Table 8. Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
ARBUTUS L.	053078	Int	145	42	24	12		0	128	52	11	19
	062978	Int	146	43	27	13		0	118	90	6	11
	081378	Surf	139	44	26	12		0	115	76	6	0
	081378	Bot	162	47	27	15		0	86	91	6	29
	082579	Surf	145	43	26	11	0	0	120	74	13	0
	082579	LA	149	43	26	11	0	0	120	79	16	0
	082579	Int	148	43	28	11	0	0	120	94	16	0
AVALANCHE L.	062378	Int	73	16	13	2		12	95	0	7	36
	081778	Surf	85	21	16	2		13	125	0	33	31
	081778	Bot	207	108	54	12		11	118	0	8	17
	080979	Surf	89	22	17	4	0	13	125	0	11	21
	080979	LA	89	22	17	4	0	15	128	0	13	21
	080979	Int	89	22	17	4	0	13	130	0	11	21
BEAR P.	052378	Int	86	27	18	9		9	143	0	15	11
	071278	Int	93	28	19	9		ND	173	0	11	7
	081078	Surf	92	27	21	10		9	139	10	3	5
	081078	Bot	104	31	23	12		8	155	0	17	8
	082379	Surf	90	29	18	9	0	13	145	0	9	2
	082379	LA	90	28	19	0	0	10	145	0	13	2
	082379	Int	91	29	18	0	0	11	145	0	7	0

Table 8 (continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
BOG P.	052378	Int	50	23	5	13		4	50	0	19	0
	071278	Int	37	21	6	12		ND	57	0	16	0
	081078	Surf	43	24	9	5		4	61	0	14	0
	081078	Bot	129	44	16	30		0	40	36	28	0
	082379	Surf	40	20	8	2	0	3	50	7	9	1
	082379	LA	58	21	8	4	0	3	54	41	11	0
	082379	Int	66	21	8	5	0	2	58	34	11	0
CAT MT. P.	070978	Int	86	18	14	2		ND	137	0	31	3
	081978	Surf	86	20	16	2		10	133	0	9	0
	081978	Bot	114	28	26	9		3	127	5	19	0
	081779	Surf	82	21	16	6	0	8	145	0	3	0
	081779	LA	82	21	17	4	0	9	123	0	4	0
	081779	Int	82	21	16	5	0	9	130	0	3	0
CLEAR P.	051278	Int	191	96	26	4		0	165	124	20	0
	062078	Int	182	90	23	3		0	146	140	13	0
	080978	Surf	180	91	29	4		0	156	126	12	0
	080978	Bot	229	111	31	6		0	152	138	60	0
	080779	Surf	173	87	25	7	0	0	150	114	9	0
	080779	LA	177	90	25	7	0	0	150	113	7	0
	080779	Int	182	93	25	7	0	0	145	138	7	0

Table 8 (continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
COPPERAS P.	051578	Int	281	171	70	15		ND	87	0	12	3
(F.C.)	060878	Int	259	161	69	13		0	80	386	12	6
	080578	Surf	296	194	77	15		0	94	393	12	0
	080578	Bot	379	228	76	18		0	40	418	17	7
	082779	Surf	257	130	64	11	0	0	100	357	5	0
	082779	LA	261	133	64	11	0	0	80	382	7	0
	082779	Int	264	136	65	12	0	0	80	390	7	0
COPPERAS P.	051178	Int	213	125	39	12		0	152	164	20	8
(W.N.)	061478	Int	192	112	28	8		0	138	146	18	0
	080878	Surf	183	114	28	8		0	137	184	12	0
	080878	Bot	212	ND	30	10		0	73	170	21	15
	080579	Surf	176	87	25	8	0	0	145	142	9	0
	080579	LA	188	91	26	8	0	0	130	174	9	0
	080579	Int	188	92	26	8	0	0	130	175	9	0
COWHORN P.	052578	Int	89	35	24	7		1	102	24	16	9
	070978	Int	89	38	33	12		ND	126	0	26	3
	081978	Surf	84	38	35	12		0	112	26	12	0
	081978	Bot	128	47	37	14		0	62	36	23	0
	081779	Surf	93	37	35	12	0	1	130	37	5	0
	081779	LA	100	39	35	12	0	0	130	42	14	0
	081779	Int	107	47	36	13	12	0	110	94	11	0

