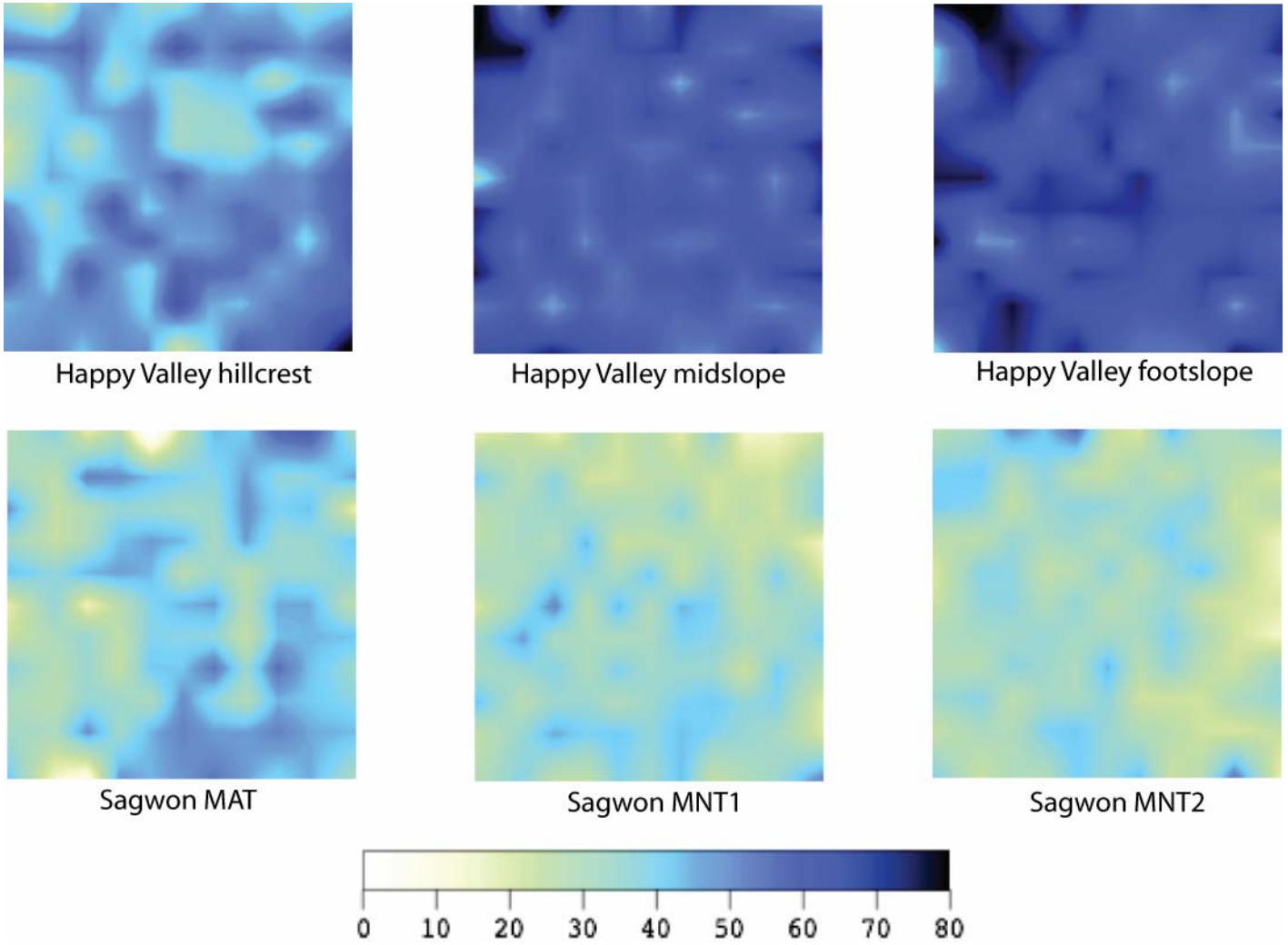


Figure 57. *Snow maps were created from 2003 snow depth data.*

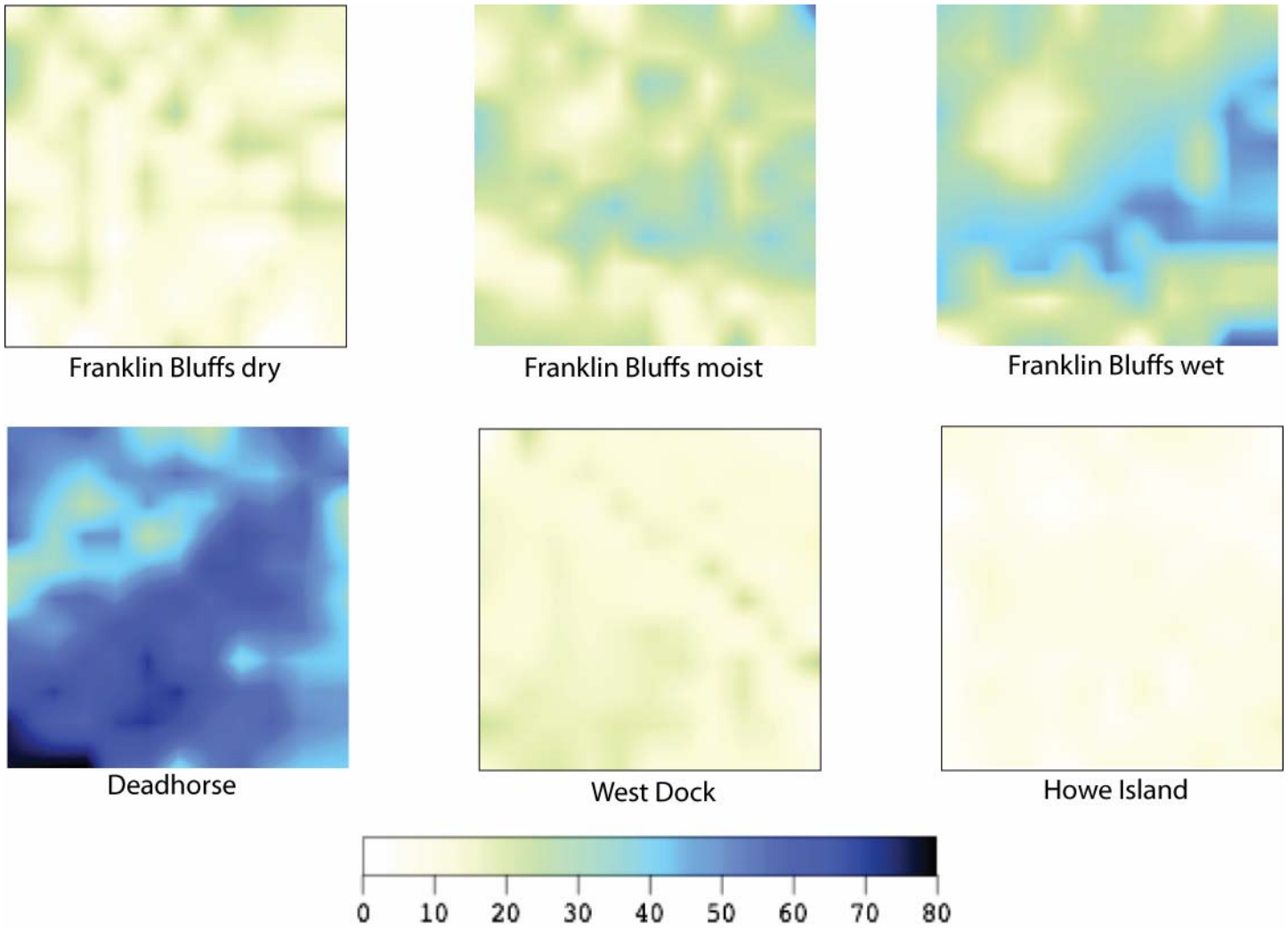


Figure 58. *Snow maps were created from 2003 snow depth data.*

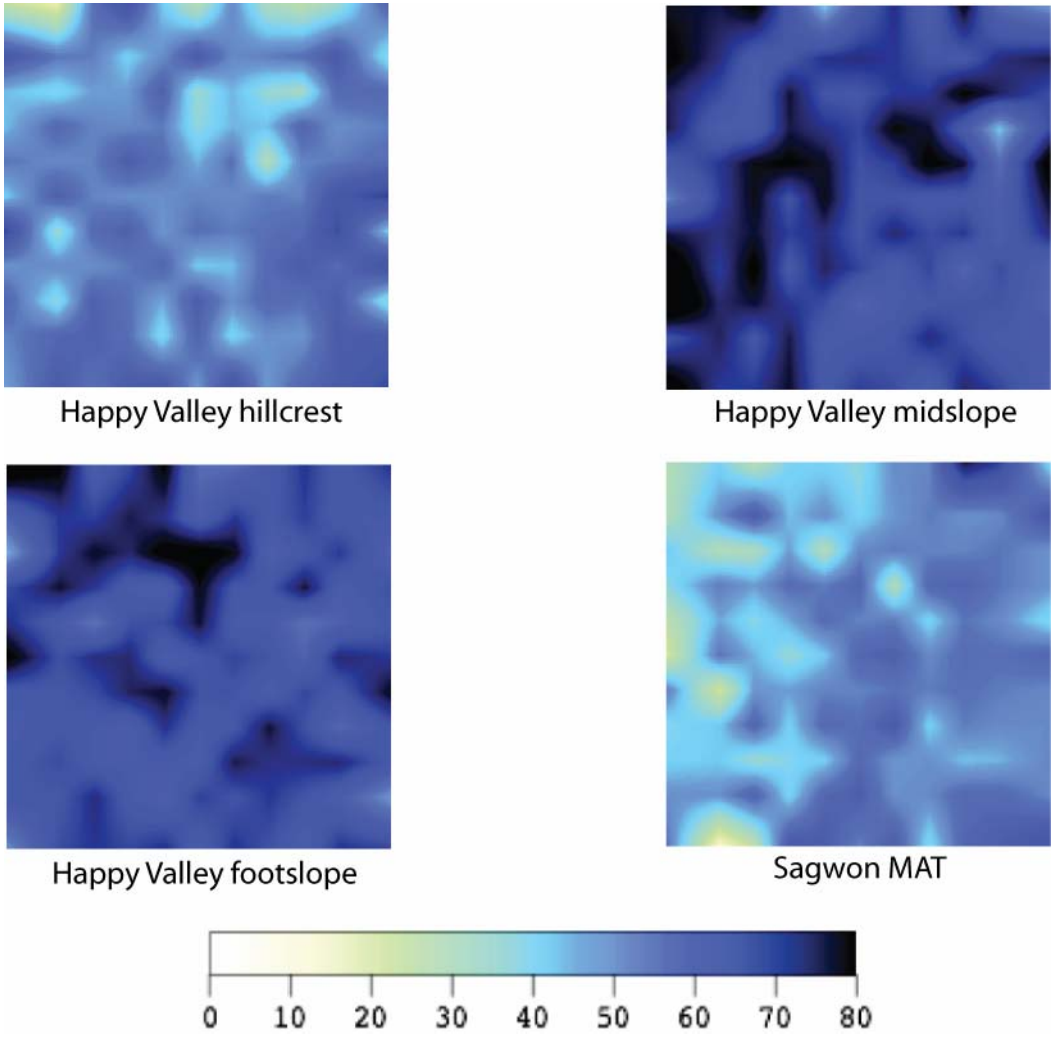


Figure 59. *Snow maps were created from 2004 snow depth data.*

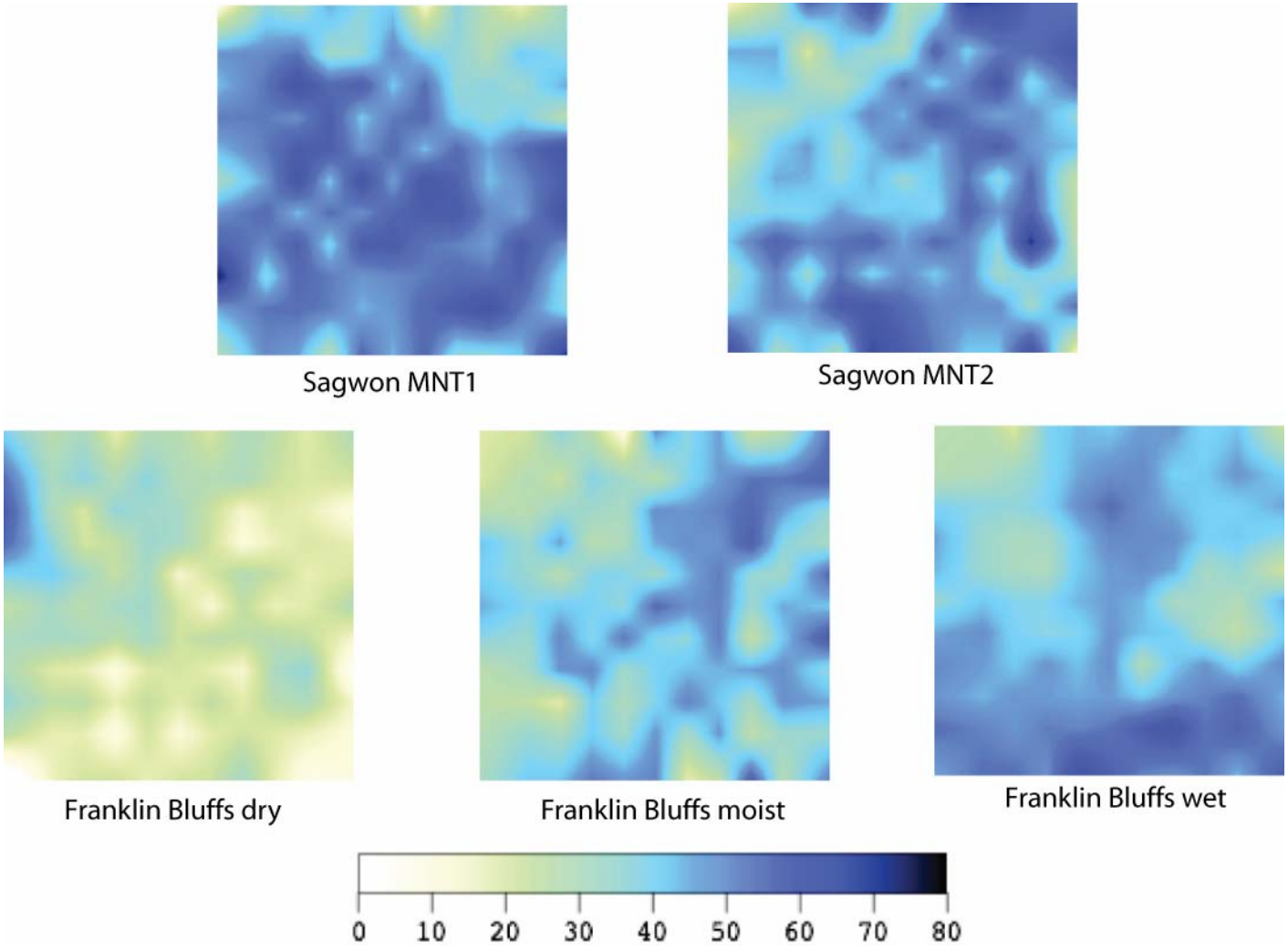


Figure 60. *Snow maps were created from 2004 snow depth data.*

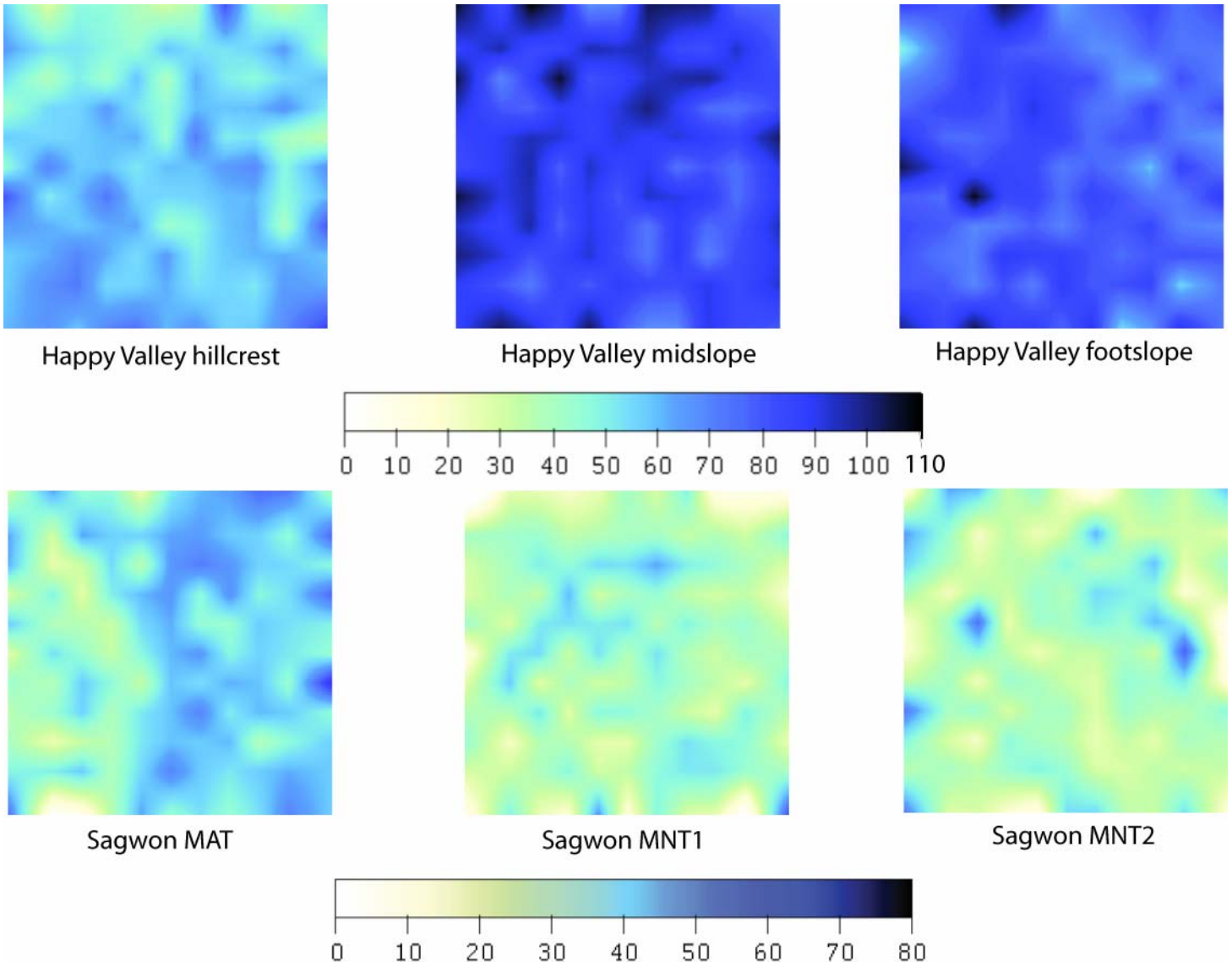


Figure 61. *Snow maps were created from 2005 snow depth data.*

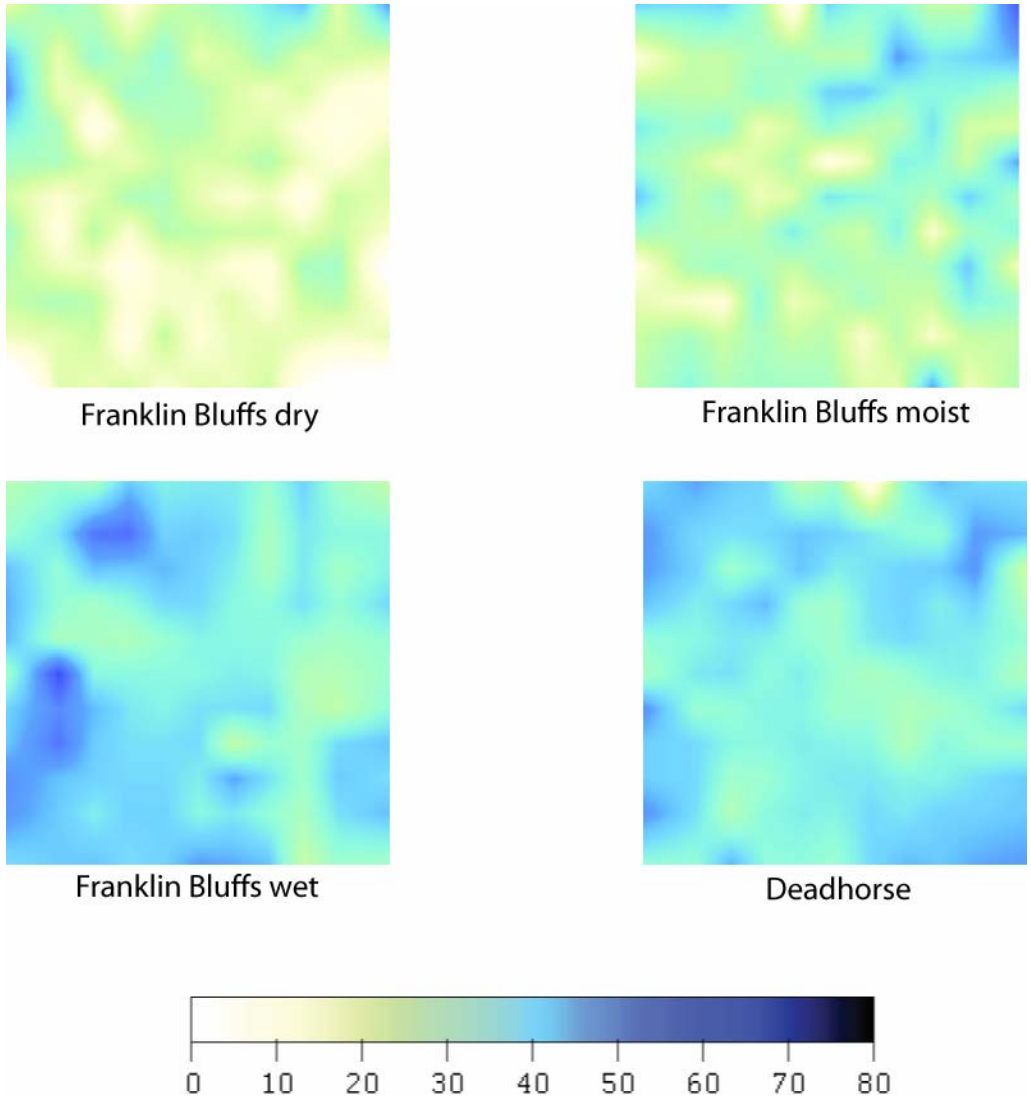


Figure 62. *Snow maps were created from 2005 snow depth data.*

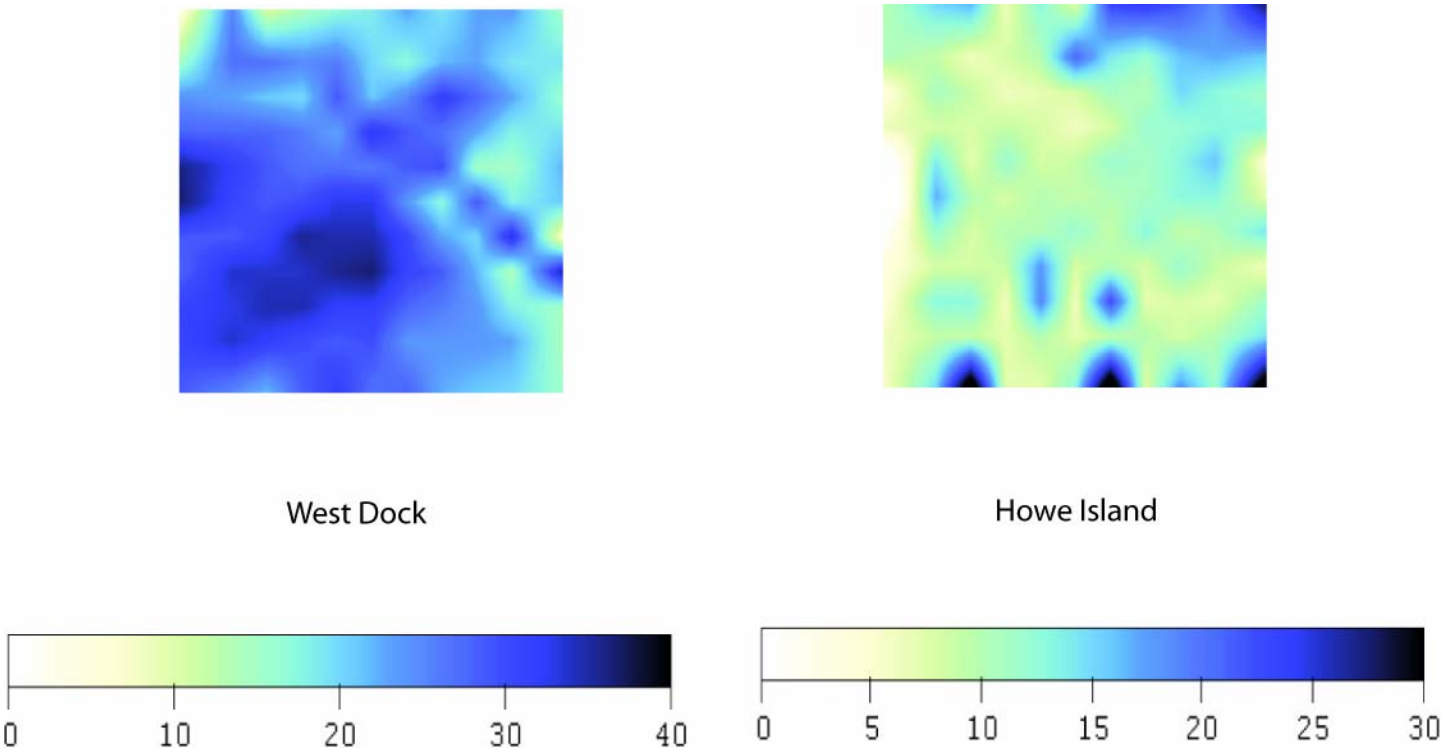


Figure 63. *Snow maps were created from 2005 snow depth data.*

Relevés

Species Cover Abundance

Table 7. *Species abundance was determined for each relevé.*

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Abietinella abietina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aneura pinguis	-	r	+	+	+	+	+	-	+	+	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	r	+	-	+	r	-	-	2	2	2	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	-	-	-	-	+	-	+	+	+	1	1	+	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium turgidum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blepharostoma trichophyllum	-	-	-	-	+	+	+	+	-	-	-	-	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	+	+	-	-	-	-	+	+	+	+	+	-
Bryum sp.	+	+	-	-	+	-	-	-	-	+	-	-	+	-
Bryum wrightii	+	+	-	+	-	+	-	-	+	+	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Caloplaca cerina	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	+	-	-	-	-

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	+	-	+	+	+	+	+	+	+	+	-	+	-	+
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	+	+	-	+	-	-	+	-	r	r	+	+	-
Carex aquatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Carex atrofusca	-	-	-	1	-	-	-	-	-	-	-	-	-	+
Carex bigelowii	-	-	-	-	-	-	-	-	-	-	+	1	2	-
Carex capillaris	1	+	1	+	+	+	+	1	+	1	-	-	-	-
Carex membranacea	-	-	+	-	+	+	+	+	+	+	1	+	1	-
Carex misandra	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	1	+	+	1	+	1	-	-	+	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Carex scirpoidea	-	-	-	-	+	+	-	+	-	-	+	+	-	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	-	-	+	-	+	1	-	-	1	1	1	-
Catoscopium nigritum	+	-	-	-	+	-	+	-	-	-	-	-	-	+
Cephalozia bicuspidata	-	-	-	-	+	+	+	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cetraria islandica	-	-	-	-	-	+	+	+	+	-	+	+	1	-
Cetraria laevigata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	1	+	+	+	-	-	+	+	-	-	-	-
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	+	-	-	-	-	-	-	-	-	-	-	+	-	-
Cladina arbuscula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia amaurocraea	-	-	-	-	-	-	-	r	-	-	-	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cladonia gracilis	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pocillum	-	-	+	-	+	+	+	+	+	+	+	+	1	-
Cladonia pyxidata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia squamosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	-	-	-	-	+	-	+	+	+	-	+	+	+	-
Dactylina ramulosa	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum elongatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum fragilifolium	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	+	-	-	-	+	-	-	-	-	-	-	-
Dicranum spadiceum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	+	+	+	+	+	+	-	1	+	+	1	+	+	+
Distichium inclinatum	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Ditrichum flexicaule	-	+	+	+	+	+	1	+	+	+	1	1	1	+
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	-	-	-	-	-	+	-	+	-	-	-
Dryas integrifolia	+	1	-	+	4	1	4	4	1	1	2	3	2	r
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta alpina	+	+	-	-	+	+	-	+	+	-	-	-	-	-

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Encalypta longicolla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	+	+	+	-	-	1	1	-	+	-	+	-	+	r
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	-	+	-	+	+	+	+	-	-	+	+	r	+	+
Eriophorum angustifolium	1	+	+	2	-	-	-	-	-	-	-	-	-	4
Eriophorum angustifolium spp. *triste*	+	+	1	-	1	+	1	2	+	+	1	1	1	-
Eriophorum vaginatum	+	-	-	1	-	-	-	-	-	-	-	-	-	+
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	-	-	+	-	1	+	2	2	+	-	1	+	1	-
Flavocetraria nivalis	-	-	+	-	+	+	1	+	+	-	+	+	+	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hymenostylium recurvirostre	-	-	-	-	-	-	-	-	+	-	-	-	-	-
Hypnum bambergeri	+	+	+	+	+	+	1	1	+	+	2	2	2	-
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	+	-	+	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	+	+	+	1	-	+	+	-	+	+	-	-	-	-
Juncus castaneus	+	-	+	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	+	+	+	1	-	-	+	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	+	1	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	-	+	-	+	1	1	+	+	+	-	-	-	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leiocolea collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	+	-	+	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	+	-	+	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Luzula arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia arctica	-	-	-	-	1	+	1	+	-	+	+	+	+	-
Minuartia rossii	-	-	-	-	+	+	+	-	+	+	-	-	-	-
Mycobilimbia lobulata	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Myurella julacea	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma expallidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nostoc commune	+	-	1	+	+	-	+	+	-	-	-	-	-	-
Ochrolechia androgyna	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	1	-	-	-	+	-	-	-	-	-	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	+	+	+	-	-	+	+	+	-	-	-	-
Orthothecium strictum	-	-	-	-	-	-	-	-	+	-	-	-	-	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	-	+	-	-	-	+	+	+	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	-	+	-	-	-	-	-	+	+	+	-
Pedicularis capitata	-	-	-	-	-	-	+	+	-	+	+	+	+	-
Pedicularis kanei	-	-	-	+	+	-	+	+	r	+	+	-	+	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-	-	-	-	-	-	+

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Peltigera aphthosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	+	-	-	-	-	+	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Peltigera sp.	-	-	-	-	+	-	-	-	-	r	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria panyrga	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Petasites frigidus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	+	-	-	-	-	-	-	+	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	1	2	-	-	1	2	2	+	2	2	-	-	-	-
Polygonum bistorta var. plumosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum viviparum	+	+	+	+	+	+	+	+	+	+	+	+	+	-
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	+	-	-	-	-	-	-	-	-	-	+
Ptilidium cilare	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	+	-	1	1	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Rinodina roscida	-	-	+	-	+	+	+	-	-	-	-	-	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix arctica	+	-	+	+	+	-	-	+	-	-	1	1	1	r
Salix glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	+	-	-	-	-	-	-	-	+	+	+
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix reticulata	-	-	r	r	+	+	+	+	-	r	+	1	+	-

Table 7 continued.

Relevé number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	-	-	-	-	-	-	-	+	1	+	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	1	1	2	1	1	1	+	+	1	1	-	-	-	-
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Senecio atropurpureus	-	+	+	-	+	-	+	-	-	-	+	+	+	-
Senecio resedifolius (=Packera cymbalaria)	+	-	-	+	+	+	+	+	+	+	-	-	-	-
Silene acaulis	-	-	1	-	-	-	-	1	-	-	+	-	-	-
Solorina bispora	-	+	+	-	+	+	+	+	+	-	-	+	-	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stellaria sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-	+	-	-	-	1	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	+	-	-	-	-	-	-	+	-	-
Thamnolia subuliformis	+	r	+	-	1	+	2	2	+	+	1	1	1	-
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	+	+	+	+	+	+	+	+	+	+	-	-	-	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	-	-	+	+	+	-	1	+	+	-	3	3	3	-
Tortella fragilis	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vulpicida tilesii	-	-	-	-	1	-	1	+	-	-	-	-	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Abietinella abietina	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	+	-	-	+
Anastrophyllum minutum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aneura pinguis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	+	+	1	-	-	-	-	-	-	-	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	+	-	-	r	-	+	r
Astragalus umbellatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium turgidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blepharostoma trichophyllum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	+	r	+	1	+	1	r	-
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	-	+	+	-	-	-	-	-	-	-	-	+
Bryum sp.	-	-	-	-	+	-	-	-	-	-	-	+	-	-
Bryum wrightii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	+	-	-	-	-	+	-	-	-	-	-	+	+	+

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Carex aquatilis	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Carex atrofusca	+	-	+	-	-	-	-	-	-	-	-	-	-	-
Carex bigelowii	-	+	+	-	1	2	-	-	-	-	-	-	-	-
Carex capillaris	-	-	-	r	-	-	-	-	-	-	-	-	-	-
Carex membranacea	-	-	-	1	2	2	-	-	-	-	-	-	-	-
Carex misandra	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rariflora	+	-	+	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	+	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex saxatilis	+	+	+	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	+	1	+	-	-	-	-	-	-	-	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Catoscopium nigritum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalozia bicuspidata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	+	-	-	-	+	+	+
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Cetraria laevigata	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	-	-	-	-	1	-	-	+	+	1	+
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	-	+	-	-	-	-	+	-	+	-	-	-
Cladina arbuscula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia amaurocraea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pocillum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pyxidata	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cladonia squamosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	r	-	+	+	-	+	r
Collema sp.	-	-	-	-	-	-	-	-	-	-	+	+	-	-
Ctenidium molluscum	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	3	-	-	+	+	2	3
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum elongatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum fragilifolium	-	-	-	+	-	+	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum spadiceum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	+	-	-	+	-	-	-	-	+	-	-	-	2	1
Distichium inclinatum	-	-	-	-	-	-	-	1	-	-	+	1	-	-
Ditrichum flexicaule	+	-	-	1	1	1	-	2	-	-	-	-	1	2
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Draba cinerea	-	-	-	-	-	-	-	+	-	-	r	+	-	-
Draba sp.	-	-	-	-	-	-	-	+	-	-	-	-	+	+
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Dryas integrifolia	-	-	-	3	2	3	-	4	-	-	-	-	4	3
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta alpina	-	-	-	-	-	+	-	-	-	-	-	+	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Encalypta longicolla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Encalypta sp.	-	-	-	-	-	-	-	-	1	-	-	-	+	+
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Equisetum scirpoides	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	+	+	+	-	+	+	-	-	-	-	-	-	-	-
Eriophorum angustifolium	4	4	4	-	-	-	-	-	-	-	-	-	-	-
Eriophorum angustifolium spp. *triste*	-	-	-	2	1	2	-	-	-	-	-	-	-	-
Eriophorum vaginatum	+	-	r	2	3	1	-	-	-	-	-	-	-	-
Festuca baffinensis	-	-	-	-	-	-	-	+	-	-	-	-	+	+
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Flavocetraria nivalis	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	+	r	+	+	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	+	-	1	1	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	-	-	-	-	-	-	-	-	-	-	-	-	1	+
Hymenostylium recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum bambergeri	-	-	-	-	1	1	-	+	-	-	-	-	-	-
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	-	-	-	-	-	-	-	+	-	1	1	-	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leiocolea collaris	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	+	-	-	-	-	+	r
Minuartia arctica	-	-	-	-	-	-	-	+	-	-	-	-	+	+
Minuartia rossii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mycobilimbia lobulata	-	-	-	-	-	-	-	-	4	-	3	3	-	-
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma expallidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nostoc commune	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	-	-	-	-	-	-	-	-	-	r	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Orthothecium strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Pedicularis capitata	-	-	-	-	+	+	-	-	-	-	-	-	-	-
Pedicularis kanei	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	r	+	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	+	-	-	r	r	1	+
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	+	-	+	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Peltigera aphthosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Pertusaria panyrga	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petasites frigidus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	+	-	2	2	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	-	-	-	-	-	-	-	-	2	-	1	2	-	-
Polygonum bistorta var. plumosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum viviparum	-	-	-	+	+	+	-	+	-	-	-	-	+	+
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Puccinellia angustata	-	-	-	-	-	-	+	-	+	1	+	+	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinodina roscida	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix arctica	+	+	+	1	2	2	-	3	-	-	-	+	2	2

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Salix glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	+	-	-	+	+	-	-	-	-	-	-	-	-
Salix ovalifolia	-	-	-	-	-	-	-	2	+	-	1	+	3	2
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix reticulata	-	-	-	+	1	+	-	-	-	-	-	-	-	-
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	r	-	-	-	-	-	-	-	-	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	-	-	-	-	-	-	-	1	-	-	-	-	1	+
Scorpidium scorpioides	1	1	1	+	-	-	-	-	-	-	-	-	-	-
Senecio atropurpureus	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silene acaulis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina bispora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	+	-	-	-	-	+	+
Stellaria sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	-	-	-	+	+	+	-	+	-	-	+	r	+	+
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	-	-	-	3	2	3	-	-	-	-	-	-	-	1
Tortella fragilis	-	-	-	-	-	+	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	1	+	r	-	+	-	1
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Abietinella abietina	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aneura pinguis	-	-	+	+	+	-	-	+	+	-	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	+	-	-	+	-	1	+	+	-	-	-	-	-	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	+	1	1	1	1	+	-	-	-	-	-	-	-
Aulacomnium acuminatum	+	-	-	-	-	-	+	-	-	-	-	-	+	+
Aulacomnium palustre	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium turgidum	1	-	-	-	-	-	-	-	-	-	-	1	1	1
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blepharostoma trichophyllum	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Bryum pseudotriquetrum	-	-	-	-	-	+	-	-	-	-	+	-	-	-
Bryum sp.	-	-	+	+	-	-	+	-	+	-	+	-	-	+
Bryum wrightii	-	-	+	-	-	-	-	+	-	-	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	+	-	2	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	+	+	+	1	+
Calliergon sp.	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	+	+	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	-	-	-	-	-	-	-	-	+	+	+	+	2	2
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	+	-	-	+	-	-	+	-	-	+	+	-	+	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Carex aquatilis	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Carex atrofusca	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Carex bigelowii	2	-	-	-	-	1	1	-	+	+	1	1	+	-
Carex capillaris	-	+	+	+	1	-	-	+	-	-	-	-	+	-
Carex membranacea	-	+	-	+	+	+	1	+	-	+	1	2	+	+
Carex misandra	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-	-	r	r
Carex rotundata	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Carex rupestris	-	1	+	1	+	+	+	-	-	-	-	-	-	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	+	+	-	-	+	+	-	-	-	-	-	-	-
Carex sp.	-	-	-	-	-	-	-	-	+	-	-	-	+	-
Carex vaginata	-	-	-	-	-	-	-	-	-	-	+	r	-	-
Cassiope tetragona	1	+	-	1	-	1	1	-	-	-	-	-	-	-
Catoscopium nigritum	-	-	-	-	-	-	-	+	+	2	+	1	+	+
Cephalozia bicuspidata	-	-	-	r	-	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	+	+	+	+	-	+	+	+	-	-	+	-	-	-
Cetraria laevigata	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	+	-	-	r	-	-	-	-	-	-	-
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	+	+	+	+	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	-	-	-	-	-	-	-	+	+	-	+	+
Cladina arbuscula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia amaurocraea	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pocillum	-	+	+	1	+	+	-	+	-	-	-	-	-	-
Cladonia pyxidata	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia squamosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	+	+	-	+	-	+	+	-	-	+	+	-	+	-
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum elongatum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum spadiceum	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	+	-	-	-	-	+	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	-	1	+	1	+	+	+	+	+	1	1	+	+	1
Distichium inclinatum	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Ditrichum flexicaule	-	+	+	2	+	1	2	+	+	1	1	+	1	1
Draba alpina	-	-	-	-	-	+	+	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	2	2	+	1	2
Drepanocladus sp.	-	-	-	-	-	-	-	-	-	-	+	-	+	+
Dryas integrifolia	2	2	+	3	+	3	3	1	-	2	2	2	2	2
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta alpina	-	-	-	-	-	-	-	-	-	-	+	-	-	+
Encalypta longicolla	-	-	-	-	1	-	-	+	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	-	+	+	-	-	-	-	-	-	-	-	-	-
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Equisetum variegatum	-	-	-	-	+	+	+	+	+	+	1	+	+	+
Eriophorum angustifolium	-	-	-	-	-	-	-	+	3	3	3	-	-	-
Eriophorum angustifolium spp. *triste*	+	+	+	1	+	+	+	+	-	+	-	2	4	4
Eriophorum vaginatum	1	-	-	-	-	-	-	+	+	+	1	+	+	-
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	+	+	+	+	+	+	1	r	-	-	+	-	-	-
Flavocetraria nivalis	+	+	+	+	-	+	1	-	-	-	-	-	-	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Hymenostylium recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum bambergeri	+	1	+	1	-	1	1	-	-	+	-	+	+	+
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	-	-	+	+	+	-	-	+	-	-	-	-	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	+	-	-	-	1	1	-	-	-	-	-	-	-
Lagotis glauca	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	1	+	1	1	-	-	+	-	-	-	-	-	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Leiocolea collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	+	+	+	+	-
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lupinus arcticus	+	-	-	-	-	1	1	-	-	-	-	-	-	-
Luzula arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	-	-	-	+	-	+	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia arctica	-	1	-	1	-	+	1	-	-	-	-	-	-	-
Minuartia rossii	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Mycobilimbia lobulata	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma expallidum	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Nostoc commune	-	+	-	+	-	-	-	1	-	-	-	-	-	-
Ochrolechia androgyna	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	+	2	+	-	-	1	-	-	-	-	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	+	-	-	-	+	-	1	+	1	1	1
Orthothecium strictum	-	-	+	+	+	-	-	-	+	-	-	-	+	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	-	-	-	-	+	1	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	+	-	-	+	-	+	-	-	-	+	+	-	+	+
Papaver sp.	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Parrya nudicaulis	+	-	-	+	-	+	+	-	-	-	-	-	-	-
Pedicularis capitata	+	+	-	+	-	+	+	-	-	-	-	-	-	-
Pedicularis kanei	+	+	+	+	r	+	+	-	-	+	-	-	-	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	r	-	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-	+	+	+	+	-	-
Peltigera aphthosa	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera rufescens	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera sp.	+	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria panyrga	+	-	-	-	-	+	-	-	-	-	-	-	-	-
Petasites frigidus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleurozium schreberi	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	-	+	2	1	2	-	-	3	-	-	-	-	-	-
Polygonum bistorta var. plumosum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum viviparum	+	+	+	+	+	+	+	+	-	+	+	+	+	+
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum sp.	-	-	+	-	-	-	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	+	-	+	+	+
Ptilidium cilare	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	1	-	+	-	+	+	-	-	-	-	-	-	-
Rhytidium rugosum	1	-	-	-	-	+	1	-	-	-	-	-	-	-
Rinodina roscida	-	+	-	-	+	-	-	-	-	-	-	-	-	-
Rinodina turfacea	-	-	+	-	-	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Salix arctica	-	1	-	-	-	1	2	-	+	2	2	1	1	1
Salix glauca	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	-	-	-	-	-	1	1	1	+	+
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix reticulata	1	+	-	+	-	1	+	-	-	2	1	1	2	2
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saussurea angustifolia	+	-	-	-	-	+	1	-	-	-	-	-	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Saxifraga nelsoniana	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	-	+	+	1	2	-	-	2	-	-	+	-	+	r
Scorpidium scorpioides	-	-	-	-	-	-	-	-	1	+	-	-	-	-
Senecio atropurpureus	+	-	-	+	-	+	-	+	-	+	+	+	+	+
Senecio resedifolius (=Packera cymbalaria)	-	+	-	+	+	-	-	-	-	-	-	-	-	-
Silene acaulis	r	-	-	-	-	-	+	-	-	-	-	-	-	-
Solorina bispora	-	r	+	r	-	-	-	+	-	+	-	-	+	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Stellaria sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	+	+	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	+	1	+	1	+	1	1	r	-	+	+	-	+	-
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	+	+	+	+	+	+	-	+	-	-	-	-	-	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	3	+	-	+	-	3	2	-	-	2	2	1	2	3
Tortella fragilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	+	-	-	-	-	+	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritomaria quinquedentata	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	r	-	+	+	-	-	-	-	-	-	-
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vulpicida tilesii	-	1	+	+	r	+	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Abietinella abietina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Aneura pinguis	-	+	+	-	-	-	-	-	-	-	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	4	+	2	-	3
Arctostaphylos rubra	-	-	-	2	2	-	-	-	-	-	-	-	2	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium turgidum	-	-	-	-	-	-	-	-	-	r	r	-	2	-
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-	-	r	+	r	-	+
Blepharostoma trichophyllum	-	-	-	-	-	+	-	-	+	-	-	-	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Bryum sp.	+	+	+	+	+	-	-	-	+	+	-	-	-	-
Bryum wrightii	-	+	1	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	-	+	+	-	-	+	+	+	+	-	-	-	-	-
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	+	+	+	+	+	-	+	+	+	-	-	-	+	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Carex aquatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex atrofusca	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Carex bigelowii	-	-	-	+	1	-	-	-	-	-	-	-	3	-
Carex capillaris	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Carex membranacea	+	+	+	2	1	1	+	-	-	-	-	-	+	-
Carex misandra	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Carex rariflora	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	+	-	+	-	-	-	-	-	-	-	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	-	1	+	-	-	-	-	+	1	-	1	+
Catoscopium nigritum	+	-	+	+	+	+	+	-	+	-	-	-	-	-
Cephalozia bicuspidata	-	-	-	-	-	-	-	-	-	-	+	+	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	+	+	+	+	+	+	+	+	+	r	+	+	+	-
Cetraria laevigata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	+	+	r	-	-	+	+	+	-	-	-	-	-
Cinclidium arcticum	-	-	-	-	-	-	-	+	+	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Cladina arbuscula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	+	r	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-	-	r	-	+	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Cladonia amaurocraea	-	-	-	-	+	-	-	-	-	+	+	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	+	1	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-	-	-	-	+	-	+
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	-	-	-	-	-	+	+	+	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pocillum	2	+	+	1	+	-	+	+	+	-	-	-	+	-
Cladonia pyxidata	-	-	-	-	+	-	-	-	-	-	-	-	+	-
Cladonia squamosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	+	-	-	+	+	+	+	+	+	-	+	+	+	-
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	+	2	1	-	+
Dicranum acutifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum elongatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum spadiceum	-	-	-	-	-	-	-	-	-	-	+	-	+	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	+	+	-	+	-	2	+	+	+	-	-	-	1	-
Distichium inclinatum	+	-	+	1	1	+	-	-	-	-	-	-	+	-
Ditrichum flexicaule	+	+	+	1	1	2	1	2	+	+	-	-	1	-
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	+	-	-	-	-	-	+	+	-	-	-	-	-
Dryas integrifolia	+	+	+	2	3	3	3	2	2	-	-	-	2	-
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	-	-	-	-	-	-	-	-	-	-	+	-	r	1
Encalypta alpina	-	-	-	-	-	-	-	+	+	-	-	-	-	-
Encalypta longicolla	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	+	+	-	-	-	+	+	1	-	-	-	-	-	-
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	+	-	+	+	+	+	-	+	+	-	-	-	-	-
Eriophorum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriophorum angustifolium spp. *triste*	+	+	+	2	2	2	1	1	2	-	-	-	2	-
Eriophorum vaginatum	-	-	+	1	1	1	-	+	2	1	+	+	2	1

