



Wayne County, Michigan

Annual Report

For Reporting Period January 1, 2013 – December 31, 2013

Certificate of Coverage MIG610040 General Storm Water Discharge Permit (MIG619000)

Submitted to:

Michigan Department of Environmental Quality - Water Bureau

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WAYNE COUNTY
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Annual Report: January 1, 2013 – December 31, 2013

TABLE OF CONTENTS

| | <u>Section</u> | <u>Page</u> |
|---|-----------------------|--------------------|
| DETERMINATION OF EFFECTIVENESS | 1 | 1 |
| Background | | 1 |
| Effectiveness of Wayne County's Storm Water Management Program | | |
| Rouge River Watershed | | 2 |
| Downriver Watersheds | | 12 |
| Lake St. Clair (Direct Drainage) Watershed | | 16 |
| ILLICIT DISCHARGE ELIMINATION PLAN | | |
| SUMMARY OF ACTIVITIES | 2 | 17 |
| County-Based Pollution Complaint Reporting System | | |
| (WCIDEP #1)..... | | 19 |
| County-Based Advanced Investigation and Correction (WCIDEP #2) | | 19 |
| IDEP Training Workshops (WCIDEP #3)..... | | 23 |
| Minimize Infiltration of Seepage from Sanitary Sewers | | |
| (WCIDEP #4)..... | | 24 |
| Minimize Infiltration of Seepage from Onsite Sewage Disposal | | |
| Systems (WCIDEP #5) | | 25 |
| Response to Emergency Spills (WCIDEP #6) | | 27 |
| Illegal Dumping Control (WCIDEP #7)..... | | 27 |
| Swimming Pool Inspections (WCIDEP #8) | | 30 |
| County-Owned Building Inspection (WCIDEP #9) | | 30 |
| Visual Inspections During Routine Field Operations (WCIDEP #10) | | 30 |
| IDEP Training for Volunteers (WCIDEP #11) | | 32 |
| Methods to Evaluate Effectiveness – Alternative vs Traditional | | |
| IDEP Comparison (WCIDEP #12) | | 32 |
| Methods to Evaluate Effectiveness – Performance Tracking | | |
| (WCIDEP #13) | | 32 |
| Methods to Evaluate Effectiveness – Instream/Environmental | | |
| Indicator Monitoring (WCIDEP #14) | | 32 |
| Update Map of Known Storm Water Point Sources and Respective | | |
| Receiving Waters or Drainage Systems (WCIDEP #15) | | 33 |
| PUBLIC EDUCATION PLAN SUMMARY OF ACTIVITIES | 3 | 35 |
| Educate Public Regarding Location of Residential Storm | | |
| Drainage System and Waters of the State (WCPEP #1) | | 35 |
| Educate Public Regarding Animal Waste (WCPEP #2)..... | | 35 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

TABLE OF CONTENTS (Continued)

| | <u>Section</u> | <u>Page</u> |
|---|-----------------------|--------------------|
| Educate Public Regarding Pavement or Powerwashing WCPEP #3) | | 35 |
| Distribute Pollution Prevention Literature (WCPEP #4)..... | | 35 |
| Newsletter Articles and Advertisements (WCPEP #5) | | 36 |
| Displays-Community/Agency Events (WCPEP #6) | | 36 |
| Displays-Static (WCPEP #7) | | 36 |
| WCDPS Environmental Information Line (WCPEP #8) | | 36 |
| Advertisements (WCPEP #9) | | 37 |
| Point of Sale Education (WCPEP #10) | | 37 |
| Workshops and Demonstration Projects (WCPEP #11) | | 37 |
| Riparian Corridor Management Technical Advisory Committee and Work Group (WCPEP #12) | | 40 |
| Healthy Lawn and Garden Technical Advisory Committee (WCPEP #13) | | 40 |
| River Day/Rouge Rescue (WCPEP #14) | | 40 |
| Volunteer Monitoring – Frog & Toad Surveys, Rouge Watershed (WCPEP #15) | | 41 |
| Volunteer Monitoring – Bug Hunts, Rouge Watershed (WCPEP #16) | | 41 |
| Volunteer Monitoring – Bug Hunts, Downriver Watersheds (WCPEP #17) | | 42 |
| Rouge Education Project (WCPEP #18) | | 42 |
| Storm Sewer System Labeling (WCPEP #19) | | 42 |
| Storm Sewer System Labeling – County Facilities (WCPEP #20) | | 42 |
| Alliance of Rouge Communities – PIE Committee (WCPEP #21) | | 42 |
| Information Dissemination via Websites (WCPEP #22) | | 43 |
| Information Dissemination from County Buildings (WCPEP #23) .. | | 43 |
| Education Waste Disposal Sites (WCPEP #24) | | 43 |
| Staff Education and Training (WCPEP #25) | | 45 |
| Signage (WCPEP #26) | | 46 |
| Local Presentations (WCPEP #27) | | 46 |
| Develop/Maintain Partnerships (WCPEP #28) | | 47 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

TABLE OF CONTENTS (Continued)

| | <u>Section</u> | <u>Page</u> |
|---|-----------------------|--------------------|
| Integrate Public Education into | | |
| Facilities Management Division (WCPEP #29) | | 4 |
| Public Services, Roads Division (WCPEP #30) | | 4 |
| Public Services, Parks Division (WCPEP #31) | | 49 |
| County Issued Permits (WCPEP #32) | | 58 |
| ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES. | 4 | 61 |
| Outlet Stabilization: County Projects (WCSWM #1) | | 61 |
| BMP Implementation Treatment Controls: County Projects | | |
| (WCSWM #2)..... | | 61 |
| CSO Control Implementation (WCSWM #3)..... | | 64 |
| SSO Control Implementation (WCSWM #4) | | 64 |
| Pollution Prevention (P2): General Public Facilities Management | | |
| (WCSWM #5)..... | | 64 |
| Staff Training (WCSWM #6) | | 67 |
| P2: Training and Inspection Program for Contractors | | |
| (WCSWM #7)..... | | 67 |
| P2: Fertilizer, Pesticide and/or Herbicide Application | | |
| (WCSWM #8)..... | | 67 |
| P2: Storm Sewer Operation and Maintenance (WCSWM #9) | | 67 |
| P2: Roads Maintenance and Sweeping (WCSWM #10) | | 67 |
| P2: Snow Removal and Storage (WCSWM #11)..... | | 68 |
| P2: Deicing Practices and Storage (WCSWM #12) | | 68 |
| Oil and Grease Traps – County Implemented (WCSWM #13)..... | | 68 |
| Goose Control Program (WCSWM #14)..... | | 68 |
| Soil Erosion and Sedimentation Control – County Projects | | |
| (WCSWM #15) | | 69 |
| Streambank Stabilization – Projects Subject to County Storm | | |
| Water Ordinance (WCSWM #16) | | 69 |
| BMP Implementation Treatment Controls: Projects Subject to | | |
| County Storm Water Ordinance (WCSWM #17)..... | | 69 |
| Outlet Stabilization - Projects Subject to County Storm Water | | |
| Ordinance (WCSWM #18) | | 69 |
| Ordinance Enforcement: Illegal Dumping Ordinance | | |
| (WCSWM #19)..... | | 70 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

TABLE OF CONTENTS (Continued)

| | <u>Section</u> | <u>Page</u> |
|--|-----------------------|--------------------|
| Ordinance Enforcement: Municipal Civil Infractions Ordinance (WCSWM #20) | | 70 |
| Ordinance Enforcement: OSDS Evaluation and Maintenance Ordinance (WCSWM #21) | | 70 |
| Ordinance Enforcement: Sewer Use Ordinance (WCSWM #22)..... | | 70 |
| Ordinance Enforcement: Soil Erosion and Sedimentation Control Ordinance (WCSWM #23) | | 70 |
| Ordinance Enforcement: Storm Water Management Ordinance (WCSWM #24) | | 71 |
| Flow Obstruction Prevention/Removal and Woody Debris Management (WCSWM #25) | | 71 |
| Streambank Stabilization Efforts – County Implemented (WCSWM #26) | | 71 |
| Habitat Restoration (Protection) (WCSWM #27)..... | | 71 |
| River Day Participation (WCSWM #28)..... | | 73 |
| Assessment of County Implemented Flood Control Projects (WCSWM #29) | | 73 |
| Other Activities and Projects | | 73 |
| WATERSHED PLANNING SUMMARY OF ACTIVITIES | 5 | 75 |
| Rouge River Watershed | | 75 |
| Downriver Watersheds | | 76 |
| Lake St. Clair (Direct Drainage) Watershed | | 76 |
| Detroit River Area of Concern | | 77 |
| LIST OF ATTACHMENTS | 6 | 79 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

LIST OF TABLES

| | <u>Page</u> |
|---|--------------------|
| Table 1 Analysis of Rouge River Conditions | 3 |
| Table 2 Trend Analyses: Rouge River Daily Average Dissolved Oxygen Concentrations | 6 |
| Table 3 Rouge River Streamflow Trend Analyses Summary and 2012 Precipitation Totals | 7 |
| Table 4 Rouge River Macroinvertebrate Trend Analysis, 2001 – 2013 | 11 |
| Table 5 Downriver Watersheds Macroinvertebrate Trend Analysis, 2004-2013 | 15 |
| Table 6 Environmental Concerns Investigated/Illicit Discharges Identified by Wayne County, January 1 through December 31, 2013 | 17 |
| Table 7 Wayne County Watersheds Facility (Dye Test) Inspection Summary January 1 through December 31, 2013 | 20 |
| Table 8 Types of Illicit Discharges Found Within Wayne County During Facility (Dye-Test) Inspections, January 1 - December 31, 2013 | 21 |
| Table 9 Summary Of Illicit Discharge Investigations Performed Independently of Wayne County Facility Dye Testing Activities: January 1 - December 31, 2013 | 21 |
| Table 10 Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: January 1 - December 31, 2013 | 22 |
| Table 11 Wayne County 2013 IDEP Training Workshop Attendance | 24 |
| Table 12 Summary of OSDS Evaluations Performed January 1 - December 31, 2013 | 25 |
| Table 13 Summary of OSDS Permits Issued January 1 - December 31, 2013..... | 25 |
| Table 14 Summary of OSDS-Related Complaints Investigated, January 1 - December 31, 2013 | 26 |
| Table 15 Summary of Estimated Pollutant Load Reduction to Wayne County Watersheds from Onsite Sewage Disposal Systems: January 1 - December 31, 2013 | 26 |
| Table 16 Summary of 2013 Household Hazardous Waste and E-Waste Collection Days | 29 |
| Table 17 Summary of Material Collected During Wayne County's 2013 Household Hazardous Waste and E-Waste Collections..... | 29 |
| Table 18 Types of Environmental Concerns "Identified" during Routine Field Operations January 1 - December 31, 2013 | 31 |
| Table 19 Environmental Concern Investigations Resulting from Routine Field Operations January 1 - December 31, 2013 | 32 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

LIST OF TABLES (CONTINUED)

| | <u>Page</u> |
|--|--------------------|
| Table 20 Distribution of Educational Materials for Proper Waste Disposal, January 1 – December 31, 2013 | 44 |
| Table 21 WCDPS 2012 Staff Training in Environmental Issues During 2013 | 45 |
| Table 22 WCEHD 2012 Staff Training in Environmental Issues During 2013 | 45 |
| Table 23 Environmental Educational Information Distributed from Nankin Mills Parks Office during 2013 | 49 |
| Table 24 Attendance at Nankin Mills Interpretive Programs, 2013 | 52 |
| Table 25 Environmental Educational Information Distributed From Crosswinds Marsh, Wayne County Parks, January 1 – December 31, 2013 | 55 |
| Table 26 Wayne County Road Construction Projects, January 1 – December 31, 2013 | 63 |
| Table 27 Pollution Prevention Action Plan Inspections: 2010-2013 | 65 |
| Table 28 WCDPS 2013 Pollution Prevention Action Plan Activities | 66 |
| Table 29 2013 Roadway Sweeping Summary, Wayne County Roads Division | 68 |

LIST OF FIGURES

| | <u>Page</u> |
|---|--------------------|
| Figure 1 Rouge River Continuous DO and Temperature Annual Mean Data, May – October 1994 – 2012; Stations U05, D06, L05D, US7 | 5 |
| Figure 2 Rouge River Benthic Monitoring Sites and Scores, Spring 2013 | 9 |
| Figure 3 Rouge River, Benthic Monitoring Sites and Scores, Fall 2013 | 10 |
| Figure 4 Fall Macroinvertebrate Data Trend for Johnson Creek Subwatershed, 2001 - 2013 | 12 |
| Figure 5 Wayne County Downriver Watersheds, Benthic Monitoring Sites and Scores, Spring 2013 | 13 |
| Figure 6 Wayne County Downriver Watersheds, Benthic Monitoring Sites and Scores, Fall 2013 | 14 |
| Figure 7 Spring Macroinvertebrate Data Trend, Lower Huron River Watershed 2004 - 2013 | 16 |

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2013 – December 31, 2013

SECTION 1
DETERMINATION OF EFFECTIVENESS

Background

Under the federal Clean Water Act, the Phase II regulations for small municipal storm sewer systems (MS4) state that operators of small MS4s must obtain coverage under an NPDES storm water permit which requires development and implementation of a storm water management program that “must:

- Reduces the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protects water quality; and
- Satisfies the appropriate water quality requirements of the Clean Water Act.

MEP is a standard that establishes the level of pollutant reductions those MS4 operators must achieve through implementation of a storm water management program. The definition of "MEP" should adapt continually to both current conditions and BMP effectiveness, but ultimately, successive iterations of the mix of BMPs and measurable goals should be made to achieve the objective of meeting water quality standards”.

“...identifying overarching goals for your entire storm water management program is also useful. Establishing objectives for each of the minimum measures can help put each program component into perspective within the framework of your overall program. One way to evaluate program success at either the minimum measure- or overall program-level is through the use of environmental indicators.

Useful indicators are often indirect or surrogate measurements where the presence of the indicator points to a likelihood that the program area was successful. Indicators can be a cost-effective method of assessing the effectiveness of a program because direct measurements sometimes can be too costly or time-consuming to be practical.” (EPA, “Measurable Goals Guidance for Phase II Small MS4s”,

<http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>)

Michigan General Storm Water Discharge Permit (MIG619000) requires a determination of the effectiveness of the various public education activities (Section A.3.b), illicit discharge elimination activities (Section A.3.a), the watershed management plan(s) (Section B.1) and the Storm Water Pollution Prevention Initiative (Section B.2). The methods for evaluation of progress “may include chemical or biological indicators, flow measurements, erosion indices, and public surveys”.

Effectiveness of Wayne County's Storm Water Management Program

Wayne County uses an innovative combination of measurable goals for some watershed management activities and evaluations through ecosystem health monitoring programs to assess the effectiveness of our storm water management program implemented under our Certificate of Coverage MIG610040. Sections 2 through 5 of this report present a summary of the implementation of watershed management activities and other BMPs. Evaluations of improvements in ecosystem health in Wayne County watersheds are presented below.

Rouge River Watershed. The Rouge River Watershed Monitoring Database, maintained by Wayne County's Rouge River National Wet Weather Demonstration Project (Rouge Project), is available at www.rougeriver.com/database. There are several publications that present trend analysis for the monitoring data, including the *Rouge River Monitoring and Assessment Report*, published by the Rouge Project and the Alliance of Rouge Communities (available at <http://www.rougeriver.com>)

A summary of the water quality trends in each of the seven Rouge subwatersheds, based on water quality data collected through 2012 and ecosystem health data collected through 2013, is presented in Table 1. As noted in the footnotes to Table 1, data for various water quality parameters were collected at different time periods. The most recent data reflected in the table were collected in 2012 and include continuous monitoring of level and flow at six locations throughout the watershed and continuous monitoring of dissolved oxygen (DO) and temperature at one location in the Main Branch at Plymouth Road (US7).

From Table 1, all of the watershed areas show either a "no change" or "improving" trend for the monitored parameters of stream flow, temperature, dissolved oxygen (DO), total phosphorus, E.coli bacteria, fish communities, stream habitat, macroinvertebrates, and amphibians, with the following exceptions: Middle 1 for stream flow; Lower 1 for dissolved oxygen; the Middle 1 and Middle 3 for fish community; the Upper Rouge for macroinvertebrates; and the Upper for amphibians. In particular, trend analysis indicates stream flow to be improving or has not changed in 6 of the 7 Rouge subwatershed areas. DO trend analysis shows improvement or no change in 6 of the 7 subwatershed areas and E.coli trend analysis indicates an improving or no change in all 7 watershed management areas. In 2012, seven species of the eight amphibians monitored were observed in 3 of the 7 watershed management areas.

Water Quality and Flow Monitoring: The most recent water quality monitoring of the Rouge River for which data is available was in 2012. Water quality monitoring is conducted according to the monitoring program described in the 2012 Rouge River Watershed Management Plan (WMP) prepared by the Alliance of Rouge Communities (ARC). The Rouge River Monitoring Plan is a five-year plan, which encompasses the years from 2009 through 2013. The plan includes the collection of several types of data throughout the watershed, which will be used to measure the improvements in Rouge River water quality and ecosystem health. Precipitation, streamflow, and biological health monitoring data will be collected each year of the plan. Collection of monitoring data for dissolved oxygen, temperature, bacteria, and nutrients is planned during at least one year of the plan.

Table 1: Analysis of Rouge River Conditions
Developed from *Rouge River Ecosystem Monitoring and Assessment Reports*

| Parameter | Rouge Subwatershed | | | | | | |
|---------------------------------------|--------------------|-----------------|---------|-------------|-------------|------------|-----------------|
| | Main ½ | Main ¾ | Upper | Middle 1 | Middle 3 | Lower 1 | Lower 2 |
| Stream Flow¹ | ↑↑ | ⇔ | ↑↑ | ↓↓ | ⇔ | ⇔ | ⇔ |
| Temperature² | ↑↑ | ↑↑ | ↑↑ | ↑↑ | ↑↑ | ↑↑ | ↑↑ |
| Dissolved Oxygen³ | ↑↑ | ⇔ | ↑↑ | ⇔ | ↑↑ | ↓↓ | ↑↑ |
| Total Phosphorus⁴ | ⇔ | ⇔ | ⇔ | ⇔ | ↑↑ | ↑↑ | ↑↑ |
| E.coli⁵ | ⇔ | ⇔ | ⇔ | ⇔ | ↑↑ | ⇔ | ⇔ |
| Fish Community⁶ | ⇔ | NA ⁷ | ↑↑ | ↓↓ | ↓↓ | ⇔ | NA ⁷ |
| Habitat⁸ | ⇔ | NA ⁷ | ⇔ | ⇔ | ⇔ | ↑↑ | ⇔ |
| Macroinvertebrates⁹ | ↑↑ | ⇔ | ↓↓ | ↑↑ | ↑↑ | ⇔ | ⇔ |
| Frogs & Toads¹⁰ | ↑↑ 7 | ↑↑ 5 | ↓↓ 6 | ↑↑ 7 | ↑↑ 5 | ↑↑ 7 | ⇔ 5 |

- 1) Trend arrow is based on frequency of peak flow decreasing as reported in *2012 Rouge River Ecosystem Monitoring and Assessment Report*.
- 2) Michigan water quality standards for temperature, developed to protect warm water fisheries are established only for streams receiving heated effluents with 29.4°C being the maximum temperature allowed during any month. Up arrow indicates continuous temperature monitoring did not exceed this value as reported in *2007 Rouge River Ecosystem Monitoring and Assessment Report*.
- 3) Arrow is based on daily average DO trend analysis as reported in Table 1 from the *2012 Rouge River Ecosystem Monitoring and Assessment Report* of the most downstream monitoring station.
- 4) Arrow is based on Total Phosphorus trend analysis as reported in *2007 Rouge River Ecosystem Monitoring and Assessment Report*.
- 5) Arrow is based on the majority of sampling points having an improving trend as reported in *2007 Rouge River Ecosystem Monitoring and Assessment Report*.
- 6) Trend arrow is based on comparing reported MDNR 1995 fish community survey results to MDEQ 2005 fish community survey results as reported.
- 7) Not Applicable - Lack of data to perform trend assessment.
- 8) Trend arrow was established by comparing MDEQ 2000 study ratings with MDEQ 2005 study ratings.
- 9) Arrow was established based on Friends of the Rouge and Wayne County macroinvertebrate monitoring trend analysis spring and fall 2001 – 2013. Arrows reflect a significant trend in either spring or fall data. **Bold arrows** reflect a significant trend in both spring and fall.
- 10) Arrow indicates either an increase or decrease in number of species heard in the watershed from the prior year or minimum 7 species heard in the watershed during Friends of the Rouge 2013 Frog & Toad Survey.

A key element of a healthy river ecosystem is adequate dissolved oxygen (DO). Instream DO concentrations (over 5 mg/L) are essential for healthy fish and other aquatic life. Even brief declines in DO concentrations to levels below 5 mg/L can have a detrimental effect on aquatic organisms. In general DO and temperature are in compliance with minimum water quality standards on a routine basis throughout the watershed and have remained fairly stable at most locations.

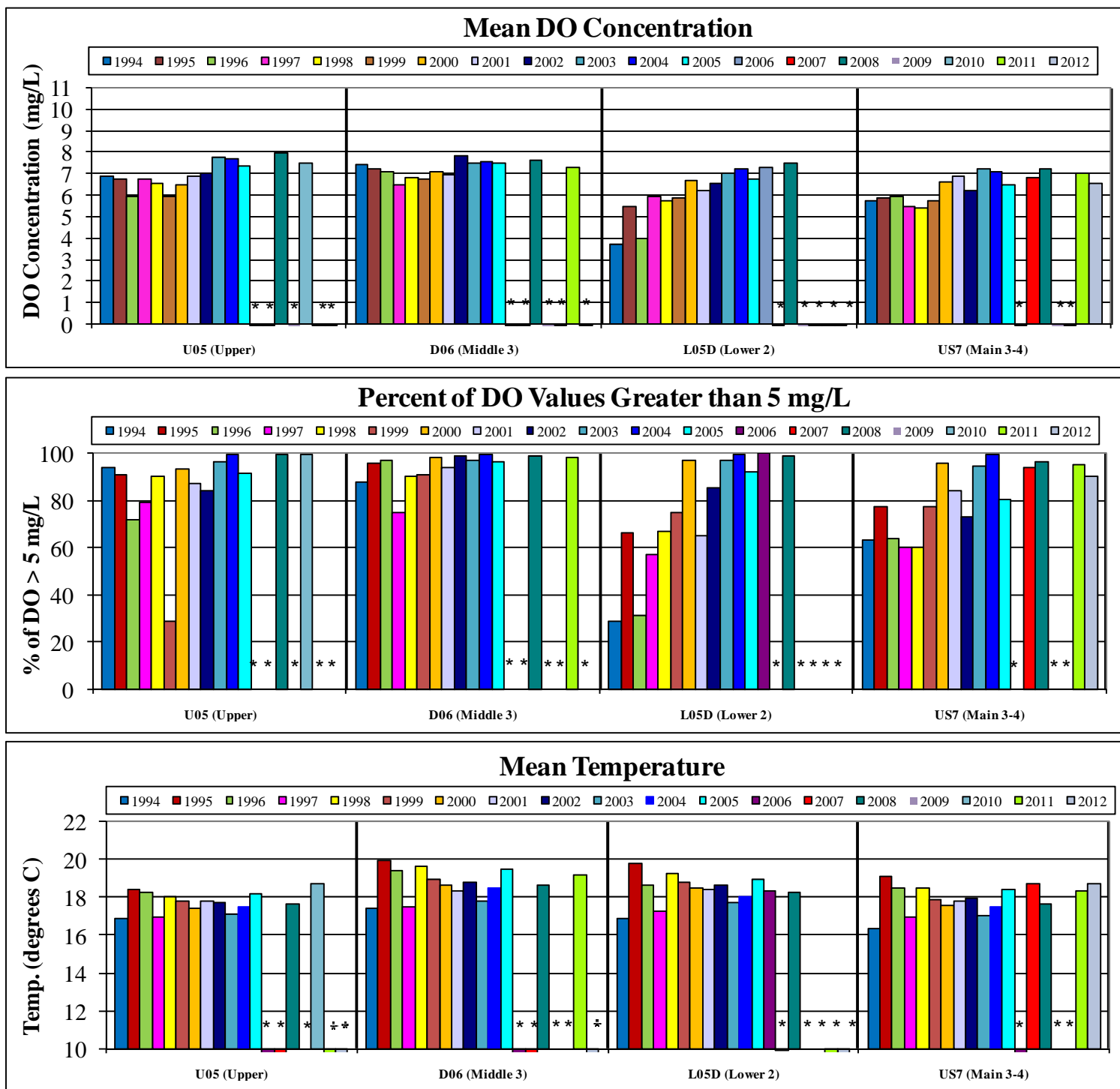
DO has been monitored in the river for almost two decades and is very useful in determining spatial and temporal water quality trends. Prior to 2006, there was at least one continuous DO and water temperature monitoring location in each of the seven Storm Water management Areas (SWMAs) in the Rouge River watershed, and two in the Main 3-4 SWMA. From 2007 through 2012, continuous DO and temperature were monitored in at least one location in the watershed with the exception of 2009. In 2012, as part of the 2009 through 2013 Five Year Monitoring Plan, continuous monitoring of DO and temperature was performed at Plymouth Road (US7) in the Main Branch.

Figure 1 shows the mean DO values, the percent of DO values greater than 5.0 mg/L, and the mean temperature values from 1994 through 2012 at Telegraph Road (U05), Plymouth Road (US7), Hines Drive/Ford Road (D06), and Military Road (L05D). The percent of the time DO concentrations were in compliance with the minimum 5 mg/L warm water State standard show an upward trend. Based on a rating scale developed by the Rouge Project, since 2008 the DO data at the four previously mentioned monitoring locations are all rated good ($DO \geq 5$ mg/L, $\geq 95\%$ of the time) with the exception of Plymouth Road (US7) in 2012 when the rating was fair ($DO > 5$ mg/L, $< 95\%$, but > 5 mg/L, $> 75\%$ of the time). DO values of less than 5 mg/L at Plymouth Road (US7) in 2012 occurred 11 times: six times after small rainfall events (ranging from 0.12 inches to 0.72 inches) with water temperatures ranging from 1°C below – 8.4 °C above the average water temperature of 18.7°C and five times under conditions of low flow with water temperatures ranging from 2.9°C - 8.3°C above the average water temperature of 18.7°C.

Regression analyses (1994 – 2012) of the continuous DO daily averages at Plymouth Road (US7) were updated with 2012 data and as in previous years continued to show improvement. The improvement at Plymouth Road (US7) from 1994 through 2012 is calculated as 0.09 mg/L/year. Trend analyses were previously performed on historical continuous daily average DO data collected from 1994 to 2012 (data not collected at each location in all years) at the six other continuous monitoring locations and in general they show improvement or no significant trend (Table 2).

Figure 1
Rouge River Continuous DO and Temperature Annual Mean Data
May – October 1994 – 2012

Stations U05, D06, L05D, US7



Note: * indicates no data available for year.

2011 DO percent completeness D06=98.2%, US7=99.6%

Table 2
Trend Analyses: Rouge River Daily Average Dissolved Oxygen Concentrations

| Daily Average DO Trend Analyses for the Rouge River Watershed | | | |
|--|----------------|-----------------------------------|--------------------------------|
| SWMA | Site ID | Period of Record | Trend |
| Main 1-2 | US5 | 1997-2005 | Improvement of 0.15 mg/L/year |
| Main 3-4 | US7 | 1994-2005, 2007, 2008, 2011, 2012 | Improvement of 0.09 mg/L/year |
| Main 3-4 | US8 | 2001- 2005, 2007 | No significant change |
| Upper | U05 | 1994-2005, 2008, 2010 | Improvement of 0.10 mg/L/year |
| Middle 1 | US10 | 2003-2005 | No significant change |
| Middle 3 | D06 | 1994-2005, 2008, 2011 | Improvement of 0.04 mg/L/year |
| Lower 1 | US9 | 2002-2006 | Degradation of 0.04 mg/L/year* |
| Lower 2 | L05D | 1994-2006, 2008 | Improvement of 0.22 mg/L/year |

*Since data collection began at US9 in 2001 (May – Oct) DO mean is ≥ 7.7 mg/L and the percent ≥ 5 mg/L is 100%.

Rouge River Flow Monitoring: Moderate, stable streamflows are generally best for aquatic life and stream habitats. Extreme variation of flow rate and volume during storm events can result in severe bank erosion and sediment resuspension, which can significantly degrade game fish habitats. In 2012, continuous flow and level monitoring data were collected at six locations throughout the watershed by the United States Geological Survey (USGS). Data were collected in cooperation with Oakland County and the Michigan Department of Environmental Quality (MDEQ) at Maple Road (US4), Beech Road (US5), Plymouth Road (US7), Shiawassee Road (US3), Inkster Road (US2), and John Daly Road (US1). Flow and level monitoring was discontinued by the USGS in October 2009 at Evans Ditch (US6). A tabular summary by SWMA of the streamflow data for the period of record are shown in Table 3 as well as the 2012 precipitation totals (as percent of long-term average from 1994 through 2012).

High stream flow variability continues to negatively impact the water quality and ecosystem health of the Rouge River Watershed. Trend analyses generally indicate that the frequency of high flow is holding steady in the Middle 3 and Lower Rouge River. However, an increase in the frequency of high flow was calculated in the Middle 1. In the Main and Upper Rouge River, a decrease in the frequency of high flow was indicated. A goal of the ARC in the 2012 WMP is to control the volume of urban storm water runoff as well as the flow rate. The ARC's current Five Year Monitoring Plan (2009-2013) includes monitoring of continuous river level and flow, which will be used to evaluate progress of the best management practices towards establishing stable streamflow and habitat conditions that are supportive of diverse aquatic life communities.

Table 3
Streamflow Trend Analyses Summary and 2012 Precipitation Totals

| Streamflow Trend Analyses Summary and 2012 Precipitation Totals for the Rouge River Watershed | | | | | | |
|---|---------|--|--|---|-------------------------------------|--|
| SWMA | Site ID | Low Flow (Base Flow) | Average Flow | Peak Flow Exceeding Gage-Specific Threshold ² | Streamflow Period of Record | 2012 Precipitation Total (as percent of long-term average, 1994-2011) ¹ |
| Main 1-2 | US4 | ↑ to mid 1990s, then ↓ | ↑ from mid 1960s to mid 1990s, then no change | ↑ from mid 1960s to mid 1990s, then no change | 1951-2012 | 79.61% (average of gages R15- R20, R30-R33) ³ |
| | US5 | ↑ to mid 1990s, then ↓ | ↑ from mid 1960s to mid 1990s, then no change (cyclical) | ↑ from mid 1960s to mid 1990s, ↓ begin 2000s, recent cyclical | 1959-2012 | |
| | US6 | ↑ to mid 1990s, then ↓ | ↑ from mid 1960s to mid 1990s, then no change | ↑ from mid 1960s to mid 1990s, then ↓ | 1959-2009 | |
| Main 3-4 | US7 | ↑ from mid 1960s to mid 1990s, then ↓ | Cyclical, but no change in recent years | Cyclical | 1931-2012 | 68.81% (average of gages R37-R39) ³ |
| Upper | US3 | ↑ to mid 1990s, then no change in recent years | ↑ since data collection began in 1959 | Cyclical | 1959-2012 | 73.65% (average of gages R21, R29) ³ |
| | U05 | ↓ since mid 1990s | ↓ since mid 1990s, but no change in recent years | ↓ since mid 1990s | 1994-2011 | |
| Middle 1 | US10 | No change | ↑ | ↑ | 2002-2005, 2011 (2002 partial year) | 66.89% (average of gages R11, R12, R28) ³ |
| Middle 3 | US2 | ↑ since mid 1980s to mid 1990s, then no change since mid 1990s | No change to mid 1990s, then ↑ | No change (cyclical) since the mid 1980s | 1948-1977 1984-2012 | 66.89% (average of gages R11, R12, R28) ³ |
| | D06 | No change since mid 1990s | No change | No change | 1994-2008, 2011 | |
| Lower 1 | US9 | No change | No change | No change | 2001-2006* (2001 partial year) | 74.64% (average of gages R13, R14, R27) ³ |
| Lower 2 | US1 | 1948 to 1995 ↑, then ↓ | No change since 1948, then ↑ since 2011 | ↓ 1948 to 1995, then no change (cyclical) | 1948-2012* | 74.64% (average of gages R13, R14, R27) ³ |
| | L05D | No change since 1996 | No change since 1996 | No change since 1996 | 1994-2008* | |

Note: ↑=increasing trend, ↓=decreasing trend, *YCUA WWTP began discharging in upstream end of Lower Rouge in 1996.

¹Rouge River Watershed Rain gages used for calculation of precipitation totals.

²The discharge exceeded 1% of the time (calculated in the mid-1990s over the period of record).

³Partial month not included in calculation of average.

Rouge River Macroinvertebrate Monitoring: Wayne County Water Quality Management Division (WQMD) continued its partnership with the Friends of the Rouge (FOTR) to complete benthic macroinvertebrate monitoring at numerous locations in the Rouge River on behalf of the Alliance of Rouge Communities (ARC). Winter Stonefly Searches were held in January and February 2013. Seventy-three volunteers braved the cold during Friends of the Rouge's 2013 Winter Stonefly Search on January 26th to sample 27 sites. WQMD sampled an additional nine sites in February for a total of 36 sites sampled in 2013. Stoneflies were found at 10 of the 36 sites. The majority of stoneflies found were slender winter stoneflies, family Capniidae. Broadback stoneflies, family Taeniopterigidae, and Perlodid stoneflies, family Perlodidae, were found in Johnson Creek.

In the spring of 2013, macroinvertebrates were monitored at 53 sites (37 by FOTR and 16 sites by the Wayne County WQMD). Figure 2 identifies the site locations and ratings for the spring 2013 monitoring. In fall 2013, macroinvertebrates were monitored at 57 sites (39 by FOTR volunteers and 18 by WQMD). Figure 3 identifies the locations and site ratings for the fall 2013 monitoring.

