

Baseline Hydrology:
For the Southwestern Hudson Bay
and Nelson River
Watershed Systems

Appendix A

WSC's HYDAT Stream Gauge Baseline Information

**Provincial Mapping Unit
Mapping and Information Resources Branch
Corporate Management and Information Division
Ministry of Natural Resources and Forestry**

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Introduction

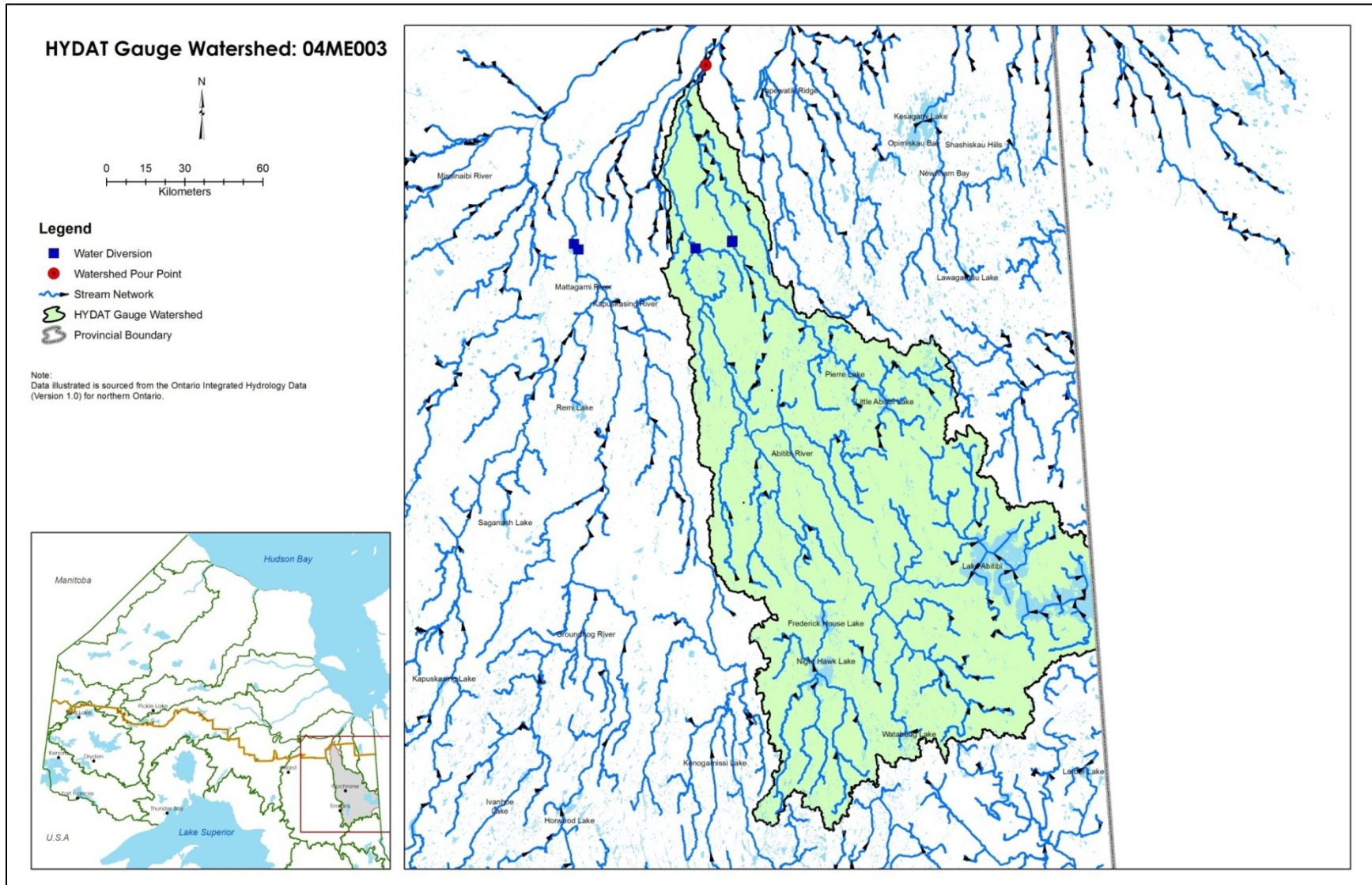
The results of the baseline hydrology for each of the Water Survey of Canada's HYDAT stream gauges for the Southwestern Hudson Bay and Nelson River system that lie within the province of Ontario are given in this Appendix A.

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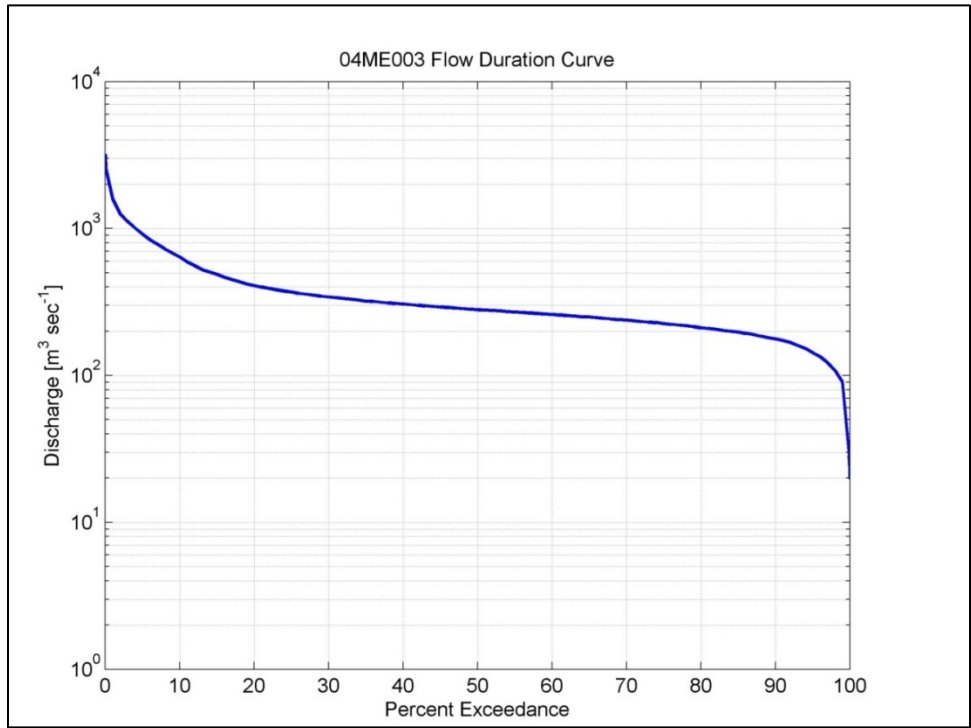
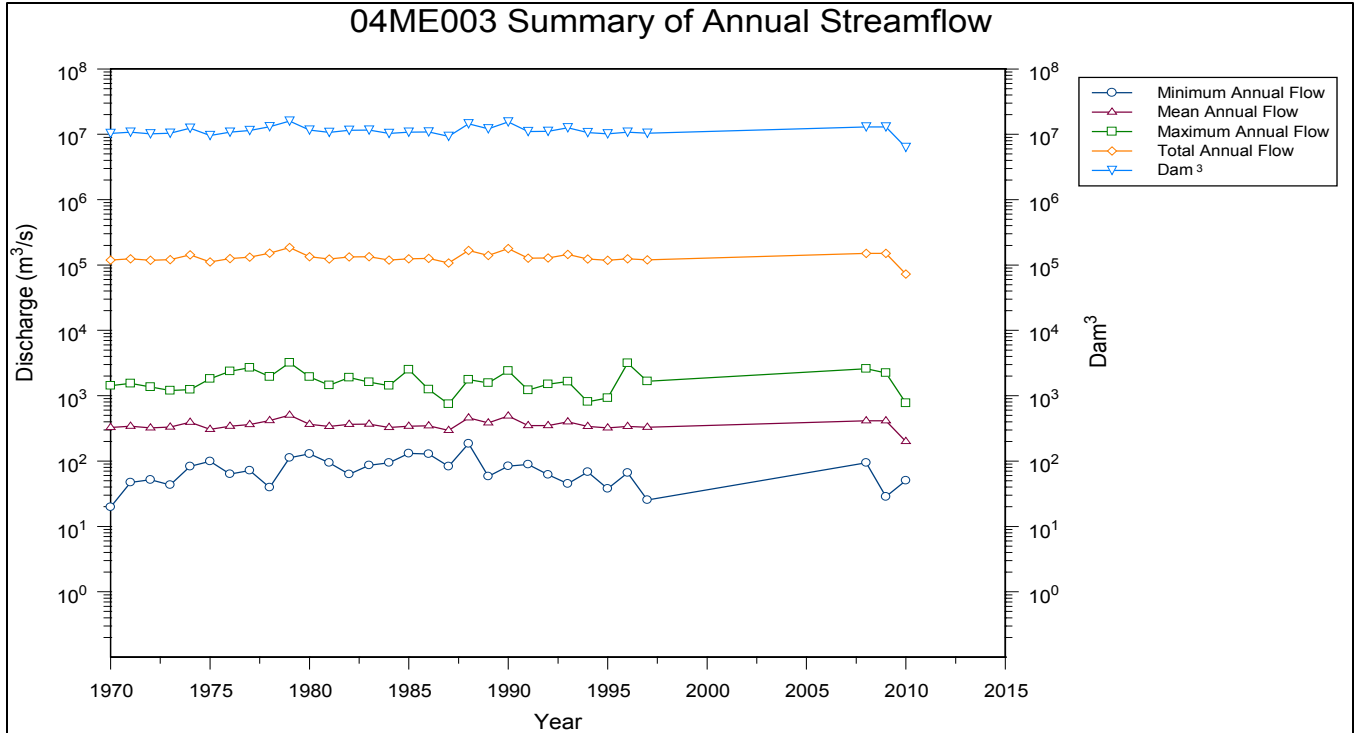
1. ABITIBI RIVER AT ONAKAWANA: 04ME003



04ME003 ABITIBI RIVER AT ONAKAWANA

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 31 Years (1970-2010)
- Sample Size n: 11323
- Mean Annual Flow: 360.52 cms
- Standard Deviation: 279.86 cms
- Minimum Streamflow: 19.8 cms
- Lower Quartile Q_1 : 225 cms
- Median Streamflow: 280 cms
- Upper Quartile Q_3 : 368 cms
- Maximum Streamflow: 3210 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 11-Nov- 16-May
 - No of Ice Days (Min–Median –Max): 116 -147 -170 days



%Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	480.00	451.00	570.00	2690.00	3210.00	1420.00	1160.00	998.00	1160.00	1260.00	1130.00	701.00	3172.11
0.1	456.95	446.95	560.78	2685.70	3182.34	1389.90	1100.07	965.73	1099.80	1250.78	1091.30	696.39	2571.85
1	390.89	370.00	437.14	2400.00	2352.30	1142.00	907.46	666.67	634.00	1038.90	871.40	429.45	1600.00
5	350.45	331.00	340.00	1480.00	1760.00	889.00	660.00	479.80	498.00	651.75	551.00	368.90	918.50
10	324.40	319.40	317.00	1055.00	1484.00	742.50	527.40	391.80	415.50	502.40	460.00	340.00	641.00
15	309.35	303.00	302.35	818.00	1320.00	664.00	438.00	354.35	382.00	442.35	411.00	330.00	488.00
20	300.00	292.00	290.00	700.00	1200.00	586.00	392.30	328.00	351.00	411.30	387.00	315.00	410.00
25	290.00	283.00	281.00	580.00	1110.00	515.00	368.00	313.00	327.00	391.25	370.00	300.25	369.00
30	281.00	278.00	275.00	500.00	1040.00	468.50	344.20	298.20	311.00	373.20	357.00	295.20	342.00
35	275.00	270.00	269.00	435.00	974.15	441.00	323.15	285.00	294.00	354.00	342.00	286.15	320.00
40	266.00	265.00	262.00	390.00	903.00	411.50	311.00	274.00	281.00	340.00	334.00	279.10	306.00
45	260.00	260.00	257.00	350.00	842.10	377.00	297.00	263.00	265.00	326.00	317.00	270.00	292.00
50	250.00	254.00	250.00	322.00	793.00	355.50	283.00	251.00	254.00	309.00	306.00	264.00	280.00
55	245.00	246.10	243.00	300.00	733.95	337.00	270.95	241.00	239.00	295.95	297.00	256.00	270.00
60	236.00	240.00	234.00	280.50	680.00	317.50	263.00	233.90	226.50	281.00	285.50	249.00	260.00
65	228.00	233.00	225.00	267.00	620.85	304.00	252.00	221.00	213.00	268.85	277.00	240.00	250.00
70	220.00	226.80	219.80	247.00	556.80	291.00	239.80	210.80	202.50	248.00	266.00	230.00	238.00
75	211.00	219.00	210.00	230.00	504.00	274.00	230.00	200.00	190.00	232.00	259.00	220.00	225.00
80	200.00	206.10	200.00	210.50	454.70	257.50	215.00	189.00	178.00	207.70	248.00	209.70	211.00
85	187.65	200.00	190.00	192.00	402.65	240.00	200.65	175.65	167.00	188.65	233.00	199.00	197.00
90	168.00	186.30	175.00	170.00	332.20	218.00	176.60	157.00	141.50	172.00	209.50	180.00	177.00
91	163.00	183.62	170.00	163.20	316.99	213.20	170.98	152.99	137.00	164.00	200.00	173.00	173.00
92	158.38	180.00	164.00	160.00	300.38	205.00	165.00	147.38	131.00	157.38	196.90	168.38	167.70
93	152.00	177.26	158.00	151.00	288.77	199.00	156.77	140.77	125.00	153.00	188.60	162.77	160.00
94	142.16	170.00	151.16	141.60	277.16	187.00	145.00	133.00	119.00	147.16	181.60	159.00	153.00
95	136.00	164.80	147.00	135.00	250.55	175.00	137.10	126.00	115.00	140.55	174.00	146.75	143.00
96	129.88	160.00	140.00	123.00	233.00	147.40	130.88	116.00	103.40	135.88	169.70	135.82	134.10
97	114.66	154.00	131.33	117.40	202.33	128.40	115.33	107.66	96.40	116.99	157.40	127.00	122.00
98	106.00	142.58	120.88	108.00	175.00	110.50	92.86	97.78	89.46	105.00	136.20	114.44	108.00
99	86.98	124.54	92.03	93.50	140.00	80.32	62.09	87.44	75.46	98.12	108.80	96.49	90.33
99.9	50.77	78.41	41.98	36.46	89.23	65.66	26.68	27.95	54.64	83.92	73.26	39.76	28.48
99.99	43.30	73.00	39.40	28.50	89.00	63.60	25.30	27.90	51.80	83.00	71.50	19.80	23.27

04ME003 Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Value
Base Flow Index	0.558
10:90 Ratio	3.621
Sqrt(Q ₂₅ /Q ₇₅)	1.280

04ME003: Parameters from Flow Duration Curves

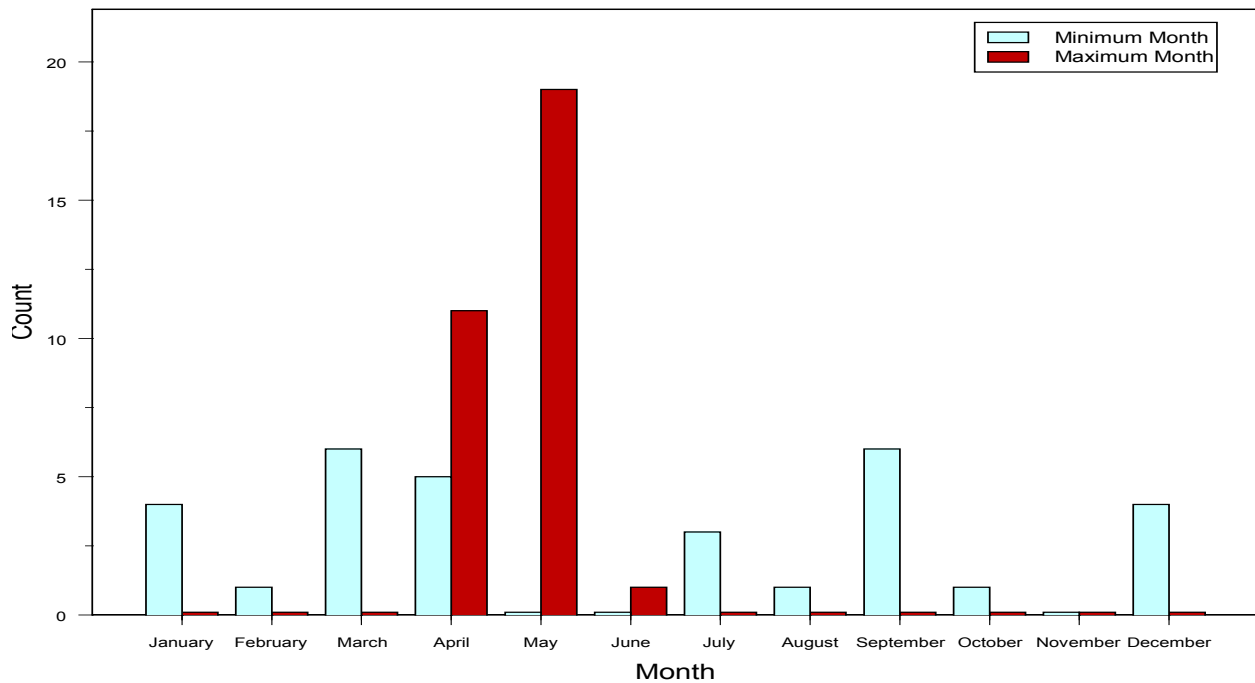
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	449	62	2158.410 (70.729)	480.000 (42.575)	0.073 (0.026)	0.064
Low Flow	-191	49	-237.452 (NaN)	43.783 (0.984)	-0.002 (0.021)	0.146

04ME003: Flood/Low Flow Descriptive Indices above/below a Threshold Value

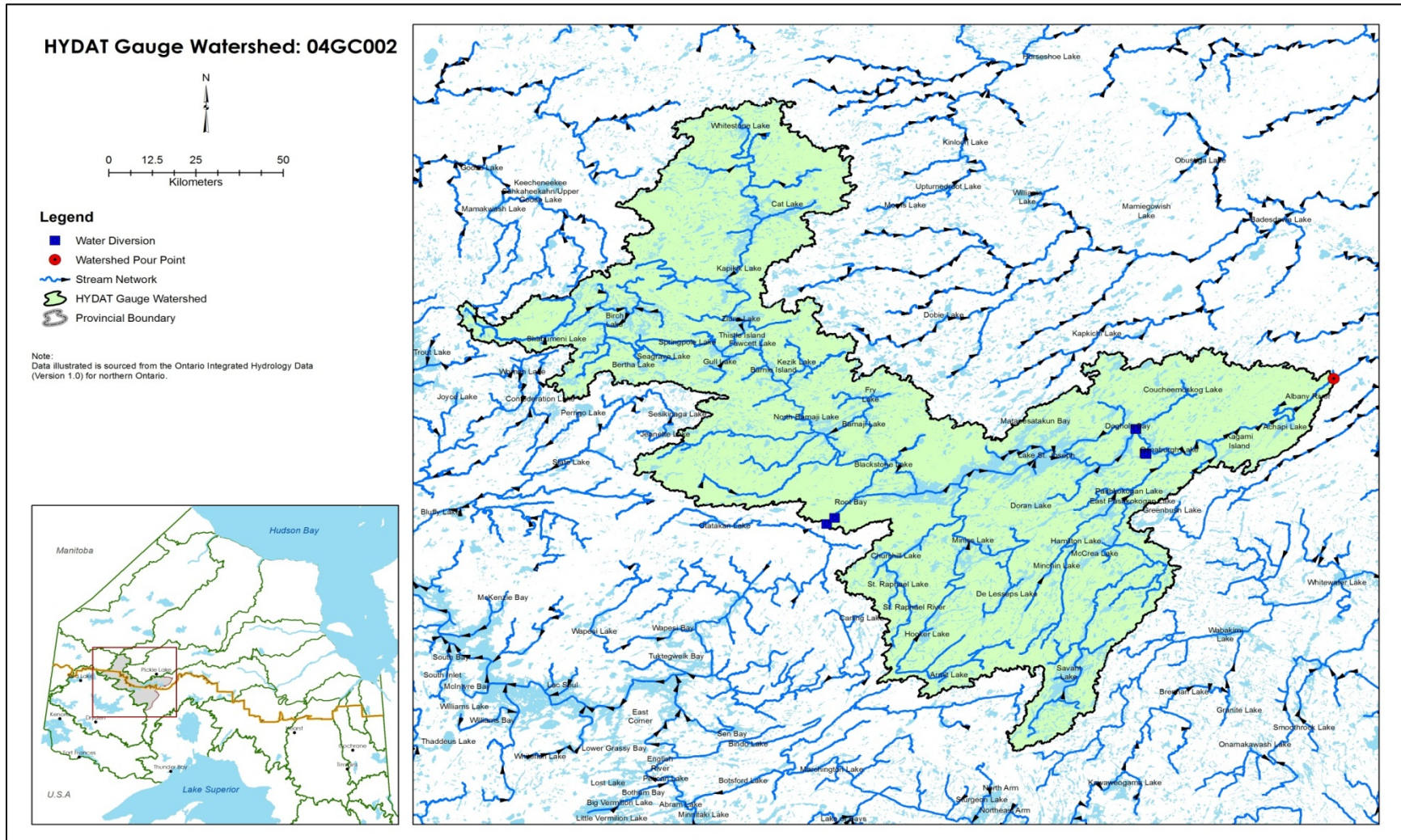
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1820.00	2460.00	2880.00	3290.00	3810.00	4210.00	4610.00	5150.00
7 Day Low Flow	165.500	129.400	108.200	89.500	67.630	52.790	Not Applicable	Not Applicable

04ME003 Flood and Low Flow Estimates

04ME003 Summary of flood and low flow events by month



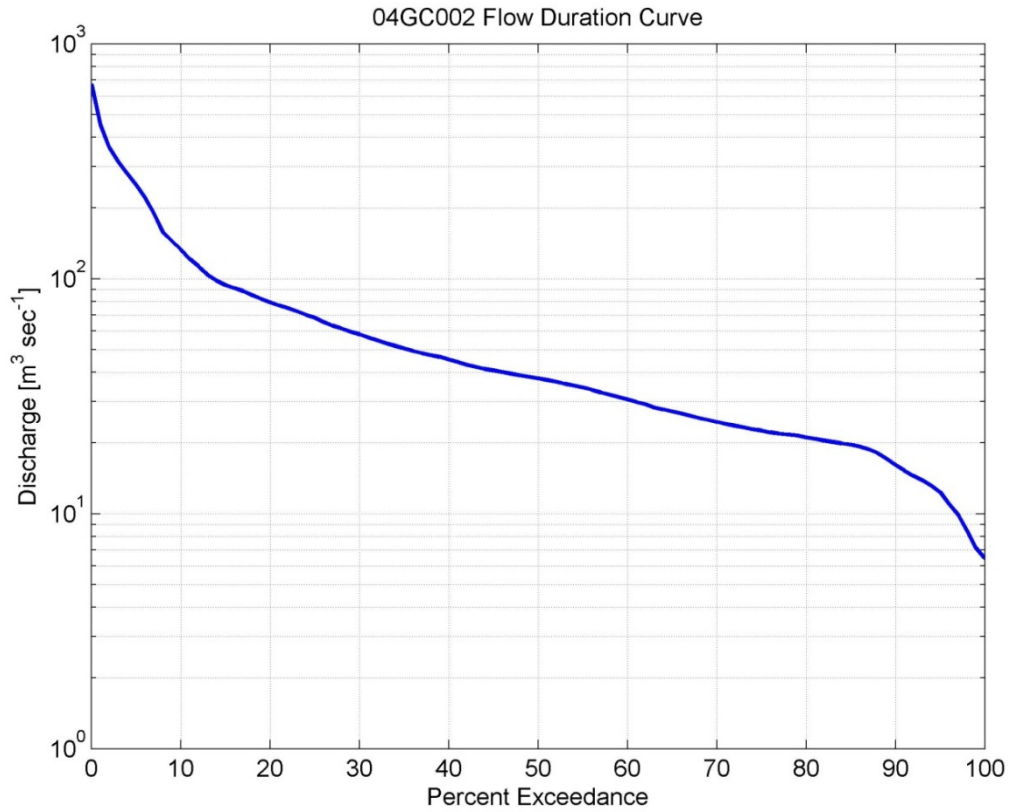
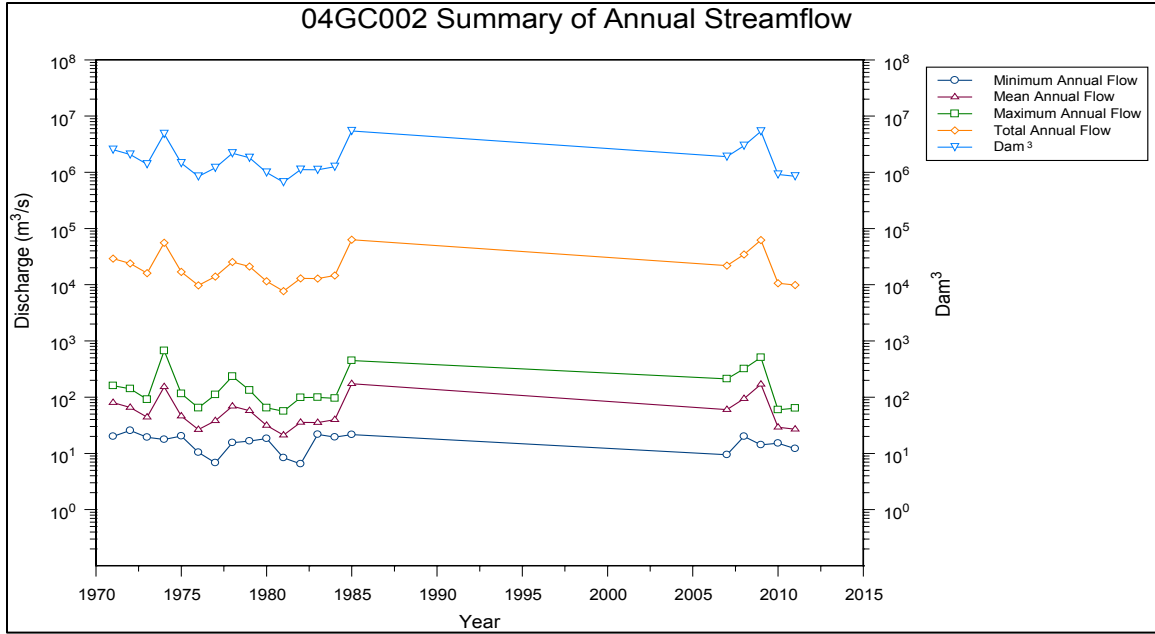
2. ALBANY RIVER BELOW ACHAPI LAKE: 04GC002



04GC002 ALBANY RIVER BELOW ACHAPI LAKE

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 20 Years (1971-2011)
- Sample Size n: 7305
- Mean Annual Flow: 64.83 cms
- Standard Deviation: 83.38 cms
- Minimum Streamflow: 6.48 cms
- Lower Quartile Q_1 : 22.6 cms
- Median Streamflow: 37.6 cms
- Upper Quartile Q_3 : 68.2 cms
- Maximum Streamflow: 674 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 19-Oct- 01-May
 - No of Ice Days (Min–Median –Max): 110 -146 -172 days



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	160.00	147.00	140.00	137.00	184.00	674.00	586.00	508.00	506.00	456.00	313.00	252.00	674.00
0.1	159.88	147.00	140.00	136.20	183.88	674.00	585.04	508.00	505.80	454.68	313.00	251.88	658.20
1	156.30	144.90	138.30	92.15	176.30	663.00	518.10	495.20	492.00	404.40	311.00	244.60	453.00
5	144.00	124.00	95.00	89.05	149.50	243.00	388.00	359.50	410.00	315.50	206.50	170.00	251.00
10	78.15	64.45	43.30	63.55	105.00	132.00	357.00	274.00	258.00	167.00	93.65	67.05	133.00
15	34.65	27.05	23.10	52.85	96.45	119.00	311.00	225.00	202.50	118.00	81.60	52.85	94.05
20	30.30	25.90	22.10	45.45	90.20	107.00	212.00	203.00	110.50	81.30	74.95	47.05	79.40
25	28.95	24.85	21.90	34.90	86.35	91.40	101.50	105.50	80.70	69.55	67.75	38.95	68.20
30	28.00	24.00	21.40	29.30	82.30	81.75	89.00	81.70	74.35	59.60	51.65	34.90	58.00
35	27.35	23.10	20.75	25.75	77.45	77.00	79.35	75.85	65.85	53.65	45.15	33.30	50.40
40	26.60	22.60	20.30	23.70	70.30	72.95	68.45	65.65	58.60	49.85	42.05	32.25	45.30
45	25.60	22.05	20.00	22.35	65.95	69.70	58.90	51.30	53.30	47.60	40.80	31.10	40.70
50	24.90	21.60	19.80	21.80	62.10	63.50	54.80	47.55	48.45	46.15	39.40	30.30	37.65
55	24.30	21.10	19.60	21.50	58.60	60.10	51.35	42.80	44.50	43.85	37.90	29.50	34.50
60	23.60	20.80	18.95	20.55	56.40	54.60	48.80	39.50	42.40	41.60	37.25	28.90	30.60
65	22.80	20.05	18.20	20.10	53.90	46.10	46.45	37.70	39.50	40.20	36.20	28.00	27.20
70	21.90	18.80	16.80	19.55	51.70	40.95	42.90	34.70	36.90	38.45	35.25	26.70	24.60
75	19.70	16.55	15.05	18.10	48.80	39.40	38.55	32.15	33.85	36.80	33.75	25.30	22.60
80	16.80	14.55	14.00	16.60	46.25	38.10	33.35	27.20	29.70	34.70	31.15	22.55	21.10
85	13.25	12.35	11.90	15.35	41.90	36.50	29.30	24.80	24.80	28.10	25.40	17.90	19.70
90	10.60	8.96	9.54	14.40	39.45	35.15	25.90	21.10	21.25	22.30	19.20	12.75	16.10
91	9.79	7.99	9.49	14.30	39.00	34.85	25.70	20.90	20.55	21.83	18.45	12.53	15.25
92	9.30	7.80	8.43	13.95	38.60	34.80	25.31	20.71	20.10	21.60	17.60	12.31	14.50
93	8.86	7.58	7.25	13.55	36.89	34.45	24.50	20.50	19.65	21.20	16.40	11.78	13.90
94	8.49	7.39	7.10	13.05	34.57	33.95	24.00	20.27	19.10	20.28	15.40	11.30	13.15
95	8.17	7.12	7.00	12.50	29.65	33.60	23.45	19.95	16.50	16.05	14.15	10.85	12.35
96	7.87	6.88	6.91	11.90	25.09	33.00	22.80	19.03	13.75	12.60	13.25	10.50	11.00
97	7.56	6.77	6.85	11.40	23.81	31.95	22.31	18.81	13.50	12.50	13.10	9.96	9.91
98	7.32	6.68	6.64	10.95	23.04	30.85	22.00	18.09	13.05	12.40	12.90	9.29	8.49
99	7.13	6.62	6.51	10.65	21.67	29.55	21.77	16.02	12.60	12.37	12.50	8.77	7.14
99.9	7.00	6.56	6.48	10.30	16.21	27.15	21.21	14.71	12.01	11.74	11.61	8.36	6.52
99.99	7.00	6.56	6.48	10.30	16.20	27.10	21.20	14.70	12.00	11.70	11.60	8.35	6.48

04GC002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.741
10:90 Ratio	8.260
Sqrt(Q ₂₅ /Q ₇₅)	1.737

04GC002: Parameters from Flow Duration Curves

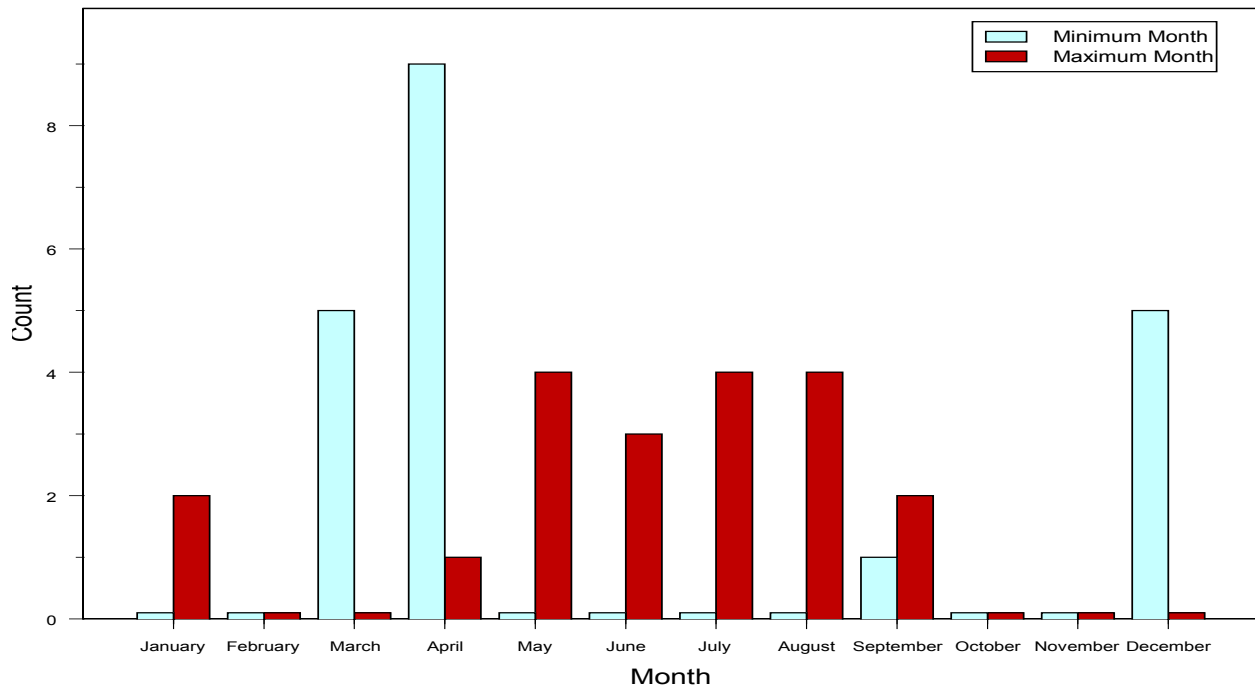
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	115	43	560.468 (15.316)	83.610 (8.166)	-0.175 (0.035)	0.011
Low Flow	-23	96	-6.489 (0.231)	0.898 (0.097)	-0.515 (0.031)	0.019

04GC002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

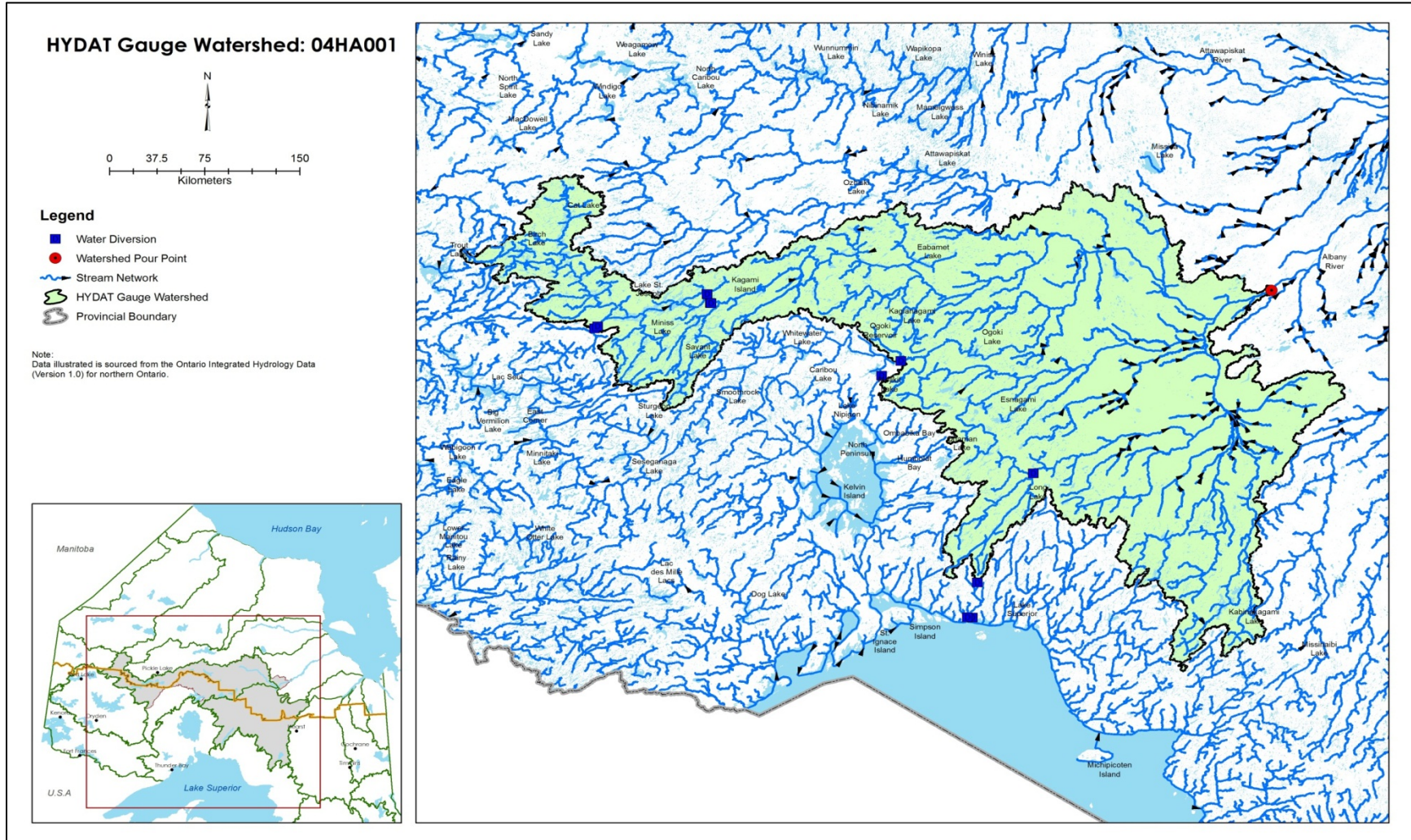
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	116.00	267.00	463.00	755.00	1340.00	1980.00	2840.00	4420.00
7 Day Low Flow	16.980	12.120	9.282	6.805	3.927	1.988	Not Applicable	Not Applicable

04GC002: Flood and Low Flow Estimates

04GC002 Summary of flood and low flow events by month



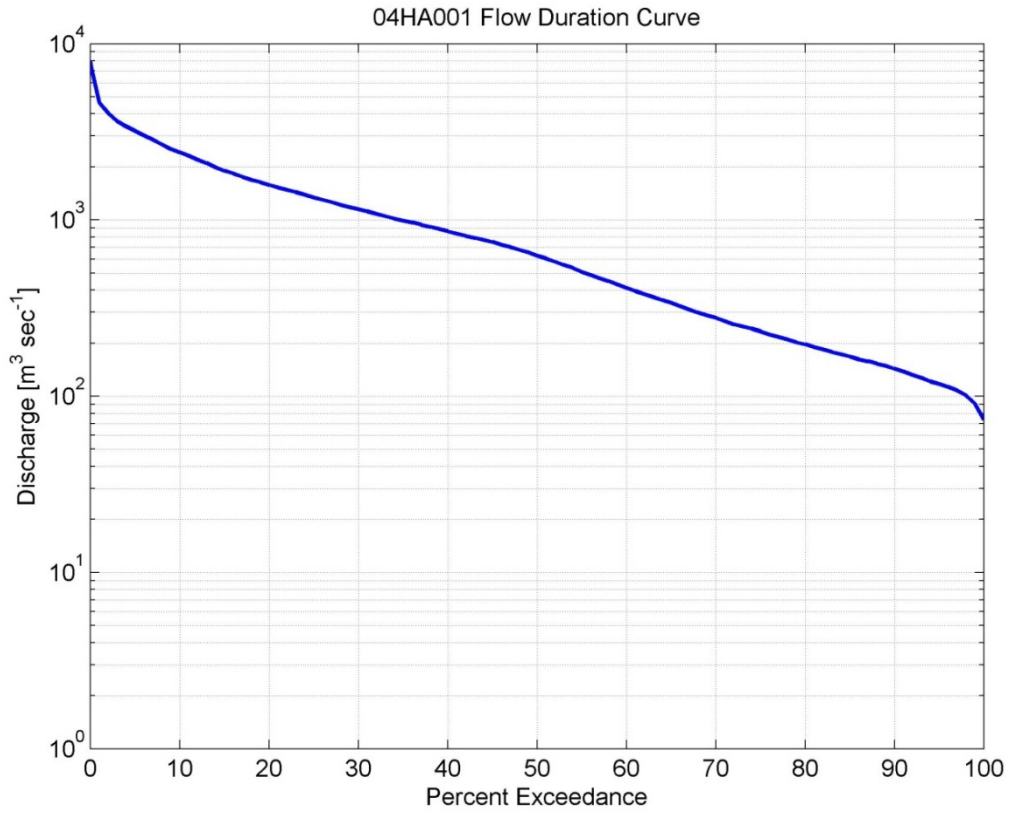
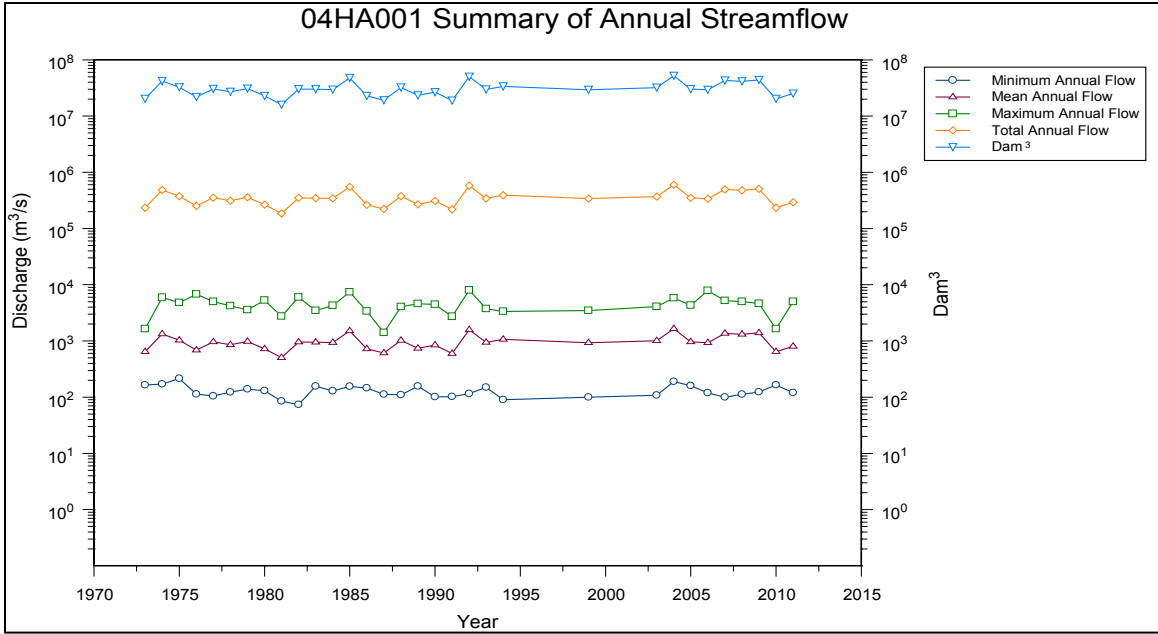
3. ALBANY RIVER NEAR HAT ISLAND: 04HA001



04HA001 ALBANY RIVER NEAR HAT ISLAND

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 32 Years (1972-2011)
- Sample Size n: 11687
- Mean: 984.15 cms
- Standard Deviation: 1036.81 cms
- Minimum Streamflow: 74 cms
- Lower Quartile Q_1 : 232 cms
- Median Streamflow: 626 cms
- Upper Quartile Q_3 : 1340 cms
- Maximum Streamflow: 8010 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 30-Oct- 17-May
 - No of Ice Days (Min–Median –Max): 136 -170 -198 days



%Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	710.00	389.00	459.00	7870.00	8010.00	5270.00	4050.00	3120.00	4070.00	3990.00	4930.00	1610.00	7984.74
0.1	700.78	388.63	458.08	7818.40	7991.56	5244.20	4017.73	3083.12	4027.00	3920.85	4921.40	1582.34	7405.55
1	610.00	366.20	414.67	6460.00	7110.40	4638.00	3157.80	2816.70	3586.00	3643.40	4242.00	1308.90	4613.50
5	487.90	275.00	228.90	3980.00	5189.00	3510.00	2600.00	2114.50	2500.00	2924.50	2160.00	1000.00	3200.00
10	424.40	258.00	201.00	2585.00	4288.00	3025.00	2248.00	1740.00	2015.00	2408.00	1700.00	822.00	2430.00
15	375.35	239.00	190.00	1930.00	4020.00	2530.00	1973.50	1483.50	1660.00	1950.00	1530.00	736.75	1920.00
20	347.00	220.00	181.00	1475.00	3723.00	2350.00	1720.00	1240.00	1485.00	1760.00	1400.00	675.00	1590.00
25	320.00	211.00	171.00	1210.00	3502.50	2130.00	1542.50	1110.00	1320.00	1590.00	1250.00	620.00	1350.00
30	301.20	204.00	165.00	900.00	3340.00	1875.00	1432.00	1022.00	1210.00	1440.00	1120.00	570.00	1150.00
35	286.00	199.00	159.00	680.00	3230.00	1750.00	1301.50	938.15	1130.00	1300.00	1030.00	525.00	1010.00
40	272.00	193.00	153.00	495.00	3100.00	1650.00	1211.00	869.10	1060.00	1200.00	970.00	485.50	879.00
45	255.00	188.00	149.00	365.00	2960.00	1550.00	1120.00	802.05	938.00	1120.00	906.00	450.00	763.00
50	240.00	180.00	142.00	300.00	2800.00	1460.00	1040.00	757.00	812.50	1030.00	840.00	416.00	643.00
55	228.00	172.10	137.00	244.00	2650.00	1370.00	956.80	693.00	767.00	971.95	796.00	384.85	519.25
60	219.00	162.00	132.00	210.00	2499.00	1280.00	879.80	614.70	694.00	923.90	740.00	350.00	418.50
65	208.00	152.00	125.00	180.00	2330.00	1180.00	797.00	554.70	583.00	866.55	660.00	322.55	340.00
70	195.00	145.00	119.00	170.00	2140.00	1110.00	742.00	500.60	468.50	797.60	587.50	292.00	275.00
75	184.00	137.00	117.00	159.00	1997.50	1030.00	684.50	455.75	374.00	679.25	505.00	262.00	230.25
80	171.00	128.00	113.00	150.00	1847.00	952.00	619.00	390.70	320.50	602.40	441.00	246.00	195.00
85	158.00	113.70	109.00	137.00	1670.00	881.00	513.65	336.30	275.00	493.25	382.00	234.65	167.00
90	131.60	107.00	103.00	123.50	1390.00	777.50	445.00	287.60	229.50	399.60	323.00	217.00	143.00
91	126.00	106.00	102.00	120.00	1329.90	744.20	432.96	282.99	211.80	391.00	292.00	212.00	137.00
92	122.00	106.00	101.00	118.00	1233.80	705.70	414.14	269.00	204.00	382.00	277.80	206.38	132.00
93	119.00	105.00	101.00	117.00	1125.40	679.20	385.39	251.77	172.20	373.77	268.60	178.54	126.00
94	116.00	101.58	98.00	116.00	1021.60	653.30	365.00	237.00	159.50	362.00	262.00	160.48	120.00
95	114.00	99.00	96.21	113.00	966.30	627.00	347.55	222.10	149.00	346.10	257.00	142.55	117.00
96	111.00	92.61	94.47	111.00	906.94	598.50	333.00	209.94	139.00	329.94	200.10	131.88	113.00
97	84.07	79.20	82.33	108.00	822.65	569.80	318.66	187.99	124.40	160.65	164.20	98.33	107.00
98	81.97	77.90	75.77	95.05	777.04	539.20	297.72	165.00	121.00	126.44	140.60	92.00	101.00
99	80.00	76.75	74.32	93.92	684.09	449.60	282.00	156.11	103.40	103.22	113.80	89.00	90.00
99.9	79.35	76.00	74.00	85.54	486.20	367.31	263.77	134.92	91.43	85.18	101.43	86.00	74.66
99.99	79.30	76.00	74.00	85.20	459.00	360.00	261.00	134.00	91.00	85.00	101.00	86.00	74.00

04HA001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.619
10:90 Ratio	16.993
Sqrt(Q ₂₅ /Q ₇₅)	2.421

04HA001:Parameters from Flow Duration Curves

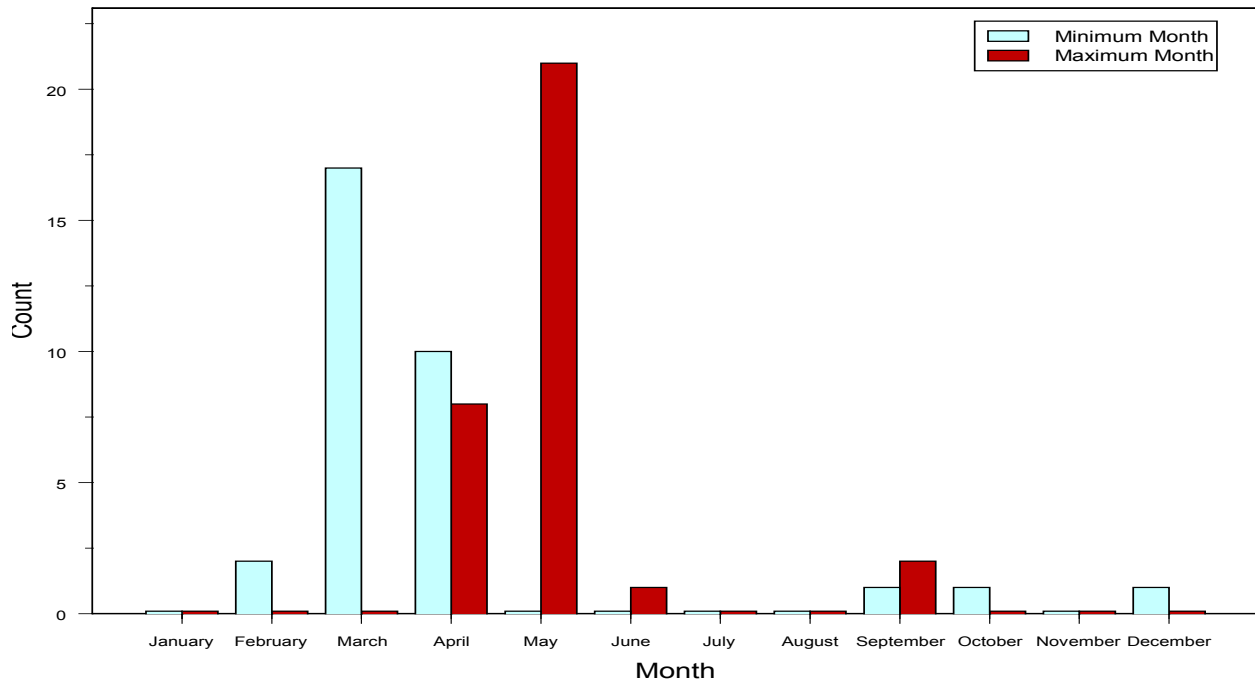
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	1400	86	5921.844 (112.954)	857.496 (51.997)	-0.073 (0.017)	0.026
Low Flow	-160	48.97	-146.147 (NaN)	48.644 (NaN)	-0.665 (0.013)	0.025

04HA001:Flood/Low Flow Descriptive Indices above/below a Threshold Value

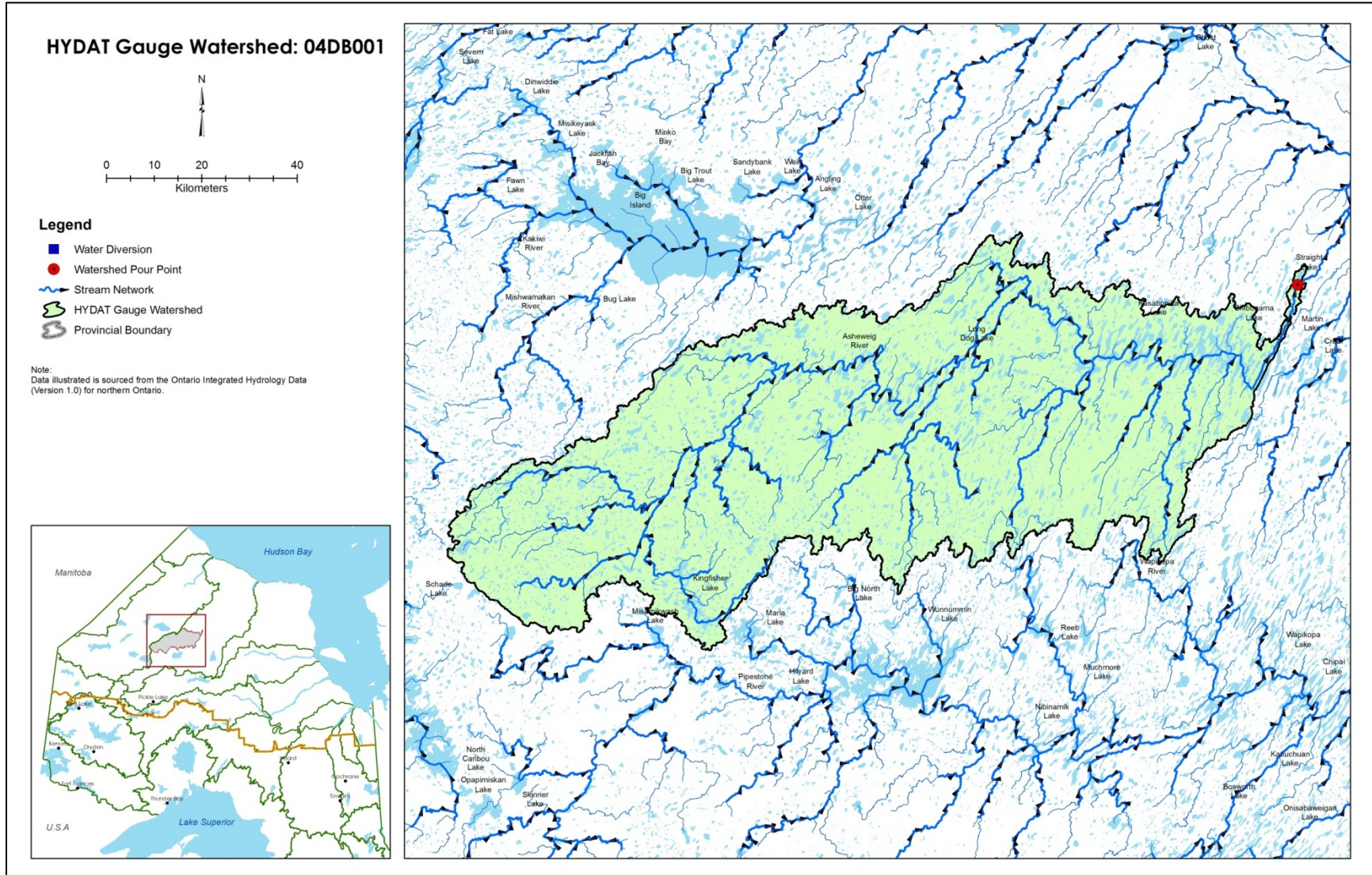
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	4540.00	5840.0	6610.0	7310.0	8160.0	8760.0	9350.0	10100.0
7 Day Low Flow	128.400	99.940	89.500	83.130	78.140	75.880	Not Applicable	Not Applicable

04HA001:Flood and Low Flow Estimates

04HA001 Summary of flood and low flow events by month



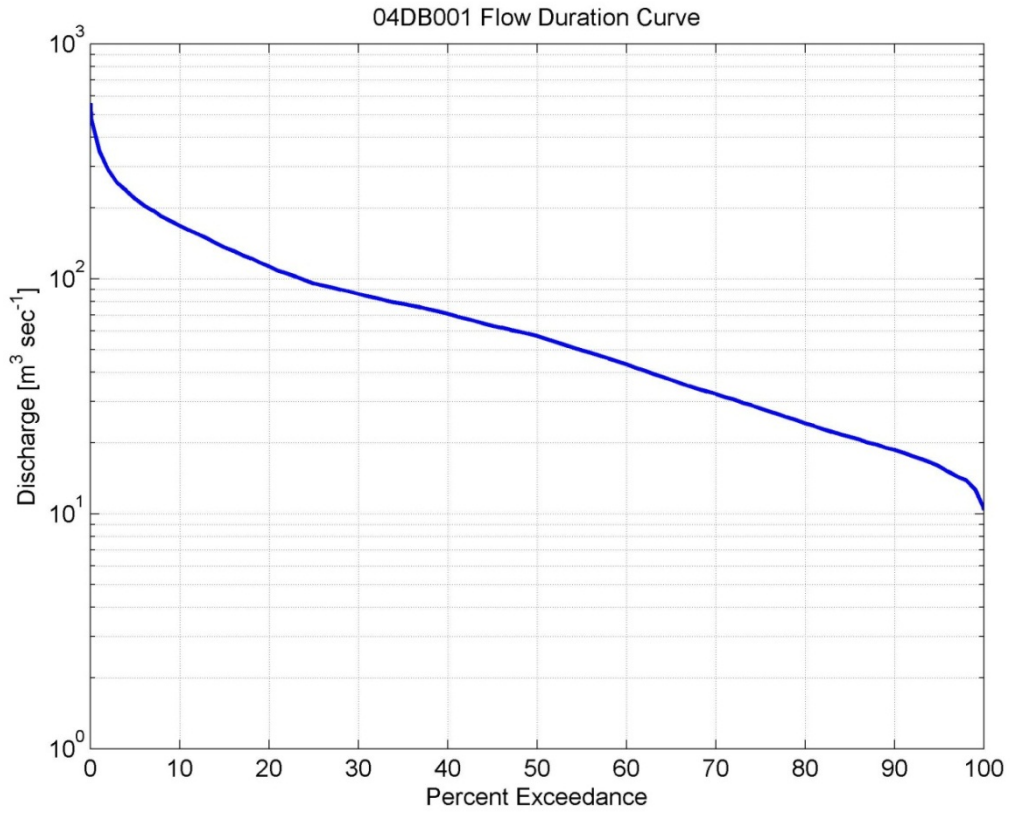
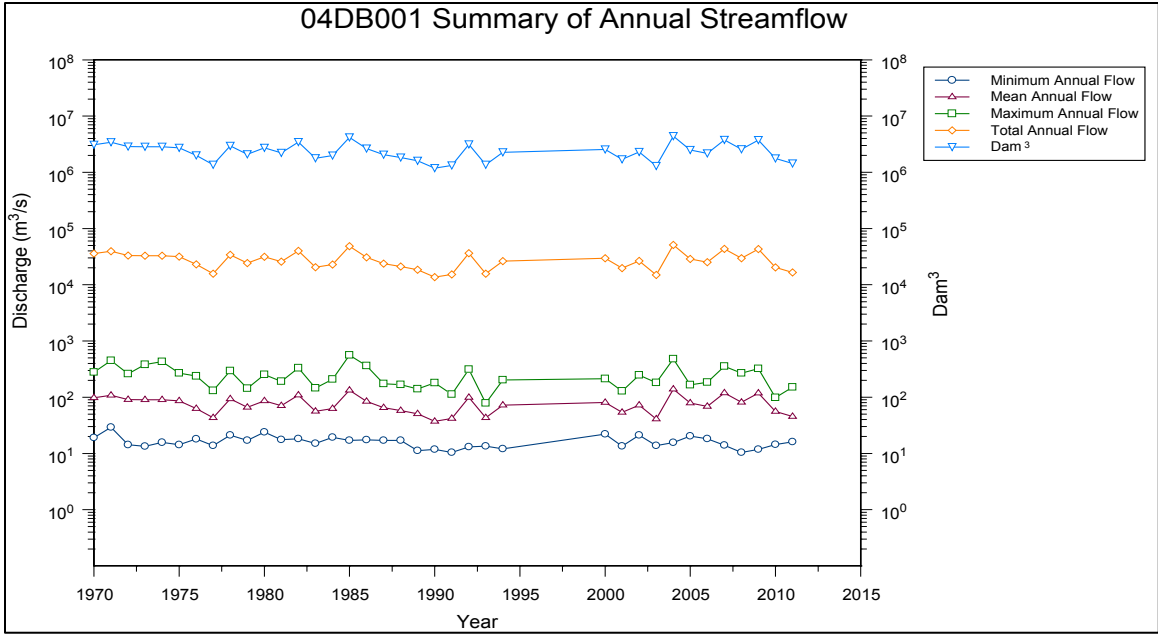
4. ASHEWEIG RIVER AT STRAIGHT LAKE: 04DB001



04DB001 ASHEWEIG RIVER AT STRAIGHT LAKE

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 37 Years (1970-2011)
- Sample Size n: 13514
- Mean: 77.06 cms
- Standard Deviation: 69.85 cms
- Minimum Streamflow: 10.4 cms
- Lower Quartile Q_1 : 28 cms
- Median Streamflow: 56.9 cms
- Upper Quartile Q_3 : 95.5 cms
- Maximum Streamflow: 558 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 06-Oct- 24-May
 - No of Ice Days (Min–Median –Max): 44 -157 -192 days



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	86.00	53.50	38.50	180.00	558.00	441.00	413.00	306.00	477.00	478.00	295.00	143.00	555.45
0.1	85.03	53.50	38.31	170.85	556.06	439.17	407.82	304.71	473.95	478.00	286.46	141.06	478.00
1	74.53	49.86	35.71	73.06	498.21	419.00	352.06	268.00	316.60	407.21	248.00	126.06	350.45
5	64.50	43.21	30.13	32.00	320.00	340.00	269.60	197.00	179.00	258.00	182.00	104.00	219.00
10	58.50	39.99	27.30	28.90	246.00	258.00	210.00	159.80	136.00	196.20	144.00	90.24	168.00
15	55.00	37.21	25.80	23.50	204.00	239.00	184.45	137.00	119.00	152.00	123.00	83.50	136.00
20	52.01	35.00	24.81	22.10	170.10	223.00	166.00	123.00	108.00	126.00	107.00	78.50	113.00
25	49.75	33.50	24.00	21.20	150.00	211.00	158.00	115.00	102.00	108.00	98.00	74.50	95.50
30	47.50	32.30	23.24	20.30	127.40	196.00	147.00	102.00	94.80	99.44	93.10	71.44	86.20
35	45.50	31.30	22.60	19.50	106.05	186.00	136.05	89.52	88.50	94.01	90.00	68.40	78.10
40	43.50	30.40	21.97	18.80	91.81	177.00	129.00	83.50	79.35	90.50	86.00	65.10	70.80
45	41.80	29.50	21.20	18.20	77.54	169.00	107.35	76.81	72.40	87.60	83.00	62.44	63.00
50	40.40	28.50	20.40	17.65	66.30	161.00	95.00	71.30	66.40	83.80	81.00	60.50	56.90
55	39.10	27.57	19.90	17.10	55.07	150.00	87.07	65.37	61.90	79.27	78.50	58.50	49.50
60	37.90	26.70	19.40	16.60	46.29	138.00	80.70	61.30	58.30	75.43	76.00	56.40	43.20
65	36.70	26.00	18.90	16.10	38.80	129.00	76.20	56.00	54.40	70.49	73.30	53.99	37.10
70	35.40	25.20	18.50	15.50	33.46	119.50	72.70	50.86	49.35	61.32	69.40	51.50	32.30
75	33.93	24.20	17.90	14.80	28.80	109.00	68.00	47.40	42.50	57.53	66.50	49.00	28.00
80	32.30	23.07	17.30	14.30	25.39	99.00	64.39	43.89	36.70	48.40	62.00	46.40	24.20
85	30.00	21.80	16.50	13.80	22.30	89.90	58.71	36.22	31.50	42.11	58.60	43.60	21.20
90	27.22	20.70	15.50	13.50	19.90	81.00	49.12	30.32	27.70	34.50	47.85	38.26	18.70
91	26.27	20.47	15.30	13.30	19.20	79.00	47.55	29.17	26.48	31.47	34.50	35.62	18.20
92	25.33	20.10	15.20	13.03	18.70	77.59	45.48	28.60	25.13	24.88	31.86	33.43	17.60
93	24.28	19.70	15.00	12.60	18.28	74.54	43.64	27.80	22.24	21.98	29.40	31.68	17.10
94	23.33	18.63	14.83	12.21	17.53	69.52	41.50	27.23	21.10	19.20	27.22	28.90	16.50
95	20.79	18.10	14.70	12.00	16.89	62.60	39.76	26.69	20.40	14.70	22.20	25.57	15.90
96	20.30	17.59	14.50	11.80	15.94	52.84	37.81	25.74	16.97	14.40	18.29	23.58	15.10
97	19.70	17.16	14.30	11.40	15.49	40.98	35.60	24.30	15.80	14.08	15.18	22.00	14.40
98	19.20	16.70	14.00	11.20	14.30	35.01	33.30	23.80	14.57	12.00	14.10	21.60	13.90
99	18.70	16.19	13.50	10.70	13.39	34.16	31.30	19.38	12.86	11.90	13.78	21.30	12.70
99.9	17.76	15.55	11.96	10.40	11.73	32.45	26.93	17.33	12.02	11.80	12.46	20.69	10.70
99.99	17.70	15.50	11.90	10.40	11.60	31.90	26.80	17.20	11.90	11.80	12.40	20.50	10.40

04DB001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.719
10:90 Ratio	8.983
Sqrt(Q ₂₅ /Q ₇₅)	1.846

04DB001: Parameters from Flow Duration Curves

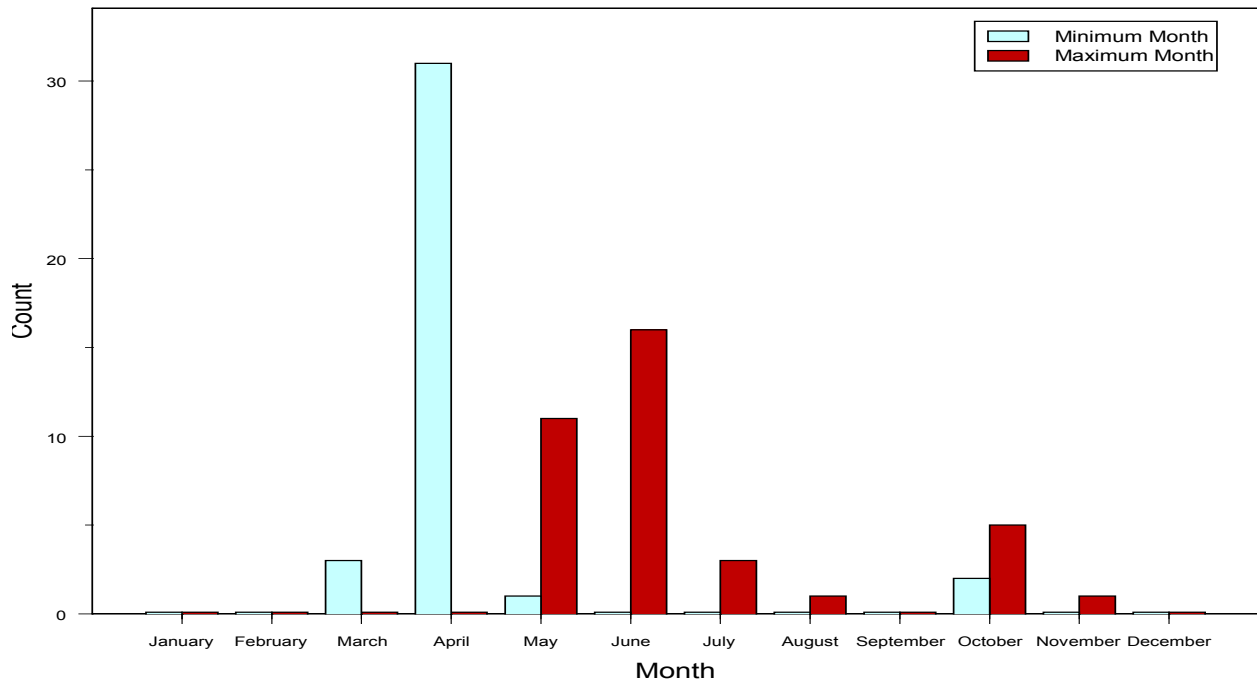
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	112	73	426.089 (8.380)	64.869 (4.156)	-0.054 (0.018)	0.024
Low Flow	-20	46	-11.342 (0.065)	0.623 (0.027)	-0.573 (0.017)	0.029

04DB001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	238.00	344.00	414.00	481.00	569.00	634.00	701.00	790.00
7 Day Low Flow	15.370	12.640	11.710	11.170	10.770	10.600	Not Applicable	Not Applicable

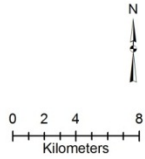
04DB001: Flood and Low Flow Estimates

04DB001 Summary of flood and low flow events by month



5. ATIKOKAN RIVER AT ATIKOKAN: 05PB018

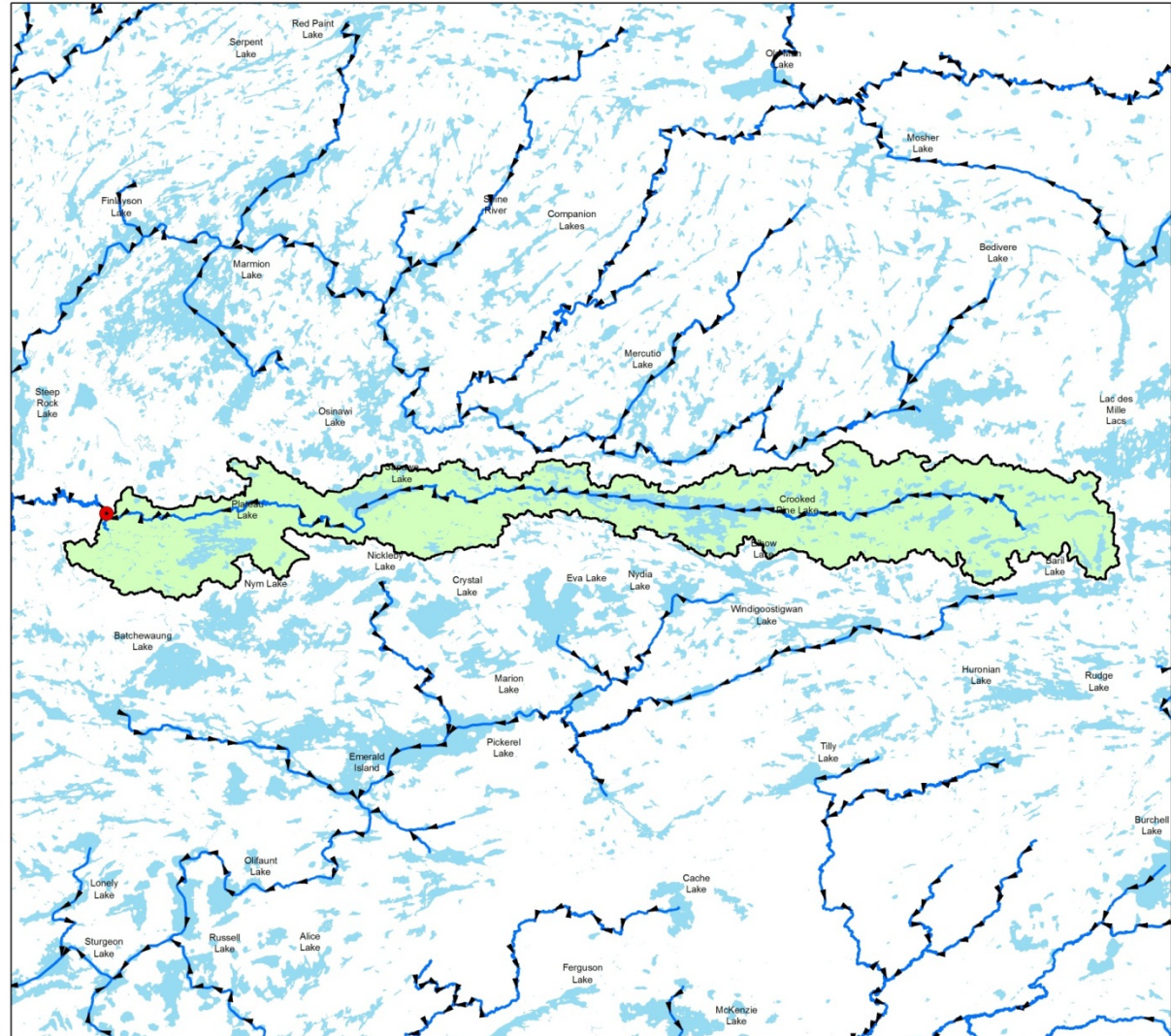
HYDAT Gauge Watershed: 05PB018



Legend

- Water Diversion
- Watershed Pour Point
- Stream Network
- HYDAT Gauge Watershed
- Provincial Boundary

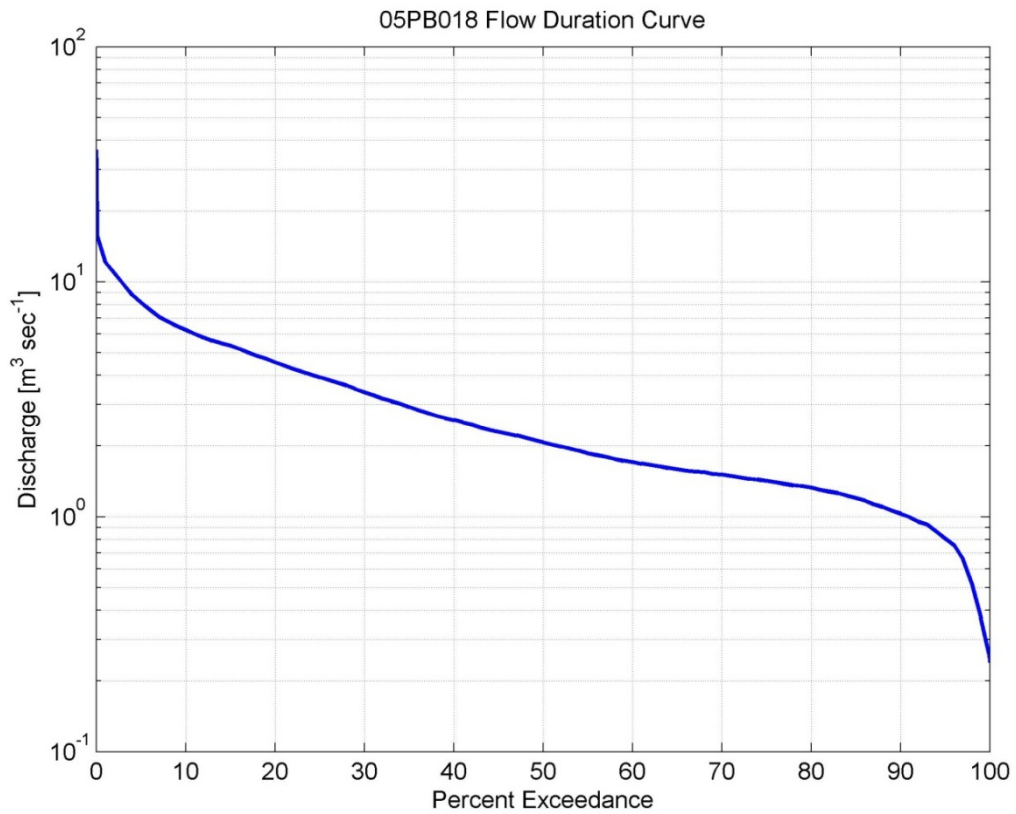
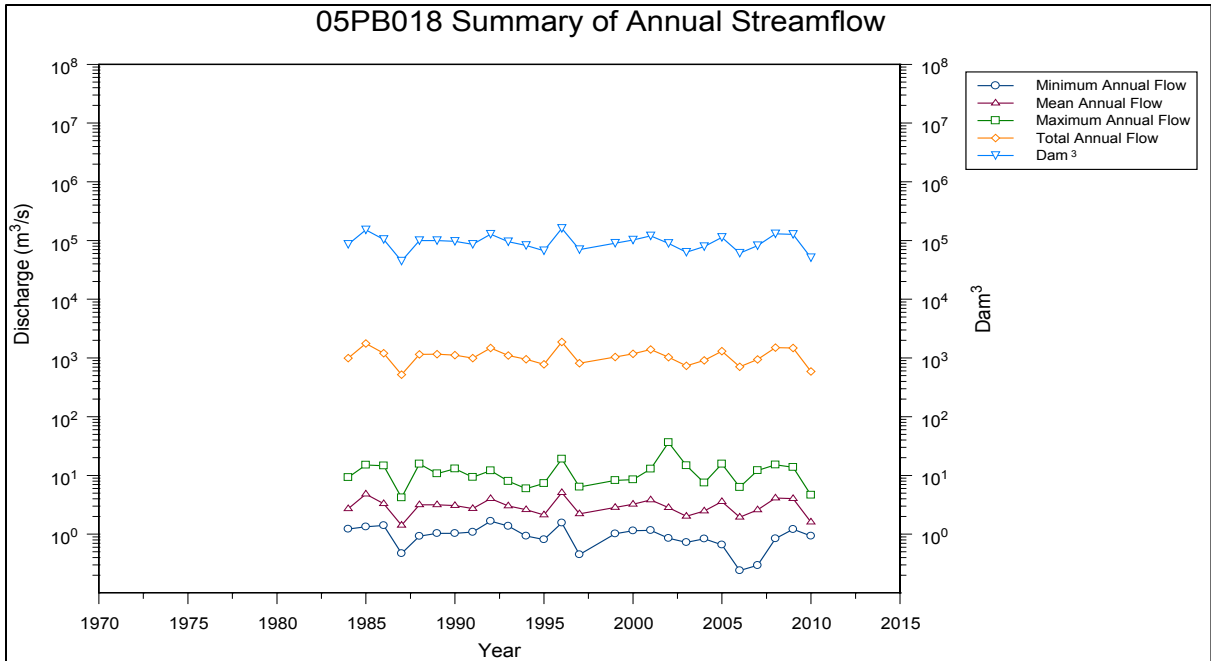
Note:
Data illustrated is sourced from the Ontario Integrated Hydrology Data
(Version 1.0) for northern Ontario.



05PB018 ATIKOKAN RIVER AT ATIKOKAN

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 26 Years (1984-2010)
- Sample Size n: 9497
- Mean Annual Flow: 3.021 cms
- Standard Deviation: 2.494 cms
- Minimum Streamflow: 0.24 cms
- Lower Quartile Q_1 : 1.42 cms
- Median Streamflow: 2.07 cms
- Upper Quartile Q_3 : 3.92 cms
- Maximum Streamflow: 36.5 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 25 Oct- 23 April
 - No of Ice Days (Min–Median –Max): 97 -136 -158 days



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	3.670	2.380	4.630	13.800	15.700	36.500	19.100	15.700	12.100	14.100	10.900	6.590	31.202
0.1	3.655	2.375	4.517	13.716	15.700	33.196	19.069	14.721	11.848	13.947	10.676	6.544	15.700
1	3.208	2.244	2.989	11.340	14.544	15.270	11.588	10.544	10.310	11.700	8.505	5.597	12.100
5	2.730	2.020	2.222	8.990	12.520	11.500	7.632	5.940	7.585	8.624	6.730	4.002	8.150
10	2.500	1.937	1.860	7.370	11.200	8.450	6.646	5.250	4.880	5.167	5.515	3.410	6.230
15	2.320	1.810	1.740	6.320	9.916	7.130	5.746	4.760	3.850	4.130	4.135	3.220	5.340
20	2.243	1.710	1.670	5.980	8.792	6.625	5.173	4.353	3.320	3.486	3.625	3.000	4.540
25	2.150	1.675	1.600	5.620	7.990	6.155	4.770	3.940	2.815	2.970	3.260	2.760	3.920
30	2.070	1.590	1.510	5.250	7.074	5.710	4.470	3.611	2.600	2.687	3.100	2.547	3.380
35	1.980	1.540	1.480	4.745	6.550	5.425	4.230	3.160	2.395	2.514	2.890	2.390	2.930
40	1.840	1.453	1.440	4.185	6.181	5.220	4.070	2.802	2.160	2.292	2.690	2.260	2.580
45	1.738	1.410	1.390	3.695	5.748	4.940	3.900	2.588	2.005	2.060	2.490	2.160	2.300
50	1.600	1.400	1.350	3.200	5.510	4.665	3.725	2.335	1.860	1.910	2.235	1.815	2.070
55	1.560	1.370	1.300	2.780	5.320	4.400	3.480	2.122	1.740	1.770	2.040	1.692	1.860
60	1.520	1.350	1.270	2.600	4.918	4.130	3.209	1.918	1.640	1.680	1.925	1.609	1.710
65	1.490	1.330	1.240	2.395	4.446	3.810	2.990	1.756	1.530	1.626	1.750	1.560	1.590
70	1.460	1.290	1.200	2.155	3.963	3.475	2.630	1.600	1.420	1.550	1.600	1.540	1.510
75	1.410	1.240	1.150	1.805	3.460	2.630	2.300	1.450	1.210	1.460	1.530	1.490	1.420
80	1.340	1.140	1.070	1.660	2.610	2.100	1.964	1.317	0.998	1.370	1.400	1.210	1.330
85	1.030	1.050	1.004	1.450	1.910	1.710	1.608	1.174	0.911	1.280	1.290	1.094	1.200
90	0.992	0.929	0.937	1.190	1.500	1.445	1.361	0.979	0.836	1.161	1.160	0.931	1.030
91	0.971	0.929	0.930	1.150	1.430	1.400	1.320	0.947	0.787	1.100	1.110	0.890	0.998
92	0.950	0.922	0.922	1.130	1.390	1.350	1.290	0.917	0.689	0.693	1.079	0.870	0.951
93	0.822	0.776	0.773	1.080	1.350	1.250	1.159	0.881	0.630	0.649	1.021	0.852	0.925
94	0.802	0.769	0.755	1.020	1.329	1.170	1.080	0.870	0.602	0.616	0.941	0.809	0.866
95	0.799	0.760	0.745	0.950	1.226	1.105	1.000	0.857	0.577	0.595	0.873	0.779	0.806
96	0.782	0.749	0.738	0.924	1.150	1.044	0.932	0.841	0.535	0.565	0.795	0.744	0.754
97	0.559	0.413	0.421	0.793	1.074	0.985	0.825	0.833	0.515	0.384	0.381	0.337	0.659
98	0.518	0.394	0.328	0.741	0.960	0.824	0.749	0.771	0.494	0.363	0.355	0.270	0.515
99	0.479	0.381	0.309	0.701	0.762	0.667	0.590	0.727	0.458	0.335	0.332	0.258	0.370
99.9	0.413	0.344	0.296	0.625	0.717	0.508	0.474	0.639	0.429	0.295	0.296	0.242	0.260
99.99	0.400	0.342	0.296	0.603	0.713	0.495	0.470	0.629	0.426	0.290	0.293	0.240	0.242

05PB018: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.721
10:90 Ratio	6.048
Sqrt(Q ₂₅ /Q ₇₅)	1.661

05PB018: Parameters from Flow Duration Curves

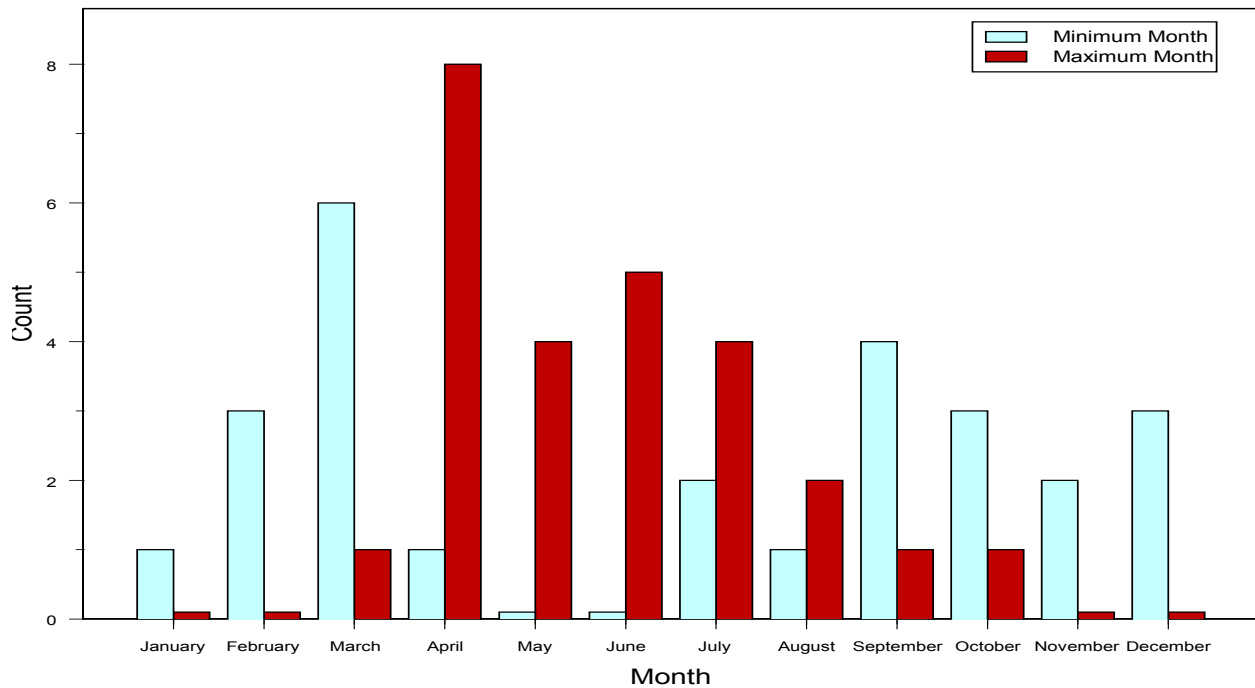
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	3.89	92	15.436 (0.341)	2.457 (0.159)	-0.016 (0.017)	0.025
Low Flow	-1.5	107	-0.300 (0.020)	0.099 (0.009)	-0.361 (0.026)	0.018

05PB018: Flood/Low Flow Descriptive Indices above/below a Threshold Value

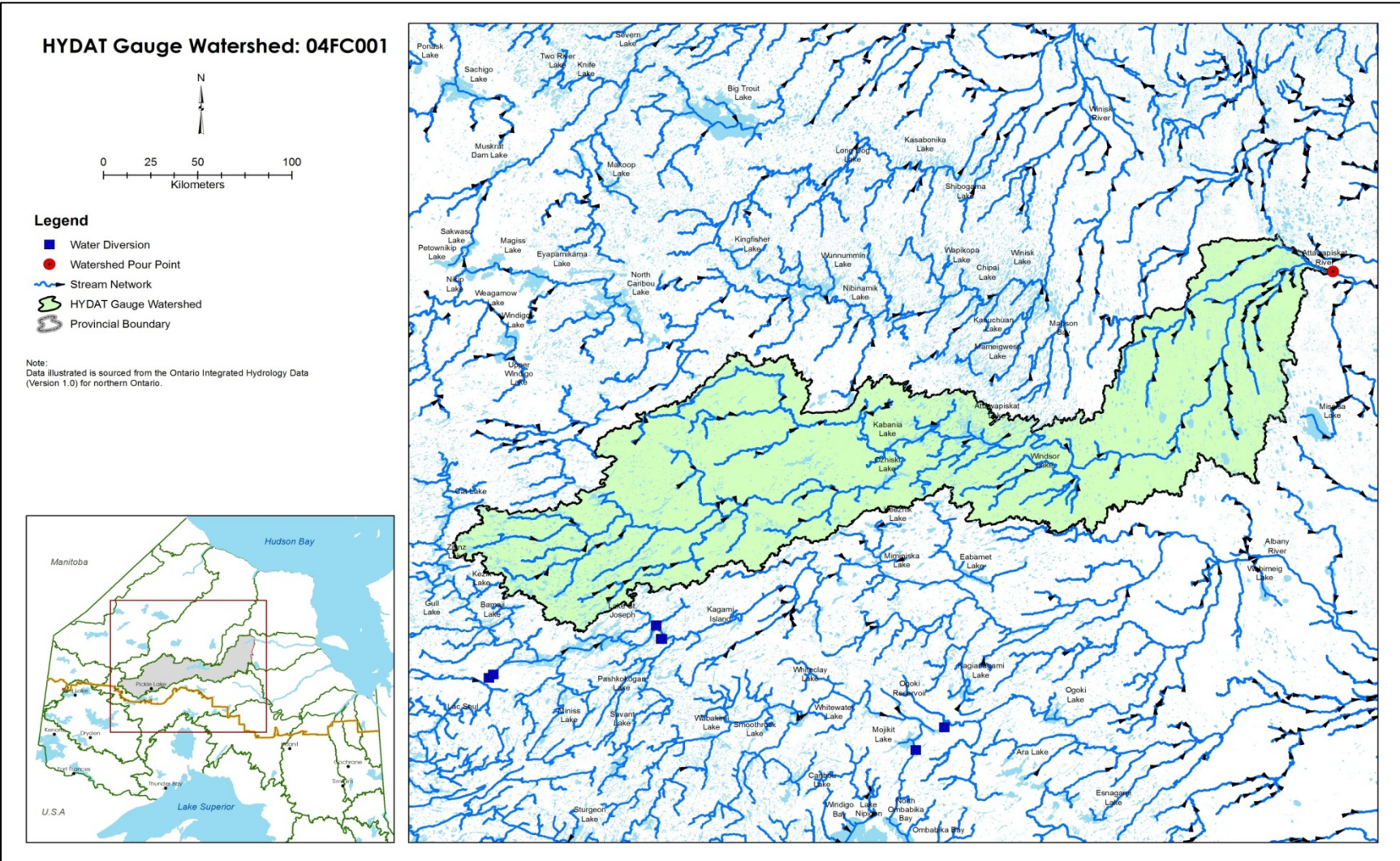
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	11.00	17.30	21.80	26.30	32.50	37.40	42.60	49.70
7 Day Low Flow	1.012	0.698	0.530	0.393	0.245	0.153	Not Applicable	Not Applicable

05PB018: Flood and Low Flow Estimates

05PB018 Summary of flood and low flow events by month



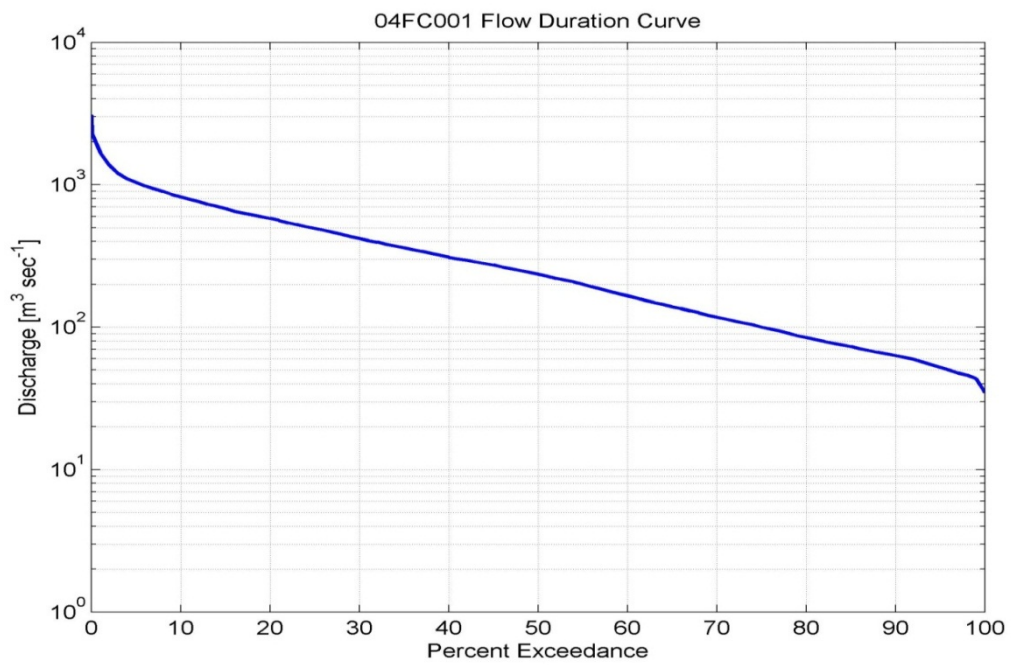
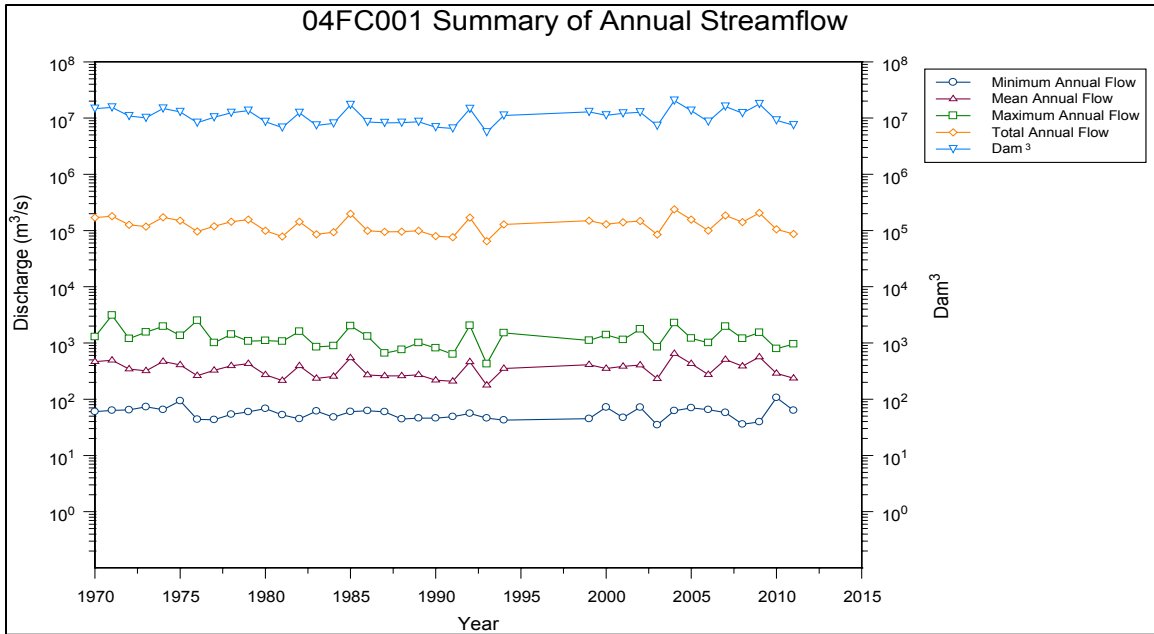
6. ATTAWAPISKAT RIVER BELOW MUKETEI RIVER: 04FC001