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	-	-	-	1	+	-	-	-	-	+	2	+	1	-
Flavocetraria nivalis	-	+	-	+	+	-	-	+	-	-	-	-	+	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	-	-	-	-	-	-	-	-	-	+	2	1	4	+
Hymenostylium recurvirostre	+	-	+	-	-	+	-	-	-	-	-	-	-	-
Hypnum bambergeri	+	+	-	+	+	+	-	+	+	-	-	-	+	-
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	+	+	+	-	-	-	+	+	+	1	-	+	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	+	+	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	2	+	-	+
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	+	+	-	-	-	+	+	+	-	-	-	-	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	-	-	-	-	-	-	-	1	+	r	r	+
Leiocolea collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptobryum pyriforme	+	-	-	-	+	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	+	-	-	+
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Luzula arctica	-	-	-	-	-	-	-	-	-	2	2	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Meesia uliginosa	-	-	+	-	+	-	-	-	-	-	-	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	+	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	+	-	-	-	-	+	-	-	-	-	-	-
Minuartia arctica	-	-	-	+	-	-	1	+	-	-	-	-	+	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Minuartia rossii	-	-	+	-	-	-	-	+	-	-	-	-	-	-
Mycobilimbia lobulata	+	-	-	-	-	-	-	-	-	-	-	-	+	-
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma expallidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nostoc commune	-	+	+	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	1	1	1	-	-	-	+	-	-	-	-	-	r	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Orthothecium chryseum	-	-	-	1	+	+	+	+	+	-	-	-	-	-
Orthothecium strictum	-	-	-	+	+	-	-	-	-	-	-	-	+	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	-	-	r	-	-	-	-	-	-	-	-	+	-
Oxytropis sp.	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	+	+	-	-	-	-	-	-	-	+	-
Papaver sp.	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	+	-	-	-	-	-	-	-	-	+	-
Pedicularis capitata	-	-	-	+	+	-	+	-	-	-	-	-	+	-
Pedicularis kanei	-	-	-	+	+	-	+	-	-	-	-	-	+	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	r	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Peltigera aphthosa	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	-	-	-	-	-	-	-	-	-	2	-	1
Peltigera malacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera sp.	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria panyrga	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Petasites frigidus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Pohlia beringiensis	-	-	+	-	+	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	+	+	-	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	+	+	-	-	-	+	-	-	-	-	+	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	3	-	-	-	-	1	-	-	-	-	-	-	-
Polyblastia sendtneri	4	-	3	-	-	-	-	1	+	-	-	-	-	-
Polygonum bistorta var. plumosum	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Polygonum viviparum	+	+	+	+	+	-	-	+	+	-	-	-	+	-
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Polytrichum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	-	-	-	-	-	-	+	-	1	-
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Rinodina roscida	+	-	-	-	-	-	-	-	+	-	-	-	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	r	-	-	-	-	-	-	-	-	+	-
Salix arctica	-	+	+	2	2	+	+	+	-	-	-	-	+	-
Salix glauca	-	-	-	+	-	-	-	-	-	-	-	-	1	-
Salix lanata spp. *richardsonii*	-	-	-	2	1	-	-	-	-	-	-	-	-	-
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	-	-	-	-	-	-	r	-	-	-	-
Salix reticulata	-	-	+	1	2	+	-	+	+	-	-	-	2	-
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	+	-	-	-	-	-	-	-	-	+	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	+	-	-	-	-	-	-	-	-	r	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Saxifraga oppositifolia	1	+	+	+	+	1	1	1	+	-	-	-	-	-
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senecio atropurpureus	+	-	+	+	+	-	+	+	+	-	-	-	+	-
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	-	-	-	-	-	-	-	-	r	-
Silene acaulis	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Solorina bispora	+	+	+	-	-	-	+	+	-	-	-	-	-	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Sphaerophorus globosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Splachnum sp.	-	-	-	+	+	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stellaria sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Stereocaulon alpinum	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Tetraplodon mnioides	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	1	+	+	+	+	+	1	+	+	-	-	-	1	-
Timmia austriaca	+	-	-	-	-	+	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Tofieldia pusilla	-	-	-	-	+	-	-	-	-	-	-	-	+	-
Tomentypnum nitens	+	-	+	2	3	r	-	+	+	-	-	-	3	-
Tortella fragilis	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	+	-	-	-	-	-	r	+	-	+	+
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-	-	1	1	+	+	+
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Abietinella abietina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Aneura pinguis	-	-	-	-	+	-	+	-	-	+	-	-	+	+
Anthelia juratzkana	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	+	+	-	-	+	2	-	2	1	-	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	1	+	1	+	-	-	+	+	-	1	-	+	+
Aulacomnium acuminatum	-	+	-	-	1	-	-	-	2	-	+	+	-	-
Aulacomnium palustre	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Aulacomnium turgidum	+	-	-	-	-	1	-	-	+	+	2	1	-	-
Baeomyces rufus	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	+	-	-	+	-	-	-
Betula nana	+	-	-	-	-	2	-	-	-	2	-	-	-	-
Blepharostoma trichophyllum	-	-	-	+	+	+	-	-	-	+	-	+	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Bryum sp.	-	+	+	-	-	-	+	-	-	-	-	-	+	+
Bryum wrightii	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	+	-	-	-	-	-	-	-	+	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	-	-	-	-	-	-	+	-	-	-	+	-	-	-
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	+	+	+	+	-	+	+	-	-	+	+	+	+
Carex aquatilis	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Carex atrofusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex bigelowii	-	-	-	-	-	+	-	-	2	+	+	3	-	-
Carex capillaris	-	+	+	+	+	-	-	-	-	-	-	-	+	+
Carex membranacea	-	1	2	1	2	-	+	+	-	-	1	+	-	-
Carex misandra	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	+	+	-	-	1	-	-	-	-	-	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	1
Carex vaginata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassiope tetragona	1	-	-	-	-	1	-	-	-	1	+	+	-	-
Catoscopium nigritum	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Cephalozia bicuspidata	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cetraria islandica	1	+	+	+	+	-	+	+	+	-	+	+	+	+
Cetraria laevigata	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	-	+	+	-	-	-	-	-	-	-	+	+
Cladina arbuscula	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladina rangiferina	2	-	-	-	-	+	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Cladonia amaurocraea	+	-	-	-	-	+	-	-	-	+	-	+	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	+	-	-	-	-	-	+	-	-
Cladonia cornuta	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	+	-	-	-	-	+	-	-	+	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	+	-	-	+	-	+	-	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pocillum	-	+	1	+	+	-	+	+	-	-	-	-	+	-
Cladonia pyxidata	-	-	-	1	+	-	-	-	-	-	+	-	-	-
Cladonia squamosa	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Dactylina arctica	+	-	-	-	+	1	-	-	-	+	+	-	-	-
Dactylina ramulosa	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Dicranella subulata	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	+	-	-	-	-	-	-	-	+	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Dicranum elongatum	-	-	-	-	-	-	-	-	-	+	+	2	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	-	-	2	-	-	-	-	-	-	+	+
Dicranum spadiceum	-	-	-	-	-	-	-	-	+	-	+	+	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Didymodon sp.	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Didymodon spadiceus	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	-	2	2	1	1	-	+	1	-	-	1	-	+	-
Distichium inclinatum	-	-	-	-	+	-	+	1	-	-	+	-	+	+
Ditrichum flexicaule	-	1	2	1	2	-	+	2	-	-	1	+	2	1
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Dryas integrifolia	-	3	3	3	3	-	+	3	2	-	2	2	+	+
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	+	-	-	-	-	+	-	-	-	1	-	-	-	-
Encalypta alpina	-	-	-	+	-	-	+	+	-	-	-	-	-	-
Encalypta longicolla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	-	-	-	+	-	-	-	-	-	+	-	+	+

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Equisetum arvense	-	+	+	1	1	-	+	1	1	-	1	-	1	+
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	-	-	-	+	+	-	-	-	-	-	1	-	+	-
Eriophorum angustifolium	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Eriophorum angustifolium spp. *triste*	-	+	+	1	+	-	+	+	+	-	1	+	+	1
Eriophorum vaginatum	1	-	1	-	+	3	-	-	-	3	+	1	+	+
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Flavocetraria cucullata	-	1	+	2	1	1	+	1	+	-	1	1	+	+
Flavocetraria nivalis	-	+	-	-	-	+	-	-	-	-	+	-	+	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	1	+	-	+	+	2	-	-	3	1	3	2	+	-
Hymenostylium recurvirostre	-	-	-	-	-	-	+	-	-	-	-	-	+	-
Hypnum bambergeri	-	2	-	1	-	-	+	2	-	-	-	2	1	-
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	+	-	-	-	-	-	+	+	-	-	-	-	+	+
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Jungermania confertissima	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	+	-	-	-	+	-	-	+	-	-
Lecanora epibryon	-	+	+	1	1	-	+	+	-	-	-	-	1	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	1	-	-	-	-	2	-	-	-	1	-	-	-	-
Leiocolea collaris	-	-	-	+	+	-	-	-	-	-	-	-	+	+
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lloydia serotina	-	+	-	+	+	-	-	+	-	-	-	-	+	+
Lophozia badensis	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Lophozia excisa	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	+	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Lophozia ventricosa	+	-	-	-	-	-	-	-	-	+	-	-	-	-
Lupinus arcticus	-	+	1	+	1	-	-	1	+	-	1	+	-	-
Luzula arctica	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	+	+	+	-	+	+	+	-
Meesia uliginosa	-	+	-	-	+	-	-	-	-	-	-	-	+	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia arctica	-	-	-	-	-	-	-	+	+	-	+	+	-	-
Minuartia rossii	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Mycobilimbia lobulata	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Nephroma expallidum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nostoc commune	-	-	-	-	-	-	+	-	-	-	-	-	+	+
Ochrolechia androgyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	+	-	+	-	-	-	-	-	-	-	-	+	-
Ochrolechia inaequatula	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	+	-	-	-	-	-	-	-	-	+	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	+	-	-	-	-	-	-	+	1	+	-
Orthothecium chryseum	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Orthothecium strictum	-	+	+	-	+	-	-	-	-	-	-	-	+	+
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	+	-	+	-	-	-	-	+	-	+	-	-	-
Oxytropis sp.	-	-	+	-	+	-	-	-	-	-	+	-	-	-
Papaver macounii	-	+	-	+	+	-	-	+	+	-	+	+	-	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	r	-	-	-
Parrya nudicaulis	-	-	+	-	-	-	-	-	-	-	+	-	-	+
Pedicularis capitata	-	-	+	-	+	-	-	+	+	+	+	+	-	-
Pedicularis kanei	-	+	+	+	+	-	-	+	+	-	+	-	-	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Peltigera aphthosa	-	-	-	-	+	1	-	-	-	-	+	+	-	-
Peltigera didactyla	-	+	-	-	+	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	-	+	-	-	-	-	+	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	+	-	-	+	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Peltigera scabrosa	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Peltigera sp.	-	-	-	1	-	-	-	-	-	-	+	-	-	-
Pertusaria bryontha	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria panyrga	2	+	-	-	-	-	-	-	-	-	-	-	-	-
Petasites frigidus	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	+	-	-	-	+	-	+	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	-	-	-	-	-	-	2	-	-	-	-	-	2	2
Polygonum bistorta var. plumosum	-	-	-	-	-	1	+	-	-	+	+	+	-	-
Polygonum viviparum	-	+	+	+	+	-	-	+	-	-	+	+	+	+
Polytrichastrum alpinum	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	-	-	-	-	+	+	-	1	-	-
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	r	1	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Rhytidium rugosum	-	+	-	1	1	-	+	+	2	-	+	1	+	-
Rinodina roscida	-	-	-	-	-	-	-	-	-	-	-	-	+	1
Rinodina turfacea	-	-	-	+	+	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	1	-	-	-	+	-	-	-
Salix arctica	-	-	-	+	-	+	-	-	-	-	-	-	-	-
Salix glauca	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix phlebophylla	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	r	-	-	-	-	2	-	-	-	1	-	-	-	-
Salix reticulata	-	2	+	+	1	-	-	-	1	-	2	2	-	-
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	2	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Saussurea angustifolia	-	+	-	+	+	-	-	+	+	-	+	+	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	+	-	+	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	+	-	-	-	-	-	+	-	-
Saxifraga oppositifolia	-	-	-	+	-	-	-	+	-	-	-	-	+	+
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senecio atropurpureus	-	1	1	1	1	+	+	+	+	-	+	+	-	-
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	-	-	+	+	-	-	+	-	+	+
Silene acaulis	-	-	-	-	-	-	-	1	-	-	+	+	-	-
Solorina bispora	-	+	+	-	-	-	+	+	-	-	+	-	-	+
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Sphaerophorus globosus	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Sphagnum balticum	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Stellaria sp.	-	-	-	-	-	-	+	-	+	-	+	r	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	-	1	1	1	2	+	+	2	+	-	1	+	+	1
Timmia austriaca	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Tofieldia coccinea	-	+	+	+	+	-	+	+	-	-	+	-	+	+
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Tomentypnum nitens	-	+	+	2	2	-	+	1	2	+	3	2	+	-
Tortella fragilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	+	-	-	-	+	r	r	-	-
Vaccinium vitis-idaea	2	-	-	-	-	2	-	-	-	2	-	-	-	-
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Abietinella abietina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	r	-	+	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	+	+	+	+	+	+	+	+	+	+	+	-
Aneura pinguis	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	1	+	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	+	+	-	-	-	+	-	-	-
Aulacomnium turgidum	-	-	+	1	1	2	1	1	2	1	1	2	1	2
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	+	-	+	-	+	-	+	-	-	-
Barbilophozia kunzeana	-	-	-	-	+	-	-	-	+	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	1	1	2	1	2	1	2	1	2	2	2	3
Blepharostoma trichophyllum	-	-	+	-	1	-	1	-	1	-	+	-	-	-
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum sp.	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryum wrightii	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	+	-	-	-	+	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	+	-	-	-	+	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex aquatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex atrofusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Carex bigelowii	-	-	-	-	-	-	-	+	-	-	-	2	2	1
Carex capillaris	1	+	-	-	-	-	-	-	-	-	-	-	-	-
Carex membranacea	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Carex misandra	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex sp.	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	+	2	2	1	2	1	2	+	2	1	1	1
Catoscopium nigritum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalozia bicuspidata	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	+	-	+	-	-	-	-	-	+	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	-	-	-	+	-	+	+	+	+	-	+	-	+	+
Cetraria laevigata	-	-	-	-	-	-	-	-	-	-	r	-	+	+
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Cladina arbuscula	-	-	+	1	+	1	+	+	-	+	+	-	1	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Cladina rangiferina	-	-	+	1	-	+	-	1	+	+	1	3	2	+
Cladina stygia	-	-	-	-	+	-	+	+	+	+	+	+	-	-
Cladonia amaurocraea	-	-	+	1	-	+	+	+	+	-	+	+	-	+
Cladonia cenotea	-	-	-	-	-	+	-	-	-	+	+	-	-	-
Cladonia chlorophaea	-	-	-	+	-	+	-	-	-	+	-	-	-	-
Cladonia coccifera	-	-	-	-	-	+	-	+	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	+	+	+	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	+	+	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	+	+	-	+	-	-	-	+	+	+	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *elongata*	-	-	+	1	-	-	-	+	-	1	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	+	+	+	2	+
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	+	-	-	-	-	+	-	-	-	-	-	-
Cladonia pocillum	+	-	-	-	-	-	-	-	-	-	+	-	-	-
Cladonia pyxidata	-	-	-	+	-	+	-	-	-	-	-	-	-	-
Cladonia squamosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	1	-	-	-	-	-	-	-	+	-	+	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	-	-	+	+	+	+	+	+	+	+	+	-	+	+
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	+	+	-	1	2	1	1	-	1	-	+	+
Dicranum angustum (=D. laevidens)	-	-	-	-	2	-	-	-	+	+	+	-	-	+
Dicranum elongatum	-	-	2	3	+	1	+	2	2	2	2	1	1	+
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-	-	3	1
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Dicranum spadiceum	-	-	+	1	+	1	-	1	-	2	+	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Distichium inclinatum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Ditrichum flexicaule	+	1	+	-	-	-	-	+	+	-	+	+	-	-
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Dryas integrifolia	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Empetrum nigrum	-	-	1	-	+	+	-	-	-	1	+	2	2	2
Encalypta alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta longicolla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Epilobium sp.	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Eriophorum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriophorum angustifolium spp. *triste*	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Eriophorum vaginatum	-	+	1	1	3	-	3	+	3	1	3	-	-	3
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Flavocetraria cucullata	-	+	1	+	+	1	+	+	+	+	1	1	+	+
Flavocetraria nivalis	-	-	-	+	-	+	-	-	-	-	+	-	-	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylocomium splendens	-	-	+	2	2	2	3	1	2	1	1	2	2	2
Hymenostylium recurvirostre	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum bambergeri	+	1	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum holmenii	-	-	+	-	+	-	-	-	+	+	+	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	2	2	1	2	2	1	1	2	2	2	1	2
Leiocolea collaris	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lloydia serotina	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	+	-	-	-	-	+	-
Lophozia longiflora	-	-	-	-	-	-	-	-	+	-	-	+	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	+	+	-	-	-
Lophozia silvicola	-	-	+	+	-	+	-	-	-	-	-	-	-	-
Lophozia sp.	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	+	-	-	-	+	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula arctica	-	-	-	-	-	r	-	-	-	-	r	-	+	-
Luzula confusa	-	-	-	-	-	-	-	-	-	+	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia arctica	-	r	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia rossii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mycobilimbia lobulata	-	+	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	+	-	+	-
Nephroma expallidum	-	-	+	-	+	+	+	-	-	-	-	-	-	-
Nostoc commune	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium strictum	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	r	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis capitata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis kanei	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	+	-	-	+	-
Pedicularis langsdorfii	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	+	-	+	-	+	+	+	-	-	-	+	+
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	+	-	-	-	-	+	+	r
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera aphthosa	-	-	-	1	-	-	-	-	+	-	-	-	+	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	+	-	+	+	+	1	-	1	1	1	-	+
Peltigera malacea	-	-	+	-	-	-	+	+	-	-	-	+	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera scabrosa	-	-	-	-	+	-	+	+	-	-	-	-	+	-
Peltigera sp.	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	+	+	-	+	-	+	-	+	+	-	-	-
Pertusaria panyrga	-	-	+	-	-	-	-	+	+	-	-	-	-	-
Petasites frigidus	-	-	-	-	+	2	+	2	+	1	-	1	+	+
Pleurozium schreberi	-	-	-	-	+	-	-	-	+	-	-	+	-	1
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	+	-	-	-	-	-	-	+	-
Pohlia sp.	+	+	-	-	-	-	-	+	-	-	-	-	-	-

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum bistorta var. plumosum	-	-	1	1	1	1	2	2	+	2	1	1	2	1
Polygonum viviparum	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	+	+	-	1	-	+	-	+	-	-	-	-
Polytrichum sp.	-	-	-	-	+	-	+	-	+	-	+	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	+	-	-	-	+	-	-	-	-	1
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	3	3	-	3	-	2	-	2	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	+	-	-	1	-	1	-	+	-	-	-	+
Rinodina roscida	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix phlebophylla	-	-	+	1	-	+	-	1	-	2	+	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	1	2	-	1	+	2	-	2	-	-	2
Salix reticulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	+	-	+	-	+	-	+	-	-	-
Saxifraga oppositifolia	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senecio atropurpureus	+	-	1	+	+	+	+	+	+	+	+	+	-	+
Senecio resedifolius (=Packera cymbalaria)	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Silene acaulis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina bispora	+	+	-	-	-	-	-	-	-	-	-	-	-	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	+	+	-	-	-	-	-	-	+	-	-	-
Sphagnum angustifolium	-	-	-	-	+	-	+	-	-	-	-	-	-	2

Table 7 continued.

Relevé number	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Sphagnum balticum	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	2	-	1	-	-	-	1	-	-	1
Sphagnum rubellum	-	-	-	-	+	-	-	-	-	-	-	-	-	1
Sphagnum warnstorfii	-	-	-	-	+	-	1	-	2	-	1	-	-	2
Sphenolobus minutum	-	-	+	+	1	1	+	2	2	1	2	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stellaria sp.	-	r	-	-	-	-	-	-	-	r	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	+	+	+	1	+	+	+	+	+	+	+	-	-	-
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	+	+	-	-	r	-	-	-	+	-	+	-	-	+
Tortella fragilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritomaria quinquedentata	-	-	-	-	+	-	+	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	+	-	-	-	1	-	-	-	1
Vaccinium vitis-idaea	-	-	2	2	1	2	2	2	1	2	2	2	2	2
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Abietinella abietina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	-	-	+	-	-	-	-	-	+
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	+	+	+	+	-	+	-	-	-
Aneura pinguis	-	-	-	-	-	-	-	-	-	-	-	-	+	+
Anthelia juratzkana	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	-	-	-	-	-	-	-	-	1	+	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Aulacomnium turgidum	2	2	1	1	+	1	1	1	1	+	1	-	-	+
Baeomyces rufus	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	+	+	+	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula nana	3	3	3	1	1	+	1	2	3	2	2	-	-	-
Blepharostoma trichophyllum	-	-	-	-	-	-	-	-	-	-	-	+	+	+
Brachythecium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Bryum pseudotriquetrum	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Bryum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Bryum wrightii	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Calamagrostis canadensis	+	-	-	-	-	-	-	-	-	-	+	-	-	-
Calamagrostis sp.	-	-	-	1	1	-	1	+	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Calypogeja muelleriana	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campylium stellatum	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	-	-	-	-	-	-	-	-	-	-	+	+	-

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Carex aquatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Carex atrofusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex bigelowii	1	1	1	1	2	-	-	1	2	1	3	-	-	-
Carex capillaris	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Carex membranacea	-	-	-	-	-	-	-	-	-	-	-	1	+	-
Carex misandra	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassiope tetragona	1	1	1	+	+	1	-	1	+	+	1	-	-	-
Catoscopium nigritum	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Cephalozia bicuspidata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	-	+	-	-	-	-	-	-	+	+	+	+	+	+
Cetraria laevigata	+	-	+	-	-	+	+	+	1	-	+	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	-	-	-	-	-	-	-	-	1	+	-
Cinclidium arcticum	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Cinclidium latifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Cirriphyllum cirrosum	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Cladina arbuscula	-	+	+	+	-	1	3	2	+	1	1	-	-	-
Cladina mitis	-	-	-	1	3	-	-	+	-	-	-	-	-	-
Cladina rangiferina	+	1	+	3	1	2	1	2	1	-	2	-	-	-
Cladina stygia	+	1	+	-	-	-	+	+	2	1	1	-	-	-
Cladonia amaurocraea	-	-	+	+	+	+	+	+	1	-	-	-	-	-
Cladonia cenotea	-	-	-	-	+	+	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	+	+	+	+	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Cladonia cyanipes	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	+	+	+	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Cladonia fimbriata	+	-	-	+	+	-	+	+	+	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	1	-	+	-	1	-	-	-	+	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	1	-	-	-	+	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	+	-	-	-	+	-	-	-	1	-	-	-
Cladonia macroceras	-	-	-	-	-	-	+	-	-	-	-	+	-	-
Cladonia pleurota	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Cladonia pocillum	-	-	-	-	-	-	-	-	-	-	-	+	+	+

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Cladonia pyxidata	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Cladonia squamosa	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	+	-	+	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	1	1	+	+	-	-	-	+	-	-	+
Cochlearia officinalis=C. groenlandica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Dactylina arctica	+	+	+	+	r	+	+	1	+	+	+	+	+	+
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	+	-	-	1	+	+	-	-	-	-	+	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-	+	-	-	-	-	+
Dicranum elongatum	-	+	+	2	3	3	3	2	1	1	1	-	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	1	1	1	+	-	+	-	2	2	-	1	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Dicranum sp.	-	-	-	-	-	-	-	-	-	-	-	-	+	+
Dicranum spadiceum	-	-	-	+	-	-	1	1	+	+	-	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Distichium inclinatum	-	-	-	-	-	-	-	-	-	-	-	+	1	+
Ditrichum flexicaule	-	+	-	+	-	-	-	-	+	-	-	1	+	+
Draba alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Drepanocladus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dryas integrifolia	-	-	-	-	-	-	-	-	-	-	-	2	2	2
Dupontia fisheri	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Empetrum nigrum	2	2	1	1	-	2	2	2	2	+	2	-	-	-
Encalypta alpina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta longicolla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Equisetum variegatum	-	-	-	-	-	-	-	-	-	-	-	-	+	+
Eriophorum angustifolium	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Eriophorum angustifolium spp. *triste*	-	-	-	-	-	-	-	-	-	-	-	3	2	1
Eriophorum vaginatum	3	3	3	-	-	1	-	-	-	1	-	-	-	-
Festuca baffinensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	+	+	+	1	+	1	2	1	+	+	+	2	1	+
Flavocetraria nivalis	-	-	-	+	-	-	-	-	+	-	+	+	1	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Hylocomium splendens	3	2	2	+	-	+	1	+	3	2	3	-	-	+
Hymenostylium recurvirostre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum bambergeri	-	-	-	-	-	-	-	-	-	-	-	2	+	+
Hypnum holmenii	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	+	-	-	-	-	-	-	-	+	+
Juncus biglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Lecidea ramulosa	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Ledum palustre spp. *decumbens*	2	2	2	1	2	1	2	2	2	3	2	-	-	-
Leiocolea collaris	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	+	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	+	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula arctica	-	-	-	r	-	-	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	-	-	-	-	-	-	-	+	+

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Megaspora verrucosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minuartia arctica	-	-	-	-	-	-	-	-	-	-	-	1	+	-
Minuartia rossii	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Mycobilimbia lobulata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Nephroma arcticum	+	+	-	-	-	-	-	-	-	+	-	-	-	-
Nephroma expallidum	+	-	-	1	-	-	-	-	-	-	-	-	-	+
Nostoc commune	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Ochrolechia inaequatula	-	-	-	-	+	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Orthothecium strictum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthothecium varia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Pedicularis capitata	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Pedicularis kanei	-	-	-	-	-	+	+	-	-	-	-	+	+	-
Pedicularis labradorica	+	+	+	+	-	-	+	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	+	+	+	-	r	-	-	1	-	-	+	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis oederi	r	-	-	-	-	-	+	+	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Peltigera aphthosa	1	-	-	-	-	+	1	1	-	-	-	-	-	+
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	1	+	1	1	-	-	-	1	2	+	-	-	-
Peltigera malacea	+	-	+	-	-	-	+	+	+	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peltigera scabrosa	+	+	-	-	-	-	+	-	-	1	-	-	-	-
Peltigera sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	+	1	-	-	-	-	-	-	-	-	-
Pertusaria panyrga	-	-	-	-	-	+	-	+	-	-	-	1	2	-

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Petasites frigidus	1	+	+	+	+	1	1	2	-	1	1	-	-	-
Pleurozium schreberi	-	+	1	+	+	+	+	-	+	2	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Pohlia beringiensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Polygonum bistorta var. plumosum	+	2	1	+	+	+	1	1	1	+	2	-	-	-
Polygonum viviparum	-	-	-	-	-	-	-	-	-	-	-	+	+	+
Polytrichastrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Polytrichum hyperboreum	-	-	-	1	+	-	+	-	-	-	-	-	-	-
Polytrichum sp.	+	+	-	-	-	-	+	-	-	-	-	-	-	-
Polytrichum strictum	-	-	+	-	-	+	-	+	+	+	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Ptilidium cilare	+	+	1	1	+	-	1	+	+	-	-	-	-	-
Puccinellia angustata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	2	2	2	2	2	-	-	2	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Rinodina roscida	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	r	2	1	+	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix arctica	-	-	-	-	-	-	-	-	-	-	-	-	r	+
Salix glauca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salix ovalifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Salix planifolia spp. *pulchra*	1	1	2	-	-	-	-	-	-	1	-	-	-	1
Salix reticulata	-	-	-	-	-	-	-	-	-	-	-	+	-	1
Salix rotundifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Saussurea angustifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Saxifraga nelsoniana	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senecio atropurpureus	+	+	-	-	-	-	-	+	-	-	-	+	+	+

Table 7 continued.

Relevé number	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silene acaulis	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Solorina bispora	-	-	-	-	-	-	-	-	-	-	-	-	+	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum angustifolium	1	2	1	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	1	+	1	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	+	1	-	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	2	1	2	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	+	+	-	1	1	1	1	1	+	+	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Stellaria sp.	r	-	-	-	-	-	-	+	-	-	-	-	-	+
Stereocaulon alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	-	-	-	+	+	+	+	+	-	-	+	2	1	1
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	+	+	+	-	-	-	-	-	-	-	-	1	1	2
Tortella fragilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	1	-	-	-	-	-	-	-	-	+	-	-	-
Vaccinium vitis-idaea	2	1	2	1	2	3	2	2	3	3	2	-	-	-
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-	2	1	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Abietinella abietina	-	-	-	-	-	-	-	-	-	+	-
Alectoria nigricans	-	-	-	-	-	-	-	-	-	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	-	-	-	-	-	-
Aneura pinguis	-	+	-	-	+	-	+	-	-	-	-
Anthelia juratzkana	-	-	-	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	-	-	-	-	-	-	-	-
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-	r	r	-
Astragalus umbellatus	-	-	-	-	-	-	-	-	-	-	-
Aulacomnium acuminatum	-	-	+	-	-	-	-	-	-	-	-
Aulacomnium palustre	+	-	-	+	-	-	-	-	-	-	-
Aulacomnium turgidum	-	-	-	-	-	-	-	-	-	-	-
Baeomyces rufus	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-	-	-	-
Blepharostoma trichophyllum	-	+	-	-	-	-	+	-	-	-	-
Brachythecium sp.	+	-	-	+	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	-	-	-	-	-	-	-	-
Braya glabella spp. *purpurascens*	-	-	-	-	-	-	-	+	+	r	1
Bryocaulon divergens	-	-	-	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	-	-	+	-	-	-	-	+	-	-
Bryum pseudotriquetrum	-	+	+	+	-	-	-	-	-	-	-
Bryum sp.	-	-	-	+	-	-	+	-	+	-	-
Bryum wrightii	-	-	-	-	+	-	+	-	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	-	-	-	-	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	-	-	-	-	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	+	+	-	-	-	-
Campylium stellatum	-	-	-	+	+	-	-	-	-	-	-
Campylium stellatum var. arcticum	-	+	+	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	-	-	-	+	+	+	-	-	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Carex aquatilis	1	3	2	4	-	-	-	-	-	-	-
Carex atrofusca	-	-	-	-	-	-	-	-	-	-	-
Carex bigelowii	-	1	-	-	-	-	-	-	-	-	-
Carex capillaris	-	-	-	-	+	-	+	-	-	-	-
Carex membranacea	-	-	-	-	+	+	+	-	-	-	-
Carex misandra	-	-	-	-	1	+	-	-	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-	-	-	-
Carex rupestris	-	-	-	-	-	-	-	-	-	-	-
Carex saxatilis	-	-	-	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	-	-	-	-	-	-	-	-
Carex sp.	-	-	-	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	-	-	-	-	-	-	-	-	-
Catoscopium nigritum	-	-	-	-	+	+	+	-	-	-	-
Cephalozia bicuspidata	-	-	-	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-	-	-	-
Cephaloziella varians	-	-	-	-	-	-	-	-	-	+	-
Cerastium beeringianum	-	-	-	-	-	-	-	-	r	+	-
Cetraria aculeata	-	-	-	-	-	-	-	-	-	-	-
Cetraria islandica	+	+	+	+	-	+	+	-	-	-	-
Cetraria laevigata	-	-	-	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	-	-	-	-	+	+	-	+	1	-
Cinclidium arcticum	-	-	-	+	-	+	-	-	-	-	-
Cinclidium latifolium	-	+	-	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	+	-	-	-	-	-	-	-	-
Cladina arbuscula	-	-	-	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-	-	-	-
Cladonia amaurocraea	-	-	-	+	-	-	-	-	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	+	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-	-	-	-
Cladonia furcata	+	-	+	-	-	-	-	-	-	-	-
Cladonia gracilis	-	+	-	+	-	-	-	-	-	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Cladonia pocillum	-	-	-	+	-	+	+	-	-	-	-
Cladonia pyxidata	r	+	r	+	-	-	-	-	-	-	-
Cladonia squamosa	r	-	-	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-	-	-	-
Cochlearia officinalis=C. groenlandica	-	-	r	-	-	-	-	-	-	-	-
Collema sp.	-	-	-	-	-	-	-	-	+	r	-
Ctenidium molluscum	-	-	-	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	-	-	-	-	-	-	+	3	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-	-	-	-
Dactylina arctica	+	+	+	+	-	+	-	-	-	-	-
Dactylina ramulosa	-	-	-	-	-	-	-	-	-	-	-
Dicranella subulata	-	-	-	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	+	-	-	-	-	-	-	-	-	-	-
Dicranum elongatum	-	-	-	+	-	-	-	-	-	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-	-	-	-
Dicranum majus	+	-	-	+	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	+	-	-	-	-	-	-	-
Dicranum spadiceum	-	+	-	-	-	-	-	-	-	-	-
Didymodon asperifolius	-	-	-	-	-	-	-	-	-	+	-
Didymodon rigidulus	-	-	-	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	-	-	-	-	-	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-	+	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-	-	-	-
Distichium capillaceum	-	+	+	-	+	+	+	-	-	1	-
Distichium inclinatum	-	-	-	+	+	-	+	-	1	-	-
Ditrichum flexicaule	-	-	-	-	1	2	+	-	-	+	-
Draba alpina	-	-	-	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-	-	-	-
Draba sp.	-	-	-	-	-	-	-	-	+	+	-
Drepanocladus brevifolius	-	-	-	-	+	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	+	-	-	-	-	-	-	-
Dryas integrifolia	-	2	1	2	1	3	1	-	+	4	-
Dupontia fisheri	-	-	-	+	-	-	-	-	-	-	-
Empetrum nigrum	-	-	-	-	-	-	-	-	-	-	-
Encalypta alpina	-	-	-	-	+	+	-	-	1	-	-
Encalypta longicolla	-	-	-	-	1	-	-	-	-	-	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-	-	-	-
Encalypta sp.	-	-	-	-	-	-	1	-	-	-	-
Epilobium sp.	-	-	-	-	-	-	-	-	-	-	-
Equisetum arvense	-	-	-	-	-	-	-	-	-	-	-
Equisetum scirpoides	-	-	-	-	-	-	-	-	-	-	-
Equisetum variegatum	-	-	-	-	+	+	+	-	-	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Eriophorum angustifolium	-	-	-	-	+	-	-	-	-	-	-
Eriophorum angustifolium spp. *triste*	3	1	1	2	1	2	+	-	-	-	-
Eriophorum vaginatum	-	-	-	-	-	1	1	-	-	-	-
Festuca baffinensis	-	-	-	-	-	-	-	-	-	+	-
Fissidens bryoides	-	-	-	-	-	-	-	-	-	-	-
Flavocetraria cucullata	-	-	-	+	-	-	-	-	-	-	-
Flavocetraria nivalis	-	-	-	-	-	-	-	-	-	-	-
Fulgensia bracteata	-	-	-	-	-	-	-	-	+	-	-
Hennediella heimii var.arctica	-	-	-	-	-	-	-	-	-	-	-
Hierochloe pauciflora	+	+	-	-	-	-	-	-	-	-	-
Hylocomium splendens	+	+	+	-	-	-	-	-	-	+	-
Hymenostylium recurvirostre	-	-	-	-	+	-	+	-	-	-	-
Hypnum bambergeri	-	+	-	-	-	1	+	-	-	-	-
Hypnum holmenii	-	-	-	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-	-	-	-
Juncus biglumis	-	-	-	-	+	+	+	-	-	-	-
Juncus castaneus	-	-	-	-	-	-	-	-	-	-	-
Juncus triglumis	-	-	-	-	-	-	-	-	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	-	-	-	-	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	-	-	-	-
Lagotis glauca	-	-	-	-	-	-	-	-	-	-	-
Lecanora epibryon	-	-	-	-	-	+	+	-	2	-	-
Lecidea ramulosa	-	-	-	+	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	-	-	-	-	-	-	-	-	-
Leiocolea collaris	-	-	-	-	-	-	-	-	+	+	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	+	+	+	-	-	-	-	-	-	-
Lloydia serotina	-	-	-	-	-	-	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-	-	-	-
Luzula arctica	-	-	-	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Meesia uliginosa	-	+	-	-	+	+	-	-	-	-	-
Megaspora verrucosa	-	-	-	-	-	-	-	-	+	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	-	+	-	-	-	-	-	r	-
Minuartia arctica	-	-	-	+	-	1	-	-	-	+	-
Minuartia rossii	-	-	-	-	+	-	-	-	-	-	-
Mycobilimbia lobulata	-	-	-	-	-	-	-	-	3	-	+
Myurella julacea	-	-	-	-	-	-	-	-	-	-	-
Myurella tenerrima	-	+	-	+	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-	-	-	-
Nephroma expallidum	2	+	r	-	-	-	-	-	-	-	-
Nostoc commune	-	-	-	-	-	-	1	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	-	+	-	-	+	-	-	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	2	-	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	+	-	+	+	-	-	-	-
Orthothecium strictum	-	-	-	-	-	+	-	-	-	-	-
Orthothecium varia	-	-	-	-	-	-	-	-	+	-	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	+	-	-	-	-	-
Papaver sp.	-	-	-	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	-	-	-	-	-	-	-	-
Pedicularis capitata	-	-	-	-	-	+	-	-	-	-	-
Pedicularis kanei	-	-	-	-	-	+	-	-	-	-	-
Pedicularis labradorica	-	-	-	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	-	-	-	-	-	-	-	+	-
Pedicularis oederi	-	-	-	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-	-	-	-
Pedicularis sp.	-	+	-	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	+	-	-	-	-	-	-	-
Peltigera aphthosa	-	-	+	-	-	-	-	-	-	-	-
Peltigera didactyla	-	-	-	-	-	-	-	-	-	-	-
Peltigera leucophlebia	1	-	-	-	-	-	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	-	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-	-	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-	-	-	-
Peltigera sp.	-	-	-	-	-	-	-	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-	+	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Pertusaria panyrga	-	-	-	-	-	-	-	-	-	-	-
Petasites frigidus	-	-	-	-	-	-	-	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-	-	-	-
Poa arctica	+	+	-	+	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-	-	-	-
Polyblastia bryophila	-	-	-	-	-	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-	-	-	-
Polyblastia sendtneri	-	-	-	-	3	+	3	+	1	-	+
Polygonum bistorta var. plumosum	-	-	-	-	-	-	-	-	-	-	-
Polygonum viviparum	-	+	-	+	+	+	+	-	+	+	-
Polytrichastrum alpinum	-	-	-	+	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-	-	-	-
Polytrichum sp.	-	+	-	-	-	-	-	-	-	-	-
Polytrichum strictum	+	+	+	-	-	-	-	-	-	-	-
Potentilla uniflora	-	-	-	-	-	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	+	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	-	-	-	-	-	-	-
Puccinellia angustata	-	-	-	-	-	-	-	+	+	-	+
Pyrola asarifolia	-	-	-	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-	-	-	-
Rinodina roscida	-	-	-	-	-	-	-	-	-	+	-
Rinodina turfacea	-	-	-	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	-	-	-	-	-	-
Salix arctica	1	1	1	2	+	+	+	-	-	2	-
Salix glauca	-	-	-	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	r	-	-	-	-	-	-
Salix ovalifolia	-	-	-	+	-	-	-	-	+	2	-
Salix phlebophylla	-	-	-	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	+	1	-	-	-	-	-	-	-	-
Salix reticulata	-	-	-	+	+	+	+	-	-	-	-
Salix rotundifolia	3	2	2	+	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	+	-	-	+	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	-	-	-	-	-	-	-	-
Saxifraga cernua	+	-	-	+	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	+	+	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	-	-	-	-	2	1	1	-	+	1	-
Scorpidium scorpioides	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	99	100	101	102	104	105	106	110	111	112	113
Senecio atropurpureus	-	-	-	-	-	1	-	-	-	-	-
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	+	-	-	-	-	-	-
Silene acaulis	-	-	-	-	-	-	-	-	-	-	-
Solorina bispora	-	+	-	-	+	+	+	-	-	-	-
Solorina saccata	-	-	-	-	-	-	-	-	-	-	-
Solorina sp.	-	-	-	-	-	-	-	-	-	-	-
Sphaerophorus globosus	-	-	-	+	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-	-	-	-
Sphagnum balticum	-	-	-	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	-	-	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	-	+	-	-	-	-	-	+	-
Stellaria sp.	+	-	+	-	-	-	-	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-	-	-	-
Thamnolia subuliformis	+	+	+	+	+	2	+	-	+	+	-
Timmia austriaca	-	-	-	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	-	-	-	-	-	-	-	-
Tofieldia pusilla	-	-	-	-	-	-	-	-	-	-	-
Tomentypnum nitens	+	1	+	-	-	1	-	-	-	+	-
Tortella fragilis	-	-	-	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-	-	-	-
Tortula ruralis	-	-	-	-	-	-	-	-	-	+	-
Tritomaria quinquedentata	-	-	-	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	-	-	-	-	-	-
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-	-	-	-
Vulpicida tilesii	-	-	-	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Abietinella abietina	-	-	-	-	-	-	-	-
Alectoria nigricans	-	-	-	-	-	+	-	-
Alectoria ochroleuca	-	-	-	-	-	-	-	-
Aloina brevirostris	-	-	-	-	-	-	-	-
Amblystegium serpens	-	-	-	-	-	-	-	-
Anastrophyllum minutum	-	-	-	-	-	-	-	-
Aneura pinguis	-	-	+	+	+	-	+	-
Anthelia juratzkana	-	-	-	-	-	-	-	-
Arctostaphylos rubra	-	-	-	r	-	+	1	+
Artemisia campestris spp. *borealis var. borealis*	-	-	-	-	-	-	-	-
Astragalus umbellatus	-	-	-	-	-	-	-	-
Aulacomnium acuminatum	-	-	-	-	-	-	-	-
Aulacomnium palustre	-	-	-	-	-	-	+	-
Aulacomnium turgidum	-	-	-	-	-	-	-	-
Baeomyces rufus	-	-	-	-	-	-	-	-
Barbilophozia barbata	-	-	-	-	-	-	-	-
Barbilophozia binsteadii	-	-	-	-	-	-	-	-
Barbilophozia kunzeana	-	-	-	-	-	-	-	-
Bartramia ithyphylla	-	-	-	-	-	-	-	-
Betula nana	-	-	-	-	-	-	-	-
Blepharostoma trichophyllum	-	-	-	-	-	-	+	+
Brachythecium sp.	-	-	-	-	-	-	-	-
Braya bartlettiana (=B. glabella ssp. *glabella)*	-	-	-	1	+	-	-	-
Braya glabella spp. *purpurascens*	+	1	-	-	-	-	-	-
Bryocaulon divergens	-	-	-	-	-	-	-	-
Bryoerythrophyllum recurvirostre	-	+	-	-	-	-	-	-
Bryum pseudotriquetrum	-	-	-	-	-	-	-	-
Bryum sp.	-	+	-	+	-	-	-	-
Bryum wrightii	-	-	-	+	+	-	-	-
Calamagrostis canadensis	-	-	-	-	-	-	-	-
Calamagrostis sp.	-	-	-	-	-	-	-	-
Callialaria curvicaule	-	-	-	-	-	-	-	-
Calliergon giganteum	-	-	-	-	-	-	-	-
Calliergon sp.	-	-	-	-	-	-	-	-
Caloplaca cerina	-	-	+	-	-	-	-	-
Caloplaca tiroliensis	-	-	-	-	+	-	-	-
Calypogeja muelleriana	-	-	-	-	-	-	-	-
Calypogeja sphagnicola	-	-	-	-	-	-	-	-
Campylium longicuspus	-	-	-	-	-	-	-	-
Campylium polygamum	-	-	-	-	-	-	-	-
Campylium stellatum	-	+	+	-	-	+	-	+
Campylium stellatum var. arcticum	-	-	-	-	-	-	-	-
Cardamine hyperborea (=C. microphylla ssp. *blaisdellii)*	-	-	-	-	-	+	+	+
Carex aquatilis	-	-	-	-	-	-	-	-
Carex atrofusca	-	-	-	-	-	-	-	-
Carex bigelowii	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Carex capillaris	-	-	-	+	+	+	+	+
Carex membranacea	-	-	-	-	+	2	1	+
Carex misandra	-	-	-	+	-	-	-	-
Carex rariflora	-	-	-	-	-	-	-	-
Carex rotundata	-	-	-	-	-	-	-	-
Carex rupestris	-	-	r	-	-	-	+	+
Carex saxatilis	-	-	-	-	-	-	-	-
Carex scirpoidea	-	-	-	-	-	+	+	+
Carex sp.	-	-	-	-	-	-	-	-
Carex vaginata	-	-	-	-	-	-	-	-
Cassiope tetragona	-	-	-	-	-	-	+	-
Catoscopium nigritum	-	-	-	-	-	-	-	+
Cephalozia bicuspidata	-	-	-	-	-	-	-	-
Cephalozia pleniceps	-	-	-	-	-	-	-	-
Cephaloziella varians	-	+	-	+	-	-	-	-
Cerastium beeringianum	-	+	+	-	-	-	-	-
Cetraria aculeata	-	-	-	-	-	-	-	-
Cetraria islandica	-	-	-	-	-	+	+	+
Cetraria laevigata	-	-	-	-	-	-	-	-
Chrysanthemum integrifolium (=Leucanthemum integrifolium)	-	+	1	-	-	+	+	r
Cinclidium arcticum	-	-	-	-	-	-	-	-
Cinclidium latifolium	-	-	-	-	-	-	-	-
Cirriphyllum cirrosum	-	-	-	-	-	-	+	-
Cladina arbuscula	-	-	-	-	-	-	-	-
Cladina mitis	-	-	-	-	-	-	-	-
Cladina rangiferina	-	-	-	-	-	-	-	-
Cladina stygia	-	-	-	-	-	-	-	-
Cladonia amaurocraea	-	-	-	-	-	-	-	-
Cladonia cenotea	-	-	-	-	-	-	-	-
Cladonia chlorophaea	-	-	-	-	-	-	-	-
Cladonia coccifera	-	-	-	-	-	-	-	-
Cladonia cornuta	-	-	-	-	-	-	-	-
Cladonia cyanipes	-	-	-	-	-	-	-	-
Cladonia deformis	-	-	-	-	-	-	-	-
Cladonia ecmocyna	-	-	-	-	-	-	-	-
Cladonia fimbriata	-	-	-	-	-	-	-	-
Cladonia furcata	-	-	-	-	-	-	-	-
Cladonia gracilis	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *elongata*	-	-	-	-	-	-	-	-
Cladonia gracilis spp. *vulnerata*	-	-	-	-	-	-	-	-
Cladonia macroceras	-	-	-	-	-	-	-	-
Cladonia pleurota	-	-	-	-	-	-	-	-
Cladonia pocillum	-	-	-	+	-	+	+	1
Cladonia pyxidata	-	-	-	-	-	-	-	-
Cladonia squamosa	-	-	-	-	-	-	-	-
Cladonia sulphurina	-	-	-	-	-	-	-	-
Cladonia uncialis	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Cochlearia officinalis=C. groenlandica	-	+	-	-	-	-	-	-
Collema sp.	-	+	-	+	+	-	-	-
Ctenidium molluscum	-	-	-	-	-	-	-	-
Ctenidium procerriumum	-	-	1	-	-	+	-	-
Cyrtomnium hymenophylloides	-	-	-	-	-	-	-	-
Dactylina arctica	-	-	-	-	-	-	-	+
Dactylina ramulosa	-	-	-	-	-	-	+	+
Dicranella subulata	-	-	-	-	-	-	-	-
Dicranum acutifolium	-	-	-	-	-	-	-	-
Dicranum angustum (=D. laevidens)	-	-	-	-	-	-	-	-
Dicranum elongatum	-	-	-	-	-	-	-	-
Dicranum fragilifolium	-	-	-	-	-	-	-	-
Dicranum groenlandicum	-	-	-	-	-	-	-	-
Dicranum majus	-	-	-	-	-	-	-	-
Dicranum sp.	-	-	-	-	-	-	-	-
Dicranum spadiceum	-	-	-	-	-	-	-	-
Didymodon asperifolius	-	-	+	-	-	-	-	-
Didymodon rigidulus	-	-	-	-	-	-	-	-
Didymodon rigidulus var. icmadophilus	-	+	+	-	-	-	-	-
Didymodon sp.	-	-	-	-	-	-	-	-
Didymodon spadiceus	-	-	-	-	-	-	-	-
Distichium capillaceum	-	-	-	+	+	-	+	+
Distichium inclinatum	-	1	2	-	-	1	-	-
Ditrichum flexicaule	-	+	+	+	+	+	2	1
Draba alpina	-	-	-	-	-	-	-	-
Draba cinerea	-	-	-	-	-	-	-	-
Draba sp.	-	+	-	-	-	-	-	-
Drepanocladus brevifolius	-	-	-	-	-	-	-	-
Drepanocladus sp.	-	-	-	-	-	-	-	-
Dryas integrifolia	-	-	5	+	+	3	3	3
Dupontia fisheri	-	-	-	-	-	-	-	-
Empetrum nigrum	-	-	-	-	-	-	-	-
Encalypta alpina	-	-	-	-	-	-	-	-
Encalypta longicolla	-	-	-	-	+	-	+	-
Encalypta rhaptocarpa	-	-	-	-	-	-	-	-
Encalypta sp.	-	+	+	+	-	+	-	-
Epilobium sp.	-	-	-	-	-	-	-	-
Equisetum arvense	-	-	-	-	-	-	2	1
Equisetum scirpoides	-	-	-	-	-	-	-	-
Equisetum variegatum	-	-	-	+	+	-	+	+
Eriophorum angustifolium	-	-	-	1	1	-	-	-
Eriophorum angustifolium spp. *triste*	-	-	-	-	-	2	2	2
Eriophorum vaginatum	-	-	-	+	+	+	-	-
Festuca baffinensis	-	-	1	-	-	-	-	-
Fissidens bryoides	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Flavocetraria cucullata	-	-	-	+	-	1	1	1
Flavocetraria nivalis	-	-	-	-	-	1	+	+
Fulgensia bracteata	-	+	-	-	-	-	-	-
Hennediella heimii var.arctica	-	1	-	-	-	-	-	-
Hierochloe pauciflora	-	-	-	-	-	-	-	-
Hylocomium splendens	-	-	+	-	-	-	-	-
Hymenostylium recurvirostre	-	-	-	-	-	-	-	-
Hypnum bambergeri	-	-	+	+	-	1	1	2
Hypnum holmenii	-	-	-	-	-	-	-	-
Hypnum sp.	-	-	-	-	-	-	-	-
Hypogymnia subobscura	-	-	-	-	-	-	-	-
Juncus biglumis	-	+	-	+	+	-	-	-
Juncus castaneus	-	-	-	+	-	-	-	-
Juncus triglumis	-	-	-	1	+	-	-	-
Jungermania confertissima	-	-	-	-	-	-	-	-
Jungermannia polaris	-	-	-	-	+	-	-	-
Jungermannia sp.	-	-	-	-	-	-	-	-
Kobresia myosuroides	-	-	-	-	-	-	-	r
Lagotis glauca	-	-	-	-	-	-	-	-
Lecanora epibryon	-	1	+	-	-	+	+	2
Lecidea ramulosa	-	-	-	-	-	-	-	-
Ledum palustre spp. *decumbens*	-	-	-	-	-	-	-	-
Leiocolea collaris	-	-	+	+	+	-	-	-
Leptobryum pyriforme	-	-	-	-	-	-	-	-
Limprichtia cossonii	-	-	-	-	-	-	-	-
Limprichtia revolvens	-	-	-	-	-	-	-	-
Lloydia serotina	-	-	+	-	-	-	-	-
Lophozia badensis	-	-	-	-	-	-	-	-
Lophozia collaris	-	-	-	-	-	-	-	-
Lophozia excisa	-	-	-	-	-	-	-	-
Lophozia jurensis	-	-	-	-	-	-	-	-
Lophozia longiflora	-	-	-	-	-	-	-	-
Lophozia savicziae	-	-	-	-	-	-	-	-
Lophozia silvicola	-	-	-	-	-	-	-	-
Lophozia sp.	-	-	-	-	-	-	-	-
Lophozia sudetica var. sudetica	-	-	-	-	-	-	-	-
Lophozia ventricosa	-	-	-	-	-	-	-	-
Lupinus arcticus	-	-	-	-	-	-	-	-
Luzula arctica	-	-	-	-	-	-	-	-
Luzula confusa	-	-	-	-	-	-	-	-
Masonhalea richardsonii	-	-	-	-	-	-	-	-
Meesia uliginosa	-	-	-	-	-	+	+	+
Megaspora verrucosa	-	-	-	-	-	-	-	-
Melandrium apetalum (=Gastrolychnis apetala, Silene uralensis ssp. *uralensis)*	-	-	+	-	-	-	-	-
Minuartia arctica	-	-	-	-	-	+	+	-
Minuartia rossii	-	-	-	-	-	-	-	1
Mycobilimbia lobulata	+	3	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Myurella julacea	-	-	-	-	-	-	-	-
Myurella tenerrima	-	-	-	-	-	-	-	-
Nephroma arcticum	-	-	-	-	-	-	-	-
Nephroma expallidum	-	-	-	-	-	-	-	-
Nostoc commune	-	-	-	+	-	-	-	-
Ochrolechia androgyna	-	-	-	-	-	-	-	-
Ochrolechia frigida	-	-	-	-	-	-	-	-
Ochrolechia inaequatula	-	-	-	-	-	-	-	-
Ochrolechia upsaliensis	-	-	-	-	-	-	-	-
Oncophorus wahlenbergii	-	-	-	-	-	-	-	-
Orthilia secunda (=Pyrola secunda)	-	-	-	-	-	-	-	-
Orthothecium chryseum	-	-	-	-	-	-	-	+
Orthothecium strictum	-	-	-	+	-	+	-	-
Orthothecium varia	-	+	+	-	-	-	+	-
Oxytropis maydelliana	-	-	-	-	-	-	-	-
Oxytropis sp.	-	-	-	-	-	-	-	-
Papaver macounii	-	-	-	-	-	-	-	-
Papaver sp.	-	-	-	-	-	-	-	-
Parrya nudicaulis	-	-	-	-	-	+	+	+
Pedicularis capitata	-	-	-	-	-	+	+	-
Pedicularis kanei	-	-	-	-	-	+	+	+
Pedicularis labradorica	-	-	-	-	-	-	-	-
Pedicularis langsdorfii	-	-	-	-	-	-	-	-
Pedicularis lapponica	-	-	-	-	-	-	-	-
Pedicularis neoalaskanum	-	-	+	-	-	-	-	-
Pedicularis oederi	-	-	-	-	-	-	-	-
Pedicularis parviflora	-	-	-	-	-	-	-	-
Pedicularis sp.	-	-	-	-	-	-	-	-
Pedicularis sudetica spp. *albolabiata*	-	-	-	-	-	-	-	-
Peltigera aphthosa	-	-	-	-	-	-	-	-
Peltigera didactyla	-	-	-	-	-	-	-	-
Peltigera leucophlebia	-	-	-	-	-	-	-	-
Peltigera malacea	-	-	-	-	-	-	-	-
Peltigera rufescens	-	-	-	-	-	-	-	-
Peltigera scabrosa	-	-	-	-	-	-	-	-
Peltigera sp.	-	-	-	-	-	-	-	-
Pertusaria bryontha	-	-	-	-	-	-	-	-
Pertusaria dactylina	-	-	-	-	-	-	-	-
Pertusaria panyrga	-	-	-	-	-	-	2	+
Petasites frigidus	-	-	-	-	-	-	-	-
Pleurozium schreberi	-	-	-	-	-	-	-	-
Poa arctica	-	-	-	-	-	-	-	-
Poa arctica spp. *lanata*	-	-	-	-	-	-	-	-
Pohlia beringiensis	-	-	-	-	-	-	-	-
Pohlia cruda	-	-	-	-	-	-	-	-
Pohlia nutans	-	-	-	-	-	-	-	-
Pohlia sp.	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Polyblastia bryophila	-	1	-	-	-	-	-	-
Polyblastia gelatinosa	-	-	-	-	-	-	-	-
Polyblastia sendtneri	+	2	-	1	1	-	-	-
Polygonum bistorta var. plumosum	-	-	-	-	-	-	-	-
Polygonum viviparum	-	-	+	+	+	+	+	+
Polytrichastrum alpinum	-	-	-	-	-	-	-	-
Polytrichum hyperboreum	-	-	-	-	-	-	-	-
Polytrichum sp.	-	-	-	-	-	-	-	-
Polytrichum strictum	-	-	-	-	-	-	-	-
Potentilla uniflora	-	+	-	-	-	-	-	-
Pseudocalliergon turgescens	-	-	-	-	-	-	-	-
Ptilidium cilare	-	-	-	-	-	-	-	-
Puccinellia angustata	+	1	-	-	-	-	-	-
Pyrola asarifolia	-	-	-	-	-	-	-	-
Pyrola grandiflora	-	-	-	-	-	-	-	-
Racomitrium lanuginosum	-	-	-	-	-	-	-	-
Rhododendron lapponicum	-	-	-	-	-	-	-	-
Rhytidium rugosum	-	-	-	-	-	-	-	-
Rinodina roscida	-	-	+	+	+	-	-	-
Rinodina turfacea	-	-	-	-	-	-	-	-
Rubus chamaemorus	-	-	-	-	-	-	-	-
Rumex arcticus	-	-	-	-	-	2	-	-
Salix arctica	-	-	1	-	-	-	+	-
Salix glauca	-	-	-	-	-	-	-	-
Salix lanata spp. *richardsonii*	-	-	-	-	-	-	-	-
Salix ovalifolia	-	+	1	-	-	-	-	-
Salix phlebophylla	-	-	-	-	-	-	-	-
Salix planifolia spp. *pulchra*	-	-	-	-	-	-	-	-
Salix reticulata	-	-	-	-	-	+	-	-
Salix rotundifolia	-	-	-	-	-	-	-	-
Sanionia uncinata (=Drepanocladus uncinatus)	-	-	-	-	-	-	-	-
Saussurea angustifolia	-	-	-	-	-	-	-	-
Saxifraga cernua	-	-	-	-	-	-	-	-
Saxifraga hieraciifolia	-	-	-	-	-	-	-	-
Saxifraga hirculus	-	-	-	-	-	-	-	-
Saxifraga nelsoniana	-	-	-	-	-	-	-	-
Saxifraga oppositifolia	-	-	1	2	2	1	+	1
Scorpidium scorpioides	-	-	-	-	-	-	-	-
Senecio atropurpureus	-	-	-	-	-	-	+	+
Senecio resedifolius (=Packera cymbalaria)	-	-	-	-	-	-	-	-
Silene acaulis	-	-	-	-	-	-	+	-
Solorina bispora	-	-	-	+	+	-	-	-
Solorina saccata	-	-	-	-	-	+	-	-
Solorina sp.	-	-	-	-	+	-	-	-
Sphaerophorus globosus	-	-	-	-	-	-	-	-
Sphagnum angustifolium	-	-	-	-	-	-	-	-

