



Wayne County, Michigan

Annual Report

For Reporting Period January 1, 2010 – December 31, 2010

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

Submitted to:

Michigan Department of Environmental Quality - Water Bureau

April 2011

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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 Ecosystem Monitoring and Assessment Report* (RREMAR), published annually by the Rouge Project and the Alliance of Rouge Communities.

A summary of the water quality trends in each of the seven Rouge subwatersheds, based on water quality data collected through 2009 and ecosystem health data collected through 2010, 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 2009 and include continuous monitoring of level and flow at seven locations throughout the watershed and instream samples for *E. coli* at eleven locations in the Middle Rouge River.

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: Lower 1 for dissolved oxygen; the Middle 1 and Middle 3 for fish community; and the Main 3/4, Middle 3 and Lower 2 for amphibians. In particular, trend analysis indicates stream flow to be improving or has not changed in 7 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 2010, seven to eight species of amphibians monitored were observed in 3 of the 7 watershed management areas. The next three subsections provide additional information about the environmental indicator monitoring completed in the Rouge River watershed.

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 during spring and fall 2010. Forty-eight sites were monitored (27 by FOTR and 21 sites by the Wayne County WQMD) in the spring. Figure 1 identifies the site locations and ratings for the spring 2010 monitoring. In the fall of 2010, 47 sites were monitored (26 by FOTR volunteers and 21 by WQMD). Figure 2 identifies the locations and site ratings for the fall 2010 monitoring.

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	↑↑ 8/9	⇔ 1/2	↑↑ 7/8	↑↑ 11/14	⇔ 3/6	↑↑ 7/8	↑↑ 3/3
Frogs & Toads¹⁰	↑↑ 5-6	↓↓ 3-4	↑↑ 7-8	↑↑ 7-8	↓↓ 3-4	↑↑ 7-8	↓↓ 3-4

- 1) Trend arrow is based on frequency of high flow decreasing as reported in *2009 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 *2008 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 the 2005 MDEQ Macroinvertebrate Assessment Survey. Up arrows were given if a majority of the sites being rated received an “Acceptable” or better.
- 10) Arrow indicates either an increase or decrease in number of species heard in the watershed from the prior year or minimum 7-8 species heard in the watershed during Friends of the Rouge 2010 Frog & Toad Survey.

Figure 1: Rouge River, Benthic Monitoring Sites and Scores, Spring 2010

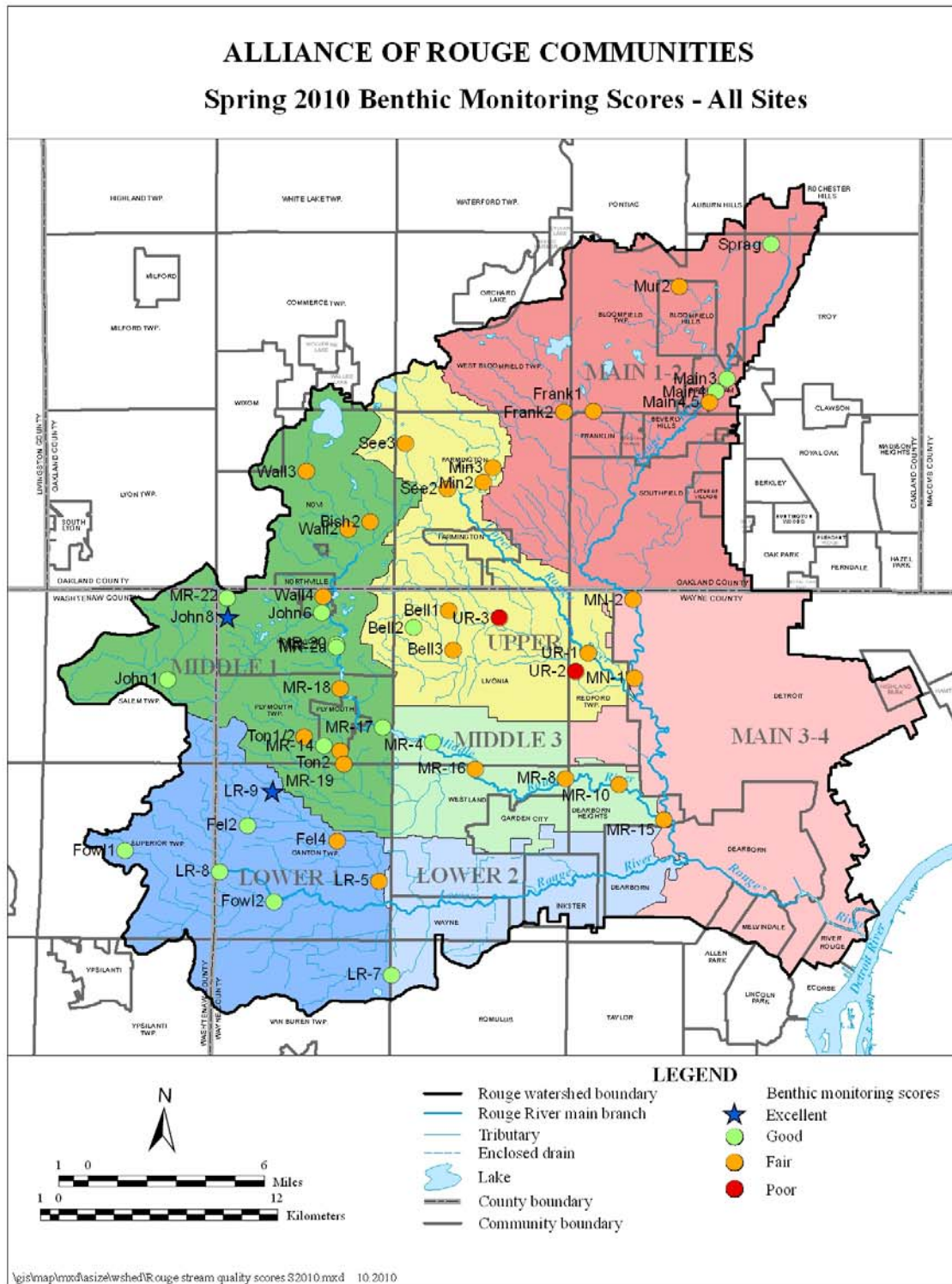
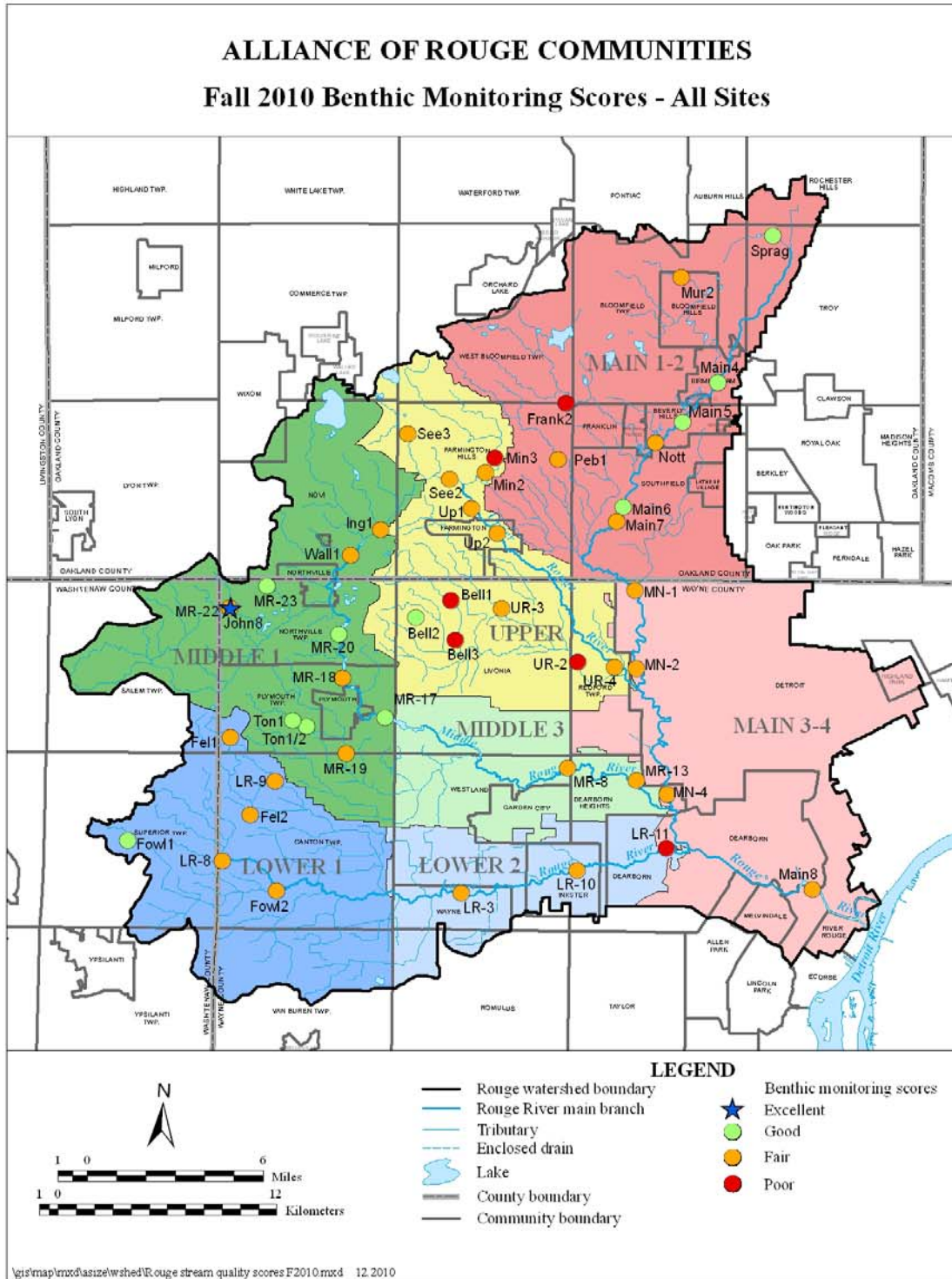


Figure 2: Rouge River, Benthic Monitoring Sites and Scores, Fall 2010



A summary of the site ratings from the 2010 Rouge River benthic monitoring program is as follows:

- Three sites rated Excellent,
- Twenty-seven sites rated Good,
- Fifty-seven sites rated Fair, and
- Eight sites rated Poor.

Notable Rouge River watershed macroinvertebrate findings during 2010 include:

- Stoneflies were found at 20 of the 29 sites sampled during the January 23, 2010 FOTR Winter Stonefly Search. WQMD team leaders collected a Broad back stonefly (Family Taeniopterigidae) on the Main Branch at Eight Mile Road on February 9, 2010. This was the first time a stonefly was found on the Main Branch and the first time this family was found anywhere in the Rouge River watershed. This find received extensive press coverage in the Detroit Free Press, Detroit News, and other local papers. WQMD staff and FOTR staff were interviewed about the stonefly find on the Greg Fahle Show, WDET 101.9 FM, Detroit.
- In addition, patterned stoneflies (family Perlodidae), an aquatic insect very sensitive to water quality, were found on Fellows Creek (a Lower Rouge tributary) and at a Johnson Creek site. Brown stoneflies (Family Nemouridae) were collected at a Johnson Creek site. Slender Winter Stoneflies were found in the Upper Rouge at one site, Heritage Park in Farmington Hills, for the first time since 2005.
- WQMD team leaders and volunteers found Slender Winter (Family Capniidae) stoneflies at multiple locations on the Middle Rouge River, and at Springbrook Recreation Area in Edward Hines Parkway (southeast of M-14). This is the furthest downstream in the main branch of the Middle Rouge River that stoneflies were found during this survey. In addition, patterned stoneflies (family Perlodidae), an aquatic insect very sensitive to water quality, were found on Fellows Creek (a Lower Rouge tributary) and at a Johnson Creek site. Brown stoneflies (Family Nemouridae) were collected at a Johnson Creek site. Slender Winter Stoneflies were found in the Upper Rouge at one site, Heritage Park in Farmington Hills, for the first time since 2005.
- Another new find for the Rouge in Spring 2010 was a new species of free living caddis fly (Family Rhyacophilidae, genus and species *Rhyacophila lobifera*), a new find for the Rouge River, and the first time the species was officially identified in the State of Michigan. They are uncommon and are indicators of clean water. This finding received coverage in the *Detroit News* on June 29, 2010.
- Clubtail dragonflies, a member of the dragonfly family Gomphidae which is very sensitive to water quality, were found at on the Upper Rouge at Heritage Park in Farmington Hills for the first time. Clubtails were also collected at Shiawassee Park (Upper Rouge) and at Sprague Creek in Troy, a tributary near the headwaters of the Main Rouge River. A Dobsonfly, or Hellgrammite, was also found at Sprague Creek. The Dobsonfly is a member of the family Corydalidae, also very sensitive to water quality. Dobsonflies were also collected at Fellows Creek in Plymouth Township and on the Main Rouge in Southfield.
- Pronggill mayflies, another insect family sensitive to water quality, were found at two Johnson Creek sites.
- Finger-net and long-horned case maker caddis flies, water quality-sensitive families, were also collected at several sites this fall.

- Stoneflies, a macroinvertebrate species whose presence indicates high water quality, were collected at one Johnson Creek site during fall 2010 collection which is unusual.

Rouge River Macroinvertebrate Data Trend Analysis: A trend analysis was performed on the Rouge River benthic macroinvertebrate data collected 2001 - 2010. 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 ($p \leq 0.05$) 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 will suggest 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 2 summarizes the results of the data trend analysis since FOTR/WQMD macroinvertebrate monitoring began.

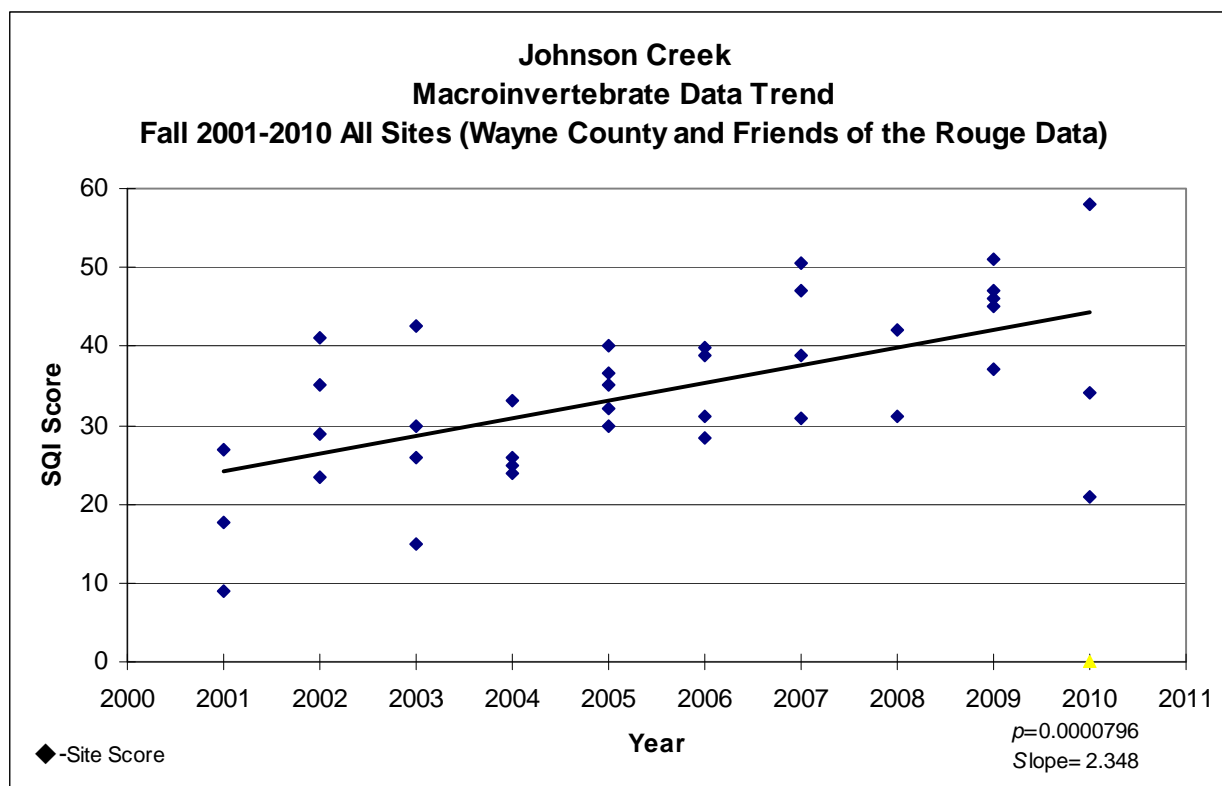
Table 2: Rouge River Macroinvertebrate Trend Analysis, 2001 - 2010

Spring Data 2001-2010			
Subwatershed	slope	p-value	Significant Trend
Main 1-2	0.8592	0.0102	Yes improving
Upper	0.3228	0.4345	No trend
Johnson Creek	1.2348	0.0854	No trend
Middle 1	1.7597	0.0002	Yes improving
Middle 3	1.6287	0.0428	Yes improving
Lower 1	1.3081	0.0063	Yes improving
Lower 2	2.7508	0.0046	Yes improving
Main3-4	NA	NA	NA
Fall Data 2001-2010			
Subwatershed	slope	p-value	Significant Trend
Main 1-2	-0.5128	0.1950	No trend
Upper	-0.7752	0.0520	No trend
Johnson Creek	2.2238	0.0001	Yes improving
Middle 1	0.5925	0.1727	No trend
Middle 3	1.2815	0.0040	Yes improving
Lower 1	0.391	0.3280	No trend
Lower 2	0.514	0.6200	No trend
Main3-4	NA	NA	NA

NA – not applicable, not enough data to perform analysis.

