

Table 1. Hierarchical classifications for the Northwest Eileen Development land cover map, Prudhoe Bay, Alaska based on Walker (1983). Land cover was mapped at Level C (boldface).

LEVEL A SMALL- SCALE UNITS	LEVEL B LANDSAT- SCALE UNITS	LEVEL C PHOTO-INTERPRETED MAP UNITS	LEVEL D TYPICAL PLANT COMMUNITIES
A. Water	I. Water	Ia. Water (ponds, lakes, rivers, streams, saltwater)	No vegetation
B. Wet Tundra	II. Very Wet Tundra	IIa. Shallow Water (pond margins)	No vegetation
		IIb. Aquatic Graminoid Tundra (emergent vegetation)	Aquatic <i>Arctophila fulva</i> Grass Tundra Aquatic <i>Carex aquatilis</i> Sedge Tundra
	III. Wet Tundra	IIIa. Wet Sedge Tundra	Wet <i>Carex aquatilis</i> , <i>Scorpidium scorpioides</i> Sedge Tundra (wettest facies of wet alkaline tundra) Wet <i>Carex aquatilis</i> , <i>Eriophorum angustifolium</i> , <i>Pedicularis sudetica</i> , <i>Drepanocladus brevifolius</i> Sedge Tundra (wet alkaline tundra) Wet <i>Eriophorum angustifolium</i> , <i>Dupontia fisheri</i> , <i>Campylium stellatum</i> Graminoid Tundra (wet acidic tundra, coastal areas)
		IIIc. Wet Sedge Tundra/Water Complex (pond complex, no emergent vegetation)	Typical communities listed in IIIa and Va
		III d. Wet Sedge/Moist Sedge, Dwarf Shrub Tundra Complex (wet patterned-ground complex)	Typical communities listed in IIIa and Va, and sometimes IIb
C. Moist Tundra	IV. Moist/Wet Tundra Complex	IVa. Moist Sedge, Dwarf Shrub/Wet Graminoid Tundra Complex (moist patterned ground complex)	Typical communities listed in IIIa and Va
	V. Moist or Dry Tundra	Va. Moist Sedge, Dwarf Shrub Tundra	Moist <i>Carex bigelowii</i> , <i>Eriophorum angustifolium</i> , <i>Dryas integrifolia</i> , <i>Salix reticulata</i> , <i>Tomenthypnum nitens</i> , <i>Thamnia subuliformis</i> Sedge, Dwarf Shrub Tundra (moist alkaline tundra) Moist <i>Luzula arctica</i> , <i>Poa arctica</i> , <i>Saxifraga cernua</i> , <i>Salix planifolia</i> , <i>Dicranum elongatum</i> , <i>Ochrolechia frigida</i> Graminoid, Dwarf Shrub, Crustose Lichen Tundra (moist coastal acidic tundra) Moist <i>Carex aquatilis</i> , <i>Eriophorum angustifolium</i> , <i>Salix planifolia</i> , <i>Campylium stellatum</i> Sedge, Dwarf Shrub Tundra (moist acidic tundra, wetter facies)

Table 1. Continued.

LEVEL A SMALL- SCALE UNITS	LEVEL B LANDSAT- SCALE UNITS	LEVEL C PHOTO-INTERPRETED MAP UNITS	LEVEL D TYPICAL PLANT COMMUNITIES
C. Moist Tundra (CONT'D)	V. Moist or Dry Tundra (CONT'D)	Vb. Moist Tussock Sedge, Dwarf Shrub Tundra	Moist <i>Eriophorum vaginatum</i> , <i>Dryas integrifolia</i> , <i>Salix reticulata</i> , <i>S. arctica</i> , <i>Tomenthypnum nitens</i> , <i>Thamnolia subuliformis</i> . Tussock Sedge, Dwarf Shrub Tundra (alkaline tussock tundra) Moist <i>Eriophorum vaginatum</i> , <i>Dryas integrifolia</i> , <i>Salix planifolia</i> ssp. <i>pulchra</i> , <i>Salix reticulata</i> , <i>Hylocomium splendens</i> , <i>Ptilidium ciliare</i> , <i>Cetraria cucullata</i> Tussock Sedge, Dwarf Shrub Tundra (neutral to slightly acidic tussock tundra)
		Vc. Dry, Dwarf Shrub, Crustose Lichen Tundra (<i>Dryas</i> tundra, pingos, river bars)	Dry <i>Dryas integrifolia</i> , <i>Carex rupestris</i> , <i>Oxytropis nigrescens</i> , <i>Salix reticulata</i> , <i>Ditrichum flexicaule</i> , <i>Lecanora epibyron</i> Dwarf Shrub, Forb, Crustose Lichen Tundra (<i>Dryas</i> tundra, pingos) Dry <i>Dryas integrifolia</i> , <i>Astragalus alpinus</i> , <i>Oxytropis borealis</i> , <i>Salix reticulata</i> , <i>Distichium capillaceum</i> , <i>Lecanora epibyron</i> Dwarf Shrub, Forb, Crustose Lichen Tundra (<i>Dryas</i> tundra, river bars)
		Ve. Moist Graminoid, Dwarf Shrub Tundra/Barren Complex (frost-scar tundra complex)	Typical communities listed in Va plus either completely barren frost scars or communities such as: <i>Dry Saxifraga oppositifolia</i> , <i>Dryas integrifolia</i> , <i>Chrysanthemum integrifolium</i> , <i>Juncus biglumis</i> , <i>Arctagrostis latifolia</i> , <i>Ochrolechia frigida</i> Barren (alkaline frost scars)
E. Partially Vegetated and Barren	IX. Partially Vegetated	IXb. Dry Barren/Dwarf Shrub, Forb Grass Complex (forb rich river bars)	Typical communities listed in Vc, and mixed forb, grass and dwarf shrub communities such as: Dry <i>Bromus pumpellianus</i> , <i>Festuca rubra</i> , <i>Astragalus alpinus</i> , <i>Androsace chamaejasme</i> , <i>Salix ovalifolia</i> Grass, Forb, Dwarf Shrub Tundra (forb rich river bars) Dry <i>Dryas integrifolia</i> , <i>Artemisia borealis</i> , <i>A. glomerata</i> , <i>Salix ovalifolia</i> , <i>Androsace chamaejasme</i> Dwarf Shrub, Forb Tundra (<i>Dryas</i> river bars near arctic coast)
		IXg. Dry Barren/Low Shrub, Grass Complex (sand dune scrub)	Dry <i>Salix alaskensis</i> , <i>S. glauca</i> , <i>Elymus arenarius</i> , <i>Carex obtusata</i> , <i>Dryas integrifolia</i> Low Shrub, Tundra (sand dune scrub)

