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Springbank Dam Restoration
For the agenda for March 8th.

From:

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Dear Sirs,

The following is a submission in support of the restoration of the Springbank Dam and the Back to the River Agenda of City Council

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Executive Summery

The issue of whether to repair or decommission the Springbank dam has become a discussion point in our community.

Every year for decades, thousands of London citizens have impatiently waited for spring and the chance to launch their canoe in the "lake" at Springbank. The imaginative plan to return the Forks of the Thames River needs to address our entire multi-cultural heritage, values and vision. We salute the City and its leadership for the thoughtful way they have incorporated the Thames into this initiative. The revival of the city core can only happen with the restoration of the dam at Springbank. Stability of water levels at the Forks is crucial.

The river can once again be integral to daily life in this city. The river and dam has a long and venerable history and a rich heritage. Long after the dam had been constructed and used in summer months to create the "Lake", The Canadian Heritage Rivers System (CHRS) was established. This national initiative designated such waterways for natural, cultural and recreational heritage. By giving the Thames this national recognition, it encouraged the public to enjoy and appreciate it for its recreational value. The Thames was so designated even though it had many Dams and Weirs and Dykes. Because of these, the rivers cultural and recreational values were the dominant features of recognition!

The Thames is a designated Heritage River. Conserving and strengthening the resource is achieved by maintaining the conditions that existed when the City approved the designation from the CHRS. This is a trust that should not be abused. The Dam at Springbank was an important and recognised feature of the designation. It behooves the City to respect this history. The Thames was inspected and a detailed study and a favourable report card were issued in 2012 pursuant to this mandate.

It must be remembered that when the three levels of government agreed to the designation of the Thames, the Springbank dam was in place and fully operational. It conserved a body of water in the summer which had cultural and recreational amenities associated with it. It runs free in the "off-recreation" season to facilitate its natural amenities. It is notable that after the loss of the dam, half way through the most recent CHRS reporting period, there was no reference to any environmental improvements to the river as a result of the elimination of the dam itself.

In the 1960s, a civic renewal program was begun to convert the river lands to recreational areas with parks, gardens, walking trails, and bicycle paths. This inevitably led to the cultural and recreational dimension of the CHRS designation. To mention a few of the activities that take place because of the sustained river elevation in the recreation season:

- Canoe Club (Recreational Paddling, safety and Instruction programs)
- Competitive Paddling: Canadian Canoe Association C1, C2, C4, C8 class
- The London Rowing Club including competitive sculling and international meets
- Dragon Board racing teams, pageants and competitions
- Safety Education, history and boating awareness workshops and lectures

Before the dam broke, the London Canoe Club, boasted over 7,300 paddling members. Until the lake disappeared this was the largest canoe club in North America. It was the pride of

the Canadian Recreational Canoeing Association. Its paddle programs, family trip and safety sessions were enjoyed over the years by tens of thousands Londoners.

The environmental impact of reservoirs comes under ever increasing scrutiny. Water quality in the Thames River has improved significantly since river monitoring was initiated in 1963. The dissolved oxygen levels have increased. Wastewater treatment has improved from 90% efficiency in the 1960s to the present where 98% of the BOD is removed. Typical wastewater treatment plants have an efficiency of 85 to 95% for BOD. The London wastewater treatment plants remove 95% of suspended solids and 90% of total phosphorous. Anyone who has actually read the quantitative data from city inspections of water quality will conclude that the measurable results have not changed since the dam at Springbank disappeared.

There is excellent data available from the UTRCA and the hundreds of tests done at the designated testing sites in the City each year. Nothing really has changed from the results before and after the dam broke. Another assessment is not necessary. The unfortunate delay will continue to deprive the lake users of the certainty of this recreational resource and jeopardize the Back to the River vision of the City. We would encourage the City to take a holistic view of the river, its water quality, its aesthetic appeal, it recreational and commercial value to the life and activity of its citizens. We know now that funds have been set aside for a modified environmental assessment. This will be valuable to the extent that it confirms the relative value of water quality against the significant value of the recreational amenities of the river.

The World Wildlife Federation Canada (Mayor David Miller from Toronto) strangely argues that concentrated accumulations of sediment and dead algae are released when the weir releases more water in the fall – after the canoeing season. These materials, of course, go downstream when there is no dam. There is an interesting contradiction to President Miller's assertion found on the WWF web-site. The dam has been down since 2006 so that means since 2012 testing was actually being done when the river was "running naturally". Clearly, the river is not any healthier because the weir has been out of service.

The water quality in the Thames River has improved significantly since river monitoring was initiated in 1963. A review of the data suggests that in the past 8 years while the river has been "running free" there has been no appreciable difference in water quality based on annual averages for river temperature, PH, Dissolved Oxygen, Oxygen saturation, biochemical demand, coli forms, ecoli, phosphorous, NO2, NH3, conductivity, suspended solids, chlorides, E-Colio coliforms all are within the mean established since testing began several decades ago.

Major community decisions such as the one facing our City Council are not or should not be made on the basis of lobby groups holding out a parochial or an activity centred bias. They are made by thoughtful and community spirited politicians who up-hold the best interests of the community they serve; not on how many fish someone caught one day or who joined the family canoe excursion. The CHRS has provided a compelling case in its recent 10 year study and report to restore the dam by affirming the health and value of the cultural and recreational value.

