

Cataraqui Source Protection Area
Amended Proposed Assessment Report – Appendix ‘D’
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Table 1: Surface Water Stress Summary (Table 6-5, XCG Consultants, 2010)

Class	Subwatershed	Critical Stress				Uncertainty Rating
		Current Per cent Demand	Current Stress Category	Future Per cent Demand	Future Stress Category	
Gauged	Wilton	7	Moderate	7	Moderate	low
	Millhaven*	19	Moderate	19	Moderate	low
	Collins	26	Moderate	26	Moderate	low
	Little Cataraqui	1	Moderate	1	Moderate	low
	Cataraqui*	65	Low	65	Low	low
	Lyndhurst	7	Low	7	Low	low
	Lyn	70	Significant	70	Significant	low
	Buells	45	Moderate	45	Significant	low
Semi-gauged Gananoque River	Above Delta	1	Low	1	Low	low
	Above Outlet	3	Low	3	Low	low
	Above Marble Rock	5	Low	5	Low	low
	Above Gananoque	18	Low	18	Low	low
Semi-gauged Cataraqui River	Above Bedford Mills	0.3	Low	0.1	Low	low
	Above Jones Falls	0.5	Low	0.5	Low	low
	Above Kingston Mills*	8	Low	8	Low	low
	Cana	1	Low	1	Low	low
Ungauged	Bay of Quinte	164	Significant	164	Significant	high
	Lake Ontario	130	Significant	130	Significant	high
	St. Lawrence	40	Moderate	40	Moderate	high
	Lansdowne	1	Low	1	Low	high
	Sydenham Lake*	101	Significant	122	Significant	low

* Note: Subwatershed includes a surface water supply.

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Table 2: Groundwater Stress Summary (Table 6-10, XCG Consultants Ltd., 2010)

Class	Subwatershed	Per cent Water Demand & Critical Stress Levels								Uncertainty Rating
		Current Conditions				Future Conditions				
		Max Month	Annual	Max Month Stress Level	Annual Stress Level	Max Month	Annual	Max Month Stress Level	Annual Stress Level	
Gauged	Wilton	0.6	0.4	Low	Low	0.7	0.5	Low	Low	low
	Millhaven	1.1	0.9	Low	Low	1.2	0.9	Low	Low	low
	Collins	17	13	Low	Moderate	17	13	Low	Moderate	low
	Little Cataraqui	0.2	0.2	Low	Low	0.3	0.2	Low	Low	low
	Cataraqui	0.2	0.2	Low	Low	0.3	0.2	Low	Low	low
	Lyndhurst	7	7	Low	Low	7	7	Low	Low	low
	Lyn	6	4	Low	Low	6	4	Low	Low	low
Buells	0.5	0.4	Low	Low	0.6	0.5	Low	Low	low	
Semi-gauged Gananoque River	Above Delta	18	18	Low	Moderate	18	18	Low	Moderate	high
	Above Outlet	0.5	0.5	Low	Low	0.6	0.5	Low	Low	low
	Above Marble Rock	7	5	Low	Low	7	5	Low	Low	low
	Above Gananoque	6	4	Low	Low	6	4	Low	Low	low
Semi-gauged Cataraqui River	Above Bedford Mills	0.2	0.2	Low	Low	0.2	0.2	Low	Low	low
	Above Jones Falls	0.2	0.2	Low	Low	0.3	0.2	Low	Low	low
	Above Kingston Mills	0.7	0.6	Low	Low	0.8	0.6	Low	Low	low
	Cana [†]	7	3	Low	Low	8	4	Low	Low	low
Ungauged	Bay of Quinte	13	13	Low	Moderate	13	13	Low	Moderate	high
	Lake Ontario	26	26	Moderate	Significant	26	26	Moderate	Significant	high
	St. Lawrence	6	6	Low	Low	6	6	Low	Low	low
	Lansdowne [†]	15	12	Low	Moderate	18	14	Low	Moderate	low
	Sydenham	0.7	0.5	Low	Low	0.7	0.5	Low	Low	low

[†] Note: Cana and Lansdowne are located within the larger Cataraqui and Ungauged St.Lawrence River watersheds respectively

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Table 3: Long-Term Monthly Water Budget for Wilton Creek Subwatershed

Month	P (mm)	ET (mm)	G_{net} (mm)	Q (mm)	ΔS (mm)
Jan	83	0	0	41	42
Feb	63	0	0	38	25
Mar	74	14	0	95	-34
Apr	76	61	0	81	-66
May	77	96	0	28	-47
Jun	76	98	0	14	-37
Jul	68	86	0	4	-21
Aug	80	80	0	3	-3
Sep	93	66	0	8	20
Oct	81	30	0	16	35
Nov	94	9	0	41	44
Dec	87	0	0	51	36
Annual	952	539	0	420	

*From Table 3.3 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 4: Surface Water Stress Wilton Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.00	0.00	0	0
Feb	31	7	24	0.00	0.00	0	0
Mar	101	38	63	0.00	0.00	0	0
Apr	81	32	49	0.00	0.00	0	0
May	23	7	16	0.01	0.01	0	0
Jun	7	2	5	0.05	0.05	1	1
Jul	2	0.4	2	0.05	0.05	3	3
Aug	0.9	0.2	0.8	0.05	0.05	7	7
Sep	1.4	0.3	1.1	0.01	0.01	1	1
Oct	7	2	5	0.01	0.01	0	0
Nov	36	8	28	0.00	0.00	0	0
Dec	45	16	29	0.00	0.00	0	0

*From Table E.1 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 5: Groundwater Stress Wilton Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	44,700	4,500	40,200	170	190	0.4	0.5
Feb	44,700	4,500	40,200	170	190	0.4	0.5
Mar	44,700	4,500	40,200	170	190	0.4	0.5
Apr	44,700	4,500	40,200	170	190	0.4	0.5
May	44,700	4,500	40,200	140	160	0.3	0.4
Jun	44,700	4,500	40,200	250	290	0.6	0.7
Jul	44,700	4,500	40,200	250	290	0.6	0.7
Aug	44,700	4,500	40,200	250	290	0.6	0.7
Sep	44,700	4,500	40,200	140	160	0.3	0.4
Oct	44,700	4,500	40,200	140	160	0.3	0.4
Nov	44,700	4,500	40,200	170	190	0.4	0.5
Dec	44,700	4,500	40,200	170	190	0.4	0.5
Annual	44,700	4,500	40,200	180	210	0.4	0.5

