

Land use change in the Lake Simcoe watershed from 2003-2018

LSRCA Board of Directors

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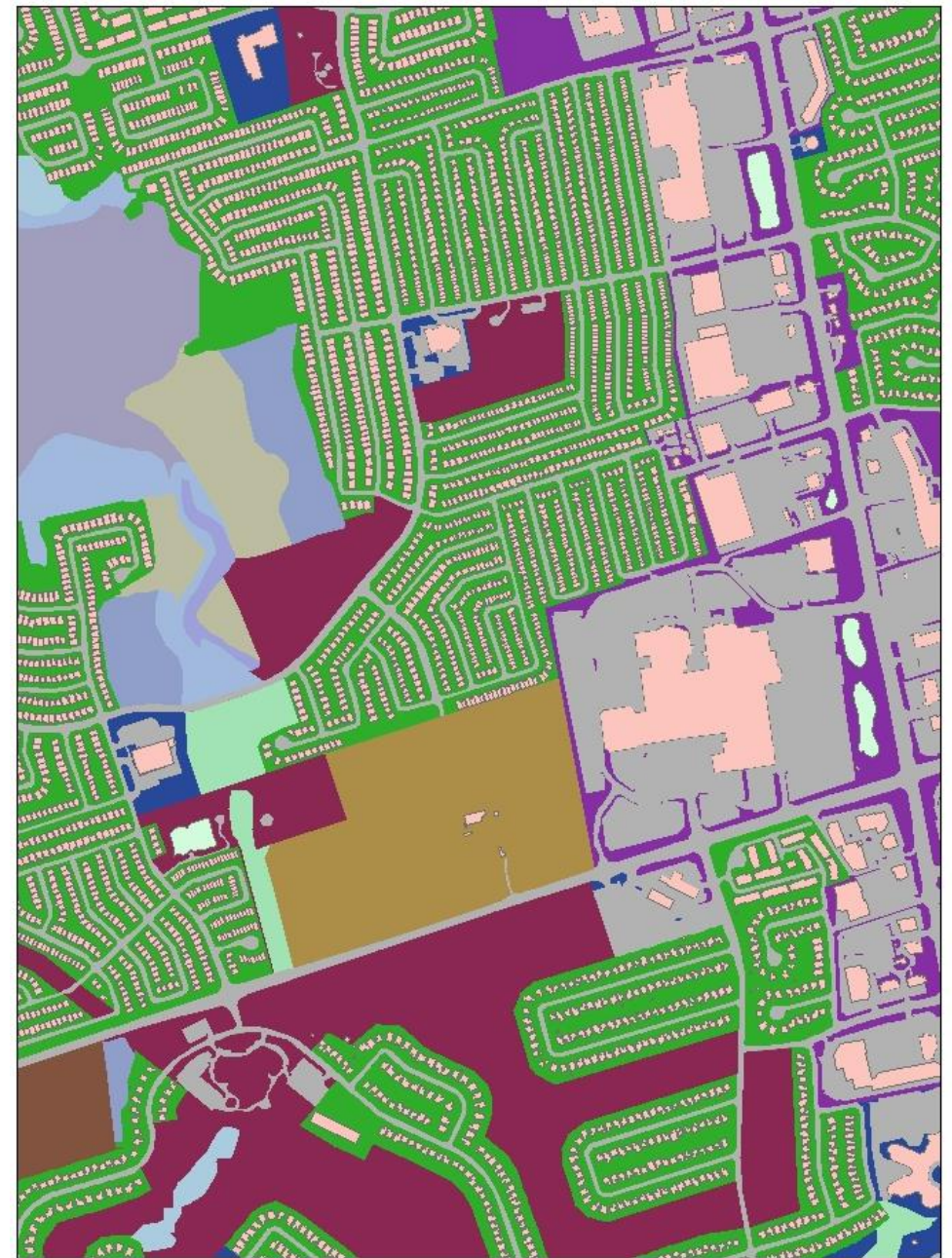


Lake Simcoe Region
conservation authority



Land cover maps

- Digitized air photos
- Done on a five year basis
- Cross-departmental effort
- Incredibly detailed data



