

1ST REPORT OF THE
ADVISORY COMMITTEE ON THE ENVIRONMENT

Meeting held on December 7, 2016, commencing at 12:15 PM, in Committee Room #4, Second Floor, London City Hall.

PRESENT: S. Ratz (Chair), K. Birchall, S. Brooks, S. Hall, R. Harvey, M.A. Hodge, J. Howell, L. Langdon, G. Sass, N. St. Amour, D. Szoller, A. Tipping and J. Bunn (Secretary).

ABSENT: M. Bloxam and T. Stoiber.

ALSO PRESENT: S. Armstrong, G. Barrett, E. Kuisma, C. Warring and G. Zhu.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

II. ORGANIZATIONAL MATTERS

2. Election of Chair and Vice Chair for the term ending November 30, 2017

That it BE NOTED that the Advisory Committee on the Environment elected S. Ratz and S. Hall as Chair and Vice Chair, respectively, for the term ending November 30, 2017.

III. SCHEDULED ITEMS

3. Watershed Report Cards, Thames River Pollution and Lake Erie Algal Blooms, Glen Cairn Community Initiatives and LID Projects/Opportunities

That it BE NOTED that the attached presentations from K. Maaskant, I. Shah and S. Gillingwater from the Upper Thames River Conservation Authority with respect to Watershed Report Cards, Thames River Pollution and Lake Erie Algal Blooms, Glen Cairn Community Initiatives and LID Projects/Opportunities, were received.

IV. CONSENT ITEMS

4. 11th Report of the Advisory Committee on the Environment

That it BE NOTED that the 11th Report of the Advisory Committee on the Environment from its meeting held on November 2, 2016, was received.

5. 12th Report of the Environmental and Ecological Planning Advisory Committee

That it BE NOTED that the 12th Report of the Environmental and Ecological Planning Advisory Committee from its meeting held on November 17, 2016, was received.

6. Municipal Council Resolution - Terms of Reference for the Advisory Committee on the Environment

That it BE NOTED that the Municipal Council Resolution from its session held on November 8, 2016, with respect to proposed amendments to the Terms for Reference for the Advisory Committee on the Environment, was received.

V. SUB-COMMITTEES & WORKING GROUPS

None.

VI. ITEMS FOR DISCUSSION

7. City Budget

That it BE NOTED that the Advisory Committee on the Environment (ACE) held a general discussion related to the City Budget and the ACE budget; it being noted that the ACE will review its subcommittee structure in the new year.

8. Orgaworld and StormFisher

That Civic Administration BE REQUESTED to provide the Advisory Committee on the Environment with future staff reports related to the Orgaworld and StormFisher facilities.

9. Urban Agriculture Conference Update

That it BE NOTED that the committee held a general discussion related to the Urban Agriculture Conference; it being noted that D. Szoller provided the attached submission to the Advisory Committee on the Environment.

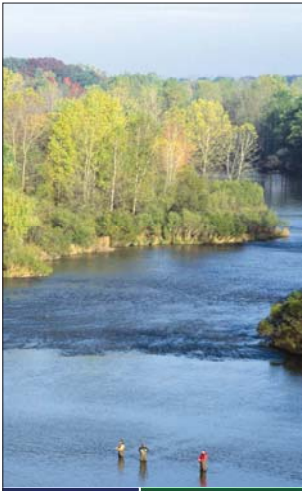
VII. DEFERRED MATTERS/ADDITIONAL BUSINESS

None.

VIII. ADJOURNMENT

The meeting adjourned at 2:25 PM.

NEXT MEETING DATE: January 11, 2017



**UTRCA Presentation
to Advisory Committee on
the Environment
City of London**

December 7, 2016

Imtiaz Shah – Environmental Engineer
Scott Gillingwater – Species at Risk Biologist
Karen Maaskant – Water Quality Specialist


UPPER THAMES RIVER CONSERVATION AUTHORITY: INSPIRING A HEALTHY ENVIRONMENT

Water Quality in the Thames River

Questions to address:

- Contribution of the Thames River to algae blooms in Lake Erie
- UTRCA Watershed Report Cards