Table 7 continued.

Relevé number	114	115	116	117	118	140	141	142
Sphagnum balticum	-	-	-	-	-	-	-	-
Sphagnum girgensohnii	-	-	-	-	-	-	-	-
Sphagnum rubellum	-	-	-	-	-	-	-	-
Sphagnum warnstorfii	-	-	-	-	-	-	-	-
Sphenolobus minutum	-	-	-	-	-	-	-	-
Splachnum sp.	-	-	-	-	-	-	-	-
*Stellaria longipes (=*spp. *edwardsii,* spp. *laeta,* spp. *monantha)*	-	-	+	-	-	-	-	-
Stellaria sp.	-	-	-	-	-	-	-	-
Stereocaulon alpinum	-	-	-	-	-	-	-	-
Stereocaulon sp.	-	-	-	-	-	-	-	-
Tetraplodon mnioides	-	-	-	-	-	-	-	-
Tetraplodon urceolatus	-	-	-	-	-	-	-	-
Thalictrum alpinum	-	-	-	-	-	-	-	-
Thamnolia subuliformis	-	-	+	+	-	2	2	1
Timmia austriaca	-	-	-	-	-	-	-	-
Tofieldia coccinea	-	-	-	+	+	+	+	+
Tofieldia pusilla	-	-	-	-	-	-	-	-
Tomentypnum nitens	-	-	-	-	-	1	2	2
Tortella fragilis	-	-	-	-	-	-	-	-
Tortella tortuosa	-	-	-	-	-	-	-	-
Tortula ruralis	-	+	+	-	+	-	-	-
Tritomaria quinquedentata	-	-	-	-	-	-	-	-
Vaccinium uliginosum	-	-	-	-	-	-	-	-
Vaccinium vitis-idaea	-	-	-	-	-	-	-	-
Vulpicida tilesii	-	-	-	-	-	+	+	-

Table 8. *The percent of each growth form that covered the relevé was recorded.*

Growth form cover (%)																		
Releve #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
erect dwarf shrub	0.00	0.00	0.00	0.00	0.0	0.0	1.0	0.5	0.0	0.0	0.5	5.0	2.0	0.50	0.00	0.00	0.00	0.5
prostrate dwarf shrub	0.50	15.00	15.00	0.00	62.0	1.0	50.0	70.0	3.0	1.0	35.0	40.0	35.0	0.50	0.50	0.50	0.50	30.0
evergreen shrub	0.50	15.00	15.00	0.50	60.0	1.0	50.0	65.0	3.0	1.0	25.0	25.0	15.0	0.50	0.00	0.00	0.00	20.0
deciduous shrub	0.50	0.00	0.50	0.50	2.0	0.5	0.5	5.0	0.0	0.5	10.0	20.0	20.0	0.50	0.50	0.50	0.50	10.0
erect forb	0.50	0.50	3.00	0.50	3.0	1.0	0.5	1.0	1.0	0.5	5.0	5.0	1.0	0.50	0.50	1.00	1.00	0.5
mat forb	2.00	3.00	1.00	2.00	5.0	1.0	0.5	1.0	1.0	1.0	0.5	0.0	0.0	0.00	0.00	0.00	0.00	0.0
non-tussock grams	3.00	5.00	5.00	8.00	15.0	1.0	2.0	15.0	2.0	1.0	15.0	15.0	15.0	70.00	75.00	75.00	70.00	35.0
tussock	0.50	0.50	0.50	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50	0.50	0.00	0.50	15.0
foliose lichen	0.00	0.50	0.50	0.00	0.5	0.1	0.5	0.5	0.5	0.5	0.0	0.5	0.0	0.00	0.00	0.00	0.00	0.0
fruticose lichen	0.50	0.50	0.50	0.00	20.0	1.0	20.0	25.0	0.5	0.5	10.0	3.0	10.0	0.00	0.00	0.00	0.00	0.5
crustose lichen	5.00	0.00	1.00	0.00	10.0	15.0	20.0	5.0	25.0	10.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.0
pleurocarpous moss	0.50	0.50	0.50	0.50	0.5	0.0	3.0	2.0	0.5	0.5	50.0	60.0	60.0	5.00	2.00	2.00	5.00	40.0
acrocarpous moss	2.00	0.50	5.00	7.00	1.0	2.0	5.0	5.0	1.0	0.5	5.0	5.0	15.0	0.50	0.00	0.00	0.00	5.0
liverwort	0.50	0.50	0.50	0.50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.00	0.50	0.00	0.00	0.5
horsetail	0.50	0.50	0.50	0.10	0.5	1.0	5.0	0.0	0.5	0.5	0.5	0.1	0.5	0.50	0.50	0.50	0.50	0.5
algae	0.50	0.50	1.00	0.50	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.50	1.00	0.50	0.50	0.0

Table 8 continued.

Growth form cover (%)																				
Releve #	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
erect dwarf shrub	1.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	1.0	0.0	1.0	0.0	2.0	3.0	0	0	10.0
prostrate dwarf shrub	40.0	35.0	0.0	90.0	0.5	0.0	0.5	0.5	85.0	70.0	20.0	50.0	0.5	25.0	1.0	50.0	35.0	1	1	25.0
evergreen shrub	20.0	25.0	0.0	60.0	0.0	0.0	0.0	0.0	50.0	60.0	15.0	45.0	0.5	26.0	1.0	35.0	28.0	1	0	12.0
deciduous shrub	20.0	15.0	0.0	40.0	0.5	0.0	0.5	0.5	50.0	20.0	5.0	5.0	0.0	0.5	0.0	15.0	10.0	0	1	13.0
erect forb	1.0	0.5	4.0	2.0	0.5	2.0	0.5	1.0	5.0	0.5	0.5	2.0	0.5	5.0	3.0	5.0	5.0	1	1	0.5
mat forb	0.0	0.0	0.0	7.0	0.0	0.0	0.5	0.5	3.0	1.0	0.5	3.0	0.5	3.0	5.0	0.5	0.5	5	0	0.0
non-tussock grams	15.0	30.0	0.5	0.5	0.0	1.0	0.5	0.5	0.5	0.5	25.0	10.0	1.0	10.0	1.0	10.0	10.0	1	75	50.0
tussock	25.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	1	1	1.0
foliose lichen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.5	0.0	1	0	0.5
fruticose lichen	0.5	0.5	0.0	0.5	0.0	0.0	0.5	0.1	0.5	0.5	0.5	15.0	0.5	10.0	0.5	5.0	5.0	1	0	0.5
crustose lichen	0.0	0.0	0.0	0.0	60.0	0.0	65.0	80.0	0.0	0.0	0.0	5.0	15.0	7.0	7.0	0.5	0.5	50	0	0.0
pleurocarpous moss	25.0	40.0	0.0	30.0	0.0	0.0	0.5	0.5	25.0	30.0	80.0	5.0	0.5	1.0	0.1	35.0	20.0	1	3	20.0
acrocarpous moss	5.0	5.0	0.0	10.0	5.0	0.5	5.0	10.0	10.0	10.0	0.5	0.5	1.0	5.0	3.0	5.0	2.0	2	0	5.0
liverwort	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.5	0.5	0.0	1	1	0.0
horsetail	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.1	0	1	0.0
algae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.0	5	1	0.0

Table 8 continued.

Growth form cover (%)																				
Releve #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
erect dwarf shrub	2.0	2.0	0.5	2.0	0.0	0.0	0.0	20.0	5.0	0.0	0.0	0.0	0.0	2	5	0.1	1.0	7.0	5.0	0.0
prostrate dwarf shrub	10.0	20.0	15.0	15.0	0.5	0.5	0.5	50.0	35.0	30.0	30.0	25.0	10.0	5	10	0	20.0	0.5	10.0	70.0
evergreen shrub	2.0	15.0	7.0	10.0	0.5	0.5	0.5	25.0	15.0	30.0	25.0	25.0	5.0	7	15	0.1	10.0	5.0	15.0	60.0
deciduous shrub	8.0	5.0	8.0	5.0	0.0	0.5	0.5	25.0	20.0	0.5	5.0	0.5	5.0	0.5	0.5	0.1	10.0	2.0	0.5	10.0
erect forb	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	2.0	0.5	0.5	0.5	0	0	2.0	0.0	0.0	5.0
mat forb	0.5	0.5	0.5	0.0	2.0	0.5	0.5	0.0	0.5	5.0	5.0	0.5	7.0	0	0	0	0.5	0.0	0.0	0.0
non-tussock grams	65.0	60.0	70.0	75.0	0.5	0.5	0.5	35.0	40.0	10.0	10.0	10.0	7.0	10	15	0.5	15.0	0.0	2.0	3.0
tussock	5.0	0.5	0.5	0.5	0.5	0.0	0.5	5.0	5.0	10.0	0.0	0.5	3.0	5	0.5	0.5	5.0	5.0	15.0	0.0
foliose lichen	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	1	20	0.5	1.0	0.0	0.5
fruticose lichen	0.5	0.0	0.5	0.5	5.0	0.5	0.5	5.0	1.0	15.0	5.0	3.0	0.5	20	20	0.5	1.0	0.5	25.0	7.0
crustose lichen	0.0	0.0	0.0	0.0	60.0	40.0	65.0	0.5	0.0	5.0	3.0	5.0	15.0	0.5	0	0	0.5	5.0	25.0	1.0
pleurocarpous moss	5.0	30.0	40.0	35.0	0.5	0.0	0.5	20.0	20.0	5.0	0.5	0.5	0.5	1	15	5	70.0	0.5	3.0	10.0
acrocarpous moss	5.0	2.0	5.0	3.0	10.0	15.0	5.0	5.0	10.0	10.0	15.0	15.0	0.5	1	10	10	2.0	5.0	15.0	15.0
liverwort	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60	25	35	0.0	70.0	30.0	0.0
horsetail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0.5	0.0	0.0	0.5
algae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	0	0	0.0	5.0	0.0	0.0

Table 8 continued.

Growth form cover (%)																			
Releve #	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
erect dwarf shrub	0.0	0.0	0.0	35.0	0.0	0.0	0.5	20.0	0.5	0.0	0.0	0.0	0.0	0.0	15.0	25.0	30.0	10.0	25.0
prostrate dwarf shrub	30.0	60.0	60.0	10.0	0.5	50.0	20.0	35.0	20.0	15.0	0.5	0.5	0.0	0.5	20.0	25.0	5.0	10.0	15.0
evergreen shrub	30.0	60.0	60.0	15.0	0.5	45.0	10.0	35.0	10.0	3.0	0.5	0.5	0.0	0.5	20.0	35.0	10.0	15.0	20.0
deciduous shrub	0.5	0.5	0.5	30.0	0.0	5.0	15.0	20.0	15.0	15.0	0.0	0.0	0.0	0.0	15.0	15.0	25.0	5.0	20.0
erect forb	2.0	15.0	5.0	0.5	0.5	0.5	3.0	0.5	3.0	1.0	0.5	1.0	2.0	1.0	4.0	2.0	5.0	20.0	6.0
mat forb	0.0	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
non-tussock grams	7.0	10.0	2.0	1.0	0.5	5.0	5.0	0.5	5.0	15.0	0.5	5.0	2.0	3.0	0.5	0.5	0.5	10.0	0.5
tussock	1.0	0.0	0.5	40.0	0.0	0.5	3.0	40.0	3.0	5.0	0.5	0.5	0.0	0.5	10.0	5.0	30.0	0.0	50.0
foliose lichen	0.5	2.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.0	5.0	1.0	1.0	1.0
fruticose lichen	2.0	8.0	10.0	1.0	0.5	15.0	3.0	0.5	3.0	1.0	1.0	2.0	0.5	0.5	10.0	7.0	1.0	5.0	1.0
crustose lichen	0.5	2.0	1.0	0.5	25.0	0.5	0.0	0.0	0.0	0.0	30.0	15.0	5.0	20.0	2.0	0.5	0.0	1.0	0.0
pleurocarpous moss	5.0	25.0	30.0	30.0	0.5	20.0	65.0	30.0	65.0	45.0	5.0	0.5	0.5	2.0	30.0	30.0	40.0	25.0	30.0
acrocarpous moss	5.0	10.0	15.0	10.0	5.0	10.0	0.5	5.0	0.5	15.0	10.0	10.0	2.0	5.0	25.0	30.0	10.0	25.0	10.0
liverwort	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
horsetail	0.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
algae	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0

Table 8 continued.

Growth form cover (%)																		
Releve #	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
erect dwarf shrub	5.0	20.0	5.0	20.0	40.0	15.0	35.0	40.0	35.0	35.0	10.0	7.0	15.0	20.0	20.0	35.0	40.0	30.0
prostrate dward shrub	10.0	5.0	40.0	15.0	5.0	10.0	10.0	10.0	10.0	10.0	2.0	10.0	30.0	15.0	15.0	10.0	50.0	15.0
evergreen shrub	10.0	7.0	30.0	15.0	35.0	15.0	15.0	20.0	20.0	20.0	3.0	12.0	40.0	30.0	25.0	35.0	50.0	30.0
deciduous shrub	5.0	18.0	15.0	20.0	10.0	10.0	30.0	30.0	25.0	25.0	9.0	5.0	5.0	5.0	10.0	10.0	40.0	15.0
erect forb	15.0	3.0	15.0	3.0	3.0	7.0	2.0	1.0	3.0	2.0	1.0	1.0	0.5	10.0	10.0	2.0	5.0	10.0
mat forb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
non-tussock grams	15.0	0.0	5.0	0.5	20.0	15.0	0.5	1.0	1.0	5.0	2.0	10.0	5.0	3.0	10.0	30.0	10.0	20.0
tussock	0.5	40.0	2.0	40.0	0.0	0.0	40.0	35.0	40.0	35.0	0.0	0.0	1.0	0.0	0.0	0.0	5.0	0.0
foliose lichen	3.0	0.5	5.0	3.0	3.0	2.0	0.5	1.0	1.0	0.5	1.0	0.5	1.0	1.0	2.0	2.0	8.0	0.5
fruticose lichen	10.0	1.0	3.0	2.0	25.0	15.0	0.5	0.5	1.0	0.5	60.0	60.0	20.0	40.0	35.0	5.0	15.0	15.0
crustose lichen	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.5	2.0	1.0	2.0	0.5	0.0	0.0	0.0
pleurocarpous moss	40.0	25.0	15.0	15.0	40.0	30.0	35.0	40.0	30.0	60.0	20.0	20.0	5.0	10.0	15.0	30.0	70.0	50.0
acrocarpous moss	30.0	25.0	40.0	25.0	10.0	30.0	5.0	5.0	5.0	3.0	40.0	35.0	60.0	40.0	60.0	15.0	10.0	10.0
liverwort	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
horsetail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
algae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 8 continued.

Growth form cover (%)														
Releve #	96	97	98	99	100	101	102	104	105	106	110	111	112	113
erect dwarf shrub	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
prostrate dward shrub	20.0	10.0	20.0	50.0	20.0	35.0	20.0	1.0	50.0	15.0	0.0	1.0	80.0	0.0
evergreen shrub	15.0	10.0	5.0	0.0	10.0	2.0	5.0	1.0	50.0	15.0	0.0	0.5	60.0	0.0
deciduous shrub	5.0	0.5	15.0	50.0	10.0	35.0	15.0	0.5	0.5	0.5	0.0	0.5	25.0	0.0
erect forb	1.0	2.0	1.0	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	0.5	4.0	2.0
mat forb	2.0	5.0	0.0	0.0	0.0	0.0	0.0	7.0	3.0	5.0	0.0	0.5	3.0	0.0
non-tussock grams	25.0	20.0	60.0	70.0	50.0	70.0	85.0	5.0	15.0	5.0	0.5	1.0	1.0	1.0
tussock	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	2.0	5.0	0.0	0.5	0.0	0.0
foliose lichen	0.0	0.0	0.5	15.0	0.5	1.0	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.0
fruticose lichen	25.0	5.0	5.0	1.0	2.0	0.5	0.5	0.5	15.0	1.0	0.0	0.5	0.5	0.0
crustose lichen	1.0	5.0	0.5	0.0	0.0	0.0	0.5	30.0	3.0	50.0	70.0	70.0	0.5	0.5
pleurocarpous moss	10.0	2.0	15.0	5.0	5.0	5.0	0.5	0.5	5.0	0.5	0.0	0.5	40.0	0.0
acrocarpous moss	5.0	5.0	10.0	5.0	15.0	1.0	0.5	5.0	2.0	3.0	0.0	2.0	10.0	0.5
liverwort	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0
horsetail	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0
algae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	1.0	0.0	0.0	0.0	0.0

Table 8 continued.

Growth form cover (%)								
Releve #	114	115	116	117	118	140	141	142
erect dwarf shrub	0.0	0.0	0.0	0	0	0.0	0.0	0.0
prostrate dward shrub	0.0	0.5	80.0	0.5	0.5	30.0	20.0	25.0
evergreen shrub	0.0	0.0	75.0	0.5	0.5	30.0	15.0	25.0
deciduous shrub	0.0	0.5	7.0	0.5	0	0.5	5.0	1.0
erect forb	0.5	2.0	2.0	1	0.5	6.0	2.0	3.0
mat forb	0.0	0.0	3.0	6	6	3.0	3.0	5.0
non-tussock grams	0.5	2.0	2.0	2	3	25.0	35.0	20.0
tussock	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0
foliose lichen	0.0	0.5	0.0	0.5	0.5	0.5	0.0	0.0
fruticose lichen	0.0	0.0	0.5	0.5	0	10.0	15.0	10.0
crustose lichen	0.5	80.0	0.5	2	5	1.0	15.0	20.0
pleurocarpous moss	0.0	0.0	3.0	0.5	0	10.0	15.0	15.0
acrocarpous moss	0.0	7.0	5.0	1	3	3.0	10.0	10.0
liverwort	0.0	0.0	0.0	0	0	0.0	5.0	1.0
horsetail	0.0	0.0	0.0	0.5	0.5	0.0	6.0	5.0
algae	0.0	0.0	0.0	1	0	0.0	0.0	0.0

Site Factors

Table 9. *Abbreviations were used in the site factor tables.*

*Key to codes:

Microsite	1	Frost-scar
	2	Inter-scar
	3	Strang or hummock
	4	Inter-hummock
	5	Polygon center
	6	Polygon trough
	7	Polygon rim
	13	mound
Site moisture	1	extremely xeric
	2	very xeric
	3	xeric
	4	subxeric to mexic
	5	subxeric
	6	mesic
	7	mesic to sughygric
	8	subhygric
	9	hygric
	10	hydric
Soil moisture	1	very dry
	2	dry
	3	damp
	4	damp to moist
	5	moist
	6	moist to wet
	7	wet
	8	very wet
	9	saturated
	10	very saturated
Glacial geology	1	till
	2	outwash
	3	bedrock
	4	none
Topography	1	hill crest
	2	side slope
	3	footslope
	4	flat
	5	drainage
	6	depression
Snow duration	1	snow free all year
	2	snow free most of winter
	3	snow free prior to melt out
	4	snow free immediately after melt out
	5	snow bank persists 1-2 weeks after melt out

Table 9 continued.

Disturbance	0	none
	1	some sing present
	2	minor disturbance
*Key to codes:		
	3	moderate disturbance
	4	major disturbance
	5	very major disturbance
Stability	1	stable
	2	occasional dusturbance
	3	prolonged slow disturbance
	4	annual disturbance
	5	disturbed more than once annually
Exposure	1	protected from winds
	2	moderate exposure
	3	exposed
	4	very exposed

**Key to abbreviations
hv Happy Valley
sa Sagwon MAT
sn Sagwon MNT
fb Franklin Bluffs
dh Deadhorse
wd West Dock
hi Howe Island

Table 10. *Happy Valley relevé site factors were recorded.*

Releve	**52**	**53**	**54**	**56**	**57**	**66**
Type	bare frost boil, wet	bare frost boil, wet	bare frost boil, wet	bare frost boil, wet	bare frost boil, wet	interboil moist
Characteristic species	ANTJUR, LUZARC	ANTJUR, LUZARC	ANTJUR, LUZARC	ANTJUR, LUZARC	ANTJUR, LUZARC	ERIVAG, BETNAN
Date of data collection	28-Jun-02	28-Jun-02	28-Jun-02	28-Jun-02	28-Jun-02	18-Jul-01
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Tako, Anja, Julie
Plot size	.65x.5 m	.5x1 m	.35x.5 m	0.7x.4 m	0.5x.6 m	2x1 m
Elev. (m)	305	305	310	305	310	315
rock (%)	1	0	1	0	0	0
bare soil (%)	5	5	25	15	3	0
salt crust (%)	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0
dead veg (%)	5	5	1	2	2	5
live veg (%)	114	117	71.8	106.5	145.5	187.0
total veg (%)	119	122	72.3	108.5	147.5	192.0
veg height (cm)	2	3	1	3	3	20
microrelief (cm)	3	3	2	2	2	20
microsite*	1	1	1	1	1	2
site moisture*	5	5	5	5	5	6
soil moisture*	6	6	6	6	6	6
glacial geology*	1	1	1	1	1	1
topography*	3	3	3	3	3	2
snow duration*	4	4	4	4	4	4
disturbance*	1	0	1	0	0	0
stability*	5	5	5	5	5	1
exposure*	2	2	2	2	2	2

Table 10 continued.

Releve	**82**	**83**	**84**	**85**	**86**	**87**	**88**
Type	vegetated boil (mound)	vegetated boil (mound)	interboil moist	interboil moist	interboil moist	interboil moist	vegetated boil
Characteristic species	HYLSPL, VACVIT	HYLSPL, VACVIT	ERIVAG, BETNAN	ERIVAG, BETNAN	ERIVAG, BETNAN	ERIVAG, BETNAN	RACLAN, CLARAN
Date of data collection	7-Aug-03	7-Aug-03	7-Aug-03	7-Aug-03	7-Aug-03	7-Aug-03	30-Jun-02
Observer	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	0.4x0.4 m	0.6x0.6 m	3x3 m	3x3 m	1x1 m	3x3 m	1 m2
Elev. (m)	320	320	315	320	320	315	328
rock (%)	0	0	0	0	0	0	0
bare soil (%)	0	0	0	0	0	0	0
salt crust (%)	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	15	15	15	15	15	20	10
live veg (%)	191.0	149.0	175.5	184.0	171.5	198.0	148.5
total veg (%)	206.0	164.0	190.5	199.0	186.5	218.0	158.5
veg height (cm)	15	10	25	30	25	30	2
microrelief (cm)	30	25	20	20	25	25	5
microsite*	13	13	2	2	2	2	13
site moisture*	5	5	6	6	6	6	5
soil moisture*	6	6	6	6	6	6	6
glacial geology*	1	1	1	1	1	1	1
topography*	2	2	2	2	2	2	1
snow duration*	4	4	4	4	4	4	4
disturbance*	0	0	0	0	0	0	0
stability*	2	2	1	1	1	1	2
exposure*	2	2	2	2	2	2	2

Table 10 continued.

Releve	**89**	**90**	**91**	**92**	**93**	**94**	**95**
Type	vegetated boil	vegetated boil	vegetated boil	vegetated boil	vegetated boil	vegetated boil	vegetated boil
Characteristic species	RACLAN, CLARAN	RACLAN, CLARAN	RACLAN, CLARAN	RACLAN, CLARAN	HYLSPL, VACVIT	HYLSPL, VACVIT	HYLSPL, VACVIT
Date of data collection	30-Jun-02	7-Aug-03	8-Aug-03	8-Aug-03	7-Aug-03	18-Jul-01	7-Aug-03
Observer	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Tako, Anja, Julie	Skip, Tako
Plot size	.6x.6 m	.8x.8 m	1 m2	.8x1 m	0.6x0.6 m		0.6x0.8 m
Elev. (m)	333	334	332	332	315	315	310
rock (%)	0	0	0	0	0	0	0
bare soil (%)	0	0	0	0	0	0	0
salt crust (%)	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	10	20	7	7	15	10	15
live veg (%)	162.5	183.5	176.0	202.5	174.0	303.0	195.5
total veg (%)	172.5	203.5	183.0	209.5	189.0	313.0	210.5
veg height (cm)	3	10	2	5	15	10	15
microrelief (cm)	5	25	15	20	25	25	25
microsite*	13	13	13	13	13	13	13
site moisture*	5	5	5	5	5	5	5
soil moisture*	6	6	6	6	6	6	6
glacial geology*	1	1	1	1	1	1	1
topography*	1	1	1	1	2	2	1
snow duration*	4	4	4	4	4	4	4
disturbance*	0	0	0	0	0	0	0
stability*	2	2	2	2	2	2	2
exposure*	2	2	2	2	2	2	2

Table 11. *Site factor data were recorded at Sagwon MAT.*

Releve	**62**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**	**81**
Type	interboil moist	vegetated boil (mound)	vegetated boil (mound)	interboil moist	vegetated boil (mound)	interboil moist	vegetated boil (mound)	interboil moist	vegetated boil (mound)	interboil moist
Characteristic species	ERIVAG, BETNAN	RACLAN, VACVIT	RACLAN, VACVIT	ERIVAG, BETNAN	RACLAN, VACVIT	ERIVAG, BETNAN	RACLAN, VACVIT	ERIVAG, BETNAN	RACLAN, VACVIT	ERIVAG, BETNAN
Date of data collection	21-Aug-00	4-Aug-03	4-Aug-03	7-Aug-03	5-Aug-03	7-Aug-03	5-Aug-03	7-Aug-03	5-Aug-03	7-Aug-03
Observer	Skip, Julie	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	10x10 m	1x1 m	1x1 m	1x1 m	1x1 m	1x1 m	1x1 m	1x1 m	1x1 m	1x1 m
Elev. (m)	300	300	300	300	300	300	300	290	300	300
rock (%)	0	0	0	0	0	0	0	0	0	0
bare soil (%)	0	0	0	0	0	0	0	0	0	0
salt crust (%)	0	0	0	0	0	0	0	0	0	0
standing water(%)	0	0	0	0	0	0	0	0	0	0
dead veg (%)	15	10	10	10	10	50	10	10	10	15
live veg (%)	173.5	153.5	180.0	157.5	127.0	178.5	144.0	145.0	175.5	159.0
total veg (%)	188.5	163.5	190.0	167.5	137.0	228.5	154.0	155.0	185.5	174.0
veg height (cm)	20	5	10	15	5	20	10	20	3	20
microrelief (cm)	20	10	25	20	25	15	25	15	25	20
microsite*	2	13	13	2	13	2	13	2	13	2
site moisture*	6	6	6	6	6	6	6	6	6	6
soil moisture*	6	6	6	6	6	6	6	6	6	6
glacial geology*	1	1	1	1	1	1	1	1	1	1
topography*	2	2	2	2	2	2	2	2	2	2
snow duration*	4	4	4	4	4	4	4	4	4	4
disturbance*	0	0	0	0	0	0	0	1	0	1
stability*	1	2	2	1	2	1	2	1	2	1
exposure*	2	2	2	2	2	2	2	2	2	2

Table 12. *Site factor data were recorded at Sagwon MNT.*

Releve	**29**	**55**	**58**	**59**	**60**	**61**	**63**
Type	interboil moist	interboil moist	vegetated boil	vegetated boil	vegetated boil	vegetated boil	bare boil
Characteristic species	CARBIG, DRYINT	CARBIG, DRYINT	DRYINT, THASUB	DRYINT, THASUB	DRYINT, THASUB	DRYINT, THASUB	JUNBIG, ERIVAG
Date of data collection	28-Aug-01	22-Aug-00	29-Jun-02	29-Jun-02	6-Aug-03	6-Aug-03	19-Jul-01
Observer	Skip, Julie	Skip, Julie, Dave	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Anja, Lindsey, Julie
Plot size	1 m2	transect	1x1 m	1x1 m	1x1 m	1x1 m	0.66 m2
Elev. (m)	270	280	281	280	280	280	290
rock (%)	0	0	0	1	0	0	1
bare soil (%)	0	0	2	1	1	1	70
salt crust (%)	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	15	7	25	25	35	20	5
live veg (%)	163.5	138.0	182.0	84.0	198.5	190.0	34.0
total veg (%)	178.5	145.0	207.0	109.0	233.5	210.0	39.0
veg height (cm)	10	15	2	3	2	2	1
microrelief (cm)	15	20	10	10	10	20	4
microsite*	2	2	1	1	1	1	1
site moisture*	6	6	5	5	4	4	4
soil moisture*	6	5	6	6	4	4	4
glacial geology*	1	1	1	1	1	1	1
topography*	1	1	1	1	1	1	1
snow duration*	3	3	4	4	3	3	3
disturbance*	0	0	0	3	0	0	0
stability*	1	1	5	5	5	5	5
exposure*	2	2	2	2	2	2	2

Table 12 continued.

Releve	64	65	67	68	69	70	71	72
Type	vegetated boil	interboil moist	interboil moist	interboil moist	bare boil	bare boil	bare boil	bare boil
Characteristic species	DRYINT, THASUB	CARBIG, DRYINT	CARBIG, DRYINT	CARBIG, DRYINT	JUNBIG, ERIVAG	JUNBIG, ERIVAG	JUNBIG, ERIVAG	JUNBIG, ERIVAG
Date of data collection	19-Jul-01	19-Jul-01	17-Aug-00	29-Jun-02	6-Aug-03	6-Aug-03	29-Jun-02	6-Aug-03
Observer	Anja, Lindsey, Julie	Tako, Lindsey	Skip, Julie, Dave	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	0.75 m2	1x1 m	1x1 m	1x1 m	1 m2	1 m2	1x1 m	2 m2
Elev. (m)	280	270	280	275	275	280	280	280
rock (%)	0	0	0	0	1	2	1	1
bare soil (%)	1	0	0	0	50	65	50	70
salt crust (%)	0	0	0	0	0	0	20	0
standing water (%)	0	0	0	0	0	0	0	0
dead veg (%)	20	5	5	20	5	2	2	5
live veg (%)	152.5	126.0	131.0	116.0	51.0	36.5	13.0	36.5
total veg (%)	172.5	131.0	136.0	136.0	56.0	38.5	15.0	41.5
veg height (cm)	2	10	10	5	2	1	1	2
microrelief (cm)	10	15	15	10	5	5	5	3
microsite*	1	2	2	2	1	1	1	1
site moisture*	5	5	6	6	4	4	5	4
soil moisture*	6	4	5	6	4	4	6	4
glacial geology*	1	1	1	1	1	1	1	1
topography*	1	1	1	1	1	1	1	1
snow duration*	4	4	4	4	3	3	4	3
disturbance*	0	2	0	0	0	0	0	0
stability*	5	1	1	1	5	5	5	5
exposure*	2	3	2	2	2	2	3	2

Table 13. Site factor data were recorded at Franklin Bluffs.

Releve	**1**	**2**	**3**	**4**	**5**	**6**
Type	bare boil, wet	bare boil, wet	bare boil, wet	bare boil, wet	vegetated boil, dry	bare boil, dry
Characteristic species	SAXOPP, JUNBIG	SAXOPP, JUNBIG	SAXOPP, JUNBIG	SAXOPP, JUNBIG	DRYINT, THASUB	SAXOPP, TOFCOC, ANTFRI
Date of data collection	23-Aug-01	22-Aug-01	22-Aug-01	22-Aug-01	23-Aug-01	24-Aug-01
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja
Plot size	1x1m	1x1m	1x1m	1x1m	1 m2	1 m2
Elev. (m)	128	128	128	128	133	132
rock (%)	0	0	0	0	0	0
bare soil (%)	70	75	5	70	1	30
salt crust (%)	10	10	10	0	0	15
standing water (%)	0	0	0	20	0	0
dead veg (%)	2	5	20	5	30	3
live veg (%)	17.00	42.50	49.50	23.10	180.5	25.6
total veg (%)	19.00	47.50	69.50	28.10	210.5	28.6
veg height (cm)	2	2	4	5	2	1
microrelief (cm)	3	5	5	3	3	3
microsite*	1	1	1	1	1	1
site moisture*	7	7	7	8	5	5
soil moisture*	6	6	6	9	5	5
glacial geology*	4	4	4	4	4	4
topography*	4	4	4	4	1	1
snow duration*	4	4	4	4	3	3
disturbance*	1	1	0	0	0	1
stability*	5	5	5	5	5	5
exposure*	2	2	2	2	3	3

Table 13 continued.

Releve	**7**	**8**	**9**	**10**	**11**	**12**
Type	vegetated boil, dry	vegetated boil, dry	bare boil, dry	bare boil, dry	interboil dry	interboil dry
Characteristic species	DRYINT, THASUB	DRYINT, THASUB	SAXOPP, TOFCOC, ANTFRI	SAXOPP, TOFCOC, ANTFRI	ERITRI, DRYINT	ERITRI, DRYINT
Date of data collection	24-Aug-01	24-Aug-01	23-Aug-01	23-Aug-01	23-Aug-01	23-Aug-01
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja
Plot size	1 m2	1 m2	1 m2	1 m2	1 m2	1 m2
Elev. (m)	133	133	132	130	130	133
rock (%)	0	0	1	0	0	0
bare soil (%)	1	0	25	70	0	0
salt crust (%)	0	0	5	15	0	0
standing water (%)	0	0	0	0	0	0
dead veg (%)	25	15	2	2	15	10
live veg (%)	159.0	196.0	39.0	18.5	157.0	179.1
total veg (%)	184.0	211.0	41.0	20.5	172.0	189.1
veg height (cm)	2	1	2	2	3	5
microrelief (cm)	3	2	3	3	10	10
microsite*	1	1	1	1	2	2
site moisture*	5	5	5	5	5	5
soil moisture*	5	5	5	5	5	5
glacial geology*	4	4	4	4	4	4
topography*	1	1	1	1	4	4
snow duration*	3	3	3	3	4	4
disturbance*	1	0	1	1	1	0
stability*	5	5	5	5	1	1
exposure*	3	3	3	3	2	2

Table 13 continued.

Releve	13	14	15	16	17	18
Type	interboil dry	interboil wet	interboil wet	interboil wet	interboil wet	interboil, moist
Characteristic species	ERITRI, DRYINT	ERIANG, PEDSUD	ERIANG, PEDSUD	DRYINT, SALARC, SALOVA	ERIANG, PEDSUD	CARBIG, DRYINT
Date of data collection	24-Aug-01	22-Aug-01	22-Aug-01	2-Aug-03	22-Aug-01	24-Aug-01
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako	Skip, Tako, Anja	Skip, Tako, Anja
Plot size	1 m2	1x1m	1x1m	5 m2	1x1m	1 m2
Elev. (m)	133	128	128	6	128	130
rock (%)	0	0	0	0	0	0
bare soil (%)	0	0	2	0	5	0
salt crust (%)	0	0	0	0	0	0
standing water (%)	0	60	40	50	90	0
dead veg (%)	15	35	30	15	30	25
live veg (%)	174.0	79.50	81.00	80.00	78.50	157.5
total veg (%)	189.0	114.50	111.00	95.00	108.50	182.5
veg height (cm)	4	20	20	20	20	7
microrelief (cm)	8	5	5	5	5	15
microsite*	2	4	4	4	4	2
site moisture*	5	8	8	8	8	6
soil moisture*	5	9	9	9	9	6
glacial geology*	4	4	4	4	4	4
topography*	4	4	4	4	4	4
snow duration*	4	4	4	4	4	4
disturbance*	1	0	0	0	0	0
stability*	1	1	1	1	1	1
exposure*	2	2	2	2	2	2

Table 13 continued.

Releve	**19**	**20**	**30**	**31**	**32**	**33**
Type	interboil, moist	interboil, moist	vegetated boil, dry	bare boil, dry	vegetated boil, dry	bare boil, dry
Characteristic species	CARBIG, DRYINT	CARBIG, DRYINT	DRYINT, THASUB	SAXOPP, TOFCOC, ANTFRI	DRYINT, THASUB	SAXOPP, TOFCOC, ANTFRI
Date of data collection	24-Aug-01	24-Aug-01	27-Jun-02	27-Jun-02	27-Jun-02	27-Jun-02
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja
Plot size	1 m2	1m2	1 m2	1 m2	1 m2	1 m2
Elev. (m)	134	130	123	123	128	130
rock (%)	0	0	1	1	0	1
bare soil (%)	0	0	0	80	1	60
salt crust (%)	0	0	0	5	0	5
standing water (%)	0	0	0	0	0	0
dead veg (%)	25	25	10	1	5	1
live veg (%)	153.5	158.0	141.5	21.0	94.5	23.1
total veg (%)	178.5	183.0	151.5	22.0	99.5	24.1
veg height (cm)	10	10	3	1	3	1
microrelief (cm)	15	10	5	3	5	3
microsite*	2	2	1	1	1	1
site moisture*	6	6	4	4	5	4
soil moisture*	6	6	5	5	5	5
glacial geology*	4	4	4	4	4	4
topography*	4	4	1	1	4	4
snow duration*	4	4	3	3	3	3
disturbance*	1	0	0	0	1	1
stability*	1	1	5	5	5	5
exposure*	2	2	3	3	3	3

Table 13 continued.

Releve	**34**	**35**	**36**	**37**	**46**	**47**
Type	interboil dry	interboil dry	bare boil, wet	interboil wet	interboil, moist	interboil, moist
Characteristic species	ERITRI, DRYINT	ERITRI, DRYINT	SAXOPP, JUNBIG	ERIANG, PEDSUD	CARBIG, DRYINT	CARBIG, DRYINT
Date of data collection	27-Jun-02	27-Jun-02	25-Jun-02	27-Jun-02	16-Aug-00	20-Aug-00
Observer	Skip, Tako, Anja	Skip, Tako, Anja	Skip, Tako, Anja	Tako, Anja	Skip, Julie, Dave	Skip, Julie, Dave
Plot size	1 m2	1 m2	1x1m	1x1m	10 x 10 m grid	transect 2
Elev. (m)	126	130	130	130	130	130
rock (%)	0	0	0	0	0	0
bare soil (%)	0	0	4	5	0	1
salt crust (%)	0	0	0	0	0	0
standing water (%)	0	0	0	2	0	0
dead veg (%)	10	15	2	50	20	20
live veg (%)	164.5	119.1	66.5	83	192.0	152.5
total veg (%)	174.5	134.1	68.50	133.00	212.0	172.5
veg height (cm)	5	5	2	15	25	20
microrelief (cm)	10	10	4	5	15	15
microsite*	2	2	1	4	2	2
site moisture*	5	5	6	8	6	7
soil moisture*	5	5	6	9	4	7
glacial geology*	4	4	4	4	4	4
topography*	4	2	4	4	1	4
snow duration*	4	4	4	4	4	4
disturbance*	0	1	1	0	0	0
stability*	1	1	5	1	1	1
exposure*	2	2	2	2	2	2

Table 13 continued.

