



Alliance
of Rouge
Communities

Working together, restoring the river

*James W. Ridgway, P.E.
Executive Director*

AGENDA
ALLIANCE OF ROUGE COMMUNITIES
Rouge River TMDL Public Meeting

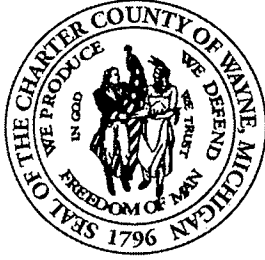
Wednesday, June 27, 2007

10:00 a.m. – 12:00 p.m.

Novi Civic Center

Allen Park
Auburn Hills
Beverly Hills
Bingham Farms
Birmingham
Bloomfield Hills
Bloomfield Twp.
Canton Twp.
Commerce Twp.
Dearborn
Dearborn Heights
Farmington
Farmington Hills
Franklin
Garden City
Inkster
Lathrup Village
Livonia
Melvindale
Northville
Northville Twp.
Novi
Oak Park
Oakland County
Orchard Lake
Plymouth
Plymouth Twp.
Pontiac
Redford Twp.
Rochester Hills
Romulus
Southfield
Superior Twp.
Troy
Van Buren Twp.
Walled Lake
Washtenaw County
Wayne
Wayne County
Wayne County Airport
Authority
West Bloomfield Twp.
Westland
Wixom
Ypsilanti Twp.

1. **Welcome** – Kurt Giberson, Chair
 - a. **Roll Call of Members** (Giberson) and record of others present
2. **Rouge River TMDL** - Christine Alexander and Kevin Goodwin,
Michigan Department of Environmental Quality
3. **Permit Reapplication** – Jim Ridgway, ARC Executive Director
4. **Watershed Plan Updates** – Kelly Karll, ARC Staff
5. **Rouge Round VIII Subgrant Awards** – Kelly Cave, Wayne County
Department of Environment
6. **Other Business**
7. **Adjourn**



Wayne County
Department of Environment
Watershed Management Division
MEMORANDUM

To: Kurt Giberson, Chair
Alliance of Rouge Communities
From: Kelly A. Cave, Director
Re: Round VIII Subgrant Program
Rouge River National Wet Weather Demonstration Project
Date: 21 June 2007

Wayne County is very pleased to announce the recommendations for projects to receive funding under the Rouge VIII Subgrant Program of the Rouge River National Wet Weather Demonstration Project (Rouge Project).

The *Round VIII Notice of Grant Availability* (NGA) was publicized on March 16, 2007 after review by the ARC Technical Committee. Proposals were received on May 14, 2007 as follows:

1. **Round VIII-Part A:** This part is for activities related to control of combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) to the Rouge River. The target allocation of grant funding for Round VIII-Part A was \$ 800,000 (\$ 2,000,000 in total project costs). There were two proposals received by the County under this part for \$3,059,490 in total project costs (\$1,223,796 federal; \$1,835,694 local share).
2. **Round VIII-Part B:** This part is for activities related to the responsibilities under the MDEQ Storm Water General Permit and located within the Rouge River Watershed. The target allocation of grant funding for Round VIII-Part B was \$ 1,300,000 (\$ 2,000,000 in total project costs). There were 20 proposals received by the County under this part for \$3,808,309 in total project costs (\$ 1,863,878 federal; \$1,944,431 local share).

The proposals were reviewed by a five person selection committee based on criteria published in the NGA. The attached tables present the recommendations for awards under the Round VIII subgrant program. Under Part A (CSO/SSO control), there were two projects awarded funding. Under Part B (Stormwater/Watershed Management), there were 12 projects awarded funding. These projects are recommended for funding pending agreement by the agency to required changes to and conditions on the scope of work and budget for the project. The required changes and conditions will be discussed with the agency at the project startup meeting. The projects recommended for funding are pending approval of Wayne County Commission.

In addition, Wayne County anticipates that additional Rouge Project funding will be available for ARC activities during 2008.

Rouge River National Wet Weather Demonstration Project
Projects Recommended for Funding
Round VIII Part A Federal Grants for CSO/SSO Control Projects

Project Number	Lead Agency	Project Description	Federal Share
RVIIIA-01	WCDOE- Engineering	North Huron Valley / Rouge Valley Sewer System Evaluation Project	\$395,237
RVIIIA-02	City of Dearborn	Sewer Separation of CSO Outfall 012	\$404,763
Total			\$800,000

Proposals Submitted May 14, 2007

CSO=Combined Sewer Overflow

SSO=Sanitary Sewer Overflow

SW = Storm Water

NOTE: These projects are recommended for funding pending agreement by the agency to required changes to and conditions on the scope of work and budget for the project. The required changes and conditions will be discussed with the agency at the project startup meeting. The projects recommended for funding are pending on approval of Wayne County Commission.

Rouge River National Wet Weather Demonstration Project
Projects Recommended for Funding
Round VIII-Part B Federal Grants for Storm Water General Permit Activities

Project Number	Lead Agency	Project Description	Federal Share
RVIIIB-01	South Oakland County Water Authority	Rouge-Friendly Lawns & Landscapes: Demonstration Projects & Public Education	\$35,000
RVIIIB-02	Friends of the Rouge	Public Education and Involvement Projects - Round VIII	\$255,393
RVIIIB-04	University of Michigan - Dearborn	Storm Water Education - Round VIII	\$156,618
RVIIIB-05	City of Novi	Regional Basin Retrofit for Water Quality Improvements	\$202,500
RVIIIB-06	Bloomfield Township	Hadsell Detention Basin Enhancement	\$74,344
RVIIIB-08	Northville Twp	Water Quality Monitoring and SWPPI Activities	\$44,925
RVIIIB-09	City of Southfield	Beech Woods Naturalized Streambank and Soil Erosion Control Project	\$49,250
RVIIIB-12	Van Buren Twp	Vegetation Enhancements for Improved Pollutant Removal Efficiencies	\$59,500
RVIIIB-15	City of Farmington Hills	Danvers Pond Removal and Stream Restoration Design	\$274,092
RVIIIB-16	Cranbrook	Rouge River Water Festival @ Cranbrook 2008	\$39,855
RVIIIB-19	Canton Township	Canton Detention Basin Enhancement - Round VIII	\$100,018
RVIIIB-20	Canton Township	Workman Elementary Schoolyard Habitat	\$23,050
Total			\$1,314,545

Proposals Submitted May 14, 2007

CSO=Combined Sewer Overflow

SSO=Sanitary Sewer Overflow

SW = Storm Water

NOTE: These projects are recommended for funding pending agreement by the agency to required changes to and conditions on the scope of work and budget for the project. The required changes and conditions will be discussed with the agency at the project startup meeting. The projects recommended for funding are pending on approval of Wayne County Commission.



Working together, restoring the river

DRAFT MEETING NOTES
ALLIANCE OF ROUGE COMMUNITIES
March 1, 2007
Ford Community & Performing Arts Center
Studio A, 15801 Michigan Avenue
Dearborn, Michigan

Allen Park
 Auburn Hills
 Beverly Hills
 Bingham Farms
 Birmingham
 Bloomfield Hills
 Bloomfield Twp.
 Canton Twp.
 Commerce Twp.
 Dearborn
 Dearborn Heights
 Farmington
 Farmington Hills
 Franklin
 Garden City
 Inkster
 Lathrup Village
 Livonia
 Melvindale
 Northville
 Northville Twp.
 Novi
 Oak Park
 Oakland County
 Orchard Lake Village
 Plymouth
 Plymouth Twp.
 Pontiac
 Redford Twp.
 Rochester Hills
 Romulus
 Southfield
 Superior Twp.
 Troy
 Van Buren Twp.
 Walled Lake
 Washtenaw County
 Wayne
 Wayne County
 Wayne County Airport
 Authority
 West Bloomfield Twp.
 Westland
 Wixom
 Ypsilanti Twp.

1. Welcome – Kurt Giberson, ARC Chair

- a. **Roll Call /Determination of Quorum** - Roll call was taken. The 24 members listed below were in attendance and sufficient for a quorum.

The following were in attendance:

Auburn Hills	Beverly Hill	Bingham Farms	Birmingham
Bloomfield Twp.	Canton Twp.	Dearborn	Farmington
Farmington Hills	Garden City	Lathrup Village	Livonia
Melvindale	Northville Twp.	Oakland County	Plymouth Twp.
Rochester Hills	Romulus	Southfield	Troy
Van Buren Twp.	Walled Lake	Wayne	Wayne County

The following were not in attendance:

Allen Park	Bloomfield Hills	Commerce Twp.	Dearborn Hgts.
Franklin	Inkster	Northville	Novi
Oak Park	Orchard Lake	Plymouth	Pontiac
Redford Twp.	Superior Twp.	Washtenaw County	WCAA
W. Bloomfield Twp.	Westland	Wixom	Ypsilanti Twp.

- b. **Approval of December 6, 2006 Meeting Minutes.** - A motion was made to approve the meeting minutes, it was seconded, and passed unanimously.
- c. **Additions or changes to the Draft Meeting Agenda.** – ARC Chair Kurt Giberson presented to Jack Bails a Resolution of Appreciation and Service to the ARC. Jack Bails was recognized for all of his ongoing support and facilitation to the ARC, including all of his assistance in helping form the ARC. Kurt also recognized Colleen Hughes for all of her support to the group too. A motion was made to support the Resolution of Appreciation, seconded by Jim Anulewicz and passed unanimously.
- d. **Chair’s Report.** – Presentation by SEMCOG at the January 25, Executive Committee meeting. Kurt Giberson summarized Chuck Hersey’s discussion at the Executive Committee meeting regarding the Bolt Decision. Proposed legislation is being formulated that provides a mechanism by which cities can create a storm water fee and property owners may receive credit against the fee based on beneficial storm water practices.

2. Treasurer’s/Finance Committee Report (Tim Faas)

- a. **Status of Alliance 2006 Invoice Payments** – All members have paid their 2006 dues and Wayne County will soon send out invoices for 2007 dues.

- b. **2006 Budget/Expenditures Status Report** – Treasurer Faas reported that there were still a few outstanding expenditures from 2006, but projected that the ARC would come in under budget with approximately \$56,000 remaining.
- c. **2007 Budget Amendment Requests** – Treasurer Faas proposed some ED budget amendments across the different tasks without an increase in the overall budget. A motion was made by Romulus and seconded by Livonia to approve the proposed 2007 budget amendments. The motion passed unanimously.

3. Executive Director Services Committee Report (Dan Swallow)

Mr. Swallow recognized the committee of Tom Biasell, Tim Faas, Wayne Domine, Kurt Giberson & Gary Mekjian for completing the task of selecting an Executive Director. Proposals were received by HRC with Bill Stone as the Executive Director, ECT with Jim Ridgway as the Executive Director, OHM with Jim Murray as the Executive Director and Kelly Cave with support from ECT.

The committee initially recommended awarding the project to Kelly Cave with ECT's support. Kelly's experience and knowledge with Rouge Watershed issues and her demonstrated leadership skills with Wayne County and the ARC clearly made her the optimal choice as the Executive Director. However, Wayne County provided her with opportunities for her career that included additional responsibilities and challenges within the County and she elected to stay with Wayne County. She will still have an active leadership role within the ARC through Wayne County. Thus, the committee then made an ultimate recommendation to hire ECT with Jim Ridgway as the Executive Director. On January 25, 2007 the Executive Committee approved the recommendation. Chair Giberson pointed out that although the Bylaws indicate that the Executive Committee will appoint the Executive Director it is important to get concurrence from the full ARC and solicited discussion on the topic. Lathrup Village moved to endorse the selection of Jim Ridgway and ECT as the Executive Director, Melvindale supported the motion. The motion passed unanimously. Chair Giberson asked Jim Ridgway if he'd like to say a few words. Mr. Ridgway expressed enthusiasm in serving this organization stating that he will make himself available to the membership at any time and that he was thrilled to be a part of the ARC as a model for regional cooperation.