The value and importance of restoring a community amenity – the Springbank lake - for appropriate periods of time during the year recognizes the diverse interests of a society that enjoys the out of doors in our beautiful city. Both environmentalists and recreationalists can be accommodated by restoring the dam.

There are those who would want to decommission the dam and forever lose the value of the "Back to the River" plan. They would argue that by restoring the dam and creating a lake by re-establishing the weir (because it is not a flood-control dam) for 5 or 6 months of the year will have a negative environmental impact.

"Paddle Canada" disagrees.

The river needs to be regarded as the important economic engine that it was; a beautiful natural resource and venue for the recreational pursuits for tens of thousands of Londoners, tourists and recreationalists of all kinds. Restore the dam and the beautiful lake created and used by so many. Regulate its flow in the fall, winter and spring to maximize the benefit of a natural river.

We need to salute and support our Mayor in his pledge to restore the dam with environmentally secure operational policies. We can achieve the best of both worlds. Marvellous plans are unfolding that rely on his commitment to restore the dam at Springbank. The realization of the imaginative river restoration plan at the junction of the North and South Branches of the river requires it. The best interests of Londoner's will be served by restoring it.

It would seem that if this view is accepted, there will be no need to answer the question: Paddlers or Fishers or BOTH? With the dam restored, we CAN satisfy both.

Back to the River

Personal Stories

Each of us has a personal story connected with the Thames and the Springbank Lake. Some are limited by a onetime visit or sighting from a moving automobile. Some are bike rides to feed the birds beside Springbank Lake. Some stories recount regular walks on the River Trails. Others are lifetime stories with diverse experience and professional interaction with this most important asset of the City.

Like thousands of others in the London region, we have always impatiently waited for spring and the chance to launch my canoe in the "lake" at Springbank. From the time of our founding of the London Canoe Club, countless thousands of citizens have been attracted to the area to learn paddling and safety skills, meander upstream to the Forks or portage to the semi wilderness route to Chatham and beyond to Lake St. Claire, Like those who have historically relied on the Thames for transportation, trade and leisure, there is something magical about this amazing resource within our City. I have fished on its banks since childhood, built forts on its banks as an adolescent, marvelled at the wonders of its inhabitants on canoe trips from Fanshawe Dam to Lake St. Claire and kayaked often on Springbank Lake to the Forks. My experience as a Dragon Boat race participant will be long remembered. This is a bountiful and marvellous natural amenity of our city. Let us bring back the glory days of the Thames!

Rebuild London

We should first acknowledge the sharing of the traditional lands of the Odawa and Ojibwa inhabitants. Together with the Neutrals, they were the first inhabitants of the Thames Valley. Now, the Chippewa, Munsee-Delaware and Oneida inhabitants need to be a part of this conversation. The imaginative plan to return the Forks of the Thames River needs to address our entire multi-cultural heritage, values and vision. I salute the City and its leadership for the thoughtful way they have incorporated the Thames into this initiative.

Forks Renewal

The revival of the city core can only happen with the restoration of the weir at Springbank that generates the stability of water levels at the Forks. A dam on the river at this location is an historic fact. The 19th Century dam at the Water Works (east end of Springbank Park) was replaced in 1930 by the current dam (Weir). It is this infrastructure in our city – beyond any other – that will allow for the creative way that beautification of the Thames and the activity-centred vibrancy of the confluence of the north and south branches of the Thames will be achieved.

> "Imagine a London in 2050 where the North and the South branches of the river are highways. There are beachfronts. There are areas of commerce, where you can buy goods from kiosks or floating barges, dine at a riverside café; stroll and bike and bird watch on renewed and accessible trails. It can be the "People's Place" that was the vision of the Middlesex Court re-development proposal of the 1970's and the responses to the recent London Community Foundation RFP process. The river at a sustained elevation is dotted with marinas and kayak and canoes launches. It will again be the embarkation point of riverboats to Springbank Park. In short, the river will be integral to day-to-day life in this city — for the first time in almost a century."

River and Dam History and Heritage

Wikipedia tells us that the Thames flows west 273 kilometers (170 mi) through southwestern Ontario, through the cities of Woodstock, London and Chatham to Lighthouse Cove on Lake St. Clair. Its drainage basin is 5,825 square kilometers (2,249 sq mi).

Called Askunessippi (Anishinaabe language: *Eshkani-ziibi*, "the antlered river") by the Odawa and Ojibwa inhabitants, who together with the Neutrals have lived in the area since before Europeans arrived, the river was named after the River Thames in England by Lieutenant Governor John Graves Simcoe in 1793.

Much of the Thames is surrounded by deciduous Carolinian forests, although much of this forest has been removed to permit agriculture and other forms of development. Three separate dams are used to control the seasonal flooding this river could cause: Wildwood Dam, Pittock Dam and the Fanshawe Dam

The Canadian Heritage Rivers System (CHRS) was established in 1984. Federal, Provincial and Territorial governments decided to conserve rivers with outstanding natural,

cultural and recreational heritage: to give them national recognition. This was long after the Springbank Dam had been constructed and used in summer months to create the "Lake". The idea was to encourage the public to enjoy and appreciate the rivers. Today, there are 38 Canadian Heritage Rivers designated. The Thames is one of them! It was so designated even though it has many Dams and Weirs and Dykes. Perhaps because of these features!

