Advisory Committee on the Environment
Built Environment sub-committee - Springbank Dam

February 26, 2016

Introduction

It is the responsibility of the Advisory Committee on the Environment (ACE) to research and form recommendations on environmental issues that affect our city. It is our duty to advise our City Council, through the Planning and Environment Committee (PEC), when they make decisions that have an impact on the environment.

The issue of what to do about Springbank Dam has become a major discussion point in the community. Support for not repairing the dam includes backing by groups such as neighbouring First Nations[1] who live downstream, anglers[2] who currently use the river for recreation, and citizens living near the river. Support for repairing the dam includes backing by the London Canoe Club and London Rowing Club to resume guaranteed rowing/paddling activities on the main branch.

It must also be noted that there are three flood-control dams farther upstream on the north branch. The Springbank Dam is not designated to provide any flood control.

Making a decision on the dam must be looked at through the lens of sustainability, to ensure the *environmental*, *economic*, and *community* impacts are all taken into account.

Options

There are essentially four options available to Council regarding the operation of Springbank Dam:

1. Repair the dam to be fully operational – cost unknown; expected to exceed $4M
2. Leave the dam in its current state – little to no cost
3. Decommission the dam by removing the gates and other hardware – cost expected to be around $1M
4. Complete removal of the dam structure – cost unknown; expected to be the most-expensive option

[1] *The London Free Press* – "Ditch dam repair, chief, WWF argue", January 20, 2016
http://www.lfpress.com/2016/01/20/ditch-dam-repair-chief-wwf-argue

[2] *The London Free Press* – "A watershed moment", January 21, 2016
http://www.lfpress.com/2016/01/21/a-watershed-moment

Environment

a) Surface water quality in the main branch of the Thames has increased since the dam was left open in 2006. The next five charts show the results for the surface water quality, as can be found on the City's Web site, at the five measuring sites: Wharncliffe, Springbank, Byron, Komoka, and Giles.

http://www.london.ca/residents/Environment/Rivers-Creeks/Pages/Water-Quality.aspx

The eight-year trend from 2006 to 2014 is generally for decrease in pollutants such as total coliforms, E. coli, and phosphorous. Not only are these harmful to creatures depended on the river for survival, but they are also harmful to human health. The water in the Thames eventually ends up in Lake Erie, and therefore in the source for one of London's supplies of drinking water.

While the dam being opened for this duration can not completely account for the increased water quality, restoring its operation will undoubtedly have negative impacts on the water quality.