Table 8 (continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
CRANE MT. P.	051878	Int	158	27	26	5		0	141	56	17	3
	061678	Int	154	29	9	2		0	137	48	10	1
	080178	Surf	153	ND	11	ND		0	148	7	9	0
	080178	Bot	154	29	11	2		0	150	79	24	0
	081679	Surf	143	27	15	5	0	0	150	38	5	0
	081679	LA	154	30	15	9	0	0	145	39	10	0
	081679	Int	144	28	14	9	0	0	145	44	11	0
DEEP L.	052778	Int	63	25	10	6		19	144	0	8	33
	062878	Int	55	23	9	6		20	139	0	6	36
	080778	Surf	ND	ND	ND	ND		22	141	0	6	31
	080778	Bot	ND	ND	ND	ND		17	139	0	7	27
	090179	Surf	66	26	13	7	12	21	145	0	5	12
	090179	LA	64	26	13	6	12	21	150	0	7	12
	090179	Int	68	26	14	7	12	21	145	0	7	24
DEER L.	053078	Int	ND	ND	ND	ND		0	136	0	8	10
	060678	Int	ND	ND	ND	ND		0	146	0	11	0
	081378	Surf	ND	ND	ND	ND		0	137	0	9	0
	081378	Bot	ND	ND	ND	ND		0	135	257	9	0
	082579	Surf	175	47	41	7	0	0	130	116	9	0
	082579	LA	176	47	41	7	0	0	130	113	9	0
	082579	Int	176	47	41	7	0	0	130	115	14	0

Table 8 (continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
DUNK P.	051778	Int	ND	ND	ND	ND		0	155	0	15	3
	062278	Int	304	96	37	6		0	170	238	17	0
	081178	Surf	ND	ND	ND	ND		0	179	0	15	4
	081178	Bot	ND	ND	ND	ND		0	110	403	14	13
	082879	Surf	341	81	31	8	0	0	145	273	9	0
	082879	LA	356	81	31	8	0	0	145	323	7	0
	082879	Int	418	87	33	11	0	0	130	373	11	0
EAST COPPERAS P.	051578	Int	65	13	8	11		11	92	0	16	2
	060878	Int	59	11	5	9		8	90	2	22	0
	080578	Surf	35	12	6	16		32	128	0	31	0
	080578	Bot	79	15	7	12		24	105	0	21	0
	082779	Surf	46	15	5	9	0	33	80	0	0	0
	082779	LA	51	15	5	9	0	23	80	0	14	0
	082779	Int	41	14	5	10	0	37	80	0	9	0
FRANK P.	062278	Int	117	43	25	3		0	146	50	10	0
	081178	Surf	120	42	25	3		0	118	38	8	0
	081178	Bot	122	37	22	3		0	106	47	9	0
	082879	Surf	117	37	23	6	0	0	110	37	5	0
	082879	LA	121	37	23	6	0	0	118	42	8	0
	082879	Int	126	38	24	6	0	0	120	47	3	0

Table 8 (continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
GIANTS	051078	Int	230	54	24	0		0	146	143	12	7
WASHBOWL	060678	Int	250	59	31	2		0	162	154	22	3
	080878	Surf	232	56	28	0		0	161	147	8	0
	080878	Bot	347	84	39	0		0	165	210	14	0
	080479	Surf	236	44	24	2	0	0	135	159	3	0
	080479	LA	164	53	31	3	0	0	132	113	6	0
	080479	Int	280	54	29	3	0	0	130	210	7	0
GREEN P.	052378	Int	91	36	20	9		ND	124	26	11	0
	071278	Int	93	41	22	10		ND	124	0	9	0
	081078	Surf	94	39	22	10		1	137	7	10	0
	081078	Bot	102	39	21	10		1	102	7	8	0
	082379	Surf	83	35	20	10	0	1	110	16	5	0
	082379	LA	84	35	20	10	0	0	110	23	5	0
	082379	Int	84	35	20	10	0	0	120	17	7	0
GULL P.	051278	Int	232	63	31	7		0	113	200	12	0
	062078	Int	206	61	29	6		0	118	124	12	0
	080978	Surf	209	62	30	6		0	132	131	11	0
	080978	Bot	277	ND	31	9		0	39	257	39	0
	080779	Surf	211	53	28	7	0	0	120	152	11	0
	080779	LA	243	57	31	8	15	0	110	204	13	0
	080779	Int	258	59	30	8	24	0	110	256	13	0