Releve	96	97	117	118	140	141	142
Type	vegetated boil, moist	vegetated boil, moist	bare boil, wet	bare boil, wet	vegetated boil, moist	vegetated boil, moist	vegetated boil, moist
Characteristic species	ERITRI, THASUB	ERITRI, THASUB	SAXOPP, JUNBIG	SAXOPP, JUNBIG	ERITRI, THASUB	ERITRI, THASUB	ERITRI, THASUB
Date of data collection	4-Aug-03	4-Aug-03	4-Aug-03	4-Aug-03	4-Aug-03	3-Aug-03	3-Aug-03
Observer	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	2 m2	1.5 m2	3 m2	2 m2	2 m2	2 m2	2 m2
Elev. (m)	128	128	125	125	128	128	127
rock (%)	0	0	0	0	0	0	0
bare soil (%)	0	0	80	70	0	0	0
salt crust (%)	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	20	20	15	5	15	20	15
live veg (%)	109.0	84.5	17	20	119.5	146.0	140.0
total veg (%)	129.0	104.5	32	25	134.5	166.0	155.0
veg height (cm)	5	5	2	2	5	5	5
microrelief (cm)	20	25	5	5	20	20	20
microsite*	1	1	1	1	1	1	1
site moisture*	4	4	7	7	4	4	4
soil moisture*	5	5	6	6	5	5	5
glacial geology*	4	4	4	4	4	4	4
topography*	2	4	4	4	4	4	4
snow duration*	4	4	4	4	4	4	4
disturbance*	1	1	1	1	1	0	0
stability*	5	5	5	5	5	5	5
exposure*	2	2	2	2	2	2	2

Table 14. Site factor data were recorded for Deadhorse.

Releve	38	39	40	41	42	43	44	45
Type	interboil	interboil	interboil	interboil	interboil	bare frost boils	bare frost boils	bare frost boils
Characteristic species	DRYINT, THASUB	DRYINT, THASUB	DRYINT, THASUB	DRYINT, THASUB	DRYINT, THASUB	SAXOPP, JUNBIG	SAXOPP, JUNBIG	SAXOPP, JUNBIG
Date of data collection	15-Aug-00	18-Aug-00	15-Jul-01	16-Jul-01	16-Jul-01	15-Jul-01	17-Jul-01	17-Jul-01
Observer	Skip, Julie	Skip, Julie, Dave	J	Skip, Anja	Skip, Anja	J	Tako, Lindsey, Julie	Tako, Lindsey, Julie
Plot size	10 x10 m grid	transect 1	1 x 1 m	1 x 1 m	1 x 1 m	1x1 m	1x1 m	1x1 m
Elev. (m)	22	21	20	20	20	20	20	20
rock (%)	0	0	0	0	0	0	0	0
bare soil (%)	0	5	0	0	0	15	60	35
salt crust (%)	0	0	0	0	0	0	0	0
standing water (%)	1	0	0	0	0	0	0	0
dead veg (%)	20	15	30	30	35	5	1	3
live veg (%)	137.5	104.0	135.5	148.0	147.0	80.5	59.0	75.0
total veg (%)	157.5	119.0	165.5	178.0	182.0	85.5	59.5	78.0
veg height (cm)	20	15	10	10	10	5	2	3
microrelief (cm)	15	15	10	5	5	3	3	3
microsite*	2	2	2	2	2	1	1	1
site moisture*	6	6	7	6	6	4	4	4
soil moisture*	6	6	6	6	6	4	4	4
glacial geology*	4	4	4	4	4	4	4	4
topography*	4	4	4	4	4	4	4	4
snow duration*	4	4	4	4	4	3	3	3
disturbance*	1	1	1	0	0	1	1	1
stability*	1	1	1	1	1	5	5	5
exposure*	2	2	2	2	2	2	2	2

Table 14 continued.

Releve	**48**	**49**	**50**	**51**	**104**	**105**	**106**
Type	boil moist	boil moist	boil moist	boil moist	bare frost boils	boil moist	bare frost boils
Characteristic species	ERITRI, DRYINT	ERITRI, DRYINT	ERITRI, DRYINT	ERITRI, DRYINT	SAXOPP, JUNBIG	ERITRI, DRYINT	SAXOPP, JUNBIG
Date of data collection	15-Jul-01	17-Jul-01	17-Jul-01	17-Jul-01	1-Jul-02	1-Jul-02	1-Jul-02
Observer	JH	Tako, Lindsey, Julie	Tako, Lindsey, Julie	Tako, Lindsey, Julie	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	1x1m	1x1m	1x1m	1x1m	1x1 m	1x1m	1x1 m
Elev. (m)	20	20	20	20	20	20	20
rock (%)	0	0	0	0	0	0	0
bare soil (%)	0	0	0	10	25	1	10
salt crust (%)	0	0	0	0	5	0	20
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	15	20	15	10	7	25	5
live veg (%)	121.0	101.0	86.0	54.5	57.5	147.5	103.0
total veg (%)	136.0	121.0	101.0	64.5	64.5	172.5	108.0
veg height (cm)	10	5	5	5	2	3	1
microrelief (cm)	8	9	9	10	5	7	5
microsite*	1	1	1	1	1	1	1
site moisture*	4	4	4	4	7	6	6
soil moisture*	4	4	4	4	6	6	7
glacial geology*	4	4	4	4	4	4	4
topography*	4	4	4	4	4	4	4
snow duration*	4	4	4	4	4	4	4
disturbance*	1	1	1	1	1	1	1
stability*	5	5	5	5	5	1	5
exposure*	2	2	2	2	2	2	2

Table 15. Site factor data were recorded at West Dock.

Releve	**98**	**99**	**100**	**101**	**102**	**103**
Type	interboil moist	interboil moist	interboil moist	interboil moist	interboil moist	interboil moist
Characteristic species	CARAQU, ERITRI, DRYINT	CARAQU, ERITRI, DRYINT	CARAQU, ERITRI, DRYINT	CARAQU, ERITRI, DRYINT	CARAQU, ERITRI, DRYINT	CARAQU, ERITRI, DRYINT
Date of data collection	16-Aug-00	1-Jul-02	1-Jul-02	1-Jul-02	19-Aug-00	Just NDVI/LAI
Observer		Tako, Anja, Alexia	Dave, Anja	Tako, Alexia		
Plot size	in grid	1x1 m	1x1 m	1x1 m	transect	
Elev. (m)	5	5	5	5	5	5
rock (%)	0	0	0	0	0	N/A
bare soil (%)	0	0	0	0	1	
salt crust (%)	0	0	0	0	0	
standing water (%)	0	0	0	0	0	
dead veg (%)	30	25	30	30	40	
live veg (%)	132.5	196.5	113.0	152.0	128.0	
total veg (%)	162.5	221.5	143.0	182.0	168.0	
veg height (cm)	10	5	10	7	10	
microrelief (cm)	5	4	2	5	10	
microsite*	5	5	5	5	5	
site moisture*	7	7	7	7	7	
soil moisture*	7	7	7	7	7	
glacial geology*	4	4	4	4	4	
topography*	4	4	4	4	4	
snow duration*	4	4	4	4	4	
disturbance*	0	0	0	1	0	
stability*	1	1	1	1	1	
exposure*	2	2	2	2	2	

Table 16. Site factor data were recorded at Howe Island.

Releve	21	22	23	24	25	26	27	28
Type	bare frost boils	interboil cracks	crustose lichen on boil	bare frost boils	crustose lichen on boil	crustose lichen on boil	interboil cracks	interboil cracks
Characteristic species	scattered BRAPUR, PUCANG	DRYINT, SALARC, SALOVA	POLGEL, LECEPI	scattered BRAPUR, PUCANG	POLGEL, LECEPI	POLGEL, LECEPI	DRYINT, SALARC, SALOVA	DRYINT, SALARC, SALOVA
Date of data collection	27-Aug-01	1-Aug-03	27-Aug-01	27-Aug-01	2-Aug-03	2-Aug-03	1-Aug-03	27-Aug-01
Observer	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako
Plot size	1m2	0.5x6 m	1x1 m	1mx0.5m	10 m2	5 m2	4 m2	5x1 m
Elev. (m)	15	8	7	12	10	13	17	13
rock (%)	15	0	0	8	0	0	0	0
bare soil (%)	85	0	40	90	25	5	0	0
salt crust (%)	0	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0	0
dead veg (%)	0	10	1	1	2	2	10	20
live veg (%)	4.5	240.0	66.5	3.5	73.5	94.1	229.0	192.5
total veg (%)	4.5	250.0	67.0	4.0	75.5	96.1	239.0	212.5
veg height (cm)	0	2	1	1	1	1	2	1
microrelief (cm)	1	5	1	1	2	2	5	2
microsite*	1	6	5	1	5	5	6	6
site moisture*	4	4	4	4	4	4	4	4
soil moisture*	3	3	3	3	3	3	3	3
glacial geology*	4	4	4	4	4	4	4	4
topography*	4	4	4	4	4	4	4	4
snow duration*	2	3	2	2	2	2	3	3
disturbance*	2	1	2	2	2	2	2	2
stability*	5	1	5	5	5	5	1	1
exposure*	3	3	3	3	3	3	3	3

Table 16 continued.

Releve	**110**	**111**	**112**	**113**	**114**	**115**	**116**
Type	bare frost boils	crustose lichen on boil	interboil cracks	bare frost boils	bare frost boils	crustose lichen on boil	interboil cracks
Characteristic species	scattered BRAPUR, PUCANG	POLGEL, LECEPI	DRYINT, SALARC, SALOVA	scattered BRAPUR, PUCANG	scattered BRAPUR, PUCANG	POLGEL, LECEPI	
Date of data collection	2-Aug-03	2-Aug-03	2-Aug-03	2-Aug-03	2-Aug-03	2-Aug-03	
Observer	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	Skip, Tako	
Plot size	50 m2 in grid	5m2 in grid	45m2 in grid	1 m2	1 m2	4 m2	
Elev. (m)	5	5	16	4	6	5	5
rock (%)	10	0	0	5	15	0	0
bare soil (%)	90	30	0	95	85	5	0
salt crust (%)	0	0	0	0	0	0	0
standing water (%)	0	0	0	0	0	0	0
dead veg (%)	1	2	20	1	1	2	15
live veg (%)	71.0	77.5	224.5	4.0	1.5	92.5	178.0
total veg (%)	71.5	79.5	244.5	4.5	2.0	94.5	193.0
veg height (cm)	0	1	2	0	0	1	2
microrelief (cm)	1	2	5	2	1	2	5
microsite*	1	5	5	1	1	5	5
site moisture*	4	4	4	4	4	4	4
soil moisture*	2	3	3	2	2	3	3
glacial geology*	4	4	4	4	4	4	4
topography*	4	4	4	4	4	4	4
snow duration*	2	2	3	2	2	2	3
disturbance*	3	1	2	1	3	2	1
stability*	5	5	1	5	5	5	1
exposure*	3	3	3	3	3	3	3

Table 17. Site factors consisting of snow, thaw, and n-factor data were recorded for all sites.

Rel #	Site	Thaw Depth (cm)				Snow Depth (cm)			Snow density (g/cm3)	n-factor (n=TDDsoil/ TDDair)	
		Aug 02 (2nd wk)	Aug 03 (3rd wk)	Aug 04 (4th wk)	Sep 05 (1st wk)	April 10-12, 2003	April 13-15, 2004	April 12-15, 2005	April 12-15, 2005	n-factor summer	n-factor winter
1	fb	88	88	97	93	16	37	22	0.29	1.11	0.68
2	fb	90	87	100	93	12	35	13	0.53	1.07	0.69
3	fb	91	91	99	90	14	32	26	0.28		
4	fb	83	82	92	87	21	57	42	0.32	1.00	0.68
5	fb	75	75	88	77	8	14	7	0.29	0.93	0.76
6	fb	94	94	100	93	3	7	5	0.29	1.10	0.77
7	fb	79	81	89	80	15	30	11		0.92	0.72
8	fb	100	98	101	101	9	11	9	0.31	0.89	0.74
9	fb	85	86	93	88	6	10	9	0.29	1.09	0.74
10	fb	91	92	103	94	2	10	5	0.26	1.12	0.75
11	fb	58	60	78	67	14	21	35	0.27		
12	fb	52	56	70	63	22	32	30	0.22	0.39	0.58
13	fb	57	64	73	66	13	41	30	0.33	0.31	0.52
14	fb	52	54	68	58	40	67	42	0.33	0.36	0.45
15	fb	52	65	75	68	38	51	42	0.30	0.32	0.47
16	fb	59	62	73	63	29	51	37	0.24	0.36	0.47
17	fb	58	58	69	59	38	83	49	0.23	0.27	0.45
18	fb	41	51	64	59	21	57	37	0.25	0.40	0.58
19	fb	40	38	48	47	11	34	26	0.21	0.31	0.53
20	fb	52	57	67	58	15	33	27	0.27	0.38	0.57
21	hi	71	75	82				5		1.40	0.94
22	hi	53	56	69				13		0.94	0.87
23	hi	69		79				6			
24	hi		71	83				18		1.46	0.92
25	hi	67		78							
26	hi	73		78				8			
27	hi	64	68	67						1.03	0.86
28	hi	59	61	62				22		1.02	0.88
29	sn	39		55	41	33	41	43	0.31		
30	fb	84	89	102	88	2	20	13	0.23	0.91	0.78
31	fb	88	92	104	88	2	8	3		1.16	0.76
32	fb	79	80	84	85	6	6	6		0.92	0.75
33	fb	85	87	98	90	1	10	7	0.29	1.03	0.77
34	fb	56	61	76	65	12	28	21	0.24	0.42	0.63
35	fb	62	67	83	66	8	14	17	0.28	0.43	0.64
36	fb	74	73	82	76	15	19	6	0.33	1.01	0.74
37	fb	58	57	65	60	32	41	39	0.48	0.28	0.45
38	dh	56		65	54	71	59	41	0.22		
39	dh	52		64	54	30	44	34	0.25		

Table 17 continued.

Rel #	Site	Thaw Depth (cm)				Snow Depth (cm)			Snow density (g/cm3)	n-factor (n=TDDsoil/ TDDair)	
		Aug 02 (2nd wk)	Aug 03 (3rd wk)	Aug 04 (4th wk)	Sep 05 (1st wk)	April 10-12, 2003	April 13-15, 2004	April 12-15, 2005	April 12-15, 2005	n-factor summer	n-factor winter
40	dh	54		67	59	42	52	42	0.29		
41	dh	5		63	57	37	40	33	0.25		
42	dh	65		68	59	59	42	33	0.25		
43	dh	74		86	77	27	32	29			
44	dh	66		74	74	36	29	29	0.30		
45	dh	83		89	83	59	40	23		0.34	0.50
46	fb	49	50	61	58	18	36	24	0.25		
47	fb	59	59	70	65	34	41	40	0.28		
48	dh	73		85	76	37	40	33	0.34		
49	dh	74		78	76	75	19	29	0.27		
50	dh	78		87	79	49	38	33	0.38	0.74	0.36
51	dh	77		85	79	33	20	31	0.30	0.76	0.35
52	hv	62		64	60	51	61	60		0.72	0.35
53	hv	60	49	63	56	38	66	57			
54	hv	53	49	57	55	45	63	70	0.49	0.72	0.34
55	sn	63		60	46	38	47	27	0.22		
56	hv	48	47	54	53	64	64	71	0.24		
57	hv	62		61	59	51	62	62	0.25		
58	sn	74		80	80	26	32	22			
59	sn	72		81	80	30	42	22			
60	sn	76		84	81	24	40	16	0.31		
61	sn	73		60	79	28	35	21	0.33		
62	sa	37		33	32	18	44	42	0.19		
63	sn	75		86	79	27	34	22	0.41		
64	sn	70		81	78	37	39	23	0.25	0.17	0.32
65	sn	48		55	40	39	47	28	0.23		
66	hv	36	30	34	34	64	77	90	0.31		
67	sn	55		54	42	27	48	36	0.22		
68	sn	53		56	44	42	39	48	0.25		
69	sn	79		86	77	27	41	9	0.15		
70	sn	71		81	78	26	32	9	0.44		
71	sn	72		82	78	30	44	13	0.25		
72	sn	72		82	77	25	37	13			
73	sa	48		58	49	25	18	16	0.27		
74	sa	52		59	57	26	24	13	0.37		
75	sa	22		29	28	25	45	44	0.31		
76	sa	48		55	56	28	29	26	0.20		
77	sa	38		29	27	35	52	14	0.31		
78	sa	50		60	54	12	22	22	0.16		

Table 17 continued.

Rel #	Site	Thaw Depth (cm)				Snow Depth (cm)			Snow density (g/cm3)	n-factor (n=TDDsoil/ TDDair)	
		Aug 02 (2nd wk)	Aug 03 (3rd wk)	Aug 04 (4th wk)	Sep 05 (1st wk)	April 10-12, 2003	April 13-15, 2004	April 12-15, 2005	April 12-15, 2005	n-factor summer	n-factor winter
79	sa	27		32	28	30	44	37	0.23		
80	sa	37		64	57	22	20	22	0.30	0.40	0.36
81	sa	22		30	24	not found	53	36	0.19		
82	hv	65	54	62	60	69	55	75		0.40	0.36
83	hv	57	51	62	56	52	67	83	0.29	0.36	0.32
84	hv	32	27	35	33	67	71	84		0.14	0.31
85	hv	38	25	47	30	65	65	85		0.19	0.31
86	hv	53	24	32	40	57	77	80	0.22	0.17	0.31
87	hv	38	28	35	30	54	73	88	0.23	0.18	0.33
88	hv	60		60	57	54	43	66	0.32		
89	hv	71		69	64	30	28	36			
90	hv	56		61	52	25	28	31	0.02		
91	hv	65		59	53	37	33	48	0.23		
92	hv	55		57	53	36	43	38	0.21		
93	hv	69	47	63	59	57	60	75	0.25	0.40	0.36
94	hv	67	53	59	62	49	55	83	0.25	0.36	0.32
95	hv	52	46	57	54	58	70	85	0.27	0.37	0.33
96	fb	74	74	86	79	5	21	22	0.26	0.86	0.71
97	fb	83	83	93	84	17	18	15	0.36	0.86	0.71
98	wd	23		30		14		20	0.17		
99	wd	23		32		13		17	0.16		
100	wd	24		31		23		18	0.18		
101	wd	24		34		24		18	0.18		
102	wd	22		33		12		14	0.13		
104	dh	73		83	75	33	47	29	0.38		
105	dh	77		88	79	20	21	26	0.27		
106	dh	76		87	80	36	16	21	0.31		
110	hi		72	78						1.48	0.94
111	hi		59	72							
112	hi		59	62						0.95	0.88
113	hi		71	78				5		1.44	0.94
114	hi		79	85						1.38	0.96
115	hi			81				19	0.44		
116	hi		59	65				8		0.99	0.87
117	fb			86	77		22	14	0.47		
118	fb			80	72		19	13	0.28		
140	fb	79	78	88	82	11	29	13	0.51	0.82	0.72
141	fb	78	81	95	84	4	19	36	0.25	0.85	0.73
142	fb	81	80	94	85	11	22	11	0.27	0.85	0.73

Soils

Table 18. Soil analyses were performed on each relevé.

Releve #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bulk dens. (g/cm3)	1.8	1.6	1.1	1.3	1.8	1.7	1.6	1.7	1.7	1.4	1.3	1.4	1.4	1.3	1.4	1.3	1.5	1.5	1.1
Moisture (grav) (%)	29.2	22.9	32.6	33.2	23.9	18.2	20.4	18.8	20.8	23.2	38.0	18.3	22.3	36.2	29.7	36.8	36.6	29.4	59.0
Moisture (vol) (%)	53.9	37.6	37.6	45.0	45.6	30.6	32.9	32.1	36.1	31.5	48.8	26.1	25.8	47.3	41.8	47.0	53.6	45.2	63.5
Sand (%)	57.6	56.6	57.6	49.6	67.6	70.2	69.2	70.3	67.0	63.4	56.8	57.2	60.2	37.2	53.4	40.4	42.2	59.2	56.0
Silt (%)	15.6	15.4	15.6	23.4	17.6	21.4	16.2	14.0	18.6	18.0	28.2	26.4	22.0	58.4	26.0	57.0	45.2	26.4	37.6
Clay (%)	26.8	28.0	26.8	27.0	14.8	8.4	14.6	15.6	14.4	18.6	15.0	16.4	17.8	4.4	20.4	2.6	12.6	14.4	6.4
pH	8.2	8.3	8.5	7.8	8.1	8.3	8.0	7.9	8.1	8.2	8.0	8.0	8.1	7.7	7.8	7.8	7.7	8.1	8.1
total C (%)	3.7	3.7	4.2	4.3	5.0	4.7	4.5	4.8	4.8	4.7	5.3	5.3	5.2	4.5	4.2	5.1	4.6	5.2	6.6
total N (%)	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.4
C/N	29.1	34.6	24.9	28.2	33.8	61.1	40.2	59.7	56.5	48.8	17.9	20.4	33.7	20.8	25.3	20.2	20.5	23.2	17.4
K (meq)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Ca (meq)	46.5	46.2	47.1	53.2	80.0	188.1	88.3	100.0	221.8	163.0	40.5	55.4	53.3	24.5	39.8	34.7	72.3	62.0	52.1
Mg (meq)	2.6	1.3	1.8	1.0	0.9	1.4	0.8	1.1	1.3	1.5	0.8	2.6	2.0	0.9	1.2	1.0	1.3	1.6	1.8
Na (meq)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0
depth live moss (cm)	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.0	0.0	5.0	4.0	4.0	2.0	2.0	1.0	3.0	3.0	3.0
depth O horizon (cm)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	5.0	26.0	27.0	27.0	25.0	24.0	28.0	17.0	14.0
depth A horizon (cm)	1.0	1.0	1.0	1.0	2.0	0.0	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 18 continued.

Releve #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Bulk dens. (g/cm3)	1.5	1.1	0.7	1.0	1.2	1.0	1.0	0.9	0.9	0.6	1.5	1.7	1.8	1.4	1.7	1.4	1.2	1.3	1.1	1.1
Moisture (grav) (%)	34.6	18.3	49.5	39.7	17.4	32.8	40.2	53.4	42.7	103.3	29.6	19.2	23.4	25.3	12.9	43.1	39.5	39.0	43.2	42.5
Moisture (vol) (%)	52.9	19.6	35.3	39.5	19.6	32.5	42.1	47.0	37.5	59.9	44.4	32.7	42.6	36.5	21.5	62.9	47.9	50.1	46.7	46.9
Sand (%)	55.2	46.8	64.8	52.8	43.9	56.8	56.8	61.6	60.8	34.7	61.6	68.0	65.2	67.2	73.2	61.6	45.6	43.2	40.8	32.8
Silt (%)	35.4	26.8	32.8	40.8	28.3	40.8	40.8	35.6	32.8	58.0	19.6	17.8	12.4	14.4	20.4	23.6	39.4	46.4	40.8	48.8
Clay (%)	9.4	26.4	2.4	6.4	27.8	2.4	2.4	2.8	6.4	7.3	18.8	14.2	22.4	18.4	6.4	14.8	15.0	10.4	18.4	18.4
pH	8.0	8.1	7.8	8.1	8.6	7.6	8.1	7.8	8.0	7.2	8.2	8.3	8.0	8.1	8.1	8.0	7.8	7.6	7.8	8.0
total C (%)	5.8	3.9	6.2	5.6	3.9	5.4	5.9	6.4	5.4	8.7	5.4	4.4	4.0	5.3	4.5	6.6	7.5	8.7	6.7	6.3
total N (%)	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.6	0.2	0.1	0.1	0.2	0.1	0.4	0.3	0.5	0.2	0.3
C/N	21.0	33.1	38.8	41.5	50.0	54.6	42.5	32.9	64.9	14.5	34.9	42.8	27.5	34.6	61.8	16.9	21.8	19.3	27.0	18.2
K (meq)	0.4	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.0
Ca (meq)	51.2	48.1	53.7	36.8	40.3	34.3	39.2	49.1	42.5	70.5	169.8	97.3	40.8	116.5	88.7	55.7	65.4	31.8	50.6	41.1
Mg (meq)	1.7	2.6	2.1	1.9	2.6	1.9	1.7	1.4	1.5	3.5	1.0	0.8	0.8	1.1	2.0	1.1	0.8	1.6	0.8	0.8
Na (meq)	0.1	3.4	0.2	1.1	4.2	2.2	1.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
depth live moss (cm)	4.0	0.0	2.0	0.0	0.0	0.0	0.0	0.5	1.0	4.0	0.5	0.0	0.5	0.0	3.0	3.0	0.0	0.0	3.0	1.0
depth O horizon (cm)	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	19.0	0.0	0.0	0.0	0.0	17.0	15.0	0.0	23.0	11.0	23.0
depth A horizon (cm)	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 18 continued.

Releve #	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
Bulk dens. (g/cm3)	1.0	1.1	1.2	1.2	1.3	1.3	1.5	1.8	1.4	1.1	1.3	1.3	1.0	1.2	1.2	1.2	1.2	1.1	1.0	1.0
Moisture (grav) (%)	44.2	40.6	44.4	29.7	29.2	27.3	34.3	24.5	25.6	43.6	32.0	28.4	32.2	33.7	33.0	34.7	44.8	38.9	42.4	38.2
Moisture (vol) (%)	44.7	45.1	51.7	36.2	39.4	36.9	52.4	46.1	35.9	46.8	40.7	37.7	32.1	40.1	39.9	42.2	52.0	44.9	42.4	37.9
Sand (%)	36.8	40.8	32.8	28.8	32.8	36.8	59.6	39.6	36.8	32.8	36.8	32.8	28.8	28.8	28.8	28.8	34.4	22.4	21.6	21.6
Silt (%)	44.8	40.8	48.8	48.8	44.8	40.8	32.0	56.0	40.8	44.8	40.8	44.8	40.8	42.8	40.8	50.8	44.8	48.8	56.4	56.4
Clay (%)	18.4	18.4	18.4	22.4	22.4	22.4	8.4	4.4	22.4	22.4	22.8	22.4	30.4	28.4	30.4	20.4	20.8	28.8	22.0	22.0
pH	8.0	7.8	8.0	8.0	8.2	8.1	7.9	7.8	8.2	8.0	8.0	8.2	5.4	5.2	5.1	7.8	5.1	5.2	7.9	8.0
total C (%)	6.6	6.3	6.0	6.1	5.5	5.7	6.2	5.0	6.0	6.3	6.0	5.6	1.9	2.7	1.9	3.5	4.8	2.2	4.0	4.3
total N (%)	0.2	0.3	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.3	0.3	0.1	0.3	0.3
C/N	26.7	20.1	26.3	50.3	42.4	40.6	20.3	27.9	51.8	28.9	36.4	44.5	20.1	17.5	16.2	13.3	16.1	19.0	15.9	17.0
K (meq)	0.1	0.0	0.1	0.1	0.0	0.1	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2
Ca (meq)	54.0	45.3	53.5	28.5	29.1	49.1	62.2	41.9	45.5	55.7	46.4	37.1	5.0	4.2	5.0	47.7	9.2	6.4	56.5	40.0
Mg (meq)	0.9	0.7	0.9	1.4	1.1	1.8	2.4	1.4	1.2	1.8	1.8	1.0	0.9	1.0	1.0	3.7	1.5	1.0	2.3	2.9
Na (meq)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
depth live moss (cm)	2.0	2.0	3.0	0.0	0.5	0.0	3.0	1.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
depth O horizon (cm)	15.0	13.0	19.0	0.0	0.0	0.0	12.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	1.0	1.0
depth A horizon (cm)	0.0	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.5	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0

Table 18 continued.

Releve #	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**
Bulk dens. (g/cm3)	1.0	1.0	1.0	1.2	1.1	0.7	0.8	1.2	0.9	1.0	1.1	1.0	1.1	0.7	0.9	1.2	1.2	1.3	1.0	1.1
Moisture (grav) (%)	46.9	42.4	41.4	36.0	40.9	69.1	63.4	35.9	56.1	39.9	35.8	37.0	31.7	59.7	39.9	36.5	36.0	33.4	30.2	39.6
Moisture (vol) (%)	45.4	41.1	40.6	43.9	44.6	47.7	53.6	44.6	49.8	41.8	40.5	38.9	36.5	40.3	35.1	44.0	42.5	42.2	29.3	44.0
Sand (%)	23.6	23.6	29.6	23.6	21.6	29.6	49.3	21.6	29.6	23.6	22.8	28.8	21.0	32.8	36.8	32.8	28.8	32.8	28.8	32.8
Silt (%)	60.4	60.4	48.4	54.4	56.4	60.4	42.7	56.4	58.4	58.4	58.8	48.8	56.0	44.8	44.8	44.8	44.8	44.8	44.8	48.8
Clay (%)	16.0	16.0	22.0	22.0	22.0	10.0	8.0	22.0	12.0	18.0	18.4	22.4	23.0	22.4	18.4	22.4	26.4	22.4	26.4	18.4
pH	7.9	7.9	5.5	8.0	7.9	7.7	5.3	7.9	7.5	7.8	8.0	8.0	8.1	5.2	5.0	5.3	5.0	5.5	5.0	5.4
total C (%)	4.7	5.0	3.2	3.8	3.9	5.8	4.8	3.6	6.2	4.3	4.6	4.7	3.8	6.2	4.2	3.3	3.0	2.9	2.6	3.9
total N (%)	0.3	0.3	0.2	0.2	0.2	0.4	0.3	0.3	0.5	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2
C/N	13.6	15.0	15.8	18.2	15.5	15.2	17.7	13.8	13.8	14.5	19.7	17.0	18.5	18.6	16.2	15.5	19.3	16.6	15.2	18.0
K (meq)	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Ca (meq)	48.3	62.3	8.8	44.0	52.6	57.9	11.5	30.2	50.6	57.9	54.5	52.3	48.6	10.8	4.9	8.8	3.1	8.8	5.0	10.3
Mg (meq)	3.6	3.1	1.5	2.8	2.9	2.9	1.8	2.4	3.1	2.8	5.0	3.6	3.1	0.7	0.7	1.8	0.5	1.4	0.8	1.9
Na (meq)	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0
depth live moss (cm)	0.5	0.5	3.0	0.0	0.5	4.0	9.0	2.0	4.0	0.0	0.0	0.0	0.0	3.0	1.0	8.0	0.5	4.0	3.0	3.0
depth O horizon (cm)	0.0	1.0	14.0	0.0	0.0	15.0	12.0	3.0	16.0	0.0	0.0	0.0	0.0	3.0	0.0	10.0	0.0	18.0	5.0	9.0
depth A horizon (cm)	1.0	3.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	4.0	2.0	0.0	0.0	0.0	4.0	0.0

Table 18 continued.

Releve #	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**
Bulk dens. (g/cm3)	1.0	1.1	1.0	1.2	1.1	1.2	1.1	0.9	1.1	0.8	1.0	0.6	1.0	0.8	1.2	0.9	1.6	1.5	0.8	0.9
Moisture (grav) (%)	43.4	40.8	28.3	31.3	34.6	35.8	41.6	48.8	30.3	52.0	37.2	47.0	39.8	51.5	26.6	26.6	21.6	28.0	104.4	130.9
Moisture (vol) (%)	42.5	44.7	28.1	36.6	38.4	42.2	45.6	45.8	34.8	42.6	37.9	28.8	39.9	42.5	32.4	23.6	35.6	41.1	47.6	48.2
Sand (%)	30.8	26.8	26.4	30.4	34.4	30.4	30.4	34.4	22.4	30.4	26.4	30.4	24.8	36.8	20.8	41.0	58.2	54.2	23.5	32.6
Silt (%)	46.8	50.8	44.8	42.8	38.8	42.8	42.8	44.8	48.8	42.8	46.8	40.8	49.6	41.6	49.6	32.0	19.2	26.8	60.0	57.4
Clay (%)	22.4	22.4	28.8	26.8	26.8	26.8	26.8	20.8	28.8	26.8	26.8	28.8	25.6	21.6	29.6	27.0	22.6	19.0	16.5	10.0
pH	5.5	5.4	4.8	5.2	5.1	5.1	5.2	5.1	5.2	4.8	4.9	4.9	4.9	4.3	4.9	5.0	8.1	8.2	6.3	6.4
total C (%)	5.4	3.7	2.1	2.4	2.2	2.4	3.3	4.8	2.2	5.7	4.3	5.4	3.2	5.1	1.8	2.4	4.2	4.9	5.0	5.2
total N (%)	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2
C/N	14.9	16.9	18.5	16.4	15.0	17.2	17.6	16.1	19.0	21.1	21.2	19.1	16.7	21.2	17.1	18.6	36.8	36.1	33.3	30.6
K (meq)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ca (meq)	15.6	11.2	3.5	6.0	7.9	6.2	8.8	9.2	6.4	3.1	3.7	6.7	4.7	1.5	2.5	3.4	40.3	46.4	19.6	21.3
Mg (meq)	1.9	1.8	0.6	1.0	1.5	1.2	1.4	1.5	1.0	0.5	0.7	1.0	0.7	0.3	0.5	0.5	0.7	0.6	0.9	1.1
Na (meq)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.4
depth live moss (cm)	2.0	3.0	5.0	2.0	7.0	4.0	3.0	3.0	1.0	2.0	2.0	1.0	1.0	5.0	4.0	1.5	0.5	0.5	2.0	1.5
depth O horizon (cm)	0.5	13.0	5.0	6.0	8.0	15.0	9.0	11.0	6.0	5.0	7.0	7.0	6.0	21.0	21.0	4.0	0.0	0.0	26.0	24.0
depth A horizon (cm)	1.5	0.0	0.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0	2.0	2.0	2.0	0.0	0.0	3.0	2.0	1.0	0.0	0.0

Table 18 continued.

Releve #	100	101	102	104	105	106	110	111	112	113	114	115	116	117	118	140	141	142
Bulk dens. (g/cm3)	0.8	0.8	0.8	1.6	1.2	1.3	1.2	1.0	0.8	1.3	1.3	1.1	0.8	1.0	0.9	1.6	1.9	1.2
Moisture (grav) (%)	177.4	143.3	117.3	21.7	34.9	32.5	24.4	32.6	42.6	17.0	20.9	32.0	44.9	48.3	37.1	27.4	21.9	19.8
Moisture (vol) (%)	46.0	46.9	46.7	34.4	43.7	43.5	22.8	32.2	32.2	17.3	21.9	35.6	34.4	40.6	29.4	42.1	41.0	23.0
Sand (%)	27.4	26.0	24.5	40.8	28.8	32.8	41.6	73.6	73.6	41.6	45.6	61.6	65.6	41.6	45.6	57.6	60.4	60.2
Silt (%)	51.1	52.0	58.2	37.6	47.6	45.6	28.8	20.8	20.8	32.8	24.8	32.8	28.8	40.8	36.8	17.6	20.2	20.8
Clay (%)	21.5	22.0	17.3	21.6	23.6	21.6	29.6	5.6	5.6	25.6	29.6	5.6	5.6	17.6	17.6	24.8	19.4	19.0
pH	6.6	6.7	6.6	8.0	8.0	8.0	8.7	8.4	7.8	9.3	8.5	7.9	7.9	8.2	8.1	8.1	8.2	8.3
total C (%)	5.6	5.5	5.4	5.0	6.0	6.3	4.0	6.1	6.8	4.0	3.5	5.3	6.6	9.6	7.5	5.3	4.3	4.0
total N (%)	0.2	0.2	0.2	0.0	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.3	0.4	0.4	0.2	0.1	0.1
C/N	24.3	25.0	27.0	130.3	38.3	49.7	38.5	34.4	34.3	45.7	82.7	41.9	25.6	22.1	21.5	28.2	47.8	43.0
K (meq)	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.0	0.2	0.1	0.4
Ca (meq)	22.7	24.6	22.0	44.6	50.7	39.1	42.0	39.7	48.9	39.3	31.7	37.6	47.2	46.9	38.9	62.9	54.4	68.1
Mg (meq)	1.4	1.2	1.1	0.9	1.5	1.4	2.5	2.2	1.9	2.8	2.6	2.6	2.0	1.8	0.8	1.1	1.0	2.7
Na (meq)	1.7	1.5	1.3	0.1	0.1	0.1	2.4	1.7	0.2	3.6	7.6	4.3	0.9	0.1	0.1	0.0	0.0	0.0
depth live moss (cm)	0.5	0.5	1.0	0.5	1.0	0.5	0.0	0.0	1.0	0.0	0.0	0.0	1.5	0.0	0.0	1.0	0.5	0.5
depth O horizon (cm)	26.0	31.0	27.0	0.0	2.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0	0.0
depth A horizon (cm)	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.0	0.0	0.0	2.0	1.0	1.0

Vegetation Manipulation

Table 19. *Mean summer temperature (MST), winter temperature (MWT) and annual temperature (MAT) at the soil surface, mean thaw depth, frost heave, snow depth and index of soil-surface instability for the last year of the experiment (2004/2005). Means are shown with standard error in parentheses, and significant differences between treatments as indicated by Tukey pairwise comparisons are noted with different letters (α=0.05).*

Response variable	Treatment			
	Bare ground	Sedges	Mosses	Control
$MST_{soil\text{-}surface}$ (ºC)	8.2^{a} (0.3)	7.9^{ab} (0.1)	3.9^{c} (0.3)	6.7^{b} (0.4)
$MWT_{soil\text{-}surface}$ (ºC)	-18.7^{b} (0.4)	-17.5^{ab} (0.3)	-16.5^{a} (0.4)	-17.8^{ab} (0.5)
$MAT_{soil\text{-}surface}$ (ºC)	-6.5^{a} (0.2)	-6.2^{a} (0.1)	-6.7^{a} (0.2)	-6.6^{a} (0.2)
Thaw depth (cm)	82.4^{a} (0.5)	77.0^{b} (1.0)	66.0^{c} (0.6)	77.6^{b} (0.6)
Frost heave (cm)	15.9^{a} (0.5)	13.3^{b} (0.4)	6.0^{c} (0.4)	12.6^{b} (0.6)
Snow depth (cm)	25.9^{a} (2.9)	22.4^{ab} (0.8)	15.7^{b} (2.1)	19.1^{ab} (1.1)
Index of soil instability	48.1^{a} (0.4)	24.9^{b} (1.6)	2.0^{d} (0.4)	6.6^{c} (1.4)

Relevé Photos

A picture of many of the relevés was taken. Each picture has the corresponding relevé number next to it.

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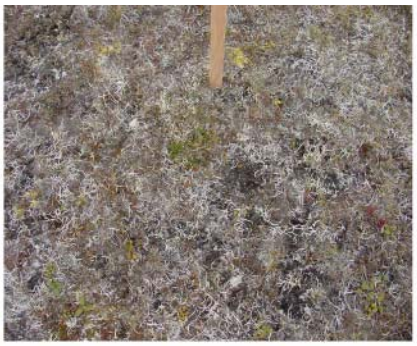

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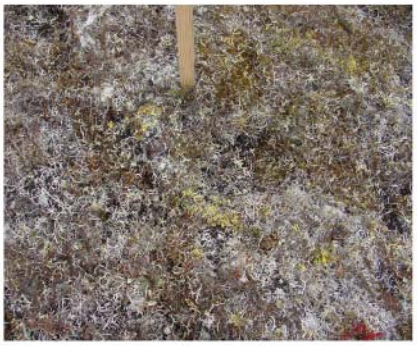

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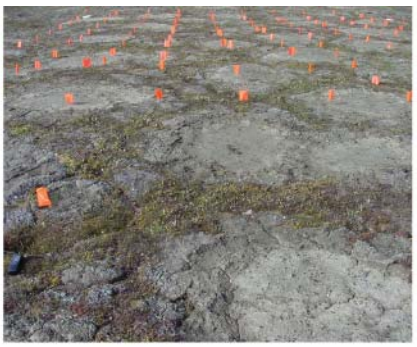

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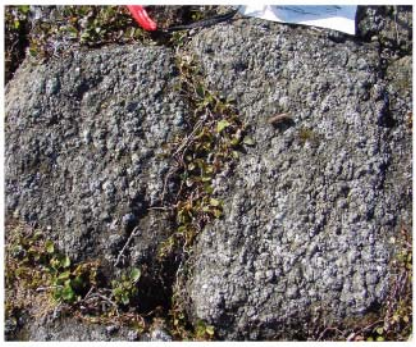

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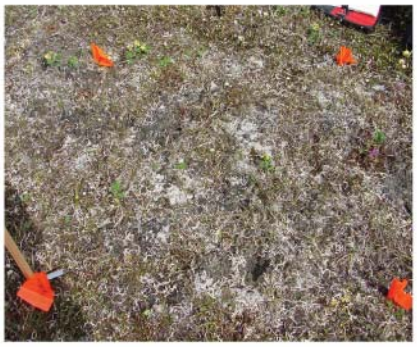

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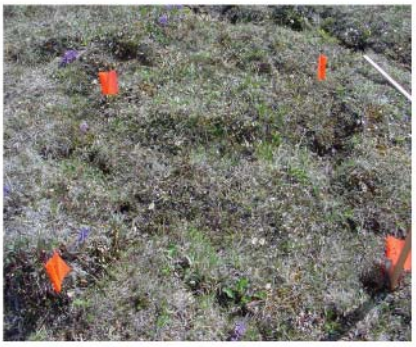

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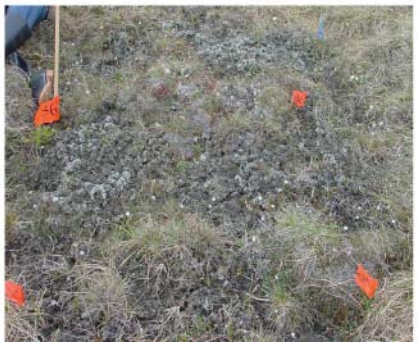

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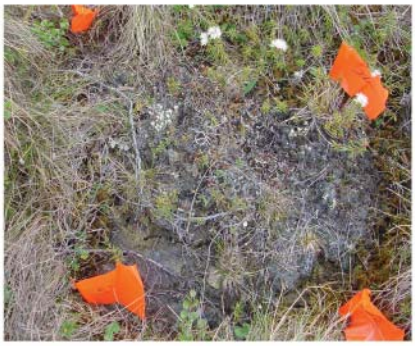

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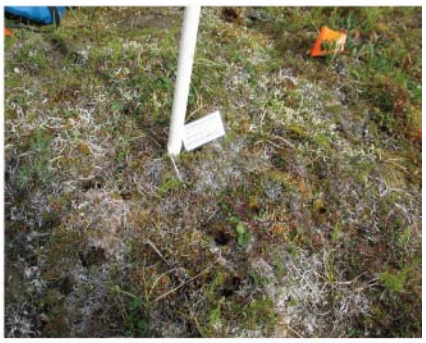

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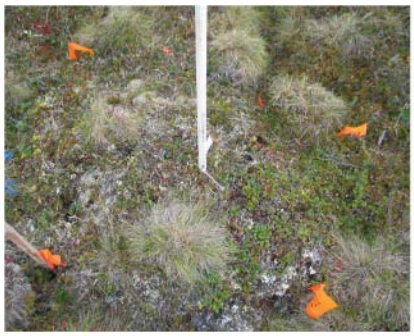

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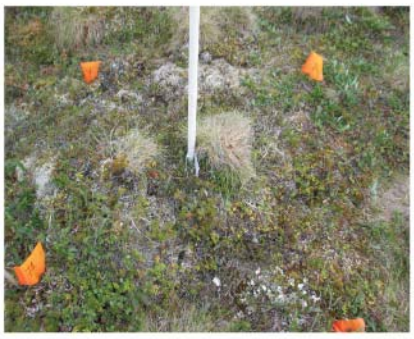

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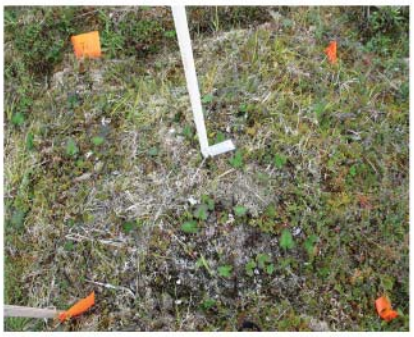

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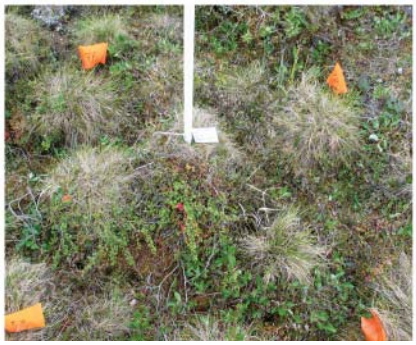

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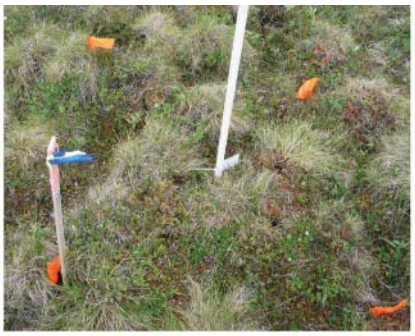

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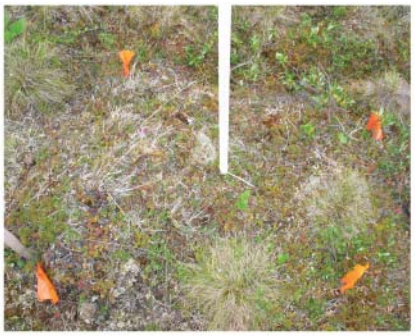

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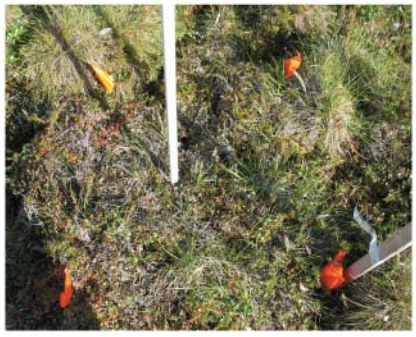

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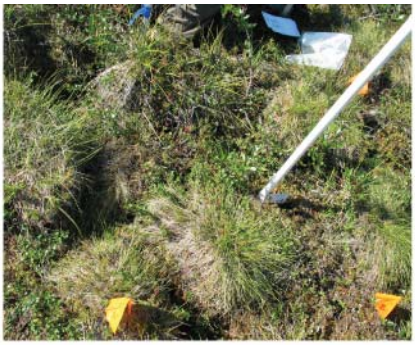

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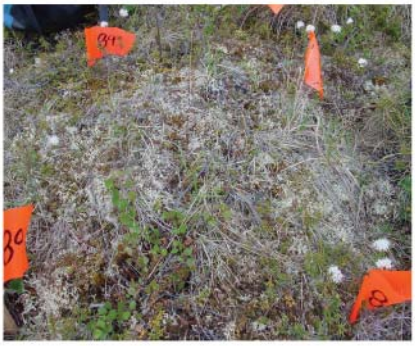

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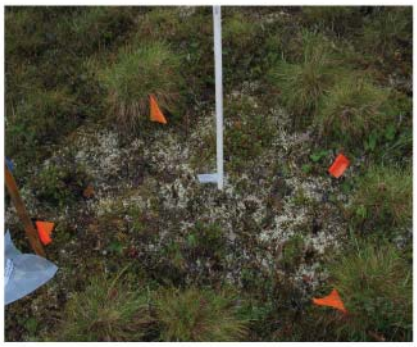

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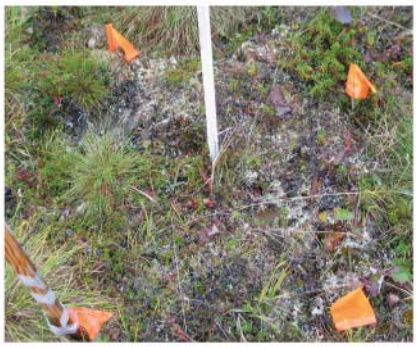

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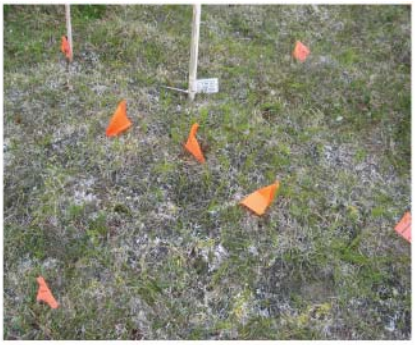

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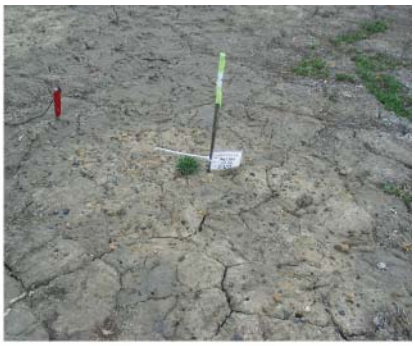

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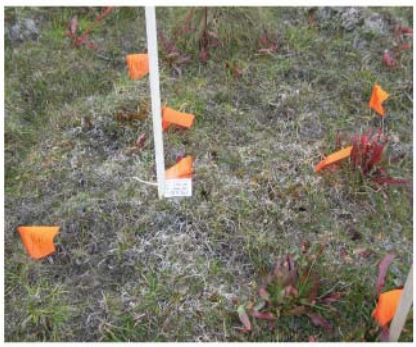

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Soil Pit Descriptions

Howe Island, Dry Nonacidic Tundra
Soil Site #201

DATE Sampled: 08/26/2001
USDA-NRSC Site Identification: 01AK-185-006
Soil Survey Area: 185 Arctic Coastal Plain
Latitude: 70°18.986' N, Longitude: 147° 59°647' W
Slope: 0 percent, Aspect: NA
Horizontal Shape: plane, Vertical Shape: plane
Elevation: 3 m asl (GPS)
Physiography: Arctic Coastal Plain
Local: Island formed from dissected delta of the Sagavanirktok River
Geomorphic Position: middle of island
Microtopography: frost boils with small frost-cracked polygons of 20-30 cm diameter
Parent Material and or/Bedrock Information: alluvium (contain 7% pebble)
Landcover type: dry nonacidic tundra
Plant Names: *Salix arctica, S. ovalifolia, Dryas integrifolia, Saxifraga oppositifolia,* moss and lichens
Surface cover: 15% vegetation in interboil and bare boil surface covered with lichen
Drainage: moderately well, Runoff: negligible
MAP: 200mm, est. MAAT: -5°C est. MAST: - 7 °C est.
Type of Erosion: none, Degree of Erosion: none
Surface features: 10% pebble, Willow roots stretched from center of boil to interboil
Classification: Coarse-loamy, mixed, superactive, pergelic Molliturbel
Described and sampled by: C.L. Ping, John Kimble, Gary Michaelson (all colors are for moist unless specified)

Figure 64. *Soil descriptions were recorded at Howe Island for soil site #201.*

A1 0 – 5 cm: (interboil under Dryas) very dark grayish brown (10YR3/2) very fine sandy loam; moderately thin platy and weak fine granular structures; very friable, slightly plastic and slightly sticky; many very fine, fine and few medium roots; abrupt smooth boundary (0-10cm) (AK01048)

A2 5 - 40 cm: very dark grayish brown (10YR3/2) and dark brown (7.5YR3/2) very fine sandy loam; moderately medium platy structure; very friable, slightly plastic and slightly sticky; common very fine, fine and few medium roots; many very fine and fine root remains and channels; abrupt irregular (0-40) (AK01049)

Oajj 62 - 70 cm: dark brown (7.5 YR 3/2) mucky fine sandy loam; weak very thin reticulate breaking into weak fine granular structure; very friable, nonsticky and nonplastic; few fine roots; abrupt irregular boundary. (0-30 cm) (AK01050)

CA1 0 - 5 cm: dark grayish brown (2.5Y4/2) very fine sandy loam; moderate fine reticular structure; friable, slightly plastic and slightly sticky; common very fine and fine roots; cryptogamic crust, many medium vesicular pores; abrupt broken boundary (0-5) (AK01051)

CA2 5 - 25 cm: very dark grayish brown (10YR3/2) fine sandy loam; weak thin reticular and fine granular structures; very friable, slightly plastic and slightly sticky; few fine roots; cryptogamic crust; abrupt irregular boundary (0-20) (AK01052)

Bwjj1 20 - 60 cm: very grayish brown (10YR4/2) fine sandy loam; strong thin lenticular structure; friable, slightly plastic and slightly sticky; few fine roots; clear irregular boundary (0-40 cm) (AK01053)

Bwjj2 20 - 65 cm: very grayish brown (10YR4/2) very fine sandy loam; moderate medium reticulate and strong very fine and fine subangular structures; friable, slightly plastic and slightly sticky; few fine roots; abrupt irregular boundary. (0-36 cm) (AK01054)

Bwf 55 - 68 cm: gray (2.5Y 5/1) very fine sandy loam; massive; extremely firm (frozen), slightly sticky and slightly plastic; few fine roots; abrupt irregular boundary (0-20) (AK01055)

Cf/Wfm 68 - 110 cm: dark gray (7.5YR4/1) fine sandy loam; ataxitic; frozen, 70% ice; extremely firm; slightly plastic and slightly sticky; 10% organic-rich zones; abrupt irregular boundary (0-50) (AK01056)

Cf (under boil) 80 -110 cm: dark gray (2.5Y4/1) fine sandy loam; moderate fine platy structure; frozen; rigid, slightly plastic and slightly sticky (0-40).