*From Table E.2 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 6: Long-Term Monthly Water Budget for Millhaven Creek Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	44	31
Feb	60	0	0	41	19
Mar	71	14	0	81	-23
Apr	77	61	0	81	-65
May	76	98	0	28	-50
Jun	77	99	0	14	-36
Jul	81	87	0	6	-12
Aug	86	82	0	5	-1
Sep	99	66	0	13	20
Oct	82	32	0	19	31
Nov	88	9	0	36	43
Dec	85	0	0	52	33
Annual	957	548	0	419	

*From Table 3.4 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 7: Surface Water Stress Millhaven Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	41	15	26	0.30	0.33	1	1
Feb	38	1	27	0.27	0.30	1	1
Mar	81	44	37	0.30	0.33	1	1
Apr	79	35	44	0.29	0.32	1	1
May	27	5	22	0.31	0.34	1	2
Jun	11	3	7	0.30	0.33	4	5
Jul	5	2	3	0.31	0.34	12	14
Aug	3	1	2	0.31	0.34	19	21
Sep	4	2	2	0.30	0.33	13	14
Oct	12	3	10	0.31	0.34	3	3
Nov	29	8	21	0.29	0.32	1	2
Dec	45	20	25	0.30	0.33	1	1

Note: Community of Sydenham Water Supply is located in this subwatershed.

*From Table E.3 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 8: Groundwater Stress Millhaven Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	59,100	5,900	53,200	440	470	0.8	0.9
Feb	59,100	5,900	53,200	440	470	0.8	0.9
Mar	59,100	5,900	53,200	440	470	0.8	0.9
Apr	59,100	5,900	53,200	440	470	0.8	0.9
May	59,100	5,900	53,200	400	430	0.8	0.8
Jun	59,100	5,900	53,200	560	630	1.1	1.2
Jul	59,100	5,900	53,200	560	630	1.1	1.2
Aug	59,100	5,900	53,200	560	630	1.1	1.2
Sep	59,100	5,900	53,200	400	430	0.8	0.8
Oct	59,100	5,900	53,200	400	430	0.8	0.8
Nov	59,100	5,900	53,200	440	470	0.8	0.9
Dec	59,100	5,900	53,200	440	470	0.8	0.9
Annual	59,100	5,900	53,200	460	5000	0.9	0.9

*From Table E.4 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 9: Long-Term Monthly Water Budget for Collins Creek Subwatershed

Month	P (mm)	ET (mm)	G_{net} (mm)	Q (mm)	ΔS (mm)
Jan	83	0	0	48	35
Feb	63	0	0	40	23
Mar	74	14	0	107	-47
Apr	77	61	0	112	-96
May	77	96	0	37	-56
Jun	76	99	0	15	-38
Jul	69	87	0	5	-23
Aug	81	81	0	4	-4
Sep	95	66	0	11	18
Oct	83	31	0	21	31
Nov	95	9	0	48	38
Dec	88	0	0	61	27
Annual	961	544	0	509	

*From Table 3.5 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 10: Surface Water Stress Collins Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	40	13	28	0.05	0.05	0	0
Feb	30	13	17	0.04	0.04	0	0
Mar	107	54	53	0.05	0.05	0	0
Apr	99	59	40	0.04	0.04	0	0
May	31	13	18	0.06	0.06	0	0
Jun	8	2	6	0.08	0.08	1	1
Jul	2	0.4	2	0.28	0.28	12	12
Aug	0.9	0.1	1.1	0.28	0.28	26	26
Sep	2	0.1	2	0.05	0.05	2	2
Oct	11	3	9	0.06	0.06	1	1
Nov	44	15	29	0.04	0.04	0	0
Dec	57	20	36	0.05	0.05	0	0

*From Table E.5 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 11: Groundwater Stress Collins Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	88,500	8,900	79,600	8,930	8,960	11	11
Feb	88,500	8,900	79,600	8,930	8,960	11	11
Mar	88,500	8,900	79,600	8,930	8,960	11	11
Apr	88,500	8,900	79,600	8,930	8,960	11	11
May	88,500	8,900	79,600	8,870	8,910	11	11
Jun	88,500	8,900	79,600	13,700	13,800	17	17
Jul	88,500	8,900	79,600	13,700	13,800	17	17
Aug	88,500	8,900	79,600	13,700	13,800	17	17
Sep	88,500	8,900	79,600	13,600	13,600	17	17
Oct	88,500	8,900	79,600	8,870	8,910	11	11
Nov	88,500	8,900	79,600	8,930	8,960	11	11
Dec	88,500	8,900	79,600	8,930	8,960	11	11
Annual	88,500	8,900	79,600	10,550	10,550	13	13

*From Table E.6 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 12: Long-Term Monthly Water Budget for Little Cataraqui Creek Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	84	0	0	50	34
Feb	64	0	0	35	29
Mar	74	14	0	76	-15
Apr	77	61	0	69	-54
May	77	95	0	32	-50
Jun	75	96	0	24	-45
Jul	68	82	0	22	-36
Aug	82	78	0	28	-24
Sep	95	65	0	30	-1
Oct	84	30	0	43	12
Nov	97	9	0	59	29
Dec	89	0	0	53	36
Annual	966	530	0	522	

*From Table 3.6 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 13: Surface Water Stress Little Cataraqui Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	46	30	16	0.00	0.00	0	0
Feb	26	14	12	0.00	0.00	0	0
Mar	88	35	53	0.00	0.00	0	0
Apr	73	30	43	0.00	0.00	0	0
May	31	14	17	0.01	0.01	0	0
Jun	19	13	5	0.05	0.05	1	1
Jul	21	11	10	0.05	0.05	0	0
Aug	18	11	7	0.05	0.05	1	1
Sep	26	14	11	0.01	0.01	0	0
Oct	35	19	16	0.01	0.01	0	0
Nov	54	22	32	0.00	0.00	0	0
Dec	43	23	20	0.00	0.00	0	0

*From Table E.7 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 14: Groundwater Stress Little Cataraqui Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	3,500	400	3,100	7	8	0.2	0.3
Feb	3,500	400	3,100	7	8	0.2	0.3
Mar	3,500	400	3,100	7	8	0.2	0.3
Apr	3,500	400	3,100	7	8	0.2	0.3
May	3,500	400	3,100	4	5	0.2	0.2
Jun	3,500	400	3,100	5	7	0.2	0.2
Jul	3,500	400	3,100	5	7	0.2	0.2
Aug	3,500	400	3,100	5	7	0.2	0.2
Sep	3,500	400	3,100	5	5	0.2	0.2
Oct	3,500	400	3,100	5	5	0.2	0.2
Nov	3,500	400	3,100	7	8	0.2	0.3
Dec	3,500	400	3,100	7	8	0.2	0.3
Annual	3,500	400	3,100	6	7	0.2	0.2

