



Wayne County, Michigan

Annual Report

For Reporting Period January 1, 2008 – December 31, 2008

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

Submitted to:

**State of Michigan Department of Environmental Quality
Water Division**

April 2009

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2008 – December 31, 2008

TABLE OF CONTENTS

	<u>Section</u>	<u>Page</u>
DETERMINATION OF EFFECTIVENESS	1	3
 ILLICIT DISCHARGE ELIMINATION PLAN		
SUMMARY OF ACTIVITIES	2	17
County-Based Pollution Complaint Reporting System (WCIDEP #1).....		19
County-Based Advanced Investigation and Correction (WCIDEP #2)		19
IDEP Training Workshops (WCIDEP #3).....		28
Minimize Infiltration of Seepage from Sanitary Sewers (WCIDEP #4).....		29
Minimize Infiltration of Seepage from Onsite Sewage Disposal Systems (WCIDEP #5)		29
Response to Emergency Spills (WCIDEP #6)		31
Illegal Dumping Control (WCIDEP #7)		31
Swimming Pool Inspections (WCIDEP #8)		33
County-Owned Building Inspection (WCIDEP #9)		34
Visual Inspections During Routine Field Operations (WCIDEP #10)		34
IDEP Volunteer Training (WCIDEP #11)		35
Methods to Evaluate Effectiveness – Alternative vs Traditional IDEP Comparison (WCIDEP #12)		35
Methods to Evaluate Effectiveness – Performance Tracking (WCIDEP #13)		36
Methods to Evaluate Effectiveness – Instream/Environmental Indicator Monitoring (WCIDEP #14)		36
Update Map of Known Storm Water Point Sources and Respective Receiving Waters or Drainage Systems (WCIDEP #15)		36
 PUBLIC EDUCATION PLAN SUMMARY OF ACTIVITIES	 3	 37
Educate Public Public Regarding Location of Residential Storm Drainage System and Waters of the State (WCPEP #1)		37
Educate Public Regarding Animal Waste (WCPEP #2).....		37
Educate Public Regarding Pavement or Powerwashing WCPEP #3).....		37
Distribute Pollution Prevention Literature (WCPEP #4).....		37
Newsletter Articles and Advertisements (WCPEP #5)		38
Displays-Community/Agency Events (WCPEP #6)		38

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2008 – December 31, 2008

TABLE OF CONTENTS (Continued)

	<u>Section</u>	<u>Page</u>
Displays-Static (WCPEP #7)		39
WCDOE Environmental Information Line (WCPEP #8)		40
Advertisements (WCPEP #9)		40
Point of Sale Education (WCPEP #10)		40
Workshops and Demonstration Projects (WCPEP #11)		41
Riparian Corridor Management Technical Advisory Committee and Work Group (WCPEP #12)		42
Healthy Lawn and Garden Technical Advisory Committee (WCPEP #13)		43
River Day/Rouge Rescue (WCPEP #14)		43
Volunteer Monitoring – Frog & Toad Surveys, Rouge Watershed (WCPEP #15)		43
Volunteer Monitoring – Bug Hunts, Rouge Watershed (WCPEP #16)		43
Volunteer Monitoring – Bug Hunts, Downriver Watersheds (WCPEP #17)		44
Rouge Education Project (WCPEP #18)		44
Storm Sewer System Labeling (WCPEP #19)		44
Storm Sewer System Labeling – County Facilities (WCPEP #20)		44
Alliance of Rouge Communities – PIE Committee (WCPEP #21)		45
Information Dissemination via Websites (WCPEP #22)		45
Information Dissemination from County Buildings (WCPEP #23) ..		45
Education Waste Disposal Sites (WCPEP #24)		46
Staff Education and Training (WCPEP #25)		46
Signage (WCPEP #26)		47
Local Presentations (WCPEP #27)		48
Develop/Maintain Partnerships (WCPEP #28)		49
Integrate Public Education into		
Facilities Management Division (WCPEP #29)		51
Public Services, Roads Division (WCPEP #30)		52
Public Services, Parks Division (WCPEP #31)		52
County Issued Permits (WCPEP #32)		62

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2008 – December 31, 2008

TABLE OF CONTENTS (Continued)

	<u>Section</u>	<u>Page</u>
ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES.	4	65
Outlet Stabilization: County Projects (WCSWM #1)		65
BMP Implementation Treatment Controls: County Projects (WCSWM #2).....		65
CSO Control Implementation (WCSWM #3).....		66
SSO Control Implementation (WCSWM #4).....		66
Pollution Prevention (P2): General Public Facilities Management (WCSWM #5).....		66
Staff Training (WCSWM #6)		67
P2: Training and Inspection Program for Contractors (WCSWM #7).....		67
P2: Fertilizer, Pesticide and/or Herbicide Application (WCSWM #8).....		67
P2: Storm Sewer Operation and Maintenance (WCSWM #9)		67
P2: Roads Maintenance and Sweeping (WCSWM #10)		68
P2: Snow Removal and Storage (WCSWM #11).....		68
P2: Deicing Practices and Storage (WCSWM #12)		68
Oil and Grease Traps – County Implemented (WCSWM #13).....		69
Goose Control Program (WCSWM #14).....		69
Soil Erosion and Sedimentation Control – County Projects (WCSWM #15)		69
Streambank Stabilization – Projects Subject to County Storm Water Ordinance (WCSWM #16)		69
BMP Implementation Treatment Controls: Projects Subject to County Storm Water Ordinance (WCSWM #17).....		69
Outlet Stabilization - Projects Subject to County Storm Water Ordinance (WCSWM #18)		70
Ordinance Enforcement: Illegal Dumping Ordinance (WCSWM #19).....		70
Ordinance Enforcement: Municipal Civil Infractions Ordinance (WCSWM #20).....		70
Ordinance Enforcement: OSDS Evaluation and Maintenance Ordinance (WCSWM #21)		70
Ordinance Enforcement: Sewer Use Ordinance (WCSWM #22).....		70

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2008 – December 31, 2008

TABLE OF CONTENTS (Continued)

	<u>Section</u>	<u>Page</u>
Ordinance Enforcement: Soil Erosion and Sedimentation Control Ordinance (WCSWM #23)		71
Ordinance Enforcement: Storm Water Management Ordinance (WCSWM #24)		71
Flow Obstruction Prevention/Removal and Woody Debris Management (WCSWM #25)		71
Streambank Stabilization Efforts – County Implemented (WCSWM #26)		72
Habitat Restoration (Protection) (WCSWM #27)		72
River Day Participation (WCSWM #28)		73
Assessment of County Implemented Flood Control Projects (WCSWM #29)		73
Other Activities and Projects		73
WATERSHED PLANNING SUMMARY OF ACTIVITIES	5	75
Rouge River Watershed		75
Alliance of Downriver Watersheds		76
Lake St. Clair (Direct Drainage) Watershed		76
LIST OF ATTACHMENTS	6	79

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2008 – December 31, 2008

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 data collected through 2007, is presented in Table 1. From the table, 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*, Fish Communities, Stream Habitat, Macroinvertebrates, and Amphibians, with the following exceptions: Lower 1 for Stream Flow and Dissolved Oxygen, the Middle 1 and Middle 3 for Fish Community, and the Lower 2 for Amphibians. In particular, trend analysis indicates Stream Flow to be improving or has not changed in 6 of the 7 Rouge subwatershed areas. DO trend analysis shows improvement or no change in 6 of the 7 subwatershed areas and *E.coli* trend analysis indicates an improving or no change in all 7 watershed management areas. In 2007, all eight species of amphibians monitored were observed in 4 of the 7 watershed management areas.

Wayne County Water Quality Management Division (WQMD) continued its partnership with the Friends of the Rouge to implement environmental indicator monitoring in the Rouge River watershed.

Rouge Macro-Invertebrate Monitoring: Spring and fall 2008 macro-invertebrate monitoring occurred at numerous locations. In the fall, 54 sites were monitored (28 by Friends of the Rouge (FOTR) volunteers and 25 by Wayne County DOE). Figure 1 identifies the site location and the Fall 2008 scores for each site. A summary of the site scoring is as follows:

- One Middle Rouge site scored excellent;
- Sixteen sites scored good, 33 sites scored fair and 4 sites scored poor; and
- A new site sampled on the Main Rouge River had a "good" score, which is seldom received at sites as far downstream as this site.

After eight years of monitoring, there are now sufficient data to perform a trend analysis at some of the sites. Twenty-five of the 54 sites sampled this fall have enough data to compare to the average site score. Figure 2 identifies the score trends by comparing the Fall 2008 score to the site's average score. The trend results are summarized as:

Table 1: Analysis of Rouge River Conditions
Developed from 2007 Rouge River Ecosystem Monitoring and Assessment Report

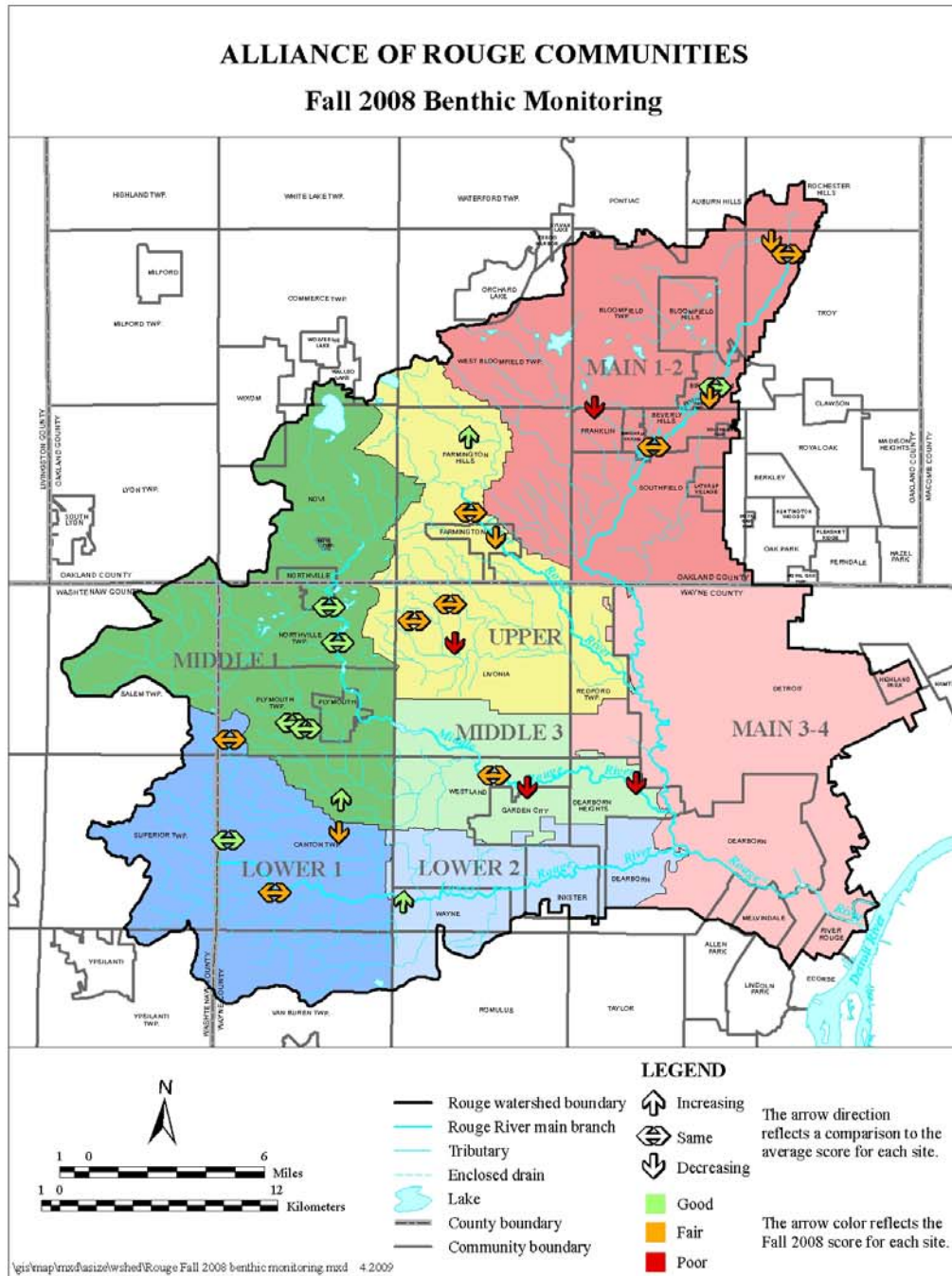
Parameter	Rouge Subwatershed						
	Main ½	Main ¾	Upper	Middle 1	Middle 3	Lower 1	Lower 2
Stream Flow¹	↑↑	↑↑	↑↑	⇔	⇔	↓↓	⇔
Temperature²	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Dissolved Oxygen³	↑↑	⇔	↑↑	⇔	↑↑	↓↓	↑↑
Total Phosphorus⁴	⇔	⇔	⇔	⇔	↑↑	↑↑	↑↑
E.coli⁵	⇔	⇔	⇔	⇔	↑↑	⇔	⇔
Fish Community⁶	⇔	NA ⁷	↑↑	↓↓	↓↓	⇔	NA ⁷
Habitat⁸	⇔	NA ⁷	⇔	⇔	⇔	↑↑	⇔
Macroinvertebrates⁹	↑↑ 8/9	⇔ 1/2	↑↑ 7/8	↑↑ 11/14	⇔ 3/6	↑↑ 7/8	↑↑ 3/3
Frogs & Toads¹⁰	↑↑ 8/8	↑↑ 5/8	↑↑ 8/8	↑↑ 8/8	↑↑ 7/8	↑↑ 8/8	↓↓ 7/8

- 1) Trend arrow is based on frequency of high flow decreasing as reported in 2007 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.
- 3) Arrow is based on daily average DO trend analysis as reported in 2007 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 8 of the 8 species heard in the watershed during Friends of the Rouge 2006 Frog & Toad Survey.