River Dam (Weir) History and Definition

A dam is a barrier that impounds water or underground streams. Reservoirs created by dams not only suppress floods but also provide water for such activities as irrigation, human consumption, industrial use, aquaculture, and navigability. Hydropower is often used in conjunction with dams to generate electricity. Fanshawe would be an example of this type of dam.

A weir (also sometimes called an *overflow or underflow dam*) is a type of small dam that is often used within a river to create an impoundment for water abstraction purposes. They can also be used for flow measurement, regulation or retardation. There are many of these on the Thames River and its tributaries. A good example can be seen from the Oxford Street bridge (looking south toward the forks). There is a small man-made obstruction just below which has generated a fish habitat. There is a larger one further downstream which has come to be known as the "dam" at Springbank.

A spillway is a section of a dam designed to pass water from the upstream side of a dam to the downstream side. Many spillways have floodgates designed to control the flow through the spillway. There are several types of spillways. A *service spillway* or *primary spillway* passes normal flow. This would happen if the dam gates at Springbank are lifted open; or, it is overflowing. An *auxiliary spillway* releases flow in excess of the capacity of the service spillway or as needed in an emergency or need to "flush" the residue build-up. It maintains a sustained water elevation up-stream. Since the threshold of the Springbank dam is virtually flush with the river bottom, there are times when the gates can be fully raised, thus allowing full and free flow. They can be raised or lowered as needed in the control environment desired.

Dams, like weirs, create reservoirs and can also vary the flow of water downstream. This can in return affect upstream and downstream navigation by altering the river's depth. Deeper water increases or creates freedom of movement for water vessels. Large dams can serve this purpose, but more often weirs and locks are used.

The London Free Press provided a useful time line:

Springbank Weir Chronology (LFP – June 17, 2015)

1930: Springbank Dam built as recreational structure (unlike Fanshawe Dam, built later to control floods)

2000: Flood damages dam.

2003: City gets environmental assessment approval to fix dam.

2006: Shut down in open position, leaving river too shallow for paddling or rowing. City OKs $6.8 million to fix it.

2008: During tests after repairs, a new steel gate shifts to one side. Hinge bolts snap.

2009: City launches $5-million lawsuit against contractors and others.

I would add:

2012 – CHRS Assessment Up-date – a river health card.

Heritage Values

The mandate of the Canadian Heritage Rivers System (CHRS) is to conserve rivers with outstanding natural, cultural and recreational heritage, to give them national recognition, and to encourage the public to enjoy and appreciate them. Conserving and strengthening the resource by maintaining the conditions that existed when the City approved of the designation is a trust that should not be abused. The Dam at Springbank was an important and recognised feature of the designation.

Rivers designated to the CHRS undergo reviews every ten years. In-depth monitoring reports are produced detailing the state of the rivers' heritage values

Today, there are 42 Canadian Heritage Rivers (38 designated, and another 4 nominated) across Canada, and more are being added to the system each year. The Thames was inspected and a detailed study was undertaken pursuant to this mandate. It must be remembered that when the three levels of government agreed to the designation of the Thames, the Springbank Dam was in place and fully operational. It conserved a body of water in the summer which had cultural and recreational amenities associated with it. It runs free in the "off-recreation" season to facilitate its natural amenities.

The nomination document was produced by the Thames River Coordinating Committee, a volunteer group of individuals and agency representatives, supported by the Upper Thames River Conservation Authority (UTRCA) and Lower Thames Valley Conservation Authority (LTVCA). The advocacy Committee was chaired by Dr. Doug Bocking, Dean of the Faculty of Medicine at Western University.

The Thames River and its watershed were nominated on the basis of their significant human heritage features and recreational values. The River possesses an outstanding natural heritage which contributes to its human heritage and recreational value. CHRS integrity guidelines precluded nomination of the Thames based on natural heritage values because of the presence of impoundments such as the Fanshawe Dam.

The Thames River nomination for inclusion was accepted by the CHRS Board in 1997. Following the production of the extensive background study document and the Thames Strategy in 2000, the Thames was designated a Canadian Heritage River in the summer of 2000. The dedication ceremony took place in September of 2000 in London.