*From Table E.8 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 15: Long-Term Monthly Water Budget for Cataraqui River Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	77	0	0	48	29
Feb	60	0	0	55	5
Mar	71	14	0	47	11
Apr	74	61	0	53	-40
May	76	100	0	43	-66
Jun	76	106	0	22	-51
Jul	72	99	0	13	-40
Aug	80	88	0	13	-21
Sep	93	67	0	28	-2
Oct	79	33	0	38	8
Nov	87	9	0	25	53
Dec	84	0	0	30	54
Annual	929	577	0	413	

*From Table 3.7 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 16: Surface Water Stress Cataraqui River Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	49	22	27	0.11	0.11	0	0
Feb	58	38	20	0.10	0.10	1	1
Mar	49	28	22	0.11	0.11	1	1
Apr	61	15	46	0.11	0.11	0	0
May	35	17	18	0.12	0.12	1	1
Jun	17	14	3	0.12	0.12	4	4
Jul	9	9	0	0.13	0.13	65	65
Aug	11	8	2	0.13	0.13	5	5
Sep	23	7	17	0.12	0.12	1	1
Oct	25	15	10	0.12	0.12	1	1
Nov	25	13	12	0.11	0.11	1	1
Dec	30	10	21	0.11	0.11	1	1

*From Table E.9 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 17: Groundwater Stress Cataraqui River Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	170,000	17,000	153,000	340	360	0.2	0.2
Feb	170,000	17,000	153,000	340	360	0.2	0.2
Mar	170,000	17,000	153,000	340	360	0.2	0.2
Apr	170,000	17,000	153,000	340	360	0.2	0.2
May	170,000	17,000	153,000	230	360	0.2	0.2
Jun	170,000	17,000	153,000	370	420	0.2	0.3
Jul	170,000	17,000	153,000	370	420	0.2	0.3
Aug	170,000	17,000	153,000	370	420	0.2	0.3
Sep	170,000	17,000	153,000	230	260	0.2	0.2
Oct	170,000	17,000	153,000	230	260	0.2	0.2
Nov	170,000	17,000	153,000	340	360	0.2	0.2
Dec	170,000	17,000	153,000	340	360	0.2	0.2
Annual	170,000	17,000	153,000	320	350	0.2	0.2

*From Table E.10 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 18: Long-Term Monthly Water Budget for Lyndhurst Creek Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	74	0	0	37	37
Feb	60	0	0	31	29
Mar	70	14	0	107	-51
Apr	74	61	0	112	-99
May	75	98	0	43	-66
Jun	75	105	0	12	-42
Jul	76	99	0	5	-29
Aug	83	87	0	4	-8
Sep	95	66	0	6	23
Oct	81	32	0	17	32
Nov	86	9	0	26	51
Dec	85	0	0	41	44
Annual	934	572	0	441	

*From Table 3.8 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 19: Surface Water Stress Lyndhurst Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	37	17	20	0.00	0.00	0	0
Feb	38	14	25	0.00	0.00	0	0
Mar	91	51	40	0.00	0.00	0	0
Apr	120	75	45	0.00	0.00	0	0
May	35	17	18	0.01	0.01	0	0
Jun	6	2	4	0.07	0.07	2	2
Jul	2	0.8	1	0.07	0.07	7	7
Aug	3	1.3	2	0.07	0.07	3	3
Sep	5	2	3	0.07	0.07	3	3
Oct	15	4	11	0.01	0.01	0	0
Nov	19	8	11	0.00	0.00	0	0
Dec	36	16	21	0.00	0.00	0	0

*From Table E.11 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 20: Groundwater Stress Lyndhurst Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	140,000	14,000	126,000	8640	8660	7	7
Feb	140,000	14,000	126,000	8640	8660	7	7
Mar	140,000	14,000	126,000	8640	8660	7	7
Apr	140,000	14,000	126,000	8640	8660	7	7
May	140,000	14,000	126,000	8580	8600	7	7
Jun	140,000	14,000	126,000	8680	8720	7	7
Jul	140,000	14,000	126,000	8680	8720	7	7
Aug	140,000	14,000	126,000	8680	8720	7	7
Sep	140,000	14,000	126,000	8580	8600	7	7
Oct	140,000	14,000	126,000	8580	8600	7	7
Nov	140,000	14,000	126,000	8640	8660	7	7
Dec	140,000	14,000	126,000	8640	8660	7	7
Annual	140,000	14,000	126,000	8640	8660	7	7

*From Table E.12 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 21: Long-Term Monthly Water Budget for Lyn Creek Subwatershed

Month	P (mm)	ET (mm)	G_{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	38	37
Feb	60	0	0	36	24
Mar	71	14	0	94	-37
Apr	77	61	0	101	-86
May	76	97	0	29	-51
Jun	77	107	0	12	-42
Jul	81	102	0	4	-25
Aug	86	88	0	3	-5
Sep	99	66	0	5	28
Oct	82	32	0	18	32
Nov	88	9	0	37	43
Dec	85	0	0	40	45
Annual	957	577	0	415	

*From Table 3.9 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 22: Surface Water Stress Lyn Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	29	9	22	1.6	1.6	7	7
Feb	23	8	17	1.4	1.4	9	9
Mar	90	50	42	1.6	1.6	4	4
Apr	80	41	41	1.6	1.6	4	4
May	23	8	16	1.6	1.6	10	10
Jun	8	3	7	1.6	1.6	23	23
Jul	2	0.4	3	1.6	1.6	50	50
Aug	1	0.0	2	1.6	1.6	70	70
Sep	2	0.0	3	1.6	1.6	45	45
Oct	13	0.4	14	1.6	1.6	11	11
Nov	43	3	41	1.6	1.6	4	4
Dec	29	11	19	1.6	1.6	8	8