Wayne County Annual Report
January 1, 2008 – December 31, 2008
MDEQ Storm Water General Permit



Figure 2: Rouge River, Benthic Monitoring Score Trends, Fall 2008



- Three sites (two on the Lower Rouge and one on the Upper Rouge) scored above the site average,
- Fourteen sites scored near their site average (i.e., no decline), and
- Eight sites (one on the Lower Rouge, two in the Middle Rouge, two on the Upper Rouge, and three on the Main Rouge) had scores below their site average. The Franklin Cider Mill site on the Main Rouge River continues to show a decline in scores.

Another water quality indicator is the type of “bugs” found in the river. Monitoring results for 2008 were:

- Clubtail dragonflies, a member of the dragonfly family Gomphidae which is very sensitive to water quality, were found for the second time in the Rouge at Sprague Creek in Troy, a tributary near the headwaters of the Main Rouge River. A Dobsonfly, or Hellgrammite, was also found at this site. The Dobsonfly is a member of the family Corydalidae, also very sensitive to water quality.
- Patterned stoneflies (family Perlodidae), an aquatic insect very sensitive to water quality, were found at a new site on Fellows Creek, a Lower Rouge tributary.
- Finger-net and long-horned case maker caddis flies, water quality-sensitive families, were also collected at several sites this fall.

Rouge River Geomorphology Assessments: In 2008 the WQMD/FOTR team received geomorphology assessment training from MDEQ staff. The training was provided consistent with the Quality Assurance Project Plans for the *Middle Rouge Riparian Corridor Management Project* and the *Grow Zones Across the Alliance of Downriver Watersheds Project* funded under the Clean Michigan Initiative. The training served to establish and improve the skills involved in conducting geomorphologic assessments, a tool being used to evaluate the physical stability of a stream channel and track dimensional changes. Six sites across the watershed were successfully assessed in 2008 as follows: three sites in the Upper Rouge subwatershed, two sites in the Middle Rouge subwatershed, and one site in the Lower Rouge subwatershed. Figure 3 identifies the location of the sites and the scores for each site based on the calculated tractive force ratio for the site. The tractive force ratio is an expression of stream channel stability; if the ratio is much greater than 1, the stream has “excessive energy” at bankfull discharge relative to the size of stream bed material and therefore channel erosion is likely. Sites with ratios of 1 or below are rated “Good”; sites with ratios above one and less than two were rated “Fair”; sites with ratios greater than two were rated “Poor”.

In 2008, the Alliance of Rouge Communities published the *Measuring Our Success* poster for the Main 3/4 Rouge subwatershed. This poster presents a summary of the ecosystem health trends by subwatershed, along with watershed management activities that have been implemented to date. The *Measuring Our Success* poster for the Main 3/4 subwatershed (entirely within Wayne County) are attached to this report.

In December of 2005, the Rouge Remedial Action Plan Advisory Council published an update to the *Rouge River Report Card*. From this document,

- 10 of the 18 Report Card indicators are “making progress”
- Four of the six pollution control and water quality indicators (indicators 1-6) are “making progress”; none of these six are “losing ground”.

Figure 3: Rouge River Geomorphology Assessment, 2008

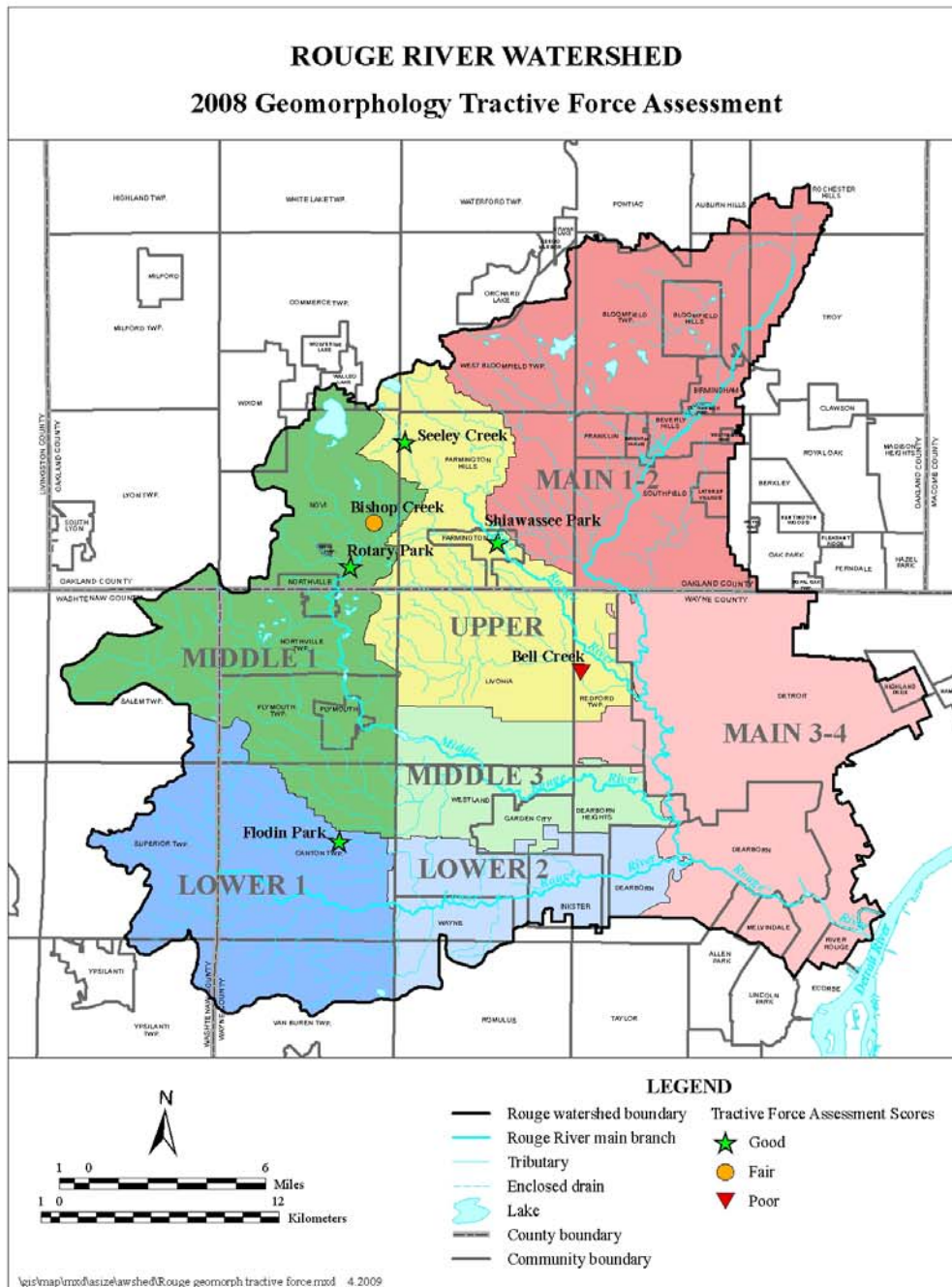
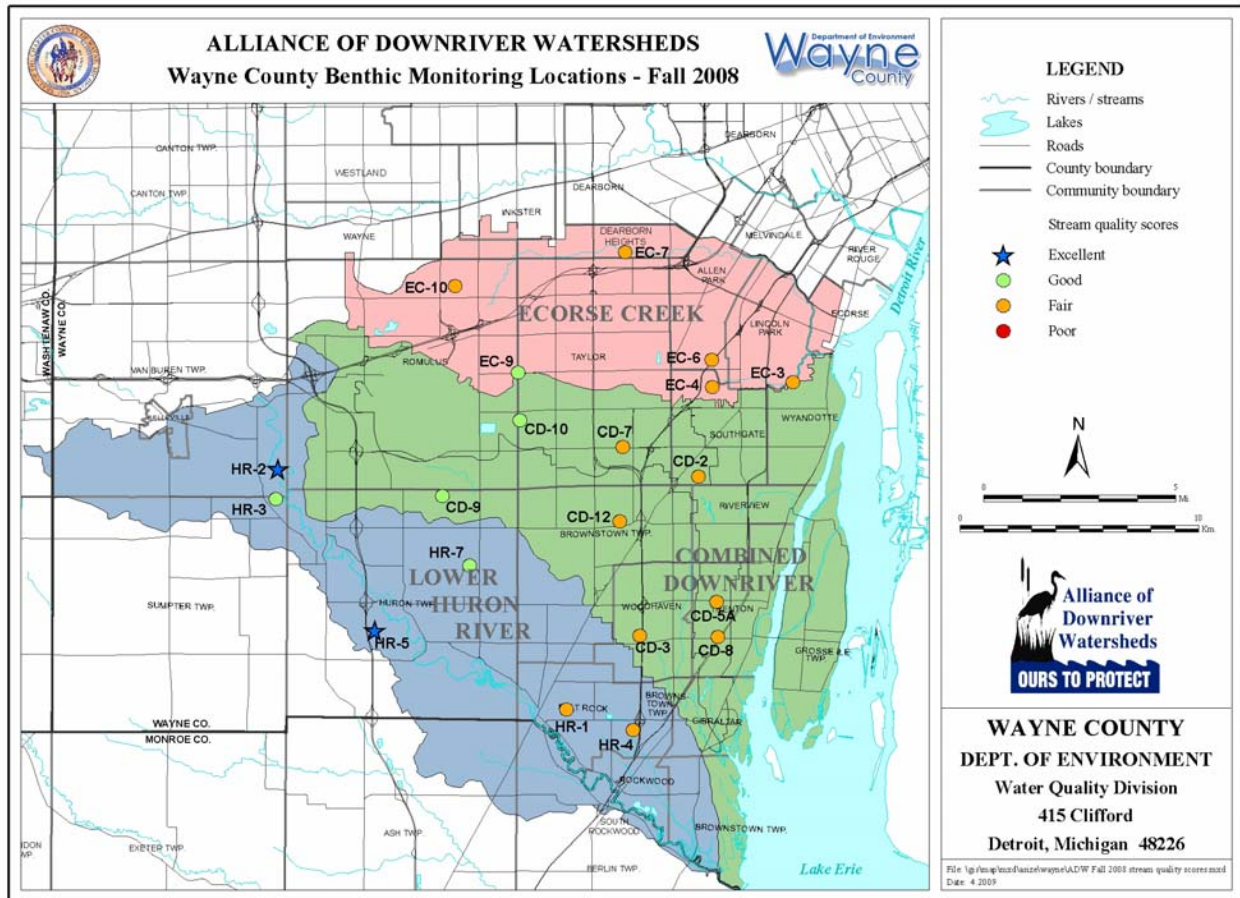


Figure 4: Wayne County Downriver Watersheds, Benthic Monitoring Site Scores, Fall 2008



- While five of the six habitat and wildlife indicators (indicators 7-12) are reported as “losing ground”; six of the six understanding/stewardship, and leadership related indicators (indicators 13-18) are all reported as “making progress”.

Downriver Watersheds. During 2008, Wayne County continued its partnership with the *Downriver Citizens for a Clean Environment “Stream Team”* to implement macroinvertebrate monitoring at 20 locations in the downriver watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. Work is underway with the Huron River Watershed Council, the local communities and other watershed partners such as the Alliance of Downriver Watersheds (ADW) to expand the monitoring locations and monitored parameters to establish the necessary ecosystem monitoring program for measuring progress in these watersheds. The Huron River Watershed Council (HRWC) initiated its volunteer macroinvertebrate monitoring program in the Lower Huron River in 1996. WQMD and the Stream Teams began monitoring in the Combined Downriver and Ecorse Creek watersheds in 2004. Figure 4 identifies the sites and the site scores. The 2008 ADW fall monitoring scores range as follows:

<u>Watershed</u>	<u>Macroinvertebrate Monitoring Results</u>
Ecorse Creek	Six sites monitored: good to fair scores
Combined Downriver	Eight sites monitored: good to fair scores
Lower Huron River	Eleven sites monitored: excellent to fair scores

After five years of monitoring in the ADW, there are now enough data to perform trend analysis. Five of the 20 sites sampled in the fall have enough data to compare to the average site score. Figure 5 identifies the score trends by comparing the Fall 2008 score to the site's average score. The trend results are summarized below:

- Four of the five sites were equal to or within range of the site average.
- One site, Grams Drain in Ecorse Creek, scored below the site average.
- Two Lower Huron River sites, monitored by the HRWC, remain stable.