Figure 3 presents a graphic representation of the linear regression analysis completed for macroinvertebrate data collected in Johnson Creek during the fall for the period 2001-2010 (see *Section 6: List of Attachments* for the linear regression graphics for the spring and fall data analysis for each of the subwatersheds).

Figure 3: Fall Macroinvertebrate Data Trend for Johnson Creek Subwatershed, 2001-2010

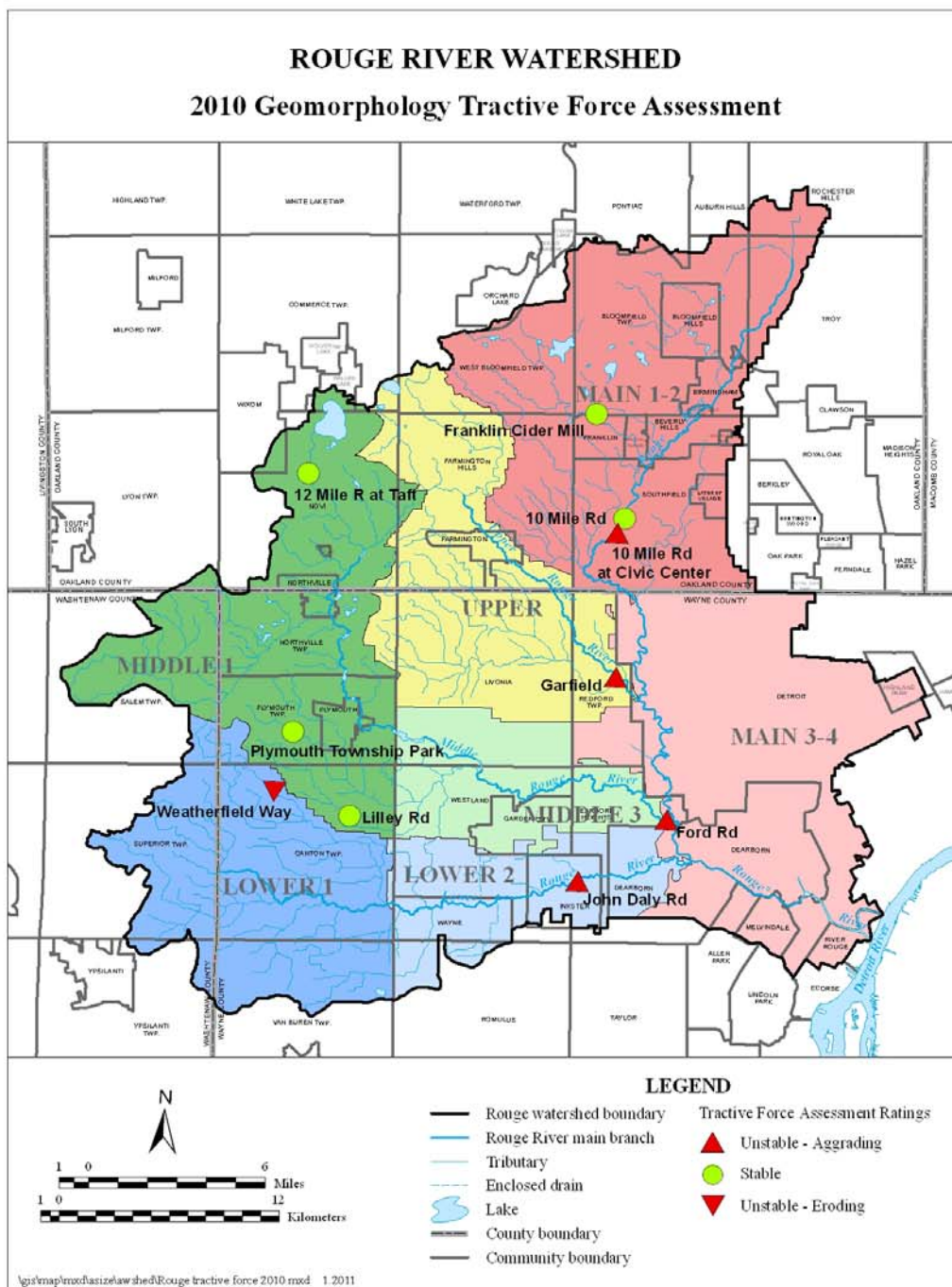


Based on this analysis, five of the eight subwatersheds are showing significant improving trends in the spring macroinvertebrate monitoring data. Two of the eight have significant improving fall data trends. None of the subwatersheds have a significant declining data trend in either spring or fall. The Upper Rouge, however, is very close to having a significant declining data trend for the fall monitoring.

Rouge River Geomorphology Assessments: WQMD staff completed geomorphology surveys at ten Rouge River sites in 2010. Two of the sites were located in the Lower Rouge River watershed, four sites in the Middle Rouge watershed, three in the Main Rouge River watershed, and one in the Upper Rouge watershed. The tractive force ratio, which estimates stability of a stream based on a ratio calculated from the bankfull depth, channel slope and the size of particles found on the stream bed, was calculated for all the sites. Based on the rating scale that WQMD has proposed, the tractive force ratios at five of the ten sites were rated stable. The “stable” sites are the Walled Lake Branch at 12 Mile (Middle Rouge), Tonquish Creek at Plymouth Township Park (Middle Rouge), South Branch Tonquish Creek at Lilley Road (Middle Rouge), Franklin Cider Mill (Main Rouge), and Ten Mile and Civic Center (Main Rouge). The tractive force ratios for four of the sites were lower than 1, which suggests the streams at these locations are aggrading (accumulating sediment). The “aggrading” sites are Middle Rouge at Ford Road, the Lower Rouge at John Daly Road, the Upper Rouge at Lola Valley (Five Mile Road), and the Main Rouge at 10 Mile Road. The Fellows Creek at Weathersfield Way (Lower Rouge) site

tractive force ratio was over seven, which suggests that the stream at this location has “excess energy” and is capable of creating channel erosion. Figure 4 identifies the location of the sites and the scores for each site based on the calculated tractive force ratio for the site.

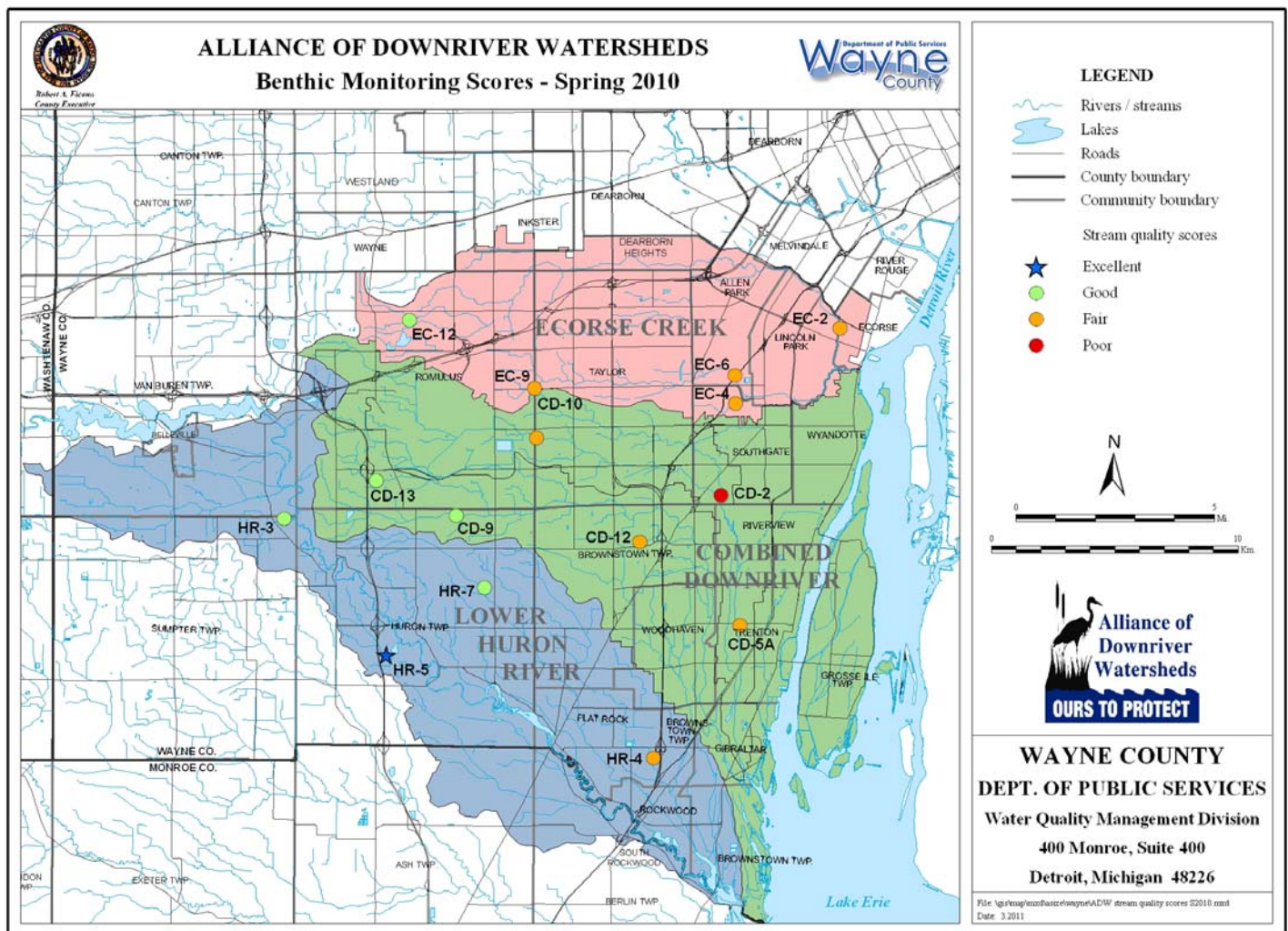
Figure 4: Rouge River Geomorphology Assessment Results – 2010



During 2010, Wayne County WQMD continued its partnership with the *Downriver* Citizens for a Clean Environment “Stream Team” and the Huron River Watershed Council (HRWC) to implement environmental indicator monitoring in the Alliance of Downriver Watersheds (ADW).

Downriver Watersheds Macroinvertebrate Monitoring: Spring and fall macroinvertebrate (benthic) monitoring was performed by WQMD at 30 locations in the downriver watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River. Fifteen ADW sites were monitored in spring 2010 by WQMD, including four sites with student volunteers assisting. Southgate Anderson High School, Southgate Creative Montessori, Ecorse High School, and Trenton High School participated in the monitoring, providing 90 student volunteers. Figure 5 identifies the spring 2010 benthic monitoring site locations and site ratings.

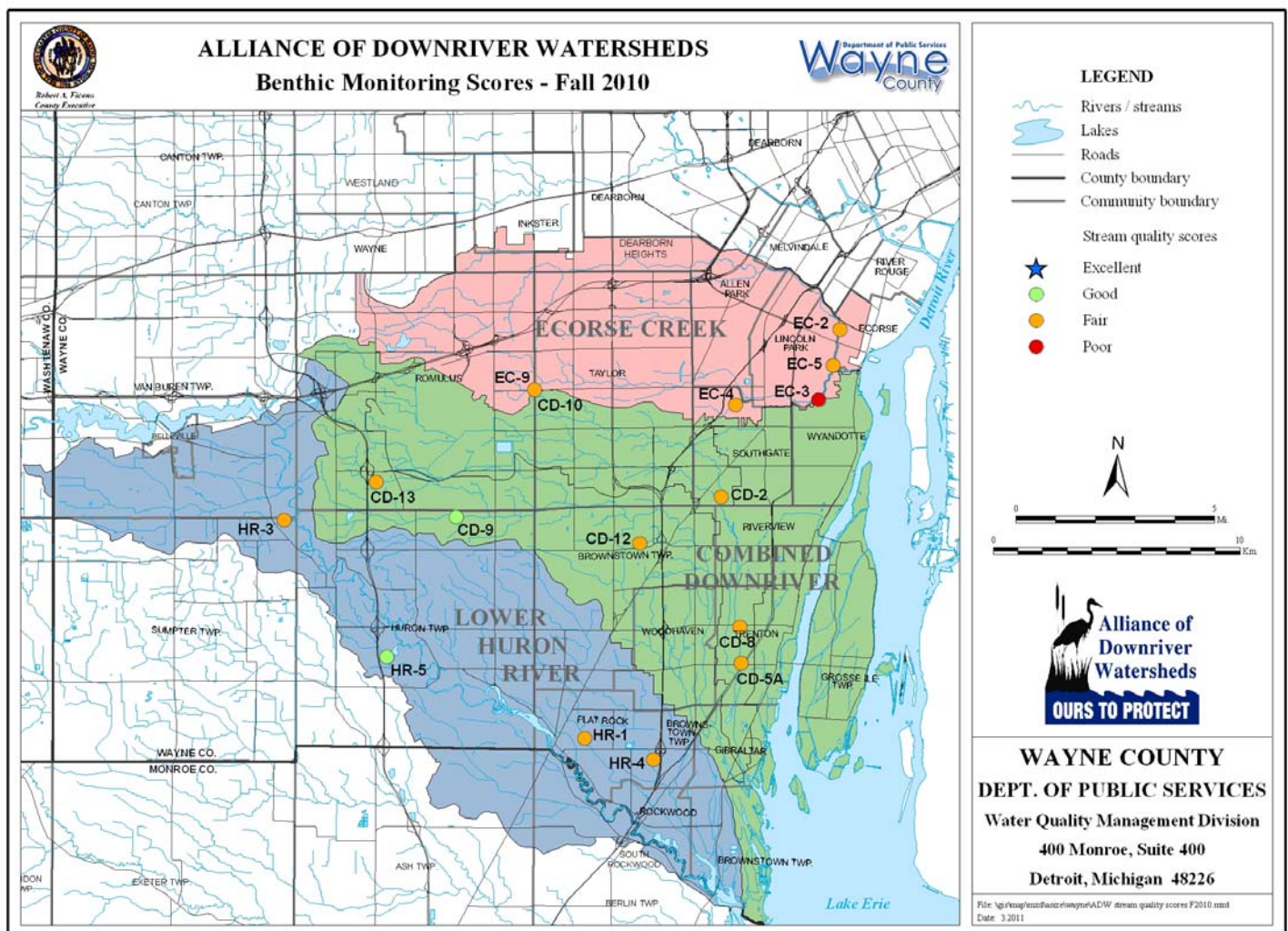
Figure 5: Wayne County Downriver Watersheds, Benthic Monitoring – Spring 2010



The downriver watersheds fall 2010 macroinvertebrate monitoring occurred in October. Nineteen sites were sampled in the ADW: five in the Ecorse Creek Watershed, six in the Combined Downriver Watershed, and eight in the Lower Huron River Watershed. Nine schools were volunteer partners, assisting in the monitoring efforts were Ecorse High School, Lincoln Park High School, Southgate Creative Montessori Middle School, Wilson Middle School, Southgate Anderson High School, Trenton High School, Gudith Elementary School, Flat Rock High School, and Huron High School. Two of the schools, Gudith School and Huron High School, are schools new to the program. Approximately 240 student volunteers participated. Figure 6 identifies the WQMD sites and the site ratings. A summary of the 2010 ADW fall macroinvertebrate monitoring is as follows:

<u>Watershed</u>	<u>Macroinvertebrate Monitoring Results</u>
Ecorse Creek	Five sites monitored: Fair to poor ratings
Combined Downriver	Six sites monitored: Good to fair ratings
Lower Huron River	Eight sites monitored: Good to poor ratings

Figure 6: Wayne County Downriver Watersheds, Benthic Monitoring – Fall 2010



Notable macroinvertebrate findings in the downriver watersheds during 2010 include:

- Stoneflies, a macroinvertebrate whose presence indicates high water quality, were collected at two Lower Huron watershed sites during spring 2010. The types collected were Perlodid stoneflies (family Perlodidae), found in the Silver Creek at King Road, and Nemourid broadback stoneflies (family Nemouridae) found in the Brooks Drain.
- Pronggill mayflies (family Leptophlebiidae), another insect family sensitive to water quality, were found in the Reagan Drain in the Lower Huron River watershed.
- Clubtail dragonflies, a member of the dragonfly family Gomphidae which is sensitive, were again collected in the Blakely Drain at Merriman Road in the Combined Downriver watershed.
- Caddis flies sensitive to water quality (the Northern Case maker caddis (family Limnephilidae) and Giant case maker caddis (family Phryganeidae), and the spotted head caddis fly (family Polycentropodidae) were found at several Lower Huron, Ecorse Creek and Combined Downriver sites.
- Hooded case maker caddis flies (family Molannidae), a type of case making caddis fly that favors slow sections of streams and areas of sand deposition was collected in the Blakely Drain, located in the Combined Downriver watershed. This is the first time that WQMD collected this type of aquatic insect in the downriver watersheds.

