

Update on the U.S. and Canadian Lake St. Clair Management Plans

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Binational Lake St. Clair Conference

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Chatham, Ontario



LAKE ST. CLAIR

Canadian Watershed Management Plan



Outline

1. Background – How We Got Here
2. Canadian Management Plan
3. U.S. Management Plan
4. Looking Forward

2004

Lake St. Clair
Comprehensive
Management
Plan

2010

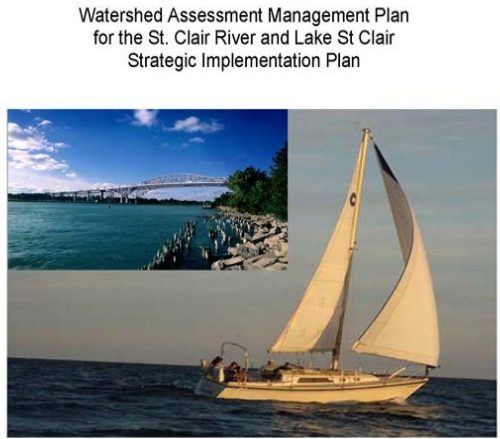
Watershed
Assessment
Plan

2012

Lake St. Clair
Strategic
Implementation
Plan (SIP)

2015

SIP Update




**US Army Corps
of Engineers** ®
Detroit District

June 2010




**US Army Corps
of Engineers** ®
Detroit District
March 2012
(Revised October 2012)

The Canadian Management Plan

- Lake St. Clair Canadian Watershed Coordination Council
 - Formed in 2002 to develop the technical report to support the US ACE project
 - Focal point for discussion and coordination between Federal, Provincial and local organizations to link respective programs/projects to Lake St. Clair watershed efforts
 - Members:
 - Environment Canada
 - Ontario Ministry of the Env & Climate Change
 - Ontario Ministry of Natural Resources & Forestry
 - Ontario Ministry of Ag, Food & Rural Affairs
 - Walpole Island First Nation
 - Upper Thames River CA
 - Lower Thames Valley CA
 - St. Clair Region CA
 - Essex Region CA



2005

Canadian
Technical
Report

2006

Consultation
Report

2008

Canadian
Management
Plan

2011

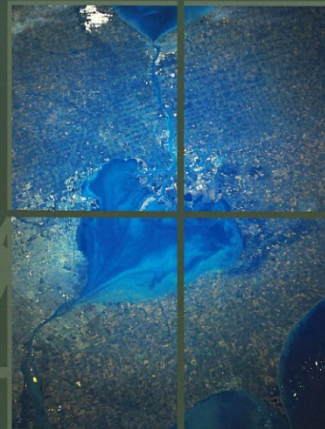
Canadian
Work Plan



The Lake St. Clair Canadian Watershed Technical Report.
An examination of current conditions



The Lake St. Clair Canadian Watershed
Public and First Nations Consultation Report



The Lake St. Clair Canadian Watershed Management Plan



The Canadian Work Plan

- Work plan addresses implementation, research, monitoring and reporting
- Organized using the same categories as the technical report:
 - land use management
 - commercial navigation and recreational boating
 - sources of pollution
 - human health
 - habitat and biodiversity
 - fishing and hunting
 - monitoring, scientific studies and data management
- 34 recommendations, 102 actions
- Reflect some new projects and numerous ongoing programs whose implementation benefits Lake St. Clair and its watershed

Priority Watershed: The Thames River

- The second largest Canadian watershed in the Lake Erie basin (5,285 km²; 279 km)
- A priority watershed under the Lake Erie Lakewide Action and Management Plan (LAMP)
- A priority watershed under the LAMP Binational Nutrient Management Strategy
 - Major load to Lake St. Clair, implicated in HABs
 - Influences the nearshore of Lake St. Clair and the Detroit River
- A priority watershed of the Lake St. Clair Canadian Watershed Management Plan