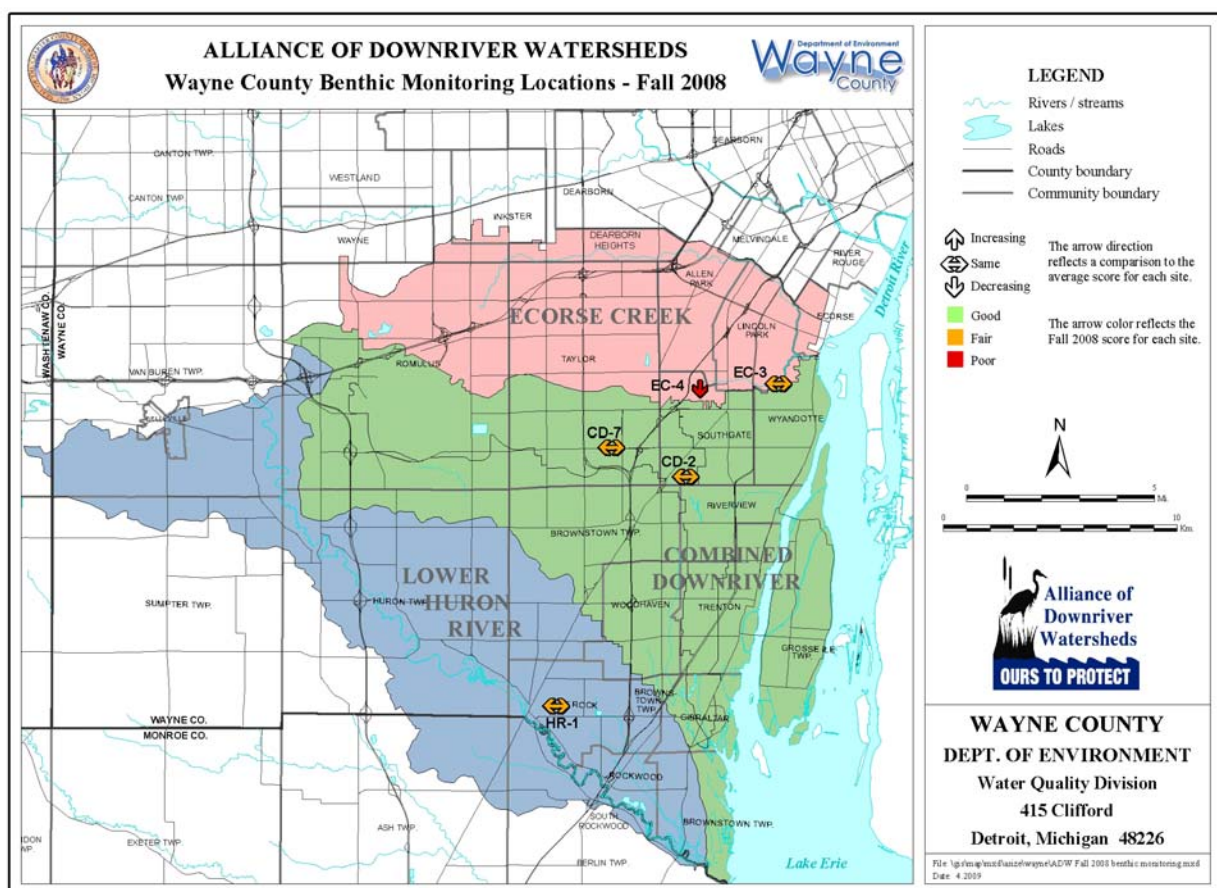
Another water quality indicator is the type of “bugs” found. Sensitive families were observed in each ADW watershed:

- A Dobsonfly or Hellgrammite (Family Corydalidae), a very sensitive aquatic insect, was found at one site in the Lower Huron River watershed;
- Three families very sensitive to water quality (the Pronggill mayfly (Leptophlebiidae), the slender winter stonefly (Capniidae) and the broadback stonefly (Taeniopterygidae)) were found at one Lower Huron River watershed site; and
- Case maker caddis flies sensitive to water quality (the Northern Case maker caddis (Limnephilidae) and Giant case maker caddis (Phryganeidae)) were found at several Lower Huron, Ecorse Creek and Combined Downriver sites.

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 submitted to MDEQ in November 2006 and subsequently approved on June 27, 2008. Information on the watershed management plan can be found at <http://www.crrc.org/programs/phase2/subwatersheds/LSC.html>. The methods of assessing progress of watershed plan implementation are under development by the Advisory Group.

Wayne County was also an active participant in the Lake St. Clair Regional Monitoring Project. Information on this project can be found at <http://www.lakestclairdata.net>. This project was completed in 2008.

Figure 5: Wayne County Downriver Watersheds, Benthic Monitoring Score Trends, Fall 2008



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, 2008 – December 31, 2008**, 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 2 presents a summary of the results of Wayne County's IDEP.

Table 2: Illicit Discharges Found Within Wayne County
January 1 through December 31, 2008

<i>Method of Identification and Type of Illicit Connection</i>	<i>Number Handled or Investigated</i>	<i>Number of Illicit Discharges</i>
Total Number of Complaints Handled		
Calls into Wayne County Hotline	1820	NT
Water Quality Complaints into DOE-Water Quality Division	62	36
Drainage Complaints directly into DOE-Drain Office	148	2
Complaints into directly into DOE-Land Resources Division	118	0
<i>Subtotal, Complaints Handled</i>	<i>328</i>	<i>38</i>
Types of Illicit Discharges Identified during Complaint Investigations (WQMD, FMD and LRMD)		
Illegal Dumping	7	2
Grease/Oil/Fuel	14	14
Other Industrial Fluids	18	18
Paint	1	1
Log Jams and Woody Debris	62	
Flooding/Standing Water	24	
Soil Erosion	9	
Odor	112	
General Debris	27	
Sewage Related	3	3
West Nile Virus/Poor Drainage	2	
Requesting Information	2	
Other Misc.	47	
<i>Subtotal, Complaint Investigation</i>	<i>328</i>	<i>38</i>
Emergency Spill Response		
<i>Subtotal, Emergency Spill Response</i>		<i>0</i>

**Table 2 (Continued): Illicit Discharges Found Within Wayne County
January 1 through December 31, 2008**

Illicit Discharges Identified during Routine Field Operations	<i>Number Handled or Investigated</i>	<i>Number of Illicit Discharges</i>
Industrial Fluids	1	1
Fuel Oil	1	1
Suspicious Discharge	2	1
<i>Subtotal, Field Operations</i>		3
Illicit Discharges Identified during Facility (Dye Test) Inspections		
Floor Drains		2
Drinking Fountains		
Sump Pumps		
Sinks		
Tub/Shower		
Toilets		
Material Storage		1
Overflow from Sanitary System (car wash drain overflow)		
Inappropriate Floor Wash Water Disposal		2
Outdoor Power Washing (vehicles)		2
Construction Waste		2
Swimming Pool		
Onsite Sewage Disposal System Failures		37
<i>Subtotal, Facility Inspections</i>		46
Public Swimming Pools (new or modified permits)	15	
Illegal Dumping Prevention/Cleanup		
Cleanup of illegal dump sites (C.L.E.A.N. program)		
Cleanup of material dumped on County property		
Computer/Computer Peripheral Waste Collection Days (6 days)	182,342 lbs	
Household Hazardous Waste Collection Days (4 days)	343,357 lbs	
TOTAL ILLICIT DISCHARGES IDENTIFIED	525,699	87

Legend:

NT = Not tracked
DOE = Wayne County Department of Environment
LRMD = DOE Land Resource Management Division
FMD = DOE Facilities Management Division
WQMD = DOE Water Quality Management Division
C.L.E.A.N = County Lending Environmental Assistance to Neighborhoods program

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

24 Hour Hotline/Complaint Response

The Wayne County Department of Environment (WCDOE) maintained the 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 1,820 calls were handled through the WCDOE Environmental Hotline. Four hundred of these calls were referred to outside agencies. WCDOE responded to over 450 complaints or inquiries involving land or water pollution concerns. Approximately 200 of these inquiries were addressed by staff over the telephone, without need for a field investigation. The balance of calls, approximately 240, were transferred to WCDOE 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 WCDOE as well as by the Wayne County Environmental Health Division. These efforts are summarized below. In 2008, each of the Wayne County communities with a storm water permit was given a supply of *24-Hour Hotline* brochures (approximately 200 each) and encouraged to promote the Hotline for reporting of illicit discharges.

Coordinated Complaint Response

The WQMD handled a total of 62 complaints during the reporting period. Of these, 36 were various illicit discharge related issues, three were odor issues, two illegal dumping and 21 were related to fish kills and wildlife issues and other miscellaneous concerns or were requesting information. Of the 62 complaints, 36 were referred to other agencies or County Departments, and 26 were investigated by WQMD. Of the 26 investigated by WQMD, seven of the complaints were confirmed as illicit discharges and resolved, one was related to odor, two were more than one week old when received by WQMD, one was related to streambank stabilization, one was for illegal dumping, four were requests from communities or other agencies for WQMD assistance, four were closed due to an inability to field substantiate the complaint, six are other miscellaneous concerns or information requests and three are still under investigation.

The Land Resource Management Division received and responded to 118 complaints during 2008. The complaints were categorized as follows: odor - 109, dust - 2, illegal dumping - 3, noise - 3.

The Facilities Management Division handled a total of 148 complaints during the reporting period, categorized as follows: Illegal dumping – 2, log jams/woody debris – 60, debris – 27, flooding – 17, standing water – 7, erosion – 5, other and misc. – 30.

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

Illicit Discharge Investigations, Facility (Dye-Test) Inspections

Dye-testing of facilities to identify improper connections of plumbing fixtures to the storm sewer system/waterways took place in three watersheds: Rouge River, Ecorse Creek, and Combined Downriver. Plumbing fixtures at 356 facilities were dye-tested, resulting in the identification of two illicit connections at one facility. Illicit discharges were identified at seven facilities (Table

3). Table 4 provides a summary of the types of illicit connections and illicit discharges found by Wayne County during facility inspections for this reporting period. Table 5 presents a summary of illicit discharge investigations performed independently of facility dye testing activities. Table 6 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 2008 are eliminated. Wayne County's illicit discharge elimination effort prevents over 183,741 pounds of pollutants and approximately 15.7 million gallons of polluted water per year from entering Wayne County waterways. These pollutant loading reduction estimates include illicit discharges identified during all 2008 Wayne County illicit discharge investigations.

Since the inception of the Illicit Discharge Elimination Program in 1987, Wayne County staff have inspected 8,490 facilities and identified 2,308 illicit connections at 571 facilities. WQMD confirmed corrections of illicit connections and illicit discharges at a total of 535 facilities through 2008. During the reporting period, corrective actions of identified illicit connections, illicit discharges, and environmental concerns were verified at 10 facilities. A list of these facilities is provided within Section 2 of the attachments. Confirmation of corrective action is pending at 35 facilities. Twelve 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 also in Section 2 of the attachments. Illicit discharge facility inspection activity is summarized by watershed in the following subsections.

**Table 3: Wayne County Watersheds Facility (Dye Test) Inspection Summary
January 1 through December 31, 2008**

	Annual Total 2008	Watershed		
		Rouge River Watershed	Ecorse Creek Watershed	Combined Downriver Watershed
Number of Facilities Inspected	356	351	0	5
Number of Facilities with Illicit Connections	1	1	0	0
Number of Illicit Connections*	2	2	0	0
Number of Facilities with Illicit Discharges	7	7	0	0
Number of Illicit Discharges	7	7	0	0
Number of Environmental Concerns	2	2	0	0
Number of Facilities with Environmental Concerns	1	1	0	0
Number of Facilities with Confirmed Corrections	10	6	2	2
Number of Illicit Connections Corrected	46	25	8	13
Number of Illicit Discharges Corrected	1	1	0	0
Number of Environmental Concerns Corrected	1	1	0	0

* Interior catch basins

**Table 4: Types of Illicit Discharges Found Within Wayne County
During Facility (Dye-Test) Inspections January 1 through December 31, 2008**

<i>Illicit Connections</i>	<i>Percent of Total Identified</i>	<i>County Total</i>	Watershed		
			Rouge River	Ecorse Creek	Combined Downriver
Floor Drains	100	2	2		
TOTAL		2	2	0	0
<i>Illicit Discharges</i>	<i>Percent of Total Identified</i>	<i>County Total</i>	Watershed		
			Rouge River	Ecorse Creek	Combined Downriver
Outdoor Vehicle Washing	29	2	2		
Inappropriate Floor Wash Water Disposal	29	2	2		
Construction Debris	29	2	2		
Material Storage and handling	13	1	1		
TOTAL	100	7	7	0	0

**Table 5: Wayne County Watersheds Illicit Discharge Investigation Summary
January 1 through December 31, 2008**

	Annual Total 2008	Watershed		
		Rouge River Watershed	Ecorse Creek Watershed	Combined Downriver Watershed
Number of Onsite Sewage Disposal Systems (OSDS) with Illicit Discharges	38	NA	NA	NA
Number of Illicit Connections	4 ^{1,4}	0	4 ^{1,4}	0
Number of Illicit Discharges	2 ^{2,3}	1 ²	0	1 ³
Number of Environmental Concerns	0	0	0	0
Number of Illicit Connections Corrected	1 ¹	0	1 ¹	0
Number of Illicit Discharges Corrected	2 ^{1,2,3}	1 ²	1 ¹	1 ³

- Four homes assumed discharging to Ecorse Creek in the City of Wyandotte; each home is considered an illicit connection for report purposes. MDEQ confirmed one of the homes was improperly connected to the storm sewer.
 - A broken sanitary sewer line discharging into a storm sewer was discovered in the City of Plymouth. The sanitary line is estimated to serve 59 facilities in an area with a mixture of residential, industrial and commercial uses.
 - Confirmed residential laundry discharge into the Frank and Poet Drain, City of Taylor.
 - A misconnected sanitary sewer discharging to a County drain served 179-unit mobile home park and nine homes. Lincoln Park reported this illicit connection was corrected. Confirmed corrected by visual inspection March 17, 2009.
- NA: Not Applicable as WCHD-EHD tracks OSDS by community and not by watershed.