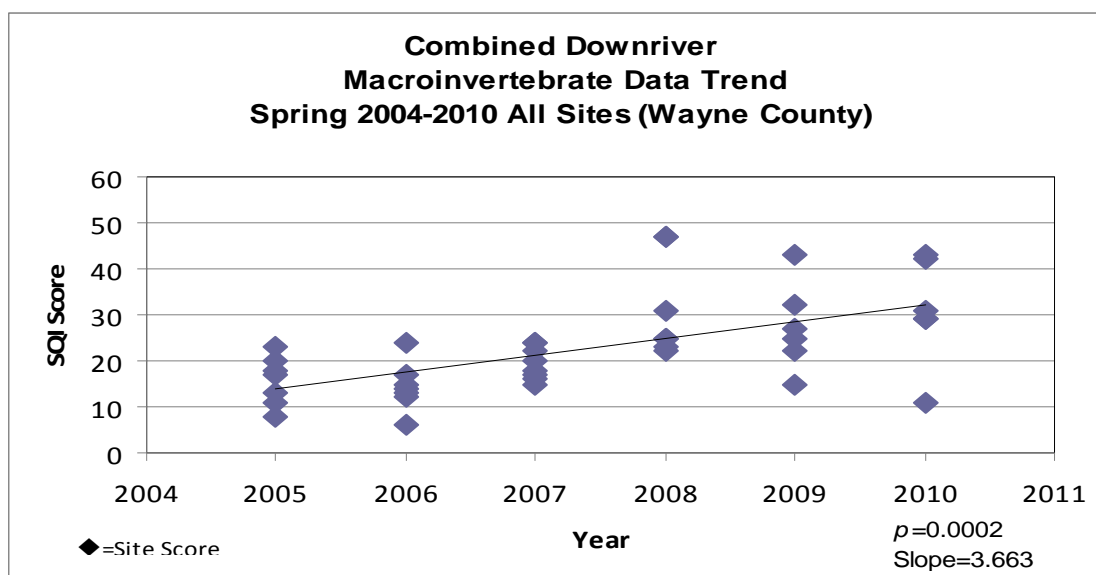
Downriver Watersheds Macroinvertebrate Data Trend Analysis: A trend analysis was performed on the macroinvertebrate data collected 2004 – 2010 in the downriver watersheds. The data were subdivided into the three primary watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River for statistical analysis. Similar to the data trend analysis completed for the Rouge River data, 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 will suggest 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 3 summarizes the results of the data trend analysis since HRWC/WQMD/Stream Team macroinvertebrate monitoring began.

Table 3: Downriver Watersheds Macroinvertebrate Trend Analysis, 2004-2010

Spring 2004-2010			
Watershed	Slope	p-value	Significant Trend
Lower Huron	2.3094	0.0040	Yes, improving
Ecorse Creek	2.4181	0.0060	Yes, improving
Combined Downriver	3.663	0.0002	Yes, improving
Fall 2004-2010			
Watershed	Slope	p-value	Significant Trend
Lower Huron	-0.558	0.5441	No trend
Ecorse Creek	0.5089	0.5371	No trend
Combined Downriver	1.5391	0.0244	Yes, improving

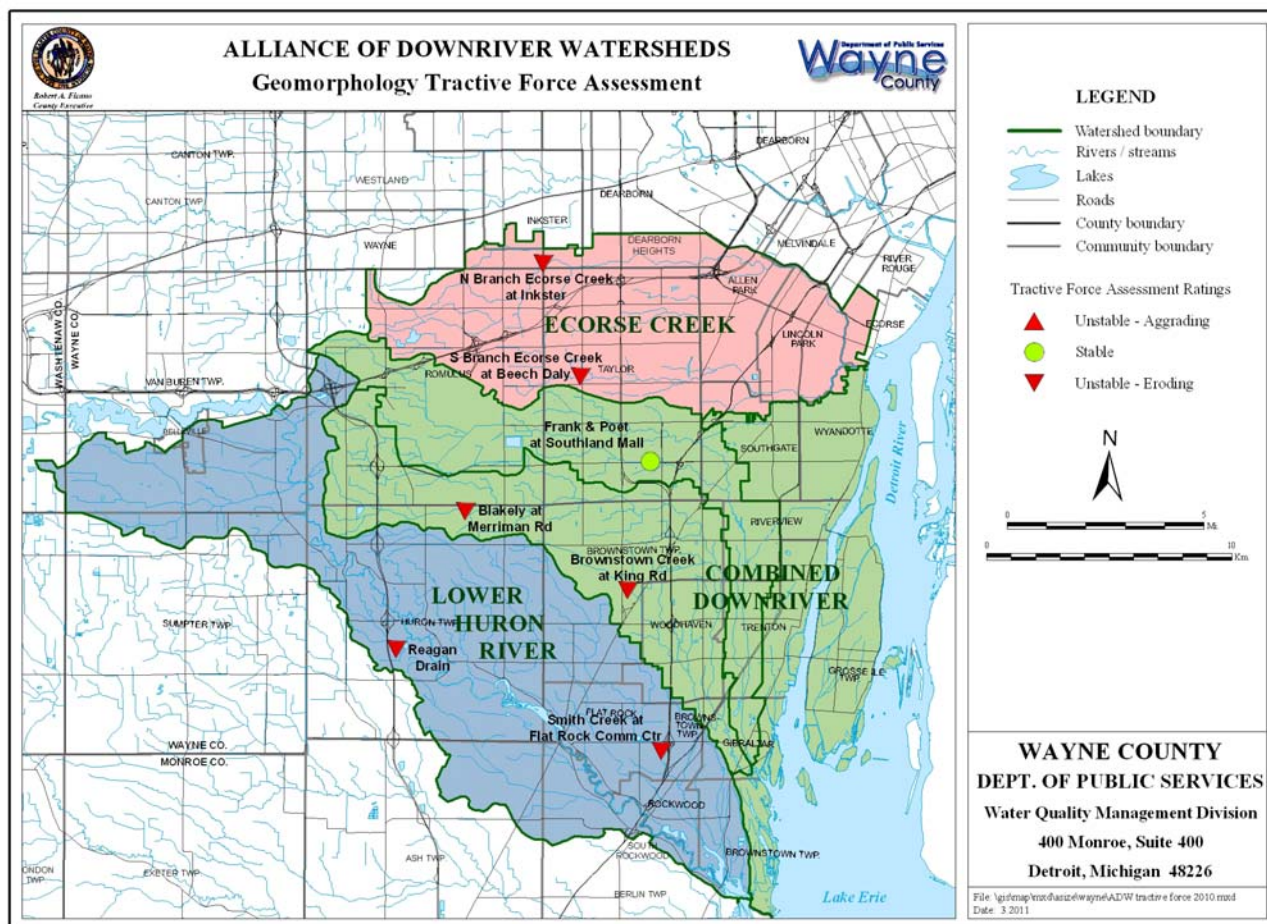
Figure 7 presents a graphic representation of the linear regression analysis completed for macroinvertebrate data collected in the Combined Downriver watershed during the spring for the period 2004-2010 (see *Section 6: List of Attachments* for the linear regression graphics for the spring and fall data analysis for each of the downriver watersheds). Based on this analysis, all three of the watersheds are showing significant improving trends in the spring macroinvertebrate monitoring data. One of the three have significant improving fall data trends. None of the watersheds have a significant declining data trend in either spring or fall.

Figure 7: Spring Macroinvertebrate Data Trend for Combined Downriver Watershed, 2004 - 2010



ADW Geomorphology Monitoring: Using stream channel geomorphology field measurement techniques acquired during Rouge River watershed work, WQMD staff assessed stream channel stability within the Combined Downriver, Ecorse Creek, and Lower Huron River Watersheds and began establishing baseline data across the watersheds. This is being done to geospatially assess channel stability as well as assess stabilizing or destabilizing trends over time. As shown in Figure 8, this analysis was performed at seven sites across the ADW. Six sites were rated to be unstable with eroding characteristics and one site was rated stable.

Figure 8: Geomorphology Assessment Results for Downriver Watersheds – 2010



Flow Monitoring in Downriver Watersheds: Flow monitoring was conducted at seven sites within the ADW during 2010: two sites were located in the Ecorse Creek watershed; one site along the South Branch and one site at the United States Geological Survey (USGS) gage station on the North Branch. Data from the USGS station was utilized for the stream flow analysis. WQMD collected data at three Combined Downriver sites: one on the Frank and Poet Drain, one on the Blakely Drain, and one on the Brownstown Creek. The Huron River Watershed Council (HRWC) collected data at two sites in the Lower Huron River watershed. Monitoring involved the collection of continuous water level data at a fixed point using a pressure sensor, accompanied by regular discharge measurements across a range of flow conditions to calibrate water level to stream discharge. Discharge was measured during the growing season (approximately April through October) at seven sites over two years. Statistics are computed to determine the stream's flashiness, peak and base flows over that time period.

Table 4 presents a summary of the flow characteristics for the seven locations monitored during 2010. Based on this analysis all of the water courses monitored in the ADW are in the 4th

(flashiest) quartile of Michigan stream with the exception of Woods Creek in the Lower Huron watershed. These statistics will be used to assess trends over time with the goal being to realize decreases in the streams' flashiness and peak flows and increased base flows.

**Table 4: Flow Characteristics
Ecorse Creek, Combined Downriver, and Lower Huron River Watersheds**

Site	Period Monitored	Drainage Area (sq. mi.)	Median Flow (cfs)	Peak Flow (cfs) ¹ (Event Precip. (in))	Minimum flow ¹ (cfs)	Flashiness (Quartile) ²
1. Frank & Poet Drain	Jul-Dec/2008 Jul-Nov/2009 Jun-Oct/2010	27	2.44	207 9/13/08 (3.07)	0	0.65 (4)
2. Blakely Drain	Jul-Dec/2008 Jul-Nov/2009 Jun-Nov/2010	32	2.80	113 7/25/10 (0.49)	0	0.47 (4)
3. Brownstown	Jul-Dec/2008 Jul-Nov/2009 Jun-Nov/2010	27	2.73	214 (3.07)	0	0.70 (4)
4. SB Ecorse Creek	Jul-Dec/2008 Jul-Nov/2009 Jun-Nov/2010	12	3.82	290 (0.49)	0.33	0.43 (4)
5. NB Ecorse Creek ³	Jul-Dec/2008 Jun-Sep/2009 Jun-Nov/2010	18	1.2	162 (2.59)	0.16	0.97 (4)
5. NB Ecorse Creek ³ (full record)	2002-10 (all months)	18	2.3	362 ⁴	0.08	0.83 (4)
6. Woods Creek	Jul-Nov/2008 May-Oct/2009 Apr-Oct/2010	21	1.66	44.8 (2.6)	0	0.31 (2)
8. Silver Creek	Aug-Oct/2009 Apr-Oct/2010	7.9	1.26	193 (2.37)	0	0.77 (4)

Data was compiled by the Huron River Watershed Council.

¹ Peak flow and minimum flow are extracted from the complete, sub-daily flow record, whereas the other statistics are based on mean daily discharge

² A state study ranked sites into quartiles across drainage basin size classes, where the 1st quartile is the most natural or stable flow group and the fourth quartile includes sites with the flashiest flows.

³ NB Ecorse Creek is operated by the USGS.

⁴ Peak flow occurred in 2004, prior to precipitation records obtained by the HRWC.

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 (MDEQ, formerly Michigan Department of Natural Resources and Environment) on June 27, 2008. The methods of assessing progress of watershed plan implementation are under development by the Advisory Group.

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SECTION 2
WAYNE COUNTY
ILLICIT DISCHARGE ELIMINATION PLAN
SUMMARY OF ACTIVITIES

The following Illicit Discharge Elimination Plan (IDEP) activities were completed by Wayne County during the time period **January 1, 2010 – December 31, 2010**, in compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000. All activities were conducted County-wide, unless otherwise noted. Table 5 presents a summary of the results of Wayne County's IDEP.

Table 5: Environmental Concerns Investigated
January 1 through December 31, 2010

<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	287	NT
Water Quality Complaints into DPS-Water Quality Division	63	17
Drainage Complaints directly into DPS-FMD Drain Office	185	NT
Complaints directly into DPS-LRMD	34	NT
<i>Subtotal, Complaints Handled</i>	569	17
Types of Environmental Concerns or Illicit Discharges Identified during Complaint Investigations (WQMD, FMD and LRMD)		
Grease/Oil/Fuel	22	8
Soil Erosion	11	0
Illegal Dumping	4	0
Indoor Air	1	0
Landfill Odor	26	0
Logjams/Woody Debris	56	0
Debris	38	0
Flooding	26	0
Vegetation	12	0
Standing Water	3	0
Other Misc.	83	9
<i>Subtotal, Complaint Investigation</i>	282	17
Emergency Spill Response – Oil in the Middle Rouge	1	1
<i>Subtotal, Emer. Spill Response</i>	1	1

Table 5 (Continued): Illicit Discharges Found Within Wayne County

Environmental Concerns Identified during Routine Field Operations	<i>Number Handled or Investigated</i>	<i>Number of Confirmed Illicit Discharges</i>
Soil Erosion (WQMD)	1	1
Open ended Geothermal Heat Pump system discharge (FMD)	1	1
Shaft for Tunnel project overflow (Roads)	1	1
Illegal dumping of solid waste (Parks)	1	1
<i>Subtotal, Field Operations</i>	4	4
Illicit Discharges Identified during Facility (Dye Test) Inspections		
Floor Drains		28
Sinks		3
Milk Tanker Discharge		1
Trash Compactor		1
Inappropriate Floor Wash Water Disposal		5
Outdoor Power Washing (equipment)		2
Outdoor Mat Washing		1
Onsite Sewage Disposal System Failures (EHD)		49
<i>Subtotal, Facility Inspections</i>		90
Pollution Prevented or Removed by Activity	<i>Amount</i>	<i>Sites/Events</i>
Pollutant Load Reductions from Dye-Testing (WQMD)	1,086 lbs; 3,732,041 gals/yr	NA
Pollutant Load Reductions from Onsite Sewage Disposal System Program (EHD)	41,537 lbs; 3,519,056 gals/yr	NA
Cleanup of illegal dump sites (LRMD - C.L.E.A.N. program)	1,066 cu yds; 7,796 tires	19
Computer/Computer Peripheral Waste Collection Days (0 days - combined with Household Hazardous Waste collection events – LRMD)	125.8 tons (251,600 lbs)	4
Household Hazardous Waste Collection Days (4 days – LRMD)	256.5 tons (513,000lbs)	4
Cleanup of material dumped on County property, street sweepings and catch basin spoils (DPS-Roads)	10,105 cu. yds	7
County Drain debris disposal (FMD)	1,714 cu. yds	55
TOTAL POLLUTION PREVENTED AND/OR ILLICIT DISCHARGES IDENTIFIED	>834,633 lbs	110

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

NA = Not Applicable

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, approximately 287 calls were handled through the WCDPS Environmental Hotline. Fifty-nine of these calls were referred to outside agencies. WCDPS responded to approximately 228 complaints or inquiries involving land or water pollution concerns received via the hotline or other contact. Approximately 198 of these inquiries were addressed by staff over the telephone, without need for a field investigation. The balance of calls, approximately 30, were transferred to WCDPS field operations staff in either the Land Resource Management Division (LRMD), the Facilities Management Division (FMD) or the Water Quality Management Division (WQMD). Citizen complaints regarding environmental matters are also received directly by these different divisions in WCDPS as well as by the Wayne County Environmental Health Division. These efforts are summarized below. Citizen complaints regarding environmental matters are also received directly by these different divisions in WCDPS as well as by the Wayne County Environmental Health Division. These efforts are summarized below.