Municipal, Provincial and Federal trust and commitment through the Heritage River designation is expected to be observed by the entities that control them. This "trust" was established here in London. Designated rivers undergo reviews every ten years. In-depth monitoring reports are produced detailing the state of the rivers' heritage values

The Canadian Heritage Rivers System Ten Year Monitoring Report 2000-2012 was released disclosing the following relevant observations:

> "Many improvements have been made to the natural, cultural and recreational values as well as general river awareness.
>
> Some noted examples from Chapters 2 (Chronology of Events since Designation), 3 (Natural Heritage Values since Designation), 4 (Cultural Heritage Values since Designation), and 5 (Recreational Values since Designation) of this report include:

- The annual *Thames River Cleanup*, started in 2000, has grown each year.
- Upper Thames River Conservation Authority has produced three sets of watershed report cards (2001, 2007, 2012), synthesizing a great deal of environmental data in a concise format, showing steady to improving conditions
- New riverside trails have been opened on the North Thames and South Thames as well as in communities such as St. Marys, Ingersoll and London,
- The historic Thames River Lighthouse received a face lift in 2002,
- Several books have been written on the Thames dealing with local history, art and the War of 1812,
- Bridge signs at several Thames River crossings have been erected to raise awareness about the river and its CHRS designation,
- War of 1812 commemorative events were launched,
- Living History events and re-enactments continue across the watershed,
- *The London Free Press* ran a 5 month series called *A River* covering a wide range of Thames River related articles, videos, blogs, photos, etc.,
- Several museums have improved their infrastructure and programming,
- In 2009, London City Council adopted the *Thames Valley Corridor Plan, Phase 2* (2009) a long-range vision document that will be a key planning tool for sustaining the river's attributes, supporting environmental and economic

vitality, tourism and local and regional recreation initiatives. Also the plan requires appropriate integration of new buildings into the corridor environment rather than 'turning their back' on the corridor,

- In 2010/11, an updated Thames River Water Management Plan (TRWMP) was initiated. This plan is a key component of a broader Watershed Strategy known as the Thames River Clearwater Revival,

- The Conservation Authorities and many partner groups use the Canadian Heritage River logo or reference the CHRS status of the Thames in their correspondence and reports.

The analysis of Integrity Guidelines in Chapter 6 shows no threats to most values. The only threats are wide ranging issues, such as climate change, that are not isolated to the Thames River, and whose impacts are unknown at this time.

Chapter 7 (Management Plan Recommendations and Current Status) lists 12 objectives from the *Thames Strategy* and reviews achievements or lack thereof. In summary, five objectives are complete, one is addressed, three are ongoing, and three are partially complete.

Overall, the cultural and recreational values for which the Thames was designated remain intact. The natural, cultural and recreational landscape through which the river flows continues to be enjoyed, appreciated and celebrated by area residents and visitors."

It is notable that after the loss of the dam, half way through this reporting period, there was no reference to any environmental improvements to the river as a result of the elimination of the weir itself.

Recreational History

The history of the Thames River can be traced back more than 15,000 years to its origins as a spillway for water melting from retreating glaciers.

Around 7,500 B.C., aboriginal peoples migrated to this area, attracted by abundant fish and game. Centuries later, Neutral tribes lived along this river they called Askunessippi, (antlered river). French fur traders called it LaTranche (the ditch), and Lieutenant-Governor John Graves Simcoe renamed it the Thames. In 1793, he designated the forks of the Thames as the future site of the capital of Upper Canada.

It was not until the 1820s that substantial settlement began along the river. The Thames became a transportation route, source of power for mills, and provided water for domestic and industrial use. The picturesque shoreline attracted prominent Londoners to build large estates along the Thames, such as Eldon House and Thornwood.

The river was popular for boating, from competitive rowing to steamboat excursions. The most tragic incident on the Thames was the sinking of the steamer "Victoria" on May 24, 1881, which claimed 182 lives. The River was deep enough to cruise a ship of this size from

Springbank to the Forks. It is clear that river recreation was extensive in the 19th Century because of the dam at Springbank.

The Thames has long been a subject for artists, from early British topographers such as James Hamilton, to later painters like William Lees Judson, Paul Peel and Jack Chambers.

By the mid-twentieth century, industrial development along the river had rendered the area polluted and unsightly. In the 1960s, a civic renewal program was begun to convert the river lands to recreational areas with parks, gardens, walking trails, and bicycle paths. This inevitably led to the cultural and recreational dimension of the CHRS designation. Today, most of London's 2,800 acres of parkland is along the Thames. To mention a few of the activities that take place because of the constant river elevation in the recreation season:

- Canoe Club (Recreational Paddling, safety and Instruction programs): While there have been many formal and informal canoeing groups utilizing the Thames for over 150 years, the more recent has been the London Canoe Club formed in 1970 (see below). In the early days, punting, canoe sailing, birch bark and dug out canoeing was popular. The Club merged into a national strategy to align similar clubs in all Provinces and Territories under the banner of the Canadian Recreational Canoeing Association (CRCA) founded by John Eberhard. The Provincial governance body was the Ontario Recreational Canoeing Association (ORCA). The Club took pride in having 7,300 paddling members. It has been decimated because of the broken dam.

- Competitive Paddling: In the 1970's the Canadian Canoe Association (CCA) encourage the formation of feeder canoe clubs that would train and prepare young competitive paddlers for competition. London became one of these in 2070. Dr. Dr. Doug Bocking, former Dean of the Faculty of Medicine (Western University) was the founder of this Club and his boys were avid competitors. Doug went on to be the chief advocate for the designation of the Thames as a Heritage River.