4. Rouge Program Office Report (Kelly Cave)

- a. **Round VIII Sub-Grant Program** – Kelly Cave presented a memo summarizing another round of subgrants, reporting that \$300,000 has been set aside to support 2008 ARC activities. The remainder of approximately \$2 million will be split into two additional grant rounds: 8a for CSO/SSO projects and 8b for Storm Water and Watershed Management projects. Ms. Cave asked if the Technical Committee would once again review the Request for Proposals (RFP). Technical Committee. Vice Chair Gary Zorza indicated that the Committee would conduct the review. Wayne County will e-mail Mr. Zorza the draft RFP for input by the Technical Committee. Comments will be due to Ms. Cave by Friday March 9, 2007. Ms. Cave reminded the ARC of the grant eligibility policy approved by the ARC stating that in order to receive grant funds, a community must be an ARC member. Chair Giberson asked for clarification as to whether the ARC would be eligible as an applicant and Ms. Cave said there was no reason why the ARC wasn't eligible.
- b. **SWPPI Permit Update** – In 2006, the Technical and PIE committees developed templates of the IDEP/PEP/SWPPI and coordinated review with the MDEQ. SWPPIs were technically approved by the MDEQ; however, revisions are due by November 2007 consistent with the annual report date. The MDEQ has indicated that they would like to offer individual meetings with each community.

SEMCOG and MDEQ have had meetings regarding the ongoing Phase II permit revision and the process. Amy Mangus indicated that they are willing to host a meeting to share information about the permit revisions and get input to provide back to MDEQ. The permit is likely to be more prescriptive and the MDEQ is disappointed at the level of commitment across the state. If you are interested in participating in the committee with SEMCOG, please email Amy Mangus.

Hae-Jin Yoon from the MDEQ indicated that TMDLs may be incorporated into the new Phase II permit.

Gary Zorza attended the Michigan Water Environment Association (MWEA) recent meeting in which Dave Drullinger indicated that the MDEQ will offer flexibility to those with the watershed permits. The Technical Committee did receive positive comments on the draft report that compares IDEP implementation alternatives.

The Phase II permit period begins April 1, 2008. Communities are required to re-apply by October 1, 2007. The MDEQ indicated that there will be a mechanism in place to work with the MDEQ if the draft permit is not yet available for review by October 1, 2007.

Overall, comments were more supportive of having the Executive Director with the Executive Committee work with the MDEQ as opposed to the MDEQ meeting with each individual community.

5. Standing Committee Reports

a. Organization Committee (Heise/Payne – Co-Chairs)

- i. **New Organizational Committee Members (Jim Anulewicz, Tom Biasell and Dan Swallow)** – A motion was made by Auburn Hills and seconded by Livonia to approve the new members to the Organizational Committee. The motion passed unanimously.
- ii. **ARC Assessments to County Members:** Oakland County asked whether the Organizational Committee had yet met to discuss how assessments to the counties might be determined in the future. Mr. Heise reported that the Organizational Committee had not yet met and is waiting for a proposal from Oakland County as requested at a previous Executive Committee meeting. Oakland County suggested the Executive Committee give a deadline for receipt of the proposal.

b. Public Involvement and Education Committee (PIE) (Chair Jennifer Lawson, Troy)

Progress Report – Chair Lawson reported the committee's last meeting was in January and Kevin Buford is no longer the Vice Chair. There are four upcoming OSDS (Septic System) workshops in March. 3/8 in Livonia; 3/15 in Van Buren Township; 3/22 Farmington Hills; and 3/29 Bloomfield Township.

c. Technical Committee (Vice Chair, Gary Zorza, Farmington Hills)

Progress Report - Vice Chair Zorza reported that members of the Technical Committee were invited to a SWPPI permit revision planning meeting being held by the MDEQ to review findings of the work the Technical Committee completed that compared alternative IDEP approaches. Mr. Zorza and representatives of the Technical Committee met with the MDEQ and presented a summary of the report that stressed the importance of flexibility with the IDEP program particularly for watershed-based permits.

6. Opportunity for Public Comment (Giberson)

- a. Kathy Milberg (FOTR) introduced herself as the new Executive Director of Friends of the Rouge. She mentioned the upcoming FOTR Roast of Tim O'Brien of Ford Motor Company scheduled on 4/18/07.

- b. Amy Mangus (SEMCOG) SEMCOG has a Request for Proposals out for development of a statewide Low Impact Development manual. Proposals are due March 14, 2007.
- c. Jim Anulewicz: The first task of the Executive Director should be to evaluate the organization and what are the most important issues. Determine short and long-term goals within a short period of time.
- d. Kelly Cave - It's grant appropriation time and Wayne County has applied for funding for next year. It's important to keep the Rouge project on the list for grant appropriations. Wayne County has also updated its Storm Water Ordinance requirements. A workshop will be held on March 23, 2007 to discuss the changes in the ordinance. A very notable highlight of the improvements in the Rouge River was demonstrated by a trout catch along the Lower Rouge River in western Wayne County.
- e. Shawn Keenan: A Sustainable Stormwater Management Workshop is being held in Troy on April 19, 2007.
- f. Jill Rickard: Jill mentioned that the group should consider using the grant funds to update all the Rouge Watershed Management Plans to meet the EPA Section 319 requirements. This comment will be referred to the Grants Subcommittee.

7. Summary of Actions of Full Alliance (Giberson)

- a. Adoption of December 6, 2006 minutes
- b. Resolution of Appreciation to Jack Bails, ARC Facilitator
- c. Endorsement of ECT and Jim Ridgway as Executive Director
- d. 2007 Budget Amendment approval
- e. Approved 3 new members to the Organizational Committee

8. Upcoming Meeting Schedule (Giberson)

Finance Committee	May 3, 2007	Wayne County DOE	Commerce Court, Wayne	1:30 p.m.
PIE Committee	April 26, 2007	Canton Township	Administration Building	1:30 p.m.

9. Adjourn

**Michigan Department of Environmental Quality
Water Bureau
Meeting Attendance Sheet**

Subject: Rouge River (*E. coli*, and Biota) and Johnson Creek (Dissolved Oxygen)
TMDL Stakeholder meeting

Date: June 27, 2007

Meeting Place: Novi Civic Center, Novi, Michigan

NAME	AFFILIATION	E-MAIL	PHONE NUMBER
Chris Cateforo	COM/RCO	ccus04@stbcglobal.net	734 326-3936
Zepharene Higgins	INTELU	pentwaterz@yachoo.com	810 614-8915
Jim Zambanis	Livonia	jzambanis@ci.livonia.mi.us	734 466 7607
Jay Bibby	Ypsi Twp	j.bibby@twpypsilkt.mi.us	734-368-3173
Jennifer Lawson	Troy	j.lawson@troymi.gov	248-524-3381
Kristin Thomas	Troy	k.thomas@troymi.gov	" "
Betsy Neuhoff	DEQ	mightmeg@Michigan.gov	586-753-3744
Gary Melgion	Southfield	gmelgion@cityofsouthfield.com	248 796-4801
Aaron Stulp	Novi	astulp@cityofnovi.org	248 347-3270
Kevin L. Buford	Westland	kbuford@ci.westland.mi.us	(734) 461-3241
Timothy <u>Timothy</u>		ingermonique	
Tim Todd	CANTON	tim.todd@canton-mi.us	734 394-5160
Brian Sherkey	Wash. Co. RC	sherkeyb@wcdads.org	(734) 827-9531

NAME	AFFILIATION	E-MAIL	PHONE NUMBER
Bill DE Groot	SalemTwp	bill.d@saalem-mi.org	248-349-1690 x18
Dick Hinson	HEC	hinsonr@aol.com	517-372-1470
Karen Camargo	FTCEH	kecamargo@ftch.com	248-324-2090
Brandy Batista	Southfield	bbatista@cityof-southfield.com	248-796-4788
Ralph Williams	NONE	WWWWS@RALPHWMS.COM	248 777 6441
Dennis Dembiec	B'HAM		
Kathy Sweet	Limnotech	ksweet@limnotech.com	(734) 332-1200
Dana Calhoun	HRC	dcalhoun@hrc-engr.com	248 454-6881
Marshall Wazanie	W. Bloomfield	M-WAZANIE@WBTWP.COM	248-451-4818
Amy Mayus	Semcoy	mayus@semcoy.org	313 324 3350
Michelle Bononi	WVDC	bononim@cwashstevaw.org	734 222 6833
Mike Bailey	DBA Plymouth Twp	MBAILEY@DBA-PT.COM	734-455-3111
Bryan Wagoner	Wayne City Airport Auth	bryan.wagoner@wcaa.us	734 247 3686
Stephanie Mayus	Applied Science INC.	KAREN.RIDGWAY@ASI-DETROIT.COM	313-567-3990
James Gallagher	CITY OF NORTHVILLE	sgallogly@ci.northville.mi.us	248-449-9930

**Michigan Department of Environmental Quality
Water Bureau
Meeting Attendance Sheet**

Subject: Rouge River (*E. coli*, and Biota) and Johnson Creek (Dissolved Oxygen)
TMDL Stakeholder meeting

Date: June 27, 2007

Meeting Place: Novi Civic Center, Novi, Michigan

NAME	AFFILIATION	E-MAIL	PHONE NUMBER
JACK B. BARNES	Garden City	jackb@garden-city.org	
Sally Petrella	Friends of the Rouge	picoordinator@therouge.org	313 792-9601
JENN WILSON		jlwilson@LI.OAK-PARK.mi.US	248-692-7380
Julie Rickard	NORTHVILLE Twp	jricker20@twp.northville.mi.us	248-662-0497
Kathy Milberg	FOTR	totred@therouge.org	313-792-9900
ROB HAYES	NOVI	rhayes@cityofnovi.org	248-347-0454
LINDON FURZAT	Novi	liverzaj@utorix.com	248-755-5694
Jeff Bednar	AEW	jbednar@ae-wire.com	586-726-1234
KELLY CAPE	WCDOE	kccape@co.wayne.mi.us	313 224-8282
Chris Bremer	City of Lathrup Village	admin@latrupvillage.org	248.557.2600 x236
	or to Jeff Mueller	info@latrupvillage.org	
Howard Aube	City of Novi		
Sarah McIlroy	Stantec	Sarah.mcilroy@stantec.com	734-214-2536

Rouge River Draft *E. coli*, biota, and dissolved oxygen Total Maximum Daily Loads Stakeholder Meeting



Michigan Department of Environmental Quality, Water Bureau

June 27, 2007

Meeting Overview

⌘ Rouge River TMDLs:

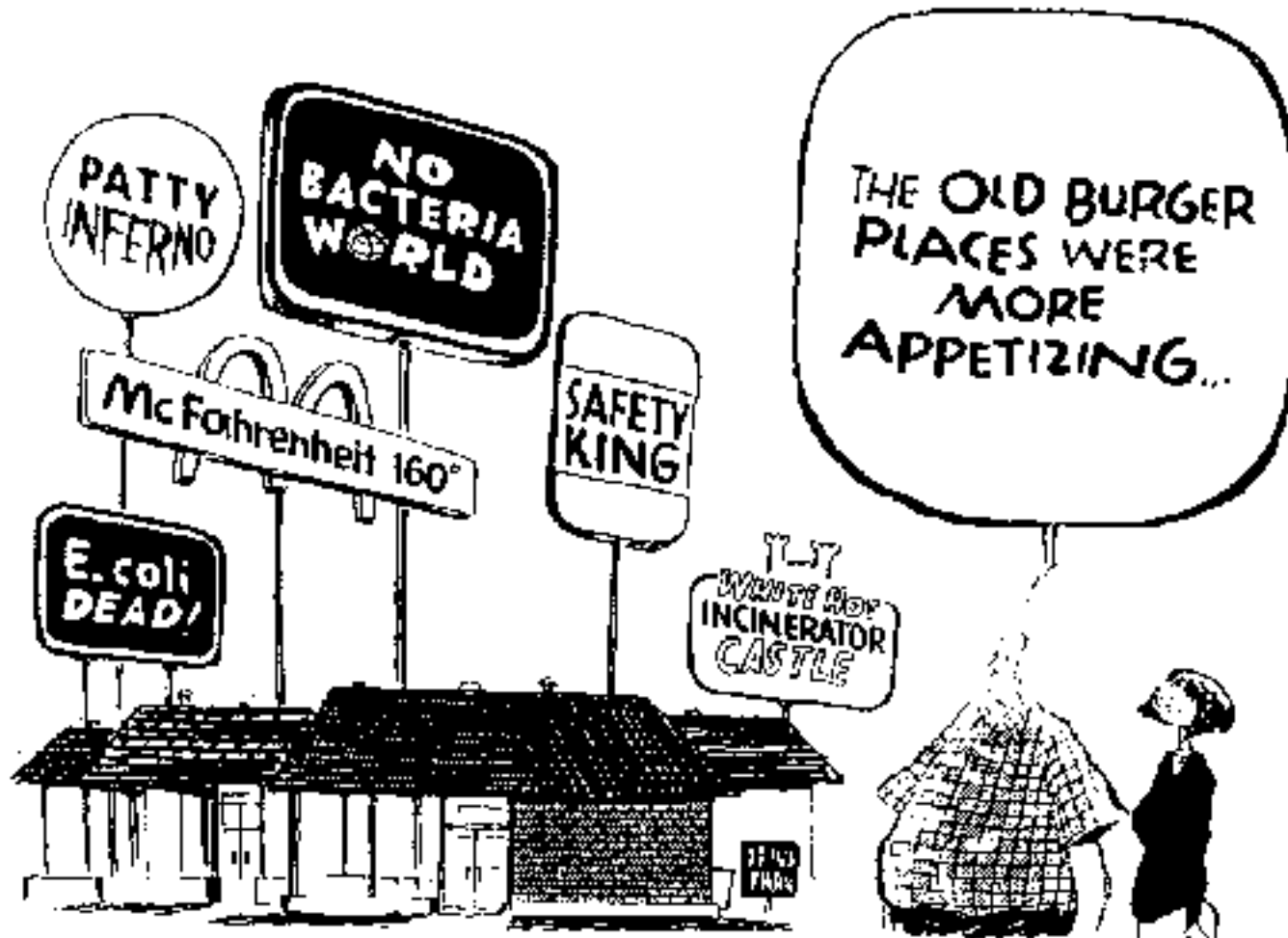
- *E. coli*
- Biota

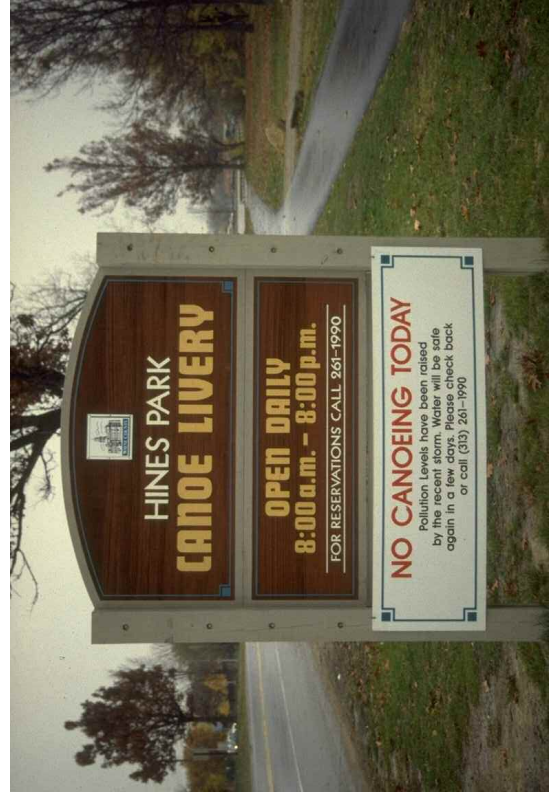
⌘ Johnson Creek TMDL:

- Dissolved oxygen

⌘ Question and Answers

E. coli: threatening Hungry Appetites





Michigan's Water Quality Standard for *E. coli*

- ⌘ WQS for total body contact for *E. coli*:
 - **130** *E. coli* per 100 ml as a 30-day geometric mean
 - **300** *E. coli* per 100 ml as a daily maximum
- ⌘ Partial body contact WQS:
 - **1,000** *E. coli* per 100 ml as a daily maximum

Total Maximum Daily Load (TMDL) Facts:

- ⌘ Section 303(d) of the Clean Water Act requires development of TMDLs for waterbodies that are not meeting water quality standards.

- ⌘ $LC = \sum WLA_s + \sum LA_s + MOS$
 - WLA = point sources (i.e. NPDES permits)
 - LA = non point sources
 - MOS = accounts for uncertainty

- ⌘ Typically calculated as a load (i.e. pounds/day)

E. coli TMDL

- ⌘ Historically been concentration based consistent with WQS
 - *E. coli*/100 ml
- ⌘ Rouge River includes loading calculations to comply with Anacostia Circuit Court ruling
 - Counts of *E. coli*/day



Rouge River Watershed

- Impaired reach ~91 Miles, including Main, Upper, Middle, Lower, Bell and Franklin Branches and Evans Ditch

- 1,558 NPDES-permitted discharges in the Watershed

 - 33 individual permits

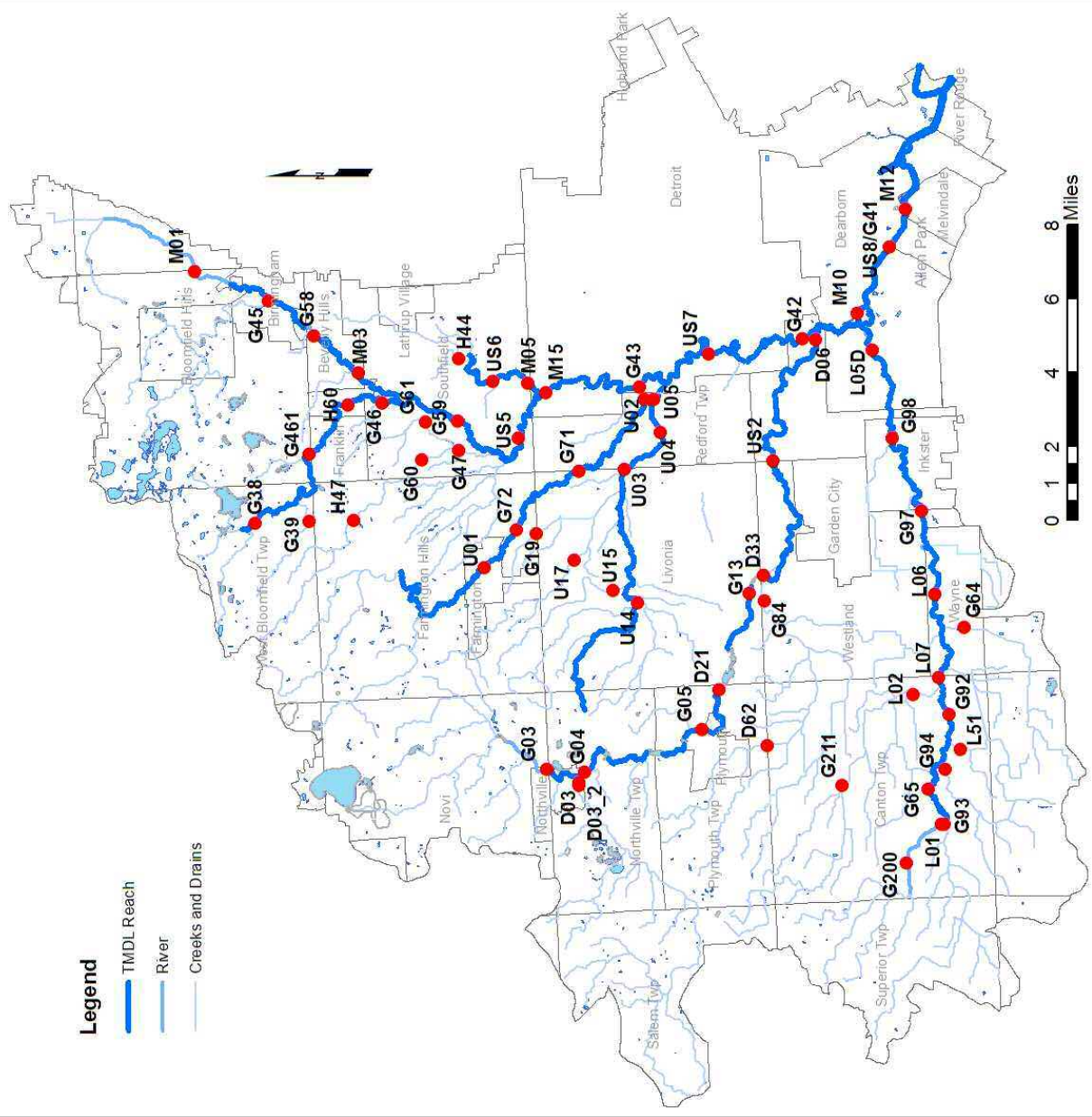
 - 308 certificates of coverage

 - 1,217 notices of coverage

Sampling overview

- ⌘ 63 stations in the watershed
 - Weekly data collected May-Oct.
- ⌘ Main Rouge - 25 stations
- ⌘ Upper Rouge - 11 stations
- ⌘ Middle Rouge - 12 stations
- ⌘ Lower Rouge - 15 stations
- ⌘ Included 19 Bacterial Source Tracking samples

