

Trout Creek Water Quality



Trout Creek Meeting
September 17, 2009

















Understanding health of the river..

- Surface water quality
- Benthic invertebrates
- Fish
- Aquatic species at risk
- Stream flow
- Groundwater

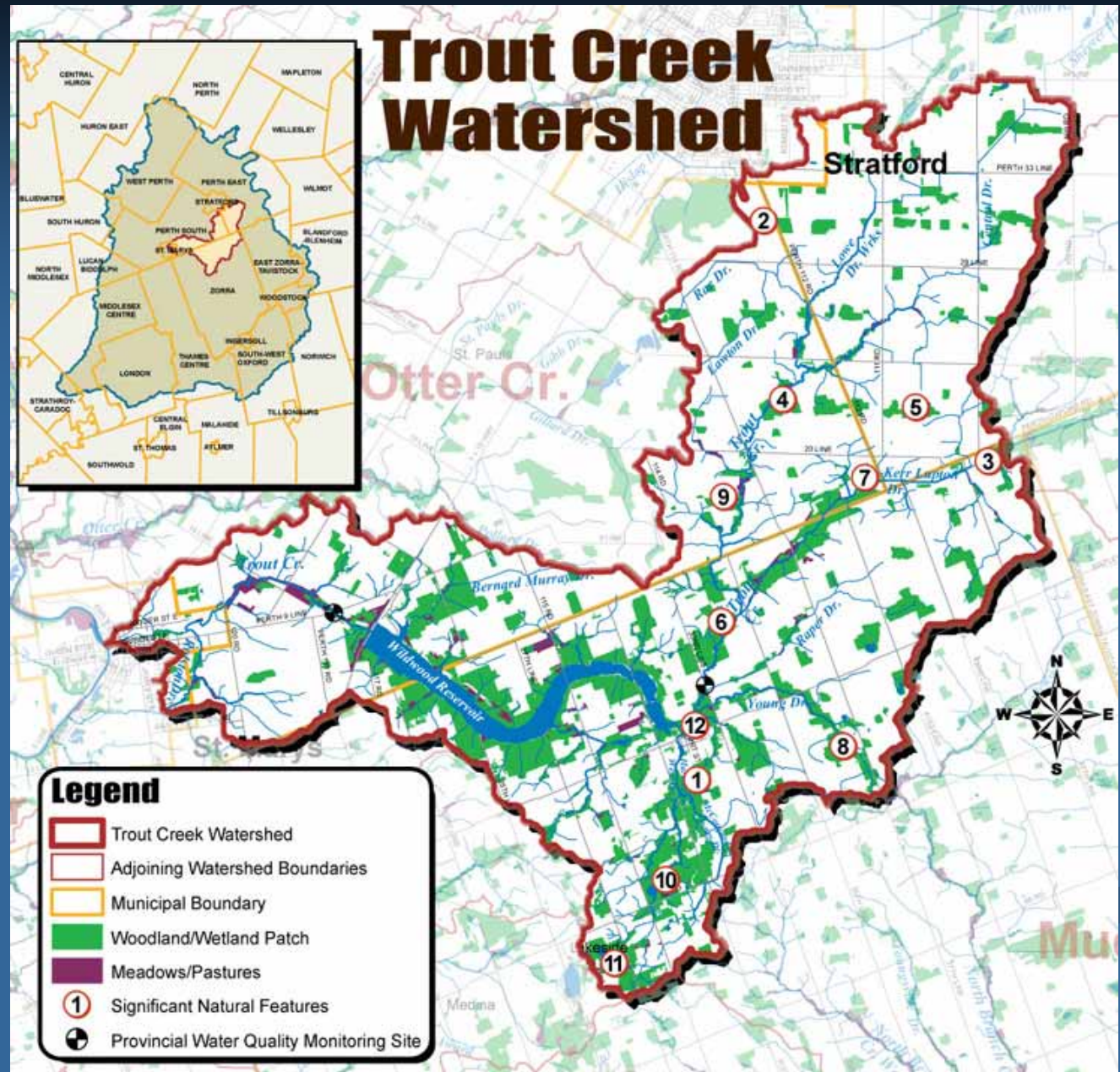


Stream water testing

- 28 locations, up to 30 years
- 37 pollutants tested routinely
- Bacteria, pesticides
- Use long term trends and current conditions to identify land based issues and support programs
- Relate to drinking water sources, recreational use, fish and wildlife, aesthetics