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
HEART L.	051478	Int	ND	ND	ND	ND		0	ND	0	ND	4
	060478	Int	128	26	20	2		0	130	50	15	2
	081678	Surf	120	27	22	3		0	118	43	12	0
	081678	Bot	132	26	19	5		0	44	96	16	17
	081179	Surf	120	23	21	2	0	0	110	33	9	0
	081179	LA	123	23	21	3	0	0	110	39	10	0
	081179	Int	129	23	21	3	15	0	100	78	13	0
HUNTLEY P.	051778	Int	424	94	30	9		0	135	393	15	15
	081278	Surf	437	102	35	9		0	119	450	13	0
	081278	Bot	567	129	38	12		0	47	542	17	0
	082879	Surf	448	83	33	10	0	0	120	436	18	0
	082879	LA	480	85	33	10	4	0	120	474	18	0
	082879	Int	476	87	34	11	15	0	120	490	13	0
JENKINS P.	060178	Int	152	48	29	8		ND	135	0	15	38
	073178	Int	142	48	27	8		1	124	16	9	34
	073178	Surf	141	43	27	8		0	132	40	9	37
	083079	Surf	140	42	26	9	0	0	130	11	7	32
	083079	LA	140	42	26	9	0	0	127	31	9	32
	083079	Int	141	42	26	9	0	0	130	32	9	33

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
L. ARNOLD	080279	Surf	84	18	15	2	0	13	120	0	9	10
	080279	LA	84	19	15	2	0	13	114	0	10	9
	080279	Int	84	19	16	2	0	14	113	0	9	8
L. COLDEN	062378	Int	90	7	22	2		9	162	0	9	20
	081778	Surf	104	22	21	3		13	132	0	4	14
	081778	Bot	105	25	20	4		11	134	0	11	14
L. TEAR OF THE CLOUDS	080279	Surf	82	16	23	3	0	27	115	0	18	33
	080279	LA	82	16	23	3	0	27	115	0	18	33
	080279	Int	82	16	23	3	0	21	115	0	18	33
LITTLE PINE P.	080478	Surf	392	200	80	9		0	182	460	15	0
	080679	Surf	371	145	75	9	0	0	145	431	24	0
	080679	LA	378	145	75	9	0	0	148	436	23	0
	080679	Int	378	145	75	9	0	0	148	436	23	0

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
LITTLE SHALLOW P.	052678	Int	192	90	50	15		0	182	114	17	35
	071078	Int	202	99	55	17		ND	164	0	14	50
	082078	Surf	209	107	60	17		0	150	172	13	35
	082078	Bot	210	102	56	17		0	147	188	13	33
	082079	Surf	216	84	56	15	0	0	150	191	18	0
	082079	LA	214	84	56	15	0	0	157	155	16	41
	082079	Int	214	84	56	15	0	0	157	155	16	41
LIVINGSTON P.	062478	Int	115	27	20	7		1	131	10	7	25
	081778	Surf	94	27	21	6		2	143	7	11	19
	081778	Bot	128	36	25	8		1	140	23	15	0
	080979	Surf	115	28	24	6	0	1	130	7	9	16
	080979	LA	115	27	23	5	0	1	125	6	9	17
	080979	Int	123	28	24	5	0	0	130	20	10	16
LONG P.	060178	Int	140	22	21	8		3	155	8	8	31
	073178	Surf	135	38	24	7		1	164	13	5	8
	073178	Bot	152	36	22	8		ND	153	0	10	6
	083079	Surf	138	37	24	8	0	0	145	41	11	6
	083079	LA	139	37	25	8	3	0	150	42	10	8
	083079	Int	139	37	24	8	3	0	140	32	9	8

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
MOUNTAIN P.	052178	Int	40	10	5	10		10	57	0	7	0
	061378	Int	41	10	2	11		11	64	0	10	0
	081878	Surf	43	12	2	11		24	75	0	17	0
	081878	Bot	50	13	1	15		12	28	0	9	0
	082279	Surf	22	16	10	10	0	22	50	0	3	0
	082279	LA	22	16	1	10	0	19	50	0	3	0
	082279	Int	22	16	10	11	0	9	40	0	5	0
NICK'S P.	053178	Int	85	17	15	4		6	107	4	1	5
	070878	Int	86	17	16	5		4	108	7	5	3
	081478	Surf	90	22	15	5		8	118	0	4	0
	081478	Bot	81	19	13	5		8	119	22	4	0
	082279	Surf	75	25	18	6	0	3	105	3	7	0
	082279	LA	75	25	18	6	0	4	110	3	7	0
	082279	Int	75	25	18	6	0	3	105	3	7	0
PARCH P.	062778	Int	130	34	18	2		0	84	92	9	0
	080678	Surf	139	38	24	4		0	86	96	10	0
	080678	Bot	166	40	20	4		0	72	83	10	0
	080879	Surf	131	41	20	2	0	0	100	81	9	0
	080879	LA	137	41	20	2	0	0	80	110	10	0
	080879	Int	153	44	20	3	0	0	80	89	10	0