04FC001 ATTAWAPISKAT RIVER BELOW MUKETEI RIVER

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 38 Years (1970-2011)
- Sample Size n: 13879
- Mean Annual Flow: 353.27 cms
- Standard Deviation: 347.73 cms
- Minimum Streamflow: 34.8 cms
- Lower Quartile Q_1 : 100 cms
- Median Streamflow: 235 cms
- Upper Quartile Q_3 : 492.5 cms
- Maximum Streamflow: 3110 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 19 Oct- 23 May
 - No of Ice Days (Min–Median –Max): 158 -184 -211 days



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	270.00	176.00	123.00	1210.00	3110.00	1970.00	1340.00	1350.00	1820.00	1970.00	1370.00	655.00	3041.96
0.1	270.00	174.93	122.35	1203.90	3058.24	1957.80	1320.59	1350.00	1820.00	1970.00	1333.40	645.30	2270.00
1	251.03	155.28	115.03	978.00	2320.00	1854.00	1220.30	1250.00	1624.00	1682.10	1014.00	540.24	1700.00
5	209.15	128.00	101.00	470.00	1901.50	1490.00	993.30	951.00	969.00	1141.50	792.00	416.15	1050.00
10	181.80	115.00	82.94	287.00	1508.00	1185.00	850.00	749.60	860.00	912.60	675.50	357.60	828.00
15	165.00	108.00	78.50	187.00	1300.00	1060.00	773.90	605.00	759.00	731.00	619.00	309.45	688.00
20	155.00	102.00	75.90	138.50	1130.00	979.00	705.00	530.00	652.00	657.00	565.50	280.00	583.00
25	147.00	97.00	74.20	118.00	1040.00	892.00	631.50	490.00	587.00	610.50	493.00	258.75	497.00
30	139.00	93.41	72.00	97.25	968.80	805.50	565.40	465.00	512.00	573.00	433.00	242.00	425.00
35	132.00	90.00	70.00	86.00	886.00	756.00	523.00	414.05	474.00	540.00	385.00	227.00	365.00
40	126.00	87.20	67.77	77.90	829.00	711.50	493.00	366.00	432.00	486.10	360.00	212.00	314.00
45	120.00	85.00	65.50	72.50	788.70	664.00	451.70	337.35	394.00	422.00	339.00	200.00	276.00
50	115.00	82.00	63.80	68.00	746.00	623.00	418.00	300.00	344.00	400.00	318.50	189.00	238.00
55	110.00	78.20	61.27	65.80	680.00	566.00	377.00	276.65	297.00	378.00	300.00	179.00	203.00
60	104.30	74.18	58.50	64.50	620.00	516.50	341.30	249.30	265.00	347.30	282.00	170.00	168.00
65	99.10	68.50	55.00	62.00	577.00	475.00	307.00	220.00	234.00	320.00	267.00	160.00	139.00
70	93.46	64.50	52.50	60.00	504.00	439.00	292.60	205.00	191.00	300.00	250.00	150.00	117.00
75	86.00	61.50	49.33	56.60	434.50	409.00	271.00	182.00	152.00	283.00	234.00	142.00	100.00
80	80.00	58.00	47.00	53.80	363.80	376.00	248.90	166.00	126.00	255.00	221.00	134.00	83.95
85	74.50	53.78	46.00	50.00	314.00	329.00	227.00	152.00	111.00	206.55	208.00	126.00	72.50
90	68.56	51.00	45.02	46.65	235.60	301.00	214.00	135.00	103.50	146.00	187.00	114.00	62.70
91	67.15	50.50	45.00	46.00	220.00	296.00	211.73	133.00	100.00	137.00	180.40	111.73	61.00
92	65.36	50.00	44.80	45.26	182.78	289.30	208.26	130.00	97.63	133.26	175.00	108.00	59.00
93	63.66	49.50	44.70	43.72	163.16	277.00	204.00	125.79	95.24	120.00	169.20	105.00	56.60
94	62.33	49.00	44.50	42.91	140.64	267.00	200.32	120.32	90.91	111.32	162.10	101.00	54.00
95	60.86	48.50	44.20	41.70	123.40	259.00	193.85	116.70	86.90	106.00	154.00	95.93	52.00
96	59.44	48.00	43.60	40.00	110.00	251.80	183.76	112.00	83.89	105.00	146.90	91.69	49.60
97	57.20	47.36	43.06	38.28	97.70	236.60	176.82	107.00	81.60	103.00	139.80	81.82	47.50
98	55.80	46.42	37.34	37.20	83.94	216.70	168.00	101.00	79.72	99.10	87.11	57.16	45.70
99	53.99	41.56	36.19	36.20	69.75	177.60	133.88	94.83	77.56	83.86	74.14	49.58	43.60
99.9	51.32	38.77	35.06	34.86	49.59	126.61	104.65	81.41	73.53	76.69	64.49	44.29	35.50
99.99	51.00	38.50	35.00	34.80	47.00	126.00	104.00	80.50	73.10	76.30	64.00	43.90	34.89

4FC001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.662
10:90 Ratio	13.205
Sqrt(Q ₂₅ /Q ₇₅)	2.229

04FC001: Parameters from Flow Duration Curves

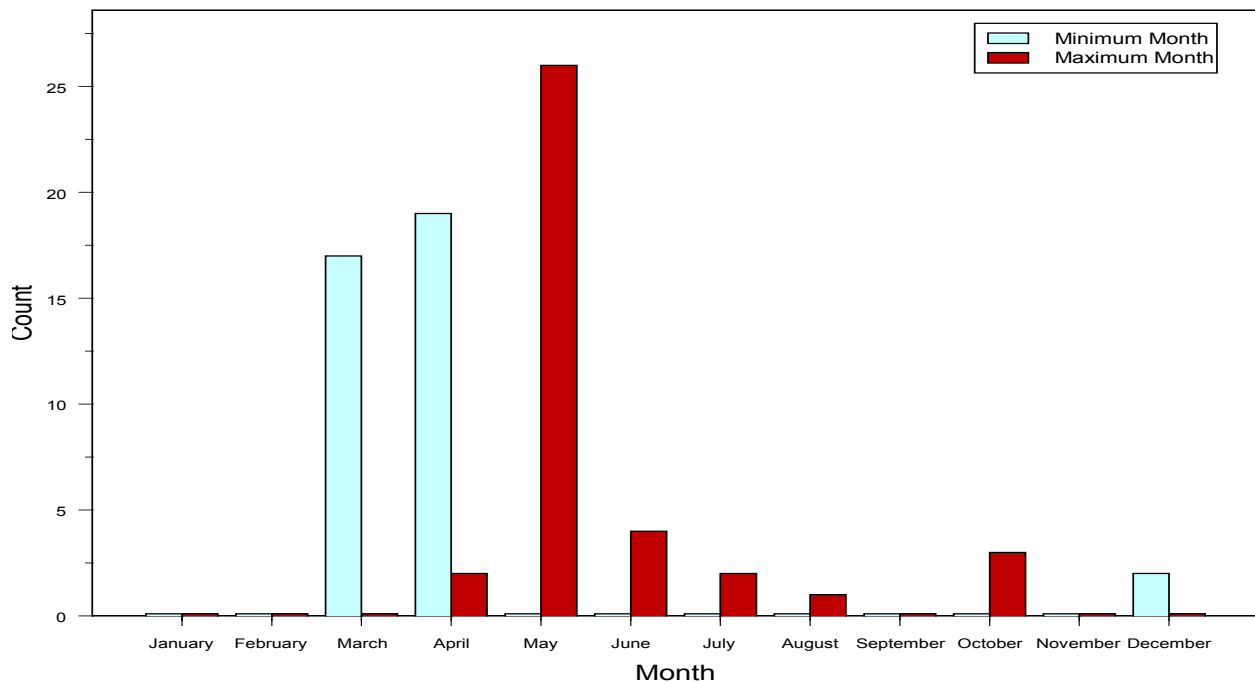
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	412	112	2013.563 (36.790)	306.055 (16.580)	-0.043 (0.014)	0.021
Low Flow	-50	15	-38.189 (0.291)	2.383 (0.168)	-0.419 (0.044)	0.031

04FC001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1270.00	1800.00	2170.00	2520.00	2980.00	3330.00	3680.00	4160.00
7 Day Low Flow	55.030	44.550	40.690	38.330	36.470	35.630	Not Applicable	Not Applicable

04FC001: Flood and Low Flow Estimates

04FC001 Summary of flood and low flow events by month



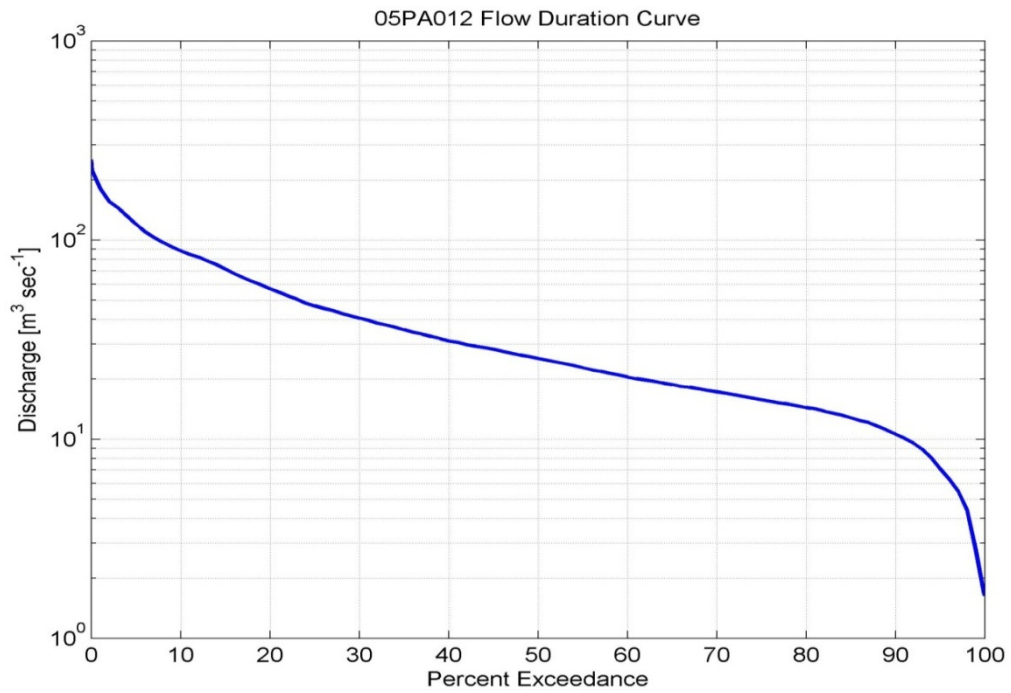
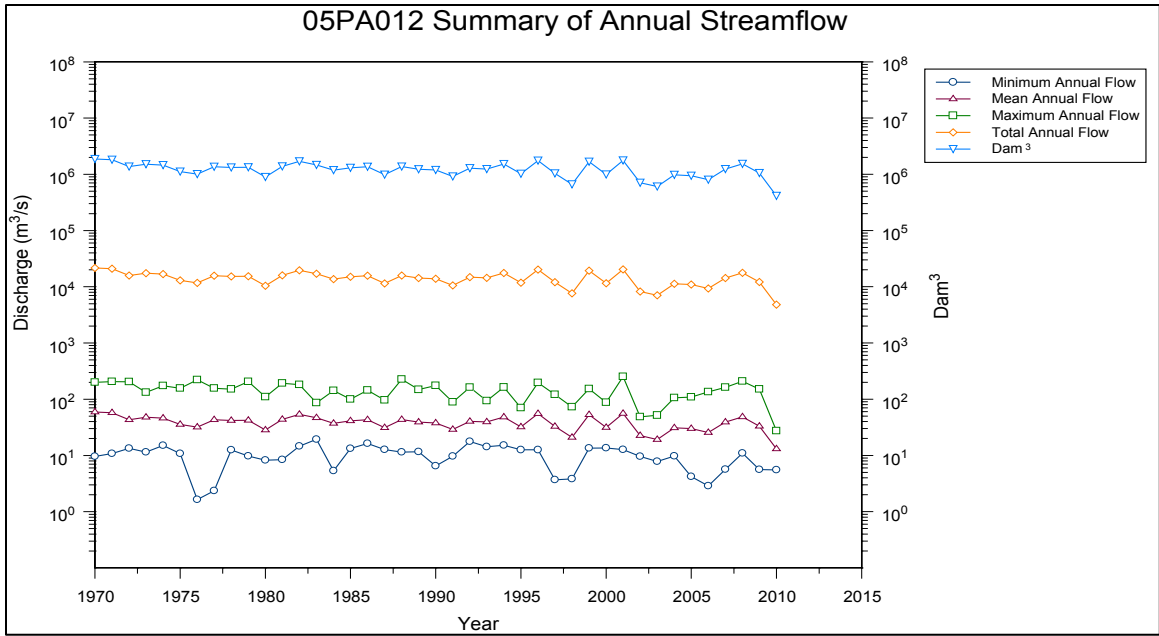
7. BASSWOOD RIVER NEAR WINTON: 05PA012

Note: Watershed not delineated

05PA012 BASSWOOD RIVER NEAR WINTON

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 41 Years (1970-2010)
- Sample Size n: 14975
- Mean Annual Flow: 38.890cms
- Standard Deviation: 36.813cms
- Minimum Streamflow: 1.64cms
- Lower Quartile Q_1 : 15.8cms
- Median Streamflow: 25.4cms
- Upper Quartile Q_3 : 46.7cms
- Maximum Streamflow: 253cms
- Ice Condition
 - Earliest Start Date – Latest End Date : NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	46.40	34.50	30.90	222.00	253.00	200.00	153.00	217.00	226.00	162.00	145.00	96.00	253.00
0.1	45.78	34.18	30.67	221.27	253.00	199.27	152.23	214.69	225.27	162.00	142.08	96.00	222.54
1	43.30	32.60	29.64	162.40	218.58	182.00	136.37	104.00	155.80	156.00	127.20	87.91	180.85
5	39.59	29.40	25.80	92.90	194.00	149.00	98.00	74.99	84.10	117.00	95.40	60.30	120.00
10	36.80	28.30	23.94	70.65	176.80	125.00	85.62	60.30	53.35	80.74	77.00	49.74	88.10
15	34.59	26.20	22.10	57.00	159.00	106.00	75.00	49.30	43.90	60.00	58.60	45.00	71.40
20	31.70	23.40	21.20	46.20	148.00	95.85	66.36	43.00	39.60	46.88	47.45	40.50	56.90
25	29.20	21.20	20.20	41.20	138.00	90.30	60.60	38.80	35.40	37.90	40.20	37.10	46.70
30	26.70	19.50	19.50	37.10	129.00	85.20	55.80	34.30	32.00	33.40	35.70	34.34	40.50
35	25.10	18.50	18.47	33.10	118.00	82.40	51.80	30.53	26.30	30.30	32.20	32.00	35.40
40	23.50	18.00	17.70	30.30	110.00	77.90	48.40	27.70	22.45	26.80	30.00	29.70	31.10
45	22.30	17.50	16.90	28.30	103.00	72.80	45.90	25.40	20.10	22.70	28.00	26.90	28.30
50	20.90	17.00	16.40	26.60	95.10	67.40	43.60	22.60	16.90	20.70	25.90	25.80	25.40
55	19.70	16.40	15.80	25.20	87.80	64.00	41.60	20.65	15.40	19.15	22.70	24.60	22.80
60	18.60	15.90	15.40	24.10	81.57	58.45	39.40	19.10	13.70	15.59	20.35	20.79	20.50
65	18.00	15.50	15.10	22.60	74.67	53.50	36.24	17.90	12.60	13.24	17.80	18.70	18.80
70	17.40	14.90	14.70	20.70	65.34	49.30	32.60	16.48	11.80	11.60	16.30	17.58	17.30
75	16.43	14.20	14.40	19.40	55.30	44.70	29.70	15.13	11.00	10.40	14.60	15.90	15.80
80	14.20	13.30	13.87	18.30	46.70	39.05	26.90	14.10	10.10	8.42	12.70	14.00	14.40
85	12.82	12.00	13.12	17.00	30.35	34.00	23.00	12.60	8.52	6.31	11.90	12.62	12.80
90	10.60	9.62	11.50	15.50	24.90	27.50	20.30	10.40	6.29	5.17	8.26	11.70	10.60
91	10.50	9.52	11.00	14.90	22.65	26.40	19.68	9.79	5.96	4.93	7.45	11.60	10.10
92	10.20	9.38	10.70	14.10	18.77	24.88	18.82	9.35	5.68	4.74	6.74	11.40	9.53
93	9.40	8.60	9.80	13.66	15.14	23.80	17.65	8.91	5.46	4.60	6.05	10.20	8.88
94	9.29	8.08	8.55	13.13	14.20	21.68	16.48	8.69	5.24	4.24	5.67	9.76	8.07
95	8.89	7.99	8.16	11.90	13.60	19.70	15.20	8.50	4.96	3.96	4.50	9.27	7.08
96	7.00	6.50	7.27	9.62	12.23	19.10	14.13	8.20	4.63	3.78	3.24	5.01	6.31
97	6.66	6.40	5.96	8.68	9.56	18.80	12.99	7.63	4.50	3.48	3.01	3.84	5.48
98	2.49	2.75	4.58	8.30	6.71	16.40	11.89	7.31	4.25	1.95	1.76	2.29	4.41
99	2.44	2.66	3.68	7.55	6.23	14.50	11.02	6.86	3.08	1.78	1.67	2.18	2.75
99.9	2.35	2.57	2.86	6.36	5.85	7.56	9.72	5.96	2.10	1.67	1.64	1.84	1.67
99.99	2.35	2.55	2.86	6.26	5.83	7.39	9.66	5.72	2.10	1.67	1.64	1.84	1.64

05PA012: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.691
10:90 Ratio	8.311
Sqrt(Q ₂₅ /Q ₇₅)	1.719

05PA012: Parameters from Flow Duration Curves

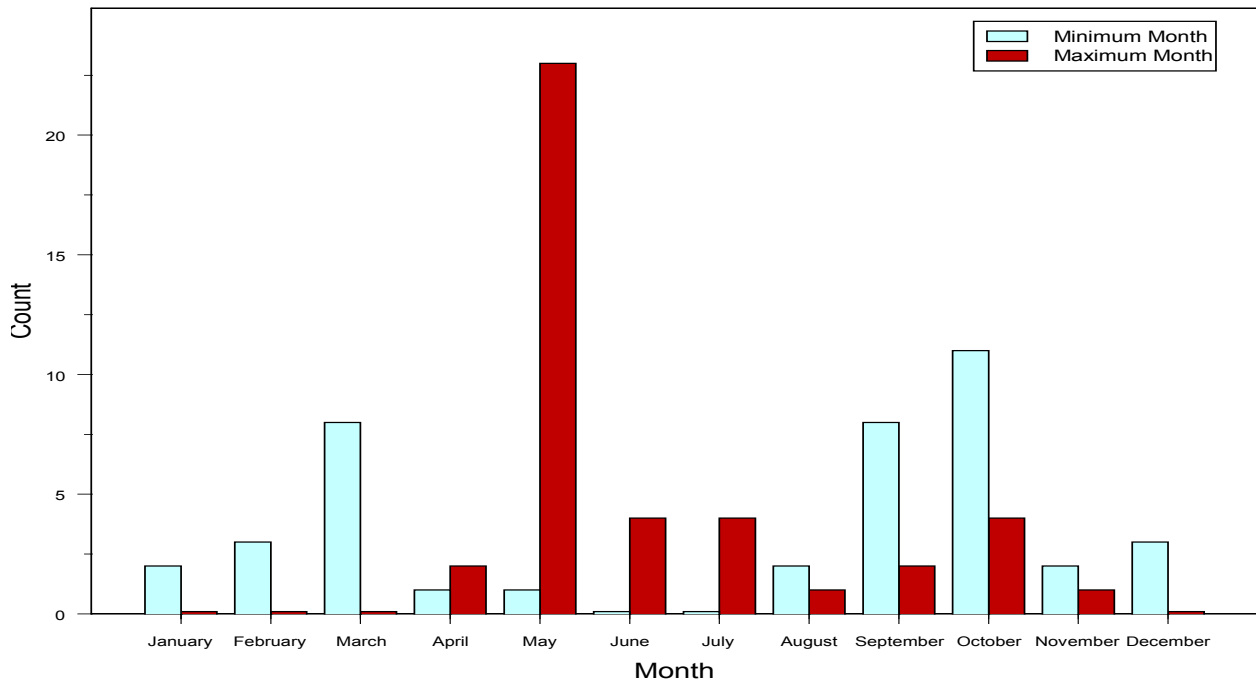
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	47	90	209.755 (3.149)	24.159 (1.379)	-0.168 (0.016)	0.023
Low Flow	-14.5	74	-2.088 (0.097)	0.726 (0.045)	-0.542 (0.019)	0.016

05PA012: Flood/Low Flow Descriptive Indices above/below a Threshold

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	143.00	213.00	262.00	310.00	374.00	424.00	475.00	545.00
7 Day Low Flow	10.390	6.643	4.863	3.542	2.256	1.531	Not Applicable	Not Applicable

05PA012: Flood and Low Flow Estimates

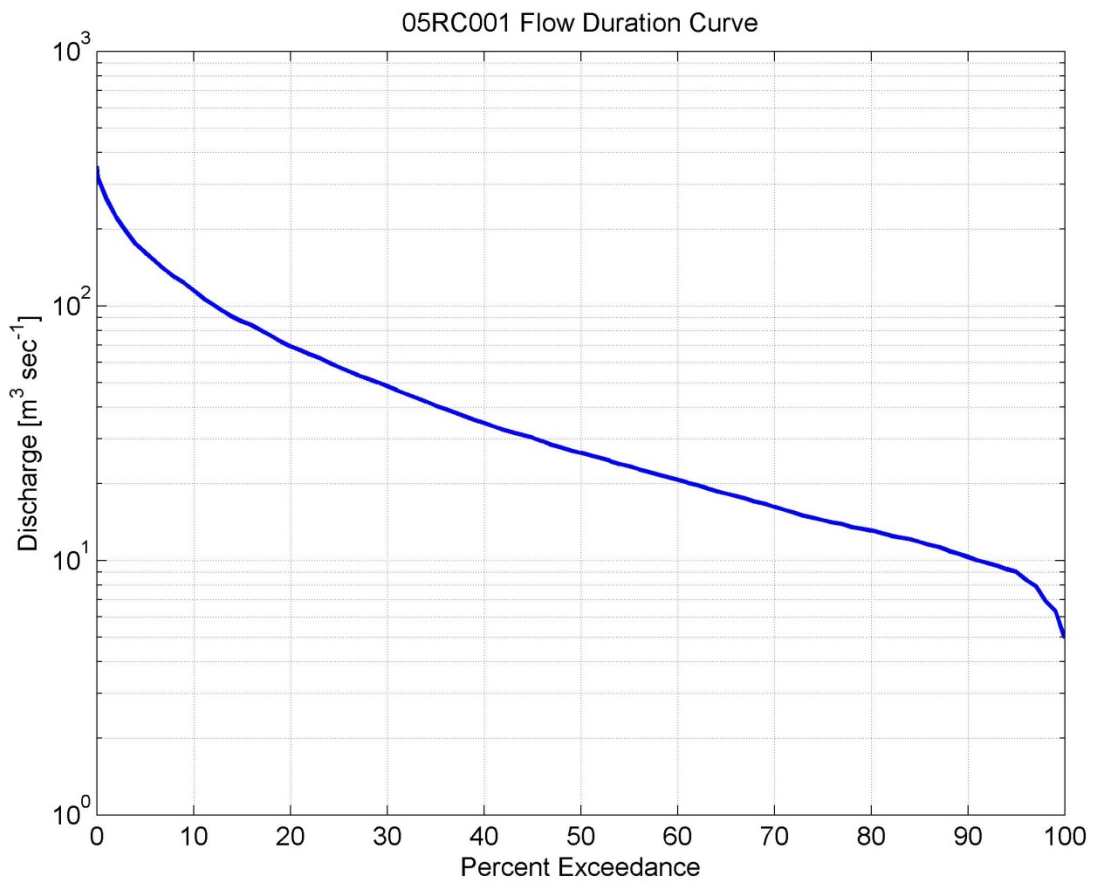
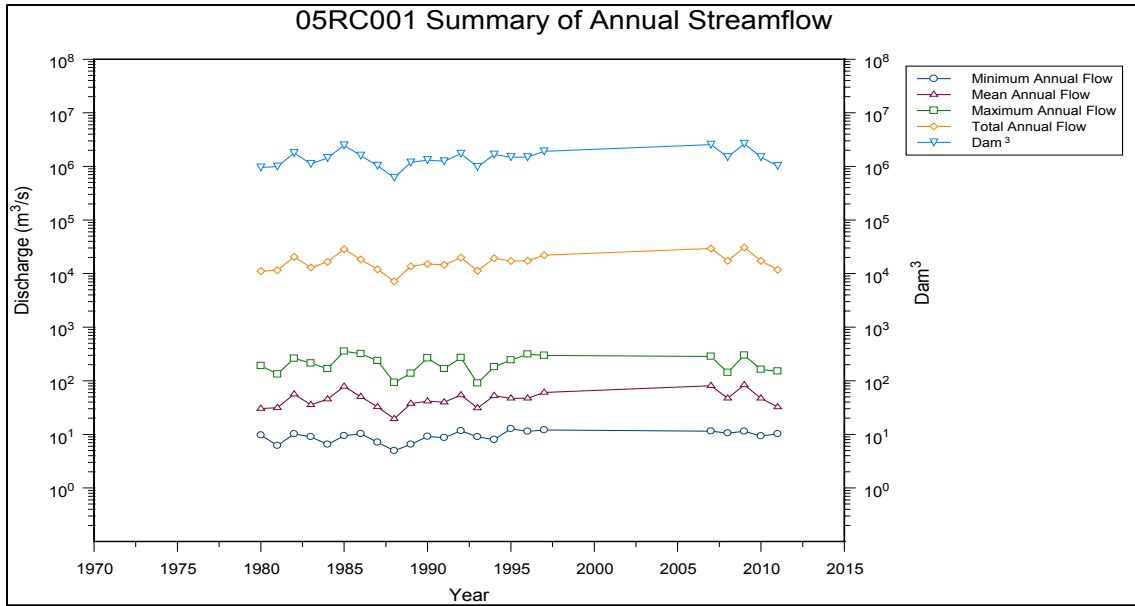
05PA012 Summary of flood and low flow events by month



BERENS RIVER ABOVE BERENS LAKE: 05RC001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 23 Years (1980-2011)
- Sample Size n: 8401
- Mean Annual Flow: 47.08 cms
- Standard Deviation: 52.13 cms
- Minimum Streamflow: 4.97 cms
- Lower Quartile Q_1 : 14.4 cms
- Median Streamflow: 26.4 cms
- Upper Quartile Q_3 : 57.4 cms
- Maximum Streamflow: 354 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 09 Oct – 06 May
 - No of Ice Days (Min–Median –Max): 123 – 150 -123 days



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	32.50	19.10	15.70	294.00	320.00	354.00	353.00	300.00	241.00	202.00	137.00	75.50	353.66
0.1	32.35	19.09	15.70	289.06	319.57	351.72	351.51	299.57	240.05	199.87	137.00	74.84	318.00
1	28.72	18.51	15.50	257.00	297.37	273.80	248.81	286.00	213.00	158.74	116.60	61.30	261.55
5	23.59	17.50	14.10	176.00	272.85	184.00	175.70	215.10	111.00	122.85	83.60	40.09	162.00
10	21.72	16.80	13.60	110.50	236.20	158.50	137.20	107.80	87.60	90.68	66.20	34.90	115.00
15	20.56	16.00	13.30	67.90	206.55	139.00	103.55	86.07	73.10	76.68	59.20	32.60	86.63
20	19.80	15.40	13.00	45.25	190.80	130.00	92.50	76.63	56.95	67.10	54.10	30.70	69.30
25	19.10	15.00	12.60	31.10	171.00	121.00	82.78	65.00	51.80	58.93	49.40	28.93	57.40
30	18.50	14.60	12.30	26.00	159.60	107.00	76.00	56.60	45.15	54.06	45.95	27.40	48.30
35	17.90	14.21	11.90	22.90	144.90	97.30	70.69	48.70	34.20	47.59	43.00	26.00	40.53
40	17.30	13.90	11.50	20.40	133.00	91.50	65.89	43.80	32.50	42.03	40.05	24.80	34.60
45	16.90	13.20	10.90	18.40	122.00	85.60	62.50	40.07	31.10	39.67	37.40	23.80	30.30
50	16.40	12.75	10.40	15.85	111.00	78.05	57.70	37.30	29.05	38.10	35.30	22.80	26.40
55	15.90	12.30	10.10	14.70	99.48	70.40	52.17	33.60	26.70	34.90	32.10	21.70	23.40
60	15.30	11.90	9.76	12.85	87.03	63.60	48.78	29.84	25.30	31.90	30.50	20.50	20.70
65	14.71	11.40	9.56	12.00	71.93	58.00	44.20	24.61	23.70	28.90	28.40	19.51	18.30
70	14.20	10.90	9.25	11.50	60.74	50.05	34.36	20.30	21.30	27.44	26.90	18.54	16.20
75	13.58	10.45	9.10	11.20	53.28	44.70	30.65	15.80	19.10	25.48	25.50	17.70	14.40
80	12.70	9.90	8.70	10.35	49.42	39.15	25.42	14.40	14.55	24.22	23.25	16.60	13.10
85	11.65	9.48	8.00	9.77	44.05	34.60	23.35	13.20	13.50	21.80	21.60	14.90	11.80
90	10.50	8.55	7.29	9.26	36.78	26.05	20.18	12.38	12.75	19.06	20.00	13.20	10.30
91	10.30	8.27	7.06	9.14	36.07	24.08	19.80	12.20	12.56	18.47	19.60	12.80	10.01
92	10.05	6.96	6.92	9.03	35.80	23.17	19.45	12.10	12.20	17.95	19.07	12.30	9.76
93	9.02	6.60	6.80	8.44	35.24	22.58	19.04	11.70	11.68	16.41	18.48	12.10	9.54
94	8.27	6.35	6.63	8.14	33.93	22.20	18.70	11.43	10.88	11.33	17.48	11.90	9.24
95	7.60	6.24	6.44	7.26	32.55	21.80	18.40	10.82	9.96	10.53	16.30	11.70	9.00
96	6.92	6.03	5.58	6.66	30.41	21.10	17.80	10.20	9.76	9.56	11.30	9.51	8.36
97	6.72	5.87	5.27	6.59	28.48	20.60	17.39	9.57	9.24	9.23	10.90	8.75	7.92
98	6.51	5.71	5.17	6.55	26.93	19.62	16.90	8.72	8.81	8.23	10.60	8.08	6.92
99	6.28	5.55	5.02	6.52	25.42	17.74	16.20	7.93	8.09	8.04	10.28	7.52	6.36
99.9	6.13	5.43	4.97	6.15	21.85	15.90	14.46	7.44	7.49	7.55	9.75	7.09	5.06
99.99	6.12	5.43	4.97	6.12	21.40	15.80	14.40	7.43	7.47	7.55	9.73	7.08	4.97

05RC001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.631
10:90 Ratio	11.165
Sqrt(Q ₂₅ /Q ₇₅)	1.996

05RC001: Parameters from Flow Duration Curves

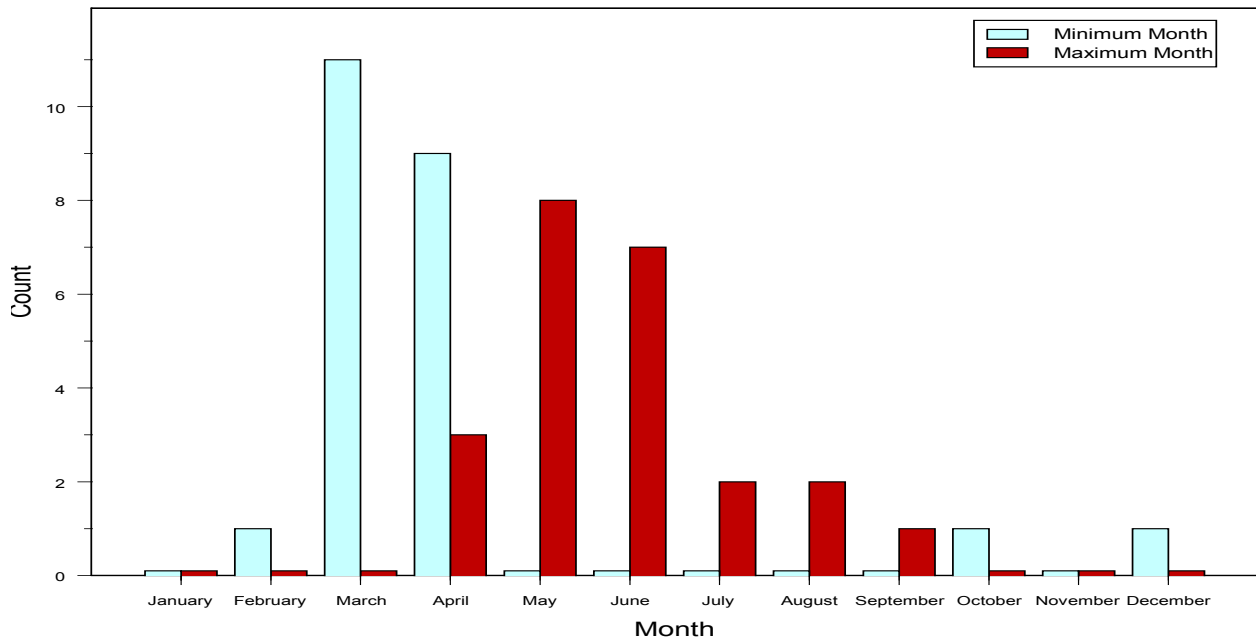
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	49	108	326.186 (10.907)	58.539 (5.574)	-0.004 (-0.025)	0.021
Low Flow	-13	71	-5.492 (0.058)	0.421 (0.025)	-0.562 (0.019)	0.030

05RC001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

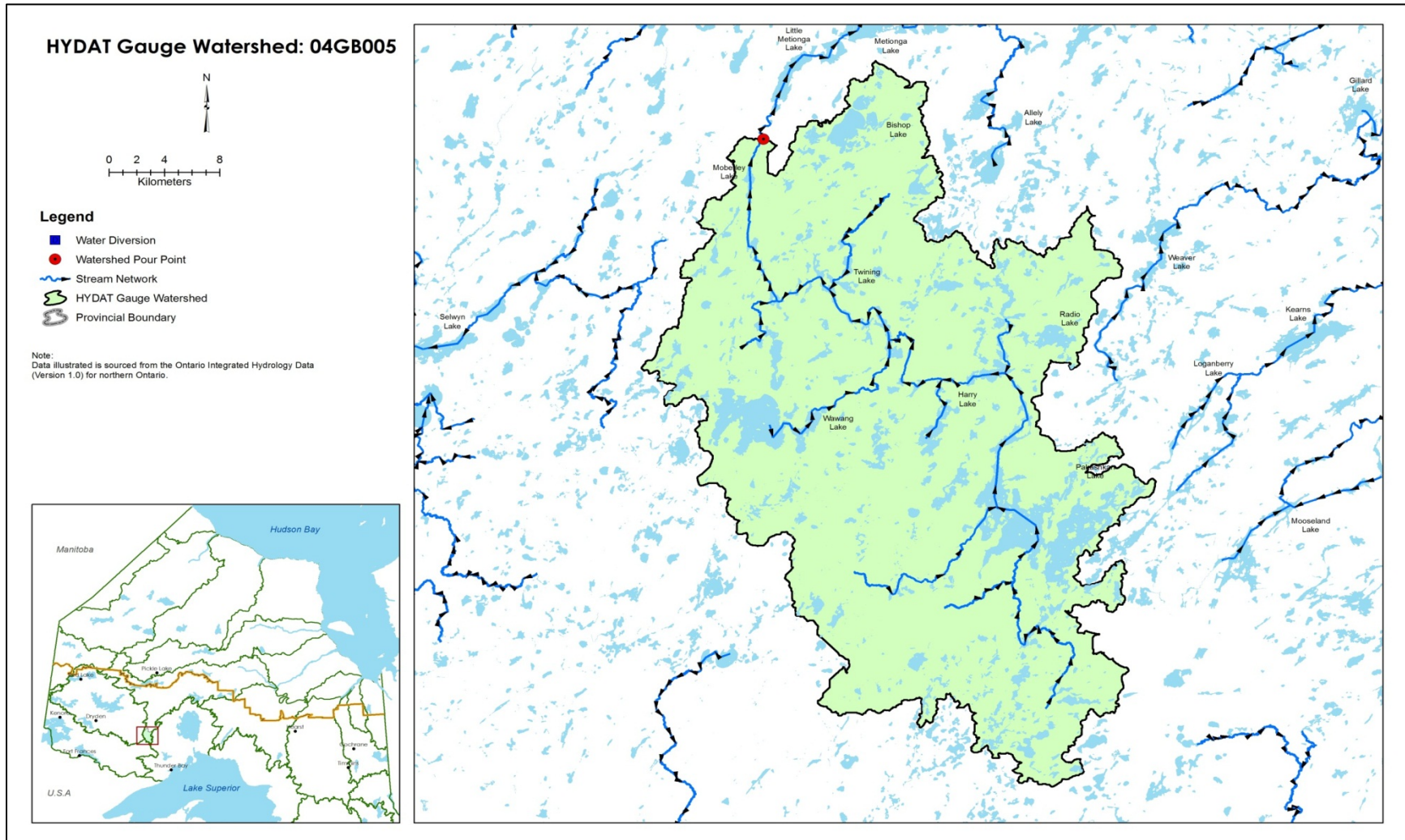
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	216.00	282.00	318.00	349.00	383.00	407.00	428.00	455.00
7 Day Low Flow	10.050	8.116	6.860	5.672	4.159	3.042	Not Applicable	Not Applicable

05RC001: Flood and Low Flow Estimates

05RC001 Summary of flood and low flow events by month



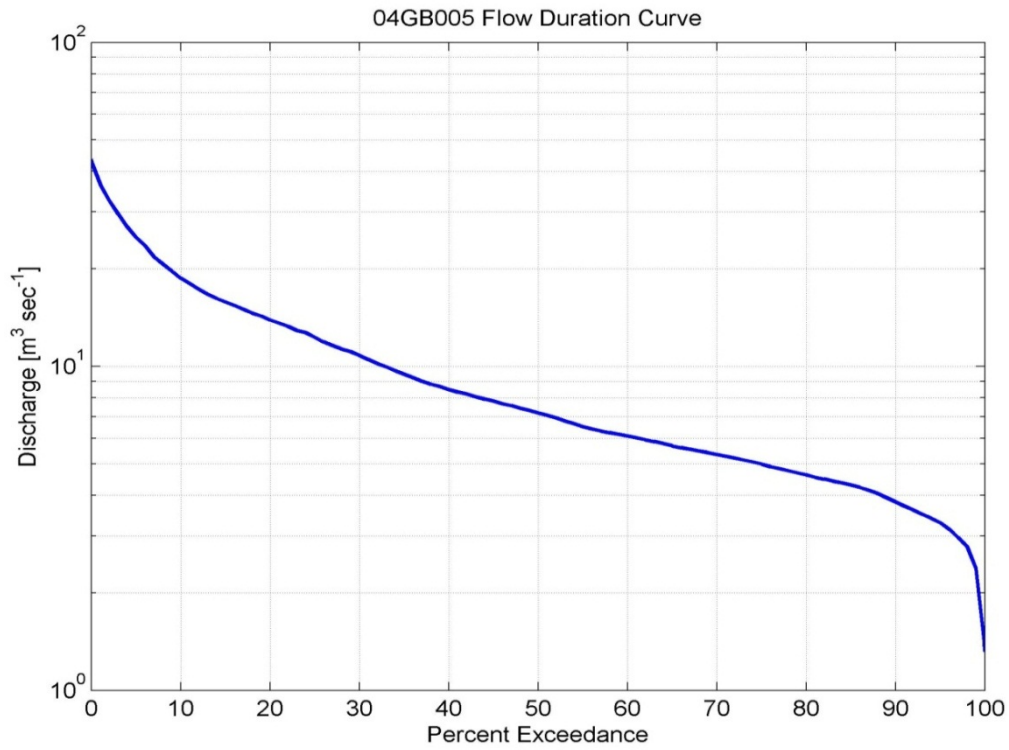
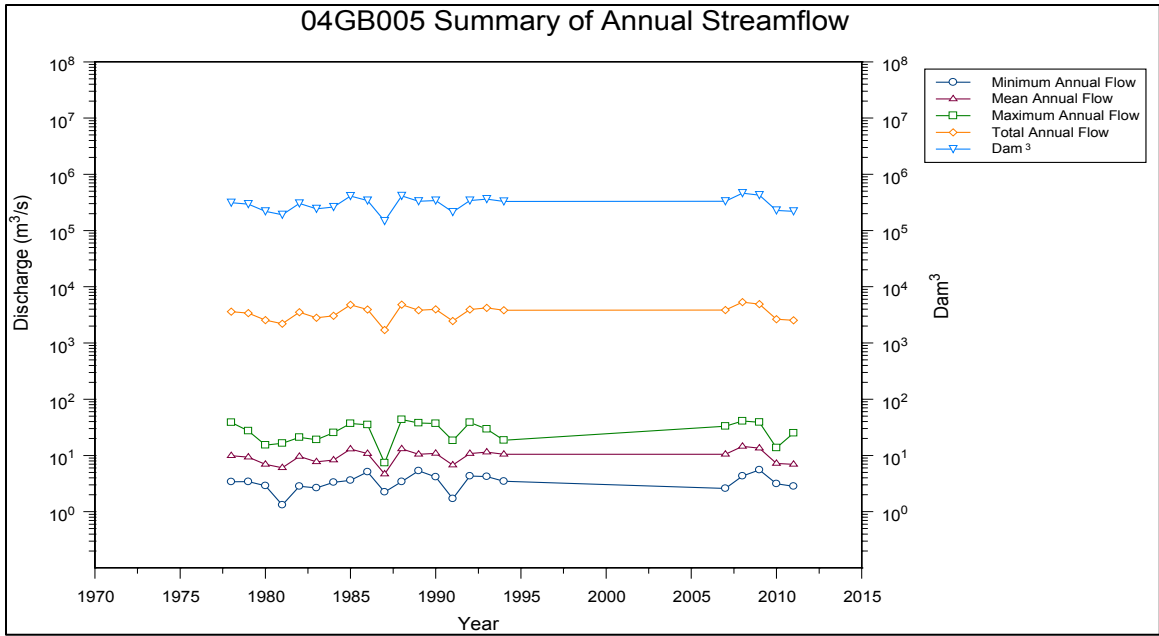
9. BRIGHTSAND RIVER AT MOBERLEY: 04GB005



BRIGHTSAND RIVER AT MOBERLEY: 04GB005

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 22 Years (1978-2011)
- Sample Size n: 8035
- Mean Annual Flow: 9.67cms
- Standard Deviation: 7.04 cms
- Minimum Streamflow: 1.32 cms
- Lower Quartile Q_1 : 4.99cms
- Median Streamflow: 7.17cms
- Upper Quartile Q_3 : 12.3cms
- Maximum Streamflow: 43.4 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	10.10	7.99	6.32	28.30	39.00	38.50	41.00	43.40	40.30	33.20	23.70	15.70	43.37
0.1	10.06	7.98	6.32	27.95	38.94	38.50	40.97	43.38	40.30	33.20	23.58	15.68	42.37
1	9.53	7.42	6.19	22.52	38.10	37.50	37.29	42.40	37.54	31.40	19.86	15.00	36.59
5	8.83	6.43	5.82	16.20	36.70	32.00	22.70	21.00	27.60	25.30	17.20	12.70	25.30
10	8.14	6.17	5.62	12.85	33.84	27.45	19.94	18.40	22.65	19.90	16.20	11.54	18.80
15	7.45	5.92	5.49	10.00	31.39	23.80	18.10	16.30	16.20	16.37	14.30	10.59	15.90
20	7.11	5.67	5.33	8.53	29.23	20.65	16.63	14.26	14.00	15.00	13.50	9.90	14.00
25	6.85	5.59	5.13	7.36	26.90	18.40	15.80	11.90	12.30	13.68	12.40	9.30	12.50
30	6.66	5.49	4.94	6.50	24.62	17.40	15.10	11.12	10.00	12.90	11.35	8.79	11.00
35	6.49	5.40	4.83	6.19	22.30	16.30	14.00	10.57	8.75	11.40	10.40	8.33	9.66
40	6.34	5.24	4.71	5.98	20.31	15.40	13.41	9.88	8.30	10.00	9.52	8.05	8.66
45	6.16	5.08	4.58	5.66	18.36	14.80	12.80	9.37	7.85	9.13	9.04	7.82	7.95
50	5.95	4.98	4.41	5.41	16.50	14.30	11.90	8.85	7.56	8.20	8.63	7.61	7.37
55	5.76	4.79	4.37	5.05	15.20	13.50	11.30	8.58	7.21	7.80	8.28	7.40	6.71
60	5.56	4.64	4.29	4.83	14.30	12.75	10.40	8.16	6.81	7.63	7.68	7.15	6.20
65	5.30	4.54	4.21	4.64	13.50	12.00	9.64	7.17	6.47	7.37	6.65	6.84	5.82
70	5.14	4.48	4.10	4.52	12.10	11.30	8.32	5.82	6.09	7.14	6.36	6.38	5.45
75	4.92	4.36	3.95	4.40	10.63	10.60	7.93	5.21	5.00	6.88	6.21	5.98	5.10
80	4.70	4.11	3.81	4.29	8.95	9.90	7.52	4.51	4.50	6.40	6.07	5.63	4.70
85	4.30	3.55	3.68	4.12	6.96	8.54	6.93	4.16	3.67	5.39	5.93	5.46	4.36
90	3.87	3.45	3.44	3.85	5.03	6.31	4.79	3.65	3.34	4.87	5.51	5.20	3.88
91	3.38	3.20	3.14	3.78	4.89	6.18	4.11	3.57	2.84	4.58	5.45	5.15	3.74
92	3.37	3.10	3.04	3.74	4.65	6.03	3.91	3.50	2.63	4.16	5.32	5.13	3.63
93	3.35	3.05	2.98	3.67	4.40	5.69	3.65	3.46	2.38	3.51	5.31	5.07	3.50
94	3.31	3.00	2.95	3.65	4.32	5.44	3.58	3.40	2.18	3.43	5.27	5.00	3.43
95	3.28	2.96	2.86	3.63	3.80	5.24	3.47	3.29	1.97	3.38	5.18	4.84	3.30
96	3.26	2.92	2.83	3.59	3.52	4.98	3.19	3.14	1.84	2.36	2.94	3.31	3.14
97	3.24	2.89	2.69	3.53	3.37	4.85	3.08	2.96	1.74	2.16	2.88	3.30	2.96
98	3.19	2.84	2.65	3.40	3.20	4.34	2.79	2.56	1.62	1.88	2.82	3.29	2.75
99	3.14	2.79	2.62	3.26	2.90	4.01	2.51	2.29	1.40	1.72	2.62	3.24	2.33
99.9	3.08	2.71	2.59	3.06	2.66	3.21	2.26	2.02	1.32	1.47	2.50	3.11	1.41
99.99	3.08	2.71	2.59	3.05	2.65	3.20	2.24	2.01	1.32	1.46	2.49	3.11	1.32

04GB005: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.753
10:90 Ratio	4.845
Sqrt(Q ₂₅ /Q ₇₅)	1.565

04GB005: Parameters from Flow Duration Curves

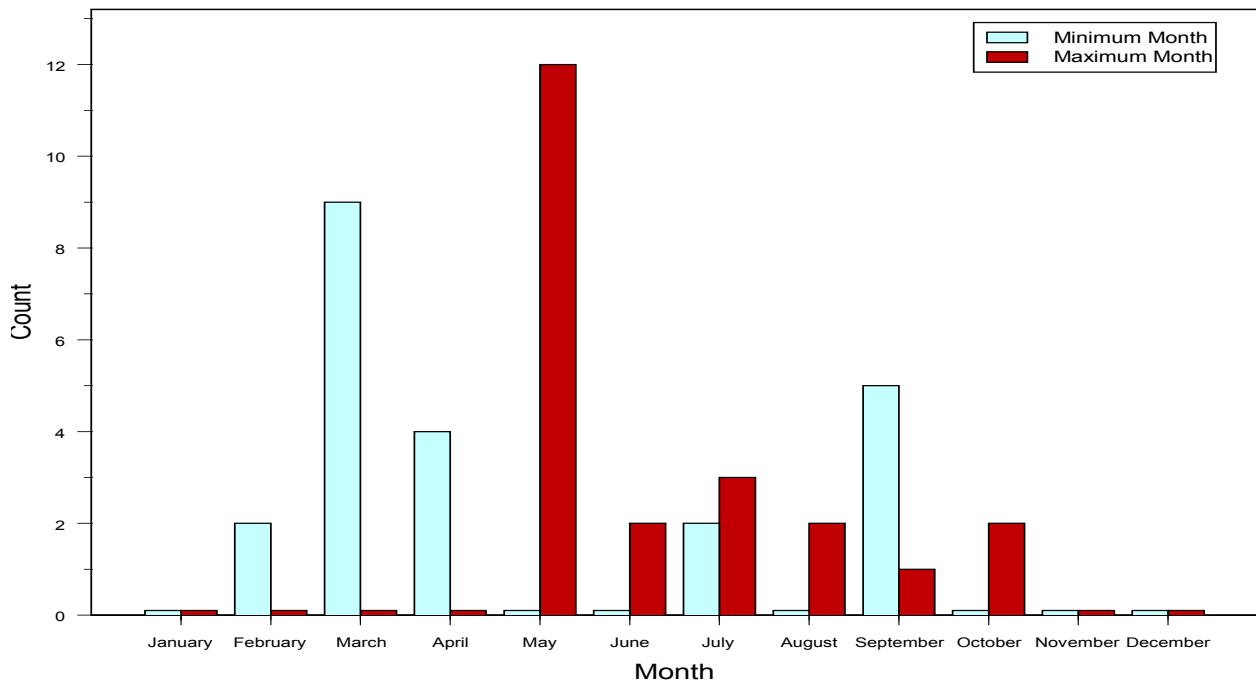
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	21	28	39.863 (0.331)	2.227 (0.151)	-0.497 (0.032)	0.028
Low Flow	-5	92	-1.820 (0.035)	0.270 (0.011)	-0.370 (0.013)	0.016

04GB005: Flood/Low Flow Descriptive Indices above/below a Threshold Value

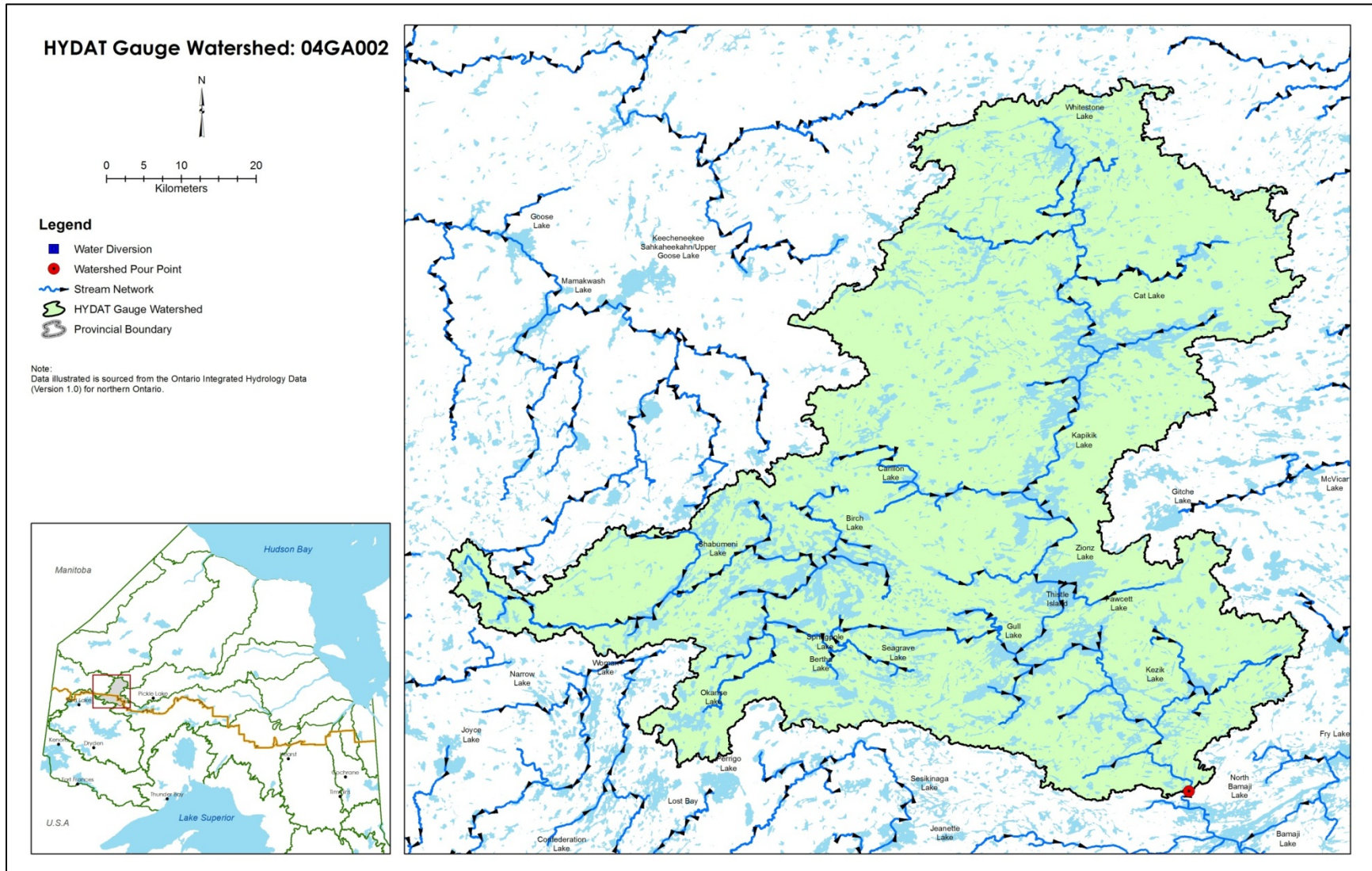
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	30.10	37.90	41.10	43.40	45.60	46.80	47.90	49.10
7 Day Low Flow	3.538	2.629	2.178	1.832	1.483	1.279	Not Applicable	Not Applicable

04GB005: Flood and Low Flow Estimates

04GB005 Summary of flood and low flow events by month



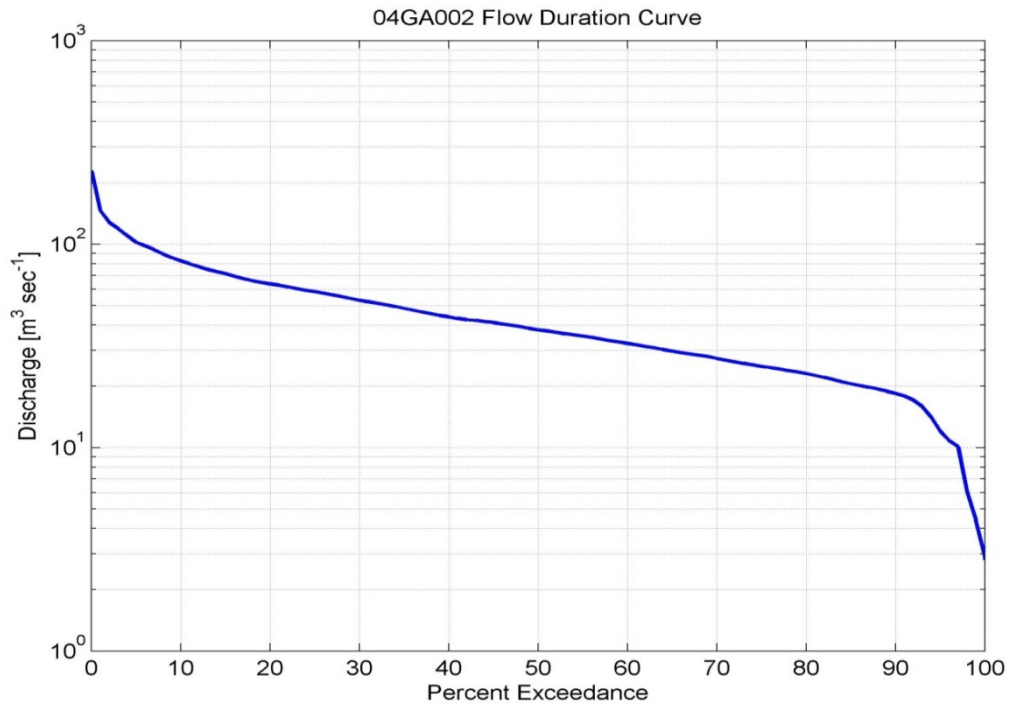
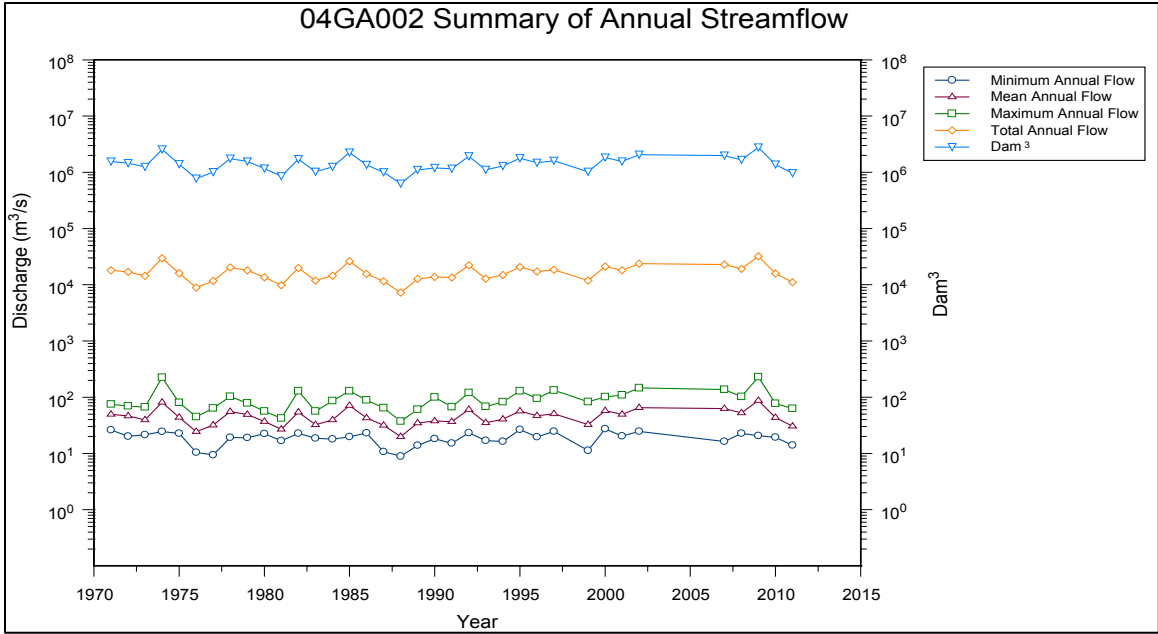
10. CAT RIVER BELOW WESLEYAN LAKE: 04GA002



CAT RIVER BELOW WESLEYAN LAKE: 04GA002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 36 Years (1971-2011)
- Sample Size n: 13149
- Mean Annual Flow: 45.43 cms
- Standard Deviation: 29.72 cms
- Minimum Streamflow: 2.82cms
- Lower Quartile Q_1 : 25cms
- Median Streamflow: 37.9cms
- Upper Quartile Q_3 : 58.4cms
- Maximum Streamflow: 229cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	67.400	51.100	38.100	69.000	134.000	225.000	209.000	229.000	227.000	146.000	102.000	85.700	228.186
0.1	67.092	50.795	37.915	65.230	131.536	225.000	207.152	228.384	226.420	143.536	102.000	85.269	223.360
1	64.034	47.868	35.868	45.630	122.000	220.000	169.360	207.020	204.400	111.020	97.540	81.234	146.000
5	55.520	41.610	32.400	33.750	95.020	145.000	130.700	108.000	109.500	88.090	81.700	70.310	102.000
10	49.300	38.800	30.600	31.200	77.890	129.000	121.000	96.180	79.300	78.690	75.000	60.980	82.800
15	46.010	37.100	29.200	28.150	67.400	124.000	109.000	89.210	74.850	69.900	67.450	54.800	71.400
20	43.800	35.390	27.830	26.700	61.630	108.500	103.000	84.460	70.800	65.630	60.500	52.200	63.700
25	41.650	33.900	27.100	25.400	58.150	91.350	99.350	77.200	66.800	62.800	56.650	50.100	58.450
30	39.600	32.600	26.300	24.600	54.400	83.200	94.700	71.300	63.400	60.300	53.950	47.900	52.900
35	37.700	31.770	25.590	23.900	50.680	77.500	88.680	65.100	59.400	58.590	51.700	44.700	48.300
40	36.300	30.600	24.700	23.300	47.410	74.100	78.260	61.900	56.750	54.700	50.100	43.810	43.900
45	36.000	29.800	23.800	22.400	43.800	70.500	66.800	59.200	53.350	51.200	48.200	42.600	41.100
50	35.100	28.900	23.200	21.700	40.700	66.550	63.700	55.650	50.550	43.300	45.900	41.550	37.900
55	34.300	28.110	22.400	20.850	37.500	63.400	59.970	52.570	47.300	40.800	43.350	40.270	35.300
60	32.900	26.970	21.700	20.400	34.590	56.300	56.990	49.890	43.050	38.900	42.150	38.890	32.500
65	31.810	25.600	20.700	19.800	32.310	46.500	50.120	44.710	39.850	37.400	40.800	37.300	29.800
70	29.730	24.300	19.730	18.900	29.300	42.100	45.300	41.300	35.000	35.300	35.400	36.000	27.400
75	26.500	22.800	18.700	18.300	27.000	40.050	41.200	37.700	31.050	32.250	32.000	32.350	25.000
80	23.900	21.210	18.100	17.900	24.600	31.650	37.700	34.840	28.300	28.610	30.100	28.700	23.100
85	22.100	19.570	16.500	16.900	21.800	25.700	34.600	30.700	25.700	24.800	27.950	25.390	20.600
90	15.300	13.900	12.110	14.900	19.900	20.150	28.040	26.410	21.100	21.000	20.900	19.710	18.400
91	14.500	13.522	11.600	14.670	19.800	19.970	24.400	25.782	20.700	19.000	20.470	19.094	17.900
92	10.900	10.914	10.600	13.990	19.600	19.700	23.600	25.200	20.090	15.856	13.200	11.678	17.100
93	10.600	10.406	10.362	12.620	19.362	19.600	23.200	24.762	19.300	14.862	12.400	11.300	15.900
94	10.500	10.300	9.954	12.000	19.200	19.400	21.338	24.400	18.900	14.400	12.030	11.000	14.100
95	10.400	10.200	9.606	10.900	18.900	19.150	19.730	23.700	18.150	13.800	11.600	10.900	12.000
96	10.300	9.704	9.373	10.300	17.942	18.540	18.614	22.442	17.270	12.614	11.500	10.900	10.800
97	10.098	9.542	9.009	9.929	17.298	17.490	17.700	21.298	16.580	12.000	11.400	10.596	10.100
98	6.517	5.396	4.678	9.822	17.000	11.100	5.637	3.998	3.281	5.398	5.057	4.003	6.086
99	5.936	5.212	4.560	6.280	15.200	8.024	4.626	3.737	2.976	3.497	4.546	3.827	4.379
99.9	5.711	4.910	4.255	4.176	12.631	6.614	4.217	3.429	2.826	3.330	4.255	3.779	3.038
99.99	5.680	4.890	4.230	4.170	12.200	6.550	4.100	3.380	2.820	3.330	4.220	3.760	2.828

04GA002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.834
10:90 Ratio	4.5
Sqrt(Q ₂₅ /Q ₇₅)	1.529

04GA002: Parameters from Flow Duration Curves

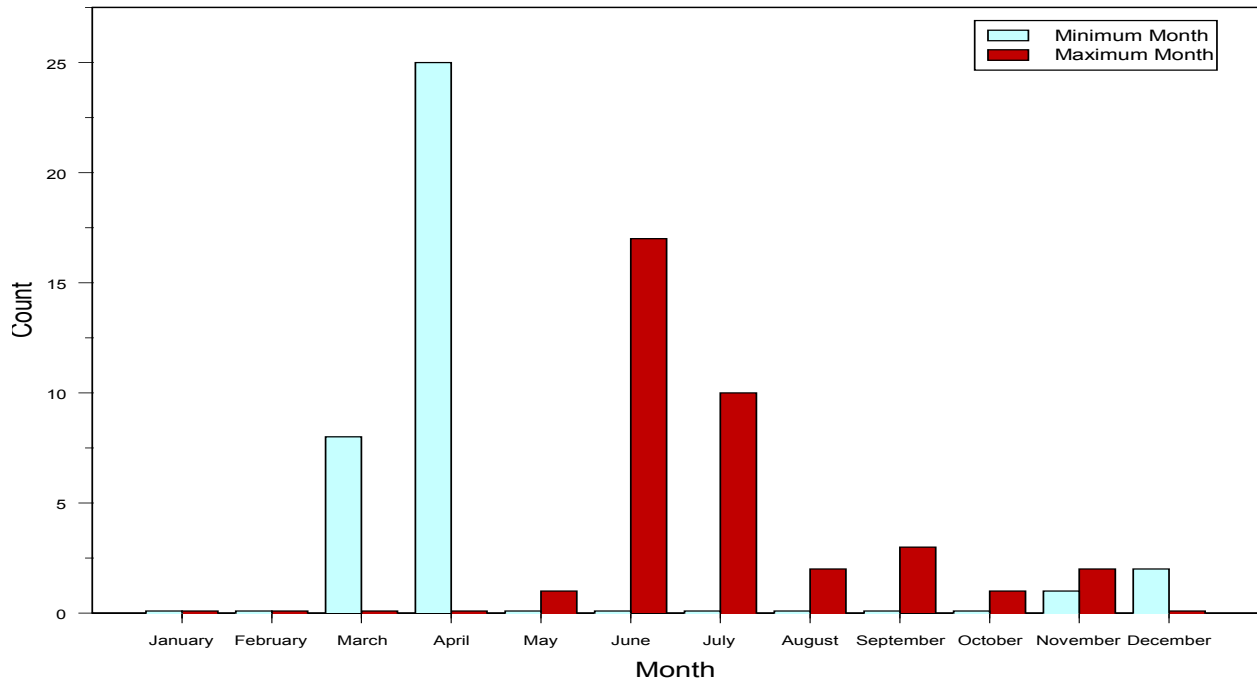
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	75	48	190.874 (4.108)	31.102 (2.401)	0.018 (0.025)	0.016
Low Flow	-16	26	-3.351 (0.019)	0.523 (0.019)	-0.982 (NaN)	0.007

04GA002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

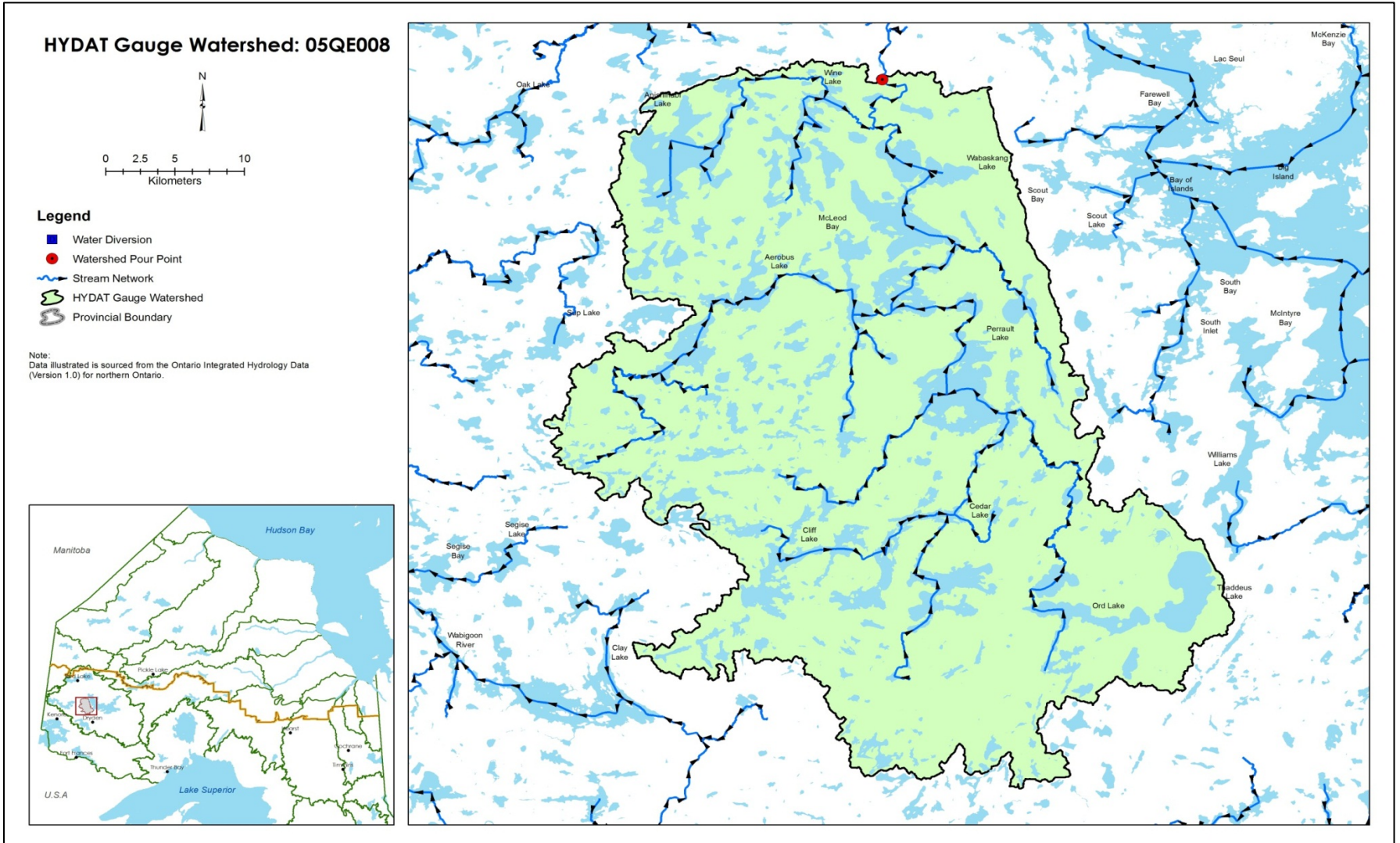
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	101.00	141.00	167.00	191.00	223.00	247.00	271.00	303.00
7 Day Low Flow	19.960	15.560	12.900	10.530	7.686	5.717	Not Applicable	Not Applicable

04GA002: Flood and Low Flow Estimates

04GA002 Summary of flood and low flow events by month



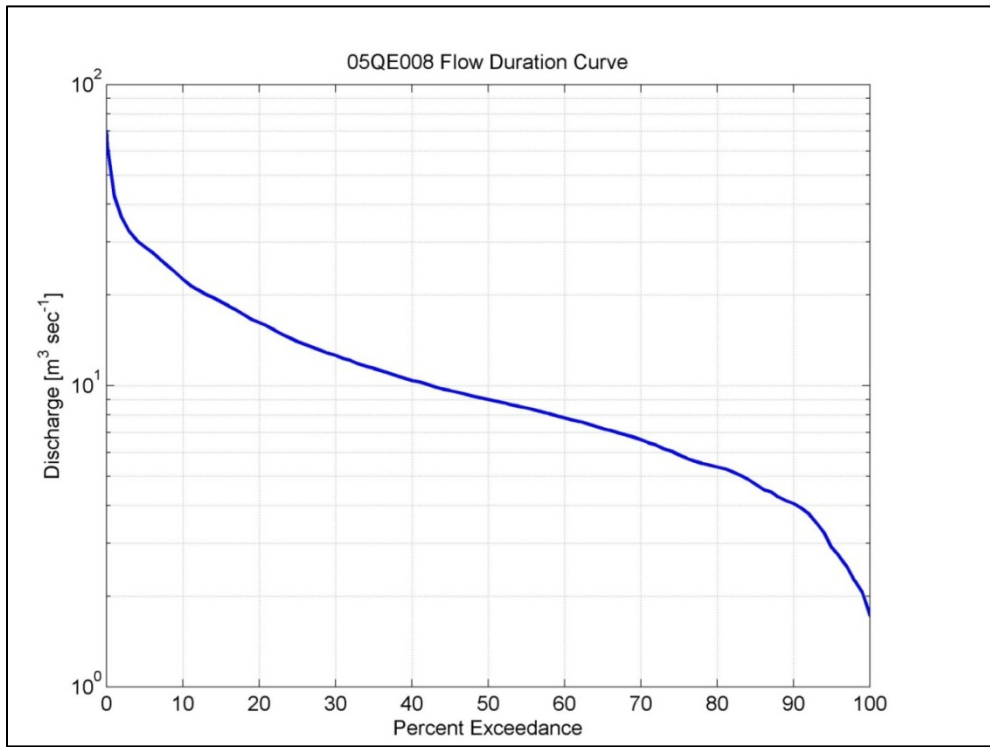
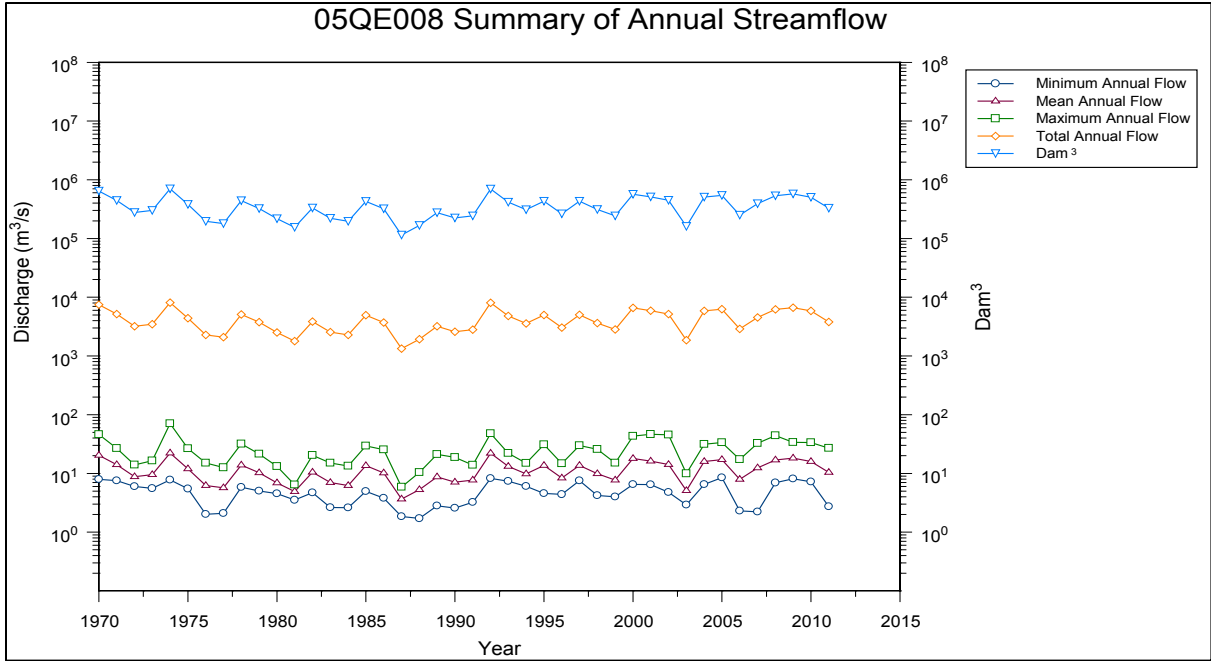
11. CEDAR RIVER BELOW WABASKANG LAKE: 05QE008



CEDAR RIVER BELOW WABASKANG LAKE: 05QE008

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970-2011)
- Sample Size n: 15339
- Mean Annual Flow: 11.47 cms
- Standard Deviation: 8.40 cms
- Minimum Streamflow: 1.72 cms
- Lower Quartile Q_1 : 5.89 cms
- Median Streamflow: 9 cms
- Upper Quartile Q_3 : 14 cms
- Maximum Streamflow: 70.5cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	20.70	15.40	12.10	32.80	63.10	70.50	54.40	41.90	47.70	46.60	30.30	24.60	70.42
0.1	20.62	15.26	12.02	32.42	63.10	70.50	53.44	41.90	47.55	46.52	30.07	24.28	62.65
1	17.90	14.40	11.70	21.58	44.44	62.87	45.10	36.95	46.72	40.08	25.98	22.85	42.70
5	15.50	12.47	10.80	16.20	27.80	43.45	40.04	32.70	28.80	20.04	20.75	17.84	28.90
10	13.73	11.60	9.95	12.95	23.93	33.40	33.83	26.50	22.70	18.23	16.70	15.30	22.55
15	13.00	10.81	9.23	11.60	21.20	30.70	30.60	22.50	19.90	15.50	13.70	13.60	19.00
20	12.00	9.98	8.83	10.60	20.00	29.30	28.70	20.50	16.70	14.50	12.50	12.31	16.20
25	10.70	9.41	8.51	9.74	18.90	27.50	27.50	18.70	15.60	13.20	11.75	11.00	14.00
30	9.71	9.04	8.21	8.89	17.60	25.70	25.30	17.19	13.70	11.90	10.60	9.64	12.60
35	9.10	8.68	7.85	8.37	16.40	23.70	23.18	15.80	12.50	10.80	9.97	9.24	11.40
40	8.56	8.15	7.52	8.06	14.57	21.30	20.60	14.50	11.35	10.10	9.29	8.87	10.40
45	8.14	7.66	7.13	7.79	12.90	20.20	18.60	13.30	10.50	8.80	8.78	8.49	9.63
50	7.69	7.22	6.88	7.60	11.80	18.50	16.80	12.20	9.72	8.10	7.69	7.35	9.00
55	7.08	6.98	6.74	7.27	11.10	16.50	15.00	11.10	9.08	7.74	7.14	6.43	8.44
60	6.54	6.46	6.37	6.82	10.30	13.65	13.90	10.30	8.56	7.26	6.44	6.09	7.81
65	5.94	5.55	5.54	6.14	9.49	11.60	12.90	9.72	8.24	6.85	5.84	5.61	7.20
70	5.41	5.37	5.34	5.76	8.61	10.90	11.30	9.26	7.84	6.27	5.46	5.13	6.62
75	4.72	4.46	4.68	5.44	7.31	10.20	10.20	8.98	7.28	5.81	5.17	4.80	5.89
80	4.27	4.14	4.20	5.13	6.48	8.81	9.63	8.34	6.50	5.43	4.89	4.39	5.37
85	3.84	4.02	3.95	4.60	5.23	7.43	8.35	7.18	5.93	5.08	4.08	3.77	4.70
90	2.78	2.73	2.97	4.22	4.64	5.48	6.15	5.82	5.25	4.32	3.28	2.76	4.06
91	2.61	2.69	2.80	4.09	4.56	5.28	6.03	5.72	5.09	4.11	3.15	2.71	3.92
92	2.61	2.62	2.69	3.86	4.47	5.11	5.95	5.61	4.81	3.77	2.99	2.65	3.75
93	2.52	2.47	2.59	3.77	4.41	4.82	5.86	5.52	4.53	3.63	2.85	2.56	3.50
94	2.49	2.30	2.29	3.64	4.33	4.55	5.75	5.38	4.37	3.50	2.77	2.39	3.25
95	2.41	2.25	2.25	3.51	4.20	4.45	5.36	5.22	4.21	3.33	2.64	2.31	2.90
96	2.19	2.17	2.23	3.44	4.14	4.16	4.29	4.13	4.01	3.13	2.33	2.09	2.71
97	2.16	2.16	2.20	3.28	3.96	3.95	4.08	3.73	3.11	2.81	2.22	2.06	2.50
98	1.92	1.82	2.12	2.97	3.75	3.78	3.83	3.51	2.67	2.33	2.02	1.94	2.25
99	1.87	1.76	2.01	2.40	3.44	3.57	3.53	3.32	2.58	2.18	1.95	1.89	2.06
99.9	1.83	1.72	1.77	2.28	3.19	3.32	2.98	2.90	2.28	2.08	1.92	1.86	1.77
99.99	1.83	1.72	1.77	2.26	3.14	3.32	2.92	2.88	2.26	2.07	1.91	1.85	1.72

05QE008: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.834
10:90 Ratio	5.554
Sqrt(Q ₂₅ /Q ₇₅)	1.541

05QE008: Parameters from Flow Duration Curves

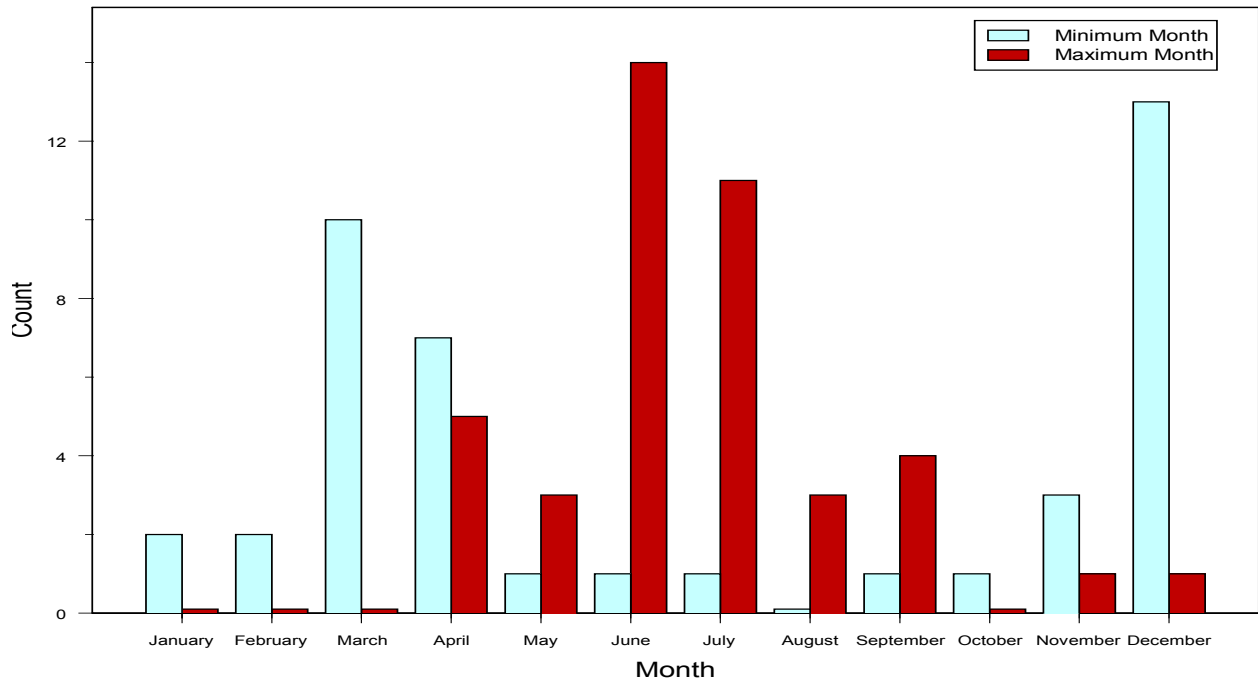
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	20	48	52.173 (0.858)	7.267 (0.446)	-0.067 (0.020)	0.017
Low Flow	-8	151	-1.860 (0.011)	0.115 (0.004)	-0.736 (0.010)	0.008

05QE008: Flood/Low Flow Descriptive Indices above/below a Threshold Value

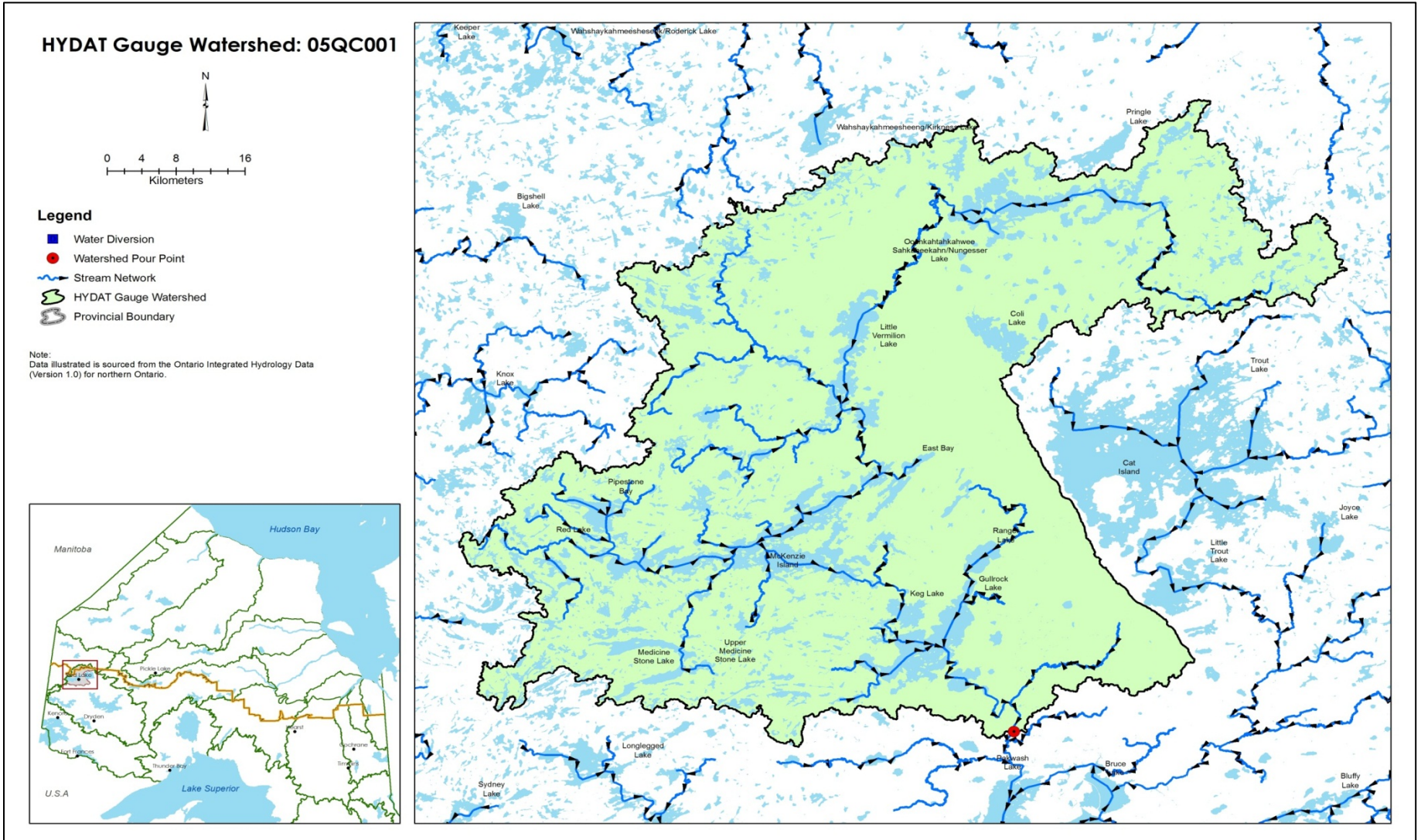
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	22.40	35.40	44.70	54.20	67.20	77.50	88.30	103.00
7 Day Low Flow	4.596	3.048	2.464	2.101	1.810	1.676	Not Applicable	Not Applicable

05QE008: Flood and Low Flow Estimates

05QE008 Summary of flood and low flow events by month



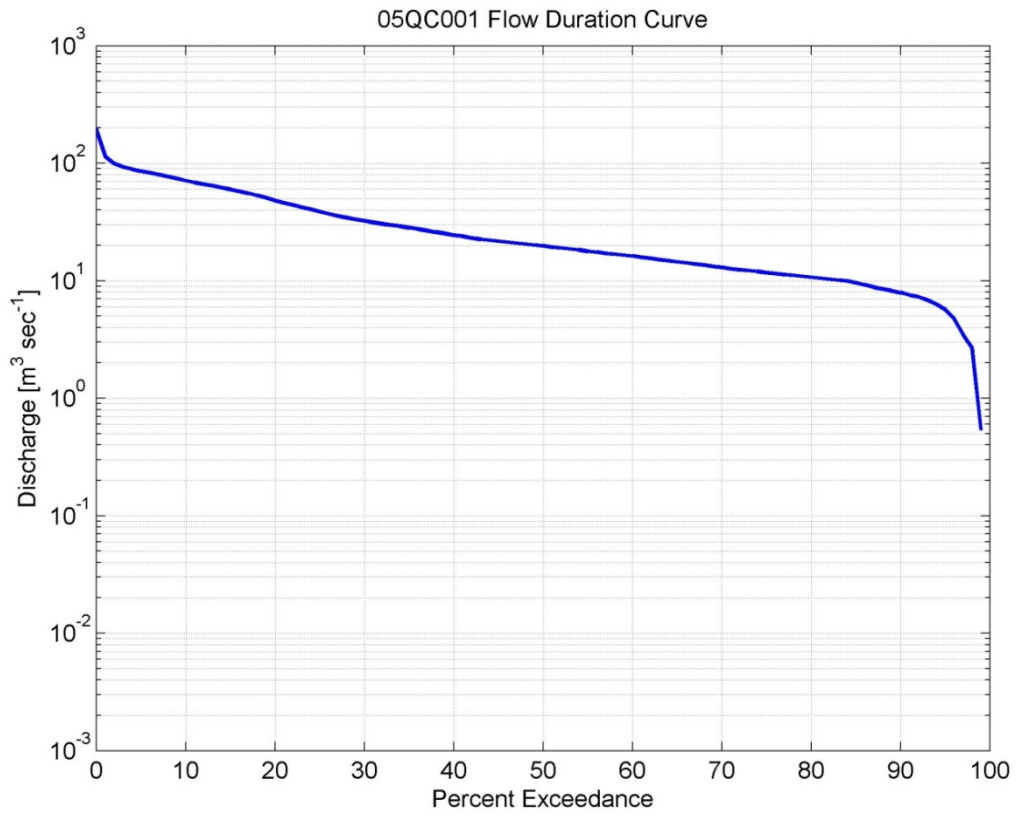
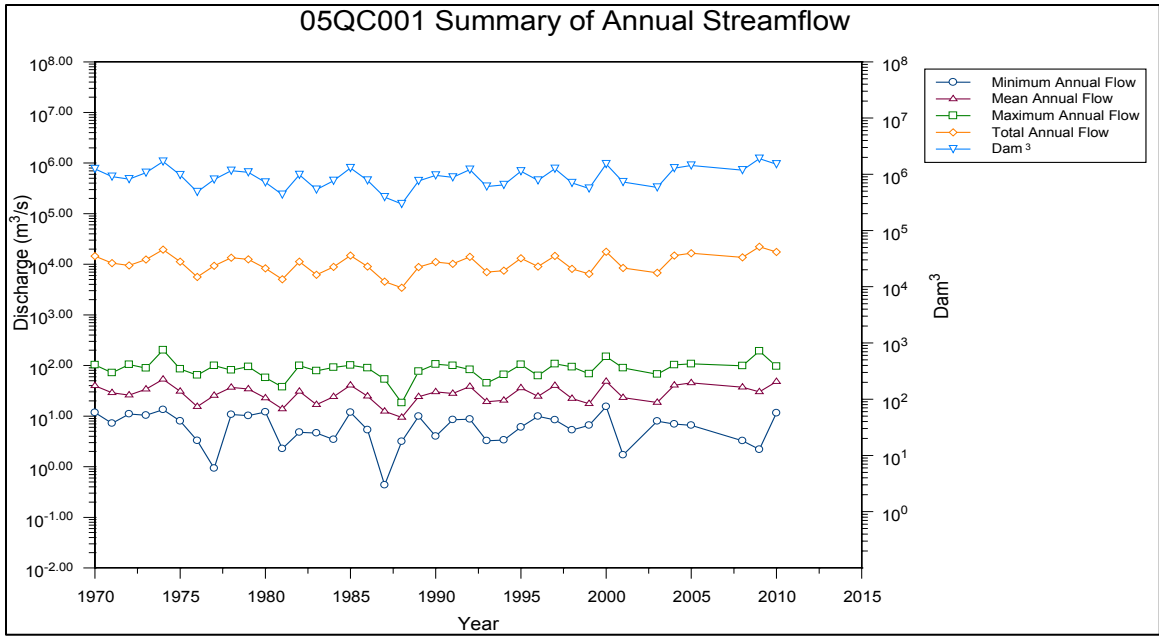
12. CHUKUNI RIVER NEAR EAR FALLS: 05QC001