- The London Rowing Club was an important part of the activities on Springbank Lake. The Clubhouse itself was an important and local resource – easily assessable to the Western Rowing Teams and City participants. Professor Mike Murphy of Rowing Canada and leader in the development of the London Rowing Club initiated the national high-performance rowing centre on the lake. Practice sculling and kayaking on the lake was a feature that is now missing from the Wonderland Road facility.

- Dragon Board racing teams, pageants and competitions became popular in the 1980's. Boating Festivals created a reason to come to the river bend on the Springbank Lake to view these exciting events. Cultural activities sprouted from these festivals and competitions and have not been seen since the dam cam down in 2006. These events drew large crowds and much in-tourism to London from all over North America on Dragon Boat weekends.

- Safety Education, history and boating awareness workshops and lectures were held for the thousands of members of the London Canoeing and Rowing Club became an

integral component. Because of the demise of the clubs, with no Lake, these activities have all but ceased.

It is time to support and restore these activities enjoyed by thousands of citizens.

Environmental Concerns

The environmental impact of reservoirs comes under ever increasing scrutiny as the global demand for water and energy increases and the number and size of reservoirs increases. Because it behaves more like a flushable weir (because of its construction), Springbank Dam, does not serve official as a reservoir.

Dams and reservoirs can be used to supply treated drinking water, generate hydroelectric power, water supply for irrigation, recreational opportunities and improve certain aspects of the environment. Environmental and sociological impacts have been identified in many communities and in the wild. Whether reservoir projects are ultimately beneficial or detrimental to either the environment or surrounding human populations has been debated since the 1960s and likely before then. The construction of Three Gorges Dam and other similar projects throughout Asia, Africa and Latin America have generated considerable environmental and political debate.

Rivers carry sediment down their riverbeds, allowing for the formation of depositional features such as river deltas. The construction of a dam blocks the flow of sediment downstream, leading to downstream erosion of these sedimentary depositional environments. Increased sediment build-up in the reservoirs if not flushed can be detrimental to the health of the river. While the rate of sedimentation varies for each dam and each river, eventually all reservoirs develop a reduced water-storage capacity due to the exchange of storage space for sediment. This is NOT the case with Springbank in that it can be “flushed” as needed (and this happens at least annually) by raising the gates and allowing the sediment to move downstream, over its modest threshold. This is not unlike if there no dam at all. It is also one of dozens of impediments on the river.

Testing and Statistics.

The Thames River is sampled on a regular monitoring program at 10 locations. The parameters analyzed include many elements. Heavy metals are sampled at Clarke Road/High bury Avenue, Whites Bridge, Byron and Komoka bridges. Monitoring is also conducted on a number of creeks in the City of London on a monthly basis.

Water quality in the Thames River has improved significantly since river monitoring was initiated in 1963. The dissolved oxygen levels have increased. Wastewater treatment has improved from 90% efficiency in the 1960s to the present where 98% of the BOD is removed. Typical wastewater treatment plants have an efficiency of 85 to 95% for BOD. The City of London Wastewater treatment plants remove 95% of suspended solids and 90% of total phosphorous

Environmental Assessment

In 2003, the City of London initiated an environmental assessment approval to fix dam. There is excellent data available from the UTRCA and the hundreds of tests done at the designated testing sites in the City each year. Nothing really has changed. Another assessment is not necessary. Anyone who has actually read the quantitative data from city inspections of water quality will conclude that the measurable results have not changed since the dam at Springbank disappeared. The recently approved environmental assessment is welcomed so as to demonstrate that both the environment and the recreational values can co-exist. The unfortunate delay will continue to deprive the users of the certainty of this recreational resource.

If water quality in the Thames River is to be improved in any meaningful way, we need to address to efficacy of Fanshawe Dam and the quality of water flowing into the city from its reservoir. Fanshawe Lake is too often declared unsafe due to high levels of pollution, and yet this is the water that flows on through the city via the Thames River and into Lake St. Claire, with or without a weir at Springbank.

WeI would encourage the City to take a holistic view of the river, its water quality, its aesthetic appeal, it recreational and commercial value to the life and activity of its citizens. There are political priorities that our City leadership can consider. It is important to continue to try to enhance the quality of this valuable natural resource. We can commit to a number of enhancements with or without the Springbank weir:

- Additional canoe/kayak launch points along north and south branches for canoeists to utilize larger stretch of the Springbank Lake and encourage its use.
- fish passing through the dam infrastructure so as 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
- enhancements to pollution-control plants to reduce the risk of overflow of raw sewage into the river during extreme precipitation events (with or without a dam)

Impact of weirs as noted by Advocacy Groups

It is clear that there has been growing pressure from some advocacy groups to decommission the Springbank Dam rather than repair it. We will tell you why we agree with the position of our innovative and visionary Mayor and many Counsellors who have promised to ensure that its value to the citizens of London is restored.

The Thames flows through southern Ontario, meandering quietly past the cities of London and Chatham to Lake St. Clair - not Lake Erie - as the Chair of the World Wildlife Federation, Mr. Miller, suggests. That is like saying the Don and Humber Rivers flow into the Atlantic Ocean.