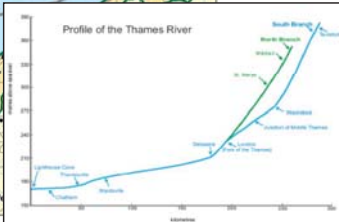
Thames River Watershed



Area: 5,692 km²
Length: 280 km

Land use:
82% Agriculture
7.8% Urban
8.7% Tree cover
50% tile drained

Population:
600,000



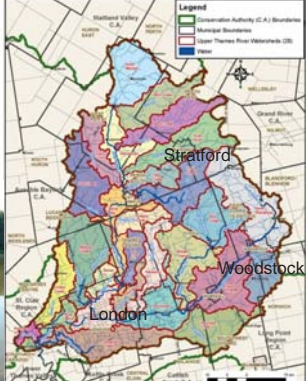


Monitoring the Thames

To assess the stream health and pollution levels, identify issues, target new work

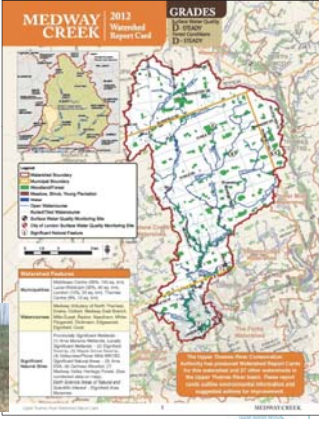
- Water Chemistry: nutrients, metals, chloride
- Bacteria: *E. coli*
- Fish Communities
- Benthic Invertebrates
- Pesticides
- Temperature
- Groundwater
- Flow
- Reservoirs

Long Term (up to 50 years) Partnerships

Watershed Report Cards

- Report on environmental information every 5 years (2001, 2007, 2012...2017)
- Grades for Water Quality and Forests
- Good scientific data
- Concise and understandable
- Action Plan - Motivate Action



Surface Water Quality Results 2012

Grades

- 12 watersheds - C
- 16 watersheds - D
- Target is a B
- 12 improving, 16 steady

Improved from 2001 to 2007 to 2012:

- Avon River, Dingman Creek, Stoney Creek

Watershed Features

Population

- 4% increase (2006 to 2011) to 515,600
- Stoney Creek +39% (+4500)

Dams and Barriers

- 177 total (Medway Creek has 24)

Aquatic Species

- 77 fish species, mussels, reptiles, species at risk

Watercourses

- 4400 km, 35% natural, 65% channelized or buried

Wetland Cover

- 5% overall: Black Creek (10%), Dorchester (12%)
- 107 Significant Wetlands (Provincially and Locally)



Target Watersheds

- Community Based Watershed Strategy
- 8 target watersheds
- 4 watershed coordinators
- \$1 M in funding brought in to implement recommendations
- 50 committee members
- 20,300 students involved
- Many partners



Thames River Contribution to Lakes St. Clair and Erie Algae

- 1970's Lake Erie Algal Blooms – US and Canada solved
- Mid-90's algae returned, currently extreme harmful algal blooms
- NEW: toxic algae, extreme weather events, lake ecosystem P threshold is lower
- Canada and US Target: 40% reduction of Phosphorus in key watersheds by 2025
- Thames River and Leamington are target Canadian watersheds
- Domestic Action Plans – Canada and US

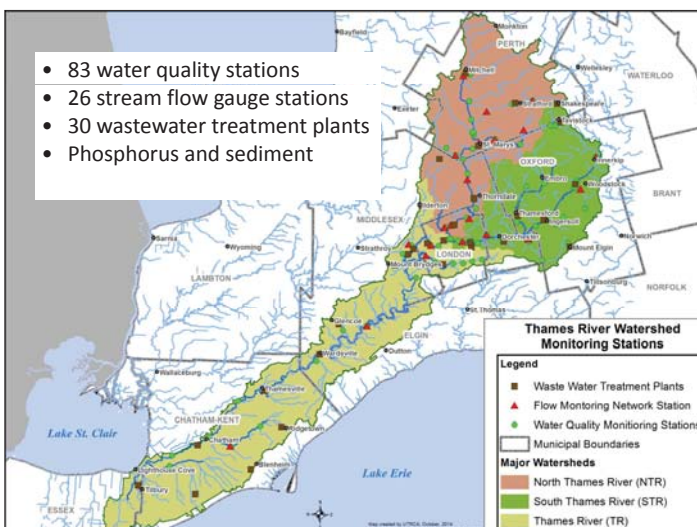


Water Quality Assessment Project: to understand sources of phosphorus across the Thames