Notable Rouge River watershed macroinvertebrate findings for 2013 include:

- *2013 Winter Stonefly Search:* Stoneflies were found at 10 of the 36 sites sampled during the winter Stonefly Search. Temperatures were colder than what has been typical and below freezing the weeks before the event. As a result, some sites were frozen over and team leaders had to break through the ice. Slender winter stoneflies (Family Capniidae) were the most common type found, collected at 9 sites. Perlodid stoneflies (Family Perlodidae) were found at one site, in the Johnson Creek watershed. Broadback stoneflies (Family Taeniopterigidae) were also found at one Johnson Creek site.
- *2013 Spring Bug Hunt:* Five sensitive families were found at eleven sites. Stoneflies (families Nemouridae, and Perlodidae), Pronggill mayflies (family Leptophlebiidae), and free living caddis flies (Family Rhyacophilidae) were found. Gomphid dragonflies (family Gomphidae) were found in the Main Rouge watershed. Eight Johnson Creek sites had at least one sensitive family present, and two sites had three families present. Freelifving caddisflies, first documented in the Lower Rouge in spring 2003, continue expanding their range and were found in several new Johnson Creek site and at one new site on the Lower Rouge. Genetic analysis on the freelifving caddisfly specimens to verify their species was completed by University of Michigan researchers, and the freelifving caddisflies found in the Rouge are the first of its genus reported in Michigan.
- *2013 Fall Bug Hunt:* Cold rain met the 98 volunteers on October 19, 2013. Despite the conditions, 26 sites were sampled that day. Two sensitive families were found at three sites. Pronggill mayflies (family Leptophlebiidae) were found at one Johnson Creek site. Perlodid stoneflies (family Perlodidae) were found at two sites in the Johnson Creek watershed. An interesting find at a site on the Upper Rouge was a brook lamprey, last identified in the Upper Rouge during a 1998 Michigan Department of Natural Resources survey. Brook lamprey are non-parasitic and are native to Michigan. Additional surveys for the brook lamprey are planned in spring 2014 in conjunction with the fish monitoring program.

Figure 2: Rouge River Benthic Monitoring Sites and Scores, Spring 2013

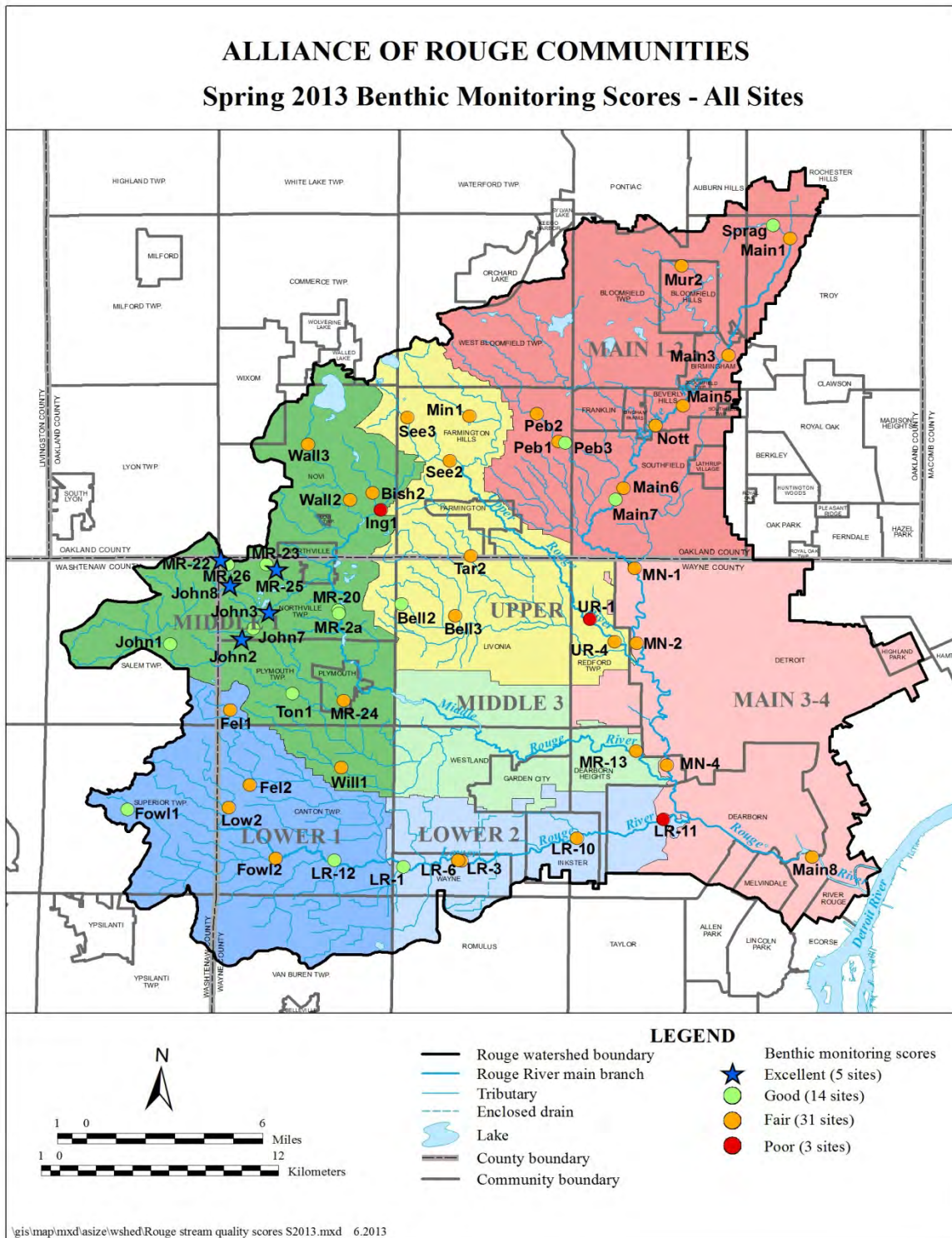
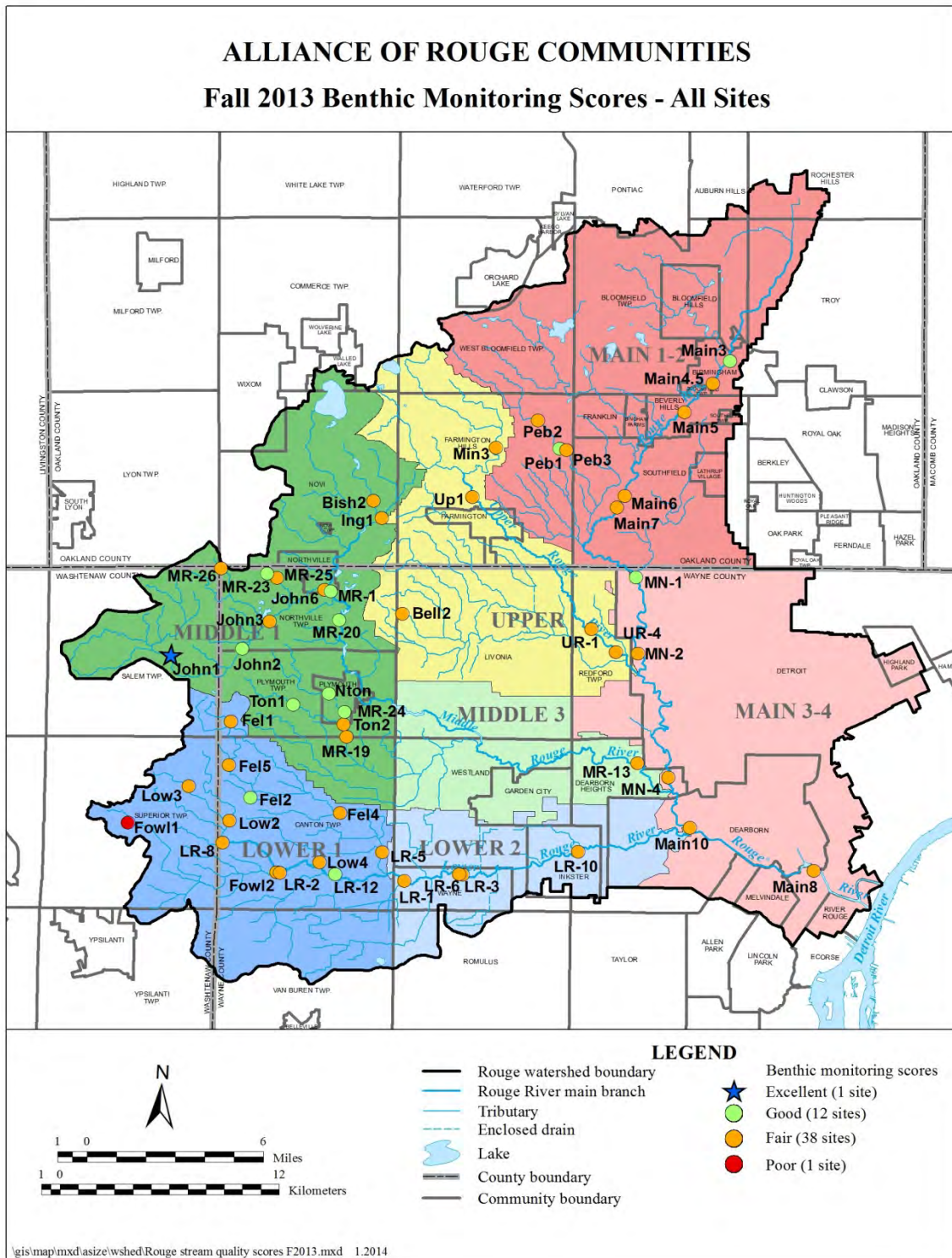


Figure 3: Rouge River Benthic Monitoring Sites and Scores, Fall 2013



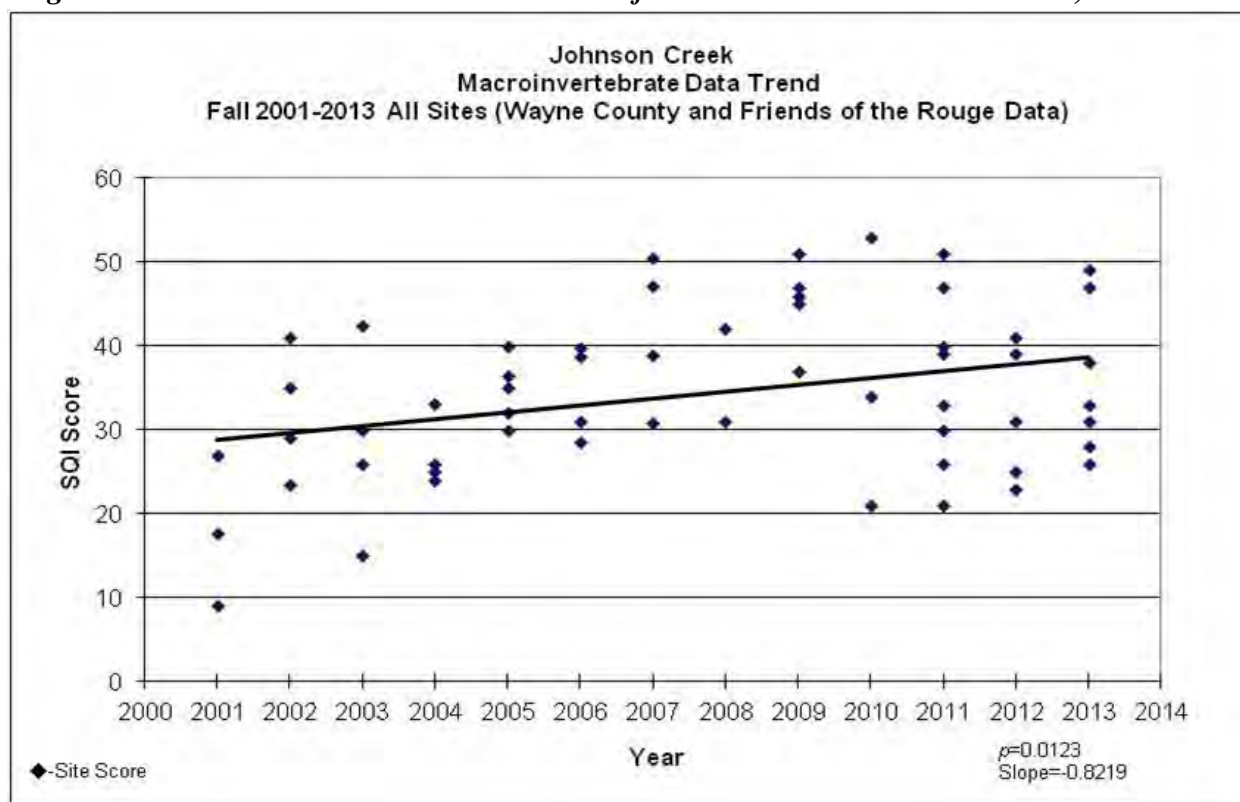
Rouge River Macroinvertebrate Data Trend Analysis: A trend analysis was performed on the Rouge River benthic macroinvertebrate data collected 2001 - 2013. The data were subdivided into the seven primary Rouge River subwatersheds and the Johnson Creek subwatershed for statistical analysis. Johnson Creek is recognized as a coldwater stream and therefore unique from the rest of the Rouge River system. A standard significance test ($p < 0.05$) was applied to the linear regression analysis to determine trend significance. The slope of the linear regression trend line is expressed as a number, either positive or negative. A positive slope suggests an upward (improving) trend in the data. A negative slope suggests a downward (declining) trend in the data. The direction of the trend line is recognized as significant if the p-value is equal to or less than 0.05. Table 4 summarizes the results of the data trend analysis since FOTR/WQMD macroinvertebrate monitoring began.

Table 4: Rouge River Macroinvertebrate Trend Analysis, 2001 - 2013

| Spring Data Trend | | | |
|--------------------------|---------|---------|----------------------|
| Subwatershed | slope | p-value | Significant trend |
| Main 1-2 | 0.5911 | 0.0026 | Yes, positive |
| Upper | 0.0761 | 0.7557 | stable |
| Johnson Creek | 1.0221 | 0.0017 | Yes, positive |
| Middle 1 | 1.1575 | 0.0006 | Yes, positive |
| Middle 3 | 1.2307 | 0.0470 | Yes, positive |
| Lower 1 | 0.3508 | 0.2734 | stable |
| Lower 2 | -0.0186 | 0.9655 | stable |
| Main3-4 | 0.0455 | 0.9632 | stable |
| Fall Data Trend | | | |
| Subwatershed | slope | p-value | Significant trend |
| Main 1-2 | -0.5859 | 0.0268 | Yes, negative |
| Upper | -0.4802 | 0.0357 | Yes, negative |
| Johnson Creek | 0.8219 | 0.0123 | Yes, positive |
| Middle 1 | 0.4923 | 0.0480 | Yes, positive |
| Middle 3 | 0.5663 | 0.0483 | Yes, positive |
| Lower 1 | -0.1138 | 0.6407 | stable |
| Lower 2 | -0.6202 | 0.1102 | stable |
| Main3-4 | -1.0969 | 0.155 | stable |

Figure 4 presents a graphic representation of the linear regression analysis completed for macroinvertebrate data collected in Johnson Creek during the fall for the period 2001-2013 (*see Section 6: List of Attachments* for the linear regression graphics for the spring and fall data analysis for each of the subwatersheds). Based on this analysis, four of eight subwatersheds are showing significant improving trends for spring macroinvertebrate monitoring data. Three of eight subwatersheds have significant improving data trends for fall monitoring. Two of the subwatersheds (the Main 1-2 and the Upper Rouge) had a significant declining data trend in fall 2013. The Upper Rouge has had a significant declining data trend in the fall for three consecutive years, 2011-2013. Detailed information about the 2013 macroinvertebrate sampling in the Rouge River is available online at <http://therouge.org/index.php?id=687847>.

Figure 4: Fall Macroinvertebrate Data Trend for Johnson Creek Subwatershed, 2001-2013



Rouge Fish Monitoring: WQMD also assisted Friends of the Rouge (FOTR) with fish survey work within the Lower Rouge watershed as part of an evaluation of the fish populations in the Rouge River watershed being conducted by University of Michigan-Dearborn students (see reports available from the FOTR website www.therouge.org).

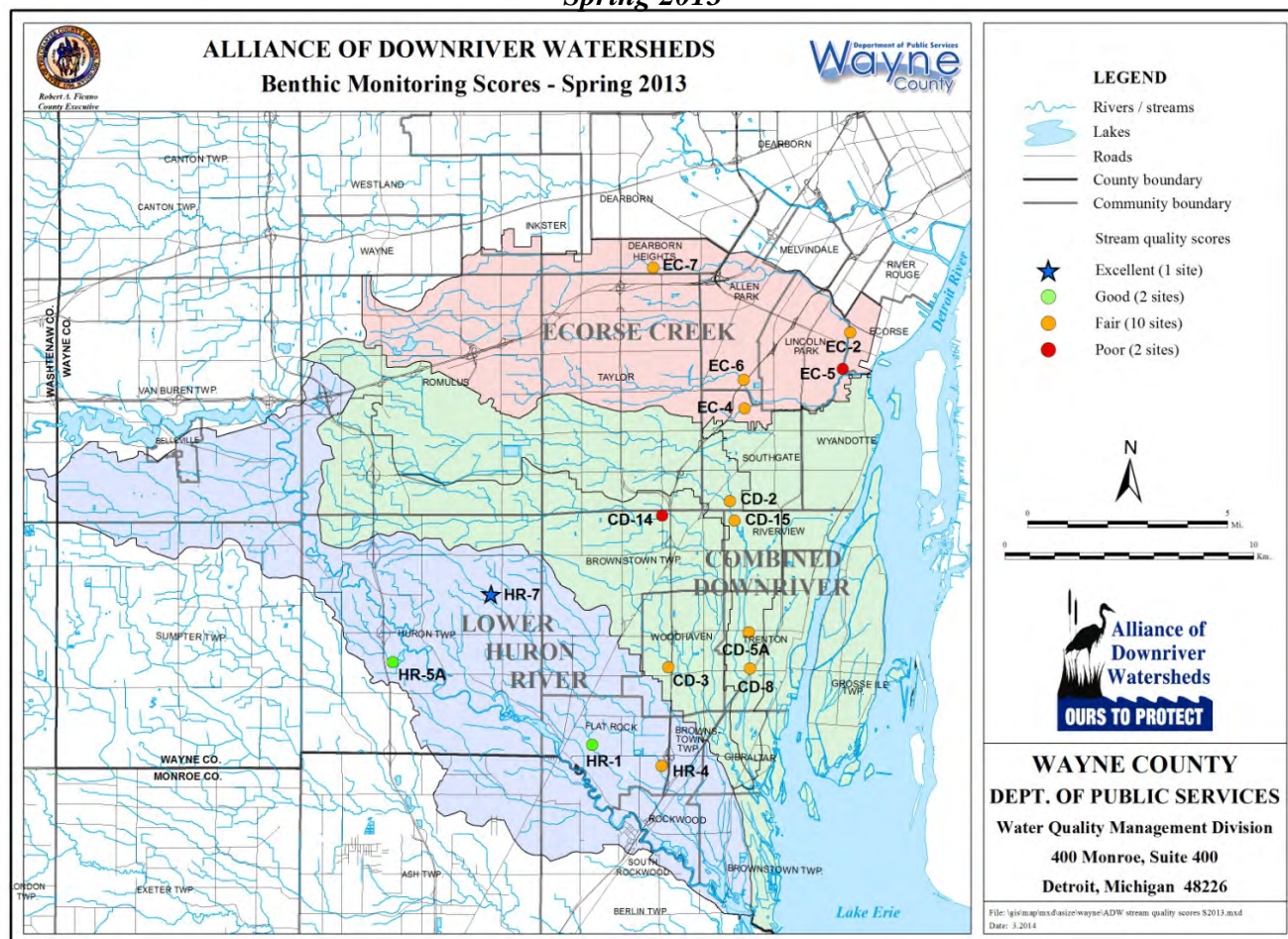
Downriver Watersheds. During 2013, Wayne County WQMD continued its partnership with the Downriver teachers and the Huron River Watershed Council (HRWC) to implement environmental indicator monitoring on behalf of the Alliance of Downriver Watersheds (ADW).

Downriver Watersheds Macroinvertebrate Monitoring: In January 2013, the HRWC performed a Winter Stonefly Search in the Lower Huron River watershed at four sites: one site on the Lower

Huron River, one site on Port Creek and two sites on Woods Creek. WQMD performed a Winter Stonefly Search at one Lower Huron River site with the assistance of 12 students from Sietz Middle School, located in the City of Riverview. It is the first time that students assisted WQMD in a winter sampling event.

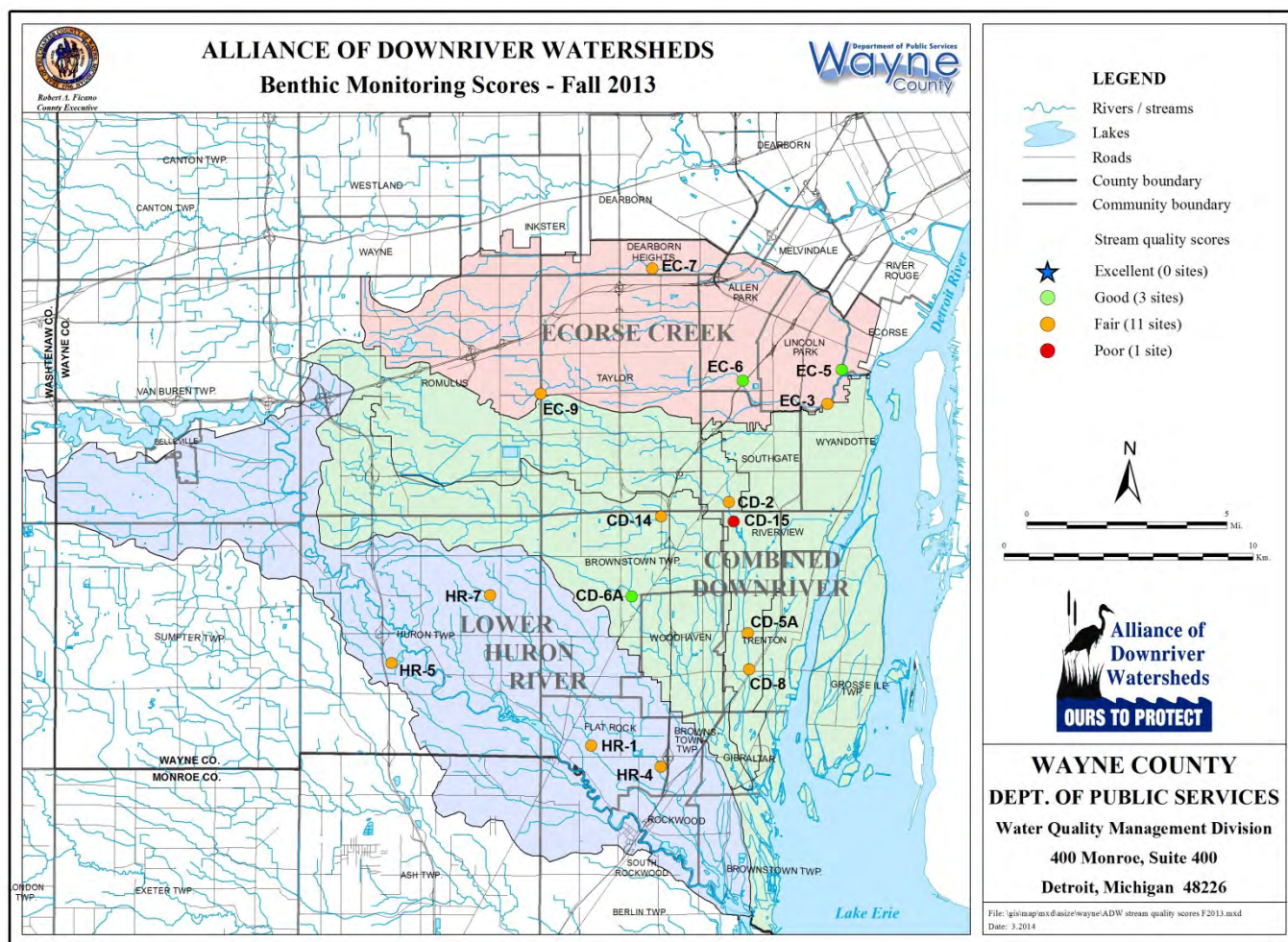
In spring 2013, macroinvertebrate monitoring was performed by WQMD and HRWC at 17 locations in the ADW watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River. Fifteen ADW sites were monitored by WQMD, including 14 sites with student volunteers assisting. Southgate Anderson High School, Southgate Creative Montessori, Flat Rock High School, Gudith Elementary School, Ecorse High School, Keppen Elementary, Sietz Middle School, Southgate Creative Montessori, Brown Elementary, Gerisch Middle School, Yake Elementary, Pardee Elementary, Carlson High School, and Trenton High School participated in the monitoring, providing 400 student volunteers, the highest number of schools and volunteers since the project began in 2004. Four new schools participated in the spring monitoring, and one school sampled two different sites. The monitoring effort generated media coverage from the Downriver News Herald and Fox 2. Figure 5 identifies the spring 2013 locations and their site ratings for the 15 sites monitored by WQMD. The HRWC sampled two additional Lower Huron River watershed sites with River Roundup volunteers on April 20, 2013; results are forthcoming.

Figure 5: Wayne County Downriver Watersheds, Benthic Monitoring Sites and Scores, Spring 2013



The ADW fall 2013 macroinvertebrate monitoring occurred in September-November. Figure 6 identifies the watershed monitoring sites and the site ratings for the 15 sites sampled by WQMD in the ADW watersheds. Eleven schools were volunteer partners with WQMD, including Brown Elementary, Barnes Elementary, Southgate Anderson High School, Sietz Middle School, Trenton High School, Gudith Elementary School, Pardee School, Southgate Creative Montessori, Wilson Middle School, Keppen Elementary School, and Hedke Elementary School. One school sampled two different sites. Approximately 472 student volunteers participated, the highest number of students participating in the volunteer monitoring program since it began in 2004. One site was visited and not sampled because of inadequate water levels. HRWC sampled four additional Lower Huron River watershed sites with River Roundup volunteers on October 12; results are forthcoming.

Figure 6: Wayne County Downriver Watersheds, Benthic Monitoring Sites and Scores, Fall 2013



Notable macroinvertebrate findings in the downriver watersheds during 2013 include:

- Stoneflies, a macroinvertebrate whose presence indicates high water quality, were collected during the HRWC Stonefly Search at one site on the Lower Huron River in Flat Rock. Three

different types of stoneflies were collected including slender winter stoneflies (family Capnidae), broad-backed stoneflies (family Taenioptergidae), and Perlodid stoneflies (family Perlodidae). It was the first time Perlodids were found at this site.

- The Silver Creek at King Road site had Perlodid stoneflies present in spring 2013
- Over 870 students participated in the WQMD 2013 macroinvertebrate monitoring program.

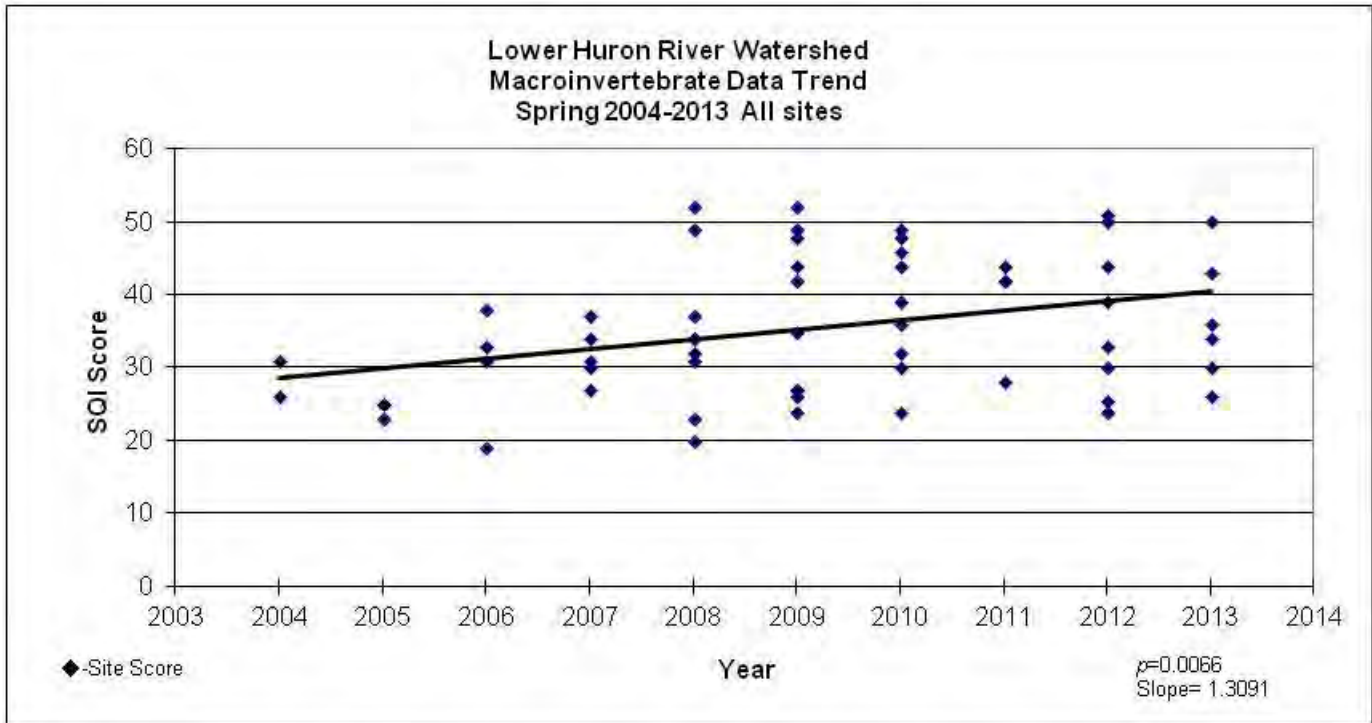
Downriver Watersheds Macroinvertebrate Data Trend Analysis: A trend analysis was performed on the macroinvertebrate data collected during 2004 – 2013 in the downriver watersheds. The data were subdivided into the three primary watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River for statistical analysis. The data analyzed is the Stream Quality Index (SQI) which is the score that is calculated by combining the number and type of macroinvertebrates found. The higher the SQI is the better the water quality is at the site. Evaluation of the data to determine trends is accomplished by evaluating spring and fall data separately and for sites with a minimum of three years of data. Table 5 summarizes the data trends for each watershed and season:

Table 5: Downriver Watersheds Macroinvertebrate Trend Analysis, 2004-2013

| Spring Data Trend | | | |
|--------------------------|---------|---------|----------------------|
| Watershed | slope | p-value | Significant trend |
| Ecorse Creek | 0.8009 | 0.0594 | Stable |
| Combined Downriver | 1.5231 | 0.0007 | Yes, positive |
| Lower Huron River | 1.3091 | 0.0066 | Yes, positive |
| Fall Data Trend | | | |
| Watershed | slope | p-value | Significant trend |
| Ecorse Creek | 0.0035 | 0.9927 | Stable |
| Combined Downriver | -0.0862 | 0.8190 | Stable |
| Lower Huron River | -0.9878 | 0.0445 | Yes, negative |

Figure 7 presents a graphic representation of the linear regression analysis completed for the macroinvertebrate monitoring data collected in the Lower Huron River during spring conditions. *Section 6: List of Attachments* presented the linear regression graphics for the spring and fall data analysis for the Ecorse Creek, Combined Downriver, and Lower Huron River. Detailed information about the watershed health monitoring conducted during 2013 is provided in the report *2013 Monitoring Report Alliance of Downriver Watersheds* available online at http://www.allianceofdownriverwatersheds.com/adw_info.

**Figure 7: Spring Macroinvertebrate Data Trend
Lower Huron River Watershed, 2004 – 2013**



Lake St. Clair (Direct Drainage) Watershed. As described in Section 5, the Lake St. Clair Watershed Advisory Group developed a watershed management plan for the area which was approved by the Michigan Department of Environmental Quality on June 27, 2008. The methods of assessing progress of watershed plan implementation are under development by the Advisory Group. In 2011, the group initiated updating the Watershed Management Plan by developing an online survey tool to gauge public opinion for necessary plan revisions. The Public Participation Plan online survey tool was in operation in 2012-13. WQMD provided a link to the survey via Southeast Michigan Council of Governments' link. The draft report on the analysis of the survey was presented to members in October 2013 by the Clinton River Watershed Council. However, analysis of the Lake St. Clair (Direct Drainage) Watershed was not included. The analysis will be integrated into the final report anticipated for completion in January 2014.

SECTION 2
WAYNE COUNTY
ILLICIT DISCHARGE ELIMINATION PLAN
SUMMARY OF ACTIVITIES

This section summarizes Illicit Discharge Elimination Plan (IDEP) activities completed by Wayne County during the time period **January 1, 2013 – December 31, 2013**, in compliance with the County's Certificate of Coverage MIG610040 under the Michigan Department of Environmental Quality (MDEQ) General Storm Water Discharge Permit MIG619000. All activities were conducted County-wide, unless otherwise noted. Table 6 presents a summary of the results of Wayne County's IDEP.

Table 6: Environmental Concerns Investigated/Illicit Discharges Identified by Wayne County, January 1 through December 31, 2013

| <i>Method of Identification and Type of Illicit Connection</i> | <i>Number Handled or Investigated</i> | <i>Number of Confirmed Illicit Discharges</i> |
|--|---|---|
| Total Number of Environmental Concerns Handled or Investigated | | |
| Calls into Wayne County Hotline | 1,454 | NT |
| Water Quality Complaints into DPS-Water Quality Division | 39 | 10 |
| Drainage Complaints directly into DPS-FMD Drain Office | 37 | 0 |
| Environmental Complaints directly into DPS-LRMD (15 SESC) | 146 | NT |
| <i>Subtotal, Complaints Handled</i> | 222 | 10 |
| Types of Environmental Concerns or Illicit Discharges Identified during Complaint Investigations (WQMD, FMD and LRMD) | | |
| Illicit Discharge Concern - Grease/Oil/Fuel | 7 | 3 |
| Illicit Discharge Concern - Sewage/Grey Water | 2 | 0 |
| Illicit Discharge Concern – Other | 14 | 7 |
| Requesting Information/Technical Assistance | 1 | 0 |
| Soil Erosion Sedimentation Control | 16 | 0 |
| Landfill Odor | 127 | 0 |
| Odor – Other (referred to MDEQ Air Quality) | 1 | 0 |
| Blowing Trash | 1 | 0 |
| Illegal Dumping | 0 | 0 |
| Logjams/Woody Debris | 12 | 0 |
| Catch basin/Manhole Issue | 5 | 0 |
| Flooding/Poor Drainage | 6 | 0 |
| Sinkhole | 1 | 0 |
| Debris | 13 | 0 |
| Miscellaneous | 16 | 0 |
| <i>Subtotal, Complaint Investigation</i> | 222 | 10 |
| Emergency Spill Response | 1 | 1 |
| <i>Subtotal, Emergency Spill Response</i> | 0 | 0 |

Table 6 (Continued): 2013 Wayne County Environmental Concerns/Illicit Discharges

| Environmental Concerns Identified during Routine Field Operations | <i>Number Handled or Investigated</i> | <i>Number of Confirmed Illicit Discharges</i> |
|--|--|--|
| Illegal Dumping (LRMD, Roads, Parks) | >17 | >17 |
| Solid Waste Facility Leachate (LRMD) | 2 | 2 |
| Excessive Erosion (Roads) | 7 | 7 |
| Fuel Spill (Roads) ¹ | 1 | 1 |
| <i>Subtotal, Field Operations</i> | 27 | 27 |
| Illicit Discharges Identified during Facility Dye Test and Onsite Sewage Disposal System Inspections | | |
| Floor Drains | 7 | 7 |
| Drinking Fountains | 3 | 3 |
| Inappropriate Floor Wash Water Disposal | 1 | 1 |
| Outdoor Washing (equipment) | 1 | 1 |
| Onsite Sewage Disposal System Failures (EHD) | 22 | 22 |
| <i>Subtotal, Facility Inspections</i> | 34 | 34 |
| Pollution Prevented or Removed by Activity | <i>Amount</i> | <i>Sites/Events</i> |
| Pollutant Load Reductions from Dye-Testing (WQMD) | 619 lbs; 805,420 gals/yr | 12 |
| Pollutant Load Reductions from Onsite Sewage Disposal System Program (EHD) | 17,450 lbs; 1,580,359 gals/yr | 22 |
| Cleanup of illegal dump sites (LRMD - C.L.E.A.N. program) | 4,470 cu yds including 6,480 tires | 73 |
| Computer/Computer Peripheral Waste Collection Days (4 days - combined with Household Hazardous Waste collection events – LRMD) | 138.8 tons (277,560 lbs) | 4 |
| Household Hazardous Waste Collection Days (4 days – LRMD) | 286.4 tons (572,900 lbs) | 4 |
| Cleanup of material dumped on County property, street sweepings and catch basin spoils (DPS-Roads) | 6,135 cu. yds from 3,808 miles swept | NT |
| County Drain debris disposal (FMD) | 0 cu yds reported | 0 |
| TOTAL POLLUTION PREVENTED AND/OR ILLICIT DISCHARGES IDENTIFIED | 868,529lbs² | 71³ |

NT = Not Tracked separately

DPS = Department of Public Services

LRMD = DPS-Land Resource Management Division

FMD = DPS-Facilities Management Division

WQMD = DPS-Water Quality Management Division

C.L.E.A.N = County Lending Environmental Assistance to Neighborhoods program

EHD = Department of Public Health-Environmental Health Division

1 - This fuel spill is also reported under Emergency Spill Response

2 - Does not include activities reported in cubic yards.