CHUKUNI RIVER NEAR EAR FALLS: 05QC001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 39 Years (1970-2011)
- Sample Size n: 14245
- Mean Annual Flow: 29.965 cms
- Standard Deviation: 26.979 cms
- Minimum Streamflow: 0.001cms
- Lower Quartile Q_1 : 11.7cms
- Median Streamflow: 19.8cms
- Upper Quartile Q_3 : 38.8cms
- Maximum Streamflow: 202cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 05 Nov – 29 April
 - No of Ice Days (Min–Median –Max): 0 – 115- 147



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	50.400	37.900	24.400	94.100	182.000	202.000	123.000	193.000	182.000	95.000	103.000	69.100	200.153
0.1	49.975	37.486	24.329	93.363	182.000	200.660	121.582	192.291	179.320	93.866	101.660	68.675	185.265
1	46.223	32.890	23.500	84.040	135.410	174.800	111.410	180.410	145.200	88.541	91.960	64.341	114.000
5	36.010	23.500	21.105	58.700	104.000	110.000	96.030	84.905	93.100	77.015	72.500	48.305	85.800
10	28.720	20.700	19.400	44.600	88.600	97.300	89.000	69.080	81.900	66.620	55.200	32.900	71.200
15	24.600	19.700	18.600	33.500	82.415	88.300	81.900	58.900	67.700	59.515	41.600	30.600	59.900
20	22.600	19.100	17.800	26.250	76.570	83.100	75.600	46.610	59.900	46.370	36.600	28.470	48.100
25	21.500	18.550	17.100	23.500	70.350	79.000	69.750	40.900	51.800	38.500	32.600	26.800	38.800
30	20.700	17.600	16.700	21.150	66.000	73.350	64.380	37.380	41.450	34.240	29.700	25.200	32.300
35	20.200	16.400	16.100	19.600	62.335	68.800	58.000	33.535	35.100	31.500	27.400	22.500	28.200
40	18.800	14.970	15.400	18.400	59.400	61.700	52.100	29.390	31.400	29.200	25.800	21.500	24.400
45	16.045	14.300	14.700	17.100	54.790	57.100	45.900	27.400	25.500	27.545	23.600	18.645	21.700
50	15.300	13.200	14.000	16.500	49.000	52.400	41.100	25.600	20.750	23.900	21.900	16.300	19.800
55	14.400	12.400	12.100	15.700	44.410	46.700	37.155	23.155	18.500	21.200	20.500	15.400	17.900
60	13.900	12.100	11.900	14.800	36.540	43.200	33.010	20.410	15.500	16.900	18.300	14.610	16.200
65	13.100	11.300	11.400	12.900	29.530	33.500	29.065	17.400	12.500	13.965	17.200	13.700	14.500
70	11.700	10.800	10.900	11.700	22.620	29.000	26.100	15.600	11.200	11.520	14.550	12.900	12.900
75	10.900	10.400	10.400	10.800	19.000	21.900	22.900	12.900	8.410	9.780	13.300	11.775	11.700
80	10.500	10.200	10.000	10.200	12.060	17.450	19.630	11.200	7.670	8.240	12.450	11.100	10.700
85	10.185	8.873	9.324	9.490	9.430	12.700	16.655	8.946	6.910	7.260	11.000	9.720	9.630
90	8.600	8.300	8.100	8.470	7.464	10.800	12.200	8.416	5.675	6.256	8.005	8.210	7.930
91	8.500	7.969	7.828	8.064	6.949	10.500	12.000	8.007	5.328	5.979	7.846	8.146	7.540
92	7.730	7.480	7.460	7.811	6.722	10.210	11.800	7.119	4.824	5.073	7.351	7.864	7.300
93	7.593	7.460	7.433	7.308	6.421	9.600	11.513	6.131	4.270	3.051	7.028	6.377	6.840
94	7.500	7.460	7.191	7.004	5.840	8.737	11.104	4.981	4.000	2.262	6.627	6.090	6.316
95	5.810	5.681	5.848	6.400	5.308	7.680	10.900	4.028	1.340	1.667	4.480	5.890	5.690
96	5.730	5.660	5.650	5.142	4.473	7.274	10.686	3.549	0.587	0.488	3.156	3.430	4.749
97	5.277	5.650	5.650	3.964	4.038	6.636	10.300	2.439	0.473	0.468	1.354	3.310	3.486
98	3.370	3.400	3.540	3.489	3.694	5.890	9.964	0.009	0.010	0.434	1.270	2.635	2.670
99	3.280	3.370	3.418	3.264	2.480	5.412	8.014	0.002	0.006	0.049	0.606	1.625	0.542
99.9	3.170	3.340	0.926	1.167	1.834	4.561	0.467	0.001	0.001	0.005	0.440	1.240	0.002
99.99	3.170	3.340	0.926	1.060	1.820	4.420	0.301	0.001	0.001	0.004	0.405	1.240	0.001

05QC001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.703
10:90 Ratio	8.978
Sqrt(Q ₂₅ /Q ₇₅)	1.821

05QC001: Parameters from Flow Duration Curves

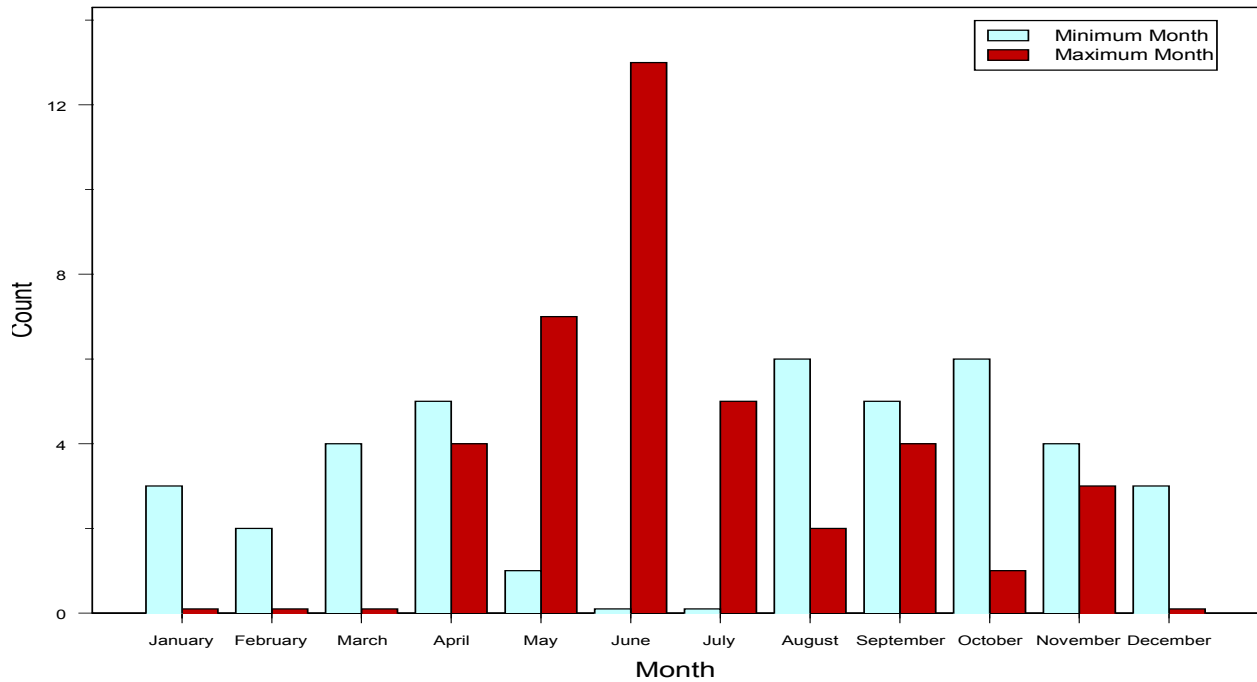
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	35	100	153.383 (1.800)	17.360 (0.644)	-0.160 (0.010)	0.019
Low Flow	-10	59	-0.125 (0.132)	0.856 (0.067)	-0.446 (0.026)	0.016

05QC001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	92.90	120.00	137.00	152.00	171.00	184.00	197.00	214.00
7 Day Low Flow	7.181	3.726	2.313	1.379	0.578	0.181	Not Applicable	Not Applicable

05QC001: Flood and Low Flow Estimates

05QC001 Summary of flood and low flow events by month



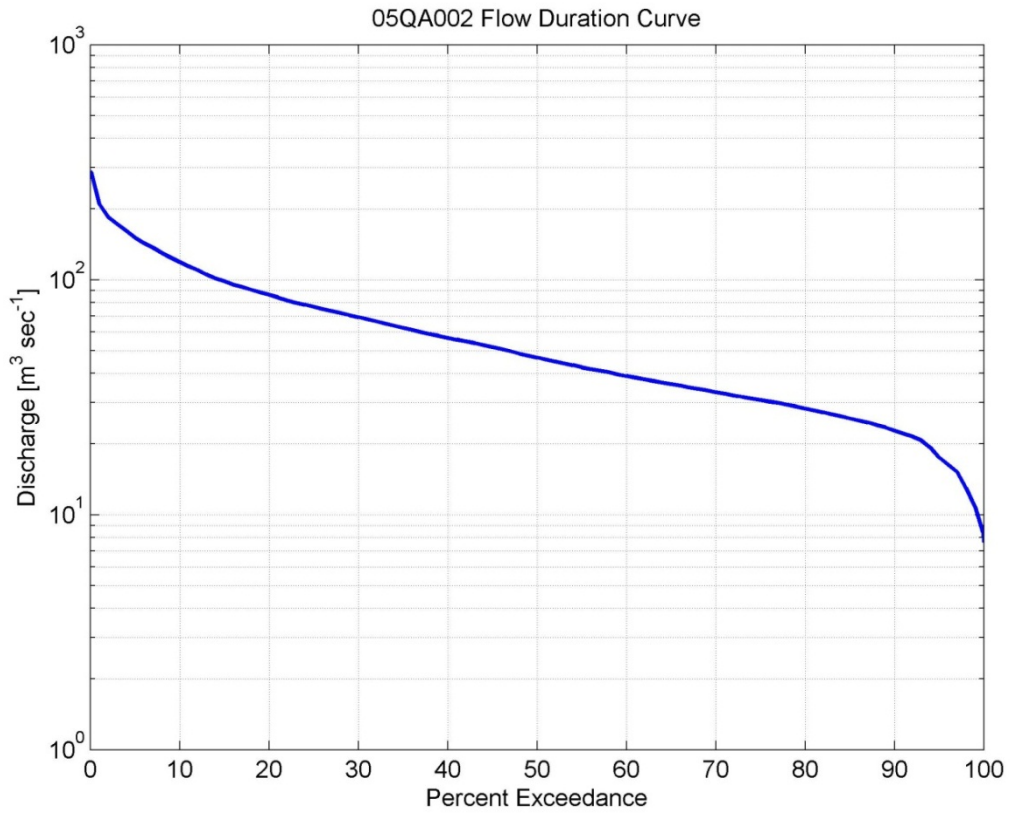
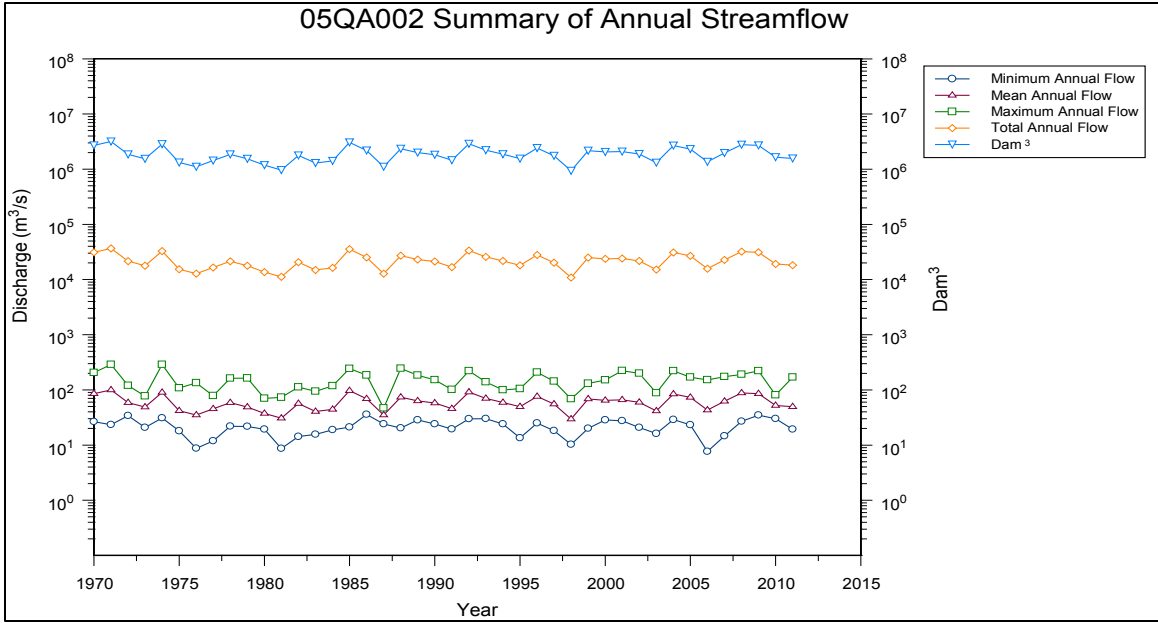
13. ENGLISH RIVER AT UMFREVILLE: 05QA002

Note: Watershed not delineated

ENGLISH RIVER AT UMFREVILLE: 05QA002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970-2011)
- Sample Size n: 15340
- Mean Annual Flow: 60.42 cms
- Standard Deviation: 42.87 cms
- Minimum Streamflow: 7.63cms
- Lower Quartile Q_1 : 30.8cms
- Median Streamflow: 46.7cms
- Upper Quartile Q_3 : 76.7cms
- Maximum Streamflow: 289cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	114.00	63.70	46.30	165.00	274.00	289.00	224.00	151.00	245.00	233.00	289.00	195.00	289.00
0.1	112.40	63.16	45.98	164.24	271.59	289.00	219.99	148.59	245.00	228.19	289.00	190.99	286.00
1	90.58	54.62	43.25	146.90	239.48	282.90	190.48	125.00	216.00	193.96	267.50	147.44	210.20
5	66.44	48.54	40.10	98.10	204.80	201.00	151.00	96.42	140.50	168.40	140.00	100.22	151.00
10	59.50	44.90	38.50	73.10	180.30	176.00	128.00	89.43	85.20	121.30	120.00	86.00	119.00
15	56.02	42.80	36.80	60.15	166.00	158.00	114.00	83.22	77.30	97.18	101.00	76.20	98.40
20	52.51	41.40	35.60	53.20	157.00	146.00	106.00	78.91	70.60	84.11	94.50	70.51	86.40
25	49.30	39.95	34.00	45.75	146.00	138.00	97.90	74.00	61.70	77.60	85.80	65.30	76.70
30	47.00	38.20	32.30	41.40	134.00	128.00	92.99	70.29	57.35	70.20	72.55	61.40	69.30
35	45.00	36.70	31.10	39.60	124.00	118.00	89.58	65.18	53.25	61.88	68.80	58.18	62.40
40	43.60	35.51	30.30	37.10	117.70	109.00	84.54	61.00	49.70	57.77	64.25	55.60	56.60
45	41.60	34.00	29.80	35.60	108.60	101.00	79.30	56.56	46.70	54.30	59.80	53.58	51.70
50	39.80	32.10	29.00	34.20	102.00	93.85	76.65	52.40	42.70	50.40	56.95	50.85	46.70
55	37.90	31.07	27.80	32.40	94.10	88.55	73.10	49.00	39.65	44.74	52.70	47.44	42.30
60	36.20	29.90	26.40	30.60	87.10	81.65	67.30	45.63	36.45	39.76	48.70	44.30	38.90
65	34.50	28.20	25.50	29.40	76.92	76.05	64.00	41.00	33.30	36.34	44.75	40.32	36.00
70	32.70	26.70	24.41	28.35	73.42	72.15	58.11	37.30	29.70	32.50	39.35	35.41	33.20
75	30.20	25.45	23.60	27.30	67.60	68.05	53.50	34.10	26.10	25.70	33.80	33.40	30.80
80	28.40	24.37	22.40	26.10	59.01	64.30	48.00	31.09	22.30	22.40	31.70	31.70	28.35
85	26.90	22.89	21.60	24.60	48.58	60.40	41.48	27.48	19.95	20.40	29.10	29.70	25.70
90	24.37	21.80	20.37	23.10	41.40	52.55	34.44	23.30	16.10	18.70	24.90	26.60	22.80
91	23.74	21.10	17.90	22.70	40.44	46.68	32.77	22.47	15.50	18.17	23.99	25.90	22.12
92	22.67	19.56	16.60	21.83	38.47	43.75	31.87	21.70	14.90	16.73	23.43	25.47	21.50
93	17.96	17.48	16.30	21.50	34.86	40.88	30.63	20.90	14.40	11.19	14.57	17.00	20.70
94	17.80	16.80	15.50	21.20	32.26	37.33	28.96	20.36	13.61	10.20	12.80	16.26	19.30
95	17.60	16.50	15.36	19.65	31.60	35.25	25.92	19.78	12.75	9.88	12.05	16.10	17.50
96	17.50	16.10	15.20	18.80	30.70	33.19	24.76	18.57	11.79	9.62	11.79	15.40	16.30
97	17.10	15.50	15.00	18.00	28.00	31.00	23.60	17.31	10.66	9.22	11.30	15.00	15.20
98	12.35	13.91	14.80	16.94	26.75	28.61	22.95	16.10	9.71	8.89	10.77	13.50	13.00
99	12.10	12.65	14.40	16.31	25.95	26.63	22.10	14.45	9.02	8.28	10.30	12.65	10.80
99.9	11.90	12.17	14.08	15.28	24.10	25.10	19.40	13.28	8.40	7.68	9.77	11.80	8.40
99.99	11.90	12.10	14.00	15.20	24.10	24.80	19.00	13.20	8.36	7.63	9.72	11.80	7.69

05QA002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.779
10:90 Ratio	5.219
Sqrt(Q ₂₅ /Q ₇₅)	1.578

05QA002: Parameters from Flow Duration Curves

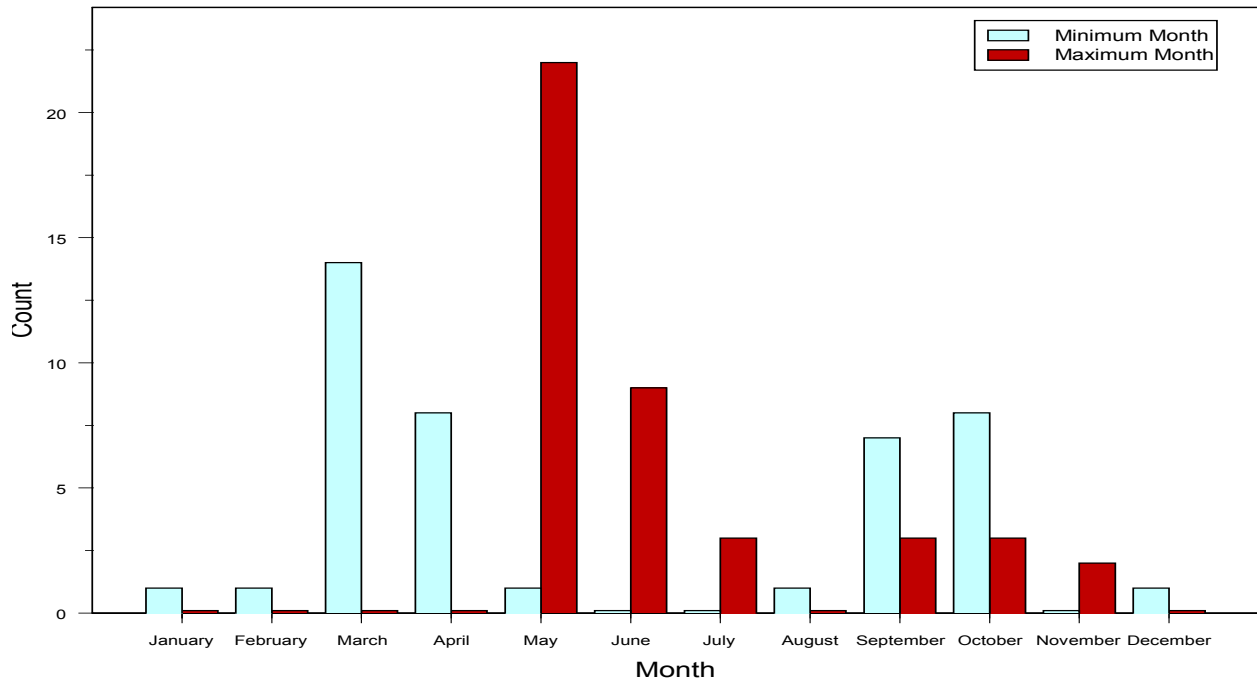
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	60	134	258.207 (4.451)	35.138 (1.987)	-0.056 (0.014)	0.013
Low Flow	-10	2	-8.991 (0.119)	0.853 (0.064)	-0.589 (0.087)	0.026

05QA002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

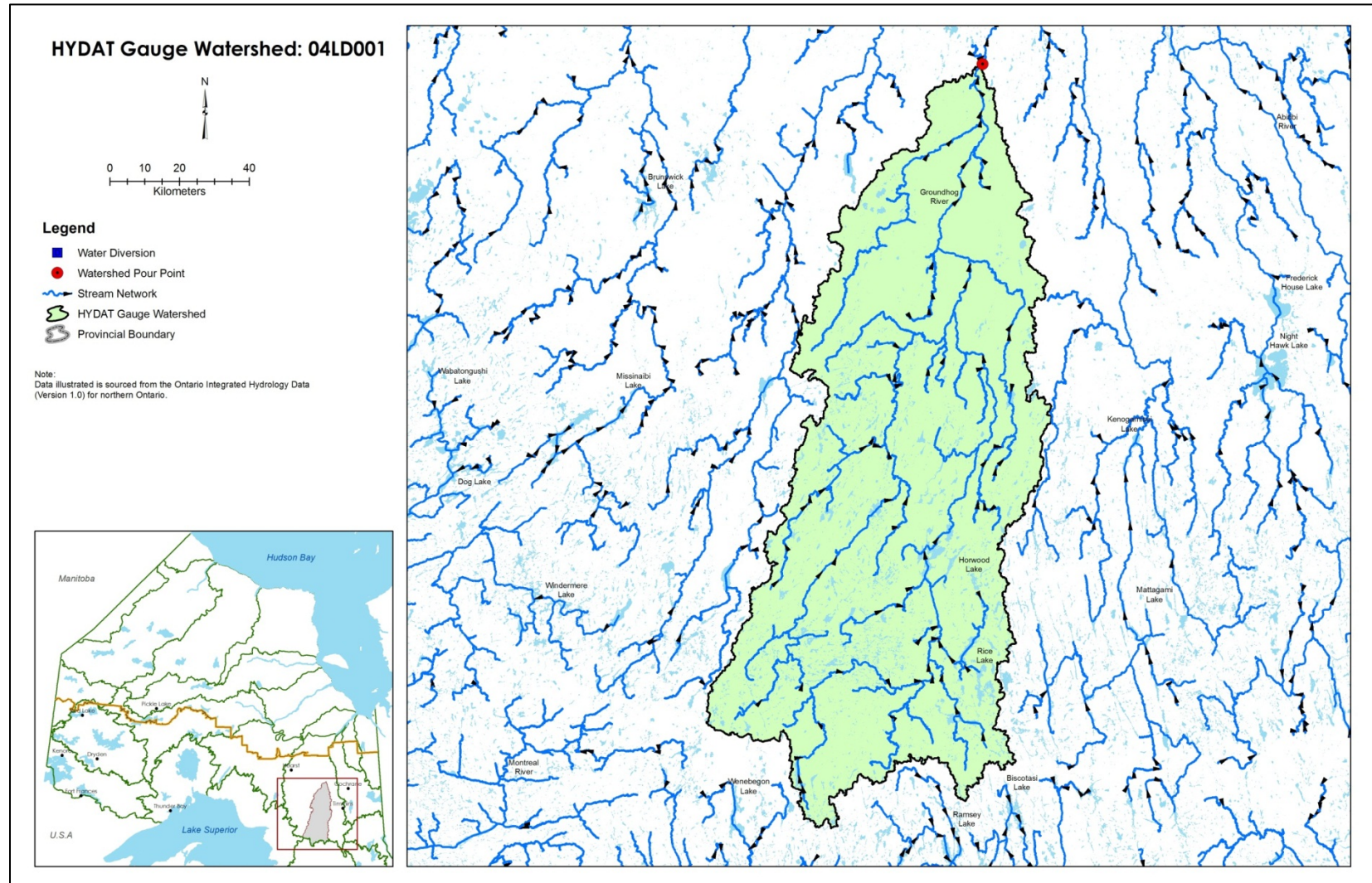
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	145.00	214.00	261.00	307.00	368.00	415.00	462.00	527.00
7 Day Low Flow	22.630	16.290	12.730	9.736	6.377	4.196	Not Applicable	Not Applicable

05QA002: Flood and Low Flow Estimates

05QA002 Summary of flood and low flow events by month



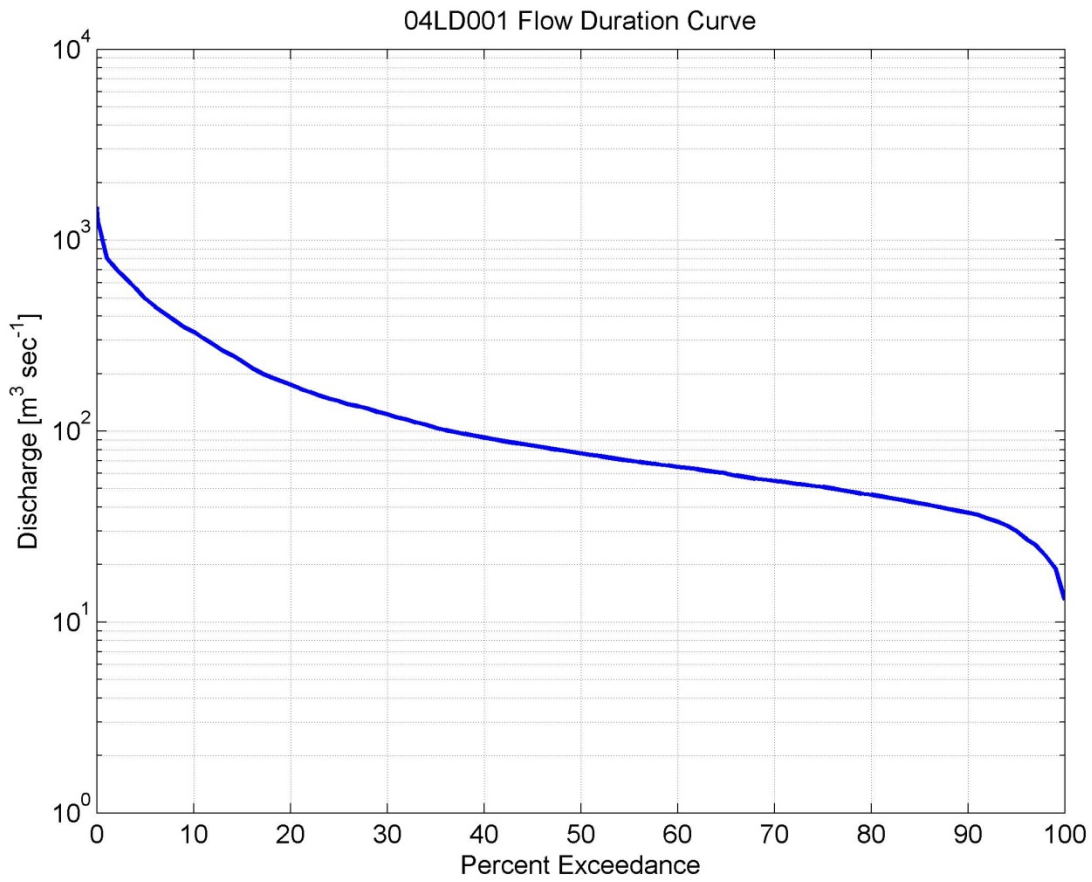
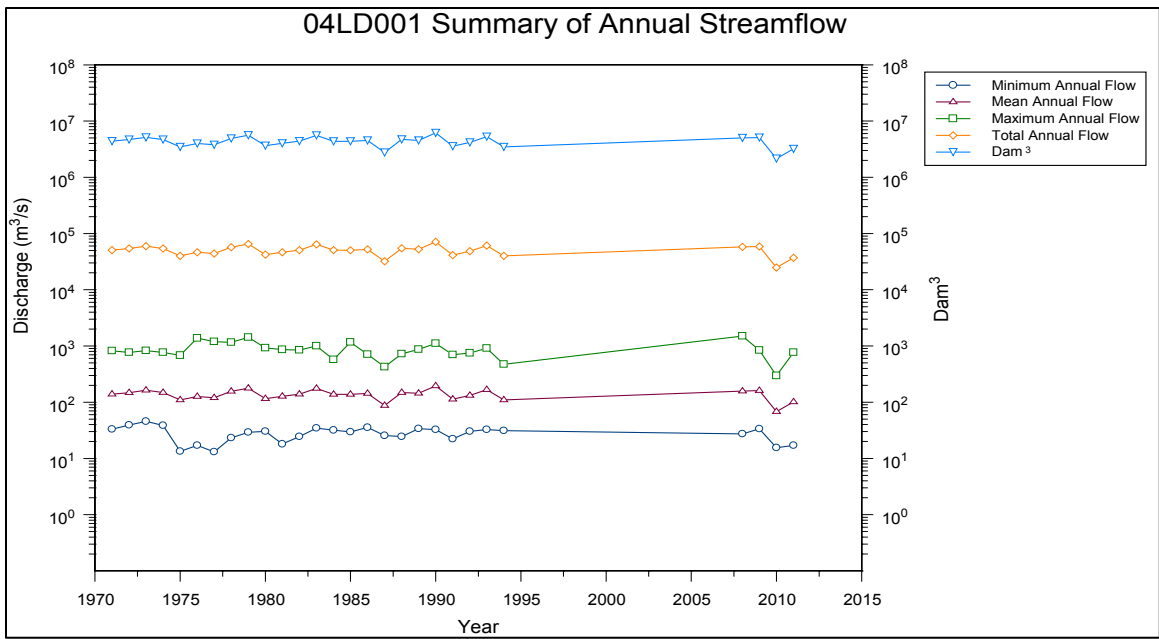
14. GROUNDHOG RIVER AT FAUQUIER: 04LD001



GROUNDHOG RIVER AT FAUQUIER: 04LD001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 28 Years (1971-2011)
- Sample Size n: 10227
- Mean Annual Flow: 137.61 cms
- Standard Deviation: 163.83 cms
- Minimum Streamflow: 13.1cms
- Lower Quartile Q_1 : 51cms
- Median Streamflow: 76.5cms
- Upper Quartile Q_3 : 143cms
- Maximum Streamflow: 1500cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 05 Nov – 07 May
 - No of Ice Days (Min–Median –Max): 114 -162 -181



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	112.00	103.00	180.00	1500.00	1420.00	1000.00	534.00	361.00	361.00	693.00	408.00	360.00	1463.46
0.1	111.63	101.58	179.26	1476.20	1408.96	991.16	531.06	354.01	359.30	690.42	403.92	352.64	1258.40
1	102.82	93.93	150.20	1253.00	1006.58	635.10	444.82	271.38	283.20	584.46	361.60	214.02	807.00
5	82.14	86.43	98.00	810.50	833.20	428.00	313.10	170.10	177.00	315.20	242.00	113.00	493.50
10	76.41	81.62	85.35	575.00	765.00	377.00	253.70	146.00	144.00	210.70	196.00	97.61	330.00
15	71.53	74.45	75.00	490.00	714.60	331.00	210.60	124.00	126.00	178.00	172.00	91.93	231.00
20	68.77	70.71	68.18	410.50	671.00	302.00	182.00	110.90	112.00	158.80	155.50	88.00	175.00
25	66.80	67.75	63.85	329.00	640.00	278.00	160.00	98.10	100.50	143.00	143.00	84.00	143.50
30	65.00	65.50	60.00	244.00	597.00	257.00	145.00	86.25	92.10	133.00	134.00	79.30	122.00
35	63.00	64.00	56.00	184.50	545.40	234.00	130.00	80.24	84.40	124.00	124.00	76.14	104.00
40	59.50	61.97	54.00	156.00	489.30	216.00	116.30	73.76	76.50	113.30	117.00	72.50	92.60
45	56.60	57.35	53.00	135.50	457.90	198.00	102.00	68.48	66.70	102.00	109.00	69.19	84.05
50	55.00	55.00	50.45	110.50	430.00	185.00	94.90	62.85	61.05	95.80	103.00	65.60	76.50
55	53.00	52.40	46.70	92.25	402.00	171.00	83.50	57.31	55.50	91.30	96.00	62.32	70.00
60	51.47	51.50	45.37	77.85	369.00	152.00	77.67	53.80	45.90	86.59	89.50	60.00	65.00
65	49.60	48.30	43.43	65.05	336.30	135.00	68.23	49.13	41.85	80.79	84.75	56.50	60.00
70	48.00	46.70	42.00	57.90	311.80	122.50	61.49	44.29	38.45	75.00	79.60	54.00	54.90
75	46.70	44.50	40.20	53.10	274.50	110.00	55.15	39.70	35.50	69.30	74.55	51.50	51.00
80	45.30	42.20	38.90	48.95	232.30	100.00	48.31	31.16	33.00	59.70	70.15	49.31	46.40
85	43.97	40.50	37.37	42.20	183.70	88.95	40.20	27.40	30.60	51.21	65.70	48.00	41.90
90	41.90	38.50	35.80	37.90	145.30	76.45	34.53	22.30	25.25	34.33	59.15	46.00	37.35
91	41.00	38.01	35.36	37.40	140.00	74.11	33.36	21.42	24.41	32.72	57.82	45.60	36.50
92	40.50	37.42	34.90	37.10	133.94	71.60	32.29	20.48	23.24	31.70	55.85	44.50	35.00
93	39.93	37.20	34.25	35.37	125.26	69.13	30.80	18.95	21.40	30.35	53.26	43.80	33.60
94	38.80	37.05	33.56	34.40	113.58	66.47	29.32	17.66	20.90	29.61	51.77	42.42	32.00
95	37.99	36.77	32.78	34.00	105.80	64.65	28.60	16.90	20.00	27.48	49.25	41.36	29.90
96	37.54	36.20	31.57	33.51	87.07	57.88	27.20	16.32	19.02	26.10	39.08	38.47	27.23
97	37.40	36.00	30.30	32.71	78.77	37.10	25.61	15.95	18.74	24.70	25.86	27.20	25.20
98	36.80	34.85	29.20	29.65	68.65	33.46	23.17	15.06	17.80	21.26	21.56	26.06	22.30
99	33.02	34.00	26.80	25.20	52.06	25.44	21.59	13.62	16.00	19.70	20.79	24.90	19.17
99.9	24.40	33.40	24.44	23.20	26.20	20.30	19.78	13.10	13.40	18.21	20.40	24.02	13.50
99.99	24.40	33.40	24.40	23.20	25.80	20.30	19.60	13.10	13.40	18.10	20.40	23.80	13.10

04LD001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.571
10:90 Ratio	8.835
Sqrt(Q ₂₅ /Q ₇₅)	1.677

04LD001: Parameters from Flow Duration Curves

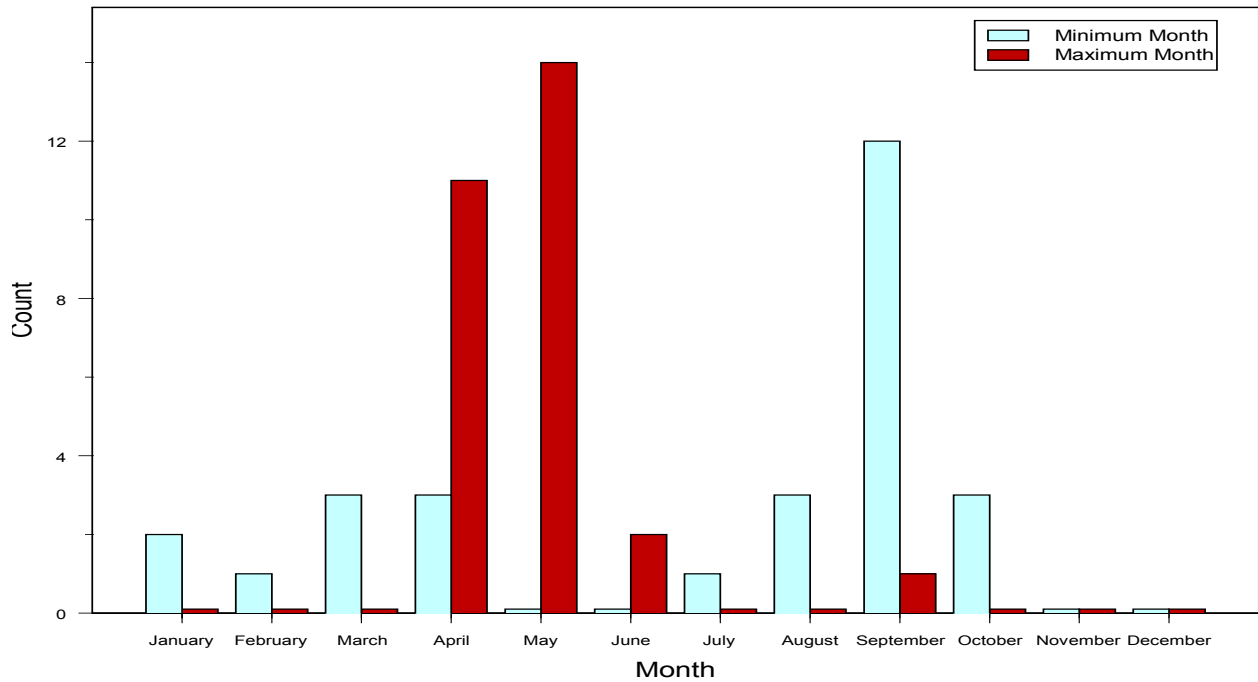
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	119	112	1300.044 (61.625)	378.885 (38.862)	0.189 (0.026)	0.033
Low Flow	-29	17	-15.376 (0.238)	1.731 (0.133)	-0.627 (0.044)	0.029

04LD001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

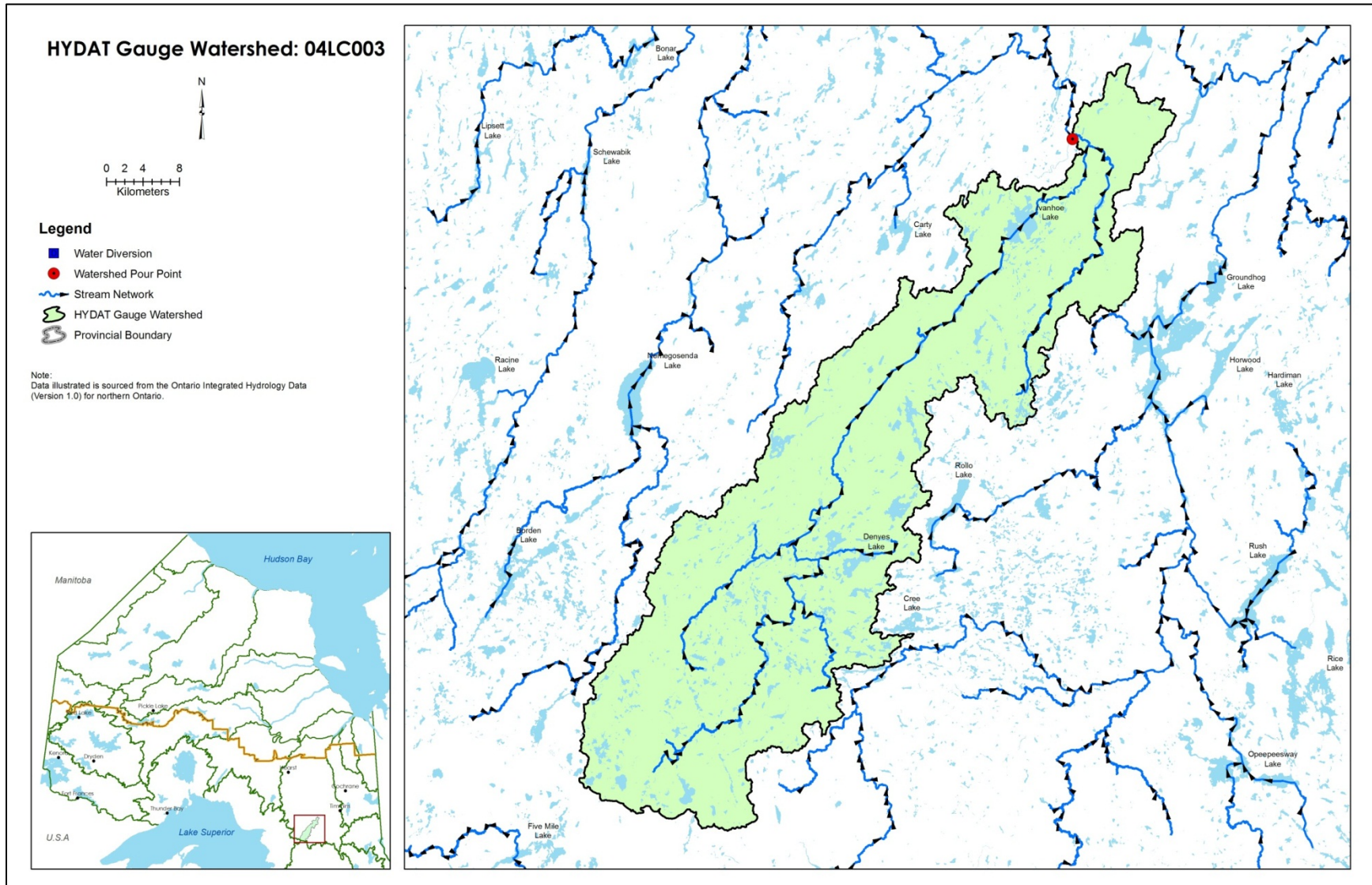
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	902.0	1170.0	1340.0	1500.0	1690.0	1840.0	1980.00	2160.00
7 Day Low Flow	30.690	22.000	17.620	14.220	10.740	8.681	Not Applicable	Not Applicable

04LD001: Flood and Low Flow Estimates

04LD001 Summary of flood and low flow events by month



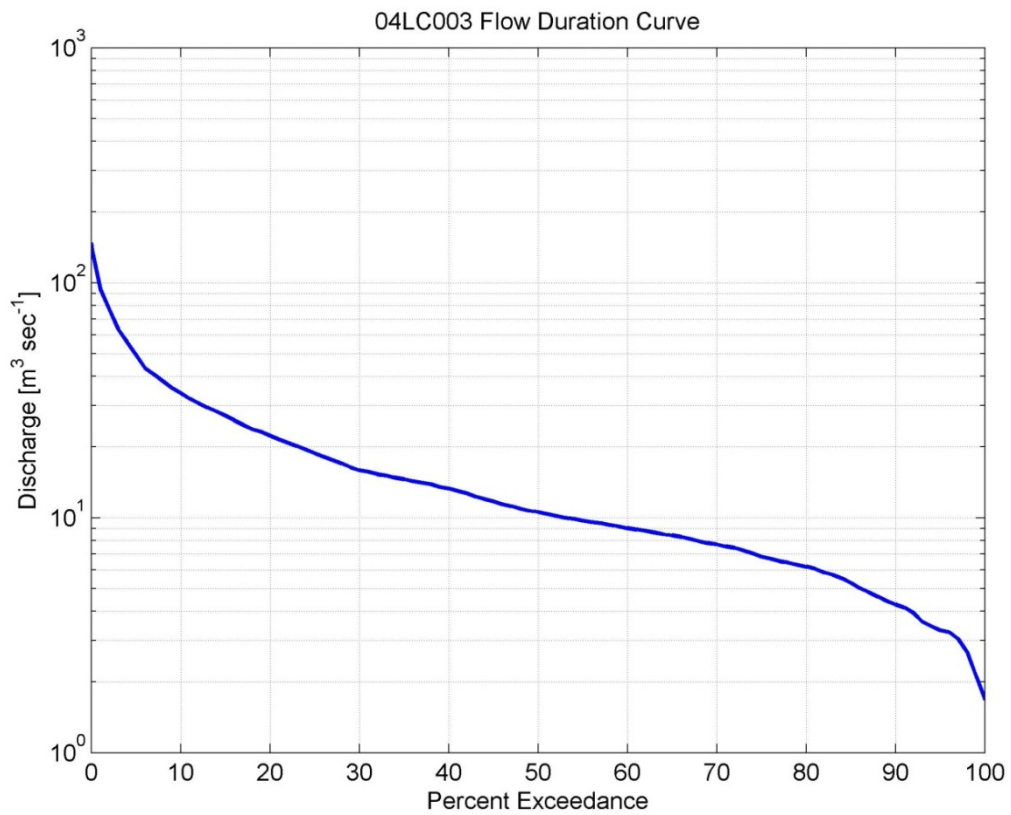
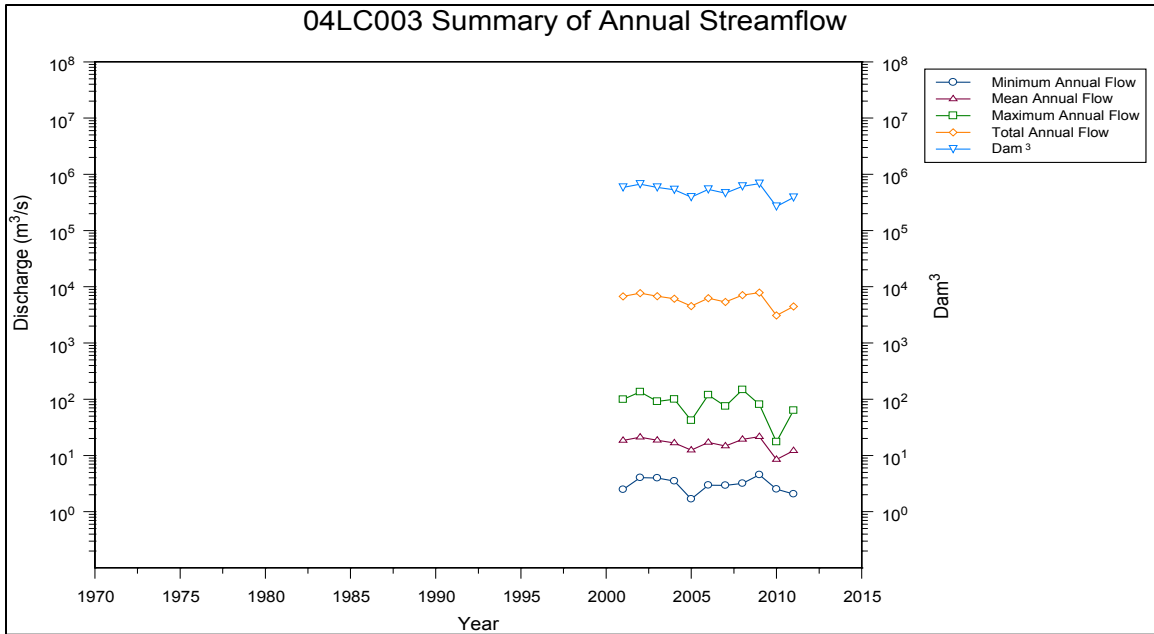
15. IVANHOE RIVER AT FOLEYET: 04LC003



IVANHOE RIVER AT FOLEYET: 04LC003

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 11 Years (2001-2011)
- Sample Size n: 4017
- Mean Annual Flow: 16.422 cms
- Standard Deviation: 17.307 cms
- Minimum Streamflow: 1.68cms
- Lower Quartile Q_1 : 6.83cms
- Median Streamflow: 10.5cms
- Upper Quartile Q_3 : 18.8cms
- Maximum Streamflow: 148cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 07 Nov – 17 April
 - No of Ice Days (Min–Median –Max): 97 -135 -155



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	24.30	12.40	23.00	148.00	119.00	74.70	80.60	30.30	30.60	38.80	42.40	43.40	148.00
0.1	24.30	12.40	23.00	148.00	119.00	74.70	80.60	30.30	30.60	38.80	42.40	43.40	137.85
1	22.08	12.17	15.24	140.00	100.36	66.10	77.98	27.84	29.15	38.26	39.10	42.66	95.70
5	15.50	10.60	11.00	114.00	85.80	43.00	34.70	20.50	16.75	31.10	36.75	35.00	50.30
10	13.90	9.73	10.40	97.40	74.15	33.85	24.30	17.55	14.45	27.25	31.30	28.50	34.40
15	12.40	9.35	9.70	84.85	63.70	30.70	20.70	14.40	10.60	23.70	27.55	22.80	27.40
20	11.70	9.10	9.48	65.10	57.95	28.90	18.15	12.00	9.33	20.20	23.70	20.00	22.60
25	11.30	8.78	9.20	52.70	54.80	26.60	17.10	9.72	8.68	18.70	21.60	17.20	19.20
30	10.95	8.53	9.00	40.80	49.35	23.90	15.75	8.64	7.53	17.40	18.35	15.80	16.30
35	10.50	8.40	8.72	36.60	46.40	21.85	14.90	7.24	6.41	16.30	16.25	15.00	14.80
40	10.15	8.05	8.20	30.25	43.10	20.50	13.90	6.18	4.90	15.60	15.40	13.80	13.70
45	9.98	7.85	7.80	27.95	40.00	19.60	12.40	5.68	4.66	15.00	15.20	13.30	12.20
50	9.80	7.75	7.67	24.95	35.50	18.30	11.25	4.90	4.35	14.60	15.00	12.80	10.90
55	9.55	7.60	7.45	23.45	33.90	16.25	8.91	4.22	4.24	14.20	14.75	12.00	10.00
60	9.25	7.40	7.13	21.40	29.50	14.45	7.94	3.86	4.05	13.30	14.35	11.30	9.30
65	8.98	7.28	6.77	17.85	26.90	13.50	6.79	3.59	3.80	12.50	14.10	11.00	8.65
70	8.73	7.18	6.55	14.45	24.70	12.15	6.20	3.47	3.58	11.30	13.65	10.70	8.00
75	8.50	6.97	6.42	12.90	23.30	9.69	5.17	3.36	3.36	10.30	13.10	10.40	7.35
80	8.23	6.53	6.26	10.55	21.35	7.80	4.86	3.29	3.27	9.38	12.35	10.20	6.48
85	7.70	6.45	6.15	9.28	18.80	6.50	4.50	3.24	3.05	7.15	11.00	9.70	5.79
90	7.03	6.23	5.95	8.55	13.60	5.77	4.18	2.51	2.94	4.51	9.77	9.08	4.39
91	6.95	6.20	5.86	8.46	13.12	5.67	4.04	2.45	2.73	4.41	9.47	9.01	4.23
92	6.79	6.19	5.81	8.38	12.35	5.54	3.84	2.41	2.47	4.35	9.00	8.92	4.06
93	6.70	6.16	5.79	8.30	9.96	5.45	3.55	2.25	2.28	4.28	8.68	8.80	3.74
94	6.61	6.14	5.78	8.25	9.73	5.39	3.36	2.13	2.00	4.21	8.45	8.76	3.54
95	6.48	6.11	5.75	8.05	9.60	5.27	3.27	2.03	1.92	4.17	8.37	8.65	3.40
96	6.40	6.07	5.70	7.85	9.10	5.11	3.05	1.98	1.86	4.09	8.28	8.55	3.29
97	6.32	6.05	5.67	7.09	8.48	4.78	2.97	1.98	1.78	3.80	8.21	8.39	3.21
98	6.26	6.00	5.64	6.37	7.86	4.74	2.50	1.96	1.75	3.52	8.12	8.16	2.94
99	6.21	5.92	5.60	5.18	6.86	4.61	2.38	1.88	1.73	3.41	7.94	7.70	2.11
99.9	6.17	5.80	5.58	4.52	6.43	4.21	2.27	1.82	1.68	3.27	7.54	7.55	1.73
99.99	6.17	5.80	5.58	4.52	6.43	4.21	2.27	1.82	1.68	3.27	7.54	7.55	1.68

04LC003: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Value
Base Flow Index	0.615
10:90 Ratio	7.836
Sqrt(Q ₂₅ /Q ₇₅)	1.616

04LC003: Parameters from Flow Duration Curves

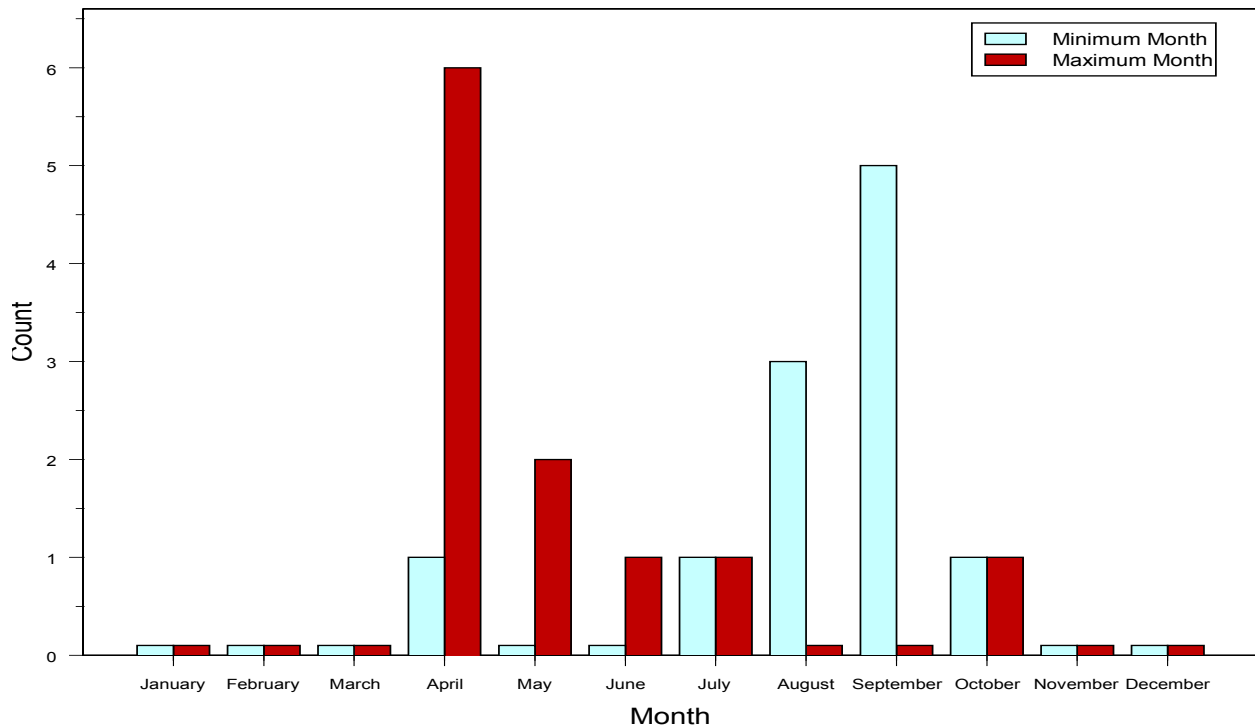
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	24	64	128.618 (8.604)	33.399 (5.632)	0.143 (0.050)	0.035
Low Flow	-5	51	-1.870 (0.030)	0.156 (0.017)	-0.688 (0.041)	0.038

04LC003: Flood/LoFlow Descriptive Indices above/below a Threshold Value

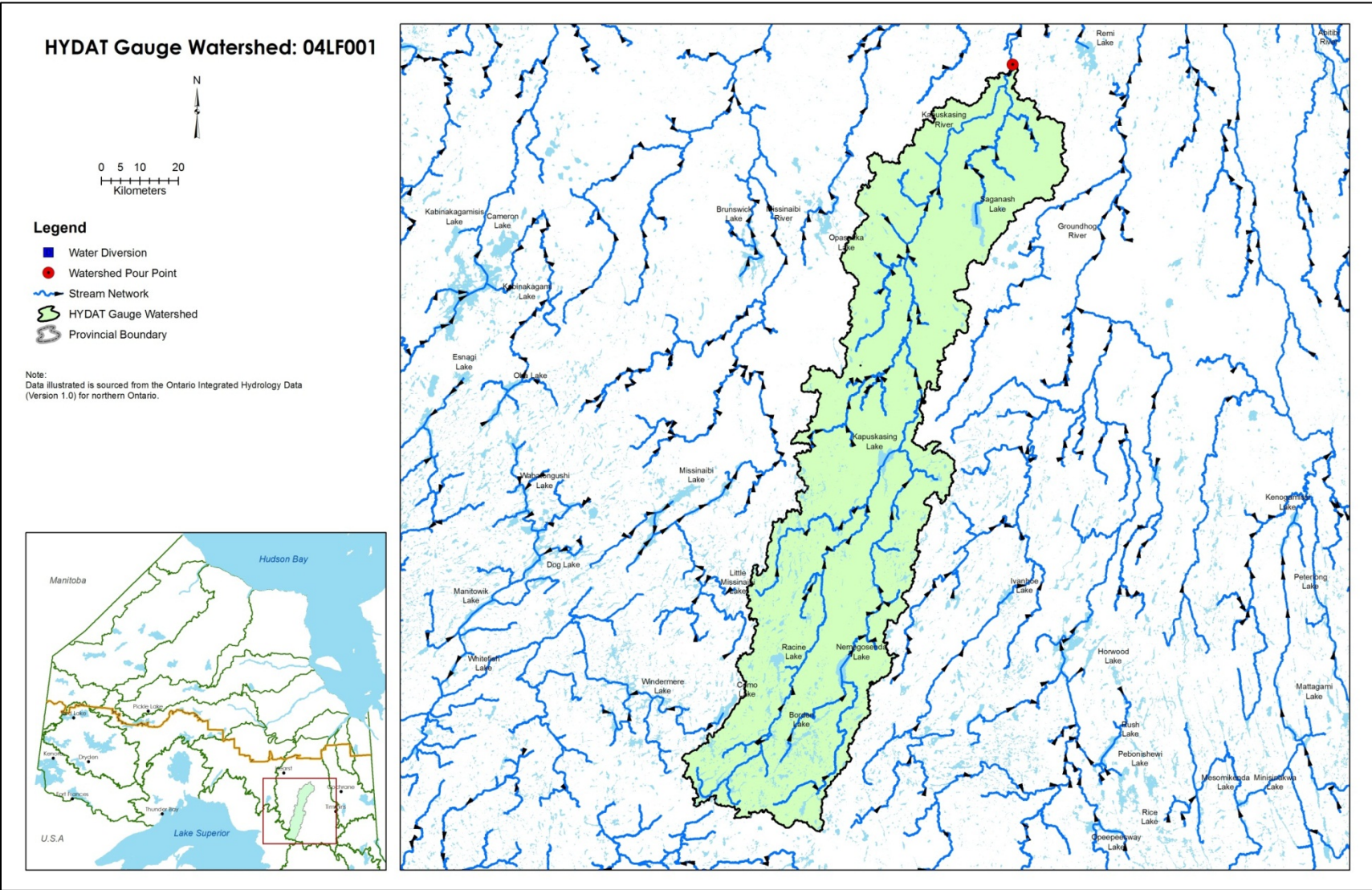
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	97.80	128.00	142.00	154.00	167.00	175.00	182.00	191.00
7 Day Low Flow	3.389	2.548	2.192	1.951	1.738	1.630	Not Applicable	Not Applicable

04LC003: Flood and Low Flow Estimates

04LC003 Summary of flood and low flow events by month



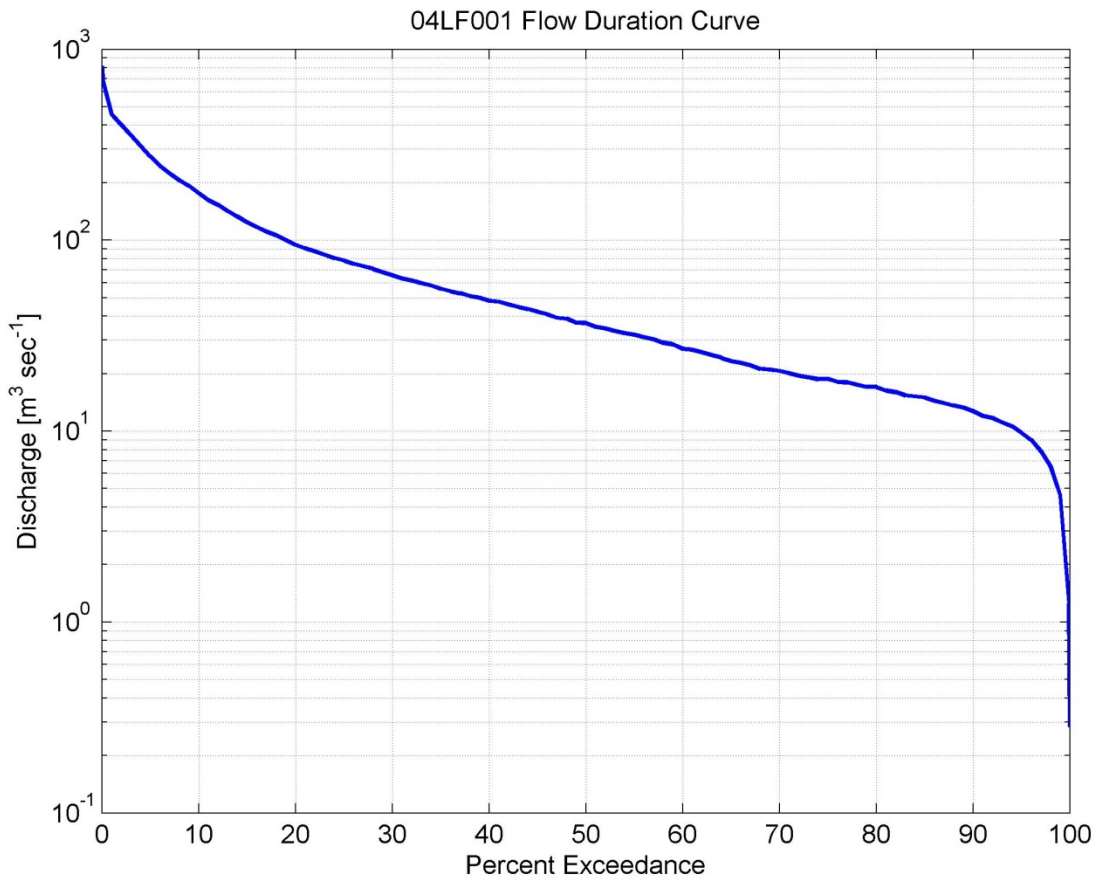
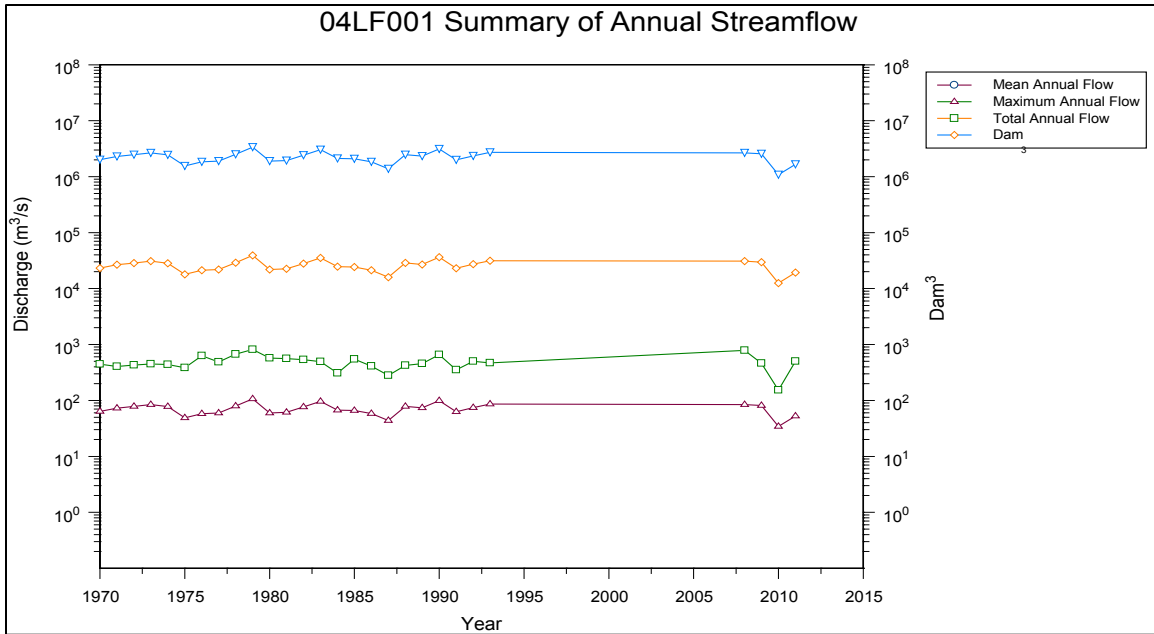
16. KAPUSKASING RIVER AT KAPUSKASING: 04LF001



KAPUSKASING RIVER AT KAPUSKASING: 04LF001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 28 Years (1970-2011)
- Sample Size n: 10227
- Mean Annual Flow: 70.99 cms
- Standard Deviation: 93.43 cms
- Minimum Streamflow: 0.28 cms
- Lower Quartile Q_1 : 18.7cms
- Median Streamflow: 36.8cms
- Upper Quartile Q_3 : 78.2cms
- Maximum Streamflow: 813cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	44.000	33.900	59.200	783.000	813.000	395.000	251.000	236.000	165.000	331.000	212.000	147.000	810.390
0.1	43.742	33.559	59.126	774.840	811.160	394.660	251.000	229.008	163.640	324.008	212.000	144.424	684.360
1	37.782	30.266	56.000	630.200	652.560	301.500	232.820	176.460	144.200	255.100	181.000	87.604	456.000
5	34.120	23.000	30.140	429.000	477.200	221.000	161.100	88.300	107.000	162.500	140.000	64.090	275.000
10	32.270	21.000	22.100	305.500	441.000	196.000	123.700	75.560	79.000	114.000	109.500	54.500	176.000
15	29.000	20.380	19.500	266.000	416.000	174.000	107.000	63.000	66.900	95.370	91.500	50.000	124.000
20	26.600	19.170	18.700	221.500	387.900	159.000	97.350	55.190	59.000	85.500	80.700	48.000	94.600
25	25.150	18.700	18.100	175.000	365.000	148.000	89.800	48.400	54.100	77.900	75.000	44.200	78.200
30	24.000	18.100	17.800	135.000	347.000	135.000	82.100	43.600	49.300	72.280	68.000	41.330	65.400
35	23.000	18.000	17.000	94.150	321.000	127.000	75.240	40.640	43.600	66.640	64.850	39.000	55.750
40	22.100	17.000	16.000	78.800	290.300	118.000	68.000	36.800	39.100	62.000	58.300	36.800	48.100
45	21.000	17.000	15.600	67.500	268.000	112.000	62.690	34.000	35.900	57.270	53.700	34.500	42.150
50	20.700	16.100	15.050	58.000	244.500	104.000	56.900	31.650	31.000	52.350	50.850	33.000	36.800
55	20.100	15.300	14.600	42.500	227.000	92.200	50.400	29.200	27.000	49.000	48.100	31.100	31.950
60	19.300	15.000	14.000	32.600	210.700	83.000	45.000	26.940	22.100	45.670	45.950	29.700	27.000
65	18.700	14.390	13.600	26.600	194.000	77.000	39.100	23.600	18.950	41.300	43.450	28.000	23.200
70	18.100	13.600	13.000	22.700	168.900	68.000	34.500	21.000	17.000	35.790	40.200	26.600	20.700
75	17.450	12.800	12.150	20.450	153.500	61.150	31.000	18.100	15.000	31.400	38.450	25.150	18.700
80	16.200	12.000	11.700	17.500	135.000	54.550	27.600	16.000	13.600	26.150	35.700	23.010	17.000
85	14.840	11.410	11.000	15.500	109.000	48.000	24.400	12.170	11.200	18.470	32.150	21.100	15.000
90	13.230	10.090	9.889	12.900	88.490	42.000	20.700	9.135	9.255	13.600	26.000	18.900	12.700
91	12.000	9.855	9.729	12.430	85.000	40.000	19.748	8.411	8.000	13.000	24.710	18.600	12.030
92	11.188	9.207	9.148	11.870	79.300	38.350	19.000	7.790	7.661	12.488	23.570	18.100	11.700
93	10.700	9.000	8.985	11.000	76.000	37.000	18.404	6.933	6.673	11.526	21.660	17.626	11.100
94	10.000	8.143	8.500	10.290	71.522	36.000	17.000	6.000	6.000	11.100	16.980	16.658	10.600
95	9.484	8.000	8.000	9.500	64.280	34.600	16.090	5.778	5.580	10.500	16.100	14.360	9.780
96	8.009	7.926	7.730	9.012	62.000	32.640	15.066	5.300	5.271	9.803	15.300	13.344	9.000
97	7.661	7.393	6.970	7.623	57.000	22.680	13.708	4.250	4.825	9.389	14.400	7.762	7.861
98	6.092	6.577	6.000	7.420	48.000	17.770	11.786	3.979	4.224	9.170	13.600	6.992	6.540
99	4.620	3.362	3.861	6.729	35.314	15.600	10.918	3.264	2.120	7.943	10.890	4.645	4.620
99.9	0.633	0.821	2.175	2.070	20.761	8.682	5.999	1.855	0.283	3.945	2.685	1.423	1.249
99.99	0.623	0.765	2.120	1.560	18.700	7.900	4.880	1.700	0.283	3.540	2.100	1.360	0.283

04LF001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Value
Base Flow Index	0.519
10:90 Ratio	13.858
Sqrt(Q ₂₅ /Q ₇₅)	2.045

04LF001: Parameters from Flow Duration Curves

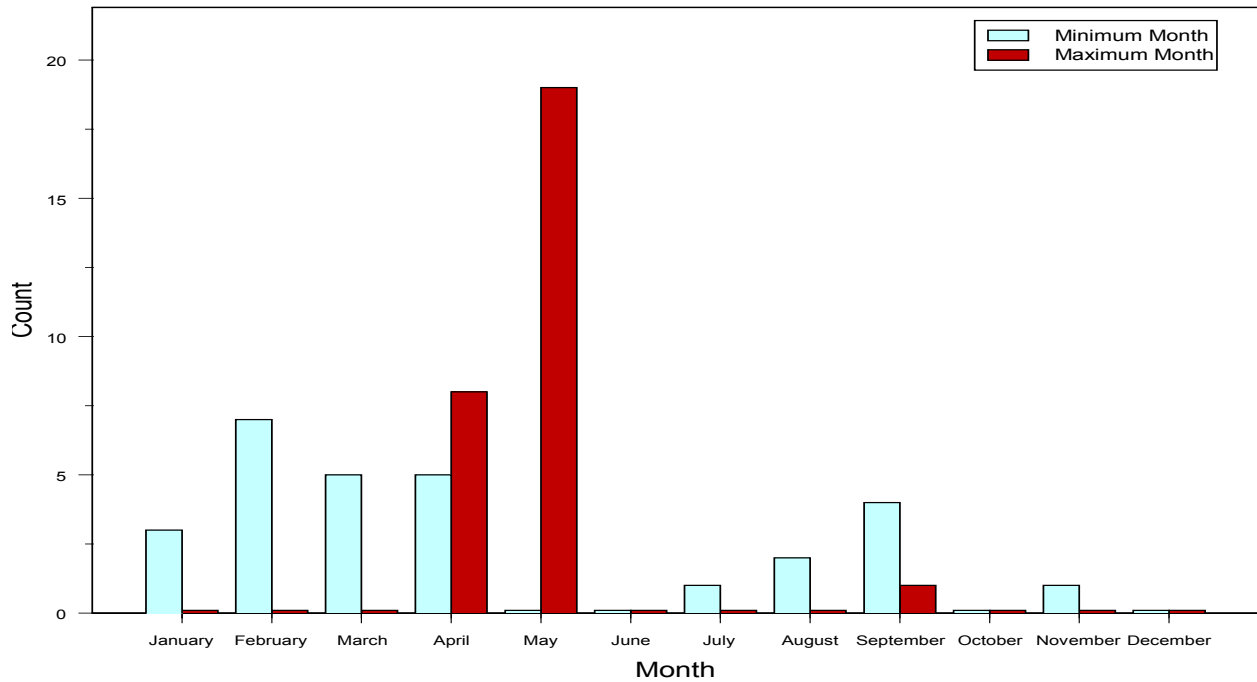
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	125	54	593.611 (14.047)	93.834 (7.134)	-0.108 (0.025)	0.046
Low Flow	-12	31	-2.513 (0.189)	1.381 (0.090)	-0.365 (0.029)	0.067

04LF001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	498.00	630.00	706.00	774.00	885.00	913.00	967.00	1040.00
7 Day Low Flow	12.040	8.261	6.350	4.861	3.333	2.424	Not Applicable	Not Applicable

04LF001: Flood and Low Flow Estimates

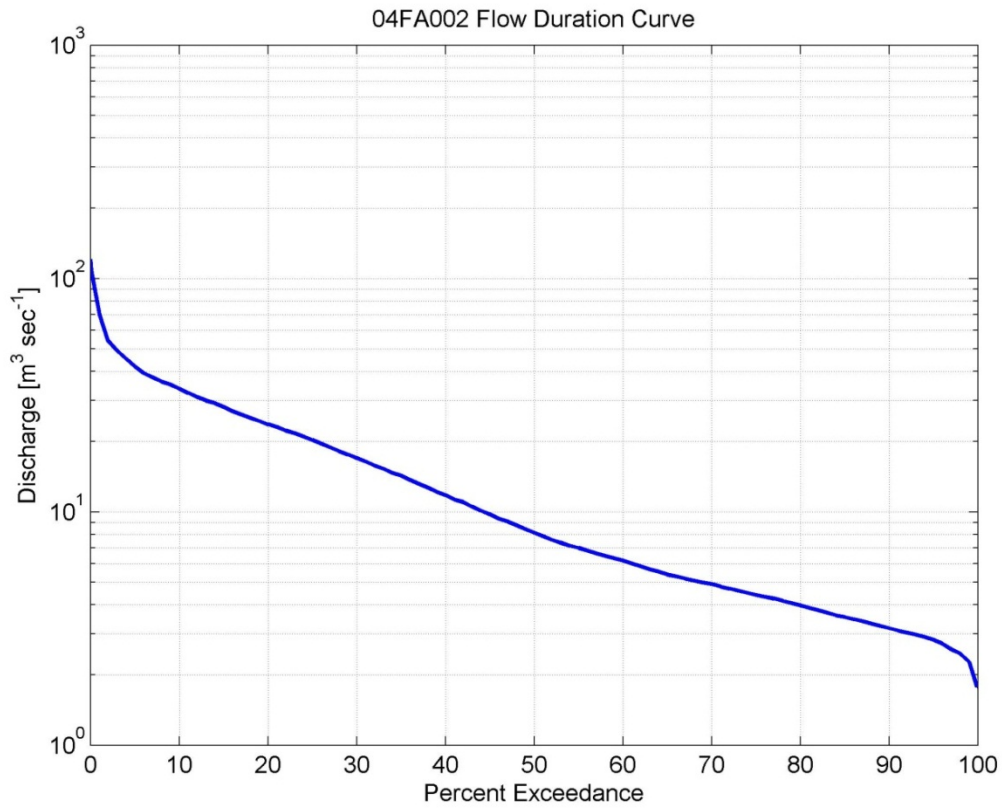
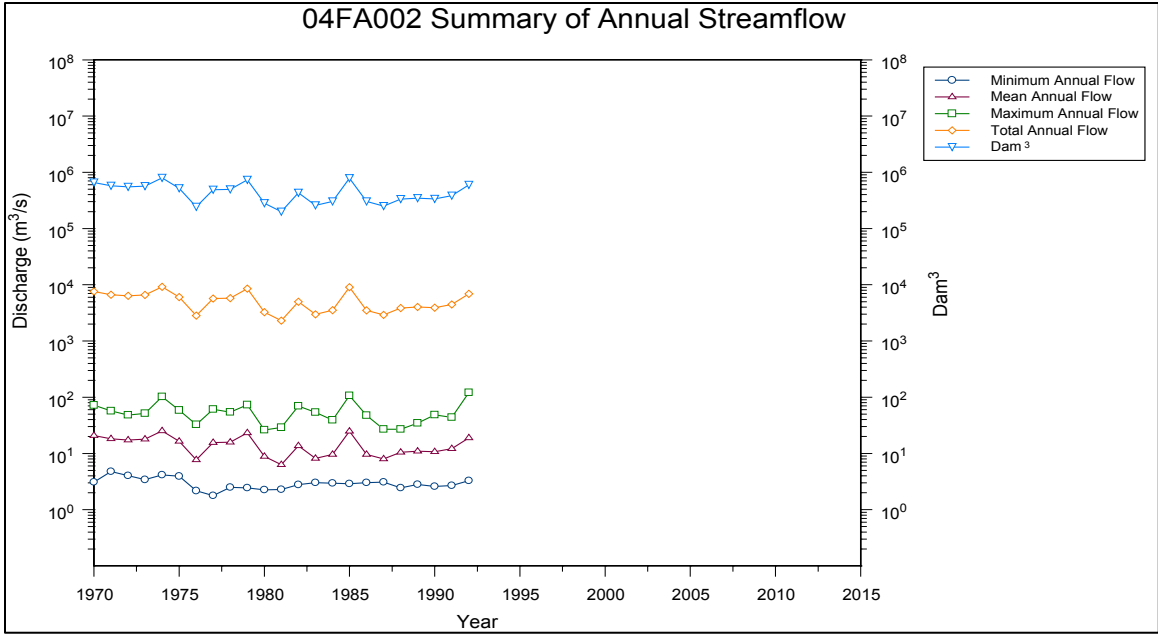
04LF001 Summary of flood and low flow events by month



KAWINOGANS RIVER NEAR PICKLE CROW: 04FA002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 23 Years (1970 -1992)
- Sample Size n: 8401
- Mean Annual Flow: 14.38 cms
- Standard Deviation: 14.80 cms
- Minimum Streamflow: 1.78cms
- Lower Quartile Q_1 : 4.4cms
- Median Streamflow: 8.12cms
- Upper Quartile Q_3 : 20.3cms
- Maximum Streamflow: 121cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 03 Nov – 26 April
 - No of Ice Days (Min–Median –Max): 103 -149 -176



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	10.500	6.630	5.380	81.600	121.000	99.700	72.200	56.400	73.500	50.600	56.700	19.000	121.000
0.1	10.457	6.630	5.380	80.156	121.000	99.586	71.902	56.400	73.405	50.259	56.453	18.936	108.210
1	9.611	6.510	5.270	56.600	111.480	96.120	58.240	50.922	66.660	42.874	48.240	17.348	70.230
5	8.550	6.069	4.930	29.200	94.525	49.800	39.600	43.000	44.200	36.470	30.300	13.285	41.975
10	7.736	5.720	4.730	24.050	58.080	41.900	33.020	34.800	37.900	29.720	22.450	11.600	33.700
15	7.190	5.464	4.530	19.200	52.130	37.700	28.465	30.900	35.700	26.000	19.300	10.600	28.100
20	6.740	5.210	4.417	13.100	47.870	34.750	25.600	27.290	32.200	23.700	16.050	9.800	23.700
25	6.400	4.930	4.168	9.090	44.275	32.500	23.925	23.700	28.400	22.325	14.900	8.780	20.300
30	5.970	4.700	3.850	7.340	39.720	30.850	22.060	21.900	24.900	20.900	13.650	8.130	17.000
35	5.519	4.491	3.730	5.570	37.700	28.400	20.100	19.200	21.700	18.995	12.500	7.300	14.300
40	5.286	4.280	3.563	4.930	35.700	26.200	18.800	16.760	19.400	17.500	11.500	7.050	11.800
45	5.130	4.097	3.373	4.360	33.030	23.800	17.665	14.265	16.600	16.365	10.300	6.733	9.740
50	4.970	3.960	3.230	4.160	30.700	22.450	16.400	12.100	15.300	14.600	9.360	6.340	8.140
55	4.844	3.820	3.150	4.020	29.200	20.900	15.000	9.298	12.300	12.300	8.920	6.067	7.000
60	4.700	3.710	3.090	3.775	27.670	18.850	13.600	8.204	9.685	11.300	8.220	5.857	6.170
65	4.531	3.570	3.031	3.550	25.810	17.000	12.500	6.623	7.500	10.300	7.670	5.671	5.380
70	4.384	3.450	2.970	3.400	24.140	15.500	11.100	5.944	6.555	9.272	7.180	5.500	4.900
75	4.208	3.330	2.850	3.200	21.400	14.400	9.493	5.170	4.640	7.870	6.920	5.300	4.403
80	4.041	3.200	2.780	3.040	19.100	13.200	8.153	4.531	3.985	6.585	6.650	5.041	3.970
85	3.850	3.030	2.680	2.920	15.245	11.700	7.164	3.780	3.510	5.720	6.320	4.569	3.540
90	3.508	2.900	2.510	2.835	12.600	9.600	6.228	3.448	3.260	5.080	4.980	4.216	3.170
91	3.380	2.880	2.490	2.802	12.034	9.166	6.017	3.397	3.230	4.957	4.830	4.133	3.100
92	3.195	2.860	2.480	2.680	11.500	8.705	5.882	3.335	3.164	4.670	4.241	3.641	3.040
93	3.124	2.830	2.460	2.618	11.300	8.304	5.605	3.282	3.088	4.458	3.952	3.514	2.980
94	3.080	2.681	2.450	2.590	11.000	8.118	5.418	3.140	2.998	4.333	3.829	3.403	2.910
95	3.012	2.574	2.383	2.550	10.700	7.860	5.216	2.970	2.810	4.220	3.710	3.302	2.830
96	2.591	1.980	2.022	2.521	10.500	7.505	5.090	2.750	2.470	2.972	3.591	3.111	2.720
97	2.377	1.926	1.810	2.500	10.200	7.302	4.908	2.639	2.440	2.799	3.516	2.997	2.574
98	2.205	1.880	1.800	2.335	9.860	6.932	4.436	2.500	2.413	2.548	3.430	2.860	2.470
99	2.093	1.849	1.780	2.284	9.614	5.678	3.774	2.425	2.364	2.490	3.370	2.750	2.275
99.9	2.010	1.830	1.780	2.250	8.788	3.621	2.652	2.181	2.296	2.472	3.206	2.666	1.780
99.99	2.010	1.830	1.780	2.250	8.690	3.560	2.650	2.170	2.290	2.470	3.200	2.660	1.780

04FA002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.645
10:90 Ratio	10.631
Sqrt(Q ₂₅ /Q ₇₅)	2.147

04FA002: Parameters from Flow Duration Curves

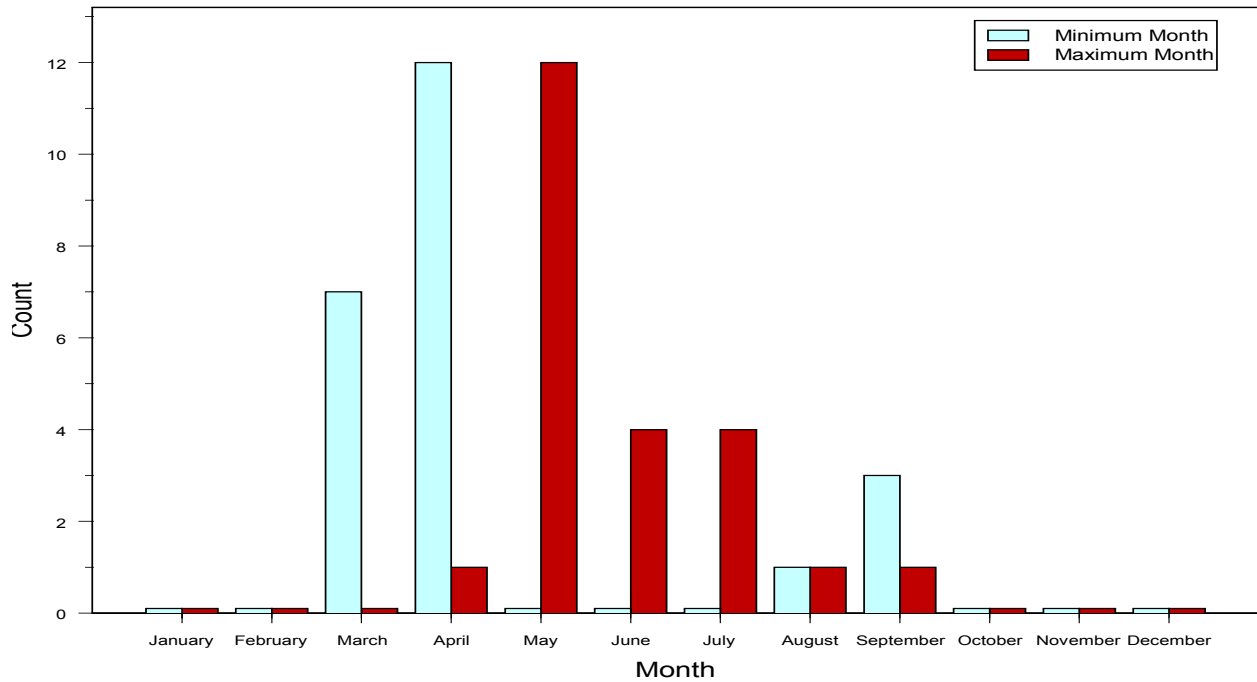
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	28	55	94.330 (3.547)	21.842 (2.274)	0.145 (0.031)	0.028
Low Flow	-4	74	-1.911 (0.014)	0.113 (0.006)	-0.566 (0.018)	0.017

04FA002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	50.20	77.10	98.10	121.00	153.00	180.00	209.00	251.00
7 Day Low Flow	2.814	2.344	2.137	1.992	1.859	1.789	Not Applicable	Not Applicable

04FA002: Flood and Low Flow Estimates

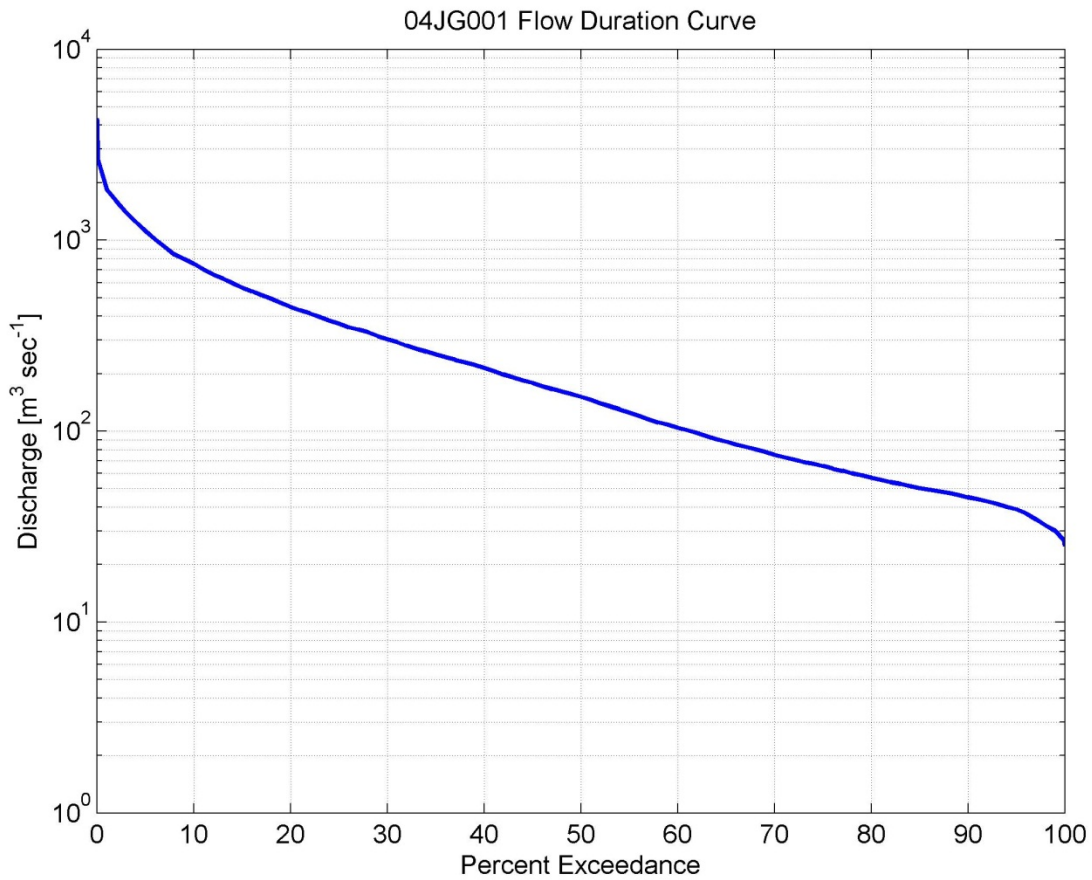
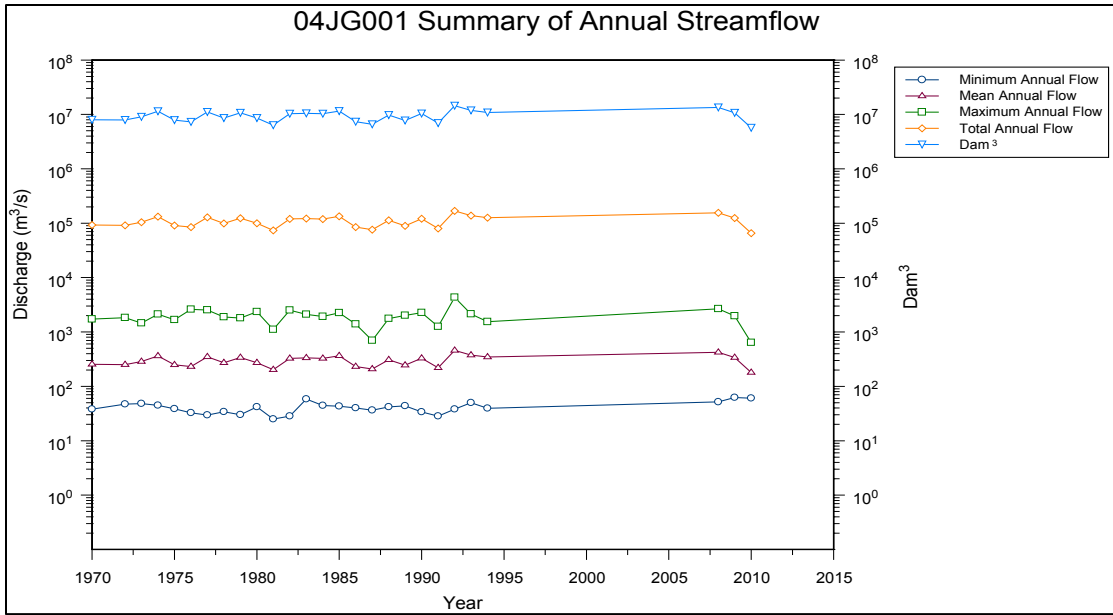
04FA002 Summary of flood and low flow events by month



KENOGAMI RIVER NEAR MAMMAMATTAWA: 04JG001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 27 Years (1970-2010)
- Sample Size n: 9862
- Mean Annual Flow: 299.61 cms
- Standard Deviation: 386.06 cms
- Minimum Streamflow: 25 cms
- Lower Quartile Q_1 : 65.5 cms
- Median Streamflow: 150 cms
- Upper Quartile Q_3 : 365 cms
- Maximum Streamflow: 4340 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 26 Oct – 23 May
 - No of Ice Days (Min–Median –Max): 124 -169 -191