- **Freshwater Research (Gertrud Nürnberg, Ph.D., Bruce LaZerte, Ph.D.)**
- Project team:
 - Ontario Ministry of the Environment & Climate Change
 - Ontario Ministry of Agriculture, Food and Rural Affairs
 - City of London
 - Environment Canada
 - Western University
 - Lower Thames Valley Conservation Authority
 - Upper Thames River Conservation Authority



- 83 water quality stations
- 26 stream flow gauge stations
- 30 wastewater treatment plants
- Phosphorus and sediment




Study Findings

- phosphorus and sediment loads are mainly from winter/spring runoff
- phosphorus loads are contributed by all individual tributaries across the Thames watershed
- 85% of phosphorus load is from runoff (non-point sources)



Thames River Export into Lake St. Clair



Average Thames Phosphorus Load

- 342 Tonnes/yr
- 113 10³ Tonnes/yr Suspended Sediment

Range in Thames Phosphorus Load
2011: 835 Tonnes /yr
Wet year, record algae bloom in Lake Erie

2012: 169 Tonnes/yr
Dry year, small algae bloom

Maumee River Ohio Phosphorus Load

- 3800 Tonnes/yr

CA Recommendations Thames River Water Management Plan



Expand and target implementation of urban and rural BMPs which reduce phosphorus and erosion runoff across the watershed:

- Expand the rural Clean Water Program to deliver an enhanced program targeted at BMPs for phosphorus reduction. Increase work with landowners to target priority actions
- Expand the urban Low Impact Development program by increasing capacity for education, outreach, technical assistance and demonstration.
- Implement social marketing for watershed community action on nutrient reduction



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.


Partners are:

- [Aamijwnaang First Nation](#)
- [Bkejwanong Territory \(Walpole Island First Nation\)](#)
- [Caldwell First Nation](#)
- [Chippewas of the Thames First Nation](#)
- [Lower Thames Valley Conservation Authority](#)
- [Upper Thames River Conservation Authority](#)
- [City of London](#)
- [Environment Canada](#)
- [Ontario Ministry of Agriculture, Food and Rural Affairs](#)
- [Ontario Ministry of the Environment and Climate Change](#)
- [Ontario Ministry of Natural Resources and Forestry](#)



Step 1: Water Management Plan:
For Thames River Water Quality, goal is to protect and improve water quality to:


- 1) Improve river and stream health
- 2) Reduce P load impact of Thames River on Lake Erie and Lake St. Clair



Low Impact Development in the Upper Thames Watershed

Dr. Imtiaz Shah P.Eng.
Environmental Engineer

ACE
City of London
December 7, 2016





Overview

- Importance of SWM LIDs
- UTRCA and LID
- Benefits of LID
- LID Costs
- LID Performance
- LID Maintenance



Importance of SWM LIDs

- Section 1.6.6.7 subsection (a):
 - Shall promote stormwater management best practices, including stormwater attenuation and re-use, and low impact development.
- Local Leadership in innovative SWM LIDs.
- SWM LIDs and the 40 % phosphorous reduction goal by 2025;
- MOECC new SWM guidelines document; and
- Several projects within UTRCA watershed.



UTRCA and LID: Barriers to SWM LIDs

- **Technical Barriers:**
 - Lack of construction experience
 - Absence of LID guidelines
 - Lack of data on LID.
 - **Physical Barriers:**
 - High groundwater table
 - Soil not suitable
 - Contaminated soil.
 - **Institutional Barriers:**
 - No incentives for developers and landowners
 - Absence of supportive policies at municipal level
 - Lack of awareness and knowledge.
- 2014 survey – municipalities, consultants, developers
 - Gauge familiarity with LID



Pilot Projects: Conventional vs. LID SWM Approaches

- Luckhurst Court Sebringville LID Project





Subdivision - Sebringville



- Conventional: storm sewers, concrete outlet
- LID: dry bio-swale with perforated pipe, check dams, riprap outlet to Black Creek
- Cost savings \$23,515 or 31% (\$75,417 vs. \$51,902)

Subdivision - Ingersoll



Subdivision - Ingersoll

- 41 unit condo development;
- Proposed conventional: storm sewers and retention pond;
- LID: bioswales and rain gardens; and
- Cost savings \$88,790 or 41% (\$214,668 vs. \$125,878), plus 2 additional units.