Coordinated Complaint Response

The WQMD handled a total of 63 complaints during the reporting period. Of these, 42 were various illicit discharge-related calls, one involved a soil erosion issue, nine were requesting information or technical assistance, one concerned filling of wetlands, two were ponding water/drainage issues, and eight others were miscellaneous concerns. Of the 63 complaints, seven were referred to other agencies or County Departments, and 54 were investigated by WQMD. Of the 54 investigated by WQMD, 17 were fuel/oil related, 18 were other types of illicit discharges, seven were requesting information or technical assistance and 12 involved miscellaneous topics. Of the 54 complaints investigated by WQMD, 15 were confirmed illicit discharges. For the confirmed illicit discharges identified in 2010, seven discharges have been removed, one site remains under investigation, four were one-time discharge events and 3 were referred to others for follow-up after investigation.

The Facilities Management Division (Drain Office) handled a total of 185 complaints concerning County Drains during the reporting period, categorized as follows: illegal dumping – 2, log jams/woody debris – 56, debris – 38, flooding – 26, standing water – 3, erosion – 9, other and miscellaneous – 51.

The Land Resource Management Division received and responded to 34 complaints during 2010. The complaints were categorized as follows: landfill odor - 26, illegal dumping - 2, soil erosion – 2, indoor air - 1, other and miscellaneous – 3.

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 four watersheds: Rouge River, Ecorse Creek, Lower Huron River and Combined Downriver. Plumbing fixtures at 239 facilities were dye-tested, resulting in the identification of thirty-one illicit connections at four facilities and ten illicit discharges from six facilities. Table 6 provides a summary of the facility dye test inspections by watershed. Table 7 summarizes the types of illicit connections and illicit discharges found by Wayne County during facility inspections for this reporting period. Table 8 presents a summary of illicit discharge investigations performed independently of facility dye testing activities. Table 9 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 2010 are eliminated. Wayne County's illicit discharge elimination effort prevents over 20,018 pounds of pollutants and approximately 1.8 million gallons of polluted water per year from entering Wayne County waterways. These pollutant loading reduction estimates include illicit discharges identified during all 2010 Wayne County illicit discharge investigations.

**Table 6: Wayne County Watersheds Facility (Dye Test) Inspection Summary
January 1 through December 31, 2010**

	Annual Total	Watershed			
		Rouge River Watershed	Ecorse Creek Watershed	Combined Downriver Watershed	Lower Huron Watershed
Number of Facilities Inspected	239	149	60	19	11
Number of Facilities with Illicit Connections	4	0	4	0	0
Number of Illicit Connections*	31	0	31	0	0
Number of Facilities with Illicit Discharges	6	0	6	0	0
Number of Illicit Discharges	10	0	10	0	0
Number of Environmental Concerns	5	1	0	2	2
Number of Facilities with Environmental Concerns	5	1	0	2	2
Number of Facilities with Confirmed Corrections	7	6	1	0	0
Number of Illicit Connections Corrected	21	2	0	0	0
Number of Illicit Discharges Corrected	9	5	4	0	0
Number of Environmental Concerns Corrected	0	0	0	0	0

**Table 7: Types of Illicit Discharges Found Within Wayne County
During Facility (Dye-Test) Inspections January 1 through December 31, 2010**

		Watershed			
<i>Type of Illicit Connection</i>	<i>Percent of Total Identified</i>	<i>County Total</i>	Rouge River	Ecorse Creek	Combined Downriver
Floor Drains	90	28	0	28	0
Sinks	10	3	0	3	0
Other	0	0	0	0	0
TOTAL	100			31	
<i>Type of Illicit Discharge</i>	<i>Percent of Total Identified</i>	<i>County Total</i>	Rouge River	Ecorse Creek	Combined Downriver
Outdoor Equipment washing	20	2		2	
Inappropriate Floor Wash Water Disposal	50	5		5	
Sump pump	10	1		1	
Onsite Sewage Disposal System	0	0		0	
Other trash compactor, milk discharge	20	2		2	
TOTAL	100			10	

**Table 8: Summary Of Illicit Discharge Investigations Performed Independently Of Wayne
County Facility Dye Testing Activities: January 1 through December 31, 2010**

	Annual Total 2010	Watershed		
		Rouge River Watershed	Ecorse Creek	Combined Downriver Watershed
Number of Onsite Sewage Disposal Systems (OSDS) with Illicit Discharges	21	NA	NA	NA
Number of Illicit Connections	0	0	0	0
Number of Illicit Discharges	2	2	0	0
Number of Illicit Connections Corrected	0	0	0	0
Number of Illicit Discharges Corrected	0	0	0	0

NA: Not Applicable as WCHD-EHD tracks OSDS by community and not by watershed

Table 9: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: January 1, 2010 through December 31, 2010

Parameter	Estimated amount of polluting material prevented from entering Wayne County Waterways annually in pounds*				
	Annual Loads	Facility Inspections by Watershed			Failed OSDS
	Pounds/year	Rouge River	Huron River	Combined Downriver	
Surfactant	119	0	0	75	44
Potassium	222	0	0	46	176
Suspended Solids	7,305	0	0	126	7,179
Total Phosphorus	745	0	0	71	674
Total Solids	24,929	0	0	314	24,615
Total Organic Carbon	2,057	0	0	52	1,377
Ammonia	319	0	0	26	293
Chemical Oxygen Demand	208	0	0	208	0
Biochemical Oxygen Demand	7,291	0	0	112	7,179
Fats, Oils and Grease	56	0	0	56	0
Total Annual Pounds per Year	42,623	0	0	1,086	41,537
Flow (gallons/year)	3,732,041	0	0	212,985	3,519,056

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

OSDS = Onsite Sewage Disposal System

Since the inception of the Illicit Discharge Elimination Program in 1987, Wayne County staff have inspected 9,097 facilities and identified 2,527 illicit connections at 615 facilities. WQMD confirmed corrections of illicit connections and illicit discharges at a total of 559 facilities through 2010. During the reporting period, corrective actions of identified illicit connections, illicit discharges, and environmental concerns were verified at seven facilities.

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 these facilities is provided within Section 2.1 of Section 6: Attachments. Confirmation of corrective action is pending at 29 facilities. Eight of these facilities are vacant, referred to the local community or appropriate state agency for enforcement action. A listing of these facilities and their status is presented in the Attachments for Section 2.2. Illicit discharge facility inspection activity is summarized by watershed in the following subsections.

Rouge Watershed Facility Inspections (Dye-Testing)

During the reporting period, WQMD performed 149 facility dye test inspections in the Rouge River watershed. Dye testing was performed in the community of Livonia. No illicit connections were found. No illicit discharges were discovered. WQMD staff confirmed

corrections of 21 illicit connections and five illicit discharges previously identified at six facilities. Communities where follow up inspections were performed include Canton Township, Dearborn Heights, Garden City, Livonia, Northville, City of Plymouth, Redford Township, Wayne, and Westland. There are 15 facilities with outstanding illicit discharges in the Rouge River watershed. Five of the facilities were vacant at the time of the follow up inspection. Corrections of illicit discharges were verified at two facilities visited during 2010. These facilities are listed in the Attachments Table 2.2.

Ecorse Creek Watershed Facility Inspections (Dye-Testing)

During the reporting period, WQMD performed 60 facility dye test inspections in the communities of Lincoln Park and Taylor within the Ecorse Creek watershed. Thirty-one illicit connections were found at four facilities. Eight illicit discharges were discovered at six facilities. 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 illicit discharges and were verified at two facilities. There are eleven facilities with outstanding illicit discharges located within the Ecorse Creek watershed. One of the facilities, located in Romulus, was vacant at the time of the follow up inspection. These facilities are listed in Table 2.2 in the Attachments.

Combined Downriver Watershed Facility Inspections (Dye Testing)

Twenty facilities in the Combined Downriver watershed were dye tested during the reporting period. Two of these facilities have environmental concerns. One of the facilities involved in a spill response and investigation is subject to MDEQ compliance. One facility with outstanding illicit connections was visited to determine the status of illicit connections but was vacant at the time of the follow up inspection. There is one facility with outstanding illicit discharges in the Combined Downriver Watershed (see Table 2.2 in the Attachments).

Lower Huron River Watershed

WQMD inspected eleven facilities in the City of Flat Rock within the Lower Huron River watershed. No illicit discharges or connections were discovered at these facilities. Environmental concerns were identified at two facilities. There are no facilities with outstanding illicit discharges in the Lower Huron River watershed.

Additional Investigation on Behalf of Communities:

Rouge River Watershed

City of Plymouth

WQMD met with the City of Plymouth to share its outfall survey investigation data and discuss areas that need follow up investigation. WQMD performed follow up investigations of six outfall to the Tonquish Creek in the City of Plymouth during March 2010. The sites sampled were suspicious outfalls identified during Wayne County's inspection of the Tonquish Creek performed in November 2009. These samples were analyzed for *E. coli*, pH, temperature, conductivity, ammonia, surfactants and tannic acid. Additional investigation of these outfalls is planned to take place in 2011.

Canton Township

WQMD sampled one outfall to the Truesdell Drain in Canton Township during 2010 due to observations made during the County's inspection of this Drain in November 2009. The sample was analyzed for *E. coli*, pH, temperature, conductivity, ammonia, surfactants and tannic acid. Additional investigation this outfall is planned to take place in 2011.

City of Inkster, Perrin Drain Investigation

During 2010, Wayne County and the City of Inkster continued to investigate a possible illicit discharge into the enclosed Perrin Drain, a Wayne County Drain. Considerable research, field investigation and sampling has occurred in the drainage area for the Perrin Drain in the City of Inkster, along facility dye testing, to identify the source of the apparent illicit discharge. Additional investigation of this area is planned for 2011.

Ecorse Creek Watershed

Cities of Allen Park and Taylor: Reeck Drain Investigation

WCDPS-FMD and WQMD performed investigations to determine the cause of a sheen and black odorous material observed in open sections of the Reeck Drain in Taylor and Allen Park. WQMD performed several investigations of the affected area, including collecting water samples in the selected areas of the Drain during both wet and dry weather conditions, and dye testing of drain structures and ten nearby facilities. No illicit discharges were discovered at the ten facilities inspected. Facility dye test inspections in the Reeck Drain drainage area are planned to continue during the 2010-2011 fiscal year.

Combined Downriver Watershed

City of Taylor: Frank and Poet Drain Investigation

WQMD and Land Resource Management Division (LRMD) responded to a complaint from the City of Taylor concerning the identity of a brownish solid substance at the bottom of a ditch on Huron Street. It was determined that the substance was likely to be drywall compound or limestone roadbed washout from a nearby facility with evidence of poor housekeeping in its parking lot and exterior storage areas. These conditions were brought to the attention of the property operator, who agreed to address the matter.

Immediately after this investigation, MDEQ requested assistance of WQMD regarding a spill that occurred at an outfall discharging to the Frank and Poet Creek. Both parties investigated the incident, where it was determined that petroleum-based product was spilled in an open ditch upstream of the outfall. The Environmental Protection Agency (EPA) was notified and a spill contractor retained to begin containing the spilled material. Several facilities nearby were targeted for investigation, including the facility involved in the complaint investigation.

WQMD and MDEQ continued investigations as to the source of this spill, including inspections and dye testing of nearby facilities. Inspections revealed housekeeping, external material storage and handling issues which were brought to the attention of the facility operators. MDEQ is taking the lead in the facility investigations and will follow up on requested actions. No PRP or

source for the spill was identified at the time this report was prepared. MDEQ investigators believe that this was an isolated illegal dumping incident.

City of Taylor-German Drain

During 2009, WQMD assisted EHD with the dye test inspection of residential homes in the City of Taylor with suspected failed onsite sewage disposal systems (OSDSs). Four of five homes investigated have direct discharges to the German Drain, an Ecorse Creek tributary. These discharges are entering the Drain through two separate drainage pipes. This arrangement is considered a failing OSDS. The fifth home was unoccupied. The vacant property was condemned by the City of Taylor and is currently uninhabited. EHD is requiring permanent correction of the remaining four properties failing OSDS by July 2011.

Grosse Ile Township

Two stormwater outfalls that discharge directly to the Detroit River were sampled in Grosse Ile Township at their request. Slightly elevated levels of *Escherichia coli* (*E. coli*) have been observed concentrations have been observed; Wayne County's results indicated that a follow up investigation upstream should be considered for one of the outfalls.

Lower Huron River Watershed

City of Flat Rock

During the reporting period, WQMD performed an initial inspection and follow-up dry weather survey and sampling for portions of the Cook and Gladdings Drain, a Wayne County Drain that traverses through the City of Flat Rock. Two outfalls in the reach of the Cook and Gladdings Drain west of Telegraph Road westward to Arsenal Road had been observed to be discharging in dry weather. The outfalls were sampled and determined to show elevated conductivity and surfactant parameters. Additional investigation of this area was recommended and performed.

Three facilities upstream of the outfall on the east side of Arsenal Road were investigated in December 2010. Environmental concerns were noted at two sites in the City of Flat Rock. WQMD plans to revisit the facilities in the spring to verify that there is no discharge into the Cook and Gladdings Drain.

City of Rockwood

The City of Rockwood and Wayne County collected samples from an outfall where an illicit connection was suspected; however, sample results were not elevated to indicated further investigation is warranted.

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.

Staff IDEP Training (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 1,720 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. Our 23 years of experience with administering an illicit discharges detection and elimination program were coordinated with anticipated abilities and needs of local communities in designing and refining the program.

During this reporting period, Wayne County presented the *Combined Basic/Advanced IDEP Training Workshop* on two occasions: May 11, 2010 in Canton Township, and June 15, 2010 in Pittsfield Township (under contract with the City of Ann Arbor). As presented in Table 10, seventy-five people completed training offered during these workshops. The training workshops were promoted by distributing flyers via Watershed Alliances, watershed management planning committees, local communities, County Drain Commissioners, MDEQ, and internal County distribution mechanisms.

On July 15, 2010, WQMD conducted an additional IDEP training session for County staff.

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

In 2010, 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.

Table 10: Wayne County IDEP Training Workshops Held in 2010

Community/Agency	Number
Wayne County communities	20
Wayne County staff	0
Oakland County communities	7
Macomb County staff	0
Macomb County communities	0
Washtenaw County communities	36
Washtenaw County staff	2
St. Clair County staff	0
Consultants representing communities	1
MDEQ	1
School Districts	1
Calhoun County staff	1
University	1
Jackson County communities	4
Environmental Groups	1
Number of Participants Southeast Michigan	75
Out of State Participants	0
2010 Total	75

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

The Wayne County Department of Public Health, Health, Environmental Health Division (EHD) continued implementation of the Wayne County Onsite Sewage Disposal Systems (OSDS) Evaluation and Maintenance Ordinance (Enrolled Ordinance 99-527) and program during the reporting period. As shown in Table 11, 135 “time of sale” evaluations of onsite sewage disposal systems were performed during the calendar year 2010. Twenty-two of these systems were identified as failing. Six of the 22 systems were repaired in 2010, and 16 of the systems are serving homes that are now vacant. The municipalities where these remaining 16 systems are located were notified of the situation and that correction of these systems is required prior to a certificate of occupancy. An additional nine facilities were evaluated at the request of the Michigan Department of Human Services (MDHS), Office of Children and Adult Licensing, resulting in the identification of two additional failing systems. In 2010, a total of 49 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 2010. Since program inception in February 2000 through December 2010, 1,563 OSDS have been inspected under the “time of sale” provision of the ordinance, with 335 OSDS identified as failing. Twenty-six inspectors were certified to perform OSDS “time of sale” evaluations in Wayne County during 2010.

**Table 11: Summary of OSDS Evaluations Performed
January 1 through December 31, 2010**

Type of OSDS Inspection	Number of Inspections	Number of Failures	Percent (%) of Failures
Time of Sale	135	22	16%
MDHS Licensed ⁽¹⁾	9	0	0%
Totals	144	22	15%

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 12, the Wayne County EHD requires permits for the construction of new OSDS and for repair/replacement of existing OSDS. In 2010, a total of 56 new and repaired systems were installed in Wayne County. Two hundred and twenty three inspections were made during and/or after construction. Table 13 provides a summary of OSDS-Related Complaints Investigated in 2010.

