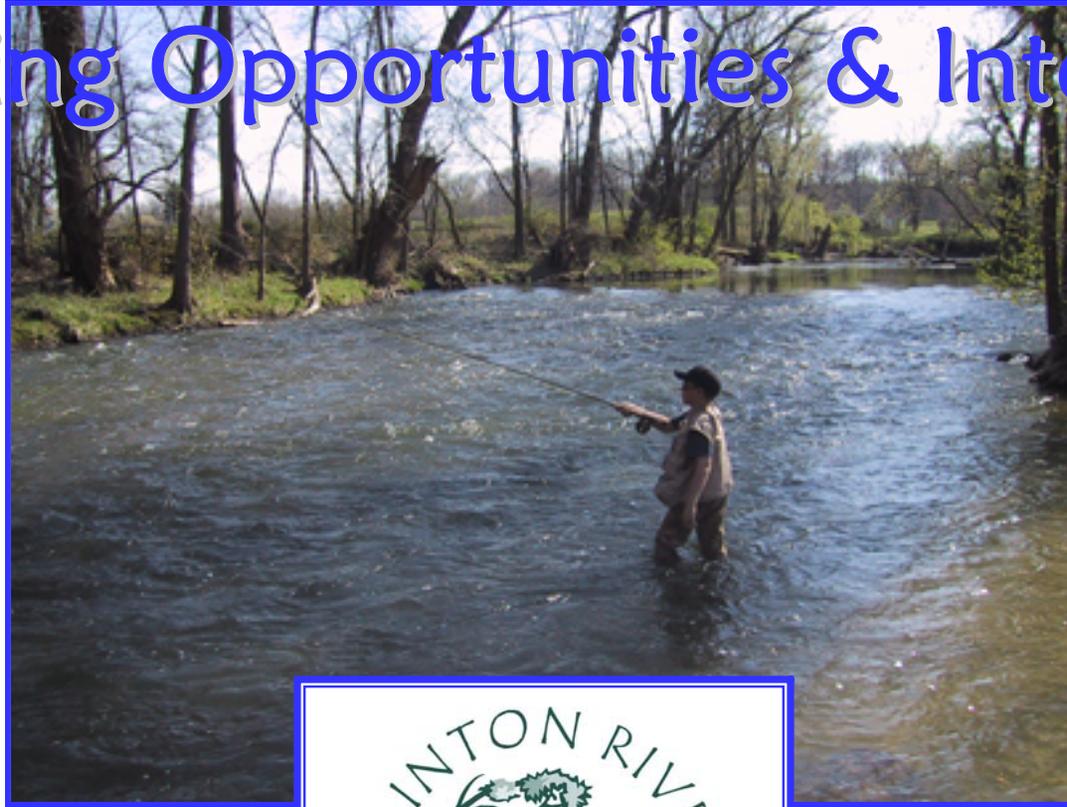


# Water Resources of the Clinton River Watershed: Angling Opportunities & Interests



# Overview

- **About the Clinton River Watershed Council**
- **About the Clinton River Watershed**
- **Stormwater 101**
- **Angling Opportunities & Interests**
- **Get Involved...**