Table 6: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: January 1, 2008 through December 31, 2008

Parameter	Estimated amount of polluting material prevented from entering Wayne County Waterways annually in pounds*				
	Annual Loads	Watershed			
	Pounds/year	Rouge River	Ecorse Creek	Combined Downriver	Failed OSDS
Surfactant	428	102	206	87	33
Potassium	829	219	476		134
Suspended Solids	31,646	6,802	19,388	0.8	5,455
Total Phosphorus	2,971	639	1,820		512
Total Solids	108,497	23,320	66,473		18,704
Total Organic Carbon	6,071	1,305	3,719		1,047
Ammonia	1,654	639	792	0.4	223
Biological Carbon Demand	31,645	6,802	19,388		5,455
Total Annual Pounds per Year	183,741	39,828	112,262	88	31,563
Flow (gallons/year)	15,655,685	3,470,580	9,497,318	13,797	2,673,990

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

Rouge Watershed Facility Inspections (Dye-Testing)

During the reporting period, WQMD performed 351 facility dye test inspections in the Rouge River watershed. Dye testing was performed in the communities of Canton Township, Dearborn Heights, Garden City, Livonia, and Wayne. Two new illicit connections, in interior catch basins, were found at one facility in the community of Dearborn Heights. Seven illicit discharges were discovered at seven facilities. WQMD staff confirmed corrections of 24 illicit connections and one illicit discharge at six facilities.

Ecorse Creek Watershed Facility Inspections (Dye-Testing)

During the reporting period, WQMD performed follow up facility inspections to confirm corrections of outstanding illicit connections and discharges within the Ecorse Creek watershed. Two facilities corrected eight illicit connections in the communities of Dearborn Heights and Southgate. There are five facilities with outstanding illicit discharges. WQMD did not perform facility dye test inspections in the Ecorse Creek watershed during 2008.

Combined Downriver Watershed Facility Inspections (Dye Testing)

Five facilities in the community of Taylor, located in the Combined Downriver Watershed, were inspected during 2008. None of these facilities had illicit connections. Three facilities with outstanding illicit connections, illicit discharges and/or environmental concerns were visited to determine the status of illicit connections. Two facilities, located in the City of Southgate, corrected their illicit connections and environmental concerns. These facilities corrected 13 illicit connections and one environmental concern. One facility in the Combined Downriver Watershed has four outstanding illicit connections.

City of Romulus

One facility in the City of Romulus was visited to determine the status of outstanding illicit connections. The facility illicit connections are still outstanding.

City of Taylor

The five facilities in the City of Taylor, located in the Frank and Poet Drain area, were inspected in an attempt to determine the source of elevated illicit discharge parameters. These elevated parameters were detected during follow up IDEP monitoring as discussed in the ADW Illicit Discharge Monitoring Report. These facilities did not have illicit discharges at the time of the inspections.

WQMD staff performed site visits to confirm corrections at two facilities with outstanding illicit discharges during March 2008. The facility illicit connections are still pending at one facility. The second facility was referred to MDEQ for a Industrial Stormwater permit in 2007. These facilities are listed in the Facilities with Outstanding Illicit Discharges table included in the attachments Section 2.

City of Southgate

WQMD confirmed corrections of outstanding illicit connections, illicit discharges, and environmental concerns at four facilities in the City of Southgate. Three facilities corrected 14 illicit connections and one environmental concern were confirmed in 2008. There is one facility in the City of Southgate with two outstanding illicit connections.

Additional Investigation on Behalf of Communities (WCIDEP #2 -continued):

Alliance of Downriver Watersheds Illicit Discharge Monitoring Project

In 2007, the Alliance of Downriver Watersheds (ADW) initiated a monitoring project to identify project areas for illicit discharge elimination activities in the Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. The ADW Technical Advisory Committee worked with Wayne County to develop the monitoring program and select the sites. The program was developed to serve two purposes: identify illicit discharge investigation areas and establish baseline data in the areas of the watersheds with little existing data.

Under contract to the ADW, during 2007 WQMD completed five dry weather monitoring events that involved collecting a total of 660 samples at 33 monitoring sites throughout the Combined Downriver and Ecorse Creek watersheds. The water quality data was analyzed and areas suitable for IDEP investigation areas identified. The data analysis identified monitoring sites with elevated parameters or visual evidence of illicit discharges. Preliminary data review identified sites in the Combined Downriver watersheds; one Frank and Poet Drain site, three Blakely Drain sites, and multiple sites within the Ecorse Creek watershed as reported in the 2007 Annual Report.

During 2008, WQMD performed investigations to determine illicit discharge sources based on the preliminary monitoring data. These investigations were performed with funds from the *Illicit Connection for the Lake St. Clair (Alias: Illicit Connection Elimination Project for Southern*

Wayne County Watersheds (SWCW) Clean Michigan Initiative Grant Project #2002-0226. Investigations were performed in the Ecorse Creek, Combined Downriver, and the Lower Huron River Watersheds. WQMD performed follow up surveys and sampling at 23 instream and storm sewer manhole locations throughout the SWCW upstream of the dry weather monitoring sites. The WQMD follow up monitoring locations and data are detailed in a report titled *Illicit Connection Monitoring for the Southern Wayne County Watersheds*, prepared in June 2008. This report is included in Section 2 of the Attachments to this report and summarizes the project monitoring, IDEP investigations and follow up recommendations.

Ecorse Creek Watershed

City of Lincoln Park

Elevated *E. coli* concentrations were detected in water samples collected from the Leblanc Drain in Lincoln Park during a Michigan Department of Environmental Quality (MDEQ) Total Maximum Daily Load (TMDL) study. The contractor performing the study for MDEQ reported the sampling results to WQMD. The contractor field staff also noted a strong sewage odor in two manholes at the intersection of Howard and Capitol during the sampling events. WQMD, Lincoln Park Department of Public Service (LDPS), and MDEQ's contractor conducted an investigation in the area to locate the source on June 12, 2007. The sewage source was tracked to the intersection of North and Porter, where a ten-inch sewer line was discharging sewage into the storm sewer. This sewer line is located in the Lincoln Park Mobile Home Village. WQMD notified the State of Michigan Department of Labor and Economic Growth, the agency responsible for regulating mobile home parks, the City of Lincoln Park, and the mobile home property owner. The City of Lincoln Park assumed responsibility for remediating the illicit discharge and notified MDEQ and WQMD that the illicit connection would be corrected in June 2008. In June 2007, WQMD originally estimated that 38 mobile homes in this area were discharging into the storm sewer line. The City of Lincoln Park determined that this ten-inch sanitary sewer line appeared to be a location that was not separated during a previous sewer separation project. This sewer line serves the entire mobile home park and some residential homes, increasing the total of misconnected residences to 170 mobile home sites and nine homes. The pollutant loading reductions estimated from eliminating these illicit connections is 9,497,318 annual gallons as reported in Table 6. The City of Lincoln Park notified Wayne County that the illicit connection was corrected. WQMD visually confirmed the correction on March 17, 2009.

The LeBlanc Drain was selected for additional follow up investigations based on the elevated *E. coli* concentrations detected throughout the Drain. During February 2008, WQMD performed dry weather surveys of storm sewer manholes in the LeBlanc Drain, an enclosed storm sewer, focused on an area upstream of Dix Road on the Horger Arm of the LeBlanc Drain. Illicit connections or a systemic issue such as a failed bulkhead is suspected in this area. The City of Lincoln Park is initiating investigations to determine the illicit discharge source(s). Further details of this investigation are found in the *Illicit Connection for the Lake St. Clair (Alias: Illicit Connection Elimination Project for Southern Wayne County Watersheds)* Clean Michigan Initiative Grant Project #2002-0226 and the *Illicit Connection Monitoring for the Southern Wayne County Watersheds* report to the ADW, included in Section 2 of the Attachments to this report.

City of Wyandotte

During January 2008, WQMD revisited the residential area located near the intersection of Emmons and Riverside. The City of Wyandotte requested additional investigation about the area since they had no record that illicit discharges, discovered during the 2004 Ecorse Creek outfall survey, were remediated. WQMD confirmed that there was an active illicit discharge present in the storm sewer manhole immediately upstream of a City of Wyandotte outfall discharging to Ecorse Creek. This illicit discharge may involve at least four residences. WQMD met with City of Wyandotte Engineering and Department of Public Works representatives to survey the investigation area. The City of Wyandotte planned to televise the sewer lines in this area to determine the extent of the illicit discharge and remediate any illicit connections found. The City of Wyandotte notified WQMD that it discovered one residence in this area with an illicit connection and that the illicit connection was corrected. This activity is also reported in the Wyandotte community report included in the *Illicit Connection for the Lake St. Clair (Alias: Illicit Connection Elimination Project for Southern Wayne County Watersheds* Clean Michigan Initiative Grant Project #2002-0226 report, included in Section 2 of the Attachments to this report.

Combined Downriver Watershed

City of Southgate

WQMD prepared a report of illicit discharge detection activities performed in the City of Southgate in March 2008. A copy of this report is included in the *Illicit Connection for the Lake St. Clair (Alias: Illicit Connection Elimination Project for Southern Wayne County Watersheds* Clean Michigan Initiative Grant Project #2002-0226 report, included in the Section 2 of the Attachments.

WCDOE performed a Monguagon Drain outfall survey on February 14, 2008. A 0.3-mile segment of the Drain was surveyed and nine outfalls identified and catalogued. No illicit discharges were found. This activity is described in the *Illicit Connection Monitoring for the Southern Wayne County Watersheds* report to the ADW, included in Section 2 of the Attachments.

WQMD performed follow up investigations to identify sources of elevated illicit discharge parameters in the Blakely Drain, Brownstown Creek, and the Frank and Poet Drain investigation areas in 2008. This activity is described in the *Illicit Connection Monitoring for the Southern Wayne County Watersheds* report to the ADW, included in the Section 2 of the Attachments.

Lower Huron River Watershed

WQMD performed follow up investigations to identify sources of illicit discharge parameters in the Lower Huron investigation areas in 2008. This activity is described in the *Illicit Connection Monitoring for the Southern Wayne County Watersheds* report to the ADW, included in the Section 2 of the Attachments.

Rouge River Watershed

City of Inkster IDEP Investigation

WQMD performed an outfall monitoring and sampling project under contract to the City of Inkster during 2008. The City of Inkster selected 28 manholes and/or the outfalls for WQMD to survey and sample during dry weather conditions. The samples were analyzed and a spreadsheet of sampling results prepared. The initial dry weather surveying of 28 locations was performed in April and May 2008. The final report consisted of field observations; sampling data and recommendations for follow up actions. Additional sampling of five sites selected by the City of Inkster was performed on November 24, 2008. Five sites were investigated and three re-sampled. Two of the five sites did not have dry weather flow. A petroleum product discharge, likely diesel fuel, was occurring in one of the storm sewers that investigators revisited. The product was found in several manholes upstream of the sampling site. The City of Inkster called in additional investigators, a spill clean up contractor, and notified MDEQ. A data summary with follow up recommendations was provided to the City of Inkster upon completion of the November 24, 2008 monitoring.

Perrin Drain Investigation

WQMD performed an illicit discharge monitoring project for the City of Inkster in 2008 as described above. During this investigation, a storm sewer manhole contained extremely high *E. coli* concentrations (1,400,000 organisms per 100 milliliters of water) was discovered. Other illicit discharge parameters were elevated at this site as well, strong evidence that there is an active illicit discharge into this storm sewer. The City of Inkster stated that this manhole was not part of their storm sewer system. Research revealed that this storm sewer is part of the enclosed Perrin Drain, a Wayne County Drain.

WQMD further researched the area and prepared an investigation plan that was transmitted to MDEQ in December 2008. The elevated IDEP parameters (*E. coli*, conductivity, ammonia, surfactants, pH) make this area a high priority for follow up investigation. WQMD initiated the Perrin Drain investigation and is attempting to identify the illicit discharge source(s) in the area. A copy of the plan is attached in Section 2 of the Attachments to this report.

Middle Rouge River Residential IDEP Grant

City of Plymouth Residential Illicit Discharge Investigation Summary

In August 2008 WQMD continued surveys in storm sewers upstream of the Park Street outfall, a drainage area where elevated IDEP parameters were detected during previous monitoring efforts. This investigation focused on the Amelia Street storm sewer, where elevated IDEP parameters were identified. Investigators detected a strong sewage odor and visual evidence of a sewage discharge in the storm sewer and discovered a broken sanitary sewer pipe discharging into this storm sewer. This sanitary sewer pipe runs through the storm sewer manhole at the intersection of Amelia and Farmer Streets. WQMD contacted the City of Plymouth and they immediately repaired the break. This sanitary sewer services an area with 59 residential, commercial and industrial buildings. Discovering this broken sanitary sewer line prevents an estimated 3,326,980 gallons of sewage from entering the Rouge River per year.

WQMD surveyed the storm sewers in an investigation area upstream of Amelia and Mill Streets for sites suitable for automatic sampler installation. Three automatic samplers were deployed in the investigation area. Three samplers yielded 65 samples collected over a 24- hour period. Samples and surveys were performed in over 50 storm sewer manholes and catch basins. The areas under investigation have several streets and storm sewer segments where elevated IDEP parameters were detected. The storm sewer manholes in the City of Plymouth made in-situ sampler installation difficult because the majority of manhole openings and flanges were too narrow to allow the sampler installation. Alternative deployment methods will be researched for use in future investigations.

While surveying the investigation area, WQMD investigators noticed a large volume of dog waste accumulated in a grassy area adjacent to a storm sewer catch basin structure that drains into a storm sewer where elevated IDEP parameters were found. This area is located behind a commercial dog grooming facility, Parkway Professional Grooming, located at 418 N. Main Street. The water pollution potential posed by this situation was brought to the attention of the City of Plymouth and the dog grooming facility operators via phone and correspondence. A letter was sent to the facility operator encouraging clean up of the dog run area with attached pet waste handling public education materials. A follow up visit found the dog run area free of pet waste.