3 – Number of confirmed illicit discharges, Does not include number of LRMD cleanup or collection events.

County-Based 24-Hour Hotline and Coordinated Complaint Response (WCIDEP #1)

24 Hour Hotline/Complaint Response

The Wayne County Department of Public Services (WCDPS) maintained the County's telephone "Environmental Hotline" (888-223-2363) during the reporting period. The hotline is operated 24 hours per day seven days a week, to log and coordinate responses to environmental concerns and information requests of all types. During the reporting period, 1,454 calls were handled through the WCDPS Environmental Hotline as follows:

- 121 calls required technical assistance;
- 13 calls were referred to outside agencies;
- 1,294 inquiries were addressed by staff over the telephone, without need for a field investigation; and
- 39 calls were transferred to WCDPS field operations staff in the Land Resource Management Division (LRMD), the Facilities Management Division (FMD) or the Water Quality Management Division (WQMD). As summarized below, complaints regarding environmental matters are also received directly by these different divisions in WCDPS as well as by the Wayne County Environmental Health Division and Roads Division.

Coordinated Complaint Response

The WQMD handled a total of 39 complaints during the reporting period as follows: 13 were referred to other agencies or County Departments, with 2 were confirmed as illicit discharges by others; 1 resulted in partnering with the community to complete a bulk mailing of informational materials; and 23 were investigated by WQMD. Of the 23 investigated by WQMD, 19 were illicit discharge complaints with 8 being confirmed as illicit discharges as follows: oil discharge in storm drain, fuel in county drain, resident dumping motor oil in storm drain, diesel fuel spill, resident dumping paint & chemicals, 2 suspicious discharges, and green dye in manhole. All 8 confirmed discharges have been removed or referred to others for correction follow-up.

The Facilities Management Division (Drain Office) handled a total of 37 complaints concerning County Drains during the reporting period, categorized as follows: log jams/woody debris – 12, debris –13, catch basin/manhole – 5, flooding – 4, sink hole – 1, and standing water – 2.

LRMD staff responded to over 1,300 information requests regarding the recycling and/or disposal of household hazardous waste materials. Additionally, LRMD received and responded to 146 complaints in 2013, categorized as follows: 127 landfill odors, 15 soil erosion sedimentation control, 1 blowing landfill trash; 1 non-landfill odor, 2 misc/other.

County-Based Illicit Discharge Advanced Investigation and Correction (WCIDEP #2)

Illicit Discharge Investigations, Facility (Dye-Test) Inspections

Dye-testing of facilities to identify improper connections of plumbing fixtures to the storm sewer system/waterways took place in three watersheds during 2013: Rouge River, Ecorse Creek, and Combined Downriver. Plumbing fixtures at 201 facilities were dye-tested, resulting in the identification of ten illicit connections at ten facilities, two illicit discharges at two facilities, and ten environmental concerns at seven facilities. During the reporting period, corrective actions of identified illicit connections, illicit discharges, and environmental concerns were verified at 17 facilities.

Table 7 provides a summary of the facility dye test inspections by watershed. Table 8 summarizes the types of illicit connections and illicit discharges found by Wayne County during facility inspections for this reporting period. Table 9 presents a summary of illicit discharge investigations performed independently of facility dye testing activities. Table 10 presents an estimate of the pollutant loading reductions to Wayne County waterways that will be achieved per year when all of the illicit discharges identified in 2013 are eliminated. Wayne County's illicit discharge elimination effort for 2013 prevents over 18,000 pounds of pollutants and approximately 2.4 million gallons of polluted water per year from entering Wayne County waterways. These pollutant loading reduction estimates include illicit discharges identified during all 2013 Wayne County illicit discharge investigations.

**Table 7: Wayne County Watersheds Facility (Dye Test) Inspection Summary
January 1 through December 31, 2013**

| | Annual Total | Watershed | | | |
|--|-----------------|--------------------------|------------------------------|------------------------------------|-----------------------------|
| | | Rouge River Watershed | Ecorse Creek Watershed | Combined Downriver Watershed | Lower Huron Watershed |
| Number of Facilities Inspected | 201 | 47 | 62 | 92 | 0 |
| Number of Facilities with Illicit Connections | 10 | 1 | 1 | 8 | 0 |
| Number of Illicit Connections | 10 | 1 | 1 | 8 | 0 |
| Number of Facilities with Illicit Discharges | 2 | 0 | 1 | 1 | 0 |
| Number of Illicit Discharges | 2 | 0 | 1 | 1 | 0 |
| Number of Environmental Concerns | 10 | 0 | 5 | 5 | 0 |
| Number of Facilities with Environmental Concerns | 7 | 0 | 5 | 2 | 0 |
| Number of Facilities with Confirmed Corrections | 17 | 10 | 1 | 6 | 0 |
| Number of Illicit Connections Corrected | 27 | 22 | 1 | 4 | 0 |
| Number of Illicit Discharges Corrected | 2 | 1 | 0 | 1 | 0 |
| Number of Environmental Concerns Corrected | 8 | 0 | 0 | 8 | 0 |

Since the inception of the Illicit Discharge Elimination Program in 1987, Wayne County staff have inspected 9,745 facilities and identified 2,573 illicit connections at 643 facilities. WQMD confirmed corrections of illicit connections and illicit discharges at a total of 603 facilities through 2013. Assuming correction of all illicit discharges identified to date, Wayne County's illicit discharge elimination efforts since 1987 have prevented over 734,105,149 gallons of polluted water per year from entering Wayne County waterways.

Environmental concerns are material storage / handling and housekeeping issues that have the potential for creating illicit discharges. These items are identified and depending on the severity may be referred to the MDEQ for enforcement or if the owner agrees to correct the deficiencies,

WQMD may perform a follow up inspection to ensure corrective action. A list of facilities with outstanding illicit connections, illicit discharges, and environmental concerns is provided within Section 2.1 of Section 6: Attachments. Confirmation of corrective action is pending at 50 facilities. Three of these facilities are vacant and two were referred to the local community or appropriate state agency for enforcement action. Corrections of outstanding illicit connections, illicit discharges, and environmental concerns were confirmed at 17 facilities during 2013. A listing of these corrections is presented in the Attachments for Section 2.2.

**Table 8: Types of Illicit Discharges Found Within Wayne County
During Facility (Dye-Test) Inspections January 1 through December 31, 2013**

| <i>Type of Illicit Connection</i> | <i>Percent of Total Identified</i> | WATERSHED | | | |
|---|------------------------------------|---------------------|--------------------|---------------------|---------------------------|
| | | <i>County Total</i> | <i>Rouge River</i> | <i>Ecorse Creek</i> | <i>Combined Downriver</i> |
| Floor Drains | 70 | 7 | 1 | 1 | 5 |
| Sinks | | | | | |
| Toilets | | | | | |
| Drinking Fountains | 30 | 3 | | | 3 |
| Screen Printing Machine | | | | | |
| TOTAL | 100 | 10 | 1 | 1 | 8 |
| <i>Type of Illicit Discharge</i> | <i>Percent of Total Identified</i> | <i>County Total</i> | <i>Rouge River</i> | <i>Ecorse Creek</i> | <i>Combined Downriver</i> |
| Outdoor Equipment Washing | 50 | 1 | | | 1 |
| Inappropriate Floor Wash Water Disposal | 50 | 1 | | 1 | |
| TOTAL | 100 | 2 | | 1 | 1 |

Table 9: Summary of Illicit Discharge Investigations Performed Independently of Wayne County Facility Dye Testing Activities: January 1 through December 31, 2013

| | Annual Total 2013 | Watershed | | |
|---|-------------------|------------------|--------------|--------------------|
| | | Rouge River | Ecorse Creek | Combined Downriver |
| Number of Onsite Sewage Disposal Systems (OSDS) with Illicit Discharges | 22 | NT | NT | NT |
| Number of Illicit Connections | 10 | 1 | 1 | 8 |
| Number of Illicit Discharges | 2 | 0 | 1 | 1 |
| Number of Illicit Connections Corrected | 27 | 22 | 1 | 4 |
| Number of Illicit Discharges Corrected | 2 | 1 | 0 | 1 |

NT: Not Tracked - WCHD-EHD tracks OSDS by community and not by watershed

Table 10: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: January 1, 2013 through December 31, 2013

| Parameter | Estimated amount of polluting material prevented from entering Wayne County Waterways annually in pounds* | | | | |
|-------------------------------------|---|--------------|-------------|--------------------|------------------|
| | Annual Loads | Watershed | | | Failed OSDS |
| | Pounds/year | Rouge River | Huron River | Combined Downriver | |
| Surfactant | 507 | 0.41 | 0 | 328 | 178 |
| Potassium | 367 | 0.36 | 0 | 288 | 79 |
| Suspended Solids | 3,198 | 0 | 0 | 0 | 3,198 |
| Total Phosphorus | 118 | 0 | 0 | 0 | 118 |
| Total Solids | 9,080 | 0 | 0 | 0 | 9,080 |
| Total Organic Carbon | 619 | 0 | 0 | 0 | 619 |
| Ammonia | 114 | 0.02 | 0 | 2.01 | 112 |
| Biochemical Oxygen Demand | 2,908 | 0 | 0 | 0 | 2,908 |
| Fats, Oils and Grease | 1,158 | 0 | 0 | 0 | 1,158 |
| | | | | | |
| Total Annual Pounds per Year | 18,070 | 0.77 | 0 | 619 | 17,450 |
| | | | | | |
| Flow (gallons/year) | 2,385,779 | 1,000 | 0 | 804,420 | 1,580,359 |

*These loading reductions assume the removal of all illicit discharges identified during the reporting period.

OSDS = Onsite Sewage Disposal System

Rouge Watershed Facility Inspections (Dye-Testing)

Under contract to the ARC, WQMD staff assessed the municipal facilities of select ARC members for illicit connections and illicit discharges. Community municipal facilities assessed were located in the City of Plymouth. The results of this effort are included in the summary of Rouge River Watershed facility inspections presented in the next paragraph.

In 2013, WQMD performed 47 facility dye test inspections in the Rouge River watershed. Dye testing was performed in the Wayne County communities of Livonia, City of Plymouth, and Plymouth Township. Wayne County confirmed corrections of 22 illicit connections, one illicit discharge previously identified at 10 facilities. Communities where follow up inspections were performed include Livonia, Redford Township and Westland. At the end of 2013, there were 29 facilities with outstanding illicit discharges in the Rouge River watershed. Twelve of these facilities are municipal and the respective communities are proceeding with corrections to be in compliance with their storm water permit. Three of the facilities were vacant at the time of the follow up inspection. One facility is pending confirmation of all of its corrections with Wayne County and MDEQ staff (see Table 2.2 in the Attachments).

Ecorse Creek Watershed Facility Inspections (Dye-Testing)

In 2013, WQMD performed 62 facility dye test inspections in the City of Taylor within the Ecorse Creek watershed as summarized in Table 7. One facility with one illicit connection, one facility with one illicit discharge, and five facilities with five environmental concerns were

found. During the reporting period, WQMD performed follow up facility inspections to confirm corrections of outstanding illicit connections and discharges in the communities of Lincoln Park, Romulus, and Taylor within the Ecorse Creek watershed. Corrections of one illicit connection were verified at one facility. At the end of 2013, there were 11 facilities with outstanding illicit discharges and environmental concerns located within the Ecorse Creek watershed (see Table 2.2 in the Attachments); correction of these discharges will be pursued in the next year.

Combined Downriver Watershed Facility Inspections (Dye Testing)

Under contract to the ADW, WQMD staff assessed the municipal facilities of select ADW members for illicit connections and illicit discharges. Community municipal facilities assessed were located in the communities of Gibraltar, Riverview, Southgate, and Van Buren Township. The results of this effort are included in the summary of facility inspections presented in the next paragraph.

In 2013, WQMD performed 92 dye test inspections in the communities of Gibraltar, Riverview, Romulus, Southgate, Taylor, and Van Buren Township within the Combined Downriver watershed were dye tested during the reporting period as summarized in Table 7. At the end of 2013, there were 10 facilities with outstanding illicit connections, illicit discharges or environmental concerns in the Combined Downriver Watershed (see Table 2.2 in the Attachments); correction of these discharges will be pursued in the next year.

Lower Huron River Watershed (Dye Testing)

WQMD did not inspect facilities within the Lower Huron River watershed in 2013. There are no facilities with outstanding illicit discharges in the Lower Huron River watershed.

Compliance Plan

WQMD continues follow up visits to facilities with outstanding illicit discharges and continues its efforts to achieve voluntary compliance. Table 2.2 “Facilities with Outstanding Illicit Discharges” within the Attachments – Section 2 identifies an expected date of compliance for each facility with unresolved illicit discharges. If voluntary compliance efforts fail, the County will enlist the assistance of the local community to seek compliance through their plumbing code. The County may also initiate enforcement under its civil infraction ordinance. If voluntary compliance and local enforcement efforts are unsuccessful, the facility will be referred to the MDEQ. The local communities are responsible for compliance of the outstanding illicit discharges that were identified at their respective facilities during inspections performed by WQMD during this reporting period.

IDEP Training Workshops (WCIDEP #3)

In 1999, the WQMD initiated a program designed to provide training for county and local community staff responsible for locating and eliminating illicit discharges to surface waters. To date, five modules and two specialty sessions have been developed and presented to 1,945 municipal staff and other interested parties. The five modules are: (A) *Overview*, (B) *Basic Investigations*, (C) *Construction-Related Illicit Connections*, (D) *Advanced Investigations*, and (E) *Combined Basic/Advanced Investigation Training*. The *Specialty Training Session I: Recognizing and Reporting Illicit Discharges*, and *Specialty Training Session II: IDEP Problem Solving Exercise* were also developed. Each module or session includes key messages, technical information, an examination, and a certificate of successful completion.

In 2012, WQMD and the Alliance of Rouge Communities staff revised and shortened the full day *Combined Basic/Advanced IDEP Training Workshop* to a half day session titled *Illicit Discharge Investigators Training*. Two *Illicit Discharge Investigators Training* sessions were held in 2013 as follows:

- September 24: Brownstown Recreation Center, Brownstown Township. Sixty (60) people participated in this event.
- October 22 - William H. Costic Center, City of Farmington Hills. Forty-six (46) people participated in this workshop.

Workshop survey respondents enjoyed the workshop, especially the group problem solving. A third training event was planned specifically for Wayne County staff and was held December 11. The *Illicit Discharge Investigators Training* presentation was modified to include Wayne County specific notification and reporting procedures. Revisions were made to the *Regional IDEP Tip Card* in preparation for the Wayne County workshop. The revisions of the tip card included adding Wayne County specific contact information. The workshop was held at Nankin Mills Nature Center in Hines Park, City of Westland. Twenty-nine (29) Wayne County personnel and one Washtenaw County staff person attended this training session. Table 11 provides a listing and number of 2013 IDEP training workshop attendees.

Table 11: Wayne County 2013 IDEP Training Workshop Attendance

| Community/Agency | Number |
|--------------------------------------|---------------|
| Wayne County community staff | 47 |
| Wayne County staff | 34 |
| Oakland County community staff | 20 |
| Macomb County staff | 2 |
| Macomb County community staff | 7 |
| Washtenaw County community staff | 0 |
| Washtenaw County staff | 1 |
| St. Clair County staff | 2 |
| Consultants representing communities | 2 |
| MDEQ staff | 2 |
| School District staff | 7 |
| University/community college staff | 1 |
| Staff from environmental groups | 2 |
| Wayne County Airport Authority staff | 1 |
| Others not classified | 0 |
| 2013 Total | 128 |

Minimize Infiltration of Seepage from Sanitary Sewers (WCIDEP #4)

In 2013, Wayne County continued to minimize seepage of sanitary sewage by training field staff to identify and report suspicious discharges (WCIDEP#3), by training citizen volunteers to identify and report suspicious discharges (WCIDEP#11), and by continued operation and maintenance of our sanitary sewer systems and implementation of sanitary sewer overflow

(SSO) elimination activities as specified under the NPDES permit and consent agreements for the sanitary sewer systems operated by Wayne County.

Minimize infiltration of Seepage from Onsite Sewage Disposal Systems (WCIDEP #5)

The Wayne County Department of Public Health, Environmental Health Division (EHD) continued implementation of the Wayne County Onsite Sewage Disposal Systems (OSDS) Evaluation and Maintenance Ordinance (Enrolled Ordinance 99-527). Table 12 lists 161 “time of sale” evaluations of onsite sewage disposal systems performed during 2013. Twenty-two of these systems were identified as failing, with 11 of the 22 systems repaired during 2013. An additional eight facilities were evaluated at the request of the Michigan Department of Human Services (MDHS), Office of Children and Adult Licensing. None of these systems were failing at the time of the evaluation. In 2013, a total of 53 failed systems were identified by EHD via complaints, repair permit evaluations, “time of sale” inspections, and MDHS requested evaluations. Thirty-eight failing systems were repaired in 2013; five of the outstanding fifteen failed systems are permitted awaiting installation. Two failed systems are located at vacant residences, leaving eight proceeding through the permit process. Since program inception in February 2000 through December 2013, Wayne County has inspected 1,994 OSDS under the “time of sale” provision of the ordinance, with 409 OSDS identified as failing. Seventeen inspectors were certified to perform OSDS “time of sale” evaluations in Wayne County during 2013.

**Table 12: Summary of OSDS Evaluations Performed
January 1, 2013 through December 31, 2013**

| Type of OSDS Inspection | Number of Inspections | Number of Failures | Percent (%) of Failures |
|------------------------------|-----------------------|--------------------|-------------------------|
| Time of Sale | 161 | 22 | 14% |
| MDHS Licensed ⁽¹⁾ | 8 | 0 | 0% |
| Totals | 169 | 22 | 13% |

¹ Facilities licensed under the state MDHS program; inspection of the facility, including any OSDS, is completed upon request by the agency.

As summarized in Table 13, the Wayne County EHD requires permits for the construction of new OSDS and for repair/replacement of existing OSDS. In 2013, a total of 37 repaired systems were installed in Wayne County. One hundred sixty-six inspections were made during and/or after construction.

Table 13: Summary of OSDS Permits Issued, January 1 - December 31, 2013

| Permit Type Issued | Number of Permits | Percent (%) of Permits |
|--------------------|-------------------|------------------------|
| New Construction | 10 | 15% |
| Repair or Replace | 55 | 85% |
| Total | 65 | |

Table 14 provides a summary of OSDS-related complaints investigated in 2013. The sole complaint received was from a dwelling's inhabitant concerning a failed system; the failed system was subsequently replaced by a new permitted system.

**Table 14: Summary of OSDS-Related Complaints Investigated
January 1, 2013 through December 31, 2013**

| | |
|--|---|
| Number of Complaints | 1 |
| Number of Complaints identified as failing OSDSs | 1 |
| Number of Complaints Resolved | 1 |

In 2009, WQMD identified five homes in the City of Taylor with a common “cheater pipe” to the German Drain. As of year end 2013, two of the five properties are still in non-compliance and remain on “Pump and Haul Orders” awaiting installation of approved systems. The City of Taylor water records indicate that one property is no longer inhabited. The owner had been assessed a civil penalty in early 2013 due to lack of adherence to the agreement to repair the system, which has gone unpaid. The second location has a negligible amount of usage as the owners spend much of their time out of state and are elderly and infirmed. Sewage remains contained in an individual septic tank on each property, and no sewage has been found upon the ground at either location.

As described in WCPEP#32 of this report, educational materials about proper maintenance of OSDS are distributed to homeowners at the time of permit issuance. The EHD continues to add files of previously issued permits to the database. Currently over 19,533 permits have been put into the database. Septage haulers have a responsibility under Ordinance #99-527 to file septic tank evaluation reports for all pump outs in Wayne County. Two hundred and forty-five reports were received in 2013; there were no significant findings to report. Table 15 summarizes the estimated pollutant loading reductions to Wayne County watercourses from the 22 failed OSDS that have been defined in 2013 as illicit discharges. This estimate assumes that all the failed OSDS are corrected.

Table 15: Summary of Estimated Pollutant Load Reduction to Wayne County Watersheds from Onsite Sewage Disposal Systems: January 1, 2013 through December 31, 2013

| Parameter | Loading Reductions (lbs/year) ¹ |
|-----------------------------------|---|
| Total Solids | 9,080 |
| Total Suspended Solids | 3,198 |
| Biochemical Oxygen Demand | 2,908 |
| Ammonia | 112 |
| Total Phosphorus | 118 |
| Surfactant | 178 |
| Potassium | 79 |
| Total Organic Carbon | 619 |
| Fats, Oils & grease | 1,158 |
| Total pollutant reduction | 17,450 |
| Flow reduction (gals/year) | 1,580,359 |

1. These loading reductions assume the repair of the failed OSDS identified during the reporting period.

Response to Emergency Spills to Waterways (WCIDEP #6)

In an effort to prevent pollution from entering County Drains and waters of the State, Wayne County has continued to assist with investigations of major oil spills, illegal dumping, odors, and other “emergency” water quality issues. During the reporting period, there was one major spill or other “emergency” water quality issue that required investigation assistance from Wayne County. A Wayne County Roads Division employee reported observing a petroleum product in the Freeman Drain, a tributary to the North Branch Ecorse Creek on June 28. The spill was located in the City of Romulus downstream of an intersection where a traffic accident involving a fuel release occurred two days earlier. The product in the Drain was originally assumed to be a remnant of that release. WQMD investigated and confirmed the petroleum product in the Freeman Drain. MDEQ was notified as were the parties involved in the traffic accident and more investigation as to the source of the product was recommended. The oil spill clean-up contractor met WQMD at the accident site and the drains near the accident site were surveyed. The outlet from the road catch basins appeared to drain to the east. No petroleum product was present in the catch basins at the time of the investigation. The spill contractor reported that 75-100 gallons of diesel product/water mix was removed from the catch basin. Some oil absorbent material was present on the roadway and grass near the catch basin. The contractor placed two sorbent booms in the Drain to collect free product, and indicated the booms would be collected on June 30.

Further survey of the Freeman Drain found sheen present downstream of Merriman Road crossing. Some sheen was noted in a storm sewer in the culvert, but the manhole sump was full of water and the inlets/outlets could not be determined. The water in the Drain immediately upstream of the crossing was clear and goldfish were present. A neighbor adjacent to the Drain on the upstream side of the crossing told investigators that he did see sheens occasionally and lots of floating trash. The Drain at the next crossing upstream at Ecorse Road had a slight sheen trapped in the plastic trash at the road crossing. The Drain was clear upstream of this area. The source of petroleum product could not be determined and there was no evidence of illegal dumping. The resident was requested to contact WQMD if there are future incidents. A follow up investigation was performed in July and no further evidence of oil was observed at the site.

Illegal Dumping Control (WCIDEP #7)

The Wayne County Lending Environmental Assistance to Neighborhoods “C.L.E.A.N.” program, managed by the DPS-Land Resources Management Division (LRMD), is the centerpiece of the Wayne County’s efforts to control and clean-up illegal dumping. The County physically removes the waste illegally dumped at a site, and the local community then implements measures to stop future dumping. In 2013, the program conducted 73 total clean up projects including 63 illegal dumping site clean ups and 10 community scrap tire collection events. A total of 4,470 cubic yards of waste and 6,480 scrap tires were cleaned up as a result of these projects. Preventative efforts at these sites include neighborhood watch programs, volunteer clean up days, community gardens, signage and fencing. Preventative efforts at these sites include neighborhood watch programs, volunteer clean up days, signage and fencing. LRMD mails out C.L.E.A.N. project application packages twice a year to every mayor, township supervisor, clerk and public works director in Wayne County as well as 106 community groups, seeking their participation in the program. Approximately 200 CLEAN Program brochures were distributed in 2013 through direct mailings to every community in Wayne County, community organizations, neighborhood block clubs and churches. Distribution also took place and numerous block club meetings and public events.

Four household hazardous waste (HHW) collection events were conducted by Wayne County in 2013. A total of 425.23 tons of HHW and E-Waste was collected. For all events, informational flyers and press releases were sent to the news media and representatives of all Wayne County communities (e.g., mayors, managers, public works departments, and clerks). Notices were placed on the Wayne County website and on the LRM phone mail system. A summary of the results of Wayne County's HHW and E-Waste collection days for 2013 is shown in Tables 16 and 17.

LRMD Illegal Dumping Reports

In February 2013, LRMD staff investigated illegal dumping of soil piles on a vacant at 15th and McGraw Streets City of Detroit. The complaint was reported to the MDEQ Office of Waste Management and Radiological Protection (OWMRP) and Remediation and Redevelopment Division (RRD). RRD collected soil samples and determined that the piles did not pose a threat to the community; no further action was taken.

In May 2013, LRMD staff investigated an illegal dumping complaint on Sumpter Road in Sumpter Township. The LRMD and the MDEQ OWMRP and Air Quality Division investigated a complaint of illegal dumping/open burning. After discussions with the home owner, the waste material was removed a follow up inspection conducted in December 2013 showed the site to have no waste present.

LRMD staff discovered illegally dumped waste in Detroit during 2013 as follows:

- May 30, 2013, on Thatcher Avenue between Biltmore and Gilchrist Streets. LRMD reported the site to Detroit DPW who cleaned up the illegally dumped waste.
- June 13, 2013, approximately 1,000 illegally dumped scrap tires discovered at two locations in the Seven Mile Road and Van Dyke area. These sites were referred to Detroit DPW for subsequent clean up.
- August 29, 2013, approximately 400 illegally dumped scrap tires at 7701 Sylvester Street. LRMD staff reported the location to Detroit DPW for subsequent clean up and proper disposal
- October 15, 2013, Wayne County Roads staff reported illegally dumped waste materials on the Lodge Freeway Service Drive between Log Cabin Street and Linwood Avenue. The site was reported to Detroit DPW who cleaned the site with the assistance of neighborhood volunteers.

Roads Division Illegal Dumping Reports

Roads District 4: During the summer of 2013, numerous complaints were made from Huron Township regarding illegal dumping of debris on Prescott Road east of Vining Road. The dumping is occurring in the roadway. Each time the debris has been picked up by Wayne County's New Boston Roads Yard staff and hauled to Woodland Meadows Landfill for proper disposal.

Parks Division Illegal Dumping Reports

There were multiple incidents of dumping in various Park area that were reported by Park staff or by the Sheriff Park Patrol. The debris was immediately cleaned up by Parks maintenance staff for proper disposal. Illegal dumping from behind the Kroger grocery store into Hines Park east

Table 16
Summary of Wayne County's
2013 Household Hazardous Waste and E-Waste Collection Days

| Date | Location | No of Participants |
|--------------------------|--------------------|---------------------------|
| April 13 th | Redford | 1,742 |
| June 22 rd | Dearborn | 2,204 |
| August 24 th | Westland | 2,071 |
| October 12 th | Taylor (Southland) | 1,850 |
| Totals | 4 events | 7,867 |

Table 17
Summary of Material Collected During
Wayne County's 2013 Household Hazardous Waste and E-Waste Collections

| Materials | 2013 (Tons) |
|-----------------------------------|------------------------|
| Acids | 2.99 |
| Aerosols | 6.14 |
| Antifreeze | 8.27 |
| Batteries, lead acid | 8.97 |
| Batteries, Lithium | 0.21 |
| Batteries, mixed/household | 10.36 |
| Bio-medical sharps | 1.3 |
| Caustics/Oxidizers | 3.27 |
| Electronic Equipment | 138.78 |
| Expired medicines/pharmaceuticals | 1.02 |
| Fire Extinguishers | 0.76 |
| Flammable Liquid | 12.04 |
| Fluorescent Lamps | 5.07 |
| Herbicides & Pesticides | 20.39 |
| Mercury Devices | 0.07 |
| Oil | 17.21 |
| Paint, latex | 126.4 |
| Paint, oil | 37.68 |
| PCB Ballast | 0.2 |
| Propane cylinder | 2.45 |
| Smoke detectors | 0.07 |
| Toxic Products | 21.58 |
| TOTAL TONNAGE | 425.23 |

of Middlebelt Road and north of Warren Road continues to be an issue. Parks Maintenance maintains signage in the area that specifies dumping is illegal.

Swimming Pool Inspections (WCIDEP #8):

The Wayne County Department of Public Health Environmental Health Division (EHD) is responsible for inspections of public swimming pools located within Wayne County (excluding the City of Detroit). These inspections are performed each spring prior to opening for the swimming season. During the 2013 swimming season, EHD inspected 678 swimming pools and conducted 299 follow up inspections.

EHD issues permits for proposed new public swimming pools or for existing pools proposing extensive modifications. During the process of reviewing plans and specifications for these facilities, EHD specifically reviews the sewer connections to ensure that the modifications will not result in illicit connections. For this reporting period, two newly constructed pools were inspected and the proper connection of the backwash water system to the sanitary sewer system for each was confirmed.

County-Owned Building Inspections (County-wide) (WCIDEP #9)

WQMD staff has previously completed dye-test inspections of all County-owned buildings that are located in areas of the County served by separate sanitary sewers. In 2013, WQMD performed follow-up P2 inspections and storm drain/outfall GPS mapping at all WCDPS – Park Maintenance facilities: Crosswinds Marsh, Elizabeth Park Maintenance Garage, Wallaceville Yard, Lola Valley Yard and Parkview Yard. WQMD also performed a follow-up P2 inspection and storm drain/outfall, GPS mapping at the DPS-Road - Central Maintenance Yard. WQMD staff completed and submitted P2 follow-up inspection memos for all WC Parks facilities and the WCDPS-Road facility during 2013. In 2014, follow up site visits will be conducted to assist with implementation of the P2 Action Plan at the remaining seven DPS-Road facilities.

Visual Inspections During Routine Field Operations (WCIDEP #10)

Wayne County “field” staff have been trained to identify and report potential illicit discharges and other environmental concerns in the course of their duties. Training has been provided to personnel from the Departments of Public Services (Facilities Management, Engineering, Roads, Parks, Land Resources, and Water Quality Management) and Environmental Health Division. Table 18 presents a summary of the environmental concerns identified during routine Wayne County field operations. Table 19 summarizes the results of the follow up investigations to routine field operation reports. Following are short descriptions of select investigations:

- LRMD staff reported an ongoing intermittent leachate discharge from Countywide Landfill to the Blakely Drain/Brownstown Creek and Frank and Poet Drain. The discharge was originally identified in 2011 and reported to the MDEQ – Waste Management Division who is actively managing the site.
- LRMD staff identified that the City of Taylor’s storm water containment ponds at the City’s composting facility overflowed into a county drain in March and April of 2013. The discharge was reported to MDEQ. Temporary measures have been taken to prevent the discharges from reoccurring. The City is working to develop and implement a permanent solution. LRMD staff continues to monitor the site on a regular basis.
- Roads staff reported one fuel spill (see “Response to Emergency Spills” WCIDEP #6) and numerous incidents of illegal dumping identified during routine field operations (see

“Illegal Dumping Control” WCIDEP #7) in 2013. Roads staff also identified and responded to seven incidents of excessive erosion as follows:

- In May 2013, Roads District 4 reported to MDOT an erosion problem on the embankment of northbound Telegraph at the railroad overpass south of Pennsylvania Road. A spillway was installed by a MDOT contractor to correct the problem.
- In June 2013, Roads District 4 reported to MDOT an erosion problem on the embankment of northbound I-275 south of Northline Road. The problem has since been corrected by a MDOT contractor.
- In September 2013, Roads District 4 identified an erosion problem on the embankment of westbound Huron River Drive at the Huron River caused by storm water and a failed catch basin. The catch basin was repaired, tile was replaced with 80' of plastic 18" pipe from the basin to the bottom of the embankment. Erosion was repaired with M-1 limestone and concrete.
- In January 2012, Roads District 3 reported to MDOT an erosion and drainage problem on east bound Ecorse Road at east bound I-94. As of February 2014 the problem still exists and is causing ice buildup issues.
- Roads Bridge Section identified erosion or inadequate erosion control concerns at the following bridges during the 2013 bridge inspection: Bridge #0426 Rawsonville Road/Huron River; Bridge #0447 Denton Road/Huron River; and Bridge #0441 Beck Road/Johnson Creek. Corrective action will be taken in 2014 to address the erosion issues.
- Parks staff identified numerous incidents of illegal dumping identified during routine field operations (see “Illegal Dumping Control” WCIDEP #7).

**Table 18: Types of Environmental Concerns “Identified” during Routine Field Operations
January 1 through December 31, 2013**

| <i>Type of Environmental Concern</i> | |
|--|-----------|
| Illegal Dumping (LRMD, Roads, Parks) | >17 |
| Landfill Leachate (LRMD) | 1 |
| Compost Facility Containment Pond Discharge (LRMD) | 1 |
| Excessive Erosion (Roads) | 7 |
| Fuel Spill (Roads) | 1 |
| TOTAL* | 27 |

* Numbers do not include issued identified via complaints.