Thames River Water Quality Data - Annual Averages at Wharncliffe Road Bridge

Date	River temperature (degrees Celsius)	pH	Dissolved oxygen (mg/L)	Oxygen saturation (% sat.)	Biochemical oxygen demand - BOD (mg/L)	Total coliforms (MPN)	E. coli (MPN)	Total phosphorous (mg/L)	NO_2 (mg/L)	NO_3 (mg/L)	Total NH_3 (mg/L)	Un-ionized NH_3 (mg/L)	Conductivity (µS/cm)	Suspended solids (mg/L)	Chlorides (mg/L)	Total coliforms - disinfection season (MPN)	E. coli - disinfection season (MPN)
1978	11.5	7.9	10.3	90.0	2.2			0.17									
1980	10.9	7.9	11.7	103.9	2.3	29,588	1,387	0.15			0.19	0.005					
1981	11.4	7.8	10.9	96.6	1.7			0.22			0.15	0.002					
1982	11.4	7.7	11.5	101.3	2.5			0.26			0.14	0.001					
1983	12.8	8.0	12.8	115.2	2.5			0.20			0.10	0.003					
1984	13.9	7.9	11.1	104.3	2.4			0.22			0.13	0.003					
1985	12.8	7.9	12.4	112.2	2.0			0.20			0.12	0.002					
1986	11.9	7.9	12.8	118.7	2.0			0.20			0.11	0.002					
1987	15.4	7.9	11.5	110.5	2.0			0.18			0.12	0.003					
1988	12.0	7.8	11.5	102.2	3.1			0.24			0.22	0.003					
1989	11.4	7.7	11.8	105.1	2.8			0.20			0.26	0.002					
1990	11.3	7.7	12.5	109.5	2.4			0.18			0.14	0.002					
1991	12.1	7.9	10.8	95.9	2.5			0.19			0.18	0.003					
1992	9.4	7.8	12.1	101.8	1.9			0.23			0.14	0.002					
1993	11.4	8.0	11.4	101.0	2.5			0.18			0.14	0.003	658	16			
1994	11.9	7.9	10.1	91.4	2.5			0.13			0.16	0.003	638	24			
1995	11.9	8.1	11.0	98.1	2.1			0.14			0.15	0.004	645	19			
1996	10.7	8.1	11.5	99.2	2.7			0.14			0.19	0.003	604	29			
1997	9.1	8.0	11.5	97.3	2.7			0.16			0.14	0.003	590	19			
1998	13.0	8.1	10.6	96.5	3.2			0.21	0.11	2.76	0.23	0.008	585	17			
1999	13.0	8.0	10.9	99.1	3.4			0.19	0.09	5.03	0.20	0.005	542	15			
2000	11.8	8.3	11.2	101.4	2.2			0.17	0.06	8.61	0.08	0.003	734	17			
2001	11.6	8.0	11.3	99.4	2.6	10,215	435	0.18	0.13	8.06	0.16	0.004	626	20		8,097	305
2002	11.2	8.0	11.6	100.9	2.2	16,177	508	0.11	0.01	4.00	0.10	0.002	666	15		11,297	238
2003	11.0	7.9	11.5	99.3	2.1	17,010	747	0.11	0.02	8.21	0.15	0.002	737	18		13,750	554
2004	10.5	8.0	11.8	100.5	2.0	13,332	470	0.15	0.04	6.07	0.12	0.003	724	16	64	9,491	316
2005	9.0	8.0	12.9	107.5	2.5	13,074	441	0.18	0.06	6.58	0.14	0.003	701	17	70	13,673	310
2006	10.1	8.0	12.0	106.2	2.2	13,714	420	0.16	0.05	6.67	0.11	0.003	619	21	54	14,050	625
2007	10.9	8.0	12.4	109.0	2.3	10,940	678	0.22	0.15	4.61	0.18	0.004	715	13	81	8,476	344
2008	10.4	8.0	11.5	101.7	2.5	10,634	698	0.13	0.07	4.77	0.11	0.002	667	17	54	10,864	758
2009	11.1	7.9	10.7	94.2	2.5	10,796	602	0.09	0.06	4.27	0.12	0.002	691	17	57	12,364	626
2010	11.1	7.8	11.3	100.4	2.6	8,150	428	0.09	0.07	5.22	0.11	0.002	715	20	70	10,614	366
2011	13.4	8.0	10.0	93.4	2.2	12,315	491	0.12	0.08	5.33	0.12	0.003	618	24	54	13,130	359
2012	12.2	8.1	10.9	98.1	2.1	7,502	348	0.07	0.13	4.55	0.11	0.004	621	14	62	7,745	260
2013	11.8	8.0	11.0	99.8	1.5	9,548	333	0.09	0.15	5.91	0.11	0.003	631	20	59	8,732	202
2014	13.0	8.1	10.2	94.3	1.6	9,809	193	0.09	0.06	3.93	0.11	0.004	548	14	48	11,471	141
2015																	

Thames River Water Quality Data - Annual Averages at Springbank Suspension Footbridge