**Table 12: Summary of OSDS Permits Issued
January 1 through December 31, 2010**

Permit Type Issued	Number of Permits	Percent (%) of Permits
New Construction	3	5%
Repair or Replace	53	95%
Total	56	

**Table 13: Summary of OSDS-Related Complaints Investigated
January 1 through December 31, 2010**

Number of Complaints	3
Number of Complaints identified as failing OSDSs	1
Number of Complaints Resolved	3

As described in the PEP# 9 section 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 17,400 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. Approximately 14 percent of the pump-out reports identify a problem with the OSDS system at time of pump out. The owner of the system is contacted by EHD to ensure repairs in this instance.

Table 14 summarizes the estimated pollutant loading reductions to Wayne County watercourses from the 47 failed OSDS that have been defined as illicit discharges. This estimate assumes that all the failed OSDS are corrected.

Table 14: Summary of Estimated Pollutant Load Reduction to Wayne County Watersheds from Onsite Sewage Disposal Systems: January 1, 2010 through December 31, 2010

Parameter	Loading Reductions (lbs/year)¹
Total Solids	24,615
Total Suspended Solids	7,179
Biochemical Oxygen Demand	7,179
Ammonia	293
Total Phosphorus	674
Surfactant	44
Potassium	176
Total Organic Carbon	1,377
Total reduction	41,537
Flow (gals/year)	3,519,056

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. As described in the previous section, WQMD assisted the MDEQ, EPA and the City of Westland regarding an unknown amount of oil in the Middle Rouge; EPA assumed responsibility for overseeing the cleanup and spill investigation.

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 2010, the program conducted 19 total clean up projects including 11 illegal dumping site clean ups and eight community scrap tire collection events. A total of 1,066 cubic yards of waste and 7,796 scrap tires were collected and properly disposed as a result of these projects. 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 58 community groups, seeking their participation in the program.

On May 7th, 2010, FMD staff received a illegal dumping complaint from a citizen regarding a property in Ecorse. Staff investigated and found several yards of broken concrete fill covered in soil along the banks of the North Branch Ecorse Creek. Staff documented the illegal fill and referred this to FMD Administration and Corporation Counsel for enforcement.

Since January 1st, 2010, fifty-five County Drains have received maintenance. Approximately 1,714 cubic yards of material was removed from the County Drainage System and properly disposed.

The Wayne County Department of Public Services-Parks Division cleans up illegally dumped items within County Parks. In 2010 illegal dumping onto Parks property behind the Westland Kroger store occurred several times. Wayne County Corporation Counsel is now working with Kroger Corporation to require perimeter fencing to prevent future dumping.

The Wayne County Department of Public Services-Roads Division removes illegally dumped items (e.g. trash, tires, auto parts, garbage, roofing materials, appliances, etc.) from County Roads located in townships on a daily basis. County Roads with high volumes of dumped materials reported in 2010 include:

- Van Born between Beck and Belleville,
- Sheldon between Ecorse and Van Born,
- Rawsonville south of Michigan Avenue, and
- Beck between Lotz and Ecorse

Four household hazardous waste (HHW) and computer/computer peripheral (E-Waste) waste collections were conducted by Wayne County in 2010. A total of 382.3 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 Wayne County's household hazardous waste (HHW) collection days for 2010 is shown in Tables 15 and 16.

Table 15
Summary of Wayne County's
2010 Household Hazardous Waste and E-Waste Collection Days

Date	Location	No of Participants
March 27 th	Redford	1,715
June 26 th	Huron Twp	906
August 28 nd	Westland	2,851
October 23 th	Southgate	1,013
Totals	4 – events	6,485

Table 16
Summary of Material Collected During
Wayne County's Household Hazardous Waste and E-Waste Collections, 2010

Materials	2010 (Tons)
Acids	2.5
Aerosols	7.4
Antifreeze	8.6
Batteries, lead acid	10.3
Batteries, mixed/household	5.3
Bio-medical sharps	0.3
Caustics/Oxidizers	2.2
Electronic Equipment	125.8
Expired medicines/pharmaceuticals	0.6
Fire Extinguishers	1.7
Flammable Liquid	28.8
Fluorescent Lamps	4.1
Herbicides & Pesticides	11.6
Mercury Devices	0.1
Neutral Products	9.4
Oil	28
Paint, latex	116.6
Paint, oil	15.1
Propane – 1 lb cylinder	0.6
Propane – 20 lb cylinder	2.9
Smoke detectors	0
Other	0.2
Other	0.2
TOTAL TONNAGE	382.3

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 separated sewer areas within Wayne County. These inspections are performed each spring prior to their opening for the swimming season. During the 2010 swimming season, EHD inspected 602 swimming pools.

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, six newly constructed pools were

inspected and the proper connection of the backwash water system to the sanitary sewer system for each was confirmed.

Prevention of illicit discharges at public swimming pools is also part of WCDPS-WQMD's facility inspection activities. During the current reporting period, two public pool facilities, one in the City of Livonia and one in the City of Lincoln Park, were tested as part of the WQMD facility dye test program. These swimming pools were confirmed to be properly connected to the sanitary sewer.

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

WCDPS-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 2010, pollution prevention good housekeeping inspections continued as part of the process for developing site specific pollution prevention action plans (P2 Action Plans). Eight facilities were inspected with technical assistance from SEMCOG staff. Pollution Incident Prevention Plans (PIPPs) have been updated for all of the DPS – Roads Yards, and P2 Action Plans have been drafted for six DPS - Road Yards and two DPS - Parks Yards. In 2011, follow up site visits will be conducted to assist with implementation of the P2 Action Plans. The process of creating P2 Action Plans for each of the County facilities located in areas of the County served by separate sanitary sewers will also continue in 2011.

Visual Inspections During Routine Field Operations (WCIDEP #10)

Pursuant to our Certificate of Coverage, Wayne County "field" staff have been trained to identify and report suspicious discharges in the course of their duties. Training has been provided to personnel from the Departments of Public Services (FMD, Engineering, Roads), Health (EHD) and Wayne County Airport Authority. Table 17 presents a summary of the suspicious discharges identified during routine Wayne County field operations. Table 18 summarizes the results of the follow up investigations to routine field operation reports. Most of the suspicious discharges identified by County field personnel are referred to the WQMD for investigation and follow up. These discharges were eliminated through working together with the reporting agency.

**Table 17: Types of Suspicious Discharges "Reported" during Routine Field Operations
January 1 through December 31, 2010**

<i>Type of Illicit Discharge</i>	
Soil Erosion	1
Suspicious discharge	2
TOTAL	3

**Table 18: Suspicious Discharge Investigations Resulting from
Routine Field Operations Reports
January 1 through December 31, 2010**

Reporting Division	Suspicious Discharges Reported	Verified by WQMD	Source/Cause Identified	Referred To	Corrections Confirmed
DPS-WQMD	1	1 – Yes	1 – Yes	DPS - LRMD	1 - Yes
DPS-FMD Drains	1	1 – Yes	1 – Yes	MDEQ	NA*
DPS – Roads	1	1 – Yes	1 – Yes	NA	NA**

* MDEQ is taking the lead on the corrective action.

**Corrections were not required, discharging storm water.

The WCDPS FMD Drain Office contributes to the prevention of storm water pollution to waterways by inspecting and/or maintaining County Drains. Since January 1st, 2010, twenty-four County Drains have received a complete visual inspection for suspicious discharges and obstructions. WQMD inspected approximately 23 miles of ten Drains, the Ellward, Rawson, Smith, Truesdell, Delaney, Carroll and Branches, Rosenworth, Austin and Corey and the Zink. FMD Staff, as part of its aggressive preventative maintenance program, inspected approximately 40 miles of fourteen County Drains that included the Reiser, Number One, Spink, Cole, Townline, Martin and Extension, Hubbard, Crawford, Reagan, Clark and Morley, Durham, Tonquish Creek, Vreeland Hale and Trouton. In addition to the drain maintenance information collected, the following information related to the storm water permit was noted and addresses as necessary:

Rouge River Watershed: WQMD performed five annual drain inspections totaling 7.84 miles in the Rouge River watershed in 2010. The communities where annual inspections were performed were Canton Township, Van Buren Township, and the City of Westland. A suspicious outfall found during the inspection of the Truesdell Drain, a tributary to the Lower Rouge River in Canton Township was subject to a follow up investigation detailed in WCIDEP #2. During the Bell Creek Drain inspection performed on a 2.08 mile drain in Canton/Van Buren Townships tributary to the Lower Rouge River, a metal vehicle parts dump exposed by erosion to the drain bank, was referred to LRMD for follow up investigation.

Ecorse Creek Watershed: WQMD performed four annual drain inspections totaling 7.35 miles in Van Buren Township and the City of Romulus within the Ecorse Creek watershed in 2010. A large tire pile on property adjacent to the Trouton Drain in the City of Romulus was identified and referred to the LRMD for follow up investigation.

Swan Creek Watershed: WQMD staff performed an annual inspection of the Carroll and Branches Drain, a 5.96-mile Drain tributary to the Big Swan Creek Consolidated Drain in Sumpter Township. One outfall, a discharge hose originating from a residence, appeared to be a laundry discharge hose. The issue was referred to the EHD; however, EHD investigation did not reveal an illicit discharge at the residence.

FMD staff identified and reported five incidents of excessive erosion into surface waters since January 1, 2010.

- On April 15th, 2010, FMD identified an incident of excessive erosion along the Martin near 37790 S. Huron in Huron (HR 2911.) This accelerated erosion was determined to be part of the natural erosion process of the river and was not impacting drain function nor was it a safety concern. Staff referred the property owner to the use of stream bank stabilization techniques such as native plantings, to reduce the erosion problem.
- On April 20th, 2010, FMD identified an incident of excessive erosion along the Green and Branches near 853 Holbrooke in Canton (HR 2913.) This accelerated erosion was part of the natural erosion process of the river and was not impacting drain function nor was it a safety concern. Staff referred the property owner to the use of stream bank stabilization techniques such as native plantings, to reduce the erosion problem.
- On April 27th, 2010, FMD identified an incident of excessive erosion along the Big Swan Creek IC near 20083 Sumpter in Sumpter (HR 2917.) This accelerated erosion was partly caused by woody debris, which was impacting drain function. The woody debris was properly removed from the channel. Staff referred the property owner to the use of stream bank stabilization techniques such as native plantings, to reduce the erosion problem.
- On May 25th, 2010, FMD identified an incident of erosion along the Leverance Branch of Ecorse Creek near 9898 Birchdale in Romulus (HR 2943.) This erosion was part of the natural erosion process of the river and was not impacting drain function nor was it a safety concern. Staff referred the property owner to the use of stream bank stabilization techniques such as native plantings, to reduce the erosion problem.
- On August 19th, 2010, FMD identified an incident of excessive erosion along the Frank and Poet near 13540 Marvin in Taylor (HR 3024.) This accelerated erosion was partly caused by woody debris, which was impacting drain function. The woody debris was properly removed from the channel and placed into the lost bank utilizing WDM 101 techniques to protect the bank. Staff referred the property owner to the use of stream bank stabilization techniques such as native plantings, to reduce the erosion problem.

IDEP Training for Volunteers (WCIDEP #11)

WQMD staff provided a presentation about illicit discharges 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 WCDPS and other local agencies. FOTR has incorporated this presentation into their orientations for volunteers, teachers and team leaders. In 2010, FOTR held 13 different training and/or volunteer monitoring sessions that provided IDEP volunteer training to 867 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 9: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: 2010* 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)

Wayne County Annual Drain Inspections

During annual inspections of Wayne County Drains, storm water outfalls to the drains are located, mapped and noted for any sign of illicit discharges. As shown in Table 19, over 22 miles of County drain were inspected during 2010 and a total of 257 outfalls identified during these inspections.

**Table 19: Summary of Drain Inspections
January 1 through December 31, 2010**

Drain	Miles	Community	Number of Outfalls
Smith	1.61	Canton	8
Truesdell	2.08	Canton	22
Bell Creek	2.08	Canton/Van Buren	42
Rosenworth	4.17	Romulus	14
Austin & Corey	0.22	Romulus	2
Bower & Foss	0.24	Romulus	0
Zink	1.39	Romulus	15
Trouton	2.21	Romulus	61
Carroll & Branch	5.96	Sumpter	76
Durham	1.11	Van Buren	9
Delaney	0.75	Van Buren	6
Christine	0.54	Westland	2
Cummings	0.42	Westland	0
Total Miles	22.78	Number of outfalls	257

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. Pursuant to the draft CAP, compiling this data initiates the development of a watershed-wide GIS map of discharge points to "Waters of the State" and begins to develop 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. A 2010 updated map of the data compiled thus far is included within the attachments for Section 2 of this report (see Section 6 for a listing of all attachments).

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.

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, 2010 – December 31, 2010** 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 addresses this topic; see in particular the reports for activities WCPEP #4, #6, #7, #9, #11 and #22.

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: Under contract to the ARC and the ADW, the Water Quality Management Division provided over 19,605 pieces of public information materials and information relating to water pollution issues to communities within the ARC and the ADW for their use. The materials included *Household Hazardous Waste* tip card, *Household Hazardous Waste Collection Event* flyer; *Landscape* tip card, *Value of Trees* flyer, *After the Storm* bi-fold brochure.

FMD distributed to the public nine copies each of the following brochures: *Riparian Corridor Management (RCM) Principles and Practices*; *Woody Debris Management (WDM) 101 – The Clean and Open Method*; *WDM 201 – Habitat and Structure Method*; *RCM Streambank Management 101*; *RCM Streambank Management 201*; *Naturescaping*; and *Site Preparation for Small Planting Areas*. This information can also be found on the Wayne County Website. FMD also meets with the public regularly for petition related meetings and at service request inspections; other information is provided via US Mail or over the phone.

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 4,560 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 over 374 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 summaries were provided to the communities via the ARC and ADW and included the Water Environment Federation's *Water is Life* ad graphic.

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

During 2010, 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 6, 2010
- *Frog & Toad Survey Workshop*, Plymouth Township – February 2010
- *Frog & Toad Survey Workshop*, Canton – March 2010
- *Frog & Toad Survey Workshop*, Livonia – March 2010
- *Frog & Toad Survey Workshop*, Bloomfield Township – March 2010
- *Canton Home Expo* – March 5 - 6, 2010
- *13th Annual Rouge River Water Festival* at University of Michigan-Dearborn – May 6, 2010
- *Canton River Day* - June 5, 2010
- *Downriver Schools Operation Managers Annual Expo* – June 23, 2010
- *Wayne County Services Expo*, Detroit – July 17, 2010,
- *Cranbrook Water Festival* – September 16 – 17, 2010
- *Clinton River Review* – October 1, 2010

Other Wayne County departments also participated in some of these events as well as others. For example, the LRMD's *Wayne County Recycling* display was set up at the Rouge Water Festival in Dearborn and at the Wayne County Service Expo on Belle Isle in Detroit

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 there were no advertisements placed during 2010.

Point of Sale Education (WCPEP #10)

Wayne County continued its involvement and support of the *2010 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, WQMD staff distributed approximately 2,500 earth-friendly fertilizer stickers to the 26 participating retailers in Wayne County. The participating retailers carried 8 of the 10 approved fertilizers. Listings of the approved fertilizers and participating retailers were maintained and made available through the Wayne County and Rouge Project 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 held during the reporting period follows.

Green Infrastructure Program

Wayne County was an integral partner in the successful 2010 Green Infrastructure Program established by the ARC to assist with implementation of green infrastructure (grow zone) projects in the Rouge watershed (see . The ARC Grow Zone Subcommittee received 9 proposals and funded 8 projects. The ARC and Wayne County staff provided design, plant material and signage for the approved projects, which included two wetland enhancements, a rain garden, a native plant garden, a riparian buffer, a schoolyard habitat native plant garden, a combination of riparian buffer and native plant garden, and a native plant meadow. Locations and activities are summarized as follows:

- Cleveland Elementary School: Schoolyard habitat/native plants and to replace mowed turf near school.
- Canton Township: enhance existing wetland owned by the Township at the Trail Head of a new trail system.
- Canton Township: Native plant rain garden to replace a street side drainage swale.
- Canton Township: enhance existing wetland owned by the Township.

- Village of Bingham Farms: Replace a barren, weed-infested parcel with a native plant garden.
- EL Johnson Nature Center, Bloomfield Schools/Bloomfield Twp: Create a riparian buffer, infiltration zone and swale at the edge of a 4.0 acre pond on the EL Johnson property.
- City of Livonia - Bicentennial Park: replace existing turf area adjacent a waterway with native plants.
- City of Southfield – Native Meadow at the Carpenter Lake Nature Preserve: over-seed an existing cover grass area with native meadow plants.

