

City Stream Watch

prepared by Chelsey Ellis



Heron Park
Community Association
Since 1990

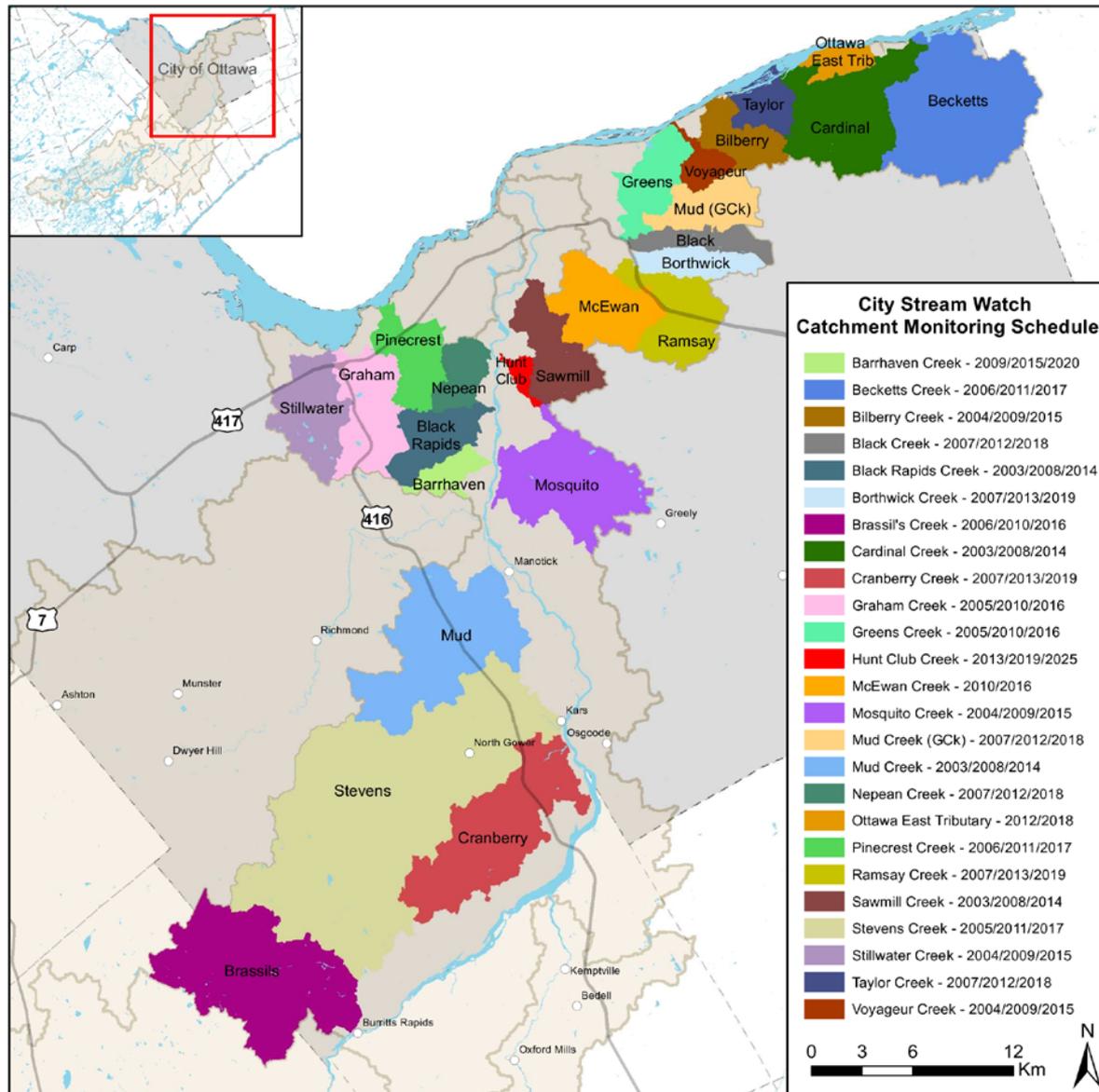


The City Stream Watch Collaborative

- City of Ottawa
- Heron Park Community Association
- National Defence Headquarters Fish and Game Club
- Ottawa Flyfishers Society
- Rideau River Roundtable
- Rideau Valley Conservation Authority
- Ottawa Stewardship Council
- National Capital Commission



