

Lake Simcoe Region Conservation Authority
York Region – ORMCP Subwatershed Planning
2004 End of Year Status Update

Year End 2004 - Lake Simcoe Region Conservation Authority Highlights

Highlights to December 31, 2004, by watershed include the following:

East Holland River Watershed Plan

Completed

- Data collection initiatives including spring benthic sampling (sampling of organisms that live in bottom sediments), water use surveys, and baseflow monitoring.
- Ecological Land Classification (ELC) and land use mapping.
- Water budget to satisfy the ORMCP requirements for the area serviced by the Yonge Street Aquifer.
- Fish community and habitat assessment.
- Benthic community sampling and in-stream temperature monitoring.
- Surface water toxic contaminant screening.
- Baseflow monitoring.
- Water use assessment (permitted and no-permitted water takings).

In Progress

- Hydraulic/Hydrologic modelling and floodline mapping project.
- Subwatershed scale geomorphic scoping exercise.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.

West Holland River Watershed Plan

Completed

- Data collection initiatives including spring benthic sampling, water use surveys, and baseflow monitoring.
- Ecological Land Classification (ELC) and land use mapping.
- Draft Water budget to satisfy the ORMCP requirements for the area serviced by the Yonge Street Aquifer.
- Fish community and habitat assessment.
- Benthic community sampling and in-stream temperature monitoring.
- Surface water toxic contaminant screening.
- Baseflow monitoring.
- Water use assessment (permitted and no-permitted water takings).

- Installation of new permanent flow gauge.

In Progress

- State of the Watershed Report – nearing finalization.
- Hydraulic/Hydrologic modelling and floodline mapping project.
- Subwatershed scale geomorphic scoping exercise.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.

Maskinonge River Watershed Plan

Completed

- Data collection initiatives including spring benthic sampling and water use surveys.
- Ecological Land Classification (ELC) and land use mapping.
- Surface water toxic contaminant screening.
- Fish community and habitat assessment.
- Benthic community sampling and in-stream temperature monitoring.
- Baseflow monitoring.
- Water use assessment (permitted and no-permitted water takings).
- Installation of new permanent flow gauge.

In Progress

- Hydraulic/Hydrologic modelling and floodline mapping project.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Subwatershed scale geomorphic scoping exercise
- Water budget being completed to equivalent standards as the water budgets completed for the East and West Holland subwatersheds.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.

Black River Watershed Plan

Completed

- Data collection initiatives including spring benthic sampling and water use surveys.
- Ecological Land Classification (ELC) and land use mapping.
- Surface water budget analysis.
- Fish community and habitat assessment.
- Benthic community sampling and in-stream temperature monitoring.
- Surface water toxic contaminant screening
- Baseflow monitoring.
- Water use assessment (permitted and no-permitted water takings).
- Hydraulic/Hydrologic modelling and floodline mapping project.
- Development and calibration of watershed scale Nutrient Model (CANWET)
- Collection of detailed water quality/nutrient and flow information using temporary flow/sampling stations.
- Installation of new permanent flow gauge.

In Progress

- Detailed geomorphic assessment of the watershed.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Water budget being completed to equivalent standards as the water budgets completed for the East and West Holland subwatersheds.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.

Next Steps for the 2005 Watershed Planning Year- Lake Simcoe Region Conservation Authority

During 2005, watershed planning activities will focus on the following:

East Holland River Watershed Plan

- Continued bio-monitoring program (fish, benthic, temperature)
- Hydraulic/Hydrologic modelling and floodline mapping project to be finalized.
- Detailed geomorphic assessment of the watershed.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.
- Continued water quality toxic screening sampling.
- Development and calibration of watershed scale Nutrient Model (CANWET)
- Continue base flow monitoring and water use assessment.
- Complete subwatershed wide terrestrial natural heritage analysis and updates where required.

West Holland River Watershed Plan

- State of the Watershed Report – finalize and publish.
- Continued bio-monitoring program (fish, benthic, temperature)
- Hydraulic/Hydrologic modelling and floodline mapping project to be finalized.
- Operation and calibration of newly installed flow gauge.
- Detailed geomorphic assessment of the watershed.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.
- Continued water quality toxic screening sampling.
- Development and calibration of watershed scale Nutrient Model (CANWET)
- Continue base flow monitoring and water use assessment.
- Complete subwatershed wide terrestrial natural heritage analysis and updates where required.

