

Lake Simcoe Phosphorus Offset Program

Green Infrastructure Workshop
Ryerson University
June 18, 2018



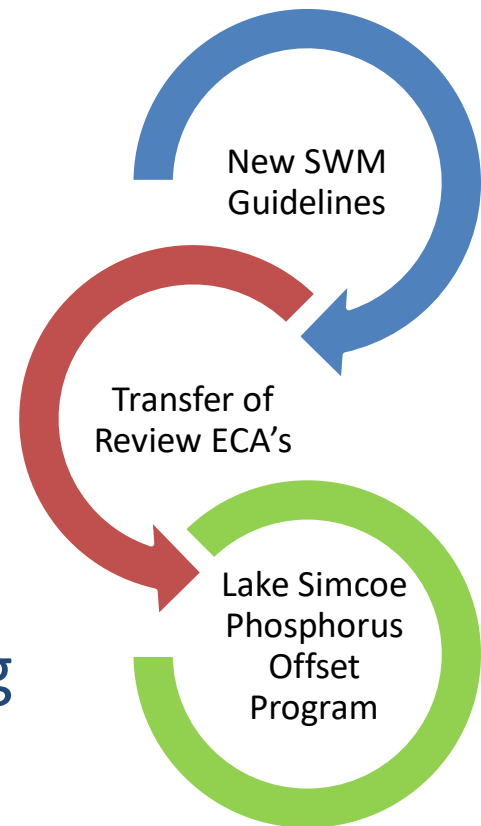
Lake Simcoe Region
conservation authority

Michael Walters, CAO

LSRCA Stormwater Strategy

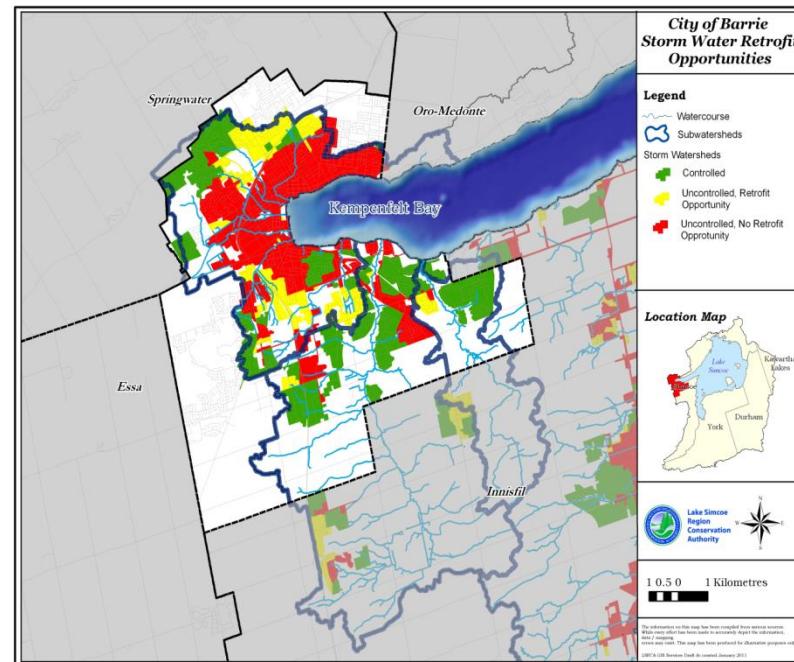
LSPOP is one of three initiatives to change how stormwater is managed within the Lake Simcoe Watershed.

- Minimize impacts from new development,
- Improve service delivery, reduce approval times,
- Improve water quality by reducing Phosphorus loading from existing development.



What is Phosphorus Offsetting?

- It is not “trading” but a required offset to meet the urban stormwater phosphorus reduction in the LSPP,
- The initial phase of LSPOP focuses exclusively on mitigating urban stormwater P loads from new development and redevelopment,
- This is achieved by providing resourcing to retrofit existing uncontrolled urban areas.