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	197.00	103.00	202.00	2660.00	4340.00	1580.00	1930.00	1540.00	1130.00	886.00	691.00	360.00	4218.63
0.1	195.32	102.74	200.99	2644.50	4255.75	1561.40	1919.89	1516.41	1117.60	877.24	689.76	348.88	2656.45
1	164.52	91.12	178.26	2450.00	2695.20	1454.00	1346.50	911.98	842.00	810.65	607.40	271.26	1850.00
5	117.65	78.00	87.33	1790.00	2010.00	1060.00	812.30	669.30	567.00	665.65	479.00	202.00	1120.00
10	103.80	73.69	71.90	1005.00	1778.00	908.50	647.60	515.00	478.00	579.60	419.50	177.80	753.00
15	97.00	70.21	67.10	795.00	1669.00	810.00	548.90	379.95	417.00	495.95	388.00	164.00	564.00
20	92.00	66.06	61.12	593.50	1530.00	735.00	462.00	311.00	316.00	447.10	360.50	156.10	447.50
25	88.00	62.00	55.13	450.00	1420.00	660.00	408.00	273.00	275.00	402.00	330.00	147.00	365.00
30	85.00	59.57	51.88	330.00	1330.00	607.00	372.20	247.40	240.50	369.40	296.00	138.40	303.00
35	81.50	57.00	50.20	234.00	1250.00	560.00	340.00	212.55	217.00	345.10	272.00	131.00	252.25
40	77.00	54.91	48.60	154.50	1177.00	530.50	314.00	185.70	190.00	326.70	254.50	125.00	214.00
45	73.09	53.50	47.50	123.00	1100.00	504.00	290.00	169.85	165.00	298.70	237.00	119.00	179.00
50	68.50	52.00	46.00	107.00	1040.00	471.00	265.00	155.00	149.00	275.00	225.50	114.00	151.00
55	65.00	50.37	45.00	86.20	954.45	436.00	240.15	140.15	136.00	253.00	213.00	110.00	125.00
60	62.36	48.70	44.00	70.65	875.00	393.50	217.30	122.00	116.50	238.00	198.50	105.00	104.00
65	59.50	47.31	42.80	62.30	812.70	361.00	195.45	108.00	101.00	221.00	185.00	100.00	88.00
70	56.60	45.90	41.66	56.75	748.20	335.50	176.00	94.24	92.40	205.00	170.00	93.40	75.10
75	54.50	43.70	40.50	51.00	680.00	300.00	163.00	83.30	79.00	180.00	154.00	84.30	65.60
80	51.50	41.90	39.60	48.10	614.00	262.50	134.80	72.98	67.40	155.00	144.00	76.00	57.00
85	48.40	38.80	37.10	45.00	537.05	234.00	112.00	65.72	58.30	128.00	130.00	68.81	50.30
90	43.64	33.10	35.46	41.75	417.80	192.00	93.72	57.20	50.15	98.64	91.75	59.76	45.00
91	40.15	32.05	34.50	40.24	392.98	184.80	90.40	56.52	49.20	90.31	85.02	56.90	44.00
92	37.08	31.50	34.00	39.90	364.46	180.00	88.94	55.64	48.63	81.92	80.37	51.78	42.80
93	34.61	31.10	33.91	39.60	340.09	171.20	85.52	54.00	47.42	77.90	75.00	44.55	41.54
94	33.44	30.89	31.02	39.42	297.00	156.50	83.38	51.76	46.40	75.90	67.46	40.42	40.08
95	32.84	30.00	30.47	38.80	271.80	142.00	81.38	48.32	43.90	73.41	62.60	38.87	38.90
96	32.30	30.00	30.29	38.50	245.98	129.70	77.57	41.48	39.82	68.79	56.04	37.70	37.00
97	31.70	30.00	29.76	38.38	222.22	117.80	71.79	36.79	32.38	64.84	50.88	36.42	34.50
98	31.10	29.70	28.80	38.04	204.48	104.40	60.45	33.30	31.47	39.53	47.57	35.15	32.10
99	30.30	29.70	28.50	35.58	176.96	86.36	49.79	31.10	29.14	28.96	43.48	33.96	30.01
99.9	30.10	29.00	28.30	32.09	140.37	64.66	42.54	28.47	25.43	25.00	40.59	32.67	26.88
99.99	30.00	29.00	28.30	32.00	137.00	64.50	41.80	28.30	25.40	25.00	40.50	32.60	25.00

04JG001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.544
10:90 Ratio	10.631
Sqrt(Q ₂₅ /Q ₇₅)	2.147

04JG001: Parameters from Flow Duration Curves

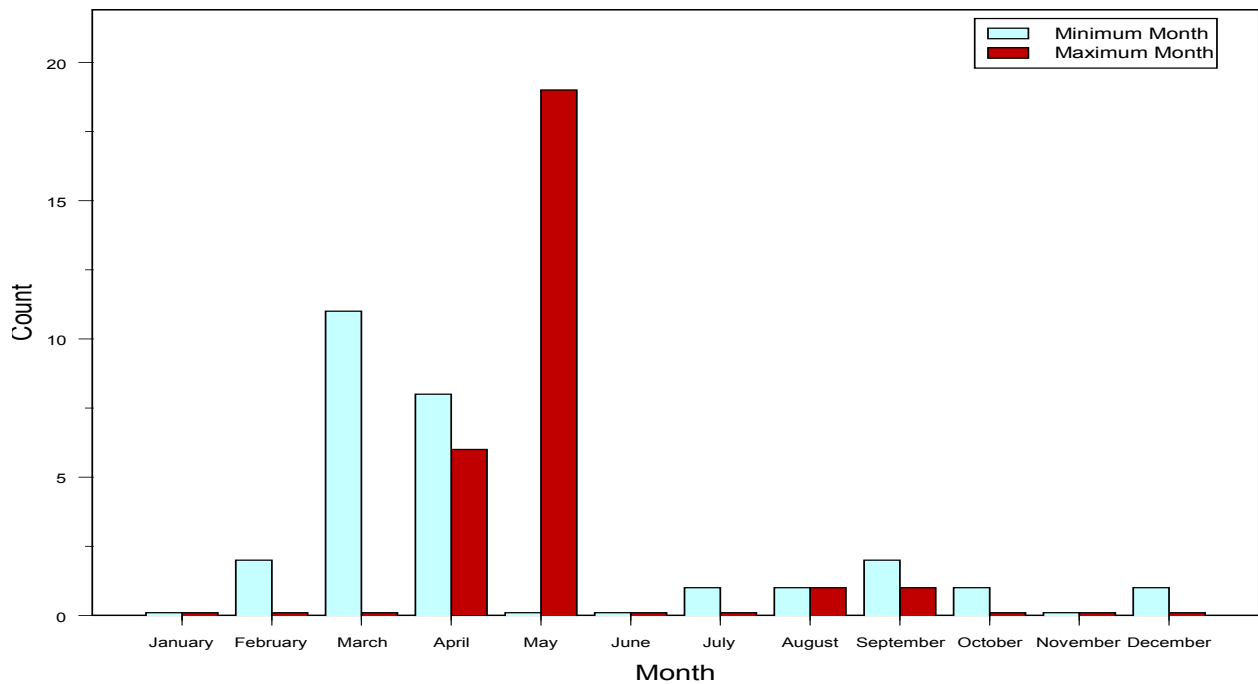
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	900	26	2486.352 (57.950)	415.521 (26.706)	-0.092 (0.026)	0.071
Low Flow	-50	53	-27.428 (0.172)	1.505 (0.067)	-0.566 (0.017)	0.029

04JG001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1930.00	2520.00	2870.00	3190.00	3580.00	3850.00	4120.00	4470.00
7 Day Low Flow	40.780	32.560	29.190	26.960	25.050	24.100	Not Applicable	Not Applicable

04JG001: Flood and Low Flow Estimates

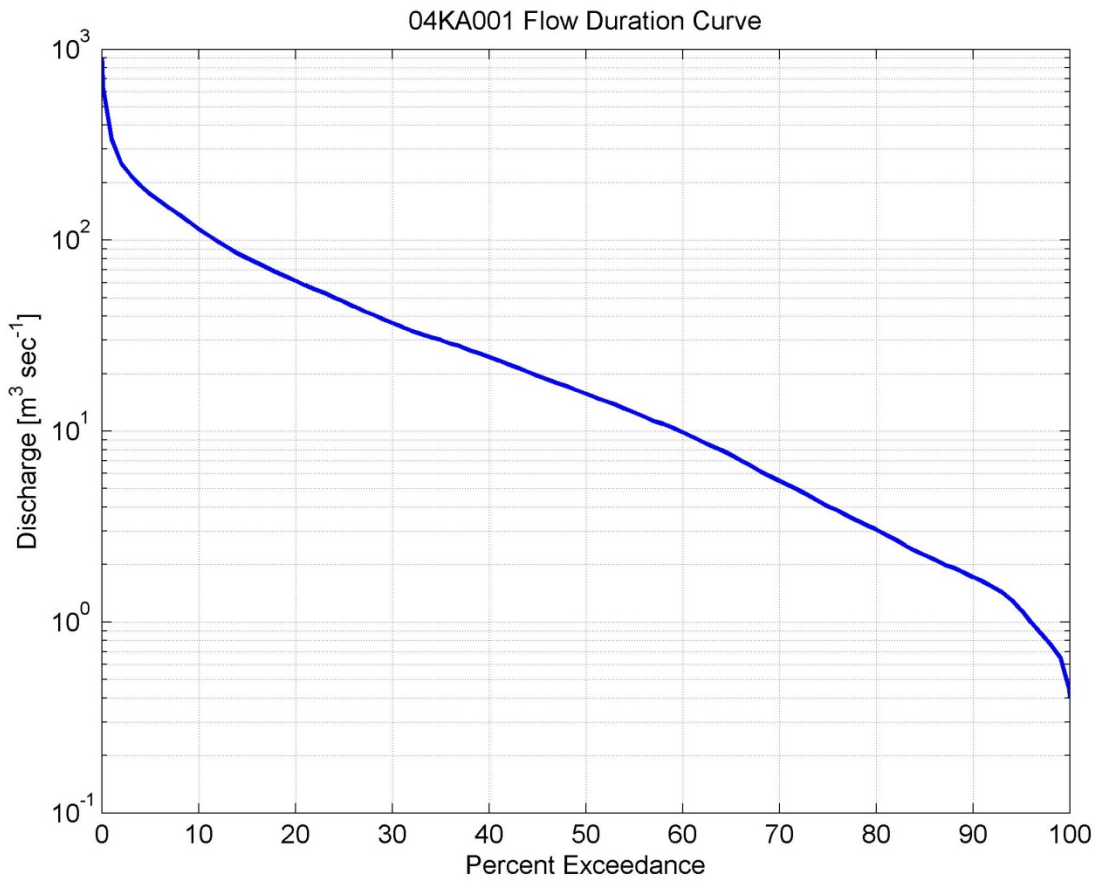
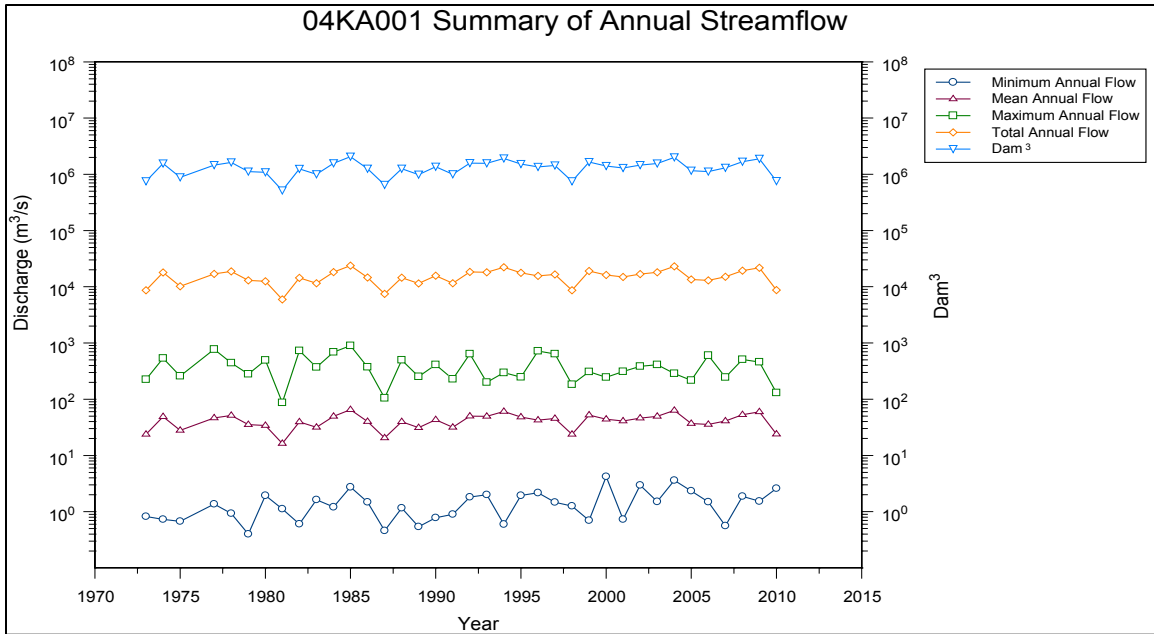
04JG001 Summary of flood and low flow events by months



KWATABOAHEGAN RIVER NEAR THE MOUTH: 04KA001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 37 Years (1973 -2010)
- Sample Size n: 13513
- Mean Annual Flow: 41.70 cms
- Standard Deviation: 69.87 cms
- Minimum Streamflow: 0.4 cms
- Lower Quartile Q_1 : 4.02cms
- Median Streamflow: 15.6cms
- Upper Quartile Q_3 : 47.5cms
- Maximum Streamflow: 897cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 24 Oct – 12 May
 - No of Ice Days (Min–Median –Max): 126 – 166 – 191



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	31.800	13.000	90.000	897.000	730.000	252.000	255.000	201.000	245.000	241.000	203.000	70.000	848.522
0.1	30.959	12.786	75.443	862.230	723.530	248.340	253.059	197.118	243.780	241.000	195.070	68.706	639.990
1	23.918	10.542	16.130	581.800	601.180	190.000	178.000	154.000	220.800	208.000	143.000	56.030	337.450
5	14.000	6.376	4.400	299.000	401.600	142.000	118.150	95.275	143.000	141.000	101.000	34.575	174.000
10	10.280	4.895	3.628	199.000	303.600	109.500	89.060	58.660	94.550	110.000	77.250	25.280	114.000
15	8.200	4.155	3.180	151.000	263.450	90.000	75.390	37.080	65.400	89.845	63.800	22.045	80.600
20	7.264	3.550	2.802	102.000	236.100	76.800	61.130	27.800	53.450	77.900	54.600	19.610	61.300
25	6.500	3.200	2.380	78.000	216.750	68.900	48.950	22.775	42.800	68.800	47.300	17.700	47.600
30	5.800	2.940	2.174	59.900	199.400	63.000	40.940	19.600	35.700	61.920	41.100	16.200	36.800
35	5.400	2.669	1.980	43.000	182.000	55.800	34.600	17.200	30.600	55.210	37.000	15.000	30.000
40	4.950	2.420	1.850	25.000	169.000	51.050	29.800	15.570	25.650	50.670	34.000	13.800	24.500
45	4.531	2.233	1.720	12.500	156.000	44.900	26.500	14.000	21.600	46.435	32.000	12.835	19.500
50	4.180	2.085	1.620	6.550	145.000	39.700	23.700	12.700	17.750	42.300	30.400	11.700	15.700
55	3.800	1.937	1.530	4.600	136.000	35.800	20.065	11.165	14.500	38.000	29.000	10.800	12.500
60	3.486	1.800	1.460	3.855	121.300	32.000	17.330	9.762	12.650	34.600	27.300	9.900	9.860
65	3.160	1.651	1.370	2.860	108.000	28.300	15.100	8.800	11.100	30.895	25.500	9.098	7.500
70	2.830	1.500	1.180	2.390	93.680	25.700	13.000	7.846	9.490	27.400	24.050	8.234	5.490
75	2.520	1.350	1.000	2.120	81.600	22.600	11.400	6.753	7.480	22.800	22.000	7.263	4.035
80	2.219	1.180	0.800	1.935	72.580	19.950	9.878	5.608	5.680	19.700	19.500	6.300	3.050
85	1.900	1.000	0.737	1.700	61.055	17.600	8.326	4.670	4.760	16.955	16.700	5.420	2.240
90	1.650	0.873	0.650	1.290	48.720	15.000	6.702	3.600	3.695	11.900	14.150	4.410	1.720
91	1.595	0.850	0.630	1.220	45.146	14.600	6.440	3.377	3.458	11.019	13.540	4.147	1.630
92	1.510	0.847	0.620	1.150	41.952	13.560	6.163	3.110	3.291	10.500	13.000	3.813	1.530
93	1.448	0.838	0.605	1.000	40.774	12.800	5.990	2.929	3.094	10.179	12.040	3.600	1.430
94	1.390	0.829	0.600	0.951	38.332	12.000	5.593	2.653	2.890	9.050	11.500	3.350	1.300
95	1.300	0.821	0.570	0.898	34.085	11.500	5.300	2.437	2.590	7.907	10.600	3.149	1.150
96	1.204	0.800	0.540	0.821	32.352	10.990	4.975	2.278	2.409	6.454	9.499	2.931	0.994
97	1.129	0.770	0.500	0.738	29.582	10.360	4.499	2.096	2.260	5.710	8.480	2.747	0.870
98	1.019	0.721	0.464	0.684	23.564	9.210	4.139	1.851	2.157	5.122	7.470	2.400	0.765
99	0.895	0.679	0.445	0.552	19.328	8.156	3.748	1.396	1.814	3.952	6.300	2.050	0.653
99.9	0.851	0.605	0.403	0.455	4.181	6.661	3.222	0.900	1.539	2.980	4.172	1.626	0.445
99.99	0.850	0.600	0.400	0.455	3.540	6.600	3.170	0.894	1.490	2.980	4.050	1.600	0.404

04KA001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Value
Base Flow Index	0.431
10:90 Ratio	66.279
Sqrt(Q ₂₅ /Q ₇₅)	3.435

04KA001: Parameters from Flow Duration Curves

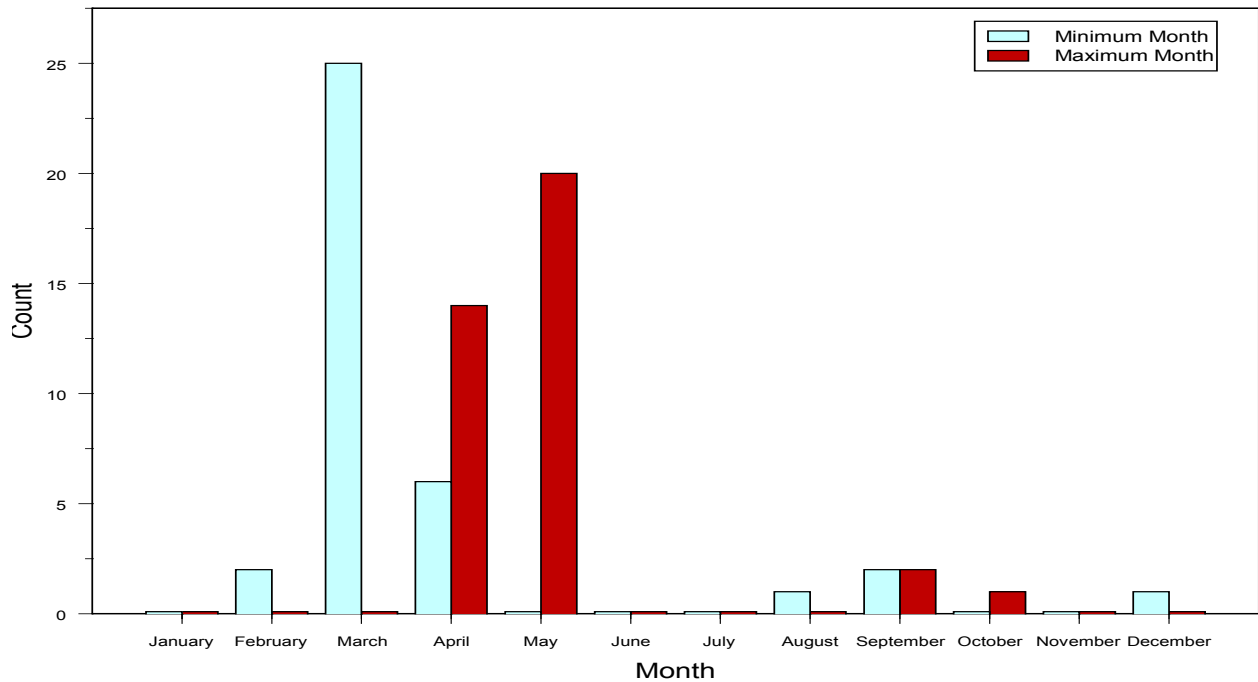
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	210	12	497.056 (18.647)	138.857 (16.235)	0.149 (0.066)	0.140
Low Flow	-1.5	28	-0.475 (0.007)	0.064 (0.004)	-0.809 (0.032)	0.026

04KA001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

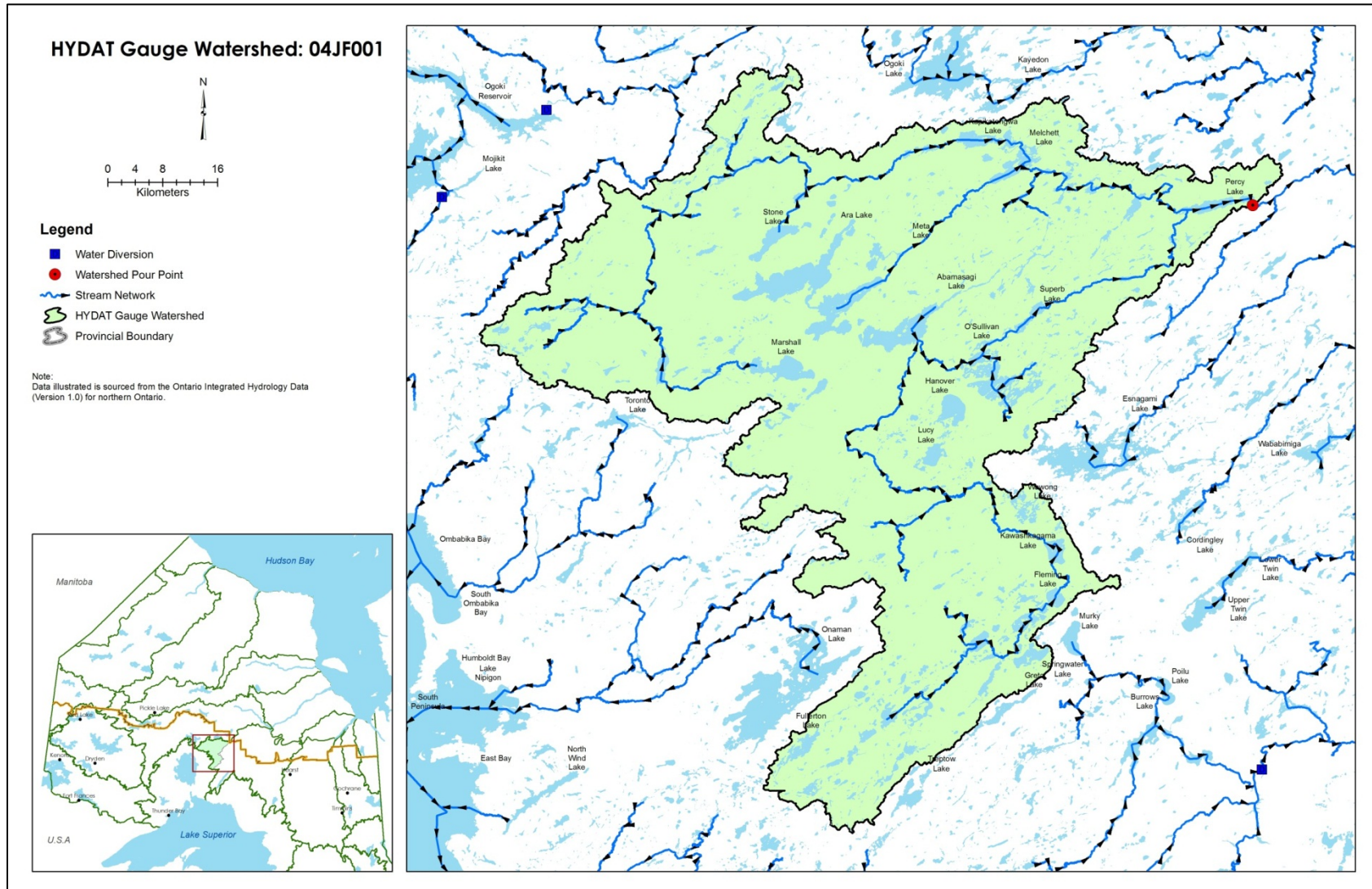
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	378.00	579.00	714.00	846.00	1020.00	1150.00	1290.00	1470.00
7 Day Low Flow	1.336	0.767	0.597	0.509	0.450	0.428	Not Applicable	Not Applicable

04KA001: Flood and Low Flow Estimates

04KA001 Summary of flood and low flow events by month



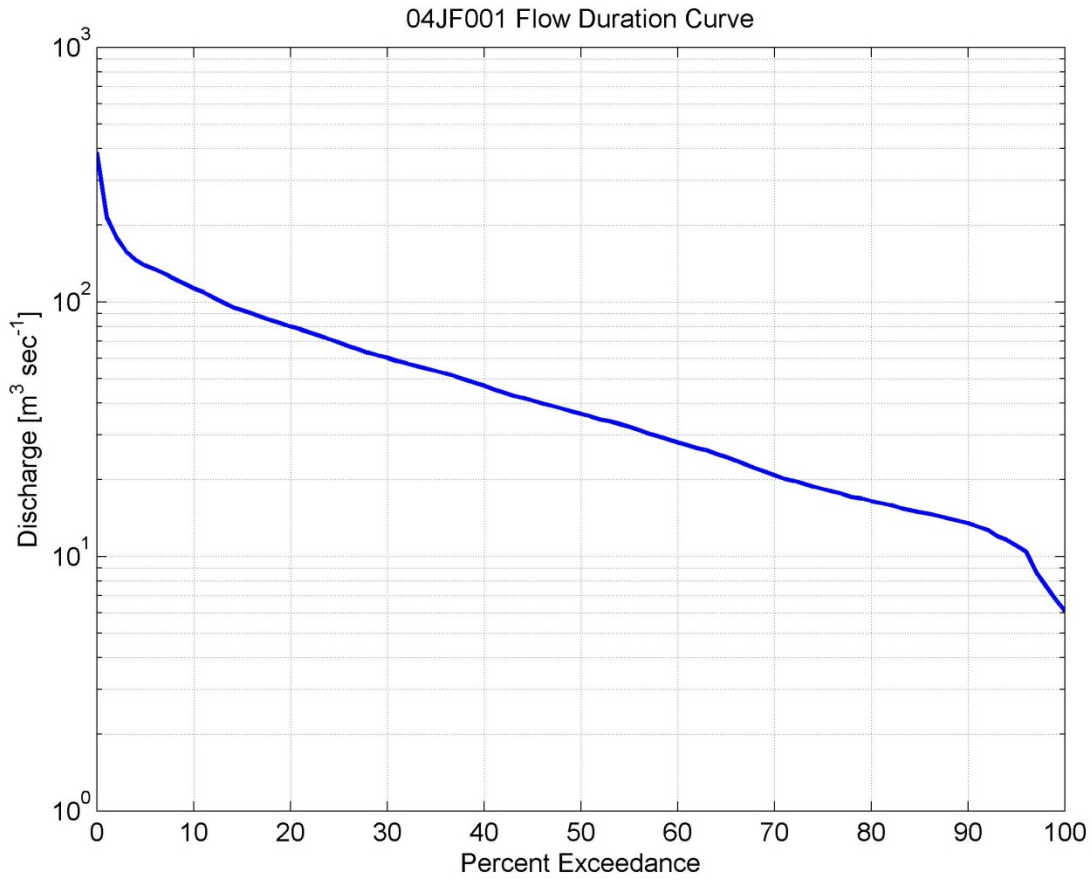
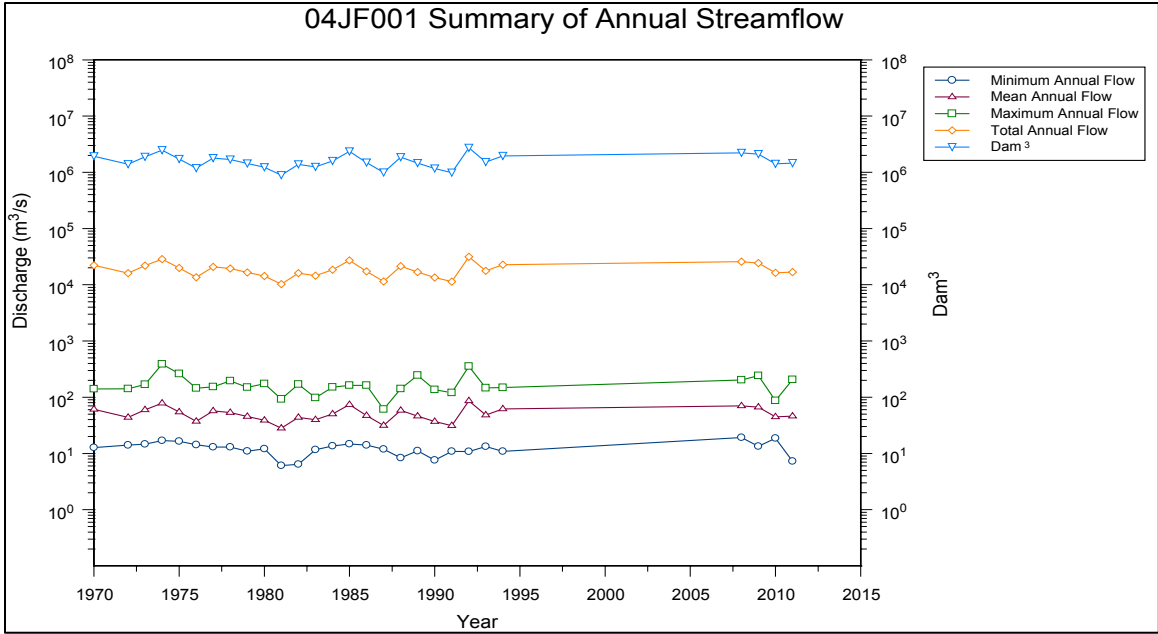
20. LITTLE CURRENT RIVER AT PERCY LAKE: 04JF001



LITTLE CURRENT RIVER AT PERCY LAKE: 04JF001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 28 Years (1970 -2011)
- Sample Size n: 10227
- Mean Annual Flow: 51.44 cms
- Standard Deviation: 45.86 cms
- Minimum Streamflow: 6.09cms
- Lower Quartile Q_1 : 18.4cms
- Median Streamflow: 36.3cms
- Upper Quartile Q_3 : 69.2cms
- Maximum Streamflow: 388cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 28 Oct – 25 May
 - No of Ice Days (Min–Median –Max): 115 – 168 - 186



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	45.00	30.20	24.20	118.00	388.00	385.00	199.00	169.00	216.00	189.00	137.00	82.00	388.00
0.1	44.71	30.14	24.16	115.28	388.00	382.96	195.69	168.63	216.00	187.16	137.00	81.26	362.84
1	40.98	28.40	23.18	92.20	354.00	317.60	180.82	143.28	205.40	161.00	135.00	71.96	215.00
5	36.03	25.90	20.21	50.20	231.10	222.00	143.00	120.00	121.50	135.10	103.00	60.05	139.00
10	33.07	23.91	19.30	30.90	171.70	183.00	127.00	100.70	93.00	105.00	82.75	52.64	113.00
15	31.10	22.89	18.70	26.80	154.00	153.50	114.00	80.86	83.00	93.00	75.55	48.03	92.55
20	29.40	22.00	17.80	20.75	148.00	132.00	97.68	71.37	76.55	79.53	68.15	44.40	79.90
25	28.05	21.35	16.90	18.70	142.00	119.00	92.35	61.95	68.55	70.25	64.00	41.80	69.25
30	26.91	20.53	16.30	17.40	137.00	110.00	88.33	56.10	62.10	62.90	60.55	39.51	60.20
35	25.80	19.70	15.87	17.00	132.00	104.00	83.54	53.67	55.80	60.51	58.35	37.77	53.50
40	24.70	18.30	15.40	16.20	126.00	99.55	79.13	50.40	51.15	56.63	56.40	36.06	46.80
45	23.59	17.47	15.00	15.20	119.00	94.45	75.79	45.50	43.05	53.80	52.70	34.30	40.90
50	22.20	16.80	14.70	14.80	113.00	90.30	72.20	42.85	38.65	51.20	50.15	32.80	36.30
55	20.80	16.23	14.30	14.60	105.00	86.90	69.20	40.80	35.80	47.60	48.00	31.70	32.20
60	19.67	15.61	14.00	14.20	95.47	83.35	64.40	38.41	33.05	43.00	45.75	30.30	28.00
65	18.50	15.00	13.60	13.90	86.99	79.75	59.72	36.09	30.85	40.73	42.50	28.90	24.60
70	17.70	14.27	13.29	13.50	77.90	75.90	53.70	34.59	27.85	35.20	39.60	27.30	20.85
75	16.70	12.75	11.85	13.00	64.10	70.50	46.80	32.60	25.35	32.95	37.70	25.70	18.40
80	15.50	12.30	11.20	12.35	50.10	64.15	43.00	29.40	21.95	27.60	35.30	23.32	16.50
85	14.10	11.80	11.00	11.50	42.72	59.35	39.54	27.00	19.30	26.17	31.25	19.47	14.90
90	13.13	10.19	9.54	10.80	31.85	55.20	37.43	25.10	17.50	16.13	19.00	15.63	13.50
91	12.86	9.45	8.85	10.80	29.96	54.50	37.00	24.70	16.82	15.90	18.70	15.10	13.10
92	11.99	9.00	8.45	9.58	28.90	53.30	36.50	23.99	16.50	15.79	18.47	14.79	12.70
93	11.00	8.80	8.40	8.83	27.28	52.93	35.78	22.38	15.90	15.60	17.36	14.15	12.00
94	10.46	8.63	8.35	8.45	24.22	52.00	33.99	20.10	14.48	15.50	16.90	12.96	11.60
95	9.75	8.24	7.98	8.40	22.08	51.30	32.50	19.90	13.60	15.20	16.45	12.09	11.00
96	9.21	7.94	7.66	8.00	20.09	50.01	31.04	19.40	13.11	14.49	15.12	11.30	10.43
97	7.10	7.00	6.68	7.45	18.86	47.84	28.32	18.85	12.90	8.37	6.66	7.43	8.70
98	7.10	6.95	6.60	7.13	17.04	45.68	25.20	18.70	12.19	7.80	6.42	6.53	7.71
99	6.80	6.83	6.55	6.75	14.42	39.97	22.59	17.82	10.28	7.28	6.21	6.17	6.80
99.9	6.44	6.80	6.45	6.60	9.49	32.84	18.94	16.05	8.92	6.92	6.17	6.09	6.17
99.99	6.40	6.80	6.45	6.60	9.20	32.50	18.90	15.90	8.82	6.91	6.17	6.09	6.09

04JF001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.714
10:90 Ratio	8.370
Sqrt(Q ₂₅ /Q ₇₅)	1.940

04JF001: Parameters from Flow Duration Curves

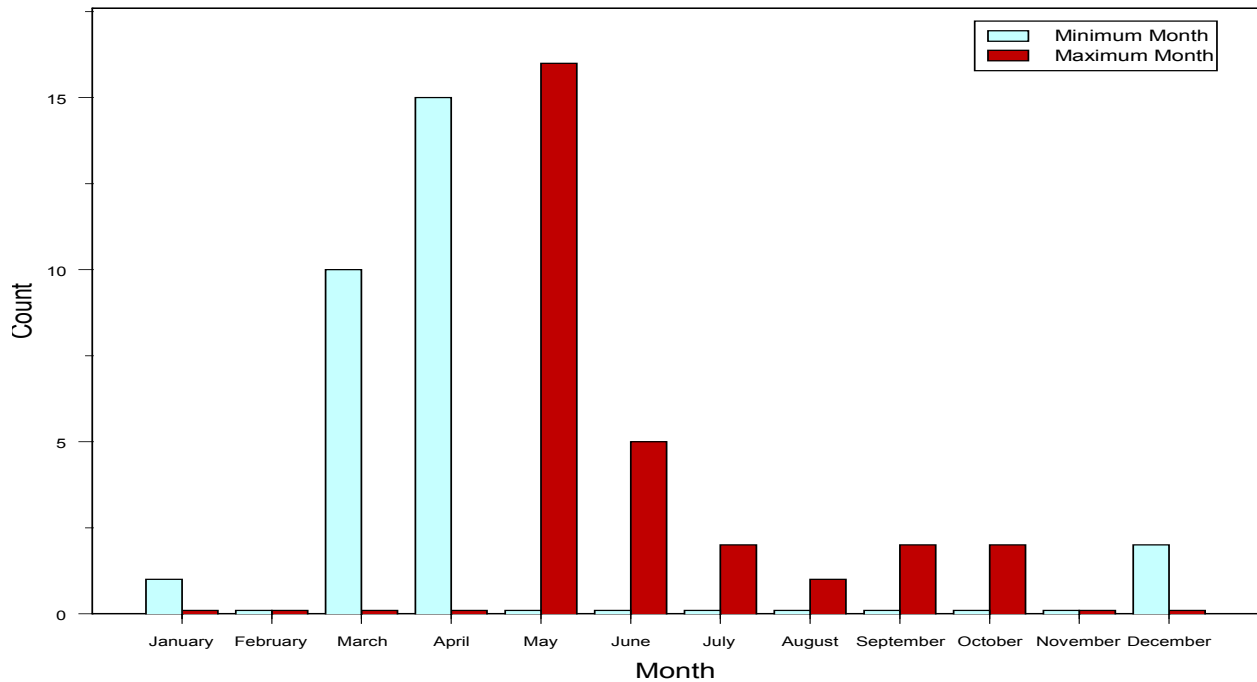
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	72	86	281.336 (7.042)	49.628 (3.594)	0.024 (0.019)	0.022
Low Flow	-16	67	-6.394 (0.101)	0.579 (0.048)	-0.549 (0.026)	0.019

04JF001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

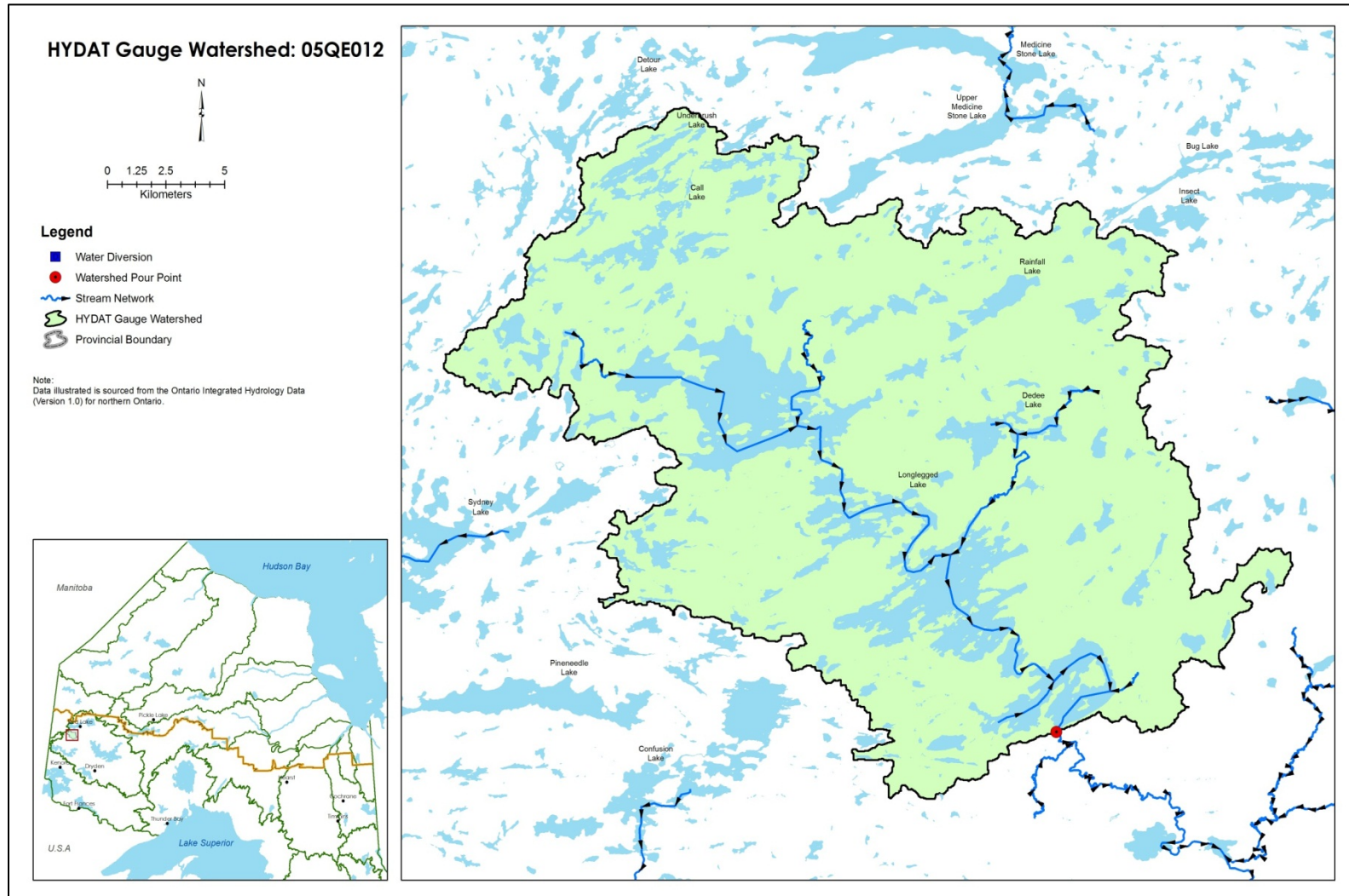
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	164.00	230.00	274.00	317.00	373.00	416.00	460.00	518.00
7 Day Low Flow	11.970	9.244	7.965	7.026	6.124	5.623	Not Applicable	Not Applicable

04JF001: Flood and Low Flow Estimates

04JF001 Summary of flood and low flow events by month



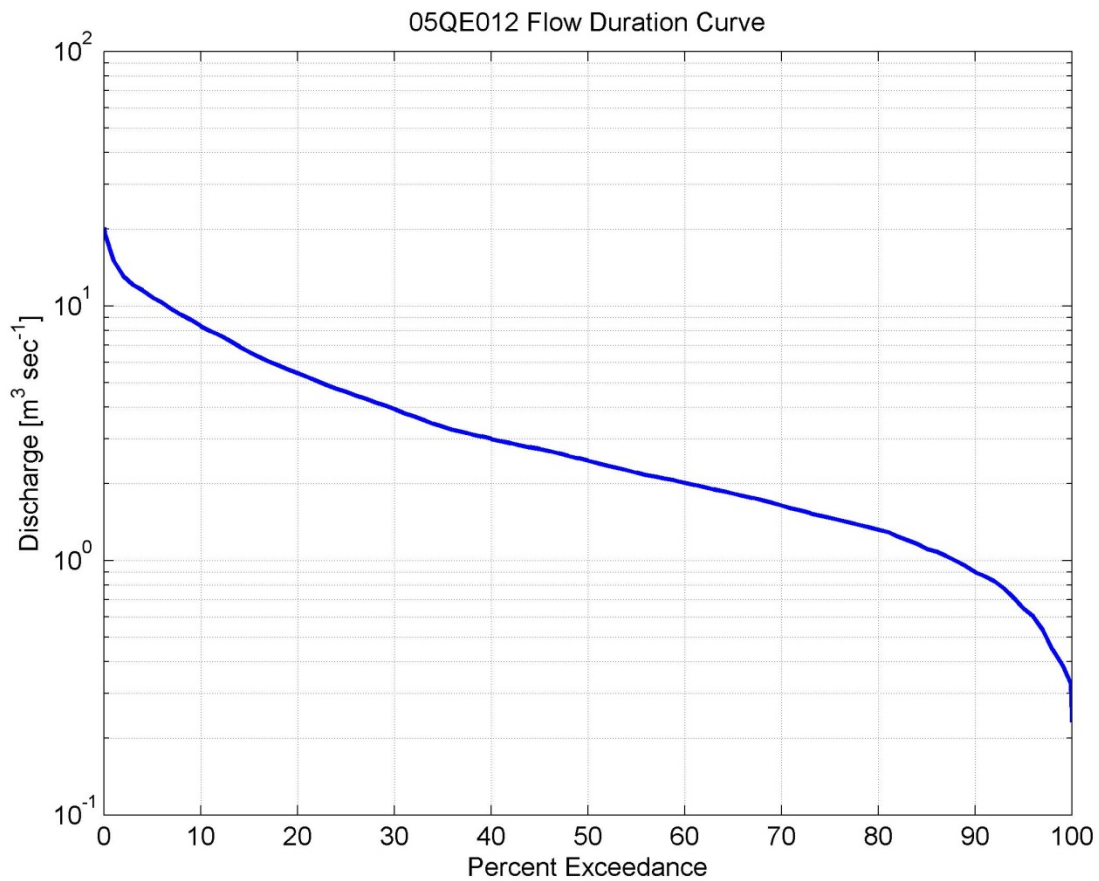
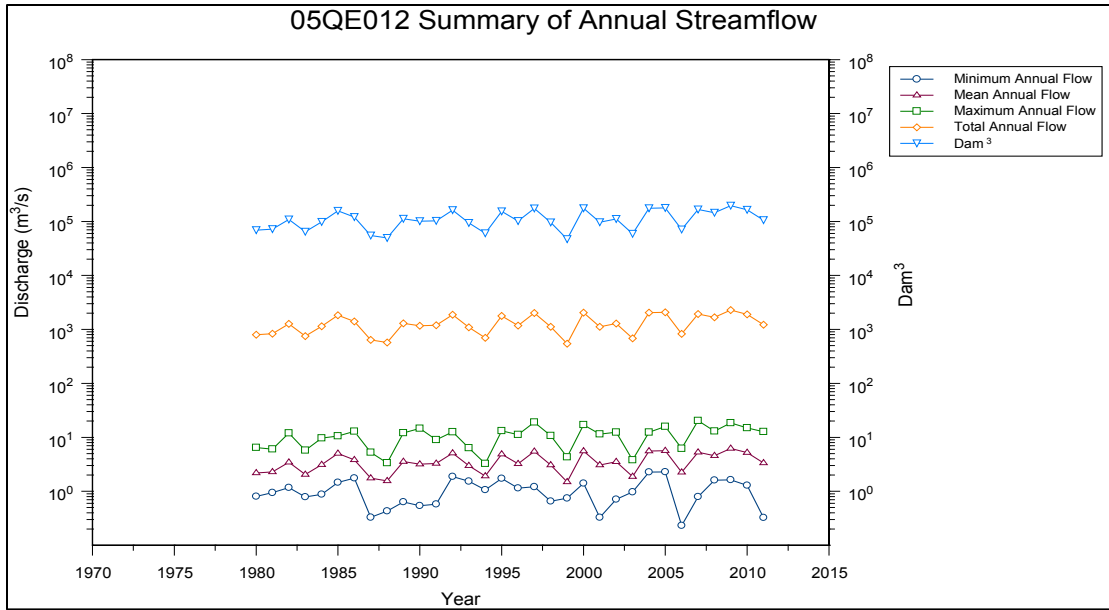
21. LONG-LEGGED RIVER BELOW LONG-LEGGED LAKE: 05QE012



LONG-LEGGED RIVER BELOW LONG-LEGGED LAKE: 05QE012

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 32 Years (1980 - 2011)
- Sample Size n: 11688
- Mean Annual Flow: 3.613 cms
- Standard Deviation: 3.237 cms
- Minimum Streamflow: 0.232cms
- Lower Quartile Q_1 : 1.47cms
- Median Streamflow: 2.45cms
- Upper Quartile Q_3 : 4.58cms
- Maximum Streamflow: 20.3cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	4.62	3.71	2.98	13.10	19.00	20.30	17.00	18.50	16.30	11.90	8.96	5.69	20.23
0.1	4.60	3.70	2.98	12.73	18.95	20.25	16.95	18.50	16.12	11.85	8.89	5.65	19.20
1	4.24	3.37	2.74	9.64	17.96	19.39	15.66	17.86	13.79	10.22	8.15	5.27	15.00
5	3.71	2.80	2.44	6.22	12.60	15.15	13.50	9.95	9.52	8.03	6.33	4.78	10.80
10	3.39	2.60	2.31	4.91	11.40	13.00	12.10	7.50	7.86	6.81	5.52	4.45	8.31
15	3.14	2.51	2.14	4.19	10.30	12.00	11.07	6.63	6.62	5.37	4.98	4.13	6.59
20	2.94	2.42	2.07	3.59	9.54	11.30	9.57	5.97	4.98	4.54	4.23	3.72	5.44
25	2.81	2.37	2.01	3.15	8.81	10.80	8.60	5.40	4.16	3.75	3.47	3.17	4.59
30	2.70	2.28	1.96	2.92	7.91	10.10	7.84	4.96	3.72	3.23	3.13	2.89	3.93
35	2.55	2.21	1.89	2.57	6.91	9.36	7.13	4.51	3.31	2.95	2.93	2.77	3.35
40	2.34	2.12	1.81	2.31	6.12	8.67	6.50	3.98	3.04	2.72	2.78	2.59	3.00
45	2.10	1.97	1.69	2.11	5.69	7.96	5.82	3.56	2.64	2.53	2.48	2.14	2.74
50	1.94	1.77	1.61	2.00	5.23	7.36	5.41	3.23	2.02	2.16	2.24	2.07	2.46
55	1.81	1.65	1.54	1.89	4.70	6.42	4.87	2.97	1.80	1.76	2.00	1.88	2.21
60	1.68	1.53	1.43	1.75	4.45	6.02	4.33	2.75	1.65	1.54	1.76	1.75	2.02
65	1.57	1.44	1.36	1.61	4.19	5.29	3.91	2.49	1.50	1.35	1.36	1.49	1.83
70	1.48	1.36	1.28	1.51	3.82	4.34	3.56	2.25	1.34	1.16	1.28	1.35	1.64
75	1.40	1.28	1.13	1.43	3.39	3.28	3.27	2.11	1.24	1.06	1.13	1.12	1.47
80	1.03	1.11	1.08	1.37	2.74	2.96	3.04	1.92	1.12	0.94	0.88	0.97	1.32
85	0.88	0.90	0.95	1.17	2.18	2.42	2.73	1.72	1.00	0.79	0.63	0.65	1.11
90	0.80	0.84	0.83	1.08	1.82	2.07	2.32	1.51	0.85	0.52	0.48	0.60	0.90
91	0.79	0.78	0.81	1.06	1.72	1.96	2.07	1.47	0.83	0.48	0.46	0.58	0.87
92	0.78	0.76	0.80	1.04	1.68	1.82	1.91	1.41	0.80	0.46	0.42	0.57	0.83
93	0.74	0.75	0.75	1.02	1.61	1.76	1.80	1.34	0.78	0.45	0.41	0.55	0.78
94	0.70	0.69	0.73	0.99	1.42	1.63	1.71	1.27	0.75	0.44	0.40	0.42	0.71
95	0.68	0.64	0.65	0.95	1.30	1.55	1.65	1.21	0.71	0.43	0.39	0.42	0.65
96	0.62	0.60	0.63	0.89	1.24	1.50	1.58	1.14	0.67	0.41	0.38	0.41	0.60
97	0.50	0.59	0.62	0.88	1.17	1.40	1.48	1.08	0.62	0.38	0.37	0.38	0.53
98	0.47	0.57	0.60	0.86	1.10	1.32	1.39	1.00	0.50	0.36	0.35	0.35	0.45
99	0.44	0.49	0.60	0.76	1.04	1.08	1.31	0.90	0.42	0.33	0.35	0.34	0.39
99.9	0.43	0.47	0.58	0.65	0.95	1.02	1.22	0.77	0.38	0.24	0.29	0.33	0.33
99.99	0.43	0.47	0.58	0.65	0.94	1.02	1.21	0.76	0.38	0.23	0.28	0.33	0.25

05QE012: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.744
10:90 Ratio	66.279
Sqrt(Q ₂₅ /Q ₇₅)	3.435

05QE012: Parameters from Flow Duration Curves

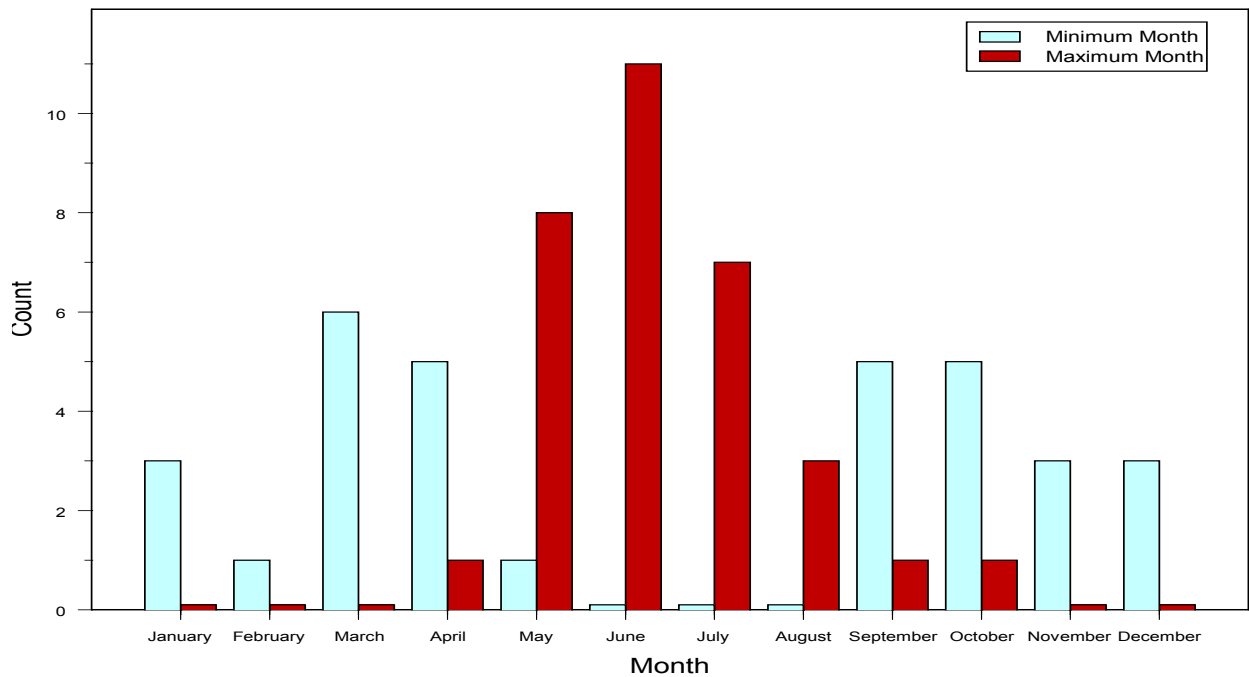
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	6	63	17.651 (0.217)	1.617 (0.092)	-0.246 (0.018)	0.019
Low Flow	-1.5	95	-0.283 (NaN)	0.041 (NaN)	-0.676 (NaN)	0.009

05QE012: Flood/Low Flow Descriptive Indices above/below a Threshold Value

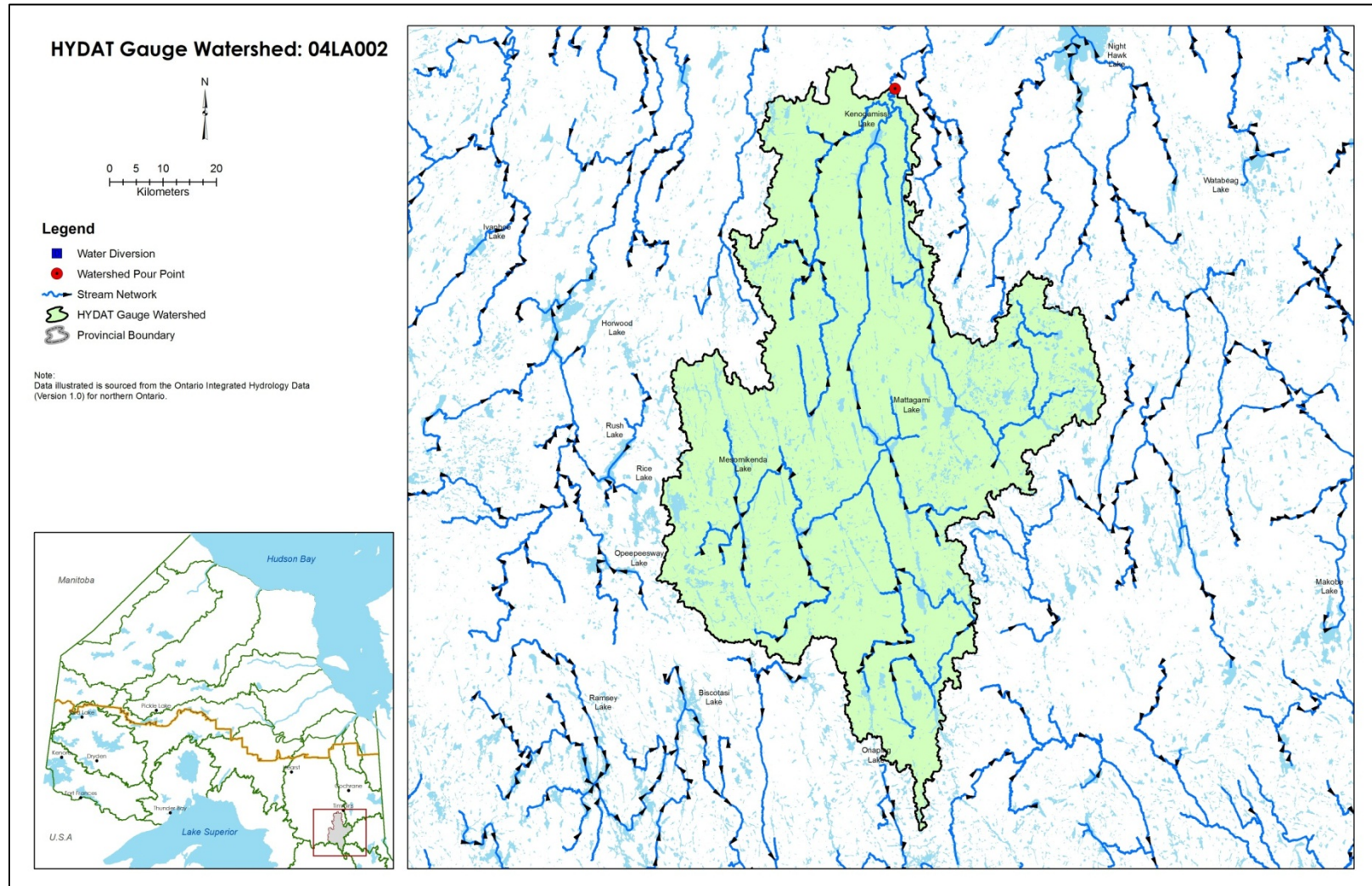
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	10.70	14.90	17.30	19.30	21.60	23.20	24.70	26.60
7 Day Low Flow	0.981	0.591	0.462	0.389	0.337	0.315	Not Applicable	Not Applicable

05QE012: Flood and Low Flow Estimates

05QE012 Summary of flood and low flow events by month



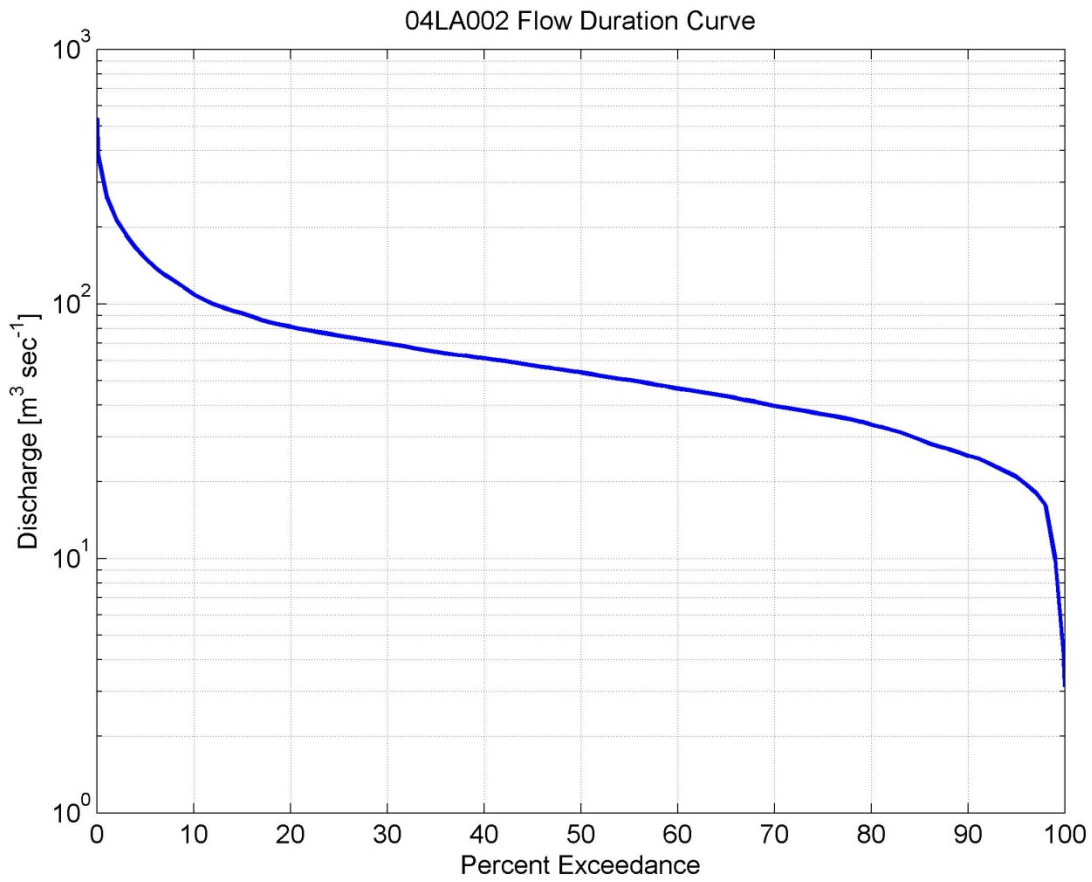
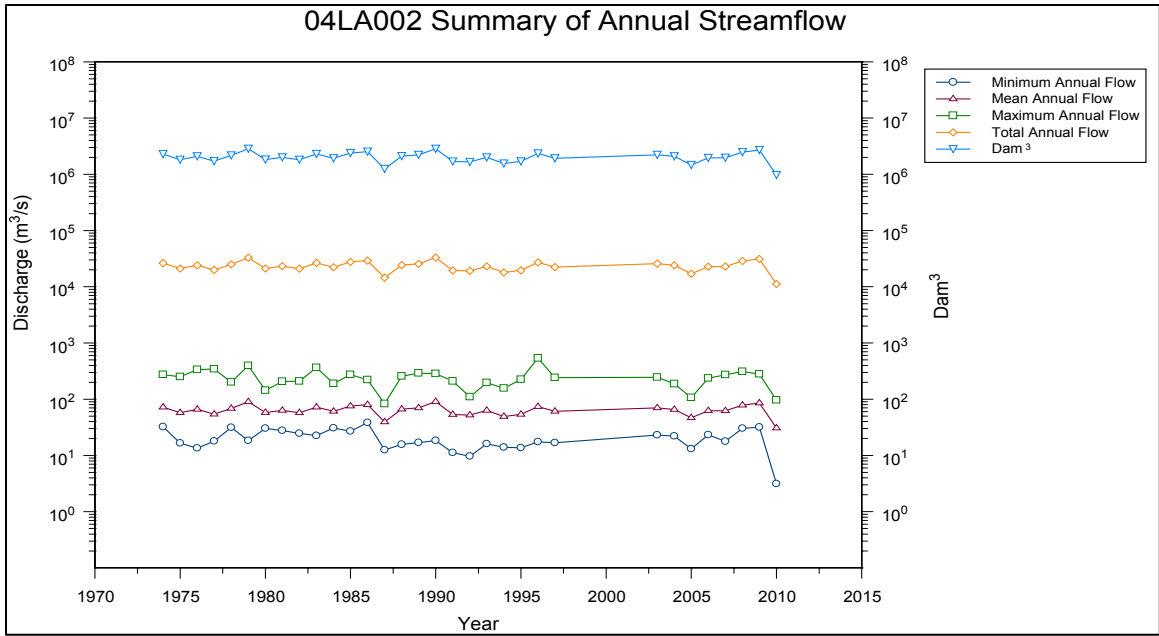
22. MATTAGAMI RIVER NEAR TIMMINS: 04LA002



MATTAGAMI RIVER NEAR TIMMINS: 04LA002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 32 Years (1974 - 2010)
- Sample Size n: 11688
- Mean Annual Flow: 64.14 cms
- Standard Deviation: 46.54 cms
- Minimum Streamflow: 3.13cms
- Lower Quartile Q_1 : 36.8cms
- Median Streamflow: 53.8cms
- Upper Quartile Q_3 : 74.9cms
- Maximum Streamflow: 539cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 07 Dec – 30 March
 - No of Ice Days (Min–Median –Max): 63 -73 -90



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	134.00	116.00	144.00	345.00	539.00	366.00	208.00	174.00	112.00	152.00	246.00	204.00	530.98
0.1	132.52	114.81	143.02	344.08	533.10	358.64	203.57	163.18	111.08	149.54	244.62	201.05	388.82
1	111.16	109.00	129.00	301.80	393.90	273.70	164.74	93.03	97.02	132.32	160.90	165.74	263.70
5	95.80	97.36	100.00	214.50	288.70	195.00	107.90	62.64	59.10	85.19	109.00	108.80	151.00
10	85.10	91.38	87.39	169.00	244.60	158.00	90.83	53.70	50.20	66.65	88.95	90.10	109.00
15	81.87	86.01	79.77	124.50	208.70	139.00	76.47	49.40	46.00	58.07	78.00	74.10	91.70
20	79.01	83.00	76.41	99.40	188.00	126.00	70.01	46.23	42.15	53.91	67.20	68.81	81.40
25	76.40	80.40	74.00	90.80	170.00	118.00	63.15	44.05	39.50	49.40	62.40	64.30	74.90
30	73.09	78.57	71.40	82.75	153.00	105.00	56.37	41.70	37.85	45.90	59.15	62.39	69.80
35	71.00	76.89	68.80	75.10	142.00	92.40	50.23	39.93	36.80	43.53	55.20	60.30	64.80
40	69.10	75.01	67.00	68.30	131.00	85.40	46.40	38.07	35.60	41.11	52.85	58.00	61.10
45	66.62	73.30	64.51	63.30	123.00	78.00	44.10	36.60	34.65	38.80	49.05	56.10	57.35
50	64.55	71.55	62.55	59.65	110.00	72.80	41.65	34.15	32.80	37.90	45.75	54.40	53.80
55	62.40	69.70	61.29	56.10	99.28	64.60	39.60	31.70	30.85	36.60	44.00	52.19	50.10
60	60.33	67.70	59.50	53.20	93.26	56.65	36.73	29.00	28.80	34.60	41.20	51.03	46.50
65	59.40	65.12	57.47	50.85	82.47	51.40	34.30	27.00	27.00	32.67	38.70	49.57	43.40
70	57.40	63.50	54.50	47.95	73.61	47.60	32.01	25.10	25.85	31.01	36.95	47.60	39.70
75	55.55	61.80	52.20	44.75	64.55	43.30	30.20	22.90	24.85	27.90	35.60	45.00	36.80
80	53.69	59.70	49.09	40.70	53.98	38.50	28.00	21.69	23.35	26.20	33.00	42.19	33.50
85	50.00	57.18	47.00	36.50	45.90	33.85	25.70	20.00	21.15	24.60	29.70	39.00	29.30
90	47.21	54.00	44.20	30.25	36.94	28.20	22.57	17.90	19.30	22.70	26.70	35.64	25.30
91	46.18	52.57	43.76	28.79	35.17	26.29	21.98	17.70	18.88	22.10	26.40	35.00	24.70
92	45.59	50.43	42.70	27.63	33.23	25.23	21.17	17.49	18.30	21.60	26.03	33.80	23.80
93	44.50	48.00	41.99	26.04	30.99	24.07	20.20	17.30	17.77	21.40	25.50	32.58	22.80
94	43.80	46.13	41.30	24.82	29.60	22.21	19.10	16.70	16.90	21.00	24.71	31.60	21.80
95	43.00	44.93	39.80	23.30	27.11	19.40	18.01	15.71	16.45	20.31	24.10	29.76	20.90
96	41.82	44.30	37.72	21.39	22.61	18.08	16.12	14.02	15.28	19.62	23.49	28.14	19.50
97	39.50	43.24	35.85	19.70	13.25	10.48	5.60	9.97	13.56	18.83	22.36	25.10	18.10
98	38.57	42.20	34.10	18.58	11.83	6.82	4.95	4.96	5.47	17.60	21.67	24.67	16.20
99	36.79	33.38	32.93	16.16	11.30	5.74	4.45	3.95	4.90	15.79	15.93	21.95	9.94
99.9	29.10	26.00	26.55	12.08	10.10	4.71	4.01	3.18	4.46	12.50	4.64	20.54	3.97
99.99	26.30	25.80	23.70	11.90	10.00	4.50	4.00	3.13	4.28	12.40	4.06	20.00	3.20

04LA002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.676
10:90 Ratio	4.308
Sqrt(Q ₂₅ /Q ₇₅)	1.427

04LA002: Parameters from Flow Duration Curves

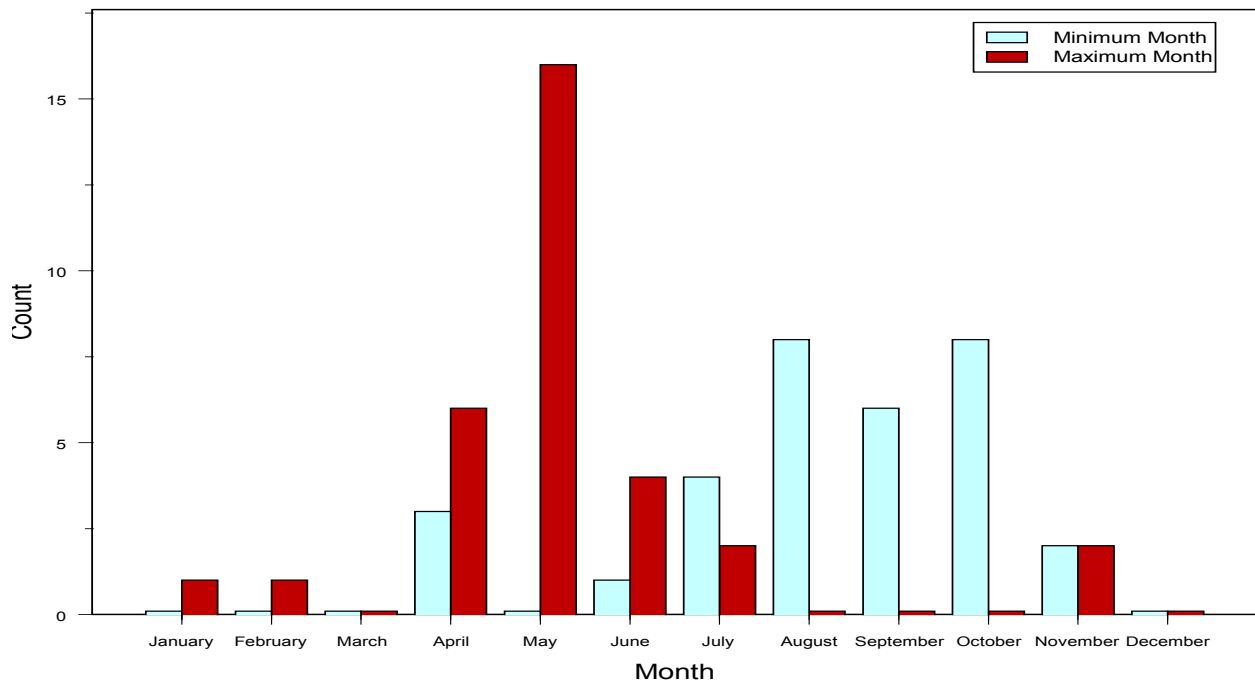
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	90	57	361.802 (14.128)	93.548 (9.778)	0.174 (0.032)	0.044
Low Flow	-35	80	-5.717 (0.358)	2.650 (0.139)	-0.373 (0.016)	0.032

04LA002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

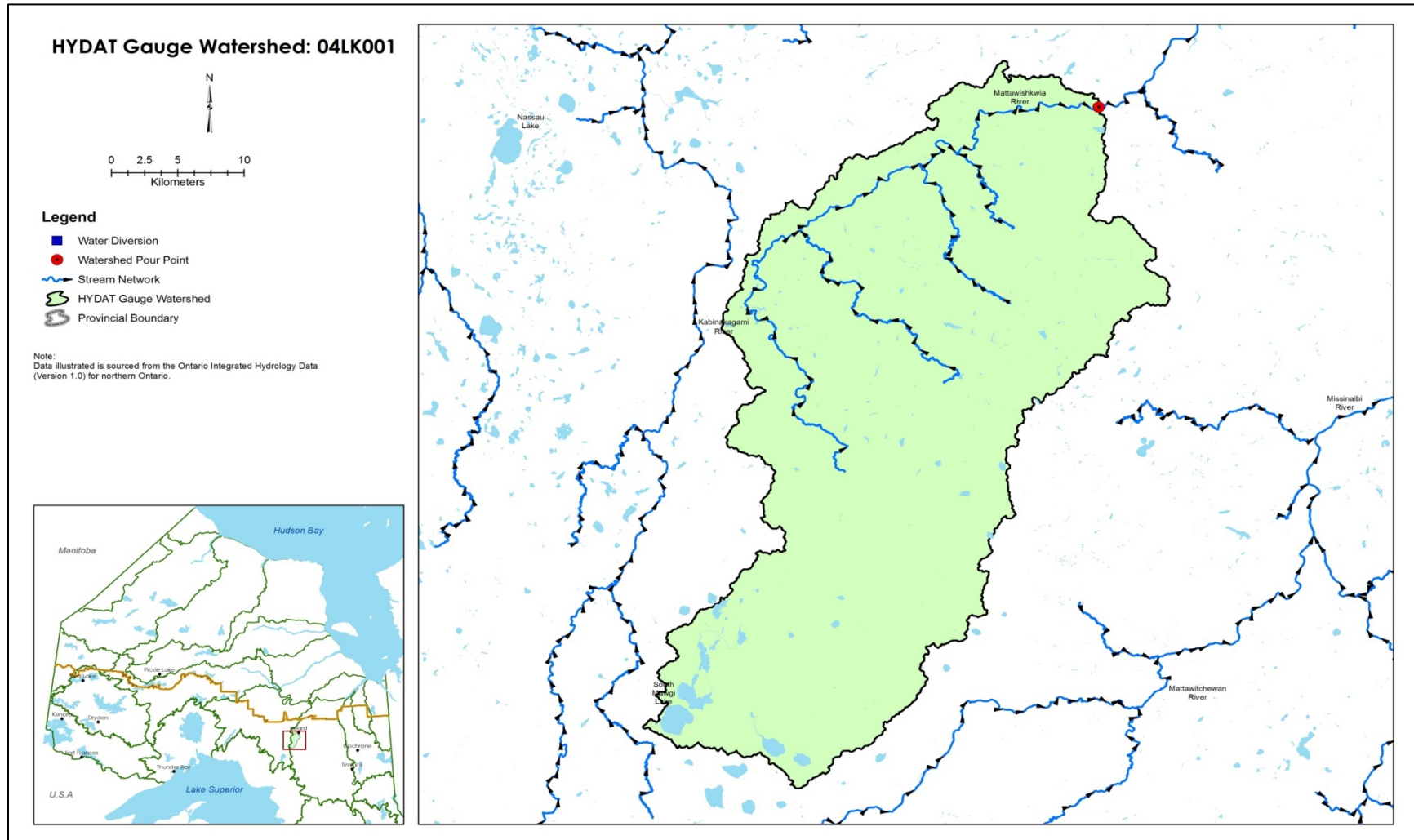
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	233.00	311.00	357.00	399.00	450.00	487.00	522.00	568.00
7 Day Low Flow	23.190	16.120	12.490	9.629	6.655	4.864	Not Applicable	Not Applicable

04LA002: Flood and Low Flow Estimates

04LA002 Summary of flood and low flow events by month



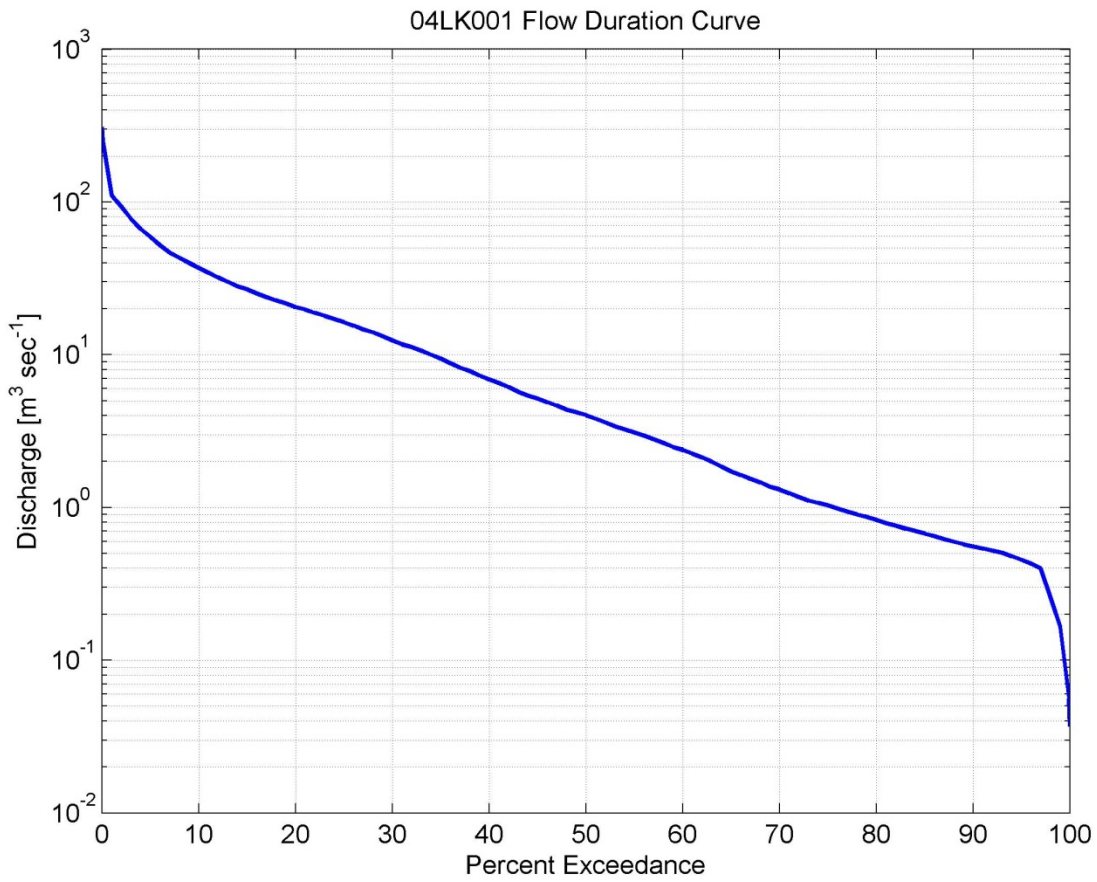
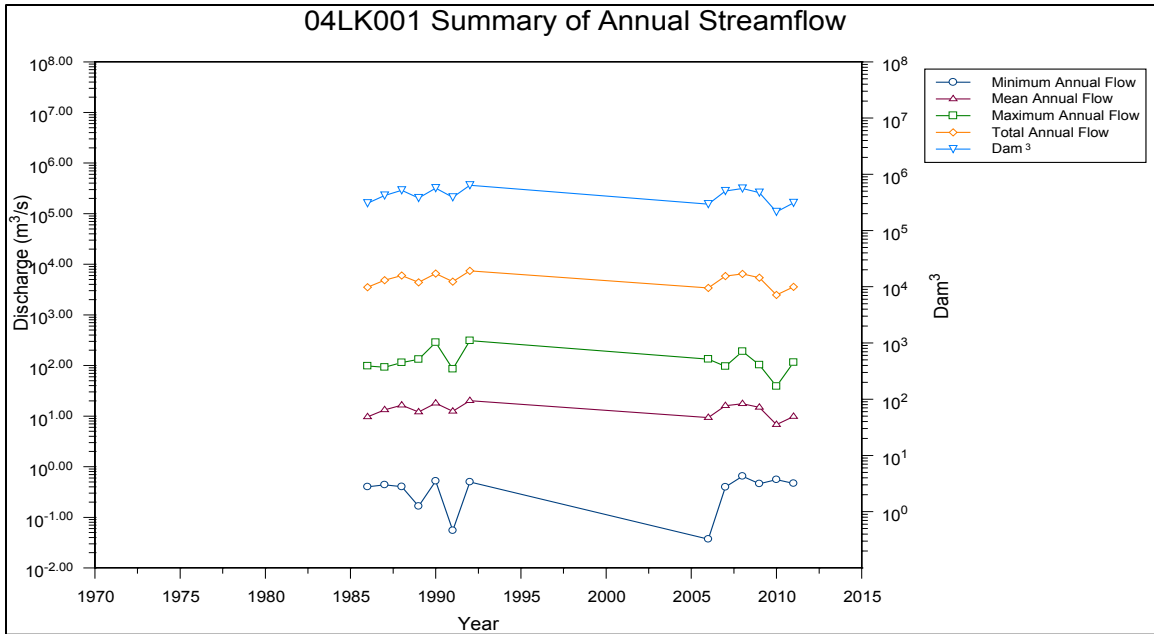
23. MATTAWISHKWIA RIVER AT HEARST: 04LK001



MATTAWISHKWIA RIVER AT HEARST: 04LK001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 13 Years (1986 - 2011)
- Sample Size n: 4748
- Mean Annual Flow: 13.571 cms
- Standard Deviation: 23.924 cms
- Minimum Streamflow: 0.037 cms
- Lower Quartile Q_1 : 1.027 cms
- Median Streamflow: 4.015 cms
- Upper Quartile Q_3 : 16.3 cms
- Maximum Streamflow: 310 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 29 Oct – 10 May
 - No of Ice Days (Min–Median –Max): 124 – 163 – 182



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	3.800	1.490	11.000	286.000	310.000	122.000	130.000	45.700	57.500	55.000	45.300	25.500	310.000
0.1	3.800	1.490	11.000	286.000	310.000	122.000	130.000	45.700	57.500	55.000	45.300	25.500	251.480
1	3.378	1.391	8.780	198.900	236.800	95.250	114.820	41.216	44.550	53.350	40.990	19.340	112.000
5	2.498	1.104	5.814	109.500	114.900	40.000	50.350	31.200	33.100	38.350	33.700	10.670	59.450
10	2.200	0.989	2.607	81.550	101.300	33.000	40.860	23.430	25.900	31.110	26.050	7.300	37.700
15	2.014	0.951	0.909	69.250	90.760	27.500	32.960	19.670	20.800	28.570	22.250	5.985	27.250
20	1.831	0.910	0.861	60.200	77.970	22.350	25.720	15.860	17.700	24.220	21.100	5.305	21.000
25	1.675	0.850	0.823	54.000	68.550	17.600	20.900	13.350	12.000	21.150	19.100	5.050	16.900
30	1.539	0.807	0.759	42.750	60.900	16.050	14.200	9.385	9.255	19.300	17.350	4.700	13.050
35	1.430	0.760	0.700	33.600	56.500	14.050	12.000	6.924	6.950	17.730	15.850	4.350	10.000
40	1.330	0.726	0.665	24.000	51.320	12.150	10.140	5.668	4.865	15.700	14.350	4.000	7.445
45	1.242	0.690	0.621	18.850	46.620	10.850	7.513	4.369	4.235	14.100	13.050	3.700	5.555
50	1.180	0.660	0.583	15.350	42.850	9.175	5.780	3.610	3.655	12.800	12.100	3.345	4.240
55	1.110	0.630	0.560	11.500	38.180	7.410	4.365	2.906	3.255	11.180	10.800	3.050	3.270
60	1.060	0.600	0.540	7.525	32.120	6.480	3.362	2.416	2.520	9.058	10.000	2.853	2.450
65	1.007	0.575	0.525	6.000	27.840	5.610	2.741	1.769	1.970	7.797	9.220	2.671	1.790
70	0.946	0.546	0.510	4.450	25.310	4.685	2.092	1.422	1.505	6.223	8.300	2.391	1.330
75	0.878	0.523	0.478	2.825	22.350	3.925	1.450	1.160	1.065	4.515	7.695	2.075	1.030
80	0.820	0.510	0.446	1.825	19.970	3.305	1.080	0.854	0.783	3.007	6.695	1.767	0.831
85	0.757	0.497	0.439	1.365	15.530	2.765	0.842	0.418	0.449	2.343	5.575	1.536	0.674
90	0.689	0.485	0.420	1.000	12.120	2.210	0.600	0.226	0.244	1.694	4.125	1.370	0.550
91	0.670	0.480	0.418	0.930	11.294	2.012	0.523	0.221	0.230	1.520	3.895	1.330	0.530
92	0.659	0.476	0.415	0.852	10.138	1.643	0.488	0.210	0.200	1.245	3.772	1.298	0.515
93	0.650	0.470	0.412	0.709	9.174	1.384	0.431	0.194	0.166	1.045	3.620	1.280	0.494
94	0.638	0.469	0.410	0.651	8.232	1.171	0.361	0.173	0.143	0.708	3.482	1.248	0.470
95	0.621	0.464	0.407	0.589	7.163	1.055	0.323	0.161	0.128	0.607	3.385	1.201	0.442
96	0.610	0.458	0.405	0.566	6.405	0.885	0.286	0.144	0.121	0.530	3.295	1.170	0.420
97	0.591	0.454	0.402	0.556	5.746	0.776	0.257	0.133	0.109	0.484	3.159	1.137	0.362
98	0.577	0.444	0.400	0.540	4.979	0.684	0.241	0.091	0.099	0.448	2.849	1.100	0.247
99	0.554	0.435	0.382	0.529	4.568	0.617	0.199	0.067	0.065	0.359	2.294	1.080	0.164
99.9	0.537	0.425	0.360	0.517	3.620	0.555	0.150	0.055	0.037	0.314	2.180	1.000	0.055
99.99	0.537	0.425	0.360	0.517	3.620	0.555	0.150	0.055	0.037	0.314	2.180	1.000	0.037

04LK001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.391
10:90 Ratio	68.545
Sqrt(Q ₂₅ /Q ₇₅)	4.051

04LK001: Parameters from Flow Duration Curves

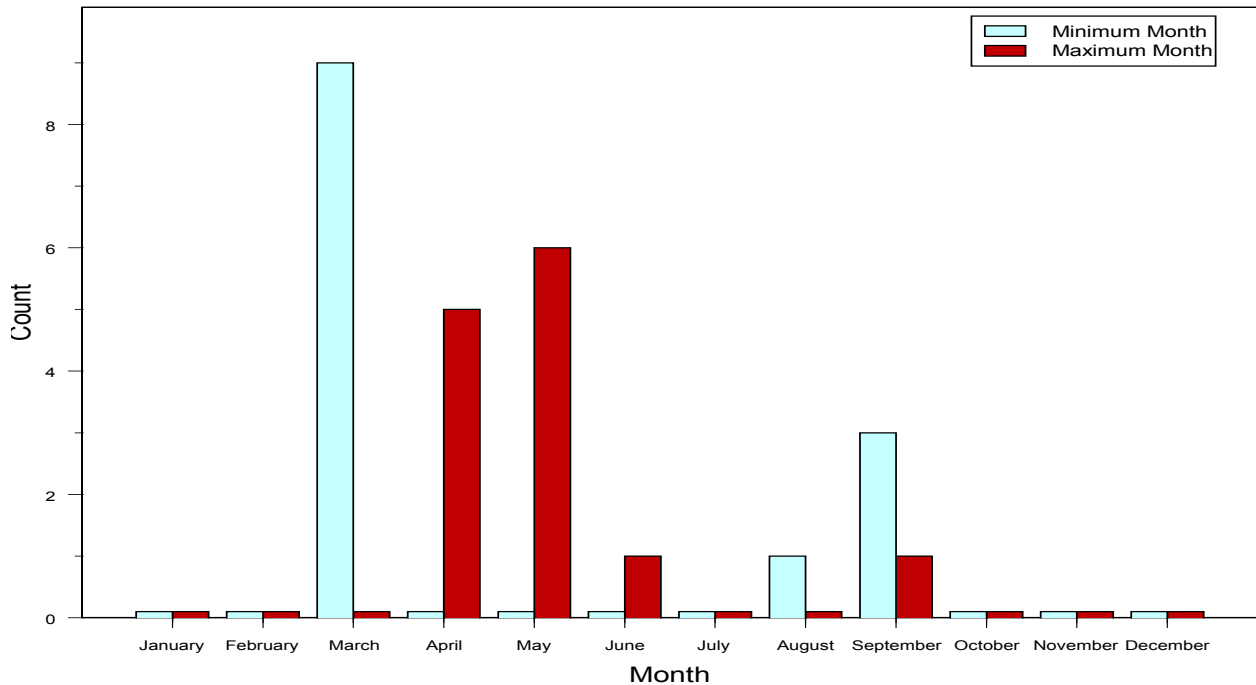
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	15	96	178.468 (12.510)	57.168 (8.134)	0.223 (0.036)	0.034
Low Flow	-0.85	75	-0.095 (0.011)	0.046 (0.005)	-0.530 (0.038)	0.032

04LK001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

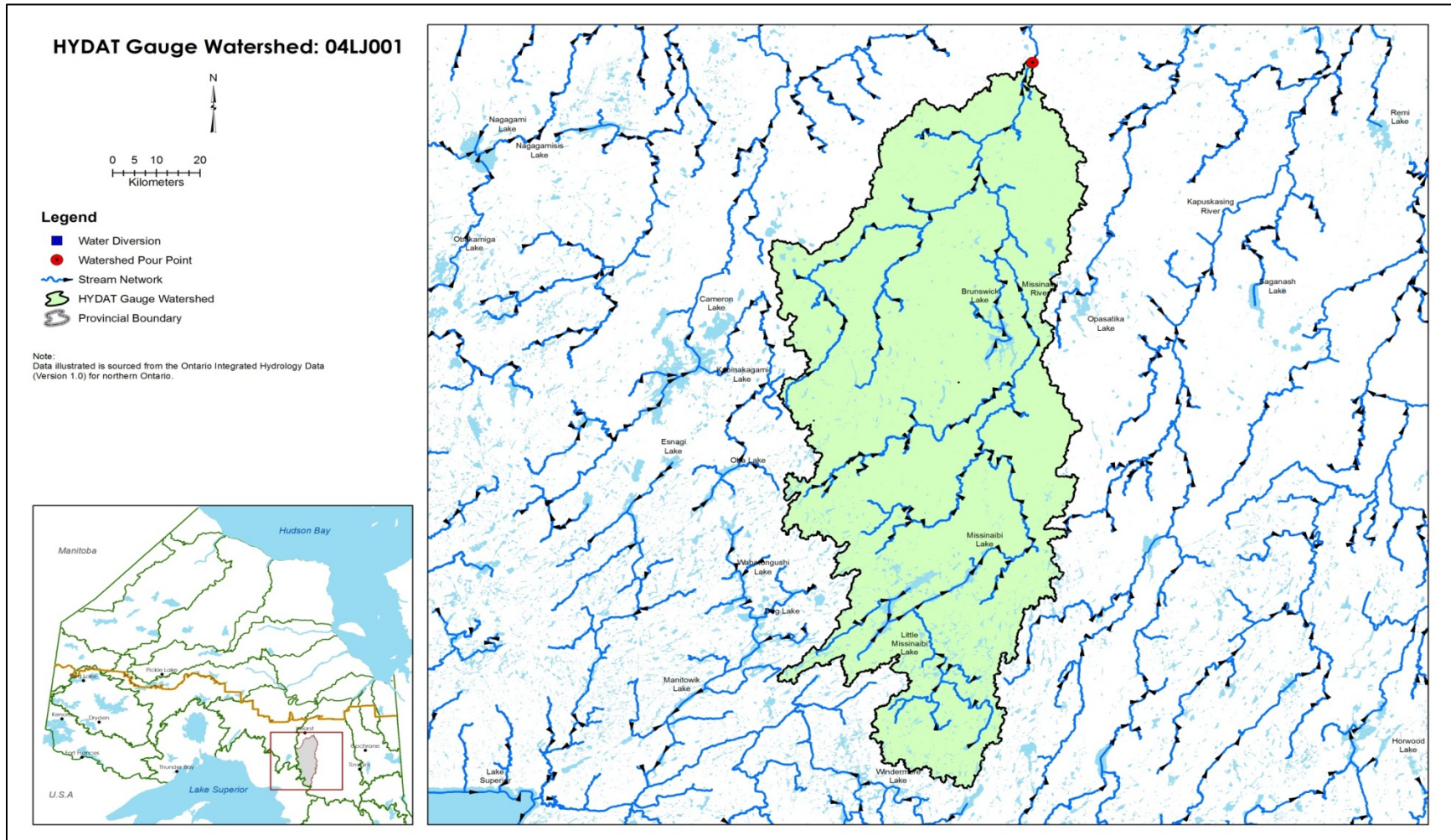
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	128.00	202.00	255.00	309.00	383.00	441.00	502.00	588.00
7 Day Low Flow	0.410	0.235	0.139	0.060	Not Applicable	Not Applicable	Not Applicable	Not Applicable