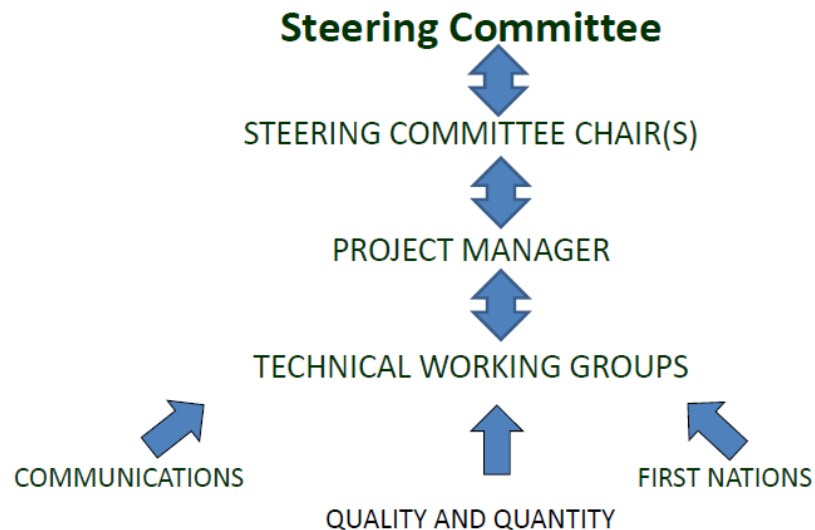
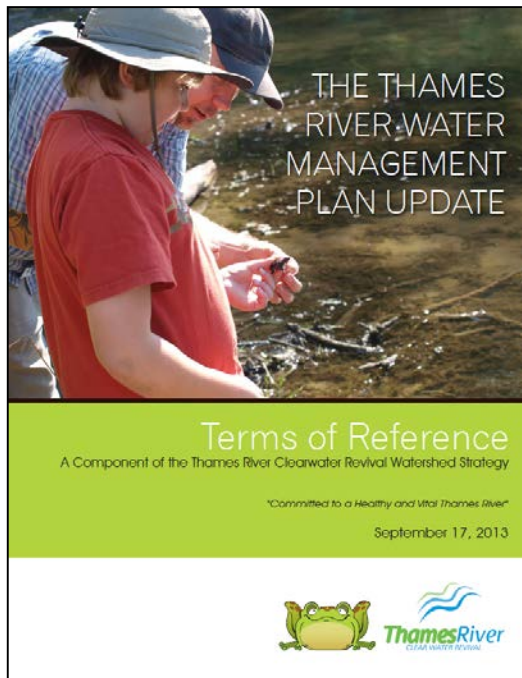
Thames River Water Management Plan

- The Thames River Clear Water Revival is a multi-jurisdictional watershed strategy to improve the health and vitality of the Thames River and its watershed
- An updated *Water Management Plan* will be a key component of the broader watershed strategy
- Objectives:
 1. Identify and address water quantity management issues.
 2. Improve water quality of the Thames River and ***reduce the river's impact on Lake St. Clair.***
 3. Strengthen community connections with the Thames River and ***understanding of the river's relationship to the Great Lakes.***
 4. Understand Traditional Ecological Knowledge and how it can inform water resource management decisions
 5. Strengthen collaboration among water managers: First Nations, municipalities, Conservation Authorities, Provincial ministries, Federal departments



Thames River Water Management Plan

- Steering committee with representatives from municipalities, provincial ministries, federal departments, and First Nations
- Every First Nation with an interest in the watershed is invited to sit on the steering committee.
 - Walpole Island First Nation and Upper Thames River Conservation Authority established a First Nations Engagement Committee in March 2012



