

Table S1. Table of sampling dates, spatial and environmental variables per site. Sites: HA=Hazen Lake, NU; IQ=Iqaluit, NU; CB=Cambridge Bay, NU; BA=Banks Island, NU; CH=Churchill, MB; SC=Schefferville, QC; TO=Tombstone mountains, YT; KU=Kugluktuk, NU; GB=Goose Bay, LB; MO=Moosonee, ON; YE=Yellowknife, NT and NW=Norman Wells, NT. Habitats: M=mescic, W=wet. The column 'days' refers to the number of sampling days. Environmental variables : mean.pd= average depth of active layer, sd.pd= standard deviation of active layer' depth, maxveght=maximum vegetation height, gramcov=cover of graminoids, moscov=cover of mosses, lichcov=cover of lichens, forbcov=cover of forbsr, shrubcov=cover of shrubs, AMT= annual mean temperature of the site, maxT= maximum temperature of the warmest month of the site, minT= minimum temperature of the coldest month of the site, AP= annual precipitation, DJA0= degree days above zero at the site, DJB0= degree day below zero at the site. Values of environmental variables from the field are an average of values from 5 or 6 traps per replicate.

Ecoclimatic	site	Hab.	rep.	dates	days	latitude	longitude	mean.pd	sd.pd	maxveght	gramcov	moscov	lichcov	forbcov	shrubcov	AMT	maxT	minT	AP	DJA0	DJB0
Arctic	BA	M	1	7-19 july 2011	12	73.22181	-119.56059	41.66	6.68	9.16	3.5	0.83	0.33	1.5	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	BA	M	2	7-19 july 2011	12	73.22656	-119.57728	44.44	6.96	9.02	3.25	0.8	0.38	1.41	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	BA	M	3	7-19 july 2011	12	73.22855	-119.58662	48.18	7.67	8.86	2.95	0.6	0.45	1.48	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	BA	W	1	7-19 july 2011	12	73.22412	-119.55255	48.38	6.21	9.51	3.45	0.7	0.52	1.23	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	BA	W	2	7-19 july 2011	12	73.23284	-119.54719	45.27	6.79	10.26	3.35	0.82	0.28	1.27	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	BA	W	3	7-19 july 2011	12	73.23193	-119.58330	45.49	6.55	10.3	3.58	0.79	0.33	1.31	0	-13.3	24.9	-48.9	149.4	456.2	5322.9
	CB	M	1	7-19 july 2011	12	69.11993	-105.42065	31.46	6.36	15.33	3	1.33	0.5	3	0.66	-14.4	19.9	-44.6	138.8	599.6	5836.8
	CB	M	2	7-19 july 2011	12	69.12070	-105.42582	30.04	5.79	15.55	3	1.05	0.58	3.16	0.61	-14.4	19.9	-44.6	138.8	599.6	5836.8
	CB	M	3	7-19 july 2011	12	69.12157	-105.43124	29.88	5.98	15.81	3.16	1.06	0.51	3.02	0.54	-14.4	19.9	-44.6	138.8	599.6	5836.8
	CB	W	1	7-19 july 2011	12	69.12177	-105.41688	30.66	5.09	16.78	3.36	1.07	0.43	2.86	0.63	-14.4	19.9	-44.6	138.8	599.6	5836.8
	CB	W	2	7-19 july 2011	12	69.12225	-105.42191	34.01	5.14	17.91	3.58	1.25	0.33	2.67	0.74	-14.4	19.9	-44.6	138.8	599.6	5836.8