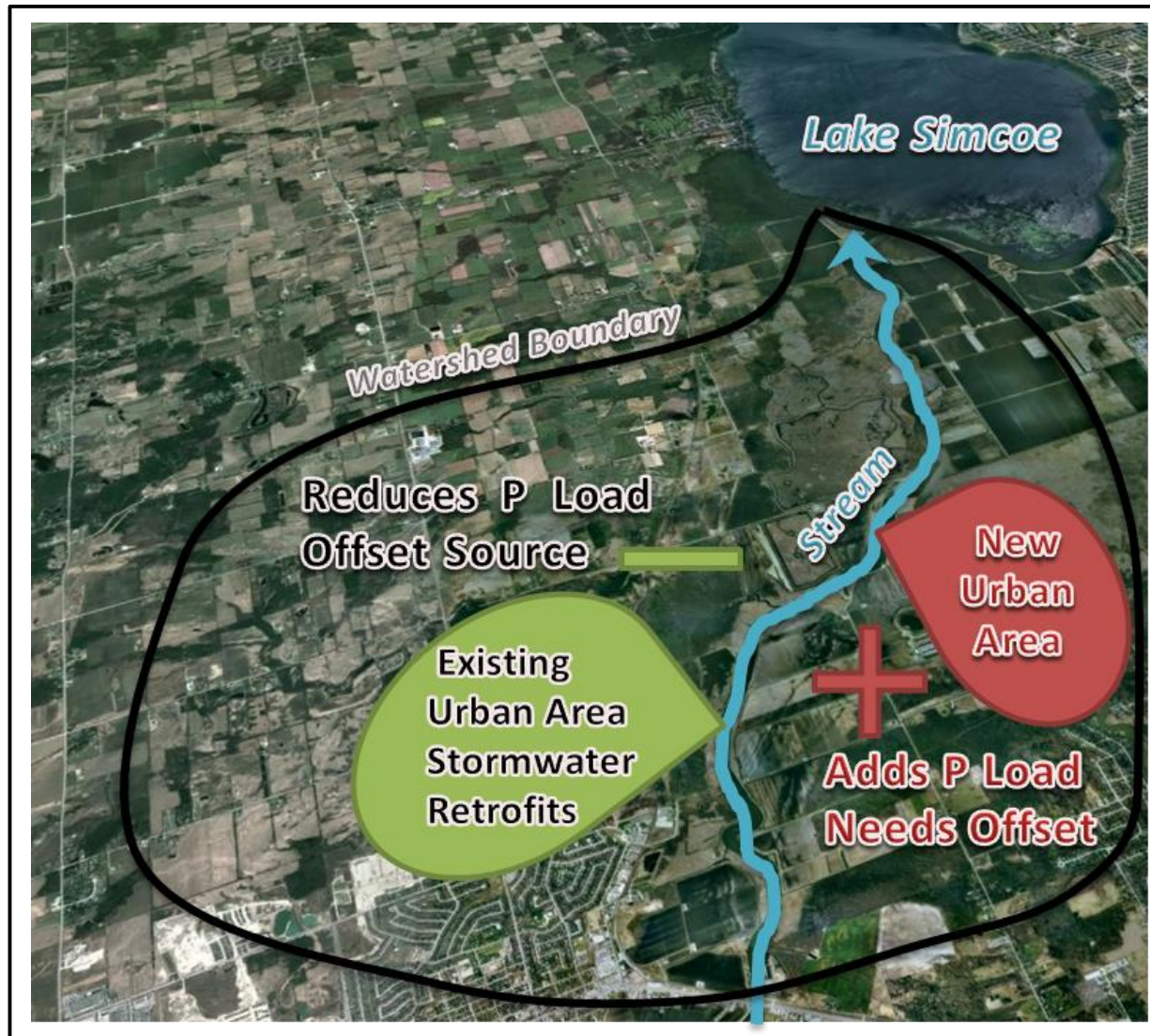


How It Works

- Proponents proposing development/redevelopment projects are required to consult with the LSRCA regarding their stormwater management plans (SWP),
- Based on the final SWP plan approved, a cost to achieve “Zero Export” will be assessed,
- Payment of the agreed upon amount will be required as a condition of draft plan approval (Municipal Planning Act),
- Revenue collected will go towards construction of urban retrofits and an administration cost.