Table 1. Continued.

LEVEL A SMALL- SCALE UNITS	LEVEL B LANDSAT- SCALE UNITS	LEVEL C PHOTO-INTERPRETED MAP UNITS	LEVEL D TYPICAL PLANT COMMUNITIES
E. Partially Vegetated and Barren (CONT'D)	X. Light- colored Barrens (ground cover <30%)	Xb. Sand Dunes	Typical communities listed under IXe, IXf, IXg
		Xc. Barren gravel outcrops	Typical communities listed under Vd or IXe following, among many other; <i>Dry Dryas octopetala, Lupinus arcticus,</i> <i>Potentilla biflora, Smelowski calycina, Saxifraga</i> <i>tricusoidata, Salix phlebophylla, Silene acaulis</i> Dwarf Shrub, Forb Barren (gravel outcrops)
		Xe. Gravel Roads and Pads	Completely barren or partially vegetated with communities similar to IXb and IXc.
	XI. Dark-colored Barrens (ground cover <30%)	XIa. Wet Mud (drained lakes and ponds)	Completely barren or occasionally with colonizing species such as <i>Deschampsia</i> <i>caespitosa</i> and <i>Senecio congestus</i> .

Table 2. Area (acres) covered by land cover classification for Northwest Eileen map sections, Prudhoe Bay, Alaska, with percent occurrence and a combined summary of the three map areas.

Class	NW Eileen #1 (acres)	Area Percent	NW Eileen #2 (acres)	Area Percent	Z Pad Expansion (area)	Area Percent	Map Total	Area Percent
Ia	608.15	26.2	116.27	18.4	184.25	20.3	908.67	23.5
IIa	3.27	0.1	0.76	0.1	0.24	0.0	4.27	0.1
IIb	13.63	0.6	21.76	3.4	1.14	0.1	36.54	0.9
IIIa	92.16	4.0	126.72	20.0	53.43	5.9	272.32	7.0
IIIc	99.75	4.3	0.00	0.0	16.31	1.8	116.05	3.0
IIId	286.45	12.3	34.69	5.5	150.06	16.5	471.20	12.2
IVa	405.35	17.4	79.90	12.6	157.24	17.3	642.49	16.6
Va	284.62	12.2	87.52	13.8	210.50	23.2	582.64	15.1
Vb	279.02	12.0	76.12	12.0	30.29	3.3	385.43	10.0
Vc	22.41	1.0	26.94	4.3	20.00	2.2	69.34	1.8
Ve	170.69	7.3	18.73	3.0	52.63	5.8	242.05	6.3
IXb	6.26	0.3	1.13	0.2	0.00	0.0	7.38	0.2
IXg	5.19	0.2	0.00	0.0	0.00	0.0	5.19	0.1
Xb	12.77	0.5	0.00	0.0	0.00	0.0	12.77	0.3
Xc	13.08	0.6	0.44	0.1	7.76	0.9	21.28	0.6
Xe	10.45	0.4	6.55	1.0	23.53	2.6	40.53	1.0
XIa	12.08	0.5	35.97	5.7	0.56	0.1	48.62	1.3
Map Total	2325.33	100.0	633.51	100.0	907.93	100.0	3866.78	100.0

Table 3. Area (acres) covered by gravel for the proposed Northwest Eileen Development, Prudhoe Bay, Alaska, for each land cover classification.

Class	Access Road (acres)	Area Percent	NW Eileen #1 Pad (acres)	Area Percent	NW Eileen #2 Pad (acres)	Area Percent	Process Facility (acres)	Area Percent	Facilities Total (acres)	Area Percent
Ia	0.07	0.4	0.0	0.0	0.23	2.8	0.41	2.8	0.71	1.4
IIb	0.00	0.0	0.0	0.0	0.40	4.9	0.00	0.0	0.40	0.8
IIIa	1.01	5.7	0.0	0.0	3.58	43.6	0.00	0.0	4.59	9.3
III d	0.00	0.0	0.0	0.0	0.00	0.0	1.86	13.0	1.86	3.8
IVa	3.01	16.9	2.9	31.8	0.00	0.0	10.14	71.0	16.05	32.5
Va	4.66	26.1	6.0	66.0	3.81	46.4	1.06	7.4	15.53	31.4
Vb	4.94	27.7	0.2	2.1	0.00	0.0	0.00	0.0	5.14	10.4
Vc	0.58	3.3	0.0	0.0	0.04	0.4	0.00	0.0	0.62	1.3
Ve	2.09	11.7	0.0	0.0	0.00	0.0	0.00	0.0	2.09	4.2
IXb	0.05	0.3	0.0	0.0	0.00	0.0	0.00	0.0	0.05	0.1
Xc	0.07	0.4	0.0	0.0	0.00	0.0	0.01	0.1	0.09	0.2
Xe	1.27	7.1	0.0	0.0	0.01	0.2	0.00	0.0	1.28	2.6
XIa	0.09	0.5	0.0	0.0	0.14	1.7	0.81	5.7	1.03	2.1
Total	17.84	100.0	9.1	100.0	8.20	100.0	14.29	100.0	49.45	100.0

Table A-1. Ground-reference site descriptions collected July and August 1998 in the vicinity of the Northwest Eileen Development area, Alaska. See Figure 1 for site locations and Table A-2 for plant taxa.