Rouge River *E.coli* Sampling Sites

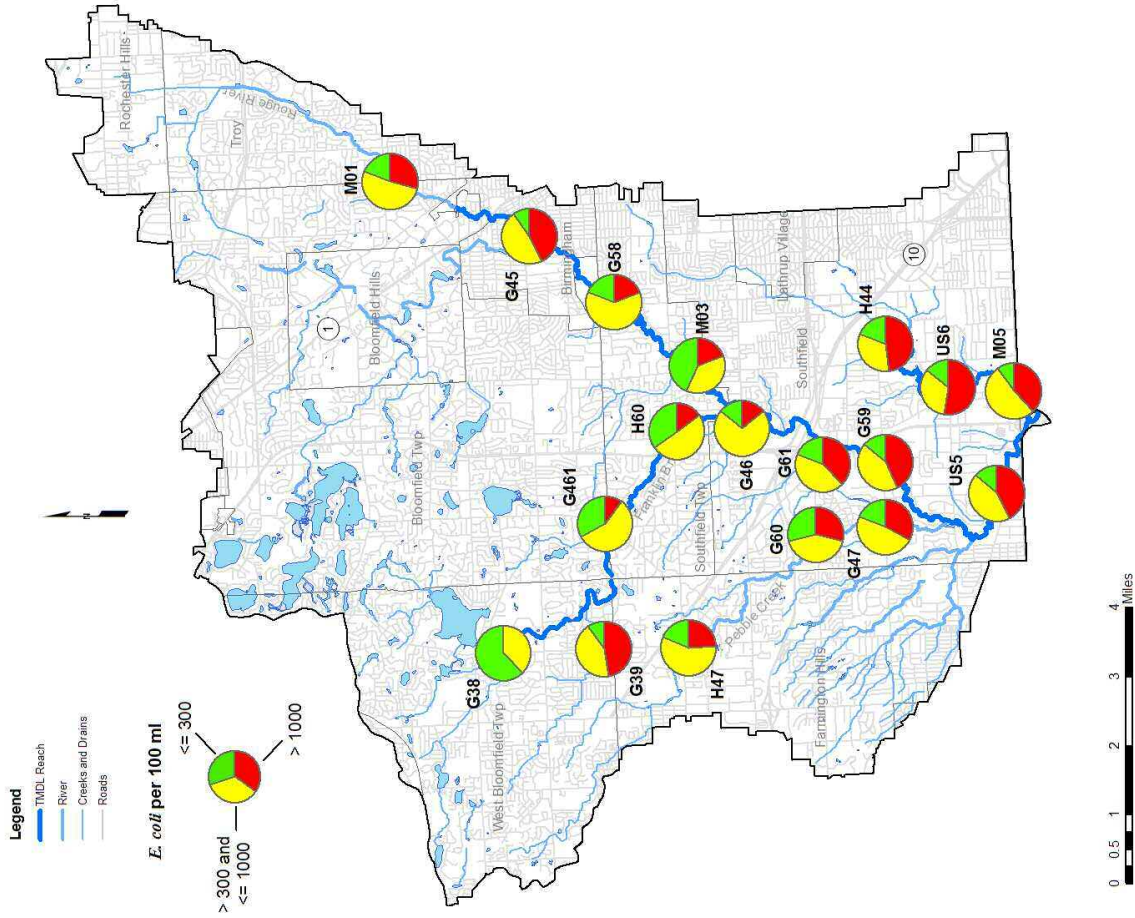


Main Branch Rouge River

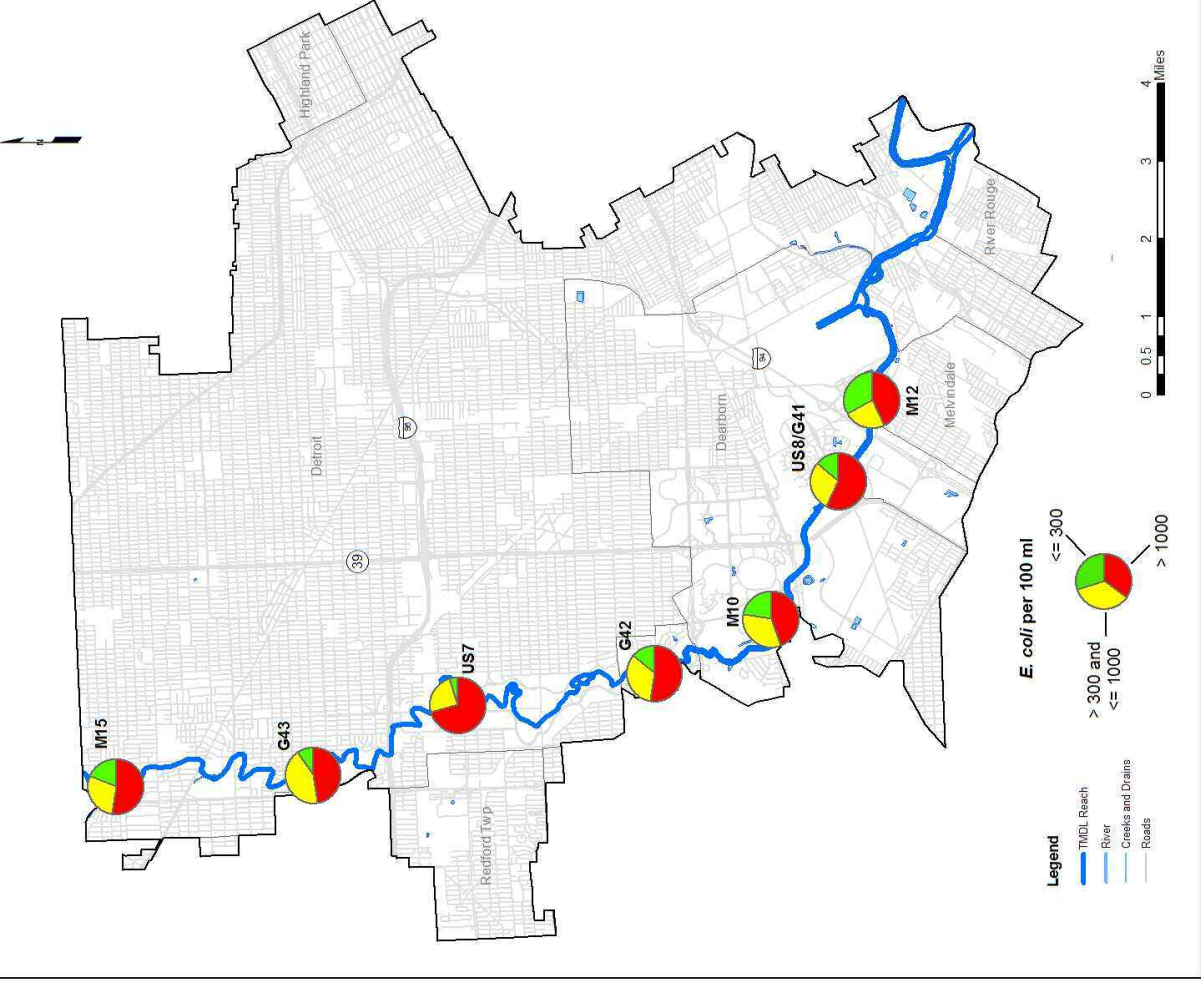
- ⌘ Elevated *E. coli* concentrations throughout the watershed under all weather conditions

- ⌘ Positive results for human sources
 - Main, Evans Ditch, Franklin Branch = wet weather
 - Franklin Branch and Pebble Creek = dry weather

Main Branch Rouge River (Upper) - *E. coli* Results (Daily Maximum)



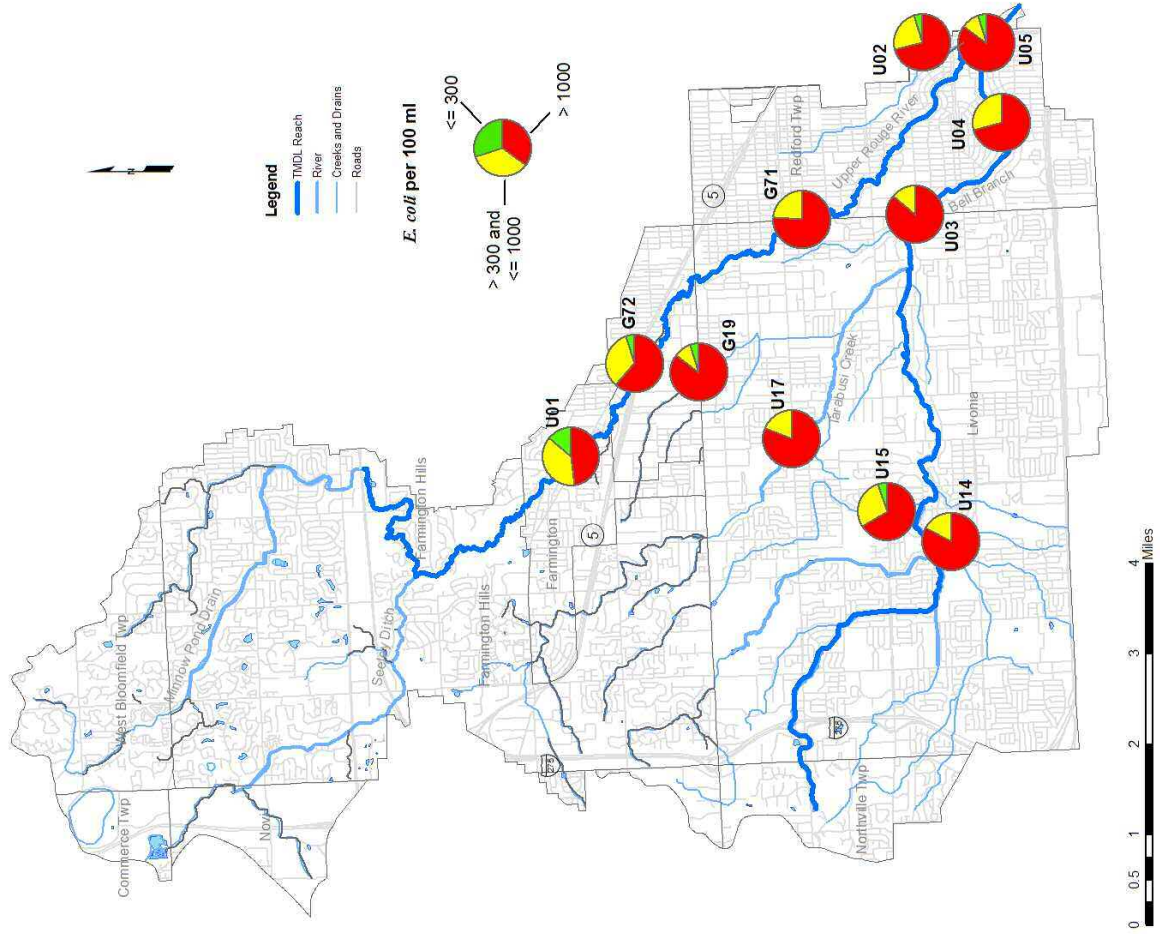
Main Branch Rouge River (Lower) - E. coli Results (Daily Maximum)



Upper Branch Rouge River

- ⌘ Elevated *E. coli* concentrations throughout the watershed under all weather conditions
- ⌘ Positive results for human sources
 - Upper Branch, Bell Branch and Tarabusi Creek
= wet weather

Upper Branch Rouge River- *E. coli* Results (Daily Maximum)



Middle Branch Rouge River

- ⌘ *E. coli* concentrations appear to be worse in wet weather
 - Including Johnson and Tonquish Creeks
- ⌘ Positive results for human sources
 - Middle Rouge, Tonquish Creek = wet weather
 - Tonquish Creek = dry weather

Middle Rouge sampling locations (color map)

Lower Branch Rouge River

- ⌘ *E. coli* concentrations improve d/s of YCUA discharge but worsen d/s of Sines Drain, McKinstry Drain and Fellows Creek
 - Increase in *E. coli* d/s of active CSOs
- ⌘ Positive results for human sources
 - Lower Rouge, Fowler Creek, Sines Drain, Fellows Creek = wet weather

Lower Rouge sampling locations (color map)

How does the TMDL affect you?

- ⌘ Federal regulations do not require that permit limits be expressed identically to the TMDL WLA
- ⌘ **CSO/SSO correction:**
 - Fecal coliform limits will remain unchanged and concentration based
 - Compliance Schedules will move forward as currently required in NPDES permits
- ⌘ **WWTPs:**
 - Fecal coliform limits will remain unchanged and concentration based

TMDL affects (cont.)