West Dock, Wet Nonacidic Tundra
Soil Site #202

Figure 65. *Soil descriptions were recorded at West Dock for soil site #202.*

DATE Sampled: 08/28/2001
USDA-NSSC Site Identification: 01AK-185-005
Soil Survey Area: 185 Arctic Coastal Plain
Latitude: 70°22.485' N, Longitude: 148°33.148' W
Slope: 0 percent
Aspect: 0, Slope Shape: NA
Elevation: 1 m asl (GPS)
Physiography: Arctic Coastal Plain
Local: coastal plain
Microtopography: low-center polygon
Parent material: alluvium
Landcover type: wet nonacidic tundra
Plant Names: sedges, lichens and mosses
Drainage: very poorly, Runoff: negligible
Climate: MAP: 200mm, est. MAAT: -4°C est. MAST: - 9.0°C est.
Degree of Erosion: none
Classification: Euic, pergelic Terric Hemistel
Land use: wildlife habitat
Described and sampled by: C.L. Ping, John Kimble, Gary Michaelson

Oa 0 - 9 cm: very dusk red (2.5YR2.5/1) muck; many very fine and fine roots; abrupt smooth boundary (8-12) (AK01041)

Bg/Oa 9 - 18 cm: dark olive brown (2.5Y3/3, rubbed) mucky silt loam; massive; friable, slightly stick and slightly plastic; many very fine and fine roots; abrupt smooth boundary (AK01042)

Oe 18 - 38 cm: very dark gray (10YR3/1) muck peat; many very fine and fine roots; abrupt smooth boundary (AK01043)

Oef 38 - 50 cm: black (7.5YR2.5/1) muck peat; frozen; abrupt irregular boundary (12- 30cm) (AK01044)

Oe/2Cfjj 50 - 70 cm: 70% dusk red (2.5YR3/2) peat and 30% dark gray (2.5Y4/1) sand; peat color changed to black (10YR2/1) soon after expose to air; clear smooth boundary (0- cm) (AK01045)

2Cf1/Oejj 70 - 100 cm: 90% dark gray (2.5Y4/1) sand and 10% dusk red (2.5YR3/2) peat; moderate medium reticular structure; frozen, 50% ice lens, extremely hard; clear smooth boundary (10-20 cm) (AK01046)

Cf2 100 - 120 cm: dark gray (5Y4/1) sand; massive; extremely firm (frozen, 65% ice), (AK01047)

Deadhorse, Moist Nonacidic Tundra Site #203

Figure 66. *Soil descriptions were recorded at Deadhorse for soil site #203.*

DATE Sampled: 07/18/2001
Site Reference: Walker's Biocomplexity grid
Soil Survey Area: 185 Arctic Coastal Plain
Latitude: 70°09.42' N, Longitude: 148°27.58' W
Slope: 7 percent, Aspect: 340°
Horizontal Shape: plane, Vertical Shape: plane
Elevation: m asl (GPS)
Physiography: Arctic Coastal Plain
Local: fen
Microtopography: frost boils, hummocky.
Parent Material and or/Bedrock Information
Parent material: alluvium
Vegetative Information:
Landcover type: moist nonacidic tundra
Plant Names: frost boil center – cryptogamic crust, algae-lichen-fungi complex
Interboils - *Dryas integrifolia, Carex membranacea; Tomentypnum nitens; Eriophorum vaginatum* (tussock), *Eriophorum triste* (dryer site), *Salix arctica, Salix reticulata, Salix lanata.*
Drainage: poor, Runoff: negligible
Climate: MAP: 200mm, est. MAAT: -5°C est.
MAST: - 7°C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-silty, mixed, active, pergelic Typic Aquiturbel
Land use: wildlife habitat
Described and sampled by: C.L. Ping, John Kimble, Gary Michaelson, (all colors are for moist unless specified)

Oe/Oa 0 - 8 cm: very dark gray (7.5YR3/1) mucky peat and 20% very dark grayish brown (10YR3/2); many very fine and fine roots; abrupt broken boundary (0-18cm)

Bw1 0 - 23 cm: very dark grayish brown (10YR3/2) silt loam; weak fine platy structure; very friable, slightly stick and slightly plastic; common very fine and fine roots; clear broken boundary 0-24 cm)

Bw2 23 - 40 cm: very dark grayish brown (2.5Y3/2) silt loam; Fe-depletion around root channels (2.5Y4/1); weak fine platy and medium subangular structures; very friable, slightly stick and slightly plastic; common very fine and fine roots; clear broken boundary (0-20cm)

Bg1 0 - 23 cm: olive gray (5Y4/2) silt loam; Fe-concentration (7.5YR4/6) around root channels; massive, saturated; slightly stick and slightly plastic; common very fine and fine roots; abrupt broken boundary (0-25cm)

Bg2 40 - 70 cm: dark grayish brown (2.5Y4/2) silt loam; Fe-concentration (2.5Y4/4) around channels moderate fine platy structure (2 mm thick); slightly stick and slightly plastic; few fine roots; abrupt wavy boundary (0-30cm) (AK013000)

Cf1 70 - 90 cm: 60% gray and dark gray (2.5Y5/1;4/1) and 40% dark grayish brown (2.5Y4/2) fine sandy loam; massive, frozen; extremely firm, slightly sticky and slightly plastic; clear smooth boundary (20-25cm) (AK01000)

Cf2 90 - 110 cm: dark gray (2.5Y4/1) fine sandy loam; massive; frozen; extremely firm (frozen), slightly stick and nonplastic (AK0100)

Franklin Bluffs, Wet Nonacidic Tundra
Soil Site #204

Figure 67. *Soil descriptions were recorded at Franklin Bluffs wet for soil site #204.*

DATE Sampled: 07/23/2002
Soil Survey Area: 185 Arctic Coastal Plain
Latitude: 69° 40.449' N, Longitude: 148° 43.013' W
Slope: 0 percent, Aspect: 0 degrees
Horizontal Shape: plane, Vertical Shape: plane
Physiography: Major: Arctic Coastal Plain, Local: flood plain
Microtopography: hummocky (old frost boils), tussocks
Surface stones: none
Parent material: loess
Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: - 8 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Silty, mixed, superactive, supergelic Ruptic-Histic Aquiturbel
Landcover type: Wet non-acidic tundra
Plants: Frost boil: *Eriophorum vaginatum, Tofieldia coccinea,*
Dryas integrifolia, Polygonum viviparum, Equisetum arvense,
Antennaria friesiana, Saxifraga oppositifolia,
Juncus biglumis.

Interboil: *Salix arctica, Salix reticulata, Eriophorum angustifolium,*
Carex aquatilis, Pedicularis sp., Arctous rubra, Equisetum variegatum, Tomentypnum nitens, Rhododendron lapponicum.
Described and sampled by: P. Borden, A. Kade, G. Michaelson, C.L. Ping, C. A. Stiles and L. Zhu,

Frost boil
A1 0 - 3 cm: very dark grayish brown (2.5Y 3/2); silt loam; strong, very fine granular structure; friable, moderately plastic, slightly sticky; few coarse, many medium, many fine roots; moderate effervescence; abrupt wavy boundary. (0 -10 cm)

Bw 3 - 12 cm: dark gray (2.5Y 4/1); silt loam; saturated, moderately plastic, slightly sticky; few coarse and fine roots; weak reaction to □'□'-dipyridyl; slight effervescence; clear wavy boundary. (0 – 15 cm)

Bg1 12 - 45 cm: olive gray (5Y 4/2), strong brown (7.5YR 5/8) root channels; silt loam; strong medium lenticular structure; moderately plastic, slightly sticky; few coarse and fine roots; weak reaction to □'□'-dipyridyl; slight effervescence; oxidized root channels; clear irregular boundary. (0 – 30 cm)

Bg2 10 - 45 cm: dark gray (5Y 4/1), strong brown (7.5YR 5/8) root channels; silt loam; weak fine lenticular structure; saturated, moderately plastic, slightly sticky; many fine roots; weak reaction to □'□'-dipyridyl; slight effervescence; clear wavy boundary. (0 – 45 cm)

BC 45 - 75 cm: very dark grayish brown (2.5Y 3/2); silt loam; weak medium lenticular structure; moderately plastic, slightly sticky; weak reaction to □'□'-dipyridyl; slight effervescence.

Interboil
Oi 0 - 5 cm: very dark grayish brown (10YR 3/2); peat; few coarse, many medium, fine and very fine roots; abrupt smooth boundary. (0 – 10 cm)

Oe 5 - 15 cm: very dark brown (10YR 2/2); mucky peat; few coarse, many medium, fine and very fine roots; abrupt wavy boundary. (0 – 25 cm)

Bg3 10 - 30 cm: olive gray (5Y 4/2); silt loam; moderate medium lenticular structure; saturated, moderately plastic, slightly sticky; many fine roots; strong reaction to □'□'-dipyridyl; slight effervescence; clear smooth boundary. (0 – 25 cm).

Bg4 30 - 45 cm: very dark grayish brown (2.5Y 3/2), dark yellowish brown (10YR 4/4) root channels; silt loam; strong medium lenticular structure; friable, moderately plastic, slightly sticky; few fine roots; abrupt wavy boundary. (0 – 25 cm)

Ajj 35 -o 60 cm: very dark gray (10YR 3/1); silt loam; moderate fine lenticular structure; very friable, slightly plastic and sticky; negative reaction to □'□'-dipyridyl; abrupt wavy boundary. (0 – 30 cm)

Oaf 60 - 75 cm: very dark brown (10YR 2/2); muck; weak very fine lenticular structure.

Franklin Bluffs Moist Nonacidic Tundra Soil Site #205

DATE Sampled: 08/26/2001
USDA-NRCS-NSSC #: S01AK-185-002
Latitude: 69°40.484' N, Longitude: 148°43. 274' W
Slope: 0 percent, Aspect: 0 degrees
Horizontal Shape: convex, Vertical Shape: convex
Physiography: Major: Arctic Coastal Plain, Local: terrace
Microtopography: hummocky (old frost boils), tussocks
Surface stones: none
Parent material: alluvium
Runoff: negligible
MAP: 250mm, est. MAAT: -5°C est. MAST: - 8 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Silty, mixed, superactive, supergelic Ruptic-Histic Aquiturbel
Landcover type: Wet non-acidic tundra
Plant Names:
Frost boil: *Eriophorum triste, Dryas integrifolia, Carex bigelowii,*
C. membranacea, Arctous rubra, Cassiope tetragona.
Interboil: *Salix arctica, Salix reticulata, Eriophorum angustifolium,*
Carex aquatilis, Pedicularis sp., Arctous rubra, Equisetum variegatum,
Tomentypnum nitens, Rhododendron lapponicum.

Figure 68. *Soil descriptions were recorded at Franklin Bluffs moist for soil site #205.*

Described and sampled by: C. L Ping, John Kimble, G. Michaelson

Frost boil

Ajj 2 - 45 cm: very dark gray (10YR3/1) silt loam; weak medium subangular and moderate medium granular structures; friable, slightly plastic, slightly sticky; common very fine and fine roots; common very fine and fine root remains; common fine tubular pores; abrupt broken boundary. (0 - 20 cm)

Bwjj 2 - 50 cm: 60% olive brown (2.5Y 4/3) 40% dark olive brown (2.5Y3/3) loam; weak medium subangular structure; slightly firm, slightly sticky, moderately plastic; common very fine and fine roots; few reduced root channels; abrupt broken boundary. (0 – 20 cm)

Bgjj3 25 to 68 cm: 55% dark grayish brown (2.5Y4/2), 30% olive brown (2.5Y4/3), and 15% very dark grayish brown (10YR 3/2) very fine sandy loam; strong medium reticulate structure; friable, slightly sticky , slightly plastic; few very fine and fine roots; abrupt broken boundary. (0 – 30 cm)

Abjj 10 - 45 cm: black (10YR2/1) mucky loam; moderate fine platy structure; very friable, nonsticky and nonplastic; compact organic lens; abrupt broken boundary. (0 – 20 cm)

Oabjj 68- 90 cm: dark reddish brown (5YR3/3) muck; changing to black (7.5YR2.5/1) after exposed to air; appeared fibreous but muck after rubbing; weak fine platy structure; very friable, nonsticky and nonplastic; few very fine roots; common fine root remains; abrupt broken boundary. (0 – 20 cm)

Cf1 45 - 75 cm: 80% dark gray (2.5Y4/1) and 20% olive gray (5Y4/2) very fine sandy loam; moderate medium platy structure; extremely firm; frozen, slightly sticky and slightly plastic; clear smooth boundary. (10 - 20 cm)

Cf2 90 - 100 cm: dark gray (2.5Y4/1) sand; weak medium platy structure; extremely firm, frozen, nonsticky and nonplastic; concoidal breaking face. (30 cm sampled)

Interboil

Oe 0 - 20 cm: very dark brown (7.5YR 2.5/2) peaty muck; many very fine, fine and few medium roots; abrupt irregular boundary. (0 – 15 cm)

Bgjj1 28 - 72 cm: 60% very dark grayish brown (2.5Y3/2) and 30% very dark grayish brown (10YR3/2) loam; 10% Fe-concentration (7.5YR4/6); weak medium subangular structure; slightly firm, moderately plastic, slightly sticky; many very fine, fine and few medium roots; abrupt broken boundary. (0 – 40 cm).

Bgjj2 50 - 70 cm: dark grayish brown (2.5Y 4/2) very fine sandy loam; strong medium reticulate structure; friable, slightly plastic, slightly sticky; few very fine and fine roots; abrupt broken boundary. (0 – 20 cm).

Oabjj 35 - 60 cm: dark reddish brown (5YR3/3) muck; changing to black (7.5YR2.5/1) after exposed to air; appeared fibrous but muck after rubbing; weak fine platy structure; very friable, nonsticky and nonplastic; few very fine roots; common fine root remains; abrupt broken boundary (0 – 20 cm)

Cf1 45 - 75 cm: 80% dark gray (2.5Y4/1) and 20% olive gray (5Y4/2) very fine sandy loam; moderate medium platy structure; extremely firm; frozen, slightly sticky and slightly plastic; clear smooth boundary (10 – 20 cm)

Cf2 90 - 100 cm: dark gray (2.5Y4/1) sand; weak medium platy structure; extremely firm, frozen, nonsticky and nonplastic; concoidial breaking face. (30cm sampled)

Franklin Bluffs, Dry Nonacidic Tundra, Soil Site #205

DATE Sampled: 08/26/2001
USDA-NRCS-NSSL #: S01AK-185-003
Soil Survey Area: 185
Latitude: 69° 40.484" N, Longitude: 148°43.274' W
Slope: 0 percent, Aspect: 0 degrees
Horizontal Shape: plane, Vertical Shape: plane
Major: Arctic Coastal Plain, Local: terrace, natural levee
Geomorphic Position:
Microtopography: hummocky (old frost boils)
Surface stones: none
Parent material: alluvium
Runoff: negligible
MAP: 250mm, est. MAAT: -5°C est. MAST: - 6 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, supergelic Aquic Haploturbel
Vegetative Information:
Landcover type: Dry non-acidic tundra
Plant Names: Frost boil: scattered *Dryas integrifolia, Eriophorum triste*, and lichens
Interboil: *Salix reticulata, Eriophorum angustifolium, Carex capillaris*
Described and sampled by: C.L. Ping, G. Michaelson, and John Kimble

Figure 69. *Soil descriptions were recorded at Franklin Bluffs dry for soil site #205.*

A 0 -25 cm: black (5YR2.5/1) mucky loam; weak fine platy structure; very friable, nonplastic, nonsticky; many very fine and fine roots; abrupt broken boundary. (0 - 25 cm)

Bw1 0 - 25 cm: olive brown (2.5Y 4/3) silt loam; weak medium reticulate breaking into weak medium granular structures; friable, slightly plastic, slightly sticky; many very fine and fine roots; abrupt broken boundary. (0 – 30 cm)

Ajj 22 - 45 cm: very dark gray (5YR 3/1) mucky loam; weak fine platy and weak medium subangular structures; very friable, nonplastic and nonsticky; many very fine, fine and few medium roots; abrupt broken boundary. (0 – 20 cm)

Bw2jj 20 - 55 cm: 80% dark grayish brown (10YR 4/2) and 20% very dark grayish brown (10YR3/2) very fine sandy loam; strong very fine reticular structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; abrupt wavy boundary. (10 – 30 cm)

Abjj 50 - 65 cm: black (10YR2/1) mucky loam; moderate fine platy structure; very friable, nonsticky and nonplastic; few root remains; abrupt smooth and broken boundary. (0 – 10 cm)

2C1 58 - 82 cm: dark gray (2.5Y4/1) sand; single grain; loose nonsticky and nonplastic; abrupt smooth boundary (18 – 20 cm)

2C2f 82 - 100 cm: dark gray (2.5Y4/1) sand; massive; extremely firm, frozen, nonsticky and nonplastic; abrupt smooth boundary.

3Cf 100cm+ Varigated very gravelly sand; rounded gravel and pebbles. (not sampled)

Sagwon Hills Moist Nonacidic Tundra-1, Soil Site #207

Figure 70. *Soil descriptions were recorded at Sagwon MNT for soil site #207.*

DATE Sampled: 08/29/2001
Pedon ID: S01AK-185-007
Soil Survey Area: 185
Latitude: 69° 26.002' N; Longitude: 148°40.287'W
Slope: 5 percent, Aspect: 270 degrees
Horizontal Shape: plane, Vertical Shape: convex
Physiography: Major: Arctic Foothills, Local: Rolling hills
Geomorphic Position: back slope
Microtopography: hummocky, tussocks
Surface stones: none
Parent material: loess
Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: - 5 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-silty, mixed, superactive, supergelic Ruptic-Histic Aquiturbel
Landcover type: moist non-acidic tundra
Plant Names: Frost boil: *Salix reticulata, Eriophorum triste, Ochrolechia frigida, Tofieldia coccinea, Dryas integrifolia, Flavocetraria cucullata,*
Tephroseris atropurpurea, Polygonum viviparum, Equisetum arvense,
Thamnolia subuliformis, Pedicularis sp.
Interboil: *Salix lanata, Cassiope tetragona, Eriophorum vaginatum,*
Dryas integrifolia, Tomentypnum nitens, Carex membranacea, Tephroseric atropurpurea, Pedicularis sp., *Arctous rubra, Saussurea angustifolia, Flavocetraria cucullata, Eriophorum angustifolium, Hylocomium splendens, Equisetum variegatum, Arctagrostis latifolia, Salix arctica*.
Described and sampled by: C.L. Ping, G. J. Michaelson and John Kimble

Frost boil
Oe 0 to 8 cm: very dark brown (7.5YR 2.5/2) peaty muck; weak fine granular structure; very friable, nonsticky and nonplastic; few course, many medium, many fine roots; abrupt wavy boundary. (0 - cm) (AK01-058)

A 8-30 cm: dark brown (7.5Y 3/2, 60%) and very dark grayish brown (10YR3/2) silt loam; weak medium reticulate and weak medium granular structures; friable; slightly sticky, slightly plastic; many fine roots; abrupt broken boundary. (0-22 cm) (AK01-059)

Bg1 30-55 cm: very dark grayish brown (10YR3/2) silt loam; Fe-concentration (7.5YR3/2; ¾) in mass and around root channels, common Fe-depletion (2.5Y4/2) in mass and pore linings with 10YR hallows; weak medium granular and weak fine subangular blocky structures; friable, slightly sticky and slightly plastic; many fine roots; clear broken boundary. (0-20 cm) (AK01-060)

Bg3/Oajj 43-56 cm: very dark grayish brown (10YR3/2, 60%) silt loam; 30% cryoturbated humus (7.5YR3/2) and 10% very dark grayish brown (2.5Y3/2); weak very thin reticulate structure; friable, slightly sticky and slightly plastic; common very fine and fine roots; abrupt broken boundary (0 – 20cm) (AK01-066)

Oajj 74 – 80 cm: very dark gray (7.5YR3/1, 40%), black (7/5YR2.5/1) and very dark grayish brown (10YR3/2) muck; moderate medium platy structure; very firm, frozen, nonsticky and nonplastic; one cobble stone; abrupt broken boundary (0 – cm) (AK01-067)

Wf/Cf 80-110 cm: dark gray (2.5Y4/1) silt loam; ataxitic, 70% ice lense; strong medium reticulate structure; extremely firm, frozen, slightly sticky, slightly plastic; 5% pebbles; abrupt smooth boundary (AK01-069)

Wf 110 cm+ Ice wedge

Interboil:

Oe 0-5 cm: very dark brown (7.5YR 2.5/2) peat muck; weak fine granular structure, very friable, nonsticky and nonplastic; many fine roots; abrupt wavy boundary (0 -35 cm) (AK01-058)

Oejj 30-38 cm: very dark grayish brown; (10YR 3/2); peaty muck; many fine, few medium roots; abrupt broken boundary. (0-32 cm) (AK01-063)

Ajj1 24-30 cm: very dark brown (7.5YR 3/2, 50%) silt loam; Fe-concentration around root channels (7.5YR4/6); weak medium reticulate structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; abrupt broken boundary. (0-15 cm) (AK01-062)

Ajj2 38-41 cm: very dark brown (7.5YR 3/2, 70%) silt loam; 30% Fe-depletion in mass (2.5Y4/2); cryoturbated streaks of organics; weak medium granular structure; friable, slightly sticky, slightly plastic; many very fine and fine roots; abrupt broken boundary (AK01-064)

Bg3/Oajj 16 - 37 cm: very dark grayish brown (10YR3/2, 60%) silt loam; 30% cryoturbated humus (7.5YR3/2) and 10% very dark grayish brown (2.5Y3/2); weak very thin reticulate structure; friable, slightly sticky and slightly plastic; common very fine and fine roots; abrupt broken boundary (0 – cm) (AK01-066)

Bg2 50 to 71 cm: very dark grayish brown (10YR3/2) silt loam; 30% very dark brown (7.5YR 2.5/2) cryoturbated organics; silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; many very fine and fine roots; abrupt broken boundary. (0-20 cm) (AK01-065)

Oajj 62-67 cm: dark reddish brown (5YR2.5/2) mucky peat; churned vertically into frozen layer; many very fine and fine roots; abrupt broken boundary (0 – cm) (AK01-063)

Bwf 65 to 80 cm: very dark brown (10YR2/2) silt loam; 10% pebble; moderate medium reticulate structure; extremely firm, frozen, slightly sticky and slightly plastic; 30-40% ice lens; abrupt broken boundary (10-15 cm) (AK01-068)

Wf/Cf 80-110 cm: dark gray (2.5Y4/1) silt loam; ataxitic, 70% ice lense; strong medium reticulate structure; extremely firm, frozen, slightly sticky, slightly plastic; 5% pebbles; abrupt smooth boundary (AK01-069)

Wf 110 cm+ Ice wedge

Sagwon Hills Moist Nonacidic Tundra-2
Soil Site #207a

DATE Sampled: 07/24/2002
Soil Survey Area: 185
Latitude: 69° 25' 55" N, Longitude: 148° 40' 16.2" W
Slope: 1 percent, Aspect: 100 degrees
Horizontal Shape: convex, Vertical Shape: plane
Physiography: Major: Arctic Foothills, Local: Rolling hills
Geomorphic Position: side slope
Microtopography: hummocky, new frost boils, tussocks
Surface stones: none
Parent material: loess over tertiary gravel
Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: - 7 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-silty over loamy-skeletal, mixed, superactive, supergelic, aquic ochreturbel.
Landcover type: moist non-acidic tundra
Plant Names: Frost boil: *Eriophorum vaginatum, Dryas integrifolia, Polygonum viviparum, Eriophorum triste, Saxifraga oppositifolia, Packera cymbalaria, Carex* sp.
Interboil: *Carex bigelowii, Arctous rubra, Lupinus arcticus, Dryas integrifolia, Salix lanata, Cassiope tetragona, Vaccinium uliginosum, Eriophorum vaginatum, Eriophorum triste, Salix reticulata, Tomentypnum nitens, Pedicularis capitata, Hylocomium splendens, Aulacomnium* sp., *Cetraria cucullata, Thamnolia subuliformis, Arctagrostis latifolia, Polygonum bistorta, Papaver macounii*.
Described and sampled by: P. Borden, A. Kade, G. Michealson, C.L. Ping, C. A. Stiles and L. Zhu,

Figure 71. *Soil descriptions were recorded at Sagwon MNT for soil* **site**

Frost boil

Bw1 0-9 cm: light olive brown (2.5Y 4/3); silt loam; moderate fine granular structure; firm, slightly sticky, slightly plastic; few fine and very fine roots; strong effervescence; clear broken boundary; (0-10 cm).

Ajj 20-50 cm: black (10YR 2/1); silt loam; moderate very fine granular structure; friable, slightly sticky and plastic; moderate medium, common fine and very fine roots; abrupt irregular boundary; (0-30 cm)

Bg 9-25 cm: matrix: dark grayish brown (2.5Y 4/2), root channel lining: dark yellowish brown (10YR 4/6); silt loam; weak fine lenticular structure; firm, slightly sticky and plastic; many fine and very fine roots; reacts to α'α'-dipyridyl; clear broken boundary. (0-25 cm)

Bw2 25-45 cm: dark brown (10YR 3/3), silt loam; weak fine lenticular structure; friable, slightly sticky and plastic; many fine and very fine roots; clear broken boundary. (0-35 cm)

Bw/Ajj 45-60 cm: very dark grayish brown (10YR 3/2); fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky and plastic; many fine and very fine roots; clear broken boundary. (0-40 cm)

Bgf 60-70 cm: wet: very dark grey (2.5 Y 3/1), dry: dark grayish brown (2.5y 4/2); sandy loam; strong medium lenticular structure; extremely firm (frozen); many fine and very fine roots; reacts to α'α'-dipyridyl; 5% pebbles; clear wavy boundary. (0-20 cm)

Cf/Oajj 60-87 cm: Cf dark grey (2/5Y 4/1); sandy loam; strong fine to medium lenticular structure; extremely firm (frozen); slightly sticky and plastic. Oa very dark brown (10YR 2/2); muck; frozen; clear wavy. (20-25 cm)

Oaf/Cfjj 87-105 cm: Oaf: very dark brown (10YR 2/2); muck; frozen. Cfjj: dark grey (2/5Y 4/1); cobbly sandy loam; strong fine to medium lenticular structure; extremely firm (frozen); slightly sticky and plastic; abrupt wavy. (15-20 cm)

2Cf >105 cm: grey (2.5 Y 5/1); cobbly sandy loam; strong fine to medium reticular structure; extremely firm (frozen) slightly sticky and plastic; 65% ice.

Interboil

Oi 0-17 cm: very dark brown (7.5 YR 2.5/2); peat; common course, many medium, fine and very fine roots; clear broken boundary. (0-10 cm)

Oe 17-30 cm: black (10 YR 2/1); peaty muck; few medium, many fine and very fine roots; abrupt broken boundary. (0-15 cm)

Bg 30-47 cm: matrix: dark grayish brown (2.5Y 4/2), root channel lining: dark yellowish brown (10YR 4/6); silt loam; weak fine lenticular structure; firm, slightly sticky and plastic; many fine and very fine roots; reacts to α'α'-dipyridyl; abrupt broken boundary. (0-20 cm)

Bjf 47-70 cm: wet: very dark grey (2.5 Y 3/1), dry: dark grayish brown (2.5y 4/2); sandy loam; strong medium lenticular structure; extremely firm (frozen); many fine and very fine roots; reacts to α'α'-dipyridyl; 5% pebbles; abrupt broken boundary. (0-20 cm)

Oa/Oejj 55-70 cm: Oa: very dark brown (10YR 2/2); muck. Oejj: black (10 YR 2/1); peaty muck; abrupt broken boundary. (0-10 cm)

Oaf 70-78 cm: very dark brown (10YR 2/2); muck; frozen; abrupt broken. (0-10 cm)

Cf/Oajj 78-90 cm: Cf: dark grey (2/5Y 4/1); sandy loam; strong fine to medium lenticular structure; extremely firm (frozen); slightly sticky and plastic. Oajj: very dark brown (10YR 2/2); muck; frozen; clear wavy. (10-25 cm)

Oaf/Cfjj 90-105 cm: Oaf: very dark brown (10YR 2/2); muck; frozen. Cf: dark grey (2/5Y 4/1); cobbly sandy loam; strong fine to medium lenticular structure; extremely firm (frozen); slightly sticky and plastic; abrupt wavy. (10-20 cm)

2Cf >105 cm: grey (2.5 Y 5/1); cobbly sandy loam; strong fine to medium reticular structure; extremely firm (frozen) slightly sticky and plastic; 65% ice.

Sagwon Hills Moist Acidic Tundra-1
Soil Site #208

DATE Sampled: 07/20/2001
Soil Survey Area: 185
Latitude: 69° 25.532' N
Longitude: 148° 41.727' W
Slope: 10 percent, Aspect: 354 degrees
Horizontal Shape: concave, Vertical Shape: plane

Figure 72. *Soil descriptions were recorded at Sagwon MAT for soil site #208.*

Physiography: Major: Arctic Foothills, Local: Rolling hills
Geomorphic Position: lower 1/3 slope
Microtopography: hummocky, tussocks and frost boils
Surface stones: none
Parent material: loess
Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: - 5 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-silty, mixed, superactive, hypergelic, Ruptic-Histic, Aquiturbel
Vegetative Information: Landcover type: moist acidic tundra
Plant Names: *Ledum decumbens, Vaccinium vitis-idaea, Salix arctica, Salix reticulata, Betula nana, Polygonum bistorta, Eriophorum vaginatum, Petasites frigidus, Cassiope tetragona, Saussurea angustifolia, Vaccinium uliginosum, Minuartia arctica, Arctous rubra, Tomentypnum nitens, Hylocomium splendens, Carex membranacea, Eriophorum triste, Sphagnum* sp.
Described and sampled by: J.M. Kimble, G. J. Michaelson, C.L. Ping

Oi/Oe 0-5 cm: dark reddish brown (5YR 3/2) peaty muck; many fine and very fine and few medium roots; abrupt broken boundary. (0-25 cm)

Bw/Ajj 5-20 cm: dark yellowish brown (10 YR 4/4) silt loam; moderate fine granular structure; friable, slightly plastic and slightly sticky; many very fine and fine roots; abrupt broken boundary (0-30 cm)

Oa/Bgjj 20-47 cm: Oa; very dark brown (7.5YR2.5/2) muck; Bg: very dark grayish brown (10 YR 3/2; 3/3) silt loam; Fe-concentration (7.5YR4/6); weak fine platy structure; friable, slightly plastic and slightly sticky; common very fine and fine roots; abrupt broken boundary. (0-35 cm)

Oaf1 45-55 cm: very dark brown (7.5YR2.5/2) muck; massive; frozen, nonsticky and nonplastic; abrupt broken boundary. (0-20 cm)

Oaf2 50-65 cm: very dark brown (7.5YR2.5/2, 60%) and dark yellowish brown (10YR3/4) peaty muck; moderate fine platy structure; massive; frozen, nonplastic and nonsticky; wood ships at 50 cm; abrupt smooth boundary (15-20 cm)

Cf1 60 - 80 cm: very dark grayish brown (10YR3/2) fine sandy loam; very dusk red (2.5YR2.5/2) organics; strong coarse reticulate structure (ataxitic), 60% coarse ice net; extremely firm, frozen, slightly sticky and slightly plastic; abrupt smooth boundary

Cf2 75-100 cm: very dark grayish brown (10YR3/2) fine sandy loam; strong fine reticulate structure, 50% ice (ataxitic).

Sagwon Hills Moist Acidic Tundra-2
Soil Site #208a

DATE Sampled: 07/25/2002
Soil Survey Area: 185
Latitude: 69° 25.505'N, Longitude: 148° 41.714' W
Slope: 5 percent, Aspect: 350 degrees
Horizontal Shape: convex, Vertical Shape: convex
Physiography: Major: Arctic Foothills, Local: Rolling hills
Geomorphic Position: side slope
Microtopography: hummocky, frost boils, tussocks
Surface stones: none
Parent material: loess

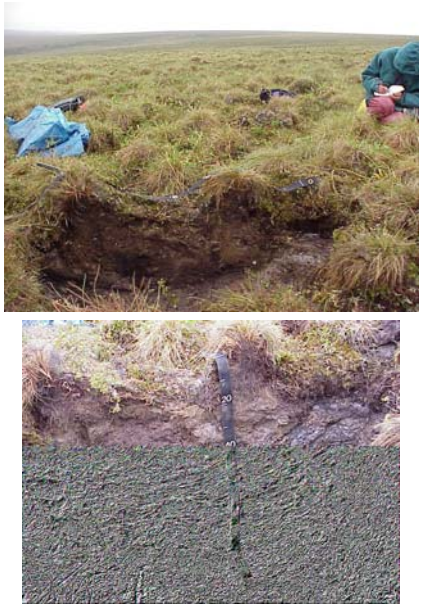

Figure 73. *Soil descriptions were recorded at Sagwon MAT for soil site #208a.*

Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: - 7 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-loamy, mixed, superactive, supergelic, Ruptic-Histic Aquiturbel.
Vegetative Information: Landcover type: moist acidic tundra
Plant Names: Frost boil: *Ledum decumbens, Racomitrium lanuginosum, Betula nana, Vaccinium vitis-idaea, Cassiope tetragona, Eriophorum vaginatum, Polygonum viviparum, Dactylina arctica, Flavocetraria cucullata, Cladonia stygia*.
Interboil: *Ledum decumbens, Betula nana, Salix arctica, Vaccinium vitis-idaea, Cassiope tetragona, Polygonum bistorta, Eriophorum vaginatum, Hylocomium splendens, Sphagnum* sp., *Peltigera* sp.
Described and sampled by: P. Borden, A. Kade, G. Michaelson, C.L. Ping, C. A. Stiles and L. Zhu,

Frost boil
Oi1 0 to 12 cm: very dark gray (10YR 3/1); peat; abrupt broken boundary. (0-15 cm)

Bg1 12 - 35 cm; matrix: dark yellowish brown (10YR ¾); root channels: dark reddish gray (2.5YR 4/1); fine sandy loam; firm, slightly sticky and plastic; many fine roots; clear wavy boundary. (0-25 cm)

Bg2 35 - 40 cm: oxidized (50%): yellowish brown (10YR 5/6) and dark brown (10YR 3/3), gleyed (50%): gray (2.5Y 5/1) and very dark gray (2.5Y 3/1); fine sandy loam; weak medium to coarse blocky structure; firm, slightly sticky and plastic; few fine roots; reacts weakly to α'α'-dipyridyl; abrupt broken boundary. (0-20 cm)

A/Bjj 20 - 40 cm: A 55%; very dark grayish brown (10YR 3/2); B: 45%; yellowish brown (10YR 5/6); sandy loam; friable, slightly sticky and plastic; few fine roots; abrupt broken. (0-20 cm)

Oajj 40 - 45 cm: black (7.5YR 2.5/2); muck; weak medium granular structure; very friable; abrupt broken boundary. (0-10 cm)

Oa/Bg1 45 - 62 cm: Oa (70%): very dark brown (7.5YR 3/2); muck (66%) and peaty muck (34%); 1% pebbles, fine to medium woody fragments; Bg1 (30%): dark gray (2.5Y 4/1); sandy loam; strong fine to medium lenticular structure; 60% ice; reacts strongly to α'α'-dipyridyl; abrupt smooth. (20-30 cm)

Oaf 56 - 70 cm: very dark gray (10YR 3/2); muck; strong very fine to medium lenticular structure; frozen; abrupt broken boundary. 0-15 cm)

Cf/Oaf 70 - 105 cm: **Cf** (70%): matrix (90%): dark gray (2.5Y 5/1) and organic (10%): brown (7.5YR 4/2); sandy loam; strong medium lenticular structure; 5% pebbles; 75% ice; **Oaf** (30%): very dark gray (7.5YR 3/1); muck; moderate medium reticular and lenticular; 1% pebbles; 70% ice; reacts strongly to α'α'-dipyridyl; abrupt wavy boundary. (30-35 cm)

2Cf 105 - 130 cm: gray (2.5Y 5/1); sandy loam; strong medium reticular structure; slightly sticky and plastic; 10% organic material: dark brown (7.5YR 3/2); 5% pebbles.

Interboil:
Oi2 0 - 15 cm: very dark gray (7.5YR 3/2); peat; few coarse, many medium, fine and very fine roots; abrupt broken boundary. (0-15 cm)

Oe 15 - 28 cm: very dark brown (10YR 2/2); peaty muck; common fine and very fine roots; abrupt broken boundary. (0-12 cm)

Bg2 28 - 35 cm: oxidized (50%): yellowish brown (10YR 5/6) and dark brown (10YR 3/3), gleyed (50%): gray (2.5Y 5/1) and very dark gray (2.5Y 3/1); fine sandy loam; weak medium to coarse blocky

structure; firm, slightly sticky and plastic; few fine roots; reacts weakly to α'α'-dipyridyl; abrupt broken boundary. (0-15 cm)

Oaf/Bg2f 35 - 60 cm: Oa (70%): very dark brown (7.5YR 3/2); muck (66%) and peaty muck (34%); 1% pebbles, fine to medium woody fragments; Bg1 (30%): dark gray (2.5Y 4/1); sandy loam; strong fine to medium lenticular structure; 70% ice; reacts strongly to α'α'-dipyridyl; abrupt smooth boundary. (0-20 cm)

Cf/Oaf 60 - 105 cm: Cf (70%): matrix (90%): dark gray (2.5Y 5/1) and organic (10%): brown (7.5YR 4/2); sandy loam; strong medium lenticular structure; 5% pebbles; 75% ice; Oaf (30%): very dark gray (7.5YR 3/1); muck; moderate medium reticular and lenticular; 1% pebbles; 70% ice; reacts strongly to α'α''-dipyridyl; abrupt wavy boundary. (30-35 cm)

2Cf 105 - 130 cm: gray (2.5Y 5/1); sandy loam; strong medium reticular structure; slightly sticky and plastic; 10% organic material: dark brown (7.5YR 3/2); 5% pebbles.

Happy Valley Moist Acidic Tundra
Soil Site #209

Sampling date: 08/27/2001
Site Reference: Walker's grids
USDA-NSSC Site Identification: 01AK-185-004
Soil Survey Area #: 185 Arctic Foot hills
Latitude: 69° 08' 48.7"N, Longitude: 148° 50' 53.9" W
Slope: 15 percent, Aspect: 90°
Horizontal Shape: convex, Vertical Shape: convex
Elevation: 266 m asl (GPS)
Physiography: Arctic Foothills, Local: rolling hills
Geomorphic Position: middle back slope
Microtopography: tussocks, old frost boils grown over by vegetation
Parent material: loess/moraine
Drainage: somewhat poor, Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: -7 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Coarse-silty, mixed, superactive, pergelic, Ruptic-Histic,
Aquiturbel
Vegetative Information: Landcover type: moist acidic tundra
Plant Names: *Salix pulchra, Betula nana, Ledum decumbens, Eriophorum vaginatum, Vaccinium vitis-idaea, Vaccinium uliginosium, Carex bigelowii, Pleurozium schreberi, Petasites frigidus, Aulacomnium* sp., *Sphagnum* sp., *Cladonia* sp., *Flavocetraria cucullata, Peltigera aphthosa, Dicranum* sp., *Cassiope tetragona*.
Described and sampled by: C.L. Ping, John Kimble, Gary Michaelson (all colors are for moist unless specified)

Figure 74. *Soil descriptions were recorded at Happy Valley moist for soil site #209.*

Oi 0 - 20 cm: very dark brown (7.5YR2.5/2) peat; abrupt broken boundary (0-15) (AK01030)

Oe 0 – 28 cm; very dark brown (7.5YR2.5/3) muck peat; many very fine, fine and few medium roots; abrupt broken boundary (0- 18 cm) (AK01031)

Bg1 0 – 24 cm: silt loam with interspaced masses and pore linings of brown (7.5YR4/4, 45%) and olive brown (2.5Y4/3, 40%) and dark brown (7.5YR3/2, 10%), and 5% Fe-concentration (7.5YR4/6) as

pore linings; weak medium reticulate structure; friable, slightly sticky and slightly plastic; many very fine, fine and few medium roots; clear broken boundary (0-28 cm) (AK01032)

Bg 2 0 – 19 cm: brown (7.5Y4/4) silt loam; Fe-depletion (2.5Y 5/2;5/3, 40%) as fine to coarse masses and pore linings; distinct medium mottles; massive; slightly firm, slightly sticky and slightly plastic; many very fine and fine roots; clear broken boundary (0-20) (AK01033)

Oajj 10 – 22: dark brown (7.5YR Y 3/2) muck ; weak fine subangular blocky structure; friable, nonplastic and nonsticky; common very fine and fine roots; abrupt broken boundary (0-12) (AK01034)

Bg3 18 – 44 cm: olive brown (2.5Y4/3, 60%) and dark grayish brown (10YR4/2) silt loam; both colors interspaced as fine to coarse masses and pore linings; moderate medium reticulate and moderate medium subangular structures; friable, slightly sticky and slightly plastic; many very fine and fine roots; clear broken boundary (0-22) (AK01035)

Bg4 17 – 35 cm: brown (7.5Y4/6, 45%) and dark grayish brown (10YR4/2) silt loam; both colors interspaced as fine to coarse masses and pore linings; massive; friable, slightly sticky and slightly plastic; common very fine and fine roots; clear broken boundary (0-22) (AK01036)

Oebjj 30 - 55 cm: strong brown (7.5Y 4/6) compressed mucky peat; moderate fine platy structure; friable, nonplastic and nonsticky; abrupt broken boundary (0 – 23 cm) (AK01037)

Oejj/Cf 45 – 65 cm: 25% dark brown (7.5 YR3/2) peaty muck and 25% dark grayish brown (2.5 Y 4/2) silt loam and 50% ice; ataxitic, strong medium block structure; abrupt wavy boundary (18 – 28 cm) (AK01038)

Bg5 20 – 38 cm: dark grayish brown (2.5 Y 4/2) sandy loam; 10% very dark brown (10YR2/2) blocks of Oa and band of dark yellowish brown (10YR4/6) Fe-concentration about 1 cm thick with Fe-depletions in pore linings; moderate medium reticulate structure; slightly firm, slightly sticky and slightly plastic; abrupt broken boundary (12-20) (AK01039)

Cf 45 - 100 cm: very dark grayish brown (10YR3/2) mucky silt loam; 40% ice; moderate thin platy structure; extremely firm,(frozen), slightly sticky and plastic (AK01040)

Toolik Lake Acidic Tundra
Soil Site #210

Sampling Date 07/07/1995
Site Reference: 1995 C-Flux Study Site #6
USDA-NSSC Site Identification: 95AK-185-007
Soil Survey Area #: 185 Arctic Foot hills
Latitude: 68° 37' 27.5"N, Longitude: 149° 37' 0.20" W
Slope: 8 percent, Aspect: 315°
Horizontal Shape: concave, Vertical Shape: concave
Elevation: 741 m asl (GPS)
Physiography: Arctic Foothills, Local: rolling hills
Geomorphic Position: foot slope of ground moraine
Microtopography: tussocks, old frost boils grown over by vegetation
Parent material: loess/moraine
Drainage: somewhat poor, Runoff: negligible
MAP: 300mm, est. MAAT: -5°C est. MAST: -7 °C est.
Type of Erosion: none, Degree of Erosion: none
Classification: Fine-loamy, mixed, Ruptic-Histic Aquiturbel
Vegetative Information: Landcover type: moist acidic tundra

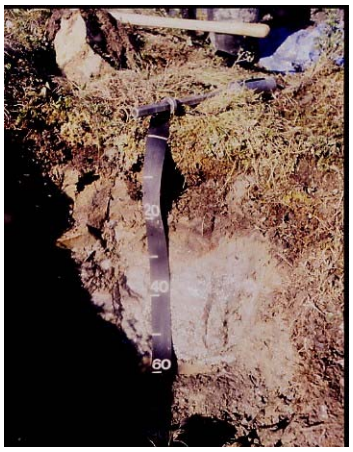

Figure 75. *Soil descriptions were recorded at Toolik Lake for soil site #210.*

Described and sampled by: C.L. Ping, John Kimble, Gary Michaelson

Oi 0 - 4 cm: dark brown (7.5YR 3/2) and yellowish brown (10YR 5/6) peat; clear wavy boundary. 10YR5/6 is sphagnum peat

Oe 4 - 8 cm: black (10YR 2/1) and dark brown (10YR 3/3) muck; many fine to coarse roots; clear broken boundary.