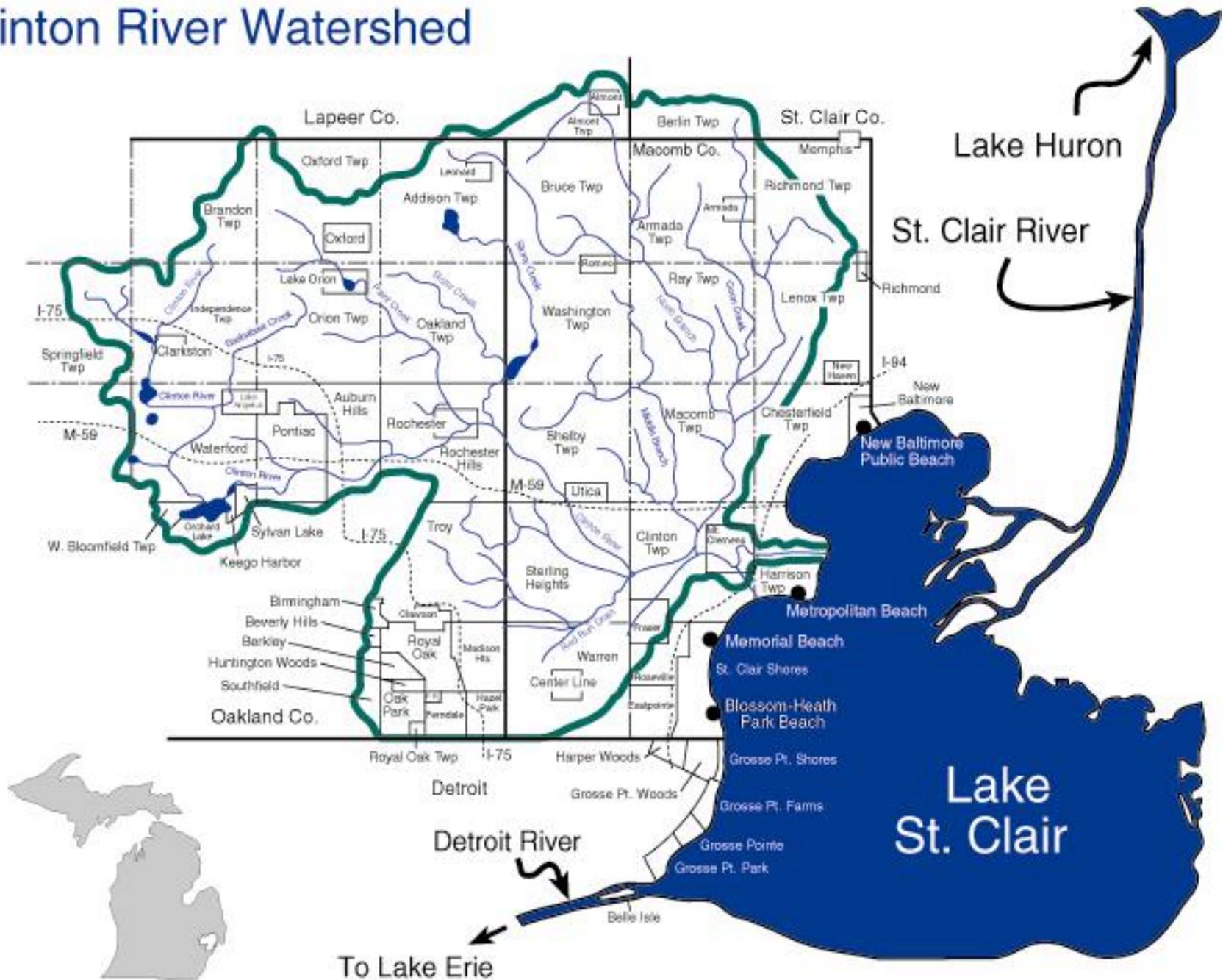
# Clinton River Watershed Council

- **Mission: To protect, enhance and celebrate the Clinton River, its watershed and Lake St. Clair**
- **Established in 1972 as an association of local governments**
- **Obtained non-profit status in 1994**
- **Members include individuals, businesses, local governments and community organizations**
- **Funded through local government membership dues, private contributions and grants**
- **3½ staff working in 3 program areas:**
  - **Watershed management**
  - **Education**
  - **Stewardship**