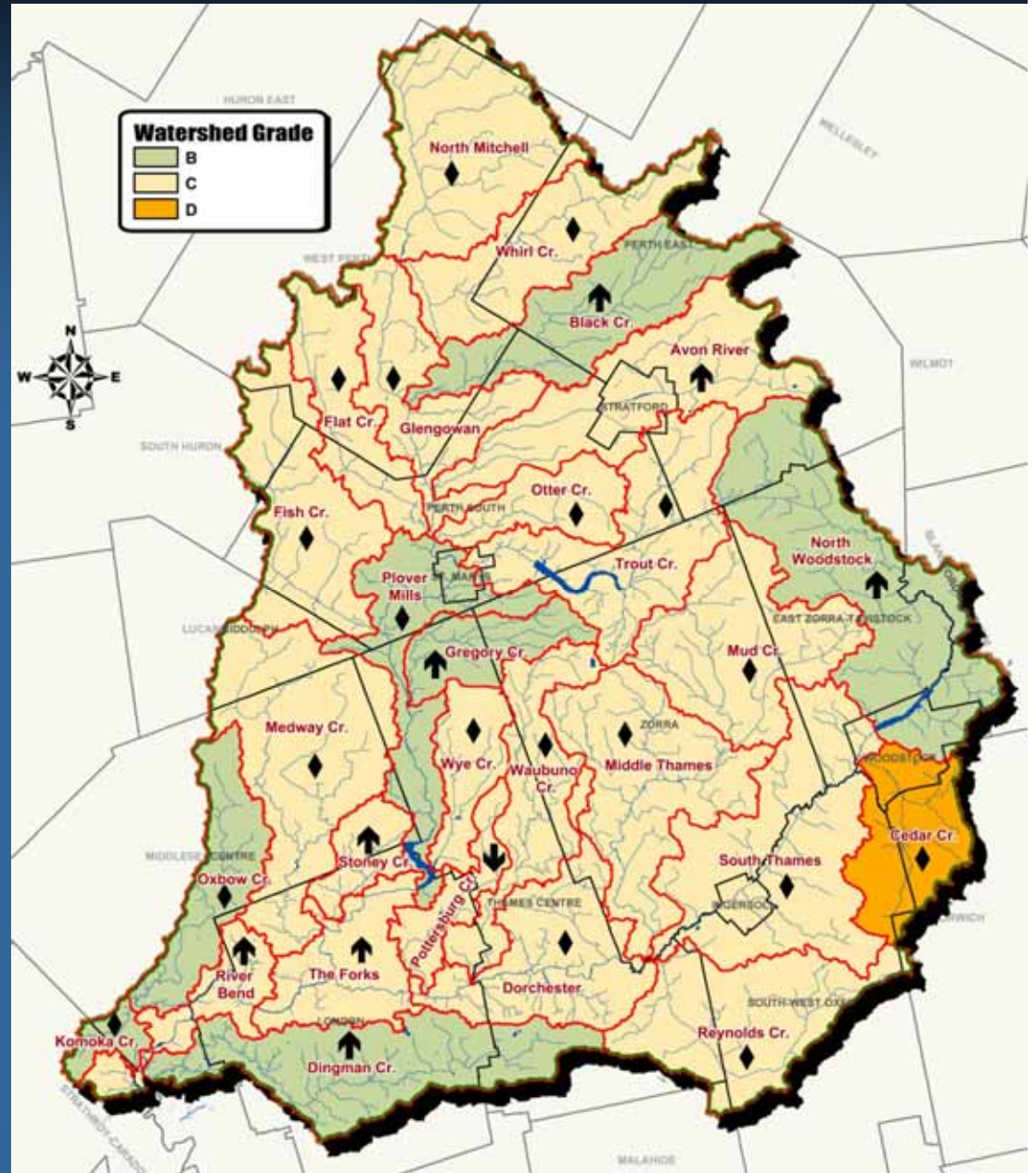


Trout Creek
monitored
since 1979



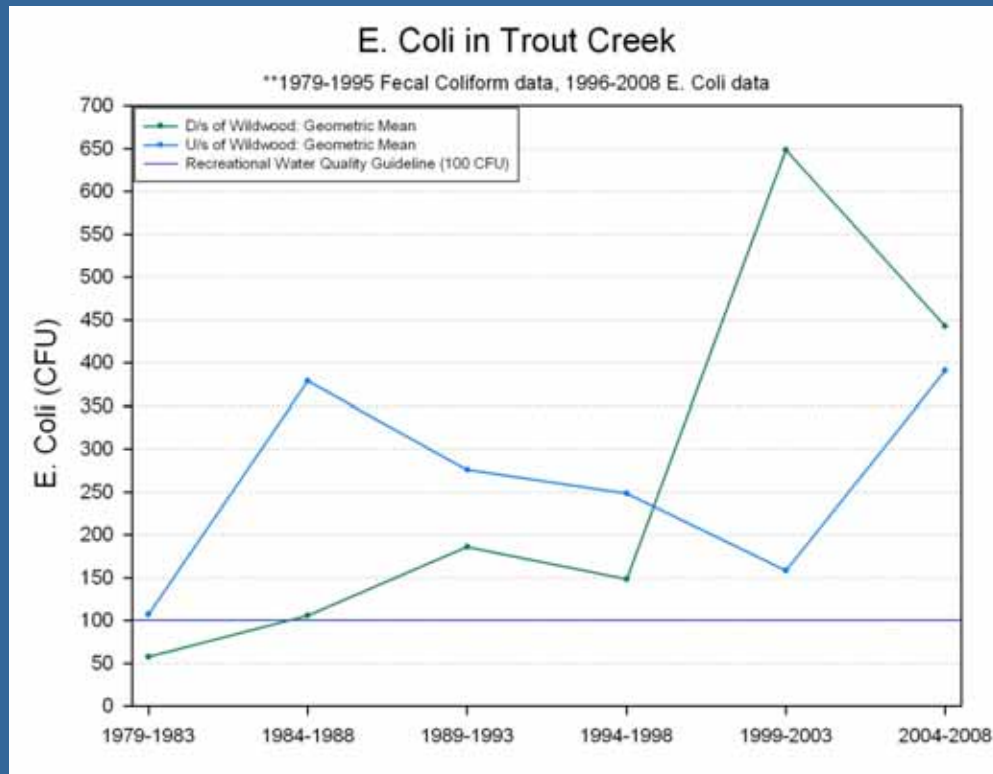
Trout Creek

- Benthic score D (steady)
- Phosphorus B (steady)
- Bacteria C (declining)



Bacteria

- *E. coli* bacteria is monitored as an indicator of potential pathogens from human and animal waste