Site Number	Field Classification	Map Classification	Site Description
1	IIIa	IIIa	Moist, unpatterned ground.
2	Va	Va	Moist, unpatterned ground below old lake basin margin.
3	Vc	Vc	Dry HCP's.
4	Vb	Vb	Dry soil site. Hill with tussocks.
5	Vb	Vb	Tussocks north of well pad; dry soil site.
6	Va	Va	Moist soil.
7	Va	Va	Moist/dry soil; some tussocks in area.
8	Vb	Vb	Moist tussock tundra.
9	Va	IIIa	HCP's with moist soil.
10	IIb	IIb	Aquatic site - edge of <i>Arctophila fulva</i> patch.
11	Va	Va	Site next to road with excessive dust accumulation; moist soil.
12	IVa	IVa	HCP's with wet troughs and moist/wet soil. Some trough areas densely vegetated with <i>Carex aquatilis</i> .
13	Va	Va	Mid-slope pingo north of Spine Road; moist soil.
14	Vb	Vb	Top of pingo with scattered tussocks; moist soil.
15	IXg	IXg	Dry sand dunes.
16	Xb	Xb	Barren lake margin with moist soil.
17	Va	Va	Moist soil site.
18	Va	Va	Moist soil site.
19	Vb	Vb	Moist tussock tundra.
20	IIIa	IIIa	Wet sedge tundra - almost strangmoor.
21	Va	Va	Moist sedge, dwarf shrub/wet graminoid tundra complex.
22	Va	Va	Strang-like hummocks; moist soil.
23	Vb	Vb	Some tussocks flattened and broken off, possibly where ice road came through.
24	Vb	Vb	Moist tussock tundra.
25	Vb	Vb	Moist tussock tundra.
26	IVa	IVa	Moist/wet soil - wetter than neighboring tussock areas, but not extremely wet.
27	Ve	Ve	FTP/strangs with frost boils between. Moist/wet soils.
28	IIIa	IIIa	Wet sedge tundra - along road corridor.
29	IIIc	IIIc	Saturated wet/moist tundra.
30	IIIa	IIIc	Wet sedge tundra - along road corridor.
31	IVa	IVa	Moist-wet/dry soils.
32	IVa	IVa	Moist sedge, dwarf shrub tundra with old strangs and moist troughs along road corridor.
33	Vb	Vb	Moist tussock sedge, dwarf shrub tundra on slope of hill.
34	Va	Va	Moist sedge, dwarf shrub tundra.
35	Va	Va	Moist sedge, dwarf shrub tundra.
36	Va	Va	Moist sedge meadow. (airstrip access road)
37	IVa	IVa	Moist/wet HCP's with deep troughs just south of Kuparuk pad near impound; disturbed vegetation.

Table A-1. Continued.

Site Number	Field Classification	Map Classification	Site Description
38	Va	Va	Dry/moist sedge with strangmoor. Dense <i>Dryas integrofolia</i> on tops of strangs; trough areas wetter with more sedges.
39	IVa	IVa	Moist/wet LCP's between two ponds - no standing water in centers.
40	IXb	IXb	Dry/disturbed site.
41	Va	Va	Dry/moist HCP's with deep troughs - possibly disturbed site. More grasses than sedges.
42	IIIa	IIIa	Wet sedge meadow.
43	Va	Va	Moist/dry HCP's.
44	IXb	IXb	Dry, disturbed tussocks.
45	Vc	Vc	Dry soil site.
46	IIIa	IIIa	Wet sedge meadow.
47	Vb	Vb	HCP's with tussocks broken where ice road crossed.
48	Va	Va	Moist sedge meadow.
49	Vb	Vb	FTP with tussocks - moist.
50	Vc	Vc	Dry polygon tops with deep troughs and high centers with frost heave. Large areas of mostly bare ground.
51	Ve	Ve	Moist/wet soils. Pock marked area.
52	Va	Va	Moist sedge meadow with some tussocks.
53	Ve	Ve	Irregular frost boils - moist soils.
54	Vb	Vb	Moist tussock tundra.
55	Va	Va	FTP - moist soils.
56	IIIId	IIIId	Wet sedge meadow. No <i>scorpidium</i> present - just mud.
57	Vb	Vb	Moist soil site.
58	Va	Va	Moist sedge meadow, somewhat disturbed by road. Polygonized, but not deeply. Some gravel present - soil is drier in gravel affected areas.
59	IVa	IVa	Moist sedge meadow
60	Vb	Vb	Moist tussock tundra.
61	IIIId	IIIId	Wet meadow - probably strangmoor.
62	IIIId	IIIId	Wet strangmoor.
63	IIIId	IIIId	Wet sedge grass meadow.
64	Va		Moist sedge meadow with some scattered tussocks. (No GPS, point location on photo overlay inaccurate, point not used.)
65	IIIb	IIIId	Wet sedge meadow with strangmoor.
66	IIIa	IIIa	Moist/wet sedge meadow basin complex with many wet sites dominated by <i>Carex aquatilis</i> .
67	Ve	Ve	Moist sedge meadow with frost scars.
68	IVa	IVa	Moist sedge meadow with HCP's.
69		Va	See NW Eileen #2 transect data Table A-3.
70		IIIa	See NW Eileen #2 transect data Table A-3.
71		IIIa	See NW Eileen #2 transect data Table A-3.