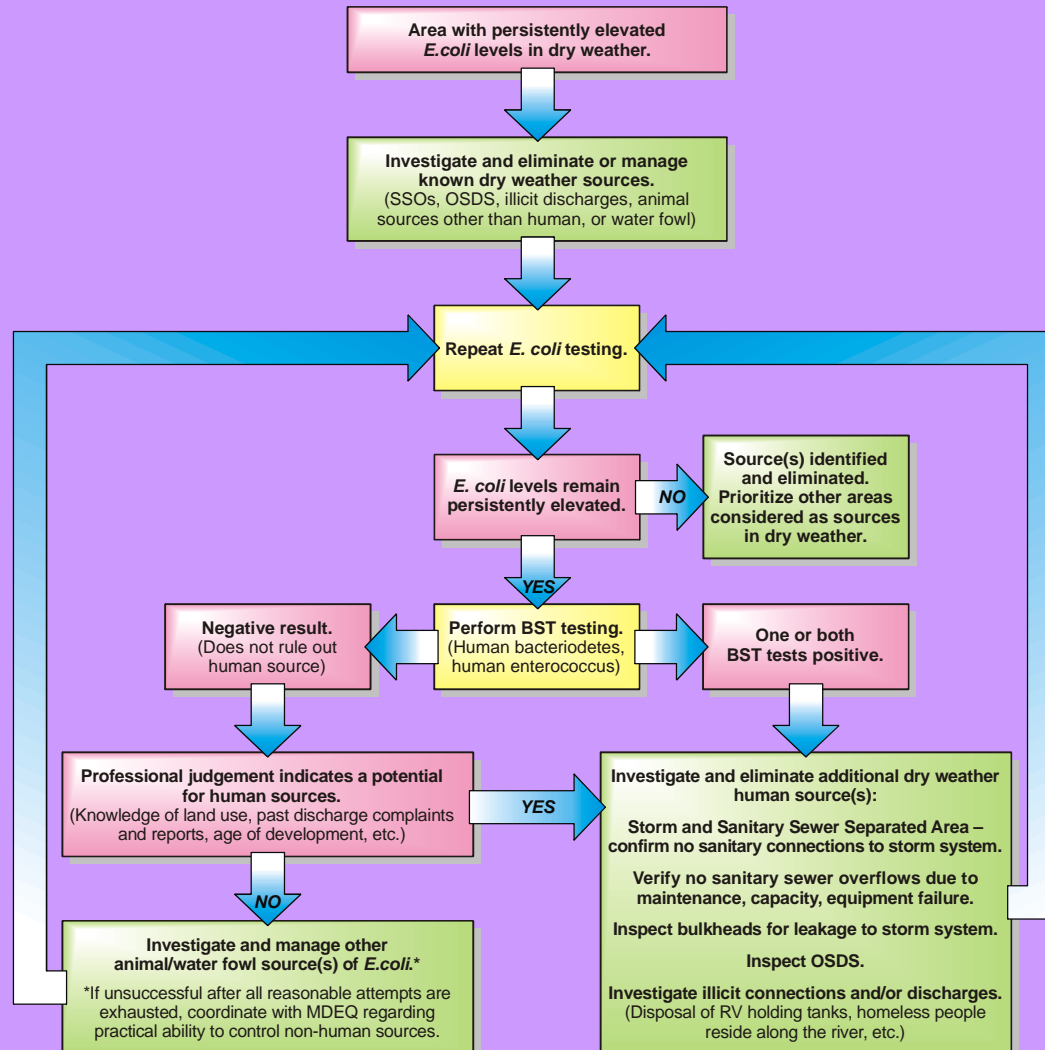
⌘ Storm water permits:

- Permit requirements are designed to achieve WQS and be consistent with TMDL
- Continue using descriptive effluent requirements (i.e. 6 minimum measures)
- No plan to put numerical limits in permits at this time

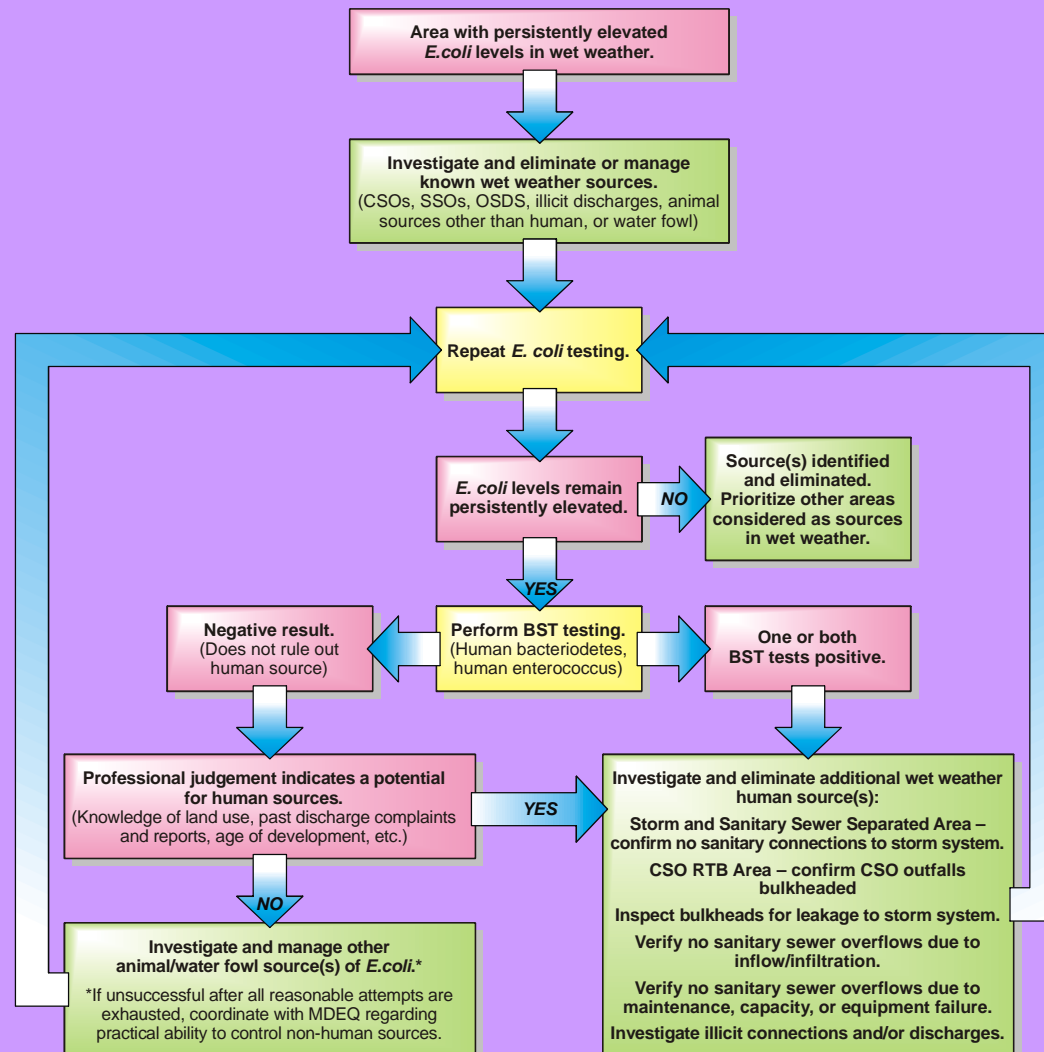
Using existing *E. coli* data

- ⌘ Abundant data available to help implement permit required work
 - TMDL data summarized by branch, including tributaries
 - ⌘ Bacterial source tracking used to see where human influences are present
 - ⌘ Load Duration Curves aid in determining under what flow conditions *E. coli* concentrations are exceeding WQS
 - Suggest using data to prioritize IDEP work

USING DRY WEATHER MONITORING DATA TO PRIORITIZE IDEP ACTIVITIES



USING WET WEATHER MONITORING DATA TO PRIORITIZE IDEP ACTIVITIES



Keep working together

- ⌘ Use TMDL listing(s) to fund innovative approaches to finding and eliminating sources of *E. coli*
- ⌘ Prioritize new sampling plans based on existing data
- ⌘ Share information to improve knowledge



Rouge River Biota TMDL

Kevin Goodwin
Aquatic Biologist

'Biota' : Biological Communities

- Used to assess impairments of aquatic life designated uses (Rule 323.1100):
 - warmwater fishery
 - other indigenous aquatic life and wildlife
- How do we assess aquatic communities?
 - Procedure 51
 - Fish, 'Bugs', Habitat



Why use macroinvertebrates/fish?

- Community composition and diversity reflects water and habitat quality.
- Different kinds of macroinvertebrates/fish have varying levels of pollution sensitivity.



- In-stream organisms are good indicators of conditions because of constant contact, they experience anything that happens to/in the stream (versus 'snap-shot' water samples).

MDEQ Rouge Assessment Data

- Sample every 5 years, linked to NPDES permit cycle



- Original Rouge data from 1980s/1990s found ubiquitous poor biological communities
- 2000 and 2005 most recent data - looking better, but still a way to go to meet biological designated uses

TMDL
Process:

5. Biological
Assessments
"ACCEPTABLE"

4. TMDL Plan
Development
Local Involvement
Control Actions
Implementation

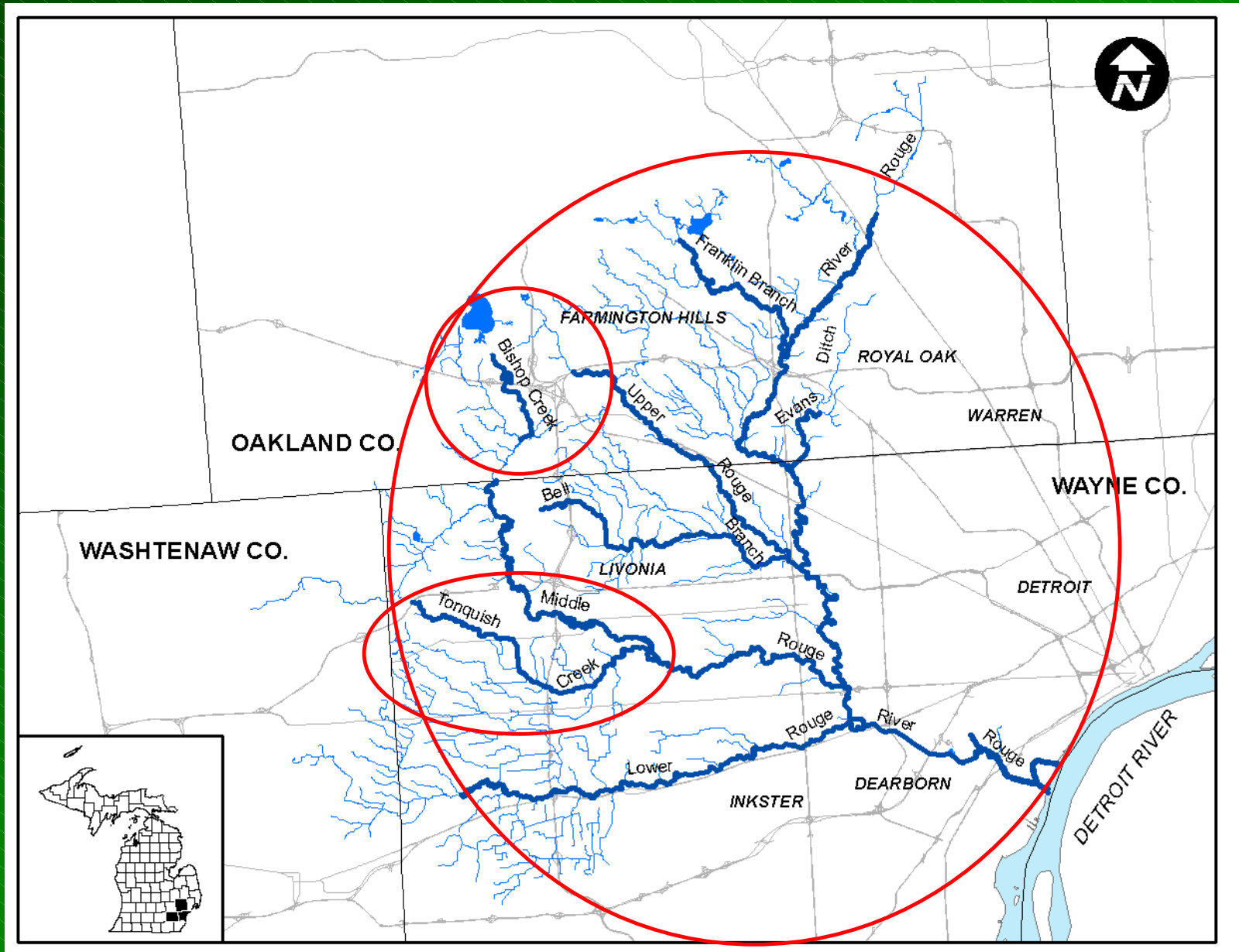
1. List on 305(b) WQS
Nonattainment List

3. Develop TMDL
Public Notice
Public Meeting
Public Comment
EPA Approval

2. Place on the
303(d)
TMDL list
Schedule



This TMDL covers three separate listings from the 303d list.