Land use change

- Series of land cover maps
 - 2003
 - 2008
 - 2013
 - 2018
- Allow us to monitor changes in land use
- Basis for understanding changes in watershed health



Land use change: two examples

Impervious cover



Natural heritage cover



Impervious cover

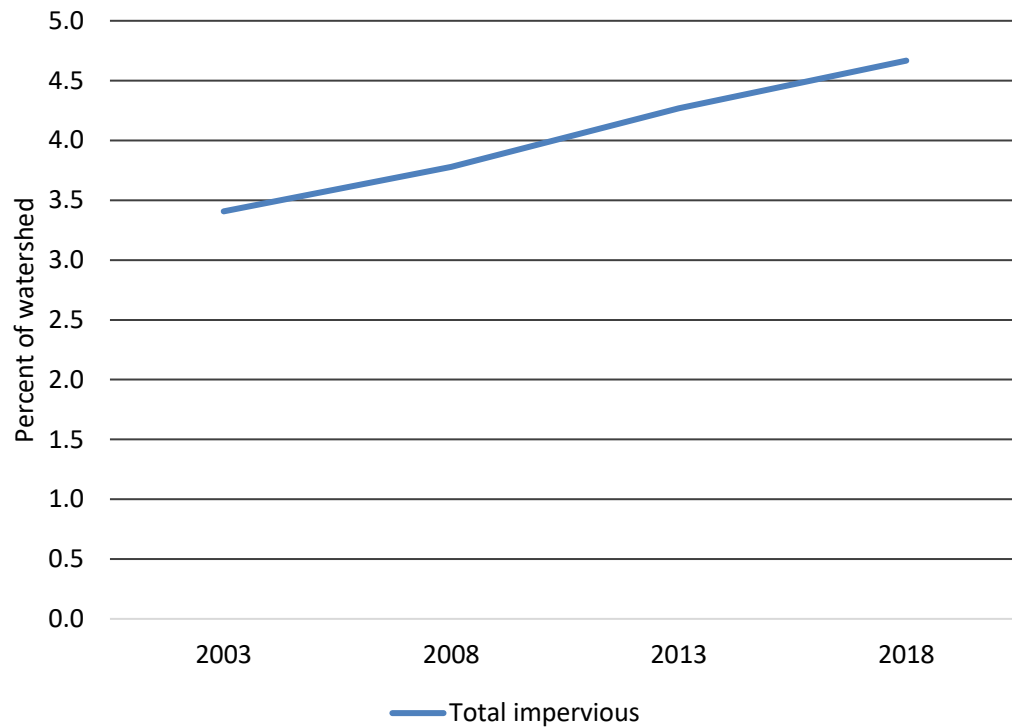


Associated with:

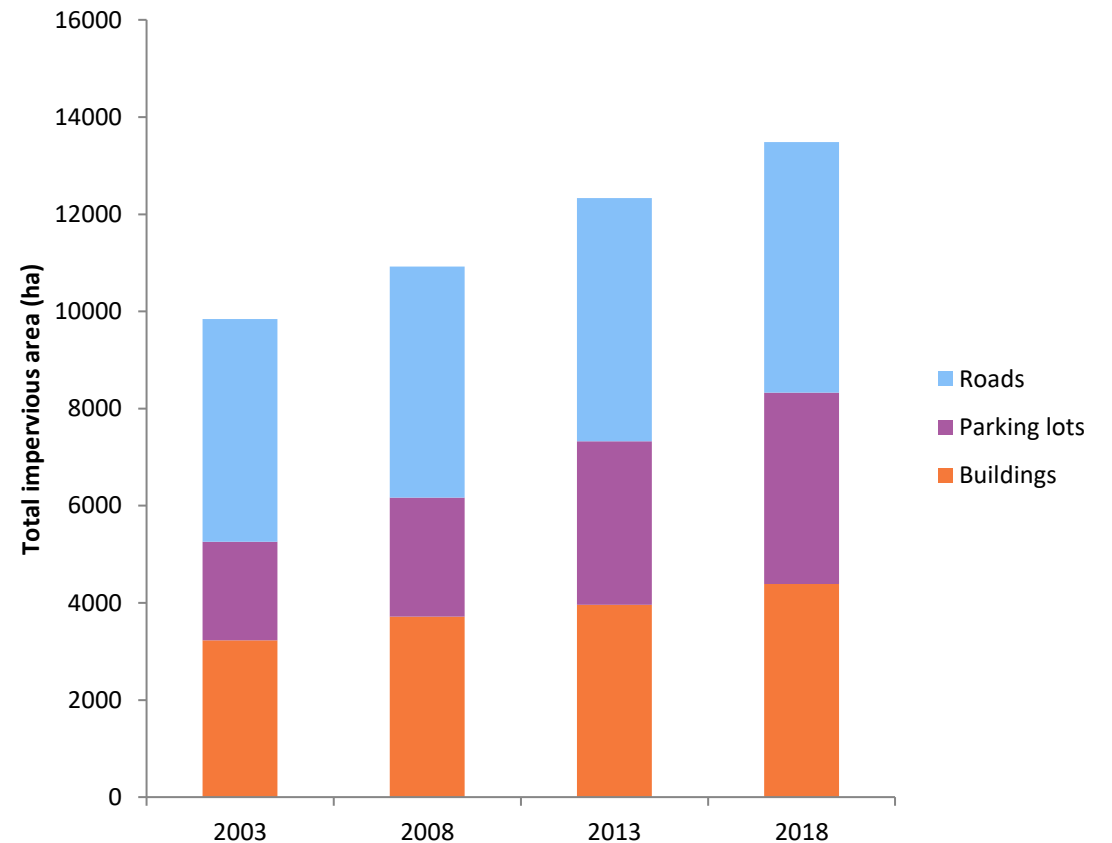
- Flashier streams
- Reduced groundwater recharge
- Greater phosphorus load to watercourses
- More salt applied (and more chloride to watercourses)
- Temperature impacts on streams
- Urban heat island

Impervious cover continued

Total impervious cover



Impervious cover type



Natural heritage cover

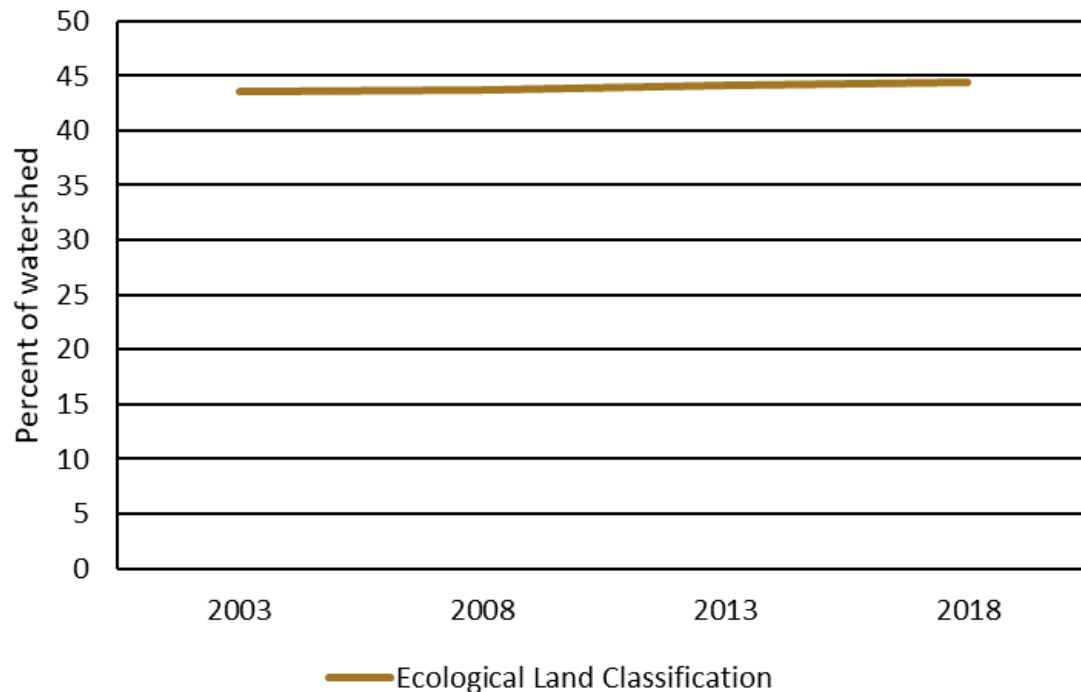
Associated with:

- Greater evapotranspiration
- More stable stream flow
- Reduced urban heat island
- Carbon sequestration
- Biodiversity
- Recreational opportunities

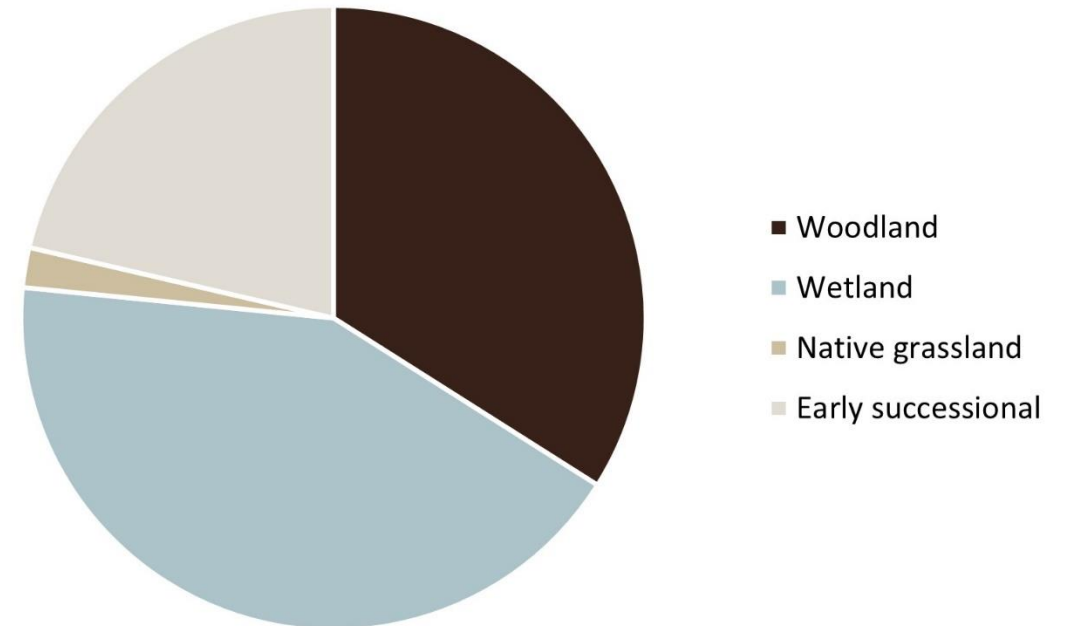


Natural heritage cover continued

Total natural heritage cover



Natural heritage categories



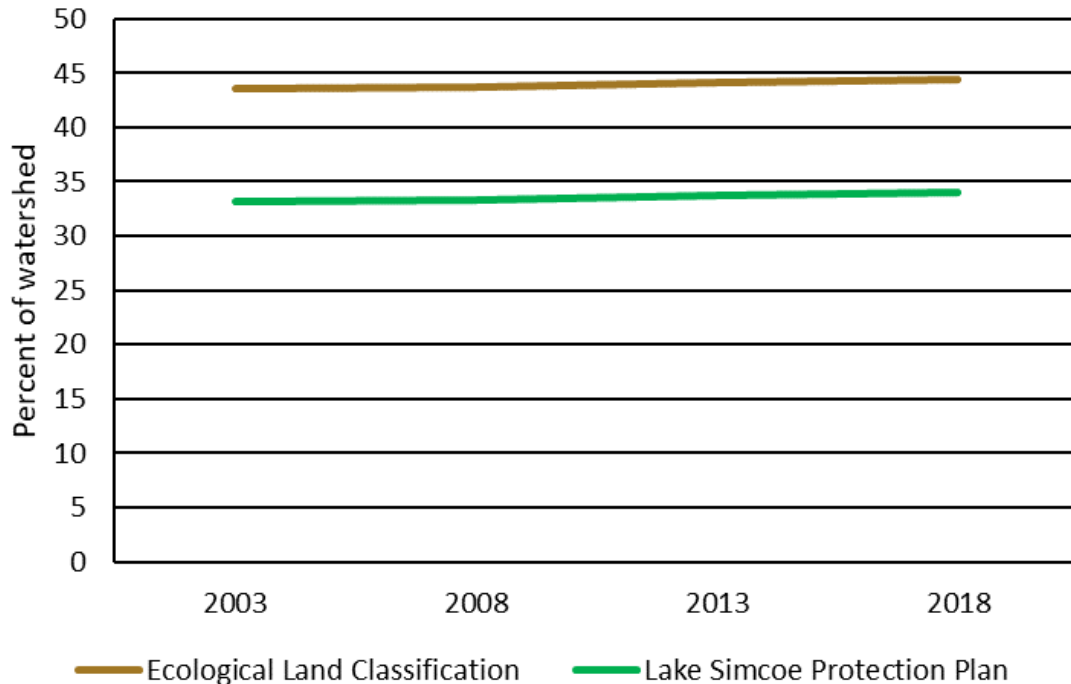
Early successional features

- Important habitat for some species
 - Grassland, shrubland birds
 - Pollinators
- Difficult to map
- Difficult to describe
- Often dominated by non-native species
- Less likely to be protected from land use change

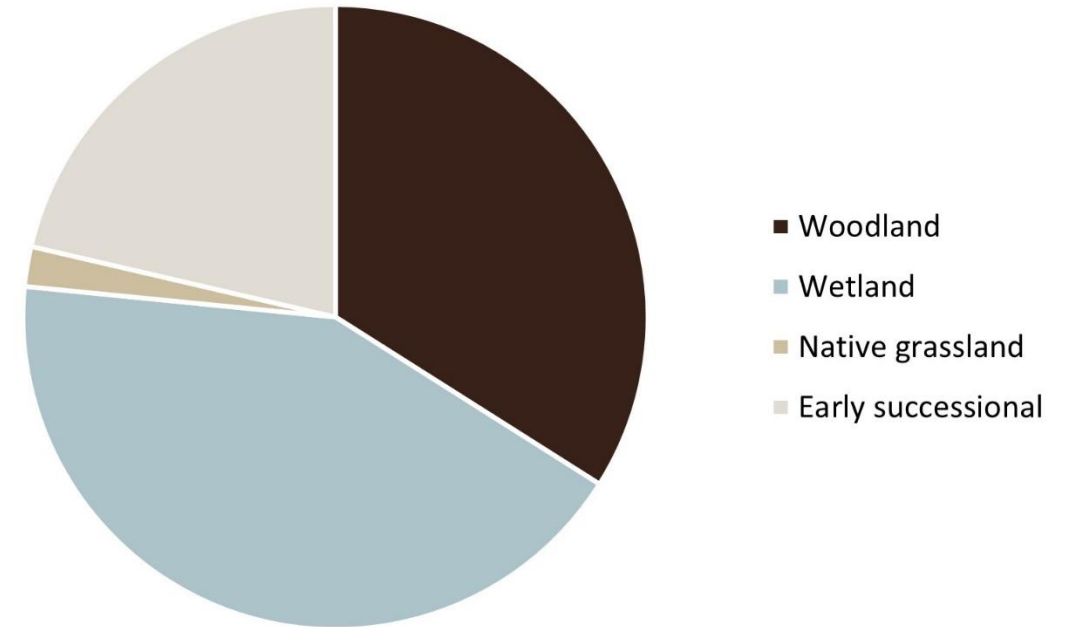


Natural heritage cover – Lake Simcoe Protection Plan

Total natural heritage cover



Natural heritage categories



Contributing factors

- Effective protection of key natural heritage features
- Restoration projects
- Changes in farm practices
- Changes in land ownership
- Potentially, delays in development



Lessons learned from land use change data

- Importance of urban stormwater management
- Value of intensification to reduce expansion of impervious areas
- Importance of protecting natural areas
- Importance of both restoration and natural succession to contributing to our goals



In summary

- We're making progress
- Our programming is focused on the critical areas
- Despite the rate of growth and development, we aren't seeing a loss in natural heritage features
- Ongoing efforts will be necessary to make sure this good news story isn't a temporary one



Thank you

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