Table A-2. Estimated percent vegetation cover at ground-reference sites for the Northwest Eileen Development area land cover map, July-August 1998, Alaska. (* = presence, <1% cover)

Plant Taxa & Misc.	Code	Site Number																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Field Classification		IIIa	Va	Vc	Vb	Vb	Va	Va	Vb	Va	IIb	Va	IVa	Va	Vb	IXg	Xb	Va	Va	Vb	IIIa	Va	Va	Vb	Vb
<i>Alopecurus</i> sp.	ALSP											*													
<i>Arctophila fulva</i>	ARFU										48														
<i>Artemisia arctica</i>	ARLA			1	1	*			3	*	*			13	*						2				
<i>Astragalus alpinus</i>	ASAL														*										
<i>Aulacomnium</i> sp.	AULA																				2				
Bare Canopy or Ground	BARE	2		2	1				3			7	14		2		64	100				24			
<i>Bryum pseudotriquetrum</i>	BRPS		*																						
<i>Carex aquatilis</i>	CAAQ	76	67	1			*		2		24			3										3	
<i>Carex atrofusca</i>	CAAT														1					*		15	*		
<i>Carex bigelowii</i>	CABI																			3					
<i>Carex membranacea</i>	CAME				6	5																			
<i>Carex misandra</i>	CAMI						43	17				30	10										7		
<i>Carex saxatilis</i>	CASA																								
<i>Carex</i> sp.	CASP												3		2										
<i>Cassiope tetragona</i>	CATE			17	2	10		8	10	25		1		*				2		7		3		3	1
<i>Cerastium beeringianum</i>	CEBE																								
<i>Cetraria</i> sp.	CETR		*	*			*					*	*	*			*		*	*	*	*	*	*	*
<i>Cladonia</i> sp.	CLAD		*	*																					
<i>Cochlearia officinalis</i>	COOF											*													
Crustose Lichen	CRLI																								
<i>Distichium</i> sp.	DIST																								
<i>Drepanocladus</i> sp.	DREP	5																				*			
<i>Dryas integrifolia</i>	DRIN		2	56	2		4	15	30	19		20	5	30	13	19		15		3		15	16	7	13
<i>Dupontia fischeri</i>	DUFI	3	5																						
<i>Equisetum</i> sp.	EQSP										1														
<i>Equisetum variegatum</i>	EQVA		1																						
<i>Eriophorum angustifolium</i>	ERAN						3	1	5	7			50	22	40			35	70	7	58	57	28	23	
<i>Eriophorum russeolum</i>	ERRU	6																							
<i>Eriophorum scheuchzeri</i>	ERSC										1														
<i>Eriophorum vaginatum</i>	ERVA				53	30	18	17	30					12	30			10		47		2		27	43
<i>Festuca vivipara</i>	FEVI										*				*										
<i>Geum rossii</i>	GERO																								
Grass	GRAS																5	*							
<i>Hypnum bambergeri</i>	HYBA									10															
<i>Juncus biglumis</i>	JUBI														*										
<i>Kobresia</i> sp.	KOBR																								
<i>Lepraria</i> sp.	LEPR			7	*																				
Lichens	LICH						*																	5	
Litter	LITT	8													5				3						2

Table A-2. Continued.

Plant Taxa & Misc.	Code	Site Number																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Field Classification		IIIa	Va	Vc	Vb	Vb	Va	Va	Vb	Va	IIb	Va	IVa	Va	Vb	IXg	Xb	Va	Va	Vb	IIIa	Va	Va	Vb	Vb
<i>Luzula</i> sp.	LUSP																								
<i>Melandrium apetalum</i>	MEAP																								
<i>Minuartia</i> sp.	MISP																								
Moss	MOSS		1								22	*													
<i>Oxytropis</i> sp.	OXSP																								
<i>Papavie</i> sp.	PASP																								
<i>Pedicularis sudetica</i>	PESU	*				*				1		2									1	*			
<i>Poa arctica</i>	POAR																				*				
<i>Polygonum bistorta</i>	POBI					5			2	2				*											
<i>Polytrichum</i> sp.	POLY																								
<i>Polygonum viviparum</i>	POVI	*	*			*		2				1	2		2					*			1	*	1
<i>Puccinellia arctica</i>	PUAR																								
<i>Puccinellia langeana</i>	PULA										*														
<i>Puccinellia phryganodes</i>	PUPH																								
<i>Pyrola grandiflora</i>	PYGR		*																						1
<i>Ranunculus</i> sp.	RASP										1														
<i>Salix arctica</i>	SAAR								*								2			*			20		12
<i>Saxifraga cernua</i>	SACE																								
<i>Salix lanata</i>	SALA																								
<i>Saxifraga hirculus</i>	SAHI	*					2	6											*						
<i>Saxifraga oppositifolia</i>	SAOP																								
<i>Salix ovalifolia</i>	SAOV																								
<i>Salix phlebophylla</i>	SAPH			10		35		3																	3
<i>Salix pulchra</i>	SAPU	19	1	7		14	8		3			3	3	6	10			8	4	10		3		17	
<i>Salix reticulata</i>	SARE	4	5	22		12	8	15	5		30	19	3					22	5	13		20	20	13	17
<i>Salix rotundifolia</i>	SARO																								
<i>Sasauria</i> sp.	SASA						2			3										*					
<i>Salix</i> sp.	SASP																								
<i>Scorpidium scorpioides</i>	SCSC										20											3			
<i>Silene acaulis</i>	SIAC																								
Standing Dead	STDE							8													15				
<i>Stellaria humifusa</i>	STHU																								
<i>Thamnia</i> sp.	THAM		*	*			*					*	*	*	*			*					*		
<i>Tomentypnum nitens</i>	TONI	1		3	5	2	2	5	1		*		4	3	3			5	2	5	*		3	7	7
<i>Vaccinium vitis-idea</i>	VAVI			3	10																2				

Table A-2. Continued.