04LK001: Flood and Low Flow Estimates

04LK001 Summary of flood and low flow events by months



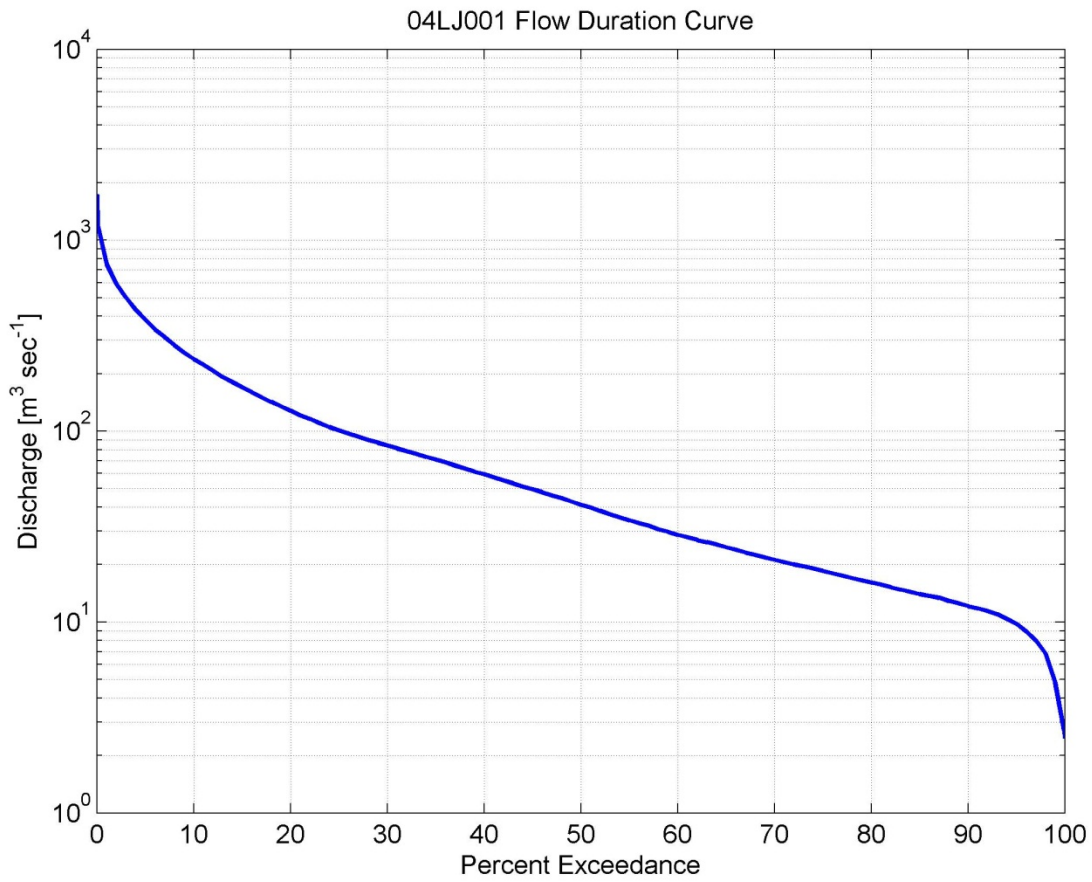
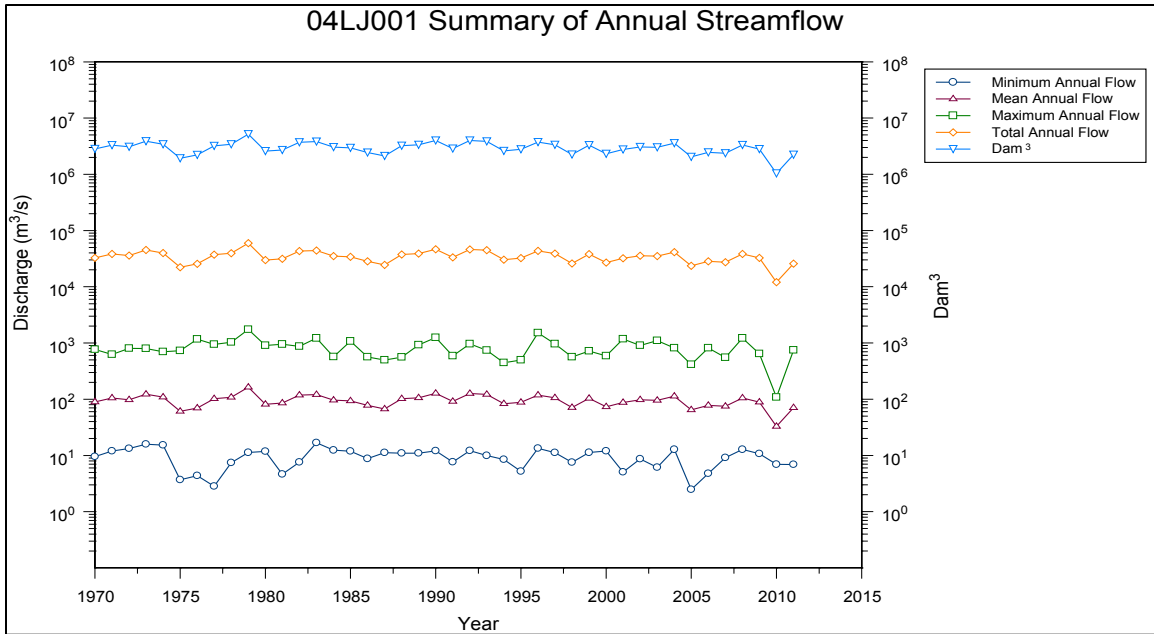
24. MISSINAIBI RIVER AT MATTICE: 04LJ001



MISSINAIBI RIVER AT MATTICE: 04LJ001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 95.14 cms
- Standard Deviation: 146.29 cms
- Minimum Streamflow: 2.47 cms
- Lower Quartile Q_1 : 18.5 cms
- Median Streamflow: 41.1 cms
- Upper Quartile Q_3 : 101 cms
- Maximum Streamflow: 1740 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 03 Nov – 14 May
 - No of Ice Days (Min–Median –Max): 124 – 162 – 187



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	73.60	34.00	185.00	1250.00	1740.00	469.00	562.00	457.00	407.00	622.00	351.00	192.00	1725.38
0.1	71.60	33.32	180.99	1242.40	1731.98	458.36	541.95	385.62	394.84	613.18	342.64	190.40	1195.10
1	56.84	29.40	91.44	1089.00	1174.40	381.40	412.88	190.00	251.80	410.40	268.60	153.48	750.20
5	41.04	26.50	42.40	750.00	814.00	296.00	224.40	118.40	130.50	239.80	197.50	106.40	384.00
10	35.63	23.49	27.79	537.50	680.60	254.50	161.00	89.03	92.20	182.30	162.50	83.00	238.00
15	31.92	21.61	21.60	440.00	600.00	229.00	127.00	73.62	78.40	150.00	135.00	72.00	170.00
20	30.00	20.40	19.50	371.00	536.10	200.50	106.00	60.51	66.45	128.00	120.00	63.52	128.00
25	28.60	19.60	17.90	313.50	479.00	184.00	93.20	51.80	58.20	114.00	107.00	56.50	101.00
30	27.00	18.80	16.89	240.00	433.00	165.00	84.70	46.40	50.00	103.00	98.40	52.00	84.00
35	25.80	18.00	16.00	188.00	395.00	151.00	78.30	42.30	43.30	92.58	92.15	48.50	71.00
40	24.57	16.80	15.30	140.50	360.70	139.00	72.37	38.27	37.00	83.14	85.60	45.44	59.50
45	23.50	16.00	14.40	100.00	327.60	129.00	66.20	34.10	31.70	74.50	79.50	42.80	49.60
50	22.40	15.00	13.90	80.00	304.00	118.00	59.60	30.40	27.25	66.10	73.00	40.45	41.10
55	21.40	14.30	13.30	66.60	277.40	107.00	52.82	27.04	24.15	59.98	67.50	37.50	34.10
60	20.23	13.80	12.70	50.00	255.00	97.65	46.83	24.40	21.25	53.36	61.05	34.53	28.60
65	19.30	13.31	12.20	34.50	236.00	88.80	43.00	21.80	19.10	45.52	56.60	32.00	24.60
70	18.00	12.70	11.61	25.95	213.00	80.80	37.72	19.20	16.70	37.72	51.00	29.20	21.20
75	17.00	12.10	11.20	22.00	189.00	72.35	33.30	16.90	14.95	31.40	44.00	26.80	18.50
80	15.90	11.60	10.39	17.70	165.80	64.10	28.69	15.09	13.10	24.20	37.10	23.90	16.10
85	14.60	11.20	9.66	14.95	140.00	57.90	25.28	11.98	10.55	17.48	32.35	20.50	14.00
90	12.77	10.60	8.65	12.50	120.70	50.60	21.07	9.16	6.70	14.40	22.65	16.44	12.10
91	12.40	10.43	8.45	12.29	116.68	49.00	20.07	8.87	6.09	14.10	21.50	15.70	11.80
92	12.27	10.26	8.21	12.00	107.66	47.16	19.50	8.46	5.79	13.70	20.60	15.07	11.40
93	12.10	10.10	8.00	11.80	100.64	44.88	19.06	8.09	5.42	12.76	20.07	14.36	11.00
94	12.00	9.80	7.90	11.60	95.33	39.41	18.26	7.72	5.07	11.30	18.40	13.90	10.40
95	11.90	9.43	7.70	11.00	86.36	35.30	17.30	7.50	4.79	10.90	16.15	13.60	9.78
96	11.80	9.10	7.58	10.50	76.32	31.27	16.52	7.15	4.53	9.76	14.70	13.10	8.92
97	11.16	8.74	7.48	9.93	68.37	27.63	15.46	6.73	3.74	8.20	14.13	12.56	8.00
98	4.35	3.20	6.90	9.57	58.50	24.08	14.21	6.15	3.33	7.04	9.77	6.59	6.85
99	3.73	3.03	5.88	8.79	51.61	21.41	12.00	4.75	2.65	6.20	8.37	5.72	4.79
99.9	3.36	2.86	2.83	7.64	27.72	16.60	9.24	3.63	2.48	2.98	7.12	4.79	2.71
99.99	3.34	2.86	2.83	7.62	26.60	16.30	8.99	3.59	2.47	2.88	7.05	4.70	2.48

04LJ001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.493
10:90 Ratio	19.669
Sqrt(Q ₂₅ /Q ₇₅)	2.337

04LJ001: Parameters from Flow Duration Curves

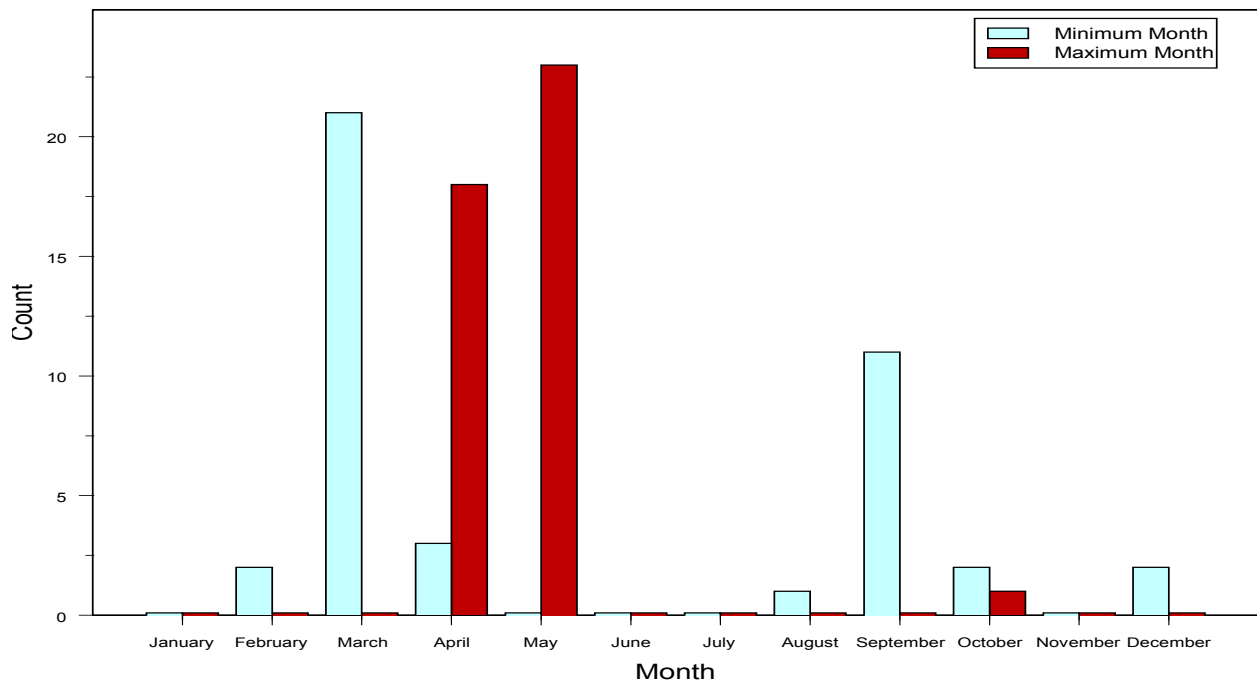
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	210	43	1024.387 (29.544)	233.226 (18.513)	0.040 (0.027)	0.060
Low Flow	-14	54	-3.376 (0.159)	1.187 (0.076)	-0.363 (0.022)	0.031

04LJ001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

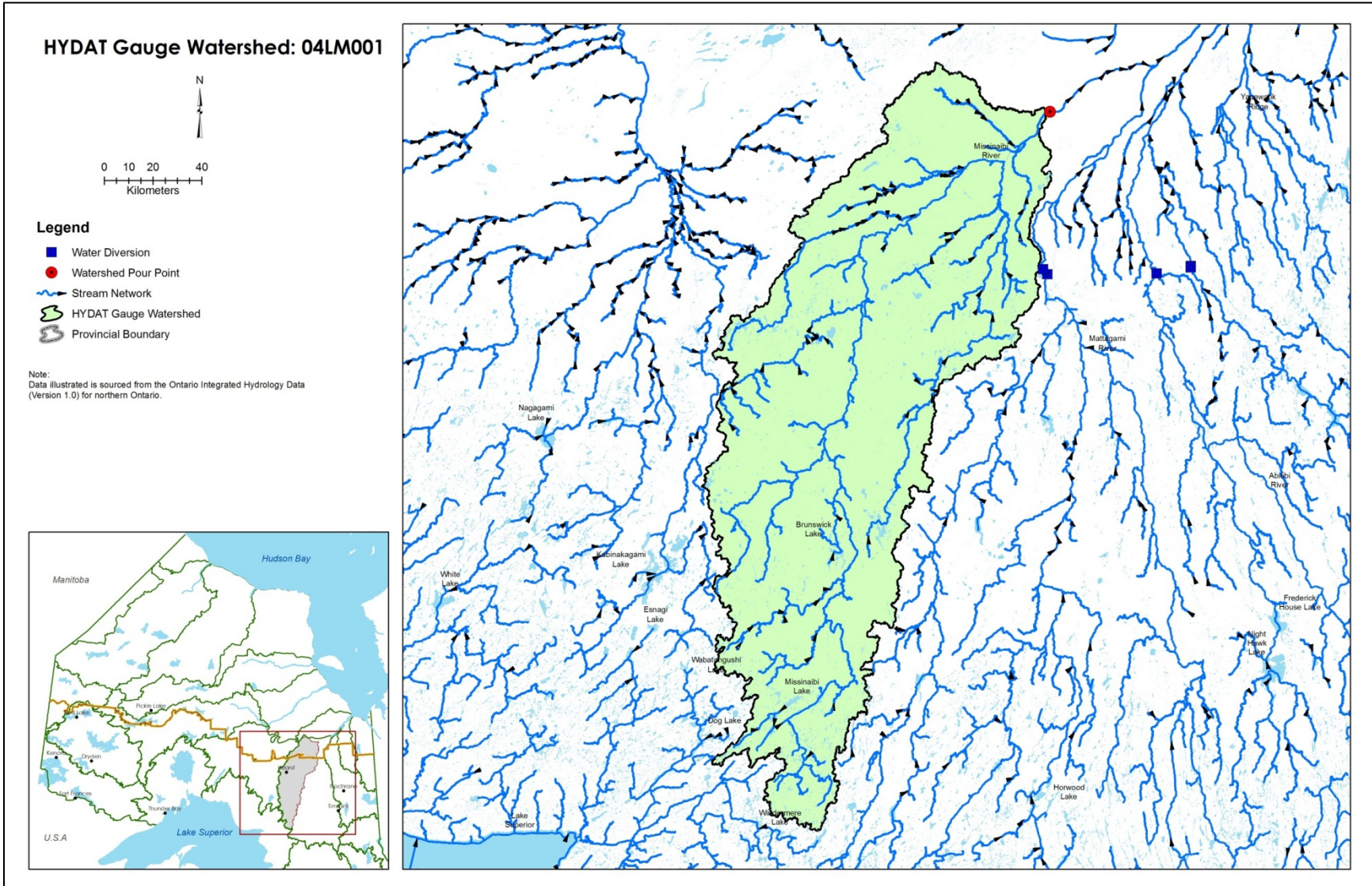
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	852.00	1110.00	1260.00	1400.00	1570.00	1700.00	1810.00	1970.00
7 Day Low Flow	10.690	7.324	5.746	4.586	3.471	2.850	Not Applicable	Not Applicable

04LJ001: Flood and Low Flow Estimates

04LJ001 Summary of flood and low flow events by month



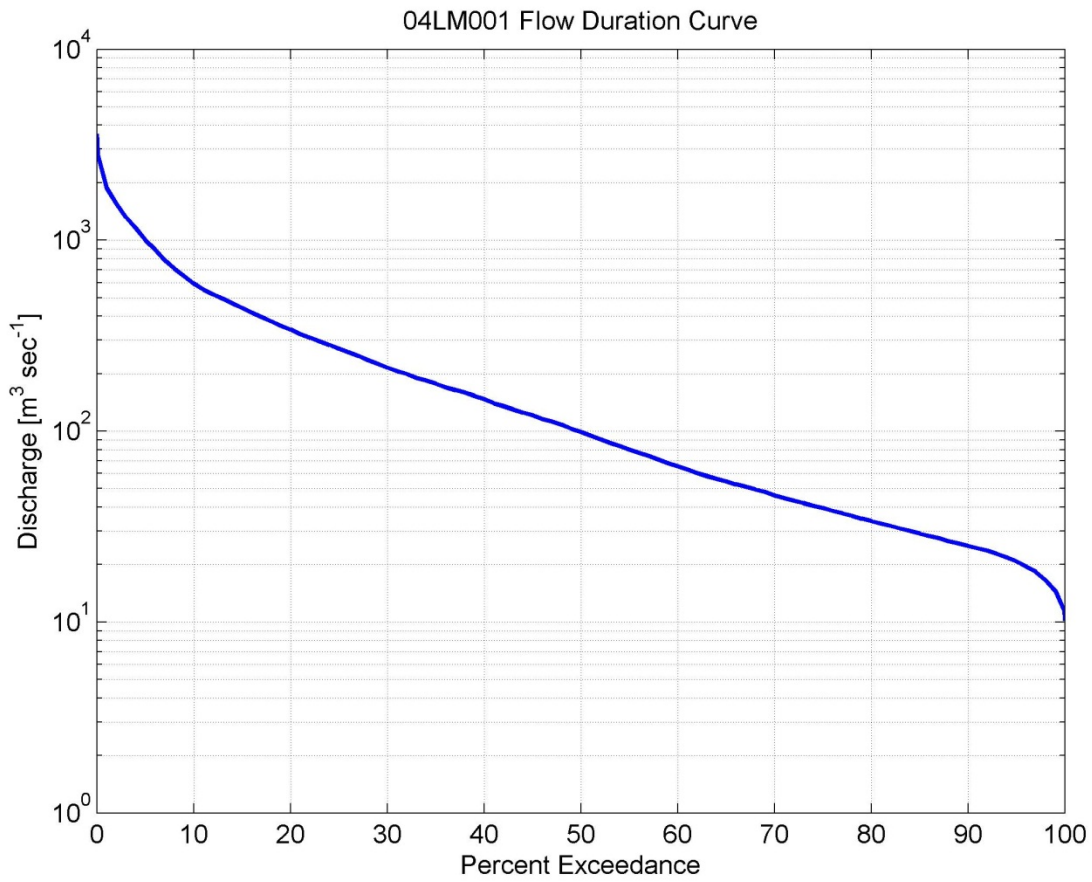
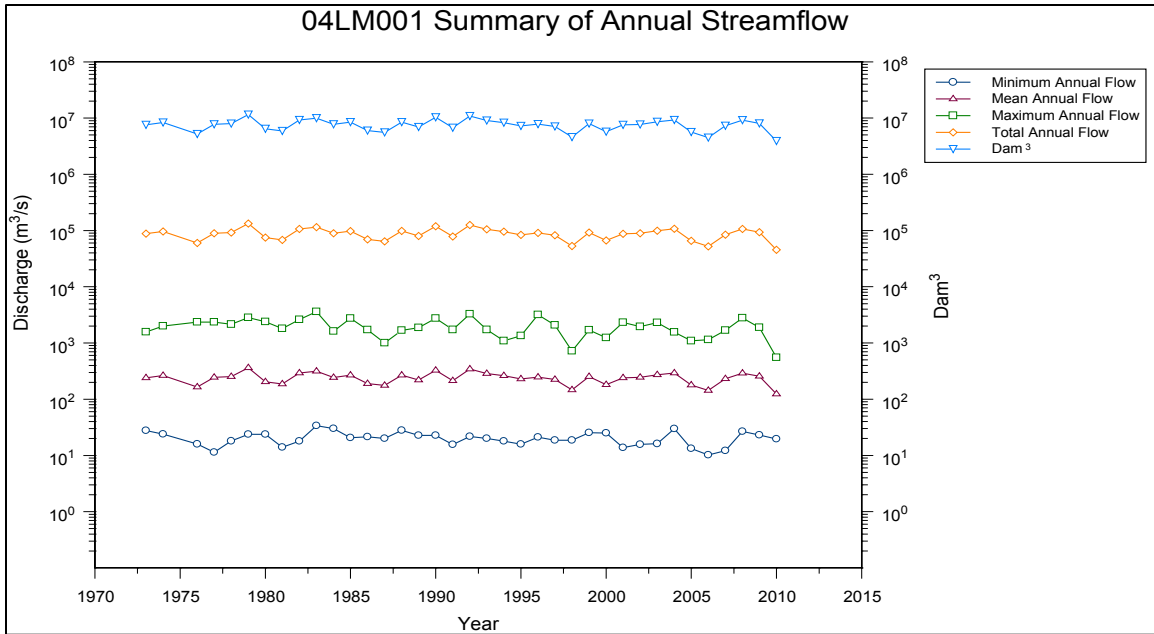
25. MISSINAIBI RIVER BELOW WABOOSE RIVER: 04LM001



MISSINAIBI RIVER BELOW WABOOSE RIVER: 04LM001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 37 Years (1973 - 2010)
- Sample Size n: 13514
- Mean Annual Flow: 240.02 cms
- Standard Deviation: 370.10 cms
- Minimum Streamflow: 10.2 cms
- Lower Quartile Q_1 : 39.5 cms
- Median Streamflow: 99 cms
- Upper Quartile Q_3 : 270 cms
- Maximum Streamflow: 3600 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 03 Nov – 17 May
 - No of Ice Days (Min–Median –Max): 128 – 166- 188



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	130.00	68.00	510.00	2790.00	3600.00	1680.00	1570.00	1090.00	950.00	1650.00	824.00	400.00	3344.85
0.1	128.06	67.46	503.53	2765.60	3405.90	1667.80	1518.24	1044.71	922.55	1552.95	786.18	385.77	2789.80
1	108.06	59.04	143.09	2390.00	2820.60	1258.00	923.60	619.21	771.40	1100.00	676.00	310.00	1874.50
5	84.58	54.00	94.35	1710.00	2060.00	810.00	585.00	401.80	450.00	646.60	482.00	207.00	1000.00
10	74.00	46.50	55.00	1275.00	1760.00	599.00	459.00	272.00	330.00	510.00	385.00	173.00	592.00
15	67.00	44.00	42.89	1030.00	1610.00	539.00	369.90	208.00	271.00	454.45	330.00	147.00	442.00
20	62.50	42.00	38.31	854.50	1470.00	482.00	295.00	171.00	218.00	394.20	295.00	132.00	340.00
25	58.50	39.50	35.50	664.00	1310.00	439.00	238.75	149.00	181.00	353.50	275.00	122.00	270.00
30	55.00	37.00	32.50	519.50	1204.00	399.00	206.40	123.00	159.00	321.40	255.00	112.00	215.00
35	52.00	35.00	31.00	420.00	1110.50	363.00	187.05	101.05	132.00	296.00	235.00	104.05	177.00
40	49.50	33.51	30.00	320.00	997.70	321.00	170.00	87.87	109.50	266.70	214.00	97.00	147.00
45	46.70	32.50	28.70	235.00	895.35	291.00	157.00	77.14	92.10	237.35	194.00	90.14	121.00
50	44.00	30.90	27.50	189.00	816.00	264.50	140.00	68.50	74.25	210.00	181.00	84.00	99.00
55	41.50	28.87	25.80	140.00	739.65	239.00	124.65	58.90	62.90	185.00	163.00	78.63	80.00
60	39.50	27.50	24.60	100.00	665.60	220.00	109.00	53.79	54.80	166.30	148.50	73.00	65.50
65	37.20	26.10	23.60	71.00	584.00	194.00	94.89	47.89	48.00	142.00	133.00	67.00	54.50
70	35.00	25.20	22.10	55.50	524.00	175.00	85.22	41.88	41.15	116.60	123.00	61.76	46.00
75	32.83	24.20	21.20	44.50	462.50	161.00	76.13	36.03	34.20	102.00	113.00	55.13	39.50
80	30.80	23.20	20.30	36.00	407.80	142.50	67.28	31.90	28.30	85.95	102.00	49.00	33.70
85	28.20	21.99	19.10	30.00	350.00	131.00	54.20	27.60	25.70	68.10	87.00	43.00	29.00
90	25.20	20.00	18.42	26.70	303.20	111.00	47.00	23.10	23.10	51.00	69.85	37.54	25.00
91	24.47	19.47	18.30	26.20	290.73	104.40	44.47	21.60	22.70	49.52	66.88	36.47	24.30
92	23.73	16.61	18.20	25.80	274.26	99.93	41.43	20.20	22.03	47.73	63.03	35.50	23.60
93	22.88	15.50	18.10	25.00	250.00	93.56	37.65	18.48	21.64	44.95	59.20	34.00	22.70
94	21.06	15.00	18.00	24.10	236.92	82.36	34.29	17.60	21.02	40.93	55.26	31.86	21.80
95	19.37	14.60	17.30	23.90	218.85	72.60	30.09	16.99	19.10	38.94	49.50	30.00	20.80
96	17.58	14.10	16.34	23.39	192.52	64.99	28.50	16.50	16.49	34.72	44.95	28.00	19.50
97	16.19	13.90	14.98	22.36	178.00	57.82	27.27	16.20	15.50	30.98	40.68	25.87	18.30
98	14.84	12.52	13.74	20.91	162.88	53.91	24.54	15.90	13.77	27.42	35.43	20.63	16.50
99	13.70	12.09	12.20	19.18	141.00	48.54	18.40	15.59	12.08	20.98	28.18	17.80	14.56
99.9	13.00	11.80	11.40	18.12	108.94	27.80	16.10	14.43	10.44	18.66	23.68	16.06	11.50
99.99	13.00	11.80	11.40	18.00	107.00	27.80	16.10	14.30	10.20	18.60	23.50	16.00	10.54

04LM001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.470
10:90 Ratio	19.669
Sqrt(Q ₂₅ /Q ₇₅)	2.337

04LM001: Parameters from Flow Duration Curves

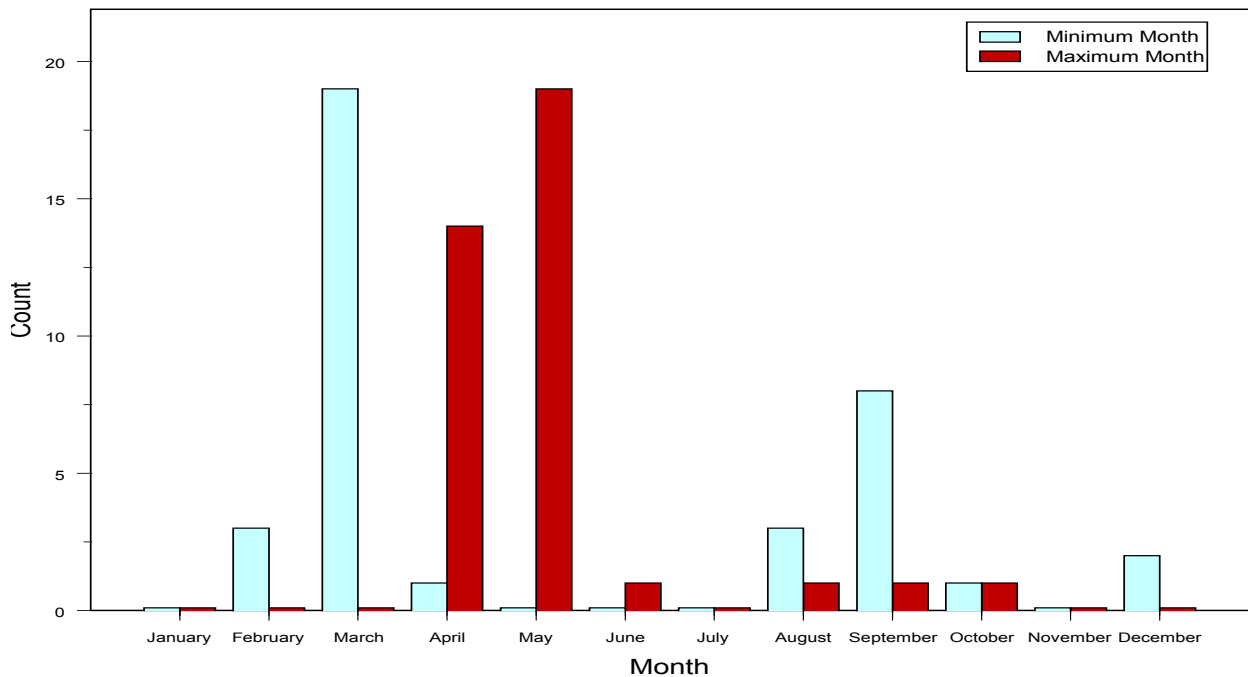
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	549	40	2451.583 (58.907)	436.812 (33.925)	-0.086 (0.028)	0.068
Low Flow	-17	8	-12.358 (0.164)	1.213 (0.047)	-0.535 (0.037)	0.032

04LM001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

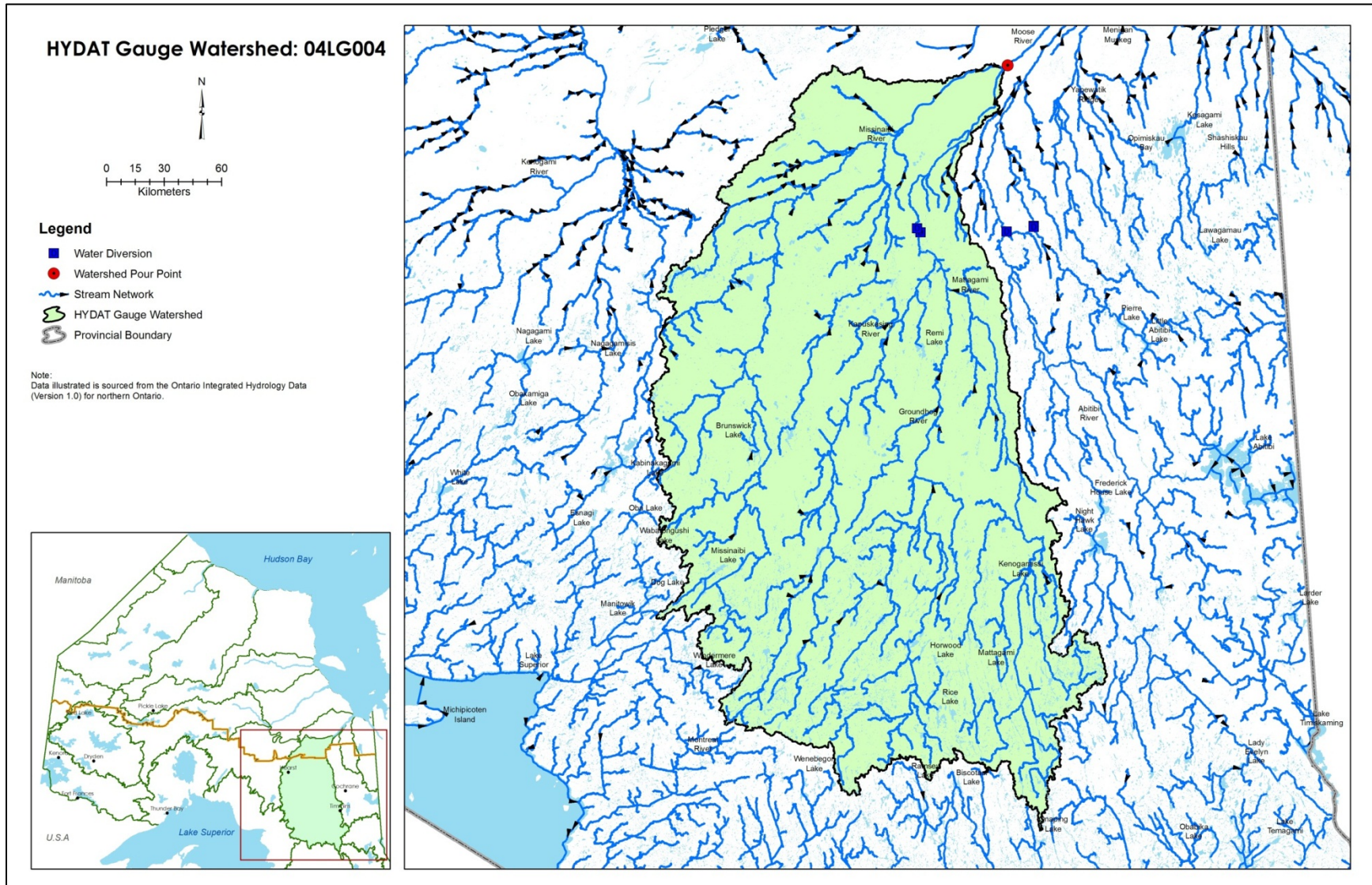
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1940.00	2600.00	3010.00	3400.00	3880.00	4240.00	4590.00	5050.00
7 Day Low Flow	20.410	15.840	13.870	12.530	11.320	10.700	Not Applicable	Not Applicable

04LM001: Flood and Low Flow Estimates

04LM001 Summary of flood and low flow events by month



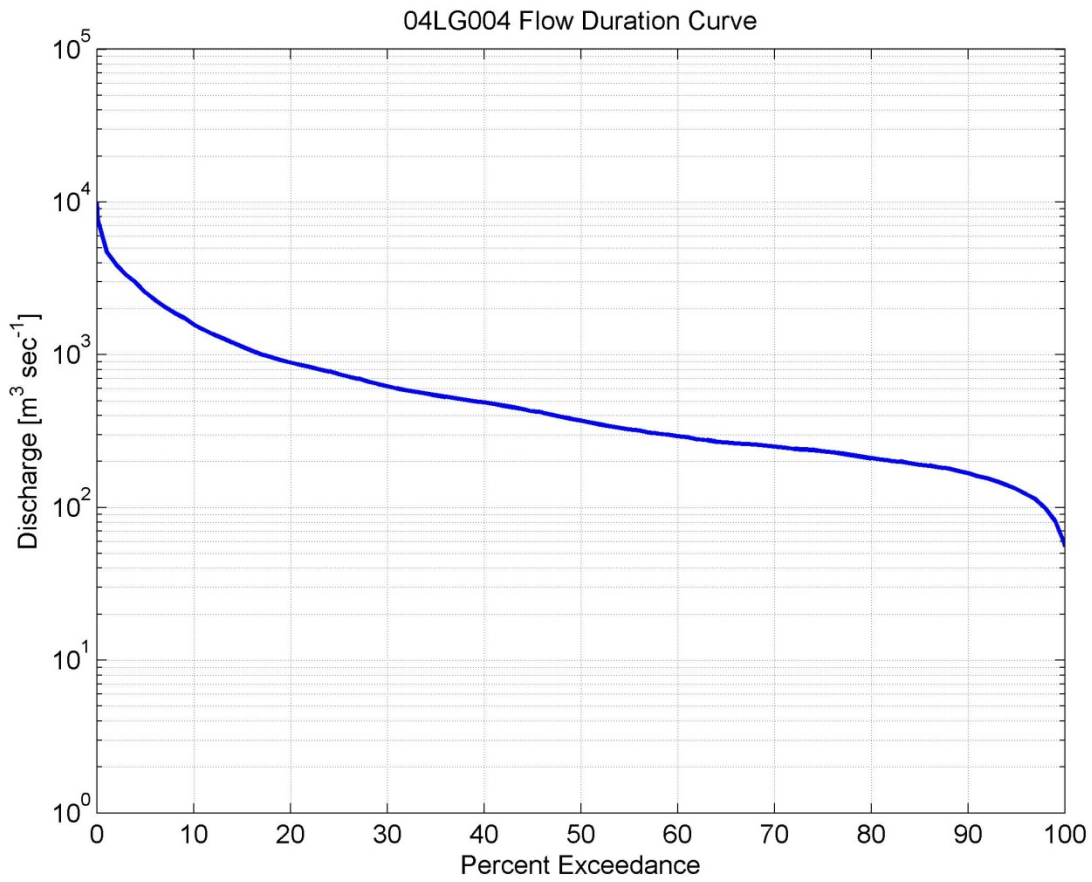
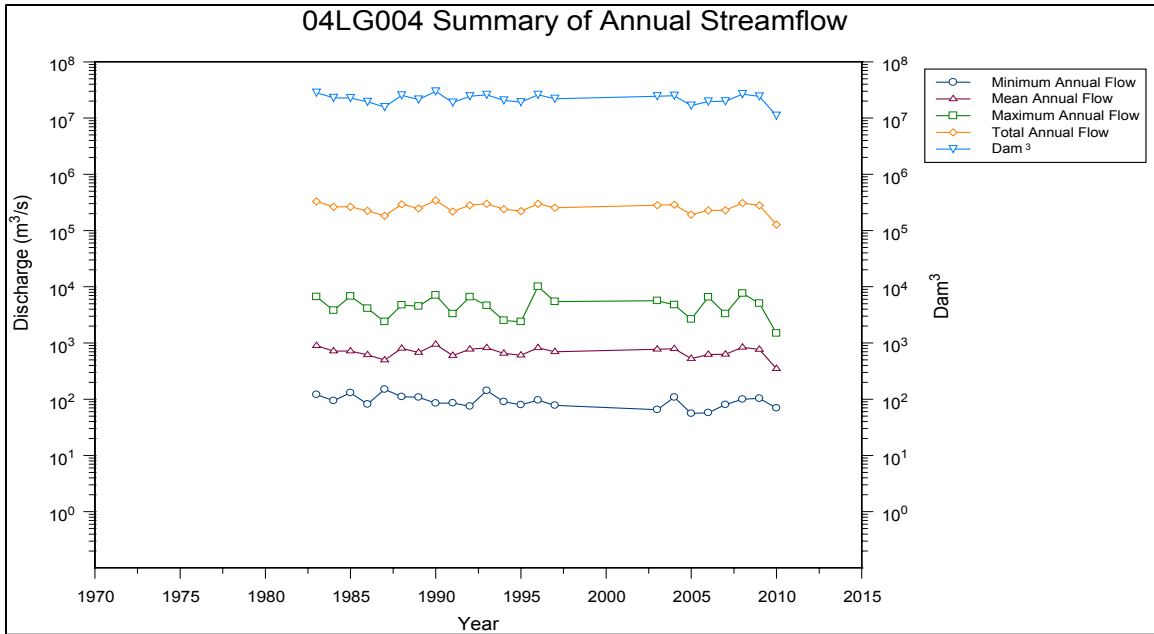
26. MOOSE RIVER ABOVE MOOSE RIVER: 04LG004



MOOSE RIVER ABOVE MOOSE RIVER: 04LG004

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 23 Years (1983 - 2010)
- Sample Size n: 8401
- Mean Annual Flow: 701.84 cms
- Standard Deviation: 926.94 cms
- Minimum Streamflow: 55.8 cms
- Lower Quartile Q_1 : 233 cms
- Median Streamflow: 370 cms
- Upper Quartile Q_3 : 745 cms
- Maximum Streamflow: 10100 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 01 Nov – 12 May
 - No of Ice Days (Min–Median –Max): 131- 160- 177



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	596.00	358.00	725.00	7650.00	10100.00	4300.00	3030.00	2010.00	2020.00	2420.00	2180.00	1490.00	10100.00
0.1	588.33	355.84	723.94	7640.50	10100.00	4290.50	2978.88	2003.61	2004.80	2411.48	2157.20	1479.35	7605.25
1	466.85	326.36	703.11	6860.00	7621.60	3320.00	2407.40	1617.40	1700.00	2154.80	1688.00	933.70	4745.50
5	358.85	300.00	399.55	4300.00	5227.50	2230.00	1540.00	1125.50	1070.00	1547.00	1300.00	625.00	2560.00
10	320.00	275.00	318.00	3220.00	4484.00	1715.00	1282.00	829.40	847.00	1132.00	1020.00	545.20	1580.00
15	300.00	260.00	289.55	2550.00	4045.50	1430.00	1031.00	723.30	695.00	944.40	890.00	502.75	1130.00
20	290.00	255.70	270.00	2075.00	3719.00	1310.00	897.70	596.00	593.00	857.00	837.50	470.00	890.00
25	280.00	248.00	260.00	1650.00	3355.00	1160.00	754.00	540.25	545.00	794.00	800.00	440.00	745.00
30	273.60	240.00	250.00	1205.00	3096.00	1055.00	670.60	493.60	486.50	720.00	737.50	415.60	623.00
35	267.95	235.10	247.00	1050.00	2940.00	965.00	603.00	442.95	442.00	646.95	680.00	395.00	542.00
40	260.00	225.00	240.00	900.00	2580.00	872.00	554.20	382.60	373.50	611.30	641.50	372.00	486.00
45	258.00	218.00	238.00	750.00	2386.50	810.00	512.30	331.00	315.00	564.30	586.00	350.00	426.00
50	250.00	207.50	231.00	596.00	2160.00	721.50	475.00	297.00	269.00	522.00	549.50	335.00	370.00
55	243.35	200.00	220.00	510.00	2030.00	670.00	434.40	263.35	245.00	500.35	526.00	322.00	325.00
60	238.00	198.00	213.00	411.50	1867.00	608.00	400.00	230.00	214.00	466.40	500.00	311.40	293.00
65	230.00	191.00	204.05	348.00	1710.50	555.00	362.05	211.05	197.00	424.10	477.00	300.00	267.00
70	224.00	188.00	199.00	300.00	1510.00	530.00	323.80	191.00	183.00	368.00	447.00	292.40	250.00
75	213.75	184.00	190.00	265.00	1300.00	493.00	280.75	163.00	167.00	323.75	423.00	280.00	233.00
80	204.00	178.30	180.00	240.00	1121.00	448.00	239.00	141.00	143.50	289.00	397.50	263.10	210.00
85	190.90	168.10	164.00	217.00	961.05	372.00	187.45	123.00	128.00	258.00	380.00	248.00	190.00
90	175.00	159.80	149.60	177.50	819.20	297.50	154.80	109.00	108.00	223.80	355.00	226.00	168.00
91	170.00	157.00	146.00	167.60	774.37	292.20	149.00	104.34	101.80	209.67	345.60	220.00	160.00
92	166.62	152.02	142.00	158.80	693.94	272.70	143.54	98.34	95.88	203.08	337.00	216.54	155.00
93	160.00	149.16	140.00	152.00	626.69	252.60	135.00	91.58	91.84	189.00	325.00	210.00	148.00
94	157.00	146.00	138.28	144.90	575.56	223.60	123.00	85.95	89.06	175.56	318.80	206.00	140.00
95	151.15	141.70	130.00	140.00	515.90	194.00	113.30	79.82	85.80	159.00	312.00	200.00	132.00
96	147.00	135.26	122.00	133.30	484.00	177.00	98.84	77.80	80.20	150.00	300.10	193.00	122.00
97	140.00	130.00	117.89	126.20	447.56	163.00	88.65	70.89	74.88	130.00	290.00	182.89	113.00
98	136.00	121.38	110.00	116.90	382.28	148.60	82.13	69.15	64.10	120.00	266.50	174.00	98.56
99	117.52	108.94	97.26	101.60	343.52	126.80	75.63	62.93	59.28	106.30	230.80	165.00	81.49
99.9	99.92	91.01	76.07	70.32	246.73	96.71	70.08	57.90	55.93	90.96	183.18	122.92	58.86
99.99	98.00	90.00	75.00	65.00	238.00	94.30	69.80	57.90	55.80	90.00	179.00	121.00	56.04

04LG004: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.504
10:90 Ratio	9.405
Sqrt(Q ₂₅ /Q ₇₅)	1.788

04LG004: Parameters from Flow Duration Curves

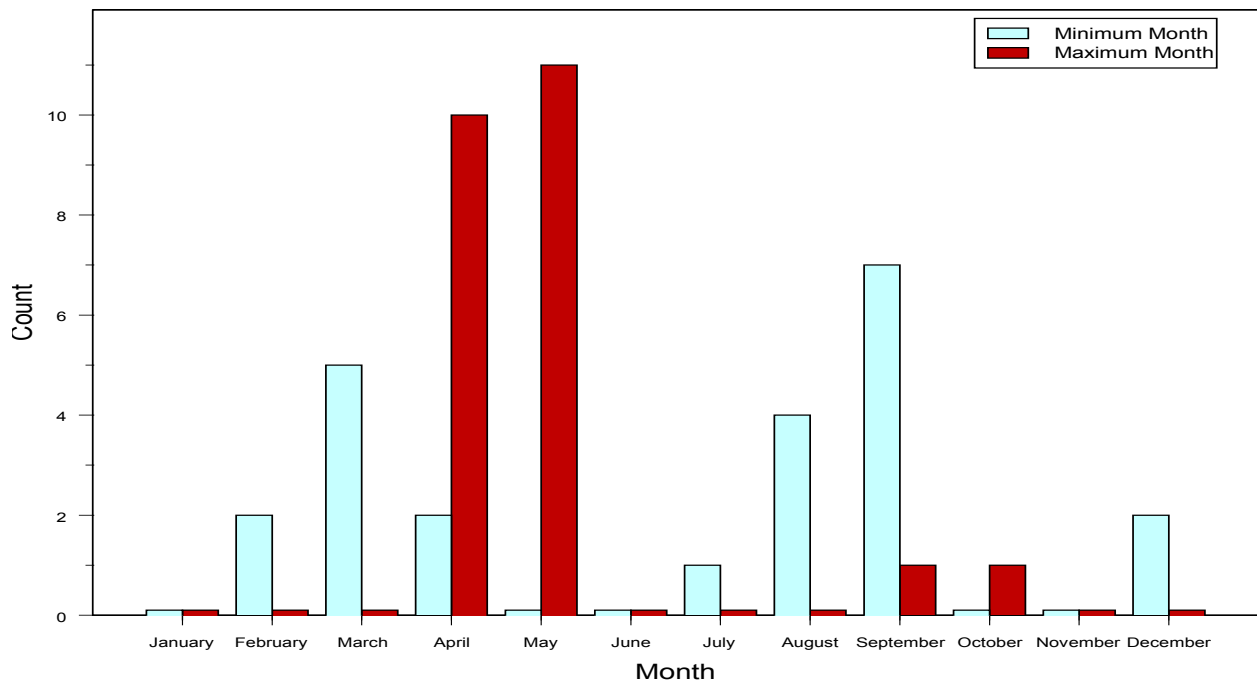
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	2490	19	6516.235 (191.945)	1215.312 (109.275)	-0.076 (0.042)	0.082
Low Flow	-120	13	-158.897 (NaN)	28.732 (NaN)	0.002 (0.000)	0.119

04LG004: Flood/Low Flow Descriptive Indices above/below a Threshold Value

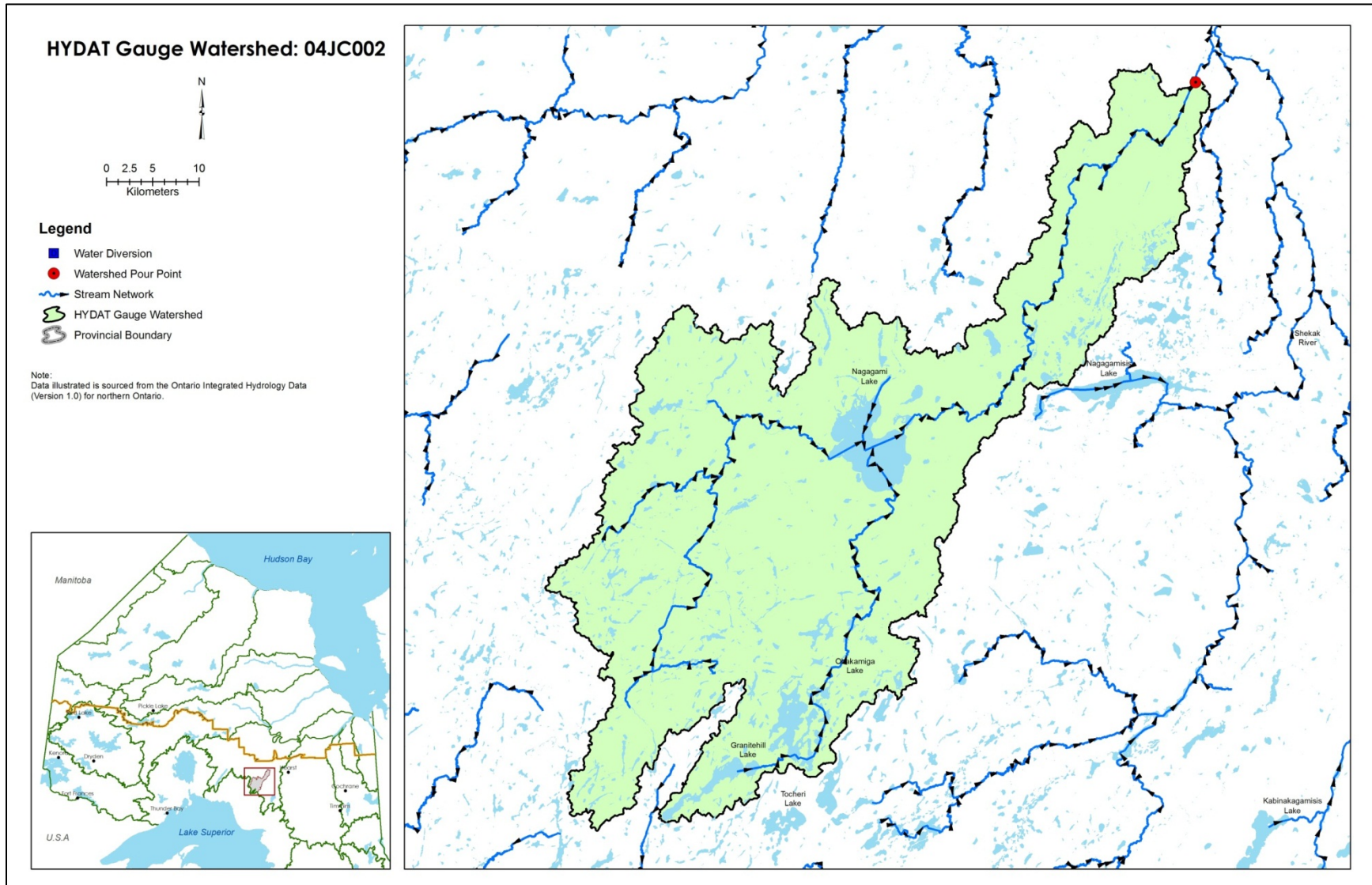
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	4820.0	6710.0	7880.0	8950.0	10300.0	11200.0	12200.0	13400.0
7 Day Low Flow	134.80	103.10	84.850	69.190	51.300	39.440	Not Applicable	Not Applicable

04LG004: Flood and Low Flow Estimates

04LG004 Summary of flood and low flow events by month



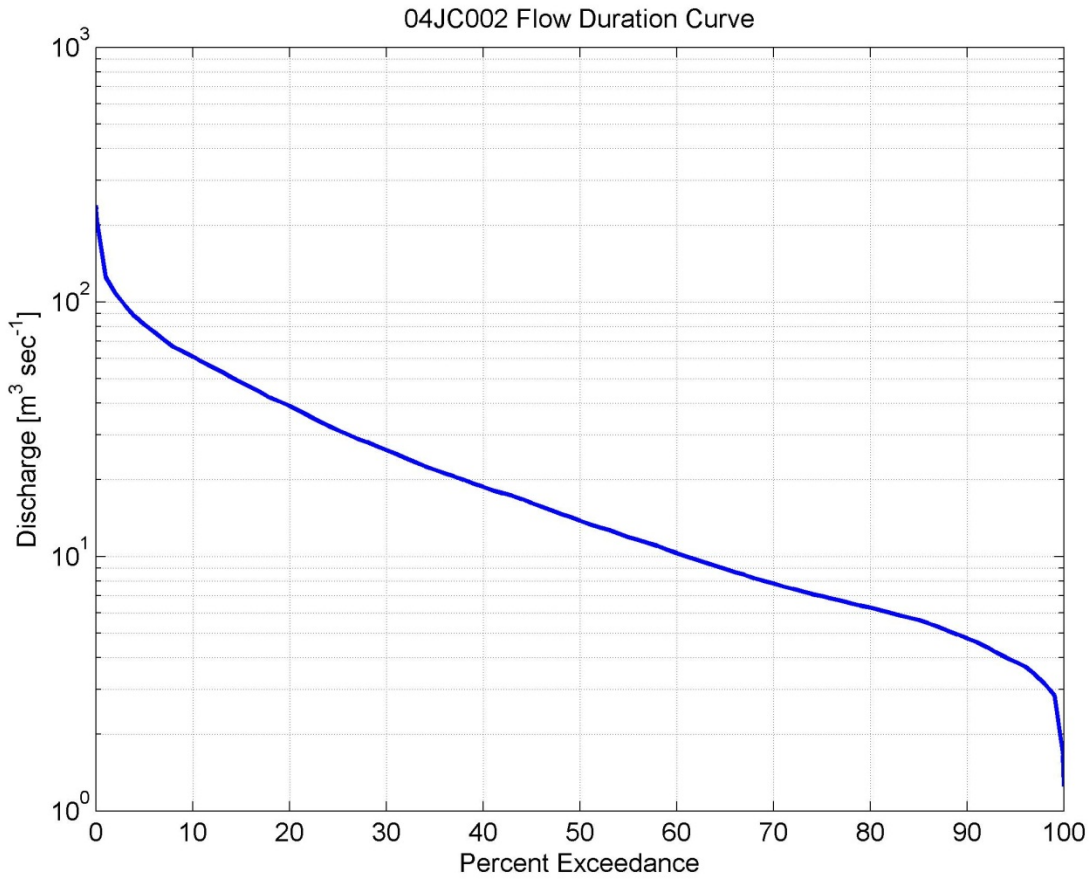
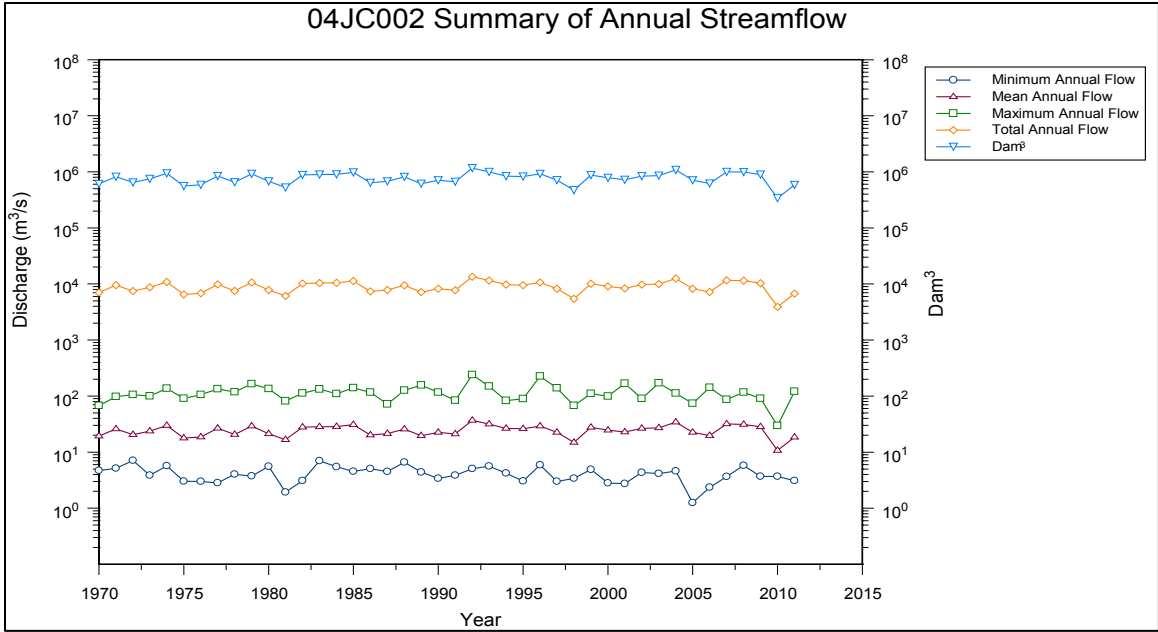
27. NAGAGAMI RIVER AT HIGHWAY NO. 11: 04JC002



NAGAGAMI RIVER AT HIGHWAY NO. 11: 04JC002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 24.55 cms
- Standard Deviation: 26.94 cms
- Minimum Streamflow: 1.25 cms
- Lower Quartile Q_1 : 6.97 cms
- Median Streamflow: 13.8 cms
- Upper Quartile Q_3 : 31.3 cms
- Maximum Streamflow: 240 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 01 Nov – 16 May
 - No of Ice Days (Min–Median –Max): 105 – 164 - 188



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	20.00	13.40	31.20	153.00	240.00	157.00	117.00	86.00	69.30	89.20	81.30	67.10	231.80
0.1	19.84	13.33	29.68	144.64	233.58	148.64	117.00	84.88	68.31	89.04	79.78	64.61	208.68
1	17.90	11.00	15.34	130.00	218.00	104.90	86.38	73.74	62.33	84.10	71.40	37.54	125.00
5	14.20	9.90	11.70	87.40	143.00	84.35	63.80	52.44	40.35	64.28	51.30	29.20	81.30
10	12.60	8.90	10.00	65.05	125.00	73.40	51.13	35.50	30.70	58.00	44.00	24.20	61.00
15	11.60	8.50	8.48	51.00	115.00	63.30	43.70	29.12	26.70	53.80	40.00	21.50	48.30
20	11.00	8.10	7.80	41.95	108.00	56.70	38.31	25.51	23.30	46.61	37.10	19.52	39.00
25	10.30	7.80	7.15	35.45	102.00	52.35	33.70	21.90	20.80	38.70	33.95	18.10	31.30
30	9.70	7.50	6.82	28.30	95.58	49.15	30.87	19.19	18.70	30.58	30.50	17.00	26.15
35	9.25	7.20	6.51	22.35	89.50	46.45	27.98	17.08	16.55	26.48	28.10	15.90	21.90
40	8.90	6.80	6.30	17.80	84.40	43.60	25.07	15.40	15.00	23.97	25.70	14.97	18.75
45	8.44	6.54	6.10	15.00	80.40	40.85	22.36	14.10	13.60	22.00	23.65	13.96	16.20
50	7.84	6.35	5.85	13.05	76.75	38.55	20.30	12.70	12.10	20.10	21.30	13.10	13.80
55	7.40	6.10	5.72	11.85	72.84	35.95	18.90	11.50	10.60	18.40	19.70	12.20	11.90
60	7.10	5.85	5.62	10.50	68.23	33.30	17.80	10.43	8.40	16.33	18.30	11.20	10.30
65	6.82	5.31	5.44	9.40	63.72	31.20	17.00	9.28	6.98	13.70	16.60	10.20	8.91
70	6.54	4.83	5.20	8.67	60.91	29.55	15.90	8.45	6.40	11.30	14.00	9.20	7.80
75	6.05	4.60	4.90	7.90	57.10	27.30	14.20	7.62	5.96	9.49	12.60	8.30	6.98
80	5.57	4.30	4.60	7.38	53.00	24.10	11.90	6.80	5.37	6.72	11.60	7.45	6.29
85	5.18	4.00	4.32	6.90	47.98	21.90	10.40	5.89	4.53	5.67	8.73	6.23	5.62
90	4.38	3.82	3.77	5.91	39.60	18.80	8.62	5.01	3.67	4.46	5.51	4.34	4.76
91	3.99	3.79	3.74	5.80	37.50	18.08	8.27	4.86	3.57	4.28	5.24	4.14	4.60
92	3.94	3.60	3.69	5.60	33.83	16.96	7.86	4.70	3.39	3.99	5.01	4.08	4.41
93	3.75	3.42	3.55	5.30	30.26	16.44	7.40	4.53	3.10	3.85	4.59	4.05	4.20
94	3.67	3.30	3.45	5.18	27.22	15.50	6.85	4.36	2.71	3.64	4.38	4.02	4.01
95	3.59	3.21	3.40	5.07	25.06	14.40	6.45	4.12	2.52	3.51	4.22	3.77	3.85
96	3.47	3.18	3.21	4.98	22.27	13.28	5.99	3.94	2.47	3.40	4.00	3.34	3.69
97	3.39	2.87	3.13	4.83	19.60	12.10	5.78	3.44	2.37	3.23	3.94	3.17	3.44
98	2.94	2.83	3.11	4.70	17.25	9.35	5.49	3.08	2.26	3.08	3.83	3.07	3.16
99	2.89	2.83	3.05	4.55	14.96	7.38	4.93	2.17	1.98	2.39	3.74	2.97	2.86
99.9	2.86	2.74	2.83	3.73	11.34	4.82	3.79	1.27	1.40	1.95	3.39	2.82	1.65
99.99	2.86	2.73	2.83	3.68	11.10	4.59	3.59	1.25	1.35	1.93	3.37	2.81	1.27

04JC002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.606
10:90 Ratio	12.815
Sqrt(Q ₂₅ /Q ₇₅)	2.118

04JC002: Parameters from Flow Duration Curves

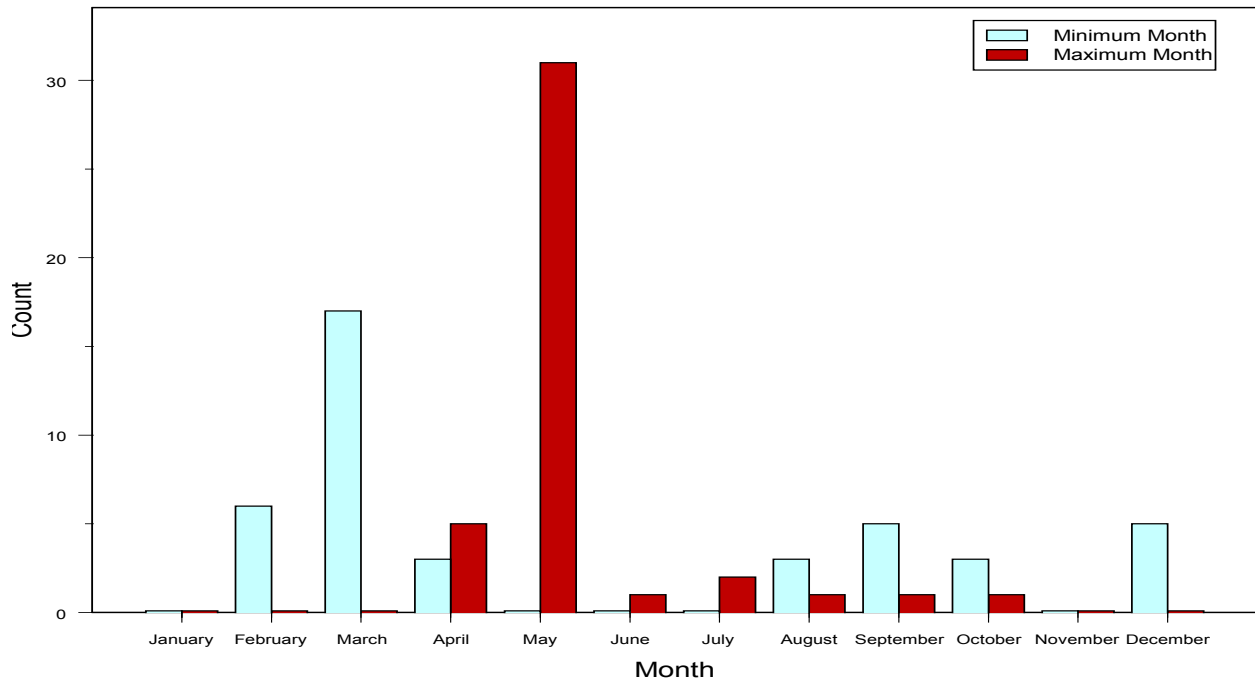
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	35	82	160.995 (2.846)	25.035 (1.318)	-0.059 (0.015)	0.030
Low Flow	-6	65	-1.959 (0.031)	0.341 (0.009)	-0.434 (0.010)	0.024

04JC002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	116.00	151.00	175.00	198.00	229.00	253.00	278.00	311.00
7 Day Low Flow	4.230	3.082	2.524	2.103	1.685	1.445	Not Applicable	Not Applicable

04JC002: Flood and Low Flow Estimates

04JC002 Summary of flood and low flow events by month



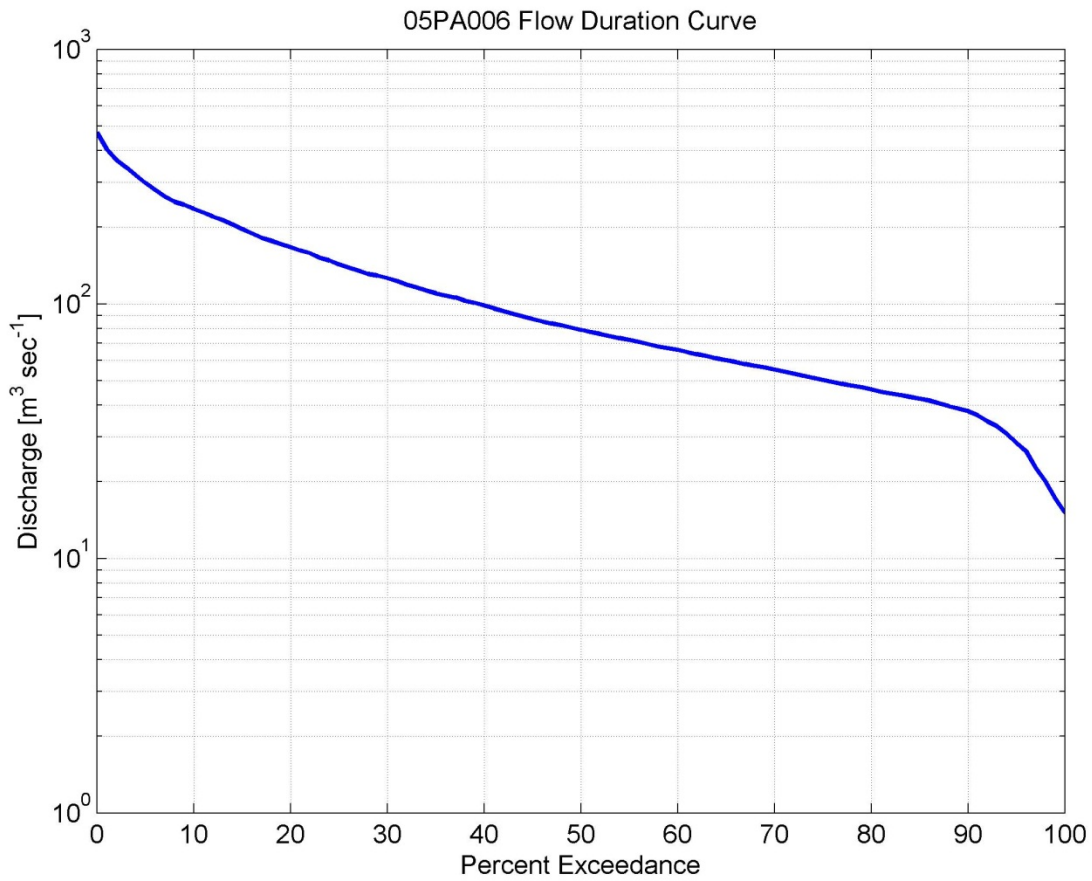
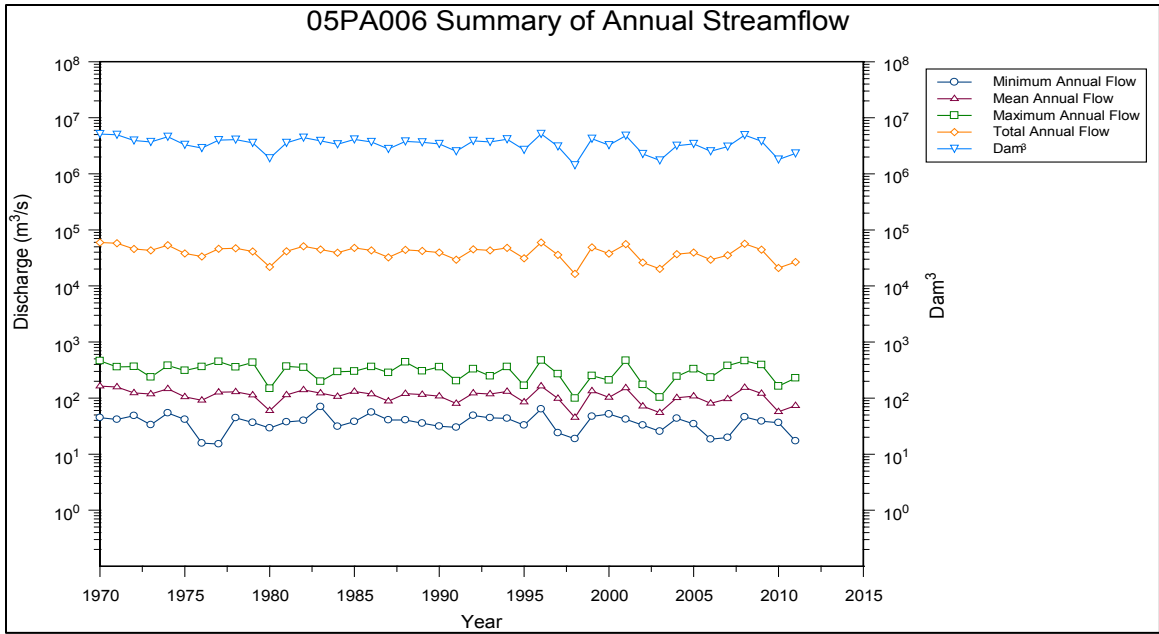
**28. NAMAKAN RIVER AT OUTLET OF LAC LA CROIX:
05PA006**

Note: Watershed not delineated

NAMAKAN RIVER AT OUTLET OF LAC LA CROIX: 05PA006

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 110.68 cms
- Standard Deviation: 86.07 cms
- Minimum Streamflow: 15.2 cms
- Lower Quartile Q_1 : 50.3 cms
- Median Streamflow: 79 cms
- Upper Quartile Q_3 : 143 cms
- Maximum Streamflow: 471 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	156.00	108.00	84.60	300.00	471.00	462.00	411.00	375.00	450.00	445.00	377.00	253.00	470.97
0.1	154.40	107.32	83.88	290.88	471.00	461.24	401.38	363.77	450.00	440.19	373.96	251.40	464.17
1	145.00	104.00	80.40	241.80	466.00	450.00	354.44	279.48	430.70	399.00	342.80	239.00	405.20
5	126.00	95.40	75.68	175.50	416.20	401.50	286.40	228.00	216.00	221.80	253.50	204.00	298.00
10	115.00	87.30	72.50	141.00	362.00	357.00	253.00	189.30	165.00	167.30	203.50	167.30	236.00
15	107.00	82.11	68.86	122.00	347.00	323.00	236.00	167.00	140.50	141.00	162.00	130.20	197.00
20	96.51	78.70	64.61	105.00	326.10	293.00	220.10	151.00	128.00	124.00	141.00	125.00	167.00
25	90.00	74.95	61.00	93.85	303.00	274.00	207.00	143.00	113.00	113.00	125.00	111.00	143.00
30	85.80	69.04	57.80	85.25	287.00	256.00	192.00	132.00	100.00	104.00	108.00	103.00	126.00
35	77.24	62.89	55.00	78.60	265.80	248.00	182.00	125.00	89.60	94.80	91.05	93.72	110.00
40	69.87	59.60	52.30	73.20	244.00	238.50	173.00	115.00	83.60	88.10	81.65	75.77	98.50
45	65.00	57.03	50.90	68.95	230.00	224.50	163.00	107.00	77.70	83.30	78.25	71.76	87.10
50	61.10	54.90	49.05	65.35	216.50	212.00	156.00	102.00	67.30	77.00	72.80	66.90	79.10
55	59.24	52.67	47.54	61.45	198.00	195.00	146.40	95.94	62.90	73.00	67.85	64.50	72.20
60	57.50	50.70	45.90	57.45	180.00	181.00	139.00	90.73	59.25	56.23	62.95	60.13	66.00
65	55.42	47.90	44.20	54.50	167.00	169.00	131.00	85.42	55.90	47.90	52.50	56.40	60.10
70	49.30	44.50	43.20	52.20	146.00	159.00	123.00	79.51	51.80	44.01	46.65	52.91	55.20
75	47.00	43.00	41.20	49.50	119.00	139.00	114.00	74.30	48.00	41.20	42.95	49.00	50.30
80	44.70	41.60	39.20	47.15	101.00	118.50	104.00	69.10	43.80	38.70	40.25	43.69	46.10
85	42.50	38.10	37.90	44.90	84.16	99.20	89.58	63.18	40.05	34.68	34.45	39.08	42.40
90	34.80	33.11	32.27	39.40	52.68	67.75	76.11	57.01	35.95	28.57	27.95	33.17	37.80
91	32.14	28.50	30.70	38.89	49.37	65.00	72.44	54.87	35.10	27.77	26.40	27.07	36.40
92	29.87	28.20	29.90	37.90	46.50	60.71	67.80	52.80	34.20	26.57	26.00	26.40	34.50
93	28.60	28.00	26.50	36.77	42.12	54.56	64.83	50.46	33.40	25.76	24.11	19.53	33.00
94	28.40	27.70	26.06	31.04	39.76	51.56	63.39	46.71	33.00	25.16	21.31	19.10	30.83
95	27.66	26.83	25.60	28.85	38.80	49.60	58.80	38.42	32.60	24.32	20.60	19.00	28.40
96	20.36	20.45	20.40	26.20	37.92	47.60	53.62	35.63	31.70	23.46	20.10	18.26	26.27
97	20.16	20.20	20.10	26.00	33.96	45.03	46.74	32.77	30.52	22.56	19.63	17.30	22.60
98	15.70	15.40	15.80	19.14	32.00	42.94	43.72	30.45	23.98	21.20	18.67	16.25	20.10
99	15.40	15.30	15.70	16.61	22.50	40.85	41.55	29.25	21.11	19.55	17.21	16.05	17.20
99.9	15.30	15.20	15.30	16.20	19.78	37.98	38.46	26.44	20.05	19.04	16.48	15.70	15.30
99.99	15.30	15.20	15.30	16.20	19.30	37.90	37.90	26.20	19.90	18.80	16.40	15.70	15.20

05PA006: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.769
10:90 Ratio	6.243
Sqrt(Q ₂₅ /Q ₇₅)	1.686

05PA006: Parameters from Flow Duration Curves

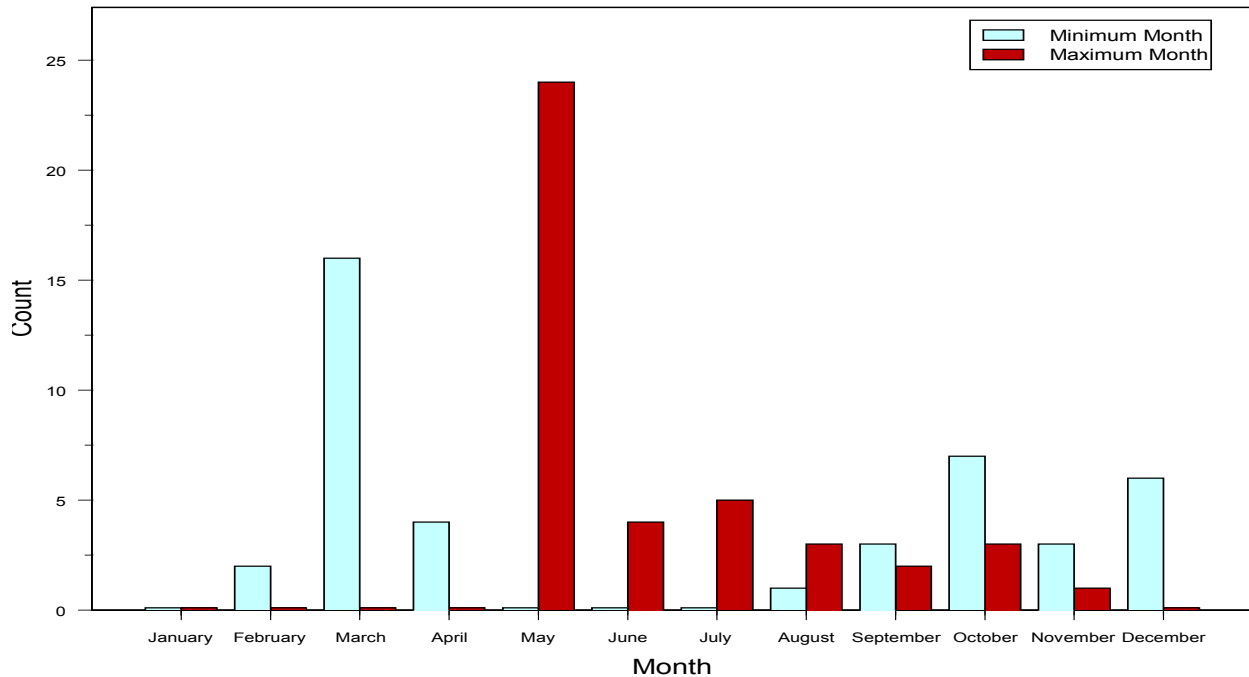
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	135	98	451.318 (4.916)	35.299 (1.990)	-0.265 (0.016)	0.017
Low Flow	-32	24	-15.593 (NaN)	0.462 (NaN)	-1.173 (0.000)	0.015

05PA006: Flood/Low Flow Descriptive Indices above/below a Threshold Value

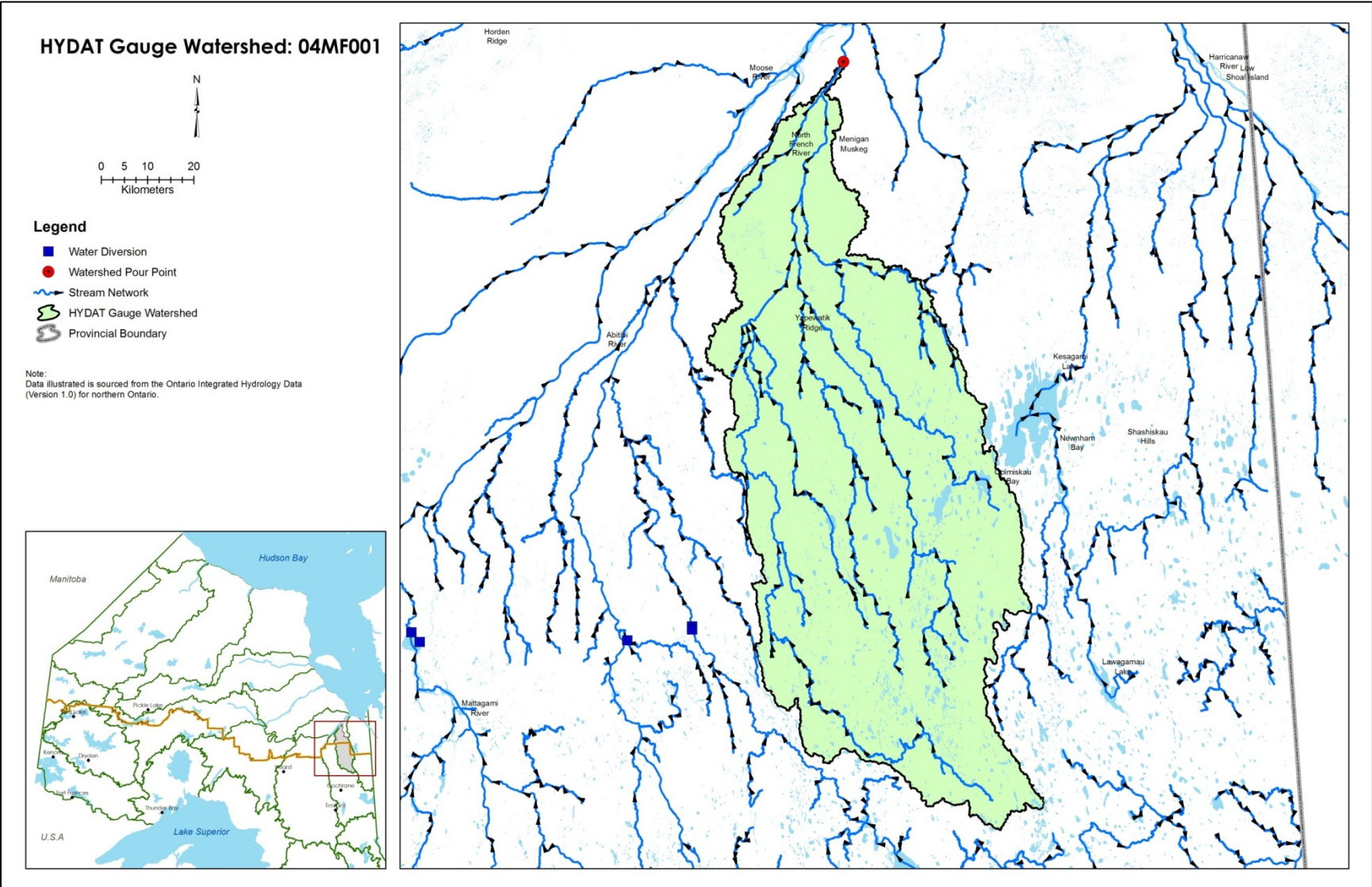
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	297.00	405.00	468.00	525.00	594.00	643.00	690.00	751.00
7 Day Low Flow	35.450	25.940	21.890	19.120	16.670	15.410	Not Applicable	Not Applicable

05PA006: Flood and Low Flow Estimates

05PA006 Summary of flood and low flow events by month



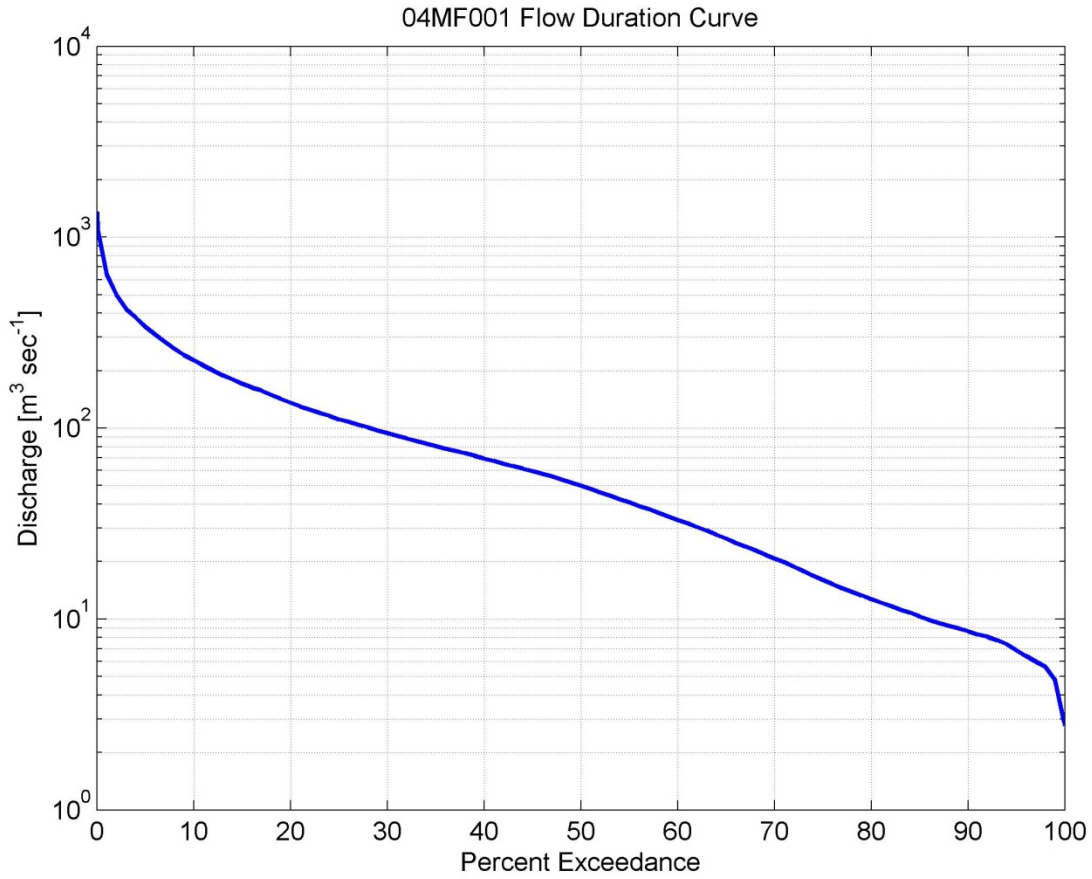
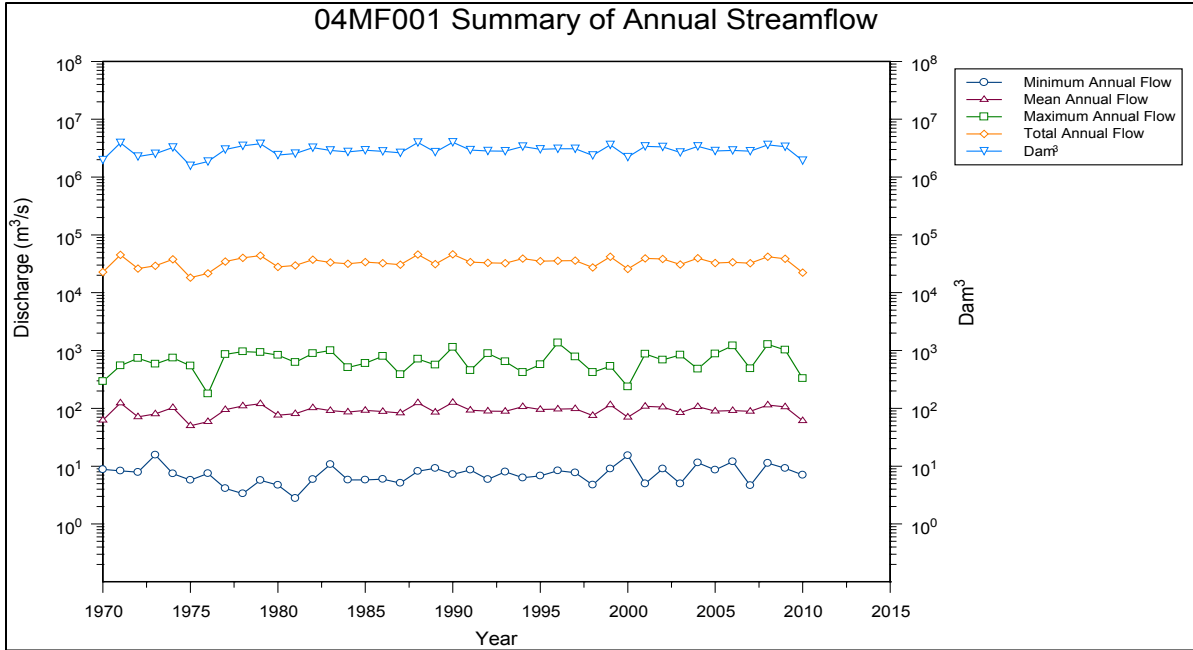
29. NORTH FRENCH RIVER NEAR THE MOUTH: 04MF001



NORTH FRENCH RIVER NEAR THE MOUTH: 04MF001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 41 Years (1970 - 2010)
- Sample Size n: 14975
- Mean Annual Flow: 92.53 cms
- Standard Deviation: 127.02 cms
- Minimum Streamflow: 2.78 cms
- Lower Quartile Q_1 : 15.9 cms
- Median Streamflow: 50 cms
- Upper Quartile Q_3 : 111 cms
- Maximum Streamflow: 1360 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	44.00	29.50	178.00	1280.00	1360.00	547.00	758.00	420.00	574.00	875.00	373.00	176.00	1350.04
0.1	43.85	28.85	164.12	1258.10	1352.29	538.24	711.74	397.64	565.97	827.20	355.48	163.66	1090.00
1	39.50	24.40	77.07	1010.00	958.11	394.00	347.37	292.37	371.00	523.74	275.80	102.00	639.25
5	32.49	21.81	35.10	580.00	711.95	268.00	239.95	211.95	279.00	347.95	203.00	73.95	340.00
10	27.50	16.80	14.14	376.00	580.00	217.50	181.00	139.00	209.00	243.00	158.50	61.00	227.00
15	24.30	14.40	12.50	295.00	502.70	182.00	143.00	109.00	174.00	208.00	131.00	53.50	171.00
20	21.90	13.10	11.50	213.50	449.30	165.00	121.00	87.56	145.50	186.00	115.00	48.50	136.00
25	20.30	12.20	10.00	163.00	411.00	150.00	106.00	76.48	127.00	173.00	105.00	44.50	111.00
30	19.20	11.60	9.50	120.00	380.00	139.00	94.72	67.32	108.00	155.00	96.00	41.54	94.00
35	17.87	11.00	9.20	92.00	351.00	127.00	87.80	62.67	95.00	142.00	88.90	38.67	80.50
40	16.80	10.60	8.90	68.00	324.10	115.50	80.70	58.60	86.00	130.00	83.00	35.82	69.15
45	15.80	10.10	8.60	45.00	294.00	106.00	74.96	52.11	77.90	121.00	77.90	33.00	59.50
50	15.00	9.70	8.31	31.60	266.00	97.90	68.40	46.80	70.40	113.00	73.00	30.90	50.00
55	14.00	9.34	8.10	22.00	237.45	90.90	62.55	42.20	62.30	106.00	69.00	28.60	40.80
60	13.20	8.98	7.87	16.00	212.00	83.60	57.18	38.30	56.65	98.80	65.00	26.78	33.00
65	12.60	8.55	7.40	13.00	189.00	77.00	50.60	35.00	50.60	91.34	60.90	24.94	26.40
70	11.90	8.15	6.70	11.30	168.00	70.30	45.00	31.30	40.75	84.86	56.60	23.08	20.70
75	11.20	7.70	6.35	10.20	149.00	63.70	39.43	28.90	33.40	77.30	53.00	21.20	16.00
80	10.50	7.20	6.00	9.08	132.00	57.75	35.50	24.77	28.65	72.31	49.00	19.30	12.70
85	9.60	6.65	5.89	8.30	111.00	51.30	31.62	21.90	25.00	61.93	44.70	17.60	10.30
90	8.40	6.11	5.25	7.50	91.96	43.95	26.56	17.92	20.70	53.06	37.95	15.52	8.62
91	8.10	5.94	5.18	7.42	87.25	42.80	25.38	16.60	19.82	51.49	36.32	15.00	8.30
92	7.76	5.77	5.10	7.08	83.42	41.89	24.50	15.90	18.90	48.81	34.50	14.40	8.05
93	7.50	5.62	5.01	6.85	77.39	39.96	23.80	15.45	18.00	46.45	33.10	13.75	7.75
94	7.30	5.40	4.95	6.81	73.18	38.86	22.65	14.90	16.73	44.73	31.70	13.00	7.37
95	6.97	5.18	4.80	6.40	69.41	37.00	21.01	14.50	15.70	42.10	29.90	11.91	6.84
96	6.41	4.96	4.76	6.00	65.24	35.10	19.14	13.83	14.64	37.93	27.50	10.60	6.40
97	5.73	4.56	4.57	5.79	59.35	33.08	17.06	12.90	13.90	32.93	25.32	9.50	5.97
98	4.14	4.26	4.19	5.72	50.94	30.62	15.80	11.99	12.63	24.79	22.40	8.10	5.62
99	3.38	2.85	3.92	3.53	44.83	25.66	14.60	10.74	10.84	19.21	17.48	6.44	4.79
99.9	3.00	2.79	3.53	3.34	16.47	13.57	13.38	8.86	8.12	16.10	14.04	4.78	2.91
99.99	2.99	2.78	3.51	3.34	14.70	13.50	13.30	8.59	8.01	16.10	13.60	4.70	2.79