Date	River temperature (degrees Celsius)	pH	Dissolved oxygen (mg/L)	Oxygen saturation (% sat.)	Biochemical oxygen demand - BOD (mg/L)	Total coliforms (MPN)	E. coli (MPN)	Total phosphorous (mg/L)	NO_2 (mg/L)	NO_3 (mg/L)	Total NH_3 (mg/L)	Un-ionized NH_3 (mg/L)	Conductivity (µS/cm)	Suspended solids (mg/L)	Chlorides (mg/L)	Total coliforms - disinfection season (MPN)	E. coli - disinfection season (MPN)
1978	10.1	7.9	10.3	87.9	3.3			0.17									
1980	10.2	7.9	11.7	101.3	2.9			0.29			0.37	0.011					
1981	10.0	7.8	11.2	92.1	2.1			0.41			0.46	0.006					
1982	11.7	7.6	10.7	95.0	3.0			0.39			0.30	0.002					
1983	12.5	8.0	12.5	113.5	2.7			0.32			0.18	0.005					
1984	12.1	7.8	11.1	100.3	2.6			0.31			0.21	0.003					
1985	12.3	7.8	12.3	110.3	2.4			0.24			0.20	0.003					
1986	11.9	8.0	12.7	112.1	2.6			0.22			0.19	0.005					
1987	15.4	7.8	11.0	106.3	2.9			0.22			0.32	0.010					
1988	11.8	7.7	11.5	101.8	3.6			0.27			0.33	0.004					
1989	11.9	7.7	11.3	100.6	3.1			0.27			0.39	0.004					
1990	11.6	7.7	11.9	104.4	3.0			0.20			0.34	0.004					
1991	12.4	7.9	10.5	93.6	2.7			0.24			0.27	0.005					
1992	10.5	7.8	11.4	99.3	2.0			0.24			0.21	0.003					
1993	11.9	7.9	11.0	98.4	2.8			0.24			0.23	0.005	661	20			
1994	11.0	7.8	10.1	89.0	3.1			0.21			0.34	0.006	662	25			
1995	12.5	8.0	11.2	101.3	2.9			0.21			0.27	0.006	685	18			
1996	10.7	8.0	11.7	101.2	3.1			0.19			0.32	0.007	655	24			
1997	11.2	8.0	11.0	95.9	3.3			0.21			0.24	0.005	652	20			
1998	13.9	8.1	10.7	99.8	4.6			0.40	0.09	2.58	0.31	0.010	638	15			
1999	13.3	8.0	11.3	104.4	4.9			0.29	0.12	4.64	0.26	0.006	593	14			
2000	12.3	8.3	11.2	100.5	2.5			0.24	0.07	8.54	0.10	0.004	745	15			
2001	12.0	8.0	11.7	104.8	2.9	7,978	285	0.21	0.13	6.31	0.15	0.004	640	15		5,309	129
2002	6.3	8.1	13.2	105.2	2.3	16,701	679	0.12			0.11	0.002	669	16		5,524	172
2003	11.0	7.9	12.1	105.1	2.4	14,487	732	0.14	0.02	5.73	0.16	0.002	793	13		9,579	286
2004	10.4	7.9	11.8	100.5	2.6	12,406	421	0.21	0.06	6.71	0.19	0.006	758	14	74	5,759	141
2005	9.7	7.9	13.1	111.3	2.6	10,231	529	0.24	0.05	6.58	0.14	0.002	707	15	78	6,281	245
2006	10.5	7.9	11.9	108.9	2.3	14,382	502	0.18	0.04	6.48	0.13	0.003	640	20	65	8,760	354
2007	10.4	7.9	12.2	102.5	2.7	11,815	711	0.23	0.12	4.85	0.16	0.003	748	13	80	8,775	303
2008	10.7	7.8	11.0	98.0	2.5	11,026	495	0.20	0.08	4.94	0.11	0.001	670	16	60	8,519	315
2009	12.2	7.8	10.0	90.9	2.6	10,427	672	0.11	0.07	4.08	0.11	0.002	695	17	58	11,393	476
2010	12.6	7.7	10.6	97.3	2.3	11,572	631	0.16	0.09	5.49	0.13	0.002	740	12	83	11,372	358
2011	14.0	7.9	9.5	87.5	2.3	12,429	500	0.16	0.08	5.32	0.12	0.003	593	23	60	11,197	323
2012	13.0	8.1	10.2	93.6	2.2	8,936	463	0.14	0.13	4.72	0.14	0.005	644	11	66	10,599	425
2013	15.4	7.8	10.2	100.4	1.8	13,109	335	0.12	1.07	4.91	0.11	0.002	620	16	49	10,605	253
2014	14.6	8.1	9.4	89.9	1.5	8,543	256	0.10	0.08	4.12	0.11	0.004	552	14	53	8,169	166
2015																	