Maskinonge River Watershed Plan

- Continued bio-monitoring program (fish, benthic, temperature)
- Hydraulic/Hydrologic modelling and floodline mapping project.
- Operation and calibration of newly installed flow gauge.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Detailed geomorphic assessment of the watershed.
- Water budget completed to equivalent standards as the water budgets completed for the East and West Holland subwatersheds.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.
- Continued water quality toxic screening sampling.
- Development and calibration of watershed scale Nutrient Model (CANWET)
- Continue base flow monitoring and water use assessment.

Black River Watershed Plan

- Continued bio-monitoring program (fish, benthic, temperature)
- Operation/calibration of newly installed flow gauge.
- Detailed geomorphic assessment of the watershed.
- Watershed based analysis of fisheries, benthics, temperature, baseflow and water use assessment.
- Water budget completed to equivalent standards as the water budgets completed for the East and West Holland subwatersheds.
- Development of Terms of Reference and approach to developing an Integrated Ecosystem Framework approach to evaluate proposed water takings.
- Continued water quality toxic screening sampling.
- Continue base flow monitoring and water use assessment.

Program Wide Activities:

- Ongoing project management.
- Development of a micro-website outlining various activities.
- Completion and distribution of a newsletter as part of public involvement/engagement process.
- Public open house sessions across the four subwatersheds developed through discussion with York Region staff.
- Begin process of consolidating all technical information and development of report formats, map standards and associated products.

2004 Year End Status of Deliverables – Lake Simcoe Region Conservation Authority

Watershed Plan Component	Total York Region Budget	Actual York \$ Spent to date	Status of Deliverables as of December 31, 2004	Key 2004 Deliverables
Surface Flow / Base Flow Monitoring	\$320,000	\$320,000	• All gauges have been installed and will be fully operational in early 2005. Rating curves are continuing to be developed. • The North Schomberg gauge has been deemed not suitable for re-activation due to technical difficulties • Base flow monitoring is completed for all York Region ORM subwatersheds and the collected data is presently being analyzed. • Surface flow modelling contract has been issued and underway with expected completion in March 2005. The project is on schedule at this time. New hydrologically correct Digital Terrain Models (DTM) have been completed for the East and West Holland and the Maskinonge Rivers. • Flow monitoring station automation is nearing completion will be operational in early 2005 upon resolution of one technical issue. • The temporary flow stations installed in the Black River were operational for the majority of 2005 and have been removed. The data collected aided in the calibration of the Black River Nutrient Model, which is now complete.	• Installed three gauges (Maskinonge, Kettleby and Black) and develop rating curves for all three. • The North Schomberg Creek gauge will be re-activated in the West Holland River subwatershed. • Conduct spot and base flow measurements throughout the four watersheds to further collect flow data for data model calibration. • Surface flow models for the East, West and Maskinonge Rivers will be undertaken. • All flow monitoring stations will be automated to provide near real-time data. • Temporary flow and water quality stations (3) will be installed in the Black River to calibrate the Nutrient Model
Water Use Assessment	\$45,000	\$45,000	• Water use surveys of permitted & non-permitted users in the York Region ORM subwatersheds are complete. • Data entry into database is complete and an analysis of information is presently underway. • GIS analysis and map products will be developed as part of the analysis and will be completed in winter of 2005. • Water use data is presently being used in the	• Water use surveys of permitted & non-permitted users to estimate actual water taking. • Analysis of collected water use data and surveys will be conducted to evaluate water takings based on land use activity. • The GIS water use exercise will utilize water takings data analysis develop