04MF001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.477
10:90 Ratio	26.334
Sqrt(Q ₂₅ /Q ₇₅)	2.634

04MF001: Parameters from Flow Duration Curves

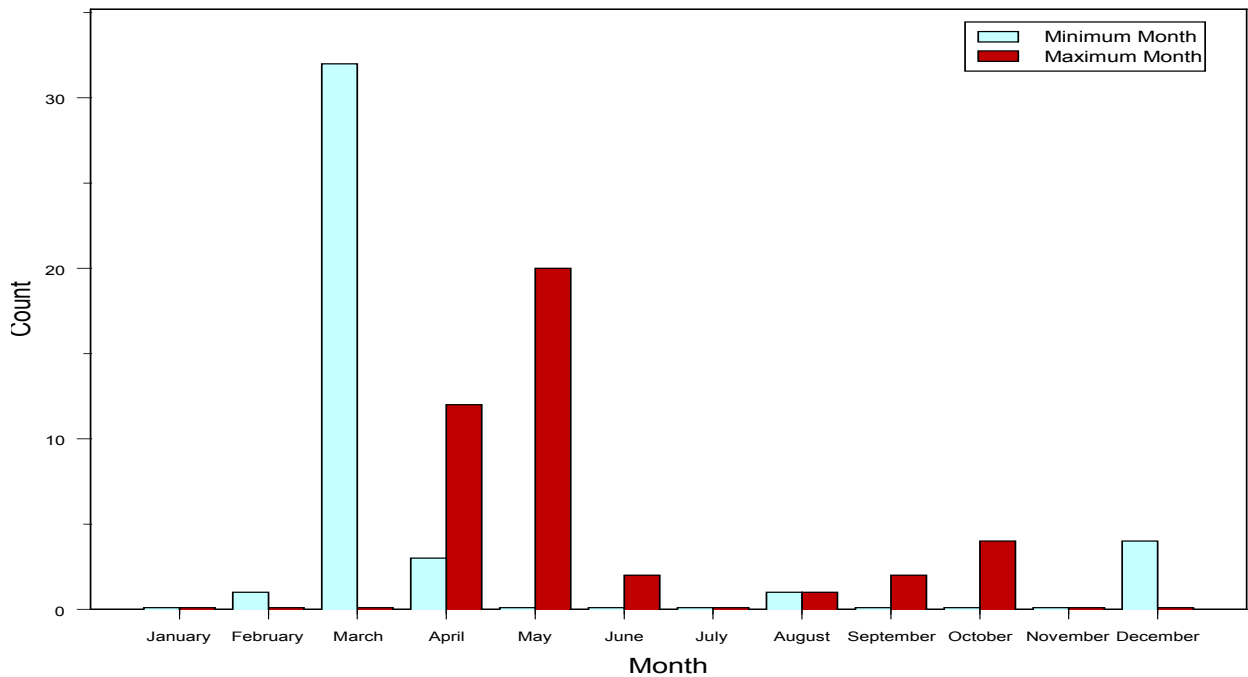
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	409	12	872.145 (22.705)	182.130 (16.176)	-0.020 (0.052)	0.138
Low Flow	-8	28	-3.589 (0.060)	0.555 (0.028)	-0.460 (0.023)	0.029

04MF001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

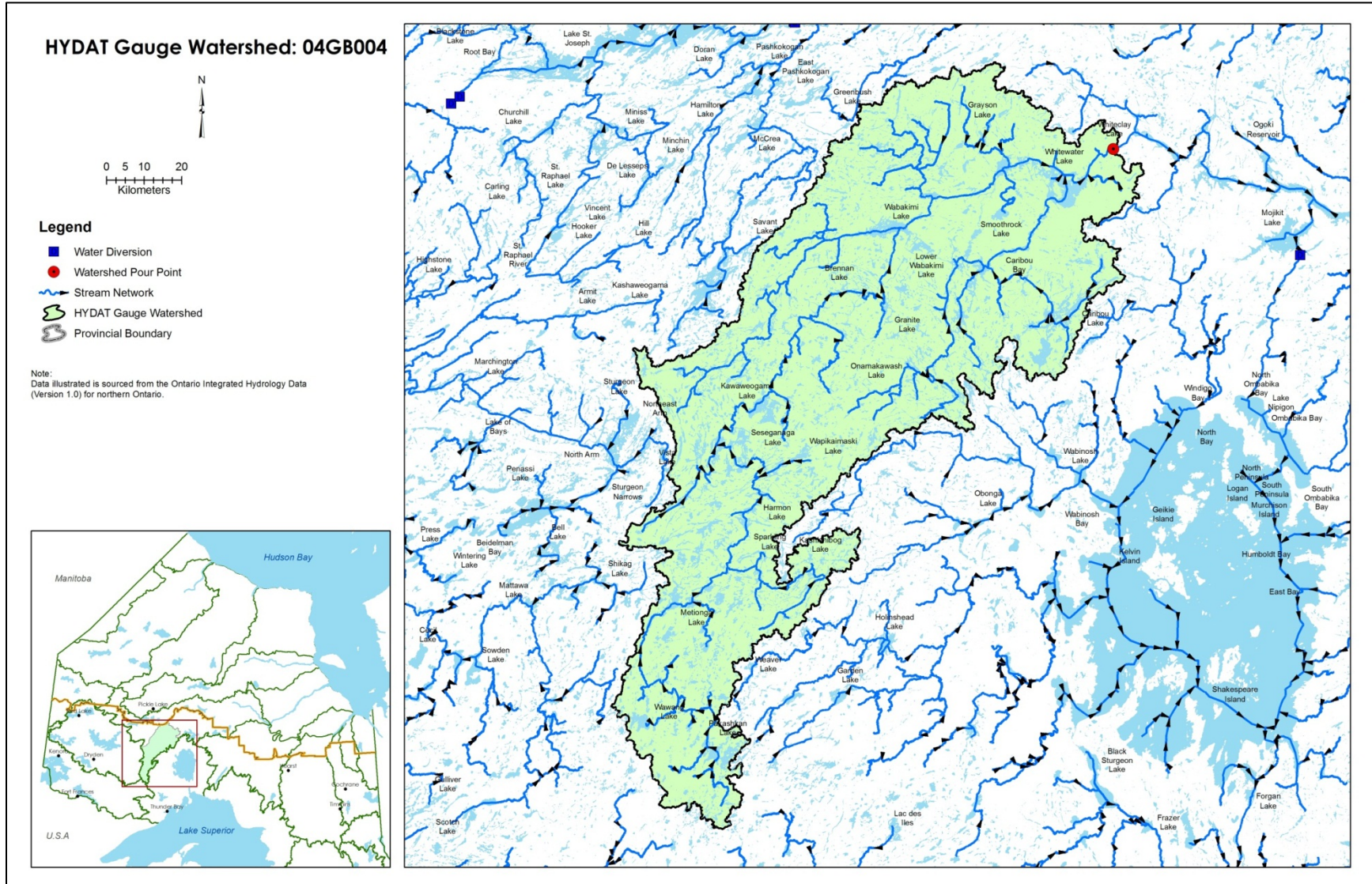
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	718.00	976.00	1130.00	1270.00	1440.00	1570.00	1690.00	1840.00
7 Day Low Flow	7.487	5.191	4.288	3.707	3.224	2.993	Not Applicable	Not Applicable

04MF001: Flood and Low Flow Estimates

04MF001 Summary of flood and low flow events by month



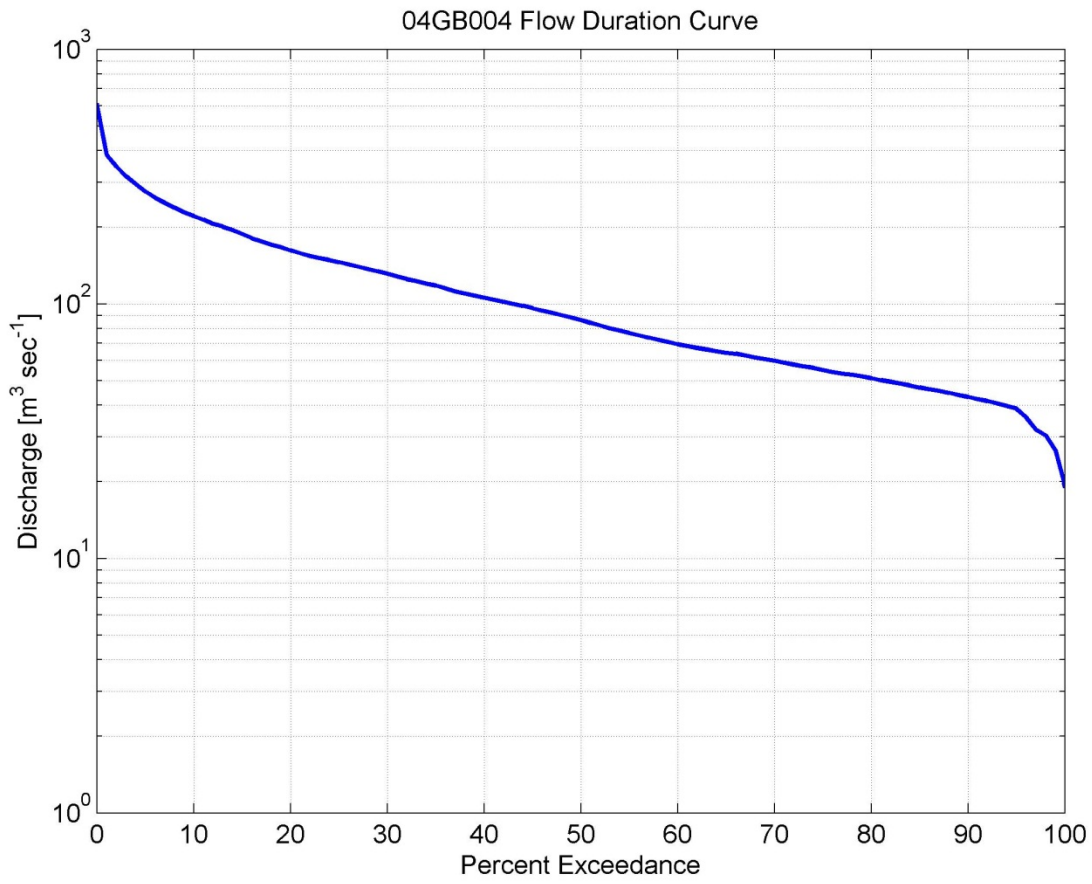
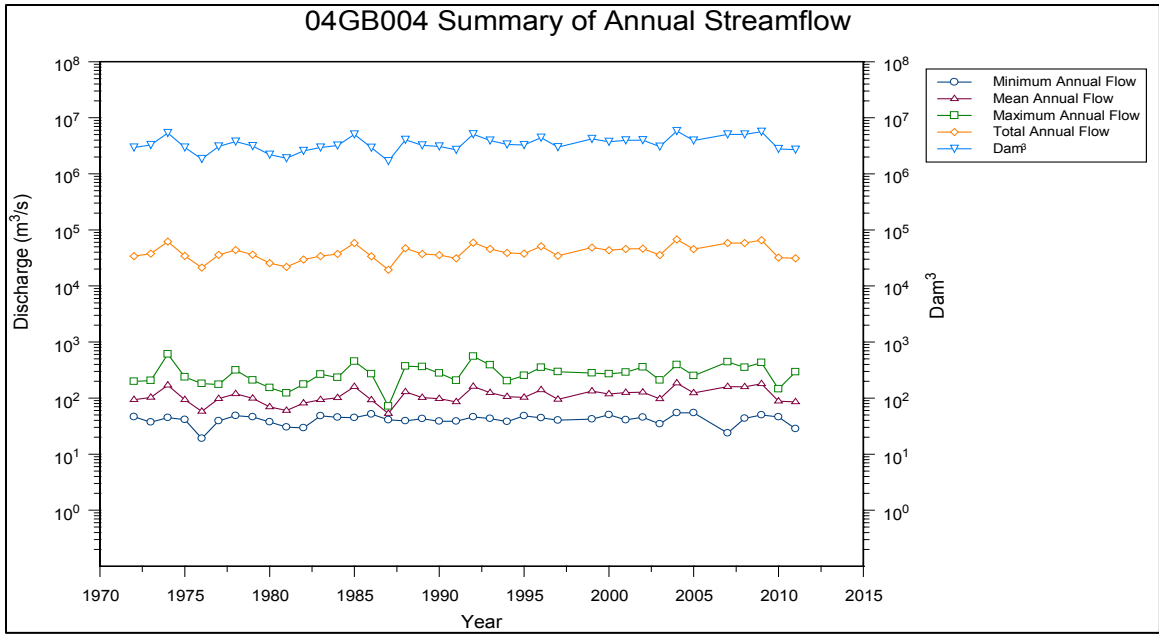
30. OGOKI RIVER ABOVE WHITECLAY LAKE: 04GB004



OGOKI RIVER ABOVE WHITECLAY LAKE: 04GB004

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 38 Years (1972 - 2011)
- Sample Size n: 13880
- Mean Annual Flow: 112.45 cms
- Standard Deviation: 79.91 cms
- Minimum Streamflow: 19 cms
- Lower Quartile Q_1 : 55 cms
- Median Streamflow: 86.25 cms
- Upper Quartile Q_3 : 146 cms
- Maximum Streamflow: 612 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 08 Nov – 13 Jan
 - No of Ice Days (Min–Median –Max): 2- 3 - 5



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	152.00	103.00	81.20	221.00	612.00	612.00	399.00	364.00	389.00	443.00	394.00	256.00	612.00
0.1	151.32	103.00	80.93	217.16	605.90	610.08	391.54	364.00	388.36	442.32	388.24	255.32	578.00
1	139.00	98.67	75.92	143.20	532.32	578.00	325.00	353.00	383.00	422.44	317.30	221.88	383.80
5	123.00	88.40	67.70	91.30	379.60	364.00	277.00	203.60	325.50	312.00	257.00	180.20	276.00
10	110.00	82.10	62.60	70.25	302.40	328.00	257.00	173.00	219.50	248.00	210.50	155.00	221.00
15	103.00	76.19	60.10	63.75	261.80	303.00	235.80	162.00	174.00	210.80	187.00	141.00	188.00
20	95.20	72.47	57.60	59.25	237.00	282.00	223.00	154.00	155.50	188.00	171.00	128.00	162.00
25	89.30	69.00	56.20	56.30	223.00	255.50	207.00	150.00	143.00	150.00	158.00	119.00	146.00
30	84.91	66.80	54.70	53.85	210.00	241.50	186.10	145.00	136.00	131.10	147.00	111.00	131.00
35	80.82	64.81	53.30	52.70	201.00	223.00	177.00	140.00	127.00	123.00	129.50	105.00	118.00
40	78.03	62.69	52.53	51.40	188.30	211.00	166.00	135.00	119.00	110.00	122.00	98.33	106.00
45	74.50	60.20	51.50	49.70	175.40	202.00	156.00	128.00	111.00	102.00	110.50	91.58	96.00
50	70.55	58.00	49.95	48.40	161.00	192.00	149.00	122.00	102.00	94.10	99.10	85.00	86.40
55	67.16	56.30	48.50	47.15	148.00	173.00	141.00	114.00	92.25	86.32	94.00	79.96	76.70
60	64.10	54.20	47.07	46.20	130.00	158.00	136.00	107.00	79.80	76.00	87.20	75.30	69.40
65	61.70	51.00	45.60	45.50	113.00	147.00	129.00	102.00	72.25	64.80	77.10	71.28	64.10
70	58.89	49.60	43.80	44.50	104.00	137.00	118.00	93.20	67.40	61.30	69.65	66.79	59.70
75	54.90	47.90	42.50	43.40	91.30	118.00	111.00	83.90	62.45	58.60	64.00	63.50	55.00
80	51.80	44.83	40.60	41.60	77.11	110.00	103.00	76.32	57.00	55.61	52.45	52.41	51.10
85	44.60	41.60	39.50	40.50	68.52	102.00	94.54	71.02	53.40	47.54	48.00	47.12	46.90
90	42.43	40.50	38.50	38.65	64.23	92.20	88.03	61.06	46.15	43.43	43.40	43.53	43.10
91	42.10	40.40	37.75	37.90	62.20	90.80	86.65	60.15	44.32	41.95	43.10	43.30	42.20
92	41.90	40.09	36.27	37.40	61.15	89.17	83.05	59.40	40.74	40.65	40.37	42.80	41.50
93	41.60	39.60	35.90	36.00	59.50	85.96	77.49	58.40	39.60	36.30	34.83	30.60	40.60
94	41.60	39.40	35.70	35.19	57.04	76.45	66.46	56.24	39.10	35.70	33.19	30.50	39.60
95	32.04	30.30	29.80	34.70	54.62	69.35	62.50	52.88	38.65	34.50	31.80	30.44	38.70
96	30.86	29.91	29.70	30.60	52.80	68.00	61.32	48.78	37.71	33.80	30.70	29.42	35.80
97	30.70	29.70	29.50	30.50	50.70	67.30	60.28	44.10	36.50	32.47	30.47	28.58	32.00
98	30.70	28.43	25.01	29.83	49.41	66.63	56.88	41.71	35.26	28.62	23.16	20.71	30.40
99	30.40	26.81	24.30	24.70	47.66	64.70	51.10	41.03	33.40	26.10	22.10	19.73	26.70
99.9	29.37	25.91	23.80	24.43	34.68	62.72	45.81	37.95	30.68	24.20	21.53	19.07	19.84
99.99	29.30	25.80	23.80	24.30	33.80	62.40	45.40	36.80	30.30	24.00	21.40	19.00	19.09

04GB004: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.789
10:90 Ratio	5.128
Sqrt(Q ₂₅ /Q ₇₅)	1.629

04GB004: Parameters from Flow Duration Curves

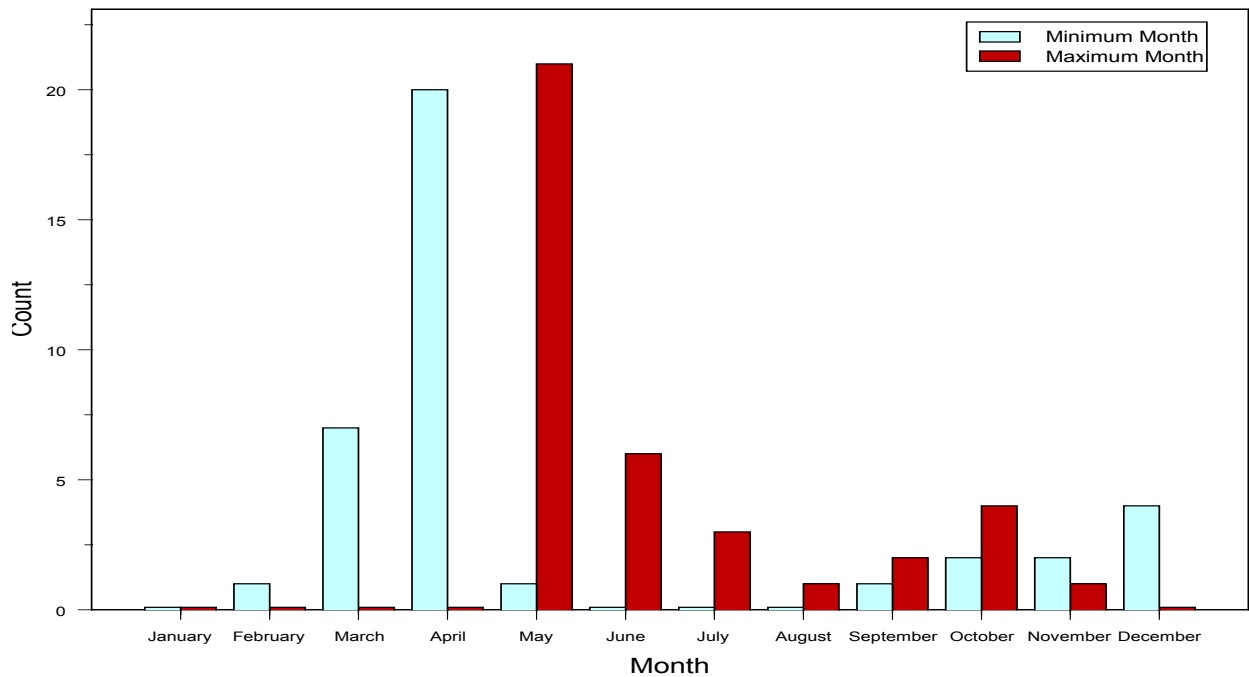
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	103	150	481.083 (7.890)	65.237 (3.322)	-0.056 (0.012)	0.011
Low Flow	-34	12	-22.132 (0.268)	2.140 (0.133)	2.140 (0.133)	0.007

04GB004: Flood/Low Flow Descriptive Indices above/below a Threshold Value

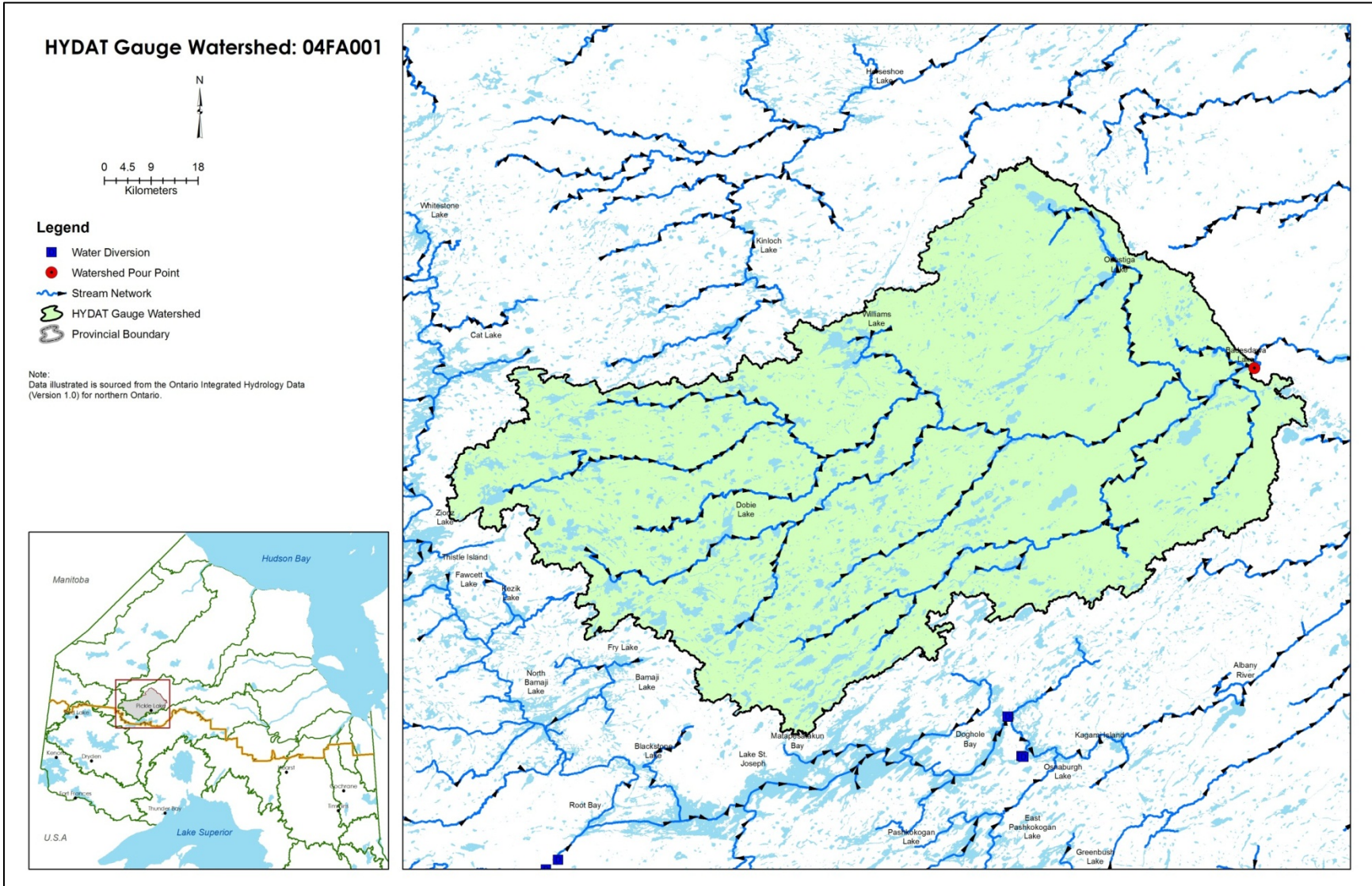
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	269.00	374.00	446.00	516.00	609.00	681.00	755.00	855.00
7 Day Low Flow	43.700	36.700	32.190	27.940	22.570	18.630	Not Applicable	Not Applicable

04GB004: Flood and Low Flow Estimates

04GB004 Summary of flood and low flow events by month



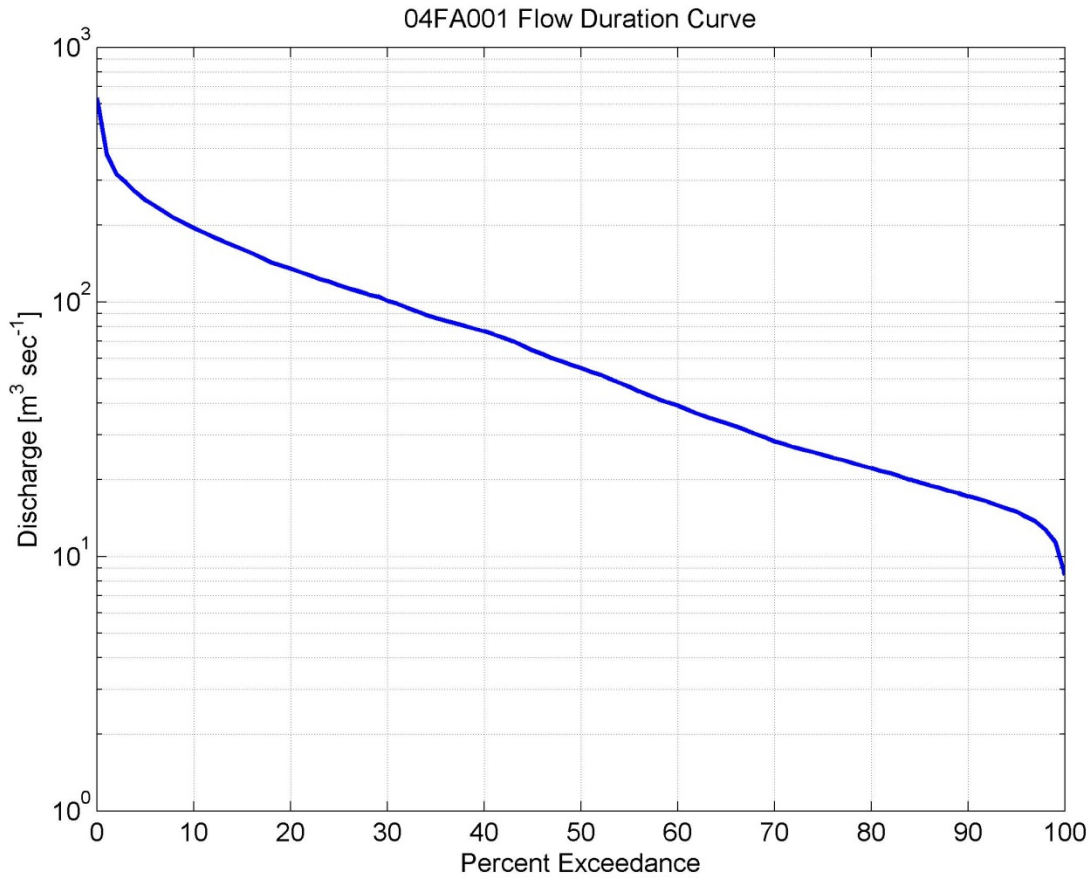
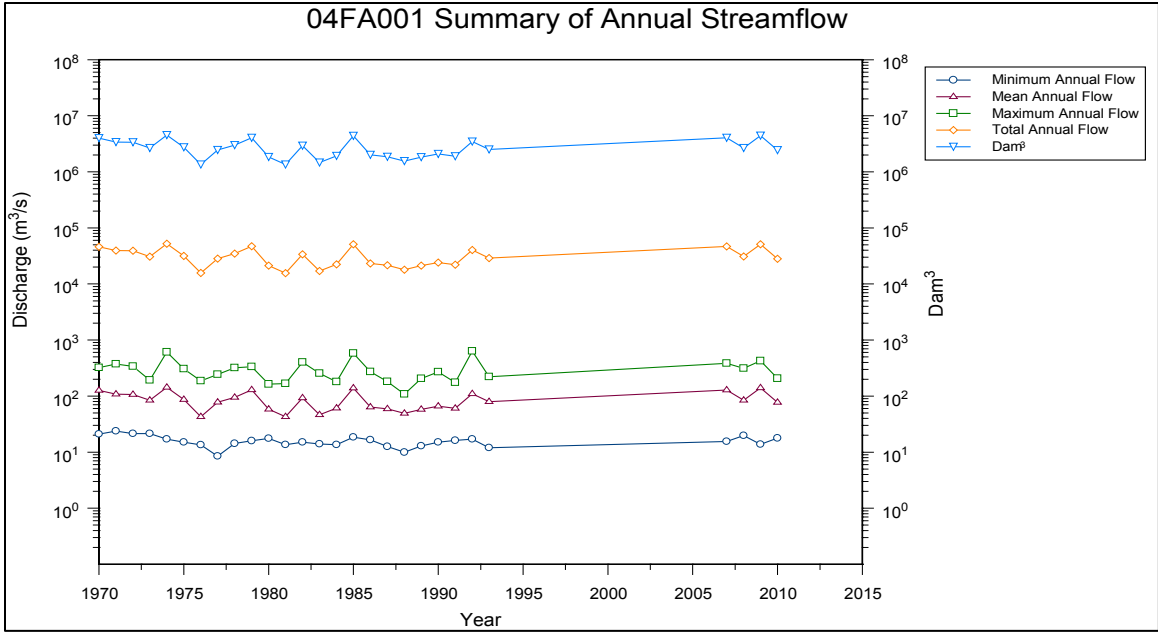
31. OTOSKWIN RIVER BELOW BADESDAWA LAKE: 04FA001



OTOSKWIN RIVER BELOW BADESDAWA LAKE: 04FA001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 29 Years (1970 - 2011)
- Sample Size n: 10592
- Mean Annual Flow: 84.91 cms
- Standard Deviation: 83.70 cms
- Minimum Streamflow: 8.47 cms
- Lower Quartile Q_1 : 25 cms
- Median Streamflow: 54.9 cms
- Upper Quartile Q_3 : 116 cms
- Maximum Streamflow: 633 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 01 Nov – 01 May
 - No of Ice Days (Min–Median –Max): 108 – 149 - 179



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	73.10	40.20	28.90	373.00	633.00	612.00	323.00	368.00	341.00	308.00	300.00	143.00	629.09
0.1	72.06	40.01	28.78	355.61	630.21	609.78	321.80	366.80	335.08	307.60	299.26	140.61	606.00
1	60.06	37.78	27.70	235.80	603.06	571.40	295.04	348.02	314.00	294.53	265.60	113.53	380.00
5	51.67	34.09	25.96	135.00	429.55	349.00	243.55	237.10	261.00	220.00	196.00	91.37	251.00
10	45.78	30.83	24.20	90.00	355.60	268.00	216.60	193.60	211.00	202.60	159.00	80.70	195.00
15	41.60	28.80	23.40	57.50	311.00	243.00	187.00	166.00	171.00	172.65	132.00	70.27	161.00
20	38.00	27.10	22.20	40.95	291.70	231.50	171.00	150.70	142.00	137.00	112.50	63.91	135.00
25	35.80	25.80	20.78	35.40	263.75	216.00	151.00	137.00	135.00	124.75	99.50	59.20	116.00
30	34.00	24.60	19.68	30.55	229.80	199.00	139.00	125.00	122.00	112.00	86.55	55.00	101.00
35	32.30	23.70	18.90	26.40	197.85	183.00	129.00	116.00	114.00	106.00	80.50	52.00	86.40
40	30.90	22.90	18.30	23.50	185.90	166.00	121.00	106.00	107.00	98.48	76.50	49.00	76.60
45	29.70	22.00	17.70	22.20	174.00	146.00	112.00	97.59	99.70	91.50	71.60	46.20	64.53
50	28.30	21.15	17.20	21.40	165.00	134.00	107.00	86.80	90.30	86.10	66.80	43.90	54.90
55	27.30	20.29	16.90	20.30	159.00	123.00	99.10	81.21	81.50	81.60	63.00	41.50	46.40
60	26.30	19.63	16.60	18.85	148.10	114.00	90.96	71.73	72.05	76.51	59.70	39.40	39.10
65	25.10	18.80	16.20	18.00	139.00	106.00	82.32	54.30	60.60	70.82	57.80	37.10	33.40
70	23.50	18.21	15.70	17.20	129.00	96.10	77.90	50.66	45.65	60.22	55.35	34.54	28.30
75	21.90	17.60	15.10	16.20	110.00	87.70	70.03	43.50	37.20	53.00	49.90	32.73	25.00
80	20.40	16.10	14.30	15.40	80.63	82.20	60.53	38.60	29.45	47.93	44.85	31.00	22.20
85	19.20	15.00	13.64	15.00	73.04	76.50	55.20	30.91	25.10	42.07	39.60	28.80	19.50
90	17.34	13.50	12.20	14.20	63.00	66.85	47.22	24.74	22.45	34.58	36.15	25.58	17.20
91	17.04	13.30	12.20	14.10	59.48	64.44	44.94	23.90	21.48	33.88	35.60	25.00	16.80
92	16.74	13.10	12.20	14.00	56.40	61.92	43.24	22.60	20.90	27.71	34.90	24.34	16.40
93	16.34	13.00	12.10	13.80	54.23	60.72	41.04	21.90	19.24	26.50	33.90	23.80	15.90
94	15.70	12.80	11.14	13.30	51.39	57.00	39.69	21.00	18.47	26.00	33.40	23.14	15.40
95	15.15	12.61	10.45	13.00	44.68	51.60	36.94	20.65	17.80	25.70	31.90	22.55	15.00
96	14.75	12.50	10.05	12.60	39.35	44.49	34.98	20.09	16.96	25.20	30.16	21.55	14.30
97	12.95	10.39	9.13	12.06	38.34	31.46	30.99	19.25	16.60	24.23	24.52	17.44	13.70
98	12.00	9.90	8.82	12.00	35.40	27.78	27.49	18.50	16.29	21.60	22.27	15.80	12.70
99	11.15	9.55	8.62	11.04	33.35	26.24	26.00	17.00	15.70	19.70	20.04	14.50	11.40
99.9	10.60	9.22	8.47	10.00	27.04	22.04	22.14	15.48	14.97	18.30	18.47	13.54	8.67
99.99	10.60	9.20	8.47	10.00	26.80	22.00	22.10	15.40	14.90	17.90	18.40	13.50	8.47

04FA001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.669
10:90 Ratio	11.337
Sqrt(Q ₂₅ /Q ₇₅)	2.154

04FA001: Parameters from Flow Duration Curves

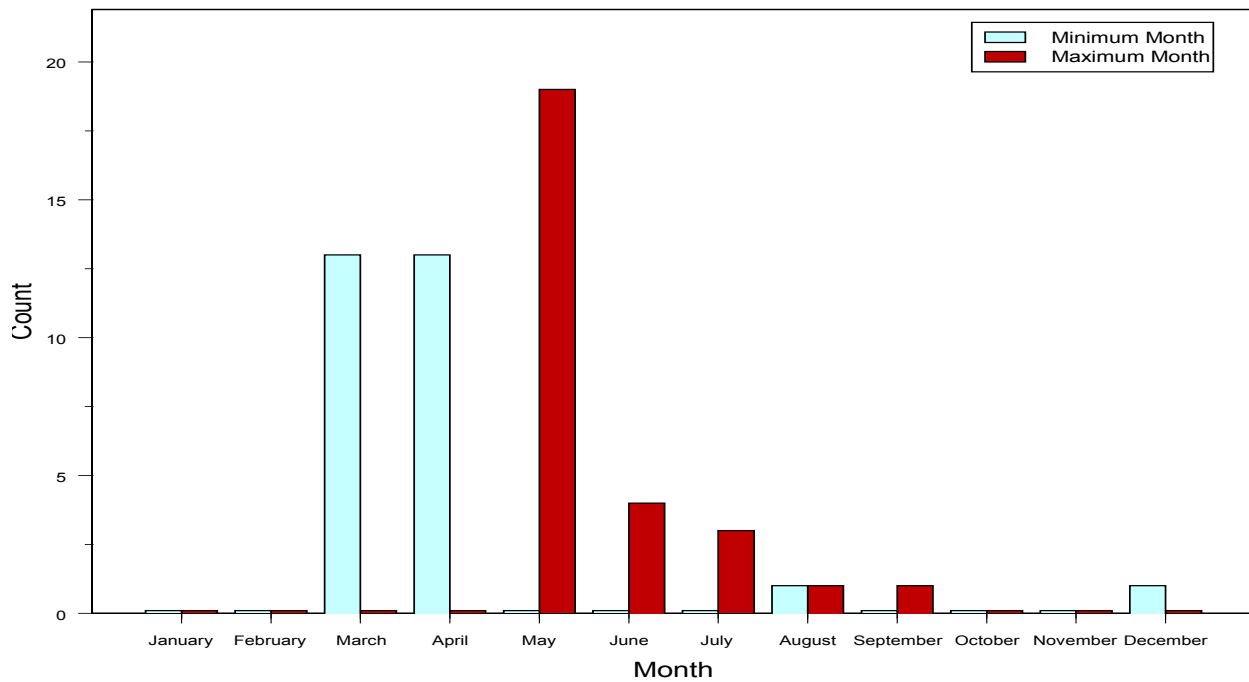
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	89	124	500.317 (11.361)	83.610 (5.225)	-0.008 (0.015)	0.017
Low Flow	-15	18	-9.613 (0.121)	0.885 (0.071)	-0.467 (0.046)	0.030

04FA001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

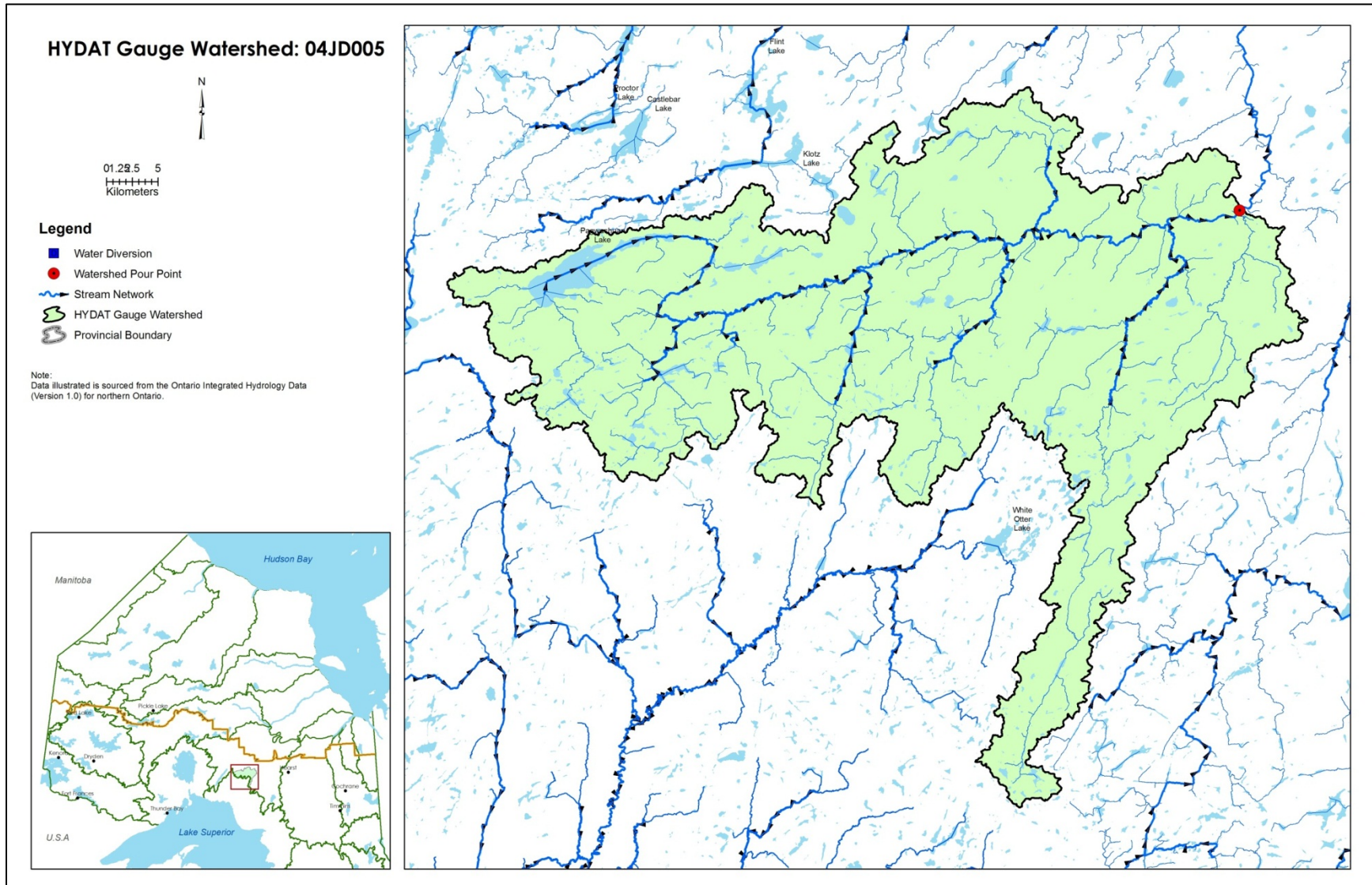
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	272.00	398.00	489.00	579.00	703.00	801.00	902.00	1040.00
7 Day Low Flow	15.490	12.570	11.200	10.190	9.222	8.679	Not Applicable	Not Applicable

04FA001: Flood and Low Flow Estimates

04FA001 Summary of flood and low flow events by month



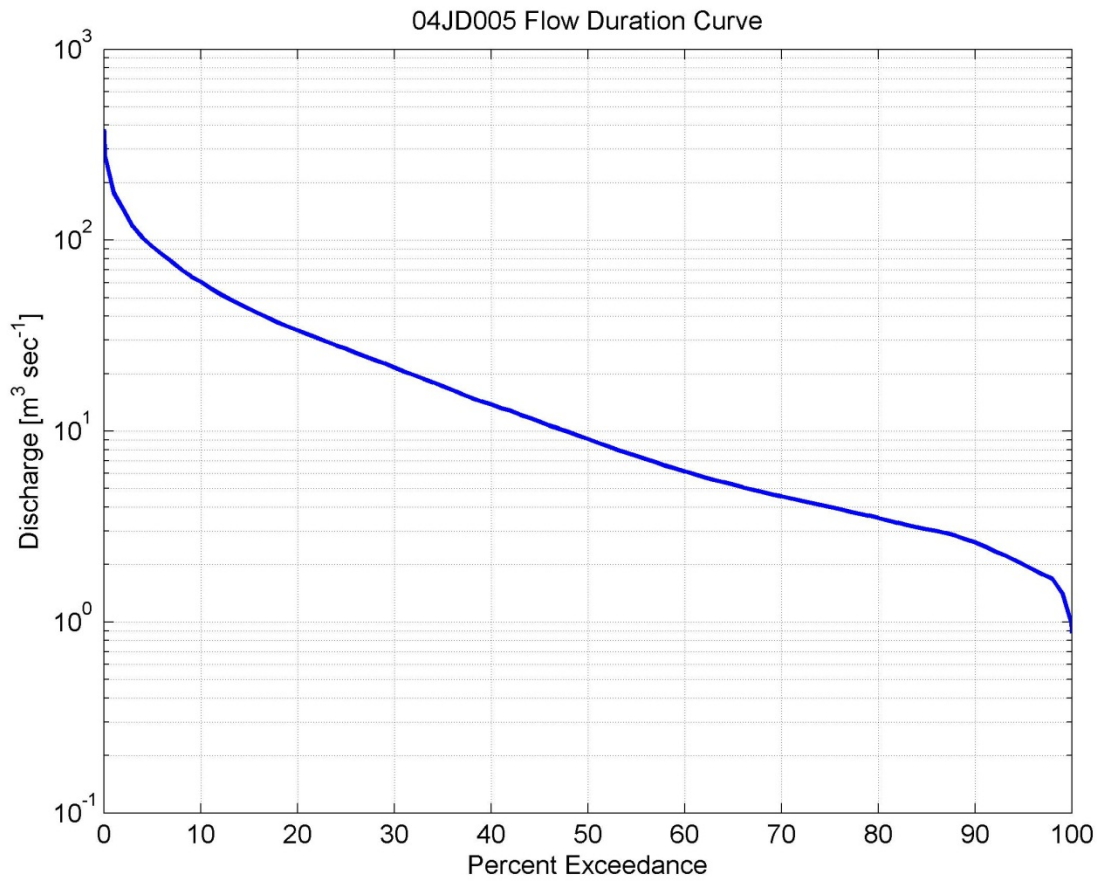
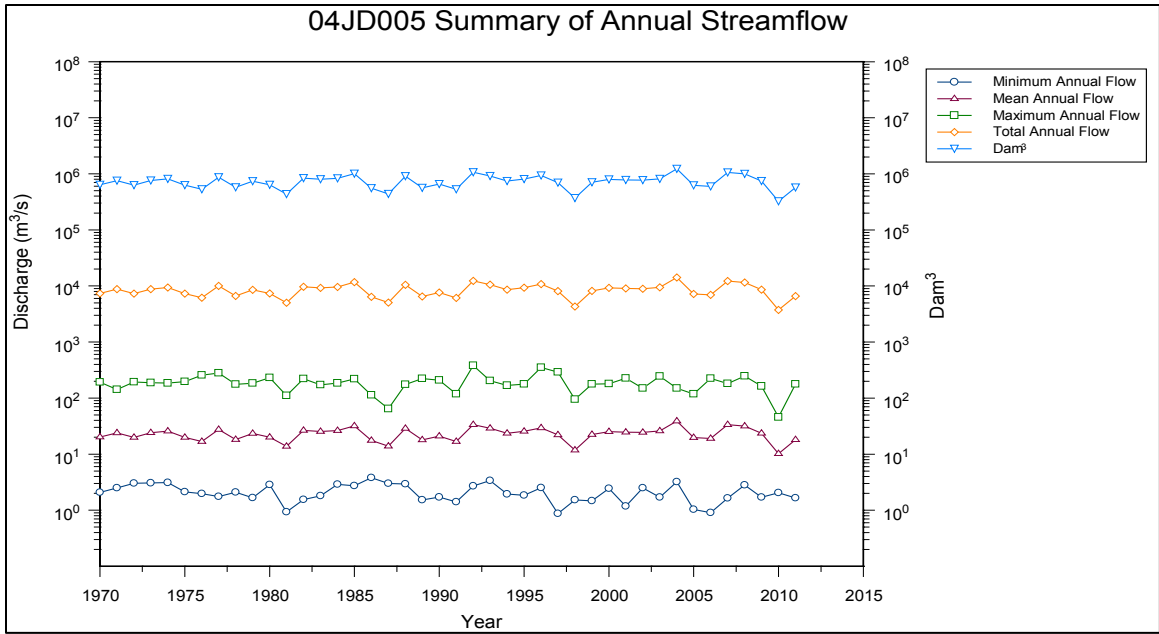
32. PAGWACHUAN RIVER AT HIGHWAY NO. 11: 04JD005



PAGWACHUAN RIVER AT HIGHWAY NO. 11: 04JD005

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 23.144 cms
- Standard Deviation: 35.120 cms
- Minimum Streamflow: 0.873 cms
- Lower Quartile Q_1 : 4 cms
- Median Streamflow: 9.09cms
- Upper Quartile Q_3 : 26.9cms
- Maximum Streamflow: 382cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 31 Oct – 14 May
 - No of Ice Days (Min–Median –Max): 41 – 163 - 187



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	15.500	6.600	81.000	290.000	382.000	178.000	181.000	168.000	179.000	177.000	141.000	72.500	369.901
0.1	14.939	6.566	79.396	283.160	372.376	164.320	176.188	161.584	172.920	171.386	130.360	70.495	277.510
1	10.748	6.172	20.344	242.800	268.280	131.200	128.440	90.640	105.500	131.920	77.920	58.440	177.000
5	8.000	5.431	7.120	179.000	188.000	78.850	67.720	47.840	56.900	89.140	46.250	21.620	92.500
10	7.300	5.050	5.079	118.000	163.000	62.150	47.900	31.200	38.200	61.900	38.150	16.300	60.600
15	6.800	4.750	4.500	93.550	142.000	52.800	38.500	23.420	28.100	51.020	33.600	14.000	43.700
20	6.450	4.560	4.200	73.550	122.100	46.550	31.410	18.210	23.150	42.200	30.600	12.900	33.700
25	6.150	4.400	3.950	58.750	108.000	41.000	25.700	14.600	18.700	36.200	27.650	12.000	27.000
30	5.829	4.247	3.800	47.000	97.570	36.950	22.200	12.400	14.550	32.600	25.000	11.000	21.550
35	5.550	4.098	3.590	37.400	88.160	33.400	19.300	10.600	12.350	29.500	22.500	10.200	17.200
40	5.350	3.950	3.390	27.250	80.100	30.750	17.200	9.030	10.800	26.500	20.650	9.600	13.800
45	5.070	3.760	3.296	19.250	73.900	27.850	14.960	7.670	9.395	23.900	18.700	9.060	11.200
50	4.825	3.560	3.160	13.450	67.500	25.600	13.250	6.695	8.310	21.250	17.300	8.460	9.100
55	4.624	3.370	3.060	9.850	60.600	23.350	11.700	5.770	6.570	19.000	16.000	7.900	7.400
60	4.420	3.200	3.000	7.675	54.400	21.200	10.500	5.233	5.395	16.030	14.500	7.360	6.150
65	4.190	3.060	2.920	6.555	49.300	19.150	9.460	4.572	4.315	13.820	13.450	6.800	5.230
70	3.771	2.900	2.750	5.200	44.800	16.900	8.262	3.931	3.620	11.000	12.100	6.050	4.560
75	3.450	2.675	2.410	4.250	40.500	14.700	7.000	3.460	3.070	8.110	10.500	5.450	4.000
80	3.139	2.370	2.170	3.680	35.990	12.650	5.637	2.848	2.460	5.738	8.590	4.870	3.500
85	2.748	2.120	1.980	3.140	31.480	10.200	4.766	2.338	2.125	4.286	6.455	4.016	3.060
90	2.420	1.850	1.850	2.830	26.740	7.975	3.980	1.997	1.635	3.577	4.925	3.187	2.610
91	2.380	1.810	1.817	2.800	25.800	7.530	3.827	1.900	1.580	3.480	4.778	3.057	2.480
92	2.317	1.800	1.760	2.720	24.398	7.152	3.680	1.847	1.483	3.240	4.612	2.993	2.350
93	2.250	1.780	1.710	2.697	22.628	6.927	3.593	1.756	1.340	3.093	4.335	2.913	2.240
94	2.176	1.770	1.696	2.630	20.886	6.532	3.429	1.682	1.221	2.946	4.050	2.856	2.120
95	2.092	1.760	1.676	2.550	18.160	6.325	3.160	1.586	1.170	2.700	3.850	2.756	2.000
96	2.010	1.750	1.650	2.446	15.532	5.890	2.932	1.536	1.099	2.289	3.719	2.650	1.880
97	1.936	1.720	1.620	2.280	13.768	5.473	2.786	1.420	1.053	2.087	3.468	2.520	1.774
98	1.875	1.710	1.585	2.110	11.500	4.980	2.660	1.310	1.030	1.700	3.104	2.261	1.680
99	1.820	1.693	1.550	1.950	9.670	4.355	2.326	1.205	0.993	1.320	2.653	2.075	1.420
99.9	1.740	1.657	1.520	1.723	7.328	3.693	1.892	0.974	0.898	1.016	2.383	1.970	0.992
99.99	1.740	1.650	1.520	1.700	7.160	3.640	1.820	0.936	0.873	0.998	2.360	1.970	0.906

04JD005: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.456
10:90 Ratio	23.218
Sqrt(Q ₂₅ /Q ₇₅)	2.598

04JD005: Parameters from Flow Duration Curves

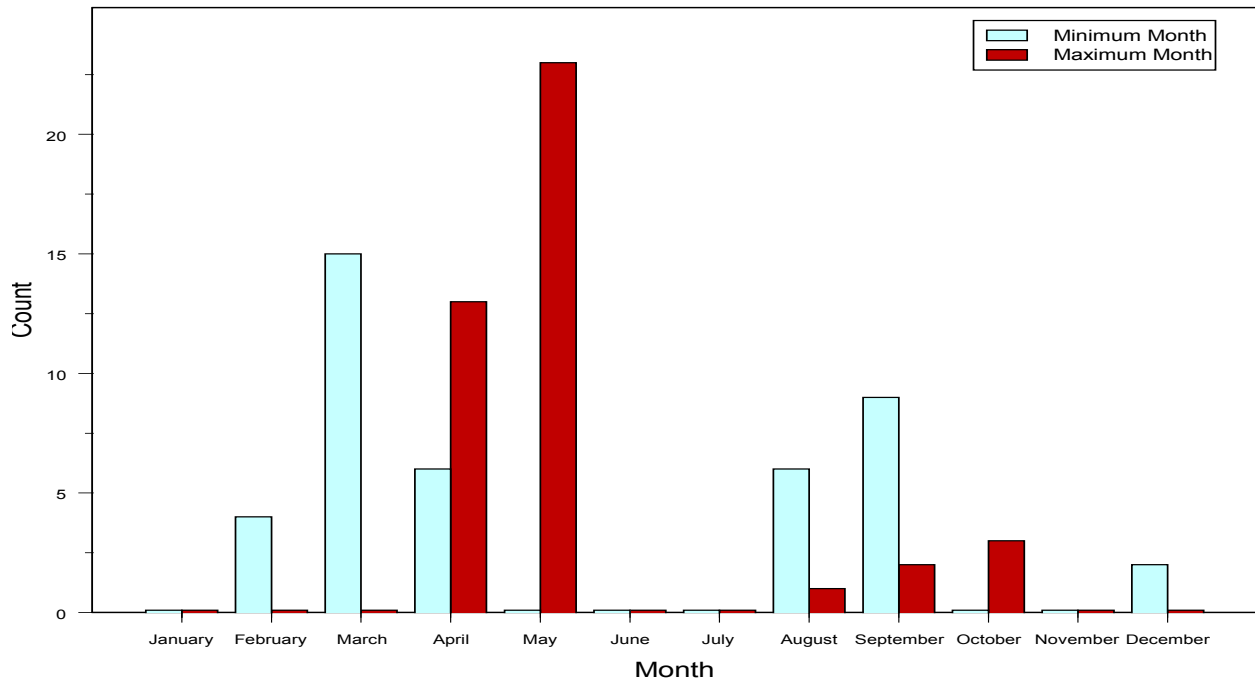
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	118	11	240.358 (5.201)	42.760 (2.401)	-0.147 (0.034)	0.144
Low Flow	-3	50	-1.092 (0.012)	0.131 (0.004)	-0.567 (0.014)	0.022

04JD005: Flood/Low Flow Descriptive Indices above/below a Threshold Value

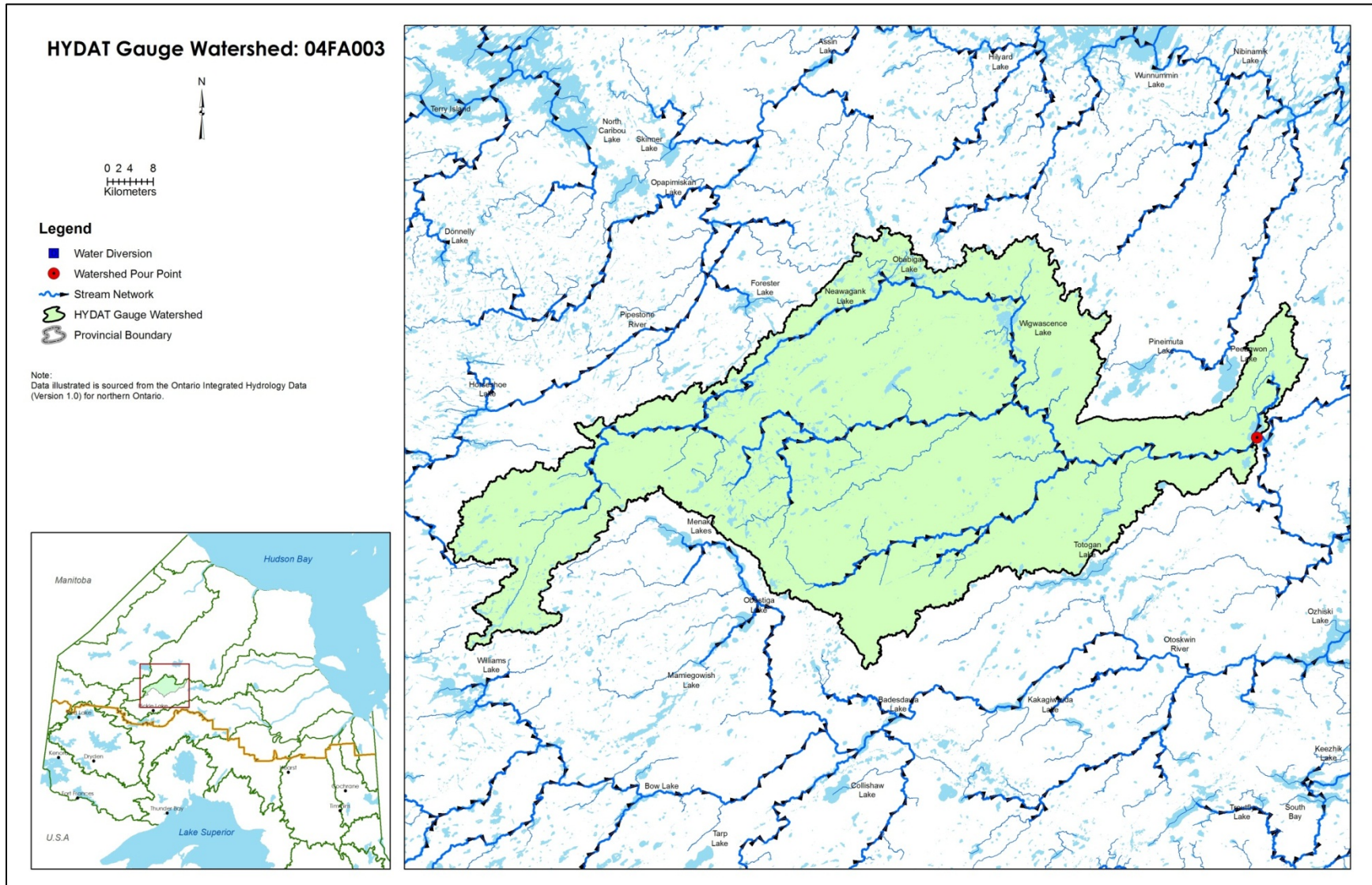
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	188.00	245.00	278.00	308.00	345.00	371.00	396.00	427.00
7 Day Low Flow	2.168	1.566	1.312	1.139	0.986	0.908	Not Applicable	Not Applicable

04JD005: Flood and Low Flow Estimates

04JD005 Summary of flood and low flow events by month



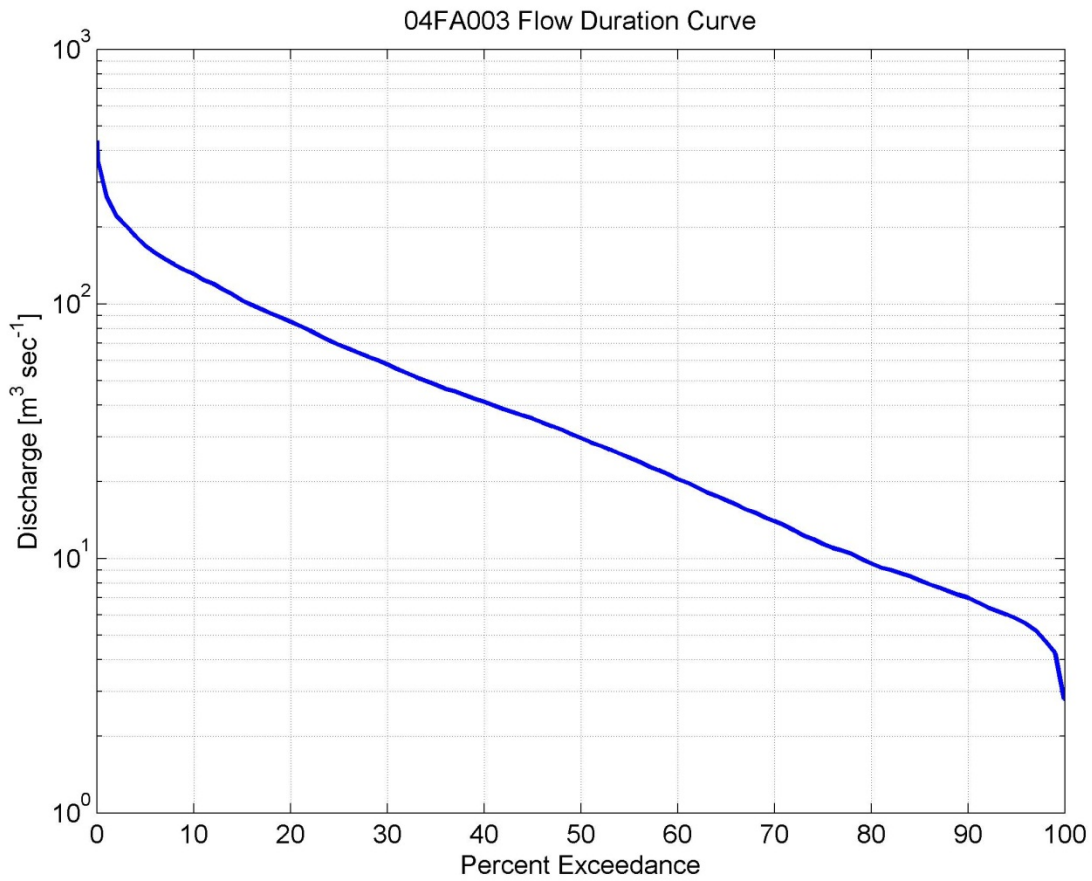
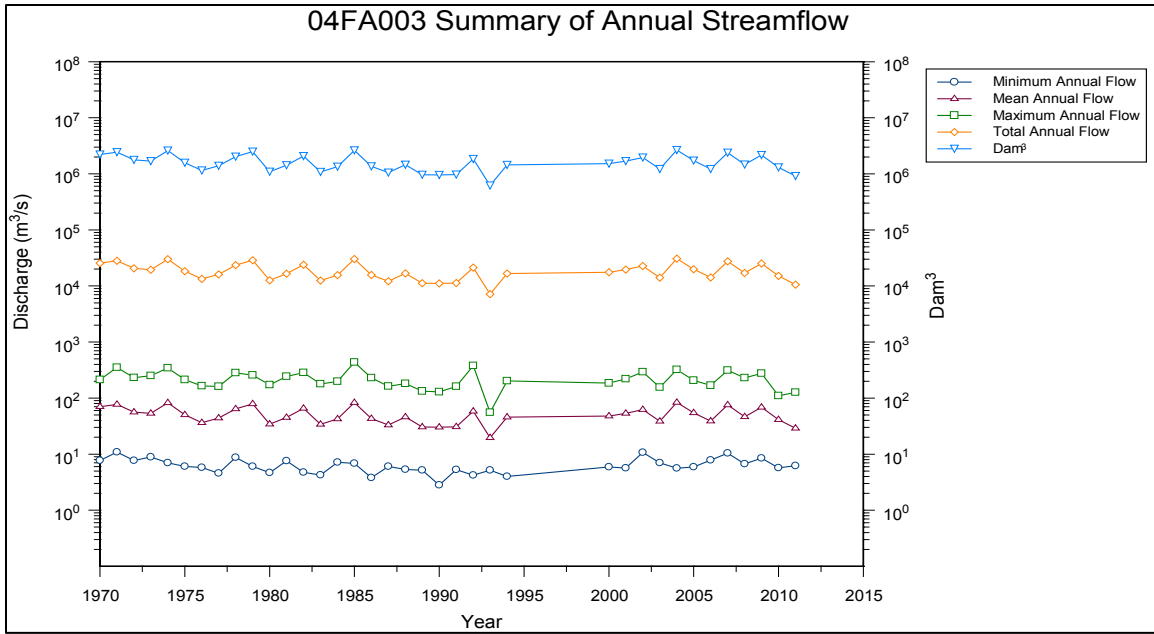
33. PINEIMUTA RIVER AT EYES LAKE: 04FA003



PINEIMUTA RIVER AT EYES LAKE: 04FA003

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 37 Years (1970 - 2011)
- Sample Size n: 13514
- Mean Annual Flow: 51.24 cms
- Standard Deviation: 56.74 cms
- Minimum Streamflow: 2.8 cms
- Lower Quartile Q_1 : 11.4 cms
- Median Streamflow: 29.7 cms
- Upper Quartile Q_3 : 68.8 cms
- Maximum Streamflow: 437 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 30 Oct – 11 May
 - No of Ice Days (Min–Median –Max): 138 – 163 - 200



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	28.30	17.60	27.30	208.00	437.00	292.00	235.00	279.00	322.00	291.00	205.00	55.00	435.30
0.1	28.04	17.49	25.42	208.00	435.71	288.95	224.65	277.71	321.39	283.24	202.56	54.81	365.00
1	24.51	15.63	13.80	174.20	370.12	258.40	201.00	245.12	308.40	216.15	164.40	48.71	262.00
5	20.63	13.97	11.60	147.00	284.15	196.00	163.30	146.15	199.00	162.00	101.00	39.06	169.00
10	19.00	12.70	10.48	89.40	245.00	159.00	140.00	114.60	144.00	134.00	83.05	34.30	131.00
15	17.70	11.60	9.46	46.70	222.00	143.00	125.45	98.95	116.00	117.00	71.40	31.05	103.00
20	16.41	11.00	9.02	30.30	208.00	130.50	106.10	82.45	88.05	101.10	63.90	28.81	85.10
25	15.50	10.45	8.70	23.00	191.00	118.00	95.48	69.63	78.00	91.50	57.80	27.00	69.00
30	14.50	9.91	8.30	18.20	169.00	104.00	84.64	63.30	67.05	80.40	52.60	25.40	57.80
35	13.60	9.50	7.93	14.20	156.00	96.60	77.30	58.01	60.30	70.41	49.60	24.00	48.10
40	12.70	9.00	7.57	11.80	142.00	90.35	68.32	53.27	54.35	64.50	46.45	22.80	41.20
45	12.00	8.60	7.26	10.80	132.00	85.20	61.30	48.30	49.80	59.60	43.30	21.60	35.40
50	11.40	8.20	6.90	9.19	123.00	78.55	53.00	43.60	45.30	53.50	40.40	20.30	29.70
55	10.80	7.70	6.39	8.72	117.00	70.80	47.30	38.27	42.40	48.07	37.80	19.10	24.90
60	10.40	7.48	6.22	7.82	109.00	64.60	42.83	32.93	39.10	44.70	35.50	17.90	20.50
65	9.80	7.14	6.05	7.28	101.00	57.40	38.30	28.60	35.70	42.10	33.70	16.90	16.90
70	9.35	6.85	5.94	7.00	94.10	49.85	34.46	25.30	31.55	39.16	32.00	15.90	14.00
75	8.91	6.60	5.74	6.50	85.68	44.80	30.08	22.70	26.70	36.60	29.50	14.90	11.40
80	8.40	6.38	5.48	5.85	76.07	40.05	25.09	20.00	23.10	33.99	27.00	14.00	9.55
85	7.92	6.14	5.02	5.28	65.90	34.80	21.00	17.40	19.90	30.60	25.40	12.96	8.20
90	7.30	5.63	4.55	4.78	54.04	27.90	18.20	15.20	16.15	28.12	23.20	11.72	7.00
91	7.19	5.47	4.39	4.69	50.00	25.78	17.67	14.40	15.74	27.67	22.60	11.50	6.71
92	7.03	5.34	4.34	4.45	45.60	24.60	16.90	13.63	15.30	27.20	21.83	11.30	6.43
93	6.90	5.21	4.27	4.35	42.40	23.00	16.46	13.28	14.90	26.60	21.22	11.00	6.22
94	6.76	5.10	4.23	4.29	39.83	21.01	15.80	12.06	14.61	25.60	20.40	10.73	6.02
95	6.60	4.99	4.19	4.10	36.89	20.10	15.30	11.39	14.20	24.89	19.40	10.30	5.80
96	6.35	4.90	4.12	4.03	34.57	18.39	14.40	10.80	13.70	24.04	18.68	9.73	5.54
97	6.12	4.79	4.06	3.95	30.38	16.70	13.70	9.60	12.06	23.09	17.88	9.25	5.21
98	5.89	4.67	3.82	2.82	25.55	15.57	12.80	8.32	8.91	21.24	16.31	8.81	4.73
99	5.60	4.55	3.06	2.81	16.29	13.50	11.90	7.50	6.91	19.20	14.52	8.44	4.25
99.9	5.15	4.43	2.82	2.80	9.92	9.88	9.22	7.04	5.42	18.00	12.62	7.46	2.81
99.99	5.11	4.41	2.82	2.80	9.40	9.70	9.21	7.02	5.31	18.00	12.50	7.35	2.80

04FA003: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.590
10:90 Ratio	18.714
Sqrt(Q ₂₅ /Q ₇₅)	2.460

04FA003: Parameters from Flow Duration Curves

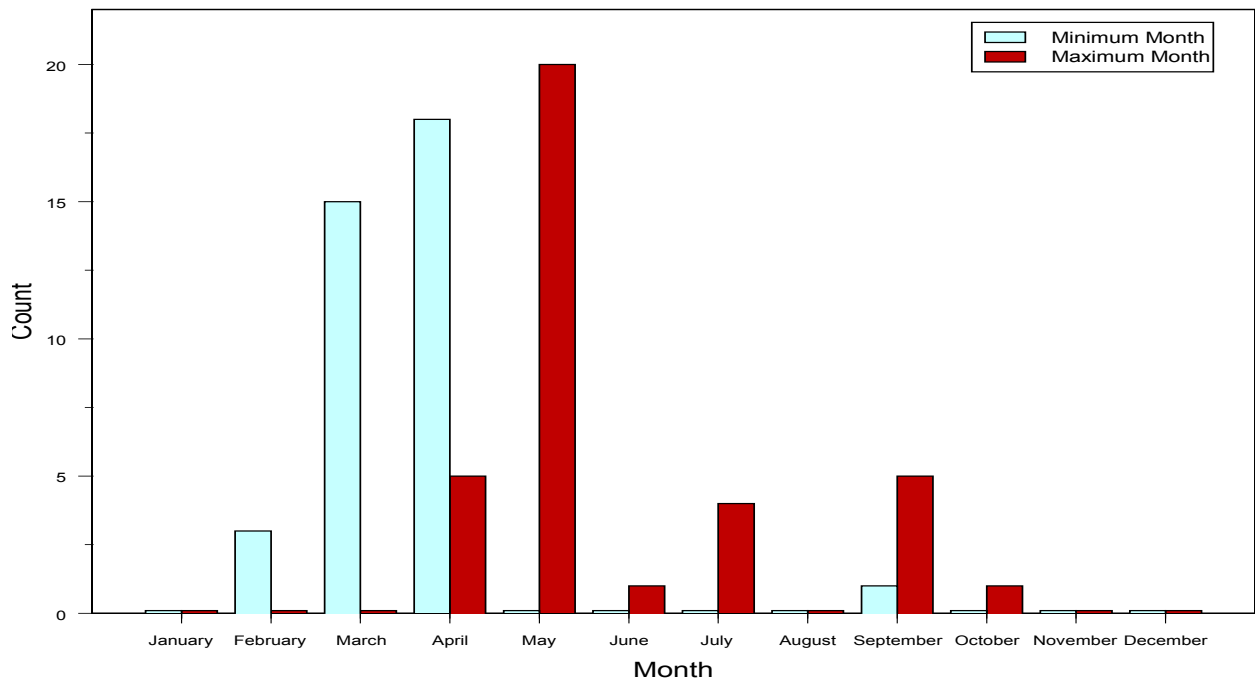
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	95	63	319.786 (5.609)	44.117 (2.726)	-0.097 (0.019)	0.035
Low Flow	-6	21	-3.402 (0.059)	0.488 (0.030)	-0.339 (0.032)	0.028

04FA003: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	216.00	288.00	337.00	383.00	445.00	491.00	539.00	603.00
7 Day Low Flow	6.315	4.763	4.089	3.623	3.202	2.983	Not Applicable	Not Applicable

04FA003: Flood and Low Flow Estimates

04FA003 Summary of flood and low flow events by month



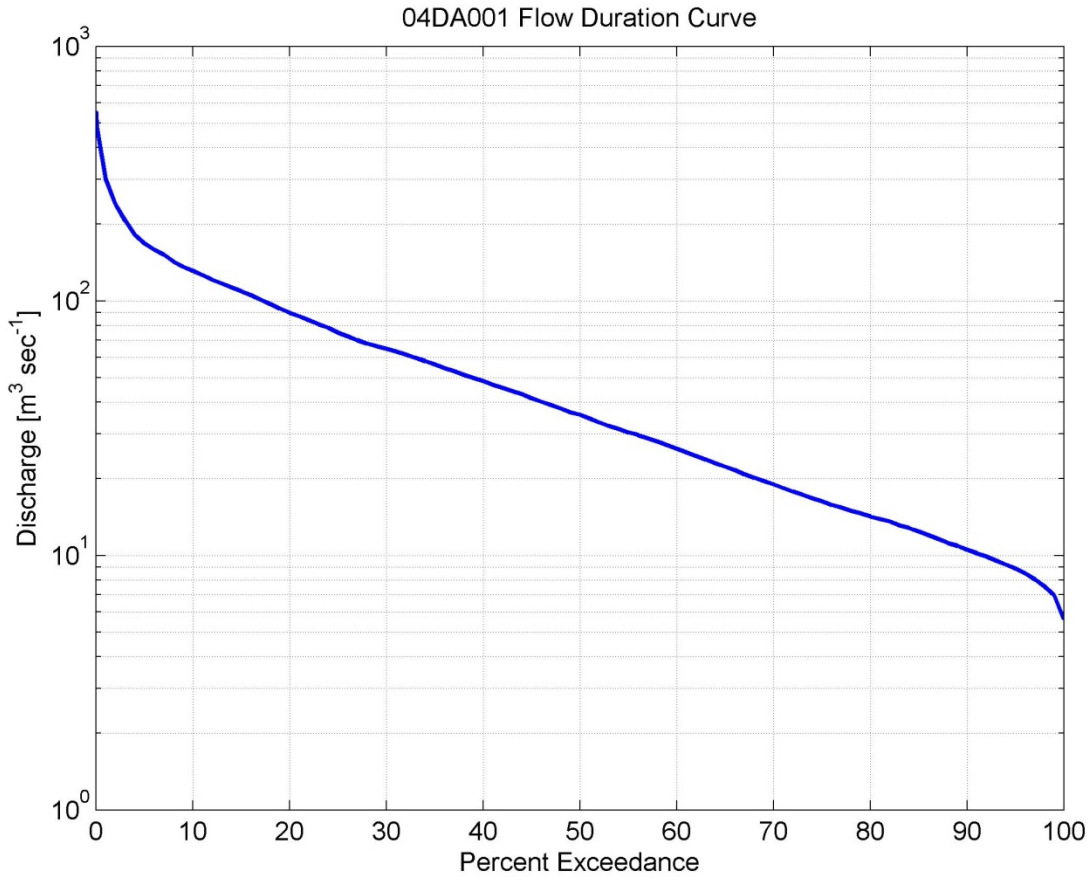
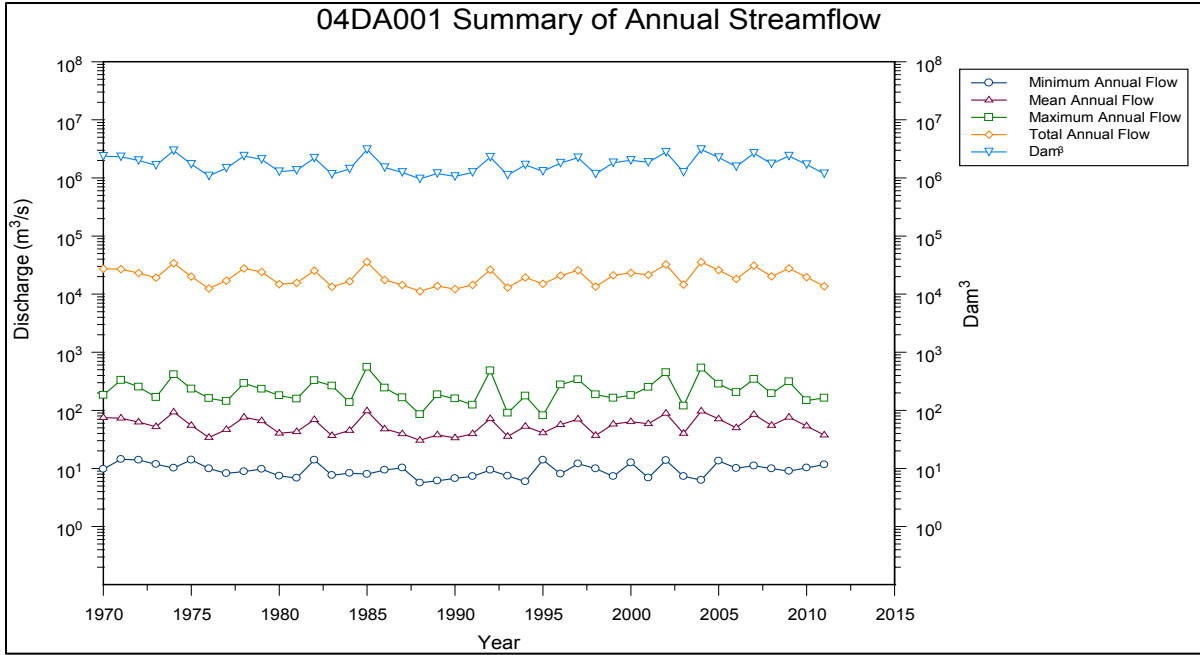
34. PIPESTONE RIVER AT KARL LAKE: 04DA001

Note: Watershed not delineated

PIPESTONE RIVER AT KARL LAKE: 04DA001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 57.06 cms
- Standard Deviation: 60.63 cms
- Minimum Streamflow: 5.64 cms
- Lower Quartile Q_1 : 16.3 cms
- Median Streamflow: 35.6 cms
- Upper Quartile Q_3 : 75 cms
- Maximum Streamflow: 556 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 11 Oct – 26 April
 - No of Ice Days (Min–Median –Max): 54 – 144 – 172



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	57.40	26.10	23.90	338.00	556.00	448.00	285.00	249.00	541.00	289.00	161.00	126.00	550.90
0.1	56.12	26.10	22.78	290.88	551.99	444.20	284.20	249.00	537.96	287.40	159.48	123.59	482.51
1	41.30	23.57	19.65	182.70	455.80	371.00	244.96	223.96	416.10	225.00	147.00	92.16	301.20
5	29.40	21.00	16.90	121.00	332.00	219.00	167.00	151.40	150.00	158.00	119.00	52.78	168.00
10	27.03	18.99	15.10	71.15	276.00	181.00	135.00	119.00	128.50	128.30	94.00	43.90	131.00
15	25.20	17.20	14.00	46.20	239.20	162.00	124.00	104.00	115.50	114.00	80.05	39.40	109.00
20	23.60	16.10	13.50	36.20	211.20	150.00	115.00	89.21	103.00	103.00	70.60	36.40	89.80
25	22.00	15.30	12.90	28.30	181.00	133.50	105.00	80.10	88.30	91.50	65.00	34.40	75.00
30	20.50	14.87	12.30	23.00	165.00	121.00	92.79	72.27	80.40	82.79	61.45	32.89	64.60
35	19.70	14.40	11.60	20.00	155.00	107.00	84.18	65.18	73.30	73.48	56.70	31.28	56.20
40	18.90	14.00	11.00	17.50	145.00	99.70	77.30	60.00	64.90	68.07	53.50	29.97	48.40
45	18.20	13.33	10.60	15.35	135.00	92.40	69.96	53.46	57.15	64.40	51.20	28.50	41.40
50	17.60	12.80	10.30	14.20	125.00	86.05	64.15	47.50	49.00	60.60	48.10	27.00	35.70
55	16.80	12.37	9.90	13.50	117.00	77.30	59.54	42.44	42.65	56.60	45.50	25.80	30.40
60	16.10	11.90	9.59	11.90	106.00	69.35	53.70	38.60	36.50	52.10	43.60	24.50	26.25
65	15.50	11.40	9.29	11.10	98.00	64.45	48.70	35.40	32.70	48.20	41.30	23.30	22.30
70	14.90	10.93	8.90	10.30	89.90	60.35	43.60	32.40	30.30	43.91	39.10	22.11	19.00
75	14.20	10.40	8.58	9.69	79.20	56.50	40.60	29.20	28.00	37.20	36.70	21.00	16.30
80	13.50	9.88	8.10	9.02	68.00	51.95	36.59	24.37	24.40	32.80	34.25	20.00	14.20
85	12.60	9.25	7.66	8.49	61.98	48.20	31.10	19.50	21.10	30.10	31.20	18.70	12.40
90	11.10	8.60	7.25	7.94	54.47	43.25	24.57	16.00	18.50	27.50	27.30	17.00	10.50
91	10.80	8.50	7.14	7.80	51.54	40.89	23.70	15.27	17.49	26.97	26.59	16.77	10.20
92	10.60	8.43	7.05	7.69	47.40	38.80	22.47	14.90	16.90	26.50	25.49	16.10	9.90
93	10.40	8.32	6.98	7.56	45.26	37.21	21.36	14.16	16.27	25.60	24.37	14.90	9.52
94	10.10	8.20	6.94	7.43	42.26	34.71	20.00	13.56	15.62	25.30	22.92	13.96	9.20
95	9.91	8.01	6.90	7.28	40.22	31.60	18.00	13.00	15.10	24.60	21.85	13.30	8.88
96	9.68	7.83	6.85	7.10	37.62	29.16	17.20	12.70	14.39	23.70	20.20	12.60	8.50
97	9.44	7.55	6.56	6.90	33.51	27.05	15.56	12.46	13.26	22.71	19.33	11.90	8.05
98	9.18	6.95	5.81	6.44	29.82	24.17	14.01	11.90	11.64	21.15	17.84	11.40	7.55
99	8.76	6.26	5.70	6.14	24.27	22.20	12.75	10.45	10.31	18.06	16.30	11.00	6.97
99.9	7.48	5.95	5.64	5.83	13.78	19.00	11.92	9.01	9.30	15.22	14.65	10.08	5.70
99.99	7.40	5.94	5.64	5.75	13.70	18.70	11.60	8.87	9.22	14.50	14.50	10.00	5.64

04DA001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.636
10:90 Ratio	12.476
Sqrt(Q ₂₅ /Q ₇₅)	2.145

04DA001: Parameters from Flow Duration Curves

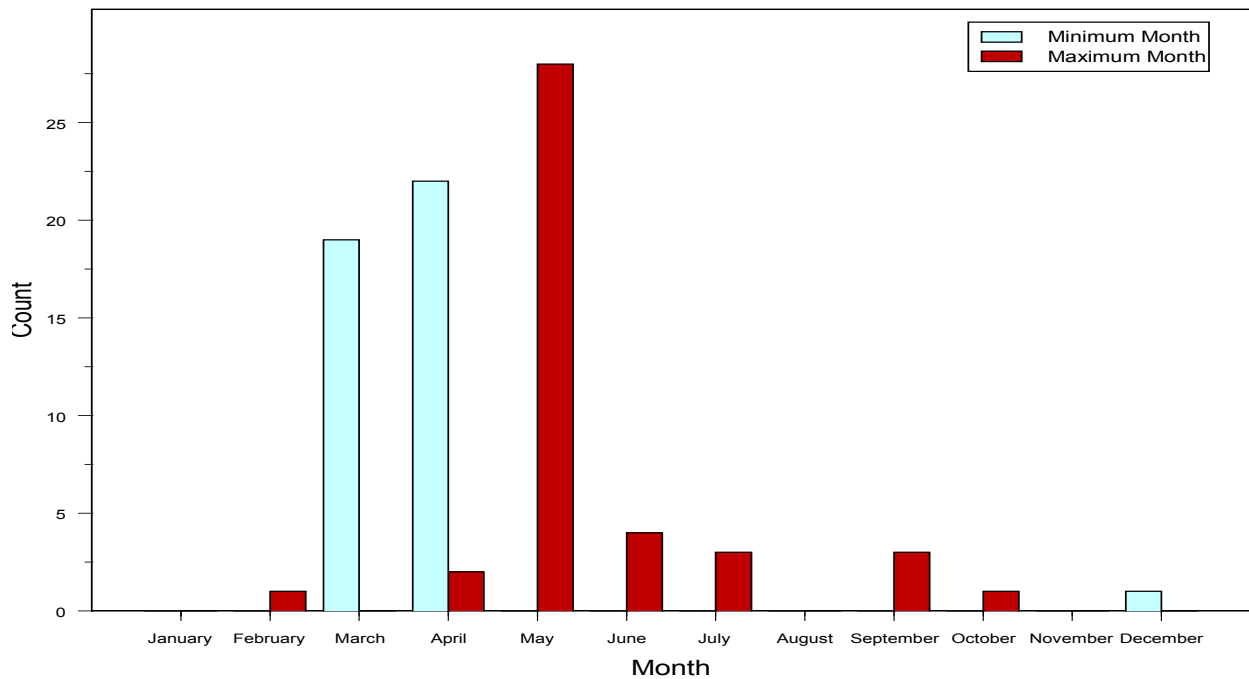
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	107	56	400.619 (11.869)	95.857 (7.709)	0.142 (0.024)	0.033
Low Flow	-9	20	-6.142 (0.043)	0.389 (0.024)	-0.537 (0.033)	0.035

04DA001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

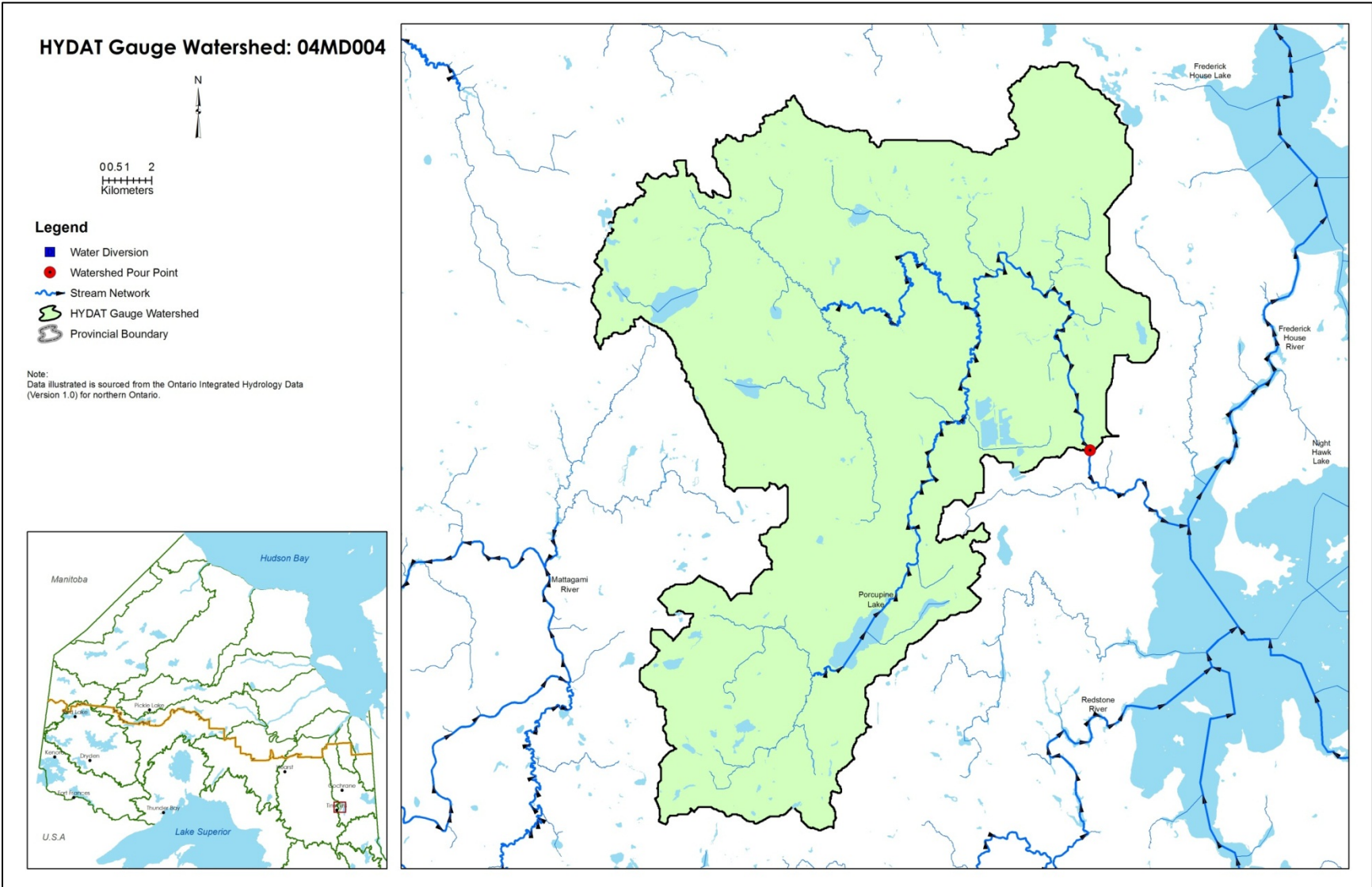
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	223.00	336.00	419.00	504.00	622.00	716.00	815.00	955.00
7 Day Low Flow	9.134	7.201	6.437	5.944	5.533	5.336	Not Applicable	Not Applicable

04DA001: Flood and Low Flow Estimates

04DA001 Summary of flood and low flow events by month



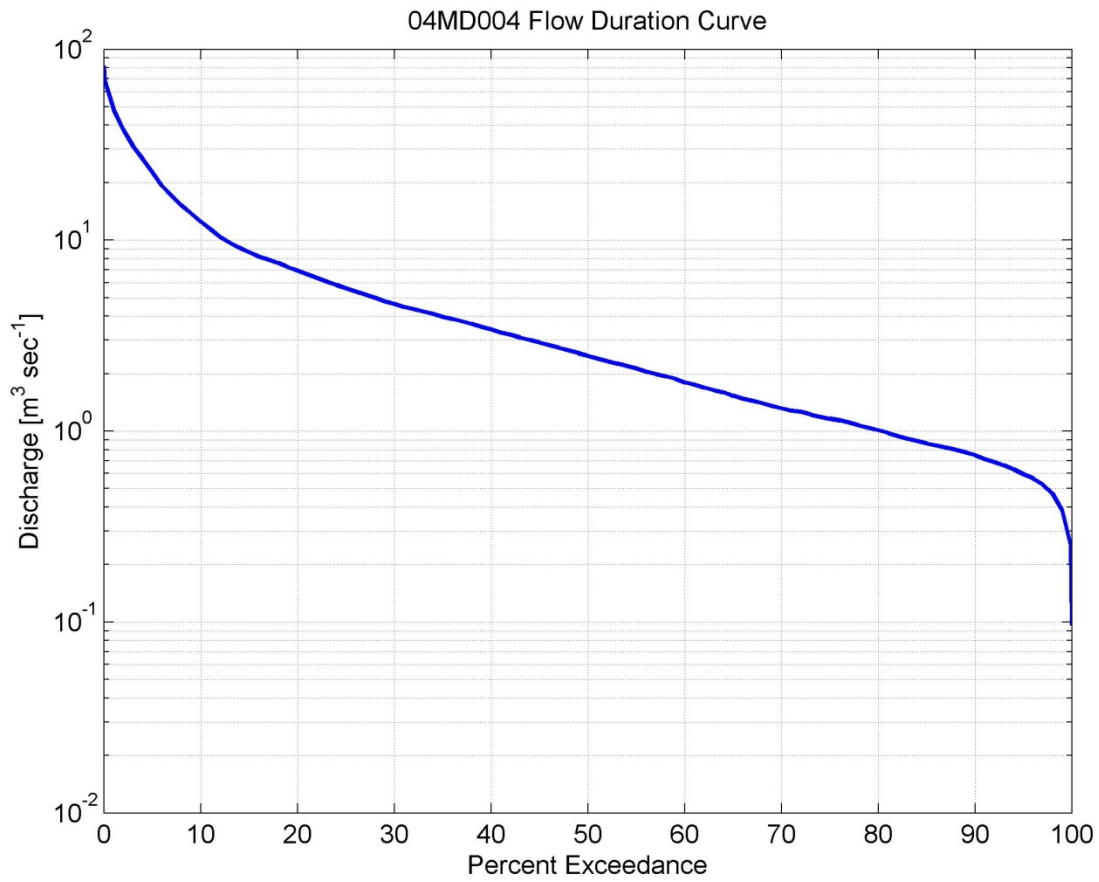
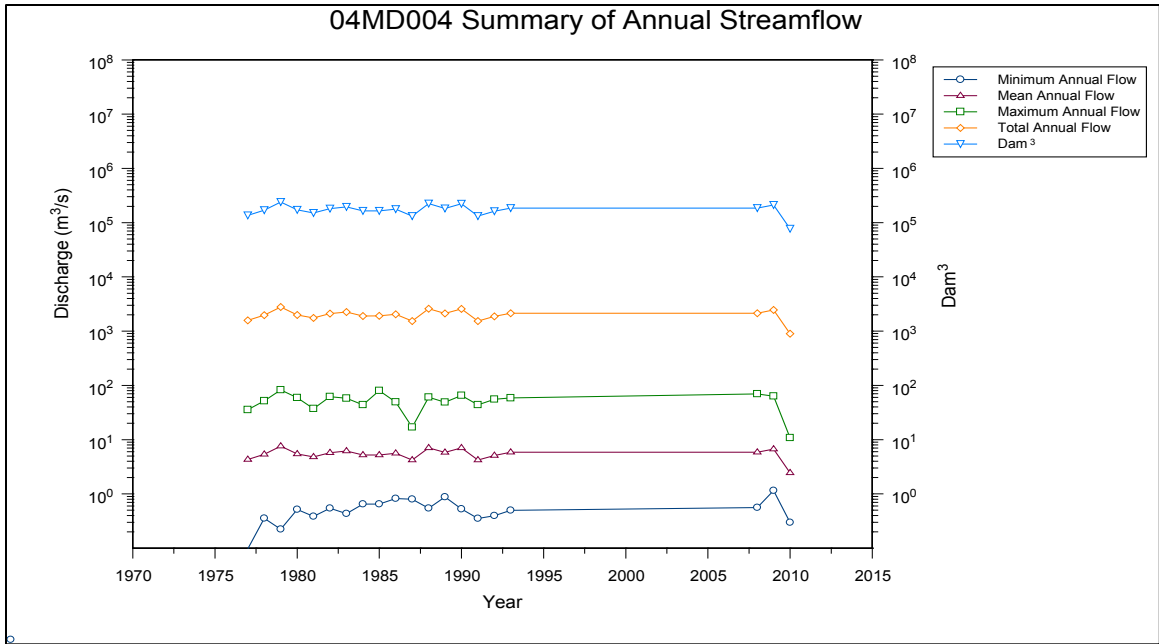
35. PORCUPINE RIVER AT HOYLE: 04MD004