How It Works



LSPPOP Example: New Development



- The proposed development will build homes and roads for 176 lots on a 9.2 ha site
- The percentage of impervious cover will increase to 45%
- Estimated annual TP load from the new development is 13.8 kg/year.
- The developer must maintain the water balance and reduce the phosphorus load to zero (0).

LSPOP Example: New Development



- Thru low impact development stormwater best practices the proponent can control 75% of the total phosphorus from the development, or 10.3 kg/y,
- Given that the post condition total load off the site is 13.8 kg/y phosphorus reduction needed to achieve net zero is **(13.8 – 10.3 = 3.5 kg/y)**

LSPOP Example: New Development

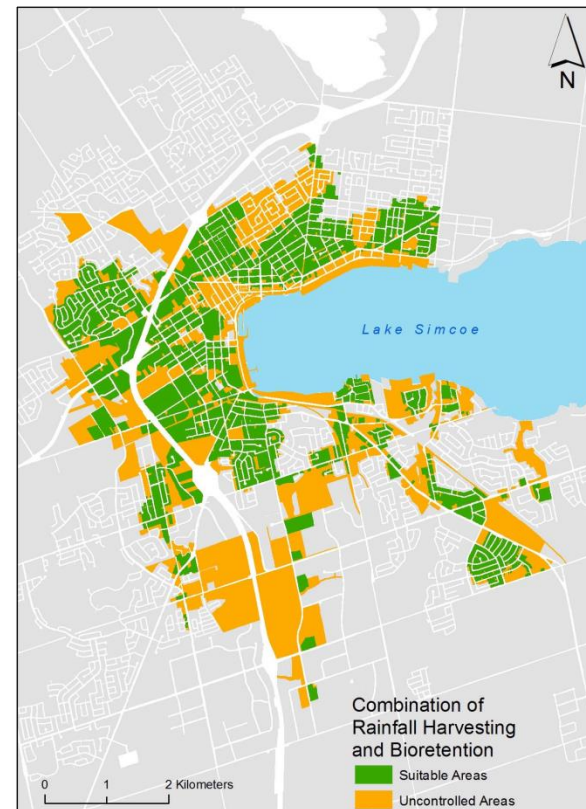
- Based on the stormwater offset ratio (2.5:1), the total amount of phosphorus needing to be offset is:
 $3.5 \text{ kg/year} \times 2.5 \text{ (offset ratio)} = 8.8 \text{ kg/year}$