# Clinton River Watershed

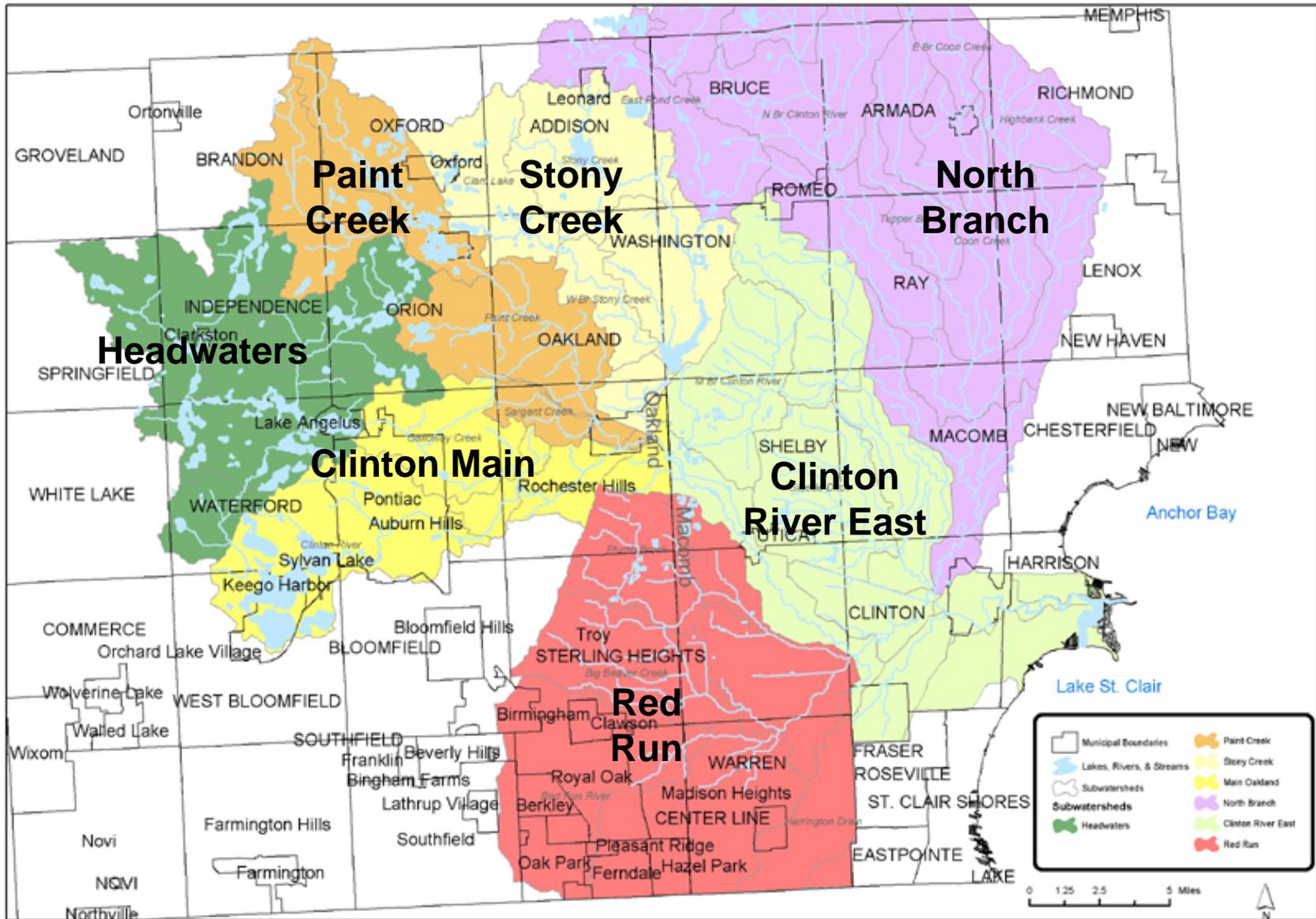
- 760 square mile watershed
- Portions of Lapeer, Macomb, Oakland & St. Clair counties
- More than 60 communities
- 1.4 million people – most populous watershed in Michigan