Thames River Water Management Plan

- Anticipate completion of the plan in 2016
- 2011-2014: Showcasing Water Innovation project “Addressing Water Management Issues in a Changing Climate”
 - Project purpose is to undertake innovative research, analysis, modelling and data acquisition related to water quality and flooding issues in the Thames River watershed
 - Improved DEMs and hydraulic modelling
 - Improved water quantity data management
 - Water quality assessment project
 - Innovative BMPs
 - LID demonstration projects

Total Project Cost	\$1,078,161.98
Showcasing Water Innovation	\$402,562.00
UTRCA In-Kind Contribution	\$145,233.88
UTRCA Cash Contribution (FFW)	\$150,346.54
Ministry of the Environment (COA)	\$130,000.00
City of London	\$75,000.00
Environment Canada	\$45,000.00
Clean Water Project	\$101,000.00
Sustainability Fund Diversity Grant	\$5,000.00
Western University	\$12,000.00
Job Creation Program (MTCU)	\$9,519.58
Lower Thames Valley Conservation Authority	\$2,500.00

More Information



LAKE ST. CLAIR Canadian Watershed Management Plan

Lake St. Clair is the smallest lake in the Great Lakes system. Together with the St. Clair and Detroit Rivers, it forms the connecting channel between Lakes Huron and Erie, and is divided by the international boundary between Canada and the United States. The majority of the lake and its watershed are in Ontario.

Lake St. Clair is an integral link in the major shipping corridor that connects Great Lakes ports with international destinations. The delta at the lake's north end is the largest freshwater delta in the world and one of the most significant fish and wildlife habitats in the Great Lakes. The Canadian portion of the watershed is predominantly agricultural, and includes one of the most productive agricultural areas in Canada. The U.S. portion of the watershed is highly urbanized, and includes portions of the city of Detroit and Greater Detroit Area.

What is the Lake St. Clair Canadian Watershed Management Plan?

The Canadian Watershed Management Plan provides a framework to encourage cooperation and collaboration. It is the link between local tributary watershed programs and Great Lakes basin-wide initiatives.

The Plan:

- Identifies management issues, and sets goals to address them;
- Recommends actions to address issues affecting the Canadian portion of the Lake St. Clair ecosystem;

- Provides a common vision, principles and goals for the lake; and
- Includes input from Lake St. Clair partners and the public.

The Plan's authors, the Lake St. Clair Canadian Watershed Coordination Council, recognize that communication and partnerships with U.S. counterparts are vital to ensuring that the Lake St. Clair ecosystem is effectively managed.



When viewed from space, Lake St. Clair is easily identified as the "heart" of the Great Lakes. Also visible in this photograph: Lake Huron and the St. Clair River are above the lake, to the north; and the Detroit River and Lake Erie are below the lake, to the south. The Canadian watershed is on the right of the image, and the U.S. watershed is on the left. Credit: Image Science and Analysis Laboratory, NASA-Johnson Space Center. "The Gateway to Astronaut Photography of Earth".

<https://www.scrca.on.ca/wp-content/uploads/2013/11/Pub-Lake-St-Clair-Mgmt-Plan-2009.pdf>



Six US Management Plan Priorities areas

- Phragmites control
- habitat restoration and protection
- establishing a real-time monitoring system
- integrating modeling with monitoring
- eliminating illicit discharges from Lake St. Clair
- development of a Lake St. Clair Watershed Information Management System





Phragmites control

- Anchor Bay/St. Clair Flats Phragmites Control and Education Project
- Lake St. Clair Collaborative Invasive Species Control



Habitat Restoration and Protection

**Marysville Living Shoreline
Completed in 2013**



Establish a Real-time Monitoring System





Real-time Monitoring System, 2012

Red =
Shut
down
Green =
Operating
Yellow =
Coming
back
online

	Multi parameter Probe	TOC Analyzer	Fluorometer	GC/MS
Port Huron	Red	Black	Black	Black
Marysville	Green	Black	Green	Black
St. Clair	Red	Red	Red	Red
East China	Red	Black	Black	Black
Marine City	Green	Black	Black	Black
Algonac	Yellow	Red	Red	Red
Ira WTP	Green	Black	Black	Black
New Baltimore	Red	Black	Black	Black
Mt. Clemens	Green	Green	Red	Red
Grosse Pointe Farms	Red	Red	Red	Black
Water Works Park	Green	Green	Green	Red
Southwest Detroit	Green	Need to replace	Green	Red
Wyandotte	Yellow	Yellow	Yellow	Black
Monroe	Green	Green	Green	Black



