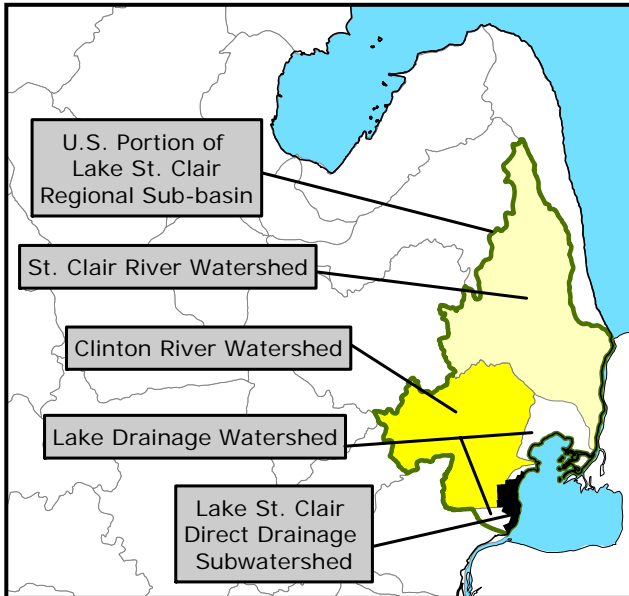




# Executive Summary



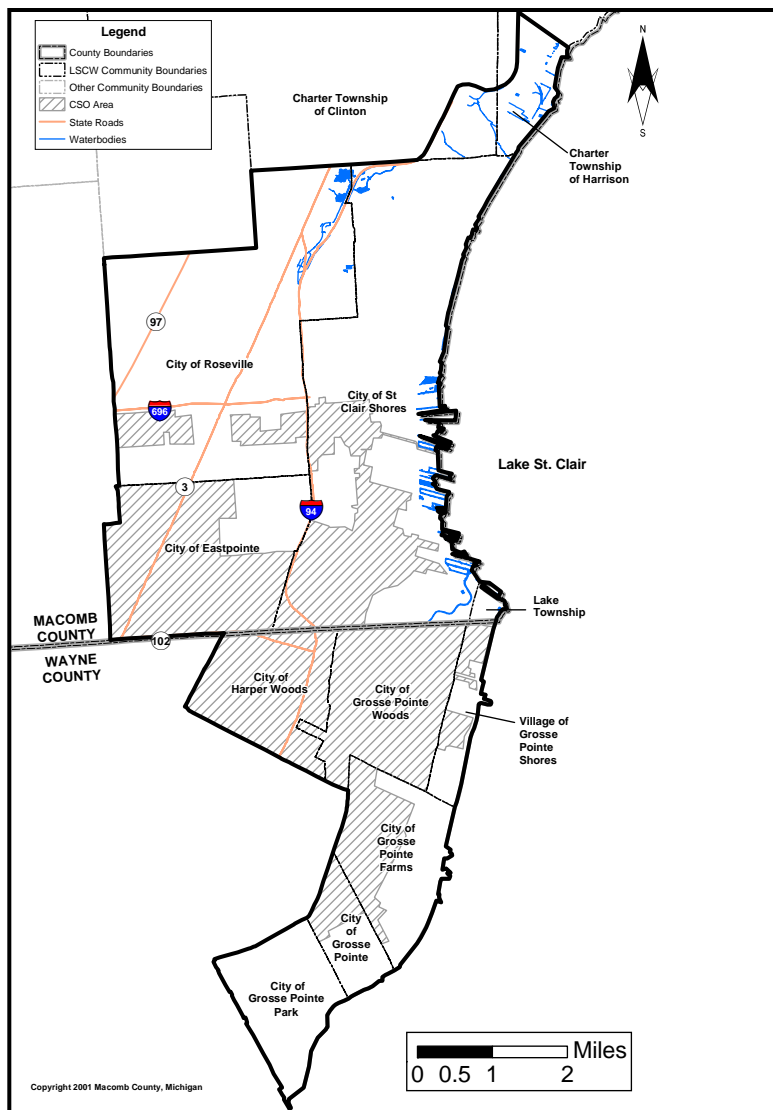
The Lake St. Clair Direct Drainage Subwatershed (LSCW), the focus of this watershed management plan (WMP), is a part of the larger Lake St. Clair Regional Sub-basin and extends along the Lake St. Clair shore from the Clinton River Spillway in Harrison Township to the outlet of Lake St. Clair into the Detroit River near the City of Grosse Pointe Park. The LSCW is a 41 square mile, Michigan Department of Environmental Quality (MDEQ)-approved basin that includes waterbodies, such as the Milk River, which directly enter Lake St. Clair. It is home to 214,000 people.