Oa/A 8 - 20 cm: dark brown (7.5YR 3/2) muck, silt loam; massive; extremely firm*, slightly sticky, slightly plastic; few fine roots; clear broken boundary

Bw 8 - 20 cm: dark yellowish brown (10YR 4/4) loam; moderate fine granular structure; extremely firm*, slightly sticky, slightly plastic; many very fine and fine roots; clear broken boundary.

Bg 20 - 35 cm: dark grayish brown (2.5Y 4/2) loam; medium prominent cylindrical mottles; weak medium angular blocky structure; extremely firm*, slightly sticky, slightly plastic; few very fine roots; clear wavy boundary, incomplete net cryogenic structure

Cf 35 - 55 cm: dark grayish brown (2.5Y 4/2) loam; massive; extremely firm*, slightly sticky, slightly plastic, horizon is about half pure ice; ataxitic structure

Table 19a. Selected soil chemical data from Biocomplexity soil pits.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	1:1 pH	E.C.	Extr. NH_4-N	Extr. NO_3-N	Extr. P	CEC	Ca	Mg	Na	K	Base Sat.
			(cm)		*(ds m^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*----------(me $100g^{-1}$)----------*					*(%)*
201	Howe Island Site Pit (sampled 8/26/2001), 70° 18.986'N, 147° 59.647'W.													
	S01AK-185-006-			7.8										
	48	A1	0-5	8	-	<1	2	2.5	11.9	43	2.1	0.30	0.30	100
				7.9										
	49	A2	5-40	1	-	<1	1	0.6	9.7	44	1.3	0.40	0.20	100
				8.0										
	50	Oajj	62-70	1	-	<1	2	1.1	16.0	83	2.1	0.60	0.30	100
				8.5										
	51	CA1	0-5	5	-	<1	24	2.5	7.9	45	3.1	3.50	0.40	100
				8.3										
	52	CA2	5-25	2	-	<1	1	0.6	7.5	47	2.4	1.60	0.30	100
				8.1										
	53	Bwjj1	20-60	4	-	<1	1	0.5	7.2	47	1.6	0.40	0.20	100
				8.0										
	54	Bwjj2	20-65	0	-	<1	2	0.9	7.2	47	1.4	0.40	0.30	100
				7.6										
	55	Bwf	55-68	9	-	<1	3	<1	9.1	49	1.3	0.60	0.10	100
				7.9										
	56	Cf/Wfm	68-110+	2	-	1	1	0.9	8.5	47	1.7	0.80	0.30	100
		Cf (under		7.3										
	57	boil)	80-110+	6	-	6	1	2.9	6.4	44	1.2	0.70	0.10	100
202	West Dock, Walker Veg.Site (sampled 8/28/2001), 70° 22.485'N, 148° 33.148'W.													
	S01AK-185-005-			5.2										
	41	Oa	0-9	0	-	4	1	8.0	74.4	36	8.9	3.70	1.70	
				5.1										
	42	Bg/Oa	9-18	3	-	4	<1	1.8	43.3	27	5.2	2.20	0.50	81
				5.4										
	43	Oe	18-38	4	-	3	1	1.3	68.6	44	6.3	2.80	0.40	-

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	E.C. ($ds\ m^{-1}$)	Extr. NH_4-N ($mg\ kg^{-1}$)	Extr. NO_3-N ($mg\ kg^{-1}$)	Extr. P ($mg\ kg^{-1}$)	CEC	Ca	Mg	Na	K	Base Sat.
									($me\ 100g^{-1}$)					(%)
202 continued	44	Oef	38-50	5.7 5	-	7	2	8.0	56.3	39	3.8	2.60	0.30	-
	45	Oe/2Cfjj	50-70	6.1 1	-	42	3	8.0	20.4	44	2.1	0.80	0.50	-
	46	2Cf1/Oejj	70-100	7.7 7	-	2	<1	1.5	4.4	38	0.6	0.30	0.10	100
	47	Cf2	100-120+	7.8 2	-	<1	1	1.5	4.2	33	0.6	0.40	0.10	100
203	Deadhorse Frostboil study site, Mile 411 Dalton Highway (sampled 7/18/2001), 70° 09' 40.8" N, 148° 27' 58.7" W.													
		Oe/Oa	0-8	-	-	-	-	-	-	-	-	-	-	-
		Bw1	0-23	7.8 7	0.48	<1	1	2.0	11.9	29	0.3	0.06	0.08	100
		Bw2	23-40	8.0 3	0.31	<1	1	2.0	11.5	28	0.3	0.05	0.08	100
		Bg1	0-23	7.9 8	0.40	<1	1	2.0	9.0	26	0.2	0.06	0.06	100
		Bg2	40-70	8.1 3	0.35	1	2	2.0	11.7	29	0.2	0.04	0.07	100
		Cf1	70-90	8.0 0	0.56	5	<1	<0.1	5.2	23	0.2	0.03	0.05	100
		Cf2	90-110+	8.1 1	0.56	6	1	<0.1	3.2	24	0.3	0.03	0.05	100
204	Franklin Bluff Fbsite, Wet Nonacidic Tundra boil (sampled 7/23/2002), 69° 40.449'N 148° 43.013' W.													
		A1	0-3	8.0 0	-	1	5	<0.1	15.4	44	2.5	0.12	0.10	100
		Bw	3-12	7.9 2	-	1	5	<0.1	16.5	34	1.0	0.09	0.10	100

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	E.C. (ds m^{-1})	Extr. NH_4-N (mg kg^{-1})	Extr. NO_3-N (mg kg^{-1})	Extr. P (mg kg^{-1})	CEC	Ca	Mg	Na	K	Base Sat. (%)
									(me 100g^{-1})					
204 continued		Bg1	12-45	8.0 0	-	<1	2	<0.1	13.1	40	0.8	0.10	0.10	100
		BC	45-75	7.9 7	-	1	3	<0.1	17.1	32	0.8	0.07	0.10	100
		Bg2	10-45	7.8 8	-	2	1	<0.1	16.8	34	0.8	0.07	0.10	100
		Bg3	10-30	8.0 1	-	<1	2	<0.1	13.4	29	0.8	0.08	0.09	100
		Oi/Oe	0-15	7.4 1	-	18	<1	10.0	84.2	145	4.2	0.14	0.64	100
		Oi (moss)	0-5	7.1 0	-	3	<1	<0.1	95.2	115	3.5	0.12	0.31	100
		Oaf (interboil)	60-75	7.5 3	-	3	4	<0.1	40.7	63	1.4	0.07	0.08	100
		Bg4	30-45	8.0 3	-	<1	1	<0.1	15.8	38	0.7	0.09	0.09	100
		Ajj	35-60	7.5 5	-	2	2	<0.1	34.4	49	1.1	0.07	0.09	100
		2Cf	65-100+	-	-	-	-	-						
205	Franklin Bluffs Moist Tundra Site (sampled 08/26/2001), 69° 40.484'N 148° 43.274'W.													
	S01AK-185-002-14	Oe	0-20	7.2 4	1.00	2	5	8.4	90.5	117	2.3	0.50	0.40	100
	15	Ajj	2-45	7.4 6	0.44	1	2	1.9	11.5	49	0.7	0.20	0.10	100
	16	Bwjj	2-50	7.4 6	-	1	3	0.8	7.4	49	0.5	0.30	0.30	100
	17	Abjj	10-45	7.9 9	0.59	2	6	2.4	27.6	65	1.2	0.20	0.20	100

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	E.C. ($ds\ m^{-1}$)	Extr. NH_4-N ($mg\ kg^{-1}$)	Extr. NO_3-N ($mg\ kg^{-1}$)	Extr. P ($mg\ kg^{-1}$)	CEC	Ca	Mg	Na	K	Base Sat.
									----------($me\ 100g^{-1}$)----------					(%)
205				7.5										
continued	18	Bg1jj	28-72	6	0.54	1	2	2.4	13.2	51	0.7	0.30	0.10	100
				7.7										
	19	Bg2jj	50-70	3	0.54	2	4	3.6	14.7	52	0.7	0.30	0.10	100
				7.7										
	20	Bg3jj	25-68	0	0.45	2	3	1.1	9.0	48	0.6	0.20	0.20	100
				7.9										
	21	Oabjj	68-90	3	-	4	5	2.2	45.3	117	2.3	0.60	0.40	100
				7.4										
	22	Cf1	45-75	7	0.88	3	1	<0.1	4.3	43	2.0	0.20	0.10	100
				7.4										
	23	Cf2	90-100+	6	1.23	5	1	<0.1	3.1	35	2.9	0.20	0.10	100
206	Franklin Bluffs Dry Tundra Site (sampled 08/26/2001), 69° 40.484'N 148° 43.274'W.													
				8.0										
	S01AK-185-003 24	A	0-25	7	0.84	3	6	8.0	58.7	90	2.4	0.20	0.20	100
				7.1										
	25	Bw1	0-25	8	-	1	3	0.5	6.1	46	0.7	0.20	0.20	100
				8.0										
	26	Ajj	22-45	7	0.50	<1	4	3.6	18.5	54	0.7	0.20	0.10	100
				7.6										
	27	Bw2jj	20-55	7	-	<1	2	0.7	8.3	47	0.6	0.20	0.10	100
				7.9										
	28	Abjj	50-65	8	0.49	<1	5	6.6	33.2	66	1.0	0.20	0.20	100
				7.4										
	29	2C1	58-82	5	0.35	<1	3	<0.1	2.4	37	0.4	0.10	0.01	100
				8.0										
	30	2C2f	82-100+	4	-	5	3	<0.1	-	-	-	-	-	-

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	E.C. (ds m^{-1})	Extr. NH_4-N (mg kg^{-1})	Extr. NO_3-N (mg kg^{-1})	Extr. P (mg kg^{-1})	CEC	Ca	Mg	Na	K	Base Sat. (%)
									(me $100g^{-1}$)					
207	Sagwon MNT Grid Site, (sampled 08/29/2001), 69° 26.006'N, 148° 40.287'W.													
	S01AK185-007-			6.2										
	58	Oe	0-5	2	-	10	4	42.0	47.0	95	6.5	0.70	1.80	100
				6.9										
	59	A	8-30	5	-	<1	1	7.3	23.1	51	2.5	0.20	0.30	100
				7.5										
	60	Bg1	30-55	4	-	<1	1	5.0	21.8	56	2.2	0.20	0.30	100
				7.7										
	61	C1/Bg2	23-24	7	-	<1	3	4.1	24.5	44	1.9	0.20	0.30	100
				7.7										
	62	Ajj1	24-30	3	-	<1	2	3.5	23.2	52	2.1	0.30	0.30	100
				7.2										
	63	Oajj	62-67	7	-	5	3	16.0	101.6	122	7.1	0.70	0.80	100
				7.0										
	64	Ajj2	38-41	9	-	1	2	5.1	28.4	35	2.2	0.20	0.30	100
				7.6										
	65	Bg2	50-71	4	-	<1	2	5.1	24.9	48	2.0	0.30	0.40	100
				7.6										
	66	Bg3/Oajj	16-56	7	-	<1	1	8.1	42.1	61	2.0	0.20	0.30	100
				7.3										
	67	Oajj	74-80	9	-	6	1	12.8	56.9	77	3.6	0.60	0.60	100
				7.5										
	68	Bwf	65-80	5	-	8	5	11.4	33.2	59	2.7	0.20	0.30	100
				7.6										
	69	Wfm/Cg	80-110+	0	-	20	2	14.5	11.3	49	3.5	0.30	0.40	100
		Wfm			-									-
207a	Sagwon MNT2 Grid Site (sampled 7/24/2002), 69°25.92'N 148° 40.271'W.													
				7.9										
		Bw1 (boil)	0-10	0	-	3	4	<0.1	23.9	48	4.9	0.12	0.18	100

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	1:1 pH	E.C.	Extr. NH_4-N	Extr. NO_3-N	Extr. P	CEC	Ca	Mg	Na	K	Base Sat.
			(cm)		*(ds m^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*----------(me $100g^{-1}$)----------*					*(%)*
207a continued		Ajj (boil)	18-75	7.47	-	1	4	5.0	49.0	75	2.7	0.11	0.24	100
		Bg (boil & interboil)	22-50	7.84	-	1	3	<0.1	22.2	52	1.5	0.08	0.15	100
		Bw2 (boil)	10-50	7.68	-	3	2	<0.1	23.5	47	2.1	0.08	0.18	100
		Oi (interboil)	0-20	6.79	-	20	2	72.0	115.2	126	11.0	0.17	1.51	100
		Oe (interboil)	18-40	7.27	-	17	4	44.0	139.1	155	10.5	0.26	0.98	100
		Oaf (Oa/Oejj) interboil	58-72	7.42	-	2	6	11.0	86.4	107	5.5	0.16	0.24	100
		Oa/2Cf (Oaf) interboil	65-80	7.50	-	2	2	8.0	49.8	63	3.1	0.11	0.21	100
		Bgf (boil & interboil)	48-72	7.64	-	2	2	5.5	39.8	65	2.4	0.10	0.19	100
		Cf/Oa (boil)	60-92	7.64	-	3	2	4.0	25.8	57	2.0	0.13	0.20	100
		Oa/2Cf (boil)	78-110	7.63	-	19	1	10.5	25.5	50	3.5	0.10	0.10	100
		2Cf (boil)	105+	7.61	-	39	2	9.0	21.9	33	7.7	0.16	0.14	100
		Bw/Ajj (boil)	12-60	7.74	-	1	2	<0.1	27.9	55	2.1	0.10	0.21	100

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	1:1 pH	E.C.	Extr. NH_4-N	Extr. NO_3-N	Extr. P	CEC	Ca	Mg	Na	K	Base Sat.
			(cm)		*(ds m^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(me $100g^{-1}$)*					*(%)*
208	Sagwon MAT Grid Site, (sampled 07/20/2001), 69° 25' 0.532"N, 148° 41' 0.727"W.													
		Oi/Oe (Sphagnum)	0-5	4.27	0.29	20	2	106.0	97.9	23	2.5	0.15	2.75	29
		Bw/Ajj (Hummock)	5-20	4.58	0.14	6	1	3.0	17.9	3	0.3	0.03	0.16	17
		Bw/Ajj (Moss)	5-20	5.31	0.14	5	1	3.0	22.4	5	0.5	0.03	0.09	27
		Bw/Ajj (Tussock)	5-20	5.17	0.12	4	<1	3.0	24.0	3	0.3	0.03	0.09	16
		Oa/Bgjj	20-47	5.02	0.14	4	<1	3.0	15.0	4	0.4	0.02	0.07	32
		Oa/Bg/Ajj	47-62	4.81	0.17	5	<1	4.0	31.2	5	0.3	0.02	0.06	16
		Oaf1	45-55	5.43	0.38	20	<1	3.0	46.6	15	0.8	0.03	0.23	35
		Oaf2	50-65	5.15	0.35	16	<1	3.0	49.4	12	0.6	0.03	0.19	26
		Cf1	60-80	7.42	0.48	17	<1	10.0	35.4	23	0.7	0.03	0.28	67
		Cf2	75-100+	5.60	0.33	27	<1	4.0	25.8	11	0.8	0.02	0.21	46
208a	Sagwon MAT2 Grid Site (sampled 7/25/2002), 69° 25.505'N 148° 41.714'W.													
		Oi1 tussock	0-12	4.29	-	12	1	24.0	48.7	11	2.3	0.16	0.68	29
		Bg1	12-35	5.13	-	5	1	<0.1	24.1	6	0.9	0.06	0.06	28

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	1:1 pH	E.C.	Extr. NH_4-N	Extr. NO_3-N	Extr. P	CEC	Ca	Mg	Na	K	Base Sat.
			(cm)		*(ds m^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*----------(me $100g^{-1}$)----------*					*(%)*
208a continued		Ajj/Oaf	25-52	5.4 1	-	15	1	<0.1	40.1	18	2.2	0.11	0.11	52
		Oa/Bg1	45-62	5.3 2	-	8	1	<0.1	36.3	15	1.8	0.08	0.08	47
		A/Bgjj	20-40	5.2 2	-	5	1	<0.1	37.5	13	1.4	0.11	0.06	38
		Oajj	40-45	4.9 9	-	9	<1	<0.1	43.6	17	1.6	0.07	0.11	42
		Bg2	28-40	5.2 7	-	2	<1	<0.1	25.9	8	1.1	0.06	0.06	37
		Oa/Bgf Ataxatic	40-62	5.1 6	-	22	<1	<0.1	38.8	24	2.2	0.12	0.27	69
		Oaf/Bg2f	35-60	5.6 8	-	18	<1	<0.1	49.2	30	2.9	0.07	0.25	67
		Cf/Oaf	60-105	7.5 3	-	30	1	<0.1	32.1	42	2.0	0.07	0.31	100
		Oi2 interboil	0-15	5.2 4	-	12	1	52.0	75.8	46	6.9	0.12	1.76	72
		Oe interboil	15-28	5.6 6	-	10	2	32.0	83.6	54	6.5	0.08	0.90	74
		2Cf	105+	7.5 2	-	17	1	1.0	20.0	30	4.7	0.09	0.18	100
209	Happy Valley Grid Site, (sampled 08/27/2001), 69° 08' 48.7"N, 148° 50' 53.9" W.													
	S01AK-185-004-30	Oi	0-20	7.8 7	-	22	3	54.0	85.0	49	9.6	0.50	5.60	76
	31	Oe	0-28	4.8 8	-	11	3	46.0	68.7	39	4.4	0.60	0.90	65
	32	Bg1	0-24	5.1 0	-	1	1	1.5	17.3	6	0.8	0.10	0.10	41

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	E.C. (ds m^{-1})	Extr. NH_4-N (mg kg^{-1})	Extr. NO_3-N (mg kg^{-1})	Extr. P (mg kg^{-1})	CEC	Ca	Mg	Na	K	Base Sat.
									(me $100g^{-1}$)					(%)
209 continued	33	Bg2	0-19	5.08	-	<1	1	0.9	16.6	4	0.6	0.20	0.20	32
	34	Oajj	10-22	5.00	-	2	1	1.3	24.4	9	1.3	0.60	0.60	49
	35	Bg3	18-44	4.98	-	2	1	1.7	16.7	4	0.6	0.30	0.20	31
	36	Bg4	17-35	4.80	-	2	1	1.0	16.9	5	0.8	0.20	0.10	37
	37	Oebjj	30-55	4.66	-	7	2	2.0	65.7	21	2.0	0.60	0.30	37
	38	Oebjj/Cf	45-65	4.80	-	56	1	2.6	42.4	16	1.0	0.40	0.30	42
	39	Bg5	28-38	4.72	-	6	<1	2.4	17.1	6	1.0	0.20	0.20	46
	40	Cf	45-100+	5.21	-	132	<1	2.6	43.6	25	1.3	0.30	0.30	62
210	Toolik Flux Study Site (sampled June 1995), 68° 37' 27.54" N, 149° 37' 0.22" W.													
	95AK-185-003	Oi	0-4	4.80	-	-	-	-	73.6	17	7.0	0.30	3.30	-
		Oe	4-8	6.10	-	-	-	-	56.5	9	2.6	0.20	0.60	-
		Oa/A	8-20	5.60	-	-	-	-	28.3	4	1.2	0.10	0.20	20
		Bw	8-20	5.00	0.08	-	-	-	13.4	1	0.4	0.10	0.10	14
		Bg	20-35	4.80	0.01	-	-	-	15.6	1	0.4	0.10	0.10	12
		Cf	35-100	4.90	0.02	-	-	-	14.8	2	0.4	<.01	0.10	14

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	Total TC (%)	Total TN (%)	100 cm Stores C (kgC m^{-2})	100 cm Stores N (mg kg^{-1})	Mehlich 3 Extractable K (mg kg^{-1})	Mehlich 3 Extractable Ca (mg kg^{-1})	Mehlich 3 Extractable Mg (mg kg^{-1})	IC (%)	OC (%)
201	Howe Island Site Pit (sampled 8/26/2001), 70° 18.986'N, 147° 59.647'W.											
	S01AK-185-006-											
	48	A1	0-5	5.9	0.15	23.98	1.17	118	14360	279	3.73	2.22
	49	A2	5-40	5.8	0.18			56	14600	199	3.38	2.44
	50	Oajj	62-70	6.5	0.23			80	12990	295	2.34	4.16
	51	CA1	0-5	4.2	0.09			137	6188	373	2.75	1.46
	52	CA2	5-25	4.0	0.06			87	7201	320	3.09	0.86
	53	Bwjj1	20-60	4.3	0.05			78	7141	195	3.55	0.77
	54	Bwjj2	20-65	4.6	0.09			72	8768	163	0.16	4.41
	55	Bwf	55-68	6.1	0.11			33	15200	177	4.28	1.78
	56	Cf/Wfm	68-110+	5.3	0.13			64	12000	209	2.45	2.82
	57	Cf(under boil)	80-110+	6.4	0.14			26	8261	193	3.60	2.84
202	West Dock, Walker Veg.Site (sampled 08/28/2001), 70° 22.485'N, 148° 33.148'W.											
	S01AK-185-005-											
	41	Oa	0-9	37.2	2.19	7.52	0.51	114	4446	730	0.02	34.08
	42	Bg/Oa	9-18	17.3	1.13	9.35	0.61	54	3782	535	0.01	17.37
	43	Oe	18-38	30.3	2.26	10.87	0.77	44	4236	577	0.01	20.18
	44	Oef	38-50	36.5	2.29	23.59	1.89	38	5726	456	0.01	33.98
	45	Oe/2Cfjj	50-70	12.3	0.82	14.99	1.23	50	4650	258	0.16	24.18
	46	2Cf1/Oejj	70-100	2.7	0.11	1.33	0.05	28	3283	53	1.22	3.72
	47	Cf2	100-120+	2.7	0.14			24	3152	62	1.40	4.02
203		Oe/Oa	0-8	-	-	2.08	0.08	-	-	-	-	-
		Bw1	0-23	5.9	0.16	9.23	0.25	-	-	-	-	-

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	Total			100 cm Stores		Mehlich 3 Extractable				
			depth (cm)	TC (%)	TN (%)	C ($kgC\ m^{-2}$)	N ($mg\ kg^{-1}$)	K ($mg\ kg^{-1}$)	Ca ($mg\ kg^{-1}$)	Mg ($mg\ kg^{-1}$)	IC (%)	OC (%)
203 continued		Bw2	23-40	5.6	0.12	8.50	0.18	-	-	-	-	-
		Bg1	0-23	5.3	0.07	3.29	0.04	-	-	-	-	-
		Bg2	40-70	5.6	0.12	21.35	0.45	-	-	-	-	-
		Cf1	70-90	6.7	0.04	12.74	0.07	-	-	-	-	-
		Cf2	90-110+	6.1	0.04	10.11	0.07	-	-	-	-	-
204	Franklin Bluff Fbsite, Wet Nonacidic Tundra boil (sampled 7/23/2002), 69° 40.449'N 148° 43.013' W.											
		A1	0-3	4.1	0.16	-	-	-	-	-	-	-
		Bw	3-12	4.3	0.18			-	-	-	-	-
		Bg1	12-45	3.5	0.10			-	-	-	-	-
		BC	45-75	4.2	0.15			-	-	-	-	-
		Bg2	10-45	5.2	0.25			-	-	-	-	-
		Bg3	10-30	3.7	0.12			-	-	-	-	-
		Oi/Oe	0-15	20.2	1.13			-	-	-	-	-
		Oi (moss)	0-5	18.5	1.28			-	-	-	-	-
		Oaf (interboil)	60-75	9.1	0.56			-	-	-	-	-
		Bg4	30-45	3.6	0.12			-	-	-	-	-
		Ajj	35-60	8.0	0.53			-	-	-	-	-
		2Cf	65-100+									
205	Franklin Bluffs Moist Tundra Site (sampled 08/26/2001), 69° 40.484'N 148° 43.274'W.											
	S01AK-185-002-14	Oe	0-20	18.8	1.27	56.0	2.99	82	8965	149	0.08	18.68
	15	Ajj	2-45	6.8	0.28			40	7097	68	1.32	5.51

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	Total depth (cm)	Total TC (%)	Total TN (%)	100 cm Stores C (kgC m^{-2})	100 cm Stores N (mg kg^{-1})	Mehlich 3 Extractable K (mg kg^{-1})	Mehlich 3 Extractable Ca (mg kg^{-1})	Mehlich 3 Extractable Mg (mg kg^{-1})	IC (%)	OC (%)
205 continued	16	Bwjj	2-50	5.3	0.14			37	9732	62	2.09	3.16
	17	Abjj	10-45	10.7	0.62			38	6825	113	0.99	9.73
	18	Bg1jj	28-72	6.4	0.27			40	6789	59	1.51	4.90
	19	Bg2jj	50-70	8.0	0.38			46	8086	77	1.38	6.58
	20	Bg3jj	25-68	5.4	0.15			36	10970	63	1.77	3.63
	21	Oabjj	68-90	14.9	1.02			36	9920	187	0.69	14.23
	22	Cf1	45-75	6.1	0.13			35	20660	322	2.96	3.13
	23	Cf2	90-100+	5.6	0.08			42	23230	449	2.57	3.08
206	Franklin Bluffs Dry Tundra Site (sampled 08/26/2001), 69^{o} 40.484'N 148^{o} 43.274'W. S01AK-185-003-											
	24	A	0-25	22.8	1.46	56.4	2.11	105	10890	276	0.30	22.55
	25	Bw1	0-25	5.6	0.08			34	14920	97	2.16	3.41
	26	Ajj	22-45	8.0	0.42			38	8789	88	1.16	6.89
	27	Bw2jj	20-55	5.6	0.16			39	14510	95	1.92	3.67
	28	Abjj	50-65	13.0	0.78			31	7633	96	0.77	12.26
	29	2C1	58-82	6.6	0.09			17	19740	126	2.98	3.61
	30	2C2f	82-100+	6.0	0.05			25	19670	270	3.35	2.63
207	Sagwon MNT Grid Site, (sampled 08/29/01), 69^{o} 26.006'N, 148^{o} 40.287'W. S01AK185-007-											
	58	Oe	0-5	21.3	0.86	32.4	1.9	642	6284	676	0.12	21.20
	59	A	8-30	4.1	0.27			80	4353	278	0.08	4.07
	60	Bg1	30-55	4.6	0.28			86	5025	187	0.42	4.17
	61	C1/Bg2	23-24	3.4	0.23			85	5050	206	0.07	3.29

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	Total depth	Total TC	Total TN	100 cm Stores C	100 cm Stores N	Mehlich 3 Extractable K	Mehlich 3 Extractable Ca	Mehlich 3 Extractable Mg	IC	OC
			cm	*%*	*%*	*kgC m^{-2}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*%*	*%*
207 continued	62	Ajj1	24-30	3.9	0.29			80	4354	188	0.24	3.68
	63	Oajj	62-67	16.6	0.92			244	10108	638	0.04	16.51
	64	Ajj2	38-41	4.8	0.34			89	4926	235	0.09	4.74
	65	Bg2	50-71	4.5	0.30			111	4809	165	0.06	4.39
	66	Bg3/Oajj	16-56	5.0	0.30			105	6197	173	0.26	4.74
	67	Oajj	74-80	8.2	0.53			101	6350	299	0.07	8.14
	68	Bwf	65-80	5.5	0.34			104	5534	235	0.34	5.12
	69	Wfm/Cg Wfm	80-110+	5.4	0.23			102	5754	312	0.57	4.82
207a	Sagwon MNT2 Grid Site (sampled 7/24/2002), 69^{o}25.92'N 148^{o} 40.271'W.											
		Bw1 (boil)	0-10	4.2	0.24			-	-	-	-	-
		Ajj (boil)	18-75	7.9	0.50			-	-	-	-	-
		Bg (boil and interboil)	22-50	3.6	0.21			-	-	-	-	-
		Bw2 (boil)	10-50	3.4	0.25			-	-	-	-	-
		Oi (interboil)	0-20	31.3	1.31			-	-	-	-	-
		Oe (interboil)	18-40	27.8	1.33			-	-	-	-	-
		Oaf (Oa/Oejj) interboil	58-72	14.1	0.91			-	-	-	-	-

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	Total depth (cm)	Total TC (%)	Total TN (%)	100 cm Stores C (kgC m^{-2})	100 cm Stores N (mg kg^{-1})	Mehlich 3 Extractable K (mg kg^{-1})	Mehlich 3 Extractable Ca (mg kg^{-1})	Mehlich 3 Extractable Mg (mg kg^{-1})	IC (%)	OC (%)
207a continued		Oa/2Cf (Oaf) interboil	65-80	8.1	0.50			-	-	-	-	-
		Bgf (boil and interboil)	48-72	6.7	0.42			-	-	-	-	-
		Cf/Oa (boil)	60-92	5.4	0.33			-	-	-	-	-
		Oa/2Cf (boil)	78-110	6.7	0.33			-	-	-	-	-
		2Cf (boil)	105+	5.6	0.28			-	-	-	-	-
		Bw/Ajj (boil)	12-60	4.7	0.31			-	-	-	-	-
208	Sagwon MAT Grid Site, (sampled 07/20/2001), 69° 25' 0.532"N, 148° 41' 0.727"W.											
		Oi/Oe (Sphagnum)	0-5	44.7	1.28	45.0	2.4	-	-	-	-	-
		Bw/Ajj (Hummock)	5-20	5.3	0.28			-	-	-	-	-
		Bw/Ajj (Moss)	5-20	4.4	0.24			-	-	-	-	-
		Bw/Ajj (Tussock)	5-20	2.4	0.13			-	-	-	-	-
		Oa/Bgjj	20-47	6.3	0.35			-	-	-	-	-
		Oa/Bg/Ajj	47-62	8.6	0.47			-	-	-	-	-
		Oaf1	45-55	8.8	0.49			-	-	-	-	-
		Oaf2	50-65	9.8	0.53			-	-	-	-	-
		Cf1	60-80	5.3	0.29			-	-	-	-	-

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	Total depth (cm)	Total TC (%)	Total TN (%)	100 cm Stores C (kgC m^{-2})	100 cm Stores N (mg kg^{-1})	Mehlich 3 Extractable K (mg kg^{-1})	Mehlich 3 Extractable Ca (mg kg^{-1})	Mehlich 3 Extractable Mg (mg kg^{-1})	IC (%)	OC (%)
208 continued		Cf2	75-100+	6.6	0.37			-	-	-	-	-
208a	Sagwon MAT2 Grid Site (sampled 7/25/2002), 69° 25.505'N 148° 41.714'W.											
		Oi1 tussock	0-12	18.8	0.49			-	-	-	-	-
		Bg1	12-35	4.3	0.25			-	-	-	-	-
		Ajj/Oaf	25-52	10.2	0.57			-	-	-	-	-
		Oa/Bg1	45-62	7.6	0.43			-	-	-	-	-
		A/Bgjj	20-40	8.9	0.50			-	-	-	-	-
		Oajj	40-45	10.7	0.60			-	-	-	-	-
		Bg2	28-40	4.8	0.30			-	-	-	-	-
		Oa/Bgf Ataxatic	40-62	8.7	0.53			-	-	-	-	-
		Oaf/Bg2f	35-60	8.8	0.52			-	-	-	-	-
		Cf/Oaf	60-105	5.0	0.30			-	-	-	-	-
		Oi2 interboil	0-15	32.1	0.86			-	-	-	-	-
		Oe interboil	15-28	37.2	1.11			-	-	-	-	-
		2Cf	105+	6.9	0.29			-	-	-	-	-
209	Happy Valley Grid Site, (sampled 08/27/2001), 69° 08' 48.7"N, 148° 50' 53.9" W.											
	S01AK-185-004-30	Oi	0-20	37.1	0.92	57.3	3.1	1214	4696	772	0.77	36.4
	31	Oe	0-28	41.5	1.55			470	6144	632	0.06	41.4
	32	Bg1	0-24	3.3	0.18			33	953	102	0.01	3.2
	33	Bg2	0-19	3.0	0.15			27	743	88	<.01	3.0
	34	Oajj	10-22	7.2	0.35			35	1413	136	<.01	7.2
	35	Bg3	18-44	4.2	0.22			29	782	94	<.01	4.2
	36	Bg4	17-35	3.7	0.18			28	919	101	<.01	3.7

Table 19a continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	Total		100 cm Stores		Mehlich 3 Extractable			IC	OC
				TC	TN	C	N	K	Ca	Mg		
			(cm)	*(%)*	*(%)*	*(kgC m^{-2})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(mg kg^{-1})*	*(%)*	*(%)*
209 continued	37	Oebjj	30-55	23.0	1.15			58	3216	232	0.03	23.0
	38	Oebjj/Cf	45-65	16.0	0.89			47	2262	113	0.01	15.9
	39	Bg5	28-38	3.8	0.18			31	1076	117	<.01	3.8
	40	Cf	45-100+	9.4	0.59			63	3175	142	0.09	9.4
210	Toolik Flux Study Site (sampled June 1995), 68° 37' 27.54" N, 149° 37' 0.22" W.											
	95AK-185-003	Oi	0-4	3.0	0.10	32.5	1.56	-	-	-	<.01	2.95
		Oe	4-8	3.5	0.16			-	-	-	<.01	3.46
		Oa/A	8-20	3.1	0.16			-	-	-	<.01	3.08
		Bw	8-20	3.4	0.17			-	-	-	<.01	3.44
		Bg	20-35	5.1	0.24			-	-	-	<.01	5.13
		Cf	35-100	14.4	0.72			-	-	-	<.01	14.44

Table 19b. Selected soil physical properties from Biocomplexity soil pits.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth	1:1 pH	Bulk Density	USDA Texture	Water Content	Water Content	<2mm$_{wt.}$ Clay	<2mm$_{wt.}$ Silt	<2mm$_{wt.}$ Sand	>2mm vol.
			(cm)		*(g cm^{-3})*		*(%wt.)*	*(%vol.)*	*(%)*	*(%)*	*(%)*	*(%)*
201	Howe Island Site Pit (sampled 8/26/2001), 70^{o} 18.986'N, 147^{o} 59.647'W. S01AK-185-006-											
	48	A1	0-5	7.88	1.09	VFSL	36	40	7	39	55	-
	49	A2	5-40	7.91	1.28	L	31	39	9	42	49	-
	50	Oajj	62-70	8.01	1.24	-	28	35	-	-	-	-
	51	CA1	0-5	8.55	1.57	L	-	-	23	43	33	-
	52	CA2	5-25	8.32	1.52	L	17	25	21	43	37	-
	53	Bwjj1	20-60	8.14	1.52	L	15	23	19	43	38	-
	54	Bwjj2	20-65	8.00	1.53	L	18	27	16	45	39	-
	55	Bwf	55-68	7.69	1.57	SIL	-	-	9	59	31	-
	56	Cf/Wfm	68-110+	7.92	0.39	L	140	54	16	44	41	-
	57	Cf(under boil)	80-110+	7.36	0.39	VFSL	147	57	10	36	54	-
202	West Dock, Walker Veg.Site (sampled 08/28/2001), 70^{o} 22.485'N, 148^{o} 33.148'W. S01AK-185-005-											
	41	Oa	0-9	5.20	0.22	MK	303	68	-	-	-	-
	42	Bg/Oa	9-18	5.13	0.53	MK-FSL	121	64	-	-	-	-
	43	Oe	18-38	5.44	0.33	MK-PT	235	78	-	-	-	-
	44	Oef	38-50	5.75	0.25	MK-PT	370	91	-	-	-	-
	45	Oe/2Cfjj	50-70	6.11	0.19	S-MK	516	99	-	-	-	5
	46	2Cf1/Oejj	70-100	7.77	0.38	LS	220	85	8	12	80	4
	47	Cf2	100-120+	7.82		LS	155	-	8	10	83	tr
205	Franklin Bluffs Moist Tundra Site (sampled 08/26/2001), 69^{o} 40.484'N 148^{o} 43.274'W. S01AK-185-002-											
	14	Oe	0-20	7.24	0.38	L	134	63	10	38	52	-
	15	Ajj	2-45	7.46	1.35	L	29	38	19	45	37	-
	16	Bwjj	2-50	7.46	1.54	L	23	36	18	47	36	-
	17	Abjj	10-45	7.99	1.18	L	35	41	20	43	37	-

Table 19b continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	Bulk Density ($g\ cm^{-3}$)	USDA Texture	Water Content (%wt.)	Water Content (%vol.)	<2mm$_{wt.}$ Clay (%)	<2mm$_{wt.}$ Silt (%)	<2mm$_{wt.}$ Sand (%)	>2mm vol. (%)
205 continued	18	Bg1jj	28-72	7.56	1.31	L	28	36	20	44	36	-
	19	Bg2jj	50-70	7.73	1.39	L	30	43	19	44	37	-
	20	Bg3jj	25-68	7.70	1.50	L	23	35	19	48	34	-
	21	Oabjj	68-90	7.93	0.45	MK-SIL	132	59	-	-	-	-
	22	Cf1	45-75	7.47	1.57	FSL	33	51	6	28	66	-
	23	Cf2	90-100+	7.46	0.66	VFSL	114	75	4	29	67	-
206	Franklin Bluffs Dry Tundra Site (sampled 08/26/2001), 69° 40.484'N 148° 43.274'W.											
	S01AK-185-003-											
	24	A	0-25	8.07	0.41	L	163	67	19	38	42	-
	25	Bw1	0-25	7.18	1.61	L	19	30	16	46	38	-
	26	Ajj	22-45	8.07	0.95	L	53	50	22	39	39	-
	27	Bw2jj	20-55	7.67	1.40	L	26	36	17	39	45	-
	28	Abjj	50-65	7.98	0.70	L	77	54	17	34	49	-
	29	2C1	58-82	7.45	1.51	S	20	30	3	11	86	-
	30	2C2f	82-100+	8.04	1.49	-	38	57	-	-	-	-
207	Sagwon MNT Grid Site, (sampled 08/29/2001), 69° 26.006'N, 148° 40.287'W.											
	S01AK185-007-58	Oe	0-5	6.22	0.13	SIL	447	59	21	72	7	-
	59	A	8-30	6.95	1.10	SIL	40	44	26	66	8	-
	60	Bg1	30-55	7.54	1.36	SIL	23	31	25	70	6	-
	61	C1/Bg2	23-24	7.77	1.34	SIL	34	45	25	69	6	-
	62	Ajj1	24-30	7.73	1.11	SIL	43	48	26	67	7	-
	63	Oajj	62-67	7.27	0.18	-	425	77	-	-	-	-
	64	Ajj2	38-41	7.09	1.11	SIL	43	48	26	67	7	-
	65	Bg2	50-71	7.64	1.16	SIL	44	51	27	67	6	-
	66	Bg3/Oajj	16-56	7.67	1.42	SIL	29	42	27	67	6	-
	67	Oajj	74-80	7.39	0.76	SIL	98	75				-
	68	Bwf	65-80	7.55	0.80	SIL	97	78	25	69	6	-
	69	Wfm/Cg Wfm	80-110+	7.60	0.52	SIL	250	-	16	72	12	-

Table 19b continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	Bulk Density ($g\ cm^{-3}$)	USDA Texture	Water Content (%wt.)	Water Content (%vol.)	<2mm$_{wt.}$ Clay (%)	<2mm$_{wt.}$ Silt (%)	<2mm$_{wt.}$ Sand (%)	>2mm vol. (%)
207a	Sagwon MNT2 Grid Site (sampled 7/24/2002), 69°25.92'N 148° 40.271'W.											
		Bw1 (boil)	0-10	7.90	1.35	SIL	30	40	21	58	22	
		Ajj (boil)	18-75	7.47	1.12	SIL	49	55	13	54	34	
		Bg (boil and interboil)	22-50	7.84	1.34	SIL	32	43	21	58	22	
		Bw2 (boil)	10-50	7.68	1.60	SIL	54	90	17	62	22	
		Oi (interboil)	0-20	6.79	0.10	PT	259	25	na	na	na	
		Oe (interboil)	18-40	7.27	0.18	PT	302	57	na	na	na	
		Oaf (Oa/Oejj) interboil	58-72	7.42	0.26	MK	272	71	na	na	na	
		Oa/2Cf (Oaf) interboil	65-80	7.50	0.82	MK	78	64	na	na	na	
		Bgf (boil and interboil)	48-72	7.64	-	SIL	-	-	13	60	28	
		Cf/Oa (boil)	60-92	7.64	0.66	SIL	118	78	17	58	26	
		Oa/2Cf (boil)	78-110	7.63	-	-	-	-	-	-	-	
		2Cf (boil)	105+	7.61	-	SIL	-	-	11	54	35	
		Bw/Ajj (boil)	12-60	7.74	1.32	SIL	41	54	17	56	27	
208	Sagwon MAT Grid Site, (sampled 07/20/2001), 69° 25' 0.532"N, 148° 41' 0.727"W.											
		Oi/Oe (Sphagnum)	0-5	4.27	0.07	PT	402	29	-	-	-	0.1

Table 19b continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	Bulk Density ($g\ cm^{-3}$)	USDA Texture	Water Content (%wt.)	Water Content (%vol.)	<2mm$_{wt.}$ Clay (%)	<2mm$_{wt.}$ Silt (%)	<2mm$_{wt.}$ Sand (%)	>2mm vol. (%)
208 continued		Bw/Ajj (Hummock)	5-20	4.58	1.15	L	32	36	22	41	37	2.8
		Bw/Ajj (Moss)	5-20	5.31	1.15	L	31	36	22	49	29	5.5
		Bw/Ajj (Tussock)	5-20	5.17	1.15	L	28	32	22	45	33	3.6
		Oa/Bgjj	20-47	5.02	0.95	L	34	32	18	49	33	2.9
		Oa/Bg/Ajj	47-62	4.81	0.92	SIL	41	37	12	53	36	2.3
		Oaf1	45-55	5.43	0.56	-	61	34	-	-	-	0.1
		Oaf2	50-65	5.15	0.56	-	61	34	-	-	-	0.1
		Cf1	60-80	7.42	0.46	SIL	68	31	16	61	24	1.4
		Cf2	75-100+	5.60	0.46	SIL	64	29	16	57	28	2.2
208a	Sagwon MAT2 Grid Site (sampled 7/25/2002), 69° 25.505'N 148° 41.714'W.											
		Oi1 tussock	0-12	4.29	0.11	PT	453	49	-	-	-	-
		Bg1	12-35	5.13	1.60	SIL	34	54	17	54	29	-
		Ajj/Oaf	25-52	5.41	0.51	-	137	70	-	-	-	-
		Oa/Bg1	45-62	5.32	0.38	-	206	79	-	-	-	-
		A/Bgjj	20-40	5.22	0.84	SIL	67	56	10	59	32	-
		Oajj	40-45	4.99	0.64		125	79	-	-	-	-
		Bg2	28-40	5.27	1.00	L	66	66	16	46	38	-
		Oa/Bgf Ataxatic	40-62	5.16	0.27	-	248	66	-	-	-	-
		Oaf/Bg2f	35-60	5.68	0.41	-	173	71	-	-	-	-
		Cf/Oaf	60-105	7.53	-	SIL	-	-	17	57	26	-
		Oi2 interboil	0-15	5.24	0.45	PT	199	89	-	-	-	-
		Oe interboil	15-28	5.66	0.08	PT	268	20	-	-	-	-
		2Cf	105+	7.52	0.71	SIL	34	24	13	57	30	-

Table 19b continued.

Site ID#	USDA/NRCS # Field #	Soil Horizon	depth (cm)	1:1 pH	Bulk Density ($g\ cm^{-3}$)	USDA Texture	Water Content (%wt.)	Water Content (%vol.)	<2mm$_{wt.}$ Clay (%)	<2mm$_{wt.}$ Silt (%)	<2mm$_{wt.}$ Sand (%)	>2mm vol. (%)
209	Happy Valley Grid Site, (sampled 08/27/2001), 69° 08' 48.7"N, 148° 50' 53.9" W.											
	S01AK-185-004-											
	30	Oi	0-20	7.87	0.14	PT	262	33	-	-	-	-
	31	Oe	0-28	4.88	0.20	PT	583	95	-	-	-	-
	32	Bg1	0-24	5.10	1.28	SICL	36	46	29	59	12	-
	33	Bg2	0-19	5.08	1.19	SICL	39	47	28	60	12	-
	34	Oajj	10-22	5.00	0.68	MK	76	52	-	-	-	-
	35	Bg3	18-44	4.98	1.28	SICL	35	44	27	60	13	-
	36	Bg4	17-35	4.80	1.38	SICL	29	41	27	60	13	-
	37	Oebjj	30-55	4.66	0.28	MK	290	82	-	-	-	-
	38	Oebjj/Cf	45-65	4.80	0.65	MK	159	75	-	-	-	-
	39	Bg5	28-38	4.72	1.29	SIL	30	39	26	61	13	-
	40	Cf	45-100+	5.21	0.65	SICL	136	87	27	64	9	-
210	Toolik Flux Study Site (sampled June 1995), 68° 37' 27.54" N, 149° 37' 0.22" W.											
	95AK-185-003	Oi	0-4	4.80	0.08	-	522	-	-	-	-	-
		Oe	4-8	6.10	0.21	-	513	-	-	-	-	-
		Oa/A	8-20	5.60	0.36	L	212	-	23	38	38	-
		Bw	8-20	5.00	1.28	L	32	-	27	40	34	-
		Bg	20-35	4.80	1.04	CL	37	-	28	38	34	-
		Cf	35-100	4.90	0.44	CL	128	-	28	38	35	-

Soil Data for Cryptobiotic Crust Study

Happy Valley

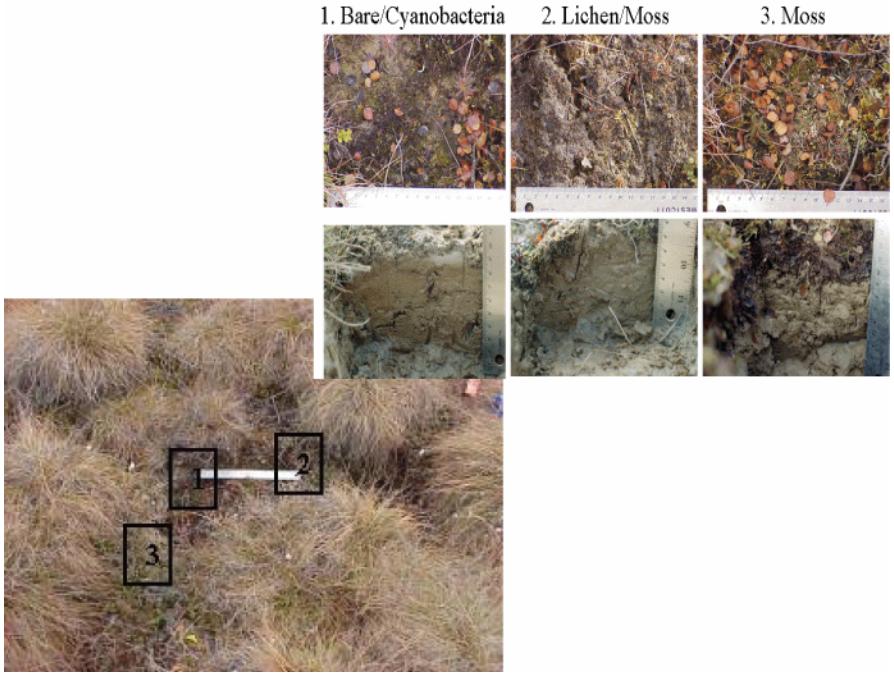

Figure 76. Soil *Crusts at soil site #209 were sampled in August of 2001.*

Table 20. *Soil chemical and physical properties were recorded at Happy Valley for selected crusts.*

Soil Horizon	depth	1:1 pH	E.C	Extr. NH_4-N	Extr. NO_3-N
	cm		*ds m^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
I-Bare/Cyanobac.	0-.5	5.05	-	4	<1
I-Bare/Cyanobac.	.5-1.5	4.87	-	2	<1
I-Bare/Cyanobac.	1.5-2.5	4.95	-	2	1
I-Bare/Cyanobac.	2.5-4.5	5.13	-	2	1
I-Bare/Cyanobac.	4.5-6.6	5.23	-	2	1
I-lichen/moss crust	0-1	5.16	-	3	1
I-lichen/moss crust	1-2	5.20	-	2	<1
I-lichen/moss crust	2-4	5.11	-	2	1
I-lichen/moss crust	4-6	5.10	-	1	1
I-lichen/moss crust	6-8	5.16	-	1	<1
I-moss (surface)	0-9	4.60	-	6	<1
I-moss (/mineral transition)	9-10	4.94	-	2	<1
I-moss (mineral)	10-11	5.14	-	1	<1
I-moss (mineral)	11-13	5.04	-	1	<1
I-moss (mineral)	13-15	5.24	-	1	<1
II-Bare/Cyanobac.	0-.5	5.07	-	2	<1
II-Bare/Cyanobac.	.5-1.5	5.09	-	1	<1
II-Bare/Cyanobac.	1.5-2.5	5.17	-	1	<1
II-Bare/Cyanobac.	2.5-4.5	5.35	-	<1	<1
II-Bare/Cyanobac.	4.5-6.6	5.39	-	<1	<1

Table 20 continued.