	CB	W	3	7-19 july 2011	12	69.12366	-105.42531	34.21	5.26	17.06	3.51	1.29	0.39	2.95	0.86	-14.4	19.9	-44.6	138.8	599.6	5836.8
	HA	M	1	19-28 july 2010	9	81.83216	-71.45594	23.24	3.39	18.4	4.2	3.4	0	1.4	1.2	-19.7	18.5	-45.4	75.5	359.2	7516.2
	HA	M	2	19-28 july 2010	9	81.82941	-71.48788	22.88	3.36	17.08	4.04	3.08	0	1.68	1.24	-19.7	18.5	-45.4	75.5	359.2	7516.2
	HA	M	3	19-28 july 2010	9	81.83171	-71.45110	27.33	3.37	18.12	4.31	4.12	0	1.27	1.11	-19.7	18.5	-45.4	75.5	359.2	7516.2
	HA	W	1	19-28 july 2010	9	81.82975	-71.32244	27.33	3.37	18.12	4.31	4.12	0	1.27	1.11	-19.7	18.5	-45.4	75.5	359.2	7516.2
	HA	W	2	19-28 july 2010	9	81.82911	-71.49242	23.71	3.13	18.34	4.37	3.94	0	1.12	1.13	-19.7	18.5	-45.4	75.5	359.2	7516.2

Ecoclimatic	site	Hab.	rep.	dates	days	latitude	longitude	mean.pd	sd.pd	maxveght	gramcov	moscov	lichcov	forbcov	shrubcov	AMT	maxT	minT	AP	DJA0	DJB0
	HA	W	3	19-28 july 2010	9	81.83179	-71.44115	24.9	3.32	18.01	4.24	3.73	0	1.34	1.15	-19.7	18.5	-45.4	75.5	359.2	7516.2
	IQ	M	1	17-29 july 2010	12	63.79113	-68.57375	13.32	8.38	20.6	1.6	4.4	4.2	2.6	0	-9.8	219	-34.3	412	653.8	4196.5
	IQ	M	2	17-29 july 2010	12	63.77830	-68.54961	10.96	4.7	18.4	1.2	2.8	4	3	0	-9.8	219	-34.3	412	653.8	4196.5
	IQ	M	3	17-29 july 2010	12	63.75117	-68.45898	11	6.21	21.6	2	2.8	2.6	3.8	0	-9.8	219	-34.3	412	653.8	4196.5
	IQ	W	1	17-29 july 2010	12	63.76144	-68.57352	25.76	13.81	24.6	5	1.6	0	1.4	0.8	-9.8	219	-34.3	412	653.8	4196.5
	IQ	W	2	17-29 july 2010	12	63.75672	-68.56770	29.48	10.86	24.8	4	4.4	1.8	2.2	0	-9.8	219	-34.3	412	653.8	4196.5
	IQ	W	3	17-29 july 2010	12	63.75122	-68.45927	40.72	20.11	24.2	4.4	3.4	1	3.2	0	-9.8	219	-34.3	412	653.8	4196.5
	CH	M	1	1-13 july 2010	12	58.73351	-93.79792	24.3	5.53	17.5	2.2	2.2	3.6	3.8	0.6	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	CH	M	2	1-13 july 2010	12	58.73235	-93.79028	21.86	3.86	16	2.04	1.84	3.92	3.96	0.72	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	CH	M	3	1-13 july 2010	12	58.72235	-93.83991	22.43	3.88	16.2	2.24	2	3.9	3.95	0.86	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	CH	W	1	1-13 july 2010	12	58.73573	-93.79789	24.41	4.15	16.44	2.09	2	3.88	3.94	0.43	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	CH	W	2	1-13 july 2010	12	58.73034	-93.79509	24.2	3.9	16.22	1.91	1.81	3.86	3.73	0.52	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	CH	W	3	1-13 july 2010	12	58.65735	-93.83104	23.44	4.27	16.47	2.1	1.97	3.83	3.87	0.62	-6.9	23.9	-35.8	431.6	1204.9	3681.3
	KU	M	1	22 june - 2 july 2011	11	67.78182	-115.27699	17.5	7.57	59.5	0.33	2.66	1.33	1.66	3.33	-10.6	28.9	-41.4	249.3	887.5	4728.1