**Table 19: Environmental Concern Investigations Resulting from
Routine Field Operations
January 1 through December 31, 2013**

| Reporting Division | Environmental Concerns Reported | Verified by WQMD | Source/Cause Identified | Referred To | Corrections Confirmed |
|---------------------------|--|-------------------------|--------------------------------|--------------------|------------------------------|
| DPS – LRMD | 8 | 0 | 2 ¹ | 2 - MDEQ | 8 |
| DPS – Roads | > 9 | 1 | 1 | 3 - MDOT | > 5 ² |
| DPS – Parks | >10 | 0 | >10 | NA | >10 ² |
| TOTAL | 27 | 1 | 13 | 2 | 23 |

1 – Referred to and under the responsibility of MDEQ.

2 – Includes multiple reports of illegal dumping cleaned up by Wayne County staff.

3 – Unconfirmed corrections involve unresolved erosion issues.

County Drain Inspections

There were no County Drain inspections reported in 2013.

IDEP Training for Volunteers (WCIDEP #11)

WQMD staff prepared and provided a presentation regarding illicit discharge identification and reporting to the Friends of the Rouge (FOTR). The brief presentation introduces illicit discharges, contains suspicious discharge example photos, explains how important it is to report illicit discharges, and provides contact information for Wayne County and other local agencies. FOTR has incorporated this presentation into their orientations for volunteers, teachers and team leaders. In 2013, FOTR held 12 different training and/or volunteer monitoring sessions that provided IDEP training to 709 people.

Methods to Evaluate Effectiveness – Storm Water Point Source Inspection – Alternative vs Traditional IDEP Comparison (WCIDEP #12)

Wayne County participated in and helped finance the Alliance of Rouge Communities (ARC) report "Comparison Analysis of Finding Illicit Discharges to Storm Water Systems", submitted to MDEQ on May 22, 2007. Based on the findings of this analysis, it is the position of Wayne County and the ARC that scheduled inspection of points of discharge are not an effective method for evaluating the effectiveness of illicit discharge elimination activities.

Methods to Evaluate Effectiveness – Performance Tracking of IDEP Activities (WCIDEP #13). Please refer to *Table 6* and particularly *Table 10: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds*: for an overall summary of the performance of Wayne County's IDEP Activities.

Methods to Evaluate Effectiveness – Instream Monitoring/Environmental Indicator Monitoring (WCIDEP #14). Please refer to Section 1 of this report, "Determination of Effectiveness", for a summary of this activity.

Updated Map of Known Storm Water Point Sources and Respective Receiving Waters or Drainage System (WCIDEP #15)

Alliance of Rouge Communities (ARC) Outfall Mapping

As part of the ARC Technical Committee's Collaborative SWPPI Action Plan (CAP) development process, WQMD staff began accepting ARC member data regarding known municipal separate storm water sewer system (MS4) discharge points in 2009. A watershed-wide GIS map of discharge points to "Waters of the State" was initiated along with a central warehouse for digital storm sewer maps. Centralizing this data is intended to simplify NPDES permit compliance and reporting efforts for the MDEQ and ARC members as well as improve compliant response and suspicious discharge source tracking efforts. The map of the data compiled thus far (through 2013) is included within the attachments for Section 2 of this report.

Wayne County Updated Storm Water System Map

Section 6 of this report includes an updated GIS map of Wayne County's storm water system including latest coverage of County Drains, County Roads, County Parks and maintenance yards. Please note that the map includes County data for both combined sewer areas as well as separated sewer areas.

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SECTION 3

WAYNE COUNTY PUBLIC EDUCATION PLAN

SUMMARY OF ACTIVITIES

The following Public Education Plan (PEP) activities were completed by Wayne County during the reporting period **January 1, 2013 – December 31, 2013** in compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000.

Educate Public Regarding Location of Residential Storm Drainage System and Waters of the State (WCPEP #1)

Nearly all of the activities performed by the County to comply with the Public Education Section of our SWPPI address this topic; see, in particular, the reports for activities WCPEP #4, #6, #7, #9, #11, #22 and #26.

Educate Public Regarding Animal Wastes (WCPEP #2)

WCPEP activities #4, #6, #7, #11 and #22 address this topic.

Educate Public Regarding Pavement or Powerwashing (WCPEP #3)

WCPEP activities #4, #6, #7, and #22 address this topic.

Distribute Pollution Prevention Literature and Messages (WCPEP #4)

Pollution Prevention Literature and Messages: Through outreach efforts performed under contract to the ARC and the ADW, the WQMD provided over 6,600 pieces of public information materials relating to water pollution issues to numerous individuals and groups within the Rouge River and downriver watersheds. The materials included *Household Hazardous Waste Collection Event* flyer; *Landscape* tip card; *Value of Trees* flyer; *Guidelines for Home Rain Gardens*; *Rouge River* bookmark; *Rouge Watershed* tattoo; *tip cards Save Water, Storm Drains, Car Care and Pet Waste*; *24 hour Hotline* brochure; *Healthy Lawn* brochure; *Get Bugged about Water Quality* note; *Stream Insects ID*; *Our Actions* flyer; *Macro Invertebrate* key; and *Bio-assessment* flyer.

Wayne County distributed additional educational materials at community events or festivals, staff training sessions, workshops, leadership presentations, departmental presentations, or office display racks. During the reporting period, approximately 7,500 pieces of Storm Water Public Education Handout information were distributed to fill requests via phone calls, fax, website, e-mail, and letters for either public education materials or technical information. Examples of the Storm Water Public Education Handout materials were submitted with previous annual reports and include the *Storm Drains Aren't Garbage Cans* brochures and bags; the *WCDPS 24-Hour Environmental Hotline* brochure; *Our Actions Affect the River* flyers; the *Rouge River Activity Book*, *River Friendly* brochure series; *7 Simple Steps to Clean Water* tip cards; and others. The *Storm Drains Aren't Garbage Cans* brochure, the *Rouge Watershed Recreational Map and Index*, and the *WCDPS 24-Hour Environmental Hotline* brochures are nearly always delivered and available with the *Our Recreational Resource Displays*, the *Our Actions Affect the River Display* and the *7 Simple Steps to Clean Water Display*. See WCPEP #6 & #7 below.

LRMD staff distributed the *Resource Recovery Guide (RRG) Booklet, Disposal Tips for Home Medical Waste & Pharmaceuticals* brochure, the *Mercury Information* brochure, and the *CLEAN Program* brochure (see WCPEP #24 for more detail).

Publication Clearinghouse: The *Wayne County Publication Clearinghouse* was established to produce and distribute public information materials to local communities at cost. All communities have the option of using the “Rouge Products CD” to produce their own materials or they can order them at cost from the *Clearinghouse*. WCDPS-WQMD warehouses a large supply of the most requested items so that delivery takes place as the items are ordered. The *Clearinghouse* can also produce community specific products if the order is large enough to justify doing so. During the reporting period, the *Clearinghouse* filled orders for 60 items provided to communities for subsequent distribution to others.

Newsletter Articles and Advertisements (WCPEP #5)

During this reporting period, the WQMD produced several public education and involvement activity summaries for posting to websites and publishing in County or community newsletters. These included the *Hines Park Green Infrastructure (GI) Volunteer Work Day, 2013 Green Schools Program*, and the ADW and ARC *Trees for Green Schools* summaries. These summaries were provided to the communities via the ARC and ADW websites and included the Water Environment Federation’s *Water is Life* ad graphic.

Displays-Community/Agency Events (WCPEP #6) and Static (WCPEP #7)

During 2013, the WQMD planned, coordinated, promoted and/or participated in various community events, meetings, seminars and workshops with environmental displays and educational information, including:

- *Shiver on The River, Detroit, February 2, 2013;*
- *Woodhaven – Brownstown School District, February 7, 2013 – March 4, 2013;*
- *Grosse Ile Township School District, February 28, 2013 – March 28, 2013;*
- *City of Riverview, February 28, 2013 – March 28, 2013;*
- *Canton Home Expo, March 2-3, 2013;*
- *Frog & Toad Survey Workshop, Northville Township, March 2, 2013;*
- *Frog & Toad Survey Workshop, Canton Township, March 5, 2013;*
- *Frog & Toad Survey Workshop, Farmington Hills, March 9, 2013;*
- *Frog & Toad Survey Workshop, Bloomfield Township, March 13, 2013;*
- *16th Annual Rouge River Water Festival at University of Michigan-Dearborn, May 2, 2013;*
- *Canton River Day, June 1, 2013;*
- *Wyandotte Street Fair, July 11, 2013 - July 15, 2013;*
- *City of Melvindale, August 17 – 18, 2013;*
- *Southeast Michigan GLRI Celebration at The Henry Ford, Dearborn, October 18, 2013;*
and
- *Southgate City Hall, December 18, 2013 – March 4, 2014.*

WCDPS Environmental Information Line (WCPEP #8)

Wayne County continues to promote the use of its *24-Hour Environmental Hotline* (888-223-2363) for water quality complaints throughout the County. A variety of products are used to

educate the public about the *24-Hour Environmental Hotline*, including magnets (with the “Storm Drains Aren’t Garbage Cans” message, the Environmental Hotline number, and the WCDPS-WQMD web page address) several departmental and division brochures and the Wayne County website. During the reporting period these materials were distributed at display events, workshops, and presentations.

Advertisements (WCPEP #9)

Due to funding limitations, stormwater/watershed management advertisements were not placed during 2013.

Point of Sale Education (WCPEP #10)

Wayne County continued its involvement and support of the *2013 Earth-Friendly Fertilizer Sticker Program* in cooperation with the Southeastern Oakland County Water Authority (SOCWA). Efforts are targeted at educating the public about environmentally friendly home lawn and garden maintenance and included program planning and development, development and distribution of promotional flyers, and window sign, retailer recruitment and training support, and website promotions and information. During the reporting period, listings of the approved fertilizers and participating retailers were maintained and made available through the Wayne County (www.waynecounty.com) and Rouge River National Wet Weather Demonstration Project (www.rougeriver.com) websites. Flyers listing the approved fertilizers and participating retailers were also distributed at many of the display events.

Workshops and Demonstration Projects (WCPEP #11)

Wayne County co-sponsors and participates in numerous workshops each year to educate various stakeholders on a variety of topics related to managing storm water and protecting the environment. A summary of the Wayne County co-sponsored environmental education workshops or demonstration activities held during the reporting period follows.

ARC Green Infrastructure Workshops

Wayne County was once again an integral partner in the successful 2013 Green Infrastructure Education Campaign established by the ARC to assist with implementation of green infrastructure (grow zone) workshops. The ARC workshop sub-committee scheduled and held four (4) *Naturalizing the Home Garden: A Native Design Workshop for Beginners* green infrastructure workshops. A total of 118 people attended the workshops to get hands-on experience from experts about how to design a small native garden at their homes. Surveys conducted at the workshops showed that participants thought the workshops were a valuable experience. Workshops were held in March and April, 2013 at the following locations:

- March 12 - Cranbrook Institute of Science;
- March 26 - Canton Township Municipal Services Building;
- April 7 - Henry Ford Community College; and
- April 24 - Farmington Hills City Hall.

ARC Grow Zone Maintenance Workshop

Ten people participated in the September 26, 2013 *Grow Zone Maintenance* workshop held in Westland. This workshop which focused on assisting ARC members and others who installed ARC grow zones from 2009-11. The main presentation included a variety of ARC grow zones

showcasing both success stories and not so successful projects. Participants took a tour of Nankin Mills Interpretive Center to see what has been done there with grow zones, invasive species management, and other natural areas. The workshop concluded with a 30 minute hands-on, weed pulling exercise.

Middle Rouge Riparian Corridor Management: Bennett Arboretum Grow Zone Work Day

Wayne County Parks, WQMD, Wayne County Commissioner Laura Cox, and the Wayne County Master Gardeners continued their partnership to host the sixth Annual *Hines Park Green Infrastructure Volunteer Work Day* on May 11, 2013. Over 50 volunteers participated in efforts that included: weeding around the alternative shade trees collection, the welcome kiosk, and interpretive signs; thirty-nine (39) tree saplings including oaks, maples, Dawn Redwoods, American Larch, and River Birch were planted in the oak collection and around the wetland area; five yards of cedar mulch was placed around the alternative shade trees, kiosk and signs; and 45 garbage bags of garlic mustard were collected.

Middle Rouge Riparian Corridor Management: The Youth Connection Program

WQMD partnered with Wayne County Parks Division to implement three green infrastructure workday events with The Youth Connection, a private non-profit agency based in Detroit. The Youth Connection receives funding from the Michigan Department of Natural Resources to employ youth in summer programs connected to parks and natural resources. The green infrastructure workday events were as follows:

- August 1: Ten members of The Youth Connection participated in a workday at Newburgh Pointe Rain Garden. Activities included: placing mulch around the front sign after junipers were removed; pulling weeds and mulching around all the trees including lifting the protective grates around the trees, and weeding and mulching around trees next to the Lake; mulching in the “terrace” area of the native garden; placing grass seed in the bare areas where trees were recently removed; removing the silt/sand that collects from sheet flow runoff along the walkway from the parking area and the “patio” area next to the water; removing a section of silt fence and replacing with a long section of garden edging to prevent the mulch from washing out from under the fence; litter pick up; and removing the small trees and shrubs on the west side of the comfort station.
- August 8: Ten Youth Connection participants assisted in macroinvertebrate monitoring at two locations along the Middle Rouge River; see description under WCPEP #16.
- August 14: WQMD performed a grow zone monitoring and work day at the Valley View offline detention pond with the Wayne County Parks Youth Connection participants. The Youth Connection roughed and turned over the turf around the offline detention pond and placed native plant seeds around the pond. The seed mix used included native species such as tall coreopsis, cone flower, blazing star, butterfly weed, common milkweed, swamp milkweed, joe-pye weed, boneset, etc. Ten native plants (black-eyed susan, coreopsis, coneflower and turtle head) were planted. Wooden stakes, “caution” tape, and Grow Zone border signs were installed around the pond to protect the seeded area from mowers. Five Youth assisted WQMD with the maintenance activities.

Wayne County Michigan Green Schools Program

Wayne County’s WQMD staff has been working with the Wayne County Regional Educational Service Agency (Wayne RESA) since 2007 to promote and grow Wayne County’s Green Schools Program. In 2013, 129 schools were recognized as “Wayne County Green Schools”.

These schools earned at least 10 points under the Michigan Green School legislation for implementing specific energy-saving and environmental activities within the 2012-13 academic year. Under Wayne County's Green School program, the activities are set up in four categories (A-D): Recycling, Energy Saving, Environmental Protection and Miscellaneous. A fifth category (E) allows schools to propose their own activity. Points can be accumulated in any combination of categories, as long as there is a minimum of two from each Category A-D. Additional points can be earned from Category E. Emerald School designation can be achieved by successfully participating in 15 points and the Evergreen designation is achieved by successfully participating in 20 points. Information on Wayne County's Green Schools Program is available online at http://www.waynecounty.com/doe_wqm_res_greenschools.htm

Trees for Rouge Green Schools Program

With financial support from the ARC, the *Trees for Rouge Green Schools Program* was again implemented in 2013, with 16 trees were purchased and distributed to the new 2013 Michigan Green Schools located in the Rouge River watershed. The tree species offered were all native to Michigan and included eastern redbud, sugar maple and northern red oak. Wayne County offered trees to 8 new schools within the Wayne County portion of the Rouge watershed and Oakland County offered trees to 8 new schools. Of the 16 Wayne County schools, 10 schools accepted the offer. The remaining 6 trees were returned to the ARC PIE committee for distribution to the ARC communities.

ARC Tree Seedling and P2 Literature Distribution

Distribution of individual tree seedlings and pollution prevention (P2) literature occurred during 2013 as follows:

- June 1st in conjunction with ARC's Rain Barrel sale in Bloomfield Twp;
- June 15th & 16th in conjunction with the Liberty Festival in Canton Twp;
- August 6th in conjunction with ARC's City of Southfield's Summer Event; and
- November 14th, where the ARC also provided white pine seedlings to the 16 new Green Schools.

The seedlings were provided in packs of 30. Informational material including planting instructions, the *Value of Trees* flyer, Rouge River bookmark, ARC flyer and instructions on registering the tree through the ARC's website were provided for each student receiving a seedling. Over 1,650 conifer tree seedlings were distributed along with 6,600 pieces of literature to Rouge watershed residents and students in 2013.

Trees for Downriver Green Schools Program

With financial support from the ADW, the *Trees for Rouge Green Schools Program* was again implemented in 2013. Fifteen trees were purchased and distributed to the 2013 Michigan Green Schools located in the Downriver watersheds. The tree species offered were all native to Michigan and included eastern redbud, northern red oak and sugar maple. Wayne County offered trees to the 24 recognized green schools within the ADW. Of the 24 schools, 15 schools accepted the offer. Each school was provided tree planting instructions, the *Value of Trees* flyer, Healthy landscapes tip card, *Guidelines for Home Rain Gardens* flyer, and information on registering the tree through the ARC website.

ADW P2 Literature Distribution

In October and November, 675 ADW 2014 calendars were distributed in conjunction with the Stream Team Benthic Macro Invertebrate monitoring (Bug Hunts). Another 200 calendars were distributed through miscellaneous locations such as Wayne County offices, the Lake Erie Metro Park office, and at the *Great Lakes Restoration Celebration* at The Henry Ford. The calendars include pollution prevention messages among other information.

RCM Technical Advisory Committee (TAC) and Work Group (WCPEP #12)

Although there were no meetings of the RCM TAC in 2013, WQMD continued to support the intent of RCM TAC and Work Group by coordinating, co-sponsoring, promoting and/or participating in the above workshops and demonstration projects as described in WCPEP #11 as well as WCPEP #14.

Healthy Lawn and Garden Technical Advisory Committee (HL&G TAC) (WCPEP #13)

WQMD continued to support the HL&G TAC efforts as described above in WCPEP #10 as well as by coordinating, co-sponsoring, promoting and/or participating in the WCPEP #11 activities.

River Day/Rouge Rescue (WCPEP #14)

Wayne County actively promoted participation in and provided funding for the Friends of the Rouge (FOTR) Rouge Rescue held June 1, 2013 (see www.therouge.org/index.php?id=687629 for a description of activities and program results). In addition, WQMD staff provided services and support for Rouge River Day 2013. Kesh Raizada from WQMD served as the site coordinator at the Meadows of Canton site (Fellows Creek at Palmer and Lotz Road near the Meadows of Canton subdivision); with WQMD staff Susan Thompson providing event support. Over 112 volunteers assisted in storm stenciling, benthic macro-invertebrate monitoring and 1.34 cubic yards of trash removed from two miles of the Lower Rouge River. WQMD's *Frog & Toad* and *7 Steps* displays were set-up and a variety of educational material was provided to all volunteers.

The first annual *Rouge A Palooza* was held in the City of Wayne's Goudy Park on Saturday October 12, 2013. The celebration was organized by dedicated City of Wayne volunteers to promote the cleanup and restoration of the Lower Rouge in the City of Wayne. The first annual *Logjam Classic* canoe race, a three mile dash along the Lower Rouge River through Wayne kicked off the activities on a beautiful fall day. Twelve canoes competed, with the winning team completing the route in 37 minutes. The trophies given to the winners were carved from a log recovered from the Rouge River. A public canoe trip organized by FOTR began after the canoe race, with 38 people participating. Both events ended in Goudy Park in the City of Wayne, where the *Rouge A Palooza* event was staged and open to the public from 1:00-8:00pm. The celebration included food and drink, live music, a paper boat race, a rubber duck race, fun activities for kids, and displays by local governments and community groups, including Wayne County Parks, WQMD and FOTR. Visitors to the event assisted WQMD in looking for benthic macroinvertebrates by sorting samples collected from the Lower Rouge River at Goudy Park and learned about how benthic macroinvertebrates are used to determine water quality. The "Our Actions" tabletop display and water quality public education material was also on hand. Attendees visiting the WQMD displays picked up 35 "Seven Simple Steps" tip cards, "Storm Drains Aren't Garbage Cans," and Wayne County 24 hour hotline brochures to take home.

Event organizers were pleased with the support of local organizations and the attendance at the inaugural event. Plans for a second annual event in 2014 are underway.

Volunteer Monitoring – Frog & Toad Surveys, Rouge Watershed (WCPEP #15)

Wayne County actively promoted participation in and provided funding for the Rouge Frog & Toad Survey conducted in 2013 by FOTR (see <http://therouge.org/index.php?id=687624> for a description of activities and program results).

Volunteer Monitoring – Bug Hunts, Rouge Watershed (WCPEP #16)

In support to the ARC and FOTR, WQMD staff participated in multiple volunteer monitoring events in 2013 as follows:

- *FOTR Winter Stonefly Search:* WQMD served as team leaders for the FOTR Winter Stonefly Search held January 26. Over 75 people from around the Rouge Watershed went out into the cold to sample for the stonefly, a macroinvertebrate species whose presence indicates high water quality. The results of the 2013 winter stonefly search are summarized in Section 1.
- *FOTR Spring Bug Hunt:* WQMD staff served as team leaders for this event held April 27, joining approximately 89 volunteers in benthic macroinvertebrate sampling at 36 sites throughout the Rouge River watershed. Volunteers and WQMD staff collected and identified benthic macroinvertebrates for the purposes of gauging Rouge River water quality. The results of the 2013 Spring Bug Hunt are summarized in Section 1.
- *FOTR Fall Bug Hunt:* WQMD participated as team leaders for the FOTR fall “bug hunt” sampling event held October 19, leading volunteers in the collection and identification of benthic macroinvertebrates for the purpose of using the data to gauge the water quality of the Rouge River. Over 98 people from around the Rouge Watershed participated. See Section 1 of this report for a summary of the water quality scores from this monitoring event.
- *WQMD Spring Bug Hunt:* WQMD performed a bug hunt with 120 students from East Middle School students at Lions Park in the City of Plymouth over two days, May 15 and 16, 2013. The Johnson Creek in Northville Township was sampled and the students sorted the samples to obtain a water quality score. Both samples scored “Excellent” and many stoneflies were found. The first day, the site had a score of 57 (“Excellent”), the highest scoring site in the Rouge River watershed in spring 2013. The students found 31 different organisms, and many perlotid stoneflies. WQMD assisted REP and Crescent Academy International (Canton Township) students in sampling a Lower Rouge site at Morton Taylor Road near the Lower Rouge Recreation Trail on May 9. Approximately 45 students and volunteers participated in the monitoring. The Morton Taylor site had a score of 35, a “Good” water quality rating. WQMD also hosted the West Village Academy (Dearborn Heights), a school participating in the Friends of the Rouge Education Project (REP), at the WQMD Offices at 3600 Commerce Court, in Wayne on May 21, 2013 to monitor the Lower Rouge River. Approximately 16 students participated to monitor the River as WQMD staff collected benthic macroinvertebrates and water samples for the students. The Commerce Court site had a score of 35, another “Good” water quality rating.
- *WQMD Fall Bug Hunt:* WQMD performed a bug hunt with East Middle School students at Lions Park in the City of Plymouth on October 1. A total of 50 students participated. The Johnson Creek in Northville Township was sampled and the students sorted the samples to obtain a water quality score of 42 (“Good”) for the site.

- *Wayne County Youth Connection:* On August 8, ten members of The Youth Connection Program participated in monitoring two locations along the Middle Rouge River. The goal of the monitoring day activity was to provide the Wayne County Youth Connection participants with a “real life” interactive science experience that introduces them to how WQMD uses macroinvertebrates to monitor water quality and how human activities influence water quality. At the Waterford Bend site, located on the Middle Rouge River in Northville Township, WQMD sampled the different habitats in the river and the team sorted the samples, finding 17 different taxa including three different mayfly families and a case maker caddisfly. The water quality at Waterford Bend was 46, a “good” score. At the Warrendale site in Dearborn Heights, close to the confluence of the Middle Rouge with the Main Rouge River and downstream of the first site, seven different taxa, including one mayfly family, were found. The water quality at Warrendale was 18, a “poor” score. The team discussed the differences in the habitats and water quality between the two sites and what factors may be influencing these differences.

Volunteer Monitoring – Bug Hunts Downriver Watersheds (WCPEP #17)

During 2013, WQMD (with ADW financial support) continued its partnership with the Downriver Citizens for a Clean Environment “Stream Team” volunteers and the Huron River Watershed Council (HRWC) and volunteers to implement macroinvertebrate monitoring at locations throughout the downriver watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. Over 400 volunteers assisted with monitoring at 17 sites during the spring sampling, and almost 500 volunteers assisted with sampling at 20 sites during the fall effort. Volunteers also assisted with the 2013 winter stonefly search. The results of these monitoring efforts are presented in Section 1 of this report.

Rouge Education Project (WCPEP #18)

WQMD supported the FOTR 2013 Rouge Education Project (REP) by assisting Crescent Academy International (Canton Township school) to perform their REP monitoring on May 9 and West Village Academy (Dearborn Heights school) May 21. WQMD staff also participates on the FOTR Public Involvement Advisory Task Force.

Storm Sewer System Labeling WCPEP #19)

WQMD supported storm sewer stenciling in Canton Township subdivision streets as part of their annual River Day activities (see also report for WCPEP#14). In 2013, Wayne County will continue to offer these stencils to schools and community groups and promote the use of decals for labeling storm sewers within residential areas and at facilities inspected as part of our Illicit Discharge Advanced Investigation and Correction (WCIDEP #2).

Storm Sewer System Labeling – County Facilities (WCPEP #20)

In 2013, WCDPS staff continued spray painting and/or otherwise maintaining marking the location of storm sewers throughout the County’s Road Division maintenance yards including storm sewers located in unpaved areas.

Alliance of Rouge Communities – PIE Committee (WCPEP #21)

WQMD staff participated in all 2013 Alliance of Rouge Communities Public Information and Education (PIE) Committee meetings and activities (see the 2013 Executive Director Annual Report available at www.allianceofrougecommunities.com for more detailed information). In

addition, Wayne County participated in all 2013 activities of the Alliance of Downriver Watersheds, Public Education Committee (see the ADW Bi-Annual Report 2012-2013 available at http://www.allianceofdownriverwatersheds.com/adw_info.htm for more detailed information).

Information Dissemination via Websites (WCPEP #22)

In 2013 the website for Wayne County's Rouge River National Wet Weather Demonstration Project (www.rougeriver.com) experienced over 1.42 million hits and 111,105 site visits from citizens, students, university staff, businesses, community groups, municipalities, and others interested in obtaining information on the Rouge River and the Rouge River National Wet Weather Demonstration Project. In addition, the ARC website (www.allianceofrougecommunities.com) and ADW website (www.allianceofdownriverwatersheds.com) as well as the main Wayne County website (www.waynecounty.com) are also used to inform and involve the public in storm water management and watershed awareness activities.

Information Dissemination from County Buildings (WCPEP #23)

Storm Water Public Education Handout information continues to be available at County-owned facilities for Wayne County employees, businesses and the general public. Information racks are maintained at 8 Wayne County offices including: Department of Public Services (three locations), Environmental Health Division, Mental Health Department, Parks Headquarters, Permit and Field Engineering Office, and Roads-Central Maintenance Yard.

Education: Waste Disposal Locations (WCPEP #24)

The LRMD continues to maintain and distribute listings of approved disposal points for various materials including motor oil, antifreeze, gasoline, transmission fluid, travel trailer waste disposal and mercury recycling/disposal facilities. These listings are in the *Resource Recovery Guide* (RRG). The RRG is available to download from the DPS - ESG website http://www.waynecounty.com/doe_lrm_prog_swplanning.htm and is also distributed at all public events in which LRMD participates including the HHW and computer collections. Other materials to educate the public about pollution prevention include *Medical Waste brochure*, *Mercury Pamphlet*, *HHW and Electronic Waste flyers*, *CLEAN Program brochure*. These materials are also available, along with home composting tips, from the website shown above. Table 20 summarizes the educational materials related to proper waste disposal that were distributed at public events during the reporting period.

Additionally, as described in the report for WCIDEP#7, two mailings were made to all Wayne County Commissioners, Mayors, Township Supervisors, Clerks and Public Works Directors seeking their participation in the C.L.E.A.N program. The mailings consisted of C.L.E.A.N. information pamphlets and applications for assistance. This information was also sent to over 106 community groups in Wayne County. Approximately 200 CLEAN Program brochures were distributed in 2013 through direct mailings to every community in Wayne County, community organizations, neighborhood block clubs and churches. Distribution also took place and numerous block club meetings and public events.

Table 20
Distribution of Educational Materials for Proper Waste Disposal
January 1 – December 31, 2013

| Educational Item | Quantity Distributed | Distribution Methods |
|---|-----------------------------|--|
| <i>Resource Recovery Guide</i> | 9,950 | <ul style="list-style-type: none"> • HHW Events • Community groups/events • County participating events • Municipalities for distribution • Presentations |
| <i>Disposal Tips For Home Medical Waste and Pharmaceuticals</i> | 450 | <ul style="list-style-type: none"> • Community groups/events • County participating events • Municipalities for distribution • Presentations |
| HHW/E-waste collection event flyers | 1,000 | <ul style="list-style-type: none"> • Direct mailings • Community groups/events • Presentations |
| Recycled Pencils | 700 | <ul style="list-style-type: none"> • Students via recycling presentations including Rouge River Watershed Festival |
| CLEAN Program Brochures | 200 | <ul style="list-style-type: none"> • Direct mailings |
| Your Septic System: A Reference Guide for Homeowners | NT | <ul style="list-style-type: none"> • Distributed with new permit approvals and at Community Health Fairs |
| On-site Sewage Disposal Ordinance | NT | <ul style="list-style-type: none"> • Distributed with new permit approvals |
| Protect Your Septic System postcard | NT | <ul style="list-style-type: none"> • Distributed with new permit approvals and at Community Health Fairs. |
| Homeowner's Guide to Septic Systems | NT | <ul style="list-style-type: none"> • Distributed with new permit approvals and at Community Health Fairs. |

NT – Not tracked.

Staff Education and Training (WCPEP #25)

Staff Training: The participation of Wayne County staff in “environmental” training programs during the reporting period is shown in Tables 21 and 22 for the Department of Public Services and Environmental Health Division, respectively.

Table 21
WCDPS 2013 Staff Training in Environmental Issues

| Training Topic | Number of Staff Trained |
|--|--------------------------------|
| Pesticide Applicators | 14 |
| De-icing Equipment Calibration | 21 |
| Hazardous Waste and Emergency Response (HAZWOPER) | 14 |
| Soil Erosion and Sedimentation Control Certification | 5 |
| Solid Waste Technical Conference | 5 |
| Michigan Recycling Coalition Conference | 1 |
| IDEP Recognition Training | 34 |
| MDEQ Webinar – Road Stream Crossings: Environmental & Hydraulic Considerations for Bankfull Design | ± 10 |

Table 22
WCEHD 2013 Staff Training in Environmental Issues

| Training Topic | Number of Staff Trained |
|---|--------------------------------|
| MDEQ Annual Type II Water Supply Conference | 2 |
| Water Treatment Systems | 3 |
| Investigating and Correcting Coliform Bacteria Problems | 2 |
| Monitoring Requirements | 3 |

Staff Education and Awareness: During this reporting period, the WCDPS arranged for the County’s electronic mail (e-mail) system to periodically post watershed/storm water management messages to all County employees during the reporting period. For example, all Wayne County employees with email accounts received messages encouraging their participation in the County’s Office HHW Collection events and Computer/Computer Peripheral Waste Collection events and the WC office paper recycling program. There is also a WCDPS newsletter that is distributed to staff and posted online at www.waynecounty.com. This newsletter was issued twice in 2013 and included various articles regarding environmental restoration and protection projects and potential individual activities.

Signage (WCPEP #26)

Watershed boundary, stream crossing awareness and grow zone signage is made available to communities at cost through the Wayne County Publication Clearinghouse. In 2013, WQMD processed a grow zone sign order (3) for Bloomfield Township in October 2013. The stream crossing and watershed boundary sign program for the ADW continued in 2013. WQMD developed and updated both a map of sign placements as well as a tracking table. WQMD also initiated efforts to identify recommended sign locations leading to the purchase and installation of 14 additional stream crossing or watershed boundary signs within the Alliance of Downriver Watersheds. This project will address public watershed awareness and stewardship for 14 communities that currently have no signs installed at either a crossing or a watershed boundary area. Sign purchase and installations are anticipated to occur in 2014. There were no stream crossing or watershed boundary signs ordered in 2013.

Local Presentations (WCPEP #27)

Children's Education: WQMD participated in Randolph Elementary School (Livonia school) Earth Day celebration April 19, 2013 where the *Don't Bug Me* interactive presentation about macroinvertebrates and water quality was given to over 120 students. The presentation also included why frog and toads are monitored and the importance of wetland habitat. Participants also got to learn the calls of the frogs by interacting with the *Frog and Toad* display. A portable creek was set up in the classroom and populated with macroinvertebrates from Tonquish Creek to demonstrate how a creek works and the many different habitats that are present. The students and teachers provided very positive feedback about the presentations.

The *Don't Bug Me* presentation was also given to participants at Water Festivals as follows:

- 120 fifth grade students from four classes at the Rouge River Water Festival held May 2 at UM Dearborn. The four schools were from communities throughout the Rouge River watershed.
- 140 students from four Detroit school classes at the Detroit River Water Festival held along the Detroit Riverwalk on May 10.

In December 2013, WQMD visited Hicks Elementary School, located in the City of Inkster (Wayne-Westland School District) to provide environmental related presentations to their second grade students. The interactive presentations provided were *Don't Bug Me* and *Riverbend Game*. Ninety students participated in these presentations. Ninety Rouge Activity Books, Use Your Head... You Live In a Watershed posters and Rouge bags were distributed to the students.

LRMD staff participated in the University of Michigan-Dearborn Water Festival by staffing a display on recycling. Approximately 1,000 students viewed the display and information presented.

Municipal Staff: WQMD staff presented at the SEMCOG University: *Green Infrastructure Using Trees to Restore Priority Areas* held February 14th at SEMCOG. Approximately 40 people attended.

WQMD staff presented at the ARC *Grow Zone Maintenance* workshop held September 26 at the Nanking Mills Interpretive Center. Approximately 10 people attended the workshop.

See also IDEP Training Workshops (WCIDEP #3) above.

Develop/Maintain Partnerships (WCPEP#28)

Wayne County participates in numerous partnership activities each year for the purpose of managing storm water and protecting the environment. Described below are a number of the highlights or new activities performed during the reporting period.

Rouge Gateway Partnership: The Rouge River Gateway Partnership was formed in the summer of 1999 to represent the interests in the lowest section of the Rouge River in Dearborn, Melvindale, Allen Park, Detroit, and River Rouge. Officials from these communities, together with leaders representing cultural institutions, private business, and Wayne County make up the partnership. A Master Plan for the Gateway Corridor of the Rouge Watershed was developed to serve as a guide to advance, extend, and coordinate current planning and redevelopment projects in order to achieve the goals of ecosystem restoration, heritage preservation, increased recreation, and economic development along the Rouge River. Under the Partnership's guidance, many projects from the Rouge Gateway Master Plan are underway or have been completed.