Source: Warren Sinclair Homes

Benefits

Direct Benefits

- Decrease runoff volume and peak flow
- Improves water quality
- Reduces erosion
- Replenishes groundwater
- Reduces spending for:
 - Land acquisition for SWM
 - Traditional SWM
 - Municipal infrastructure maintenance

Indirect Benefits

- Increases green space
- Creates local green jobs
- Contributes to wildlife habitats
- Reduces urban heat effect
- Increases property values



Project	Conventional Cost	LID Cost	Cost Difference	Percent Difference
Washington	\$868,803	\$651,548	\$217,255	25%
Wisconsin	\$2,360,385	\$1,598,989	\$761,396	32%
Washington	\$27,600	\$5,600	\$22,000	80%
Washington	\$52,800	\$12,800	\$40,000	76%
Arkansas	\$4,620,600	\$3,942,100	\$678,500	15%
Washington	\$324,400	\$260,700	\$63,700	20%
Washington	\$765,700	\$1,502,900	-\$737,200	-96%
Wisconsin	\$1,654,021	\$1,149,552	\$504,469	30%
Illinois	\$12,510	\$9,099	\$3,411	27%
Wisconsin	\$1,004,848	\$599,536	\$405,312	40%
Maryland	\$2,456,843	\$1,671,461	\$785,382	32%
Illinois	\$3,162,160	\$2,700,650	\$461,510	15%

Source: US EPA, 200



Performance

Source: TRCA, 2013

Study	Practice	Soil Type	Runoff Reduction	Underdrain
U of Guelph & TRCA, 2011	Permeable Pavement	Silty Clay Till	43%	Yes
TRCA, 2008	Permeable Pavement	Silty Clay Till	99%	No
SWAMP, 2002	Perforated Pipe	Clay to Clay Silt Till	47-86%	No
TRCA, 2013	Infiltration Chamber	Sandy Silt Till	90%	No
TRCA, 2011	Detention Chamber	Sandy Silty Clay Till	Negligible*	No
TRCA, 2011	Bioretention	Silty Clay Till	~90%	Yes
Toledo, 2009	Bioretention	Clay	64%	Yes
Medison	Bioretention	Clay Loam	95%	No



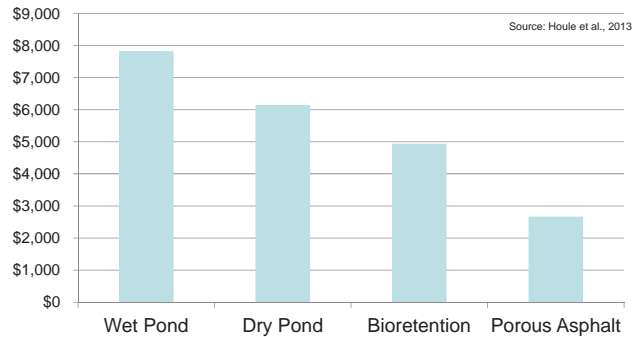
Maintenance

- Routine maintenance:
 - Watering plants as needed
 - Remove trash, debris, accumulated sediment
 - Replant bare soil areas
 - Add mulch to maintain thickness
 - Remove weeds
 - Prune plants as needed



Annual O&M Cost (\$/year)

Source: Houle et al., 2013





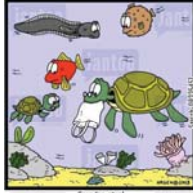
LID and Water Quality

Table 1. NW 110th Cascade Project: Pollutant Removal (2004–2006)