*From Table E.13 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 23: Groundwater Stress Lyn Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	49,000	4,900	44,100	1,260	1,280	3	3
Feb	49,000	4,900	44,100	1,260	1,280	3	3
Mar	49,000	4,900	44,100	1,260	1,280	3	3
Apr	49,000	4,900	44,100	1,260	1,280	3	3
May	49,000	4,900	44,100	1,230	1,250	3	3
Jun	49,000	4,900	44,100	2,350	2,410	5	5
Jul	49,000	4,900	44,100	2,460	2,510	6	6
Aug	49,000	4,900	44,100	2,460	2,510	6	6
Sep	49,000	4,900	44,100	2,230	2,250	5	5
Oct	49,000	4,900	44,100	1,230	1,250	3	3
Nov	49,000	4,900	44,100	1,260	1,280	3	3
Dec	49,000	4,900	44,100	1,260	1,280	3	3
Annual	49,000	4,900	44,100	1,630	1,660	4	4

*From Table E.14 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 24: Long-Term Monthly Water Budget for Buells Creek Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	41	34
Feb	60	0	0	32	28
Mar	72	14	0	68	-10
Apr	75	61	0	85	-71
May	75	98	0	30	-53
Jun	78	107	0	17	-46
Jul	84	102	0	8	-26
Aug	87	89	0	6	-8
Sep	99	66	0	17	15
Oct	81	32	0	28	21
Nov	87	9	0	41	37
Dec	85	0	0	40	45
Annual	958	579	0	412	

*From Table 3.10 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 25: Surface Water Stress Buells Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	33	14	21	1.8	1.8	9	9
Feb	24	11	14	1.6	1.6	11	11
Mar	46	28	20	1.8	1.8	9	9
Apr	58	26	33	1.7	1.7	5	5
May	20	5	17	1.8	1.8	11	11
Jun	9	4	7	1.7	1.7	26	26
Jul	5	3	4	1.8	1.8	45	45
Aug	4	2	4	1.8	1.8	43	43
Sep	11	3	9	1.7	1.7	19	19
Oct	17	5	13	1.8	1.8	14	14
Nov	24	9	17	1.7	1.7	10	10
Dec	22	14	10	1.8	1.8	18	18

*From Table E.15 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 26: Groundwater Stress Buells Creek Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	29,000	2,900	26,100	90	110	0.3	0.4
Feb	29,000	2,900	26,100	90	110	0.3	0.4
Mar	29,000	2,900	26,100	90	110	0.3	0.4
Apr	29,000	2,900	26,100	90	110	0.3	0.4
May	29,000	2,900	26,100	80	90	0.3	0.3
Jun	29,000	2,900	26,100	140	160	0.5	0.6
Jul	29,000	2,900	26,100	140	160	0.5	0.6
Aug	29,000	2,900	26,100	140	160	0.5	0.6
Sep	29,000	2,900	26,100	80	90	0.3	0.3
Oct	29,000	2,900	26,100	80	90	0.3	0.3
Nov	29,000	2,900	26,100	90	110	0.3	0.4
Dec	29,000	2,900	26,100	90	110	0.3	0.4
Annual	29,000	2,900	26,100	100	120	0.4	0.5

*From Table E.16 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 27: Long-Term Monthly Water Budget for Sydenham Lake Subwatershed

Month	P (mm)	ET (mm)	G_{net} (mm)	Q (mm)	ΔS (mm)
Jan	81	0	0	41	40
Feb	62	0	0	38	24
Mar	73	14	0	95	-35
Apr	75	61	0	81	-67
May	76	99	0	28	-51
Jun	76	103	0	14	-42
Jul	70	94	0	4	-28
Aug	81	86	0	3	-8
Sep	94	67	0	8	19
Oct	81	33	0	16	32
Nov	92	9	0	41	42
Dec	87	0	0	51	36
Annual	948	566	0	420	

*From Table 3.11 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 28: Surface Water Stress Sydenham Lake Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.7	0.8	3	4
Feb	31	7	24	0.6	0.8	3	3
Mar	101	38	63	0.7	0.8	1	1
Apr	81	32	49	0.7	0.8	1	2
May	23	7	16	0.7	0.8	4	5
Jun	7	2	5	0.7	0.8	13	16
Jul	2	0.4	2	0.7	0.9	42	50
Aug	.09	0.2	0.7	0.7	0.9	101	122
Sep	1.4	0.3	1.1	0.7	0.8	62	74
Oct	7	2	5	0.7	0.8	13	16
Nov	36	8	28	0.7	0.8	2	3
Dec	45	16	29	0.7	0.8	2	3

Note: Community of Sydenham Water Supply is located in this subwatershed.

*From Table E.17 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 29: Groundwater Stress Sydenham Lake Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	24,000	2,400	21,600	100	110	0.5	0.5
Feb	24,000	2,400	21,600	100	110	0.5	0.5
Mar	24,000	2,400	21,600	100	110	0.5	0.5
Apr	24,000	2,400	21,600	100	110	0.5	0.5
May	24,000	2,400	21,600	80	100	0.4	0.5
Jun	24,000	2,400	21,600	150	180	0.7	0.8
Jul	24,000	2,400	21,600	150	180	0.7	0.8
Aug	24,000	2,400	21,600	150	180	0.7	0.8
Sep	24,000	2,400	21,600	80	100	0.4	0.5
Oct	24,000	2,400	21,600	80	100	0.4	0.5
Nov	24,000	2,400	21,600	100	110	0.5	0.5
Dec	24,000	2,400	21,600	100	110	0.5	0.5
Annual	24,000	2,400	21,600	110	130	0.5	0.6

*From Table E.18 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 30: Long-Term Monthly Water Budget for Gananoque River above Delta Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	74	0	0	37	37
Feb	60	0	0	31	29
Mar	71	14	0	107	-50
Apr	74	61	0	112	-99
May	75	98	0	43	-66
Jun	76	107	0	12	-43
Jul	77	104	0	5	-32
Aug	84	89	0	4	-9
Sep	95	66	0	6	23
Oct	81	32	0	17	32
Nov	86	9	0	26	51
Dec	85	0	0	41	44
Annual	938	580	0	441	

*From Table A.1 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 31: Surface Water Stress Gananoque River above Delta Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	37	17	20	0.00	0.00	0.0	0.0
Feb	38	14	25	0.00	0.00	0.0	0.0
Mar	91	51	40	0.00	0.00	0.0	0.0
Apr	120	75	45	0.00	0.00	0.0	0.0
May	35	17	18	0.01	0.01	0.1	0.1
Jun	6	2	4	0.01	0.01	0.3	0.3
Jul	2	0.8	0.9	0.01	0.01	1	1
Aug	3	1.3	2	0.01	0.01	0.5	0.5
Sep	5	2	3	0.01	0.01	0.4	0.4
Oct	15	4	11	0.01	0.01	0.1	0.1
Nov	19	8	11	0.00	0.00	0.0	0.0
Dec	36	16	21	0.00	0.00	0.0	0.0