	KU	M	2	22 june - 2 july 2011	11	67.83565	-115.20968	23.3	5.85	35.33	0.5	1.83	2.5	0.16	4.66	-10.6	28.9	-41.4	249.3	887.5	4728.1
	KU	M	3	22 june - 2 july 2011	11	67.83427	-115.21136	18.53	4.75	27.33	1.5	2.16	3.33	0.33	4.66	-10.6	28.9	-41.4	249.3	887.5	4728.1
	KU	W	1	22 june - 2 july 2011	11	67.78157	-115.27824	15.16	6.04	30.33	4.16	3.16	1.83	0.5	2.33	-10.6	28.9	-41.4	249.3	887.5	4728.1
	KU	W	2	22 june - 2 july 2011	11	67.83396	-115.21370	18.46	3.47	25.33	3.66	3.83	3.33	0.83	1.83	-10.6	28.9	-41.4	249.3	887.5	4728.1
	KU	W	3	22 june - 2 july 2011	11	67.83617	-115.20895	22.63	7.04	32.33	4.33	3.66	2.33	1	1.83	-10.6	28.9	-41.4	249.3	887.5	4728.1
	SC	M	1	30 june-9 july 2010	9	54.90526	-67.15049	57.64	9.81	47.6	0.6	2	2	1	2.6	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	SC	M	2	30 june-9 july 2010	9	54.90414	-67.14888	50.36	9.1	50.12	0.72	1.8	2.4	1	2.52	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	SC	M	3	30 june-9 july 2010	9	54.90310	-67.14765	59.68	9.65	50.54	0.86	2.16	1.88	1	2.62	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	SC	W	1	30 june-9 july 2010	9	54.75970	-66.71120	71.13	11.08	50.65	1.03	2.59	1.25	1	2.54	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	SC	W	2	30 june-9 july 2010	9	54.85262	-66.66897	65.36	13.29	52.78	1.24	2.11	1.5	0.8	2.65	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	SC	W	3	30 june-9 july 2010	9	54.85350	-66.67043	60.83	10.59	50.34	0.89	2.13	1.8	0.96	2.59	-5.3	25.7	-35.7	822.9	1270.1	3163.6
	TO	M	1	21 june-1 july 2011	10	64.60560	-138.36143	22.83	5.42	30.83	3	2.83	2.33	1.5	1.5	-4.4	27	-50	324.3	1817.9	3395.1

Subarctic

Ecoclimatic	site	Hab.	rep.	dates	days	latitude	longitude	mean.pd	sd.pd	maxveght	gramcov	moscov	lichcov	forbcov	shrubcov	AMT	maxT	minT	AP	DJA0	DJB0
	TO	M	2	21 june-1 july 2011	10	64.59915	-138.30611	22.8	5.2	30.13	3.16	2.8	2.05	1.58	1.41	-4.4	27	-50	324.3	1817.9	3395.1
	TO	M	3	21 june-1 july 2011	10	64.58353	-138.26843	22.43	4.75	28.49	2.86	2.93	2.39	1.68	1.31	-4.4	27	-50	324.3	1817.9	3395.1
	TO	W	1	21 june-1 july 2011	10	64.60629	-138.35637	22.34	4.59	28.24	2.67	3.09	2.63	1.62	1.2	-4.4	27	-50	324.3	1817.9	3395.1
	TO	W	2	21 june-1 july 2011	10	64.59736	-138.31009	22.23	4.62	28.78	2.78	2.94	2.56	1.73	1.4	-4.4	27	-50	324.3	1817.9	3395.1
	TO	W	3	21 june-1 july 2011	10	64.57942	-138.28212	22.94	4.93	28.58	2.91	2.77	2.66	1.68	1.3	-4.4	27	-50	324.3	1817.9	3395.1
	GB	M	1	15-24 june 2010	9	53.31890	-60.29594	58.2	10.06	36	0.4	2.4	2	0	2.6	-0.5	31.4	-26	949	1856.7	2025.4
	GB	M	2	15-24 june 2010	9	53.32036	-60.29691	49.84	12.07	38.2	0.28	1.88	2.4	0	2.72	-0.5	31.4	-26	949	1856.7	2025.4
	GB	M	3	15-24 june 2010	9	53.32035	-60.29268	53.2	13.59	39.84	0.33	2.25	1.88	0	3.06	-0.5	31.4	-26	949	1856.7	2025.4