Nutrients

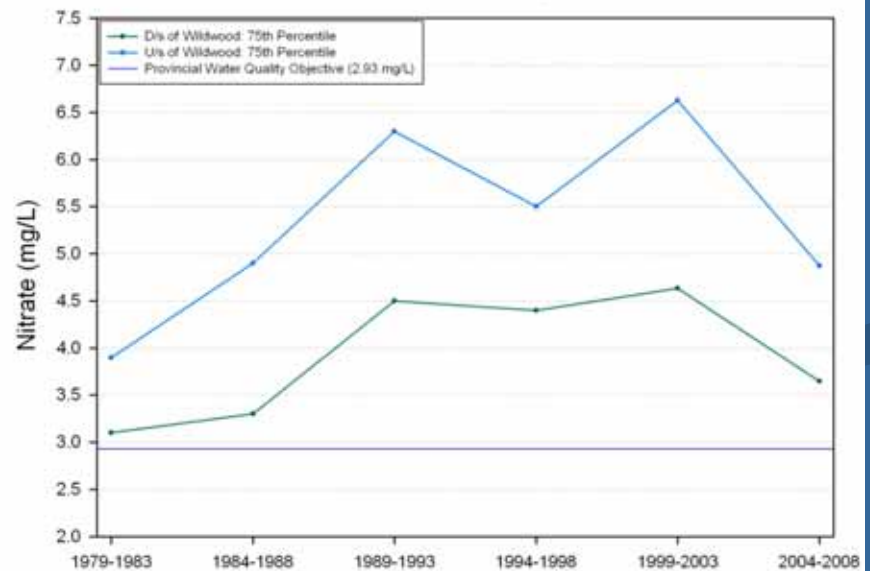
- Phosphorus and Nitrates remain above guidelines