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 a fourth annual Native Plant Workday in Bennett Arboretum on May 8, 2010. Over 50 volunteers participated in efforts that included pulling garlic mustard and Japanese knotweed; weeding around the trees, kiosk, and interpretive signs; hauling five yards of cedar mulch to place around the trees, kiosk and signs; and clearing out the buckthorn around a large tree and bush at the south end of the pond. Thirty-three garbage bags were filled with invasive species.

Middle Rouge Riparian Corridor Management: Newburgh Pointe Grow Zone Work Day

Wayne County Department of Public Services and Ford Motor Company have partnered for the past five years to spend a day maintaining the “no mow” or “grow zones” of native plantings along Hines Park. This year, with financial support from the Alliance of Rouge Communities, 25 volunteers from Ford Motor Company teamed up with staff from DPS – Parks and Water Quality Management Divisions on June 7 and 14 to establish a native plant flower garden at Newburgh Pointe adjacent to the existing rain garden. The volunteers removed 51 bags of invasive species and planted 407 native plants. Over 1080 yards of landscape fabric was installed and 16 cubic yards of mulch was spread to minimize weed growth and help the native plants thrive. Finally, 20 grow zone informational signs were installed by the volunteers at seven different sites along Hines Drive.

Grow Zone Management: Lathers Elementary

Wayne County assisted with the June 15th workday at Lathers Elementary School to maintain the grow zone established there by a subgrant from the ARC. Two bird boxes and an ARC Grow Zone Sign were installed by over 20 Kiwanis Club Kids, and weeding of the native plant garden was also performed.

Wayne County Michigan Green Schools Program

Wayne County’s WQMD staff has been working with the Wayne County Regional Educational Service Agency (Wayne RESA) for several years to promote and grow Wayne County’s Green Schools Program. In 2010 99 schools were recognized as “Wayne County Green Schools”. These schools earned at least 10 points of the 20 points designated under the Michigan Green School Law for implementing specific energy-saving and environmental activities within the 2010 academic year. Under Wayne County’s Green School program, an additional 17 environmental points are available for schools to receive higher designations, with the Emerald

school designation achieved by successfully participating in 15 points and the Evergreen designation achieved by successfully participating in 20 points.

With financial support from the ARC, the *Trees for Rouge Green Schools Program* was again implemented in 2010. Seventy-five trees were purchased and distributed to the 2010 Michigan Green Schools located in the Rouge River watershed. Wayne County offered trees to 39 recognized Green Schools and Oakland County offered trees to 33 Green Schools in the Rouge Watershed. Of the 39 Wayne County schools, 23 schools (60%) accepted a tree and 12 of these accepted two trees. Of the 33 Oakland County schools, 12 schools (40%) accepted a tree and all 12 schools accepted two trees. Each school was provided tree planting instructions, the *Value of Trees* flyer, and information on registering the tree through the ARC website. The 18 remaining trees were given to Wayne County DPS-Roads Forestry for planting within the Rouge River watershed.

ARC Tree Seedling and P2 Literature Distribution

Distribution of tree seedlings and pollution prevention (P2) literature occurred on August 28th in conjunction with Wayne County's Household Hazardous Waste Collection Event and September 18th in conjunction with ARC's Rain Barrel Sale in Troy. Over 1,500 Norway spruce tree seedlings were distributed along with over 7,000 pieces of literature to Rouge watershed residents that attended the event.

ARC Green Infrastructure Grow Zone workshops for schools

As part of the ARC 2010 Green Infrastructure Education Campaign, Wayne County's WQMD developed a three part grow zone education workshop targeted to students. The workshop explains the importance of grow zones and green infrastructure, along with the relationship between the native plant grow zones, insects and macroinvertebrate monitoring and watershed restoration. Wayne County staff presented the workshop using two of the ARC's 2009 schoolyard grow zone project sites. Cleveland Elementary in Livonia was the first to host this workshop on October 15th and involved three 3rd grade classes totaling 94 students. Miller Elementary in Canton hosted the workshop on October 22nd and involved two 4th grade classes consisting of 60 students. Each class split into three groups and spent 15-20 minutes at each of three presentations: *What is a Grow Zone*; *What is a Watershed*; and *Don't Bug Me-Benthic Macroinvertebrates and Water Quality*. The students also received P2 information to take home and share with their families, including: *Grow Zone Information Sheet*; the *Landscaping, Car Care, Pet Waste, and Lawn Care tip cards*; and *Bio-Assessment Poster and Macroinvertebrate Identification Flyer*. Through the presentations and the informational materials the students learn how these three topics are interrelated and how they can help create a healthy environment.

ADW Green Infrastructure Workshop

The *Grow Zones Across the Alliance of Downriver Watersheds* and the *Wayne County Green Schools Program* displays were stationed at the Down River Operations Managers (DROM) 2nd Annual Expo and Conference in June 2010. The DROM is an association of school district facility operation managers that has formed to assist each other with operational issues. The Expo and Conference, themed "Creating Great First Impressions", was held to allow the school facility operation managers and staff to come together and interact with various speakers and vendors that offer maintenance support services to the school districts. Approximately 600

people viewed the displays and picked up information regarding green infrastructure, green schools and storm water management. Seminars on green infrastructure/low impact development ideas were presented by SEMCOG and others.

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

Although there were no meetings of the RCM TAC in 2010, 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.

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 WCPEP #11. WQMD attended and participated in two committee meetings held in 2010 including February 25th and June 24th. The meeting topics included: Healthy Lawn Care For Municipalities; Recommended Lawn Care For Municipal Parks; Don't Guess...Soil Test; Healthy Lawn Care Program For Watershed Protection (Endorsed Lawn Companies); Earth Friendly Fertilizer Sticker Program; Municipal Program Update; St. Clair Shores Waterfront Environmental Committee; Draft Check List For Healthy Landscapes For Multi-Family Residential Complexes; Principles And Practices For Healthy Lawns And Gardens; National Sustainable Sites Initiative Principles And Practices; and Sustainable Residential Landscapes.

River Day/Rouge Rescue (WCPEP #14)

WQMD staff provided services and support to Friends of the Rouge (FOTR) for *River Day 2010* held June 5, 2010. Kesh Raizada from WQMD served as the site coordinator at Canton Township Site #2 (Fellows Creek at Palmer and Lotz Roads near the Meadows of Canton subdivision). WQMD staff Peter Benz and Susan Thompson provided event support. Over 115 volunteers assisted in storm drain stenciling, benthic macroinvertebrate monitoring and trash removal at this location. WQMD's Frog & Toad display was set up and a variety of educational materials were provided to all volunteers.

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 2010 by FOTR.

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

In support to the ARC and FOTR, WQMD staff participated in multiple volunteer monitoring events in 2010 as follows:

- *FOTR Winter Stonefly Search*, January 23, 2010. WQMD served as team leaders for the FOTR Winter Stonefly Search. Over 51 people from around the Rouge Watershed went out into the cold to sample for the stonefly, a macro invertebrate species whose presence indicates high water quality. The results of the 2010 winter stonefly search are summarized in Section 1.
- *FOTR Spring Bug Hunt*. WQMD served as team leaders for this event held April 24, 2010, joining approximately 95 volunteers in benthic macroinvertebrate sampling at 26 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 2010 winter stonefly search are summarized in Section 1.

- *FOTR Fall Bug Hunt.* WQMD participated as team leaders for the FOTR fall “bug hunt” sampling event held October 16, 2010, and helped teams of volunteers in the collection and identification of benthic macro invertebrates for the purpose of using the data to gauge the water quality of the Rouge River. Over 73 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.

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

During 2010, Wayne County continued its partnership with the Downriver Citizens for a Clean Environment “Stream Team” to implement macroinvertebrate monitoring at locations throughout the downriver watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. The results of these monitoring efforts are presented in Section 1 of this report.

- Fifteen ADW bug hunt sites selected for spring monitoring were completed. Four sites in the Lower Huron watershed, five sites in the Ecorse Creek watershed, and six in the Combined Downriver watershed were monitored during the months of April and May 2011. Southgate Anderson High School, located on the Frank and Poet Drain, brought 20 students to sample. Southgate Creative Montessori, City of Southgate, brought 25 students to monitor the Grams Drain, a tributary to Ecorse Creek, 15 Ecorse High School students monitored Ecorse Creek at the Pepper Park site in Lincoln Park, and 30 Trenton High School students.
- The ADW Fall Bug Hunt was conducted in October 2010 and all sampling completed. Fifteen sites were sampled: six in the Combined Downriver Watershed, five in the Ecorse Creek Watershed, and four in the Lower Huron River Watershed. Nine schools were volunteer partners, assisting WQMD in their monitoring efforts Ecorse High School (Ecorse), (Lincoln Park High School (Lincoln Park), Southgate Creative Montessori Middle School (Southgate), Wilson Middle School (Wyandotte), Southgate Anderson High School (Southgate), Trenton High School (Trenton), Gudith Elementary School (Woodhaven), Flat Rock High School (Flat Rock), Huron High School (New Boston). Two of the schools, Gudith School and Huron High School, are new schools. Approximately 240 student volunteers participated in this fall's monitoring.

Rouge Education Project (WCPEP #18)

WQMD coordinated T-shirt delivery for the Friends of the Rouge (FOTR) Rouge Education Project (REP) Spring Monitoring Day held May 5, 2010 and participated on the FOTR Public Involvement Advisory Task Force. WQMD staff also provided support to the REP Water Quality Monitoring Workshop at Dunckel Middle School in Farmington Hills March 20, 2010 for 12 schools.

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). WQMD staff also provided stencils to the City of Riverview for their use. In 2011, Wayne County will continue to offer these stencils to schools and community groups for volunteer use as well as labeling storm sewers at our sponsored River Day sites.

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

In 2010, WCDPS staff began spray painting and/or otherwise 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 2010 Alliance of Rouge Communities Public Information and Education (PIE) Committee meetings and activities (see the 2010 Executive Director Annual Report available at www.allianceofrougecommunities.com for more detailed information). In addition, Wayne County participated in all 2010 activities of the Alliance of Downriver Watersheds, Public Education Committee (see the 2010 ADW Annual Report available at www.allianceofdownriverwatersheds.com/adw_info.htm for more detailed information).

Information Dissemination via Websites (WCPEP #22)

During the reporting period, the website for Wayne County's Rouge River National Wet Weather Demonstration Project (www.rougeriver.com) experienced over 1.5 million hits 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. The ARC and ADW websites 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. See Section 6 of this report for website addresses and links.

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 11 Wayne County offices including: Department of Public Services (two locations), Environmental Health Division, Mental Health Department, Parks Headquarters, Permit and Field Engineering Office, Roads-Central Maintenance Yard, and the main Wayne County offices at 500 Griswold in Detroit.

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 www.waynecounty.com/doe/land and is also handed out 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 flyers*, *CLEAN Program brochure*. A website link was developed to the RRG and to composting tips. Table 20 summarizes the educational materials related to proper waste disposal that were distributed at public events during the reporting period.

Table 20
Distribution of Educational Materials for Proper Waste Disposal
January 1 – December 31, 2010

Educational Item	Distributed by County at Public Events	Provided to Community Groups & Agencies for Distribution	Other
<i>Resource Recovery Guide</i>	6,862	1,812	
<i>Disposal Tips For Home Medical Waste and Pharmaceuticals</i>	500	575	1,340 given to healthcare providers for distribution to their patients
Mercury pamphlet	500	200	30 given to healthcare providers for distribution to their patients
HHW/E-waste collection event flyers	1,800+	1,800+	
CLEAN Program Brochures		820	500 direct mailings

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 58 community groups in Wayne County.

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 (WCDPS) and Environmental Health Division (EHD), respectively.

Table 21
WCDPS Staff Training in Environmental Issues

Training Topic	Number of Staff Trained
Pesticide Applicators	16
De-icing Equipment Calibration	190
SEMCOG Winter Road Maintenance Workshop	21
Hazardous Waste and Emergency Response (HAZWOPER)	15
SESC Certification	5
EPA Landfill Air Emission Training	2

Table 22
WCEHD Staff Training in Environmental Issues

Training Topic	Number of Staff Trained
OSDS Evaluator Training	2

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. 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.

Signage (WCPEP #26)

Watershed and stream crossing awareness signage is made available to communities at cost through the Wayne County Publication Clearinghouse. Orders for watershed or stream crossing signs in 2010 were for City of Southgate (six Entering Signs, seven Crossing Signs); Huron Township (three Entering Signs, six Creek Crossing Signs); City of Gibraltar (eleven Creek Crossing Signs); Friends of the Detroit River (four Creek Crossing Signs); Woodhaven Brownstown School District (two Creek Crossing Signs); and the City of Dearborn Heights (eight Creek Crossing Signs). Three orders for grow zone signage were filled during 2010 (one for the City of Bloomfield Township and two for Cleveland Elementary School in Livonia). See also signage information reported under WCPEP #31.

Local Presentations (WCPEP #27)

In 2010, Wayne County’s *Dirt Doctors* appeared at one event, involving approximately 150 children and adults. This presentation focuses on soil erosion and water quality in an entertaining program that has been popular for several years. Plans for 2011 include presentations at the University of Michigan – Dearborn Rouge River Water Festival.

LRMD made presentations on the following topics at two Detroit Sun Project meetings during 2010: “Illegal Dumping” on July 20, and “Stormwater Management” on August 17. The purpose of the Detroit Sun Project is to provide a balance between economic, environmental, and social sustainability as the new strategy for urban revitalization. Bringing cost effective energy-efficient technology and environmental stewardship into the urban community will directly benefit middle- and low-income families by increasing energy efficiency, increasing access to environmental education, and building healthier, more sustainable communities.

Children’s Education: Wayne County presentations/exhibits at the 2010 *Rouge River Water Festival* included the “Don’t Bug Me” presentation, an interactive experience that educates and demonstrates relationships between benthic macroinvertebrate diversity, water quality and land use. Approximately 112 students from six Rouge River watershed schools attended this presentation.

Graduate Level Education: Wayne County staff prepared and presented an illicit discharge detection and elimination lecture to an Environmental Science graduate class (22 students) at

University of Michigan-Dearborn November 4, 2010. The presentation introduced illicit discharges, why they are important to eliminate, illicit discharge detection techniques, several case studies and the group problem solving exercise. The feedback from the students was very positive. Examination questions on the presentation material were prepared for the instructor to use on the course examination

The *2009 Rouge River Update* was presented to a géoscience graduate class (16 students) at the University of Michigan-Dearborn in July 2010.

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: Wayne County is a founding member of the Rouge River Gateway Partnership, formed in the summer of 1999 to represent the interests in the lowest section of the Rouge River. The Rouge meanders through five communities along this corridor, including 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. The Rouge River Gateway Partnership is exploring solutions to restore the vibrancy of the area's natural landscape while preserving the legacy of the automobile manufacturing industry. 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. Regional and national attention have given the Gateway Partnership the spark it needs to take the first steps toward creating a national model for redevelopment of historic industrial communities and restoration of an urban river. Under the Partnership's guidance, many projects from the Rouge Gateway Master Plan are underway or have been completed.

Friends of the Rouge: Wayne County actively supported and provided funding for several Friends of the Rouge (FOTR) efforts including Rouge River Day, Rouge Education Project (REP), Public Outreach Workshops, Rouge Frog & Toad Survey and Macroinvertebrate Volunteer Monitoring. Specific activities completed in support of FOTR included setting up public information displays at FOTR sponsored workshops throughout the watershed; acting as volunteer monitoring team leaders at both the Winter Stonefly Search and the Spring and Fall 2010 Bug Hunts; coordinating t-shirt delivery for the REP School Monitoring Day; hosting a school sampling site at our WQMD demonstration garden; coordinating a River Day site in Canton Township; distributing promotional flyers for FOTR events to community libraries and civic centers; and participating on the Public Involvement Projects Task Force.

Rouge RAP Advisory Council: Wayne County staff participated in and supported efforts of MDEQ's Rouge RAP Advisory Council (RRAC) during the reporting period. Participation included serving as vice-Chair of the RRAC. 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.

Lawrence Technical University: In 2010, Wayne County continued its partnership with professor Donald Carpenter and the Alliance of Downriver Watersheds via the *Water Quality Improvements Project in the Alliance of Downriver Watersheds*. Activities included the Green Infrastructure Low Impact Development virtual tour located at www.ltu.edu/lid/ and other green infrastructure/low impact development outreach activities. In 2011, LTU will begin monitoring the performance of the green roof constructed by the Woodhaven Brownstown School District under the CMI grant as well as participate in green infrastructure/low impact development outreach activities.