*From Table E.19 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 32: Groundwater Stress Gananoque River above Delta Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	50,000	5,000	45,000	7,910	7,920	18	18
Feb	50,000	5,000	45,000	7,910	7,920	18	18
Mar	50,000	5,000	45,000	7,910	7,920	18	18
Apr	50,000	5,000	45,000	7,910	7,920	18	18
May	50,000	5,000	45,000	7,890	7,900	18	18
Jun	50,000	5,000	45,000	7,910	7,920	18	18
Jul	50,000	5,000	45,000	7,910	7,920	18	18
Aug	50,000	5,000	45,000	7,910	7,920	18	18
Sep	50,000	5,000	45,000	7,890	7,900	18	18
Oct	50,000	5,000	45,000	7,890	7,900	18	18
Nov	50,000	5,000	45,000	7,910	7,920	18	18
Dec	50,000	5,000	45,000	7,910	7,920	18	18
Annual	50,000	5,000	45,000	7,910	7,920	18	18

*From Table E.10 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 33: Long-Term Monthly Water Budget for Gananoque River above Outlet Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	23	52
Feb	60	0	0	34	26
Mar	71	14	0	95	-38
Apr	75	61	0	117	-104
May	76	98	0	64	-86
Jun	76	107	0	16	-48
Jul	78	102	0	7	-32
Aug	85	89	0	12	-16
Sep	97	67	0	22	9
Oct	82	32	0	4	46
Nov	88	9	0	4	75
Dec	86	0	0	21	65
Annual	949	580	0	420	

*From Table A.2 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 34: Surface Water Stress Gananoque River above Outlet Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	23	11	12	0.07	0.07	1	1
Feb	34	12	22	0.07	0.07	0.3	0.3
Mar	95	53	42	0.07	0.07	0.2	0.2
Apr	117	73	44	0.07	0.07	0.2	0.2
May	64	31	33	0.09	0.09	0.3	0.3
Jun	17	6	10	0.10	0.10	1	1
Jul	7	3	4	0.11	0.11	3	3
Aug	12	5	8	0.11	0.11	1	1
Sep	22	9	12	0.09	0.09	1	1
Oct	4	1	3	0.09	0.09	3	3
Nov	4	2	2	0.07	0.07	3	3
Dec	21	9	12	0.07	0.07	1	1

*From Table E.21 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 35: Groundwater Stress Gananoque River above Outlet Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	150,000	15,000	135,000	710	740	0.5	0.5
Feb	150,000	15,000	135,000	710	740	0.5	0.5
Mar	150,000	15,000	135,000	710	740	0.5	0.5
Apr	150,000	15,000	135,000	710	740	0.5	0.5
May	150,000	15,000	135,000	560	590	0.4	0.4
Jun	150,000	15,000	135,000	710	770	0.5	0.6
Jul	150,000	15,000	135,000	710	770	0.5	0.6
Aug	150,000	15,000	135,000	710	770	0.5	0.6
Sep	150,000	15,000	135,000	560	590	0.4	0.4
Oct	150,000	15,000	135,000	560	590	0.4	0.4
Nov	150,000	15,000	135,000	710	740	0.5	0.5
Dec	150,000	15,000	135,000	710	740	0.5	0.5
Annual	150,000	15,000	135,000	670	710	0.5	0.5

*From Table E.22 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 36: Long-Term Monthly Water Budget for Gananoque River above Marble Rock Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	32	43
Feb	60	0	0	32	28
Mar	71	14	0	102	-45
Apr	75	61	0	113	-99
May	76	98	0	50	-73
Jun	75	107	0	13	-46
Jul	76	103	0	6	-33
Aug	84	89	0	7	-12
Sep	97	67	0	11	19
Oct	82	32	0	12	37
Nov	89	9	0	18	62
Dec	86	0	0	34	52
Annual	946	581	0	430	

*From Table A.3 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 37: Surface Water Stress Gananoque River above Marble Rock Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	23	14	9	0.03	0.03	0	0
Feb	24	14	10	0.02	0.02	0	0
Mar	92	73	19	0.03	0.03	0	0
Apr	104	70	34	0.03	0.03	0	0
May	52	35	17	0.03	0.03	0	0
Jun	12	0.5	11	0.05	0.05	0	0
Jul	5	1.0	4	0.05	0.05	1	1
Aug	5	4	1.1	0.05	0.05	5	5
Sep	13	3	9	0.05	0.05	1	1
Oct	12	6	6	0.03	0.03	0	0
Nov	15	3	12	0.03	0.03	0	0
Dec	32	8	24	0.03	0.03	0	0

*From Table E.23 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 38: Groundwater Stress Gananoque River above Marble Rock Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	420,000	42,000	378,000	9,210	9,280	2	2
Feb	420,000	42,000	378,000	9,210	9,280	2	2
Mar	420,000	42,000	378,000	9,210	9,280	2	2
Apr	420,000	42,000	378,000	9,210	9,280	2	2
May	420,000	42,000	378,000	24,950	9,280	2	2
Jun	420,000	42,000	378,000	24,950	9,280	2	2
Jul	420,000	42,000	378,000	24,950	9,280	2	2
Aug	420,000	42,000	378,000	24,950	9,280	2	2
Sep	420,000	42,000	378,000	24,950	9,280	2	2
Oct	420,000	42,000	378,000	24,950	9,280	2	2
Nov	420,000	42,000	378,000	24,950	9,280	2	2
Dec	420,000	42,000	378,000	9,210	9,280	2	2
Annual	420,000	42,000	378,000	18,430	9,280	2	2

*From Table E.24 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 39: Long-Term Monthly Water Budget for Gananoque River above Gananoque Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	76	0	0	32	44
Feb	61	0	0	32	29
Mar	71	14	0	102	-45
Apr	75	61	0	113	-99
May	77	98	0	50	-71
Jun	75	107	0	13	-45
Jul	75	102	0	6	-34
Aug	84	89	0	7	-12
Sep	97	67	0	11	19
Oct	82	32	0	12	37
Nov	90	9	0	18	63
Dec	86	0	0	34	52
Annual	949	580	0	430	

*From Table A.4 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 40: Surface Water Stress Gananoque River above Gananoque Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	23	14	9	0.17	0.17	2	2
Feb	24	14	10	0.15	0.15	2	2
Mar	92	73	19	0.17	0.17	1	1
Apr	104	70	34	0.16	0.16	0.5	0.5
May	52	35	17	0.18	0.18	1	1
Jun	12	0.5	11	0.20	0.20	2	2
Jul	5	1.0	4	0.20	0.20	5	5
Aug	5	4	1.1	0.20	0.20	18	18
Sep	13	3	9	0.19	0.19	2	2
Oct	12	6	6	0.18	0.18	3	3
Nov	15	3	12	0.16	0.16	1	1
Dec	32	8	24	0.17	0.17	1	1