Influences to Rouge Biota

- Broad impacts from watershed development
- Large-scale changes to the system
 - Quality of habitat in-stream
 - Quantity of water and how it flows
 - Water quality (sediment/silt, chemicals, metals, etc.)

Water Quality

- Being "Toxic" not likely a concern on the broad scale
 - Clean Water Act - NPDES program
 - Efforts by municipalities, industry, communities
 - But there are still aspects of the Rouge that greatly affect life in the stream on a watershed scale...



Water Quantity



Flashy: too much & too little



Stream Bank Erosion



Extreme Low Flows



Sediment Transport and Depositing



Stream Channel Shape

2005 Habitat Quality



Continued Low Diversity/Stability and High Flashiness Scores Using P-51 point to FLOW as a driving force



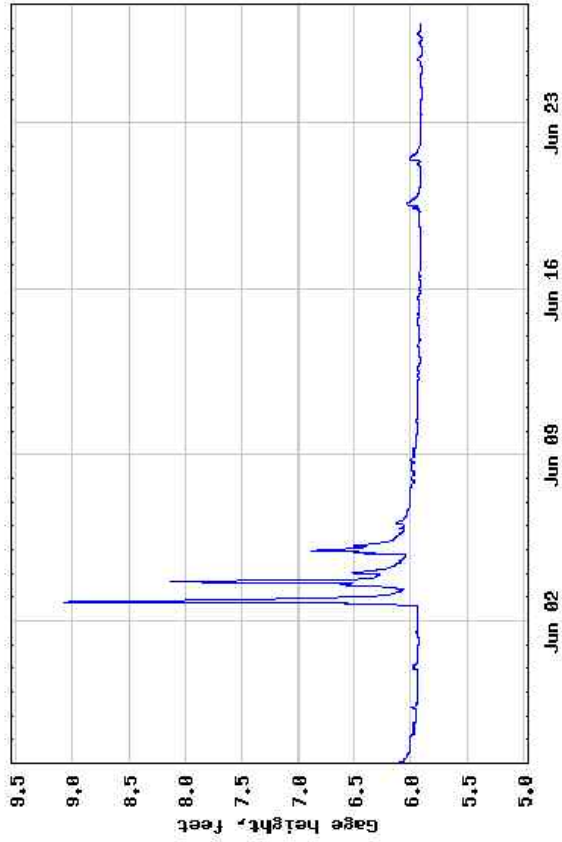
Other Evidence?



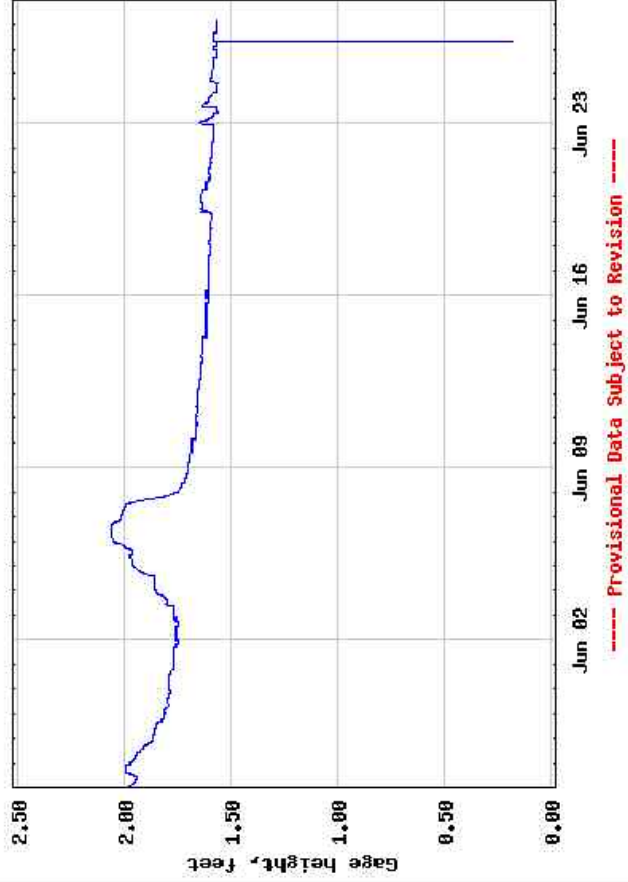
- 1995 DNR Fisheries Assessment: lack of cover for fish and invertebrates during normal stream flows due to frequent and increased flood flows
- Ecological Targets for the Rouge (Wiley et al. 1998) points at widespread reductions in storm water runoff and increases in baseflows needed to restore fisheries



USGS 04166200 EVANS DITCH AT SOUTHFIELD, MI

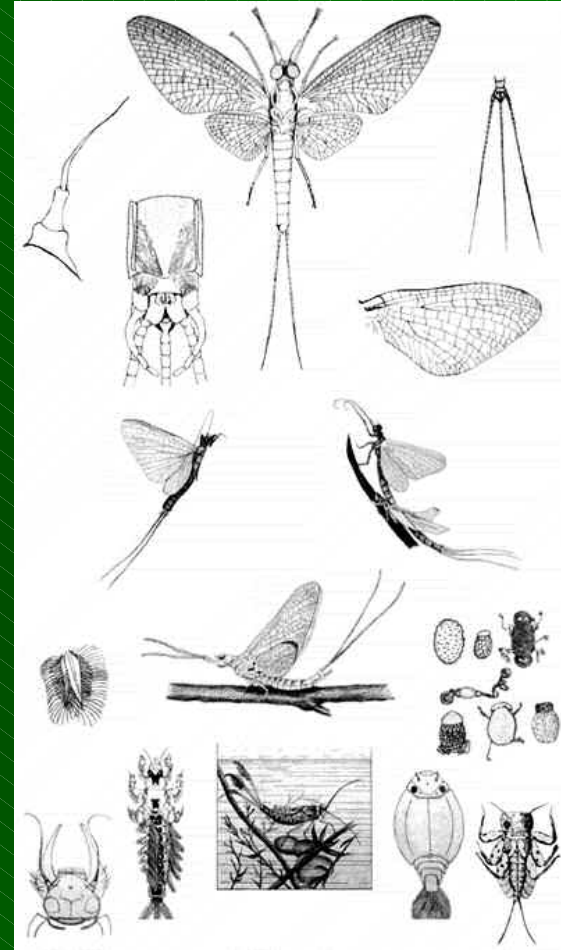


USGS 04161580 STONY CREEK NEAR ROMEO, MI



Primary Goal of Rouge TMDL

- To restore biological communities to achieve Designated uses and meet Michigan Water Quality Standards.
- Repeatable "acceptable" macroinvertebrate community scores throughout watershed.
- A function of improved water quality, overall habitat quality and stability.



Secondary Goal of Rouge TMDL

- Total Suspended Solids (TSS) as a surrogate for FLOW - getting at flashiness and flow stability by focusing on soil erosion, solids runoff/washoff, bank erosion, and sedimentation of habitat.

- In-Stream Wet-Weather Event Mean Annual Target of: 80 mg/L TSS (literature value based on fish communities)

Optimum	= \leq 25 mg/l
Good to Moderate	= $>$ 25 to 80 mg/l
Less than moderate	= $>$ 80 to 400 mg/l
Poor	= $>$ 400 mg/l

- TSS goal minimizes impaired habitat and biological communities due to sedimentation/siltation and gets at. . .

FLOW

TMDL: Allocations

- Waste load allocation, **WLA** (point sources, includes stormwater permittees)
- Load allocation, **LA** (non-point source)
- Margin of Safety, **MOS**

$$\text{TMDL} = \sum^{\text{WLA}} + \sum^{\text{LA}} + \text{MOS}$$

Load Estimation

- Rouge watershed land use was categorized and quantified.
- Land use-specific imperviousness and TSS runoff concentrations used to estimate TSS loading for entire watershed.
- Any land use predicted to have runoff concentrations >80 mg/L, goal for reduction established



Rouge TSS Load Allocation*

TSS Source	Current Annual	Annual Target	WLA	LA
Indust. / Munic. Stormwater (under permit)	60.99	50.77	50.77	
Indiv. / general NPDES permits	6.62	6.62	6.62	
Other land use sources (not covered under permit)	2.09	1.63		1.63
Total annual TSS load	69.70	59.02 (15.3%)	57.39 (15%)	1.63 (22%)

*Loads are in millions of pounds per year.

TMDL: Allocations

- No change is proposed to existing Individual/General (non-stormwater) permit TSS load portion of WLA
- 15% reduction goal is proposed for industrial and municipal stormwater permitted land use TSS loads in WLA (transportation, industrial, high density residential land uses)
- A 22% reduction goal is proposed for stormwater from non-permitted land use TSS loads in the LA (agricultural land use)

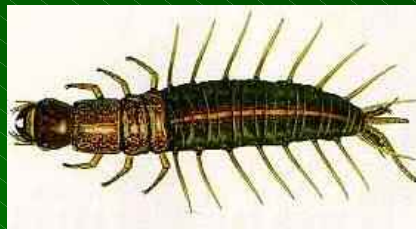
The Good News...

- Stormwater Plans for SWMA already have goals/concerns that are specific to this TMDL

Reduce flow variability
Reduce Soil Erosion/Sedimentation
Protect Natural Features