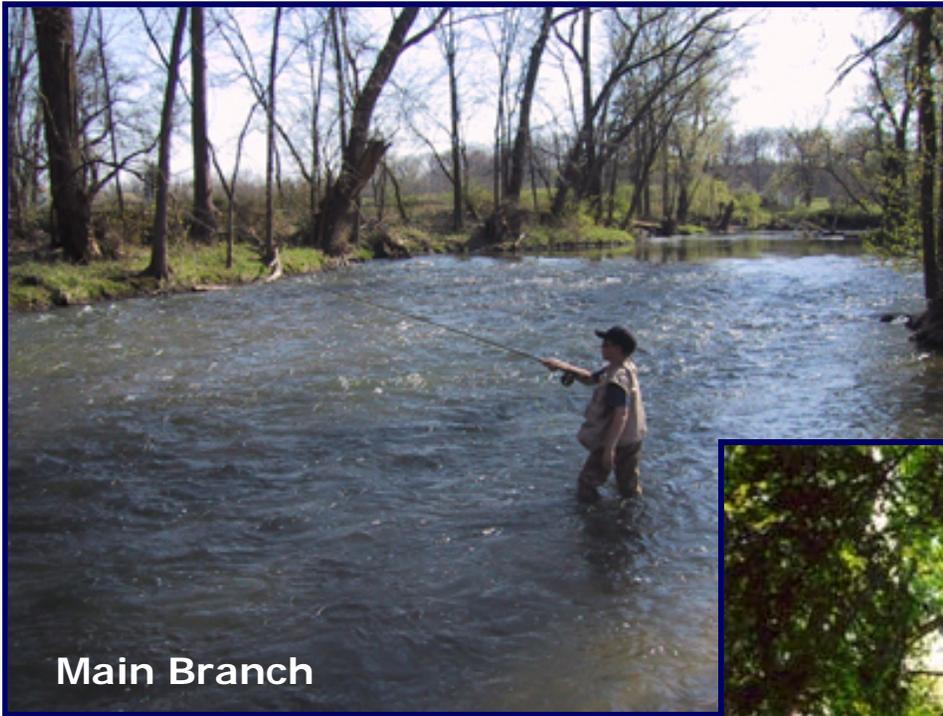
# Clinton River Watershed



# The Clinton River Watershed

This map is provided by the Environmental Stewardship Group of Oakland County Planning & Economic Development Services  
 L. Brooks Patterson, County Executive





**Main Branch**



**Stony Creek**



**Main Branch**



**Main Branch**



**Paint Creek**

# Clinton River Watershed

- **Historical Water Quality Problems:**
  - Contaminated sediments
  - Industrial & municipal discharges
  - Flooding
- **Current Water Quality Problems:**
  - Bacterial contamination from sewer overflows
  - Contaminated sediments persist
  - Non-point source (stormwater) pollution

# What is stormwater?

- Rain & snow become “stormwater” when they hit the ground
- In many areas, stormwater enters our sewer systems and drains into our waterways without being treated
- Stormwater runoff (both quality and quantity) affects the health of our waterways
- Called “non-point” source pollution because it’s hard to point the finger...of blame

# How does stormwater affect our waterways?

## Natural System:

- Slow absorption
- Ground water recharge
- Natural filtration
- Low runoff

## Developed System:

- More impervious surface
- Decreased absorption
- Decreased recharge
- Pollutant runoff
- High runoff

## Impacts:

- Erosion & sedimentation
- Flooding
- Decreased aesthetics & recreation opportunities

# What is imperviousness?

“Imperviousness represents the imprint of land development on the landscape. It is composed of **two primary components**: the **rooftops** under which we live, work and shop, and the **transport system** (roads, driveways, and parking lots) that we use to get from one roof to another.”