Soil Horizon	depth	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe	CEC	Ca	Mg	Na	K
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*me 100g^{-1}*				
I-Bare/Cyanobac.	0-.5	3.0	1.4	6.5	19.4	602	14.5	6	1.6	0.10	0.69
I-Bare/Cyanobac.	.5-1.5	<0.1	1.5	2.4	6.0	627	14.5	3	0.8	0.01	0.15
I-Bare/Cyanobac.	1.5-2.5	<0.1	1.6	1.3	5.7	639	18.3	3	0.8	0.03	0.10
I-Bare/Cyanobac.	2.5-4.5	<0.1	1.6	1.1	4.6	636	20.8	3	0.9	0.03	0.05
I-Bare/Cyanobac.	4.5-6.6	<0.1	1.5	1.9	6.7	633	19.8	3	1.0	0.04	0.04
I-lichen/moss crust	0-1	2.0	2.4	7.4	28.9	579	26.8	8	2.1	0.03	0.53
I-lichen/moss crust	1-2	<0.1	2.4	2.4	8.8	595	22.7	4	1.3	0.03	0.21
I-lichen/moss crust	2-4	<0.1	2.3	1.5	4.0	612	21.6	4	1.2	0.03	0.08
I-lichen/moss crust	4-6	<0.1	2.0	1.8	3.2	622	22.0	4	1.2	0.02	0.04
I-lichen/moss crust	6-8	<0.1	1.8	1.8	3.5	634	24.1	4	1.3	0.05	0.03
I-moss (surface)	0-9	53.0	1.5	35.7	215.0	771	83.3	32	5.5	0.17	2.17
I-moss (/mineral transition)	9-10	1.0	0.5	6.2	50.6	617	35.5	9	1.9	0.07	0.40
I-moss (mineral)	10-11	<0.1	1.9	2.7	22.6	615	15.9	5	1.2	0.02	0.10
I-moss (mineral)	11-13	<0.1	2.1	2.2	11.3	620	21.2	5	1.1	0.01	0.06
I-moss (mineral)	13-15	<0.1	2.0	2.2	12.0	622	20.2	5	1.3	0.03	0.06
II-Bare/Cyanobac.	0-.5	1.0	1.8	4.2	33.1	555	23.5	7	2.0	0.05	0.51
II-Bare/Cyanobac.	.5-1.5	<0.1	1.6	1.7	10.6	550	20.5	4	1.2	0.02	0.16
II-Bare/Cyanobac.	1.5-2.5	<0.1	1.7	1.6	7.4	566	19.1	4	1.2	0.02	0.14
II-Bare/Cyanobac.	2.5-4.5	<0.1	1.9	1.5	8.3	555	17.1	4	1.4	0.03	0.10
II-Bare/Cyanobac.	4.5-6.6	<0.1	1.7	1.3	10.9	572	10.6	4	1.6	0.04	0.08

Table 20 continued.

Soil Horizon	depth	Base Sat.	Water Content	Bulk Density	Total TC	Total TN	Mehlich 3 K
	cm	*%*	*%wt.*	*g cm^{-3}*	*%*	*%*	*mg kg^{-1}*
I-Bare/Cyanobac.	0-.5	59	61	0.68	7.2	0.27	268
I-Bare/Cyanobac.	.5-1.5	26	31	0.68	3.5	0.15	60
I-Bare/Cyanobac.	1.5-2.5	20	28	1.04	2.7	0.12	37
I-Bare/Cyanobac.	2.5-4.5	18	28	1.26	2.6	0.11	20
I-Bare/Cyanobac.	4.5-6.6	22	29	1.42	3.1	0.13	16
I-lichen/moss crust	0-1	39	47	0.42	8.7	0.32	208
I-lichen/moss crust	1-2	26	32	0.72	5.0	0.25	82
I-lichen/moss crust	2-4	23	35	1.20	4.2	0.19	33
I-lichen/moss crust	4-6	22	35	1.23	4.7	0.21	16
I-lichen/moss crust	6-8	20	36	1.30	4.9	0.23	13
I-moss (surface)	0-9	48	334	0.06	44.4	1.06	851
I-moss (/mineral transition)	9-10	33	99	0.48	11.1	0.49	156
I-moss (mineral)	10-11	39	39	0.76	5.4	0.24	38
I-moss (mineral)	11-13	27	42	0.96	5.2	0.26	24
I-moss (mineral)	13-15	31	38	1.52	4.7	0.21	22
II-Bare/Cyanobac.	0-.5	41	49	1.07	6.5	0.27	201
II-Bare/Cyanobac.	.5-1.5	25	28	0.69	2.8	0.13	62
II-Bare/Cyanobac.	1.5-2.5	26	27	0.83	2.6	0.12	53
II-Bare/Cyanobac.	2.5-4.5	30	32	1.11	2.4	0.13	40
II-Bare/Cyanobac.	4.5-6.6	57	35	1.46	2.6	0.13	30

Table 20 continued.

Soil Horizon	depth	wsOC	Water Content	IC	OC
	cm	ug/cm^{-3}	*%vol.*	*%*	*%*
I-Bare/Cyanobac.	0-.5	27	60	<.01	7.25
I-Bare/Cyanobac.	.5-1.5	6	28	<.01	3.51
I-Bare/Cyanobac.	1.5-2.5	7	36	<.01	2.72
I-Bare/Cyanobac.	2.5-4.5	8	37	<.01	2.64
I-Bare/Cyanobac.	4.5-6.6	10	44	<.01	3.07
I-lichen/moss crust	0-1	33	27	<.01	8.73
I-lichen/moss crust	1-2	11	30	<.01	5.03
I-lichen/moss crust	2-4	11	45	<.01	4.25
I-lichen/moss crust	4-6	12	46	<.01	4.75
I-lichen/moss crust	6-8	11	50	<.01	4.86
I-moss (surface)	0-9	29	24	<.01	44.39
I-moss (/mineral transition)	9-10	40	57	<.01	11.05
I-moss (mineral)	10-11	13	37	<.01	5.36
I-moss (mineral)	11-13	14	44	<.01	5.23
I-moss (mineral)	13-15	17	60	<.01	4.74
II-Bare/Cyanobac.	0-.5	49	69	<.01	6.49
II-Bare/Cyanobac.	.5-1.5	8	26	<.01	2.80
II-Bare/Cyanobac.	1.5-2.5	8	29	<.01	2.58
II-Bare/Cyanobac.	2.5-4.5	7	39	<.01	2.36
II-Bare/Cyanobac.	4.5-6.6	10	54	<.01	2.57

Table 20 continued.

Soil Horizon	depth	1:1 pH	E.C	Extr. NH_4-N	Extr. NO_3-N	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe
	cm		*ds m^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
II-moss/Cyanobac. Crust	0-1	4.98	-	3	<1	1.0	2.0	4.4	36.7	544
II-moss/Cyanobac. Crust	1-2	5.08	-	1	<1	<0.1	1.8	1.6	21.7	568
II-moss/Cyanobac. Crust	2-4	5.19	-	1	<1	<0.1	1.9	1.7	12.5	602
II-moss/Cyanobac. Crust	4-6	4.90	-	1	<1	<0.1	2.3	2.3	16.4	624
II-moss/Cyanobac. Crust	6-8	4.85	-	1	<1	<0.1	1.9	2.3	19.7	671
II-moss (surface)	0-3	4.65	-	8	<1	37.0	0.4	28.0	243.9	432
II-moss (/mineral transition)	3-4	4.16	-	3	<1	1.0	1.1	4.5	73.9	553
II-moss (mineral)	4-5	4.26	-	1	<1	<0.1	1.9	1.7	23.1	561
II-moss (mineral)	5-7	4.10	-	1	<1	<0.1	2.1	1.8	9.5	579
II-moss (mineral)	7-9	4.15	-	1	<1	<0.1	1.7	1.7	8.2	609
III-Bare/Cyanobac./moss	0-.5	4.22	-	3	<1	4.0	2.9	3.5	33.0	510
III-Bare/Cyanobac.	.5-1.5	4.20	-	1	<1	<0.1	2.7	1.7	13.1	538
III-Bare/Cyanobac.	1.5-2.5	4.28	-	1	<1	<0.1	2.8	1.5	13.9	556
III-Bare/Cyanobac.	2.5-4.5	4.27	-	1	<1	<0.1	2.4	1.5	25.7	577
III-Bare/Cyanobac.	4.5-6.6	4.19	-	2	<1	<0.1	2.1	2.0	68.5	592
III-Cyanobac. crust	0-.5	4.39	-	3	<1	4.0	2.1	5.1	42.8	510
III-Cyanobac. crust	.5-1.5	4.31	-	2	<1	<0.1	2.3	1.9	11.2	549
III-Cyanobac. crust	1.5-2.5	4.33	-	1	<1	<0.1	2.7	1.7	9.0	555
III-Cyanobac. crust	2.5-4.5	4.39	-	1	<1	<0.1	2.6	1.5	13.0	562
III-Cyanobac. crust	4.5-6.6	4.43	-	1	<1	<0.1	2.2	1.5	24.8	573
III-moss (surface)	0-3	4.25	-	4	<1	33.0	1.4	29.0	213.2	749
III-moss (mineral)	3-4	4.37	-	1	<1	<0.1	2.1	2.4	34.3	555
III-moss (mineral)	4-5	4.39	-	1	<1	<0.1	2.4	2.1	21.4	545
III-moss (mineral)	5-7	4.40	-	<1	<1	<0.1	2.3	1.7	14.7	548
III-moss (mineral)	7-9	4.49	-	1	<1	<0.1	2.1	1.7	13.9	547

Table 20 continued.

Soil Horizon	depth	CEC	Ca	Mg	Na	K	Base Sat.	Water Content	Bulk Density
				me 100g^{-1}					
	cm			-			*%*	*%wt.*	*g cm^{-3}*
II-moss/Cyanobac. Crust	0-1	19.7	7	1.9	0.09	0.54	50	80	0.62
II-moss/Cyanobac. Crust	1-2	20.6	4	1.3	0.02	0.11	27	37	1.00
II-moss/Cyanobac. Crust	2-4	18.5	4	1.4	0.02	0.08	30	36	0.97
II-moss/Cyanobac. Crust	4-6	19.9	5	1.6	0.05	0.07	32	31	1.17
II-moss/Cyanobac. Crust	6-8	18.6	4	1.6	0.06	0.05	33	29	1.42
II-moss (surface)	0-3	67.4	30	5.7	0.12	2.32	57	190	0.04
II-moss (/mineral transition)	3-4	27.1	9	1.8	0.04	0.41	42	49	0.43
II-moss (mineral)	4-5	18.4	5	1.3	<.01	0.13	32	27	0.77
II-moss (mineral)	5-7	15.9	3	1.1	0.01	0.08	30	27	0.98
II-moss (mineral)	7-9	16.9	3	1.1	0.02	0.06	27	28	1.00
III-Bare/Cyanobac./moss	0-.5	21.4	7	1.4	0.07	0.48	41	51	0.42
III-Bare/Cyanobac.	.5-1.5	17.9	4	0.9	0.02	0.10	31	34	1.31
III-Bare/Cyanobac.	1.5-2.5	16.6	4	0.8	0.02	0.06	28	14	1.33
III-Bare/Cyanobac.	2.5-4.5	16.0	4	0.8	0.03	0.05	30	37	1.10
III-Bare/Cyanobac.	4.5-6.6	17.9	5	0.9	0.03	0.04	31	31	1.17
III-Cyanobac. crust	0-.5	22.0	7	1.5	0.08	0.59	42	40	0.51
III-Cyanobac. crust	.5-1.5	17.8	4	0.8	0.02	0.10	28	28	1.08
III-Cyanobac. crust	1.5-2.5	18.9	4	0.9	0.02	0.08	27	29	1.07
III-Cyanobac. crust	2.5-4.5	18.4	4	0.8	0.01	0.06	27	32	1.43
III-Cyanobac. crust	4.5-6.6	18.2	4	0.9	0.02	0.05	27	30	2.22
III-moss (surface)	0-3	76.3	32	5.2	0.10	1.60	52	294	0.12
III-moss (mineral)	3-4	19.0	5	1.2	0.06	0.09	36	34	1.17
III-moss (mineral)	4-5	18.2	5	1.1	0.04	0.07	33	31	1.44
III-moss (mineral)	5-7	17.9	5	1.0	0.04	0.06	33	30	0.83
III-moss (mineral)	7-9	18.3	5	1.0	0.03	0.05	32	32	1.48

Table 20 continued.

Soil		Total		Mehlich 3		Water		
Horizon	**depth**	**TC**	**TN**	**K**	**wsOC**	**Content**	**IC**	**OC**
	cm	***%***	***%***	***mg kg^{-1}***	**ug/cm^{-3}**	***%vol.***	***%***	***%***
II-moss/Cyanobac. Crust	0-1	7.4	0.29	212	43	58	<.01	7.44
II-moss/Cyanobac. Crust	1-2	3.6	0.17	44	7	44	<.01	3.58
II-moss/Cyanobac. Crust	2-4	3.2	0.14	32	7	38	<.01	3.17
II-moss/Cyanobac. Crust	4-6	3.0	0.13	27	7	39	<.01	2.99
II-moss/Cyanobac. Crust	6-8	2.5	0.12	20	10	44	<.01	2.49
II-moss (surface)	0-3	41.9	1.07	907	28	14	<.01	41.86
II-moss (/mineral transition)	3-4	6.9	0.28	160	22	30	<.01	6.94
II-moss (mineral)	4-5	2.6	0.11	51	9	28	<.01	2.57
II-moss (mineral)	5-7	2.1	0.09	30	5	29	<.01	2.07
II-moss (mineral)	7-9	2.4	0.11	22	6	31	<.01	2.43
III-Bare/Cyanobac./moss	0-.5	6.1	0.33	186	22	37	<.01	6.10
III-Bare/Cyanobac.	.5-1.5	3.0	0.17	40	12	51	<.01	3.01
III-Bare/Cyanobac.	1.5-2.5	2.5	0.15	22	7	24	<.01	2.47
III-Bare/Cyanobac.	2.5-4.5	2.6	0.15	18	9	44	<.01	2.59
III-Bare/Cyanobac.	4.5-6.6	2.7	0.16	17	9	39	<.01	2.71
III-Cyanobac. crust	0-.5	6.8	0.31	232	26	36	<.01	6.84
III-Cyanobac. crust	.5-1.5	2.9	0.15	38	10	36	<.01	2.87
III-Cyanobac. crust	1.5-2.5	3.3	0.19	32	9	37	<.01	3.34
III-Cyanobac. crust	2.5-4.5	3.2	0.18	25	12	48	<.01	3.16
III-Cyanobac. crust	4.5-6.6	2.6	0.14	19	21	70	<.01	2.62
III-moss (surface)	0-3	37.7	0.95	625	51	41	<.01	37.68
III-moss (mineral)	3-4	3.4	0.16	36	16	46	<.01	3.40
III-moss (mineral)	4-5	2.7	0.14	27	16	50	<.01	2.74
III-moss (mineral)	5-7	2.3	0.11	24	8	28	<.01	2.26
III-moss (mineral)	7-9	2.3	0.13	21	14	50	<.01	2.26

Sagwon MAT

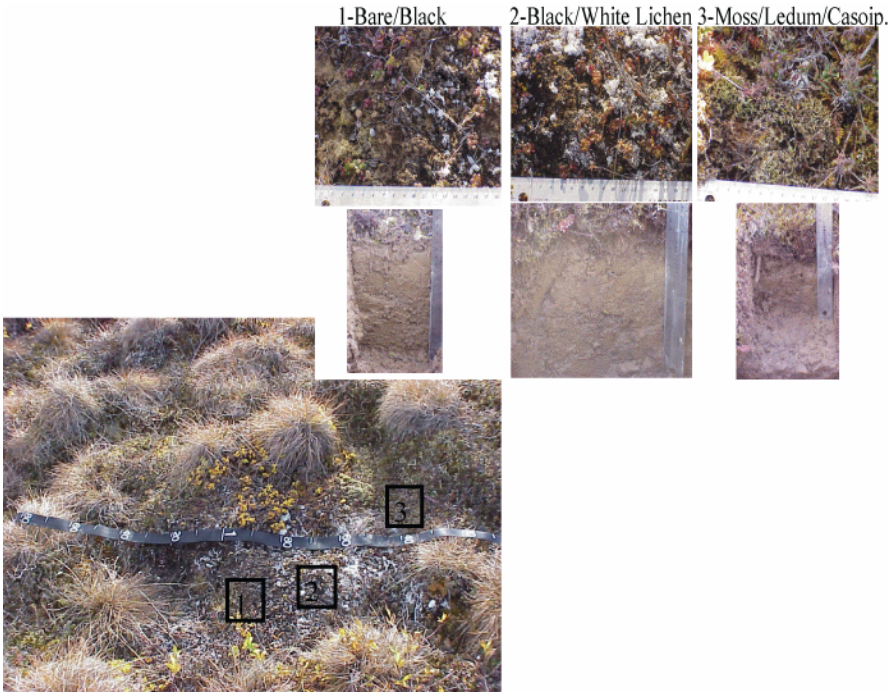

Figure 77. *Soil crusts at soil site # 208 were sampled in September of 2002.*

Table 21. *Soil chemical and physical properties were recorded at Sagwon MAT for selected crusts.*

Soil Horizon	depth	1:1 pH	Extr. NH_4-N	Extr. NO_3-N
	cm		*mg kg^{-1}*	*mg kg^{-1}*
bare/black	0-1	4.86	2	<1
bare/black	1-2	4.68	3	<1
bare/black	2-4	4.76	4	1
bare/black	4-6	4.79	2	1
bare/black	6-8	4.79	2	1
Filimentous Cyanobac. crust	0-1	4.80	6	1
Filimentous Cyanobac. crust	1-2	4.31	5	1
Filimentous Cyanobac. crust	2-4	4.42	3	1
Filimentous Cyanobac. crust	4-6	4.41	2	1
Filimentous Cyanobac. crust	6-8	4.50	2	2
Black/white lichen crust	0-1	4.10	5	1
Black/white lichen crust	1-2	4.12	2	1
Black/white lichen crust	2-4	4.21	2	1
Black/white lichen crust	4-6	4.45	3	1
Black/white lichen crust	6-8	5.11	2	1
moss/ledum/casiop. Crust	0-4	4.74	4	1
moss/ledum/casiop. Crust	4-6	4.93	1	<1
moss/ledum/casiop. Crust	6-8	5.36	3	1
moss/ledum/casiop. Crust	8-10	5.43	2	1
moss/ledum/casiop. Crust	10-12	5.49	6	1

Table 21 continued.

Soil Horizon	depth	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe	CEC	Ca	Mg	Na	K
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*me 100g^{-1}*				
bare/black	0-1	1.0	2.6	1.5	2.4	488	18.9	5	1.0	0.04	0.40
bare/black	1-2	<0.1	2.3	1.0	0.9	559	19.8	5	0.7	0.05	0.17
bare/black	2-4	<0.1	1.8	0.8	0.6	602	21.8	5	0.8	0.05	0.15
bare/black	4-6	<0.1	1.4	0.5	0.6	597	25.8	6	0.8	0.05	0.10
bare/black	6-8	<0.1	1.4	0.6	0.6	617	22.7	5	0.8	0.04	0.08
Filimentous Cyanobac. crust	0-1	2.0	3.6	2.8	29.0	530	23.2	7	1.4	0.04	0.49
Filimentous Cyanobac. crust	1-2	<0.1	4.1	0.9	12.9	541	19.4	4	0.8	0.04	0.17
Filimentous Cyanobac. crust	2-4	<0.1	4.0	0.5	9.2	523	21.8	4	0.7	0.03	0.09
Filimentous Cyanobac. crust	4-6	<0.1	3.0	0.5	14.9	535	19.1	4	0.7	0.02	0.06
Filimentous Cyanobac. crust	6-8	<0.1	2.8	0.6	15.9	567	27.7	5	0.8	0.04	0.05
Black/white lichen crust	0-1	<0.1	2.4	2.0	2.0	561	32.3	3	0.8	0.04	0.50
Black/white lichen crust	1-2	<0.1	2.7	1.3	0.6	580	22.2	2	0.4	0.03	0.17
Black/white lichen crust	2-4	<0.1	2.3	0.9	0.4	608	24.5	3	0.4	0.04	0.14
Black/white lichen crust	4-6	<0.1	1.7	0.8	0.5	632	25.5	5	0.6	0.03	0.16
Black/white lichen crust	6-8	<0.1	1.3	0.4	0.7	643	29.3	6	0.7	0.03	0.09
moss/ledum/casiop. Crust	0-4	2.0	1.0	6.0	50.0	559	26.3	10	1.7	0.03	0.59
moss/ledum/casiop. Crust	4-6	<0.1	1.3	2.5	6.4	594	25.4	5	1.0	0.03	0.15
moss/ledum/casiop. Crust	6-8	<0.1	1.3	1.3	3.8	587	21.1	5	1.1	0.02	0.09
moss/ledum/casiop. Crust	8-10	<0.1	1.1	1.1	2.1	597	21.6	6	1.2	0.04	0.08
moss/ledum/casiop. Crust	10-12	<0.1	1.0	1.1	1.6	591	23.0	6	1.3	0.04	0.07

Table 21 continued.

Soil Horizon	depth	Base Sat.	Water Content	Bulk Density	Total		Mehlich 3		Water		
					TC	TN	K	wsOC	Content	IC	OC
	cm	*%*	*%wt.*	*g cm^{-3}*	*%*	*%*	*mg kg^{-1}*	ug/cm^{-3}	*%vol.*	*%*	*%*
bare/black	0-1	34	39	0.95	4.6	0.25	157	19	44	<.01	4.60
bare/black	1-2	28	36	1.33	3.4	0.18	65	19	55	<.01	3.36
bare/black	2-4	27	40	0.98	3.5	0.20	57	12	42	<.01	3.49
bare/black	4-6	26	46	1.35	4.5	0.25	38	18	66	<.01	4.47
bare/black	6-8	28	41	1.03	4.2	0.23	31	16	45	<.01	4.15
Filimentous Cyanobac. crust	0-1	40	62	0.41	6.1	0.30	193	18	31	<.01	6.09
Filimentous Cyanobac. crust	1-2	28	33	0.95	3.3	0.19	68	9	36	<.01	3.28
Filimentous Cyanobac. crust	2-4	24	31	1.55	2.5	0.17	37	10	50	<.01	2.50
Filimentous Cyanobac. crust	4-6	27	32	1.70	2.6	0.15	22	11	56	<.01	2.56
Filimentous Cyanobac. crust	6-8	21	34	1.69	2.7	0.15	19	15	60	<.01	2.65
Black/white lichen crust	0-1	14	67	0.76	12.1	0.44	197	55	58	<.01	12.12
Black/white lichen crust	1-2	13	49	1.01	4.5	0.21	67	19	56	<.01	4.46
Black/white lichen crust	2-4	16	47	1.05	4.8	0.24	54	12	52	<.01	4.76
Black/white lichen crust	4-6	21	46	0.89	5.4	0.29	64	13	45	<.01	5.36
Black/white lichen crust	6-8	23	48	1.17	6.3	0.35	35	26	60	<.01	6.31
moss/ledum/casiop. Crust	0-4	47	116	0.19	18.7	0.56	231	20	25	<.01	18.70
moss/ledum/casiop. Crust	4-6	25	50	0.98	4.7	0.24	60	17	52	<.01	4.73
moss/ledum/casiop. Crust	6-8	31	36	1.47	3.3	0.18	35	14	56	<.01	3.31
moss/ledum/casiop. Crust	8-10	34	31	1.97	3.3	0.18	30	22	64	<.01	3.26
moss/ledum/casiop. Crust	10-12	34	41	1.77	3.5	0.19	27	23	76	<.01	3.48

Sagwon MNT

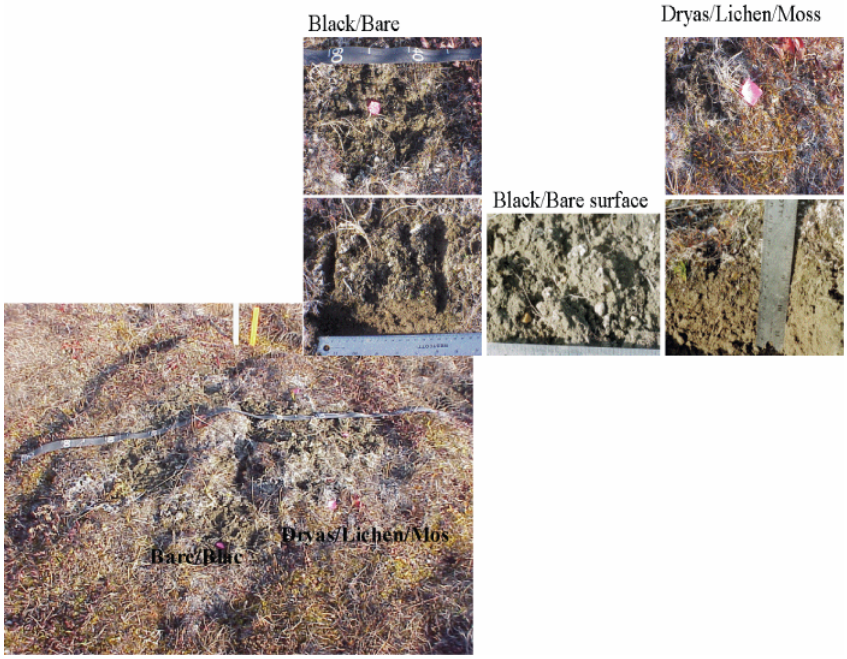

Figure 78. *Soil crusts at soil site #207 were sampled in September of 2002.*

Table 22. *Soil chemical and pysical properties were recorded at Sagwon MNT for selected crusts.*

Soil Horizon	depth	1:1 pH	E.C	Extr. NH_4-N	Extr. NO_3-N	Extr. P
	cm		*ds m^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
black/bare-1 (frost dist. Surf.)	0-2	7.15	-	1	1	1.0
black/bare-1 (frost dist. Surf.)	2-4	7.36	-	<1	1	<0.1
black/bare-1 (frost dist. Surf.)	4-6	7.44	-	<1	1	<0.1
black/bare-1 (frost dist. Surf.)	6-8	7.46	-	<1	1	<0.1
black/bare-2 (frost dist. Surf.)	0-2	7.12	-	2	1	2.0
black/bare-2 (frost dist. Surf.)	2-4	7.34	-	<1	<1	1.0
black/bare-2 (frost dist. Surf.)	4-6	7.39	-	<1	<1	<0.1
black/bare-2 (frost dist. Surf.)	6-8	7.48	-	<1	<1	<0.1
dryas/lichen/moss-I crust	0-1	6.92	-	4	<1	8.0
dryas/lichen/moss-I crust	1-2	6.98	-	1	<1	2.0
dryas/lichen/moss-I crust	2-4	7.26	-	2	<1	1.0
dryas/lichen/moss-I crust	4-6	7.40	-	<1	1	<0.1
dryas/lichen/moss-I crust	6-8	7.43	-	<1	1	<0.1

Table 22 continued.

Soil Horizon	depth	1:1 pH	E.C	Extr. NH_4-N	Extr. NO_3-N	Extr. P
	cm		*ds m^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
dryas/lichen/moss-II crust	0-1	7.04	-	4	1	12.0
dryas/lichen/moss-II crust	1-2	7.01	-	1	1	2.0
dryas/lichen/moss-II crust	2-4	6.98	-	1	1	1.0
dryas/lichen/moss-II crust	4-6	7.33	-	<1	1	<0.1
dryas/lichen/moss-II crust	6-8	7.25	-	<1	1	2.0
bare/patchy	0-2	7.08	-	2	2	10.0
bare/patchy	2-4	7.05	-	2	2	5.0
bare/patchy	4-6	6.56	-	2	1	4.0
O-Horizon thin<3cm	0-3	6.92	-	8	3	30.0
O-Horizon thin<3cm	3-5	6.32	-	2	1	8.0
O-Horizon thin<3cm	5-7	6.27	-	2	1	6.0
interboil	0-10	7.35	-	7	5	32.0
interboil	10-15	7.71	-	6	4	22.0
interboil	15-20	7.79	-	2	2	14.0
interboil	20-25	7.59	-	2	2	22.0

Table 22 continued.

Soil Horizon	depth	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
black/bare-1 (frost dist. Surf.)	0-2	5.8	1.5	25	74
black/bare-1 (frost dist. Surf.)	2-4	6.6	1.1	21	102
black/bare-1 (frost dist. Surf.)	4-6	6.9	2.4	33	133
black/bare-1 (frost dist. Surf.)	6-8	7.5	1.5	47	199
black/bare-2 (frost dist. Surf.)	0-2	6.4	1.5	31	97
black/bare-2 (frost dist. Surf.)	2-4	6.8	1.4	32	122
black/bare-2 (frost dist. Surf.)	4-6	6.8	1.4	25	113
black/bare-2 (frost dist. Surf.)	6-8	6.8	1.2	33	127
dryas/lichen/moss-I crust	0-1	5.7	6.6	59	89
dryas/lichen/moss-I crust	1-2	6.4	2.6	55	100
dryas/lichen/moss-I crust	2-4	6.8	1.9	43	107
dryas/lichen/moss-I crust	4-6	7.0	1.5	42	110
dryas/lichen/moss-I crust	6-8	6.9	1.6	41	114
dryas/lichen/moss-II crust	0-1	6.0	8.0	72	132
dryas/lichen/moss-II crust	1-2	6.8	2.8	41	109
dryas/lichen/moss-II crust	2-4	7.0	1.9	24	119
dryas/lichen/moss-II crust	4-6	7.0	1.4	16	155
dryas/lichen/moss-II crust	6-8	7.2	1.6	30	209
bare/patchy	0-2	-	-	-	-
bare/patchy	2-4	-	-	-	-
bare/patchy	4-6	-	-	-	-
O-Horizon thin<3cm	0-3	-	-	-	-
O-Horizon thin<3cm	3-5	-	-	-	-
O-Horizon thin<3cm	5-7	-	-	-	-
interboil	0-10	-	-	-	-
interboil	10-15	-	-	-	-
interboil	15-20	-	-	-	-
interboil	20-25	-	-	-	-

Table 22 continued.

Soil Horizon	depth	CEC	Ca	Mg	Na	K
		----------me $100g^{-1}$----------				
	cm			--		
black/bare-1 (frost dist. Surf.)	0-2	20.8	59	5.9	0.08	0.35
black/bare-1 (frost dist. Surf.)	2-4	22.1	52	4.1	0.05	0.21
black/bare-1 (frost dist. Surf.)	4-6	20.7	66	3.5	0.04	0.19
black/bare-1 (frost dist. Surf.)	6-8	23.2	61	3.0	0.04	0.17
black/bare-2 (frost dist. Surf.)	0-2	25.4	64	6.5	0.08	0.50
black/bare-2 (frost dist. Surf.)	2-4	24.3	64	5.1	0.06	0.25
black/bare-2 (frost dist. Surf.)	4-6	22.6	38	3.8	0.06	0.18
black/bare-2 (frost dist. Surf.)	6-8	23.6	68	3.4	0.06	0.17
dryas/lichen/moss-I crust	0-1	32.5	91	6.4	0.06	0.72
dryas/lichen/moss-I crust	1-2	26.3	63	4.1	0.05	0.33
dryas/lichen/moss-I crust	2-4	22.2	62	4.1	0.04	0.25
dryas/lichen/moss-I crust	4-6	22.6	61	3.7	0.05	0.22
dryas/lichen/moss-I crust	6-8	22.2	52	3.2	0.04	0.20
dryas/lichen/moss-II crust	0-1	44.4	88	6.8	0.05	0.95
dryas/lichen/moss-II crust	1-2	26.2	62	4.2	0.06	0.35
dryas/lichen/moss-II crust	2-4	25.2	64	3.9	0.06	0.27
dryas/lichen/moss-II crust	4-6	25.2	62	3.2	0.06	0.20
dryas/lichen/moss-II crust	6-8	25.7	52	3.0	0.04	0.18
bare/patchy	0-2	-	-	-	-	-
bare/patchy	2-4	-	-	-	-	-
bare/patchy	4-6	-	-	-	-	-
O-Horizon thin<3cm	0-3	-	-	-	-	-
O-Horizon thin<3cm	3-5	-	-	-	-	-
O-Horizon thin<3cm	5-7	-	-	-	-	-
interboil	0-10	-	-	-	-	-
interboil	10-15	-	-	-	-	-
interboil	15-20	-	-	-	-	-
interboil	20-25	-	-	-	-	-

Table 22 continued.

Soil Horizon	depth	Base Sat.	Water Content	Bulk Density	Total TC	Total TN
	cm	*%*	*%wt.*	*g cm^{-3}*	*%*	*%*
black/bare-1 (frost dist. Surf.)	0-2	100	39	0.39	4.8	0.28
black/bare-1 (frost dist. Surf.)	2-4	100	31	1.07	4.1	0.26
black/bare-1 (frost dist. Surf.)	4-6	100	33	1.08	3.8	0.23
black/bare-1 (frost dist. Surf.)	6-8	100	34	1.19	3.8	0.25
black/bare-2 (frost dist. Surf.)	0-2	100	42	0.39	5.9	0.36
black/bare-2 (frost dist. Surf.)	2-4	100	36	0.88	4.3	0.26
black/bare-2 (frost dist. Surf.)	4-6	100	33	0.99	3.7	0.23
black/bare-2 (frost dist. Surf.)	6-8	100	33	1.28	3.9	0.22
dryas/lichen/moss-I crust	0-1	100	72	0.38	22.4	0.65
dryas/lichen/moss-I crust	1-2	100	49	0.91	6.1	0.33
dryas/lichen/moss-I crust	2-4	100	38	0.74	4.7	0.28
dryas/lichen/moss-I crust	4-6	100	32	0.75	4.0	0.24
dryas/lichen/moss-I crust	6-8	100	33	0.99	3.7	0.24
dryas/lichen/moss-II crust	0-1	100	51	0.29	20.4	0.59
dryas/lichen/moss-II crust	1-2	100	51	1.04	5.7	0.36
dryas/lichen/moss-II crust	2-4	100	40	0.70	5.0	0.29
dryas/lichen/moss-II crust	4-6	100	35	1.50	4.1	0.27
dryas/lichen/moss-II crust	6-8	100	35	1.77	3.7	0.24
bare/patchy	0-2	-	69	0.44	6.7	0.48
bare/patchy	2-4	-	46	0.61	4.9	0.38
bare/patchy	4-6	-	48	0.75	6.9	0.52
O-Horizon thin<3cm	0-3	-	95	0.19	25.9	1.12
O-Horizon thin<3cm	3-5	-	54	0.59	6.5	0.48
O-Horizon thin<3cm	5-7	-	43	0.80	5.2	0.40
interboil	0-10	-	416	0.02	34.0	1.32
interboil	10-15	-	370	0.06	32.5	1.46
interboil	15-20	-	285	0.14	15.7	0.98
interboil	20-25	-	137	0.20	17.3	1.05

Table 22 continued.

Soil Horizon	depth	Mehlich 3 Extractable K	Ca	Mg	Na
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
black/bare-1 (frost dist. Surf.)	0-2	137	-	-	-
black/bare-1 (frost dist. Surf.)	2-4	84	-	-	-
black/bare-1 (frost dist. Surf.)	4-6	74	-	-	-
black/bare-1 (frost dist. Surf.)	6-8	66	-	-	-
black/bare-2 (frost dist. Surf.)	0-2	196	-	-	-
black/bare-2 (frost dist. Surf.)	2-4	100	-	-	-
black/bare-2 (frost dist. Surf.)	4-6	71	-	-	-
black/bare-2 (frost dist. Surf.)	6-8	68	-	-	-
dryas/lichen/moss-I crust	0-1	283	-	-	-
dryas/lichen/moss-I crust	1-2	128	-	-	-
dryas/lichen/moss-I crust	2-4	98	-	-	-
dryas/lichen/moss-I crust	4-6	87	-	-	-
dryas/lichen/moss-I crust	6-8	78	-	-	-
dryas/lichen/moss-II crust	0-1	370	-	-	-
dryas/lichen/moss-II crust	1-2	138	-	-	-
dryas/lichen/moss-II crust	2-4	104	-	-	-
dryas/lichen/moss-II crust	4-6	78	-	-	-
dryas/lichen/moss-II crust	6-8	70	-	-	-
bare/patchy	0-2	221	5041	253	10
bare/patchy	2-4	99	4617	214	8
bare/patchy	4-6	71	4839	202	7
O-Horizon thin<3cm	0-3	432	10066	480	10
O-Horizon thin<3cm	3-5	145	3889	233	6
O-Horizon thin<3cm	5-7	94	3395	201	9
interboil	0-10	344	12906	900	10
interboil	10-15	206	14338	828	10
interboil	15-20	106	8843	406	6
interboil	20-25	104	10560	456	118

Table 22 continued.

Soil Horizon	depth	wsOC	Water Content	IC	OC
	cm	ug/cm^{-3}	*%vol.*	*%*	*%*
black/bare-1 (frost dist. Surf.)	0-2	9	18	0.86	3.91
black/bare-1 (frost dist. Surf.)	2-4	7	36	0.87	3.21
black/bare-1 (frost dist. Surf.)	4-6	7	38	0.85	2.95
black/bare-1 (frost dist. Surf.)	6-8	6	43	0.69	3.14
black/bare-2 (frost dist. Surf.)	0-2	14	19	0.55	5.36
black/bare-2 (frost dist. Surf.)	2-4	6	34	0.82	3.43
black/bare-2 (frost dist. Surf.)	4-6	6	34	0.53	3.21
black/bare-2 (frost dist. Surf.)	6-8	7	45	0.10	3.79
dryas/lichen/moss-I crust	0-1	58	34	0.48	21.92
dryas/lichen/moss-I crust	1-2	21	49	0.99	5.15
dryas/lichen/moss-I crust	2-4	6	30	0.67	4.02
dryas/lichen/moss-I crust	4-6	5	26	0.82	3.19
dryas/lichen/moss-I crust	6-8	6	34	0.75	2.99
dryas/lichen/moss-II crust	0-1	29	21	0.52	19.90
dryas/lichen/moss-II crust	1-2	29	57	0.81	4.93
dryas/lichen/moss-II crust	2-4	11	30	0.85	4.16
dryas/lichen/moss-II crust	4-6	10	55	0.47	3.61
dryas/lichen/moss-II crust	6-8	13	64	0.35	3.36
bare/patchy	0-2	-	30	0.08	6.58
bare/patchy	2-4	-	28	0.02	4.89
bare/patchy	4-6	-	36	0.10	6.78
O-Horizon thin<3cm	0-3	-	18	0.10	25.78
O-Horizon thin<3cm	3-5	-	32	0.01	6.53
O-Horizon thin<3cm	5-7	-	34	0.01	5.22
interboil	0-10	-	7	0.03	33.97
interboil	10-15	-	23	0.04	32.50
interboil	15-20	-	41	0.03	15.66
interboil	20-25	-	27	0.02	17.28

Franklin Bluffs Dry

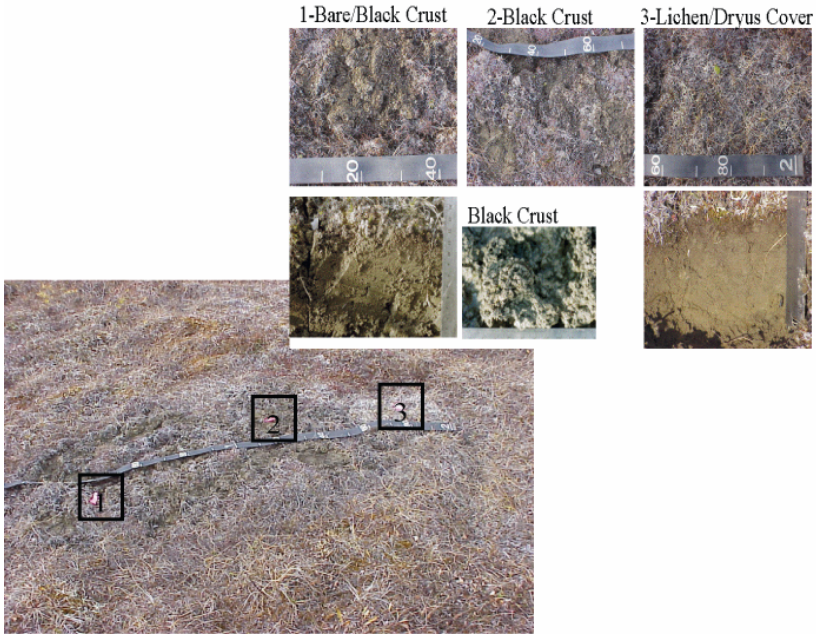

Figure 79. *Soil crusts at soil site #206 were sampled in July 2002.*

Table 23. *Soil chemical and physical properties were recorded at Franklin Bluffs dry for selected crusts.*

Soil Horizon	depth	1:1 pH	Extr. NH_4-N	Extr. NO_3-N
	cm		*mg kg^{-1}*	*mg kg^{-1}*
bare/blk cot.cheese	0-1	7.38	<1	1
bare/blk cot.cheese	1-2	7.61	<1	<1
bare/black (frost disrupted)	2-4	7.58	<1	<1
bare/black (frost disrupted)	4-6	7.69	<1	<1
bare/black (frost disrupted)	6-8	7.68	<1	<1
black crust	0-1	7.20	4	1
black crust	1-2	7.37	<1	<1
black crust	2-4	7.61	<1	<1
black crust	4-6	7.67	<1	<1
black crust	6-8	7.77	<1	<1
lichen/dryus cover	0-2	6.86	2	1
lichen/dryus cover	2-4	7.18	<1	<1
lichen/dryus cover	4-6	7.45	<1	<1
lichen/dryus cover	6-8	7.46	<1	<1
lichen/dryus cover	8-10	7.53	<1	<1

Table 23 continued.

Soil Horizon	depth	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
bare/blk cot.cheese	0-1	<0.1	1.7	1.2	21	11
bare/blk cot.cheese	1-2	<0.1	2.2	1.1	19	24
bare/black (frost disrupted)	2-4	<0.1	2.7	1.2	17	23
bare/black (frost disrupted)	4-6	<0.1	3.3	1.1	21	33
bare/black (frost disrupted)	6-8	<0.1	2.9	1.0	18	30
black crust	0-1	<0.1	0.3	2.5	13	<0.1
black crust	1-2	<0.1	0.6	1.5	27	6
black crust	2-4	<0.1	0.6	1.3	33	17
black crust	4-6	<0.1	0.7	1.2	29	12
black crust	6-8	<0.1	0.8	1.3	20	21
lichen/dryus cover	0-2	3	1.5	5.4	17	42
lichen/dryus cover	2-4	<0.1	2.0	2.0	15	46
lichen/dryus cover	4-6	<0.1	2.1	1.2	15	27
lichen/dryus cover	6-8	<0.1	2.0	1.1	21	27
lichen/dryus cover	8-10	<0.1	2.8	1.1	41	75

Table 23 continued.

Soil Horizon	depth	CEC	Ca	Mg	Na	K	Base Sat.	Water Content	Bulk Density
		----------me 100g^{-1}----------							
	cm			----			*%*	*%wt.*	*g cm^{-3}*
bare/blk cot.cheese	0-1	8.6	46	3.2	0.10	0.14	100	25	1.07
bare/blk cot.cheese	1-2	3.7	44	1.8	0.08	0.07	100	24	1.45
bare/black (frost disrupted)	2-4	9.4	48	1.4	0.08	0.06	100	24	1.01
bare/black (frost disrupted)	4-6	10.2	44	1.1	0.06	0.06	100	22	1.39
bare/black (frost disrupted)	6-8	9.4	46	0.9	0.05	0.04	100	20	1.25
black crust	0-1	19.1	61	2.6	0.09	0.44	100	71	0.44
black crust	1-2	8.7	47	1.3	0.07	0.14	100	41	1.08
black crust	2-4	6.6	46	1.1	0.05	0.07	100	27	1.49
black crust	4-6	4.6	36	0.7	0.05	0.05	100	20	1.42
black crust	6-8	5.9	31	0.5	0.05	0.04	100	18	2.21
lichen/dryus cover	0-2	32.5	78	2.6	0.09	0.52	100	83	0.38
lichen/dryus cover	2-4	17.3	52	1.4	0.07	0.11	100	52	0.77
lichen/dryus cover	4-6	12.4	49	1.0	0.05	0.07	100	31	1.01
lichen/dryus cover	6-8	9.4	37	0.6	0.06	0.05	100	22	1.40
lichen/dryus cover	8-10	9.5	44	0.6	0.05	0.04	100	21	1.18

Table 23 continued.

Soil Horizon	depth	Total TC	Total TN	Mehlich 3 K	wsOC	Water Content	IC	OC
	cm	*%*	*%*	*mg kg^{-1}*	ug/cm^{-3}	*%vol.*	*%*	*%*
bare/blk cot.cheese	0-1	6.0	0.16	54	21	31	4.12	1.87
bare/blk cot.cheese	1-2	3.8	0.10	29	9	39	-	-
bare/black (frost disrupted)	2-4	4.3	0.08	23	6	26	3.75	0.50
bare/black (frost disrupted)	4-6	4.7	0.09	22	6	32	3.22	1.45
bare/black (frost disrupted)	6-8	4.9	0.08	17	5	27	1.27	3.61
black crust	0-1	15.3	0.52	174	27	38	4.28	11.06
black crust	1-2	7.4	0.17	53	19	49	5.27	2.09
black crust	2-4	6.1	0.09	27	9	42	3.78	2.30
black crust	4-6	5.3	0.03	19	7	30	4.15	1.17
black crust	6-8	4.5	0.03	15	10	41	3.36	1.17
lichen/dryus cover	0-2	15.7	0.64	205	56	35	2.81	12.93
lichen/dryus cover	2-4	8.1	0.30	43	12	43	3.41	4.68
lichen/dryus cover	4-6	6.0	0.16	29	8	33	2.60	3.38
lichen/dryus cover	6-8	5.0	0.09	18	7	33	3.88	1.09
lichen/dryus cover	8-10	4.6	0.08	17	4	27	3.73	0.86

Franklin Bluffs moist

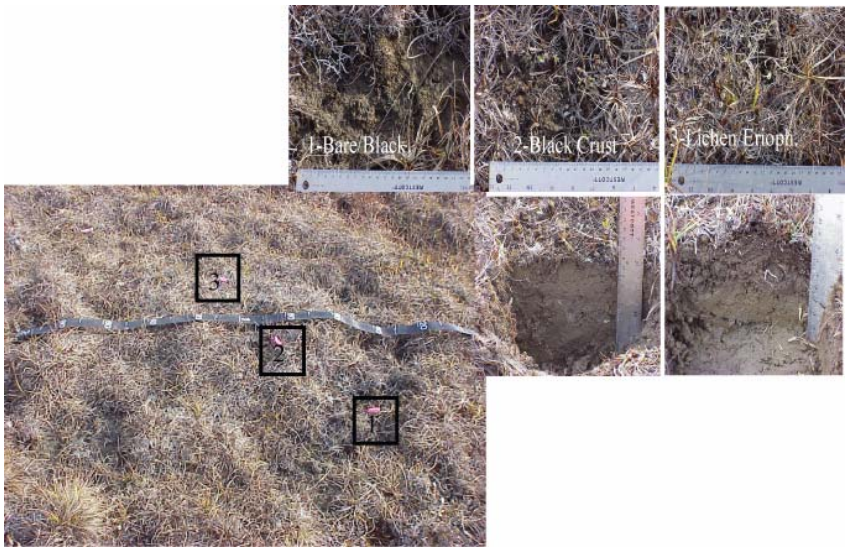

***Figure 80. Soil** crusts at soil site #205 were sampled in September of 2002.*

***Table 24.** Soil chemical and physical properties were recorded at Franklin Bluffs moist for selected crusts.*

Soil Horizon	depth	1:1 pH	Extr. NH_4-N	Extr. NO_3-N
	cm		*mg kg^{-1}*	*mg kg^{-1}*
bare/black surface	0-1	7.07	<1	<1
bare/black surface	1-2	7.40	<1	1
bare/black surface	2-4	7.40	<1	<1
bare/black surface	4-6	7.32	<1	<1
bare/black surface	6-8	7.29	<1	<1
black crust	0-1	6.92	1	<1
black crust	1-2	7.28	<1	<1
black crust	2-4	7.44	<1	<1
black crust	4-6	7.53	<1	<1
black crust	6-8	7.38	<1	<1
lichen/erioph.(cryot.Ompresent)	0-1	6.83	2	1
lichen/erioph.(cryot.Ompresent)	1-2	6.88	1	1
lichen/erioph.(cryot.Ompresent)	2-4	7.55	<1	1
lichen/erioph.(cryot.Ompresent)	4-6	7.34	<1	<1
lichen/erioph.(cryot.Ompresent)	6-8	7.35	<1	<1
3cm moss	0-3	7.26	15	3
3cm moss	3-8	7.79	<1	1
3cm moss	8-13	7.99	<1	<1
<3cm moss	0-2	7.56	2	1
<3cm moss	2-7	7.99	1	<1

Table 24 continued.

