



**ST. CLAIR RIVER AREA OF CONCERN
NATURAL HERITAGE STUDY UPDATE
METHODOLOGY AND RESULTS - 2013**

St. Clair Region Conservation Authority
April 2014

Introduction

The GIS staff at the St. Clair Region Conservation Authority undertook this project on behalf of Environment Canada. The objective of the project was to provide for a comparison with the current conditions and targets as determined through the MNR 2006 Update Report which was based on the original Natural Heritage Study report prepared by Geomatics International Inc. in 1998. This update utilized higher resolution data from 2010 orthoimagery, Ecological Land Classification data, and documented Stewardship Project information.

Data Sources and Brief Descriptions

The following table lists the data and their sources used in the project.

Data	Description
SCRCA Surficial Drainage Layer	Surface water drainage as digitized from 30cm 2006 Orthoimagery
Wetland Data	MNR Evaluated, ELC and Stewardship Project Data
Woodlands	Digitized using SWOOP 2010 imagery
SWOOP 2010 Orthoimagery	20cm resolution aerial photography
AOC Boundaries	Subwatershed boundaries within the AOC/RAP

Surficial Drainage Data – Riparian Buffers

Base data from the SCRCA provided the hydrological data and the calculated values were derived from the *Determination of Riparian buffers within the St. Clair River AOC Subwatersheds* project, produced by the SCRCA in March 2012. Compared to the 2006 and because higher resolution photography was available, more detailed classes of vegetation could be recorded including woodlands, scrubland/thicket and meadow/grassland/pasture cover types.

Wetlands

The methodology for compiling all wetland data for this summary were derived from the *AOC Wetland Assessment 2013* report by the SCRCA, January 2014.

Woodlands

Using the MNR NRVIS woodlands as a starting point, air photography interpretation was used to digitize all woodland features within the study area. Totals areas of woodland cover was calculated by subwatershed. Where woodland polygons were split where they overlapped subwatersheds in order to obtain the most accurate results.

Digital Ortho-Photography

Aerial photography was flown in spring 2010 as part of the larger SWOOP initiative led by MNR.

Table Summary

The following tables are a summary of targets and current conditions in the St. Clair River Natural Heritage Study area.

	Area	Subshed Area (ha)	Woodlands		Wetlands		Riparian 5m		Riparian 30m	
			Area (ha)	%	Area (ha)	%	Length(km)*	%**	Length(km)*	%**
	Area 1-B	28,890.0	4,202.8	14.5	113.0	0.39	288	78.0	164.1	44.4
Area 1-A	Baby Creek	2,100.0	242.0	11.5	0.0	0.00	16.5	56.1	10.8	36.7
	Bowens Creek	660.0	261.8	39.7	71.0	10.76	4.2	43.7	4.1	42.7
	Clay Creek	5,670.0	1,126.7	19.9	270.0	4.76	52.7	60.2	32.6	37.3
	Maxwell/Bear/Rankin	5,540.0	79.0	1.43	464.0	8.38	68	52.9	14.5	11.3
	McKeough	2,170.0	406.7	18.7	7.0	0.32	17.5	72.6	15.4	63.9
	Perch Creek/Pt. Edward/Sarnia	10,680.0	986.3	9.24	59.6	0.56	67.1	51.6	40.8	31.4
	Runnig Creek/Lower Sydenham	4,880.0	21.1	0.43	89.0	1.82	35.8	61.5	6.9	11.8
	St. Clair Direct Drainage Tribs	4,430.0	389.5	8.79	100.0	2.26	12.5	39.0	5	15.6
	Talford Creek	5,720.0	1,251.8	21.9	0.4	0.01	47.4	69.1	35.4	51.6
	Walpole	14,590.0	2,082.9	14.3	6,356.0	43.56	118.3	47.2	117.8	46.9
	Whitebread/Marshy Creek	4,370.0	228.3	5.22	11.3	0.26	24.8	49.9	11	22.1
	Total	89,700.0	11,278.9	12.6	7,541.3	8.41	752.8	57.6	458.4	35.0
	Notes:									
	Woodland Cover based on SWOOP 2010 Photo interpretation									
	Wetlands Include MNR, ELC and Stewardship Project Wetlands									
	*Riparian values represent total length of watercourse with Riparian Buffer on one or both sides									

AOC Target Summary Table				
Feature				
Woodland Cover				
Total AOC Area (ha)	Target %	Calculated Target (ha)	Actual (ha)	Actual %
89,700	>20	>17,940	11,278.90	12.6
Wetlands				
Total AOC Area (ha)	Target %	Calculated Target (ha)	Actual (ha)	Actual %
89,700	>10	>8,970	7,541.30	8.41
Riparian Buffers 5m				
Length of Watercourses (km)	Target %	Calculated Target (km)	Actual (km)	Actual %
1308	>50	>654	752.8	57.6
Riparian Buffers 30m				
Length of Watercourses (km)	Target %	Calculated Target (km)	Actual (km)	Actual %
1308	>75	>981	458.4	35