Plant Taxa & Misc	Code	Site Number																										
		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
Field Classification		Vb	IVa	Vc	IIIa	IIIb	IIIa	IVa	IVa	Vb	Va	Va	Va	IVa	Va	IVa	IXb	Va	IIIa	Va	IXb	Vc	IIIa	Vb	Va			
<i>Alopecurus</i> sp.	AI SP																											
<i>Arctophila fulva</i>	ARIU																											
<i>Artemisia arctica</i>	ARI A			3						2					2		*	3		2				1				
<i>Astragalus alpinus</i>	ASAL																				*		3					
<i>Aulacomnium</i> sp.	AULA											2																
Bare Canopy or Ground	BARE		3	43		13	10	17	7					13		18	3		5		54		10					
<i>Bryum pseudotriquetrum</i>	BRPS																											
<i>Carex aquatilis</i>	CAAQ		2	3	74	8	32						25	*	13				42		1				1			
<i>Carex atrofusca</i>	CAAT		15	1	3	3	*	3		*	7						*		5				40					
<i>Carex bigelowii</i>	CABI									*			22															
<i>Carex membranacea</i>	CAME																											
<i>Carex misandra</i>	CAMI	3		8		10		7	35						33			10		13	8			28				
<i>Carex saxatilis</i>	CASA					23	*	15										15										
<i>Carex</i> sp.	CASP					1		*													*			3				
<i>Cassiope tetragona</i>	CATE	*																5		2		10		27				
<i>Cerastium beeringianum</i>	CEBE									*																		
<i>Cetraria</i> sp.	CETR							*		*		3						2				1						
<i>Cladonia</i> sp.	CLAD														*													
<i>Cochlearia officinalis</i>	COOF														5													
Crustose Lichen	CRLI			3				*							2			31				5						
<i>Distichium</i> sp.	DIST																											
<i>Drepanocladus</i> sp.	DREP	2				13																						
<i>Dryas integrifolia</i>	DRIN	1		12	*			23	30	25	10	3			20		43	11		27	2	63		13				
<i>Dupontia fischeri</i>	DUFI																											
<i>Equisetum</i> sp.	EQSP																											
<i>Equisetum variegatum</i>	EQVA			1	*							5																
<i>Eriophorum angustifolium</i>	ERAN	19	60	10	8	10	45	8		25	40	15	55	43	18	70	3		32	8	7	4	37	*	14			
<i>Eriophorum russeolum</i>	ERRU																											
<i>Eriophorum scheuchzeri</i>	ERSC																											
<i>Eriophorum vaginatum</i>	ERVA	20								40	27													33				
<i>Festuca vivipara</i>	FEVI											11		13						10								
<i>Geum rossii</i>	GERO																											
Grass	GRAS																				1							
<i>Hypnum bambergeri</i>	HYBA																											
<i>Juncus biglumis</i>	JUBI					6																						
<i>Kobresia</i> sp.	KOBR																											
<i>Lepraria</i> sp.	LEPR																											
Lichens	LICH							3																				
Litter	LITT	5	4							4			5	10		3	12			6			8	2	22			

Table A-2. Continued.

Plant Taxa & Misc.	Code	Site Number																										
		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
Field Classification		Vb	IVa	Ve	IIIa	IIId	IIIa	IVa	IVa	Vb	Va	Va	Va	IVa	Va	IVa	IXb	Va	IIIa	Va	IXb	Vc	IIIa	Vb	Va			
<i>Luzula</i> sp.	LUSP																											
<i>Melandrium apetalum</i>	MEAP				*	*														1								
<i>Minuartia</i> sp.	MISP																	3										
Moss	MOSS		8		15			2			2						3	1		12								
<i>Oxytropis</i> sp.	OXSP																											
<i>Papaver</i> sp.	PASP																							*				
<i>Pedicularis sudetica</i>	PESU	*	*		*		*				*	1			*								1					
<i>Poa arctica</i>	POAR		3								5		4					20										
<i>Polygonum bistorta</i>	POBI																											
<i>Polytrichum</i> sp.	POLY													1				5			1				8			
<i>Polygonum viviparum</i>	POVI	*							2	*	2	*	2			1	10		3	2	1		2	*				
<i>Puccinellia arctica</i>	PUAR												*					12										
<i>Puccinellia langeana</i>	PULA																											
<i>Puccinellia phryganodes</i>	PUPH												1															
<i>Pyrola grandiflora</i>	PYGR										*													*				
<i>Ranunculus</i> sp.	RASP																											
<i>Salix arctica</i>	SAAR		1					2			10	12		8		7		23	10					15				
<i>Saxifraga cernua</i>	SACE										5																	
<i>Salix lanata</i>	SALA																											
<i>Saxifraga hirculus</i>	SAHI		*		*						7						*		1	*								
<i>Saxifraga oppositifolia</i>	SAOP															2												
<i>Salix ovalifolia</i>	SAOV																											
<i>Salix phlebophylla</i>	SAPH																					7	*					
<i>Salix pulchra</i>	SAPU	17		4	*			8		2							1							2				
<i>Salix reticulata</i>	SARE	20		7		3			20	5	14				18		3				4	*		7	5			
<i>Salix rotundifolia</i>	SARO																7		3		*							
<i>Sasauria</i> sp.	SASA																											
<i>Salix</i> sp.	SASP																							2				
<i>Scorpidium scorpioides</i>	SCSC					2	13	7										15					4					
<i>Silene acaulis</i>	SIAC			2														*										
Standing Dead	STDE																											
<i>Stellaria humifusa</i>	STHU													1		*												
<i>Thamnia</i> sp.	THAM							*																				
<i>Tomentypnum nitens</i>	TONI	10	7	3		8		7		1	2											5		6	7			
<i>Vaccinium vitis-idea</i>	VAVI																								2			

Table A-2. Continued.