- Schueler, T.R. 2000 *Watershed Protection Techniques*. 1(3): 100-111



# How does stormwater affect our waterways?

Pollutants fall on impervious surface



*Oil in parking lot*

Polluted stormwater enters storm drain



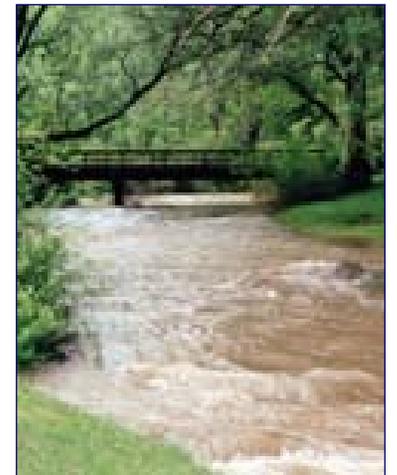
*Typical roadside catch basin*

Stormwater enters waterway



*Storm drain outfall*

Impaired waterway



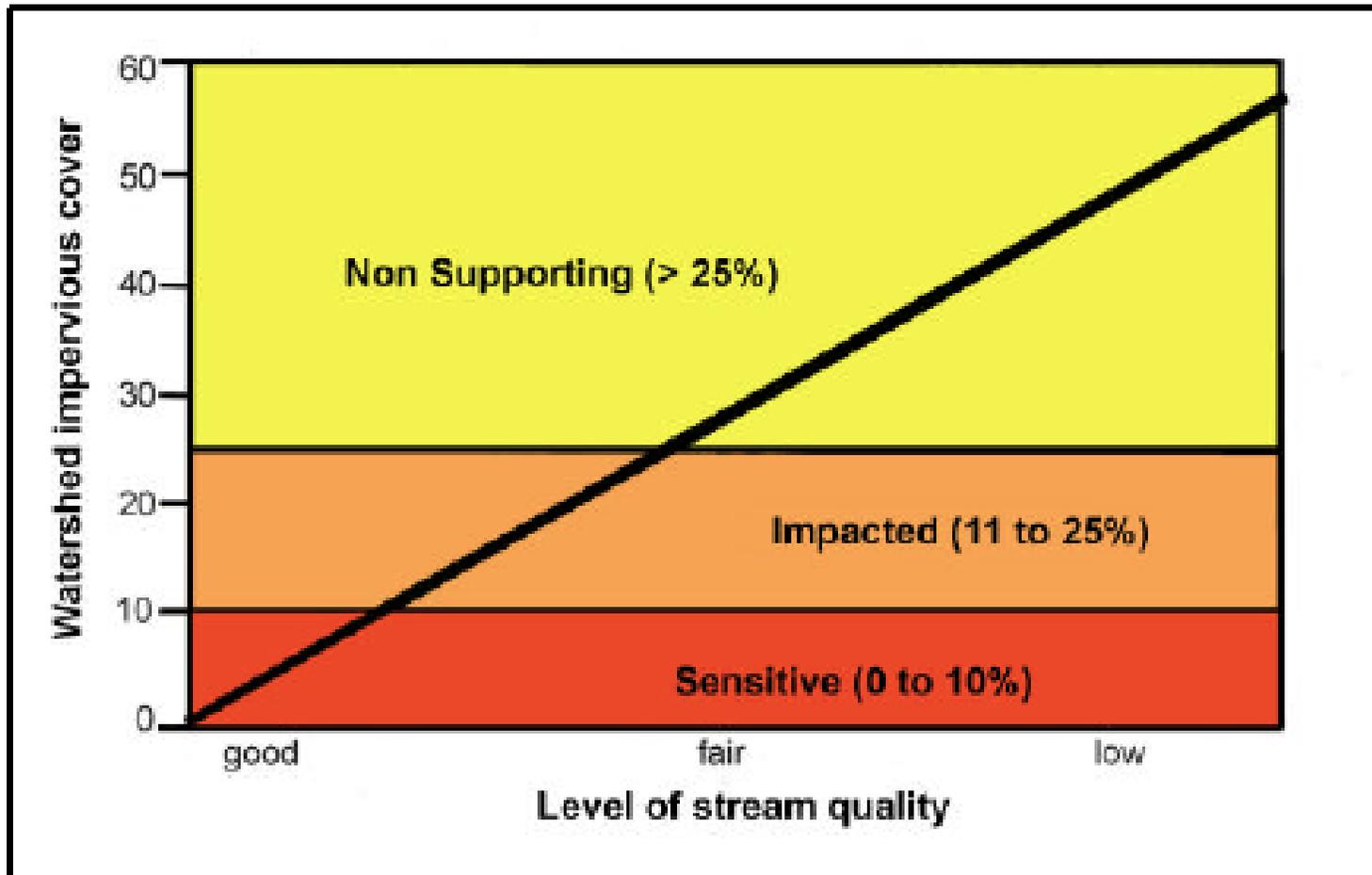
*Sedimentation and flooding during rain event*