PORCUPINE RIVER AT HOYLE: 04MD004

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 20 Years (1977 - 2010)
- Sample Size n: 7305
- Mean Annual Flow: 5.49 cms
- Standard Deviation: 8.81 cms
- Minimum Streamflow: 0.09 cms
- Lower Quartile Q_1 : 1.16 cms
- Median Streamflow: 2.47 cms
- Upper Quartile Q_3 : 5.61 cms
- Maximum Streamflow: 82.3 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 21 Oct – 10 May
 - No of Ice Days (Min–Median –Max): 71 – 128 – 160



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	4.37	5.49	12.50	82.30	63.10	43.70	31.80	28.60	18.90	36.10	24.50	12.50	81.91
0.10	4.35	5.46	12.46	82.13	63.04	43.57	31.36	28.48	18.85	35.90	24.46	12.37	68.58
1.00	3.32	3.78	9.45	70.60	59.83	29.25	19.53	16.10	12.10	26.30	19.20	6.11	48.30
5.00	1.92	1.80	4.45	54.05	49.15	13.05	12.30	7.83	8.84	16.00	11.60	4.21	22.65
10.00	1.64	1.36	3.24	40.45	40.10	10.40	8.98	4.97	7.04	10.35	8.54	3.40	12.50
15.00	1.48	1.25	2.42	33.75	32.75	8.70	7.46	4.19	5.98	8.76	7.49	3.03	8.66
20.00	1.38	1.14	2.00	29.60	28.00	7.36	6.18	3.79	5.16	7.94	6.71	2.80	6.93
25.00	1.31	1.08	1.64	24.85	24.05	6.55	5.08	3.23	4.42	7.32	5.98	2.62	5.61
30.00	1.27	1.02	1.36	19.20	21.80	5.73	4.16	2.77	3.88	6.80	5.64	2.47	4.64
35.00	1.22	0.95	1.22	16.70	18.55	4.77	3.65	2.43	3.46	6.32	5.25	2.33	3.97
40.00	1.17	0.92	1.17	14.00	16.00	4.28	2.95	2.12	3.10	5.83	4.91	2.23	3.40
45.00	1.15	0.87	1.11	11.25	14.20	3.90	2.41	1.91	2.85	5.51	4.62	2.08	2.91
50.00	1.10	0.84	0.99	9.46	12.70	3.45	2.02	1.63	2.57	5.09	4.38	1.98	2.47
55.00	1.07	0.84	0.90	8.32	11.25	3.11	1.80	1.42	2.33	4.64	4.13	1.90	2.12
60.00	1.04	0.80	0.83	7.46	9.76	2.85	1.59	1.21	2.15	4.35	3.85	1.79	1.80
65.00	1.00	0.77	0.81	6.07	8.40	2.53	1.38	1.08	1.86	4.07	3.63	1.70	1.53
70.00	0.96	0.75	0.76	4.19	7.26	2.22	1.17	0.88	1.62	3.69	3.36	1.60	1.32
75.00	0.91	0.70	0.70	3.49	6.22	1.98	0.98	0.76	1.41	3.37	3.16	1.52	1.16
80.00	0.87	0.66	0.66	2.81	5.15	1.72	0.81	0.68	1.25	3.01	2.94	1.45	1.01
85.00	0.84	0.61	0.59	2.16	4.51	1.40	0.69	0.62	1.08	2.37	2.72	1.39	0.86
90.00	0.79	0.58	0.53	1.70	3.64	1.13	0.59	0.55	0.93	2.12	2.44	1.32	0.75
91.00	0.78	0.58	0.51	1.65	3.51	1.06	0.57	0.54	0.90	1.98	2.38	1.30	0.72
92.00	0.77	0.56	0.50	1.61	3.38	0.99	0.55	0.52	0.86	1.90	2.30	1.28	0.69
93.00	0.76	0.55	0.50	1.54	3.24	0.91	0.53	0.50	0.81	1.85	2.23	1.27	0.66
94.00	0.75	0.53	0.49	1.40	3.16	0.84	0.53	0.48	0.75	1.80	2.12	1.25	0.63
95.00	0.73	0.52	0.47	1.20	2.93	0.74	0.50	0.46	0.72	1.73	2.07	1.23	0.59
96.00	0.70	0.50	0.42	1.05	2.69	0.60	0.44	0.44	0.66	1.66	2.00	1.20	0.56
97.00	0.67	0.39	0.39	0.92	2.45	0.51	0.41	0.41	0.50	1.60	1.94	1.18	0.52
98.00	0.64	0.35	0.37	0.80	1.96	0.45	0.38	0.38	0.45	1.50	1.90	1.14	0.47
99.00	0.62	0.33	0.35	0.62	1.66	0.26	0.32	0.32	0.42	1.16	1.63	1.08	0.39
99.90	0.60	0.32	0.34	0.52	0.58	0.10	0.23	0.30	0.40	0.39	1.49	0.96	0.25
99.99	0.60	0.32	0.34	0.52	0.54	0.10	0.22	0.30	0.40	0.39	1.49	0.96	0.10

04MD004: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.431
10:90 Ratio	16.733
Sqrt(Q ₂₅ /Q ₇₅)	2.199

04MD004: Parameters from Flow Duration Curves

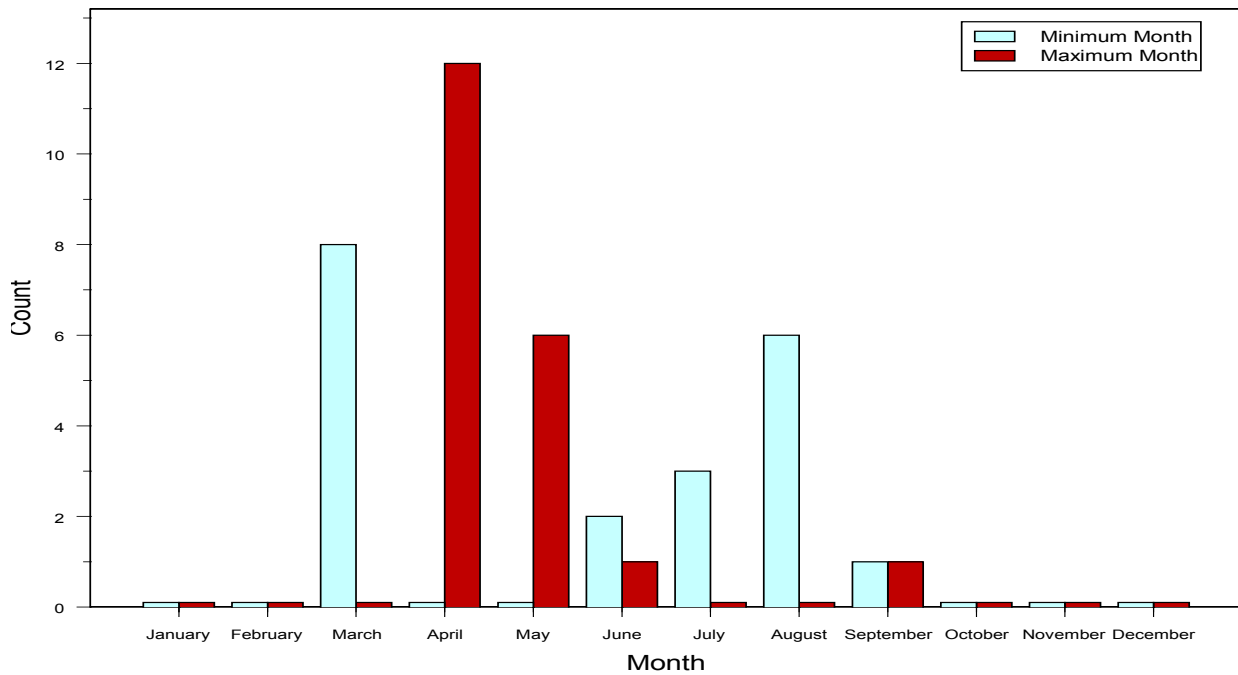
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	21	20	61.565 (1.552)	9.214 (0.788)	-0.242 (0.043)	0.102
Low Flow	-0.5	8.65	-0.297 (0.012)	0.072 (0.004)	-0.265 (0.046)	0.049

04MD004: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	55.50	69.70	75.50	79.30	82.60	84.20	85.20	86.10
7 Day Low Flow	0.521	0.373	0.325	0.299	0.280	0.272	Not Applicable	Not Applicable

04MD004: Flood and Low Flow Estimates

04MD004 Summary of flood and low flow events by month



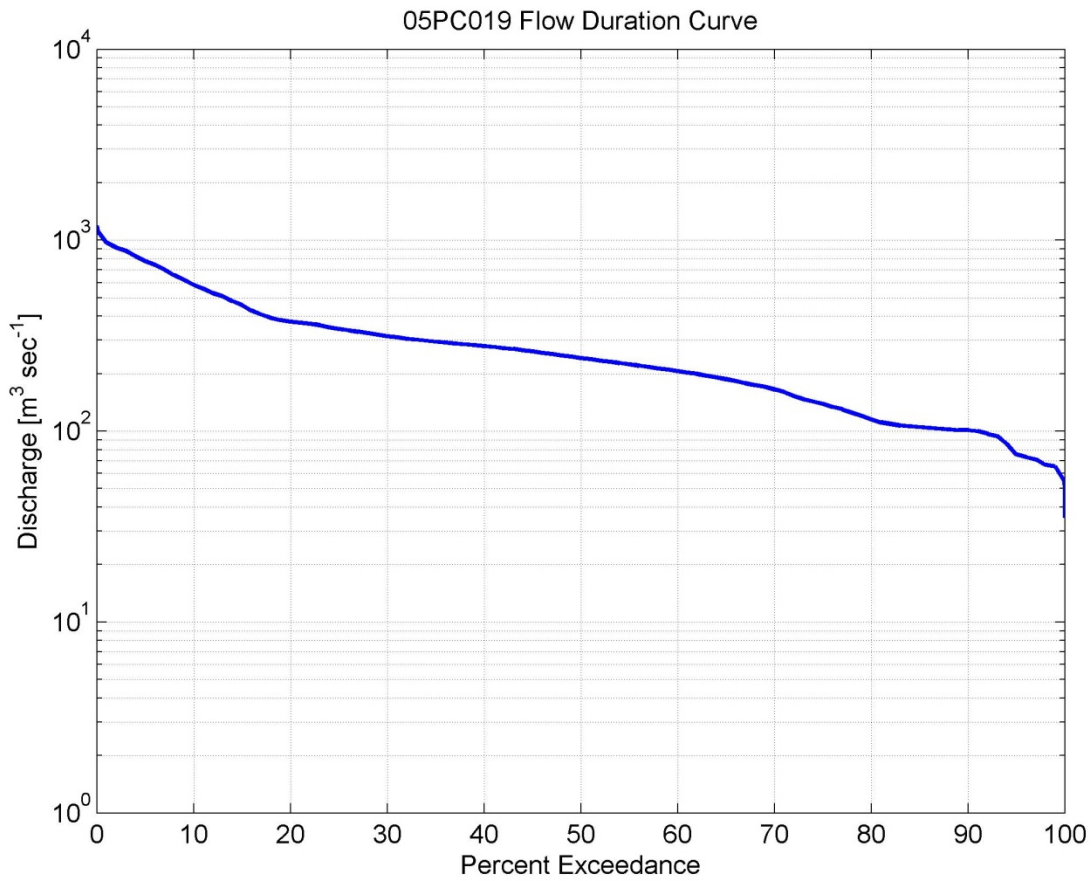
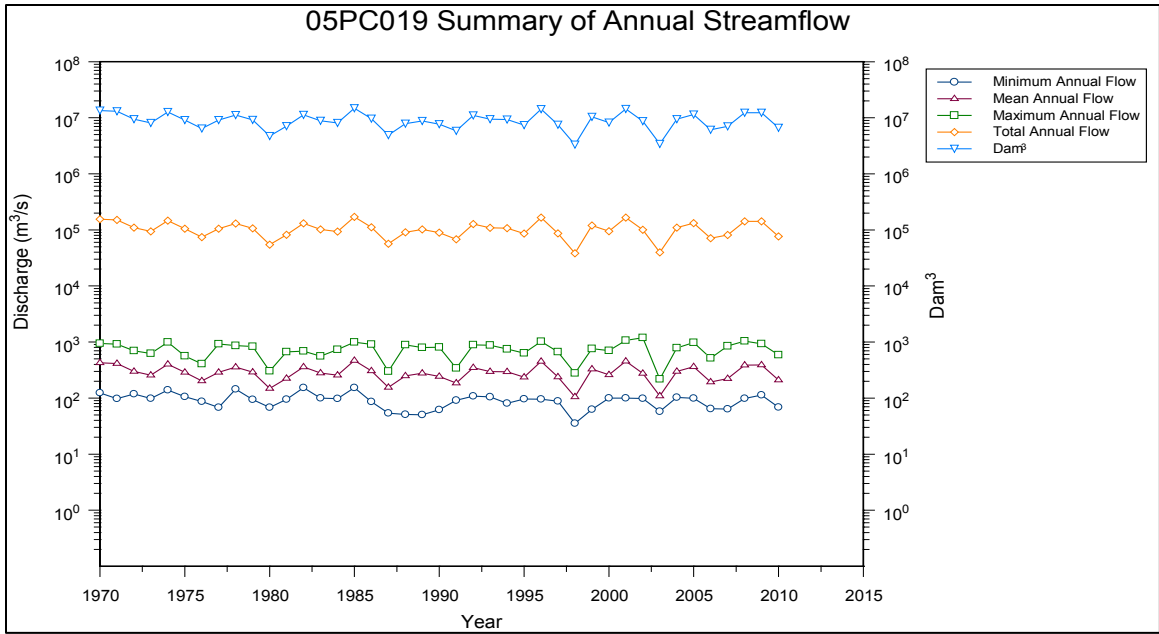
36. RAINY RIVER AT FORT FRANCES: 05PC019

Note: Watershed not delineated

RAINY RIVER AT FORT FRANCES: 05PC019

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 41 Years (1970 - 2010)
- Sample Size n: 14975
- Mean Annual Flow: 288.85 cms
- Standard Deviation: 205.95 cms
- Minimum Streamflow: 35.3 cms
- Lower Quartile Q_1 : 139 cms
- Median Streamflow: 241 cms
- Upper Quartile Q_3 : 342 cms
- Maximum Streamflow: 1190 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	680.00	374.00	355.00	735.00	1010.00	1190.00	1170.00	950.00	912.00	923.00	915.00	784.00	1190.00
0.1	677.69	371.41	353.46	732.08	992.27	1190.00	1154.58	946.15	909.81	920.69	915.00	780.15	1115.35
1	550.32	354.02	334.00	669.60	938.16	1092.00	1080.00	883.32	883.60	911.37	895.00	753.00	971.00
5	389.95	334.00	309.00	573.00	876.95	1010.00	940.00	612.90	650.00	773.00	745.00	621.90	775.25
10	370.00	318.00	297.00	394.00	786.00	963.00	773.40	474.20	412.00	555.00	601.50	513.00	583.00
15	339.00	302.30	287.00	350.00	735.85	914.00	710.65	377.00	353.00	393.40	519.00	388.00	456.75
20	328.00	292.00	280.30	308.00	646.00	830.00	597.00	357.00	309.00	362.00	428.00	370.00	374.00
25	315.75	280.50	269.00	282.00	558.00	756.00	525.00	311.00	284.00	309.00	382.00	362.00	342.25
30	299.00	269.00	253.00	264.00	506.20	660.50	467.00	295.00	269.00	284.00	362.50	338.00	314.00
35	287.00	255.70	239.65	250.00	466.65	545.00	411.65	270.65	245.00	268.00	343.00	323.00	294.00
40	279.00	243.00	230.00	230.00	388.00	473.00	376.00	248.10	220.50	235.10	314.00	304.00	279.00
45	262.00	234.00	221.00	214.00	343.00	403.00	345.55	232.55	190.00	214.00	282.00	289.00	261.00
50	249.00	227.00	215.00	196.00	301.00	365.00	315.00	201.00	166.00	196.00	269.00	277.00	241.00
55	240.00	219.00	210.00	175.00	280.00	326.00	296.45	178.00	141.00	173.45	246.00	261.00	224.00
60	232.00	212.00	196.00	162.00	240.00	286.00	289.00	158.80	125.00	153.00	210.50	239.00	206.00
65	224.00	205.00	188.00	144.00	185.00	264.00	276.00	141.00	113.00	133.00	189.00	224.00	187.00
70	214.00	196.00	177.00	131.00	124.00	219.00	252.80	119.00	110.00	120.00	172.50	208.80	165.00
75	199.25	185.00	169.00	117.00	106.25	140.00	210.25	107.00	107.00	109.00	146.00	198.00	139.00
80	178.00	167.00	151.00	107.00	104.00	105.00	164.00	104.00	104.00	104.00	125.00	176.00	115.00
85	166.15	143.00	131.30	103.00	102.00	101.00	105.00	102.00	102.00	102.00	103.00	160.00	105.00
90	140.00	126.00	115.00	101.00	99.00	96.85	84.28	86.10	100.00	100.00	100.00	114.00	101.00
91	135.00	124.00	108.89	100.00	87.66	82.80	80.76	84.88	99.50	100.00	100.00	102.00	99.80
92	129.18	122.00	106.00	98.50	71.74	73.93	75.18	80.10	96.06	99.20	97.19	101.00	96.70
93	117.00	116.00	104.00	97.18	71.40	72.50	75.00	76.63	76.70	95.64	95.36	97.31	94.30
94	96.68	107.14	99.78	96.16	70.88	72.20	74.98	75.00	75.30	76.10	94.30	93.63	85.50
95	95.40	96.60	96.82	94.90	70.31	71.90	74.00	74.00	75.00	75.30	93.30	91.54	75.30
96	94.40	95.10	95.70	94.00	68.83	71.40	72.30	72.37	74.00	74.63	91.44	80.97	73.03
97	66.70	94.30	94.30	87.40	66.60	66.14	71.86	71.50	73.40	74.00	88.24	67.39	71.20
98	66.20	65.85	66.18	66.41	65.80	57.91	64.38	66.78	70.30	71.50	66.63	66.09	66.40
99	65.40	65.30	65.42	65.58	65.30	55.20	62.62	57.15	69.94	71.10	65.38	65.80	65.30
99.9	60.20	64.90	65.05	54.72	58.39	54.22	58.73	54.35	65.30	65.01	60.94	59.47	54.95
99.99	51.10	64.90	64.90	35.30	57.70	54.00	53.80	54.20	58.00	64.70	53.20	50.30	50.25

05PC019: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.709
10:90 Ratio	5.772
Sqrt(Q ₂₅ /Q ₇₅)	1.569

05PC019: Parameters from Flow Duration Curves

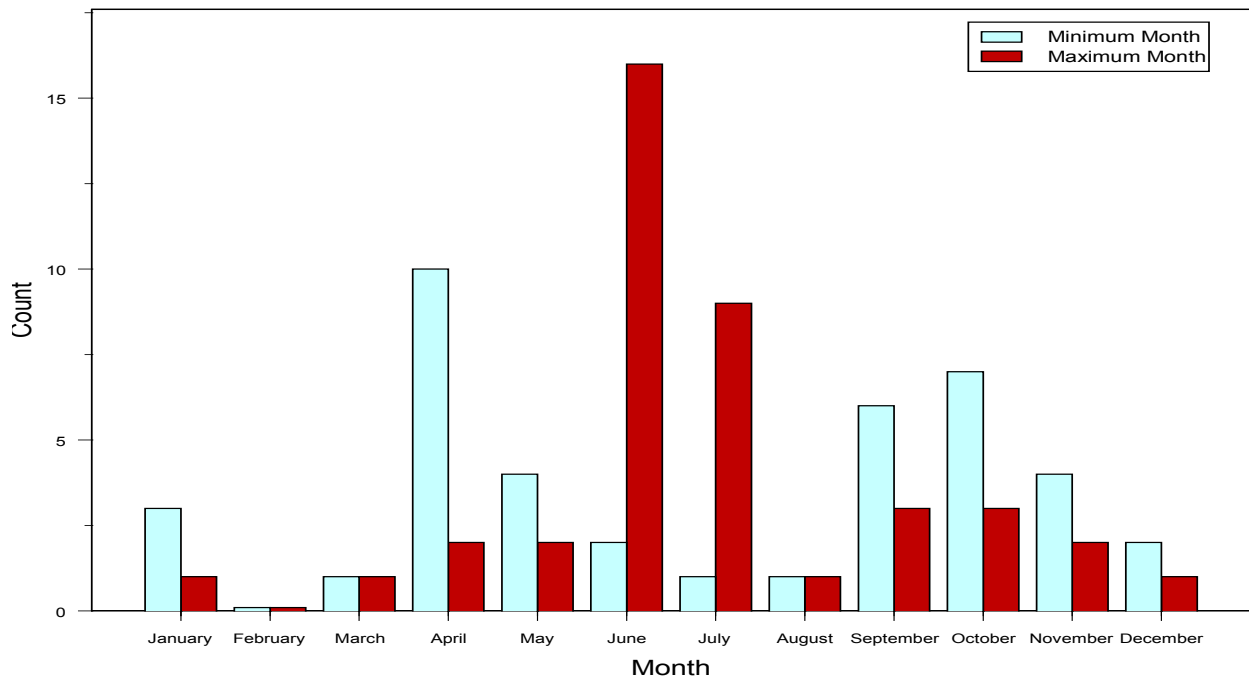
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	300	121	1359.522 (49.492)	235.231 (26.642)	0.026 (0.029)	0.015
Low Flow	-106	58	-92.638 (0.283)	16.993 (0.390)	-0.003 (0.029)	0.023

05PC019: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	729.00	1040.00	1230.00	1400.00	1620.00	1770.00	1920.00	2120.00
7 Day Low Flow	110.600	75.870	60.510	49.710	39.820	34.580	Not Applicable	Not Applicable

05PC019: Flood and Low Flow Estimates

05PC019 Summary of flood and low flow events by month



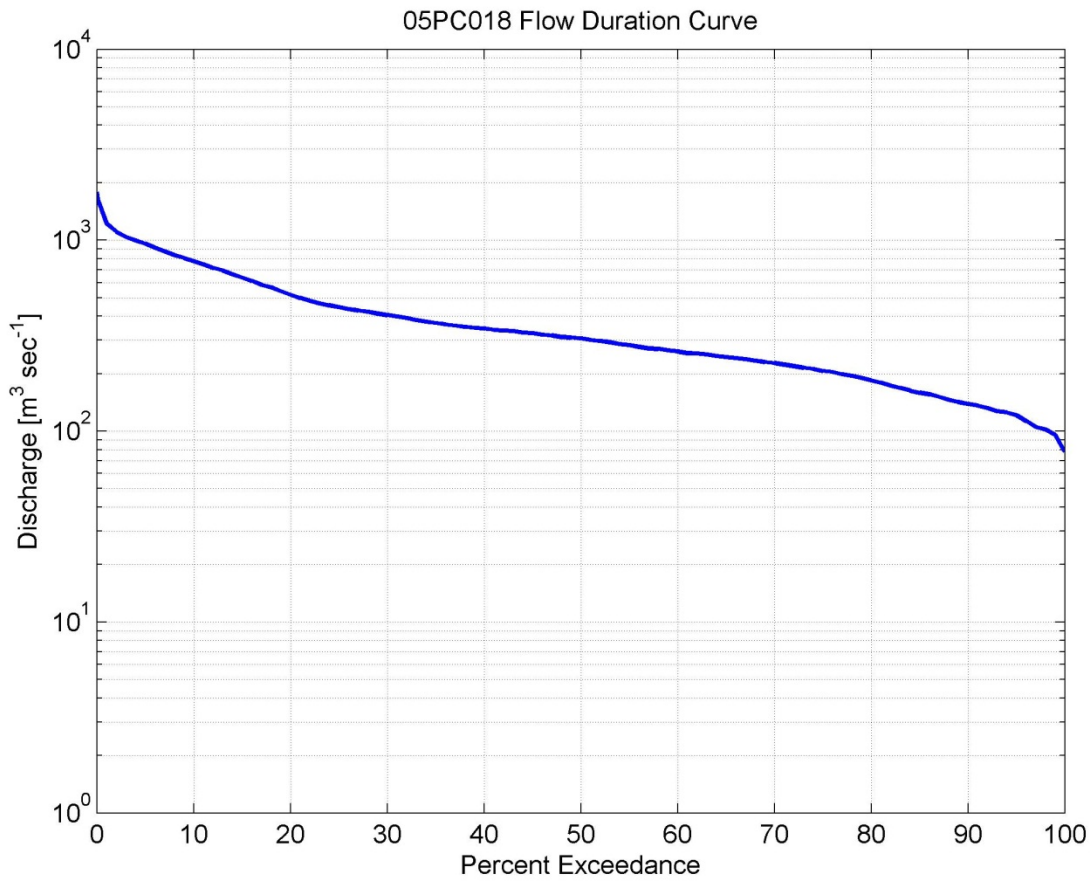
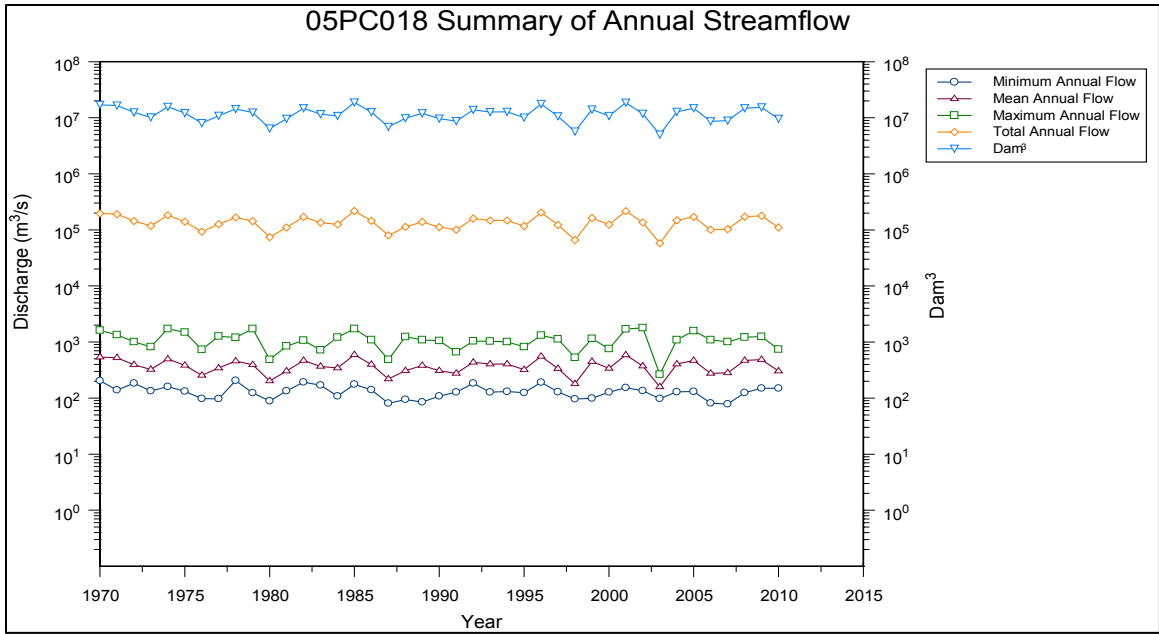
37. RAINY RIVER AT MANITOU RAPIDS: 05PC018

Note: Watershed not delineated

RAINY RIVER AT MANITOU RAPIDS: 05PC018

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 41 Years (1970 - 2010)
- Sample Size n: 14975
- Mean Annual Flow: 378.78 cms
- Standard Deviation: 258.11 cms
- Minimum Streamflow: 78.4 cms
- Lower Quartile Q_1 : 207 cms
- Median Streamflow: 306 cms
- Upper Quartile Q_3 : 445.5 cms
- Maximum Streamflow: 1790 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 11 Nov – 17 April
 - No of Ice Days (Min–Median –Max): 28 – 118 – 158



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	782.00	399.00	723.00	1720.00	1700.00	1790.00	1530.00	1250.00	1270.00	1190.00	1340.00	844.00	1790.00
0.1	731.11	399.00	720.69	1690.80	1700.00	1790.00	1445.19	1226.87	1255.40	1159.16	1325.40	841.69	1635.35
1	606.86	368.28	464.69	1312.00	1480.00	1594.00	1237.90	987.37	1060.00	1030.00	1040.00	799.00	1220.00
5	425.00	345.00	354.00	1070.00	1140.00	1210.00	985.75	724.30	753.00	885.85	839.00	698.90	957.75
10	405.00	337.00	331.00	888.50	1040.00	1110.00	903.00	586.00	581.50	699.00	726.50	561.00	776.00
15	368.00	326.00	317.00	770.00	977.00	1030.00	830.00	481.00	473.00	535.00	629.00	459.00	637.00
20	354.00	320.00	311.00	681.00	886.90	970.50	759.90	436.00	406.50	467.00	557.50	428.00	518.00
25	345.00	311.00	300.75	598.00	793.00	881.00	671.00	394.00	366.00	435.25	479.00	411.00	447.00
30	340.00	297.00	294.00	541.50	753.60	804.00	609.00	354.00	344.00	393.20	450.00	399.00	405.00
35	329.00	286.00	283.00	464.00	698.30	725.00	547.00	326.00	323.00	360.00	425.00	366.65	368.00
40	314.00	274.00	271.00	395.00	620.30	621.50	487.00	303.00	286.00	327.10	394.00	354.00	345.00
45	303.00	263.90	261.00	368.00	549.00	535.00	444.55	281.00	252.00	303.00	379.00	339.55	326.00
50	278.00	255.00	255.00	345.00	501.00	456.00	411.00	262.00	231.00	269.00	348.00	322.00	306.00
55	266.00	250.00	246.00	326.00	457.90	422.00	379.00	239.00	206.00	244.45	306.00	297.45	282.00
60	255.00	241.00	238.00	303.00	407.70	394.00	354.00	212.00	185.50	229.00	277.50	273.90	261.00
65	249.00	229.30	229.00	280.00	362.00	348.00	340.00	185.35	166.00	207.00	251.00	266.00	244.00
70	235.00	219.00	220.00	257.50	310.60	311.00	323.00	167.00	154.00	189.00	234.00	255.00	227.00
75	227.00	207.00	208.00	237.00	255.00	247.00	294.25	146.25	146.00	168.00	216.00	235.00	207.00
80	210.00	195.00	193.70	215.50	223.00	211.00	225.40	137.00	139.00	154.00	195.00	218.00	184.00
85	196.15	164.00	170.00	199.00	197.15	180.00	179.00	129.00	133.00	144.00	171.00	190.30	159.00
90	164.00	156.00	147.00	182.00	165.00	145.50	136.80	121.60	127.00	130.00	140.50	156.00	139.00
91	164.00	149.82	144.89	176.00	161.00	142.00	127.00	119.89	126.00	127.00	135.20	143.00	136.00
92	161.00	145.00	142.00	168.90	151.18	138.90	124.00	112.00	125.00	126.00	130.90	139.00	132.00
93	153.00	142.00	142.00	162.00	147.47	134.00	116.00	108.00	124.00	124.00	127.00	136.00	127.00
94	127.00	139.00	137.52	157.30	144.76	131.00	103.76	103.76	123.00	122.76	126.00	123.00	125.00
95	105.00	127.00	131.10	154.00	139.00	125.00	100.05	102.05	121.00	121.05	124.00	120.00	121.00
96	103.00	105.00	115.34	148.00	128.68	114.00	98.50	101.00	116.00	116.34	123.00	108.04	113.00
97	102.00	102.00	110.00	139.40	122.00	106.00	96.73	99.59	110.00	111.00	117.40	102.00	105.00
98	81.30	80.10	105.00	128.20	118.00	104.00	95.68	96.80	107.00	109.00	115.00	99.10	102.00
99	80.10	79.30	86.99	119.00	104.05	98.24	88.73	94.94	104.00	108.00	104.60	97.99	95.70
99.9	78.63	78.59	80.93	115.73	97.10	86.30	83.32	88.90	96.88	107.00	98.72	81.92	79.30
99.99	78.40	78.40	80.70	115.00	97.10	85.20	80.70	88.90	96.30	107.00	97.70	81.30	78.40

05PC018: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.727
10:90 Ratio	5.583
Sqrt(Q ₂₅ /Q ₇₅)	1.469

05PC018: Parameters from Flow Duration Curve

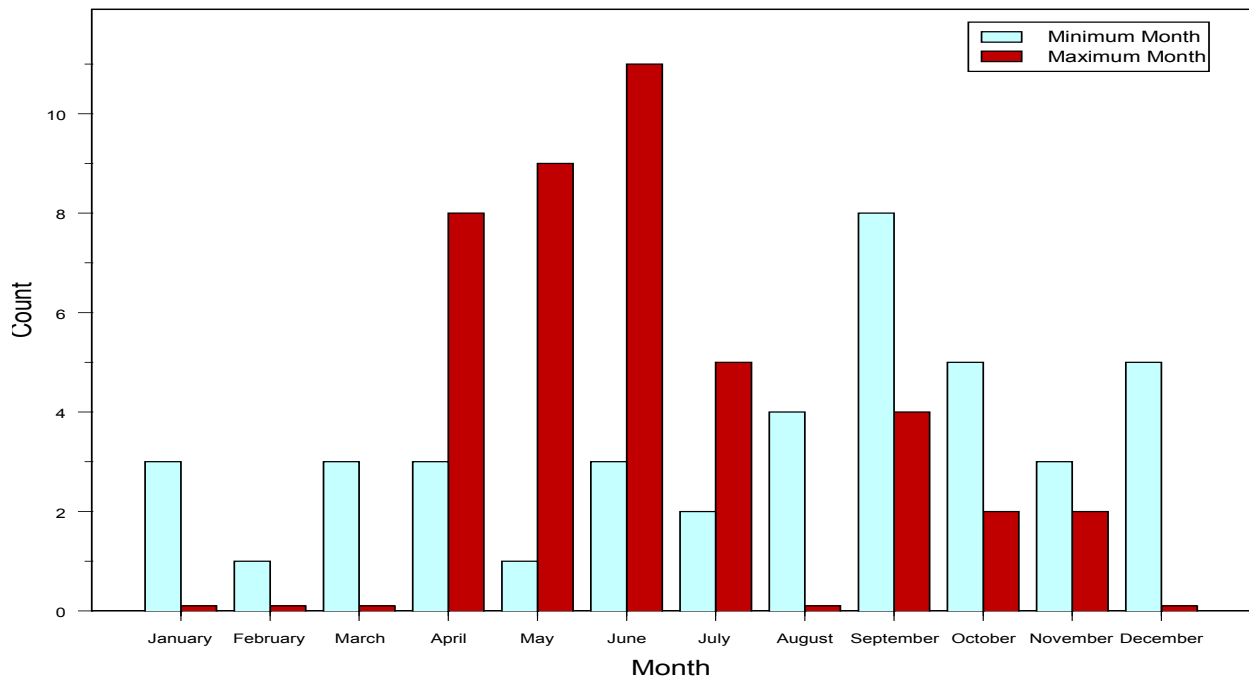
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	440	93	1463.668 (12.762)	122.146 (4.430)	-0.248 (0.010)	0.025
Low Flow	-95	3	-92.201 (NaN)	21.4859 (NaN)	-1.554 (0.000)	0.031

05PC018: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1050.00	1390.00	1580.00	1740.00	1930.00	2060.00	2190.00	2340.00
7 Day Low Flow	142.800	104.800	86.930	73.740	61.010	53.890	Not Applicable	Not Applicable

05PC018: Flood and Low Flow Estimates

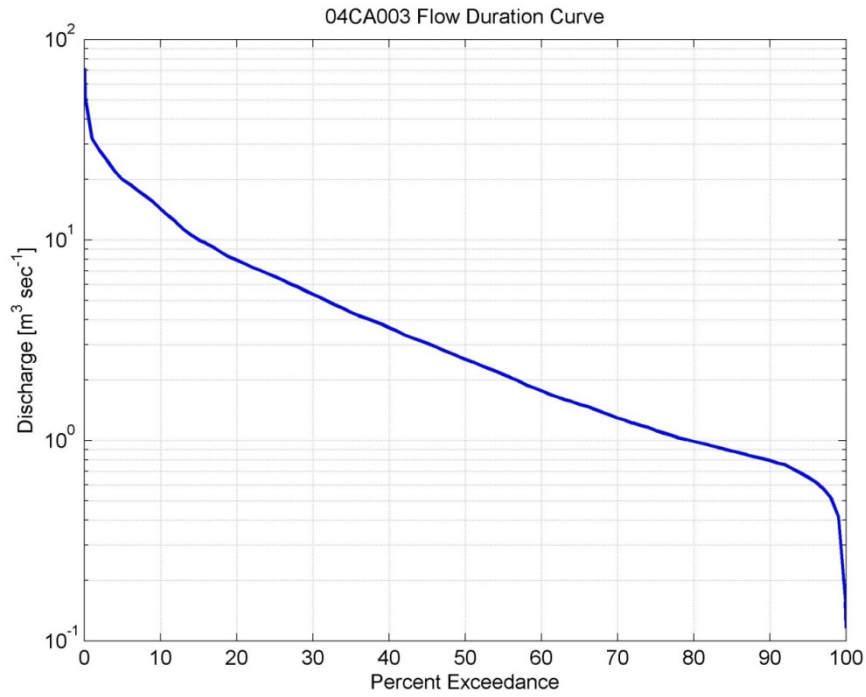
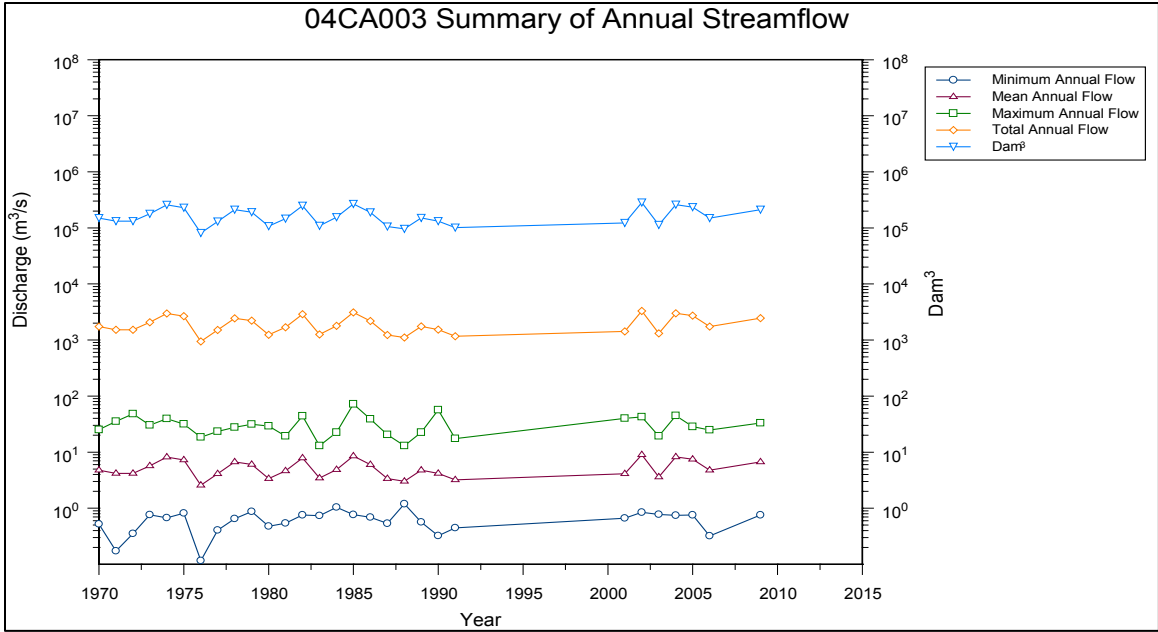
05PC018 Summary of flood and low flow events by month



ROSEBERRY RIVER ABOVE ROSEBERRY LAKES: 04CA003

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 29 Years (1970 - 2009)
- Sample Size n: 10591
- Mean Annual Flow: 5.34 cms
- Standard Deviation: 6.96 cms
- Minimum Streamflow: 0.11 cms
- Lower Quartile Q_1 : 1.12 cms
- Median Streamflow: 2.54 cms
- Upper Quartile Q_3 : 6.55 cms
- Maximum Streamflow: 72.1 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 17 Nov – 11 April
 - No of Ice Days (Min–Median –Max): 11 – 31 - 88



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	3.180	2.570	2.280	56.500	48.100	72.100	70.500	42.000	32.700	19.100	15.300	5.240	71.206
0.1	3.180	2.567	2.272	56.130	47.940	70.065	68.665	41.481	32.626	18.781	15.226	5.160	51.773
1	3.040	2.480	2.215	33.700	43.304	37.640	27.004	30.753	29.300	14.953	11.420	4.506	32.130
5	2.136	1.560	1.490	23.400	35.185	23.900	17.655	21.155	17.600	11.200	7.840	3.861	20.025
10	1.940	1.380	1.076	18.650	30.300	20.000	12.760	16.060	12.950	9.590	6.670	3.472	14.300
15	1.840	1.260	1.017	14.400	27.600	16.700	9.790	13.165	10.100	8.253	5.910	3.227	10.000
20	1.750	1.210	0.985	9.700	25.100	13.800	8.152	10.500	9.195	7.457	5.365	3.060	7.930
25	1.690	1.170	0.960	5.510	22.250	11.100	7.133	8.110	8.070	7.000	4.900	2.890	6.563
30	1.640	1.140	0.929	3.620	20.200	9.810	6.198	6.588	6.910	6.696	4.610	2.740	5.350
35	1.599	1.100	0.896	2.380	19.185	8.940	5.150	5.010	6.120	6.340	4.300	2.619	4.350
40	1.540	1.080	0.874	1.785	17.980	8.160	4.618	4.088	5.445	5.950	4.080	2.510	3.650
45	1.480	1.050	0.853	1.430	16.795	7.330	4.000	3.220	4.500	5.640	3.940	2.430	3.050
50	1.420	1.030	0.835	1.145	15.800	6.680	3.480	2.550	4.005	5.300	3.770	2.330	2.540
55	1.370	1.000	0.820	1.010	14.100	5.900	3.111	2.210	3.230	4.881	3.530	2.240	2.130
60	1.311	0.968	0.804	0.941	12.600	5.300	2.750	1.921	2.355	4.331	3.325	2.130	1.770
65	1.280	0.940	0.785	0.895	11.200	4.670	2.412	1.630	1.480	4.050	3.200	2.030	1.510
70	1.240	0.915	0.767	0.850	10.000	4.130	2.032	1.420	1.300	3.770	3.060	1.910	1.290
75	1.200	0.890	0.755	0.816	9.040	3.680	1.740	1.243	1.170	3.068	2.930	1.813	1.120
80	1.160	0.860	0.722	0.785	8.093	3.045	1.500	0.952	1.015	2.123	2.750	1.720	0.988
85	1.080	0.837	0.688	0.762	7.434	2.620	1.254	0.781	0.779	1.664	2.590	1.610	0.886
90	1.030	0.800	0.655	0.699	6.638	2.150	1.010	0.667	0.597	1.250	2.385	1.494	0.792
91	0.997	0.784	0.648	0.689	6.518	2.050	0.984	0.655	0.586	1.094	2.336	1.470	0.770
92	0.977	0.765	0.630	0.662	6.310	1.991	0.961	0.637	0.560	0.999	2.300	1.444	0.756
93	0.966	0.745	0.624	0.614	6.219	1.880	0.921	0.613	0.529	0.891	2.164	1.400	0.719
94	0.952	0.733	0.616	0.608	6.063	1.790	0.900	0.580	0.501	0.624	1.907	1.364	0.688
95	0.940	0.705	0.609	0.589	5.890	1.650	0.834	0.537	0.476	0.447	1.640	1.325	0.654
96	0.887	0.676	0.600	0.564	5.720	1.371	0.785	0.508	0.420	0.369	1.208	1.270	0.619
97	0.651	0.657	0.585	0.549	5.235	1.190	0.729	0.481	0.355	0.342	0.514	0.609	0.575
98	0.631	0.651	0.530	0.544	4.869	1.101	0.558	0.414	0.319	0.221	0.478	0.565	0.517
99	0.623	0.646	0.472	0.538	4.430	0.653	0.437	0.369	0.220	0.143	0.397	0.548	0.415
99.9	0.617	0.626	0.449	0.523	3.560	0.444	0.406	0.293	0.177	0.117	0.359	0.528	0.157
99.99	0.617	0.626	0.447	0.521	3.460	0.442	0.405	0.263	0.173	0.116	0.354	0.527	0.118

04CA003: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.541
10:90 Ratio	18.056
Sqrt(Q ₂₅ /Q ₇₅)	2.421

04CA003: Parameters from Flow Duration Curves

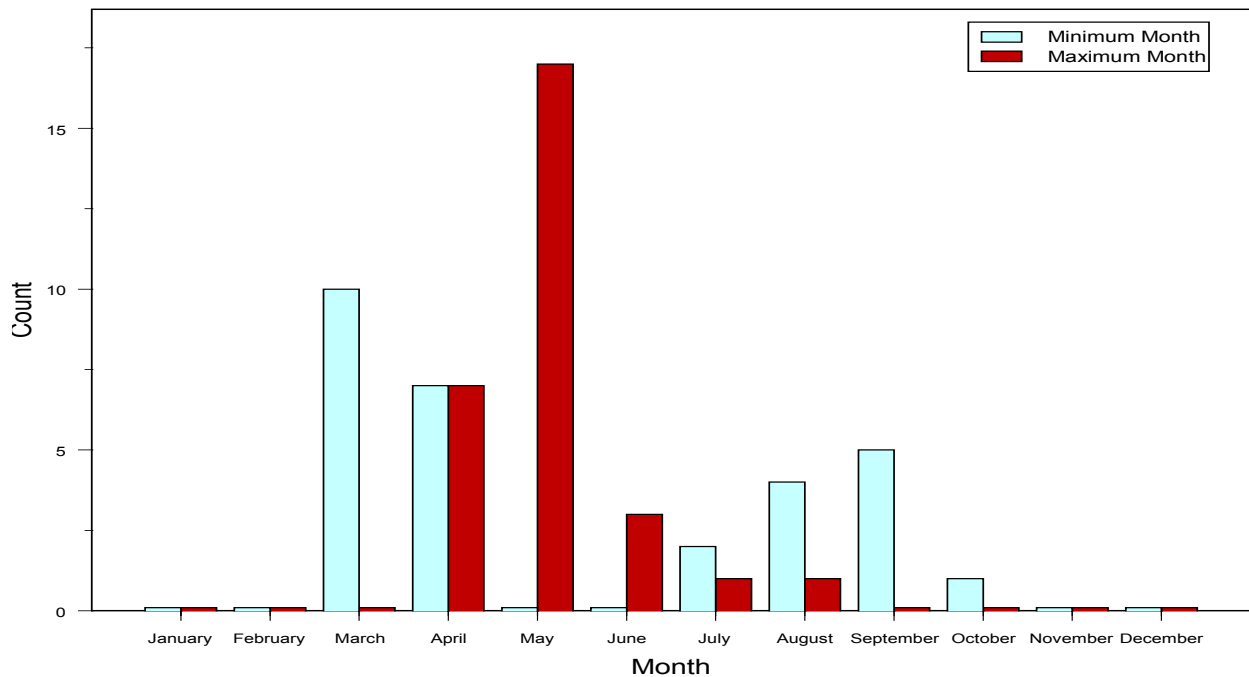
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	11	49	43.544 (0.902)	6.915 (0.404)	-0.095 (0.019)	0.047
Low Flow	-0.6	12	-0.263 (0.013)	0.091 (0.007)	-0.277 (0.054)	0.037

04CA003: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	29.50	42.20	51.00	59.70	71.40	80.40	89.90	103.00
7 Day Low Flow	0.644	0.434	0.332	0.255	0.178	0.135	Not Applicable	Not Applicable

04CA003: Flood and Low Flow Estimates

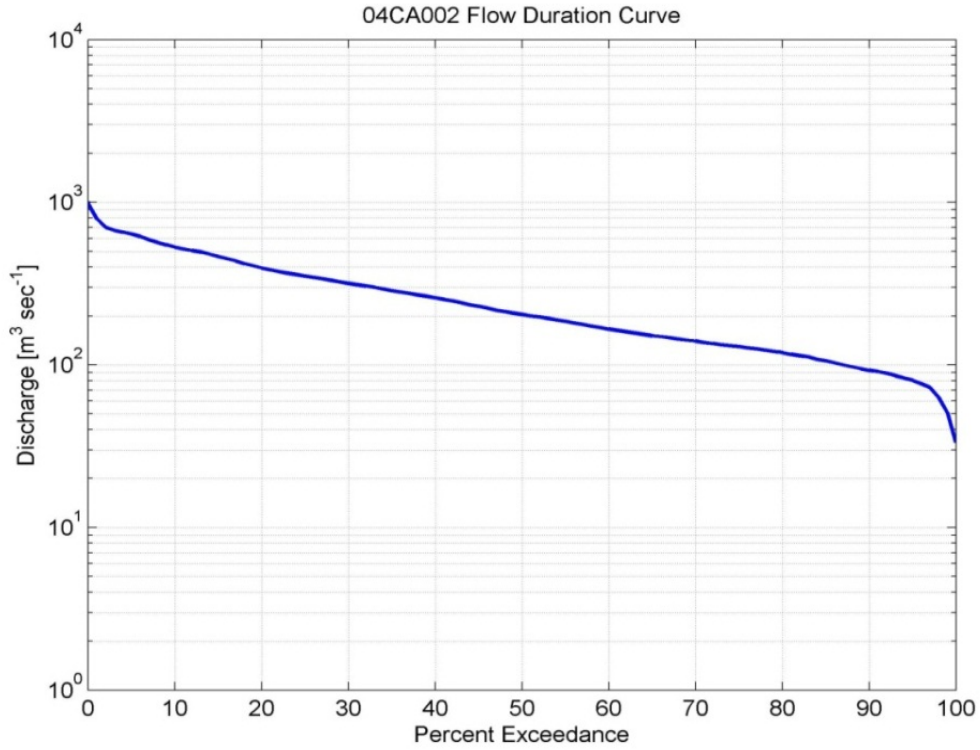
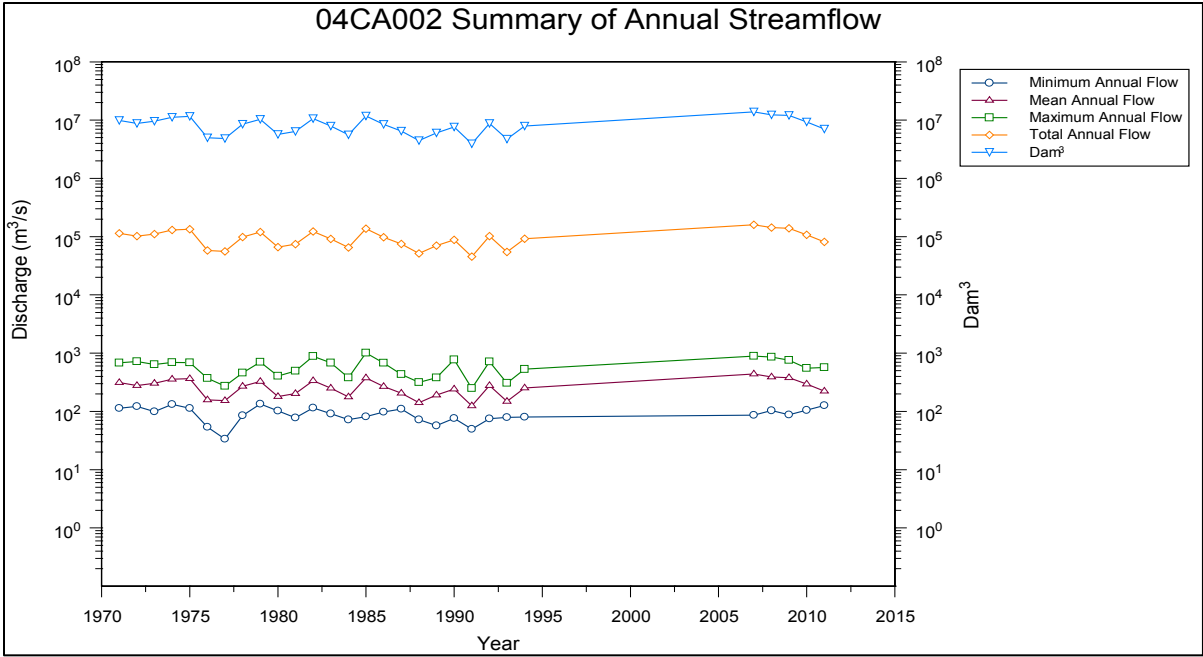
04CA003 Summary of flood and low flow events by month



SEVERN RIVER AT OUTLET OF MUSKRAT DAM LAKE: 04CA002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 29 Years (1971 - 2011)
- Sample Size n: 10592
- Mean Annual Flow: 262.92 cms
- Standard Deviation: 175.53 cms
- Minimum Streamflow: 33.7 cms
- Lower Quartile Q_1 : 129 cms
- Median Streamflow: 203 cms
- Upper Quartile Q_3 : 352 cms
- Maximum Streamflow: 1010 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 26 Oct – 15 May
 - No of Ice Days (Min–Median –Max): 123 – 163 - 188



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	402.00	231.00	162.00	463.00	892.00	887.00	1010.00	757.00	860.00	678.00	652.00	479.00	1010.00
0.1	402.00	230.38	160.80	447.83	884.82	885.15	1010.00	754.21	857.78	677.20	650.15	478.20	960.32
1	343.00	210.76	149.00	390.00	809.55	874.80	978.02	715.57	799.40	663.51	603.00	456.00	791.60
5	273.55	175.00	141.00	245.00	706.10	824.00	735.75	633.55	600.00	613.20	490.00	399.00	639.00
10	240.60	164.00	134.00	206.50	651.60	685.00	665.20	538.00	533.50	498.00	425.50	337.00	530.00
15	218.00	154.00	131.00	180.00	632.30	667.00	597.00	515.00	506.00	464.65	385.00	309.00	463.00
20	201.70	148.10	128.00	163.00	581.70	646.00	547.70	484.00	438.00	413.00	365.00	286.00	395.00
25	186.00	140.00	125.00	153.00	538.75	618.00	510.00	452.00	385.00	379.25	343.00	262.00	352.00
30	174.00	132.90	122.00	144.00	484.80	583.00	493.80	413.80	351.00	336.80	316.50	244.00	317.00
35	163.00	128.00	117.85	138.00	431.70	554.00	467.00	379.00	327.00	320.00	294.00	219.00	285.75
40	153.00	122.00	114.00	133.00	393.80	527.00	439.00	357.00	298.00	305.00	278.00	204.90	258.00
45	147.00	118.00	108.00	126.00	368.00	501.00	395.95	331.00	276.00	279.95	265.00	192.95	229.00
50	141.00	115.00	103.00	119.00	354.00	445.00	368.00	306.00	246.00	265.00	246.00	184.00	204.00
55	136.00	110.00	98.00	110.00	335.05	395.00	348.00	281.10	230.00	253.00	225.00	174.00	185.00
60	128.00	103.00	93.52	101.50	303.10	360.50	331.00	263.00	217.00	239.00	206.50	166.00	166.00
65	124.00	99.40	91.82	94.90	273.00	334.00	305.15	243.15	198.00	208.15	195.00	156.00	151.00
70	117.00	94.91	89.82	90.50	256.20	318.00	282.00	223.00	185.00	190.00	181.00	147.00	140.00
75	110.00	92.30	83.00	86.80	229.50	304.00	255.00	207.00	174.00	168.00	166.00	137.00	129.00
80	106.00	87.77	80.23	82.50	206.00	289.00	226.30	198.00	159.00	158.00	156.00	131.00	119.00
85	99.74	83.93	74.00	80.00	187.35	270.00	201.00	183.35	147.00	150.35	146.00	124.00	106.00
90	89.70	77.97	72.10	75.00	158.20	224.00	186.40	152.40	129.00	141.40	139.00	112.00	92.60
91	85.46	76.76	69.82	73.74	150.00	212.80	183.00	146.41	124.00	139.00	138.00	106.41	91.00
92	82.07	75.80	66.03	72.42	145.42	206.10	178.00	141.42	121.00	137.00	134.10	97.94	88.80
93	79.52	74.53	62.33	70.80	133.00	199.40	174.00	137.00	118.00	133.00	124.80	93.57	85.85
94	72.52	61.27	53.94	64.92	123.88	193.70	165.88	133.44	115.00	131.44	118.00	89.72	82.80
95	68.89	58.93	52.09	61.40	111.90	176.00	158.45	128.45	114.00	127.00	109.00	83.73	80.20
96	65.34	56.89	50.10	59.50	103.00	166.30	155.46	123.00	111.00	124.00	100.30	78.37	76.50
97	49.52	37.06	38.54	57.80	96.74	104.60	148.47	121.00	107.00	110.47	93.38	70.94	72.60
98	43.29	35.70	34.00	56.89	94.50	97.60	144.00	119.00	103.00	102.00	89.47	65.69	62.92
99	39.50	34.80	34.00	50.40	91.34	87.20	139.00	115.49	101.20	99.25	86.44	59.59	50.84
99.9	37.78	34.30	33.70	49.54	82.60	79.96	109.19	108.40	93.98	92.54	74.23	54.04	34.00
99.99	37.70	34.30	33.70	49.50	82.00	78.70	106.00	108.00	93.50	92.30	73.90	53.80	33.70

04CA002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.806
10:90 Ratio	18.056
Sqrt(Q ₂₅ /Q ₇₅)	2.421

04CA002: Parameters from Flow Duration Curves

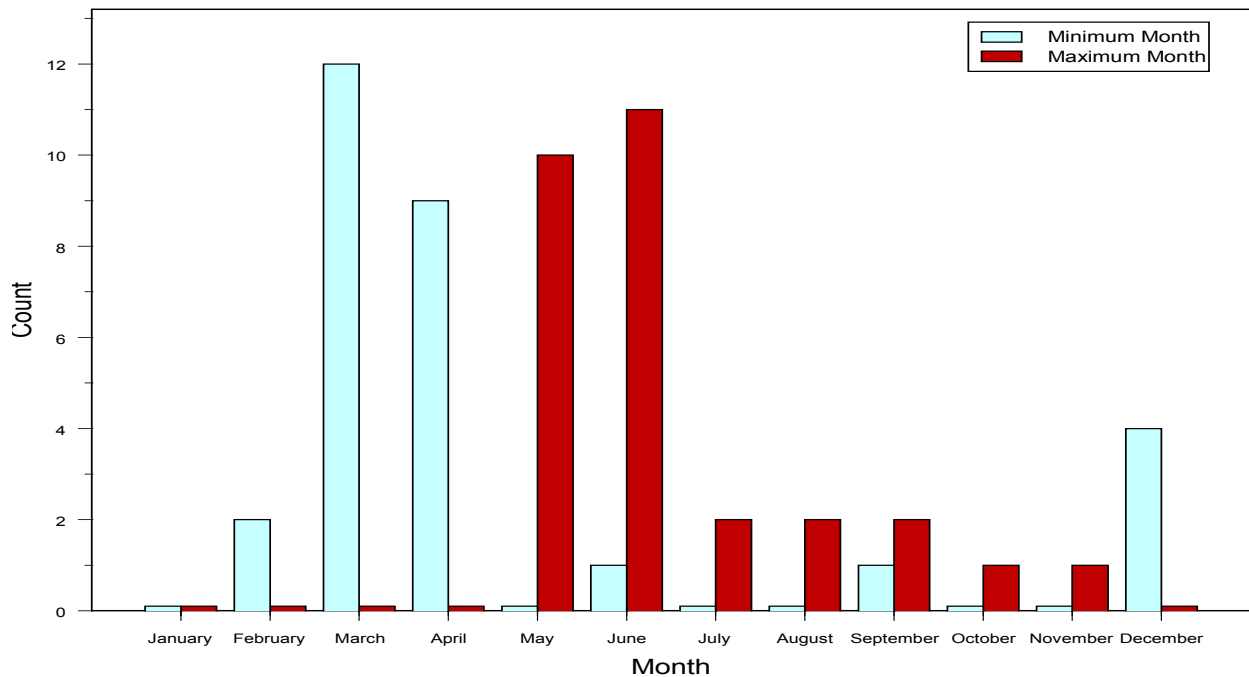
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	178	207	889.681 (8.638)	62.376 (2.652)	-0.256 (0.010)	0.008
Low Flow	-91	33	-45.875 (0.903)	8.451 (0.417)	-0.238 (0.025)	0.020

04CA002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

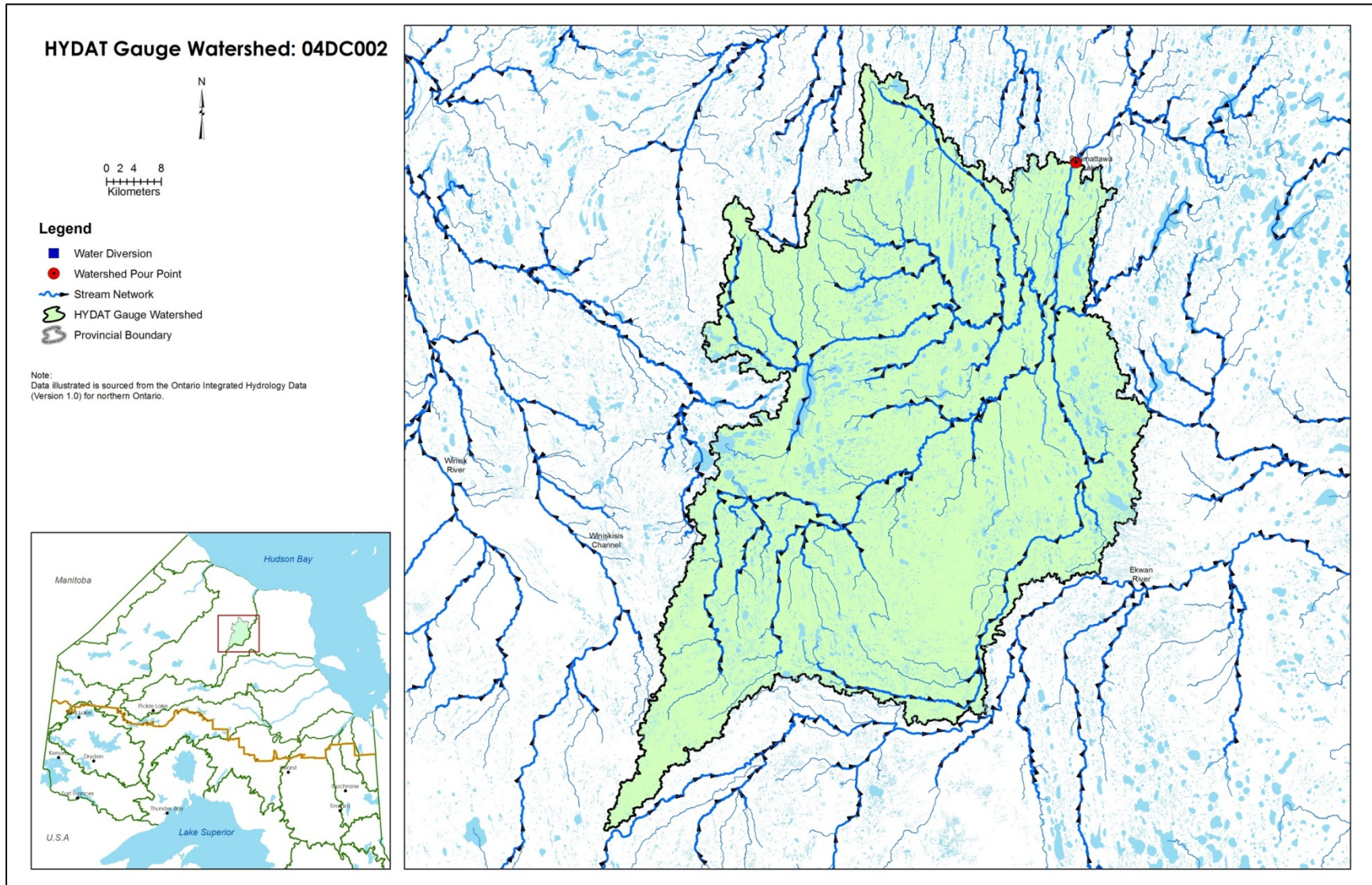
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	596.00	798.00	917.00	1020.00	1150.00	1250.00	1330.00	1450.00
7 Day Low Flow	90.290	68.790	57.490	48.410	38.780	32.860	Not Applicable	Not Applicable

04CA002: Flood and Low Flow Estimates

04CA002 Summary of flood and low flow events by month



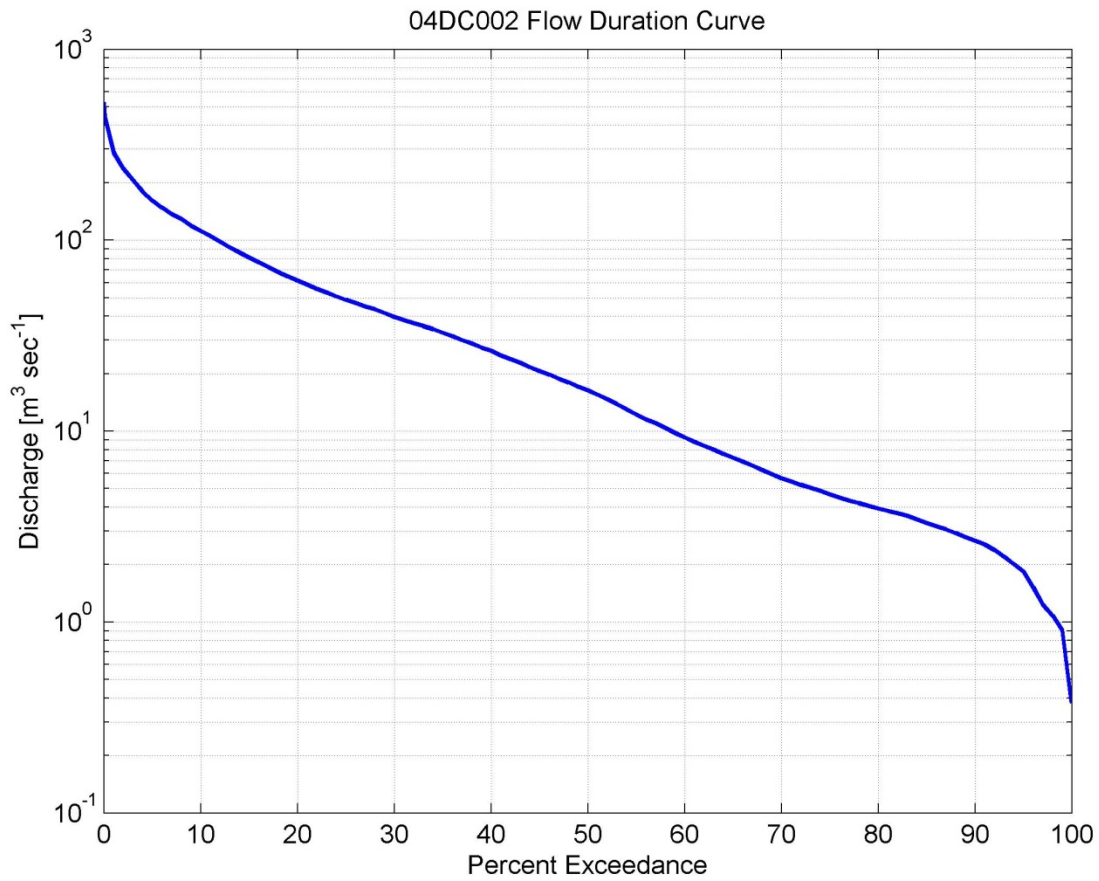
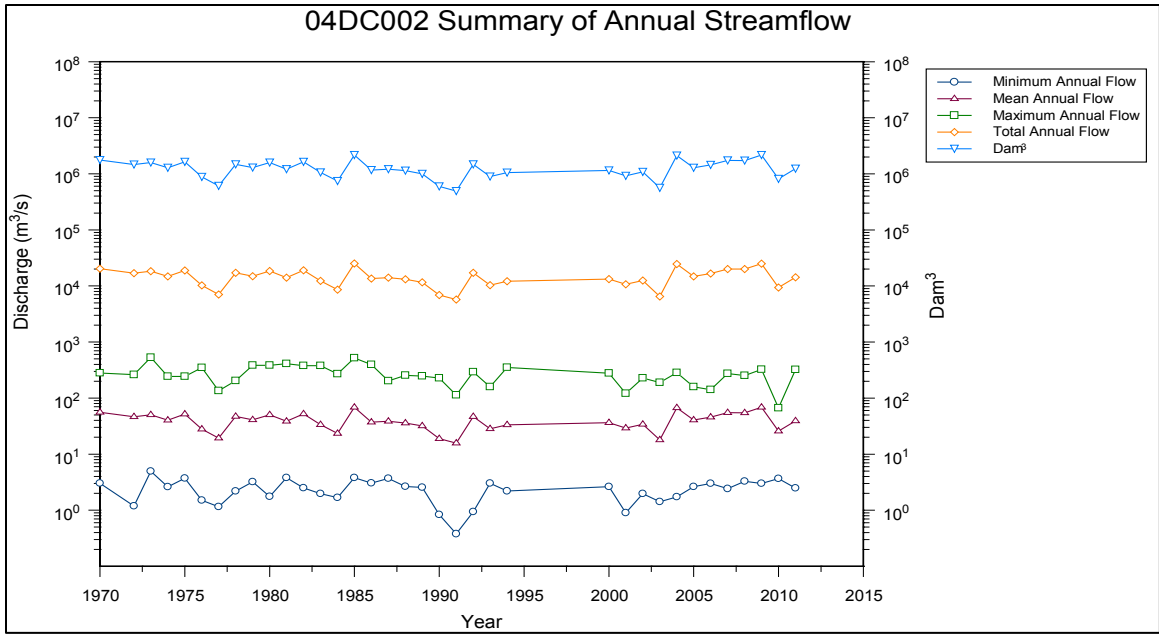
40. SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE: 04DC002



SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE: 04DC002

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 36 Years (1970 - 2011)
- Sample Size n: 13149
- Mean Annual Flow: 40.21 cms
- Standard Deviation: 59.59 cms
- Minimum Streamflow: 0.38 cms
- Lower Quartile Q_1 : 4.67 cms
- Median Streamflow: 16.3 cms
- Upper Quartile Q_3 : 48.6 cms
- Maximum Streamflow: 530 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 24 Oct – 24 May
 - No of Ice Days (Min–Median –Max): 130 – 176 - 203



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	17.500	8.580	5.740	384.000	530.000	423.000	325.000	210.000	261.000	285.000	244.000	43.600	527.558
0.1	17.438	8.524	5.672	368.340	528.152	419.520	323.768	210.000	259.260	282.536	231.820	43.046	443.600
1	14.936	7.600	5.350	255.600	465.740	296.900	229.760	157.340	205.800	165.700	118.700	36.000	288.100
5	11.800	6.405	4.847	107.500	348.000	201.500	127.700	120.400	146.000	138.000	77.950	27.140	161.000
10	10.300	5.850	4.250	25.250	283.000	164.000	83.150	95.150	113.500	121.000	63.850	22.300	112.000
15	9.400	5.550	4.021	10.550	249.100	141.000	67.330	62.000	96.000	99.150	56.400	19.800	81.000
20	8.706	5.200	3.880	5.975	230.000	122.500	58.150	47.820	76.700	82.100	50.250	17.800	61.500
25	8.200	4.950	3.730	5.000	209.000	108.000	51.300	37.050	64.300	75.750	46.700	16.500	48.650
30	7.750	4.750	3.620	4.100	190.000	98.400	46.540	33.370	55.350	65.550	43.300	15.300	39.600
35	7.350	4.550	3.480	3.850	173.000	90.250	42.170	29.400	48.300	61.170	39.000	14.200	32.750
40	7.000	4.383	3.310	3.765	152.100	84.400	38.500	26.010	43.500	55.100	34.550	13.300	26.300
45	6.666	4.250	3.153	3.340	138.000	78.250	34.530	23.060	38.850	50.400	31.450	12.500	20.600
50	6.300	4.145	3.045	3.100	121.000	72.350	30.150	20.900	35.400	46.150	28.150	11.700	16.350
55	5.950	3.951	2.900	2.780	110.000	65.400	26.800	18.670	30.900	42.300	25.500	11.070	12.200
60	5.550	3.747	2.739	2.630	94.500	58.450	23.500	16.290	26.800	37.890	23.300	10.300	9.250
65	5.200	3.510	2.600	2.555	76.610	49.850	21.000	12.200	22.900	35.400	21.200	9.500	7.250
70	4.950	3.300	2.410	2.260	61.030	43.900	18.130	10.200	18.900	32.200	19.250	8.550	5.660
75	4.665	3.095	2.240	2.110	49.600	37.900	15.600	8.285	16.100	28.500	17.700	7.600	4.670
80	4.250	2.890	2.000	1.855	42.500	33.300	12.900	6.857	13.600	23.870	15.200	6.591	3.930
85	3.650	2.514	1.438	1.595	34.380	29.350	10.600	5.519	9.210	18.790	11.900	5.900	3.305
90	2.092	1.220	1.030	1.190	12.520	24.400	8.782	4.643	4.470	12.400	8.820	5.182	2.660
91	1.900	1.190	0.994	1.190	10.094	23.400	8.400	4.459	4.212	11.594	8.535	4.966	2.550
92	1.778	1.180	0.970	1.178	8.389	22.290	8.073	4.300	3.897	10.278	8.350	4.670	2.380
93	1.662	1.160	0.940	1.021	6.000	21.200	7.761	4.110	3.653	8.849	8.056	4.150	2.200
94	1.570	1.120	0.913	0.971	5.063	20.400	7.405	3.828	3.380	8.275	7.886	3.723	2.010
95	1.513	1.050	0.899	0.957	4.095	19.200	7.169	3.640	2.990	7.616	7.650	3.423	1.830
96	1.460	0.973	0.846	0.944	3.557	17.700	6.823	3.166	2.510	5.940	7.414	2.907	1.520
97	1.390	0.869	0.835	0.935	3.100	16.040	6.540	2.880	2.230	4.045	7.098	2.099	1.230
98	1.300	0.737	0.429	0.523	2.796	13.410	4.719	2.610	1.974	3.000	2.731	1.908	1.080
99	1.130	0.598	0.393	0.407	2.463	10.750	4.059	2.163	1.759	2.783	2.283	1.737	0.910
99.9	0.902	0.515	0.380	0.382	1.862	7.322	3.626	1.857	1.512	2.309	2.092	1.596	0.386
99.99	0.890	0.510	0.380	0.381	1.800	6.910	3.540	1.740	1.500	2.290	2.080	1.590	0.380

04DC002: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Value

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.506
10:90 Ratio	42.105
Sqrt(Q ₂₅ /Q ₇₅)	3.228

04DC002: Parameters from Flow Duration Curves

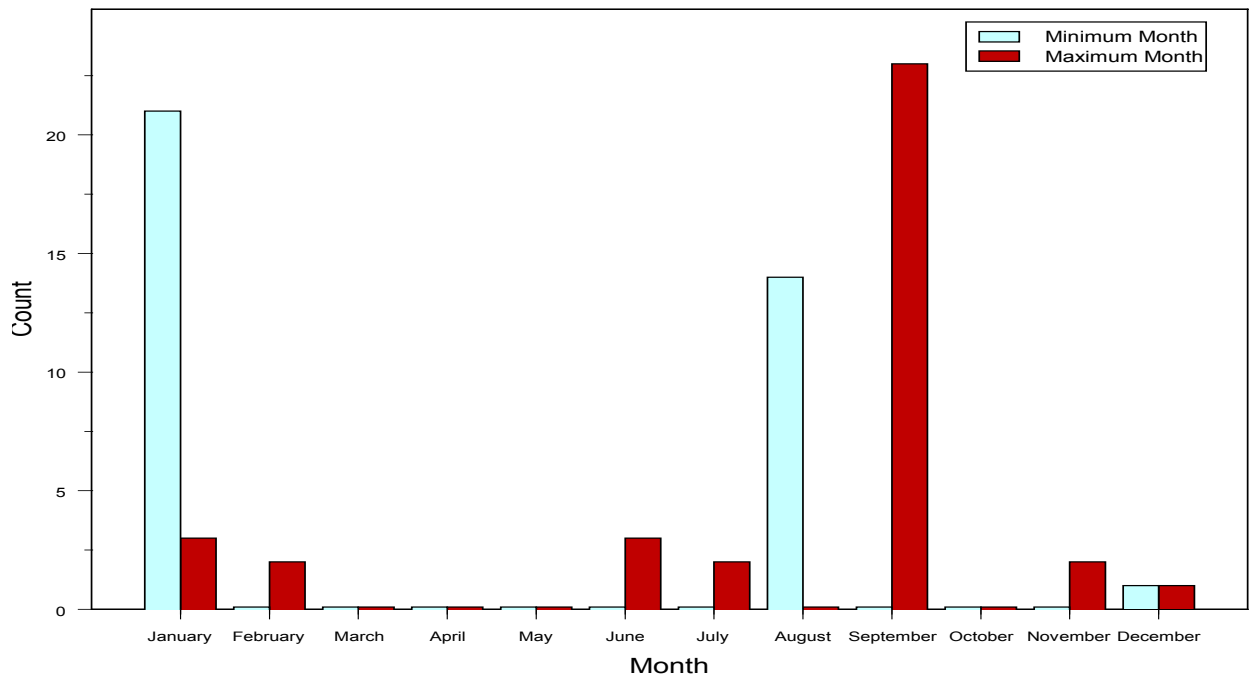
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	190	13	378.966 (8.137)	62.382 (4.699)	-0.129 (0.044)	0.105
Low Flow	-2	21	-0.502 (0.012)	0.109 (0.008)	-0.801 (0.037)	0.018

04DC002: Flood/Low Flow Descriptive Indices above/below a Threshold Value

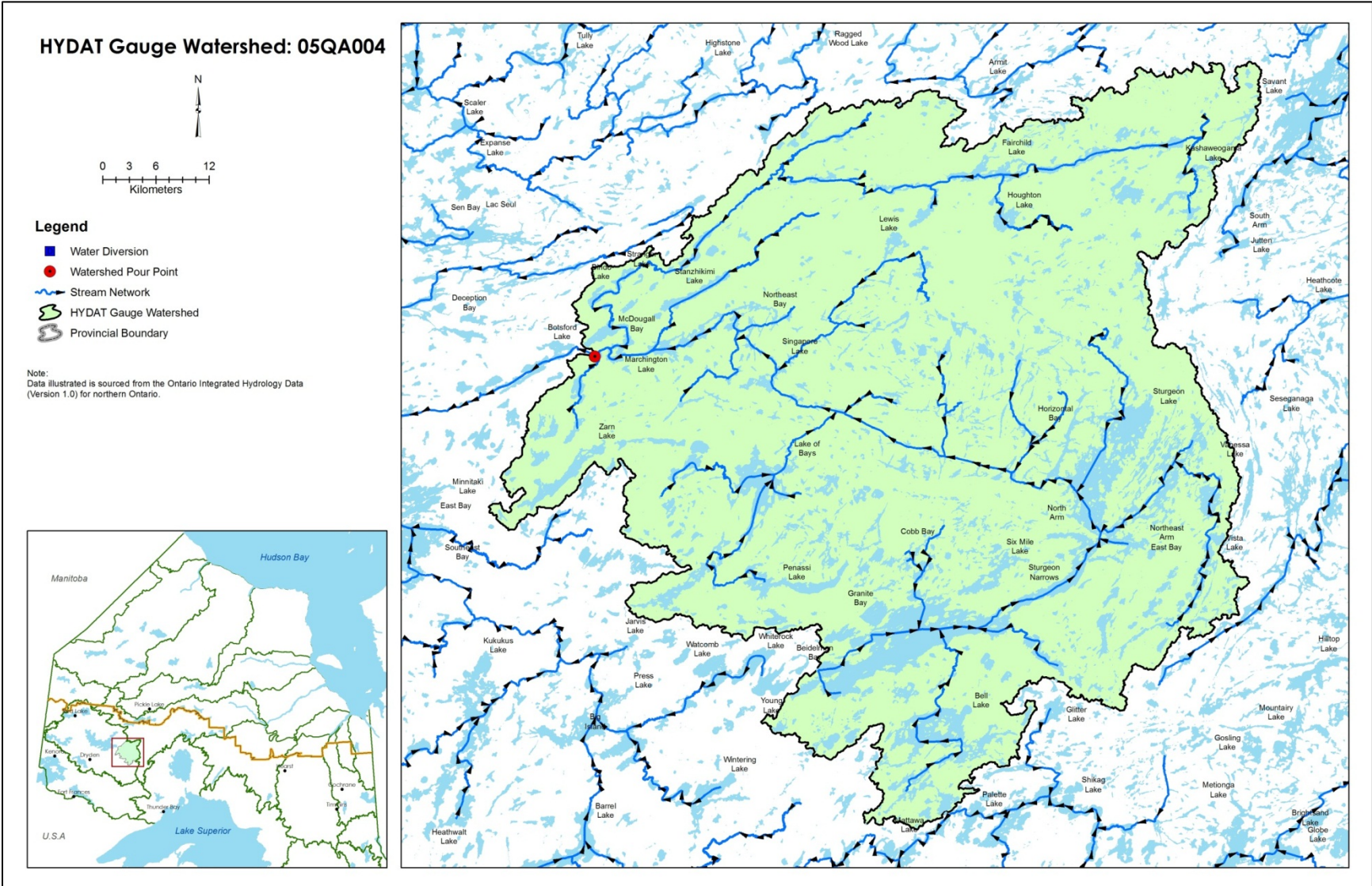
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	276.00	370.00	426.00	477.00	539.00	583.00	626.00	682.00
7 Day Low Flow	2.453	1.590	1.170	0.853	0.540	0.359	Not Applicable	Not Applicable

04DC002: Flood and Low Flow Estimates

04DC002 Summary of flood and low flow events by month



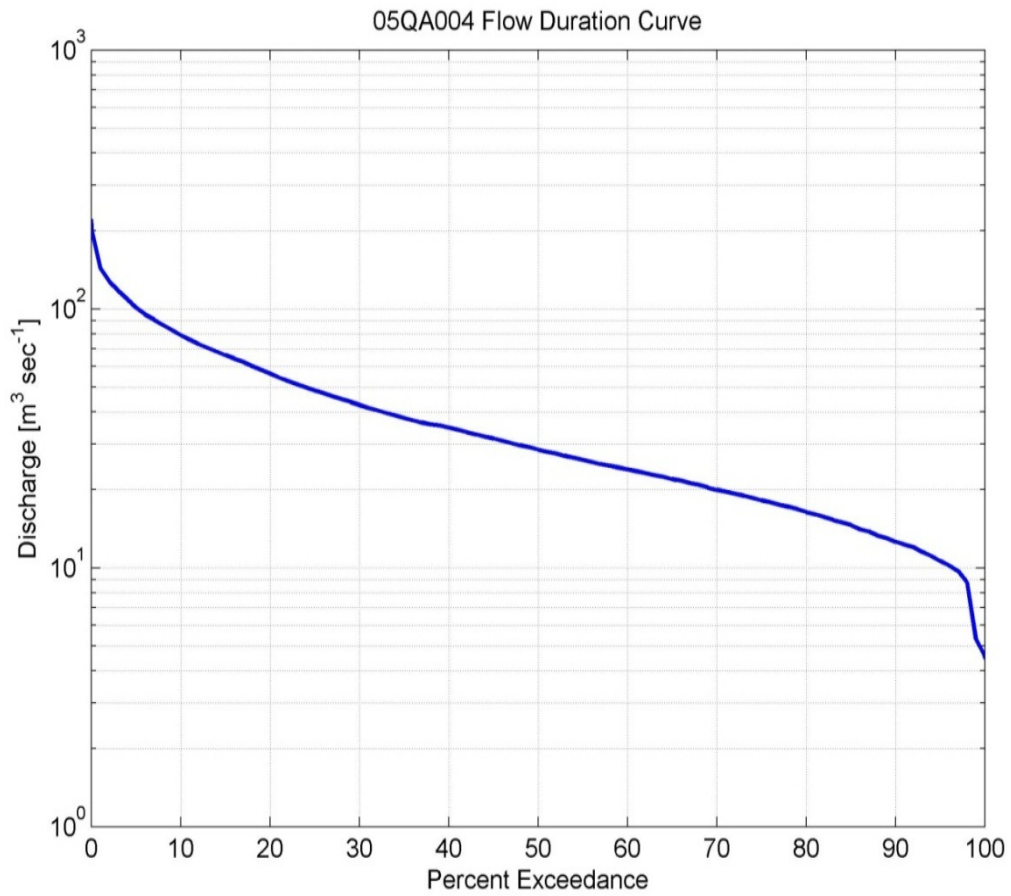
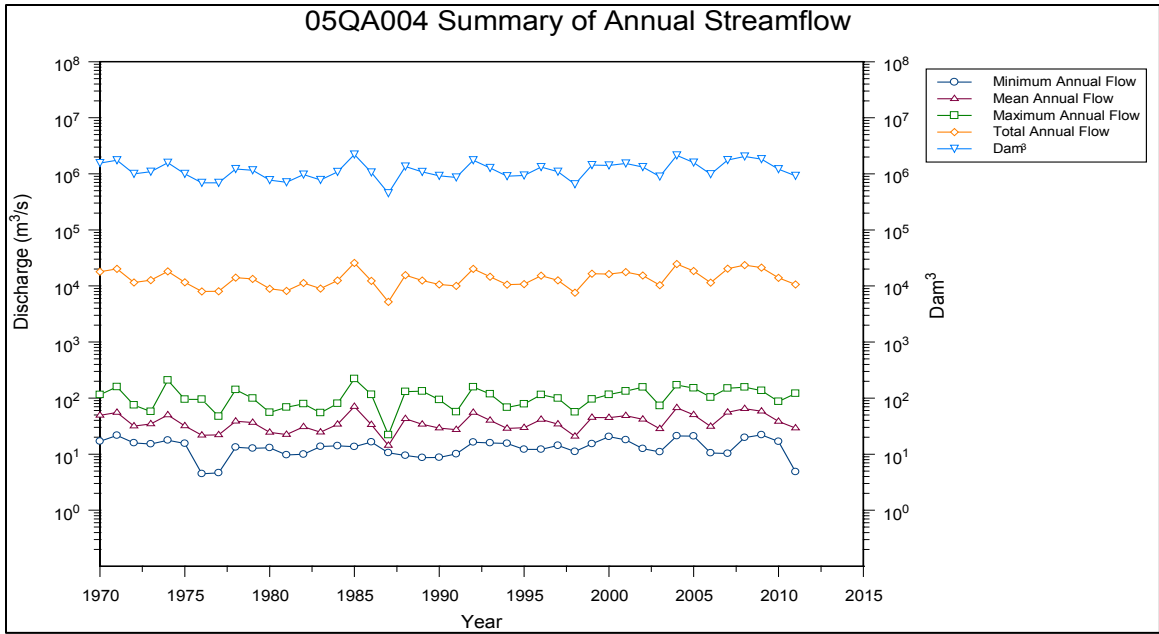
41. STURGEON RIVER AT MCDOUGALL MILLS: 05QA004



STURGEON RIVER AT MCDOUGALL MILLS: 05QA004

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 38.44 cms
- Standard Deviation: 29.61 cms
- Minimum Streamflow: 4.47cms
- Lower Quartile Q_1 : 18.2cms
- Median Streamflow: 28.6cms
- Upper Quartile Q_3 : 48.4cms
- Maximum Streamflow: 222 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	52.90	36.60	28.70	149.00	222.00	198.00	157.00	124.00	153.00	150.00	159.00	92.30	219.97
0.1	52.82	36.53	28.62	144.44	220.40	192.68	157.00	124.00	152.24	150.00	158.24	90.70	197.17
1	48.15	34.72	27.85	104.00	201.92	174.60	146.00	116.48	144.00	131.44	142.70	76.58	144.00
5	41.48	31.70	25.40	61.20	145.40	137.50	114.00	80.10	110.50	100.40	89.45	60.80	101.00
10	37.73	29.30	23.73	44.40	119.30	119.00	87.96	61.23	75.05	84.33	77.45	52.46	79.10
15	34.50	27.30	22.80	34.55	108.00	106.00	78.36	55.04	55.95	71.80	67.50	47.90	66.20
20	31.82	25.60	22.10	28.80	98.50	93.55	70.71	49.30	47.10	64.10	59.90	43.20	56.20
25	29.90	24.70	21.20	26.20	94.10	86.25	65.30	45.90	42.80	52.90	54.10	39.50	48.40
30	28.30	23.70	20.30	24.50	87.50	78.75	60.48	40.80	39.55	43.00	49.95	36.90	42.50
35	27.20	22.80	19.70	22.70	82.08	74.15	55.40	38.40	36.10	38.36	44.70	34.90	37.90
40	26.40	22.10	19.10	21.20	74.80	69.55	52.00	36.37	34.50	34.27	39.90	32.50	34.80
45	25.60	21.40	18.60	20.20	70.50	64.40	49.06	35.20	31.80	31.90	37.70	30.80	31.60
50	24.80	20.85	18.10	19.30	67.45	60.20	45.45	33.35	28.95	29.70	33.80	29.30	28.60
55	23.84	19.80	17.00	18.30	62.30	56.50	43.18	31.54	25.75	28.00	29.20	27.84	26.10
60	22.10	18.29	16.00	17.75	54.59	52.75	41.10	30.30	23.40	24.80	26.10	23.16	24.00
65	18.60	16.70	15.10	16.75	47.60	48.75	38.92	28.60	19.95	23.12	22.90	21.12	22.00
70	17.30	15.30	14.01	16.00	42.51	45.35	36.50	26.50	18.40	18.80	21.05	19.10	20.00
75	16.20	14.50	13.60	15.30	35.00	42.20	35.60	24.30	17.50	16.00	18.55	17.50	18.20
80	15.29	13.50	12.70	14.40	32.59	37.30	32.80	22.39	16.50	14.80	14.40	16.50	16.40
85	13.00	12.30	11.30	13.60	27.80	34.80	29.08	20.10	15.20	12.70	12.15	12.40	14.60
90	12.30	11.41	10.50	12.20	23.97	27.45	25.90	17.50	13.20	11.10	11.00	11.80	12.60
91	11.50	10.60	10.37	12.00	23.40	26.40	24.87	16.04	13.00	11.00	10.10	10.60	12.30
92	11.00	10.30	10.30	11.73	22.27	24.86	23.60	14.67	12.83	10.77	9.87	10.30	11.99
93	10.70	9.86	10.10	11.50	21.46	23.60	20.52	13.90	12.50	10.50	9.46	9.01	11.50
94	10.30	9.75	9.90	11.30	20.86	23.01	17.49	13.60	12.20	10.16	9.18	8.84	11.10
95	10.10	9.70	9.71	11.00	19.76	22.30	15.86	13.40	11.90	9.94	8.99	8.72	10.60
96	9.68	9.58	9.54	10.70	19.16	21.79	15.00	12.86	11.29	7.07	5.73	5.19	10.20
97	9.22	9.49	8.93	10.60	18.26	21.33	14.30	12.36	10.23	6.80	5.40	4.98	9.70
98	4.95	5.18	7.76	10.27	17.65	19.87	13.65	12.10	9.30	6.67	5.20	4.90	8.82
99	4.81	5.01	5.92	9.94	15.46	18.81	13.00	11.75	8.45	6.48	4.93	4.86	5.30
99.9	4.62	4.84	5.30	8.96	13.90	15.63	12.28	11.18	7.35	5.79	4.53	4.47	4.62
99.99	4.62	4.84	5.30	8.89	13.90	15.40	12.20	11.10	7.31	5.75	4.53	4.47	4.47