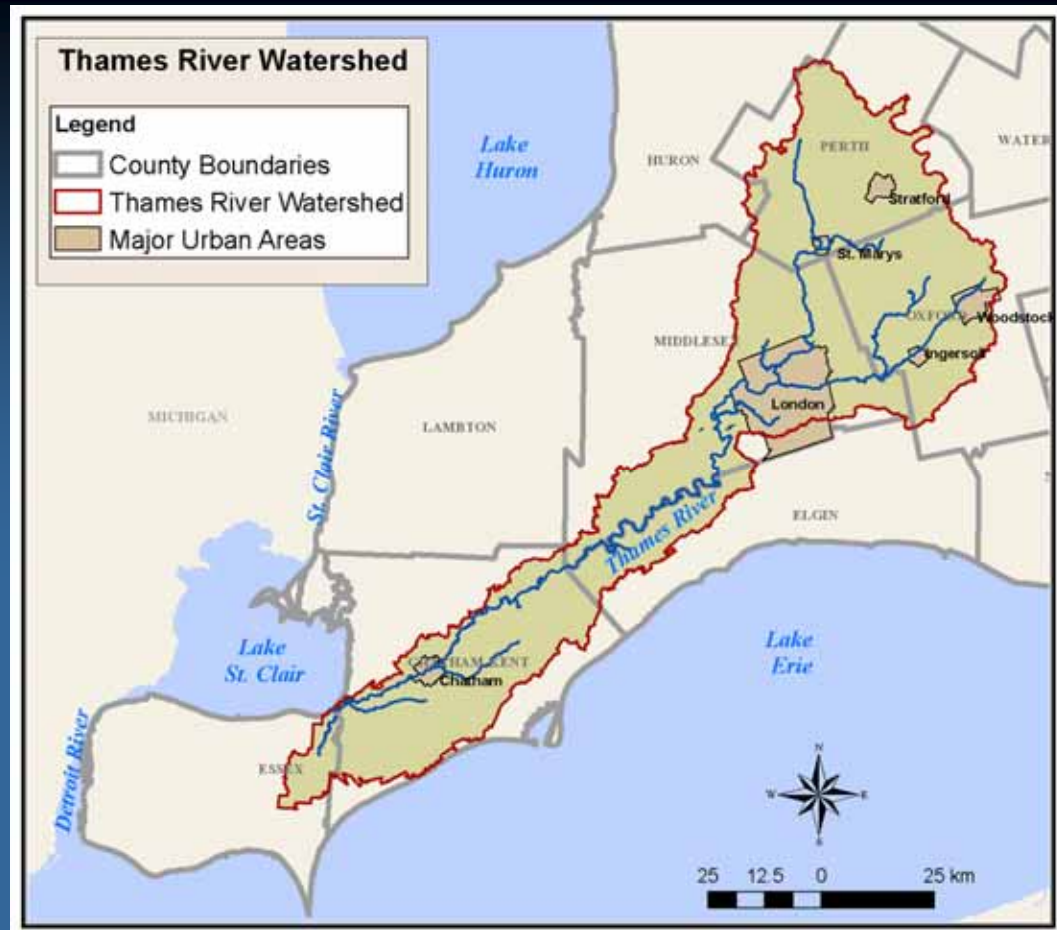


Total Phosphorus in Trout Creek



Nitrates in Trout Creek

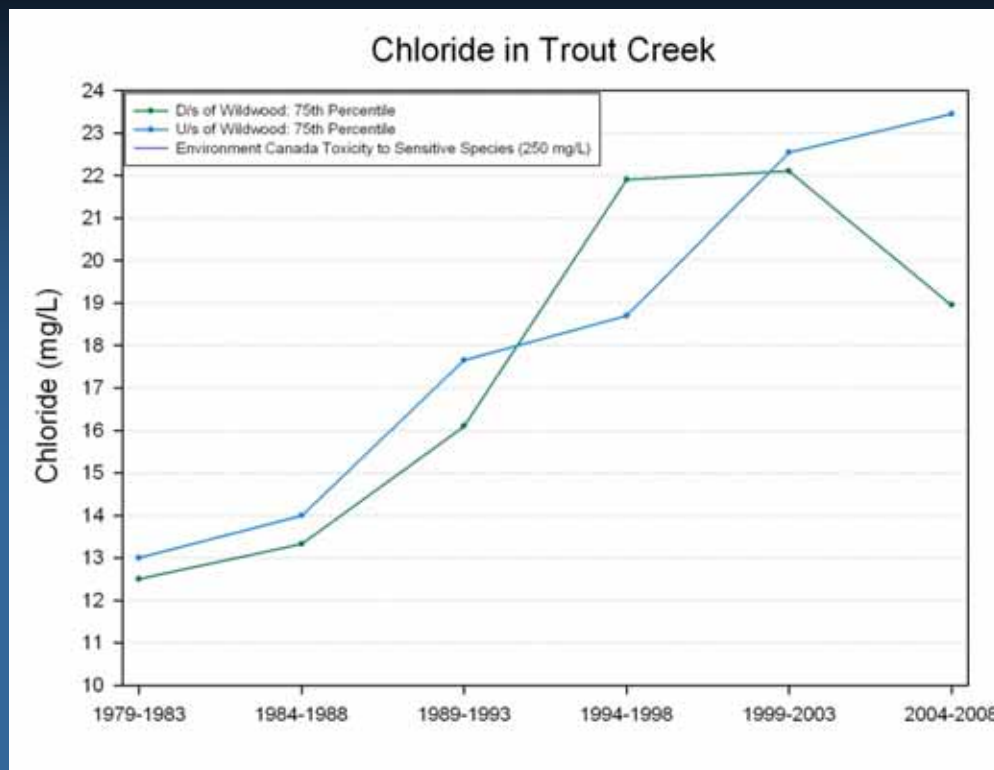




- Thames identified as one of the largest sources of nutrients in Lake Erie



Chloride



Metals

- Copper, Lead, Zinc
- below guidelines



What impacts water quality?

Pollution sources

- residential, industry, spills,
- waste discharge, air pollution

Pollution transport

- Rain/runoff, sediment
- ponding, barriers (12)
- drainage (50%)