During 2013, Wayne County and Gateway partners met as needed to coordinate the Rouge Gateway Master Plan with other efforts. For example, meetings continued with the Detroit District COE regarding potential restoration of the paved channel section of the Rouge. Additionally, Wayne County, the Corps of Engineers, the University of Michigan-Dearborn re-initiated work to construct a potential fish passage around the dam at Henry Ford Estate.

Friends of the Rouge: Wayne County actively supported and provided funding for several FOTR efforts including Rouge River Day, Rouge Education Project (REP), Public Outreach Workshops, Rouge Frog & Toad Survey and Macro-invertebrate Volunteer Monitoring. Specific activities completed in support of FOTR included setting up public information displays at FOTR sponsored workshops throughout the watershed; supporting the Winter Stonefly Search and the Spring and Fall 2013 Bug Hunts; coordinating a River Day site in Canton Township; posting promotional flyers for FOTR events to the Rouge Project and Wayne County websites; and participating on the Public Involvement Projects Task Force.

Rouge River Advisory Council: Wayne County staff participated in and supported efforts of MDEQ's Rouge River Advisory Council (RRAC) during the reporting period. Activities included response to MDEQ information requests regarding potential Rouge AOC Delisting project ideas and opportunities; letters of support to various communities, agencies or non-profits or the ARC for grant projects within the Rouge AOC; development of public advisory council support grant applications and implementation of awarded grant projects.

Detroit River Area of Concern Public Advisory Committee: In 2013, Wayne County staff continued participation in the Committee to assist with watershed management and river restoration efforts in the downriver area.

Southeast Michigan Illicit Discharge Elimination Program (IDEP) Work Group

The work group was initiated in 2011 to facilitate the networking of individuals in Southeast Michigan responsible for implementing Illicit Discharge Elimination Programs, including staff from the Counties of Wayne, Oakland, Washtenaw, Macomb and St Clair; SEMCOG; and other

municipal and university staff. Wayne County is currently serving as Chairperson of the group, which meets quarterly to discuss common issues/ problems and resolutions and collaboration on efforts beneficial to all. In 2013, the group developed a five year regional IDEP training plan for municipal staff. The plan calls for a five year rotation of IDEP training sponsored by Oakland, Wayne, Washtenaw, St. Clair and Macomb Counties, Alliance of Rouge Communities, Alliance of Downriver Watersheds, and Southeast Michigan Council of Governments. Each of these agencies signed an agreement committing themselves to their role in the plan. IDEP Investigator Training will have three sessions 2013 (Wayne County), 2015 (Washtenaw County), and 2017 (Macomb County). The Good Housekeeping/Illicit Discharge Recognition Training will have two sessions 2014 (St. Clair County) and 2016 (Oakland County). The sponsoring County is responsible for facility procurement, registration, refreshments, etc.

The 2013 IDEP Investigator Training sponsored by Wayne County had an overwhelming response. The Washtenaw County Water Resources Commissioner decided it was important to satisfy the demand and paid the cost of presenting a second session.

Stream Team/Friends of Detroit River/Riverkeeper: In 2013, Wayne County continued its partnership with *The Stream Team* and *Friends of the Detroit River and Riverkeeper* to assist with watershed management in the downriver area through three major efforts: stream monitoring, riparian corridor/green infrastructure management projects and watershed management public awareness education. The intent of the partnership is to assist local communities, public school districts and the County with compliance under the Storm Water Permit while educating students using the local natural environment and current issues as the classroom. Stream Team teachers, with assistance and support from WQMD, work with high school students empowering them to identify, evaluate and solve real world problems using real world techniques and technology.

Regional/National Outreach Activities: Wayne County participated in several national outreach activities/events/meetings during the reporting period to exchange information about storm water and watershed management, including:

- Technical assistance was provided to Mecklenburg County, North Carolina, regarding parameters and methods for outfall samples.
- Information on Wayne County's and the Huron River Watershed Council's use of infrared photography for the detections of failed onsite sewage disposal systems (OSDS) was provided to Monmouth County Health Department, New Jersey.
- WQMD provided information about IDEP Training to the City of Gainesville, Florida.
- WQMD prepared and delivered a presentation for the Michigan Water Environment Association Industrial Pretreatment Plan (IPP) annual conference concerning storm water permit requirements with focus on Illicit Discharge Elimination Plans and case histories was completed. The annual conference was held on September 26, 2013 in Bath, Michigan. One hundred and twenty – one IPP professionals from around the state attended this conference.

Integrate Public Education into Facilities Management Division (WCPEP #29)

Information Dissemination: None reported.

Industrial Pretreatment Excellence Award and Zero Discharge Club: The County's Industrial Pretreatment Program (IPP) for the Downriver Wastewater Treatment Facility recognized 22 industrial waste water dischargers as members of the *Zero Violations Club* during 2013 and published the list in the February 19, 2014 issue of the News Herald newspaper.

A tour of FMD's pollution control facilities was given to members of the Wayne County Commission and to management staff of the Detroit Water and Sewerage Department; over 30 people participated.

Integrate Public Education into Roads Division (WCPEP #30)

Information Dissemination: As described in WCPEP #23, an informational display rack is set up at the Wayne County Roads Division Central Maintenance Yard and numerous environmental education materials are available to employees and the general public.

Watershed Awareness Signage: The Roads Division fabricates river crossing signs for the WQMD Clearinghouse described in WCPEP#26. Existing river crossing and watershed entry signs are being called out to be retained on road reconstruction project plans.

Adopt-a-Road Program: Thirty-four (34) groups adopted approximately 160 miles of County Road in 2013.

Integrate Public Education into Parks Operations (WCPEP #31)

Information Dissemination from Nankin Mills: The Parks Administration office at Nankin Mills continues to supply the public with educational and informational brochures developed by Parks staff, by WQMD staff, Friends of the Rouge and others. Table 23 presents a summary of the environmental educational information distributed by the Parks Division, Nankin Mills Naturalists during 2013.

Table 23
Environmental Educational Information Distributed from Nankin Mills Parks Office

| Educational Item | Approximate Number Distributed |
|---|---------------------------------------|
| Rouge Watershed Public Recreation Areas Map and Index | 50 |
| Holliday Nature Preserve Map & History | 300 |
| Holliday Nature Preserve Association newsletters | 200 |
| Southeastern Michigan Butterfly Association flyers | 200 |
| Bennett Arboretum History brochure | 200 |
| Bennett Arboretum Trail Map and Interpretive Guide | 200 |
| Bluebird Nesting Box Information flyer | 100 |
| How to Build a Bat Box instruction packet | 50 |
| How to Build an Owl Nesting Box instructions | 50 |
| Wildlife Rehabilitators contact information | 50 |
| What is a Floodplain? Park Information Bulletin | 200 |
| Herps of the Rouge Interpretive flyer | 500 |

| Educational Item | Approximate Number Distributed |
|---|---------------------------------------|
| Owls of Michigan Interpretive flyer | 400 |
| Match Animal to Habitat flyer | 200 |
| Fish of the Rouge River activity flyer | 150 |
| Trees of the River Floodplain activity flyer | 150 |
| Geology of Michigan flyers | 600 |
| Poisonous Plants and Animals flyers | 150 |
| Animal Tracks, activity flyer | 400 |
| Pond Benthics and Water Quality flyer | 300 |
| Michigan State Symbols flyer | 300 |
| Maple Sugaring History/Instructions/Resource flyer | 400 |
| Bird List – Holliday Nature Preserve | 200 |
| Trees of the Floodplain List – Holliday Nature Preserve | 200 |
| Wildflower List – Holliday Nature Preserve | 100 |
| Mammals List – Holliday Nature Preserve | 100 |
| WCDPS 24-Hour Environmental Hotline | 100 |
| WCDPS How to Be a River Friendly Gardener | 100 |
| WCDPS Fertilizer Selection and Application | 100 |
| WCDPS Storm Drains Aren't Garbage Cans | 100 |
| Our Actions Affect Our Rivers | 100 |

Nankin Mills Interpretive Center – Stormwater/Watershed Displays: The theme of the Nankin Mills Interpretive Center, opened in January 2001, is “The Rouge River Runs Through History”. The Center is free to the public and open Monday through Saturday, 9am – 4pm. Featured are a variety of exhibits designed to foster visitor appreciation for the role the Rouge River has played in the natural and cultural history of our area, as well as the role that people have today in protecting this valuable resource. Permanent exhibits include:

- A diorama of wildlife of the Rouge floodplain, past and present;
- An early Potawatomi village scene depicting the many uses of the river by their culture;
- Gristmill exhibits describing the crucial role the Rouge River waterpower played in powering early mills in the early settlement of southeastern Michigan; and
- Exhibits featuring Henry Ford’s Village Industry project, which relied on water power of the rivers in southeastern Michigan to run his small industries using hydroelectric generators.

Permanent displays supporting environmental restoration/protection at Nankin Mills Interpretive Center include:

- Animals of the Rouge River floodplain diorama – Past and Present (conveying the message: it’s a habitat, and explaining why some animals no longer live here)
- Changing Currents: Public Efforts to Restore the Rouge River
- CSOs: What are they and how are they being eliminated?
- Newburgh Lake clean up project
- Industry takes a proactive role
- Volunteer groups on the Rouge River
- Computer kiosk filled with Rouge River information

- Four touch-screen interactive computer programs focusing on our daily activities, and seeing how the results of our choices impact the Rouge River.
- Kid's Map of the Rouge River Watershed: Know Your Watershed
- Live reptiles and amphibians of the Rouge floodplain, interpretive panel depicting all native reptiles and amphibians in Michigan and highlighting those that live in the Rouge River watershed.
- Live fish aquarium highlighting fish of the Rouge River, interpretive panel listing all species of fish living in the Rouge River and pictures of many species including those in the aquarium for identification.
- Owls of Michigan guessing game.
- How the Rouge River was used in the past – Native American diorama
- How the Rouge River was used in the past – Settlement era displays
- How the Rouge River was used in the past – Henry Ford exhibits
- The Rouge River 1920s – 1970s: Troubled Waters
- Turtles of the Rouge River with interpretive panel above the live turtle tanks for identification of the ten Michigan species.
- Songbirds of Michigan with over 50 bird mounts on display with labels identifying each species.
- A seasonal exhibit is displayed in the spring and summer highlighting the life cycles of native butterflies, with live butterflies.
- Nature Touch Table.
- Seasonal photographs of wildlife and plant life in Holliday Nature Preserve.

The Nankin Mills Interpretive Center also has a temporary “Storm Water/Watershed” display in the classroom which includes a map of the watersheds in southeastern Michigan and the posters “Use Your Head, You Live in a Watershed”, “We are all part of the solution”, “Storm Drains Aren’t Garbage Cans”, etc. Posters of the live frogs, salamanders, turtles and snakes of Michigan, butterflies, birds, and endangered species are also displayed.

Nankin Mills Interpretive Center Grounds: Native plants in the Butterfly Garden established on the site are identified by labels contributed by the Southeastern Michigan Butterfly Association (SEMBA).

Motor Cities Heritage Trail: Interpretive signage has been fabricated and installed to interpret the Rouge River history of Henry Ford’s waterpower sites on the Middle Rouge River:

| | | |
|--------------------------------------|------------------------------------|-----------------------------------|
| <i>Henry Ford’s Nankin School</i> | <i>Newburgh Village Industry</i> | <i>Waterford Village Industry</i> |
| <i>Haggerty Station</i> | <i>Wilcox Village Industry</i> | <i>Phoenix Village Industry</i> |
| <i>Nankin Mills Village Industry</i> | <i>Northville Village Industry</i> | <i>Nankin Miller’s House</i> |
| <i>Gunsolly Mill</i> | | |

Naturalist Programming at Nankin Mills: Nankin Mills Interpretive Center offers natural and cultural history programming about the Rouge River watershed for school groups, scout groups and families. In addition, naturalists provide Outreach Programming at local schools, libraries, scout pack meetings and other recreation facilities. As shown in Table 24, over 9,400 people attended a natural and cultural history interpretive program provided by Wayne County Parks during 2013.

Table 24
2013 Attendance at Nankin Mills Interpretive Programs

| | |
|--|-------|
| Number of Interpretive Programs Provided | 338 |
| Number of Children Attending | 5,631 |
| Number of Adults Attending | 3,834 |
| Total Number Attending | 9,465 |

Nankin Mills Interpretive Center Natural Resource Related Programs: Nankin Mills Interpretive Center offered the School Field Trip and Outreach Programs highlighting natural resource topics listed below during 2013.

| | |
|--|---|
| <i>History of the Rouge River</i> | <i>Animals in Winter/Tracks</i> |
| <i>Reptiles and Amphibians of the Rouge Floodplain</i> | <i>Animal Mysteries/Skulls & Scat</i> |
| <i>Habitat Hike</i> | <i>The Rouge River Watershed</i> |
| <i>Insect Adventures</i> | <i>Land and Water Connections</i> |
| <i>Michigan Geology</i> | <i>Bird Adaptations</i> |
| <i>Owls of Michigan</i> | <i>Pond Life</i> |
| <i>Poisonous Plants and Animals of Michigan</i> | <i>Flood Plain Tree Identification</i> |
| <i>Michigan State Symbols & Natural Resources</i> | <i>Beginning Astronomy</i> |
| <i>Henry Ford Water-Powered Sites on the Rouge</i> | <i>Maple Sugaring</i> |
| <i>Underground Railroad History on the Rouge</i> | |

Nankin Mills Scout Badge Workshop Programs Featuring Natural Resources included the following in 2013:

| | | |
|---------------------------------|------------------------------|--------------------------------|
| <i>Astronomy</i> | <i>Environmental Science</i> | <i>Water/Soil Conservation</i> |
| <i>Sharing World w/Wildlife</i> | <i>Forester</i> | <i>Nature Crafts</i> |
| <i>Naturalist</i> | <i>Birds</i> | <i>Geologist</i> |
| <i>Your Living World</i> | <i>Map and Compass</i> | <i>Using Resources Wisely</i> |
| <i>Geocache</i> | <i>Animal Habitats</i> | <i>Hiker</i> |
| <i>Bugs</i> | | |

Nankin Mills Monthly Home School Series Natural Resource Related Programming in 2013 included:

| | | |
|------------------------------------|--------------------------------|----------------------------------|
| <i>Astronomy: Our Solar System</i> | <i>Maple Sugaring</i> | <i>Michigan Copper Mining</i> |
| <i>Michigan Geology</i> | <i>Michigan Salt Mining</i> | <i>Space Lab</i> |
| <i>Herps of the Rouge</i> | <i>Animal Tracks in Winter</i> | <i>Leaf Prints/Tree I.D.</i> |
| <i>Animal Signs and Skulls</i> | <i>Owls of Michigan</i> | <i>French Fur Trade</i> |
| <i>Evening Frog Calls</i> | <i>Rouge Underground RR</i> | <i>Oaks of Bennett Arboretum</i> |
| <i>Live Birds of Prey</i> | <i>Natural Plant Dyes</i> | <i>Winter Seed Hike</i> |

Nankin Mills Monthly Parent/Tot Series Nature Program offered in 2013 included:

| | |
|------------------------------------|--|
| <i>Animal Tracks</i> | <i>Nature Hobo Hike</i> |
| <i>Animal Courtship</i> | <i>Colors in Nature</i> |
| <i>Maple Sugaring</i> | <i>Butterflies</i> |
| <i>Leaf Prints & Tree Hike</i> | <i>Live Reptiles & Amphibians of the Rouge River</i> |
| <i>Pond Study</i> | <i>Seeds</i> |

Natural Programs for the Whole Family in 2013 included:

| | |
|--------------------------------------|--|
| <i>Maple Sugaring at Cass Benton</i> | <i>Halloween Forest Fun Hike: Rouge Wildlife</i> |
| <i>Wildlife Safari</i> | <i>An Evening with Frogs</i> |
| <i>Copper Mining</i> | <i>Make it at the Mill: Birdhouse</i> |
| <i>Fall Leaves</i> | <i>Winter Campfire and Hike</i> |

The 2013 Adult Botany Hike Series, included:

Spring Wildflowers & Folklore, Cowan Holliday Nature Preserve
Deciduous Tree Collections of Bennett Arboretum
Fern and Flora Hike, Koppernick Section Holliday Nature Preserve
Conifer Tree Collections of Bennett Arboretum

SEMBA Monthly Adult Butterfly Programs included:

| | |
|--------------------------|--|
| <i>Butterfly Gardens</i> | <i>Plant Identification Hike</i> |
| <i>Monarch Migration</i> | <i>Seed Collection and Exchange</i> |
| <i>Metamorphosis</i> | <i>Butterflies of Ives Road Fen</i> |
| <i>Native Plants</i> | <i>Butterfly Habitat at Brenda's Butterfly House</i> |
| <i>Monarch Tagging</i> | <i>Nature Photography</i> |

Library Outreach and Community Programs for Families included:

| | |
|-------------------------|---|
| <i>Animal Tracks</i> | <i>Live Reptiles and Amphibians of the Rouge.</i> |
| <i>Michigan Geology</i> | <i>Leaf Print T-shirts & Hike</i> |

Wayne County naturalists participate as instructors at the Rouge River Water Festival each year on University of Michigan Dearborn campus. This annual event provides river and watershed education for hundreds of school children throughout southeastern Michigan. For 2013, two staff presented *Live Reptiles and Amphibians of the Rouge*.

Wayne County naturalists also participated in the Plymouth Health Fair and the first annual Rouge-A-Palooza staffing a booth with nature related display topics.

Workshops and other events related to watershed management held at the Nankin Mills Interpretive Center during the reporting period include:

- Nankin Mills Department Manager worked with seven Eagle Scouts on their projects. Completed projects included clearing of invasive species and native tree planning in the Bennett Arboretum and building boardwalks through wet areas within the Holliday Nature Preserve Association.
- Nankin Mills Department Manager worked with the Southeastern Michigan Butterfly Association to maintain a Butterfly Garden with native plants next to the building. In addition, the Nankin Mills Interpretive Center Naturalist hosts monthly meetings of the SEMBA that include educational presentations about butterflies and butterfly gardening
- Nankin Mills Department Manager participated in a video produced by a Madonna University Student regarding the Nankin Mills Interpretive Center.
- Nankin Mills Naturalists worked with Youth Connection High School students for six weeks in the summer on various projects such as removal of invasive plants and planting native plants on the Nankin Mills grounds, fish seining for the Interpretive Center's native fish

display, program presentations, and caring for the live reptiles and amphibians in the Interpretive Center.

- Nankin Naturalist met with volunteers to inventory and clean out bluebird nesting boxes in Grow Zone areas.
- Nankin Naturalist performed several garlic mustard pulls in Ellsworth Section entrance to Holliday Nature Preserve, and also worked with scout volunteer groups to pull garlic mustard in Ellsworth Section.
- Nankin Mills interpretive center hosted and gave a tour of the Interpretive Center for the Wayne County Green Schools 2013 Teachers Workshop.
- Nankin Mills hosted the Grow Zone Maintenance Workshop held by the Alliance of Rouge Communities.
- Nankin Mills also hosted an IDEP Training Workshop held in December 2013.

Activities to promote and advertise Nankin Mills Interpretive Center Programs during the reporting period included:

- *School programs:* A brochure listing school interpretive programs is available in the lobby and programs are listed in Wayne County Parks brochure and on the Parks Division section of the County website. Schools also spread the information by word of mouth.
- *Outreach programs:* A flyer is available in the Nankin Mills lobby and programs are listed in the Wayne County Parks brochure and on the Parks Division section of the County website. The outreach program flyer is also electronically mailed to local libraries and Recreation Departments.
- *Scout programs:* A scout flyer and brochure with program information is electronically mailed to scouts on the Parks mailing list twice a year for walk-in registration dates. Information is also available in the lobby, in Wayne County Parks brochure and on the Parks Division section of the County website. Registration dates are displayed on the electronic sign on Hines Drive. Scout organizations also advertise our programs.
- *Family programs:* A seasonal family program flyer is electronically mailed to those on the Parks mailing list and available in the lobby. Programs are also listed in the Wayne County Parks brochure, in the Parks Division section of the County website, and an illustrated advertisement is made and displayed on an announcement board in the Park Office lobby. The Parks Division sends out press releases to local papers. Programs are displayed on the Park electronic sign on Hines Drive. Sometimes reporters attend and photograph events or publish articles about our programs.
- *Home school programs:* An annual flyer is electronically mailed to those on the Parks mailing list, available in the Nankin Mills lobby, and program offerings are listed in the Wayne County Parks brochure, on the Parks Division section of the County website, and on the Friends of Nankin Mills website. Programs are displayed on the Park electronic sign on Hines Drive. Home school networking groups also advertise our programs.
- *Large Family Events:* Flyers are electronically mailed to those on the Parks mailing lists, local libraries and Recreation Departments. These events are also advertised in the Wayne County Parks brochure, in the Parks Division section of the County website, and an illustrated advertisement is displayed on an announcement board in the Parks Office lobby and on the Parks electronic sign on Hines Drive. Press releases are sent out and often reporters attend these events and publish newspaper articles.
- Co-sponsored events are advertised by the event co-sponsor. For example, Native American Day receives radio coverage and is listed in Native American publications.

In addition to the 9,465 visitors who came to Nankin Mills Interpretive Center to visit and attend an interpretive program in 2013, an additional 4,351 people visited the Interpretive Center exhibits without attending an interpretive program, for a total of 13,816 visitors in 2013. Total Interpretive Center attendance since opening in January 2001:

| | |
|--------------|---------------|
| 2001: | 15,664 |
| 2002: | 15,112 |
| 2003: | 17,804 |
| 2004: | 22,055 |
| 2005: | 19,509 |
| 2006: | 17,524 |
| 2007: | 17,233 |
| 2008: | 16,589 |
| 2009: | 18,932 |
| 2010: | 16,355 |
| 2011: | 11,276 |
| 2012: | 12,387 |
| <u>2013:</u> | <u>13,816</u> |
| Total: | 214,456 |

Information Dissemination from Crosswinds Marsh: The DPS-Parks office at Crosswinds Marsh continued to supply the public with educational and informational brochures during the reporting period. Table 25 presents a summary of the environmental educational information distributed from the Crosswinds Marks Parks Office during 2013.

Table 25
Environmental Educational Information Distributed From Crosswinds Marsh, 2013

| Educational Item | Approximate Number Distributed |
|--|---------------------------------------|
| The Fish of Crosswinds Marsh | 250 |
| 2013 Fishing Guide | 200 |
| Wetland Ecology (info sheet) | 70 |
| Natural History of the Beaver (info sheet) | 120 |
| Natural History of the Muskrat (info sheet) | 120 |
| Poisonous Plants and Animals of MI (booklet) | 200 |
| Conservation of the Kirtland's Warbler (booklet) | 200 |
| The Benefits of Trees (booklet) | 150 |
| Tree Identification Guides (booklet) | 150 |
| Wildflower Identification Guide (booklet) | 70 |
| Natural History of Michigan Owls (booklet) | 300 |
| Michigan Frogs (booklet) | 175 |
| Michigan Frogs (Coloring Sheet) | 175 |
| Frog Facts (Bookmark) | 175 |

Bulletin Board Display at Crosswinds Park Entrance: *What is a Wetland, Benefits of Wetlands, Wetland Conservation, Wetland Animals, All About Beaver, Bald Eagles of Michigan, Wildflowers of Crosswinds, etc.*

Naturalist Programming – Crosswinds Marsh: The Parks Division continued to provide and expand educational programming focused on the natural environment for scout troops, school groups and families at Crosswinds Marsh. During the reporting period, approximately 2,205 children and 383 adults participated in one of the educational programs offered by the naturalists stationed at Crosswinds Marsh and listed below. Approximately 30,000 people visited Crosswinds Marsh in 2013.

Crosswinds Marsh School Programs:

Michigan Frogs and Toads

Spring Fling

All About Birds

Canoe Hike

The Wonders of Water and Wetlands

Insect Incognito

Michigan Trees

Self Guided Canoe Hike

Fall Frolic

Wetland Field Investigation

Wetland Homes and Habitats

Wetland Plant and Animal Adaptations

Marsh Mammals

Michigan Owls

Michigan Reptiles and Amphibians

Nature Detective

Crosswinds Marsh Outreach Programs:

All About Birds

Fall Frolic

Insect Incognito

Michigan Frogs and Toads

Nature Detective

Michigan Reptiles and Amphibians

Wetland Plant and Animal Adaptations

Michigan Owls

Crosswinds Home School Programs:

Wildlife Tracking

Animal Architects

Alien Invaders

Splendid Spiders

Dabblers and Divers

Sensational Seed Dispersal

Crosswinds Marsh Family Programs (* indicates large family event):

**Family Fishing Fun Day*

**Nature Fest*

Fall Marsh Hike

Cattail Kids

Michigan Frogs and Toads

Spring Bird Hike

Michigan Owls

Bats Friend or Fiend

Crosswinds Marsh Boy Scout Badge Programs:

Birds, Elective #13(Wolf)

Fishing Elective #19 (Wolf)

Start a Collection Achievement #6 (Wolf)

Naturalist Activity Badge (Webelos)

Forester Activity Badge (Webelos)

Fishing (Academics & Sports)

Map and Compass (Academics & Sports)

Nature (Merit Badge)

Your Living World, Achievement #7(Wolf)

American Indian Life, Elective #24(Bear)

Sharing your World with Wildlife, Achievement #5

Scientist Activity Badge (Webelos)

Water and Soil Conservation, Elective #15 (Bear)

Wildlife Conservation (Academics & Sports)

Nature Crafts, Elective #12(Wolf)

Crosswinds Marsh Girl Scout Badge Programs:

| | |
|-------------------------|---------------------------------|
| <i>Bugs (Brownie)</i> | <i>Animal Habitats (Junior)</i> |
| <i>Senses (Brownie)</i> | <i>Geocacher (Junior)</i> |
| <i>Hiker (Brownie)</i> | <i>Trees (Cadette)</i> |
| <i>Flowers (Junior)</i> | <i>Adventurer (Senior)</i> |

Cattail Kids Summer Nature Series (ages 6-10):

| | |
|---------------------------|---------------------------|
| <i>Become a Scientist</i> | <i>Natures Detectives</i> |
| <i>Natures Details</i> | |

Crosswinds Marsh Naturalists also participate in the *Rouge River Water Festival*, held each year on University of Michigan Dearborn campus. This event provides river and watershed education for school children throughout southeastern Michigan. For 2013, two staff presented *Aquatic Invertebrates of the Rouge Watershed* for approximately 300 students and 50 adults.

Crosswinds Marsh Wetland Interpretive Preserve – Workshops and Other Events

- Naturalists are currently working with an Eagle Scout on one project to install a new bulletin display board near the vehicle parking lot and enlarge the bulletin board near the horse trailer parking lot.
- Naturalists continued their partnership with Trenton Parks and Recreation to conduct their *Nature Nook Program Series and Nature Day Camp*.
- Naturalists continue their partnership with Van Buren Parks and Recreation to conduct spring, summer and fall programs.
- Naturalists established a partnership with Canton Parks and Recreation to conduct a series of Nature Programs.

Crosswinds Marsh Wetland Interpretive Preserve – Promotion and Advertisement of Nature Programming and other Environmental Programs:

- *Crosswinds Marsh School and Outreach Programs:* An annual *Parks Events and Interpretive Programs* brochure listing all interpretive School and Outreach Programs is available at the entrance to the Park. This brochure is also distributed to local schools and other individuals on our mailing list. All programs are listed on the bulletin board at the entrance to the park and on the Parks Division section of the Wayne County website. E-mail mailing lists are also used to distribute school and outreach program information.
- *Crosswinds Marsh Scout Programs:* Flyers and the *Parks Events and Interpretive Programs* brochure listing all Scout Badge Programs is available at the entrance to the Park.. Brochures (200) are distributed to the Detroit Area Boy Scouts of America Council. All programs are listed on the bulletin board at the entrance to the park and on the Parks Division section of the Wayne County website. E-mail mailing lists are also being used to distribute scout program information.
- *Crosswinds Marsh Family Programs and Large Family Events:* The *Parks Events and Interpretive Programs* brochure listing all Family Programs is available at the entrance to the Park. This brochure is also distributed to individuals on our mailing list. All programs are listed on the bulletin board at the entrance to the park and on the Parks Division section of the Parks website. A Press Release for each program is sent to the local newspapers.

Parks Website: The Wayne County Parks website promotes and advertises the Interpretive and Naturalist programming offered by the County.

Signage – Don’t Feed the Geese: Eleven signs are in place near the Middle Rouge impoundments, five signs are at Elizabeth Park and eight signs are installed at Crosswinds Marsh.

Signage - Holliday Nature Preserve: Preserve map and rule signage are at Nature Preserve trailheads.

Signage - Bennett Arboretum: Welcome kiosk and the *Oak Collection*, *Wetlands* and *Bennett Arboretum Wildflower Area* interpretive signs remain at the Bennett Arboretum. Native plant beds at the base of these signs were maintained as part of the May 2013 work day.

Signage – Crosswinds Marsh:

- Six “No Fishing” signs have been installed in restricted areas.
- Six “No Bicycles Beyond This Point” have been installed in restricted areas.
- Eight “Don’t Feed the Waterfowl” signs.
- Six “Endangered Species” signs are installed near the bald eagle nest.

Twenty-four Interpretive Trail signs identifying various wetland types, plants and habitats are being developed by naturalists and will be installed as an Eagle Scout project in 2014. Signs explaining the negative impacts of zebra mussels and why no personal watercraft are allowed at Crosswinds are also being developed and will be installed in 2014.

Signage - Grow Zone Areas: Interpretive Grow Zone signs remain at the Nankin Mills Grow Zone, the Bennett Arboretum Grow Zone and the Newburgh Pointe Rain Garden. Permanent GZ signs are installed at all Middle Rouge Grow Zones and temporary Grow Zone boundary marker signs were replaced throughout the Grow Zones installed in Edward Hines Park.

Signage – Stream Bank Stabilization: The interpretive signs highlighting biotechnical stream bank stabilization methods remain at the Northville Recreation Area, the Levan Knoll Bike Path and the Valley View stream banks stabilization sites.

Staff Training: Parks staff did not report any environmental training in 2013.

Integrate Public Education with County-Issued Permits (WCPEP #32)

Facilities Management Division, Industrial Pretreatment Program (IPP) Permits: Wayne County’s Industrial Pretreatment Program routinely works with industrial/commercial facilities to prevent adverse impacts on the Downriver Wastewater Treatment Facility and to the environment. Examples of implemented programs are: slug/spill control plan evaluation, mercury reduction plans and investigation of spills into sewers/drains. The County’s Industrial Pretreatment Program for the Downriver Wastewater Treatment Facility issued 22 Zero Violations certificates to industrial dischargers and published the list of 2013 *Zero Violations Club Members* in the February 19, 2014 issue of the News Herald.

Environmental Health Division – Onsite Sewage Disposal System (OSDS) Permits: Wayne County’s Environmental Health Division (EHD) continues to provide educational materials to owners of onsite sewage disposal systems in conjunction with the Wayne County OSDS Evaluation and Maintenance Ordinance (Enrolled Ordinance 99-527). Materials distributed include:

- Recordkeeping folder,
- Homeowner reference guide for on-site sewage disposal,
- A copy of the homes sewage disposal system permit,
- A copy of the final inspection report,
- A copy of the disposal system evaluation report,
- Wayne County OSDS E&M ordinance brochure,
- Rouge River DemoInfo – Septic Systems brochure, and
- MEHA Home Sewage Disposal Pamphlet.

Materials are provided to new owners of new on-site systems. Current owners are provided information when they have their on-site system evaluated. Materials are also provided to patrons at public educational events such as the annual Rouge River Days in Dearborn Michigan at the University of Michigan campus.

Land Resources Management Division – Soil Erosion Permits: Approximately 50 *Soil Erosion and Your New Home* brochures were distributed to communities in Wayne County for distribution to residents. The brochure was also distributed via County office information racks and upon request.

Engineering Division – Storm Water Permits: Wayne County developed our *Storm Water Management Standards Manual* and publishes it in conjunction with the County’s Storm Water Management Ordinance and Administrative Rules. This manual provides a “plain English” explanation of the ordinance and administrative rules, user-friendly guidance for design of different storm water management facilities, and other useful information. The *Wayne County Storm Water Management Standards Manual* also addresses topics such as pollution prevention through storm water management, pollution prevention through soil erosion control, and management of riparian lands. Wayne County routinely updates the guidance in the manual based on emerging technologies and other factors.

The ordinance, administrative rules, and standards manual are available online from Wayne County’s website <http://www.waynecounty.com>. These documents and periodic updates, along with supplemental materials not included in the Standards Manual but which may be helpful in implementing the Wayne County Storm Water Management Program, are available at in the “storm water program” section of the county website at <http://www.waynecounty.com/doe/1122.htm>. Links to other useful information are also provided on this page. For example, Wayne County has established a registry of Storm Water and Water Quality Practices Constructed/Implemented in Southeast Michigan that include project summaries, photos, location and contact information, weblinks, and other information for a variety of storm water and watershed management practices constructed/implemented in southeast Michigan in the following categories: Bioretention / Low Impact Development / Native Landscaping; Manufactured Treatment Systems and Underground Detention; Detention

Ponds/Constructed Wetlands; Streambank Stabilization; Woody Debris Management; and Green Buildings.

Hard copy versions of the manual are available from the Permit Office (33809 Michigan Avenue, Wayne, MI). Staff from DPS-WQMD and DPS-Engineering routinely respond to requests for information about the County's storm water management program. These requests are from developers, communities, engineers, and citizens. Storm water magazines and other engineering magazines related to environmental issues are in the Permit Office reception area for clients to read.

SECTION 4 WAYNE COUNTY *ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES*

The following storm water management activities relate to Wayne County's Storm Water Pollution Prevention Initiative (SWPPI). These activities were completed by Wayne County during the reporting period **January 1, 2013 – December 31, 2013** for compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000.

Outlet Stabilization: County Projects (WCSWM #1)

Routine maintenance of existing outlets from County storm water systems to surface waters includes stabilization if necessary. Proper outlet stabilization techniques are included in design documents for any projects where new outlets from County storm water systems to surface waters were created. In 2013 this would include any outlets replaced as part of road construction projects identified in Table 27 below or drain office projects.

BMP Implementation: Treatment Controls – County Projects (WCSWM #2)

Low Impact Development/Green Infrastructure Projects:

Rouge River Riparian Corridor Management Project

Wayne County Parks and WQMD continued their partnership to implement the *Rouge River Riparian Corridor Management Project* within Hines Park. Twenty-nine green infrastructure sites within Hines Park and along the Middle Rouge River have been constructed and are being managed in a way that reduces storm water runoff and pollution, promotes biodiversity, increases wildlife habitat, while also providing or improving passive recreational opportunities. The sites include 13 biotechnical stream bank stabilization projects, two bioretention cells, two detention pond native plant retrofits, and 12 native plant grow zones. In 2013, maintenance of these sites was completed with a Green Infrastructure work day held at the Bennett Arboretum in May, a work day held at Newburgh Pointe in July, Youth Connection work days at Newburgh Pointe and the Valley View detention pond native plant retrofit site, through Nankin Mills Naturalist Program activities, and through a native plant/natural areas maintenance contractor.