Investigators discovered a suspicious pipe in the Amelia street storm sewer between Rose and North Mill Streets City of Plymouth during investigations. Investigators suspected that a commercial building with an aging On-Site Sewage Disposal System (OSDS) might be causing an illicit discharge. Wayne County Department of Public Health Environmental Health Division (EH) was contacted about this facility. EH staff inspected the OSDS in January 2009 and found it was functioning properly. The facility owner told EH staff about plans to vacate the building and that it might be demolished in the future.

WQMD met with a City of Plymouth Department of Public Service representative in the field regarding the project and findings of current investigations. The City of Plymouth informed WQMD staff that the City identified a residential home discharging to the storm sewer on South Mill Street. This residential home is located in the Park Street outfall investigation area.

Holbrook Street Investigation Summary

Holbrook Street is a section of the City of Plymouth residential area storm sewer with elevated IDEP parameters identified in 2008. In-situ illicit discharge detection devices were deployed in this investigation area. Two suspicious catch basins in the street in front of two residences were investigated. A four-inch inlet pipe of unknown origin was observed when the catch basin cover was removed from the catch basin in front of 315 Holbrook. This tap had black staining and appeared suspicious. The second catch basin, located in front of 316 Holbrook, was investigated and sediment within made it difficult to determine if there were any inlets. The City of Plymouth assisted with this investigation and planned to send a crew to clean out the catch basins and also research the water and sewer tap records for information about the two residences. The City of Plymouth representative told WQMD investigators that the City of Plymouth building code allows residential sump connections to street catch basins. Illicit discharges or connections to the

storm sewer catch basins on Holbrook Street are suspected. Investigators plan to focus more attention on catch basins during future investigations.

The City of Plymouth contacted WQMD staff requesting assistance with investigating a suspicious storm sewer the City identified during routine maintenance. This storm sewer is located in the vicinity of Palmer and Hartsough Streets. Weather conditions prevented meeting with the City and performing an investigation in 2008. WQMD will meet City of Plymouth staff at the site to further investigate in Spring 2009.

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” with the Attachments – Section 2 indicates the 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 1,636 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 22 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 three occasions: March 20, 2008 in the City of Wayne, April 23, 2008 in the City of Pontiac, and October 9, 2008 at the Livonia campus of Eastern Michigan University. A total of 152 people completed training offered during these workshops. The training workshops were promoted by distributing flyers via watershed management planning committees, County Drain Commissioners, MDEQ, and internal County distribution mechanisms. WQMD presented the *Combined Basic/Advanced IDEP Training Workshop* to 13 Wayne County Roads and Permits staff April 16, 2008 in a separate workshop. A total of 28 Wayne County staff attended the *Combined Basic/Advanced IDEP Workshop* during 2008.

**Table 7: Wayne County IDEP Training Workshops
Attendance Summary 2008**

Community/Agency	Number
Wayne County communities	47
Wayne County staff	28
Oakland County staff	5
Oakland County communities	38
Macomb County staff	3
Macomb County communities	2
Monroe County staff	3
Monroe County communities	1
Washtenaw County staff	13
Washtenaw County communities	14
Consultants representing communities	4
School Districts	4
Universities	3
2008 Total	165

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

In 2008 Wayne County continued to minimize seepage of sanitary sewage by training field staff to identify and report suspicious discharges (WCIDEP#3), by training citizen volunteers to identify and report suspicious discharges (WCIDEP#11), and by continued operation and maintenance of our sanitary sewer systems and implementation of sanitary sewer overflow (SSO) elimination activities as specified under the NPDES permit and consent agreements for the sanitary sewer systems operated by Wayne County.

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

The Wayne County Department of Health, Environmental Health Division (EHD) continued implementation of the Wayne County Onsite Sewage Disposal Systems (OSDS) Evaluation and Maintenance Ordinance (Enrolled Ordinance 99-527) in 2008. As shown in Table 8, 113 “time of sale” evaluations of OSDS were performed during the calendar year 2008. Twenty-two of these systems were identified as failing. An additional 10 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 2008, a total of 74 failed systems were identified by EHD via complaints, repair permit evaluations, “time of sale” evaluations, and MDHS requested evaluations. Seventy-seven failing systems were repaired in 2008. One thousand one hundred seventy nine OSDS were inspected under the “time of sale” provision of the ordinance since program inception in February 2000 through December 2008. Two hundred eighty-four OSDS were identified as failing. Twenty-seven inspectors were certified to perform OSDS “time of sale” evaluations in Wayne County.

**Table 8: Summary of OSDS Evaluations Performed
January 1 through December 31, 2008**

Type of OSDS Inspection	Number of Inspections	Number of Failures	Percent (%) of Failures
Time of Sale	113	22	19.46%
MDHS Licensed ⁽¹⁾	10	2	20.0%
Total	123	24	19.51%

(1) Facilities licensed under the state MDHS program; inspection of the facility is completed upon request by the agency.

**Table 9: Summary of OSDS Permits Issued
January 1 through December 31, 2008**

Permit Type Issued	Number of Permits	Percent (%) of Permits
New Construction	19	22.1%
Repair or Replace	67	77.9%
Total	86	100%

**Table 10: Summary of OSDS-Related Complaints Investigated
January 1 through December 31, 2008**

Number of Complaints	25
Number of Complaints identified as failing OSDSs	13
Number of Complaints Resolved	23

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 13,000 OSDS permits are in the database. Septage haulers have a responsibility under Ordinance #99-527 to file OSDS evaluation reports for all pump outs in Wayne County. Approximately 20% of the pump-out reports indicate a problem with the OSDS system at time of pump out. In these instances, the owner of the OSDS is contacted by EHD to ensure proper repairs.

Table 11 summarizes the estimated pollutant loading reductions to Wayne County watercourse from eliminating failed OSDS that are considered illicit discharges during the reporting period. The estimate assumes correction of the failed systems.

Table 11: Summary of Estimated Pollutant Load Reduction to Wayne County Watersheds from Onsite Sewage Disposal Systems: January 1, 2008 through December 31, 2008

Parameter	Loading Reductions (lbs/year)¹
Total Solids	18,704
Total Suspended Solids	5,455
Biological Oxygen Demand	5,455
Ammonia	223
Total Phosphorus	512
Surfactant	33
Potassium	134
Total Organic Carbon	1,047
Total reduction	31,563
Flow (gals/year)	2,6763,990

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 were no major spills or other “emergency” water quality issues that required investigation assistance from Wayne County.

Illegal Dumping Control (WCIDEP #7)

The Wayne County Lending Environmental Assistance to Neighborhoods “C.L.E.A.N.” program, managed by the DOE-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 2008, the CLEAN program was involved in the remediation of 10 illegal dumping sites in the County involving nine miscellaneous debris clean-ups and one scrap tire collection project. Five site clean-ups were performed through a private contractor. The remaining five sites were cleaned-up by local community groups with the County supplying roll-off boxes for the disposal of waste and the processing of tires.

LRMD also handled three illegal dumping complaints for 2008. Two complaints involved the improper disposal of demolition waste, which was later removed and properly disposed of, and one was regarding the disposal of brush behind an apartment building.

Facilities Management Division (FMD) identified two incidents of illegal dumping into surface waters. In November 2008, large piles of bricks were dumped onto the banks of the North Branch of Ecorse Creek. In November 2008, large piles of construction debris and paint cans were dumped onto the banks of the North Branch of Ecorse Creek.

The Wayne County Department of Public Services-Parks Division cleans up illegally dumped items within County Parks. The Wayne County Department of Public Services-Roads Division daily removes illegally dumped items (e.g. trash, tires, auto parts, garbage, roofing materials, appliances, etc.) from County Roads located in townships. County Roads with high volumes of dumped materials reported in 2008 include:

- Lotz Road between US-12 and Van Born,
- Morton Taylor Road south of Van Born,
- Morton Taylor Road north of Palmer,
- Van Born Road between Belleville and Beck,
- Beck Road between Van Born and Ecorse,
- Beech Daly between Sibley and Pennsylvania,
- Striecher between Huron River Drive and Jefferson,
- Wahrman between Sibley and Prescott,
- Pennsylvania between Middlebelt and Huron River Drive,
- Karr between Willow and County Line, and
- Sherwood between Willow and County Line.

Four household hazardous waste (HHW) and six computer/computer peripheral (E-Waste) waste collections were conducted in 2008. A total of 343,357 pounds of HHW was collected. All events were advertised in the Detroit News and Free Press, and in other local newspapers. Informational flyers and press releases were sent to 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 2008 is shown in Table 12 - Table 14.

Table 12
Summary of Wayne County's
2008 Household Hazardous Waste Collection Days

Date	Location	# of Participants
March 15, 2008	Southgate	952
June 7, 2008	Romulus	743
August 9, 2008	Dearborn	835
November 8, 2008	Westland	1206

Table 13
Summary of Wayne County's
2008 E-Waste Collections

Date	Location
March 18, 2008	Comerica Park, Detroit
April 12, 2008	Henry Ford Centennial Library, Dearborn
May 10, 2008	Canton DPW
July 26, 2008	Compuware Arena, Plymouth Township
August 23, 2008	Taylor Lanes Bowling, Taylor
September 13, 2008	City Hall, Livonia

Table 14
Summary of Material Collected During
Wayne County's Household Hazardous Waste and E-Waste Collections

Waste Classification	Pounds
Flammable Liquid	20,435
Flammable Liquid	51,796
Mercury Devices	231
Latex Paint	133,744
Aerosols	7,458
Acids	2,968
Caustics/Oxidizers	3,735
Neutral Products	6,979
Herbicides and Pesticides	10,389
Antifreeze	8,998
Oil	15,170
Propane – 20 lb cylinder	2,420
Propane – 1 lb cylinder	1,180
Electronic Equipment	55,907
Automotive Batteries	13,187
Household Batteries	4,424
Fluorescent Lamps	2,303
Medical Waste	243
Expired Medicines	273
Fire extinguishers	1,432
Fuses	28
Smoke Detectors	13
PCB Ballast	40
Computer/Peripheral	182,342
TOTAL	525,699

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 in separate sanitary sewer areas within Wayne County, prior to their opening each spring for the swimming season. For the 2008 swimming season, EHD inspected 579 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, 15 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 WCDOE-WQMD's facility inspection activities. During the current reporting period, one public pool facility was tested as part of the WQMD facility dye test program. This swimming pool was properly connected to the sanitary sewer.

Follow up inspections to confirm correction of a misconnected seasonal swimming pool backwash drain in Canton and a swimming pool backwash drain at public school swimming pool in Southgate were performed in 2008. The illicit connections at both facilities were verified as corrected.

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

The WQMD conducted two dye test inspections at County owned buildings in 2008. One inspection was a follow-up investigation at the Howe Yard in the City of Wayne, operated by the Wayne County Roads Division. The maintenance building had experienced damage from a significant fire and the Roads Division requested WQMD to re-test the existing sewer lines. No illicit connections were found. A pollution prevention assessment was also done at this yard to make recommendations on operational procedures and structural changes that could be implemented to prevent storm water pollution. The second inspection was at the Department of Health and Human Services Health Administration Building in the City of Wayne. This building was recently converted for office use and the inspection found no illicit connections. WQMD maintains a spreadsheet that includes the status of all County-owned building inspections to date.

WQMD has now completed inspection of all County-owned buildings that are located in areas of the County served by separate sanitary sewers. Our focus in 2009 will be to conduct pollution prevention inspections at County-owned buildings and to develop site specific Pollution Prevention Action Plans that educate staff and reduce the potential for illicit discharges to Wayne County's storm drainage systems.

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 Environment (FMD), Public Services (Engineering, Roads) Health (EHD) and Wayne County Airport Authority. Table 15 presents a summary of the suspicious discharges identified during routine Wayne County field operations. Table 16 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.

The WCDOE FMD Drain Office contributes to the prevention of storm water pollution to waterways by inspecting and/or maintaining County Drains. From January 1, 2008 to December 31, 2008, four County Drains totaling 17.02 miles in length received a complete visual inspection for suspicious discharges and obstructions: No. 6 Drain, Cook and Gladding, Winslow and North Branch of the Big Swan. During the reporting period, 55 County Drains received maintenance, and approximately 2,478 cubic yards of material was removed from the County Drainage System.

**Table 15: Types of Suspicious Discharges “Reported” during Routine Field Operations
January 1 through December 31, 2008**

<i>Type of Illicit Discharge</i>	
Industrial Fluids	1
Improper Disposal	1
Suspicious Discharge from Downspout	1
Fuel Oil	1
TOTAL	4

**Table 16: Suspicious Discharge Investigations Resulting from
Routine Field Operations Reports
January 1 through December 31, 2008**

Reporting Division	Suspicious Discharges Reported	Verified by WQMD	Source/Cause Identified	Referred To	Corrections Confirmed
DOE-WQMD	1	1 - Yes	1 – Yes	MDEQ	0
DPS-Engineering	1	1 – Yes	1 - No	Dearborn	1*
DOE-FMD IPP	1	1 - Yes	1- Yes	Romulus	0**
DOE-FMD Drains	1	1 - No	1 - No	NA	NA

*Fuel oil in catch basin immediately adjacent to auto repair was pumped out by WC DPS. City of Dearborn was notified and encouraged to inspect or educate auto repair facility.

** City of Romulus was notified of illicit downspout discharge from an out of business commercial facility.

IDEP Volunteer Training (WCIDEP #11)

WQMD staff provided a presentation about illicit discharges to Friends of the Rouge (FOTR) Frog and Toad survey volunteers in 2008. 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 WCDOE and other local agencies.

The information about the three Frog and Toad training workshops and the number of persons attending is as follows:

- February 12, 2008, Novi, 25 persons;
- March 1, Livonia, 80 persons; and
- March 5, Canton, 85 persons.