05QA004: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.770
10:90 Ratio	6.278
Sqrt(Q ₂₅ /Q ₇₅)	1.631

05QA004: Parameters from Flow Duration Curves

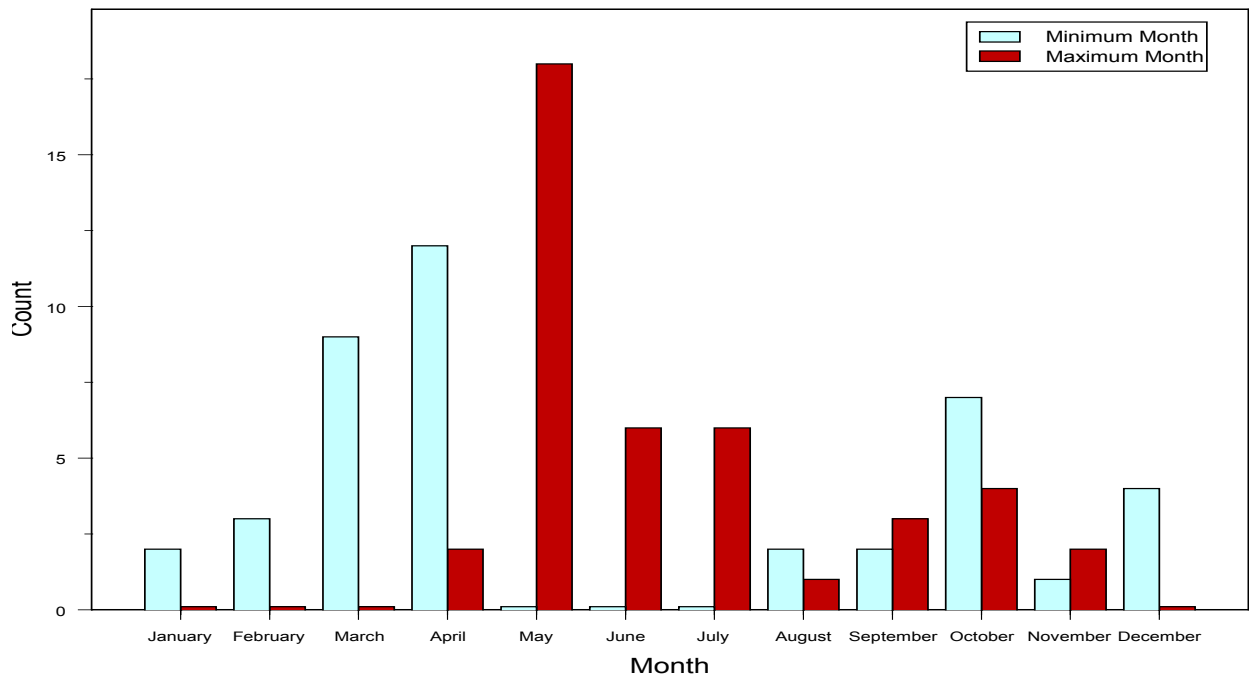
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	68	52	171.952 (2.317)	19.710 (1.113)	-0.140 (0.019)	0.026
Low Flow	-16	68	-5.028 (0.106)	0.874 (0.044)	-0.445 (0.016)	0.012

05QA004: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	103.00	147.00	178.00	208.00	250.00	282.00	316.00	362.00
7 Day Low Flow	13.430	10.680	9.773	9.257	8.884	8.730	Not Applicable	Not Applicable

05QA004: Flood and Low Flow Estimates

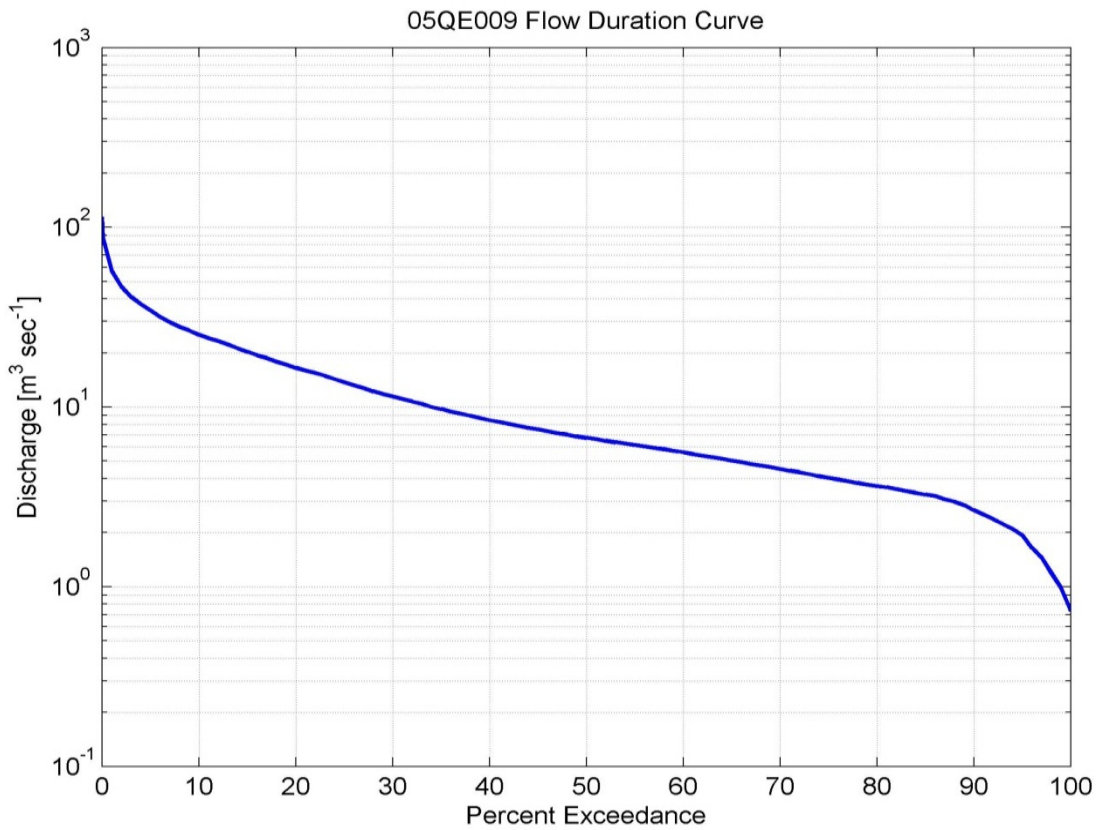
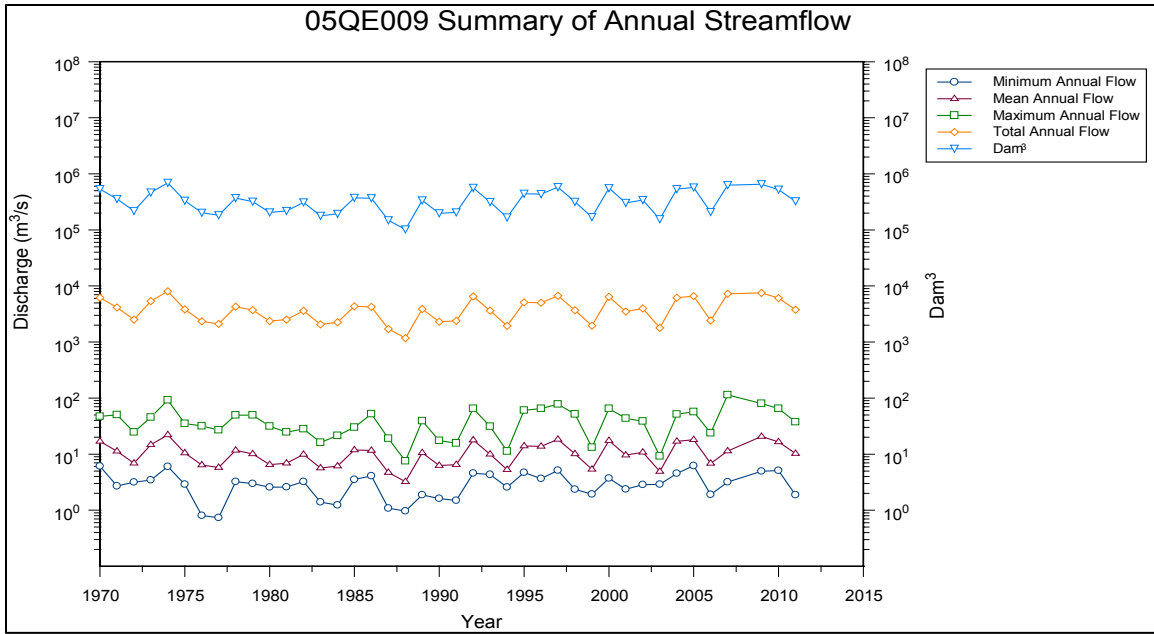
05QA004 Summary of flood and low flow events by month



STURGEON RIVER AT OUTLET OF SALVESEN LAKE: 05QE009

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 41 Years (1970 - 2011)
- Sample Size n: 14974
- Mean Annual Flow: 11.04 cms
- Standard Deviation: 11.52 cms
- Minimum Streamflow: 0.73 cms
- Lower Quartile Q_1 : 4.03 cms
- Median Streamflow: 6.73 cms
- Upper Quartile Q_3 : 13.7 cms
- Maximum Streamflow: 114 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	12.400	9.140	13.500	73.400	92.300	114.000	60.500	80.200	65.300	45.300	32.300	19.900	114.000
0.1	12.323	9.088	13.423	69.896	90.758	114.000	59.035	80.123	65.227	45.300	31.424	19.437	87.277
1	11.000	8.810	8.182	50.780	76.679	85.420	45.679	69.096	57.040	41.237	29.220	16.679	57.100
5	9.910	7.930	6.940	31.200	55.180	54.900	30.885	29.100	35.400	30.075	24.100	14.095	34.400
10	9.072	7.277	6.510	24.100	45.600	39.700	26.640	22.800	26.300	19.180	19.950	12.540	25.200
15	8.259	6.850	6.119	19.900	40.485	34.300	23.185	18.485	23.000	16.485	16.500	11.100	20.300
20	7.750	6.629	5.810	17.250	37.700	30.500	20.430	14.630	18.300	14.500	12.600	10.100	16.500
25	7.353	6.270	5.590	13.900	34.750	27.500	18.800	12.800	14.800	12.700	11.100	9.120	13.700
30	6.880	5.980	5.300	11.900	30.900	25.150	17.000	11.620	10.950	10.720	9.920	8.538	11.400
35	6.463	5.710	5.080	10.100	27.600	22.900	15.700	10.665	8.300	9.290	9.030	7.706	9.738
40	6.001	5.183	4.790	8.380	25.110	20.950	14.700	9.522	7.595	8.284	7.845	6.781	8.440
45	5.361	4.799	4.460	7.260	23.200	19.200	13.600	8.398	6.570	7.416	6.890	5.986	7.510
50	4.890	4.320	4.080	6.655	21.400	17.650	12.300	7.710	6.010	6.450	6.190	5.400	6.730
55	4.580	4.130	3.880	6.020	19.300	16.100	11.200	7.110	5.400	5.909	5.870	5.015	6.130
60	4.388	4.020	3.720	5.440	17.390	15.000	10.200	6.539	5.005	5.289	5.470	4.680	5.600
65	4.220	3.810	3.614	4.960	15.600	12.900	9.274	5.974	4.590	4.627	4.990	4.270	5.030
70	3.960	3.600	3.470	4.630	14.100	11.200	8.550	5.350	4.105	3.926	4.220	3.758	4.520
75	3.560	3.385	3.260	4.000	11.900	9.970	7.660	4.663	3.700	3.060	3.380	3.540	4.030
80	3.267	3.200	3.051	3.620	9.850	8.400	6.741	4.237	3.250	2.680	2.680	3.037	3.620
85	3.030	2.987	2.672	3.420	8.050	7.090	5.522	3.750	2.970	2.520	2.440	2.530	3.250
90	2.060	2.033	1.940	3.115	6.076	6.085	4.548	3.440	2.690	2.176	2.160	1.902	2.660
91	1.710	1.616	1.590	3.016	5.697	5.682	4.459	3.409	2.630	2.100	1.862	1.810	2.524
92	1.652	1.553	1.560	2.929	5.322	5.577	4.335	3.370	2.499	2.044	1.779	1.704	2.370
93	1.465	1.519	1.490	2.742	5.170	5.386	4.104	3.335	2.376	1.970	1.676	1.515	2.230
94	1.360	1.374	1.460	2.576	4.680	5.106	4.030	3.280	2.310	1.918	1.566	1.420	2.090
95	1.230	1.319	1.390	2.440	4.036	4.570	3.901	3.221	2.270	1.771	1.400	1.400	1.938
96	1.140	1.030	1.140	2.314	3.550	4.394	3.823	3.153	2.220	1.570	1.207	1.170	1.641
97	1.090	0.998	1.043	2.032	3.050	4.198	3.669	3.066	2.114	1.400	1.164	1.126	1.450
98	0.770	0.785	0.940	1.601	2.350	3.781	3.480	2.919	1.941	1.229	1.010	0.888	1.190
99	0.753	0.753	0.859	1.230	2.270	2.270	3.292	2.692	1.714	1.114	0.946	0.838	0.985
99.9	0.736	0.736	0.821	0.953	2.165	1.990	3.133	2.575	1.410	1.010	0.906	0.804	0.753
99.99	0.736	0.736	0.821	0.951	2.150	1.990	3.110	2.560	1.410	1.010	0.906	0.804	0.736

05QE009: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.707
10:90 Ratio	9.474
Sqrt(Q ₂₅ /Q ₇₅)	1.844

05QE009: Parameters from Flow Duration Curves

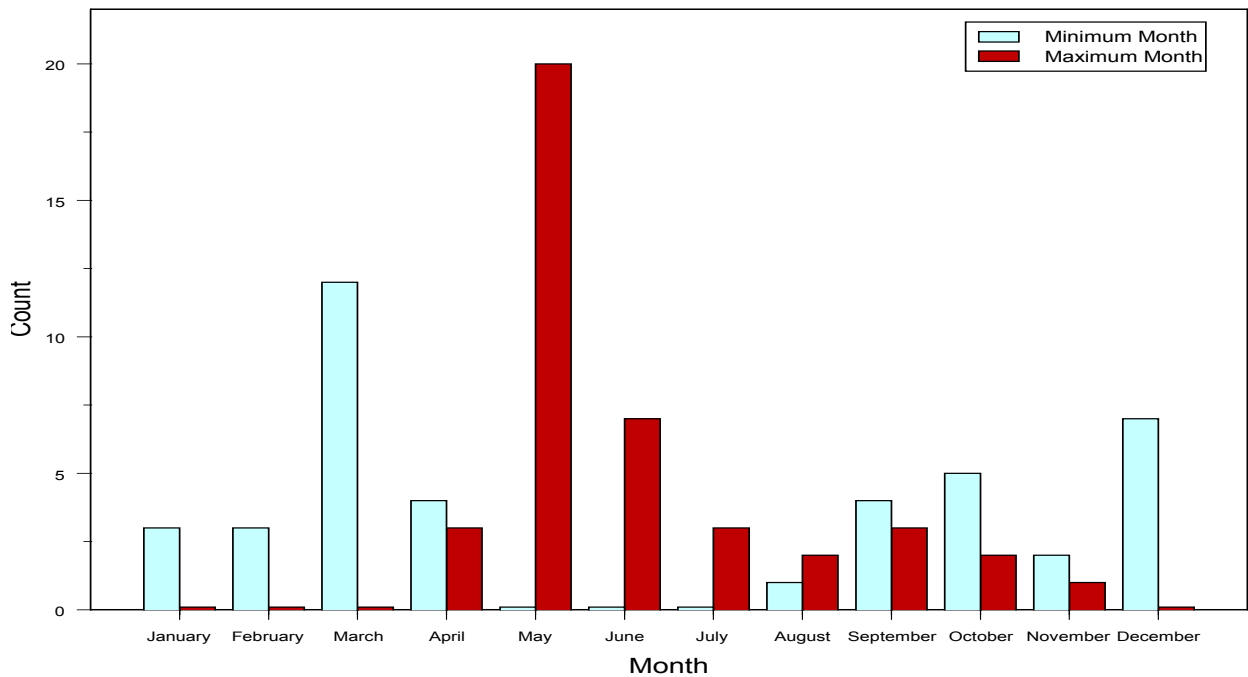
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	12	104	74.226 (1.681)	14.123 (0.841)	0.022 (0.015)	0.015
Low Flow	-5	127	-0.811 (0.016)	0.111 (0.005)	-0.672 (0.012)	0.007

05QE009: Flood/Low Flow Descriptive Indices above/below a Threshold Value

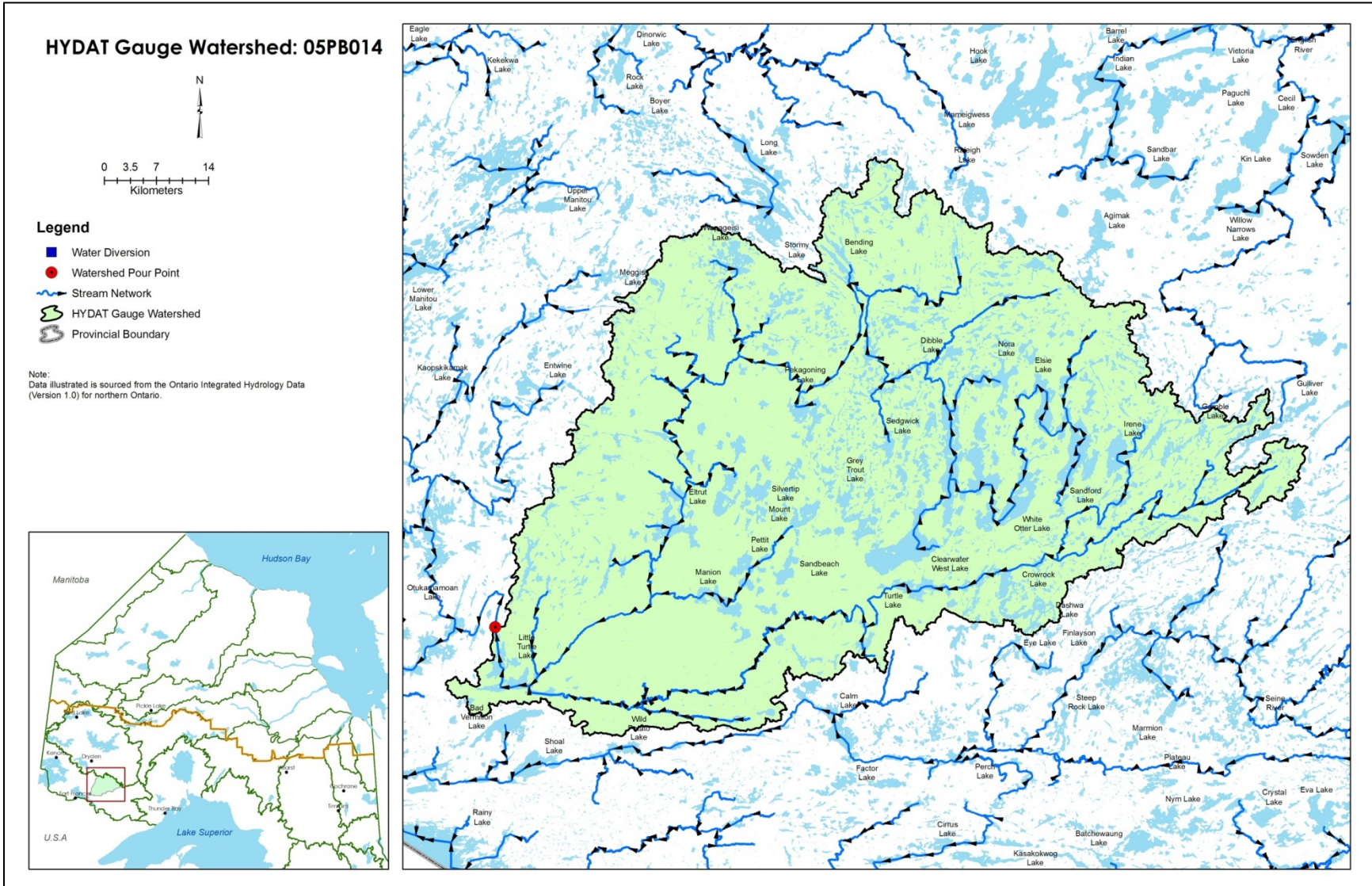
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	39.20	60.60	74.70	88.20	106.00	119.00	132.00	150.00
7 Day Low Flow	2.998	1.839	1.377	1.078	0.826	0.704	Not Applicable	Not Applicable

05QE009: Flood and Low Flow Estimates

05QE009 Summary of flood and low flow events by month



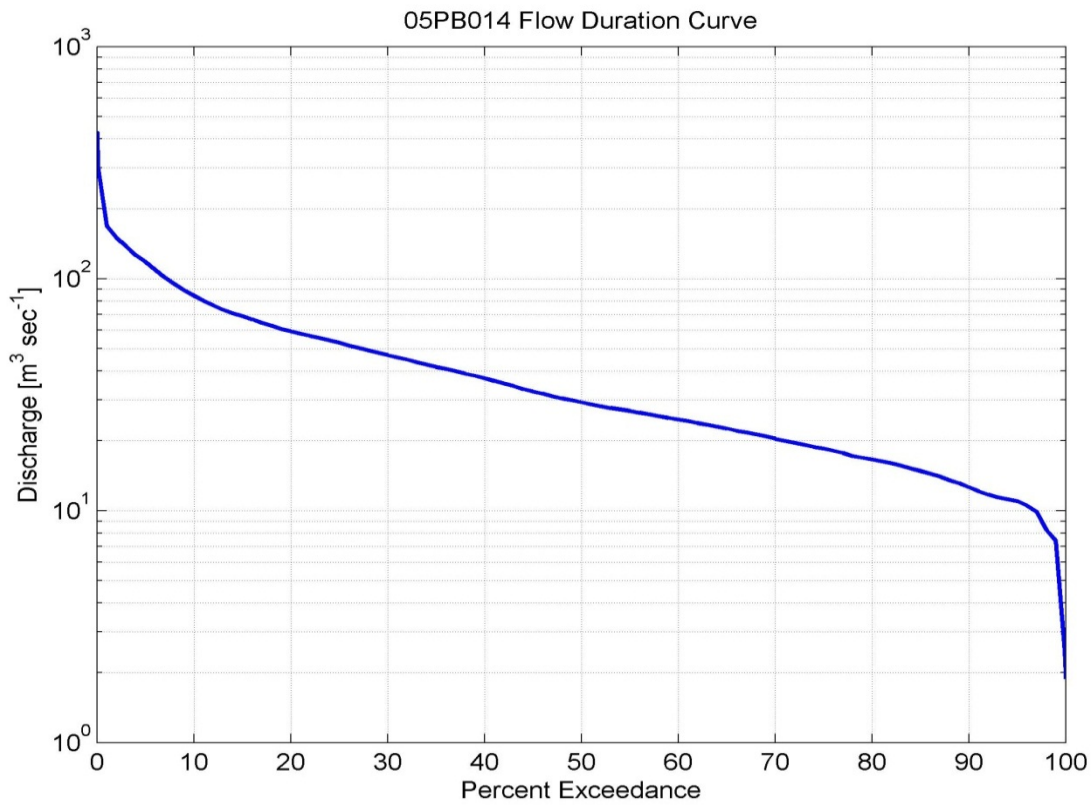
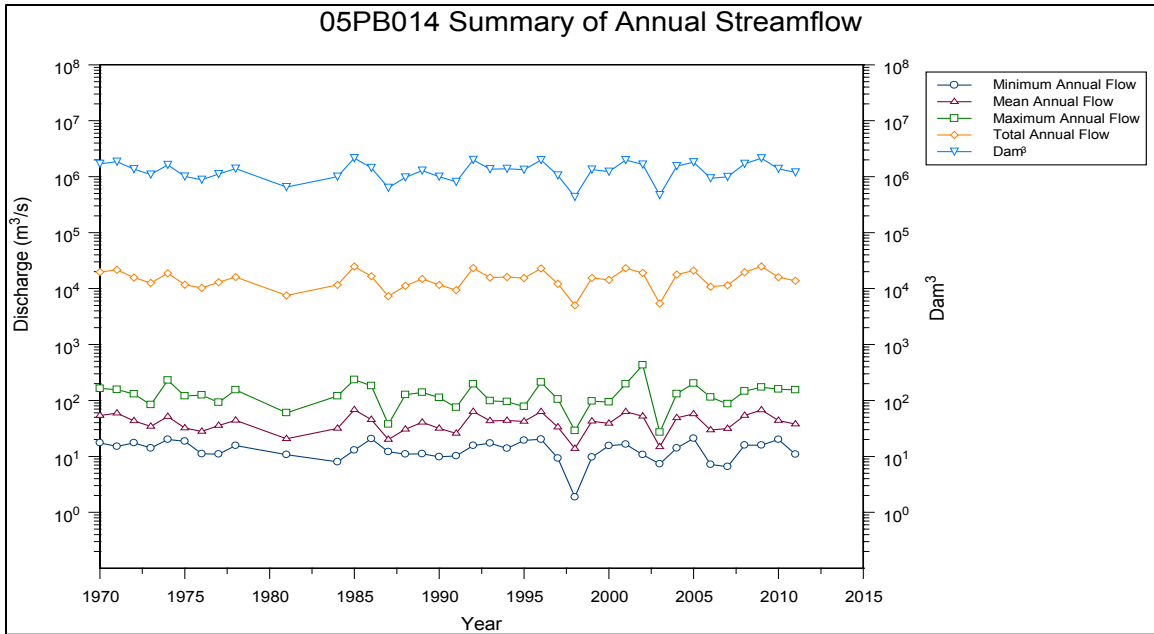
43. TURTLE RIVER NEAR MINE CENTRE: 05PB014



TURTLE RIVER NEAR MINE CENTRE: 05PB014

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 38 Years (1970 - 2011)
- Sample Size n: 13879
- Mean Annual Flow: 41.57 cms
- Standard Deviation: 35.58 cms
- Minimum Streamflow: 1.88 cms
- Lower Quartile Q_1 : 18.5 cms
- Median Streamflow: 29.2 cms
- Upper Quartile Q_3 : 52.85 cms
- Maximum Streamflow: 430 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	61.70	43.30	46.00	234.00	231.00	430.00	236.00	181.00	197.00	140.00	157.00	104.00	428.23
0.1	60.95	43.02	45.32	232.08	222.86	428.72	227.19	177.61	197.00	136.61	157.00	101.97	302.19
1	52.98	38.42	40.70	184.40	204.16	325.80	150.88	158.00	186.00	126.00	148.10	85.18	168.80
5	39.58	29.90	29.20	137.00	167.00	151.00	103.00	83.54	90.40	89.74	88.25	61.72	118.00
10	34.40	27.90	24.97	108.50	150.00	127.00	87.27	68.70	66.75	74.11	71.60	50.37	84.40
15	32.60	26.09	22.90	96.50	139.00	110.00	75.90	61.02	57.90	63.78	63.85	44.50	68.80
20	31.19	24.80	22.10	83.00	129.00	99.85	69.20	56.79	52.00	58.10	57.50	41.30	59.20
25	29.70	23.80	21.50	63.05	119.00	89.75	64.00	53.10	46.85	53.30	52.85	39.20	52.90
30	28.10	23.40	20.60	53.80	107.00	78.55	60.20	48.10	41.15	49.31	47.70	37.10	46.70
35	26.92	22.90	19.90	46.65	90.90	71.90	56.90	42.98	35.40	45.72	44.60	35.10	41.50
40	25.80	22.00	19.30	42.35	81.63	67.15	54.40	38.23	29.65	39.90	40.90	32.50	37.20
45	24.50	20.57	18.70	37.85	74.20	59.70	51.30	34.60	27.40	33.88	36.40	28.88	32.60
50	23.40	19.10	18.20	35.15	69.80	55.10	48.70	32.10	26.20	29.80	30.00	25.60	29.30
55	20.20	18.00	17.50	30.90	65.66	50.45	46.20	29.96	25.40	27.40	27.20	24.16	26.90
60	18.90	16.50	16.87	28.25	60.07	46.35	43.14	28.17	24.30	25.50	25.50	21.80	24.65
65	17.80	16.00	15.60	26.45	56.32	43.65	40.40	26.50	21.95	23.18	22.90	19.98	22.60
70	16.90	15.30	14.50	24.30	51.50	40.95	37.40	24.10	19.20	20.09	19.80	17.30	20.40
75	16.20	14.40	14.10	22.60	45.10	38.15	32.60	22.10	17.55	17.90	16.80	16.00	18.50
80	13.81	11.90	13.30	20.95	39.31	34.95	29.20	19.90	14.55	16.00	15.10	13.52	16.60
85	11.40	11.30	12.52	19.50	33.32	31.30	25.06	17.40	12.30	14.80	13.50	11.80	14.80
90	11.00	11.10	11.60	17.25	28.49	28.40	18.16	14.40	10.75	12.40	12.70	11.30	12.60
91	11.00	11.00	11.40	16.90	26.50	27.00	16.70	13.90	10.60	11.80	12.60	11.20	12.10
92	10.90	10.60	11.10	16.70	24.47	24.25	15.47	13.40	10.40	11.70	12.47	11.20	11.70
93	10.90	10.40	10.40	16.50	22.70	21.93	14.40	13.00	10.20	11.60	12.13	11.10	11.40
94	10.80	10.30	9.99	16.40	20.64	20.59	13.62	12.32	9.83	11.12	11.59	11.00	11.20
95	10.50	9.42	9.85	16.05	19.32	19.30	13.20	11.70	9.34	8.86	11.10	10.40	11.00
96	10.16	9.20	8.96	15.12	17.62	16.55	13.20	10.52	8.26	8.24	10.30	10.20	10.50
97	9.39	9.06	8.78	14.30	16.60	15.30	12.60	8.82	7.72	7.87	10.10	10.00	9.88
98	7.82	7.11	6.97	13.13	16.01	14.90	12.01	5.33	2.76	7.55	7.83	7.70	8.26
99	7.63	6.77	6.82	11.80	15.60	14.40	9.60	3.47	2.42	4.25	7.64	7.58	7.39
99.9	7.49	6.54	6.76	11.36	14.80	12.03	7.08	3.26	1.97	2.84	7.45	7.33	2.49
99.99	7.46	6.53	6.75	11.10	14.80	11.90	6.96	3.26	1.88	2.77	7.42	7.30	2.00

05PB014: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.732
10:90 Ratio	6.698
Sqrt(Q ₂₅ /Q ₇₅)	1.691

05PB014: Parameters from Flow Duration Curves

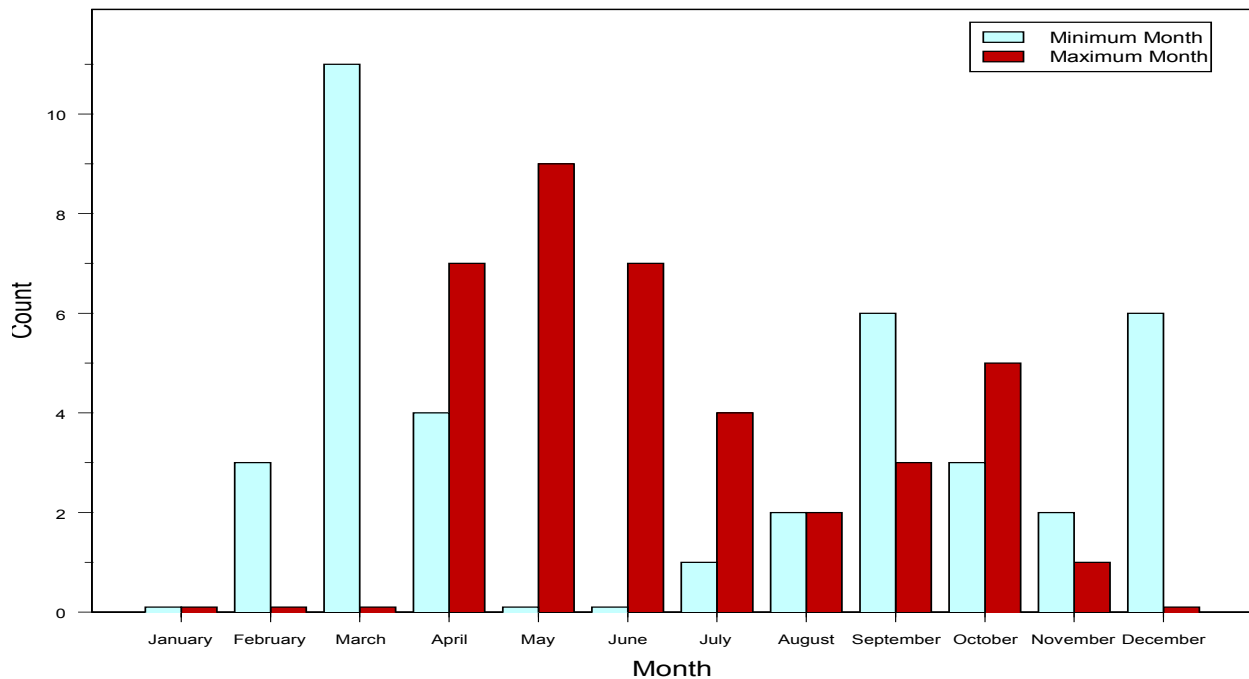
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	60	71	232.527 (5.374)	43.206 (2.895)	0.030 (0.019)	0.025
Low Flow	-15	56	-4.248 (0.160)	1.380 (0.064)	-0.300 (0.016)	0.010

05PB014: Flood/Low Flow Descriptive Indices above/below a Threshold Value

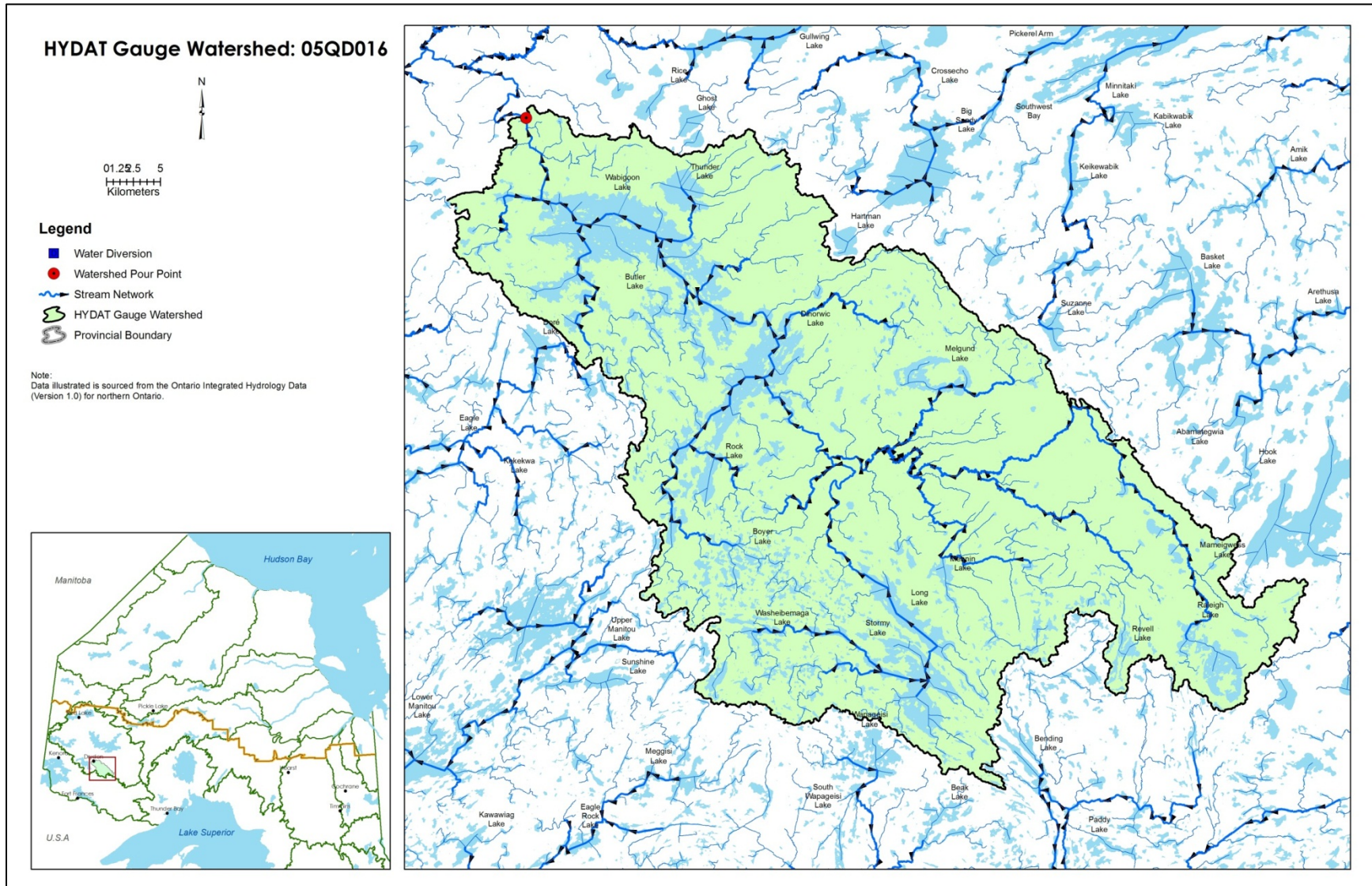
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	120.00	178.00	216.00	253.00	301.00	337.00	373.00	421.00
7 Day Low Flow	12.880	8.849	6.885	5.398	3.920	3.069	Not Applicable	Not Applicable

05PB014: Flood and Low Flow Estimates

05PB014 Summary of flood and low flow events by month



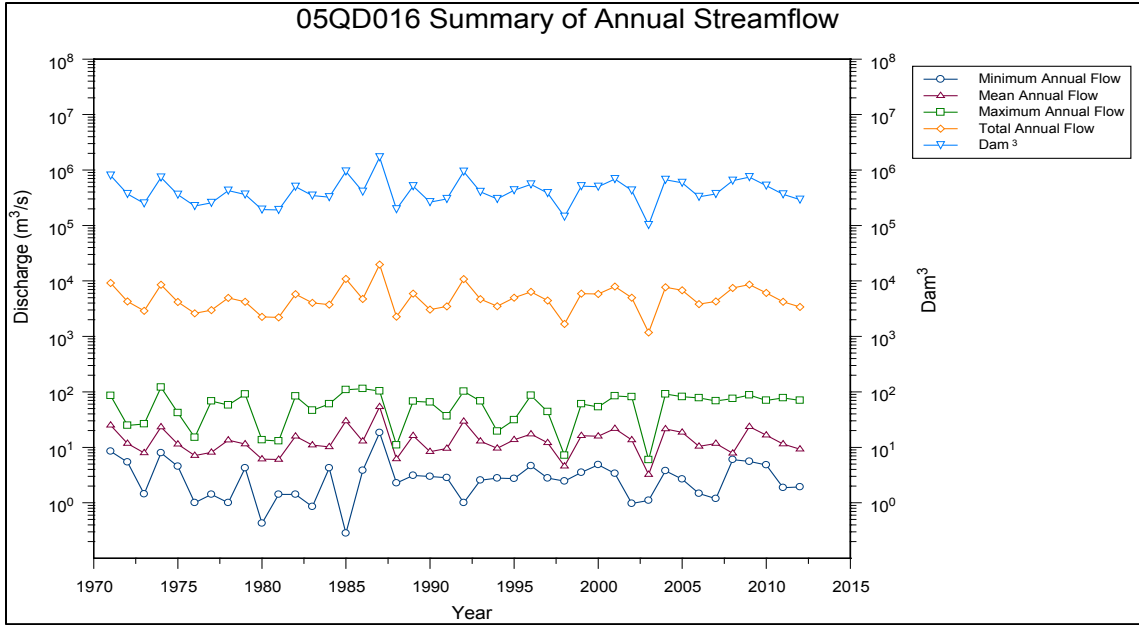
44. WABIGOON RIVER AT DRYDEN: 05QD016



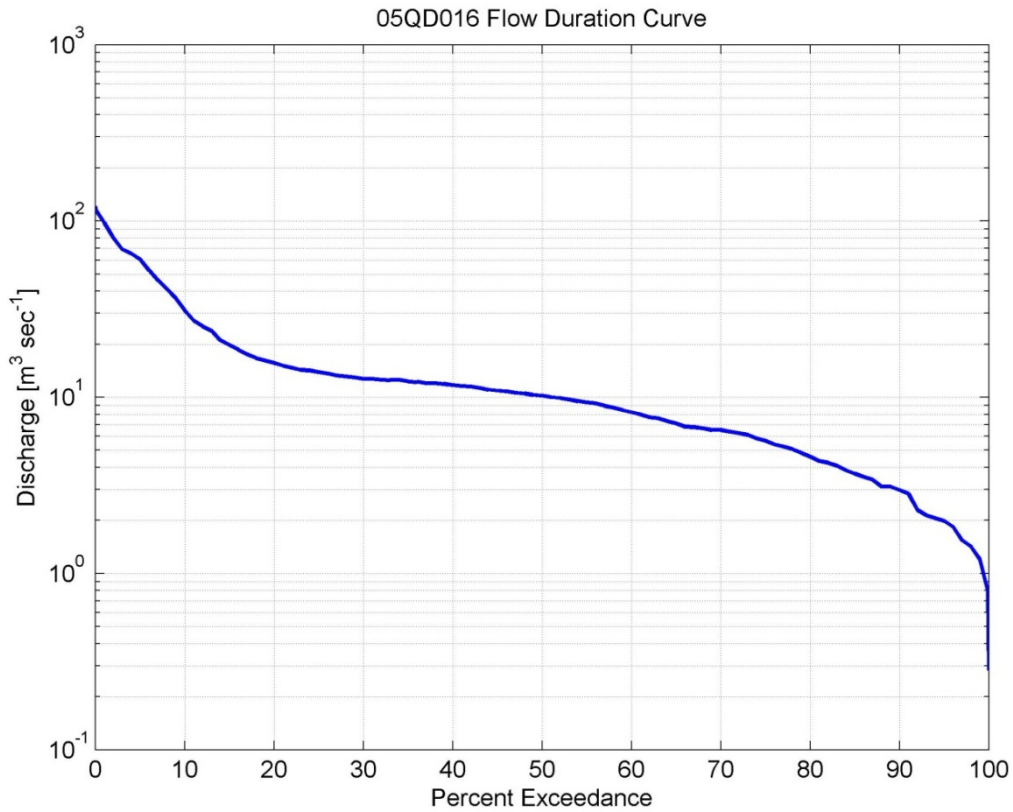
WABIGOON RIVER AT DRYDEN: 05QD016

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1971 - 2012)
- Sample Size n: 15341
- Mean Annual Flow: 14.76 cms
- Standard Deviation: 17.90 cms
- Minimum Streamflow: 0.28 cms
- Lower Quartile Q_1 : 5.66 cms
- Median Streamflow: 10.2 cms
- Upper Quartile Q_3 : 13.9 cms
- Maximum Streamflow: 121 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: NA
 - No of Ice Days (Min–Median –Max): NA



Note 1976, 1978 and 1992 the min value was 0. To make the graph the value is changed to 1.



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	97.500	101.000	101.000	101.000	121.000	112.000	99.800	74.700	102.000	70.400	85.500	39.600	121.000
0.1	97.500	101.000	101.000	101.000	121.000	112.000	99.479	74.700	102.000	70.240	85.500	39.600	114.000
1	97.500	101.000	101.000	81.930	114.000	103.900	82.700	65.388	102.000	65.100	85.500	24.400	97.500
5	15.600	14.700	19.680	62.350	90.800	75.750	65.100	36.740	44.250	45.500	25.600	17.000	60.600
10	13.830	13.600	14.300	29.900	74.100	66.600	50.980	23.550	21.800	20.700	19.800	14.500	31.100
15	12.700	12.500	13.000	25.500	63.920	59.200	33.400	17.700	16.700	17.100	15.600	13.900	19.800
20	12.500	12.000	12.500	18.700	48.410	47.250	24.400	14.300	12.700	13.600	14.300	13.000	15.600
25	12.100	11.100	12.000	15.150	42.200	37.050	18.400	13.900	12.200	12.500	13.850	12.600	13.900
30	11.700	10.700	10.900	12.800	35.780	27.800	15.690	12.700	11.500	11.600	12.700	12.000	12.700
35	11.300	10.300	10.300	12.350	26.900	24.400	14.700	12.600	10.800	10.800	11.600	11.600	12.300
40	10.800	9.440	9.910	11.900	21.300	17.300	13.500	12.200	9.925	9.907	11.200	10.900	11.700
45	9.910	8.760	9.100	11.100	17.100	15.600	13.000	11.900	9.490	8.246	10.100	10.300	10.900
50	9.230	8.220	8.445	10.050	14.250	14.400	12.600	11.300	8.500	6.590	8.340	9.340	10.200
55	8.630	7.201	7.650	8.620	12.200	13.300	12.240	10.800	7.500	6.128	6.800	8.410	9.340
60	6.800	6.650	7.113	7.680	10.800	12.500	12.000	10.200	7.080	5.240	6.370	7.650	8.210
65	6.510	6.510	6.900	6.650	9.298	11.200	11.600	9.632	6.510	4.810	5.950	6.800	7.080
70	6.370	6.250	6.370	6.230	6.650	10.200	10.800	8.920	6.090	3.814	4.250	6.510	6.510
75	5.660	5.055	5.120	5.270	5.810	8.960	9.910	7.890	5.380	3.540	3.820	5.920	5.660
80	4.985	4.250	4.250	4.250	5.172	7.360	9.508	6.510	4.250	3.260	3.400	4.220	4.590
85	3.110	3.880	3.110	3.680	4.500	5.180	8.160	5.536	3.540	2.970	2.970	3.110	3.680
90	2.219	2.270	2.270	3.060	3.380	3.960	5.010	4.530	2.970	2.460	2.030	1.970	2.970
91	2.100	2.130	2.270	2.788	3.094	3.950	4.670	4.504	2.920	2.270	1.980	1.880	2.830
92	2.040	2.100	2.197	2.270	2.322	3.792	4.360	4.342	2.860	2.200	1.980	1.880	2.290
93	2.036	2.070	2.130	1.908	1.856	3.680	4.260	4.080	2.804	2.160	1.871	1.420	2.140
94	1.980	2.060	2.100	1.700	1.700	3.540	4.080	3.820	2.750	2.130	1.770	1.420	2.060
95	1.420	2.040	2.040	1.560	1.700	3.110	3.960	3.600	2.695	2.080	1.665	1.420	1.980
96	1.420	1.420	1.420	1.420	1.700	2.129	3.540	3.110	2.350	1.980	1.420	1.420	1.837
97	1.420	1.420	1.420	1.420	1.491	1.850	3.400	2.830	2.181	1.980	1.420	1.420	1.540
98	1.230	1.200	1.180	1.358	1.420	1.700	2.120	1.980	1.980	1.857	1.192	1.180	1.420
99	1.180	1.180	1.160	1.191	1.420	1.700	1.700	1.980	1.980	1.630	1.090	1.010	1.200
99.9	1.126	0.283	1.126	1.155	1.364	1.328	0.425	1.952	1.507	0.682	1.090	0.970	0.783
99.99	1.110	0.283	1.110	1.140	1.340	1.290	0.425	1.840	0.453	0.000	1.090	0.970	0.283

05QD016: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.641
10:90 Ratio	10.471
Sqrt(Q ₂₅ /Q ₇₅)	1.567

05QD016: Parameters from Flow Duration Curves

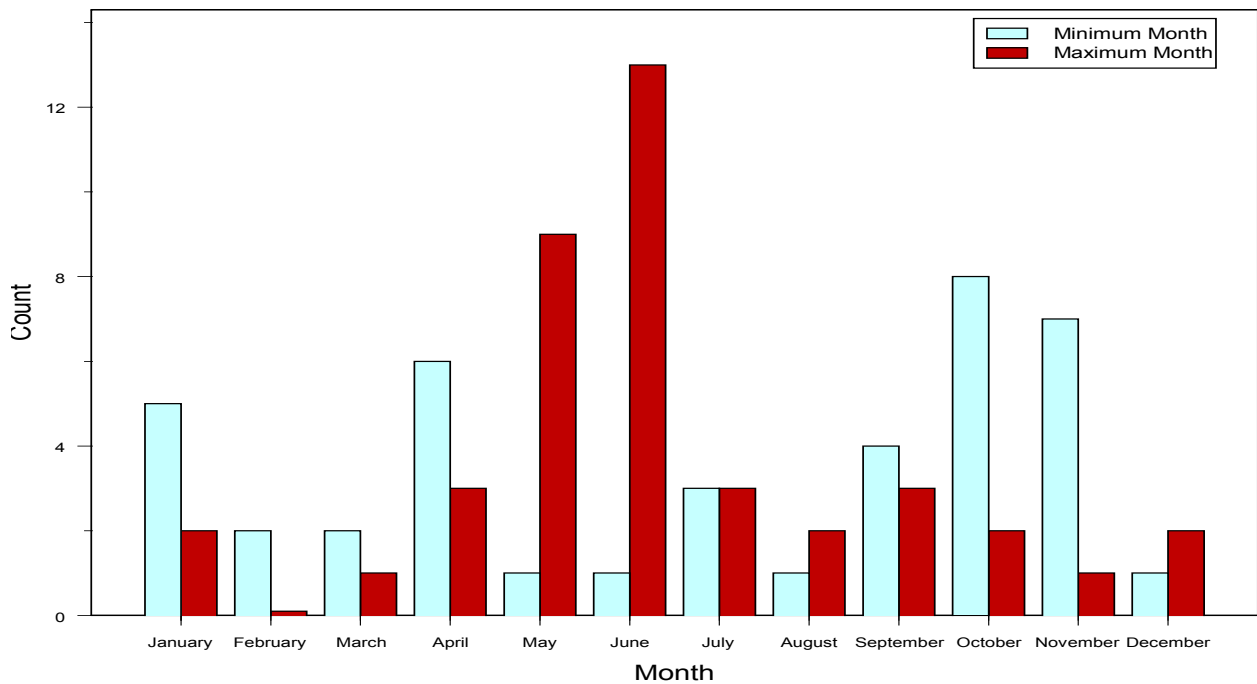
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	12	135	223.636 (0.000)	134.436 (0.000)	0.602 (0.000)	0.013
Low Flow	-4.4	70	-0.564 (0.017)	0.186 (0.007)	-0.620 (0.013)	0.011

05QD016: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	67.50	92.30	103.00	112.00	120.00	125.00	130.00	135.00
7 Day Low Flow	3.288	1.564	1.035	0.754	0.563	0.490	Not Applicable	Not Applicable

05QD016: Flood and Low Flow Estimates

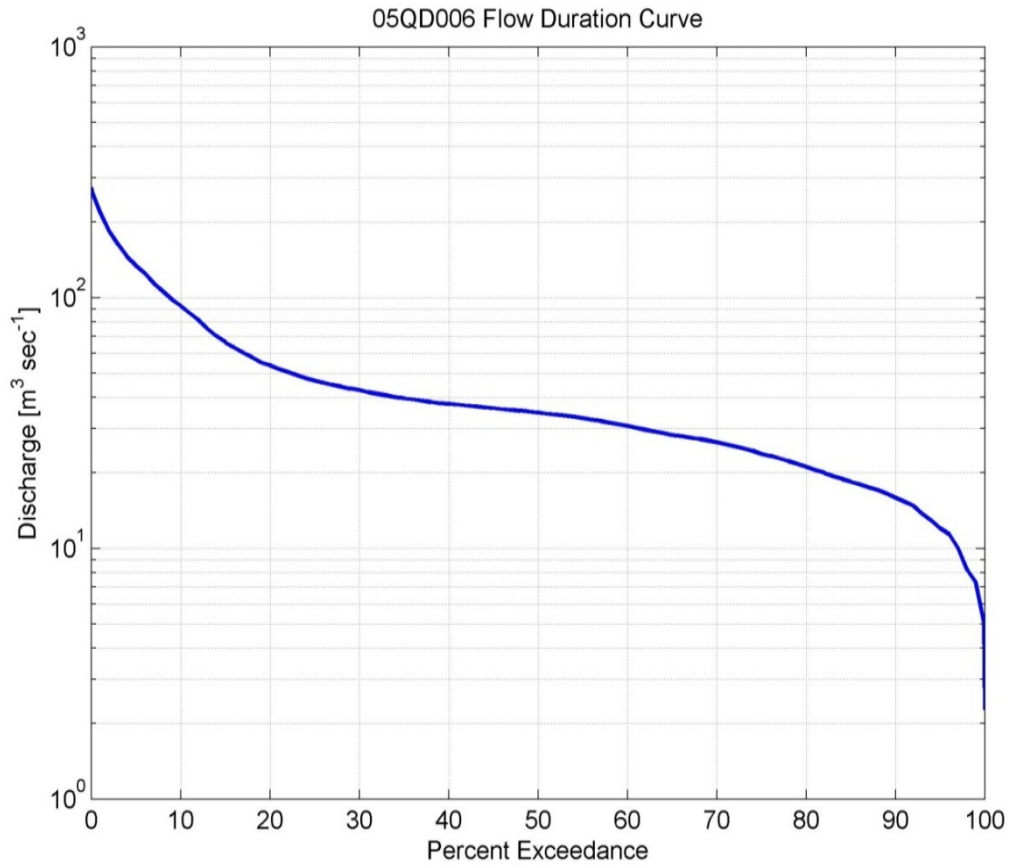
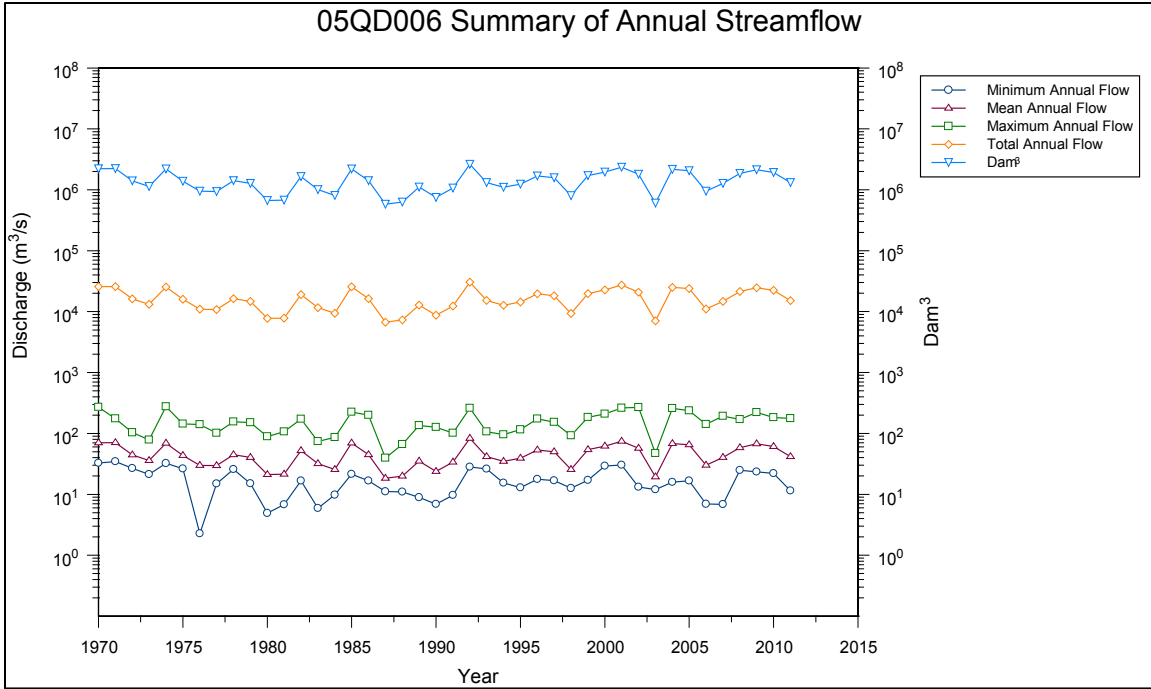
05QD016 Summary of flood and low flow events by months



WABIGOON RIVER NEAR QUIBELL: 05QD006

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 42 Years (1970 - 2011)
- Sample Size n: 15340
- Mean Annual Flow: 45.33 cms
- Standard Deviation: 39.62 cms
- Minimum Streamflow: 2.27 cms
- Lower Quartile Q_1 : 23.8 cms
- Median Streamflow: 34.7 cms
- Upper Quartile Q_3 : 46.6 cms
- Maximum Streamflow: 275 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 10 Dec – 16 April
 - No of Ice Days (Min–Median –Max): 83 – 106 -107



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	72.50	54.10	76.80	236.00	270.00	275.00	242.00	164.00	260.00	198.00	152.00	100.00	272.90
0.1	72.02	54.10	76.08	235.24	270.00	273.48	236.39	163.20	256.96	191.58	150.48	97.43	262.17
1	54.24	51.90	54.83	216.70	255.48	259.70	182.00	141.00	231.90	131.00	136.90	75.59	217.00
5	45.60	43.60	42.28	144.00	219.40	207.00	156.00	90.90	93.35	98.44	95.00	52.48	134.00
10	40.70	37.79	39.60	125.50	189.00	170.00	130.00	64.69	58.95	69.90	64.55	44.80	92.55
15	38.04	36.80	37.70	103.50	166.20	139.00	102.20	51.82	48.50	55.22	54.05	42.70	66.30
20	37.20	35.90	36.50	86.40	138.10	118.00	83.32	43.90	44.95	48.40	48.45	40.61	53.60
25	36.80	35.40	35.60	68.80	121.00	105.00	61.80	39.60	42.05	45.20	45.30	39.50	46.60
30	36.20	34.80	34.30	59.60	102.00	90.15	52.18	37.90	39.40	42.19	43.00	38.10	42.80
35	35.50	33.90	33.40	53.35	90.16	78.00	47.90	37.10	37.10	39.40	40.25	37.28	39.60
40	34.80	33.20	32.67	47.40	81.00	69.10	44.70	35.77	34.60	36.97	38.80	35.60	37.70
45	32.60	32.00	31.80	42.50	69.12	63.10	42.56	34.30	32.60	34.80	37.00	32.80	36.20
50	29.20	28.70	31.20	39.40	61.75	53.95	40.20	33.35	30.00	32.30	34.50	29.70	34.75
55	27.70	27.90	30.00	37.40	57.04	49.55	38.80	32.10	28.15	29.74	30.90	28.60	33.00
60	27.30	27.20	28.30	35.30	52.70	44.40	37.10	30.80	26.50	26.70	28.00	27.70	30.80
65	26.20	26.21	26.20	33.80	48.30	40.80	35.62	29.50	23.65	23.92	24.30	25.94	28.30
70	24.40	24.00	24.80	32.00	42.20	37.45	34.50	27.31	21.30	21.30	20.80	23.80	26.50
75	22.30	22.20	22.80	30.50	35.60	34.10	32.60	24.90	19.00	18.20	19.30	19.80	23.80
80	19.59	20.67	20.90	27.20	27.89	30.90	27.39	21.39	16.20	16.50	18.15	17.90	21.10
85	17.28	18.00	19.00	25.50	23.30	25.65	23.38	19.46	14.15	14.48	17.10	16.50	18.40
90	14.80	15.20	16.17	23.05	20.10	21.55	20.00	17.60	12.50	11.87	15.15	13.50	15.90
91	14.07	14.70	15.87	22.30	18.87	20.20	19.30	16.90	12.19	11.40	14.10	13.20	15.32
92	12.50	13.46	15.50	21.33	18.00	18.70	19.00	16.57	11.90	11.20	13.60	12.47	14.79
93	11.80	12.20	15.10	20.54	17.46	18.00	18.50	16.10	11.40	10.40	13.34	11.90	13.70
94	11.50	11.80	14.23	19.40	16.59	17.60	17.86	15.66	11.00	9.54	12.51	11.70	12.90
95	10.84	11.33	12.66	18.30	15.70	16.25	16.60	15.00	10.20	8.70	11.90	11.60	12.00
96	10.06	10.10	12.10	17.18	14.90	14.78	15.66	14.56	9.39	8.38	11.60	10.97	11.40
97	9.85	9.66	11.80	15.30	13.76	11.38	14.46	8.50	8.35	7.68	11.23	9.89	10.00
98	8.36	8.05	8.89	14.20	12.11	8.50	10.31	6.87	5.93	7.15	7.98	8.00	8.21
99	7.83	7.46	7.97	12.60	9.58	7.07	6.22	6.55	5.37	6.32	7.66	7.54	7.31
99.9	7.62	6.86	7.26	9.44	6.85	5.38	4.96	2.27	2.27	6.07	7.18	7.20	5.05
99.99	7.56	6.85	6.90	9.35	6.78	5.31	4.93	2.27	2.27	5.90	6.97	7.10	2.27

05QD006: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.725
10:90 Ratio	5.821
Sqrt(Q ₂₅ /Q ₇₅)	1.399

05QD006: Parameters from Flow Duration Curves

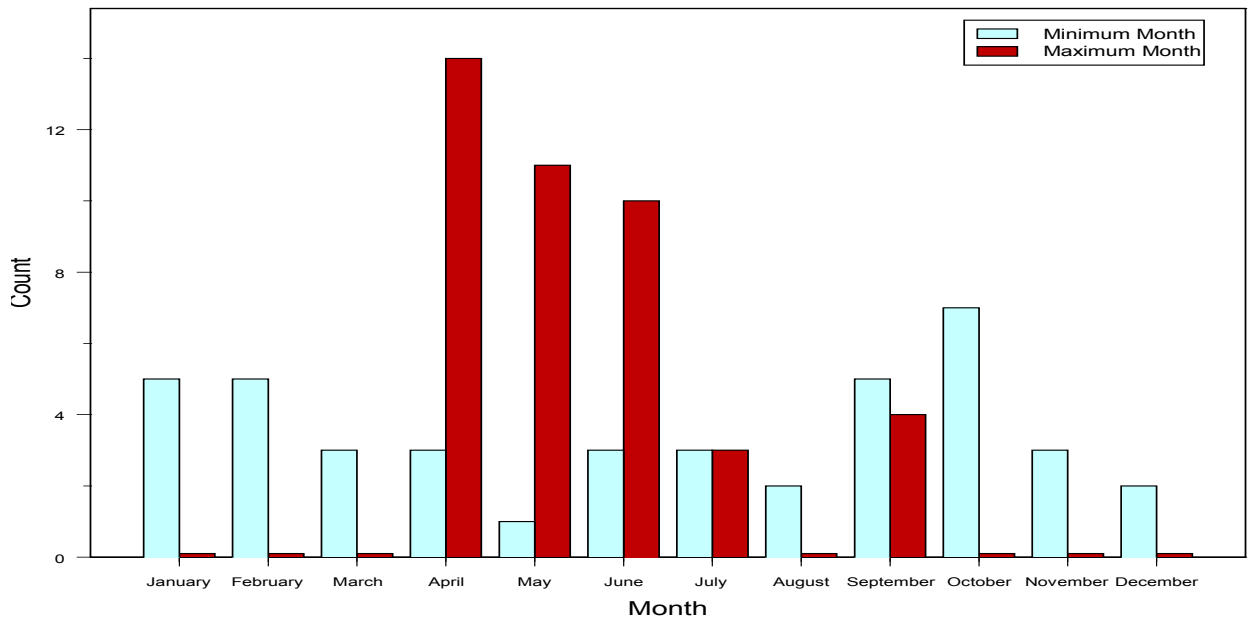
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	46	94	292.563 (9.786)	65.154 (5.816)	0.082 (0.024)	0.023
Low Flow	-17.5	47	-4.808 (0.125)	1.301 (0.039)	-0.427 (0.013)	0.014

05QD006: Flood/Low Flow Descriptive Indices above/below a Threshold Value

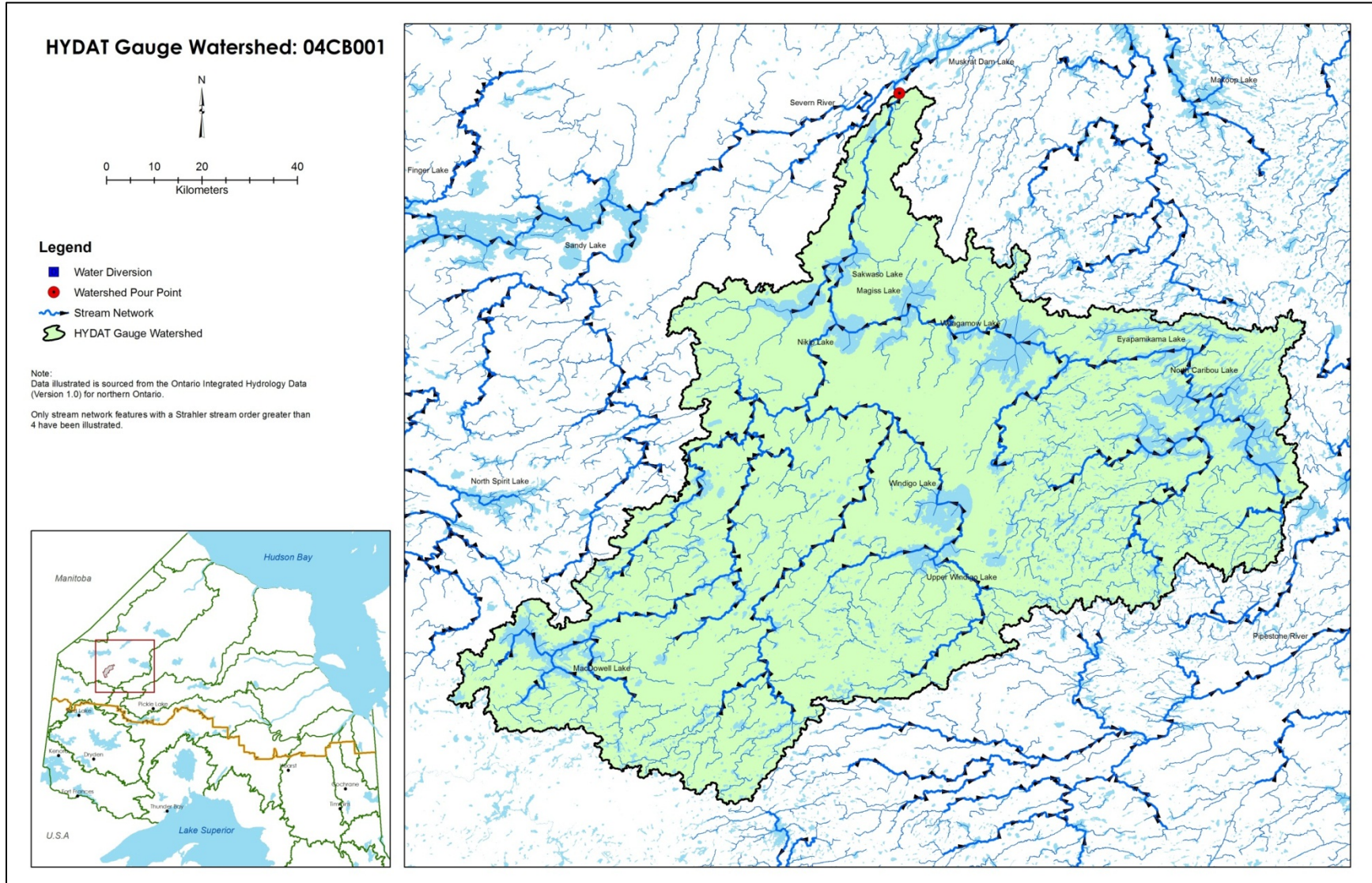
	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	151.00	206.00	240.00	270.00	306.00	333.00	358.00	391.00
7 Day Low Flow	17.700	10.860	7.936	5.934	4.151	3.235	Not Applicable	Not Applicable

05QD006: Flood and Low Flow Estimates

05QD006 Summary of flood and low flow events by month



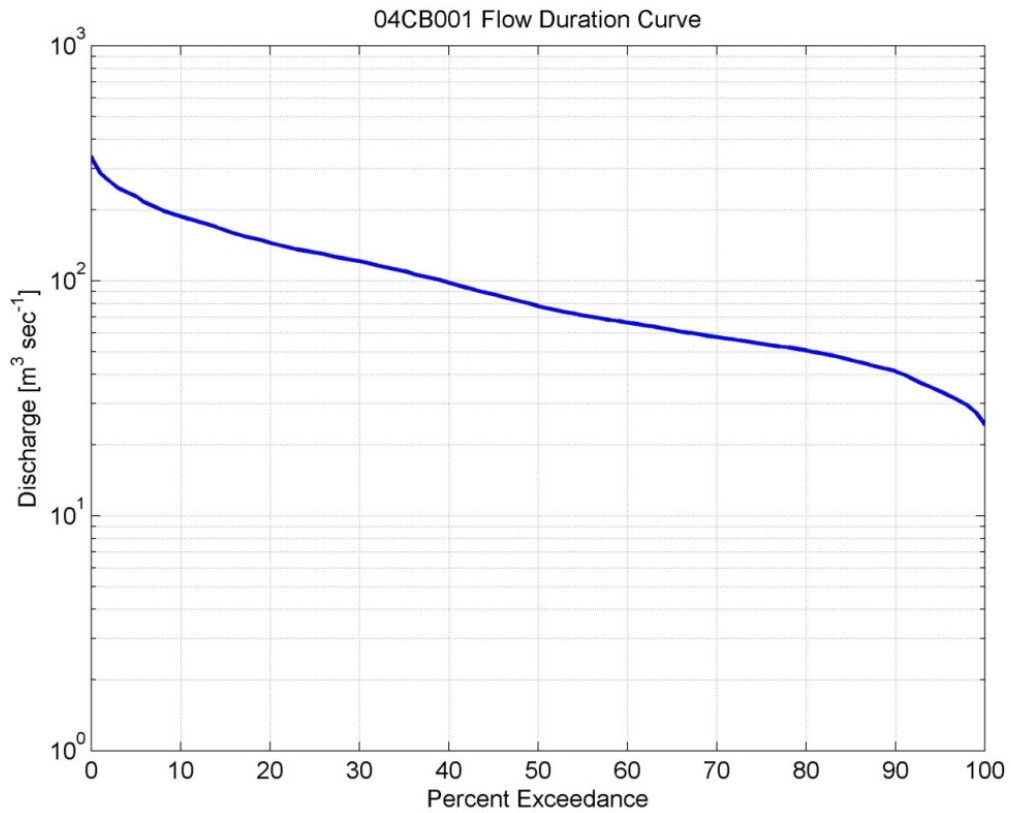
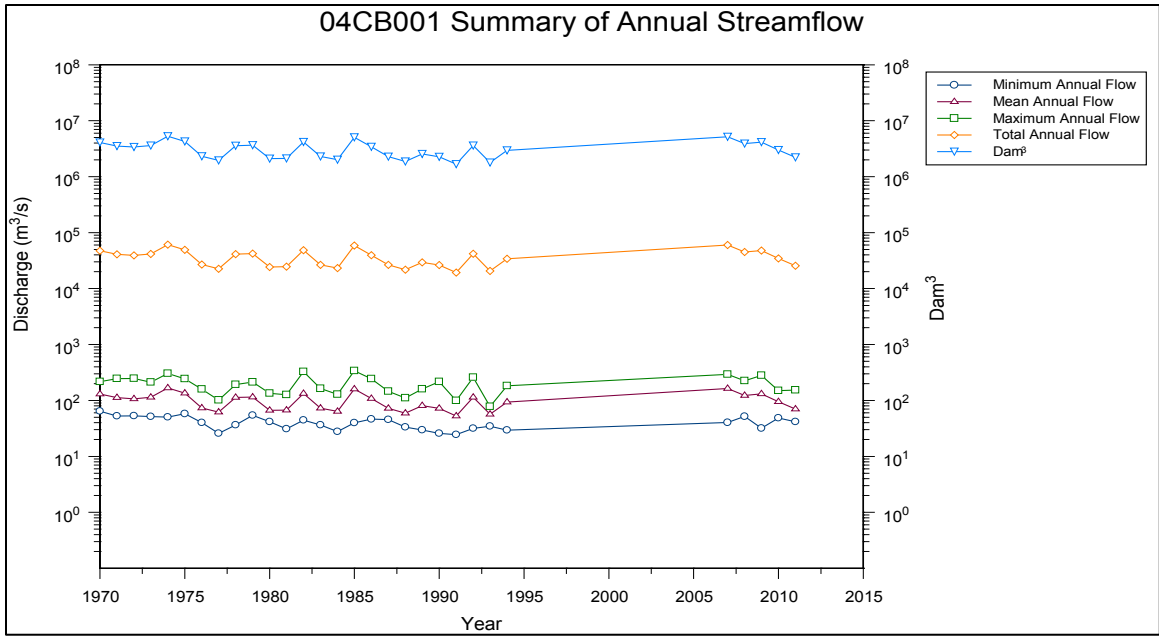
46. WINDIGO RIVER ABOVE MUSKRAT DAM LAKE: 04CB001



WINDIGO RIVER ABOVE MUSKRAT DAM LAKE: 04CB001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 30 Years (1970 - 2011)
- Sample Size n: 10957
- Mean Annual Flow: 99.45 cms
- Standard Deviation: 60.57 cms
- Minimum Streamflow: 24.4 cms
- Lower Quartile Q_1 : 53.9 cms
- Median Streamflow: 78 cms
- Upper Quartile Q_3 : 132 cms
- Maximum Streamflow: 339 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 02 Nov – 05 May
 - No of Ice Days (Min–Median –Max): 0 – 156 - 185



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	148.00	97.00	75.00	247.00	287.00	328.00	339.00	300.00	303.00	292.00	275.00	193.00	339.00
0.1	147.14	96.90	74.79	246.20	287.00	327.20	339.00	298.71	303.00	290.71	273.80	191.71	328.55
1	131.40	90.07	69.46	175.00	264.20	320.50	330.20	297.00	300.00	285.20	256.50	172.40	287.00
5	105.00	76.05	64.70	102.50	242.00	277.50	257.00	256.00	236.00	246.00	192.50	138.00	229.00
10	88.40	69.70	59.75	83.40	221.50	245.00	218.00	234.00	214.50	196.00	162.00	126.00	188.00
15	82.10	67.10	58.60	72.15	211.00	207.00	206.00	187.00	187.00	157.00	154.00	115.00	164.00
20	78.50	64.80	56.80	67.05	200.00	195.50	191.50	178.00	165.00	148.00	148.00	106.00	145.00
25	74.50	63.05	55.20	63.70	189.00	189.00	183.00	171.00	145.50	142.00	133.00	100.00	132.00
30	71.45	60.45	52.75	60.00	175.00	180.00	175.50	160.50	139.00	138.00	125.00	94.25	121.00
35	68.80	56.15	51.10	57.50	159.00	169.00	158.00	142.00	135.00	132.00	120.00	89.20	110.00
40	63.15	53.15	49.25	54.85	145.00	161.00	147.00	130.50	127.00	129.00	114.50	84.10	98.00
45	60.00	51.65	46.20	52.70	133.00	153.00	133.00	123.00	118.00	121.00	110.00	78.50	87.50
50	57.35	49.50	44.70	51.30	128.00	145.00	123.00	115.50	112.00	111.00	102.00	72.50	78.00
55	55.70	47.90	43.60	48.00	121.00	135.00	117.00	104.00	89.90	102.00	96.25	67.50	71.10
60	53.40	46.20	41.95	44.60	115.00	125.00	108.00	89.30	82.85	92.60	86.70	64.90	66.40
65	50.60	44.15	40.80	42.70	107.00	117.00	98.10	78.40	70.90	83.80	76.85	62.20	61.70
70	48.05	42.40	36.30	40.40	99.30	111.00	91.70	74.25	64.55	74.30	72.65	59.00	57.50
75	45.70	37.85	34.40	37.85	94.50	105.00	84.70	68.50	59.50	70.20	69.40	56.40	53.90
80	43.00	36.00	33.15	36.20	87.15	98.05	77.50	63.90	56.95	64.65	66.65	53.90	50.60
85	39.50	31.85	31.00	33.65	76.80	89.15	70.70	60.30	53.80	57.60	63.40	50.90	45.90
90	35.80	30.00	28.20	32.10	68.20	81.05	66.15	55.30	51.30	55.10	58.30	47.60	41.10
91	35.10	29.71	28.00	31.90	65.68	80.50	65.12	54.60	50.65	54.62	57.10	47.00	39.80
92	34.59	29.30	27.80	31.60	63.18	79.20	64.00	53.70	49.90	54.40	56.55	46.38	38.00
93	34.12	29.00	27.26	30.95	59.80	76.70	62.96	52.70	49.15	53.70	54.10	45.60	36.50
94	33.63	28.79	26.53	30.40	54.74	74.30	61.35	51.90	48.60	52.96	52.60	44.56	35.20
95	33.10	28.15	26.30	29.95	52.30	70.30	60.30	51.00	47.70	52.20	52.10	43.60	33.80
96	32.77	27.80	26.17	29.60	47.77	66.70	57.87	50.27	45.35	51.40	52.10	42.67	32.40
97	32.00	27.40	26.00	29.50	44.90	42.20	53.92	49.22	43.60	50.72	50.90	41.54	31.00
98	30.72	27.10	25.80	28.30	42.80	40.70	51.14	48.80	40.60	48.22	49.95	40.30	29.60
99	29.36	26.80	25.28	25.50	40.96	37.95	45.80	46.86	38.65	43.94	49.15	39.12	27.50
99.9	28.43	26.60	24.64	24.40	36.02	35.88	40.75	42.37	35.46	41.74	47.12	36.63	24.80
99.99	28.30	26.60	24.60	24.40	34.60	35.80	39.80	41.60	35.10	41.70	47.00	36.50	24.40

04CB001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.832
10:90 Ratio	4.574
Sqrt(Q ₂₅ /Q ₇₅)	1.565

04CB001: Parameters from Flow Duration Curves

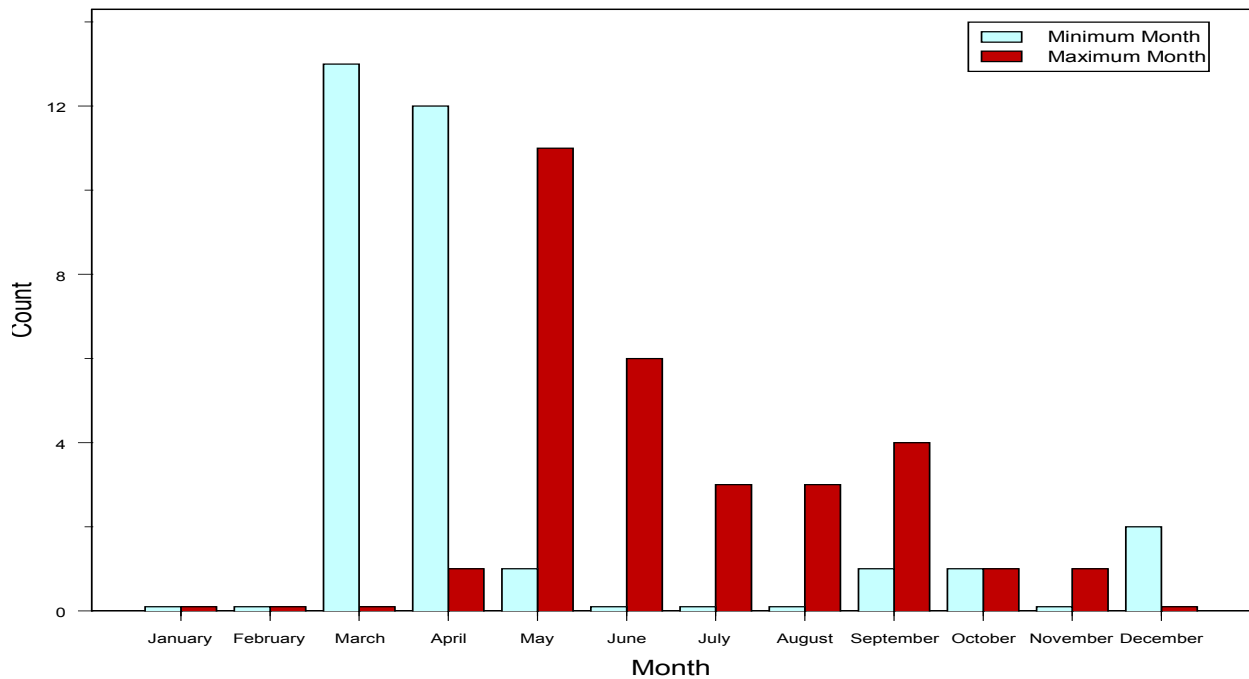
	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	155	61	312.086 (2.288)	16.642 (0.953)	-0.359 (0.019)	0.014
Low Flow	-29	6	-25.552 (0.140)	0.886 (0.061)	-0.734 (0.068)	0.024

04CB001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	197.00	262.00	301.00	335.00	376.00	405.00	434.00	470.00
7 Day Low Flow	38.960	31.260	28.250	26.330	24.750	23.990	Not Applicable	Not Applicable

04C B001: Flood and Low Flow Estimates

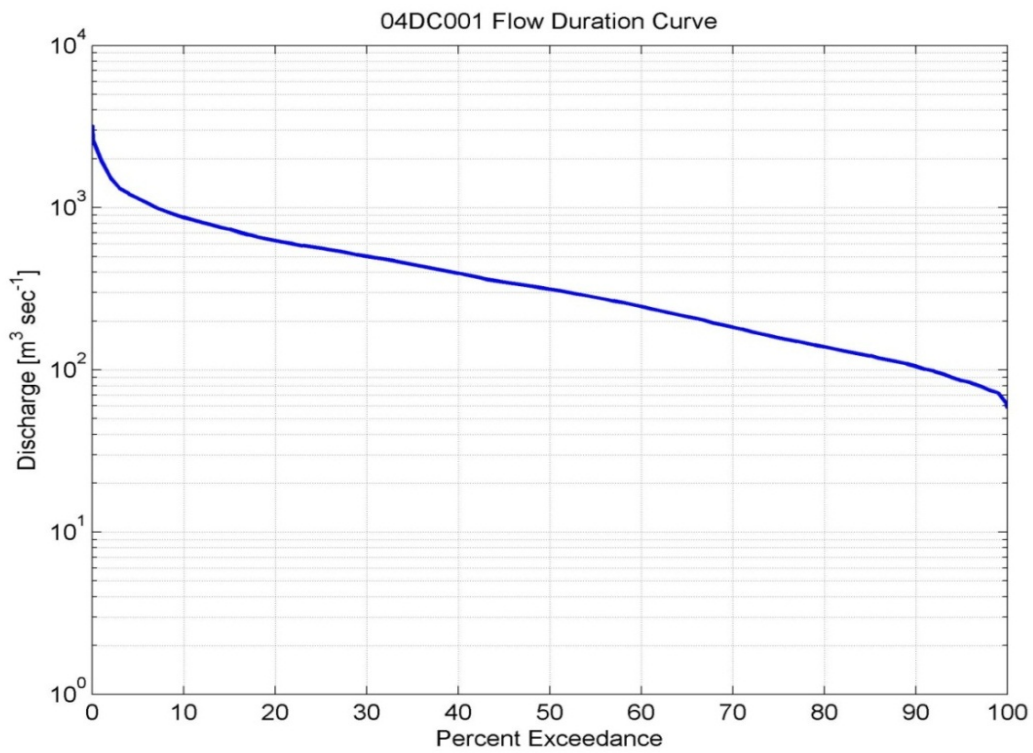
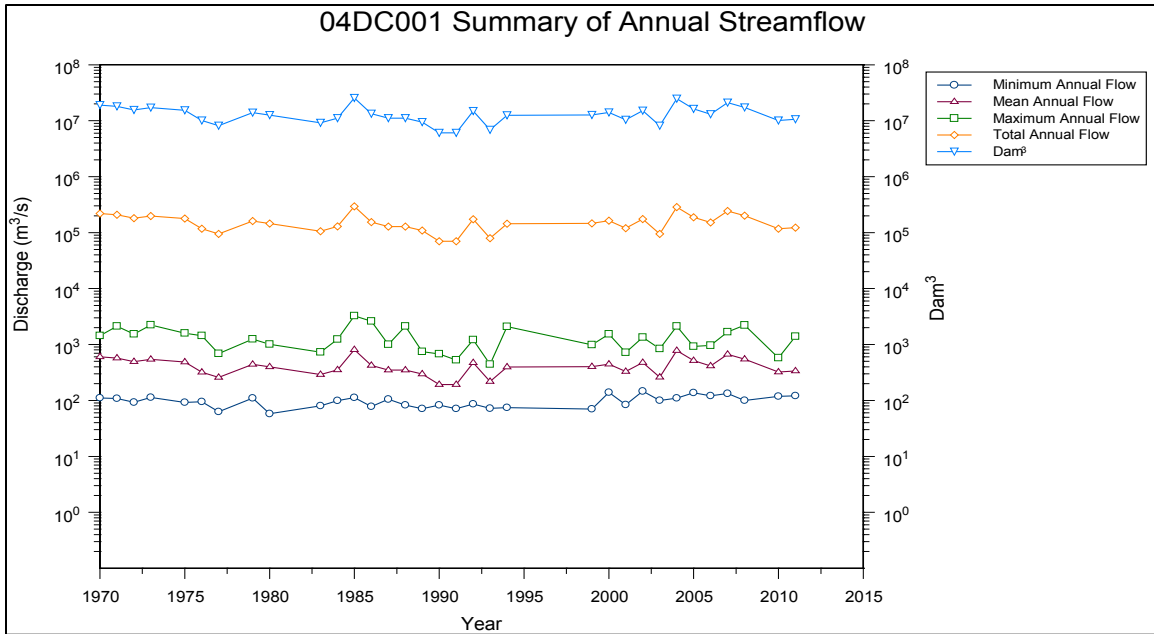
04CB001 Summary of flood and low flow events by month



WINISK RIVER BELOW ASHEWEIG RIVER TRIBUTARY: 04DC001

Summary Statistics of Streamflow

- No. of Years of Record (Start Year-End Year): 33 Years (1970 - 2011)
- Sample Size n: 12054
- Mean Annual Flow: 423.00 cms
- Standard Deviation: 370.00 cms
- Minimum Streamflow: 58 cms
- Lower Quartile Q_1 : 158 cms
- Median Streamflow: 314 cms
- Upper Quartile Q_3 : 563 cms
- Maximum Streamflow: 3240 cms
- Ice Condition
 - Earliest Start Date – Latest End Date: 25 Oct – 26 May
 - No of Ice Days (Min–Median –Max): 165 – 181 – 211



% Exceedance	Jan (cms)	Feb (cms)	Mar (cms)	Apr (cms)	May (cms)	Jun (cms)	Jul (cms)	Aug (cms)	Sep (cms)	Oct (cms)	Nov (cms)	Dec (cms)	Annual (cms)
0.01	455.00	278.00	189.00	1240.00	3240.00	2790.00	2310.00	1590.00	2120.00	2120.00	1820.00	720.00	3176.60
0.1	452.39	276.30	188.48	1240.00	3192.93	2785.10	2257.70	1574.31	2110.20	2114.77	1790.60	714.77	2604.55
1	387.62	243.04	178.00	997.60	2475.40	2558.00	1713.50	1275.40	1906.00	1968.10	1386.00	622.70	1950.00
5	312.05	211.30	158.00	600.00	2050.00	1400.00	1210.00	949.00	934.00	1570.00	950.00	482.05	1142.50
10	284.00	197.00	150.00	276.50	1520.00	1260.00	983.00	825.20	840.50	984.60	689.50	402.00	871.00
15	262.05	185.00	142.00	210.00	1290.50	1190.00	890.05	765.00	796.00	827.00	600.00	365.05	736.00
20	248.00	176.00	137.00	166.00	1120.00	1120.00	844.90	708.90	715.50	747.90	553.50	348.00	626.00
25	235.75	170.00	131.00	148.00	978.75	1040.00	771.50	659.25	640.00	650.00	519.00	331.00	563.00
30	225.00	165.30	128.00	135.00	869.40	964.00	716.00	612.00	558.50	605.60	485.00	318.00	501.00
35	219.00	161.00	125.00	127.00	768.80	881.00	646.90	563.00	518.00	578.00	458.00	305.00	447.00
40	210.00	156.00	122.00	118.00	697.00	794.50	599.30	516.00	493.00	557.30	440.00	292.00	395.00
45	203.00	152.00	119.00	114.00	657.00	728.00	561.45	488.00	473.00	531.00	424.00	280.00	347.00
50	195.00	147.00	116.00	111.00	613.00	646.00	533.00	466.00	440.50	504.00	407.00	270.00	314.00
55	188.00	142.00	112.00	105.00	571.85	618.00	498.85	420.00	408.00	480.85	390.00	262.00	280.00
60	181.00	137.00	107.00	98.80	500.00	594.00	467.00	391.70	382.00	441.00	371.00	252.70	246.00
65	173.55	130.00	102.00	94.40	419.55	578.00	439.00	340.55	356.00	418.00	353.00	242.00	213.00
70	164.00	123.00	95.88	87.95	355.60	546.50	405.00	311.00	331.50	385.00	331.50	234.00	183.00
75	153.00	114.00	90.90	84.00	312.25	501.00	372.25	291.25	301.00	350.00	315.00	222.00	158.00
80	143.00	106.00	86.91	82.50	263.00	431.50	340.10	268.10	276.50	337.10	295.00	208.00	139.00
85	126.00	99.55	84.10	78.00	200.00	346.00	314.95	240.95	252.00	291.95	260.00	188.95	122.00
90	107.80	88.45	77.50	74.00	156.00	321.00	286.00	196.00	194.00	232.00	219.00	158.80	105.00
91	103.00	84.33	75.31	72.92	149.57	317.00	280.57	186.57	181.20	220.57	211.00	149.57	101.00
92	96.17	80.93	74.27	72.37	141.34	312.00	272.34	180.00	163.80	201.34	206.40	142.00	98.00
93	92.67	79.14	73.60	71.88	133.11	307.00	259.33	176.00	155.60	185.00	193.00	135.11	94.00
94	90.18	78.19	72.99	71.40	125.88	302.00	246.88	171.88	145.90	179.76	160.60	116.88	89.50
95	88.50	77.27	72.40	71.20	117.65	295.00	233.65	167.65	135.00	170.65	146.00	111.00	85.78
96	86.67	76.40	72.10	71.01	109.00	285.10	215.00	161.42	126.10	144.84	140.00	106.42	83.20
97	85.22	75.60	71.22	70.32	100.19	272.60	210.00	155.38	116.60	140.19	132.00	102.19	79.60
98	83.48	75.00	67.09	70.00	86.44	252.00	202.96	146.92	106.00	130.96	126.00	98.99	75.20
99	81.57	72.94	64.52	60.40	80.72	223.60	191.73	131.73	103.40	121.19	121.00	95.92	72.10
99.9	79.76	70.03	62.60	58.00	73.28	189.92	177.52	115.05	100.00	107.62	115.00	91.76	62.00
99.99	79.60	69.90	62.60	58.00	72.50	186.00	177.00	114.00	100.00	105.00	115.00	91.50	58.00

04DC001: Flow Duration Curve: Annual and Monthly Percentage Exceedance Streamflow Values

Parameters from Annual (POR) Flow Duration Curve	Values
Base Flow Index	0.736
10:90 Ratio	8.295
Sqrt(Q ₂₅ /Q ₇₅)	1.888

04DC001: Parameters from Flow Duration Curves

	Threshold Value (cms)	No of Exce/ Year	Location (Std Error) (cms)	Scale (Std Error) (cms)	Shape (Std Error)	Extremal Index
Flood Flow	564	90	8955.032 (12.800)	5649.521 (12.800)	0.635 (0.000)	0.020
Low Flow	-100	31	-63.316 (0.380)	3.360 (0.143)	-0.581 (0.020)	0.016

04DC001: Flood/Low Flow Descriptive Indices above/below a Threshold Value

	Q ₂ (cms)	Q ₅ (cms)	Q ₁₀ (cms)	Q ₂₀ (cms)	Q ₅₀ (cms)	Q ₁₀₀ (cms)	Q ₂₀₀ (cms)	Q ₅₀₀ (cms)
Flood Flow	1330.00	2020.00	2500.00	2980.00	3610.00	4110.00	4610.00	5310.00
7 Day Low Flow	96.680	78.890	71.180	65.860	61.070	58.580	Not Applicable	Not Applicable

04DC001: Flood and Low Flow Estimates

04DC001 Summary of flood and low flow events by month