Restoring the Rouge AOC from Mowed Down to Grown Up Project

In 2010, DPS-WQMD and Parks staff partnered with the ARC to secure a grant from the U.S. EPA under the Great Lakes Restoration Initiative (EPA- GLRI). Through this grant approximately 15 acres of new grow zone were established in Wayne County Parks along the Lower Rouge River and within Lola Valley (Upper Rouge River) during 2012. Funding is also included in the grant to develop and begin implementation of an invasive species management plan for the Wayne County grow zones and for in-stream macroinvertebrate (bug hunt) monitoring to evaluate project implementation. Spring, fall and winter macro-invertebrate monitoring efforts were also carried out in 2012, and a short-term restoration strategy was also developed and implemented on 11.1 acres (at 13 sites) of existing grow zone sites within Hines

Park along the Middle Rouge River. A Long-term Invasive Species Management Plan was also prepared and implementation began in 2013 at all Wayne County Parks native plant grow zones within the Rouge River watershed (approximately 40 acres at 20 locations). In the spring of 2013, WQMD staff completed the installation of the 60 Grow Zone signs on the Wayne County sites, completed the project macro-invertebrate monitoring and completed the project monitoring report. The final report for this project can be found at: <http://www.allianceofrougecommunities.com/ttrfinalreport.html>

Restoring the Lake Erie Corridor Through Green Streets Project

In 2010, Wayne County partnered with SEMCOG to secure the *Restoring the Lake Erie Corridor Through Green Streets Project* also funded through the EPA-GLRI. Work completed to date includes design of approximately 16 acres of grow zone within County road right of ways and construction of approximately 7 acres of grow zone at two sites: Ecorse Road Boulevard (Van Buren Township) and Morton Taylor (Canton Township). Approximately 7 acres of mowed turf grass has been converted to deep rooted native grasses, wildflowers and shrubs to reduce and filter polluted storm water runoff. Storm water catch basins have also been raised to increase infiltration and reduce the volume of polluted storm water entering our open water courses during small storm events. In 2013, WQMD staff monitored site performance in the spring and summer and closed out the project construction contract in November 2013.

Tree Enhancements on Publicly-Owned Priority Urban Areas Project

In 2010, WQMD and Roads Division staff partnered with SEMCOG to secure a US Forest Service GLRI grant entitled: *Tree Enhancements on Publicly-Owned Priority Urban Areas Project*. In 2012, WCDPS participated in all project advisory committee meetings held by SEMCOG, the WC Roads Forestry Division planted 260 trees in fall 2012, and WQMD staff completed efforts to sign, photo document and prepare the landscaping plans for the planted trees. In 2013, additional trees were planted, bring the total trees planted to 435 at 16 different locations. This was an 85 tree increase over the target (350 trees) established in the grant. In 2013, staff summarized and presented the final project results at a SEMCOG University February 14.

Restoring Community Trees in an Urban Watershed

In 2011, WQMD and Roads Division staff partnered with the Alliance of Rouge Communities (ARC) to secure a US Forest Service GLRI grant entitled: *Restoring Community Trees in an Urban Watershed*. This grant is funding the installation of approximately 1,100 trees within County rights-of-way and properties within the ARC watershed area. Two hundred fifty (250) trees were planted by WC Roads Forestry in 2012. In 2013, 650 trees were planted by WC Roads Forestry and 135 were planted by WC Parks. WQMD staff placed signage and photo documented the plantings and will prepare the final landscaping plans documenting the planting in 2014. Independent of this grant project, Roads Division also planted 9 new trees at the Central Maintenance Yard in 2013.

Wayne County Storm Water Green Infrastructure (GI) Planning

In 2011, WQMD staff worked with MDEQ staff to secure non-competitive Clean Water Act 205J Planning grant through the USEPA. Tasks under this planning grant include GI retrofit planning on County properties, GI operation & maintenance efficiencies and training, GI policy and financing strategies, and public education and outreach strategy. In 2013, WQMD staff

continued to coordinate with the Parks, Roads, and Facilities Management division staff regarding potential GI project sites, short and long-term maintenance and outreach efforts. Wayne County staff was also active in the Regional GI Vision project being spearheaded by SEMCOG. A stakeholder input session was coordinated and held for Wayne County stakeholder in August 2013. WQMD staff also prepared the scope of services and secured a design contractor to assist with performing site assessments, project concepts and ultimately prepare construction plans and specifications for up to 4 priority project sites. Six site assessment visits were conducted in November 2013. In 2014, nine additional sites will be assessed, 15 conceptual site plans will be prepared with cost estimates, and construction plans and specifications are to be developed for 2 of these sites.

Road Construction – DPS Field Engineering Office: Table 27 summarizes the Wayne County road construction projects administered by the Field Engineering Office in 2013. Except as noted below, these projects consisted primarily of an asphalt overlay of an existing concrete or asphalt roadway. Most projects also required removal (of years) of soil build-up (overburden) above the roadway curb and approximately five feet behind the curb. After removal of these excess soils, the areas were stabilized with sod, thus preventing the existing soils from washing into the roadway drainage system in the future. Erosion control protection filters were provided at storm drain structures, as needed, to prevent sedimentation from entering the roadway drainage system during construction.

Each of the road projects administered by WCDPS – Field Engineering has a plan for Soil Erosion and Sediment Control during construction. Each project has a certified storm water operator that maintains a “Soil Erosion & Sedimentation Controls Inspection Log”. Observations are recorded after each storm event and at least once a week. The contractor is then directed to make corrections if control measures are found to be inadequate.

The Wyoming and West projects shown in Table 26 were essentially entire road reconstruction projects. Erosion control protection filters were provided at storm drain structures to prevent sedimentation from entering the roadway drainage system during construction. Three Vortech™ units were installed as part of the Wayne Road Relocation project. Two of the units were installed south of Prescott Road and the third south of Pennsylvania Road. Box culverts were replaced as part of the Outer Drive project over the Sherwood/Ashcroft Drain and as part of the West project over Brownstown Creek.

Table 26
Wayne County 2013 Road Construction Projects

| Project Name | Project Limits | Project Name | Project Limits |
|---------------------|--------------------------|------------------------|-------------------------|
| Baseline | Center St to Meadowbrook | Outer Drive | Plymouth to Schoolcraft |
| Conner | Conner & Outer Drive | Seven Mile | Lahser to Warwick |
| Eureka | Wahrman to Dingell | Outer Drive | North of Joy |
| Greenfield | Joy to W. Chicago | Overband Crack Sealing | Countywide |

| Project Name | Project Limits | Project Name | Project Limits |
|---------------------|--------------------------|-----------------------|------------------------|
| Merriman | Cherry Hill to Ford | Sheldon | M-14 to Five Mile |
| Haggerty | Plymouth to Schoolcraft | Wyoming | Under Southern |
| Middlebelt | Northline to Goddard | West | Telegraph to Hall |
| Middlebelt | Seven Mile to Eight Mile | Wayne Road Relocation | Sibley to Pennsylvania |
| Northville Hill | Subdivision | | |

CSO Control Implementation (WCSWM #3)

Wayne County continued operation and maintenance of combined sewer overflow control facilities in Dearborn Heights, Harper Woods (Milk River Retention Treatment Basin), Inkster, Redford, River Rouge and Wyandotte (Southgate-Wyandotte system). Operation of these facilities and planning for any additional facilities required for CSO control in Wayne County is completed pursuant to the NPDES permits for these systems.

SSO Control Implementation (WCSWM #4)

Wayne County continued operation and maintenance of the sanitary sewer interceptor system tributary to the County's Downriver Wastewater Treatment Facility and those tributary to the Detroit Wastewater Treatment Plant (Rouge Valley and Northeast Sewage Disposal Systems). Any sanitary sewer overflow (SSO) control activities necessary for these systems are defined in the NPDES permits for these systems.

Pollution Prevention (P2): General Public Facilities Management (WCSWM # 5)

WQMD has previously dye-tested all County facilities within the separated storm sewer system area of the County and continues to improve site mapping of storm sewer system and on-site pollution prevention awareness at maintenance yards and facilities. In 2013, DPS Roads Pollution Incident Prevention Plans (PIPPs) for each of their yards were updated. Site revisits and follow-up P2 Action Plan Inspections were also completed and memos issued for the following facilities: DPS Roads Division - Central Maintenance Yard (CMY); DPS Parks Division Yards - Crosswinds Marsh, Elizabeth Park, Lola Valley, Parkview and Wallaceville. In 2013, Global Positioning System (GPS) mapping of the storm sewer discharge points were completed at the following: DPS Road Division – CMY; DPS Parks - Crosswinds Marsh, Elizabeth Park, Lola Valley, Parkview and Wallaceville. In 2014, on-going implementation of these P2 Plans will continue and GPS system mapping is expected to be completed on all DPS Roads and Parks facilities. Table 27 presents the DPS maintenance yards, by watershed, for which inspections and P2 Action Plans were completed during 2010-2013. Table 28 presents a summary of the pollution prevention activities performed by WQMD at each facility in 2013.

Table 27
Pollution Prevention (P2) Action Plan Inspections: 2010-2013
Wayne County Department of Public Services

| Wayne County DPS Facility | Watershed | | | |
|---------------------------------------|-----------------------|------------------------|------------------------------|-----------------------|
| | Rouge River Watershed | Ecorse Creek Watershed | Combined Downriver Watershed | Lower Huron Watershed |
| Central Maintenance Yard Facility | | | X | |
| Goddard Yard Maintenance Facility | | X | | |
| Merriman Yard Forestry Facility | X | | | |
| New Boston Yard Maintenance Facility | | | | X |
| Norton Yard Maintenance Facility | X | | | |
| Phoenix Yard Maintenance Facility | X | | | |
| Sibley Yard Maintenance Facility | | | X | |
| South Wayne Yard Maintenance Facility | X | | | |
| Elizabeth Park Maintenance Garage | | | X | |
| Crosswinds Marsh Maintenance Garage | | | X | |
| Lola Valley Yard | X | | | |
| Parkview Yard | X | | | |
| Wallaceville Yard | X | | | |

A summary of pollution prevention activities undertaken on properties operated by WCDPS Roads (including all Roads maintenance yards) is as follows:

- Cleaning Up Spills and Leaks: Each Roads maintenance yard has a Pollution Prevention Incident Plan (PIPP) and a Hazardous Waste Contingency Plan.
- Cleaning of Paved Surfaces is accomplished with road sweepers as described in WCSWM#10. Spills of materials on County roads are handled by an environmental cleanup company under contract to Wayne County. The Michigan Department of Transportation is notified of spills on State trunk lines and contracts with a clean up contractor for removal of the material.
- Storing and Disposing of Wastes: Spills of hazardous materials on County roads are handled by an environmental cleanup company under contract to Wayne County. Scrap tires from various Roads yards are picked up by a contractor for proper disposal. Street sweeping material and catch basin cleanings are taken to an industrial waste processor for proper disposal.
- Storing and Handling of Inventory: Materials for Roads operations are stored in a climate controlled building with storage of containerized liquids on bases with overflow spill protection. Bulk storage is typically undercover and on impervious surfaces.

Table 28
WCDPS 2013 Pollution Prevention (P2) Action Plan Activities

| Wayne County DPS Facility | Pollution Prevention Activity | | | |
|---------------------------------------|-------------------------------|----------------------|---------------------------|----------------------|
| | PIPP Update | Storm System Mapping | P2 Action Plan Inspection | Storm System Marking |
| Central Maintenance Yard Facility | X | X | X | |
| Goddard Yard Maintenance Facility | X | | | |
| Merriman Yard Forestry Facility | X | | | |
| New Boston Yard Maintenance Facility | X | | | |
| Norton Yard Maintenance Facility | X | | | |
| Phoenix Yard Maintenance Facility | X | | | |
| Sibley Yard Maintenance Facility | X | | | |
| South Wayne Yard Maintenance Facility | X | | | |
| Elizabeth Park Maintenance Garage | | X | X | |
| Crosswinds Marsh Maintenance Garage | | X | X | |
| Lola Valley Yard | | X | X | |
| Parkview Yard | | X | X | |
| Wallaceville Yard | | X | X | |

- Dumpster and Loading Dock Maintenance: Thirty cubic yard and six cubic yard dumpsters are placed at Roads maintenance yards by a contractor. These dumpsters are used for disposal of trash and waste from the yards and roads. The contractor responds on demand to empty the dumpsters.
- Maintaining Landscaped Areas: The Forestry unit has 14 certified pesticide applicators and is actively seeking opportunities and funding to replace lost trees and to safely implement grow zones along County roads.
- Miscellaneous Activities:
 - At the MDOT Pump Stations operated by DPS – Roads, all floating objects such as foam and plastic containers are removed prior to any maintenance at the station that requires de-watering to clean and remove sand and dirt from the sump bottom.
 - All three of the draw bridges maintained by the County have installed electric toilets. These electric toilets have eliminated the direct discharge of sewage from these facilities into the Rouge River and Trenton Channel.
 - Quarterly P2 Action Plan inspections by the Department Managers at all County Maintenance Yards within separated storm sewer area and an annual inspection by the Forestry Department Manager.

WCDPS – Parks maintenance yards are routinely inspected by Parks Foreman and Department Managers to ensure compliance with waste management, pollution prevention and safety

requirements as outlined by Wayne County Risk Management and the P2 Action Plans developed by WQMD.

Staff Training (WCSWM #6)

See Activities reported under WCIDEP #3 and WCPEP #25.

P2: Training and Inspection Program for Contractors (WCSWM #7)

Wayne County contracts require contractor compliance with all applicable local, state and federal regulations. WQMD has previously dye-tested all County facilities within the municipal separated storm sewer system area and has stenciled the storm sewer manholes within maintenance yards and parking lots. As part of the P2 Action Plan development process, contracts for maintenance of County facilities are being reviewed for opportunities to include specifications for pollution prevention activities and/or identify training opportunities.

P2: Fertilizer, Pesticide and/or Herbicide Application (WCSWM #8)

Fertilizers are not used on the majority of Wayne County properties. All pesticide and herbicides are applied by state certified pesticide/herbicide applicators according to product labels and certified applicator training. As part of the process to develop P2 Action Plans for Wayne County facilities described previously, individual facility landscaping practices (done in house or under contract) will be reviewed for opportunities to minimize or improve fertilizer, pesticide and herbicide application practices.

P2: Storm Sewer Operation and Maintenance (O&M) (WCSWM #9)

As part of the Wayne County road improvement projects identified in Table 17, all existing catch basins and storm water manholes associated with the roads in the project were cleaned, including the sumps, to improve the efficiency of conveying the storm water from the roadway to the designated outlet. Cleaning of the sumps allows particles to settle and not be carried into ditches, streams and rivers. Additional cleaning of catch basins associated with storm sewers owned by Wayne County Roads Division is performed on an as-needed basis. During 2013, the Wayne County DPS-Roads Division removed and properly disposed of 6,135 cubic yards of material from catch basins, storm sewers, roadside ditches and other features. The Roads Division has policies, procedures and a contractor in place to ensure that hazardous materials spilled on the roadways are appropriately disposed of and reported.

P2: Road Maintenance and Sweeping (WCSWM #10)

The WCDPS-Roads Division sweeps the curbed roadways under its maintenance responsibility. Table 29 below presents a summary of roadway sweeping for this reporting period.

Table 29
2013 Roadway Sweeping Summary
Wayne County Roads Division

| Type of Roadway | Cycles | Total Road Miles Swept |
|------------------------|---------------|-------------------------------|
| Urban Freeway | 1 | 742 |
| Non-urban Freeways | 2 | 912 |
| County Primary Roads | 1-2 | 2,154 |
| County Local Roads | 0 | 0 |
| Total | | 3,808 |

See WCSWM #9 for volume of material collected and disposed of properly.

P2: Snow Removal and Storage (WCSWM #11)

Consistent with each facility's PIPP, Wayne County will continue to store and handle all snow removal equipment, supplies, and chemicals such as salt and calcium chloride in shelters and that prevent spill and leaks that could enter the storm drainage system. Chemicals will continue to be stored in containers that are properly labeled to reduce the chance of using the wrong material and accidental mixtures. Where possible, chemicals will be eliminated by substituting non-hazardous or less hazardous materials. Snow that is removed from roads and stored on site will be properly disposed of if contaminated with chemicals or other hazardous materials, otherwise, snow will be allowed to melt and drain into sanitary and or storm drains.

P2: Deicing Practices and Storage (WCSWM #12)

The WCDPS-Roads Division will continue to practice environmental friendly methods of deicing, and stores all deicing equipment, supplies, and chemicals in shelters that prevent spill and leaks that could enter the storm drain system. Roads staff are trained on winter safety and salt operations. Salt truck equipment is calibrated routinely to minimize over application. Salt brine making machines have now been installed at all six of its maintenance yards. Roads Division continued to use salt brine as anti-icing agent for pre-treating roads for snow and ice clearing. This practice can result in up to 25% saving in salt usage which reduces damage to roadside vegetation and reduces chloride discharged to the storm water system and surface waters.

Oil and Grease Traps – County Implemented (WCSWM #13)

Eight (8) oil-water separators at County maintenance yards are routinely cleaned and the material properly disposed.

Goose Control Program (WCSWM #14)

A program to control Canada Geese populations (egg replacement) in Wayne County Parks was implemented in 2013. A total of 198 eggs were replaced at 7 locations. It is anticipated that a similar level of effort will be conducted in 2014.

Soil Erosion and Sedimentation Control Implementation - County Projects (WCSWM #15)

As an Authorized Public Agency (APA) the WCDPS-Field Engineering Office follows the Soil Erosion and Sedimentation Control (SESC) Procedures and supplemental manual, as approved by MDEQ in June of 2011. The Field Engineering Office is responsible for the Construction Administration of approximately 15 to 20 Wayne Road improvement projects annually. Each project has a plan for Soil Erosion and Sedimentation Control during construction. Each project has a certified storm water operator that maintains a “Soil Erosion and Sedimentation Controls Inspection Log”. Observations are recorded after each storm event and at least once a week. The contractor is then directed to make corrections if control measures are found to be inadequate. The Field Engineering Office currently has eight Certified Storm Water Operators and two Certified Soil Erosion & Sedimentation Control staff.

The WCDPS-FMD Field Operations is an Authorized Public Agency under Part 91, Act 451. FMD Field Operations oversees SESC activities relating to their work within County Drains in conjunction with DPS- Permits in accordance with its’ APA requirements.

Construction of capital improvements to County wastewater and storm water facilities and systems is conducted in accordance with all applicable local, state and federal regulations, including SESC regulations.

Streambank Stabilization – Projects Subject to County Storm Water Ordinance (WCSWM #16)

The Wayne County Storm Water Management Program is performance-based, with requirements for both flood control and water quality protection. The developer may choose from a variety of best management practices (BMPs) or combinations of BMPs to meet the performance standards defined in the Ordinance and Administrative Rules. Design guidance for stream bank stabilization is provided in the *Storm Water Management Standards (v3.0)* Chapter 8.4 within the *Wayne County Storm Water Standards Manual*.

BMP Implementation Treatment Controls – Projects Subject to County Storm Water Ordinance (WCSWM #17)

In 2013, the Permit Office reviewed development projects to ensure compliance with applicable County regulations. Three hundred ninety six (396) construction permits were issued. Of these, 244 development projects were reviewed to ensure compliance with the Wayne County Storm Water Ordinance. One hundred thirty three (133) construction projects were completed in 2013 and 263 projects were still in construction at the end of the calendar year. The Field Engineering Office provides inspection of all approved projects to ensure compliance with approved construction plans and the Wayne County Storm Water Management Ordinance, Administrative Rules, and Standards.

Outlet Stabilization – Projects Subject to County Storm Water Ordinance (WCSWM #18)

The Wayne County Storm Water Management Program is performance-based, with requirements for both flood control and water quality protection. The developer may choose from a variety of best management practices (BMPs) or combinations of BMPs to meet the performance standards defined in the Ordinance and Administrative Rules. Design guidance for conveyance elements including outlet design is provided in the *Storm Water Management Standards (v3.0)* Chapter 8.3 within the *Wayne County Storm Water Standards Manual*.

Ordinance Enforcement: Illegal Dumping Ordinance (WCSWM #19)

Illegal dumping is prohibited under the Wayne County Solid Waste Ordinance No. 2004-787 and the Wayne County Litter Control Ordinance No. 97-297. See the report under *WCIDEP* #7.

Ordinance Enforcement: Municipal Civil Infractions Ordinance (WCSWM # 20)

Wayne County's Municipal Civil Infraction Ordinance (Enrolled Ordinance No. 2001 - 404) (MCI) provides opportunities for addressing violations of Wayne County environmental ordinances. This ordinance addresses enforcement of elements of the County's IDEP such as the Illegal Dumping Ordinance (Enrolled Ordinance 96 - 100), the Sewer Use Ordinance (Chapter 101 of Wayne County Code of Ordinance) and the Wayne County's Storm Water Management Ordinance (Enrolled Ordinance No. 2000 - 652). The goal of the MCI is to correct violations of the ordinance where "guilt" or "criminal incarceration" would not be applicable. The Municipal Civil Infraction Bureau (MCIB) is authorized to accept admissions of responsibility for a Municipal Ordinance Violation Notice (ticket) issued and served by authorized County officials and to collect fines and penalties for violation of an environmental ordinance.

During the reporting period, there were 29 violation notices from the Soil Erosion Program issued under Wayne County's Municipal Civil Infraction Ordinance. See also report under WCSWM #22.

Ordinance Enforcement: OSDS Evaluation and Maintenance Ordinance (WCSWM #21)

See the report under *WCIDEP* #5.

Ordinance Enforcement: Sewer Use Ordinance (WCSWM #22)

The WCDPS-FMD Industrial Pretreatment Program (IPP) continued implementation of the Sewer Use Ordinance (Chapter 101 of Wayne County Code of Ordinances). At the end of 2013, there were 504 Industrial Users on the WCDPS – FMD IPP master list, including 43 Significant Industrial Users (SIU) of which 17 are categorical industrial users (CIU). All are permitted, inspected, sampled and have quarterly compliance evaluations. SUI permit holders are evaluated annually for spill/slug potential and spill plans are developed and implemented as necessary. The following were issued in 2013: 9 Special Condition permits, 0 Excellence awards, and 22 Zero Violation certificates. Three industrial users were under pollution minimization plans (Mercury Reduction Plans) for 2013. No municipal civil infraction violations notices were written in 2013, but three industrial users were identified as being in significant noncompliance. Conciliation meetings were held and user implemented corrective actions were taken that resulted in compliance. Sampling was performed to confirm compliance with discharge limits.

In addition, Wayne County reviewed 25 applications during 2013 for the design and construction of wastewater facilities within the County that discharge wastewater directly or indirectly to a Wayne County sewer for compliance with the Sewer Use Ordinance and with Part 41, Sewerage Systems, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Ordinance Enforcement: Soil Erosion and Sedimentation Control Ordinance (WCSWM #23)

The WCDPS Land Resources Management Division (LRMD) administers Part 91 (Soil Erosion and Sedimentation Control) (SESC) of the Michigan Natural Resource and Environmental Protection Act as the CEA within 34 of the 43 local communities within Wayne County. In

2013, LRMD issued 279 soil erosion control and sedimentation permits, performed 467 inspections, and issued twenty nine (29) notices of violation. Corrections have been made or are underway for all violations. An MDEQ program audit was performed in 2011 and the program received the highest achievable rating in each program review area. LRMD staff participates in the Wayne County Storm Water Ordinance Workgroup.

Ordinance Enforcement: Storm Water Management Ordinance (WCSWM #24)

Enforcement of Wayne County's Storm Water Management Ordinance (Enrolled Ordinance No. 2000-652), Administrative Rules (Resolution No. 2000-653), and Standards Manual is implemented through the existing review and permit processes of the Permit Office of the Wayne County Department of Public Services, Engineering Division. As described in WCSWM #17, the Permit Office reviewed 244 development projects in 2013 to ensure compliance with the Wayne County Storm Water Ordinance. The Field Engineering Office provides inspection for all approved projects.

Flow Obstruction Prevention/Removal and Woody Debris Management (WCSWM #25)

Every maintenance project undertaken by FMD staff that involves management of woody debris is evaluated for the potential use of WDM 101 and WDM 201 techniques. Staff regularly uses banking of material as well as the clean and open method as an option in daily drain maintenance activities.

Stream Bank Stabilization Efforts – County Implemented (WCSWM #26)

In 2013, WCDPS – FMD continues to require the use of native seed mix for drain restoration projects. No projects were reported to have been completed in 2013. See also activities summarized above in WCPEP #11, WCSWM #2, WCSWM #24 and WCSWM #25.

Habitat Restoration (Protection) (WCSWM #27)

Grow Zone Initiative: As described in WCPEP #11 and WCSWM#2, DPS-Parks, Roads, Drains, and Water Quality Management Divisions continue efforts to expand grow zones in County park areas, along County Roadways, and along County Drains in support of storm water management and improvement of riparian corridors along river tributaries.

Wayne Road Dam Removal and Habitat Restoration Project: In 2011, Wayne County partnered with the ARC, the City of Wayne and the Rouge RAP Advisory Council to secure a GLRI grant through the National Oceanic and Atmospheric Administration to remove the dam and restore habitat on the Lower Rouge River at Wayne Road within the City of Wayne. During 2012, the contractor removed the low-head dam at Wayne Road, stabilized the stream bank using a combination of green infrastructure and structural controls, and improved fish passage using a system of pool-riffle in-stream rock structures. In 2013, WQMD staff worked with the contractor, and ARC staff, to monitoring the streamside planting performance and ensure punch list items were completed. A dedication ceremony for the completion of the project was held in the spring of 2013.

Detroit River International Wildlife Refuge: Wayne County Parks is an active partner in the Detroit River International Wildlife Refuge. The Monguagon Daylighting Project was completed in 2009 and since its completion water quality has been monitored to track impact of the project

on a suite of water quality standards and parameters. In 2013, monitoring showed that, when compared with pre-construction water quality sampling, pH, temperature, and alkalinity were within desired or acceptable standards for warm-water streams in southeast Michigan and did not present water quality concerns. While the water quality is still consistent with the highly urbanized character of the watershed, many parameters of water quality have improved since the daylighting project. Specifically, chloride levels, phosphorus levels, and oils/fates/grease have declined. In the future, efforts may be considered to enhance shoreline/weland plantings around the ponds. This would increase nutrient uptake and further improve the water quality at the outlet of the Monguagon Creek. In 2013, restoration work at the Refuge Gateway and Humbug Marsh continued. Through funding from the National Fish and Wildlife Foundation, US Environmental Protection Agency, and the US Forest Service, three acres of forest and seven acres of prairie habitat were restored toward the goal of restoring 16 acres of coastal wetland and 25 acres of upland habitat at the Refuge Gateway.

Wayne County Native Plant and Backyard Composting Demonstration Site: WQMD continues to maintain a native plant and backyard composting demonstration site at its Commerce Court office location in the City of Wayne. This site was created in 2003 as a staff training effort, a public education effort and as a habitat restoration effort. The site continues to serve as a monitoring location for the FOTR Rouge Education Project. In 2013, this site was used as a monitoring location and geomorphology study area used by University of Michigan-Dearborn researcher and students. The site also served as the launch point for the Friends of the Rouge/City of Wayne Lower Rouge River Canoe Race and Canoe Trip in conjunction with the 1st Annual Rouge-A-Polooza.

Nankin Mills Interpretive Center: Bluebird and wood duck nesting boxes that were established by Eagle Scouts and Girl Scouts are being maintained in the Grow Zone areas, Holliday Nature Preserve and Bennett Arboretum. WCDPS - Naturalists and volunteers continued to maintain the (mostly) native plant butterfly garden at the Nankin Mills site. See other projects identified under WCPEP#31 above.

Crosswinds Marsh Wetland Interpretive Preserve:

- Crosswinds Naturalists continue to monitor, clean and repair existing 50 blue bird nesting boxes installed by an Eagle Scout.
- Crosswinds Naturalists continue to monitor, clean and repair existing 28 bat houses.
- Crosswinds Naturalists continue to implement an invasive species control program for autumn olive, phragmites, purple loosestrife and Eurasian water milfoil.
- Crosswinds Naturalists continue to implement the control program for cottonwood trees and other woody vegetation in the wet meadow and wildflower areas.
- Crosswinds conducts prescribed burns bi-annually on two threatened and endangered plant species sites.
- Crosswinds maintains no mow barriers between the wetlands and picnic/public use areas.
- In 2014, Crosswinds in cooperation with the Nature Conservancy will begin efforts to restore Lake Plain Prairie remnants located at Crosswinds.

Bennett Arboretum Restoration: Parks Division Maintenance Staff and Design Office personnel continued efforts in 2013 to clear invasive species from four of the historic tree collections. Parks anticipates maintenance clearing in 2014 and adding to trees to the collections and labeling the

trees. This will allow residents the opportunity to enjoy the arboretum, be outside in nature, and also learn about the trees.

Elizabeth Park Greenway and Shoreline Restoration Project: In addition to implementing a greenway to connect Grosse Ile Parkway to downtown Trenton, this project also proposes shoreline stabilization within Elizabeth Park. This includes the removal of invasive plant species, naturalization, and use of soft engineering design applications that will protect sensitive ecosystems, improve natural habitat as well as minimize flooding and erosion. This restoration effort will replace natural habitat that has been lost over time for a variety of fish and wildlife species. Habitat restoration will be achieved by systematically removing approximately 1.9 acres of invasive plant species and by adding 4.9 acres of shoreline and upland habitat. Four lunger structures and 1,000 square feet of tuber plantings (water lilies) will be added to promote fish and aquatic habitat. These habitat improvements will enhance aquatic habitat and will create feeding and nesting habitat for migratory shorebirds as well as large and small mammals and amphibians. Warm water fish species, such as large and small mouth bass, bluegill, sunfish and minnow, will also benefit from the habitat improvements. Passive recreation access to the canal will be provided through the addition of five (5) designated fishing platforms and a canoe/kayak launch. In 2013, Parks Division submitted a grant application to the MDNR Trust Fund Program to implement this project. It has been selected and Parks Division anticipates accepting the award and initiating the grant project in 2014.

Roads Division replaced failed culverts at W. Outer Drive north of Joy Road on the Sherwood/Ashcroft Drain and West Road on the Brownstown Creek. The new culverts are wider with soft bottoms so fish and aquatic life can pass through easier.

River Day Participation (WCSWM #28)

See activities reported under WCPEP #14.

Assessment of County Implemented Flood Control Projects (WCSWM #29)

The Wayne County Drain Commissioner annually receives petitions for drain improvement projects. These projects can include drain improvements for flood control projects. Drain improvement petition projects include natural channel design and other storm water management measures where practical and where allowable under the Michigan Drain Code.

Other Activities And Projects

Other activities and projects of importance to watershed management, pollution prevention and habitat restoration are summarized below.

Active water-based recreation use within Wayne County Parks:

- 314 people participated in Crosswinds Fishing Derby events
- Approximately 3,600 people went fishing at Crosswinds Marsh in 2013.
- 189 people participated in guided interpretive canoe trips at Crosswinds.
- Repairs/reconstruction of one of the fishing docks at Crosswinds Marsh began in 2013. Crosswinds will continue repairs on this dock as well as a second dock and 1.8 miles of boardwalk in 2014.
- Canoes & paddleboats rental was re-established on Newburgh Lake, Hines Park in 2012. In 2013 the vendor reported 528 canoe rentals.

- Segway's are also being rented for use though out Hines Park from the Nankin Mills area.
- Approximately 400 people participated in the Waterford Bend, Hines Park Fishing Derby event.
- Through a vendor contract kayaks are being rented out at Elizabeth Park.

SECTION 5

WAYNE COUNTY WATERSHED PLANNING

SUMMARY OF ACTIVITIES

The following Watershed Planning activities were completed by Wayne County during the reporting period **January 1, 2013 – December 31, 2013** in compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000.

Activities in the Rouge River Watershed

As described below, Wayne County is a very active participant in watershed planning and management activities in the Rouge River watershed.

Alliance of Rouge Communities: In December 2005, the Rouge watershed communities and counties formed the *Alliance of Rouge Communities* (ARC) to guide the Rouge River restoration into the future as the federal grant funding diminishes. The ARC is a legal public entity under the Watershed Alliance Act, Public Act 517 of 2004, and succeeded the voluntary Rouge River Watershed Local Management Assembly which operated 2002-2005. The ARC operates under approved bylaws and has an annual budget on the order of \$600,000 per year, used to fund: 1) watershed-wide monitoring; 2) sampling data analyses and reports; 3) the coordination of public education and involvement activities, all of which are required by local units of government under the Michigan watershed-based storm water permit. In addition, the funds are used to provide technical guidance and facilitation for the ARC its committees and the seven Subwatershed Advisory Groups. Wayne County served as fiduciary for the ARC during 2006, 2007 and 2008 under inter-agency agreements. Fiduciary duties for 2009 were transferred to the ARC via an interagency agreement executed in December 2008. Since 2008, Wayne County is executing inter-agency agreements with the ARC on an annual basis to provide Rouge Project grant funding to the ARC.

Much of the work of the ARC is happening through the standing committees: Finance, Technical, Public Involvement/Education (PIE) and Organization. Wayne County was a founding member of the ARC, is an active participant on every committee, serves as chair of the Organization Committee, and provides many of the services being provided to ARC members. Wayne County participated in virtually every activity described in the *ARC Executive Director's 2013 Annual Report* which is available at www.allianceofrougecommunities.com.

In addition, Wayne County continues to take a leadership role in implementing the *Watershed Management Plan for the Rouge River* (available at <http://www.allianceofrougecommunities.com>).

Rouge River Advisory Council (RRAC): Wayne County staff continued their active participation on the RRAC and any subcommittee that may be active. During 2013, Wayne County staff continued to actively participate in on-going efforts of the group. This activity included coordinating and providing letters of support to numerous Great Lakes Restoration Initiative grants submitted by Rouge Watershed stakeholders.

Wayne County Rouge River National Wet Weather Demonstration Project. Wayne County continues to manage the Rouge River National Wet Weather Demonstration Project (Rouge Project). Since its inception in 1992, there has been continued and substantial progress toward restoring the Rouge River and preserving it for future generations. *Rouge River Progress Reports* are published annually and are available from www.rougeriver.com.

Many projects completed or underway with Rouge Project funding in 2013 focused on the variety of topics needed to restore the river: getting people involved, implementing flow and pollution controls, and improving access to recreational opportunities along the river. Watershed communities, businesses and residents are involved in ways big and small, and have formed innovative partnerships, such as the Alliance of Rouge Communities (ARC), to leverage ideas and resources to achieve common environmental goals. Water quality continues to improve, and the numbers and variety of wildlife living in the river and the watershed increases each year.