*From Table E.25 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 41: Groundwater Stress Gananoque River above Gananoque Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	480,000	48,000	432,000	9,670	9,750	2	2
Feb	480,000	48,000	432,000	9,670	9,750	2	2
Mar	480,000	48,000	432,000	9,670	9,750	2	2
Apr	480,000	48,000	432,000	9,670	9,750	2	2
May	480,000	48,000	432,000	25,110	25,180	6	6
Jun	480,000	48,000	432,000	25,480	25,630	6	6
Jul	480,000	48,000	432,000	25,680	25,830	6	6
Aug	480,000	48,000	432,000	25,680	25,830	6	6
Sep	480,000	48,000	432,000	25,110	25,180	6	6
Oct	480,000	48,000	432,000	25,110	25,180	6	6
Nov	480,000	48,000	432,000	25,410	25,480	6	6
Dec	480,000	48,000	432,000	9,670	9,750	2	2
Annual	480,000	48,000	432,000	18,830	18,920	4	4

*From Table E.26 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 42: Long-Term Monthly Water Budget for Cataraqi River above Bedford Mills Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	78	0	0	45	33
Feb	60	0	0	79	-19
Mar	72	14	0	42	17
Apr	74	61	0	26	-13
May	76	100	0	59	-83
Jun	76	105	0	27	-55
Jul	71	96	0	21	-46
Aug	80	87	0	24	-32
Sep	93	67	0	57	-31
Oct	79	34	0	52	-6
Nov	88	9	0	20	59
Dec	85	0	0	11	74
Annual	932	573	0	463	

*From Table B.3 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 43: Surface Water Stress Cataraqui River above Bedford Mills Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	45	21	25	0.00	0.00	0.0	0.0
Feb	79	55	24	0.00	0.00	0.0	0.0
Mar	42	25	17	0.00	0.00	0.0	0.0
Apr	26	7	18	0.00	0.00	0.0	0.0
May	59	23	36	0.01	0.01	0.0	0.0
Jun	27	17	10	0.01	0.01	0.1	0.1
Jul	21	14	7	0.01	0.01	0.1	0.1
Aug	24	16	9	0.01	0.01	0.1	0.1
Sep	57	14	43	0.01	0.01	0.0	0.0
Oct	52	20	31	0.01	0.01	0.0	0.0
Nov	20	11	10	0.00	0.00	0.0	0.0
Dec	11	4	8	0.00	0.00	0.0	0.0

*From Table E.27 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 44: Groundwater Stress Cataraqui River above Bedford Mills Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	75,000	7,500	67,500	130	130	0.2	0.2
Feb	75,000	7,500	67,500	130	130	0.2	0.2
Mar	75,000	7,500	67,500	130	130	0.2	0.2
Apr	75,000	7,500	67,500	130	130	0.2	0.2
May	75,000	7,500	67,500	80	90	0.1	0.1
Jun	75,000	7,500	67,500	120	130	0.2	0.2
Jul	75,000	7,500	67,500	120	130	0.2	0.2
Aug	75,000	7,500	67,500	120	130	0.2	0.2
Sep	75,000	7,500	67,500	80	90	0.1	0.1
Oct	75,000	7,500	67,500	80	90	0.1	0.1
Nov	75,000	7,500	67,500	130	130	0.2	0.2
Dec	75,000	7,500	67,500	130	130	0.2	0.2
Annual	75,000	7,500	67,500	120	120	0.2	0.2

*From Table E.28 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 45: Long-Term Monthly Water Budget for Cataraqui River above Jones Falls Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	77	0	0	36	41
Feb	60	0	0	32	28
Mar	71	14	0	41	16
Apr	74	61	0	45	-32
May	76	100	0	32	-56
Jun	76	106	0	28	-58
Jul	72	100	0	29	-56
Aug	81	89	0	29	-37
Sep	93	67	0	28	-2
Oct	80	34	0	31	15
Nov	88	9	0	32	47
Dec	84	0	0	36	48
Annual	932	579	0	398	

*From Table B.2 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 46: Surface Water Stress Cataraqui River above Jones Falls Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	36	18	17	0.09	0.09	0.5	0.5
Feb	32	17	15	0.08	0.08	0.5	0.5
Mar	41	18	22	0.09	0.09	0.4	0.4
Apr	45	18	27	0.09	0.09	0.3	0.3
May	32	12	21	0.10	0.10	0.5	0.5
Jun	28	5	23	0.10	0.10	0.4	0.4
Jul	29	5	24	0.10	0.10	0.4	0.4
Aug	29	5	24	0.10	0.10	0.4	0.4
Sep	28	5	23	0.09	0.09	0.4	0.4
Oct	31	9	22	0.10	0.10	0.5	0.5
Nov	32	13	19	0.09	0.09	0.5	0.5
Dec	36	18	17	0.09	0.09	0.5	0.5

*From Table E.29 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 47: Groundwater Stress Cataraqui River above Jones Falls Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	210,000	21,000	189,000	350	380	0.2	0.2
Feb	210,000	21,000	189,000	350	380	0.2	0.2
Mar	210,000	21,000	189,000	350	380	0.2	0.2
Apr	210,000	21,000	189,000	350	380	0.2	0.2
May	210,000	21,000	189,000	260	290	0.1	0.2
Jun	210,000	21,000	189,000	420	490	0.2	0.3
Jul	210,000	21,000	189,000	420	490	0.2	0.3
Aug	210,000	21,000	189,000	420	490	0.2	0.3
Sep	210,000	21,000	189,000	260	290	0.1	0.2
Oct	210,000	21,000	189,000	260	290	0.1	0.2
Nov	210,000	21,000	189,000	350	380	0.2	0.2
Dec	210,000	21,000	189,000	350	380	0.2	0.2
Annual	210,000	21,000	189,000	350	390	0.2	0.2

*From Table E.30 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 48: Long-Term Monthly Water Budget for Cataraqui River above Kingston Mills Dam Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	77	0	0	42	35
Feb	60	0	0	46	14
Mar	71	14	0	49	8
Apr	74	61	0	25	-12
May	76	99	0	29	-52
Jun	76	106	0	19	-49
Jul	72	99	0	11	-38
Aug	80	88	0	15	-24
Sep	93	67	0	19	6
Oct	79	33	0	22	24
Nov	87	9	0	24	55
Dec	84	0	0	38	45
Annual	929	577	0	340	