Thames River Water Quality Data - Annual Averages at Byron Bridge

Date	River temperature (degrees Celsius)	pH	Dissolved oxygen (mg/L)	Oxygen saturation (% sat.)	Biochemical oxygen demand - BOD (mg/L)	Total coliforms (MPN)	E. coli (MPN)	Total phosphorous (mg/L)	NO_2 (mg/L)	NO_3 (mg/L)	Total NH_3 (mg/L)	Un-ionized NH_3 (mg/L)	Conductivity (mg/L)	Suspended Solids (mg/L)	Chloride (mg/L)	Total Phosphorous (kg/day)	Suspended Solids (kg/day)	Ammonia (kg/day)	BOD (kg/day)	Disinfection Season Total Coliforms	Disinfection Season E.Coli
1978	11.1	7.9	10.3	90.1	2.83	2,801	382	0.19													
1979	11.2	7.9	11.4	100.0	2.63	3,771	741	0.27			0.45	0.010									
1980	10.3	7.9	12.2	106.5	2.3	605	64	0.17			0.19	0.007									
1981	9.9	7.8	11.3	97.6	2.05	4,440	484	0.20			0.32	0.004									
1982	10.8	7.7	11.5	100.1	3.32	9,539	612	0.36			0.25	0.003									
1983	12.7	8.1	12.5	114.6	3.42	8,207	449	0.26			0.16	0.006									
1984	12.4	7.9	11.4	101.2	3.28	6,557	380	0.27			0.20	0.004									
1985	12.5	8.0	12.3	110.6	2.27	2,789	1,513	0.24			0.16	0.004									
1986	12.1	7.9	13.0	115.2	2.26	7,515	1,525	0.21			0.17	0.004									
1987	15.3	7.8	10.9	104.5	2.61	15,184	704	0.25			0.33	0.011									
1988	11.9	7.7	11.5	101.7	3.42	15,389	1,053	0.27			0.31	0.003									
1989	11.3	7.7	11.8	102.9	3.20	11,079	971	0.25			0.38	0.004									
1990	11.7	7.7	12.1	107.0	2.94	18,451	1,409	0.22			0.24	0.003									
1991	12.7	7.9	10.5	94.9	2.53	15,339	1,276	0.22			0.21	0.005									
1992	10.6	7.8	11.6	101.5	2.12	8,336	822	0.29			0.20	0.003									
1993	12.2	7.9	11.2	101.4	2.93	7,694	334	0.30			0.21	0.005	672	19		1,501		1,175	14,618		
1994	12.8	7.8	10.0	92.3	2.76	10,519	702	0.21			0.28	0.005	655	27		668	158,011	1,207	11,575		
1995	12.4	8.0	11.2	101.5	2.54	8,469	409	0.21			0.26	0.005	668	18		712	92,465	806	8,013		
1996	10.6	8.0	11.6	100.2	2.99	6,758	515	0.19			0.28	0.005	643	26		1,227	246,169	1,401	16,272		
1997	11.1	8.0	10.9	95.6	2.93	10,442	365	0.20			0.23	0.005	628	20		679	114,939	799	10,033		
1998	13.8	8.1	10.9	98.1	4.37	13,928	315	0.31	0.13	3.34	0.24	0.007	635	16		565	73,282	441	8,868		
1999	14.0	8.0	10.7	101.2	3.88	16,305	307	0.26	0.12	5.62	0.20	0.005	570	14		483	28,601	335	5,717		
2000	12.2	8.2	11.3	102.2	2.31	10,823	531	0.22	0.08	8.27	0.10	0.004	758	19		776	139,961	315	8,426		
2001	11.7	8.0	11.4	101.0	2.74	8,933	318	0.21	0.14	7.05	0.13	0.003	637	17		765	70,672	456	10,505	5,949	121
2002	11.8	8.0	11.6	103.1	2.52	14,216	405	0.16	0.07	6.30	0.11	0.002	659	13		763	74,360	355	7,740	8,314	128
2003	11.1	7.9	11.8	103.0	2.57	11,856	557	0.13	0.05	6.31	0.16	0.003	781	14		411	58,413	430	8,217	6,514	192
2004	11.3	7.9	11.5	101.0	2.44	10,436	360	0.18	0.05	6.42	0.16	0.004	746	14	75	547	72,126	620	7,935	5,650	169
2005	9.9	8.0	13.2	111.4	2.45	9,778	375	0.20	0.06	5.93	0.16	0.003	702	18	81	364	37,397	399	5,109	7,158	158
2006	10.3	8.0	12.2	118.5	2.13	15,460	541	0.18	0.05	6.50	0.12	0.003	644	21	57	1,347	203,332	731	12,297	10,549	293
2007	10.3	7.9	12.1	104.3	2.88	10,035	688	0.27	0.17	5.15	0.17	0.003	765	14	90	640	64,810	372	8,358	7,172	267
2008	11.0	7.8	10.9	98.1	2.60	12,168	634	0.16	0.09	5.39	0.11	0.002	686	16	67	666	84,509	495	11,385	10,384	449
2009	12.1	7.8	9.8	88.7	2.85	12,346	620	0.11	0.11	4.34	0.13	0.002	707	18	62	623	175,327	726	11,366	12,138	425
2010	13.1	7.8	10.2	94.6	2.41	10,989	582	0.10	0.11	5.44	0.14	0.002	750	12	72	415	77,204	447	8,992	10,412	376
2011	14.0	8.0	9.3	88.3	2.38	12,631	531	0.16	0.08	5.52	0.13	0.003	600	22	61	885	136,836	804	11,365	11,111	311
2012	10.8	8.1	10.7	93.4	2.07	8,453	574	0.12	0.15	5.28	0.11	0.003	634	13	73	264	38,114	274	4,836	9,748	439
2013	12.6	7.9	11.0	100.6	1.45	10,247	343	0.12	0.15	6.17	0.11	0.003	627	22	54	915	192,685	660	8,368	7,773	220
2014	13.6	8.1	9.4	87.2	1.63	8,922	224	0.11	0.10	4.34	0.12	0.003	552	15	57	600	93,488	637	8,616	7,866	145
2015																					