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 2: Illicit Discharges Found Within Wayne County* 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)

During February 2008, WQMD performed an outfall survey of the Monguagon Drain in the City of Southgate. An outfall map and a data table are found in the *Illicit Connection for the Lake St. Clair Report*. See Attachments - Section 2 to this report.

On November 12 and 13 2008, WQMD staff performed an inspection of the No. 6 Drain on behalf of the Facilities Management Division Drain Office (FMD). The purpose of the inspection was to document the condition of the Drain, make recommendations on maintenance activities and to collect outfall inventory data. The No. 6 Drain is located in Sumpter Township and is a tributary to the Bradshaw Consolidated Drain in the Swan Creek Watershed. It is an open drain that extends approximately 1.66 miles from its downstream confluence with the Bradshaw Consolidated Drain in the southeast quadrant of Section 19, to its upstream terminus in the southeast quadrant of Section 18 (along the west side of Sherwood Road, south of Judd Road). Portions of the No. 6 Drain are also located in Sections 17 and 20, east of Sherwood Road. The No. 6 Drain is located in a rural area. Adjacent land uses are primarily agricultural and parkland. Thirteen outfalls were identified and mapped (see Attachments – Section 2 to this report for No. 6 Drain map of outfalls and data).

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, 2008 – December 31, 2008** 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: Between January 1, 2008 and December 31, 2008, approximately 98,000 pieces of public information materials and information relating to water pollution issues were distributed at community events or festivals, staff training sessions, workshops, leadership presentations, departmental presentations, or office display racks. During the reporting period, approximately 8,566 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, magnets, poster and bags; the *WCDOE 24-Hour Environmental Hotline* brochure; *Our Actions Affect the River* flyers; the *Rouge River Activity Book*, *River Friendly* brochure series and others.

The *River Friendly Partners Program* brochure continues to be distributed and the letter version of this brochure was given to all businesses and facilities visited under Wayne County's illicit discharge investigations and dye testing program. These brochures inform businesses in the Rouge River watershed how they can prevent storm water pollution and other forms of pollution by employing best management practices in their daily operations. During the reporting period, 356 brochures were distributed in this program. No new River Friendly Partners were recognized in 2008.

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*. WCDOE 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* provided over 1,000 items provided to communities for subsequent distribution to others.

Newsletter Articles and Advertisements (WCPEP #5)

This is a new WCPEP activity that WQMD will be implementing in 2009 in partnership with our local communities.

Displays-Community/Agency Events (WCPEP #6)

During 2008, the WCDOE planned, coordinated, promoted and/or participated in numerous community events, meetings, seminars and workshops with environmental displays and educational information, including:

- *Native Plant Forum* – January 16, 2008
- *Shiver on The River* – February 2, 2008
- *Invasive Species Workshop* – February 14, 2008
- *Canton Home Expo* – March 1-2, 2008
- *Backyard Habitat Forum* – March 16, 2008
- *Westland Health and Safety Event* – March 24, 2008
- *Grosse Pointe Woods Earth Day* – April 15, 2008
- *Newburgh Lake Earth Day Event* – April 25, 2008
- *Woods Creek Lawn Care Workshop* – April 29, 2008
- *Rouge Education Project Monitoring Day* – April 30, 2008
- *11th Annual Rouge River Water Festival* – May 1, 2008
- *7th Annual Downriver Wastewater Treatment Facility Open House* – May 12-16, 2008
- *City of Taylor Open House* – May 17, 2008
- *Rouge River Day* – June 7, 2008
- *Detention Pond Workshop Taylor* - July 29, 2008
- *Detention Pond Workshop Flat Rock* – August 27, 2008
- *Cranbrook Water Festival* – September 19, 2008
- *Rouge 2008* – October 24, 2008
- *Fordson High School Recycling Presentation* – December 11, 2008

Audience specific storm water educational material is distributed at most events. Additionally, Wayne County's *Resource Recovery Guides* were provided for the following events: UM Dearborn campus Sustainability Day, Detroit River Keepers Event, Grosse Pointe Woods Environmental Expo, Garden City Middle School Earth Day event, Downriver WWTF open house, Dearborn City Beautification All School Breakfast, Wayne County pharmaceutical waste collections, and Wayne County Health Fair. Copies of Wayne County's *Resource Recovery Guide* were also provided to the UM Dearborn campus Environmental Interpretive Center for distribution.

Displays-Static (WCPEP #7)

Wayne County created *Recreational Resource Displays* for each of the four main branches of the Rouge River. During the reporting period, these displays were stationed as follows:

- Lower Rouge: Two events/locations (Inkster City Hall and Rouge 2008 in Dearborn)
- Middle Rouge: One event/location (Rouge 2008)
- Upper Rouge: One event/location (Rouge 2008)
- Main Rouge: One event/location (Rouge 2008)

Wayne County's *Our Actions Affect the River Display* was also stationed throughout Wayne County and the Rouge watershed at eight different locations/events during the reporting period. These included Canton Township (Home Expo and River Day); Livonia (Newburgh Lake Earth Day Event); University of Michigan-Dearborn (Rouge Water Festival and Rouge 2008); Grosse Ile Township (Township Hall); Southgate (City Hall) and Wayne (Rouge Education Project Monitoring Day).

The *Watershed Model* developed by WQMD was stationed at seven different locations/events during the reporting period. These included the Cranbrook Institute of Science as part of the Oakland County Water Festival; the Rouge Water Festival held at the University of Michigan – Dearborn; the Westland Health and Safety Event; River Day in Canton Township; the Newburgh Lake Earth Day Event in Livonia; Rouge Education Project Monitoring Day in Wayne and at the Rouge 2008 event in Dearborn.

The *Frog and Toad* display developed by WQMD was stationed at eight different events during the reporting period: Bloomfield Hills (Cranbrook Water Festival); Canton Township (River Day); Dearborn (Rouge 2008, Rouge Water Festival), Detroit (Shiver on the River); Livonia (Newburgh Lake Earth Day Event); Taylor (Open House) and Westland (Health and Safety Event).

Wayne County stationed the *7 Simple Steps to Clean Water* display developed by the Southeast Michigan Partners for Clean Water at 14 locations/events during the reporting period, including: Bloomfield Hills (Cranbrook Water Festival); Detroit (Shiver on the River); Dearborn (Rouge Water Festival and Rouge 2008); Flat Rock (Detention Pond Workshop); Gibraltar City Hall; Grosse Ile Township Hall; Grosse Pointe (Earth Day Event); Livonia (Newburgh Lake Earth Day Event); Plymouth City Hall; Riverview City Hall; Southgate City Hall; Taylor (Detention Pond Workshop) and Wyandotte (Downriver Wastewater Treatment Facility Open House).

The *Riparian Corridor Management* display developed by WQMD was stationed at two Detention Basin Workshops (one in Taylor and one in Flat Rock) and at the Native Plant Forums in Farmington Hills and Livonia. The *River Friendly Lawn Care* display was stationed at Taylor City Hall and in Van Buren Township at the Woods Creek Lawn Care Workshop.

The *Wayne County Recycling* display was set up at Eco-Awareness Day in Taylor and at the Rouge Water Festival in Dearborn.

The *Storm Drains Aren't Garbage Cans* brochure, the *Rouge Watershed Recreational Map and Index*, and the *WCDOE 24-Hour Environmental Hotline* brochures are always delivered and

available with both the *Our Recreational Resource Displays*, the *Our Actions Affect the River Display* and the *7 Simple Steps to Clean Water Display*.

WCDOE Environmental Information Line (WCPEP #8)

WCDOE continues to extensively 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 WCDOE web page address) several departmental and division brochures, the River Friendly brochure series, and the Wayne County website. During the reporting period, materials to promote use of the *24-Hour Environmental Hotline* and the services of all WCDOE Divisions were revised and distributed.

Advertisements (WCPEP #9)

The *Earth-Friendly Fertilizer Sticker* newsprint advertisement was placed in seven different publications for a total of 40 advertisements purchased during the reporting period as follows: 16 times in the Observer & Hometown newspapers, (April, May, August, September, October, and November 2008); 8 times in the Heritage and Press & Guide newspapers (April and May 3, 2008); 4 times in The View newspaper (April and May 2008); 4 times in the Inkster Ledger newspaper (April and May 2008); and 8 times in the Michigan Gardener publication (April, May, June, July, August, September, October, and November 2008).

The WQMD secured placement of 3,162 (30 second) cable television ads through Comcast Cable. The ads are Public Service Announcements from the Southeast Michigan Partners for Clean Water “7 Simple Steps to Clean Water” education campaign. The ads are titled “Fertilize Sparingly and Caringly” and “Choose Earth Friendly Landscaping.” The viewing areas include the zones of Canton, Dearborn, Livonia, Southfield, Taylor, and Westland; these zones also include many surrounding communities.

Point of Sale Education (WCPEP #10)

Wayne County continued its involvement and support of the *2008 Earth-Friendly Fertilizer Sticker Program* and the *2008 Don’t Guess Soil Test Campaign* in cooperation with the Wayne and Oakland County MSU Extension offices and 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, window signs and staff reporting forms, retailer recruitment and training support, newsprint, radio and cable television advertisements, and website promotions and information.

For the *Point of Sale Retailer Outreach Program*, during the reporting period WQMD staff distributed approximately 4,200 earth-friendly fertilizer stickers to the 26 participating retailers in Wayne County. The participating retailers carried 8 of the 10 approved fertilizers. Customers had positive feedback on the program. The “Don’t Guess...Soil Test” campaign is a partnership between Michigan State University Extension (MSU-E) and Wayne County Department of Environment and is made up of seven participating retailers. Wayne County moved the program from the spring to the fall to encourage fall fertilization. During the three-week campaign, 11

completed soil test kits were collected and delivered to the MSU-E soils lab for analysis. The participating retailers were positive about the fall program.

Workshops and Demonstration Projects (WCPEP #11)

Wayne County co-sponsors and participates in numerous workshops each year to educate a various categories of 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.

Grow Zones Across the Alliance of Downriver Watersheds – Mini-Grants Program

With funding from a grant from the Clean Michigan Initiative (Project No. 2006-0137), a mini-grant program was developed by the ADW Technical Committee to implement Grow Zones (native upland plantings and riparian corridor expansion plantings) across the ADW to restore and protect water quality. Wayne County managed this mini-grant program under contract to the ADW. Grow Zone mini-grants were awarded to 11 different sites (four in Lower Huron, four in Combined Downriver, and three in Ecorse Creek). Site designs were completed and approved by the MDEQ in 2008. Installation is scheduled for the Spring 2009. Also, as part of this grant, WQMD is completing a Green Infrastructure Analysis on behalf of the ADW. The ADW has contracted to process the Green Infrastructure mapping data for the watersheds, covering an area of approximately 204 square miles. The USGS imagery flight has been conducted with a delivery date of March 2008.

Middle Rouge RCM Grow Zones

With funding from a grant from the Clean Michigan Initiative (Project No. # 2004-0150), WQMD hosted an Earth Day Event at Newburgh Lake on April 25, with more than 60 students from Garden City Middle School. Activities included a native garden planting at Newburgh Point, a Newburgh Dam and Lake Historical tour, and a benthic macroinvertebrate survey. The school plans to adopt the garden at Newburgh Point and maintain it as a legacy for future classes. Parks with WQMD assistance initiated efforts to conduct the first prescribed burn within the Middle Rouge – Hines Park corridor. The first burn is scheduled to occur at the Nankin Mills Grow Zone sites in Spring 2009.

Additionally, Wayne County Parks, WQMD, Wayne County Commissioner Laura Cox, and the Wayne County Master Gardeners continued their partnership to host a second annual Native Plant Workday in Bennett Arboretum on May 3, 2008. Over 50 volunteers planted additional flowers and trees around the pond and swale area, weeded and managed for invasive species in the Arboretum's woodland wildflower area, oak collection and along the hilltop trail. Wood chips were spread around the interpretive signs and the tree beds within the Alternative Shade Tree Collection were weeded.

Wayne County Parks and WQMD continued their partnership with Ford Motor Company for Ford Work Day/Rouge Rescue. The workday took place on May 22nd, 2008. Approximately 20 Ford Volunteers performed maintenance activities to the Ford Road/Outer Drive Grow Zone, which was installed in 2006. Volunteers also managed the grow zone for invasive species. They pulled 25 bags of garlic mustard and canadian thistle. The volunteers also installed native plants in the Valley View Wetland Pond utilizing over 400 native wetland plant plugs.

Wayne County Parks and WQMD teamed up for the first time with the Wayne County MSU Extension's Conservation Stewards to conduct invasive species removal and expand the native plant riparian buffer at the Northville Recreation Area stream bank stabilization site in October 2008.

Riparian Corridor Management and/or Healthy Lawn and Garden Workshops held during the reporting period are summarized below. See the annual activity summaries provided to the ARC and ADW included in the Attachments – Section 5 for copies of workshop flyers and other information.

Rouge Native Plant Committee Workshops: Three workshops promoted native plants and focused on case studies in the areas of habitat creation, grow zones and rain gardens. The different phases of the project were discussed in these case studies including planning, public education, design, site preparation, planting and maintenance.

- The first of these workshops, *Native Plant Forum*, took place on January 16, 2008 at the Costick Center in Farmington Hills. Over 55 people participated in a native plant project design charrette and discussed the latest information regarding site preparation and maintenance.
- The second of these workshops, *Space Invaders*, took place on February 13, 2008 at the Farmington Hills Public Library. Over 40 people participated in a discussion regarding invasive species, management techniques and maintenance.
- The third of these workshops, *Backyard Habitat*, took place on March 19, 2008 at the Livonia Public Library. Over 40 people participated in a discussion regarding backyard habitat installation, management techniques and maintenance.