Activities in Wayne County Downriver Watersheds

The Inter-Municipality Committees (IMCs) for the Ecorse Creek Watershed, Combined Downriver Watershed, and Lower Huron River Watershed successfully operated for over two years under the Memoranda of Agreement establishing the Committees. The Inter-Municipality Committees Act, PA 1957, No. 200 (MCL 123.631, et seq.) under which the existing IMCs were formed does not provide for implementing some of the required activities under the watershed management plans. There was broad interest in forming a permanent watershed organization under the new Watershed Alliance legislation, and Wayne County facilitated a subcommittee to draft bylaws. In October 2006, the 14th eligible entity approved the bylaws, officially forming the Alliance of Downriver Watersheds (ADW). The first meeting of the new ADW was held on January 18, 2008. In 2008, Huron Township and City of Inkster joined bringing the total membership up to 26 of the 26 potential ADW member communities.

Wayne County was a founding member of the ADW, is an active participant on every committee, has served as ADW fiduciary since its inception, and provides many of the services being provided to the ADW. Wayne County and ADW activities are summarized in the report, *Alliance of Downriver Watersheds, 2012-2013 Bi-Annual Summary of Activities/Accomplishments* which is available at www.allianceofdownriverwatersheds.com.

Activities in Lake St. Clair (Direct Drainage) Watershed

Wayne County actively participates in the Lake St. Clair Watershed Advisory Group facilitated by Macomb County Public Works Office. A Watershed Management Plan was developed to meet Clean Michigan Initiative and 319 requirements and submitted to MDEQ on November 1, 2006 and approved in June 2008. In 2010, Wayne County executed the Operating Agreement for the Lake Saint Clair Watershed group, formally committing County participation in the group. Throughout 2013, WQMD staff continued to work with Macomb County, the consultant and the other watershed partners to initiate updating of the *Lake St. Clair Direct Drainage Subwatershed Plan*, available online from <http://www.crwcc.org/watershed/subwatersheds/lakestclair>. The first step, developing and implementing the online Public Participation Plan online survey tool, was in operation in 2012 and a draft report on the analysis of the survey was presented to members in October 2013 by the Clinton River Watershed Council. However, analysis of the Lake St. Clair (Direct Drainage)

Watershed was not included; this analysis will be integrated into the final report anticipated for completion in January 2014. Wayne County participated in all group meetings. General areas of discussion were the storm water permit, grant ideas, and the public participation plan.

Activities in the Detroit River Area of Concern

Wayne County participates in the Detroit River Area of Concern Public Advisory Committee, whose efforts are targeted to the goal of removing the Loss of Fish and Wildlife Habitat Beneficial Use Impairment in the Detroit River. Information about this effort, including Detroit River Area of Concern Public Advisory Committee remedial action plans, updates and progress reports are available on the U.S. EPA's Great Lakes Area of Concern website: <http://www.epa.gov/glnpo/aoe/index.html>. Progress reports for restoration projects managed by the Friends of the Detroit River (FDR) are available online at the FDR website, <http://www.detroitriver.org>.

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SECTION 6 LIST OF ATTACHMENTS

Wayne County Annual Report: January 1, 2013 – December 31, 2013

SECTION 1: DETERMINATION OF EFFECTIVENESS

- The *2012 Rouge River Ecosystem Monitoring and Assessment Report*, along with reports from previous years, is available online at: http://www.allianceofrougecommunities.com/PDFs/technical/2012_RREMAR_FINAL.pdf
- The Rouge Watershed Monitoring Database is available online at: <http://online2.cdm.com/detroit/rougeriver/query/query.cfm>
- Rouge River Macroinvertebrate Data Trend Graphics
- Alliance of Downriver Watersheds (ADW)_Macroinvertebrate Data Trend Graphics
- Alliance of Downriver Watersheds 2013 Monitoring Report will be available online at: http://www.allianceofdownriverwatersheds.com/adw_info.htm

SECTION 2: ILLICIT DISCHARGE ELIMINATION PLAN

- Table 2.1: Facilities with Confirmed Corrections (2013)
- Table 2.2: Facilities with Outstanding Illicit Discharges (2013)
- Alliance of Rouge Communities (ARC) Outfall Map
- Updated Wayne County Storm Water System Map

SECTION 3: PUBLIC EDUCATION PLAN

- The *Resource Recovery Guide* as well as additional information regarding Wayne County's Household Hazardous Waste Collection events can be found at <http://www.waynecounty.com/doe/1062.htm>.
- WQMD pollution prevention public education materials can be found at <http://www.waynecounty.com/doe/1130.htm>
- Information on Wayne County's Green Schools Program is available online at <http://www.waynecounty.com/doe/1136.htm>
- Information on the numerous public education and involvement activities of Friends of the Rouge activities completed with Wayne County's active support is available at <http://www.therouge.org/>

SECTION 4: ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES

- Wayne County Storm Water Management Program materials are available online at: <http://www.waynecounty.com/doe/1122.htm>

SECTION 5: WAYNE COUNTY WATERSHED PLANNING

- Alliance of Rouge Communities *Executive Director 2013 Annual Report* is available online at: <http://www.allianceofrougecommunities.com>. The updated *Rouge River Watershed Management Plan* is also available at this website.

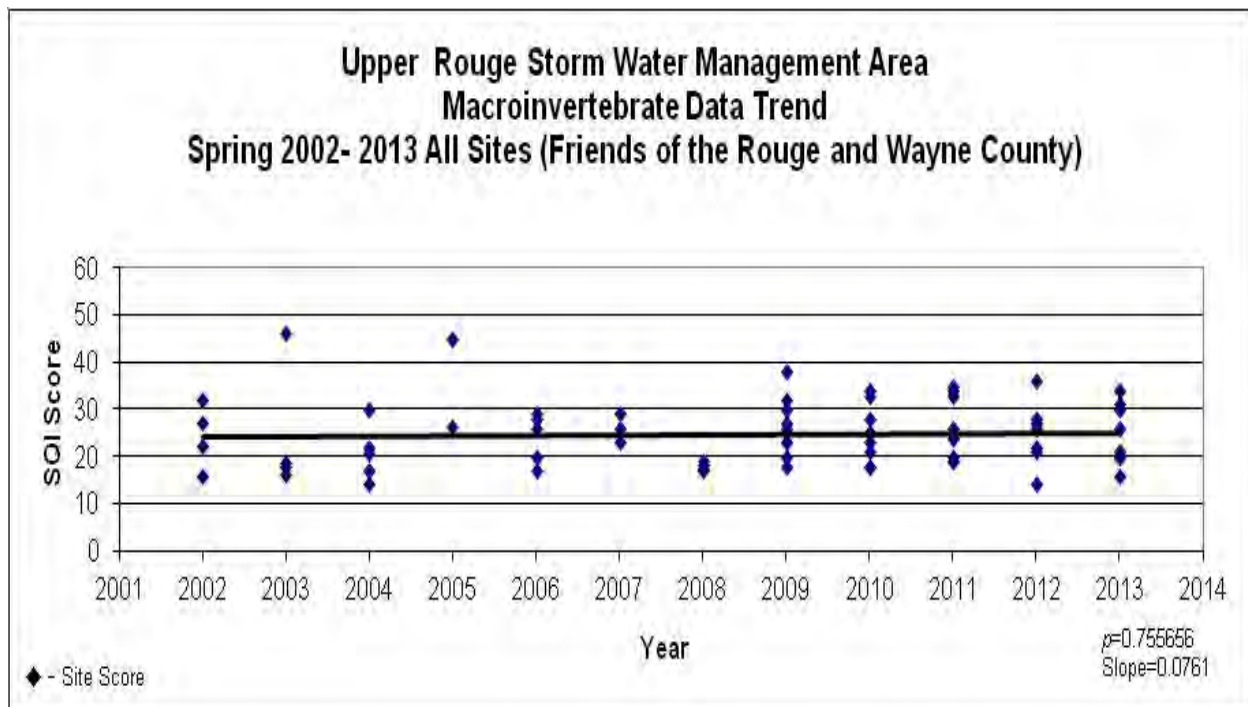
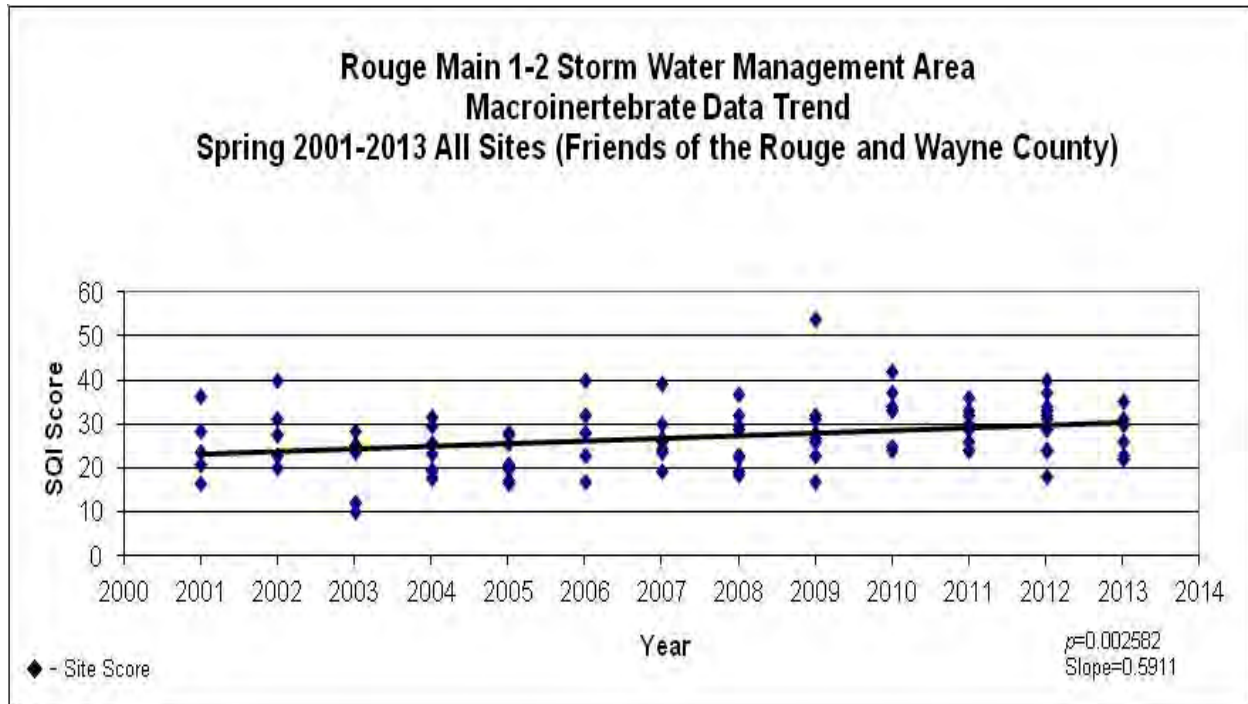
- Annual *Rouge River Progress Reports* are available online at: www.rougeriver.com
- *Alliance of Downriver Watersheds - 2013 Summary of Activities/Accomplishments* available online at: <http://www.allianceofdownriverwatersheds.com>. The *Watershed Management Plans* for Ecorse Creek, Combined Downriver and Lower Huron River are also available at this website.
- *Lake St. Clair Direct Drainage Subwatershed Plan* is available online from <http://www.crwcc.org/watershed/subwatersheds/lakestclair>

Additional materials and documentation can be made available to substantiate statements made in this report. Contact Mr. Noel Mullett at (734) 326-4486 or email him at nmullett@waynecounty.com with any questions or inquires regarding the content of this report.

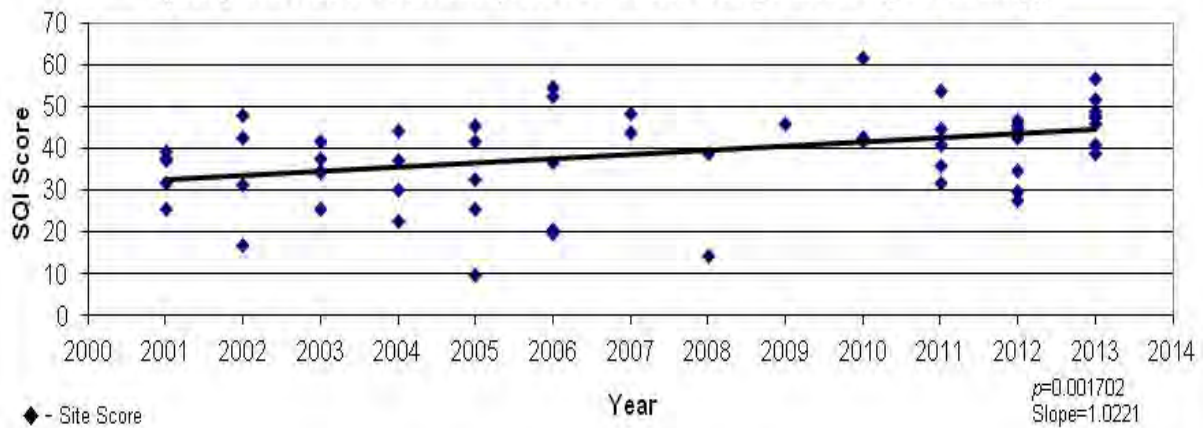
SECTION 1: DETERMINATION OF EFFECTIVENESS

- Rouge River Macroinvertebrate Data Trends
- Alliance of Downriver Watersheds Macroinvertebrate Data Trends

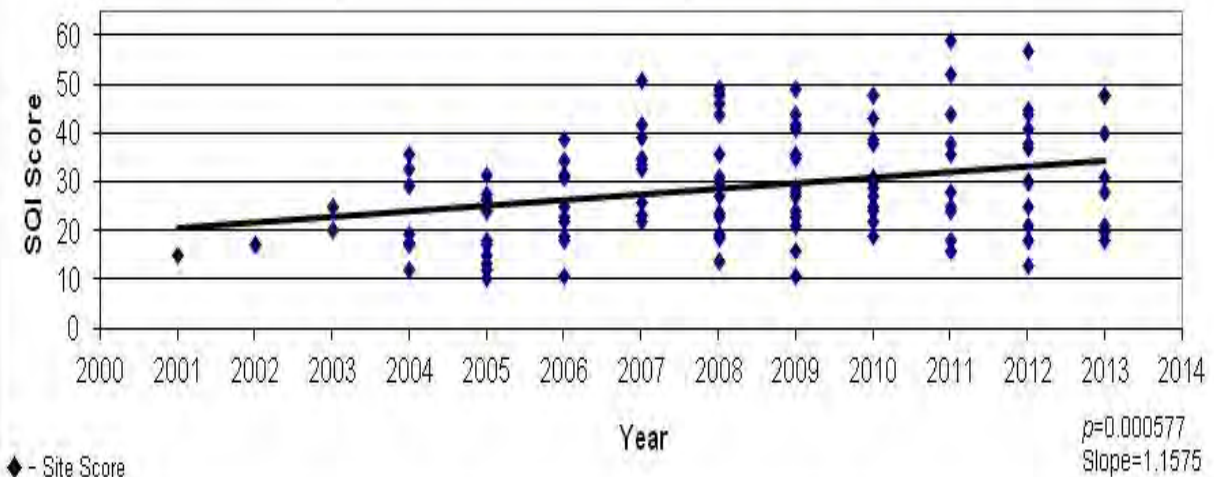
Section 6 Rouge River Benthic Macroinvertebrate Data Trend Graphs Spring 2013



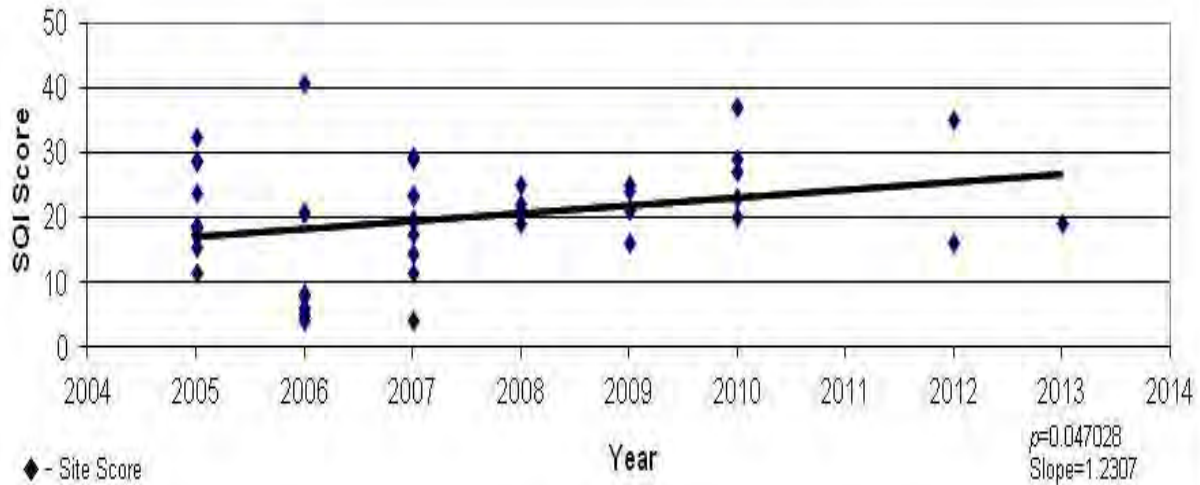
**Johnson Creek
Rouge Middle 1 Storm Water Management Area
Macroinvertebrate Data Trend
Spring 2001-2013 All Sites (Friends of the Rouge and Wayne County)**



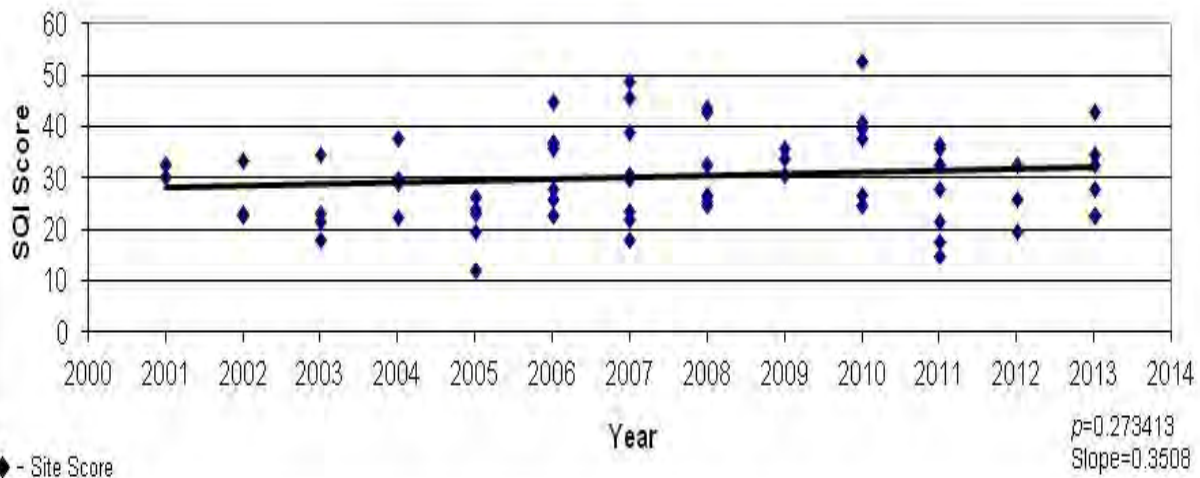
**Rouge Middle 1 Storm Water Management Area
Macroinvertebrate Data Trend
Spring 2001- 2013 All Sites (Friends of the Rouge and Wayne County)**



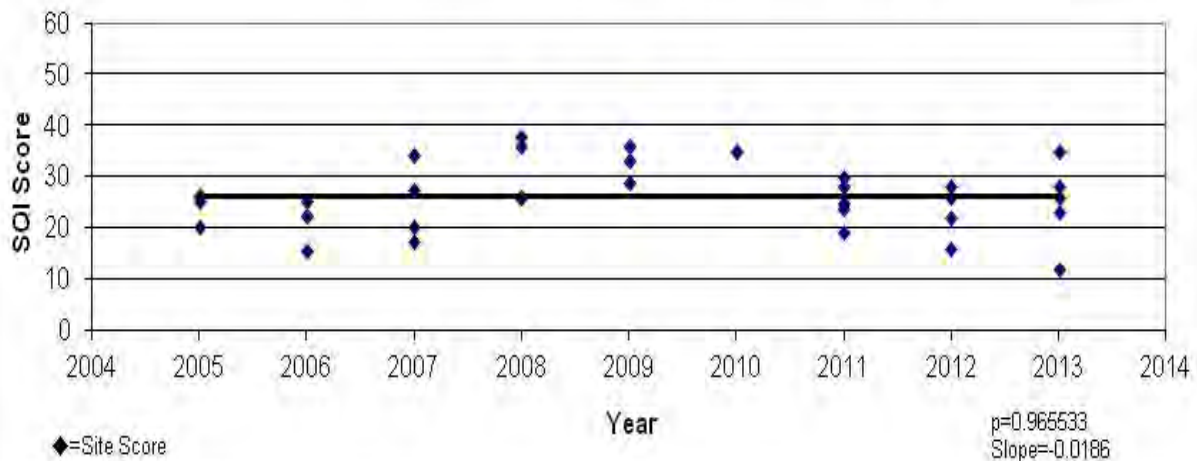
**Rouge Middle 3 Storm Water Management Area
Macroinvertebrate Data Trend
Spring 2005-2013 All Sites (FOTR and Wayne County Data)**



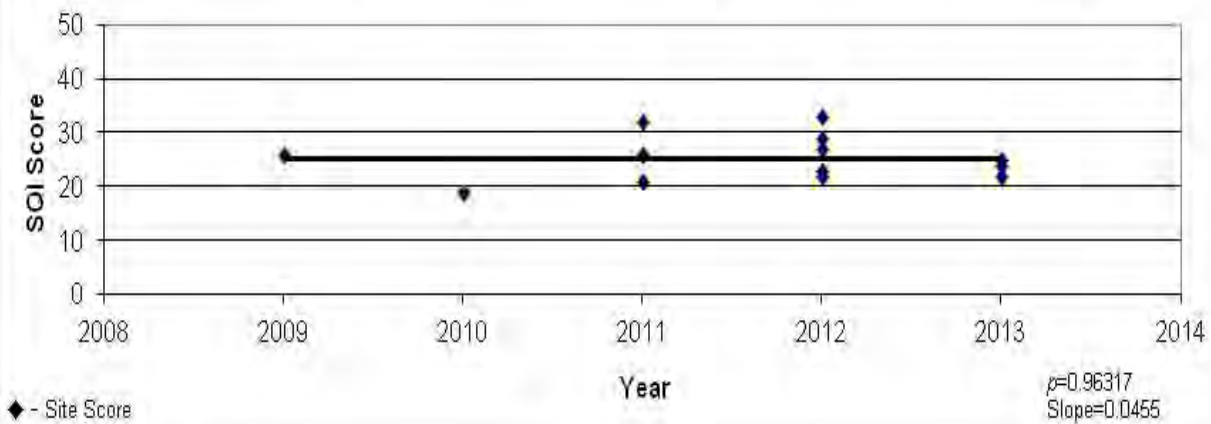
**Rouge Lower 1 Storm Water Management Area
Macroinvertebrate Data Trend
Spring 2001- 2013 All Sites (Friends of the Rouge and Wayne County)**



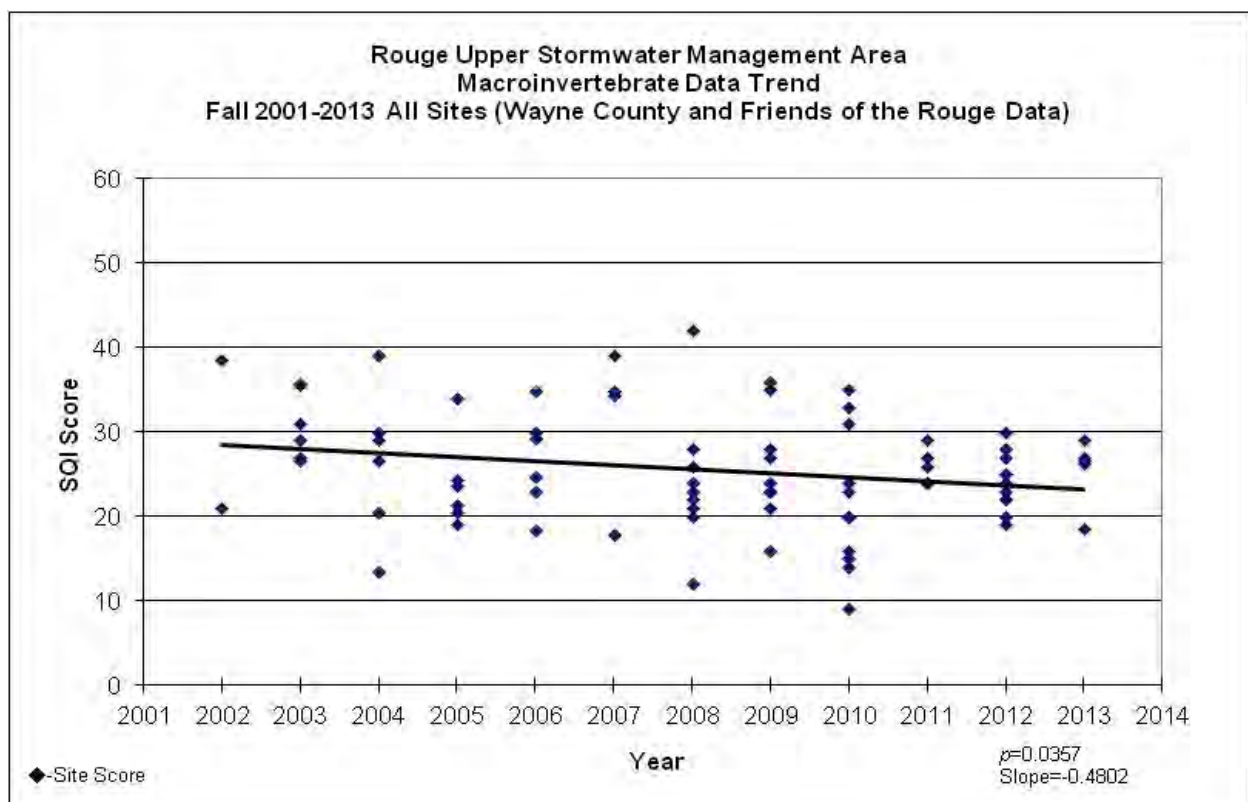
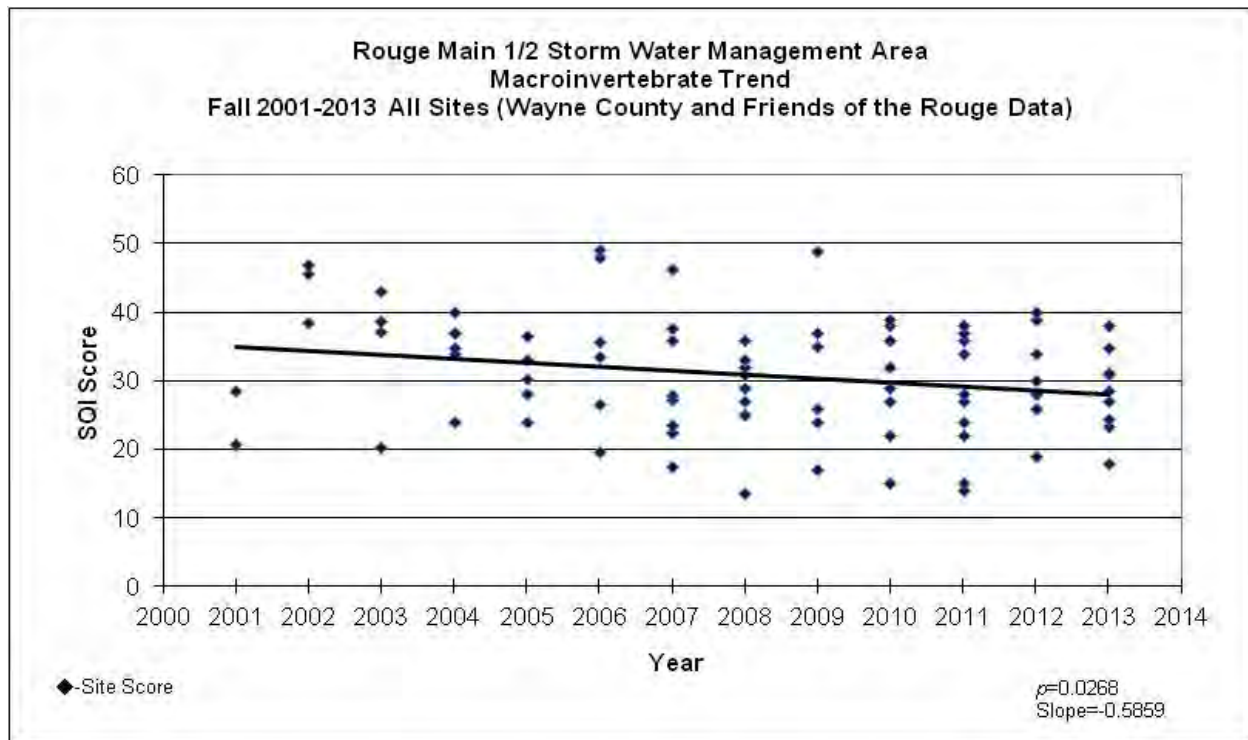
**Rouge Lower 2 Stormwater Management Area
Macroinvertebrate Data Trend
Spring 2005-2013 (FOTR and Wayne County Data)**



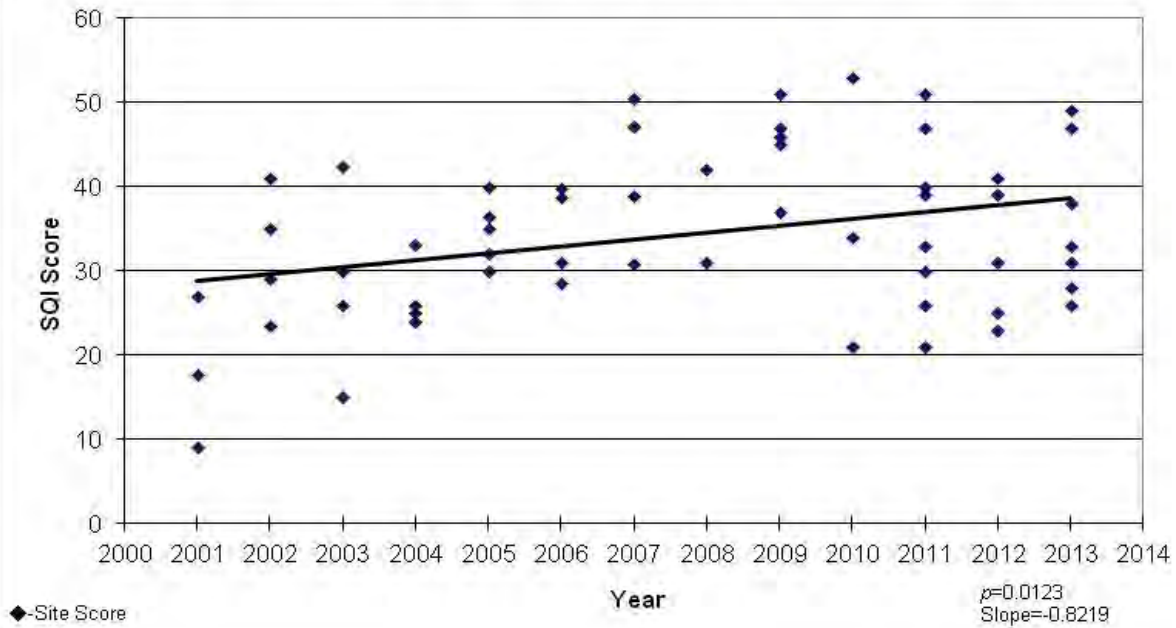
**Main 3-4 Storm Water Management Area
Macroinvertebrate Data Trend
Spring 2009-2013 All Sites (Friends of the Rouge and Wayne County)**



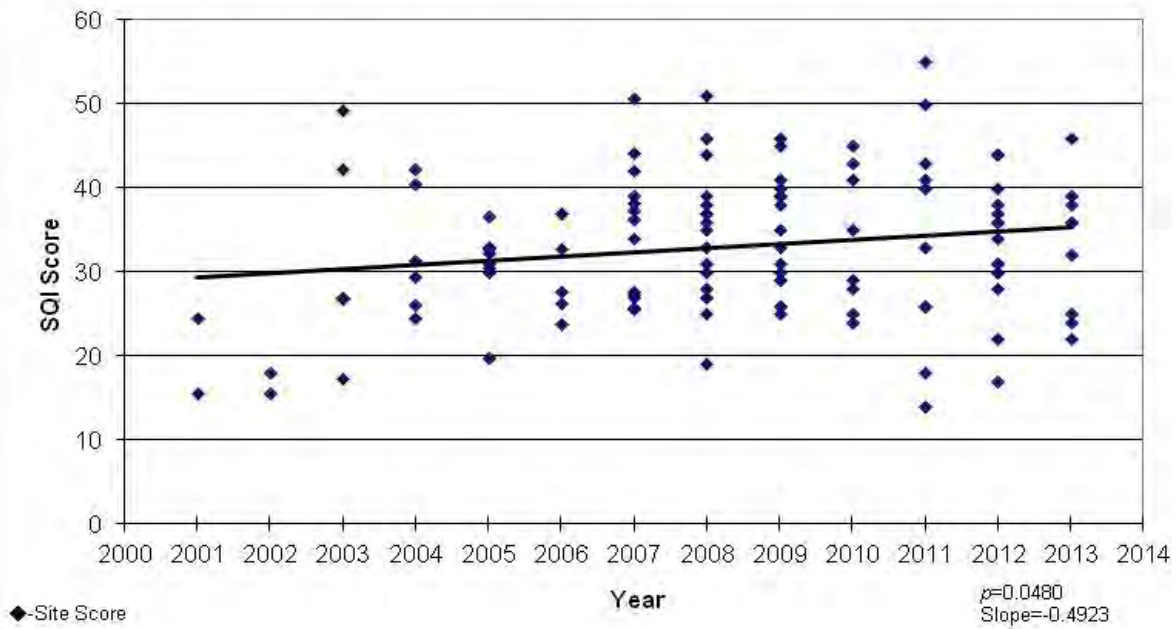
Section 6 Rouge River Watershed Benthic Macroinvertebrate Trend Graphs Fall 2013