Mayor Miller of the Don River in Toronto and the WWW Fund argues that when the dam is closed the river slows, allowing sediment to accumulate and the reservoir to warm, reducing water quality and jeopardizing habitat for fish and other aquatic creatures. This is

generally true of most large dams like the Boulder Dam and even Fanshawe Dam to a much lesser extent. The conditions in the blocked reservoir can promote the growth of algae. Algae blooms do contribute to human and aquatic health risks. Large algae blooms can lead to oxygen-deprived water, which kills fish. There is no evidence of this occurring in the Thames because of the Springbank weir. Those who have been on the river often over many decades have never seen this. Maybe in the Humber - but in our experience, not in the Thames.

Former Mayor Miller reminds us that the water has been left to flow freely "since 2006 due to damages and failed repairs. "In that time, people and wildlife have benefitted as the river's natural processes begin to restore". He states that blocking the river for the summer months turns the flowing waters into a stagnant reservoir. He is wrong. In dozens of seasons canoeing on the Springbank Lake, this has not been my observation. The former Toronto Mayor did not indicate when, if ever, he has actually been to Springbank to witness this before 2008? It would suggest that his speculation needs to be questioned.

I am not sure of his experience with the Humber or the Don in Toronto but the same World Wildlife Federation argues specifically that as a marker for algae blooms "water quality scores for phosphorus in and around the [Springbank] dam . . . exceeded water-quality guidelines in more than 70 per cent of water samples taken between 2008 and 2012." But, the years 2008 to 2012 are precisely the years when the river was flowing freely because the dam had already broken. This is not a compelling argument for decommissioning.

As noted environmentalist, Dr. Jan Pennycook argues: "simply allowing the water to flow freely does nothing to improve its quality."

The WWW states that the Thames is the third largest contributor of phosphorous to Ontario waters and phosphorous promotes harmful algae blooms. "A river in poor health has consequences for connected waters downstream as far as Lake St. Clair and Lake Erie. It makes it more difficult to fulfill international commitments to make the Thames River a priority in efforts to reduce the phosphorous that flows into Lake Erie". Even if this assertion were proven to be accurate, the Thames is the Thames – with or without its 178 weirs, dykes and dams. Restoring the dam will not change that!

The argument suggests that by having a dam (reservoir, weir or dam) on a "wild river" the sedimentation being caught leads to environmental degradation. The Thames has not been a wild river since 1861. The UTRCA indicates that the many private, municipal and UTRCA managed impediments (dykes, natural weirs, man-made weirs and dams in its managed water system). All are reservoirs to one degree or another. The Springbank "Dam" is technically a weir. It is not purposed for flood control. The Medway Creek tributary alone has 29 such water flow impediments.

The WWW strangely argues that concentrated accumulations of sediment and dead algae are released when the weir releases more water in the fall – after the canoeing season. This, it is said to diminish water quality and jeopardizes aquatic habitats downstream. Where does he think these material go when there is no dam? They further state that the river's water is already "poor," according to the current WWF Watershed Report, with levels of phosphorous often exceeding guidelines. Not true! Having reviewed the testing stations over the past 15

years, there is NO measurable difference to the criteria mentioned above before or after the temporary decommissioning of the weir.

There is an interesting contradiction to President's Miller's assertion found of the WWF web-site. The dam has been down since 2006 so that means since 2012 they were actually testing the water when it was "running naturally". The river is not any healthier because the weir has been out of service.

The Ontario Rivers Alliance (Jan. 23, 2016) and the Thames River Anglers Association (Dec. 20, 2015) make broad claims. They assert potential ecological benefits if the Springbank dam is decommissioned. The expectation seems to be that the water in the Thames River will clean itself if allowed to flow unhindered through the Springbank and make for better fishing. They have not reviewed the science!

A dam can act as a barrier between the upstream and downstream movement of migratory river animals, such as salmon and trout. Some communities have begun the practice of transporting migratory fish upstream to spawn via fish ladders and piping systems. At least one of these in on the south branch of the Thames. It will be useful for the City to work with Angling Organizations to provide remedial strategies such as this if the need can be demonstrated. Anecdotally, it is said that there are no trout migrating/spawning up-stream from the great lakes, notwithstanding many fingerlings added to the river system. There is no connection with Springbank dam postulated in this result.

Mr. Mike Bloxam reported recently to the City Council on behalf of the Advisory Committee on the Environment (Springbank dam). He succinctly states the issue of whether to repair or decommission the Springbank Dam has become a discussion point in the community. He states, without statistical authority, that public opinion appears to support decommissioning the dam, including backing by groups such as First Nations, anglers, and citizens living near the river. On that conclusion he offers no data or basis upon which to make that assumption. Indeed, we believe him to be very wrong. Just ask any of the current and former members of the London Canoe Club, numberings in the thousands at a time when the Boathouse was able to be used.

There are about 17 Kilometers of flow between the Fanshawe dam and Springbank. Approximately 7 of these are from the Springbank Dam and the Forks. There are many natural and manmade "dams" in that stretch of our natural resource. The Springbank dam is, in fact, the last of at least of four "dams" on the Thames River as it flows through the City of London. We are debating here, only one of many - the Springbank weir (dam). This controlled dam has the flexibility to allow for lengthy periods of time when the water will run free over it threshold and can be "flushed" at any time when there is an emergent need.