ADW Grow Zone Workshops: As a complimentary effort to the Grow Zone Mini-Grant effort three workshops were held in 2008.

- *River Friendly Lawn Care* workshop was held on April 29th, 2008 at the Van Buren Township Hall in partnership with the Woods Creek Friends and HRWC. Participants attending the presentation were exposed to concepts including river friendly lawn care, native plant buffers and fertilizer use.
- *Maintaining Your Detention Pond* workshop was held on Aug. 27, 2008 and hosted by City of Flat Rock. Evaluations received from the workshops indicate a majority of attendees are interested in attending other River Friendly classes, most plan on improving the area around their ponds, and all were pleased with the information they received.
- *Maintaining Your Detention Pond* workshop was held on July 29, 2008 and hosted by City of Taylor. Evaluations received from the workshops indicate a majority of attendees are interested in attending other River Friendly classes, most plan on improving the area around their ponds, and all were pleased with the information they received.

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

Although there were no official meetings of the RCM TAC in 2008, WQMD continued to support the RCM TAC and Work Group efforts as described above in WCPEP #11 by coordinating, co-sponsoring, promoting and/or participating in the above workshops and demonstration projects.

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 #11 as well as by coordinating, co-sponsoring, promoting and/or participating WCPEP #9 and WCPEP #10.

River Day/Rouge Rescue (WCPEP #14)

WQMD staff provided services and support to FOTR for River Day 2008. Kesh Raizada from WQMD served as the site coordinator at Canton Township Site #2 (Fellows Creek at Palmer and Brookdale near the Meadows of Canton subdivision). Volunteers assisted in storm drain stenciling, benthic macro-invertebrate monitoring and trash removal. 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 by FOTR.

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

In support to the ARC and Friends of the Rouge (FOTR), WQMD staff participated in multiple volunteer monitoring events in 2008 as follows:

- *FOTR Winter Stonefly Search*, January 26, 2008. WQMD served as team leaders for the FOTR Winter Stonefly Search. Over 75 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. WQMD team leaders and volunteers found stoneflies at multiple locations on the Middle Rouge River, near Reservoir Road in Edward Hines Parkway (South of Six Mile, East of Hines Drive). This is the furthest downstream in the main branch of the Middle Rouge River that stoneflies were found during this survey.
- *Wayne County Rouge River Spring Bug Hunt* was conducted over several days in May 2008. Benthic macroinvertebrates were inventoried by WQMD staff at 21 sites including 13 streambank stabilization locations throughout the Edward Hines Parkway, seven sites along the Lower Rouge River and one in the Upper Rouge River. The water quality scores ranged from Excellent (a water quality score higher than 48) to Poor (a water quality score less than 19). Two sites tied for the highest water quality score, 49, and are located on the Middle Rouge River in Northville Township.
- *FOTR Spring Bug Hunt*. WQMD served as team leaders for this event held April 26, 2008, joining approximately 145 volunteers in benthic macroinvertebrate sampling at various sites throughout the Rouge River watershed. Volunteers and WQMD staff collected and identified benthic macroinvertebrates for the purposes of gauging Rouge River water quality.
- *FOTR Fall Bug Hunt*. WQMD participated as team leaders for the FOTR fall "bug hunt" sampling event held October 18, 2008, and helped teams of volunteers in the collection and identification of benthic macro invertebrates survey at four sample areas for the purpose of using the data to gauge the water quality of the Rouge River. Over 145 people from around the Rouge Watershed participated.
- *WQMD RCM Rouge River Fall Bug Hunt* was conducted over several days in October 2008. Twenty-five locations were sampled. During the sampling event, water quality scores for sites ranged from *Poor-Excellent* (16-51) and number of taxa from 7-21. The Waterford Bend site on the Middle Rouge River (MR-20) had the highest water quality score, 51. The highest number of taxa were found at the Northville Recreation Area (MR-1) with 21

different types of organisms found. The lowest scoring site, Hawthorn Ridge (MR-12,) received a water quality score of “Poor” with a score of 16 and a taxa count of 7. Overall, one site rated “Excellent”, eight sites rated “Good”, 14 sites rated “Fair” and two sites rated “Poor.” A Perlodid stonefly, a water quality sensitive family, was found at a new sample site on Fellows Creek at Beck Road in the Lower Rouge, LR-9. A total of four new families were identified: a perlodid stonefly, a water weevil, a velvet water bug, and a rat-tailed maggot. A decline from “Fair” to Poor” occurred at MR-12 (Hawthorn Ridge) and MR-13 (Warrendale).

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

During 2008, 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. Work is underway with the Huron River Watershed Council, the local communities and other watershed partners to expand the monitoring locations and monitored parameters to establish an adequate ecosystem monitoring program for measuring watershed management progress in these watersheds. The Huron River Watershed Council (HRWC) initiated its volunteer macroinvertebrate monitoring program in the Lower Huron River in 1996. WCDOE and the Stream Teams began monitoring in the Combined Downriver and Ecorse Creek watersheds in 2004. Monitoring results are presented in Section 1 of this report.

Rouge Education Project (WCPEP #18)

WQMD coordinated T-shirt delivery for the Rouge Education Project (REP) Spring Monitoring Day held April 30, 2008 and participated on both the REP Advisory Task Force and the REP Public Involvement Projects Task Force. Additionally, WQMD hosted Cesar Chavez Academy at its Commerce Court demonstration garden site for the REP Spring Monitoring Day, and for the Fall Monitoring Day held November 5, 2008. WQMD assisted 23 students (spring) and 15 students (fall) with monitoring the Lower Rouge River for benthic macroinvertebrates and other physical and chemical parameters. The site scored much higher this year than during fall 2007, receiving a “good” water quality score instead of its usual “fair.”

Storm Sewer System Labeling WCPEP #19)

WQMD stenciled storm sewers in three different Canton Township subdivisions as part of their annual River Day activities (see also report for WCPEP#14). The message “Dump No Waste Drains To Rouge River” was painted on all storm sewers in the subdivisions to help educate residents about the direct impact these sewers have on the Rouge River and to prevent pollution from leaking automobiles, outdoor washing activities, excessive fertilizer application, illegal dumping of household waste products and other household activities.

In 2009, Wayne County will continue to offer these stencils to schools and community groups for volunteer use as well as label storm sewers at our sponsored River Day sites.

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

WQMD staff stenciled the storm sewers at seven paved Wayne County Road Yards, two Park maintenance facilities and two Wayne County Golf Course parking lots located in areas served by separate sanitary sewers. For those County facilities from this list located in the Rouge

watershed, the message “Dump No Waste Drains To Rouge River” was painted on all storm sewers at the facility. The message “Dump No Waste Drains To River” was painted on all storm sewers at the facilities located in non-Rouge watersheds. These messages help educate Wayne County employees and the public about the direct impact these sewers have on surface waters and help prevent pollution from entering the storm sewer system.

In 2009, Wayne County plans to stencil storm sewers at its office building parking lots and re-stencil road yard and park facilities.

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

WQMD staff participated in all 2008 Alliance of Rouge Communities Public Information and Education Committee meetings and activities (see the 2008 Executive Director Annual Report provided in the Attachments – Section 5 for more detailed information). In addition, Wayne County participated in all 2008 activities of the Alliance of Downriver Watersheds, Public Education Committee (see the 2008 ADW Annual Report provided in the Attachments – Section 5 for more detailed information).

Information Dissemination via Websites (WCPEP #22)

During the reporting period, the *Rouge Project website* (www.rougeriver.com) experienced over 2.5 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. During the reporting period, staff responded to over 64 e-mails from the site. People have contacted us from all over the watershed; every state in the United States; England, Australia, and a variety of other places all over the world. The *Rouge Clearinghouse Order Form* has been updated and links to the *River Friendly “Slow Release Fertilizer Program”* information were added to the site. The search feature on the front page contains the most up-to-date information. This user-friendly site continues to be one of our most far reaching and most informative and inclusive method of public outreach. Other Wayne County websites are also used to inform and involve the public in storm water management and watershed awareness activities. For example, announcements of select public workshops and watershed stewardship volunteer events are shown on the front page of the main Wayne County website (www.waynecounty.com). The Department of Environment pages of the website provides information on pollution prevention and watershed management topics including recycling, composting, fertilizing, soil erosion control, storm water best management practices, and Wayne County environmental ordinances.

Rouge River Data: A web-based tool for accessing and analyzing Rouge River water quality monitoring data collected to date was developed during 2005 to replace the previous “DataView” CDs. This tool was made available at www.rougeriver.com/database in August of 2005. During the reporting period, there were 649 visits to this portion of the website and 118 data downloads recorded.

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 Environment (two locations),

Environmental Health Division, Mental Health Department, Parks Headquarters, Permit and Field Engineering Office, Roads-Central Maintenance Yard, and the Wayne County Building (600 Randolph).

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 DOE website www.waynecounty.com/doe/land and is also handed out at all public events in which DOE participates including the HHW and computer collections. Other materials to educate the public about pollution prevention include: the *Green Shopping Guide*, *Disposal Tips For Home Medical Waste and Pharmaceuticals*, recycled pencils, *Soil Erosion*, *Sedimentation Pollution and Your New Home*. A website link was developed to the RRG and to composting tips. The following materials related to education about proper waste disposal were distributed at public events during the reporting period:

Educational Item	Distributed by County at Public Events	Provided to Community Groups & Agencies for Distribution	Mailed directly to residents in response to inquiry
<i>Resource Recovery Guide</i>	5,938	1,280	55
<i>Disposal Tips For Home Medical Waste and Pharmaceuticals</i>	1,065	4,055	40
HHW/E-waste collection event flyers	1,356		
CLEAN program brochures		520	
Recycled pencils	2,580		
<i>Green Shopping Guides</i>	150	80	

Additionally, 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 described in the report for WCIDEP#7. The mailings consisted of C.L.E.A.N. information pamphlets and applications for assistance. This information was also sent to over 45 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 Table 17, 18 and 19 for the Department of Public Services (WCDPS), Department of Environment (WCDOE), and Environmental Health Division (EHD), respectively.

Table 17
WCDPS Staff Training in Environmental Issues
January 1 – December 31, 2008

Training Topic	Number of Staff Trained
Soil Erosion and Sedimentation Control	6
Recognizing and Reporting Illicit Discharges	28
Pesticide Applicators	16
De-icing Equipment Calibration	265
MDEQ Flood Plain Permit Requirement	4

Table 18
WCDOE Staff Training in Environmental Issues
January 1 – December 31, 2008

Training Topic	Number of Staff Trained
Soil Erosion and Sedimentation Control	2
Hazardous Waste and Emergency Response (HAZWOPER)	27
MI Manufacturer's Environmental Training	1

Table 19
WCEHD Staff Training in Environmental Issues
January 1 – December 31, 2008

Training Topic	Number of Staff Trained
Public Swimming Pool Inspection	31

Staff Education and Awareness: During this reporting period, the WCDOE arranged for the County's electronic mail (e-mail) system to periodically post watershed/storm water management messages to all County employees (approximately 4,500) during the reporting period. All Wayne County employees with email accounts received messages encouraging their participation in the County's Office HHW Collection event (February), Computer/Computer Peripheral Waste Collection event (March and April), *River Days* (June), WC office paper recycling program (July), Wayne County and MSU *Don't Guess, Soil Test* program (August/Sept).

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 2008 were for Plymouth Township (four River Crossing signs) and Redford Township (four River Crossing signs). Two orders for grow zone signage were filled during 2008 for the Village of Wolverine Lake (two signs) and the City of Farmington Hills (60 signs). See also signage information reported under WCPEP #31.

Local Presentations (WCPEP #27)

Children's Education: The 11th Annual *Rouge River Water Festival*, co-sponsored by Wayne County, was held on May 1, 2008. A total of 2,258 fifth grade students from 40 elementary schools in nine Rouge River watershed communities and six downriver communities attended this full day event held at the University of Michigan-Dearborn campus. Students attended a myriad of hands-on presentations focusing on the importance of water in our lives, sources of water pollution, and other related subjects from a total offering of 55 presentations and five exhibits. This was the sixth year that the festival was conducted in a split format of morning and afternoon sessions. This format provides the means for more students to be involved and has proven to be very successful. Approximately 108 presenters and exhibitors donated their time and skills to the festival, along with 143 volunteers from 14 different organizations. Numerous County staff participated as campus guides and completed various other tasks necessary for the successful operation of the festival. Wayne County presentations/exhibits at the 11th Annual *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 142 students from six Rouge River watershed schools attended this presentation.

WQMD staff volunteered at the second Annual *Clinton River Water Festival*, held May 22, 2008 at Oakland University, Auburn Hills. WQMD presented "Don't Bug Me" to approximately 164 students. The Engineering Society of Detroit (EDS) filmed the presentation. EDS sponsors a science related television show designed for children. This program has a national viewing audience. The Clinton River Water Festival coverage is part of a segment about water was to air sometime in June 2008.

WQD staff volunteered at the *Cranbrook Institute of Science's Rouge River Water Festival*, held Friday, September 19, 2008. WQD presented "Don't Bug Me" an interactive experience that demonstrates relationships between benthic macroinvertebrate diversity, water quality and land use. Approximately 120 students from four Oakland County middle schools attended this presentation.

In 2008, Wayne County's *Dirt Doctors* appeared at two events, involving approximately 300 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 2009 include presentations at the Water Festival, Livonia schools and Plymouth-Canton schools.