	GB	W	1	15-24 june 2010	9	53.21199	-60.45062	58.64	15.74	37.8	0.4	2.7	1.25	0	3.27	-0.5	31.4	-26	949	1856.7	2025.4
	GB	W	2	15-24 june 2010	9	53.21408	-60.45044	57.57	14.33	40.36	0.28	2.24	1.5	0	3.33	-0.5	31.4	-26	949	1856.7	2025.4
	GB	W	3	15-24 june 2010	9	53.21620	-60.45001	55.49	13.16	38.44	0.34	2.29	1.8	0	2.99	-0.5	31.4	-26	949	1856.7	2025.4
	MO	M	1	17-26 june 2010	9	51.24622	-80.67281	100	0	65	5	2.4	0	1.2	0.4	-1.1	30.6	-33	681.6	1959.1	2339.3
	MO	M	2	17-26 june 2010	9	51.24466	-80.67767	100	0	65	5	2.28	0	1.04	0.48	-1.1	30.6	-33	681.6	1959.1	2339.3
	MO	M	3	17-26 june 2010	9	51.24690	-80.68102	100	0	65	5	2.13	0	0.84	0.57	-1.1	30.6	-33	681.6	1959.1	2339.3
	MO	W	1	15-25 june 2010	10	51.28034	-80.64252	100	0	58	5	2.56	0	0.81	0.29	-1.1	30.6	-33	681.6	1959.1	2339.3
N-Boreal	MO	W	2	16-25 june 2010	9	51.28288	-80.63926	100	0	57.6	5	2.27	0	0.98	0.34	-1.1	30.6	-33	681.6	1959.1	2339.3
	MO	W	3	16-25 june 2010	9	51.27717	-80.64778	100	0	62.12	5	2.33	0	0.97	0.41	-1.1	30.6	-33	681.6	1959.1	2339.3
	NW	M	1	7-17 june 2010	10	65.29204	-126.63725	38.1	4.2	46.66	1.66	2.5	0.66	1.16	1.5	-5.5	28.7	-44.2	290.7	1860.2	3844
	NW	M	2	7-17 june 2010	10	65.26694	-126.72827	39.25	4.63	44.44	1.44	2.41	0.77	1.19	1.41	-5.5	28.7	-44.2	290.7	1860.2	3844
	NW	M	3	7-17 june 2010	10	65.30494	-126.70873	36.42	4.44	46.01	0.85	2.81	0.9	1.22	1.48	-5.5	28.7	-44.2	290.7	1860.2	3844
	NW	W	1	7-17 june 2010	10	65.29112	-126.62262	39.66	4.87	46.52	0.99	2.45	1.05	1.26	1.56	-5.5	28.7	-44.2	290.7	1860.2	3844
	NW	W	2	7-17 june 2010	10	65.25226	-126.66128	31.8	5.16	48.44	0.99	2.86	1.23	1.3	1.49	-5.5	28.7	-44.2	290.7	1860.2	3844
	NW	W	3	7-17 june 2010	10	65.28901	-126.84077	33.94	4.63	50.51	1.15	2.84	0.94	1.36	1.57	-5.5	28.7	-44.2	290.7	1860.2	3844
	YE	M	1	7-18 june 2011	11	62.51070	-113.39479	13.66	3.76	45.83	2.5	1.33	1.83	0.16	2	-4.6	27.3	-41.7	280.7	1835.5	3475.4
	YE	M	2	7-18 june 2011	11	62.50293	-113.40479	9.57	3.65	44.8	2.08	1.05	2.13	0.19	2	-4.6	27.3	-41.7	280.7	1835.5	3475.4
	YE	M	3	7-18 june 2011	11	62.50714	-113.39443	9.1	3.09	40.6	1.59	1.23	2.49	0.22	1.83	-4.6	27.3	-41.7	280.7	1835.5	3475.4

Ecoclimatic	site	Hab.	rep.	dates	days	latitude	longitude	mean.pd	sd.pd	maxveght	gramcov	moscov	lichcov	forbcov	shrbcov	AMT	maxT	minT	AP	DJA0	DJB0
YE	W	1		7-18 june 2011	11	62.52110	-113.38174	10.25	3.47	47.04	1.86	1.27	2.24	0.26	2.13	-4.6	27.3	-41.7	280.7	1835.5	3475.4
YE	W	2		7-18 june 2011	11	62.51923	-113.38494	11.16	3.66	53.21	2.17	0.98	2.11	0.14	2.32	-4.6	27.3	-41.7	280.7	1835.5	3475.4
YE	W	3		7-18 june 2011	11	62.51591	-113.39146	12.16	3.66	58.58	2.53	1.14	1.8	0.16	2.05	-4.6	27.3	-41.7	280.7	1835.5	3475.4