In 2006 the Upper Thames River Conservation Authority approved an Environmental Planning Policy Manual which guides development and site alteration while protecting, preserving and enhancing the natural environment in the watershed. It is the Authority's integrated systems approach for watershed planning. It is a valuable tool for the UTRCA's Board of Directors and staff as well as for our watershed municipalities, the land development industry and the public. We need to pay attention to the expertise coming from this body.

The policy includes a section on natural heritage, environmental protection and hazard policies. It fairly states that "every reasonable opportunity should be taken to: maintain the quality of air, land, water and biota; maintain biodiversity compatible with indigenous natural system and protect natural links and corridors. The improvement and enhancement of these features and systems is encouraged." Regulatory Flood and erosion standards are employed through the use of weirs and dams. This has been the policy for decades. The Springbank weir has served this objective admirably.

Results – The Science of the River

The UTRCA's "**Thames River Clear Water Revival"** is a long-term partnership initiative that is committed to a healthy river. Under the guidelines of the Provincial Flood Plain Planning Policy, dykes, dams and natural barriers play a roll. This highly respected planning guide focuses on the key role played by the flood control features of the Springbank Dam. It notes the value of multi-purpose reservoirs providing for recreation use, irrigation or flow augmentation in addition to flood (erosion) control.

Major community decisions now facing our City Council are not or should not be made on the basis of lobby groups holding out a parochial or an activity centred bias. They are made by thoughtful and community spirited politicians who up-hold the best interests of the community they serve; not on how many fish someone caught one day or who joined the family canoe excursion. I agree that Science and Geography, testing and experience with water-sheds needs to factor into the decision, not advocacy groups that favour either river sports or wildlife fundraising campaigns. Fortunately, the CHRS has provided a compelling case in its recent 10 year study and report to restore the dam by affirming the health and value of the cultural and recreational value.

The value and importance of restoring a community amenity – the Springbank lake - for appropriate periods of time during the year recognizes the diverse interests of a society that enjoys the out of doors in this beautiful city. Both environmentalists and recreationalists can be accommodated by restoring the dam.

We do know from the City's own data that the Thames River is sampled on a regular monitoring program at 10 locations. The parameters analyzed include biochemical oxygen demand (BOD), pH, temperature, dissolved oxygen, total phosphorous, ammonia, bacteriological quality, suspended solids, chlorides, nitrates, nitrites, and conductivity. Heavy metals are sampled at Clarke/Highbury, Whites, Byron and Komoka bridges. Monitoring is also conducted on a number of tributary creeks in the City of London on a monthly basis.

As noted above, water quality in the Thames River has improved significantly since river monitoring was initiated in 1963. A review of the data suggests that in the past 8 years while the river has been "running free" there has been no appreciable difference in water quality based on annual averages for river temperature, PH, Dissolved Oxygen, Oxygen saturation, biochemical demand, coli forms, ecoli, phosphorous, NO2, NH3, conductivity, suspended solids, chlorides, E-Colio coliforms all are within the mean established since testing began several decades ago. The City reports:

> "Biological (benthic) quality was also measured in 2006; the poorest water quality was noted above and below Springbank Dam, which is composed two testing stations. Two potential sources of contamination were identified: 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. That is to say, the river running free did not alter the quality of the river. 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. Tests before and after the removal of the dam show insignificant variations to the quality of the river water."

But the results show a disastrous outcome to the diverse cultural utilization and amenities that existed before the dam broke.

Multi-Purpose Results of Restoration

We return to the London Plan. It is not just the Forks that will be the beneficiary of refurbishing the dam. The Dragon Boaters will return. The scullers will once again be able to use the very functional McManus Canoe Club facility. The river pageants and tours between the Forks and Springbank will once again be possible. The recreational paddlers – experts and learners - the board paddlers, the kayaks and canoes will once again ply the waters of Springbank. The K-1's, the C1, C-2 and C-4's will once again feel the challenges of competition at the Wharncliffe turn. The walkers, the bird feeders, photographers, artists, lovers and children in buggies will be seen to enjoy the trails alongside the Lake.

There are those who would want to decommission the dam and forever lose the value of the "Back to the River" plan. They would argue that by restoring the dam and creating a lake by re-establishing the weir (because it is not a flood-control dam) for 5 or 6 months of the year, it will have a negative environmental impact. "Paddle Canada" disagrees. Thousands of Londoner's who have fond memories of picnics beside the lake or cheering on your favourite Dragon Boat team disagree. Hikers, paddleboat enthusiasts, kayakers, lake fishers, bird watchers and walkers disagree. We would urge London City Council to restore the Springbank weir and at the same time allow the water will to flow freely in the previously managed way so people and wildlife can enjoy the benefits of a healthy Thames River. Here's why.

The restorations of the weir at Springbank will most assuredly increased recreational use of the main branch, which would bring back the enjoyment to citizens. The river is currently traversable by canoe or kayaks certain times of the year on the main and south branches for short distances, but having the dam restored will once again extend the season for many more months each year and assure the users of a sustained water elevation. The London Plan can proceed unhindered by river elevation fluctuations.