Woods Creek Friends: Residents of the Lower Huron River watershed formed The Woods Creek Friends (WCF) in July 2007 with the assistance of the Huron River Watershed Council (HRWC), Van Buren Township, and Wayne County. Their mission is to assess, restore, preserve and protect the scenic beauty, wildlife habitat and water quality of the Woods Creek watershed. The group has partnered with Van Buren Township, the Ypsilanti Community Utilities Authority, the Huron-Clinton Metropark Authority and the HRWC to initiate a number of projects:

- Volunteers from the WCF monitor the quality of the creek, measuring for sediment (turbidity and total suspended solids), salinity, and phosphorus levels at seven stations in the watershed.
- Volunteers perform benthic macroinvertebrate surveys (Bug Hunts) at three stations in the watershed. These benthic macroinvertebrate surveys provide a low-cost, effective way of monitoring water quality.
- WCF installed and managed a flow monitoring station near the mouth of Woods Creek.
- WCF and partners implemented the Woods Creek Riparian Restoration Project within the Huron-Clinton Metro Park as one of the Alliance of Downriver Watersheds Grow Zone mini-grant projects in spring of 2009.

Regional PE Committee – Southeast Michigan Partners for Clean Water: WQMD has been actively participating in this initiative since its inception. In 2010, WQMD staff participated in nearly all of the Committees meetings and provided input to all of the Partners' activities. See the document *Southeast Michigan Partners for Clean Water, Community Annual Report Information, October 2009 - September 2010* presented in Section 6 of this report.

Stream Team/Friends of Detroit River/Riverkeeper: In 2010, 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.

Lake St. Clair Regional Monitoring Project: WQMD staff is an active participant in this project coordinated by the Macomb County Health Department. In 2010, staff continued to attend or stay informed of the planning/coordination activities regarding the project.

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:

- The Niagara Region Health Department, Environmental Health Division, Thorold, Ontario contacted WQMD about water quality sampling protocols. They were provided a sampling safety plan used by County contractors for water quality field work and personnel observations of safety issues/concerns. The Niagara Region is located in Southern Ontario and is comprised of 12 municipalities home to 427,421 persons.
- On February 11, 2010, Noel Mullett presented the results of the Middle Rouge Riparian Corridor Management Project (Clean Michigan Initiative Project #2004-0150) to staff from the MDEQ Water Bureau.
- In August 2010, “E. Coli in our Beach Water – A Complex Issue” article published by the Detroit Water & Sewerage Department as one in a series of articles by *Operation Clean Water* on how combined sewer overflow (CSO) treatment facilities are helping to improve southeast Michigan’s waterways. This article included information on the rain gardens installed by the Rouge Project in Hines Park along the Rouge River. This article was distributed to communities throughout southeast Michigan and published on the DWSO Customer Outreach Portal at www.dwsdoutreach.org.

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

Information Dissemination: Facilities Management Division (FMD) has a number of handouts and other materials used to educate the public on topics which may result in pollution prevention. These materials can also be found on the Wayne County website and include: *Riparian Corridor Management Principles and Practices*, *Woody Debris Management 101 – The Clean and Open Method*, *Woody Debris Management 201 – Habitat and Structure Method*, *Riparian Corridor Management Streambank Management 101*, *Riparian Corridor Management Streambank Management 201*, *Naturescaping*, and *Site Preparation for Small Planting Areas*. These documents were distributed in response to nine citizen requests. FMD staff meet with the public regularly for drain improvement petition related meetings and at service request inspections.

Industrial Pretreatment Excellence Award and Zero Discharge Club: The County’s Industrial Pretreatment Program (IPP) for the Downriver Wastewater Treatment Facility recognized 21 companies as members of the *Zero Violations Club* during 2010.

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: One hundred sixty-one groups group adopted approximately 133 miles of County Road in 2010.

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 2010.

Table 23
Environmental Educational Information Distributed from Nankin Mills Parks Office
During 2010

Educational Item	Approximate Number Distributed
Rouge Watershed Public Recreation Areas Map and Index	50
Holliday Nature Preserve Map	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
“What is a Floodplain?” Park Information Bulletin	200
“Herps of the Rouge” Interpretive flyer	500
“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
Animal Hibernation flyer	200
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 identify each species.
- A seasonal exhibit is displayed in the spring and summer highlighting the life cycles of native butterflies, with live butterflies.
- **New in 2010:** Nature Touch Table.
- **New in 2010:** Completed labels for Michigan Bird Mount displays.

Nankin Mills Interpretive Center Grounds: Labels are being made to identify native plants in the Butterfly Garden established on the site by the Southeastern Michigan Butterfly Association.

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:

<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>		

Additionally, the Nankin Mills Interpretive Center 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, endangered species are also displayed.

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, almost 13,000 people attended a natural and cultural history interpretive program provided by Wayne County Parks during 2010.

Table 24
Attendance at Nankin Mills Interpretive Programs During 2010

Number of Interpretive Programs Provided	305
Number of Children Attending	7,962
Number of Adults Attending	4,681
Total Number Attending	12,643

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 2010.

<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>Fall Frolic: Flood Plain Tree Identification</i>
<i>Michigan State Symbols & Natural Resources</i>	<i>Beginning Astronomy</i>
<i>Maple Sugaring</i>	

Nankin Mills Scout Badge Workshop Programs Featuring Natural Resources include:

<i>Watching Wildlife</i>	<i>Earth Connections</i>	<i>All About Birds</i>	<i>Wildlife Conservation</i>
<i>Earth is Our Home</i>	<i>Finding Your Way</i>	<i>Eco-Action</i>	<i>Astronomy</i>
<i>Animals</i>	<i>Outdoor Creativity</i>	<i>Orienteering</i>	<i>Environmental Science</i>
<i>Plants</i>	<i>Plants and Animals</i>	<i>Outdoor Survival</i>	<i>Water/Soil Conservation</i>
<i>Eco-Explorer</i>	<i>Rocks Rock</i>	<i>Wildlife</i>	<i>Sharing World w/Wildlife</i>
<i>Space Explorer</i>	<i>Sky Search</i>	<i>Forester</i>	<i>Nature Crafts</i>
<i>Earth and Sky</i>	<i>Water Wonders</i>	<i>Naturalist</i>	<i>Birds</i>
<i>Outdoor Adventurer</i>	<i>Wildlife</i>	<i>Geologist</i>	<i>Your Living World</i>
<i>Water Everywhere</i>	<i>Outdoor Surroundings Map and Compass</i>		<i>Leaf Hike</i>

Nankin Mills Monthly Home School Series Natural Resource Related Programming Offered in 2010:

<i>Meet the Wild Canines</i>	<i>Seed ID/Collection</i>	<i>Maple Sugaring</i>
<i>Michigan Geology</i>	<i>Beginning Astronomy</i>	<i>Herps of the Rouge</i>
<i>Animal Tracks in Winter</i>	<i>Leaf Prints/Tree I.D.</i>	<i>Pond Life</i>
<i>Animal Signs and Skulls</i>	<i>Owls of Michigan</i>	<i>Build A Birdhouse</i>
<i>Rouge Underground Railroad History</i>	<i>Butterfly Gardening/Rearing</i>	
<i>Cranbrook Star Lab</i>	<i>Water Quality Testing</i>	<i>Songbirds of Michigan</i>
<i>Freshwater Fish of the Rouge</i>	<i>Micro Nature</i>	<i>Bat Conservation OBC</i>
<i>Advanced Astronomy</i>	<i>Grapevine Wreaths</i>	<i>Fun with Maps</i>

Natural Resource Related Nankin Mills Family Programs Offered in 2010:

<i>Rouge River History Museum Tour</i>	<i>Nature Birthday Parties</i>	<i>Maple Sugaring</i>
<i>Live Reptiles & Amphibians of Michigan</i>	<i>Insect Adventures</i>	<i>Animal Tracks</i>
<i>Wildlife Safari</i>	<i>Halloween Forest Fun Hike</i>	
<i>Pond Life/Live Herps</i>	<i>SE Michigan Butterfly Association Family Day</i>	
<i>Rouge Underground Railroad History</i>	<i>Dan the Creature Man</i>	
<i>What Butterfly is That?</i>	<i>Native Garden Designs</i>	<i>Container Gardens</i>
<i>Biodiversity of Native Plants</i>	<i>Floodplain Plant I.D. Hike</i>	<i>Raising Butterflies</i>
<i>Blues, Hairstreaks & Coppers</i>	<i>Backyard Butterflies</i>	<i>Flight of the Monarch</i>

Summer camp sessions at Nankin Mills offer different age groups an opportunity to experience firsthand outdoor nature activities. Natural resource related topics included in Nankin Mills Summer Nature History Day Camps during 2010 were as follows:

- Kindergarten - First Grade Camp Topics: Nature Detectives/Skulls & Signs, Butterflies, Insect Collecting, Animal Hunt Hike, Live Reptiles and Amphibians of the Rouge River, Birds of Prey, Pond Life.
- Second – Third Grade Camp Topics: Birds, Owl Pellets, Nature Hike, Fish Seining, Birds of Prey, Pond Life, Nankin Lake Hike, Insects, Astronomy Constellations.
- Fourth – Sixth Grade Camp Topics: Birds, Owl Pellets, Green City Environmental Awareness, Geology, Fossils, Astronomy, Insects.

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 2010, two staff presented *Live Reptiles and Amphibians of the Rouge*. Wayne County naturalists also gave this presentation at the Canton Parks River Day festivities, for the City of Westland Turn Off the Violence, Westland Therapeutic Recreation Picnic, and many local public library summer camp programs.

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

- Nankin Naturalist met with eleven boy scouts regarding planning projects for their Eagle Scout rank. Working in partnership with Holliday Nature Preserve Association projects completed included: four new sections of boardwalk in Koppnick Section of Holliday Nature Preserve; Bat houses at Lola Valley; Bat houses and Owl nesting boxes near the Wayne County Dog Park.
- Nankin Naturalist continued to work with Southeastern Michigan Butterfly Association to maintain a Butterfly Garden with native plants next to the building.
- Nankin Naturalist met with volunteers to inventory and clean out bluebird nesting boxes in Grow Zone areas.
- Nankin Naturalists performed several garlic mustard pulls in Ellsworth Section entrance to Holliday Nature Preserve. Also worked with scout volunteer groups to pull garlic mustard in Ellsworth Section.
- Nankin Naturalist maintains a bird feeding station on site.
- Wayne County Parks Nankin Mills Interpretive Center Naturalist hosts monthly meetings of the Southeastern Michigan Butterfly Association with educational presentations about butterflies and butterfly gardening.

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 Nankin 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.
- *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.

- *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 and on the Parks Division section of the County website.
- *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.
- Co-sponsored events are advertised by the event co-sponsor. For example, Native American Day, gets radio coverage and is listed in Native American publications.

In addition to the 12,643 visitors who came to Nankin Mills Interpretive Center to visit and attend an interpretive program in 2010, an additional 3,712 people visited the Interpretive Center exhibits without attending an interpretive program, for a total of 16,355 visitors in 2010. Total Interpretive Center attendance since opening in January 2001 through December 31, 2010:

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
<u>2010:</u>	<u>16,355</u>
Total:	176,777

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 2010.

Table 25
Environmental Educational Information Distributed From Crosswinds Marsh During 2010

Educational Item	Approximate Number Distributed
The Fish of Crosswinds Marsh	175
2010 Fishing Guide	150
Wetland Ecology (info sheet)	50
Natural History of the Beaver (info sheet)	125
Natural History of the Muskrat (info sheet)	125
Rocks and Minerals Guide (Booklet)	140
Poisonous Plants and Animals of MI (booklet)	255
Conservation of the Kirtland's Warbler (booklet)	255
The Benefits of Trees (booklet)	225

Educational Item	Approximate Number Distributed
Recycling Guidelines (info sheet)	150
Nature's Recycling Coloring Book (booklet)	150
Tree Identification Guides (booklet)	150
Wildflower Identification Guide (booklet)	45
Natural History of Michigan Owls (booklet)	500
Michigan Frogs (booklet)	200
Michigan Frogs (Coloring Sheet)	200
Frog Facts (Bookmark)	200

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 4,119 children and 1,236 adults participated in one of the educational programs offered by the naturalists stationed at Crosswinds Marsh and listed below.

Crosswinds Marsh School Programs:

Michigan Frogs and Toads

Spring Fling

All About Birds

Canoe Hike

Geologic Wonders of Michigan

Marsh Mammals

Michigan Owls

Michigan Reptiles and Amphibians

Nature Detective

Predators and Prey

Wetland Field Investigation

Wetland Homes and Habitats

Wetland Plant and Animal Adaptations

The Wonders of Water and Wetlands

Insect Incognito

Michigan Trees

Self Guided Canoe Hike

Fall Frolic

Crosswinds Marsh Outreach Programs:

All About Birds

Fall Frolic

Insect Incognito

Michigan Frogs and Toads

Michigan Owls

Michigan Reptiles and Amphibians

Nature Detective

Predators and Prey

Wetland Plant and Animal Adaptations

Winter Tracks

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

**Family Fishing Fun Day*

**Nature Fest*

Marsh Hike

Michigan Bigfoot

Cattail Kids

Crosswinds Marsh Scout Badge Programs:

Animals

Eco-Explorer

Outdoor Adventurer

Playing Around the World

Watching Wildlife

Water Everywhere

Plants

Science in Action

Senses

Your Outdoor Surroundings

Weather Watch

Science Discovery

Finding Your Way

Water Wonders

Earth Connections

Wildlife (Juniors)

Birds, Elective #13

Your Living World, Achievement #7

Fishing (Wolf), elective #19

American Indian Life, Elective #24

Tall Tales, Achievement #4

Sharing your World with Wildlife, Achievement #5

Naturalist

Scientist

Forester

Geologist

Wildlife Conservation (Academics & Sports)

Fishing (Academics & Sports)

Map and Compass (Academics & Sports)

Insect Study (Merit Badge)

Rocks Rock

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

Amazing Arachnids

Native Michiganders

Diggin Dinos

Nature Fun and Games

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 2010, two staff presented *Aquatic Invertebrates of the Rouge Watershed* for approximately 200 students and 50 adults.

Crosswinds Marsh Wetland Interpretive Preserve – Workshops and Other Events

- Naturalists are currently working with an Eagle Scout on a project to construct and install Interpretive Trail signs along the boardwalks and trail system as well as a new bulletin display board.
- Naturalists established a partnership with Trenton Parks and Recreation to conduct their *Nature Nook Program Series and Nature Day Camp*.
- Naturalists established a partnership with Van Buren Parks and Recreation are currently conducting spring, summer and fall programs, as well as an *Urban Tree Curriculum Series*.
- Naturalists established a partnership with Flat Rock Parks and Recreation and are currently conducting a summer camp program in July.

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. Currently an E-mail mailing list is being developed for school and outreach programs.

- *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. The flyers and brochure are sent to scout groups 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. Currently an E-mail mailing list is being developed for scout programs.
- *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 Wayne County 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: Six signs remain in place near the Middle Rouge impoundments, two signs are at Elizabeth Park and 6 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 were maintained as part of the May 2010 work day.

Signage – Crosswinds Marsh:

- Six “No Fishing” signs have been installed in restricted areas.
- Five “No Bicycles Beyond This Point” have been installed in restricted areas.
- Two additional Endangered Species signs were installed near the bald eagle nest.

Signage - Grow Zone Areas: Interpretive Grow Zone signs remain at the Nankin Mills Grow Zone and the Bennett Arboretum Grow Zone. The Newburgh Pointe Rain Garden Interpretive sign was installed by Ford Motor Company volunteers in June 2010. Seven permanent GZ signs were installed and temporary Grow Zone boundary marker signs were replaced throughout the Grow Zones installed in Edward Hines Park. Additional signage will be installed as new Grow Zone areas are identified and established.

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.

Signage – Parks Design Section: Parks Design Section continues to initiate environmental restoration and protection initiatives through the permit process. In locations where construction is taking place that impacts Parks property, we require small interpretive signs that recognize the

damage and identify the measures that are to be taken to restore and enhance the surrounding ecology and wildlife habitat upon project completion.

Staff Training: No new environmental training was reported by DPS – Parks in 2010.

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 recognized 21 companies as members of the *Zero Violations Club* during 2010.

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). These materials come in a packet that includes the "Septic Systems Record Keeping folder", "Important if You are Selling Your Home" brochure, a "Your Septic System" reference guide for homeowners brochure, and an "Evaluator Recommendations" checklist. These materials are provided to all property owners requesting OSDS permits (new or repair) and to homeowners who have their disposal systems evaluated by Wayne County EHD. These materials are also provided to those individuals who become certified OSDS inspectors under the ordinance. The EHD implemented a webpage (June 2001) within the County's website which offers information regarding OSDS operation and maintenance as well as information summarizing services and programs offered by the EHD. The site established links to the WQMD webpage and to other environmental education sites.