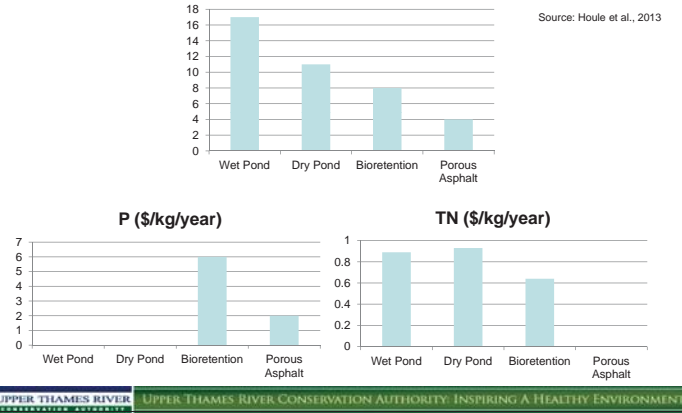
Pollutant	Pollutant Mass Loading Reductions ¹
Total suspended solids	84%
Total nitrogen	63%
Total phosphorus	63%
Total copper	83%
Dissolved copper	67%
Total zinc	76%
Dissolved zinc	55%
Total lead	90%
Motor oil	92%

¹ As compared to traditional street drainage

Source: Harner and Chapman, 2007
 NW 110th Street Natural Drainage System Performance Monitoring (www.seattle.gov)



Annual O&M Costs per kg Pollutant Removed





Effects of Barriers and Low Flow on Species At Risk Along the Upper Thames River



UPPER THAMES RIVER
CONSERVATION AUTHORITY

Scott D. Gillingwater, Species At Risk Biologist
Upper Thames River Conservation Authority

Wildlife Found Along The Thames River

The Thames River is one of Canada's most southern watercourses. The river and its many tributaries are rich in aquatic life, with approximately:

- 90 species of fish
- 30 species of freshwater mussels and
- 30 species of reptiles and amphibians
- Countless birds, mammals and invertebrates also depend on the existence and health of the Thames River

Species At Risk

- Many of the native species that live in the Thames are found almost nowhere else in Canada
- Since the Thames River is located on the northern edge of the Carolinian Zone, is connected to the great lakes, has a moderate climate, and is situated in a highly developed part of southern Ontario, the river and the species within it face many pressures from urban and rural land uses and human activities.

Fishes At Risk

- The Thames River is home to the most diverse fish fauna in Ontario.
- More than 90 fish species recorded in the Thames watershed
- Ten species of fish found in the Thames are at-risk
- Generally, species that prefer clear, fast flowing water are declining while those favouring turbid (less clear) conditions are increasing

Threats to fish populations include:

- pollution
- impoundments (dams, weirs)
- siltation
- habitat alteration or destruction
- invasive species (e.g., common carp, zebra mussels)
- diseases such as VHS

Freshwater Mussels At Risk

- Historically, the Thames River supported one of the richest communities of freshwater mussels in Canada
- there has been a significant decline in freshwater mussel diversity with three believed to be extirpated from the river and two more nearing extirpation
- The mussel species that have disappeared were characteristic of a healthy aquatic environment, so their loss is an indication that conditions in the river may be deteriorating.
- Currently, there are 10 (of 30) at-risk mussel species within the Thames watershed

Threats to mussel populations include:

- pollution
- siltation
- impoundments (dams, weirs)
- muskrat and raccoon predation
- invasive species (e.g., zebra mussels)
- channelization
- loss of larval host species (e.g., fish, mudpuppy)

Aquatic Reptiles At Risk

- Globally, turtles and snakes are declining at an alarming rate.
- In Ontario, seven of our eight native turtle species have been listed as at risk and eleven of Ontario's 18 native snake are listed as at risk.
- Of Ontario's 26 snakes and turtles, 17 can be found along the Thames River Watershed. Of these 17 species, 12 are at-risk.

Threats to reptile populations include:

- habitat loss and alteration
- road mortality
- predation
- impoundments (dams)
- pollution
- recreational activities
- collection for food or as pets
- human persecution

Threats to Wildlife

Most species at risk are sensitive to environmental changes. Aquatic species at risk require clean water and a healthy river to survive. If their populations are declining, it is a warning sign for the state of the river's health.