Thames River Water Quality Data - Annual Averages at Komoka Bridge

Date	River temperature (degrees Celsius)	pH	Dissolved oxygen (mg/L)	Oxygen saturation (% sat.)	Biochemical oxygen demand - BOD (mg/L)	Total coliforms (MPN)	E. coli (MPN)	Total phosphorous (mg/L)	NO_2 (mg/L)	NO_3 (mg/L)	Total NH_3 (mg/L)	Un-ionized NH_3 (mg/L)	Conductivity (µS/cm)	Suspended solids (mg/L)	Chlorides (mg/L)	Total coliforms - disinfection season (MPN)	E. coli - disinfection season (MPN)
1996	10.3	8.1	11.6	101.4	2.1	6,427	366	0.12			0.12	0.002	636	25			
1997	11.3	8.0	11.0	95.3	2.7	9,569	291	0.19			0.18	0.004	625	18		4,083	114
1998	13.3	8.1	10.8	99.6	3.5	10,520	252	0.29	0.13	3.4	0.17	0.005	637	13		9,042	93
1999	13.7	8.1	10.8	100.6	3.5	16,320	205	0.23	0.10	5.5	0.19	0.007	566	16		11,989	44
2000	12.3	8.3	11.4	103.2	2.3	8,302	385	0.22	0.07	8.2	0.08	0.003	757	20		7,254	235
2001	11.3	8.0	11.4	101.3	2.7	8,267	271	0.19	0.11	7.4	0.09	0.002	603	20		5,550	84
2002	12.2	8.0	10.9	96.4	2.4	13,007	269	0.14	0.06	6.0	0.09	0.002	650	12		8,912	81
2003	13.7	8.0	10.2	94.0	2.3	12,957	241	0.13	0.03	6.2	0.10	0.003	665	21		10,161	127
2004	11.9	8.0	10.7	94.6	2.4	10,175	207	0.23	0.10	6.2	0.15	0.004	728	16	73	7,083	79
2005	11.0	8.0	11.5	100.2	2.5	11,294	206	0.21	0.05	5.6	0.15	0.003	656	17	78	10,352	93
2006	10.0	7.9	12.2	106.9	2.0	15,281	358	0.18	0.05	6.5	0.13	0.002	647	24	57	11,687	137
2007	11.9	7.9	11.8	104.9	2.4	8,316	233	0.27	0.14	4.5	0.13	0.003	693	16	80	6,841	80
2008	12.1	7.9	11.0	94.8	2.5	8,439	265	0.18	0.60	4.9	0.11	0.002	668	19	64	5,626	155
2009	12.5	7.8	9.8	90.0	2.8	9,086	302	0.10	0.10	4.4	0.12	0.002	706	20	61	9,128	151
2010	14.2	7.7	10.2	96.6	2.3	9,211	260	0.09	0.09	5.4	0.11	0.002	734	14	70	9,472	144
2011	14.4	8.0	9.3	88.6	2.4	10,156	328	0.13	0.09	5.3	0.12	0.003	601	19	61	7,839	150
2012	13.0	8.1	9.8	89.8	2.3	7,000	201	0.10	0.13	5.0	0.11	0.004	655	14	78	7,393	92
2013	12.4	7.9	10.7	97.2	1.5	21,815	446	0.14	0.12	5.4	0.14	0.003	561	30	51	14,749	158
2014	14.5	8.1	9.3	88.8	1.4	8,278	136	0.11	0.08	4.4	0.11	0.004	577	19	60	7,847	86
2015																	