*Failed silt fence*

# How does stormwater affect our waterways?

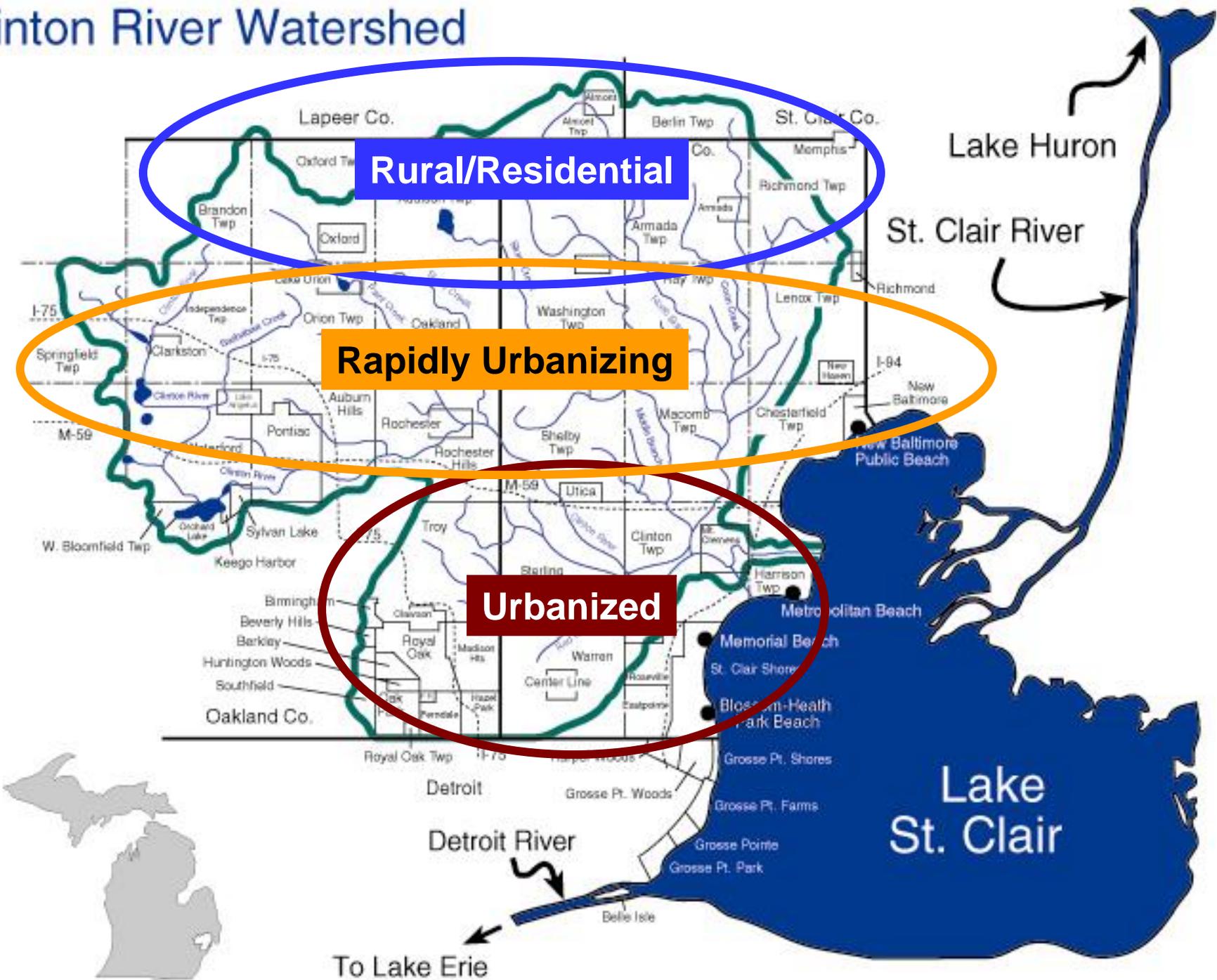
The Impervious Cover Model (Schueler, 1997)





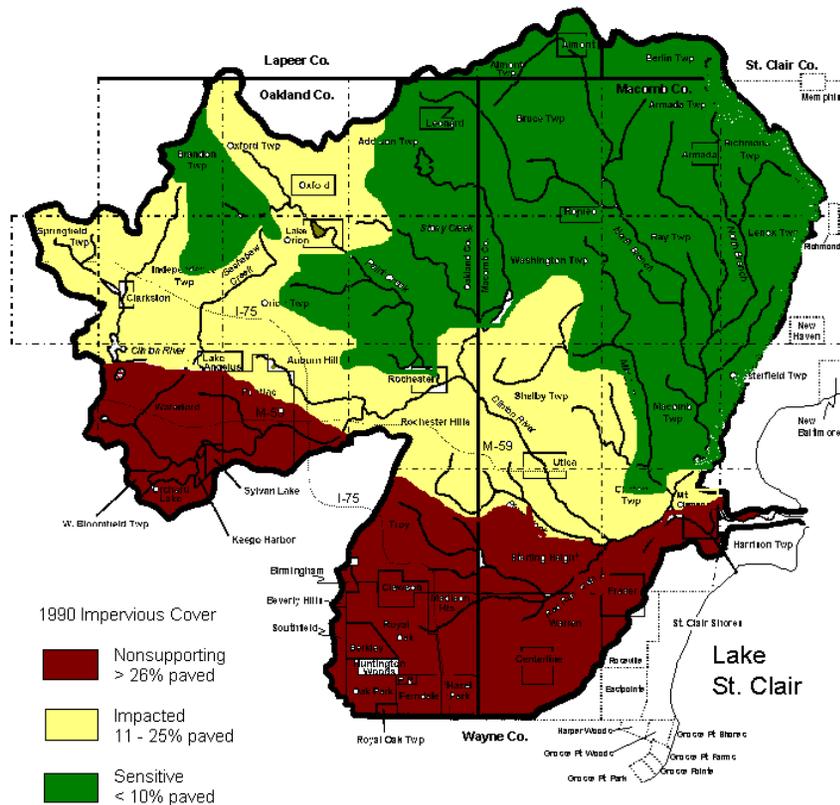
- Reducing vegetation and increasing impervious surface increases stormwater volume
- Higher flows when it rains and lower flows during dry weather both have an impact on our waterways
- Stormwater **QUANTITY** and **QUALITY** must be managed properly