Reduce solids loading
Reduce Flood/bank erosion
Enhance/preserve habitat

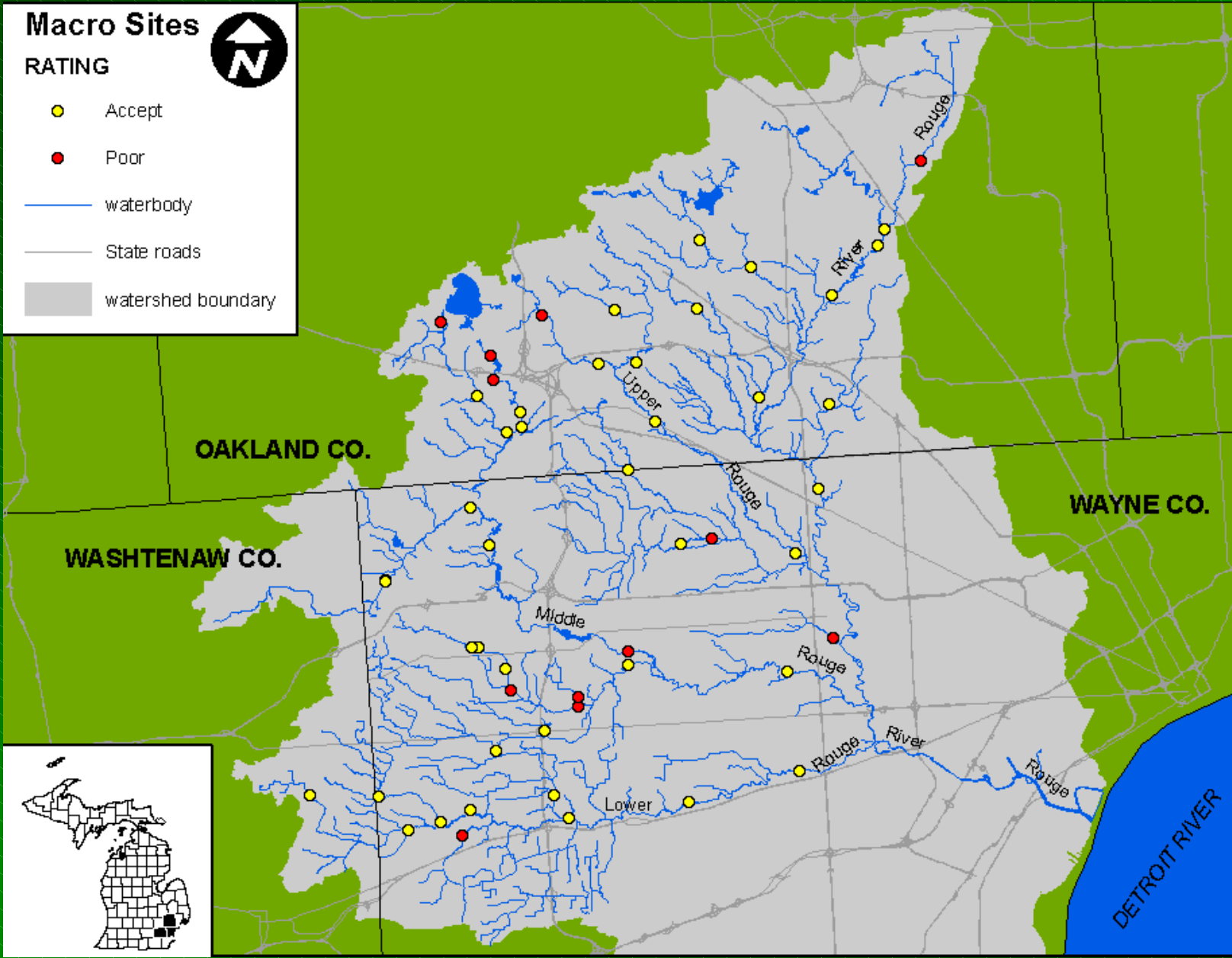
TSS/Sedimentation
Loss of Natural Features
Flow Variability



Reduce excessive flows
Protect/restore ecosystem
Minimize erosion/sedimentation

YOU are: Organized, Focused, and have a Watershed mindset already..

2005



What is next?

- The TMDL is on public notice through:
July 25, 2007.
 - Respond to comments and submit to USEPA
for final approval.
-

- Contact: Kevin Goodwin
Constitution Hall
525 W. Allegan 2nd floor
South Tower
Lansing, MI 48933

- 517.335.4185 or goodwink@michigan.gov

Johnson Creek Dissolved Oxygen TMDL



John Suppnick
MDEQ
06-27-07

Summary

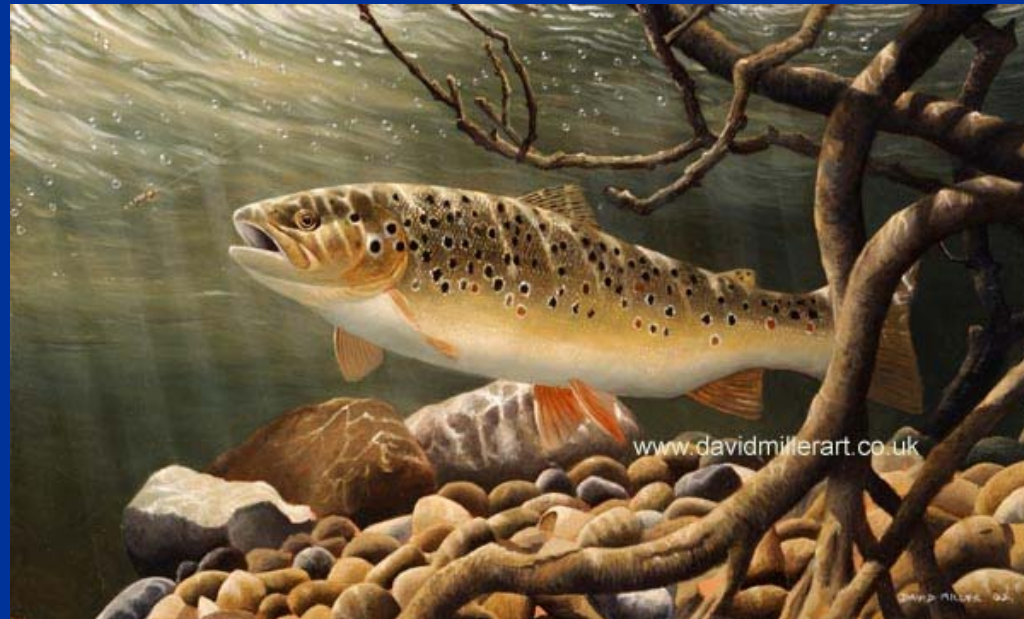
- Johnson Creek does not meet DO standard because of low upstream flow and suspended solids loads
- An 85% reduction in SS loads needed to meet standard in lowest 2 miles of river
- Additional pollutant reductions may be needed to meet DO standard at upstream locations
- Sources include agriculture, urban stormwater, construction sites, individual point sources

Why does Johnson Creek need a DO TMDL?

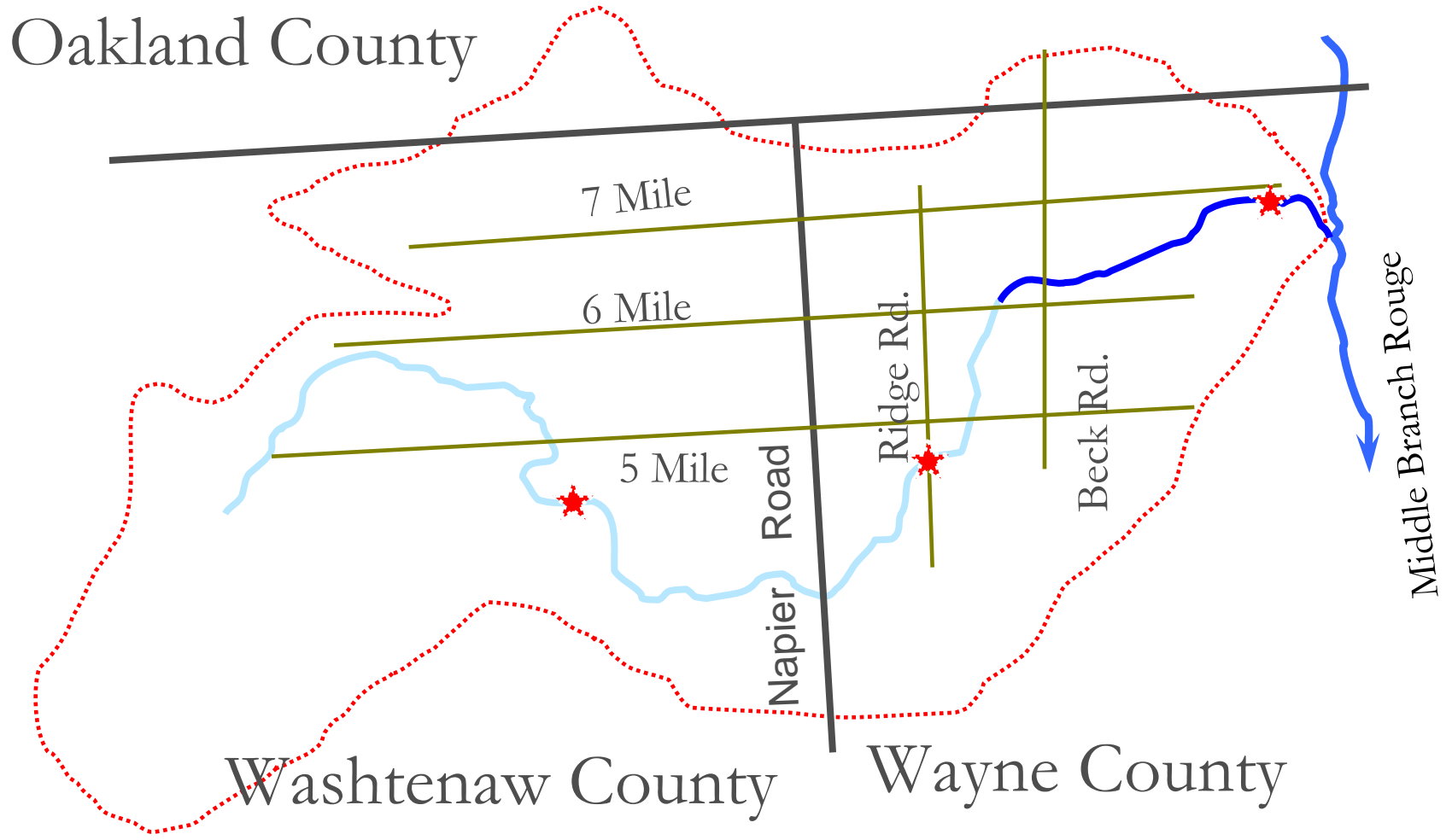
- Johnson Creek does not meet WQS for DO from 5 Mile Rd. to the mouth
- Listed on the 2006 303(d) list for DO standard non-attainment with a TMDL due in 2007

Dissolved Oxygen

- Standard in Johnson Creek is 7 mg/l at all times
- Fish and other aquatic life require oxygen to survive

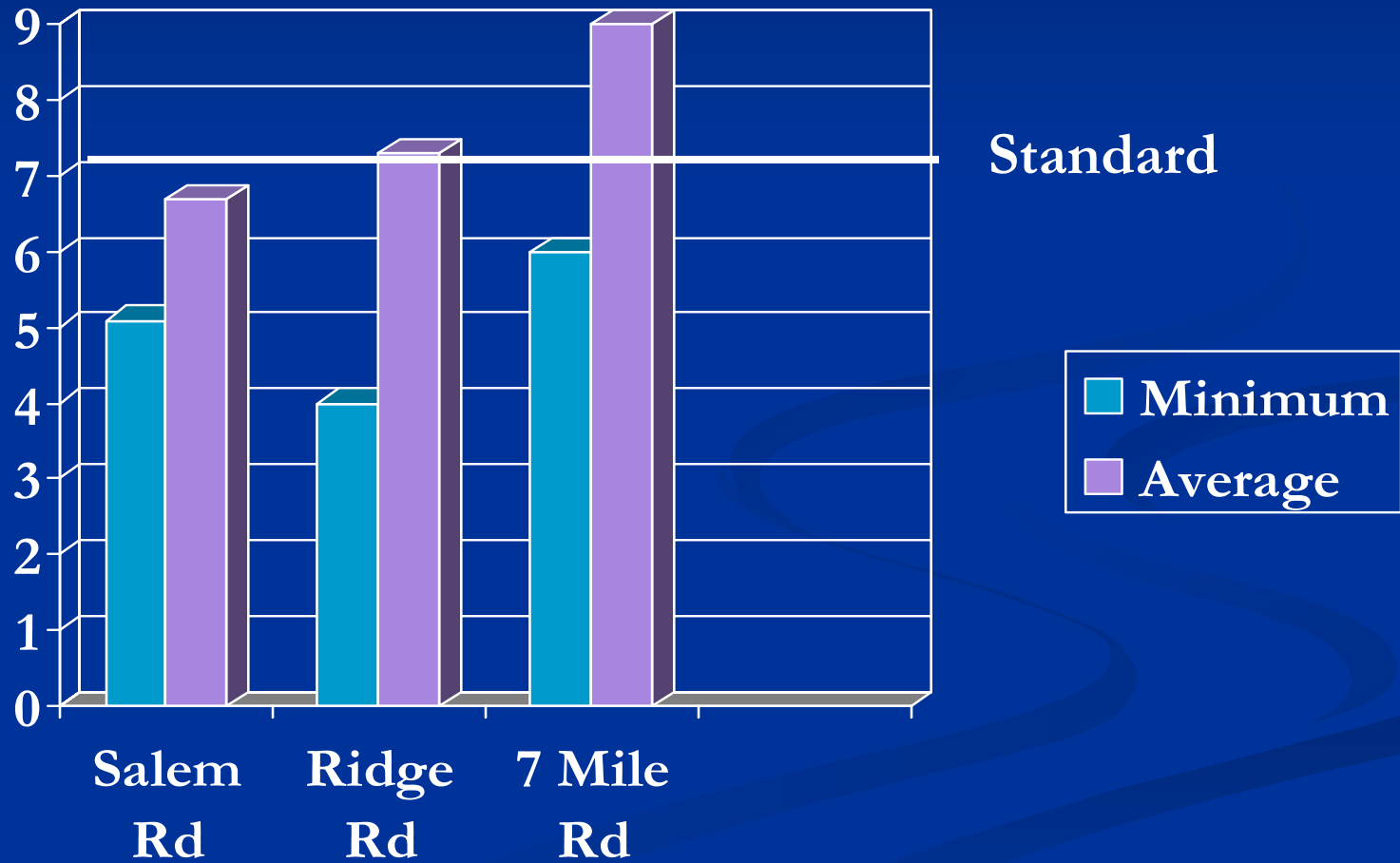


Johnson Creek Watershed



DO Monitoring Summary

Stations with the most data



What are sources of DO in a stream?