Proposed Offset Purchase

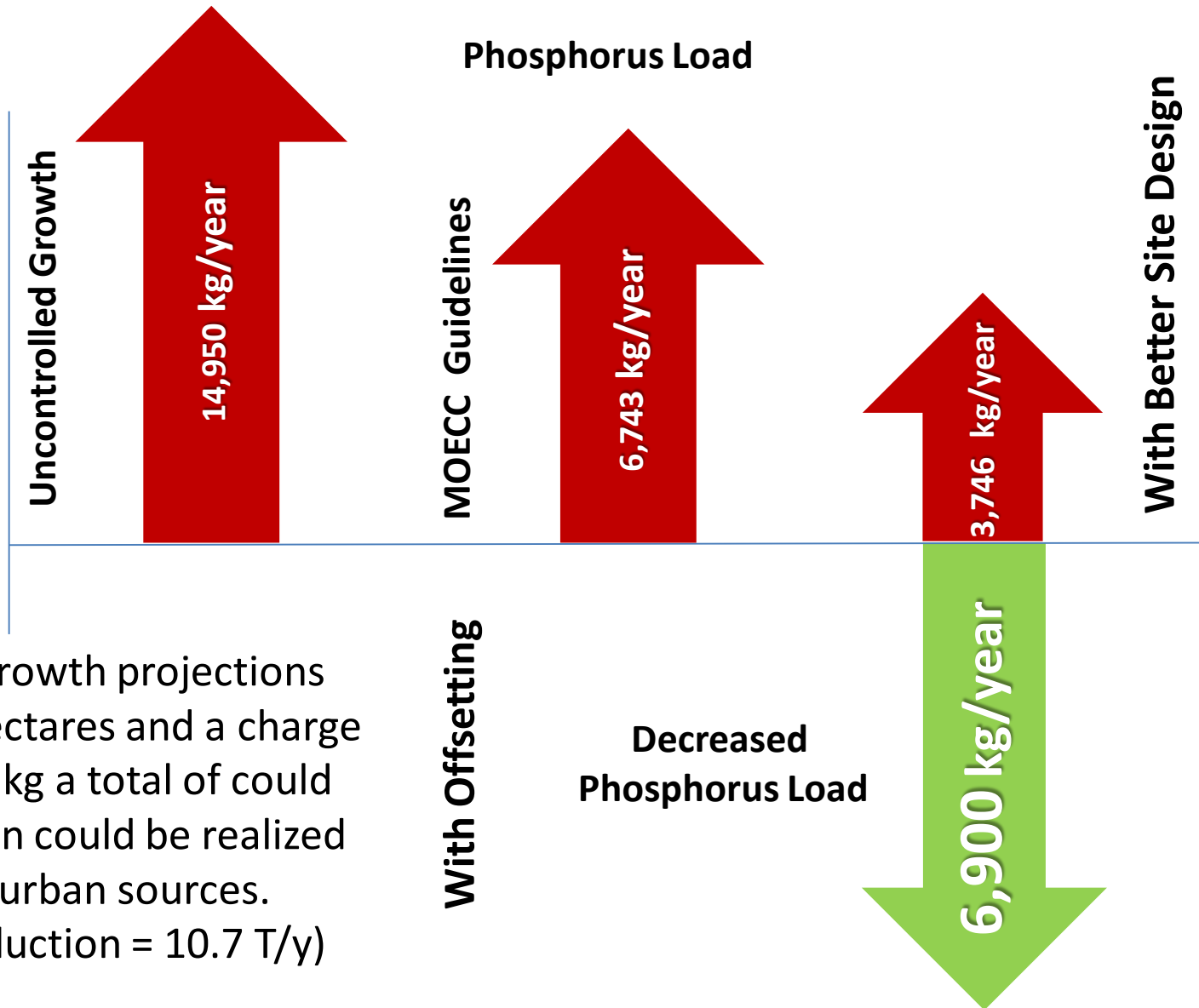
- $8.8 \times \$35,000 \text{ kg/y} = \$ 308,000$
- \$1,750 per lot

Retrofit Opportunities

- Conventional SWM controls, (ponds, engineered wetlands)
- LIDs, Water Harvesting, Green Roofs.



LSPOP Benefit Summary



Based on growth projections of 9,000 hectares and a charge of \$35,000 kg a total of could \$315 million could be realized to address urban sources. (Total P reduction = 10.7 T/y)

Other Benefits of LSPOP

Other social, economic and environmental benefits:

- Reduced peak flows, frequency and severity of flooding, risk to life, property and social disruption,
- Increased resilience of communities to climate change,
- Enhanced groundwater recharge to maintain groundwater drinking supplies and ecological services,
- Creation of green industry - jobs in construction, operation and maintenance,
- Drive innovation to find new BMP's,
- Facilities are aesthetically attractive, and provide opportunities for carbon offsetting.



QUESTIONS