Plant Taxa & Misc.	Code	Site Number																				
		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
Field Classification		Vb	Vc	Ve	Va	Ve	Vb	Va	IIIId	Vb	Va	IVa	Vb	IIIId	IIIId	IIIId	Va	IIIb	IIIa	Ve	IVa	
<i>Alopecurus</i> sp.	ALSP																					
<i>Arctophila fulva</i>	ARFU																					
<i>Artemisia arctica</i>	ARLA									12												
<i>Astragalus alpinus</i>	ASAL									3												
<i>Aulacomnium</i> sp.	AULA	*																				
Bare Canopy or Ground	BARE		11	22		27	5		20		23			5				23	3		1	
<i>Bryum pseudotriquetrum</i>	BRPS																					
<i>Carex aquatilis</i>	CAAQ	2							62		17	3		62	22	27	2	53	12		12	
<i>Carex atrofusca</i>	CAAT																					
<i>Carex bigelowii</i>	CABI									2		2		12	12	15	20	2	10	22	32	
<i>Carex membranacea</i>	CAME																					
<i>Carex misandra</i>	CAMI	3	27			2		12				30			1						10	
<i>Carex saxatilis</i>	CASA			5								18			2							
<i>Carex</i> sp.	CASP					23																
<i>Cassiope tetragona</i>	CATE	3	5		4		22			10				3								
<i>Cerastium beeringianum</i>	CEBE												*									
<i>Cetraria</i> sp.	CETR	*	*										*									
<i>Cladonia</i> sp.	CLAD		*										*									
<i>Cochlearia officinalis</i>	COOF																					
Crustose Lichen	CRLI																					
<i>Distichium</i> sp.	DIST																					
<i>Drepanocladus</i> sp.	DREP										7		5									
<i>Dryas integrifolia</i>	DRIN	13	20		13	2	20	20		25		2	27				2				7	5
<i>Dupontia fischeri</i>	DUFI											28		3	33	28	32		28	33	32	
<i>Equisetum</i> sp.	EQSP																					
<i>Equisetum variegatum</i>	EQVA			1									*									
<i>Eriophorum angustifolium</i>	ERAN	30	5	53	40	12		30	18	7	33	5	10	5	15	22	17	9	30	15	8	
<i>Eriophorum russeolum</i>	ERRU																					
<i>Eriophorum scheuchzeri</i>	ERSC																					
<i>Eriophorum vaginatum</i>	ERVA	17			10	2	28	3		30			40									
<i>Festuca vivipara</i>	FEVI																					
<i>Geum rossii</i>	GERO																					
Grass	GRAS																					
<i>Hypnum bambergeri</i>	HYBA																					
<i>Juncus biglumis</i>	JUBI					3																
<i>Kobresia</i> sp.	KOBR		10																			
<i>Lepraria</i> sp.	LEPR																					
Lichens	LICH								*													
Litter	LITT	8		13	12	7					13	5			10	8	5				8	

Table A-2. Continued.

Plant Taxa & Misc.	Code	Site Number																				
		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
Field Classification		Vb	Vc	Ve	Va	Ve	Vb	Va	IIIc	Vb	Va	IVa	Vb	IIIc	IIIc	IIIc	Va	IIIb	IIIa	Ve	IVa	
<i>Luzula</i> sp.	LUSP																					
<i>Melandrium apetalum</i>	MEAP																					
<i>Minuartia</i> sp.	MISP																					
Moss	MOSS			1			2															
<i>Oxytropis</i> sp.	OXSP												3									
<i>Papaver</i> sp.	PASP																					
<i>Pedicularis sudetica</i>	PESU	*										*		*							*	
<i>Poa arctica</i>	POAR																					
<i>Polygonum bistorta</i>	POBI						2			*												
<i>Polytrichum</i> sp.	POLY																					
<i>Polygonum viviparum</i>	POVI		4				3					*		*						*		
<i>Puccinellia arctica</i>	PUAR					2																
<i>Puccinellia langeana</i>	PULA																					
<i>Puccinellia phryganodes</i>	PUPH																					
<i>Pyrola grandiflora</i>	PYGR																					
<i>Ranunculus</i> sp.	RASP																					
<i>Salix arctica</i>	SAAR			3	12	7	3			8	5	5	7		5		22		12	10	*	
<i>Saxifraga cernua</i>	SACE																					
<i>Salix lanata</i>	SALA																					
<i>Saxifraga hirculus</i>	SAHI			*				*						*								
<i>Saxifraga oppositifolia</i>	SAOP																					
<i>Salix ovalifolia</i>	SAOV																					
<i>Salix phlebophylla</i>	SAPH			1																		
<i>Salix pulchra</i>	SAPU	8							12													
<i>Salix reticulata</i>	SARE	13	17		4	13	13	20			2	2	5						5	5	*	
<i>Salix rotundifolia</i>	SARO																					
<i>Sasauria</i> sp.	SASA																					
<i>Salix</i> sp.	SASP				5		2															
<i>Scorpidium scorpioides</i>	SCSC													13			13					
<i>Silene acaulis</i>	SIAC					*																
Standing Dead	STDE																					
<i>Stellaria humifusa</i>	STHU																					
<i>Thamnia</i> sp.	THAM				*							*									*	
<i>Tomentypnum nitens</i>	TONI	3		2				3		3												
<i>Vaccinium vitis-idea</i>	VAVI																					

Table A-3. Walking-point transect percent cover data for the Northwest Eileen No. 2 site along the Milne Point Road, Prudhoe Bay, Alaska. Each transect consists of 100 points.