Natural features

- Wetlands, buffers
- Stream structure



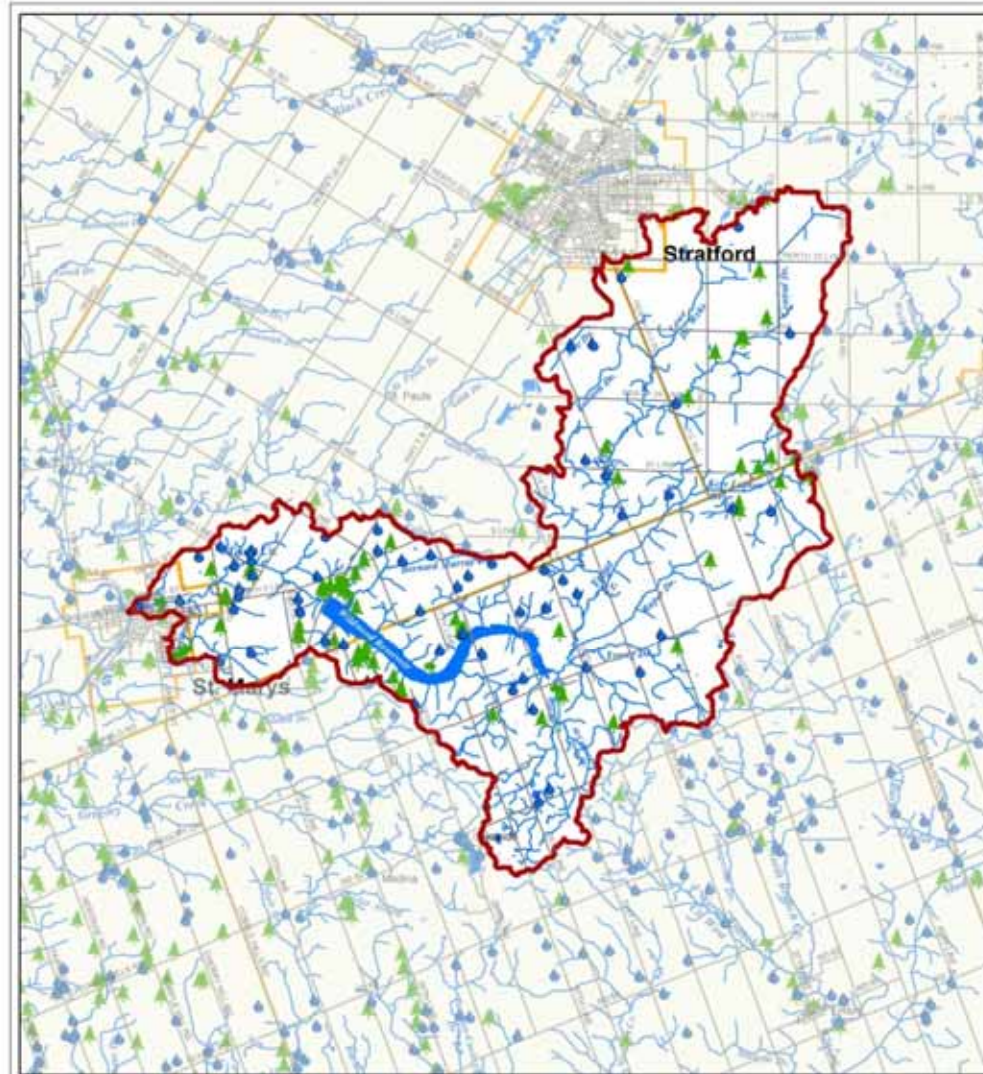


Wildwood Reservoir



Actions for Improvement in Trout

- 64 CWP projects since 2001
- 55 private land tree planting sites
- 20 community forestry projects
- Other projects