This WMP was developed by the LSCW Subwatershed Advisory Group (SWAG) to: 1) fulfill the National Pollutant Discharge Elimination System (NPDES) Phase II requirements (MDEQ's *General Permit No. MIG619000 for Coverage of Storm Water Discharges for Municipal Separate Storm Sewer Systems Subject to Watershed Plan Requirements*) for non-Phase I governmental units in the urbanized area; and 2) make all of the entities represented in the subwatershed eligible for various grant funding opportunities to implement actions for watershed improvement.

The contents of this plan, including the goals and objectives and the actions to meet them, were developed cooperatively by SWAG members with consideration of the input from community leaders, residents, environmental and citizen groups, local businesses, schools, and universities. This WMP was also developed to be consistent with other planning efforts affecting the subwatershed, including: the Lake St. Clair Comprehensive Management Plan (U.S. Army Corps of Engineers), the Clinton River Watershed Remedial and Preventative Action Plan (Clinton River Public Advisory Council), and the Water Quality Management Plan for Southeast Michigan (Southeast Michigan Council of Governments).

In the 1830s, the subwatershed was primarily forest land (26 square miles) and swamp/wetland (15 sq. miles). Since that time, permanent human settlement has transformed almost all of this land into developed types such as residential, commercial, and industrial (41 square miles). Today, only 0.30 square miles of natural areas remain.

This past and continuing development has been and will continue to be a major factor that impacts the quality of water in the



subwatershed. This is because traditional development practices have dramatically increased impervious surfaces which subsequently increase runoff and pollutant transfer to nearby waterbodies. Other factors which have and continue to impact water quality in the subwatershed include: sewer systems and practices, riparian corridor and waterbody modifications, and point sources such as pollution control facilities.

The health of waterbodies in the subwatershed can be gauged from water quality standards (WQS), defined by the MDEQ, to: 1) protect health and public welfare, 2) enhance and maintain the quality of water, 3) protect the state's natural resources, and 4) meet the requirements of state and federal law. The WQS contain requirements for designated uses that the waters of the state must meet, including:

- Agricultural Water Supply;
- Public Water Supply;
- Other Aquatic Life/Wildlife;
- Industrial Water Supply;
- Navigation;
- Warmwater Fishery;
- Coldwater Fishery (specifically identified water bodies only);
- Total Body Contact (May 1<sup>st</sup> through October 31<sup>st</sup>); and
- Partial Body Contact.

Water quality monitoring has been and continues to be conducted by various organizations and agencies. While some historical data exist, the bulk of monitoring began in the 1970s, spurred by the passage of the Clean Water Act and other environmental initiatives. Analysis of this data shows that there have been, and still are, severe impacts in the subwatershed, although improvements have been made in the last 30 years. Impairments, as listed by the MDEQ in 2006 include: Dissolved Oxygen, Pathogens, Fish Kills, and Phosphorus in the Milk River in Macomb County and a Fish Consumption Advisory for PCBs and Mercury in Fish Tissue in Lake St. Clair.

The subwatershed, as part of the Clinton River Area of Concern (because it includes the Lake St. Clair nearshore area impacted by the Clinton River or Clinton River Spillway), is affected by some beneficial use impairments that indicate other problems, including:

- Degradation of aesthetics;
- Beach closings and other "full body contact" restrictions;
- Degradation of benthos;
- Loss of fish/wildlife habitat;
- Restrictions on dredging activities;
- Eutrophication/undesirable algae populations;
- Degradation of fish/wildlife populations; and
- Restrictions on fish/wildlife consumption.

Detailed analysis of water quality data has led to the identification of three major stressors that impact the subwatershed. These stressors are: sediment, phosphorus, and pathogens. They have been treated to detailed analysis in the plan that includes discussion of: impacts, indicators, standards, load estimates and reduction goals, critical areas, monitoring,

## Phase II Permittees

The Phase II Permittees covered by this plan are:

- Clinton Charter Township;
- Eastpointe, City of;
- Grosse Pointe, City of;
- Grosse Pointe Farms, City of;
- Grosse Pointe Park, City of;
- Grosse Pointe Shores, City of;
- Harrison Charter Township;
- Lake Township;
- Lakeview Public Schools;
- Macomb County;
- Roseville, City of;
- St. Clair Shores, City of; and
- Wayne County.