There is no single threat, but rather a number of issues leading to declines

Road Mortality



Persecution



Illegal Collection



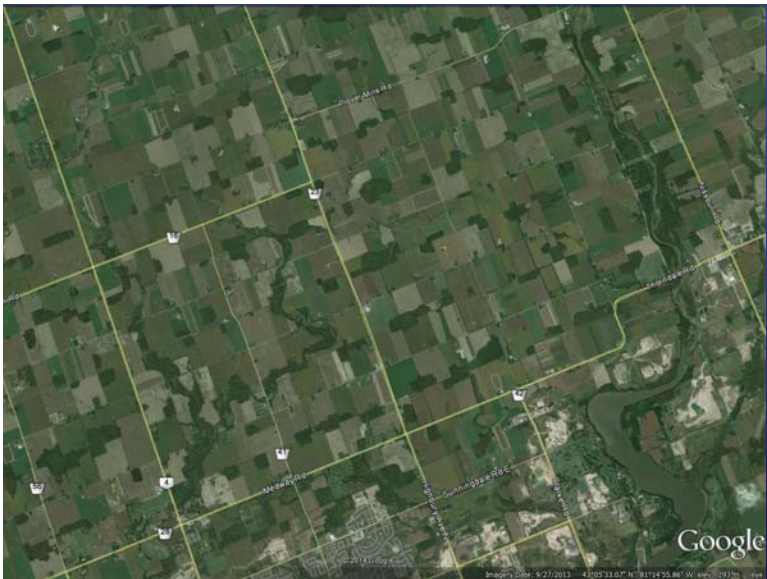
Improper Farming Practices



Invasive Plants



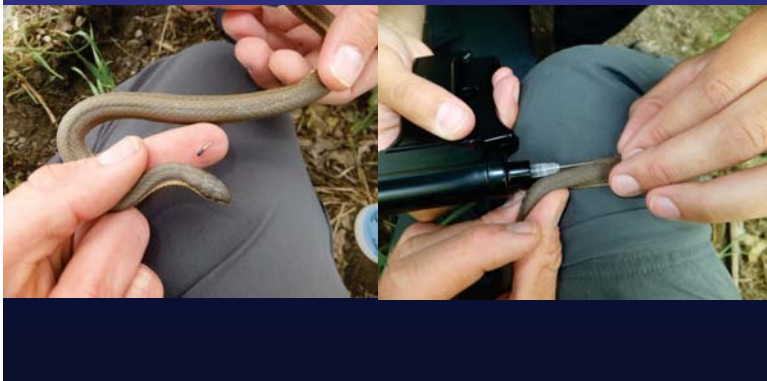
Habitat Loss







Looking At Population Sizes, Movement, Habitat Selection, Threats and Behaviour







Barriers and Impoundments

- Not appropriate for many wildlife, especially specialist river species
- Aquatic wildlife that migrate are either permanently blocked or seasonally blocked by barriers. This can result in decreased population viability and eventual extirpation
- Artificially raised water of impoundments can change thermal properties of the water, can limit flushing of toxins and changes the habitat necessary for many wildlife species

Barriers and Impoundments

Regulated (impounded) waters undergo a significant reduction in productivity. Alternatively, natural riffles and pools produce an oxygenated substrate that supports abundant life, primarily microbes and invertebrates, which form the basis of the food chain.

Regulated water causes oxygen depletion in the substrate and often in the lower stream layer greatly limiting productivity. A flowing system tends to support a healthy, diverse community including many of our Species At Risk and game fish.

Regulated flows favour coarse, tolerant "common" species, including some invasive species such as Zebra Mussel and Eurasian Carp.

A flowing system also serves as a biological water treatment plant, metabolizing pollutants and nutrients as it flows.

In addition to creating impaired habitat and decreased water quality up and downstream of the dam, barriers tend to partition habitat (e.g feeding, overwintering, spawning and nursery areas) which can reduce population levels.

Low water levels are common throughout much of the Upper Thames River, and it is the natural process of low water periods and relatively short high water periods, that the countless species that use the Thames River have evolved with.

People often associate fish and other aquatic wildlife with deep water, though in reality, high biodiversity is often associated with shallow water river systems that have a mosaic of differing habitat types and seasonal fluctuations. It is human alteration of natural systems that often causes the most harm.