- Atmosphere
- Plant photosynthesis
- Inflows from tributaries

What are causes of DO depletion?

- BOD (biochemical oxygen demand) is the decay of organic matter in the water
- Aquatic plant respiration
- Sediment oxygen demand (SOD) decay of organic matter that has settled to the stream bottom

Data Analysis Results

- RRNWDP and MDEQ DO data demonstrate a consistent pattern
- Intermittent but persistently recurring periods of low DO
- No apparent wet weather DO sags
- Low diurnal variation means aquatic plants not very important to DO

DO Model Analysis

- Streeter Phelps model
- Calibrated to match observed data
- Verified with independent data
- Simulations at drought flow

DO Model Results

- Low upstream flow reduces DO
- Sediment oxygen demand is biggest oxygen consumer
- Pollutants of concern are suspended solids, BOD and ammonia
- 85% reduction in SS needed

Pollutants of Concern

BOD and Ammonia

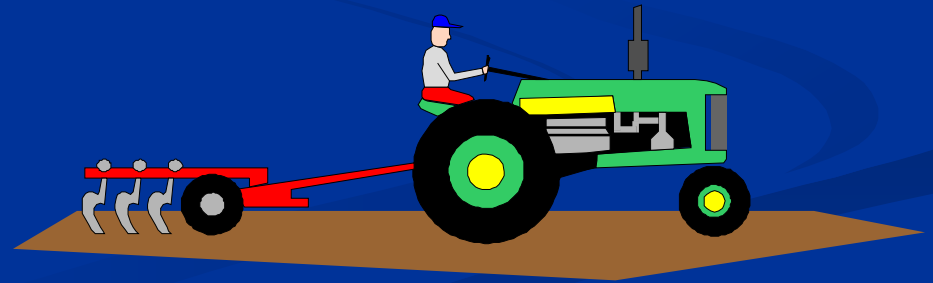
- Discharged Continuously
- Greatest effect at low flow

Suspended Solids

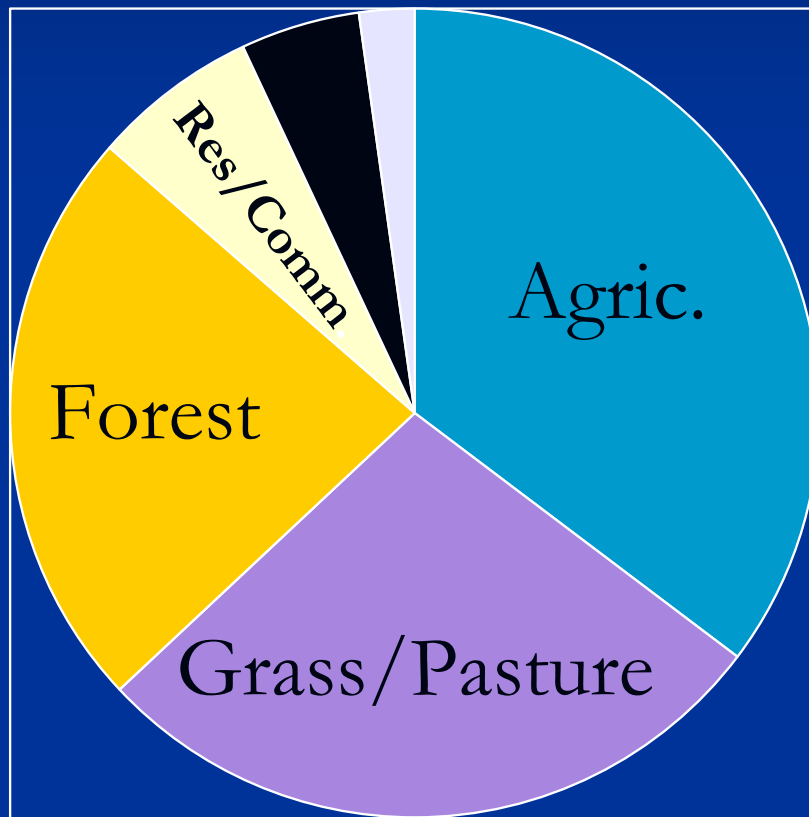
- Discharged primarily in runoff events
- Secondary affect at low flow after settling to stream bottom

Sources of TSS Evaluated

- Individual Point sources
- Agriculture
- Commercial and Residential Land
- Industrial Land
- Construction Sites
- Other minor sources

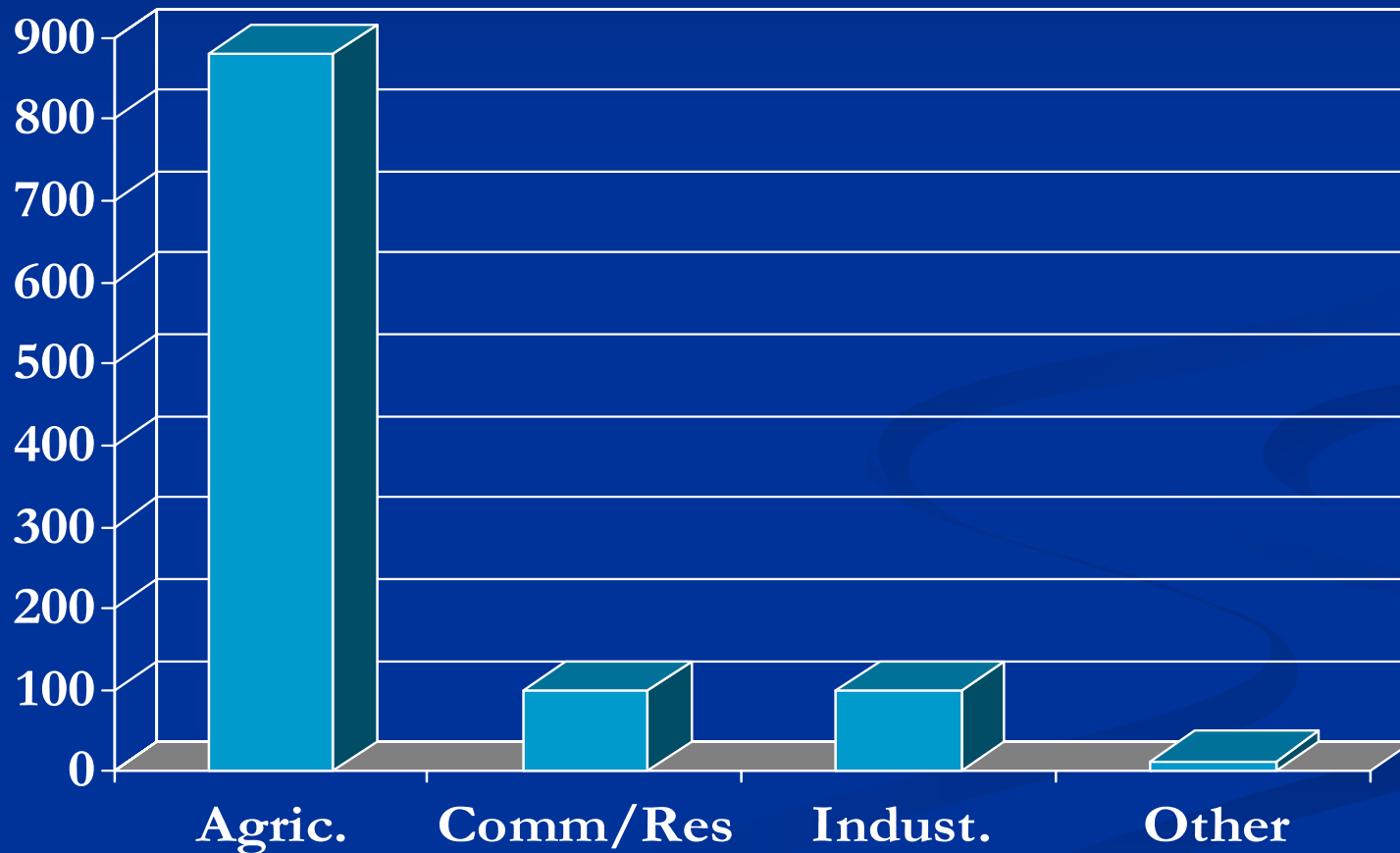


Landuse In Johnson Creek



- Agriculture
- Grass/Pasture
- Forest
- Res/Comm
- Water/Wetland
- Industrial

Estimated Current TSS loads Pounds per Day



TMDL Development Considerations

- Point sources already provide advanced waste treatment for BOD and Ammonia
- Nonpoint source loads are significant
- Low upstream flow hinders DO standard attainment
- Margin of safety is implicit

Waste Load Allocations

BOD and Ammonia

	CBOD5 Pounds/Day	Ammonia Pounds/Day	Rationale
Salem Twp	5.8	1.2	Existing NPDES Permit
Onyx Arbor Hills	8.3	1.7	Existing NPDES Permit

Suspended Solids Waste Load Allocations

Source	Number	SS Pounds/Day
Individual Permits	2	5.6 *
Industrial Stormwater Permits	3	15
Construction Site Notices of Coverage	21 (estimate)	5
MS4 Permits (Jurisdictional and Watershed)	12	5

Based on 85% Reduction in Existing Loads

* 80% reduction

Suspended Solids Load Allocation

Source	SS Pounds/Day
Agricultural Land	127.8
Residential and Commercial (Not Permitted)	5
Forest Land	0.15
Grass and Pasture Land	0.3

Based on 85% Reduction in Existing Loads

Future Monitoring Plans

- Additional monitoring every 5 years as resources allow (Next in 2010)
- Monitor after TMDL recommendations are implemented to evaluate improvement
- Waters will be delisted when they meet the standard

What's next?

**Draft TMDLs are on public notice through
July 25, 2007**

Written comments can be sent to:

MDEQ

Water Bureau

P.O. Box 30273

Lansing, MI 48909

MDEQ Contacts

Christine Alexander (*E. coli*):
517-373-6794 or
alexandc@michigan.gov

Kevin Goodwin (Biota):
517 - 335- 4185 or
goodwink@michigan.gov

John Suppnick (DO):
517-335-4192
suppnicj@michigan.gov