Soil Horizon	depth	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
bare/black surface	0-1	<0.1	2.3	1.5	31	41
bare/black surface	1-2	<0.1	2.4	1.2	36	52
bare/black surface	2-4	<0.1	2.1	1.6	41	58
bare/black surface	4-6	<0.1	2.6	1.2	37	100
bare/black surface	6-8	<0.1	3.2	1.5	29	221
black crust	0-1	<0.1	2.6	2.9	48	44
black crust	1-2	<0.1	2.8	1.8	48	64
black crust	2-4	<0.1	3.4	1.8	60	102
black crust	4-6	<0.1	4.0	1.6	56	173
black crust	6-8	<0.1	4.9	1.9	48	235
lichen/erioph.(cryot.Ompresent)	0-1	5.0	2.8	12.1	62	142
lichen/erioph.(cryot.Ompresent)	1-2	<0.1	3.3	3.2	42	84
lichen/erioph.(cryot.Ompresent)	2-4	<0.1	3.1	1.2	54	117
lichen/erioph.(cryot.Ompresent)	4-6	<0.1	3.7	1.3	68	110
lichen/erioph.(cryot.Ompresent)	6-8	<0.1	4.6	1.7	76	212
3cm moss	0-3	72.0	-	-	-	-
3cm moss	3-8	1.3	-	-	-	-
3cm moss	8-13	1.0	-	-	-	-
<3cm moss	0-2	4.3	-	-	-	-
<3cm moss	2-7	1.7	-	-	-	-

Table 24 continued.

Soil Horizon	depth	CEC	Ca	Mg	Na	K
		----------me 100g^{-1}----------				
	cm			--		
bare/black surface	0-1	10.9	48	1.7	0.07	0.12
bare/black surface	1-2	11.4	42	1.3	0.06	0.07
bare/black surface	2-4	10.6	46	0.9	0.03	0.05
bare/black surface	4-6	10.4	53	0.8	0.04	0.06
bare/black surface	6-8	9.5	51	0.6	0.03	0.07
black crust	0-1	15.4	55	1.8	0.05	0.28
black crust	1-2	11.2	38	1.3	0.03	0.12
black crust	2-4	8.8	54	1.2	0.03	0.09
black crust	4-6	12.3	54	1.1	0.04	0.07
black crust	6-8	10.3	57	1.0	0.05	0.06
lichen/erioph.(cryot.Ompresent)	0-1	40.5	89	2.8	0.06	0.49
lichen/erioph.(cryot.Ompresent)	1-2	19.7	61	1.5	0.05	0.17
lichen/erioph.(cryot.Ompresent)	2-4	12.6	57	1.1	0.04	0.08
lichen/erioph.(cryot.Ompresent)	4-6	11.1	56	1.0	0.05	0.07
lichen/erioph.(cryot.Ompresent)	6-8	10.4	55	0.8	0.06	0.07
3cm moss	0-3	115.6	154	8.5	0.30	1.82
3cm moss	3-8	21.7	60	1.2	0.06	0.10
3cm moss	8-13	10.2	40	0.5	0.05	0.05
<3cm moss	0-2	17.3	56	1.7	0.06	0.31
<3cm moss	2-7	13.5	51	0.9	0.05	0.06

Table 24 continued.

Soil Horizon	depth	Base Sat.	Water Content	Bulk Density	USDA Texture	Total TC	Total TN
	cm	*%*	*%wt.*	*g cm^{-3}*		*%*	*%*
bare/black surface	0-1	100	35	0.79	-	5.5	0.16
bare/black surface	1-2	100	27	1.67	-	4.9	0.09
bare/black surface	2-4	100	23	1.30	-	4.7	0.08
bare/black surface	4-6	100	23	1.34	-	4.2	0.07
bare/black surface	6-8	100	22	1.19	-	4.7	0.08
black crust	0-1	100	49	0.55	-	8.4	0.29
black crust	1-2	100	29	1.15	-	5.4	0.12
black crust	2-4	100	24	1.11	-	4.9	0.10
black crust	4-6	100	27	1.00	-	5.1	0.13
black crust	6-8	100	31	1.35	-	5.6	0.16
lichen/erioph.(cryot.Ompresent)	0-1	100	84	0.43	-	17.8	0.60
lichen/erioph.(cryot.Ompresent)	1-2	100	53	0.96	-	7.8	0.31
lichen/erioph.(cryot.Ompresent)	2-4	100	30	1.44	-	5.4	0.14
lichen/erioph.(cryot.Ompresent)	4-6	100	26	1.20	-	5.1	0.10
lichen/erioph.(cryot.Ompresent)	6-8	100	24	1.51	-	4.8	0.09
3cm moss	0-3	100	191	0.15	PT	37.9	17.59
3cm moss	3-8	100	58	1.04	L	8.4	0.17
3cm moss	8-13	100	24	1.75	L	3.9	0.05
<3cm moss	0-2	100	101	0.71	L	8.7	0.12
<3cm moss	2-7	100	55	1.67	L	4.5	0.03

Table 24 continued.

Soil		Mehlich 3 Extractable					Water		
Horizon	depth	K	Ca	Mg	Na	wsOC	Content	IC	OC
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	ug/cm^{-3}	*%vol.*	*%*	*%*
bare/black surface	0-1	46	-	-	-	7	32	3.52	2.01
bare/black surface	1-2	26	-	-	-	10	49	3.28	1.67
bare/black surface	2-4	21	-	-	-	8	31	3.55	1.17
bare/black surface	4-6	22	-	-	-	7	32	2.66	1.50
bare/black surface	6-8	28	-	-	-	9	28	3.30	1.40
black crust	0-1	111	-	-	-	81	32	2.87	5.53
black crust	1-2	46	-	-	-	12	37	3.19	2.19
black crust	2-4	34	-	-	-	9	29	3.53	1.39
black crust	4-6	26	-	-	-	9	29	2.46	2.68
black crust	6-8	25	-	-	-	12	43	2.73	2.85
lichen/erioph.(cryot.Ompresent)	0-1	191	-	-	-	75	43	1.74	16.03
lichen/erioph.(cryot.Ompresent)	1-2	65	-	-	-	22	56	2.82	4.95
lichen/erioph.(cryot.Ompresent)	2-4	31	-	-	-	10	45	3.22	2.18
lichen/erioph.(cryot.Ompresent)	4-6	29	-	-	-	7	32	3.21	1.92
lichen/erioph.(cryot.Ompresent)	6-8	26	-	-	-	9	39	2.81	1.94
3cm moss	0-3	750	16443	718	12	-	29	1.75	36.16
3cm moss	3-8	75	20237	156	5	-	59	2.17	6.26
3cm moss	8-13	38	10220	59	3	-	42	2.66	1.25
<3cm moss	0-2	165	11890	190	7	76	53	1.87	6.79
<3cm moss	2-7	48	9302	95	7	18	77	2.22	2.32

Franklin Bluffs wet

Figure 81. *Soil crusts at soil site #204 were sampled in September of 2002.*

Table 25. *Soil chemical and physical properties were recorded at Franklin Bluffs wet for selected crusts.*

Soil Horizon	depth	1:1 pH	Extr. NH_4-N	Extr. NO_3-N	Extr. P	Extr. Cu	Extr. Zn	Extr. Mn	Extr. Fe
	cm		*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
disrupted center "cottage cheese layer"	0-3	7.90	1	3	<0.1	5.9	2.6	118	100
disrupted center "cottage cheese layer"	3-6	8.01	<1	<1	<0.1	5.8	2.3	122	120
brown crust	0-1	6.98	1	1	<0.1	4.8	2	169	211
brown crust	1-2	7.36	<1	1	<0.1	4.3	1.5	120	252
brown crust	2-4	7.53	<1	1	<0.1	3.9	1.5	91	292
brown crust	4-6	7.41	<1	<1	<0.1	4.1	1.7	94	298
brown crust	6-8	7.40	<1	<1	<0.1	4.1	1.8	101	284

Table 25 continued.

Soil Horizon	depth	CEC	Ca	Mg	Na	K	Base Sat.	Water Content	Bulk Density
		----------me 100g^{-1}----------							
	cm			--			%	%wt.	g cm^{-3}
disrupted center "cottage cheese layer"	0-3	13.5	48	3.1	0.13	0.11	100	26	1.56
disrupted center "cottage cheese layer"	3-6	15.3	48	2.2	0.06	0.08	100	25	1.79
brown crust	0-1	15.0	58	4.6	0.07	0.14	100	61	0.65
brown crust	1-2	15.4	56	3.8	0.06	0.10	100	56	0.77
brown crust	2-4	15.3	56	2.9	0.06	0.07	100	48	0.82
brown crust	4-6	15.3	54	2.1	0.04	0.07	100	43	0.94
brown crust	6-8	14.8	57	1.6	0.06	0.07	100	34	0.96

Table 25 continued.

Soil		Total		Mehlich 3		Water		
Horizon	depth	TC	TN	K	wsOC	Content	IC	OC
	cm	%	%	mg kg^{-1}	ug/cm^{-3}	%vol.	%	%
disrupted center "cottage cheese layer"	0-3	3.9	0.15	43	23	43	1.71	2.15
disrupted center "cottage cheese layer"	3-6	3.6	0.12	30	14	46	1.62	1.96
brown crust	0-1	5.1	0.20	54	28	52	1.84	3.29
brown crust	1-2	4.8	0.18	38	11	53	1.93	2.87
brown crust	2-4	4.8	0.18	28	8	44	2.05	2.78
brown crust	4-6	4.6	0.16	26	7	44	1.87	2.72
brown crust	6-8	4.4	0.14	28	6	34	1.59	2.85

Deadhorse

Figure 82. *Soil crusts at soil site #203 were sampled in July of 2001.*

Table 26. *Soil chemical and physical properties were recorded at Deadhorse for selected crusts.*

Soil Horizon	depth	1:1 pH	E.C	Extr. NH_4-N	Extr. NO_3-N
	cm		*ds m^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*
1-(bare min.)	0-2	7.68	0.99	2	4
	2-5	7.95	0.42	0	1
	5-10	7.98	0.39	0	1
2-(<3cm O-Horizon)	0-3	7.77	0.73	1	3
	3-5	7.91	0.38	0	2
	5-10	7.98	0.39	1	1
3-(>3cm O-Horizon)	0-3	7.63	0.65	4	2
	3-5	8.02	0.38	1	2
	5-10	7.97	0.38	<1	1
4-(frost boil rim)	0-5	7.55	0.74	19	4
	5-15	7.60	0.51	1	3
	15-20	7.69	0.42	1	1
6-(interboil low)	0-5	7.64	0.48	6	4
	5-10	7.61	0.44	10	4
	10-15	7.51	0.45	3	2
7-(tussock)	0-5	7.57	0.57	21	7
	5-15	7.53	0.40	1	1
	15-20	7.69	0.30	1	1

Table 26 continued.

Soil Horizon	depth	Extr. P	CEC	Ca	Mg	Na	K	Base Sat.	Water Content	Bulk Density	USDA Texture
			----------me $100g^{-1}$----------								
	cm	*mg* kg^{-1}	--					*%*	*%wt.*	*g* cm^{-3}	
1-(bare min.)	0-2	1.2	12.1	52	2.8	0.29	0.14	100	39	1.52	SIL
	2-5	0.2	9.5	51	1.2	0.13	0.06	100	26	1.77	SIL
	5-10	0.5	9.1	51	1.0	0.12	0.06	100	24	1.42	SIL
2-(<3cm O-Horizon)	0-3	2.3	13.4	56	2.5	0.21	0.16	100	50	1.51	CL
	3-5	0.2	10.3	52	1.3	0.12	0.06	100	29	1.76	L
	5-10	0.4	9.8	46	0.9	0.10	0.05	100	25	1.27	L
3-(>3cm O-Horizon)	0-3	5.7	27.3	80	3.9	0.22	0.32	100	93	0.63	SIL
	3-5	0.8	10.6	56	1.6	0.16	0.10	100	33	1.36	L
	5-10	0.4	8.7	52	0.9	0.12	0.06	100	27	1.31	SIL
4-(frost boil rim)	0-5	27.9	66.8	149	6.5	0.56	1.06	100	217	0.20	PT
	5-15	6.5	32.8	101	1.9	0.20	0.18	100	101	0.67	SL
	15-20	2.4	29.4	81	1.3	0.17	0.11	100	69	0.93	SIL
6-(interboil low)	0-5	14.9	45.4	108	4.6	0.95	0.92	100	259	0.30	PT
	5-10	24.8	32.4	68	2.7	0.79	0.95	100	225	0.53	SI
	10-15	4.5	23.2	52	1.3	0.19	0.16	100	157	0.75	L
7-(tussock)	0-5	18.7	37.8	115	3.2	0.48	1.15	100	177	0.41	SL
	5-15	6.8	32.9	84	2.0	0.20	0.17	100	111	0.70	SL
	15-20	4.2	33.3	68	1.1	0.16	0.11	100	95	0.81	SL

Table 26 continued.

Soil		<2mm$_{wt.}$			Total		100 cm Stores			Water		
Horizon	depth	Clay	Silt	Sand	TC	TN	C	N	wsOC	Content	IC	OC
	cm	*%*	*%*	*%*	*%*	*%*	*kgC m^{-2}*	*kgN m^{-2}*	ug/cm^{-3}	*%vol.*	*%*	*%*
1-(bare min.)	0-2	1	68	32	6.5	0.18	1.989136754	0.054319594	30.9	60	1.79	4.75
	2-5	22	50	27	5.3	0.09	2.806981136	0.049967615	8.6	47	1.02	4.27
	5-10	15	57	28	5.1	0.09	3.660805958	0.062213688	6.2	35	1.98	3.16
2-(<3cm O-Horizon)	0-3	33	35	32	7.8	0.24	3.531256043	0.110614289	42.3	75	1.94	5.85
	3-5	23	46	31	5.5	0.13	1.953212507	0.045040475	11.0	51	1.76	3.79
	5-10	23	48	29	5.3	0.10	3.390205788	0.061955251	10.2	32	1.85	3.49
3-(>3cm O-Horizon)	0-3	11	45	44	11.2	0.40	2.108826416	0.076051991	112.3	58	1.58	9.64
	3-5	19	49	32	5.9	0.13	1.60150783	0.034755765	16.9	44	1.63	4.26
	5-10	17	53	30	5.3	0.09	3.491462907	0.059666498	5.0	36	1.92	3.39
4-(frost boil rim)	0-5	-	-	-	22.2	0.88	2.216783489	0.088011703	59.0	43	-	-
	5-15	7	49	44	10.9	0.50	3.653838703	0.167588355	19.1	68	-	-
	15-20	12	48	40	8.8	0.39	4.086483996	0.180778176	20.1	65	-	-
6-(interboil low)	0-5	-	-	-	25.9	0.58	3.856676849	0.086735973	50.8	77	-	-
	5-10	7	16	11	20.8	0.81	5.56008655	0.217244205	33.5	120	-	-
	10-15	21	47	32	15.5	0.70	5.7964211	0.261717651	20.5	117	-	-
7-(tussock)	0-5	3	35	62	17.7	0.92	3.596406341	0.188203432	27.4	72	-	-
	5-15	4	47	49	10.2	0.64	3.550339673	0.223479617	23.1	77	-	-
	15-20	6	47	47	10.4	0.57	4.180514245	0.229560086	13.3	76	-	-

Howe Island

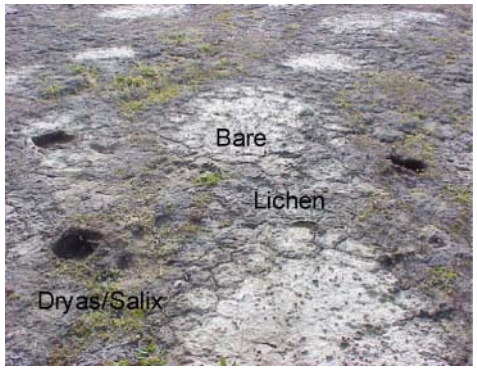

Figure 83. *Soil crusts at soil site #201 were sampled in August of 2001.*

Table 27. *Soil chemical and physical properties were recorded at Howe Island for selected crusts.*

Soil		1:1	Extr.	Extr.	Extr.	Water	Bulk	Total		100 cm Stores	
Horizon	depth	pH	NH_4-N	NO_3-N	P	Content	Density	TC	TN	C	N
	cm		*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*%wt.*	*g cm^{-3}*	*%*	*%*	*kgC m^{-2}*	*kgN m^{-2}*
Bare soil	0-1	8.55	1	4	2.0	10	1.53	4.2	0.11	0.28	0.017
Bare soil	1-2	8.91	1	3	2.0	12	2.02	4.2	0.14	0.36	0.028
Bare soil	2-3	8.95	1	3	2.0	12	1.16	4.3	0.10	0.21	0.012
Bare soil	3-4	8.62	1	3	2.0	13	1.85	4.6	0.12	0.33	0.022
Lichen	0-1	8.95	3	5	5.1	43	1.07	6.8	0.27	0.39	0.028
Lichen	1-2	9.06	2	8	3.0	37	0.95	6.4	0.21	0.34	0.020
Lichen	2-3	8.99	2	10	3.3	32	1.18	9.7	0.25	0.54	0.018
Lichen	3-4	8.90	1	4	1.0	31	1.50	5.8	0.10	0.39	0.015
Dryus/salix	0-1	7.58	5	3	8.3	44	0.61	7.3	0.21	0.26	0.012
Dryus/salix	1-2	7.80	2	1	5.1	42	0.80	7.1	0.25	0.33	0.019
Dryus/salix	2-3	7.86	1	2	3.0	37	1.17	6.8	0.21	0.41	0.024
Dryus/salix	3-4	7.98	1	1	2.0	33	1.36	6.0	0.15	0.41	0.020

Table 27 continued.

Soil		Mehlich 3 Extractable					Water		
Horizon	depth	K	Ca	Mg	Na	wsOC	Content	IC	OC
	cm	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	*mg kg^{-1}*	ug/cm^{-3}	*%vol.*	*%*	*%*
Bare soil	0-1	105	4708	282	650	29	15	2.36	1.84
Bare soil	1-2	116	5239	317	646	82	24	2.42	1.81
Bare soil	2-3	99	5090	295	497	94	14	2.43	1.82
Bare soil	3-4	87	5878	289	336	21	25	2.80	1.80
Lichen	0-1	207	15719	440	800	75	46	3.06	3.75
Lichen	1-2	156	14841	301	771	81	35	2.76	3.67
Lichen	2-3	161	28324	387	869	21	38	1.97	7.69
Lichen	3-4	72	18388	227	412	21	47	3.16	2.61
Dryus/salix	0-1	282	15013	302	31	68	27	2.79	4.48
Dryus/salix	1-2	190	13518	288	38	68	34	2.97	4.18
Dryus/salix	2-3	120	16246	259	51	63	43	3.22	3.55
Dryus/salix	3-4	83	18246	243	64	63	45	3.00	3.03

LAI and NDVI

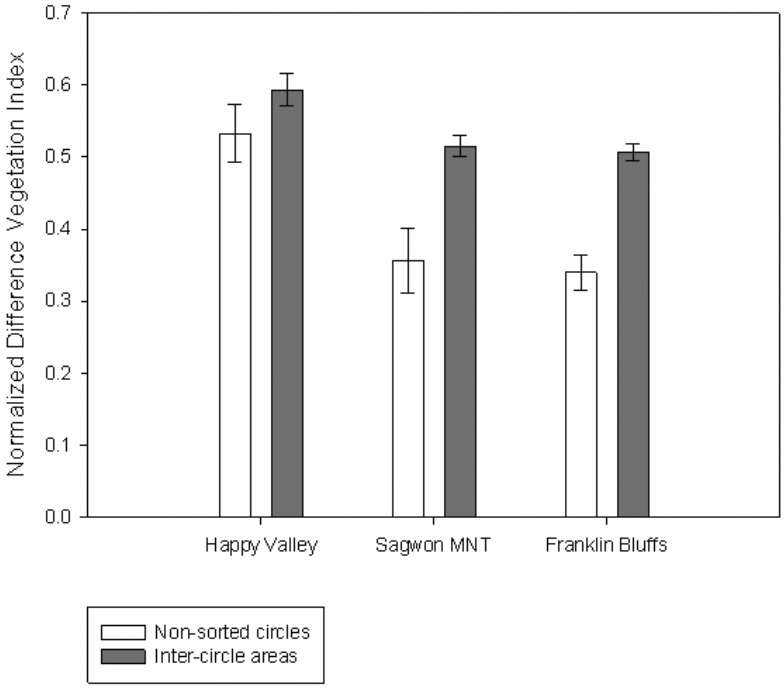

Figure 84. *Normalized Difference Vegetation Index (mean ± 1 SE) of non-sorted circles and corresponding inter-circle tundra from three sites in Northern Alaska, July 2002.*

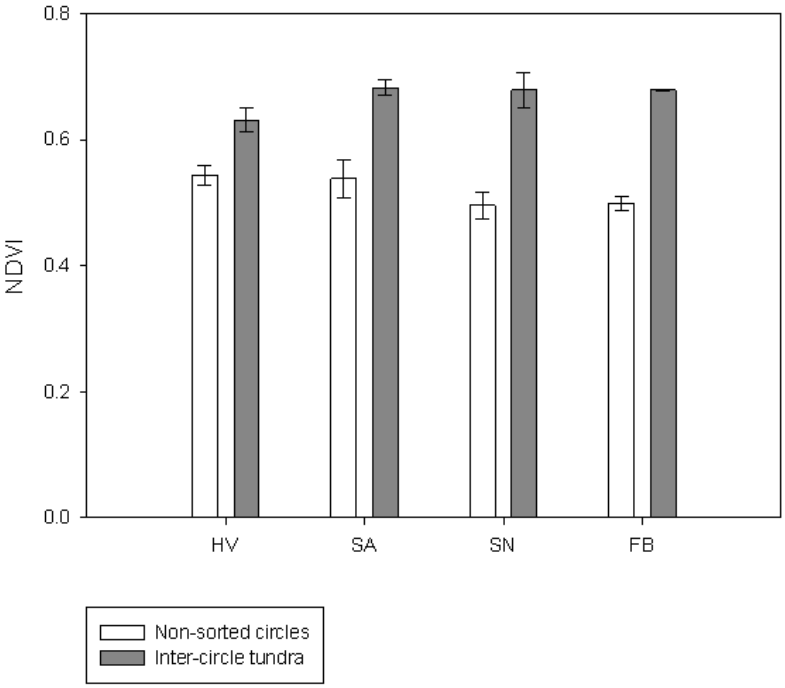

Figure 85 . *Normalized Difference Vegetation Index (mean ± 1 SE) of non-sorted circles and corresponding inter-circle tundra from four sites in Northern Alaska, August 2004.*

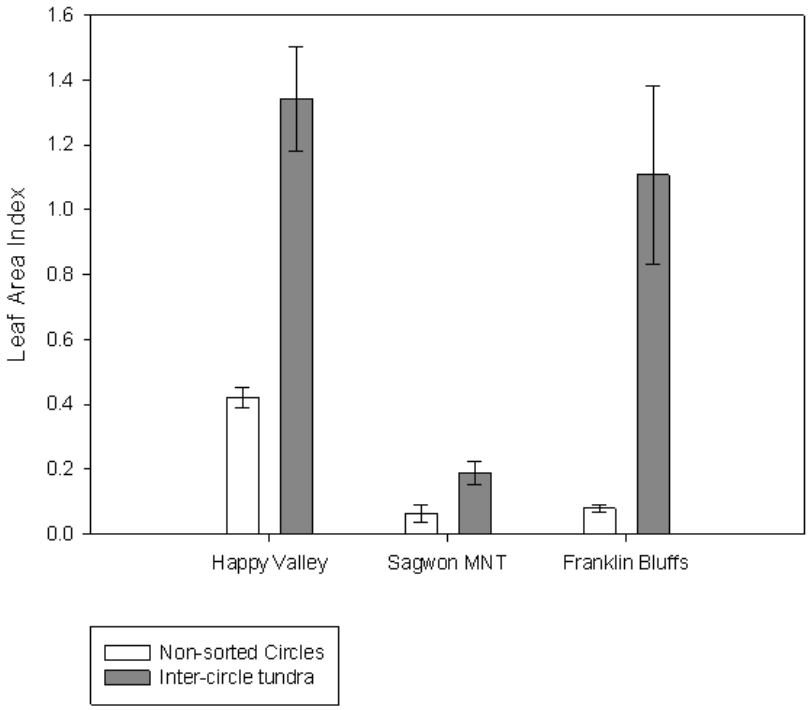

Figure 86. *Leaf Area Index (mean ± 1 SE) of non-sorted circles and corresponding inter-circle areas from three sites in Northern Alaska, July 2002.*

Biogeochemistry

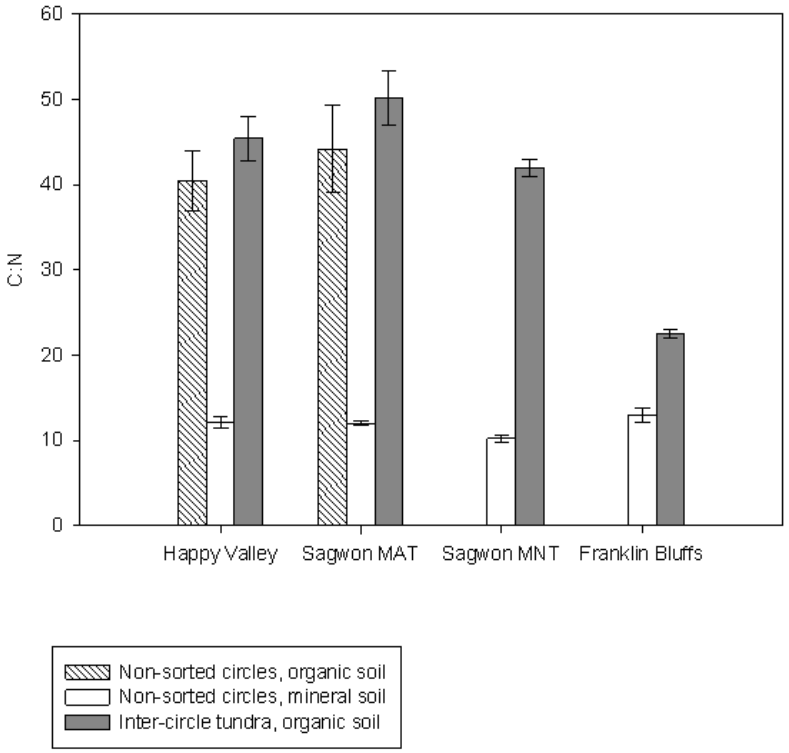

Figure 87. *Carbon to nitrogen ratios (mean ± 1 SE) of organic and mineral soils of non-sorted circles and corresponding inter-circle areas at four sites in Northern Alaska, 2004.*

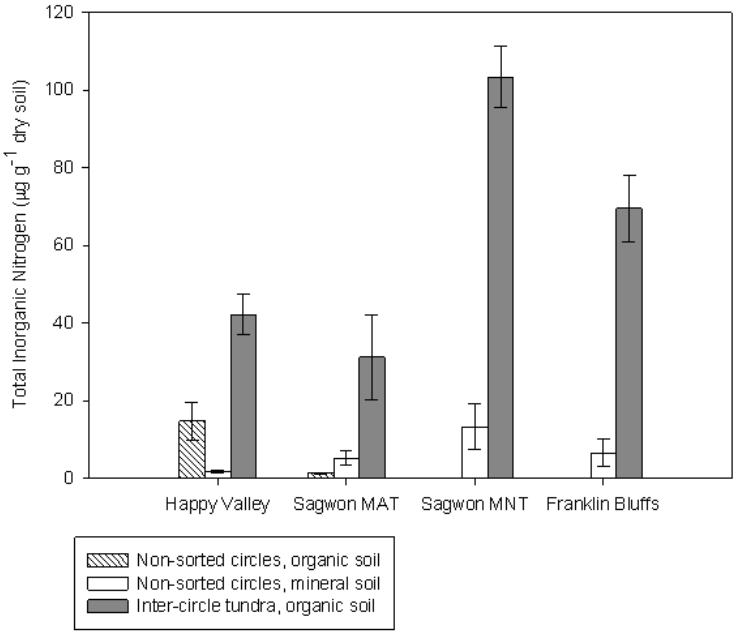

Figure 88. *Total inorganic nitrogen concentrations (mean ± 1 SE) of organic and mineral soils of non-sorted circles and corresponding inter-circle areas at four sites in Northern Alaska, 2004.*

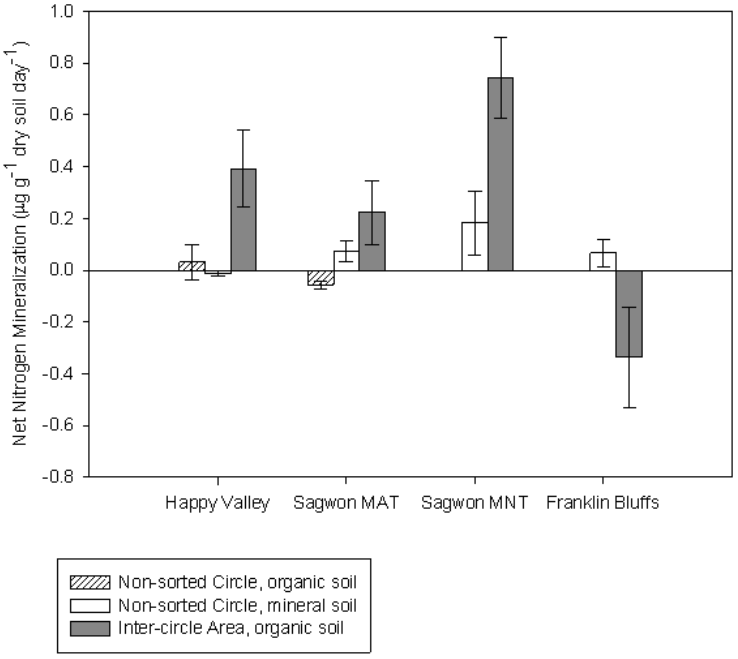

Figure 89. *Rates of net nitrogen mineralization (mean ± 1 SE) in organic and mineral soils of non-sorted circles and corresponding inter-circle areas at four sites in Northern Alaska, 2004.*

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Appendix

GPS Coordinates

Table 28. *Preliminary GPS coordinates of Biocomplexity study sites along the Dalton Highway.* ***NOTE:*** *These coordinates need to be verified as to whether they are NAD 27 or WGS 84.*

Data_Type	Grid_ID	Latitude	Longitude
Happy Valley			
Happy Valley Hillcrest	hv3		
K1	hv3k1	69º 8' 48.7"N	148º 51' 7.8"W
K11	hv3k11	69º 8' 48.7"N	148º 51' 7.0"W
A1	hv3a1	69º 8' 48.4"N	148º 51' 8.0"W
A11	hv3a11	69º 8' 48.4"N	148º 51' 7.3"W
Happy Valley Midslope	hv1		
K1	hv1k1	69º 8' 48.7"N	148º 50' 53.9"W
K11	hv1k11	69º 8' 48.6"N	148º 50' 53.2"W
A1	hv1a1	69º 8' 48.3"N	148º 50' 54.0'W
A11	hv1a11	69º 8' 48.3"N	148º 50' 53.1"W
Happy Valley Footslope	hv2		
K1	hv2k1	69º 8' 49.6"N	148º 50' 53.7"W
K11	hv2k11	69º 8' 49.6"N	148º 50' 48.5"W
A1	hv2a1	69º 8' 49.2"N	148º 50' 49.3"W
A11	hv2a11	69º 8' 49.2"N	148º 50' 48.6"W
relevé number			
52	52	69º 08' 49.8"N	148º 50' 49.1"W
53	53	69º 08' 50.1"N	148º 50' 48.7"W
54	54	69º 08' 48.8"N	148º 50' 49.7"W
56	56	69º 08' 48.7"N	148º 50' 48.9"W
57	57	69º 08' 49.1"N	148º 50' 49.3"W
66	66	69º 08' 48.6"N	148º 50' 52.4"W
82	82	69º 08' 48.7"N	148º 50' 54.3"W
83	83	69º 08' 49.9"N	148º 50' 53.6"W
84	84	69º 08' 49.1"N	148º 50' 52.9"W
85	85	69º 08' 49.4"N	148º 50' 52.4"W
86	86	69º 08' 49.8"N	148º 50' 53.4"W
87	87	69º 08' 49.0"N	148º 50' 51.6"W
88	88	69º 08' 48.7"N	148º 51' 05.9"W
89	89	69º 08' 48.6"N	148º 51' 07.1"W
90	90	69º 08' 48.6"N	148º 51' 08.4"W
91	91	69º 08' 48.2"N	148º 51' 07.8"W
92	92	69º 08' 47.6"N	148º 51' 08.5"W
93	93	69º 08' 48.9"N	148º 50' 53.0"W
94	94	69º 08' 48.7"N	148º 50' 54.0"W
95	95	69º 08' 50.1"N	148º 50' 54.4"W
Heavometer 1	hvhm1	69º 8.8'N	148º 50.88'W
Heavometer 2	hvhm2	N/A	N/A
Transect 1			
south end		69º 8' 48.7"N	148º 50' 54.1"W
north end		69º 8' 50.6"N	148º 50' 53.4"W

Table 28 continued.

Data_Type	Grid_ID	Latitude	Longitude
Transect 2			
south end		69º 8' 46.0"N	148º 50' 52.8"W
north end		69º 8' 47.7"N	148º 50' 53.1"W
climate station	cs1	N/A	N/A
soil pit site #209	so209	69º8'48.7"N	148º50'53.9"W
Sagwon MAT			
K1	sak1	69º 25' 33.0"N	148º 41' 35.0"W
K11	sak11	69º25' 33.0"N	148º 41' 34.0"W
A1	saa1	69º 25' 32.6"N	14º 41' 34.8"W
A11	saa11	69º25' 32.6"N	48º41' 33.6"W
relevé number			
62	62	69º 25' 32.0"N	148º 41' 45.3"W
73	73	69º 25' 32.1"N	148º 41' 44.3"W
74	74	69º 25' 32.2"	148º 41' 43.2"W
75	75	69º 25' 32.0"N	148º 41' 43.5"W
76	76	69º 25' 32.4"N	148º 41' 43.6"W
77	77	69º 25' 32.5"N	148º 41' 43.6"W
78	78	69º 25' 33.2"N	148º 41' 43.2"W
79	79	69º 25' 33.0"N	148º 41' 44.9"W
80	80	69º 25' 33.1"N	148º 41' 51.1"W
81	81	69º 25' 33.2"N	148º 41' 51.2"W
Heavometer 1	sahm1	69º 25' 31.3"N	148º 41' 44.1"W
Heavometer 2	sahm2	N/A	N/A
Transect 1			
south end		69º 25' 33.8"N	148º 41' 34.8"W
north end		69º 25' 35.3"N	148º 41' 35.8"W
Transect 2			
south end		69º 25' 37.6"N	148º 41' 43.9"W
north end		69º 25' 39.3"N	148º 41' 44.4"W
climate station	sacs	69º 25' 28.6"N	148º 41' 44.1"W
hinzman tower		69º 25' 27.7"N	148º 41' 44.0"W
soil pit site#208	so208	69º 25.32'N	148º 1.727'W
soil pit site#208a	so208a	69º 25.505'N	148º41.714'W
Sagwon MNT			
Sagwon MNT1	sn1		
K1	sn1k1	69º 6' 00.1"N	148º 40' 13.0"W
K11	sn1k11	69º 26' 00.3"N	148º 40' 12.3"W
A1	sn1a1	69º 25' 59.9"N	148º 40' 12.3"W
A11	sn1a11	69º 26' 00.1"N	148º 40 11.8"W
Sagwon MNT2	sn2		
K1	sn2k1	69º 2' 00.9"N	148º 40' 17.7W
K11	sn2k11	69º 26' 00.6"N	148º 40' 17.4"W
A1	sn2a1	69º 26' 00.9"N	148º 40' 18.6"W
A11	sn2a11	69º 26' 00.5"N	148º 40' 18.3"W
relevé number			
29	29	69º 26' 00.9"N	148º 40' 16.8"W
55	55	69º 25' 59.8"N	148º 40' 22.0"W
58	58	69º 25' 58.7"N	148º 40' 23.9"W

Table 28 continued.

Data_Type	Grid_ID	Latitude	Longitude
59	59	69º 25' 58.8"N	148º 40' 23.8"W
60	60	69º 25' 59.3"N	148º 40' 21.7"W
61	61	69º 25' 57.5"N	148º 40' 23.2"W
63	63	69º 25' 58.8"N	148º 40' 23.1"W
64	64	69º 25' 58.3"N	148º 40' 23.8"W
65	65	69º 25' 58.5"N	148º 40' 23.3"W
67	67	69º 25' 54.1"N	148º 40' 22.5"W
68	68	69º 25' 59.8"N	148º 40' 19.5"W
69	69	69º 25' 59.1"N	148º 40' 22.3"W
70	70	69º 25' 56.1"N	148º 40' 19.3"W
71	71	69º 25' 56.5"N	148º 40' 21.6"W
72	72	69º 25' 58.2"N	148º 40' 23.4"W
Heavometer 1	snhm1	69º 25' 58.7"N	148º 40' 23.3"W
Heavometer 2	snhm2	?	?
Transect 1			
east end		69º 25' 56.8"N	148º 40' 7.5"W
west end		6º 25' 57.7"N	148º40'11.4"W
Transect 2			
south end		69º 26' 00.8"N	148º 40' 11.4"W
north end		69º 26' 2.2"N	148º 40' 9.2"W
climate station	sncs	?	?
soil pit site #207	so207	69º 26.02'N	148º 0.287'W
soil pit site #207a	so207a	69º 25' 55"N	148º 40' 16.2"W
Franklin Bluffs			
Franklin Bluffs moist	fb1		
K1	fb1k1	69º 40' 28.5"N	148º 43' 16.4"W
K11	fb1k11	69º 40' 28.5"N	148º 43' 15.5"W
A1	fb1a1	69º 40' 28.3"N	148º 43' 16.7"W
A11	fb1a11	69º 40' 28.1"N	148º 43' 15.7"W
Franklin Bluffs wet	fb2		
k1	fb2k1	69º 40' 27.1"N	148º 43' 1.9"W
k11	fb2k11	69º 40' 26.9"N	148º 43' 1.2"W
a1	fb2a1	69º 40' 26.8N	148º 43' 2.3"W
a11	fb2a11	69º 40' 26.8"N	148º 43' 1.3"W
Franklin Bluffs dry	fb3		
k1	fb3k1	69º 40' 29.3"N	148º 43' 15.1"W
k11	fb3k11	69º 40' 29.0"N	148º 43' 14.8"W
a1	fb3a1	69º 40' 29.1"N	148º 43' 15.8"W
a11	fb3a11	69º 40' 28.9"N	148º 43' 15.4"W
relevé number			
1	1	69º 40' 26.7"N	148º 42' 58.4"W
2	2	69º 40' 25.9"N	148º 43' 01.8"W
3	3	69º 40' 27.1"N	148º 43' 02.4"W
4	4	69º 40' 26.3"N	148º 43' 07.5"W
5	5	69º 40' 28"N	148º 43' 13"W
6	6	69º 40' 29"N	148º 43' 16"W
7	7	69º 40' 30"N	148º 43' 16"W
8	8	69º 40' 27.5"N	148º 43' 13.9"W

Table 28 continued.

Data_Type	Grid_ID	Latitude	Longitude
9	9	69º 40' 27.4"N	148º 43' 13.9"W
10	10	69º 40' 26.3"N	148º 43' 13.7"W
11	11	69º 40' 27.4"N	148º 43' 13.8"W
12	12	69º 40' 28"N	148º 43' 14"W
13	13	69º 40' 29"N	148º 43' 15"W
14	14	69º 40' 25.9"N	148º 43' 01.8"W
15	15	69º 40' 27.1"N	148º 43' 02.4"W
16	16	70º 18' 56.0"N	147º 59' 34.7"W
17	17	69º 40' 26.3"N	148º 43' 07.5"W
18	18	69º 40' 28.4"N	148º 43' 18.2"W
19	19	69º40' 29.2"N	148º 43' 17.5"W
20	20	69º 40' 29.5"N	148º 43' 18.2"W
30	30	69º 40' 28.9"N	148º 43' 15.7"W
31	31	69º 40' 28.9"N	148º 43' 15.7"W
32	32	69º 40' 28.2"	148º 43' 14.0"W
33	33	69º 40' 28.4"N	148º 43' 14.5"W
34	34	69º 40' 28.9"N	148º 43' 14.8"W
35	35	69º 40' 28.5"N	148º 43' 14.4"W
36	36	69º 40' 25.7"N	148º 43' 28.4"W
37	37	69º 40' 25.9"N	148º 43' 28.8"W
46	46	69º 40' 28.4"N	148º 43' 16.5"W
47	47	69º 40' 20.3"N	148º 43' 29.8"W
96	96	69º 40' 28.8"N	148º 43' 18.4"W
97	97	69º 40' 29.2"N	148º 43' 17.9"W
117	117	69º 40' 26.1"N	148º 43' 29.0"W
118	118	69º 40' 26.6"N	148º 43' 27.4"W
140	140	69º 40' 28.8"N	148º 43' 19.1"W
141	141	69º 40' 28.8"N	148º 43' 16.7"W
142	142	69º 40' 29.3"N	148º 43' 17.8"W
Heavometer 1	fbhm1	69º 40' 28.0"N	148º 43' 17.1"W
Heavometer 2	fbhm2	?	?
Transect 1			
east end		69º 40' 26.3"N	148º 43' 67.9"W
west end		69º 40.42'N	148º 43.390'W
Transect 2			
south end		69º 40' 28.0"N	148º 43' 20.7"W
north end		69º 40' 29.1"N	148º 43' 18.5"W
climate station	fbcs	69º 40' 26.0"N	148º 43' 19.2"W
soil pit site #204	so204	69º 40.449'N	148º 43.013'W

Table 28 continued.

Deadhorse			
K1	dhk1	70º 09' 42.4"N	148º 27' 49.6"W
K11	dhk11	70º 09' 42.4"N	148º 27' 48.8"W
A1	dha1	70º 09' 42.2"N	148º 27' 48.9"W
A11	dha11	70º 09' 42.1"N	148º 27'489"W
relevé number			

Table 28 continued.

Data_Type	Grid_ID	Latitude	Longitude
38	38	70º 09' 40.8"N	148º 28' 00.5"W
39	39	70º 09' 37.2"N	148º 28' 10.05"W
40	40	70º 09' 41.5"N	148º 27' 59.0"W
41	41	70º 09' 41.9"N	148º 27' 59.5"W
42	42	70º 09' 38.5"N	148º 28' 08.7"W
43	43	70º 09' 41.5"N	148º 27' 59.7"W
44	44	70º 09' 38.6"N	148º 28' 08.6"W
45	45	70º 09' 42.5"N	148º 28' 00.0"W
48	48	70º 09' 41.6"N	148º 28' 00.0"W
49	49	70º 09' 42.6"N	148º 28' 00.5"W
50	50	70º 09' 38.3"N	148º 28' 09.2"W
51	51	70º 09' 38.2"N	148º 28' 08.1"W
104	104	70º 09' 41.3"N	148º 28' 02.5"W
105	105	70º 09' 38.2"N	148º 28' 09.5"W
106	106	70º 09' 37.0"N	148º 28' 07.1"W
Heavometer 1	dhhm1	70º 09' 42.9"N	148º 27' 47.6"W
Heavometer 2	dhhm2	70º 09' 42.8"N	148º 27' 48.7"W
Heavometer 3	dhhm3	70º 09' 41.6"N	148º 28' 00.9"W
Transect 1			
south end		70º 09' 43.3"N	148º 27' 47.5"W
north end		70º 09' 44.9"N	148º 27' 49.0"W
Transect 2			
south end		70º 09' 36.6"N	148º 27' 59.1"W
north end		70º 09' 38.1"N	148º 27' 59.7"W
climate station	dhcs1	70º 09' 43.4"N	148º 27' 54.1"W
soil pit site #203	so203	70º 09.42'N	148º 27.58'W
West Dock			
K1	wdk1	70º 22' 30.2"N	148º 32' 57.7"W
K11	wdk11	70º 22' 30.1"N	148º 32' 57.2"W
A1	wda1	70º 22' 30.2"N	148º 32' 57.8"W
A11	wda11	70º 22' 29.9"N	148º 32' 57.4"W
relevé number			
98	98	70º 22' 28.6"N	148º 33' 09.1"W
99	99	70º 22' 28.4"N	148º 33' 09.9"W
100	100	70º 22' 29.7"N	148º 33' 11.1"W
101	101	70º 22' 29.4"N	148º 33' 13.2"W
102	102	70º 22' 53.1"N	148º 33' 36.7"W
103	103	70º 22' 28.6"N	148º 33' 08.2"W
Heavometer 1	wdhm1	70º 22' 28.9"N	148º 33' 7.9"W
Transect 1			
east end		70º 22.440'N	148º 33.180'W
west end		70º 22.453'N	148º 33.247'W
Transect 2			
south end		70º 22.846'N	148º 33.70'W
north end		70º 22.844'N	148º 33.786'W
climate station	wdcs	70º 22' 28.0"N	148º 33' 8.1"W
soil pit site #202	so202	70º 22.485'N	148º 33.148'W

Table 28 continued.

Data_Type	Grid_ID	Latitude	Longitude
Howe Island			
K1	hik1	70º 18' 54.6"N	147º 59' 37.0"W
K11	hik11	70º 18' 54.4"N	147º 59' 36.3"W
A1	hia1	70º 18' 54.2"N	147º 59' 37.3"W
A11	hia11	70º 18' 54.1"N	147º 59' 37.0"W
relevé number			
21	21	70º 18' 54"N	147º 59' 36" W
22	22	70º 18' 54"N	147º 59' 36"W
23	23	70º 18' 54"N	147º 59' 31"W
24	24	70º 18' 53"N	148º 59' 38"W
25	25	70º 18' 54"N	147º 59' 29"W
26	26	70º 18' 55"N	147º 59' 31"W
27	27	70º 18' 55"N	147º 59' 35"W
28	28	70º 18' 54"N	147º 59' 39"W
110	110	70º 18' 54.2"N	147º 59' 37.4"W
111	111	70º 18' 54.2"N	147º 59' 37.4"W
112	112	70º 18' 54.2"N	147º 59' 37.4"W
113	113	70º 18' 53.5"N	147º 59' 35.9"W
114	114	70º 18' 54.9"N	147º 59' 35.0"W
115	115	70º 18' 55.3"N	147º 59' 33.7"W
116	116	?	?
Heavometer 1	hihm1	?	?
Heavometer 2	hihm2	?	?
Eastern transect			
east end		70º 18' 54.4"N	147º 59' 31.7"W
west end		70º 18' 54.2"N	147º 59' 36.9"W
Western transect			
south end		70º 18' 54.1"N	147º 59' 43.0"W
north end		70º 18' 54.9"N	147º 59' 38.9"W
climate station	hics	?	?
soil pit site #201	so201	70º 18.986'N	147º 59.647'W