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
PINE P.	052278	Int	143	49	36	6		0	136	85	11	4
	061778	Int	142	49	36	8		0	140	75	12	3
	080478	Surf	140	50	38	6		0	138	68	12	0
	080478	Bot	158	55	40	8		0	128	89	11	0
	080679	Surf	134	54	38	7	0	0	130	94	9	0
	080679	LA	136	53	37	7	0	0	145	77	11	0
	080679	Int	138	52	37	7	0	0	115	84	9	0
ROCK P.	051178	Int	192	48	37	7		0	162	99	13	10
	061478	Int	213	59	46	8		0	178	60	15	14
	080378	Surf	233	61	45	9		0	159	76	15	0
	080378	Bot	200	58	45	9		0	187	60	10	8
	080579	Surf	196	55	40	8	0	0	180	82	13	0
	080579	LA	201	56	41	9	0	0	180	112	13	0
	080579	Int	213	56	42	8	0	0	170	130	13	2
ROUND P.	051078	Int	134	20	20	1		0	99	64	4	0
	060678	Int	141	23	21	2		0	106	75	7	0
	081678	Surf	130	27	22	1		0	113	57	10	0
	081678	Bot	176	33	23	3		ND	84	101	14	0
	081379	Surf	138	25	23	1	0	0	100	73	13	0
	081379	LA	142	25	23	1	0	0	85	90	8	0
	081379	Int	148	26	22	1	3	0	80	103	7	0

Table 8 continued). Cation and anion concentrations in Adirondack study lakes.

LAKE NAME	SAMPLE DATE	SAMPLE TYPE	Ca++ ueq/L	Mg++ ueq/L	Na+ ueq/L	K+ ueq/L	NH4+ ueq/L	H+ ueq/L	SO4-- ueq/L	HCO3- ueq/L	Cl- ueq/L	NO3- ueq/L
UPPER	061078	Int	76	14	11	1		9	158	0	17	5
WALLFACE P.	081578	Surf	62	15	12	1		11	112	0	12	0
	081578	Bot	65	16	17	3		12	109	0	10	0
	081279	Surf	65	17	14	1	0	10	110	0	3	0
	081279	LA	65	17	13	10	0	10	110	0	4	0
	081279	Int	69	17	13	1	0	10	110	0	5	0
WASHBOWL P.	052678	Int	46	9	5	11		36	68	0	9	0
	071078	Int	42	10	6	13		ND	98	0	13	0
	082078	Surf	49	13	6	14		44	96	0	9	0
	082078	Bot	52	12	6	14		44	119	0	10	31
	082079	Surf	38	17	9	12	0	28	80	0	9	0
	082079	LA	38	17	9	12	0	30	80	0	10	0
	082079	Int	38	17	9	12	0	30	80	0	10	0
WOLF L.	053078	Int	160	41	25	7		0	136	56	9	ND
	062978	Int	167	45	27	9		0	134	68	10	32
	081378	Surf	175	47	30	9		0	140	78	4	25
	081378	Bot	176	47	29	9		0	119	72	5	18
	082579	Surf	175	44	29	9	0	0	120	82	11	20
	082579	LA	175	44	29	9	0	0	117	80	11	20
	082579	Int	176	44	29	9	0	0	110	113	13	20

Footnotes for Table 8

ND = no data

Surf = surface; LA = lake average; Int = Integrated-water-column

See Table 5 or 6 for depth of integrated sample.

HCO_3^- concentrations were not measured directly, but estimated using alkalinity values or the anion deficit. If alkalinity values were equal to or less than 0, HCO_3^- was made equal to 0. If alkalinity ranged from 0 to 50 μeq/L, HCO_3^- was set equal to alkalinity. At alkalinities greater than 50 μeq/L, HCO_3^- concentration was assumed to be equal to the anion deficit calculated from concentrations of all other measured ions. This was done because at higher alkalinities, HCO_3^- can be significantly overestimated by equating it to alkalinity. For example, in highly colored lakes, organic acids can be important contributors to alkalinity. In the higher alkalinity lakes pH is high enough so that Al and organic acids probably contribute little to the overall charge balance, even though their total concentrations may be high.