# Clinton River Watershed



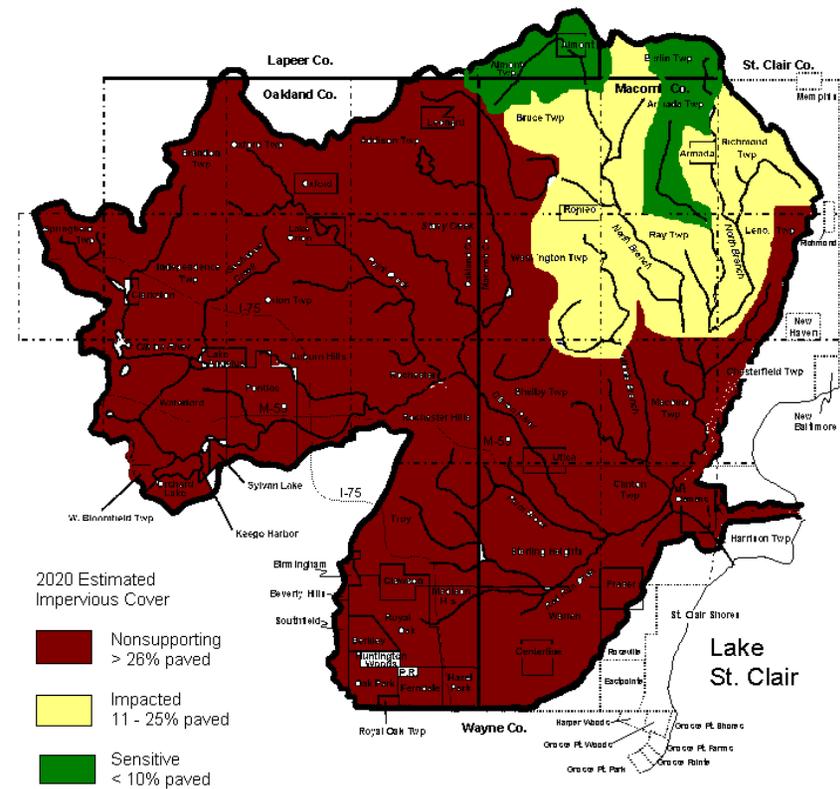
# The challenge over time...

Clinton River Watershed



1990 Impervious Cover

Clinton River Watershed



2020 Impervious Cover

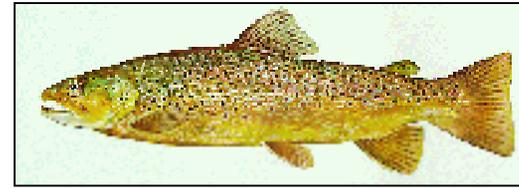
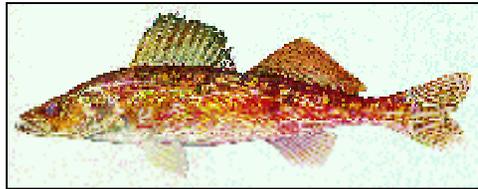
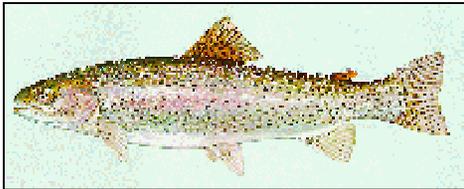
# How does stormwater affect our waterways?

The link between stormwater and fish...

Beneficial Use Impairments as identified in the Clinton River Remedial Action Plan:

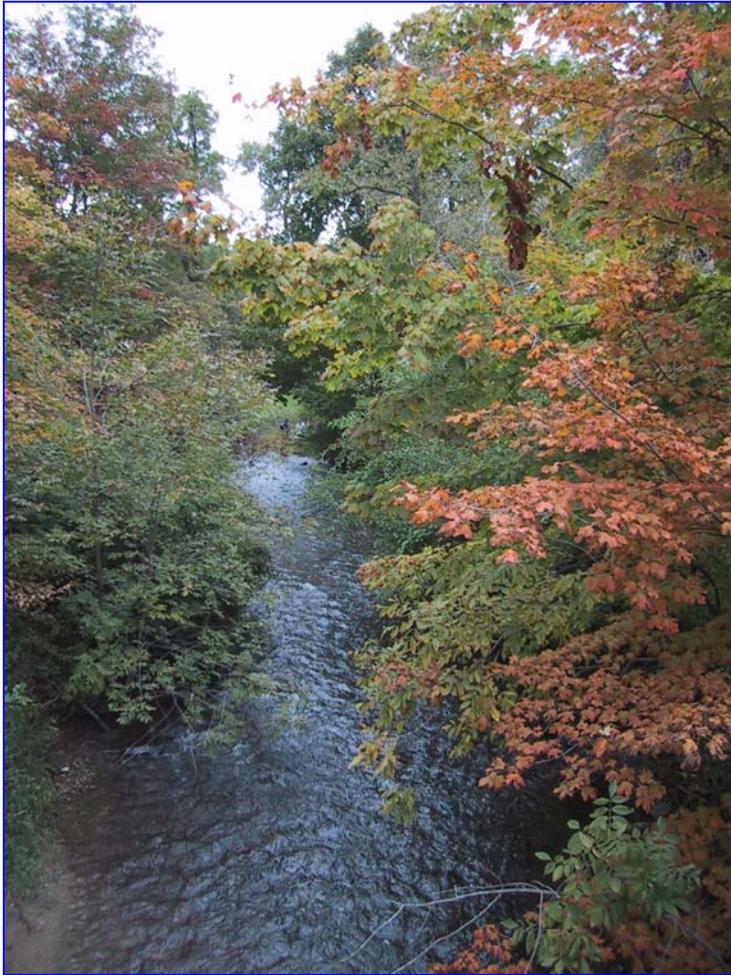
1. **Restrictions on fish consumption**
2. **Degraded wildlife populations**
3. **Degradation of benthos**
4. **Restrictions on dredging activities**
5. **Eutrophication or undesirable algae**
6. **Beach closings and other full body contact recreation restrictions**
7. **Degradation of aesthetics**
8. **Loss of wildlife habitat**

# Fisheries on the Clinton River



- Lower River, downstream of Yates Dam is open year round
- Prime nursery for juvenile fish
- Catch/success rate is comparable to Pere-Marquette
- Clinton River Coldwater Conservation Project

# The Clinton River: *Rochester Hills*



# The Clinton River & Lake St. Clair



# The Clinton River: *What Happened?*



# Clinton River Coldwater Conservation Project

## Comprehensive Habitat Evaluation

- 14 volunteer teams; 1800 man-hours
- Physical habitat inventory
  - 1200 transects
- Macroinvertebrate inventory
  - 12 sites; studied twice a year
- Protocol established by MDEQ GLEAS (P-51), MDNR Fisheries & CRWC Adopt-A-Stream
- Augments DNR's River Assessment Study of Clinton River

# Fisheries Education



- Project F.I.S.H. family workshops
- Project F.I.S.H. volunteer training workshops
- River Day Celebrated on MDNR Free Fishing Weekend
- Link Stream Leaders program to angling opportunities
- Partner with local fisheries conservation groups
- Salmon In The Classroom



The easiest way to learn about water quality is from the bottom up!

# Clinton River Fisheries



*Salmon in the Classroom*



# Clinton River Fisheries

*April 16, 2003: 30,000 Steelhead Planted*



# Fisheries on the Clinton River, Lake St. Clair and the Great Lakes

The Clinton River Watershed is essential for the production and recruitment of sportfisheries species to Lake St. Clair and the Great Lakes

Clinton River is stocked with:

- Brown Trout
- Rainbow Trout
- Walleye
- Northern Pike
- Lake Trout

# Watershed Involvement With Fisheries Conservation

- Generate public support for the Clinton River as a valued recreational resource
- Conservation & habitat efforts to improve:
  - river access
  - water quality, fish habitat
  - river aesthetics
- Multi-year; multi-phased

# Opportunities

## Education & Stewardship



- River Day
- Clinton Clean-Up Stream Leaders – A water quality monitoring program for students
- Adopt-A-Stream – Volunteer monitoring program
- Stormwater Action Package – Public education services for communities to help meet stormwater permit requirements

# Building the Momentum

- Work with local fisheries conservation organizations
- Work with state agencies and local public works/drain commissioners
- Talk to local fisherman
- MEDIA..
  - Find those writers who personally like to fish
  - Send out electronic and fax press releases

For more information...



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**Phone: 248-601-0606**

**E-mail: [contact@crwc.org](mailto:contact@crwc.org)**

**Address: 101 Main Street, Suite 100**

**Rochester, MI 48307**