*From Table B.1 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 49: Surface Water Stress Cataraqui River above Kingston Mills Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	42	19	23	0.25	0.25	1	1
Feb	46	32	14	0.23	0.23	2	2
Mar	49	29	20	0.25	0.25	1	1
Apr	25	7	18	0.24	0.24	1	1
May	29	11	18	0.26	0.26	1	1
Jun	19	12	7	0.26	0.26	4	4
Jul	11	8	4	0.31	0.31	8	8
Aug	15	10	5	0.31	0.31	6	6
Sep	19	5	15	0.25	0.25	2	2
Oct	22	9	13	0.26	0.26	2	2
Nov	24	12	11	0.24	0.24	2	2
Dec	38	12	26	0.25	0.25	1	1

Note: Joyceville/Pittsburgh Institution water supply is located in this subwatershed.

*From Table E.31 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 50: Groundwater Stress Cataraqui River above Kingston Mills Dam Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	320,000	32,000	288,000	1,540	1,650	0.5	0.6
Feb	320,000	32,000	288,000	1,540	1,650	0.5	0.6
Mar	320,000	32,000	288,000	1,540	1,650	0.5	0.6
Apr	320,000	32,000	288,000	1,540	1,650	0.5	0.6
May	320,000	32,000	288,000	1,590	1,690	0.6	0.6
Jun	320,000	32,000	288,000	2,130	2,340	0.7	0.8
Jul	320,000	32,000	288,000	2,130	2,340	0.7	0.8
Aug	320,000	32,000	288,000	2,130	2,340	0.7	0.8
Sep	320,000	32,000	288,000	1,590	1,690	0.6	0.6
Oct	320,000	32,000	288,000	1,350	1,460	0.5	0.5
Nov	320,000	32,000	288,000	1,540	1,650	0.5	0.6
Dec	320,000	32,000	288,000	1,540	1,650	0.5	0.6
Annual	320,000	32,000	288,000	1,680	1,810	0.6	0.6

Note: Cana Subdivision water supply is located in this subwatershed.

*From Table E.32 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 51: Surface Water Stress Cana Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.00	0.00	0	0
Feb	31	7	24	0.00	0.00	0	0
Mar	101	38	63	0.00	0.00	0	0
Apr	81	32	49	0.00	0.00	0	0
May	23	7	16	0.01	0.01	0	0
Jun	7	2	5	0.01	0.01	0	0
Jul	2	0	2	0.01	0.01	1	1
Aug	1	0	1	0.01	0.01	1	1
Sep	1	0	1	0.01	0.01	1	1
Oct	7	2	5	0.01	0.01	0	0
Nov	36	8	28	0.00	0.00	0	0
Dec	45	16	29	0.00	0.00	0	0

*From Table E.33 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 52: Groundwater Stress Cana Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	32,000	3,200	28,800	1,000	1,200	3	4
Feb	32,000	3,200	28,800	1,000	1,200	3	4
Mar	32,000	3,200	28,800	1,000	1,200	3	4
Apr	32,000	3,200	28,800	1,000	1,200	3	4
May	32,000	3,200	28,800	1,000	1,200	3	4
Jun	32,000	3,200	28,800	2,000	2,400	7	8
Jul	32,000	3,200	28,800	2,000	2,400	7	8
Aug	32,000	3,200	28,800	2,000	2,400	7	8
Sep	32,000	3,200	28,800	1,000	1,200	3	4
Oct	32,000	3,200	28,800	1,000	1,200	3	4
Nov	32,000	3,200	28,800	1,000	1,200	3	4
Dec	32,000	3,200	28,800	1,000	1,200	3	4
Annual	32,000	3,200	28,800	1,000	1,200	3	4

*From Table E.34 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 53: Long-Term Monthly Water Budget for Bay of Quinte Ungauged Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	77	0	0	41	36
Feb	63	0	0	38	25
Mar	72	14	0	95	-36
Apr	73	61	0	81	-69
May	75	96	0	28	-49
Jun	68	104	0	14	-51
Jul	65	98	0	4	-37
Aug	73	85	0	3	-16
Sep	82	66	0	8	8
Oct	75	30	0	16	29
Nov	87	9	0	41	37
Dec	82	0	0	51	31
Annual	892	564	0	420	

*From Table C.1 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 54: Surface Water Stress Bay of Quinte Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.08	0.08	0	0
Feb	31	7	24	0.07	0.07	0	0
Mar	101	38	63	0.08	0.08	0	0
Apr	81	32	49	0.08	0.08	0	0
May	23	7	16	0.09	0.09	1	1
Jun	7	2	5	0.27	0.27	5	5
Jul	2	0.4	2	1.15	1.15	68	68
Aug	1	0.2	1	1.15	1.15	164	164
Sep	1	0.3	1	0.21	0.21	19	19
Oct	7	2	5	0.09	0.09	2	2
Nov	36	8	28	0.08	0.08	0	0
Dec	45	16	19	0.08	0.08	0	0

*From Table E.35 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 55: Groundwater Stress Bay of Quinte Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	120,000	12,000	108,000	14,370	14,390	13	13
Feb	120,000	12,000	108,000	14,370	14,390	13	13
Mar	120,000	12,000	108,000	14,370	14,390	13	13
Apr	120,000	12,000	108,000	14,370	14,390	13	13
May	120,000	12,000	108,000	14,260	14,290	13	13
Jun	120,000	12,000	108,000	14,380	14,430	13	13
Jul	120,000	12,000	108,000	14,380	14,430	13	13
Aug	120,000	12,000	108,000	14,380	14,430	13	13
Sep	120,000	12,000	108,000	14,260	14,290	13	13
Oct	120,000	12,000	108,000	14,260	14,290	13	13
Nov	120,000	12,000	108,000	14,370	14,390	13	13
Dec	120,000	12,000	108,000	14,370	14,390	13	13
Annual	120,000	12,000	108,000	14,350	14,380	13	13

*From Table E.36 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 56: Long-Term Monthly Water Budget for Lake Ontario Ungauged Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	78	0	0	41	37
Feb	64	0	0	38	26
Mar	72	14	0	95	-36
Apr	75	61	0	81	-67
May	76	96	0	28	-48
Jun	69	101	0	14	-47
Jul	66	92	0	4	-30
Aug	75	83	0	3	-11
Sep	84	66	0	8	10
Oct	78	31	0	16	31
Nov	89	9	0	41	39
Dec	83	0	0	51	32
Annual	909	553	0	420	