Category	Canopy			Basal			Species Composition		
	Transect Number			Transect Number			Transect Number		
	1	2	3	1	2	3	1	2	3
Non-Living									
Bare Canopy or Ground	28	16	25	0	0	0	16	1	0
Litter	0	0	0	44	71	31	0	0	0
Standing Dead	18	25	1	30	3	23	0	0	0
Total Non-Living	18	25	1	74	74	54	0	0	0
Graminoids									
<i>Arctagrostis latifolia</i>	0	0	1	0	0	0	0	0	1
<i>Carex aquatilis</i>	10	9	31	2	0	3	10	14	33
<i>Carex</i> sp.	1	2	0	0	0	0	1	1	0
<i>Dupontia fishceri</i>	0	0	1	0	0	0	0	0	2
<i>Eriophorum angustifolium</i>	28	25	5	1	0	0	55	26	5
<i>Eriophorum russeolum</i>	0	0	17	0	0	0	0	0	27
<i>Eriophorum scheuchzeri</i>	1	0	0	0	0	0	1	0	0
Grass	0	0	7	0	0	0	0	0	6
<i>Juncus biglumis</i>	1	2	1	0	0	0	1	1	2
<i>Luzula</i> sp.	0	0	1	0	0	0	0	0	1
Total Graminoid	41	38	64	3	0	3	68	42	77
Forbs									
<i>Equisetum variegatum</i>	2	3	2	1	1	1	3	4	2
<i>Pedicularis sudetica</i>	1	0	0	0	0	0	1	2	2
<i>Polygonum viviparum</i>	1	0	0	0	0	0	2	1	0
Total Forb	4	3	2	1	1	1	6	7	4
Shrubs									
<i>Dryas integrifolia</i>	5	5	0	0	2	1	8	18	0
<i>Salix lanata</i>	0	0	5	0	0	3	0	0	13
<i>Salix ovalifolia</i>	2	1	0	0	1	0	2	1	0
<i>Salix pulchra</i>	1	3	3	0	5	1	0	13	6
<i>Salix reticulata</i>	1	8	0	0	5	0	0	17	0
<i>Salix</i> sp.	0	1	0	0	0	0	0	1	0
Total Shrub	9	18	8	0	13	5	10	50	19
Non-Vascular									
<i>Bryum pseudotriquetrum</i>	0	0	0	2	1	0	0	0	0
Crustose Lichen	0	0	0	0	1	2	0	0	0
<i>Distichium</i> sp.	0	0	0	4	1	3	0	0	0
<i>Drepanocladus</i> sp.	0	0	0	8	3	8	0	0	0
Moss	0	0	0	0	0	24	0	0	0
<i>Scorpidium scorpioides</i>	0	0	0	7	0	0	0	0	0
<i>Thamnotia subuliformis</i>	0	0	0	1	0	0	0	0	0
<i>Tomenthypnum nitens</i>	0	0	0	0	6	0	0	0	0
Total Non-Vascular	0	0	0	22	12	37	0	0	0

Table A-4. Coordinates and precision for Northwest Eileen Development area ground-reference data. Positions are decimal degrees, datum is WGS 1984.

Site	Longitude (W)	Latitude (N)	Number of Corrected Positions	Correction Type	Date	Time (ADST)	SD	Elevation	Horizontal Precision (m)	Vertical Precision (m)
1	-149.425586	70.373251	328	Differential	7/24/98	04:47:42PM	0.964	26.0	1.381	2.361
2	-149.421914	70.373666	742	Differential	7/24/98	05:13:54PM	1.057	27.3	0.876	1.844
3	-149.420379	70.372897	560	Repositioned	7/24/98	05:34:57PM	1.057	26.8	0.980	1.817
4	-149.418232	70.373604	350	Differential	7/24/98	06:01:07PM	2.022	28.2	1.454	2.293
5	-149.422401	70.375930	83	Differential	7/24/98	06:34:10PM	0.860	24.6	1.120	1.648
6	-149.431020	70.374052	315	Differential	7/25/98	08:35:36AM	0.939	29.3	1.176	1.932
7	-149.432385	70.374028	322	Differential	7/25/98	08:50:02AM	1.028	27.8	1.197	1.984
8	-149.434095	70.372410	230	Differential	7/25/98	09:16:51AM	2.299	26.0	1.167	1.734
9	-149.430421	70.372335	400	Repositioned	7/25/98	09:30:29AM	1.860	28.6	1.230	2.376
10	-149.423102	70.370420	39	Differential	7/25/98	09:57:19AM	2.966	20.1	1.228	2.350
11	-149.427098	70.375606	317	Differential	7/25/98	10:27:47AM	1.249	26.5	1.287	2.766
12	-149.228365	70.317557	866	Differential	7/25/98	11:40:09AM	1.215	28.5	0.758	1.466
13	-149.229315	70.318698	304	Differential	7/25/98	12:01:32PM	1.392	30.4	1.116	1.764
14	-149.229919	70.319506	630	Differential	7/25/98	12:22:12PM	0.961	33.3	1.005	2.250
15	-149.225176	70.319746	642	Differential	7/25/98	12:44:53PM	3.455	32.2	1.337	2.723
16	-149.223587	70.319850	290	Differential	7/25/98	01:00:13PM	2.120	32.5	1.567	2.906
17	-149.225590	70.317955	183	Differential	7/25/98	01:12:51PM	3.236	34.8	1.683	2.605
18	-149.332577	70.350194	539	Differential	7/25/98	05:42:33PM	1.165	8.6	1.018	1.786
19	-149.331944	70.351230	1551	Differential	7/25/98	05:43:22PM	0.912	9.1	0.828	1.353
20	-149.332336	70.353224	406	Differential	7/25/98	06:06:20PM	1.058	6.7	1.129	1.770
21	-149.326758	70.350357		No GPS	7/25/98	06:15PM				
22	-149.331324	70.353374	262	Differential	7/25/98	06:17:12PM	2.199	9.6	1.586	2.613
23	-149.320680	70.350038	866	Differential	7/25/98	06:50:44PM	0.521	4.6	1.104	2.203
24	-149.315885	70.348238	316	Differential	7/25/98	06:59:26PM	1.144	6.0	1.455	2.571
25	-149.311146	70.348197	999	Differential	7/25/98	07:27:44PM	0.847	12.5	1.146	2.725
26	-149.310863	70.347343	203	Differential	7/25/98	07:28:49PM	1.239	7.1	1.662	2.961
27	-149.303717	70.346141	962	Differential	7/25/98	07:55:23PM	1.030	8.4	1.212	2.526
28	-149.305134	70.344324	503	Differential	7/25/98	07:57:25PM	1.536	11.9	1.212	2.559
29	-149.302099	70.344680	1009	Differential	7/25/98	08:20:46PM	1.046	8.0	1.201	2.460
30	-149.299230	70.342065	296	Differential	7/25/98	08:28:47PM	0.787	6.0	1.367	2.163
31	-149.304242	70.341574	881	Differential	7/25/98	08:48:44PM	0.941	8.6	1.153	2.288
32	-149.302038	70.340768	582	Differential	7/25/98	08:41:59PM	1.782	5.6	1.111	1.858
33	-149.305810	70.339330	599	Differential	7/25/98	09:07:49PM	1.066	10.0	1.243	2.237
34	-149.306674	70.337272	355	Differential	7/25/98	09:23:19PM	1.217	10.9	1.740	4.456
35	-149.304643	70.335872	1456	Differential	7/25/98	09:36:28PM	1.046	10.3	0.880	2.032
36	-149.300851	70.334590	348	Differential	7/26/98	10:36:38AM	1.093	8.2	1.171	1.849
37	-149.305659	70.334465	713	Differential	7/26/98	10:34:57AM	1.252	10.2	1.247	2.274
38	-149.299006	70.334803	541	Differential	7/26/98	10:45:52AM	1.450	6.8	0.924	1.510
39	-149.306317	70.331732	603	Differential	7/26/98	11:23:17AM	1.234	10.6	1.266	2.468
40	-149.299036	70.334376	392	Differential	7/26/98	10:59:15AM	0.840	7.4	1.079	1.778
41	-149.304155	70.333316	349	Differential	7/26/98	10:54:14AM	1.989	9.8	1.939	3.662
42	-149.291167	70.333641	360	Differential	7/26/98	11:20:32AM	0.866	7.5	1.115	2.283
43	-149.291853	70.331865	839	Differential	7/26/98	11:45:25AM	1.024	10.8	1.112	2.046
44	-149.287895	70.332528	642	Differential	7/26/98	11:41:28AM	0.924	8.2	0.891	1.678
45	-149.281579	70.330293	1316	Differential	7/26/98	12:28:55PM	0.681	6.1	0.928	2.817