Watershed Plan Component	Total York Region Budget	Actual York \$ Spent to date	Status of Deliverables as of December 31, 2004	Key 2004 Deliverables
			further calibration of the West and East Holland River water budgets as well as the water budgets for the Maskinonge and Black River water budgets.	digital layers/information based on land use and their respective estimates of overall cumulative water use at the subwatershed scale.
Water Budgets	\$60,000	\$60,000	• Water budgets for the East and West Holland Rivers initiated in 2003 have been completed in draft form and being calibrated with further data from the water use assessment. • Water budgets for the Black River and the Maskinonge River are being developed presently and will be complete in Spring 2005.	• Complete water budgets for the Maskinonge River and further calibration existing water budgets in West and East Holland and Black Rivers where required.
Aquatic Ecosystem & Habitat	\$50,000	\$50,000	• Fisheries inventory, benthic and habitat assessment completed. Benthic samples presently being identified. Report outlining monitoring program and results is nearing completion. • Temperature dataloggers installed and collected data through 2004. Data /results will be included in monitoring report. • Begun developing Terms of Reference for developing an Integrated Ecosystem Framework for addressing water takings and ensuring ecosystem integrity. • Currently exploring partnerships to develop the Integrated Ecosystem Framework and conduct workshop. • Exploring opportunities to link other models (groundwater, surface water) as part of overall project.	• Complete fisheries inventory, benthic and habitat assessment at reference locations and identified location gaps throughout the York Region ORMCP subwatersheds. • Temperature dataloggers are distributed throughout the York Region ORMCP subwatersheds. • Review existing ecosystem minimum flow/threshold models and undertake pilot exercise to evaluate applicability. This exercise will be tied into the ecosystem requirements workshop. • Ecosystem requirements workshop to be held to begin developing strategies, targets, concepts for maintaining present and/or better ecosystem conditions. • Begin implementing selected methodology for ensuring ecosystem requirements are determined and link to other developed surface and ground water models.

Watershed Plan Component	Total York Region Budget	Actual York \$ Spent to date	Status of Deliverables as of December 31, 2004	Key 2004 Deliverables
Terrestrial Natural Heritage	\$45,000	\$45,000	• All ELC and land use mapping for all York Region subwatershed is complete. • Analysis of key terrestrial attributes is currently underway.	• Complete ELC and land use maps for the West and East Holland Rivers, and Maskinonge River subwatersheds. • Complete analysis and identify key terrestrial attributes such as: significant corridors, interior forest habitat, significant large forests, etc. • Ensure the linkage to other activity areas such as surface flow assessment, geomorphology and groundwater.
Geomorphology	\$25,000	\$25,000	• Review of methodologies completed and preferred selected. • Subwatershed scale geomorphic assessment for the Black River underway with completion in late fall spring 2005. • Geomorphic scoping exercise for remaining York Region ORM subwatersheds is underway.	• Review existing subwatershed scale geomorphic evaluation methodologies and select one for a pilot project. • Initiate and complete fluvial geomorphic pilot project on Black River subwatershed as the surface water flow model and other components have been completed for the Black River.
Water Quality	\$0	\$0	• Water sampling in the Black River is completed for 2004 and data has been used to calibrate Nutrient Model. • Water quality sampling for toxic screening and additional parameters is completed and a draft report has been prepared and is being reviewed.	• Collect water samples from the Black River Watershed to calibrate the Water Quality / Nutrient Model. • Collect water samples across York Region ORMCP watersheds for initial toxic screening assessment. • Increase analysis of water samples collected at LSEMS and PWQMN sites in York Region ORMCP watersheds to provide additional data on other parameters (i.e. chlorides, ongoing). Note: These activities being funded out of partial 2003 committed funding.
Project Management, Policy Development,	\$55,000	\$55,000	• Project management ongoing and has been active with obtaining consulting services for select activities. • Initial development of a public process	• Project management and administration of various activities including any contracts for related services. • Public process and participation

Watershed Plan Component	Total York Region Budget	Actual York \$ Spent to date	Status of Deliverables as of December 31, 2004	Key 2004 Deliverables
Legal Review & Communications			framework has occurred and discussion with York Region is forthcoming. Facilitated ORMCP open houses will be held in 2005 coordinated with York Region. • Development of concepts and ideas for communication tools has occurred. The development of an ORMCP micro-website is ongoing and the development of a Newsletter/Newspaper outlining various activities is in development.	including public open houses in the four York Region ORMCP subwatersheds. This will include consultation with York Region staff • A joint LSRCA and York Region ORMCP Activities Website will be developed. • Other communication opportunities will be discussed and implemented at various times throughout the process (i.e. newsletters, press releases).