Questions?



Urban Agriculture Conference – Speaker Biographies

Urban Agriculture Policy for Municipalities

Lauren Baker, PhD - Toronto Food Policy Council

Lauren has over 20 years of experience working on food system issues. Her expertise ranges from research on maize agrobiodiversity in Mexico to negotiating and developing municipal food policy and programs. Lauren currently works as a consultant with the Global Alliance for the Future of Food, supporting their strategic initiatives and programs. Previously, Lauren was a Food Policy Specialist with the Toronto Food Policy Council, leading a citizen advisory group embedded within the City of Toronto's Public Health Division. She has consulted on farm to fork initiatives and food policy development across Canada, and globally. Lauren's past work includes founding director of Sustain Ontario, Board of Director roles with Everdale Environmental Learning Centre and Food Secure Canada, as well as starting Canada's first certified organic rooftop farm. Lauren teaches at the University of Toronto and is a research associate with Ryerson University's Centre for Studies in Food Security. <https://laurenbaker.ca/about/>

Ellen Lakusiak, RD - Middlesex-London Health Unit

Ellen completed BSc and MSc both at the University of Guelph. She worked as a Public Health Dietitian in Sarnia, Ottawa and currently is working for the Middlesex-London Health Unit. Also, worked at Health Canada and Mead Johnson Canada and has done contract work, including writing and editing, for pharmaceutical and food industry, and the federal government. Published her first book, Eating Well When You're Pregnant, in 1997. In 2015, she moved back "home" and is now working at the Middlesex London Health Unit as the Food Systems Dietitian. With motivated community partners, she has completed the Middlesex London Community Food Assessment and established the initial Middlesex London Food Policy Council in the fall of 2016.

Appropriate Technology for Urban Agriculture

Gary Wozniak – Recovery Park (Detroit)

Gary has spent his entire career in the financial arena. With 30+ years of hands on consulting, training and leadership experience he has helped many companies achieve economic success. In addition, Gary has owned several business ventures from restaurants to the health care arena. As the lead author of the RecoveryPark project in Detroit, Gary has brought together a coalition of 125+ government, education, non-profit and for-profit entities to vision a community development and large-scale metropolitan agriculture

project. RecoveryPark is poised to define what "triple bottom line" urban projects will model themselves after in the coming years.

Terry Nother – Local Enterprenuer

Terry's background is in sustainable technologies, water & air treatment, geothermal, and wind power. He's also involved in gardening with a Community Plot for the past 7 years. He arrived in London back in 1966 from Ireland, and belongs to a large & growing family. Terry is married to Eva, with two children, Adrian & Margaret, and four grandchildren.

The Role of Fruit and Nut Trees in Urban Agriculture

Susan Poizner – Orchard People (Toronto)

Susan Poizner is the founder of the Ben Nobleman Park Community Orchard in Toronto. She's the author of the award-winning fruit tree care book Growing Urban Orchards and the creator of the award-winning online fruit tree care training program at www.orchardpeople.com. Susan is also the host of The Urban Forestry Radio Show and Podcast on RealityRadio101, a monthly hour-long show that covers fruit trees, food forests, permaculture and more.

Jessica Robertson - Wild Craft Permaculture

Jessica has designed permaculture systems for spaces from 200 sq. ft. to 100-acres and works on residential, commercial and public projects. She is often involved in the implementation of these designs and enjoys sharing her knowledge with clients as they work alongside each other. She brings a background in biology, education, silviculture and urban planning to her work. She received her Permaculture Design Certificate from Verge Permaculture in Alberta in 2010.

Jessica loves her walkable, bikeable, neighbourhood of Wortley Village, London's river trail system, its vibrant markets, and the Carolinian forest ecosystem that she is continually learning from. Her four-year old daughter, husband, and three dogs can often be found foraging for edibles in the wild urban spaces near their home.

Economics of Urban Agriculture

Robert Orland – Backyard Bounty (Guelph)

Robert Orland founded Orland Conservation in 2003 as a social enterprise offering services in land conservation, food security and communications to municipalities, conservation authorities and land trusts. In 2008, Robert formed Backyard Bounty, an urban farming organization in Guelph that promotes community-based sustainable gardening and organic food production in partnership with local residents and business owners. Robert has delivered presentations and

workshops across Southern Ontario and abroad, and has facilitated and advised on the protection and stewardship of nearly 10,000 acres natural heritage lands and parks across Ontario.