City Stream Watch Coverage



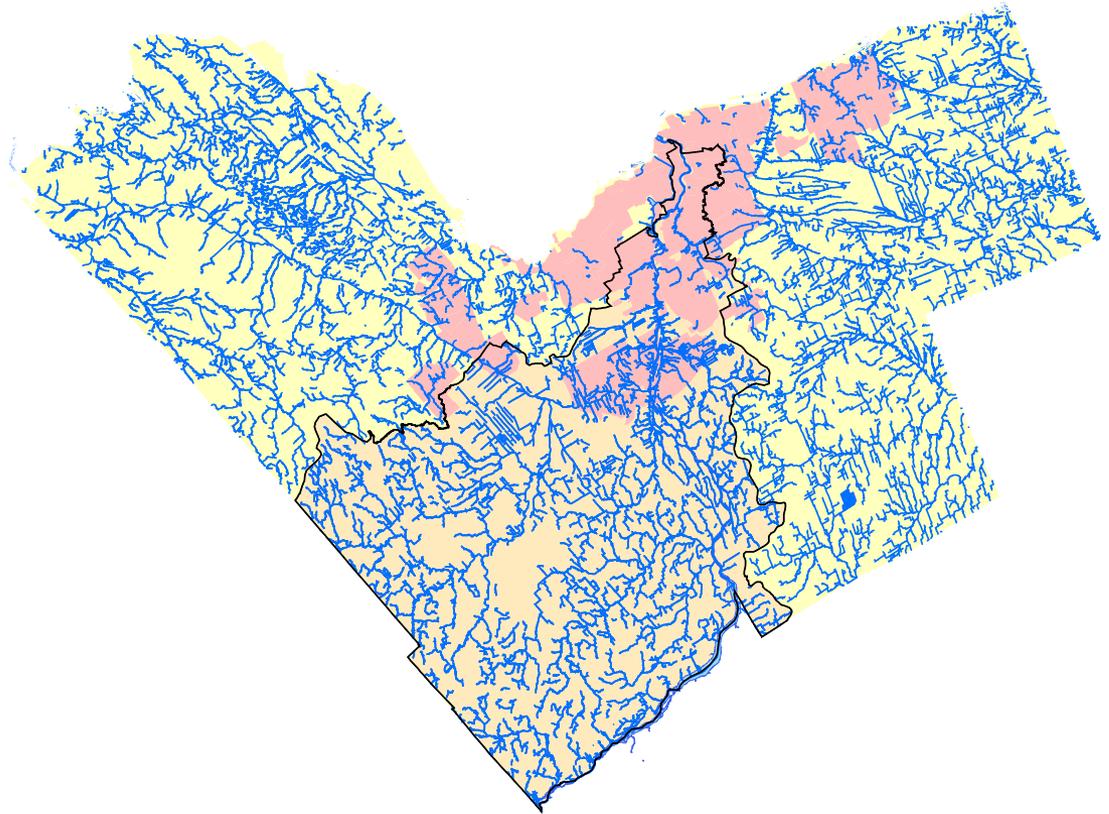
The Need

- Assesses stream health on City of Ottawa streams
- Tributaries provide important habitat for fish and wildlife that support the watershed
- Focus and promote small, forgotten creeks in Ottawa
- Work with community members to instill the idea of local, healthy, sustainable natural streams as a point of pride



The Need

- Most of the importance is placed on the Rideau River and Ottawa River
- Many of their tributaries are distressed and degraded
- Influence quality of larger systems, including water quality and habitat



Volunteer Benefits

- Increase awareness of local creeks
- Hands-on learning, training and involvement in projects
- Volunteers see some of the most neglected urban and rural creeks and streams and how everyday actions impact our waterways
- Introduced to a new way of looking at natural resources
- Opportunity to help make a difference and learn ways to improve natural community assets



Volunteer Involvement

- Each stream is inventoried to observe overall environmental conditions from April to September
- Data collection in 100m sections from top to bottom of the system
- Special events each month-riparian plantings, fish sampling (seining and electrofishing), garbage cleanups, benthic invertebrate sampling, invasive species removals
- Partner on different events with collaborative members
- Adopt a Stream Program on the years the CSW program is not surveying the creeks



Data Collection for each 100m Section

- Date, time, photos, UTM coordinates, air temperature and water quality (Temperature, DO, pH, Conductivity)
- Land use, stream alterations, shoreline structures, stream morphology
- Instream habitat (substrate, vegetation, woody debris, vascular plants, etc.)
- Bank erosion, composition and vegetation, buffer width
- Pollution/garbage observed, wildlife observed, enhancement opportunities
- Details on beaver dams, stormwater outlets, migratory obstructions



Fish Sampling and Temperature Profiling

- Each creek is sampled once or twice during the field season to determine the fish community
- Fish sampling methodologies include seine netting, trapping and electrofishing
- Temperature data loggers are installed at strategic locations and remain instream throughout the field season
- Temperature profiling helps to assess the instream habitat of the creek