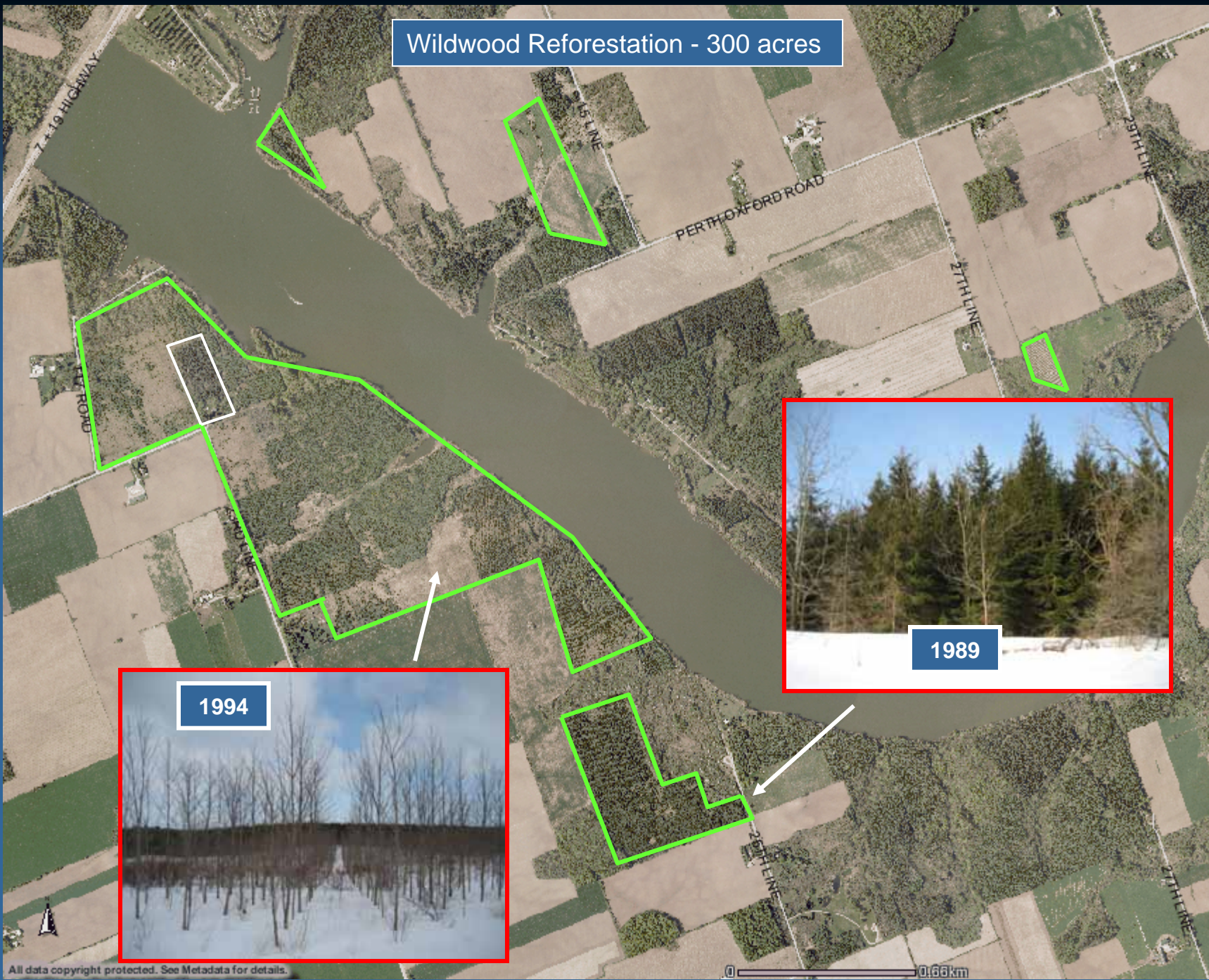
**Trout Creek Watershed
Naturalization and
Enhancement Projects**

Legend

- Trout Creek Watershed
- Municipal Boundary
- UTRCA Conservation Sites**
- Community Forestry Planting Sites
- Private Land Program Tree Planting Sites(1987-2006)
- Conservation Land Projects

4,000 2,000 0 4,000 m

Wildwood Reforestation - 300 acres



1994

1989



Sauder Farm – recent
berm installation



- Alderman Farm
Farm conservation plan
-terraces, berms,
grassed waterways,
windbreaks



U of Waterloo Nitrate Filter Project

How the numbers add up

One example:

Eight soil erosion projects resulted in 8,600 tons/acre of topsoil reduction per year.

This represents 17 tons of nitrogen, 6 tons of phosphorus eliminated from the watercourses annually.