Thames River Water Quality Data - Annual Averages at Giles Bridge

Date	# of samples	River temperature (degrees Celsius)	pH	Dissolved oxygen (mg/L)	Oxygen saturation (% sat.)	Biochemical oxygen demand - BOD (mg/L)	Total coliforms (MPN)	E. coli (MPN)	Total phosphorous (mg/L)	NO_2 (mg/L)	NO_3 (mg/L)	Total NH_3 (mg/L)	Un-ionized NH_3 (mg/L)	Conductivity (µS/cm)	Suspended solids (mg/L)	Chlorides (mg/L)
2006	8	12.7	8.1	10.9	100.3	1.6	13,600	331	0.15	0.09	5.15	0.22	0.004	658	30	59
2007	9	14.1	8.0	11.8	112.0	2.2	7,877	179	0.28	0.12	3.92	0.10	0.003	698	14	90
2008	5	13.5	8.0	11.6	110.4	3.8	2,730	82	0.14	0.07	3.98	0.10	0.002	723	15	78
2009	10	14.0	7.9	9.4	89.3	2.7	11,889	478	0.11	0.09	3.93	0.12	0.002	707	27	67
2010	10	14.8	7.8	10.4	100.4	2.5	7,001	214	0.09	0.14	4.82	0.12	0.002	738	20	73
2011	11	12.8	8.0	10.0	91.7	2.4	15,652	614	0.13	0.09	4.98	0.12	0.003	604	32	62
2012	12	12.1	8.2	10.8	97.3	2.0	8,463	162	0.09	0.12	4.49	0.10	0.004	642	17	81
2013	8	15.2	8.1	10.8	104.8	0.9	7,721	177	0.10	0.16	5.10	0.10	0.004	701	17	63
2014	7	13.3	8.2	10.5	97.9	2.2	7,327	100	0.11	0.05	4.08	0.12	0.004	573	35	63
2015																

b) Biological (benthic) quality is also measured, as can be seen in reports on the City's Web site:

http://www.london.ca/residents/Environment/Rivers-Creeks/Pages/Benthic-Quality.aspx

Page 2 of the 2014 report on the Thames River (*PARISH-2014-Thames River.pdf*) states the following about the conditions surrounding the Springbank Dam:

> In 2006, the poorest water quality was noted above and below Springbank Dam, which is composed of stations T5 to T7. The BioMAP index indicated these stations were impaired (<7), and the FBI scores fell within the "poor" to "very poor" category (ZEAS 2008). These areas were said to be affected by combined storm/sewer overflows (ZEAS 2008). Station T6, in particular, had two potential sources of contamination that included Greenway PCP (800 m upstream) and the mouth of the Mud Creek (400 m upstream; ZEAS 2008).
>
> ...
>
> The 2012 results mimic many of the baseline results in 2006; however, some improvements were also noted. Stations T5, T6, and T7 went from impaired in 2006 to transitional (7 to 9) at stations T5 and T6 and unimpaired (>9) at T7 (ZEAS 2012). These results are generally supported by the FBI except in the case of T5, which received a "very poor" water quality score. Stations T11 and T14 also experienced water quality improvements with both sites moving from the transitional zone (7 to 9) to the unimpaired zone (>9) and receiving FBI scores of "fair" to good"(ZEAS 2012).