Aaron Lawrence – The Root Cellar

Aaron grew up in rural Southwestern Ontario surrounded by corn. His interest in urban agriculture was sparked during his undergraduate years at Huron University College leading him to an eventual Master's in Anthropology at Western. During this time, he examined urban agriculture as placemaking, which had him spending time with rooftop rabbit raisers in Havana, Cuba, and neighbourhood farmers in Detroit, Michigan. For the last five years, Aaron, inspired by the cast of characters he met in both cities, has been involved with three local organic food businesses dedicated to food system change, On the Move Organics, The Root Cellar, and the London Brewing Cooperative.

Food Security through Urban Agriculture

Angela Elzinga Cheng – Food Share (Toronto)

Angela has been a community organizer and developer for over 13 years, and came to FoodShare after working at a neighbourhood-based food security organization in Vancouver, Canada and getting a Master's in Social Work at the University of British Columbia with a focus on community development and anti-oppression. Angela's passion is to support change towards a more just society that reflects the diversity of Toronto through food justice work. In the past, she has been involved with nationwide political action related to education reform.

Angela has supported Good Food Markets, community kitchens, community gardens, neighbourhood-based food planning, consulted to other cities on engagement and consultation practices, organized many city-wide events bringing politicians, funders, and community leaders together and facilitated a Toronto Community Housing (TCH) Community Garden Strategic Opportunities process with three partners and hundreds of community members, creating resources and recommendations.

Becky Ellis – Western University

Becky Ellis is an avid gardener, a permaculture educator and small-scale beekeeper. She is currently a PhD student in Geography at Western University where she studies urban agriculture with a particular interest in the relationship between people and bees. In 2010, she attended Earth Activist Training, a permaculture design course, and has been doing presentations, workshops, and projects about urban permaculture ever since. Becky previously worked for the London Community Resource Centre where she created

Sprouts - a experiential children's gardening program. For four years, she co-organized the Mantis Arts & Eco Festival, an annual celebration of local art and environmental sustainability. For over two decade, she has been an active community organizer participating in grassroots feminist, environmentalist and anti-racist organizations. Becky currently sits on the board of London Cycle Link and writes a blog - Permaculture for the People - about social justice in the permaculture movement.

The Role of Animals in Urban agriculture

Lorraine Johnson - Author

Lorraine Johnson is the author of more than 10 books related to environmental issues, urban agriculture, and native plant gardening, including City Farmer: Adventures in Urban Food Growing, 100 Easy-to-Grow Native Plants for Canadian Gardens, The New Ontario Naturalized Garden; and The Gardener's Manifesto. Lorraine has long been involved in urban agriculture. Most recently, she was the lead writer of the document "GrowTO: An Urban Agriculture Action Plan for Toronto," the recommendations of which were accepted for further study by Toronto City Council in November 2012. A recognized North American expert on native plant gardening and naturalization, Lorraine teaches a native plant ecosystems course in the Faculty of Environmental Studies at York University, and is the editor of Ground: Landscape Architect Quarterly.

Celeste Lemire – Urban gardener

Celeste has been interested in urban agriculture for many years, especially the keeping of small farm animals such as chickens and ducks. Her hero is Vandana Shiva. Her passion is studying soil ecosystems. She is currently exploring permaculture, restorative agriculture, and the paleolithic diet. These practices form a whole system that builds healthy soil. Healthy soil produces healthy food. Healthy food builds healthy people. Healthy people form healthy communities. Healthy communities are at peace.

Tom Cull, PhD – Poet Laureate for London

Tom is a poet, creative writing professor, community organizer, and active participant in London's vibrant arts scene. As a poet, Tom strives to write poems that are accessible, open to diverse groups, and engaged with the socio-political-environmental realities of our world. His poems comprise a wide variety of poetic forms, from traditional lyric to spoken word to experimental language. Tom's commitment to exploring our connection with animals and the natural environment is evident in his 2013 chapbook, What the Badger Said.