Londoner's have enjoyed the "Trench" for over 200 years and now want to come "Back to the River". We need to salute and support our Mayor in his pledge to restore the dam with environmentally secure operational policies. We can achieve the best of both worlds.

Political Commitments and Public Policy

Mayor Brown has inspired us to look "Back to the River". Marvellous plans are unfolding that rely on his commitment to restore the weir (dam) at Springbank. The realization of the imaginative river restoration plan at the junction of the North and South Branches of the river requires it. We support it.

London Mayor Matt Brown was elected, in part, on a promise to fix the dam. Counsellor Armstrong has noted the benefits of repurposing the dam would be "superb views of the river landscape; the opportunity to observe wildlife directly above the river; a potential tourist attraction to complement existing opportunities in the Springbank area. Why not?

It is perfectly understandable why our Mayor and his many followers on City Council have taken the position that the best interests of Londoner's will be served by restoring the weir.

The river and the creatures that live in and near its waters will continue to benefit with the weir is restored. The flow continues regardless. If emergencies arise during the paddling season, the dam can be flushed. Native plants will continue to flourish as they did before the dam broke! The stability of the riverbanks and prevention of erosion will be strengthened.

It is argued that natural flow through this section of the river (I suppose the reference is between Fanshawe and Springbank) would allow habitats to flex and change with the seasons, maintain more naturalized temperatures and reduce the risk of excess algal growth. The temperature and algae growth change is a myth. The records from the City's testing and monitoring needs to be referred to so that the science is not fabricated by those who would want to decommission a very useful asset in the City.

Conclusion:

"The Thames River has the power to mobilize Londoners and catalyze community change," Martha Powell of the London Community Foundation said as the winning vision of "Back to the River" was announced.

So we urge London city council to make the right choice: Allow the river to be seen as the important economic engine that is was, a beautiful natural resource and venue for the recreational pursuits for tens of thousands of Londoners. Restore the dam and the beautiful lake created and used by so many. Regulate its flow in the fall, winter and spring to maximize the benefit of a natural river.

Mark Johnson, landscape architect with Civitas, the firm that won the Back to the River competition agrees: it's a bold vision for a central piece of London land.

> "Our focus (at the forks) is on making a place for people to really connect the river and downtown together," he said. "You could stroll from downtown (and) have a seat. You could go skating in the winter. You could get in a boat, you could fish, and you could relax and watch the sunset".

We would add: you could paddle your canoe into the sunset from the Forks to the London Canoe Club and enjoy the historic charm of our river in a way that has not been possible for several years. We need to reclaim the glory of our river from the forks to historic Springbank Park!

Respectfully Submitted,

John Eberhard, Q.C.
Founder, Canadian Recreational Canoeing Association (Paddle Canada), 1972
Past Chair: Canoe Canada (1981-1996)
Board Member, London Canoe Club (1975- 1984)

Dr. Doug Bocking, M.D.
Chair of the Committee for the designation of the Thames River as a Heritage River
President and Founder London Canoe Club 1970
Dean, Faculty of Medicine Western 1966-1978 (V.P. Health Sciences)

Extract of Academic Journals related to the River from the:

- City of London. 2011. **Thames River Corridor Plan, Final Report**
  Troughton, Michael and Cathy Quinlan. 2009.
- **The Thames River Watershed, A Heritage Landscape Guide**. Published by the Carolinian Canada Coalition and the Thames Canadian Heritage River Committee. Thames River Coordinating Committee. 1997.
- **Thames River Nomination Document**. Printed by the Upper Thames River Conservation Authority. Submitted to the Canadian Heritage Rivers Board. Thames River Background Study Research Team and Upper Thames River Conservation Authority. 1997.
- **Background Study: Thames River Watershed, Ontario**. Written for the Canadian Heritage Rivers System. Thames River Coordinating Committee. 2000.
- **The Thames Strategy: Managing the Thames as a Canadian Heritage River**. Tabled with the Canadian Heritage Rivers Board January, 2000.

Conclusions from the 2000-2012 Canadian Heritage River System Report"

"The Thames River watershed still meets CHRS Guidelines for its cultural and recreational values

based on the 12 year review of activities, studies and improvements in the watershed summarized in this document. Although the presence of dams precluded nomination based on natural heritage values, improvements to the natural heritage of the Thames watershed through various stewardship activities are notable.

The analysis of Integrity Guidelines in Chapter 6 showed no threats to most values. The only threats are wide ranging issues such as climate change, that are not isolated to the Thames River, and whose impacts are unknown at this time. However, researchers such as Slobodan Simonovic of the Institute for Catastrophic Loss Reduction has been working on climate change models for the Thames region for several years and is helping conservation authorities and municipalities with understanding the risks and planning for the future.

The threat of fluctuating government and non-government funding for cultural, environmental and recreational sites and programs, is an ongoing challenge. The fact that so many important sites, museums, events, education programs, stewardship programs, etc. continue, is a testament to the dedication of their stewards, both volunteer and staff.

Since designation in 2000, the appreciation of the Thames River has grown in many ways throughout the watershed. Designation to the Canadian Heritage Rivers System has had positive outcomes for the river and its communities.

The Thames River should retain its designation as a Canadian Heritage River."