Land Resources Division – Soil Erosion Permits: The *Soil Erosion, Sediment Pollution and Your New Home* brochures was 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_wqm_res_stormwm.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.

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, 2010– December 31, 2010** 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 2010, this included all County Drain improvement projects as well as the County project in City of Westland and on Tarabusi Creek near Middlebelt Road in Livonia.

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 2010, maintenance of the sites was completed, often in conjunction with education and involvement activities as described in Section 3 of this reports. Green Infrastructure work days were held at the Bennett Arboretum, Newburgh Pointe Rain Garden as well as at Grow Zones 7 & 8 (see WCPEP#11). A prescribed burn was conducted at the Nankin Mills Grow Zone in April 2010.

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 will be established in Wayne County Parks along the Lower Rouge River and within Lola Valley (Upper Rouge River). 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. In total, WCDPS will be receiving approximately \$253,750 in grant funds. WQMD and Parks staff have selection the specific locations within the Lower Rouge Parkway and Lola Valley (Upper Rouge) at which grow zones will be established;

selected sites include two locations along the Lower Rouge River, one within the Venoy Road area and one adjacent to the Inkster CSO retention treatment basin. Multiple locations were identified within the Lola Valley area. Site visits have been coordinated with the ARC design staff and design of the grow zones sites is underway. Construction is anticipated in 2011.

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. Through this grant, WCDPS is to receive \$100,000 in federal grant monies to design approximately 16 acres of grow zone and bid for construction approximately 5 acres of grow zone within County road right of ways. Late in 2010, WQMD staff began development of the design and construction technical support request for proposals to hire a contractor to design the 12 grow zone areas identified in the grant and to assist with developing the construction specifications for implementation of the sites. Design and construction of the grow zones are anticipated in 2011.

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*. Through this grant, WCDPS will receive approximately \$65,000 in grant funding to participate in the green infrastructure analysis planning and install approximately 350 trees within County road right of ways at priority locations within the ARC and ADW watershed areas. Installation of the trees is anticipated to begin in 2011.

Road Construction – DPS Field Engineering Office: Table 26 summarizes the Wayne County road construction projects administered by the Field Engineering Office in 2010. 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.

The projects along Canton Center Road, Schaefer Road (Dix to Oakwood) and Outer Drive were 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. For the Canton Center Road project, two VortechTM swirl concentrators were installed at the Mott Drain.

Table 26
Wayne County Road Construction Projects

Project Name	Project Limits	Project Name	Project Limits
Toledo Road	Eureka to Northline	Warren – Lilley	Intersection
Canton Twp	Intersections	Middlebelt Road	Five Mile to Seven Mile
Van Born Road	Lilley to Haggerty	Judd – Haggerty	Intersection
Merriman Road	Ann Arbor Trail to Joy	Seven Mile Road	Gratiot to Hayes
Beck-North Territorial	Intersection	Middlebelt Road	Cherry Hill to Warren
Middlebelt Road	Smith to Van Born	Allen Road	Pennsylvania to Northline
Five Mile Road	Greenfield to Schaefer	Goddard Extension	Bridge over Merriman Road
Lake Shore Drive	Moross to Vernier	Hines Drive	Ann Arbor Trail to Merriman
Van Born Road	Telegraph to Monroe	Wayne-Michigan Ramps	Wayne & Michigan
Warren Road	Wayne to Merriman	Harris Martinsville	Intersection
Joy Road	Inkster to Beech	Canton Center	Palmer to Cherry Hill
Schaefer Road	Dix to Oakwood	Outer Drive	Ford Road to Hines

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 has stenciled the storm sewer manholes within maintenance yards and parking lots. Efforts continued in 2010 by WQMD to develop Pollution Prevention (P2) Action Plans for County Roads and Parks maintenance yards as described in the County's Storm Water Pollution Prevention Initiative. An inspection checklist and template P2 Action Plan was developed with technical support from SEMCOG and inspections began in 2010 (see WCIDEP

#9). The following pollution prevention activities are undertaken at all Roads maintenance yard operated by WCDPS:

- 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 trash is hauled to a Type II landfill.
- 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.
- 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 provides for disposal of trash and waste from the yards and roads. The contractor responds on demand to empty the dumpsters.
- Cleaning Equipment- Wayne County Roads Division: The waste water from the truck wash building at Central Maintenance yard flows into an oil water separator and then into a sanitary sewer. Oil water separators are in place at all maintenance yards and truck wash areas are constructed of impervious asphalt and drained into a sanitary sewer.
- Maintaining Landscaped Areas: The Forestry unit has 16 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. Four roadway sites with excessive erosion were repaired with 21 AA or S2 aggregate or by flowable fill concrete.

Staff Training (WCSWM #6)

See activities reported under WCPEP #25. Through participation in the Southeast Michigan Partners for Clean Water, WQMD staff began planning for a Pollution Prevention Municipal Operations Training to be held for Wayne County and local community staff in spring of 2011.

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 this P2 Action Plan development process,

contracts for maintenance of County facilities will be 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)

During 2010, the Roads Design Office and Field Engineering of the WCDPS-Engineering Division generated plans and specifications for the construction of 24 road improvement projects in Wayne County. Along with improving the ride-ability of these roads, all catch basins and storm water manholes 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. The cleaning of catch basins associated with storm sewers owned by Wayne County is also performed on an as-needed basis. During 2010, the Wayne County DPS-Roads Division removed and properly disposed of 10,105 cubic yards of material from catch basins, storm sewers, roadside ditches and other features. The Roads Division has a policy 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 27 below presents a summary of roadway sweeping for this reporting period.

Table 27
2010 Roadway Sweeping Summary
Wayne County Roads Division

Type of Roadway	Cycles	Road Miles
Urban Freeway	3	2,180
State Trunk Lines	3	1,209
County Primary Roads	1	541
County Local Roads	0	0

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 store all deicing equipment, supplies, and chemicals in shelters that prevent spill and leaks that could enter the storm drain system. Staff are trained annually on winter safety and salt operations. Salt truck equipment is calibrated routinely to minimize over application.

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

Oil-water separator tanks at maintenance yards are routinely cleaned and the material properly disposed.

Goose Control Program (WCSWM #14)

The program to control Canada Geese populations in Wayne County Parks was not conducted in 2010.

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

As an Authorized Public Agency (APA) the WCDPS-Field Engineering Office follows the SESC Procedures and supplemental manual, as approved by MDEQ in July of 2005. 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 17 Certified Storm Water Operators. Twelve of these employees have also successfully passed the exam for the MDEQ SESC (Construction) training.

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.

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 2010, the Permit Office reviewed 200 development projects to ensure compliance with the Wayne County Storm Water Ordinance. The Field Engineering Office provides inspection for approved projects. One hundred construction permits were issued. Eighty projects were completed.

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 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)

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 2 violation notices (one each from the Soil Erosion Program and the Industrial Pretreatment Program) issued under Wayne County's Municipal Civil Infraction Ordinance.

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 continued implementation of the Sewer Use Ordinance (Chapter 101 of Wayne County Code of Ordinances). In 2010, the Ordinance was revised to include local discharge limits and EPA streamlining requirements. Three industrial users were noticed of being in significant non-compliance, thirty-three letters of violation were issued and one municipal civil infraction was issued in the 2010 enforcement of the County Sewer Use Ordinance.

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 33 (an increase of two from 2008) of the 43 local communities within Wayne County. During the reporting period, LRMD issued 175 soil erosion control permits. Inspections were conducted at 100% of the projects underway and 47 major violation notices were issued. Corrections have been made or are underway for all violations. MDEQ did not perform an audit on the County's SESC Program in 2010; the program was audited by MDEQ in 2001 and received an "Approved" rating. LRMD staff also participate in the Wayne County Storm Water Ordinance Workgroup.

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

Wayne County's Storm Water Management Ordinance (Enrolled Ordinance No. 2000-652) and Administrative Rules (Resolution No. 2000-653), adopted in October 2000 and revised in August 2003, requires that storm water runoff from regulated development projects must meet certain performance standards for flood protection and water resources protection. There is a companion document, Wayne County Standards Manual, to assist with compliance with the Storm Water Ordinance and Administrative Rules. The Wayne County Storm Water Work Group (consisting of representatives from DPS-Administration, DPS-Engineering, DPS-Permits, DPS-Parks, WCDPS-LRMD, Corporation Counsel, and chaired by the WCDPS-WQD) periodically publishes a document entitled "Program Clarifications, Errata, And Revisions", along with other miscellaneous guidance.

The Wayne County Storm Water Management regulations are implemented through the existing review and permit processes of the Permit Office of the Wayne County Department of Public Services, Engineering Division. Efforts to publicize these regulations are ongoing (see PEP#9) and include periodic mailings to local communities, developers, and other interested parties; posting of materials on the Wayne County website and workshops with developers, communities, and other interested parties. Copies of the ordinance, rules, and standards manual are available from the Permit Office (33809 Michigan Avenue, Wayne, MI), or from the Wayne County website <http://www.waynecounty.com>.

In 2010, the Permit Office reviewed 200 development projects to ensure compliance with the Wayne County Storm Water Ordinance. The Field Engineering Office provides inspection for approved projects. One hundred construction permits were issued. Eighty projects were completed.

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

WCDPS-FMD staff implemented woody debris management as part of all 2010 County Drain maintenance activities. 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)

See 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.

Detroit River International Wildlife Refuge: Wayne County Parks is an active partner in the

Detroit River International Wildlife Refuge. The first phase of development of the Refuge Gateway site was completed in 2009 with the day-lighting of the Monguagon Drain as it bisects the Gateway site. This project collects storm water runoff and discharges it into a sedimentation basin. The water then flows into a wetland and ultimately into the Detroit River. This project was funded in part through a MDEQ Clean Michigan Initiative grant to Wayne County.

Wayne County Native Plant and Backyard Composting Demonstration Site: WQMD has developed a native plant and backyard composting demonstration site at its Commerce Court office location in the City of Wayne. Staff developed a comprehensive plan that showcases composting techniques, native plantings and erosion control measures on a parcel of land immediately adjacent to the Lower Rouge River and WQMD office. This site was created in 2003 as a staff training effort, a public education effort, an element of the County's River Friendly Partners Program and as a habitat restoration effort. The site also serves as a monitoring location for the Rouge Education Project as we welcomed in students from Cesar Chavez Academy in Detroit to perform chemical and benthic monitoring along the Lower Rouge River adjacent to the garden. Benthic scores at the site appear to be trending upward with Spring scores rising from a score of 20 to almost 30 and fall scores rising from 20 to a score of over 35. Maintenance of the garden and trail system continued along with routine wildlife monitoring. Future activities planned include further expansion of the native plant garden, installation of birdhouses, and continued utilization of the site for school educational activities.

Collaboration with the Detroit District US Army Corps of Engineers (COE): Wayne County continues to collaborate with the US Army Corps of Engineers to improve riverine habitat along the paved channel section of the Rouge River, from Michigan Avenue to the confluence with the Detroit River. The preliminary restoration plan for modification of the concrete channel between Michigan Avenue and Interstate 94 was approved in August 2002 by COE district management. Detailed analysis for this project was started in 2003 and the hydraulic modeling analysis of the channel modification and report was completed by the COE and submitted to Wayne County in December 2005. Meetings between the COE, Wayne County and Gateway Partners continued to be held periodically during 2010 to discuss financing and technical issues associated with the future construction of this project.

Nankin Mills Interpretive Center: Bluebird nesting boxes are being maintained in the Grow Zone areas. The (mostly native plant) butterfly garden was maintained on 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 50 blue bird nesting boxes installed by an Eagle Scout.
- Crosswinds Naturalists continue to monitor, clean and repair 28 bat houses previously installed.
- Crosswinds Naturalists continue to implement our invasive species control program for autumn olive, phragmites, purple loosestrife and Eurasian water milfoil.
- Crosswinds Naturalists continue to implement our control program for Cottonwoods 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.

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.

Elizabeth Park:

- Continued development of the River Walk.
- Development of the boat landing and assembly area.
- Restoration plans and specifications for the Elizabeth Park canal shoreline, bike path and riparian corridor restoration have been completed. Parks and WQMD have been partnering with the ADW to submit grant applications to the *Sustain Our Great Lakes Program* to implement the restoration plans.

Active water-based recreation use within Wayne County Parks:

- 265 participants in Crosswinds Fishing Derby
- Approximately 3,265 people went fishing at Crosswinds Marsh in 2010.

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, 2010 – December 31, 2010** 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.

Rouge Subwatershed Advisory Group (SWAG) Participation: Wayne County regularly participates in the meetings held by the six Rouge Subwatershed Advisory Groups (SWAGs) in the County.

Rouge RAP Advisory Council: Wayne County staff continued their active participation on the RRAC and its subcommittees. During 2010, Wayne County staff served as Vice Chair of the RRAC and actively participated in on-going efforts to implement the RRAC's *Delisting Targets for Fish and Wildlife Habitat and Population Beneficial Use Impairments for the Rouge River Area of Concern* report published in December 2008.

Alliance of Rouge Communities: On August 5, 2003 the Rouge watershed communities and counties formed the *Rouge River Watershed Local Management Assembly (Assembly of Rouge Communities)* to guide the Rouge River restoration into the future as the federal grant funding diminishes. The Assembly of Rouge Communities (Assembly) was based on a Memorandum of Agreement (MOA), signed by each local community, which outlined voting and funding shares for the new working arrangement. The Assembly successfully operated for more than two years, with 38 community members and three county (Wayne, Oakland and Washtenaw) members. The annual budgets, on the order of \$600,000 per year, were 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 were used to provide technical guidance and facilitation for the Assembly, its committees and the seven Subwatershed Advisory Groups. Wayne County served as fiduciary for the Assembly of Rouge Communities during 2003-2005.

In December 2005, the Assembly formally became the Alliance of Rouge Communities (ARC) when 20 eligible members approved bylaws modeled after the former MOA for operation of the Assembly. The group now acts as a legal public entity under the new Watershed Alliance Act, Public Act 517 of 2004. There are 42 ARC members and one associate member that have approved the bylaws, including Wayne County. The County served as fiduciary for the ARC during 2006 and 2008 under inter-agency agreements.

The ARC structure involves a General Assembly that meets at least twice a year, an Executive Committee that meets as necessary, and three standing committees (Finance, Technical, Public Involvement/Education (PIE)). A special committee, the Organization Committee is also currently active and chaired by Wayne County staff. Each of these committees meets as needed.

Wayne County was a founding member of the ARC, is an active participant on every committee, serves as co-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 2010 Annual Report* which is available at www.allianceofrougecommunities.com.

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 - 2010 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. The 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. Throughout 2010, WQMD staff worked with Macomb County, the consultant and the other watershed partners to implement the watershed management and pollution prevention activities of the Lake St. Clair Watershed. Also in 2010, Wayne County executed the Operating Agreement for the Lake Saint Clair Watershed group, formally committing County participation in the group.

SECTION 6 LIST OF ATTACHMENTS

Wayne County Annual Report: January 1, 2010 – December 31, 2010

SECTION 1: DETERMINATION OF EFFECTIVENESS

- The 2009 *Rouge River Ecosystem Monitoring and Assessment Report*, along with previous years reports, are available online at: www.rougeriver.com
- 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 Macroinvertebrate Data Trend Graphics

SECTION 2: ILLICIT DISCHARGE ELIMINATION PLAN

- Table 2.1: Facilities with Confirmed Corrections (2010)
- Table 2.2: Facilities with Outstanding Illicit Discharges (2010)
- Alliance of Rouge Communities (ARC) Outfall Map
- Updated Wayne County Storm Water System Map

SECTION 3: PUBLIC EDUCATION PLAN

- The 2010 *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_lrm_prog_swplanning.htm.
- WQMD pollution prevention public education materials can be found at http://www.waynecounty.com/doe_wqm_res_pp.htm.
- Southeast Michigan Partners for Clean Water, *Community Annual Report Information, October 2009 - September 2010*.

SECTION 4: ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES

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

SECTION 5: WAYNE COUNTY WATERSHED PLANNING

- *Alliance of Downriver Watersheds - 2010 Summary of Activities/Accomplishments* available online at: <http://www.allianceofdownriverwatersheds.com>; Draft Ecorse Creek, Combined Downriver and Lower Huron River updated watershed management plans are also available at this website.
- *Alliance of Rouge Communities Executive Director 2010 Annual Report* available online at: <http://www.allianceofrougecommunities.com>.

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@co.wayne.mi.us with any questions or inquires regarding the content of this report.