In order to support a robust ecosystem that supports many forms of aquatic life – including some that may be at risk – attention must be paid to the scientific data from these reports.

Unlike surface water quality in section **a)**, the improvements to the benthic quality appear to directly reflect the free-flowing nature of the river with the Springbank Dam not operating.

c) Thames River Clear Water Revival is a long-term partnership initiative that is committed to a healthy and vital Thames River, which will ultimately benefit Lake St. Clair and Lake Erie.[3] The City of London is a partner in this initiative. Having recreational dams operational on the river will not contribute to successfully improving the long-term health of the river. Having clean water in the Great Lakes downstream from us is of the utmost importance, as the City of London draws on Lake Erie (as well as Lake Huron) for its drinking water.

d) Canadian Heritage River: In 2000, the Thames was designated as a Canadian Heritage River. It has diverse wildlife and fish populations, as well as the variety of trees that adorn its shores. This diversity reflects the rich cultural heritage of the Thames.[4] We should be proud to have this designation and conserve the natural state of the river as much as possible.

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[3] http://www.thamesrevival.ca
[4] http://www.chrs.ca/Rivers/Thames/Thames_e.php

Economy

The money spent on repairing, decommissioning, or removing the Springbank Dam could be put to better use to improve the water quality of our river, increase recreational access, and better the health of its inhabitants. Examples of such improvements include:

- **Aquatic life:** Install fish passes to allow aquatic life to traverse areas of the river currently restricted (such as the sewer pipe on the south branch near the bridge that terminates Richmond Street).

- **Water quality:** Implement enhancements to pollution-control plants to reduce the risk of overflow of raw sewage into the river during extreme precipitation events, and remove more pollutants than currently being extracted.

- **Tourism & recreation:** Install canoe/kayak launch points along north and south branches. Co-ordinate with conservation authorities and other municipalities along the Thames to establish a series of overnight camp sites along the river to permit river trips from source to mouth.

- **Education:** Convert dam structure to an observation deck, possibly tying in with Storybook Gardens as an attraction and opportunity for children to learn about the river and the species that live in and near it.

Community

The river remains an excellent opportunity for recreation. Anglers enjoy fishing, families enjoy walking along the banks, and even walking in the river during dry periods. The main branch of the Thames is traversable by canoe or kayak most of the year: repairing the dam would have it operate five months of the year and work toward guaranteeing water in the main branch during the spring and summer. The north and south branches receive virtually no benefit from the dam operating. For those who wish to boat in a reservoir, Fanshawe Lake is already available. For those who wish to boat in natural waters, that option exists and will should continue to exist: the City does not need a second such reservoir.

The downside to a repaired dam would be a determent to the existing recreational activities. It would return a polluted stretch of the river, including the unpleasant smell and human hazards that accompanied the stagnant water.[5]

The City must also be good neighbours to those who live downstream from us. For those who rely on the river for their livelihoods, such as the First Nations communities, further damming of the river will have a very negative impact.

The structure itself could be turned into an observation deck to allow citizens to view the river from above in Springbank Park, in addition to the pedestrian bridge farther upstream.

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[5] *The Toronto Star* – “Troubled waters”, April 8, 2007
http://www.thestar.com/news/2007/04/08/troubled_waters.html

Conclusion

The environmental and economic impacts of reinstating the dam are too damaging, and far outweigh the idea of recreating a reservoir strictly for five months of boating when other facilities exist for this purpose.

Out of the four options listed at the start of this report (reprinted below), the ACE recommends #2: leave the dam as is for the time being, and explore future options to repurpose the structure. If no such options come to fruition, a fund should be established to pay for the eventual removal of the structure.

1. Repair the dam to be fully operational – cost unknown; expected to exceed $4M
2. **Leave the dam in its current state – little to no cost**
3. Decommission the dam by removing the gates and other hardware – cost expected to be around $1M
4. Complete removal of the dam structure – cost unknown; expected to be the most-expensive option