Data Use

- Data analyzed and reported on in an annual summary report and several catchment reports
- Data stored in an RVCA geospatial database
- Internal uses include RVCA Subwatershed reports (i.e. Lower Rideau Catchment Reports 2012), RVCA Planning and Regulations Review, Stewardship services for our Science to Stewardship targeting initiative
- External uses include City of Ottawa subwatershed plans, National Capital Commission (i.e. Greens Creek Restoration Study) and various consultants for development proposals in the City of Ottawa
- Fish spawning and nursery habitat data sent to OMNR
- Aquatic and terrestrial species at risk observations sent to the NHIC
- Fish species at risk observations sent to DFO Science
- Reports to NGO's and private landowners on potential projects, important issues and current conditions

Potential Restoration Projects Identified

- bioengineering and buffer enhancement for erosion mitigation
- large-scale plantings (native trees and shrubs)
- invasive species removal
- garbage clean ups
- livestock restriction/alternative watering systems
- fish habitat enhancement projects
- migratory fish obstruction removal

City Stream Watch Creek Cleanups

- From 2003 to 2013 we have cleaned up approximately 81.5km of streams within the City of Ottawa.
- A diverse group of items are pulled out from various streams each year are a few examples: car engine, refrigerator, grocery carts, construction signs, bicycles, mattresses, ladders, scrap metal, tires, plastic cups and bottles, styrofoam, old lumber, car hood and seat, golf balls, etc.



Invasive Species Removal

- Invasive species are a major issue along urban streams and inhibit the success of riparian plantings (inventoried during stream surveys)
- Added invasive species removal as new type of volunteer activity in 2009
- Choose controllable sites or sites for public education opportunities
- First species targeted - dog-strangling vine (Sawmill Creek and Green's Creek)
- Started targeting yellow iris in 2010 (Green's Creek, Stillwater Creek, Graham Creek). Noticeable reductions in following years
- Added Himalayan Balsam as a target species in 2013 (Taylor Creek)



Riparian Plantings

- Buffer enhancement opportunities are identified through the stream surveys and work with community groups or other agencies (City of Ottawa, NCC)
- Native species of shrubs and trees from Ferguson Forest Center (bare root stock)
- All plantings done in early spring with volunteers, ranging from City Stream Watch volunteers, community associations and private companies



Program Summary 2003 - 2013

- Over **14,520** Native Trees/Shrubs Planted (In collaboration with RVCA's *Shoreline Naturalization Program*)
- **2954** Stream Sections Surveyed
- **295 km** of Surveyed Streams
- **1614** Volunteers
- **10,182 Hours** of Volunteer Participation
- **175** Fish Sampling sites
- **44** Stream Garbage Cleanups
- **28** Riparian Planting Events
- **20** Invasive Species Removals
- **3** Bioengineering/Restoration Projects
- **25** Creeks Surveyed to Date (many have been sampled twice to assess change)

City Stream Watch Accomplishments

Year	Volunteers	Volunteer hours	Garbage Cleanups	Riparian Plantings	Invasive Species Removals	Fish Sampling Events
2003	26	180	x	x	x	x
2004	65	427	5	x	x	16
2005	105	458	5	1	x	25
2006	96	567	3	4	x	7
2007	121	611	4	2	x	35
2008	148	1092.5	4	3	x	7
2009	227	1520	4	2	2	11
2010	216	1422	4	4	4	4
2011	222	1575	4	5	3	10
2012	194	1162	6	4	3	31
2013	329	1167	3	3	8	29

What Have We Learned?

- Ottawa streams provide important habitat for many fish and wildlife species, within very urbanized or heavy agriculture areas
- Overall health of streams—difficult to compare but all faced with similar problems
- Greater public awareness is needed to keep our creeks clean
- We now have maps/lists of possible rehabilitation projects which range from buffer enhancements, invasive species removals, migratory obstruction removal, bioengineering projects, fish habitat enhancements, stream cleanups, etc.
- Many residents/groups are interested in participating in making a difference in our local streams based on the response from our volunteer network



City Stream Watch 2014

- 2014 Stream Survey Creeks Include: Black Rapids Creek, Cardinal Creek, Mud Creek, Sawmill Creek
- Stream Cleanups include Sawmill Creek, Taylor Creek, Pinecrest Creek, others as they come forward
- Invasive Species removals Graham Creek, Stillwater Creek, Greens Creek, Taylor Creek, Pinecrest Creek
- Buffer enhancements/riparian plantings TBD
- Adopt a Stream on Sawmill Creek, Greens Creek, Hunt Club Creek

Thank You!

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rvca.ca/programs/streamwatch/index.html