Table A-4. Continued.

Site	Longitude (W)	Latitude (N)	Number of Corrected Positions	Correction Type	Date	Time (ADST)	SD	Elevation	Horizontal Precision (m)	Vertical Precision (m)
46	-149.283334	70.331154	164	Differential	7/26/98	12:17:17PM	0.638	6.6	1.683	3.728
47	-149.276366	70.328998	402	Differential	7/26/98	01:12:15PM	0.861	11.0	1.791	2.720
48	-149.273836	70.331008	29	Differential	7/26/98	01:01:15PM	1.221	10.6	1.354	2.262
49	-149.272334	70.329265	684	Differential	7/26/98	01:29:30PM	0.740	4.7	1.279	2.631
50	-149.270695	70.330844	366	Differential	7/26/98	01:18:45PM	3.226	7.6	1.272	2.225
51	-149.269665	70.325764	563	Differential	7/26/98	02:09:45PM	1.327	8.2	1.341	2.599
52	-149.267581	70.326285	339	Differential	7/26/98	02:08:07PM	1.786	8.8	1.219	2.058
53	-149.268875	70.322785	678	Differential	7/26/98	02:29:16PM	0.722	11.6	1.275	3.212
54	-149.267000	70.322434	375	Differential	7/26/98	02:30:45PM	0.919	10.1	1.163	2.454
55	-149.268851	70.321159	451	Differential	7/26/98	02:46:15PM	1.736	7.8	1.574	3.750
56	-149.265647	70.319440	311	Differential	7/26/98	02:47:54PM	1.133	11.0	1.239	2.828
57	-149.270864	70.319832	807	Differential	7/26/98	03:00:45PM	0.469	13.7	1.093	2.342
58	-149.268660	70.319037	370	Differential	7/26/98	03:01:12PM	1.067	10.8	1.131	2.793
59	-149.215955	70.296765	276	Uncorrected	8/7/98	09:08:23AM	19.131	24.6		
60	-149.219022	70.299373	222	Differential	8/7/98	09:21:54AM	1.402	-39.0	1.762	3.978
61	-149.213092	70.301746	332	Differential	8/7/98	09:30:44AM	1.450	-43.6	1.562	3.420
62	-149.204738	70.303357	307	Differential	8/7/98	09:43:44AM	2.926	-44.1	2.085	3.162
63	-149.192845	70.304431	383	Differential	8/7/98	09:55:45AM	1.900	-45.0	1.479	2.330
64				No GPS						
65	-149.184833	70.295095	245	Repositioned	8/7/98	10:29:17AM	1.024	-39.6	1.690	2.891
66	-149.199724	70.290078	324	Differential	8/7/98	10:46:51AM	1.642	-41.3	1.840	3.630
67	-149.206498	70.290775	334	Repositioned	8/7/98	10:55:48AM	1.788	-38.6	1.865	3.214
68	-149.209151	70.292855	318	Differential	8/7/98	11:04:54AM	0.960	-40.4	1.712	3.020
69	-149.428836	70.374953	1875	Repositioned	7/24/98	11:23:23AM	2.017	-3.8	0.468	0.923
70	-149.429795	70.373179	235	Differential	7/24/98	12:28:12PM	1.705	-4.7	1.383	2.347
71	-149.428434	70.373241	1243	Differential	7/24/98	12:45:43PM	1.329	0.5	0.883	1.938