Remaining Priorities

- Integrating modeling with monitoring
- Eliminating illicit discharges from Lake St. Clair
- Development of a Lake St. Clair Watershed information Management System



Great Lakes
RESTORATION





**Rose Ellison
US EPA GLNPO**

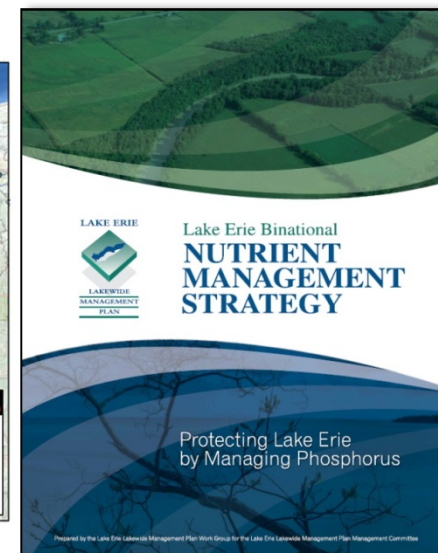
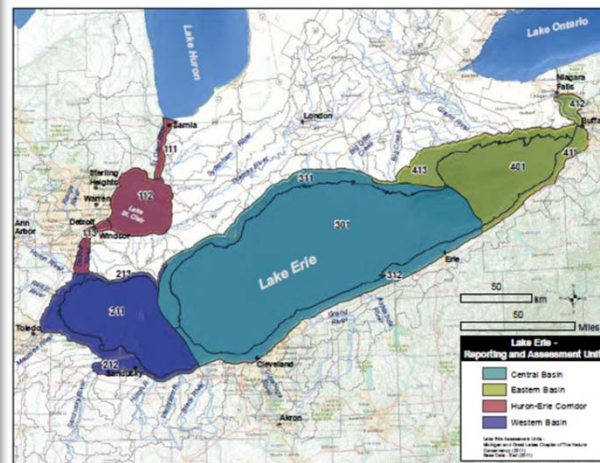
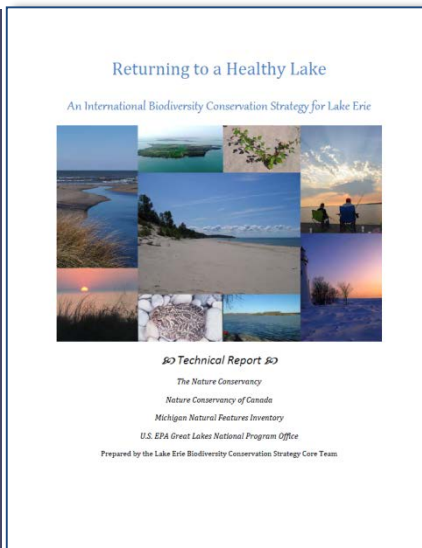
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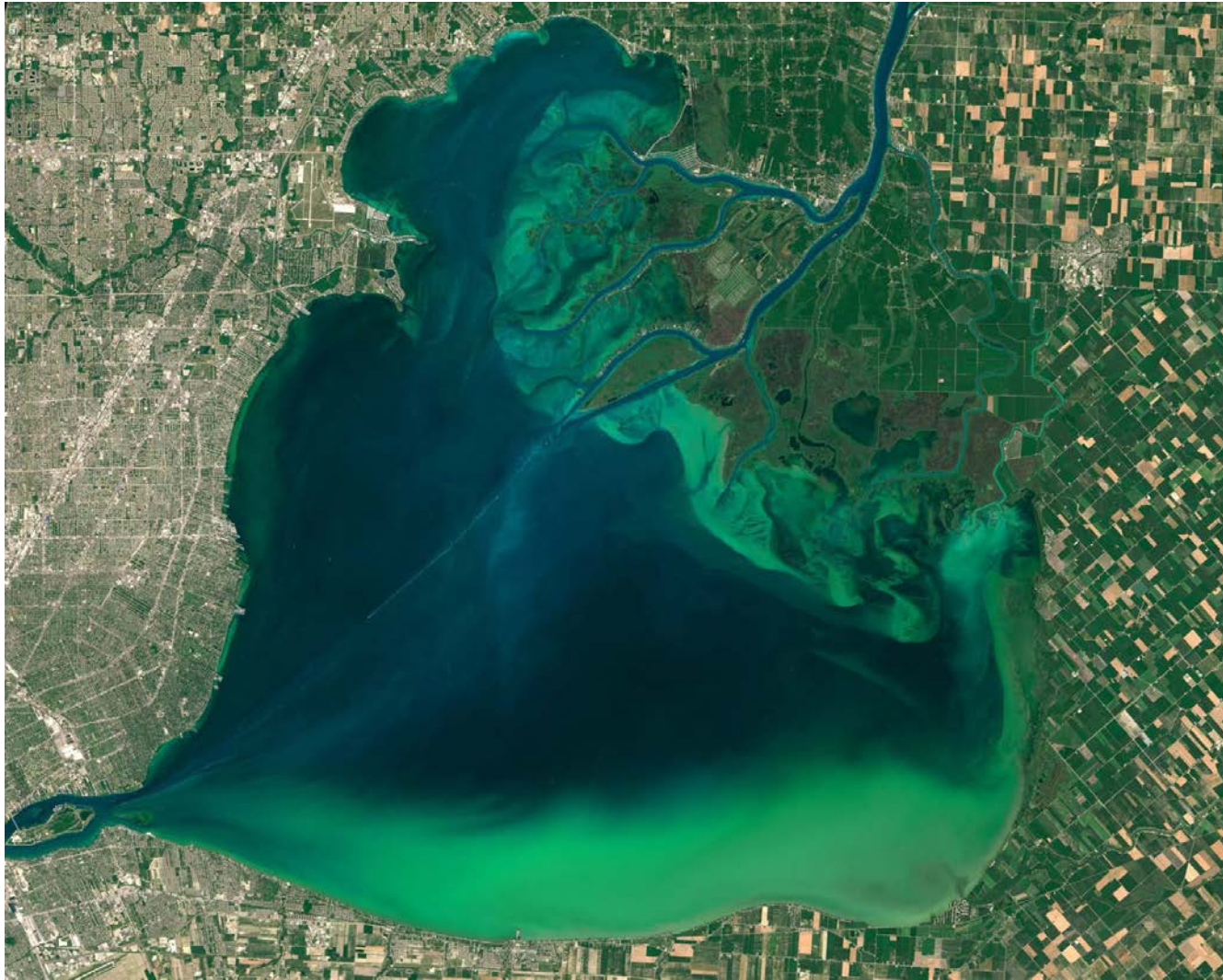
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Looking Forward

Management of Lake St. Clair needs to consider:

- Lake Erie Lake Ecosystem Objectives – Including LSC, DR and SCR
- Great Lakes Nearshore Framework – Baseline Assessment
- Lake Erie Binational Nutrient Reduction Strategy – Phosphorus loading targets, domestic action plans
- Cooperative Science and Monitoring Initiative (CSMI) – Lake Erie in 2019
- Lake Erie Biodiversity Conservation Strategy – Implementation plans to be developed





LAKE ST. CLAIR

Canadian Watershed Management Plan