*From Table C.2 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 57: Surface Water Stress Lake Ontario Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.01	0.01	0	0
Feb	31	7	24	0.00	0.00	0	0
Mar	101	38	63	0.01	0.01	0	0
Apr	81	32	49	0.01	0.01	0	0
May	23	7	16	0.02	0.02	0	0
Jun	7	2	5	0.88	0.88	17	17
Jul	2	0.4	2	0.91	0.91	54	54
Aug	1	0.2	1	0.91	0.91	130	130
Sep	1	0.3	1	0.86	0.86	78	78
Oct	7	2	5	0.02	0.02	0	0
Nov	36	8	28	0.01	0.01	0	0
Dec	45	16	29	0.01	0.01	0	0

*From Table E.37 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 58: Groundwater Stress Lake Ontario Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	130,000	13,000	117,000	29,900	29,930	26	26
Feb	130,000	13,000	117,000	29,900	29,930	26	26
Mar	130,000	13,000	117,000	29,900	29,930	26	26
Apr	130,000	13,000	117,000	29,900	29,930	26	26
May	130,000	13,000	117,000	29,770	29,810	25	25
Jun	130,000	13,000	117,000	30,140	30,220	26	26
Jul	130,000	13,000	117,000	30,140	30,220	26	26
Aug	130,000	13,000	117,000	30,140	30,220	26	26
Sep	130,000	13,000	117,000	29,950	29,990	26	26
Oct	130,000	13,000	117,000	29,770	29,810	25	25
Nov	130,000	13,000	117,000	29,900	29,930	26	26
Dec	130,000	13,000	117,000	29,900	29,930	26	26
Annual	130,000	13,000	117,000	29,940	29,990	26	26

*From Table E.38 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 59: Long-Term Monthly Water Budget for St. Lawrence River Ungauged Subwatershed

Month	P (mm)	ET (mm)	G _{net} (mm)	Q (mm)	ΔS (mm)
Jan	75	0	0	38	37
Feb	61	0	0	36	25
Mar	69	14	0	94	-39
Apr	75	61	0	101	-88
May	76	96	0	29	-49
Jun	70	104	0	12	-46
Jul	71	98	0	4	-30
Aug	78	85	0	3	-10
Sep	86	66	0	5	15
Oct	78	30	0	18	30
Nov	88	9	0	37	43
Dec	81	0	0	40	41
Annual	908	563	0	415	

*From Table C.3 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 60: Surface Water Stress St. Lawrence River Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q50 (mm)	Q10 (mm)	Q50-Q10 (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	30	8	21	0.05	0.05	0	0
Feb	31	7	24	0.04	0.04	0	0
Mar	101	38	63	0.05	0.05	0	0
Apr	81	32	49	0.04	0.04	0	0
May	23	7	16	0.05	0.05	0	0
Jun	7	2	5	0.28	0.28	5	5
Jul	2	0.4	2	0.28	0.28	16	16
Aug	1	0.2	0.7	0.28	0.28	40	40
Sep	1	0.3	1.1	0.27	0.27	25	25
Oct	7	2	5	0.05	0.05	1	1
Nov	36	8	28	0.04	0.04	0	0
Dec	45	16	29	0.05	0.05	0	0

*From Table E.39 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 61: Groundwater Stress St. Lawrence River Ungauged Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	250,000	25,000	225,000	12,810	12,910	6	6
Feb	250,000	25,000	225,000	12,810	12,910	6	6
Mar	250,000	25,000	225,000	12,810	12,910	6	6
Apr	250,000	25,000	225,000	12,810	12,910	6	6
May	250,000	25,000	225,000	12,670	12,770	6	6
Jun	250,000	25,000	225,000	13,770	13,960	6	6
Jul	250,000	25,000	225,000	13,770	13,960	6	6
Aug	250,000	25,000	225,000	13,770	13,960	6	6
Sep	250,000	25,000	225,000	13,310	13,400	6	6
Oct	250,000	25,000	225,000	12,670	12,910	6	6
Nov	250,000	25,000	225,000	12,810	12,910	6	6
Dec	250,000	25,000	225,000	12,810	12,910	6	6
Annual	250,000	25,000	225,000	13,070	13,190	6	6

Note: Lansdowne and Miller Manor water supplies are located in this subwatershed.

*From Table E.40 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

Table 62: Surface Water Stress Lansdowne Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q ₅₀ (mm)	Q ₁₀ (mm)	Q ₅₀ -Q ₁₀ (mm)	Current (mm)	Future (mm)	Current (%)	Future (%)
Jan	29	9	2	0.00	0.00	0	0
Feb	23	8	17	0.00	0.00	0	0
Mar	90	50	42	0.00	0.00	0	0
Apr	80	41	41	0.00	0.00	0	0
May	23	8	16	0.01	0.01	0	0
Jun	8	3	7	0.02	0.02	0	0
Jul	2	0	3	0.02	0.02	1	1
Aug	1	0	2	0.02	0.02	1	1
Sep	2	0	3	0.01	0.01	0	0
Oct	13	0	14	0.01	0.01	0	0
Nov	43	3	41	0.00	0.00	0	0
Dec	29	11	19	0.00	0.00	0	0

*From Table E.41 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)

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Table 63: Groundwater Stress Lansdowne Subwatershed

Month	Supply	Reserve	S-R	Demand		Stress	
	Q _R (m ³ /d)	0.1Supply (m ³ /d)	(m ³ /d)	Current (m ³ /d)	Future (m ³ /d)	Current (%)	Future (%)
Jan	2010	201	1810	210	250	12	14
Feb	2010	201	1810	190	230	10	13
Mar	2010	201	1810	200	240	11	13
Apr	2010	201	1810	200	240	11	13
May	2010	201	1810	220	260	12	14
Jun	2010	201	1810	240	290	13	16
Jul	2010	201	1810	270	320	15	18
Aug	2010	201	1810	250	300	14	17
Sep	2010	201	1810	200	240	11	13
Oct	2010	201	1810	210	250	12	14
Nov	2010	201	1810	210	250	12	14
Dec	2010	201	1810	200	240	11	13
Annual	2010	201	1810	220	259	12	14

Note: Village of Lansdowne water supply is located in this subwatershed.

*From Table E.42 Tier 1 Water Budget and Water Quantity Stress Assessment (XCG Consultants Ltd., 2010)