## Nested Jurisdictions

The nested jurisdictions in the subwatershed are associated with county-level government (except where indicated) and include:

- East Detroit Public Schools\*;
- Grosse Pointe Schools\*;
- Lake Shore Public Schools; and
- Roseville Community Schools\*.

\* Some facilities within the jurisdiction may be exempt due to their location in a CSO service area.

and improvement ideas. The framework for discussion of these stressors makes the implementation of actions to improve their conditions potentially eligible for grant funding.

In addition to addressing the problems causing the waterbody impairments and beneficial use impairments, this WMP also seeks to address issues of public stakeholders. Various meetings were held during the planning process to allow the stakeholders to express their issues and concerns as well as their goals and visions for the subwatershed.

Consideration of the public input and the measurable water quality impairments led to the goals and objectives of the WMP, as well as the main principle:

“To improve and protect ecological, hydrological, and cultural resources of the Lake St. Clair Direct Drainage Subwatershed.”

Specifically, the goals of the WMP are:

- I. Protect water quality and reduce pollution;
- II. Provide and promote public education to raise awareness and change public behavior;
- III. Protect and enhance sustainable recreational opportunities;
- IV. Minimize local stakeholder impacts and restore and enhance fisheries, aquatic life, wildlife, and associated habitat;
- V. Reduce the impact of runoff through effective stormwater management; and
- VI. Seek out opportunities to sustain implementation of the plan.

Meeting the goals and objectives of the plan in an economically responsible way requires the implementation of numerous actions over many years. As presented in the plan, there are many actions that address the goals and objectives of the WMP and even more resources that provide assistance relative to these actions.

The planned actions have been grouped into the following eight categories:

- Watershed Planning, Institutionalization, and Implementation – includes funding, plan revision, and reporting actions;
- Public Education and Participation – includes community education, employee training, demonstration projects, signage, and meetings;
- Ordinances, Zoning, and Development Standards – includes stormwater standards, managing development, preserving natural features, and pollution prevention ordinances;
- Good Housekeeping and Pollution Prevention – includes sewer operations and maintenance, waste management, municipal property practices, and spill preventions and response;
- Stormwater Best Management Practices: Non-Construction Related Soil Erosion and Sedimentation Control – includes soil and streambank repair, use exclusion, and structural controls;
- Stormwater Best Management Practices: Other Pollutant Load Reducing Controls – includes impervious surface mitigation, infiltration, filtration, vegetative buffers and conveyance, and retention / detention;

### **Plan Applicability**

The advisory group recognizes the public desire to protect Lake St. Clair, its clean water, fish, wildlife, and habitat, recreational opportunities, and its role as an economic engine for the area. The goals, objectives, and actions in this plan apply only to the land comprising the LSCW, which is just a small percentage of the total area that drains to Lake St. Clair. However, these goals, objectives, and actions are consistent with the public’s aspirations and the Lake St. Clair Comprehensive Management Plan.

- Natural Features and Resources Management – includes identification, protection, and restoration of natural features; and
- Recreation Promotion and Enhancement – includes program coordination and opportunity enhancement (parks, boat launches, trails, fishing spots).

The actions in these categories have specific details, including: the lead agency, the schedule, cost estimates, technical and financial assistance, the authority related to the action, any clarifying comments, permit requirement commitments (where appropriate), and applicability to the major stressors affecting the subwatershed.

As with any plan that is part of an adaptive management scheme, this WMP contains procedures for its evaluation and revision. Evaluation measures fall into six levels:

1. Compliance with Activity-Based Permit Requirements;
2. Changes in Knowledge/Awareness;
3. Behavioral Change / BMP Implementation;
4. Load Reductions;
5. Changes in Discharge Quality; and
6. Changes in Receiving Water Quality.

The evaluation measures in the six categories are also classified as: 1) a measure of activity completions (including milestones), 2) a measure of usage, or 3) a measure of change.

The data to drive the evaluations will come from various existing and additional volunteer programs. The assessment of the various measures (including checking achievement of goals and objectives) will drive the modifications and revisions to the WMP.

The implementation of the WMP (actions, evaluation, and revision) will be through the SWAG and its individual members. The SWAG will continue its current voluntary structure but will consider alternate organizational structures and funding mechanisms and will initiate them as appropriate for the most effective implementation.

Watershed planning is meant to be an iterative process that provides for continuous input and revision of procedures, processes, and products. It is a tool in a comprehensive and systematic approach to balancing land uses and human activities to meet mutually agreed upon social, economic, and environmental goals and objectives in a watershed.

This WMP is a living document and is meant to be used, revised, and altered to fit the changing needs of the subwatershed as new information becomes available and new priorities arise.