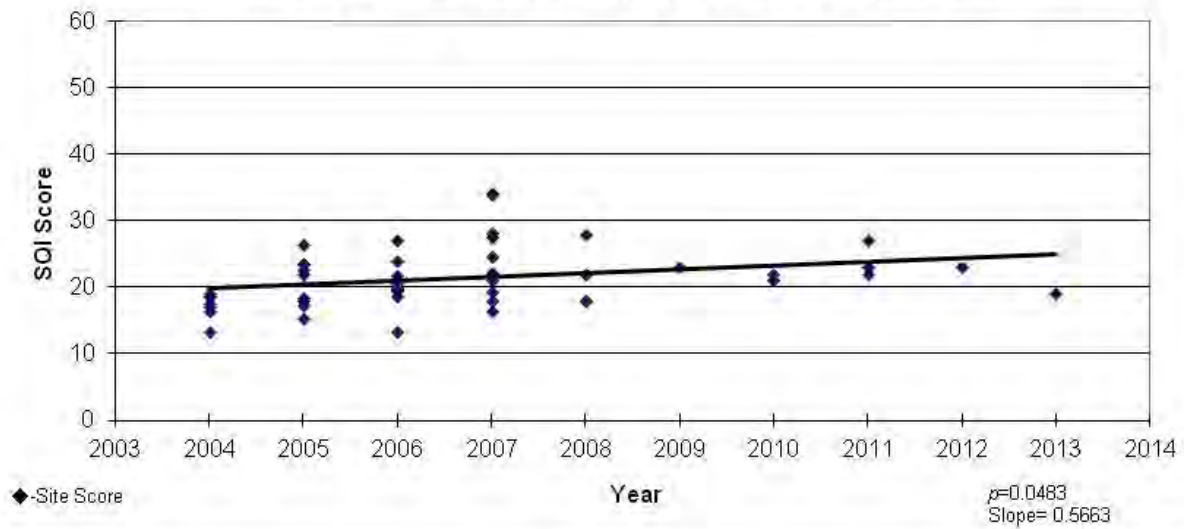
Johnson Creek
Macroinvertebrate Data Trend
Fall 2001-2013 All Sites (Wayne County and Friends of the Rouge Data)



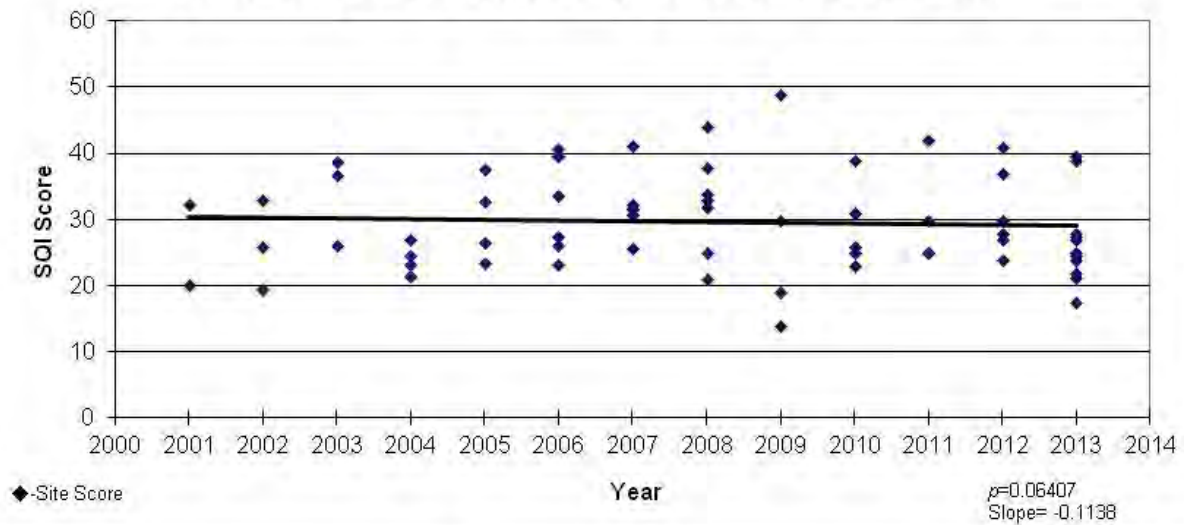
Rouge Middle 1 Stormwater Management Area
Macroinvertebrate Data Trend
Fall 2001-2013 All Sites (Wayne County and Friends of the Rouge Data)



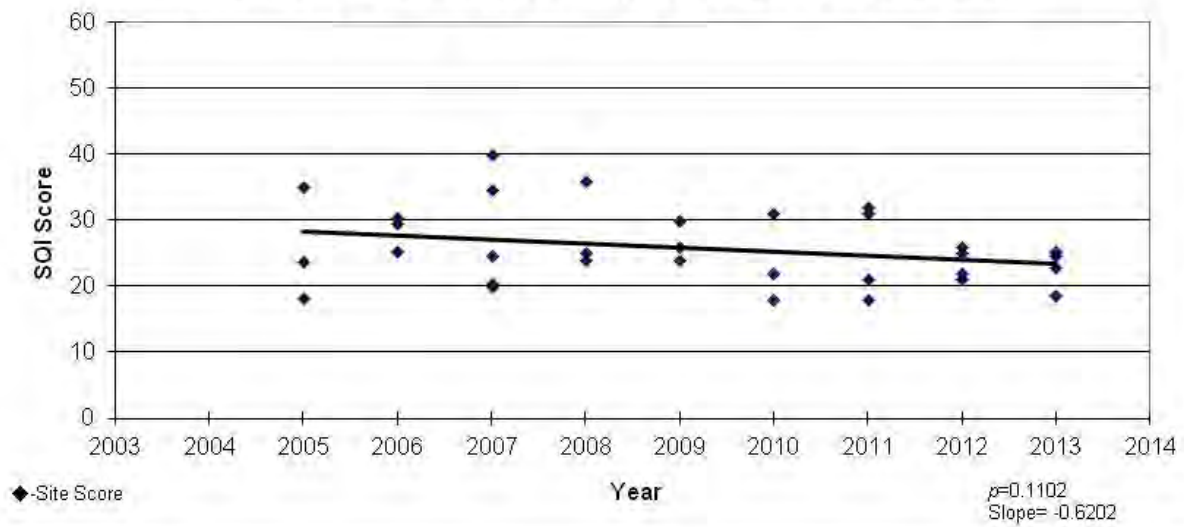
Rouge Middle 3 Storm Water Management Area
Macroinvertebrate Data Trend
Fall 2004-2013 All sites (Wayne County and Friends of the Rouge Data)



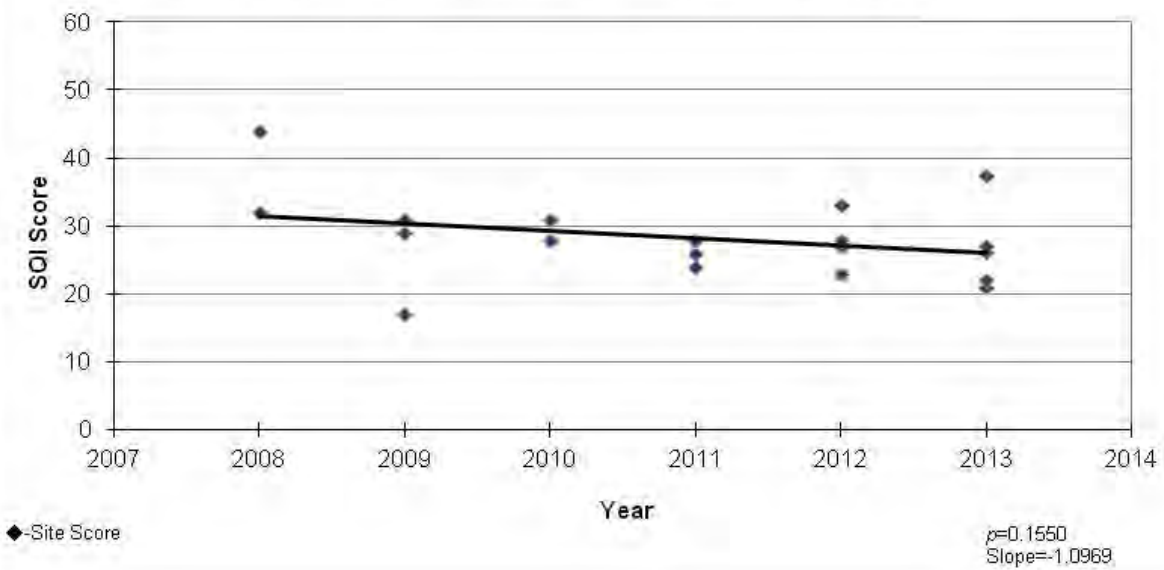
Rouge Lower 1 Storm Water Management Area
Macroinvertebrate Data Trend
Fall 2001-2013 All sites (Wayne County and Friends of the Rouge Data)



Rouge Lower 2 Storm Water Management Area
Macroinvertebrate Data Trend
Fall 2004-2013 All sites (Wayne County and Friends of the Rouge Data)



Rouge Main 3/4 Storm Water Management Area
Macroinvertebrate Trend
Fall 2008-2013 All Sites (Wayne County and Friends of the Rouge Data)



SECTION 2: ILLICIT DISCHARGE ELIMINATION PLAN

- Table 2.1: Facilities with Confirmed Corrections (2013)
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- Alliance of Rouge Communities (ARC) Outfall Map
- Updated Wayne County Storm Water System Map

Table 2.1
Facilities with Illicit Connections/Discharges Resolved
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS |
|-----------------|--------------------------------------|---------------------|---------|------|---------|------|-----------------|------|--|--------------------|------------------------------|
| 12/10/12 | RAND ENVIRONMENTAL | 35555 GENRON COURT | ROMULUS | | | | | 5 | FLOOR DRAIN COVERS | COMBINED DOWNRIVER | CONFIRMED CORRECTED 2/7/13 |
| 8/13/13 | ADVANCED TESTING AND ENGINEERING | 12255 DELTA RD | TAYLOR | 1 | FD | | | 2 | MATERIAL STORAGE/HANDLING, FAILING SECONDARY CONTAINMENT | COMBINED DOWNRIVER | CONFIRMED CORRECTED 12/17/13 |
| 9/4/13 | COLONIAL | 12344 DELTA RD | TAYLOR | 1 | DF | | | | | COMBINED DOWNRIVER | CONFIRMED CORRECTED 12/17/13 |
| 5/23/13 | BUFFER USA | 12201 UNIVERSAL DR | TAYLOR | 1 | DF | | | | | COMBINED DOWNRIVER | CONFIRMED CORRECTED 9/6/13 |
| 5/16/13 | CONTRACTOR'S CLEANING | 12250 UNIVERSAL DR | TAYLOR | | | 1 | OUTSIDE WASHING | 1 | MATERIAL STORAGE/HANDLING/ DISCHARGE PIPE* | COMBINED DOWNRIVER | CONFIRMED CORRECTED 6/10/13 |
| 5/30/13 | ATT | 12400 UNIVERSAL DR | TAYLOR | 1 | FD | | | | | COMBINED DOWNRIVER | CONFIRMED CORRECTED 9/16/13 |
| 2/19/13 | MECHANICAL AND HYDRAULIC SERVICE | 6820 MONROE | TAYLOR | 1 | FD | | | | | ECORSE CREEK | CONFIRMED CORRECTED 7/29/13 |
| 6/12/12 | LIVONIA FIRE STATION #4 | 12300 MIDDLEBELT RD | LIVONIA | 2 | TD | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |
| 05/22/12 | LIVONIA DPS BLD # 9 | 12973 FARMINGTON RD | LIVONIA | 2 | CB | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |
| 05/18/12 | LIVONIA DPS BLD #12 P & R AREA | 12973 FARMINGTON RD | LIVONIA | 1 | CB | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |
| 05/21/12 | LIVONIA DPS BLD EQUIPMENT / CAR WASH | 12973 FARMINGTON RD | LIVONIA | 2 | CB | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |

Table 2.1
Facilities with Illicit Connections/Discharges Resolved
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS |
|----------------------|--|-----------------------|----------|------|------------------------------|------|--------------------|------|--|-----------|-------------------------------------|
| 05/22/12 | LIVONIA DPS BLD #12 FORESTRY | 12973 FARMINGTON RD | LIVONIA | 1 | FD | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |
| 5/22/12/ 11/11/13 | LIVONIA DPS BLDG #10 EAST GARAGE | 12973 FARMINGTON RD | LIVONIA | 1 | TD | | | | | ROUGE | CONFIRMED CORRECTED 11/11/13 |
| 11/16/12 | CARRIAGE CAR WASH (SOFT CLOFT CAR WASH) | 27975 FIVE MILE RD | LIVONIA | 1 | TD | | | | | ROUGE | CONFIRMED CORRECTED 6/26/13 |
| 1/30/12 | ALPINE MOTORS | 25133 GRAND RIVER AVE | REDFORD | 7 | 2 FD/3 SINK/ 2 TOILETS | | | | | ROUGE | CONFIRMED CORRECTED 5/15/2013 |
| 1/30/12 | MOBILE TECH AUTO REPAIR | 25161 SEVEN MILE RD | REDFORD | 5 | 2 FD/2 SINKS/ 1 TOILET | | | | | ROUGE | CONFIRMED CORRECTED 5/15/2013 |
| 7/14/11 | RANI HAIR SALON | 34775 FORD RD | WESTLAND | | | 1 | MOP BUCKET DUMPING | | | ROUGE | CONFIRMED CORRECTED 4/12/13 |
| | | | | | | | | | * INTERIOR PVC PIPE EXITING THE BUILDING NOT CONNECTED TO ANY FIXTURE. | | |

Table 2.2
Facilities with Outstanding Illicit Discharges
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS | NOTES |
|-----------------|-------------------------------|----------------------|--------------------|------|--------------|------|--------------------|------|--------------------------------------|------------------------|---------|--------------------------------|
| 12/4/12 | DETROIT AUTOMATIC TOOLING INC | 12275 HURON RIVER DR | ROMULUS | 1 | FD | | | | | COMBINED DOWNRIVER | PENDING | |
| 4/18/13 | H&J MANUFACTURING | 15771 HURON RIVER DR | ROMULUS | | | 1 | MOP BUCKET DUMPING | | | COMBINED DOWNRIVER | PENDING | |
| 12/10/12 | SUNCO PETROLEUM LLC | 35445 GENRON CT | ROMULUS | | | | | 1 | TRUCK WELL SUMP | COMBINED DOWNRIVER | PENDING | |
| 11/15/13 | CITY OF SOUTHGATE DPW | 14719 SCHAFER RD | SOUTHGATE | | | | | 1 | OUTDOOR EQUIPMENT WASHING | COMBINED DOWNRIVER | PENDING | |
| 7/24/2013 | VACANT | 12395 DELTA RD | TAYLOR | 1 | FD | | | | | COMBINED DOWNRIVER | PENDING | CONFIRMED VACANT 3/17/14 |
| 5/17/10 | QUANTA | 15801 HURON ST | TAYLOR | | | | | 3 | MATERIAL STORAGE/HANDLING | COMBINED DOWNRIVER | PENDING | |
| 4/5/10 | K&S | 20401 GLADWIN RD | TAYLOR | | | | | 2 | MATERIAL STORAGE/HANDLING/ DISCHARGE | COMBINED DOWNRIVER (a) | PENDING | MDNRE ENFORCEMENT |
| 7/17/2013 | PAINTER'S SUPPLY | 25195 BREST RD | TAYLOR | 1 | DF | | | 1 | SUMP DRAIN COVER | COMBINED DOWNRIVER | PENDING | CONFIRMED CORRECTED 3/17/14 |
| 7/19/2013 | DONG AU | 12440 DELTA | TAYLOR | 1 | CB | | | | | COMBINED DOWNRIVER | PENDING | |
| 11/25/2013 | VAN BUREN TOWNSHIP DPW | 46425 TYLER RD | VAN BUREN TOWNSHIP | 1 | TD | | | | | COMBINED DOWNRIVER (b) | PENDING | |
| 10/5/10 | MOOSE LODGE | 1600 FORT ST | LINCOLN PARK | | | 1 | WASHING OUTSIDE | | | ECORSE CREEK | PENDING | FOLLOW UP 2/14/11 |
| 07/20/10 | LINCOLN PARK HIGH SCHOOL | 1701 CHAMPAIGN ST | LINCOLN PARK | 23 | 21FD/2 SINKS | | | | | ECORSE CREEK | PENDING | FOLLOW UP 2/9/11 |
| 08/13/10 | JAMES FOOTE ELEMENTARY SCHOOL | 3250 ABBOTT ST | LINCOLN PARK | 2 | FD | | | | | ECORSE CREEK | PENDING | FACILITY INSPECTION INCOMPLETE |

Table 2.2
Facilities with Outstanding Illicit Discharges
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS | NOTES |
|-----------------|---|----------------------|--------------|------|--------------|------|--------------------|------|--|--------------|---------|------------------------------|
| 8/25/10 | MEIJER | 3710 DIX RD | LINCOLN PARK | | | 1 | TRASH COMPACTOR | | | ECORSE CREEK | PENDING | FOLLOW UP 2/9/2011 |
| 8/25/10 | CARR ELEMENTARY | 3901 FERRIS ST | LINCOLN PARK | 3 | FD | | | | | ECORSE CREEK | PENDING | FOLLOW UP 2/9/11 |
| 4/20/11 | ROCKY TOWN PARTY SHOPPE | 4235 DIX RD | LINCOLN PARK | | | 1 | MOP BUCKET DUMPING | | | ECORSE CREEK | PENDING | |
| 08/18/10 | KEPPEN ELEMENTARY | 661 MILL ST | LINCOLN PARK | | | 1 | MOP BUCKET | | | ECORSE CREEK | PENDING | FOLLOW UP 2/9/11 |
| 4/1/03 | TAYLOR FIRE STATION #1 | 11101 PINE ST | TAYLOR | 4 | DF,CB,TD, FD | | | | | ECORSE CREEK | PENDING | FOLLOW UP 2/27/12 INCOMPLETE |
| 1/25/13 | VALUE WORLD | 22615 ECORSE RD | TAYLOR | | | | | 1 | MOP BUCKET DUMPING | ECORSE CREEK | PENDING | |
| 3/5/13 | ARROW UNIFORM | 6400 MONROE ST | TAYLOR | | | | | 4 | MATERIAL STORAGE/HANDLING, SUMP COVER, ROOF CONDUCTOR COVER, FIRE SUPPRESSION SYSTEM DRAIN | ECORSE CREEK | PENDING | |
| 3/25/13 | GORDON FOOD | 10065 TELEGRAPH RD | TAYLOR | | | | | 1 | SUMP DRAIN COVER | ECORSE CREEK | PENDING | |
| 9/23/11 | CANTON FELLOWS CREEK GOLF COURSE MAINTENANCE SHOP | 2963 LOTZ RD | CANTON | | | 1 | GOLF CART WASHING | | | ROUGE | PENDING | |
| 9/21/11 | CANTON PHEASANT RUN GOLF COURSE | 46500 SUMMIT PARKWAY | CANTON | | | 1 | GOLF CART WASHING | | | ROUGE | PENDING | |

Table 2.2
Facilities with Outstanding Illicit Discharges
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS | NOTES |
|-----------------|-------------------------------|----------------------|---------|------|----------------------------------|------|-------------------------|------|---------|-----------|---------|---|
| 6/14/04 | DE-STA-CO | 50625 CHERRY HILL RD | CANTON | | | 1 | DIRECT DISCHARGE OSDS | | | ROUGE (c) | VACANT | CONFIRMED VACANT 2/23/12 PROPERTY BEING REDEVELOPED FOR ARTS/HUMANITIES |
| 9/21/11 | CANTON PARKS MAINT | HERITAGE PARK RD | CANTON | | | 1 | EQUIPMENT WASHING | | | ROUGE | PENDING | |
| 12/7/11 | FLIGHT CLUB | 29709 MICHIGAN AVE | INKSTER | | | 1 | MOP BUCKET DUMPING | | | ROUGE | PENDING | CONFIRMED CORRECTED 3/17/14 |
| 6/12/12 | FOX CREEK GOLF COURSE | 36000 SEVEN MILE RD | LIVONIA | | | 1 | CART/ EQUIPMENT WASHING | | | ROUGE | PENDING | |
| 8/3/12 | TRW BUILDING 3 | 12075 TECH CENTER DR | LIVONIA | 1 | CB | | | | | ROUGE | PENDING | CONFIRMED CORRECTED 3/17/14 |
| 09/19/12 | MARYGROVE AWNING BUILDING 2 | 12700 MERRIMAN RD | LIVONIA | | | 1 | OUTDOOR WASHING | | | ROUGE | PENDING | |
| 12/06/12 | EWI WORLDWIDE | 13211 MERRIMAN RD | LIVONIA | 2 | FD | | | | | ROUGE | PENDING | |
| 12/11/12 | EWI WORLDWIDE | 13263 MERRIMAN RD | LIVONIA | 2 | 1 SINK 1 SCREEN PRINTING MACHINE | | | | | ROUGE | PENDING | |
| 6/6/12 | LIVONIA POLICE GARAGE | 15050 FARMINGTON RD | LIVONIA | 1 | FD | | | | | ROUGE | PENDING | |
| 6/6/12 | LIVONIA SALLY PORT | 15050 FARMINGTON RD | LIVONIA | 1 | FD | | | | | ROUGE | PENDING | |
| 6/12/12 | WHISPERING WILLOW GOLF COURSE | 20500 NEWBURGH RD | LIVONIA | | | 1 | EQUIPMENT WASHING | | | ROUGE | PENDING | |

Table 2.2
Facilities with Outstanding Illicit Discharges
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS | NOTES |
|-----------------|--|-----------------------|-------------------|------|------------------------|------|--|------|---------------|-----------|---------|--|
| 8/26/09 | XPEDX | 28401 SCHOOLCRAFT RD | LIVONIA | 3 | CB | 1 | FLOOR WASH MACHINE DUMPING | | | ROUGE | PENDING | FOLLOW UP 2/22/11 |
| 09/28/12 | MARYGROVE AWNING BUILDING 3 | 31373 INDUSTRIAL DR | LIVONIA | | | | | 1 | BUILDING SUMP | ROUGE | PENDING | |
| 10/5/05 | PRO RADIUS | 32013 PLYMOUTH RD | LIVONIA | | | 1 | MOP BUCKET DUMPING | | | ROUGE | VACANT | CONFIRMED VACANT 2/15/11 |
| 6/8/12 | LIVONIA CITY HALL PARKING GARAGE | 33000 CIVIC CENTER DR | LIVONIA | 3 | CB | | | | | ROUGE | PENDING | |
| 6/12/12 | IDYL WYLD GOLF COURSE | 35780 FIVE MILE RD | LIVONIA | | | 2 | CART/EQUIP MENT WASHING/MOP BUCKET DUMPING | | | ROUGE | PENDING | |
| 11/20/09 | TECHNICOLOR | 36121 SCHOOLCRAFT RD | LIVONIA | | | 1 | FLOOR WASH MACHINE DUMPING | | | ROUGE | PENDING | FOLLOW UP 2/22/11 |
| 6/8/12 | LIVONIA PARKS MAINT. BUILDING #52 | FARMINGTON RD | LIVONIA | | | 1 | POWER WASHING OUTDOORS | | | ROUGE | PENDING | |
| 2/1/04 | NORTHVILLE DOWNS ** 38 of 66 ILLICIT CONNECTIONS CORRECTED | 301 S. CENTER ST | NORTHVILLE | 66 | 49 BARN FD; 1DF; 16 FD | 11 | HORSE WASHING, MANURE HANDLING | | | ROUGE | PENDING | JOINT COMPLIANCE EFFORT WITH MDNRE ONGOING |
| 10/26/00 | DIAMOND AUTO SALES | 1250 S. MAIN ST | PLYMOUTH | 1 | CB | | | | | ROUGE | PENDING | FOLLOW UP 4/15/2010 |
| 6/13/12 | JOQUE (NORTHVILLE LABS) | 14731 HELM CT | PLYMOUTH TOWNSHIP | | | 1 | BEVERAGE SYRUP DUMPING | | | ROUGE | PENDING | CONFIRMED CORRECTED 3/17/14 |
| 3/26/91 | PRO COLLISION | 12300 INKSTER RD | REDFORD | 13 | MISC IC | | | | | ROUGE | PENDING | SITE VISIT 12/9/11. CONSULTATION |
| 9/16/11 | BEECHWOOD GOLF COURSE MAINTENANCE SHOP | 22200 BEECHWOOD RD | SOUTHFIELD | 1 | FD | | | | | ROUGE | PENDING | |

Table 2.2
Facilities with Outstanding Illicit Discharges
2013

List generated 3/18/14

| INSPECTION DATE | FACILITY NAME | FACILITY ADDRESS | CITY | IC # | IC TYPE | ID # | ID TYPE | EC # | EC TYPE | WATERSHED | STATUS | NOTES |
|-----------------|---|--------------------|------------|------|---------|------|--------------------------|------|---------------------------|-----------|---------|---|
| 11/28/11 | SOUTHFIELD PARKS MAINTENANCE YARD | 26000 EVERGREEN RD | SOUTHFIELD | | | 1 | EQUIPMENT WASHING | | | ROUGE | PENDING | |
| 7/26/05 | ADVANCE MATERIAL PROCESS (NOW AMERIGAS) | 3850 HOWE RD | WAYNE | | | 2 | COOLING WATER; OIL IN CB | 4 | MATERIAL STORAGE/HANDLING | ROUGE | VACANT | CONFIRMED VACANT 6/25/13. REFERRED TO MDNRE-AIR QUALITY FUGITIVE DUST |
| 5/27/11 | MICHIGAN TRUCK PARTS | 38658 FORD RD | WESTLAND | | | 1 | PARTS WASHING | | | ROUGE | PENDING | |
| 10/7/02 | ADVANCED COMMUNICATIONS | 6034 EXECUTIVE DR | WESTLAND | 1 | CB | | | | | ROUGE | PENDING | FOLLOW UP 12/13/11. |

a) Facility has an interior PVC pipe exiting the building. It is not connected to any plumbing fixture. Facility was requested to remove the pipe and seal the wall.

b) Facility drains to Lower Rouge River tributary - inspected with ADW funding.

c) Referred to MDNRE Groundwater in 2007. Sanitary sewer and water required for re-development.

ROUGE RIVER WATERSHED

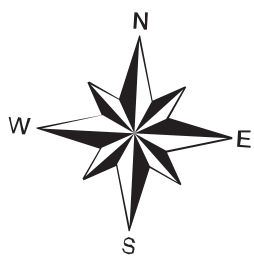
Alliance of Rouge Communities (ARC) Outfalls

Robert A. Ficano
County Executive

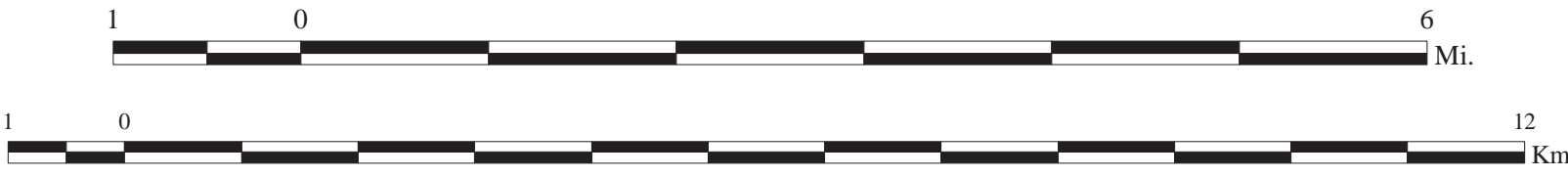
LEGEND

- Rouge watershed boundary
- County boundaries
- City / township boundaries
- Interstates / freeways
- Primary surface roads
- Rivers/streams
- Rouge enclosed drains
- RPO identified outfall
- Community identified outfall
- Oakland Co. identified outfall
- Washtenaw Co. identified outfall
- Wayne Co. identified outfall

DRAFT



1 Inch = 1 Mile



MAP PROJECTION:
Michigan State Plane Coordinate System, south zone (Lambert Conformal Conic Projection),
FIPS zone 2113, NAD 83, international feet.

DATA SOURCES:
Rouge watershed boundary - RPO Modeling Team data, May 1994, revised 2008.
Interstates / freeways - Michigan Center for Geographic Information, Michigan Geographic Framework, Version 10a, 2010.
Primary surface roads - Michigan Center for Geographic Information, Michigan Geographic Framework, Version 10a, 2010.
County boundaries - MDR MIRIS data, 1985, from 1:24,000 USGS quadrangles, photorevised 1973-1983.
City/township boundaries - MDR MIRIS data, 1985, from 1:24,000 USGS quadrangles, photorevised 1973-1983.
Rouge River major branches & tributaries - Michigan Center for Geographic Information, Michigan Geographic Framework,
Version 10a, 2010.
Enclosed drains - RPO Modeling Team data (modifications to Reach), January 1994.
Ontario boundary - from Environmental Systems Research Institute (ESRI) data CD, 2007.
Outfalls - provided by individual communities and counties, 2009-12.

For additional information regarding the source of RPO derived data, please contact the Wayne County
Rouge Program Office. Data depicted on this map were derived from source maps with various scales
and levels of accuracy. This information is illustrated here for general reference purposes only.
Map symbology is not to scale and therefore does not depict site specific conditions. This map
should not be used to evaluate information related to individual parcels of property.

The Rouge River National Wet Weather Demonstration Project is funded, in part, by the United States
Environmental Protection Agency grants #XPS95743-01, -02, -03, -04, -05, -06, -07, -08, -09 and C264999-01.

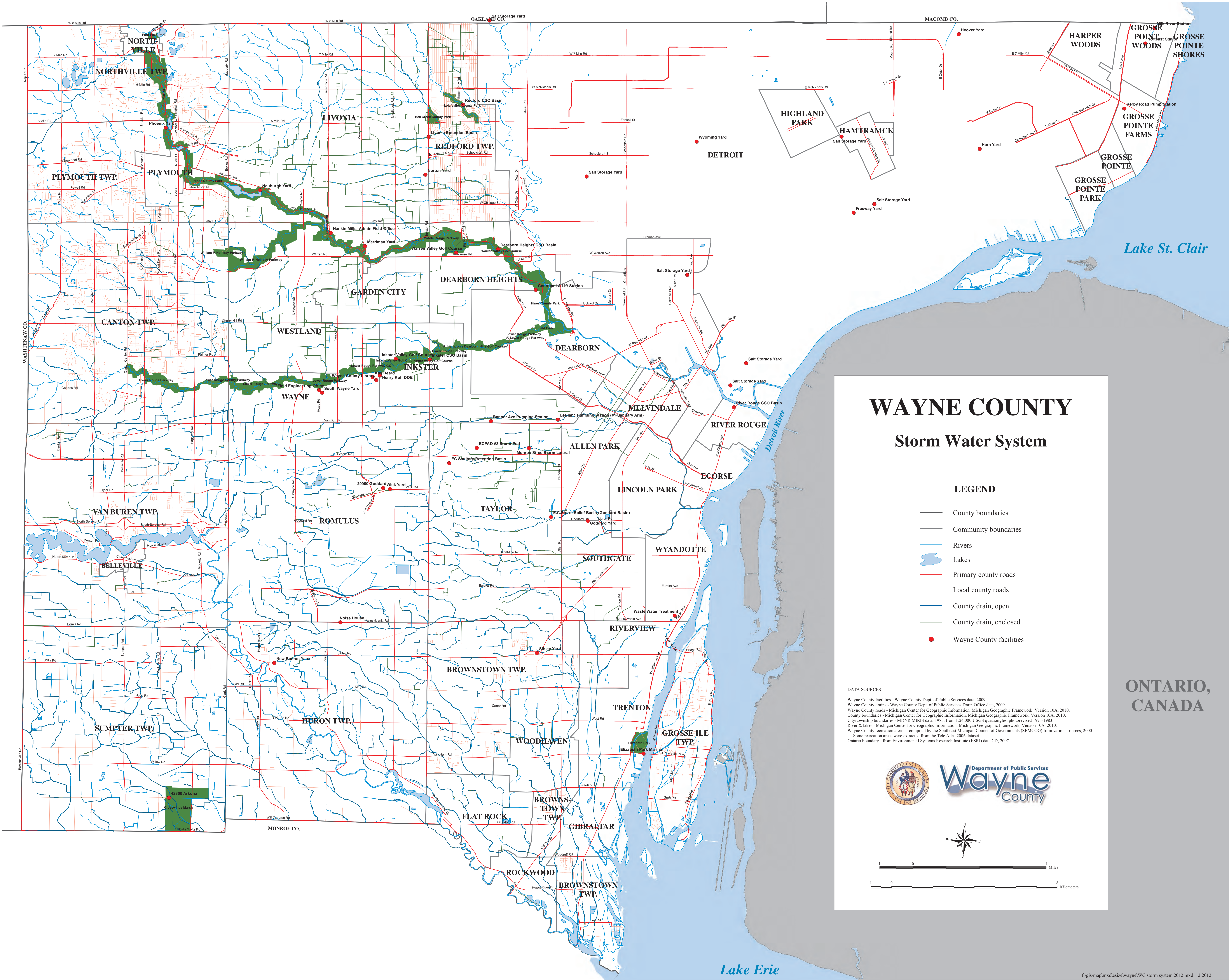


Rouge River watershed

ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT

Wayne County Department of Environment
Watershed Management Division
415 Clifford Street
Detroit, Michigan 48226

Rouge Information Line: (888) 223-2363



WAYNE COUNTY

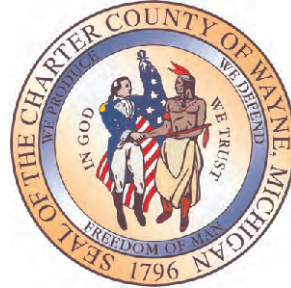
Storm Water System

LEGEND

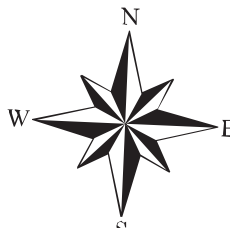
- County boundaries
- Community boundaries
- Rivers
- Lakes
- Primary county roads
- Local county roads
- County drain, open
- County drain, enclosed
- Wayne County facilities

DATA SOURCES:

Wayne County facilities - Wayne County Dept. of Public Services data, 2009.
Wayne County drains - Wayne County Dept. of Public Services Drain Office data, 2009.
Wayne County roads - Michigan Center for Geographic Information, Michigan Geographic Framework, Version 10A, 2010.
County boundaries - Michigan Center for Geographic Information, Michigan Geographic Framework, Version 10A, 2010.
City/township boundaries - MIDNR MIRS data, 1985, from 1:24,000 USGS quadrangles, photorevised 1973-1983.
River & lakes - Michigan Center for Geographic Information, Michigan Geographic Framework, Version 10A, 2010.
Wayne County recreation areas - compiled by the Southeast Michigan Council of Governments (SEMCOG) from various sources, 2000.
Some recreation areas were extracted from the Tele Atlas 2006 dataset.
Ontario boundary - from Environmental Systems Research Institute (ESRI) data CD, 2007.



Department of Public Services
Wayne
County



ONTARIO,
CANADA