LRMD's Resource Recovery Program Manager provided recycling presentations to school classes as follows:

- On December 11th, a recycling presentation was made to a Fordson High School class of approximately 20 students. The presentation was designed to show the students how to provide an argument in favor of recycling. Students were given handouts on recycling facts, and pencils made from recycled material.
- May 1st – Recycling display/presentation at the Rouge River Water Festival to approximately 2,000 students throughout the course of the day; Students were provided with handouts on recycling facts, composting, and were given reminder bands and pencils made from recycled material.

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.

University of Michigan – Dearborn/Rouge 200X/Gateway Partnership: Each year Wayne County the University of Michigan – Dearborn and the Rouge Gateway Partnership co-host the *Rouge 200X* event. This event is a celebration of Rouge restoration progress and a briefing for members of Congress, local elected officials, local community staff, businesses, and citizens regarding Rouge River restoration progress and direction. The 2008 event was held on October 24, 2008 at the University of Michigan-Dearborn. Over 150 citizens, elected officials, and representatives of the U.S. Environmental Protection Agency (USEPA), Michigan Department of Environmental Quality (MDEQ) attended. Speakers included Wayne County CEO Robert Ficano, WCDOE Director Kurt Heise, and WCDOE Water Quality Management Director Kelly Cave. There were informational and educational displays by 11 organizations and handouts on a variety of storm water and watershed management topics.

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, Storm Drain Stenciling, 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 2008 Bug Hunts; coordinating t-shirt delivery for the REP School Monitoring Day; hosting a school sampling site at our WMD 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 both the REP Advisory Task Force and the REP 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. Activities included membership and participation on the Rouge River Delisting Criteria Technical Committee. Participation included meeting attendance, review, comment and contribution of technical content of the *Delisting Targets for Fish and Wildlife Habitat and Population Beneficial Use Impairments for the Rouge River Area of Concern* submitted to MDEQ in December 2008.

Wayne County MSU Extension: WQMD staff continued the partnership with the Wayne County Michigan State University Extension Office. Activities conducted together included Bennett Arboretum Grow Zone Clean Up and Workday (May 2008), support to Conservation Stewards Program Training (Fall 2008), the *Don't Guess Soil Test* program (August-September 2008), and Northville Recreation Area Workday (October 2008).

Lawrence Technical University: In October 2008, Wayne County partnered with professor Donald Carpenter and the Alliance of Downriver Watersheds and applied for the *Water Quality*

Improvements Project in the Alliance of Downriver Watersheds and the Planning Improvements and Green Infrastructure Acquisition Across the ADW Clean Michigan Initiative – Nonpoint Source grants.

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 held a river friendly lawn care workshop and applied for and will host one of the Alliance of Downriver Watersheds Grow Zone Mini-grant projects to be installed in the spring of 2009.

Regional PE Committee – Southeast Michigan Partners for Clean Water: WCDOE has been actively participating in this initiative since its inception. In 2008, WCDOE staff was instrumental in planning and implementing the “Our Water, Our Future, Ours To Protect” water quality public education campaign including modifying and promoting the use of the *7 Simple Steps to Clean Water Campaign*. WCDOE was also actively involved in the other initiatives of the Regional PE Committee including the Low Impact Development (LID) Subcommittee and the Municipal Training Subcommittee. As a member of the Municipal Training Subcommittee, WQMD agreed to present at and help promote the February 9, 2008 *Get Nutty Go Native* SEMCOG University training. The workshop was well attended with 50 participants and provided detailed information about types of native plants and the role those plants can play in water quality protection. See the SEMCOG report *Community Annual Report Information* (October 2007-September 2008) presented in Section 6 of this report.

Stream Team/Friends of Detroit River/Riverkeeper: In 2008, Wayne County continued its partnership with *The Stream Team* and *Friends of the Detroit River* 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. Wayne County continued to provide technical assistance support to the Friends of Detroit River’s Trenton Streambank Stabilization and Grow Zone Project located on the Frank and Poet drain at West Road. Also in 2008, Wayne County and Friends of Detroit River completed work on the “Source Identification in the Detroit River Project”. Using current and historical

information, the goal of this project was to identify unregulated sources of contaminants to the Detroit River and compile all available data regarding these sources. This project is the necessary first step in developing a quantitative evaluation of the potential aggravating effects that unregulated pollutant sources have on the Beneficial Use Impairments (BUIs) in the Detroit River AOC, and ultimately identifying appropriate restoration or remedial measures to address these sources of contaminants.

Lake St. Clair Regional Monitoring Project: WQMD staff is an active participant in this project coordinated by the Macomb County Health Department. In 2008, staff continued to attend or kept informed of the planning/coordination meetings held regarding the project.

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:

- WQMD staff member Dean Tuomari gave a presentation to the Central States Water Environment Association this year in Willowbrook, IL. The presentation *MS4 Illicit Discharge Elimination Programs* was given to more than 140 water quality professionals at the Association's Water Pollution Control Conference.
- Wayne County's IDEP program provided information regarding staff training and IDEP program implementation from the Department of Public Works, Pierce County, Washington, which has a population over 800,000, including the City of Tacoma.
- The North Central Texas Council of Governments (NCTCOG) also requested IDEP program information. NCTCOG serves 16 counties and 230 municipalities, including the Dallas-Fort Worth regions, which has a population of over 6 million.
- The Minnesota Department of Natural Resources requested information this year concerning Wayne County's work on Woody Debris Management. The person stated Wayne County, though his literature review, leads the nation in urban woody debris management with the clean and open method.
- On June 25, Wayne County hosted a group from Des Moines, Iowa, who traveled to the Rouge Project to review "lessons learned" from the combined sewer overflow (CSO) control program, and to tour several CSO control facilities.

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

Information Dissemination: Facilities Management Division has a number of handouts and other materials used to educate the public on topics, which may result in pollution prevention. These materials 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 are distributed in response to citizen requests. This information can also be found on the Wayne County Website. Facilities Management Division staff meet with the public regularly for drain improvement petition related meetings and at service request inspections.

Signage: No new signs were installed for illegal dumping in 2008.

Industrial Pretreatment Excellence Award and Zero Discharge Club: The County's Industrial Pretreatment program for the Downriver Wastewater Treatment Facility awarded no *Excellence Awards* and 22 companies were part of the *Zero Discharge Club* during 2008.

Wastewater Treatment Plant Open House: The May 2008 event involved approximately 400 students, parents, and teachers.

Integrate Public Education into Department of Public Services, Roads Division (WCPEP #30)

Information Dissemination: An informational display rack was set up at the Wayne County Roads Division Central Maintenance Yard. The *Rouge River Action Plans*, *Our Actions Can Affect the Rouge River*, *Storm Drains Aren't Garbage Cans*, *Clean Air Car Care*, and *Ozone Action Tips* brochures are available to employees and the general public.

Watershed Awareness Signage: Six river crossing signs were fabricated for the WQMD Clearinghouse. Existing river crossing and watershed entry signs are being called out to be retained on road reconstruction project plans.

Road Staff Training: Twenty-eight Department of Public Service Roads and Permits staff participated in the Combined Basic/Advanced IDEP Training workshop held in April 2008 in Wayne. This training is also reported under WCIDEP #3. Thirteen received pesticide application training and certification in 2008 and 265 were trained for equipment calibration de-icing operations.

Adopt-a-Road Program: One group adopted approximately 0.75 miles of County Road in 2008.

Integrate Public Education into Department of Public Services-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 20 presents a summary of the environmental educational information distributed by the Parks Division Nankin Mills Naturalists during 2008.

Table 20
Environmental Educational Information - Nankin Mills Parks Office
January 1 – December 31, 2008

Educational Item	Approximate Number Distributed
Rouge Watershed Public Recreation Areas Map and Index	200
Holliday Nature Preserve Map	100
Holliday Nature Preserve Association newsletters	200
Friends of the Rouge newsletters and other brochures	200
Southeastern Michigan Butterfly Association Fliers	200
“Bennett Arboretum History” brochure	200
Bennett Arboretum Trail Map and Interpretive Guide	200
Bluebird Nesting Box Information Flier	100
“What is a Floodplain?” Park Information Bulletin	200
“Rooting for the Rouge” Information Bulletin	500
“Herps of the Rouge” Interpretive flier	500
“Owls of Michigan” Interpretive flier	400
Match Animal to Habitat flier	200
Fish of the Rouge River activity flier	150
Trees of the River Floodplain activity flier	150
Geology of Michigan fliers	400
Poisonous Plants and Animals fliers	150
Animal Tracks, activity flier	400
Pond Benthics and Water Quality flier	300
Animal Hibernation flier	200
WCDOE 24-Hour Environmental Hotline	100
WCDOE How to Be a River Friendly Gardener	100
WCDOE Fertilizer Selection and Application	100
WCDOE 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
- 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 funded by a grant from the Rouge Project Office
- 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
- 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

New interpretive panels are currently being fabricated for the Interpretive Center to accompany new exhibits:

- *Fish of the Rouge River*
- *Turtles of the Rouge River*
- *Reptiles and Amphibians of the Rouge River*

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 is waiting to be 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.

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 2008.

<i>History of the Rouge River</i>	<i>Animals in Winter</i>
<i>Reptiles and Amphibians of the Rouge Floodplain</i>	<i>Animal Mysteries</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>	

Additionally, Nankin Mills Scout Badge Workshop Programs offered in 2008 which featured natural resources included:

<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>	

Monthly home school series natural resource related programming offered in 2008 by Nankin Mills Interpretive Center included (*New in 2008):

<i>Meet the Wild Canines*</i>	<i>Seed ID/Collection*</i>	<i>Maple Sugaring</i>
<i>Beginning Astronomy</i>	<i>Herps of the Rouge</i>	<i>Spiders*</i>
<i>Animal Tracks in Winter</i>	<i>Dinosaur Exploration</i>	<i>Leaf Prints</i>
<i>Swamp Stomp/Signs*</i>	<i>Fish Adaptations/Seining*</i>	<i>Historic Mills of Rouge</i>
<i>Butterfly Gardening*</i>	<i>Floodplain Flora & Fauna*</i>	<i>Wet Wild Weather</i>
<i>Animal Signs and Skulls</i>	<i>Owls of Michigan</i>	<i>MI Geology</i>
<i>Creepy Crawly Soil Critters</i>	<i>Fern Identification/Craft*</i>	<i>Pond Life</i>
<i>Land Water Connections*</i>	<i>Bird Adaptations</i>	
<i>Advanced Tree ID/Oaks*</i>	<i>Rouge Underground Railroad</i>	
<i>Bluebird House Monitoring & Construction*</i>		

Family programs with natural resource themes offered in 2008 include (*New in 2008):

<i>Seasonal Astronomy Programs</i>	<i>Nature Birthday Parties*</i>	<i>Maple Sugaring</i>
<i>Live Reptiles & Amphibians of Michigan</i>	<i>Owls of Michigan</i>	<i>Spring Frogs</i>
<i>Nature Tots 4 week series Winter to Spring</i>	<i>What is a Grow Zone?*</i>	<i>Wildlife Safari*</i>
<i>Halloween Forest Fun Hike</i>	<i>Fall Family Color Hike</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 2008 were as follows:

- Kindergarten/First Grade Camp Topics: *Mammals, Nature Games, Insects, Nature Detectives, Dinosaurs, Native American History, Live Reptiles/Amphibians*
- Second/Third Grade Camp Topics: *Birds, Nature Crafts, Live Reptiles/Amphibians, Bioluminescence, Live Mammals, Astronomy, Pond Life, Animal Tracks, Owl Pellets*
- Fourth – Sixth Grade Camp Topics: *Alternative Energy, Nature Crafts, Live Reptiles/Amphibians, Pond Life, Electricity & Magnetism, Native American History, Animal Skulls, Owl Pellets*

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. We provided two staff and the topic presented was: *Live Reptiles and Amphibians of the Rouge*.

Wayne County naturalists also present *Live Reptiles and Amphibians of the Rouge* at the Canton Parks River Day festivities and for the City of Westland Turn Off the Violence.

Table 21
Attendance at Nankin Mills Interpretive Programs
January 1, 2008 – December 31, 2008

Number of Interpretive Programs Provided	351
Number of Children Attending	8,252
Number of Adults Attending	4,711
Total Number Attending	12,963

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

- Nankin Naturalist met with six boy scouts regarding planning projects for their Eagle Scout rank. Projects included completion of two more sections of trail improvements in Newburgh/Hix Section of Holliday Nature Preserve, split rail fencing around Grow Zone areas, horse trail improvements and Newburgh Lake trail improvements.
- Nankin Naturalist worked with Southeastern Michigan Butterfly Association to install 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 Naturalist worked with Master Gardener volunteers to enhance existing butterfly gardens on the Nankin site.
- 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 bird feeding station on site.
- Nankin Naturalist worked with City of Westland “Rooting for the Rouge” coordinator to provide programming related to curriculum. Met with teachers at a workshop to present program information and provided program in the schools and on our site, “*Land and Water Connections*”.

- 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.
- Nankin Mills hosts Motor Cities meetings involved in the preservation of the history of the Middle Rouge Parkway and other sites.

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 Park Brochure and on the Park website. Schools also spread the information by word of mouth.
- *Outreach programs:* A flier is available in Nankin lobby and programs are listed in the Park Brochure and on the Park website. The outreach program flier is also electronically mailed to local libraries and Recreation Departments.
- *Scout programs:* A scout flier 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 and in the Parks Brochure and on the Parks website.
- *Family programs:* A seasonal family program flier is electronically mailed to those on the Parks mailing list and available in the lobby. Programs are also listed in the Park Brochure and on the Park 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 flier is electronically mailed to those on the Parks mailing list, available in the Nankin Mills lobby, and program offerings are listed in the Park Brochure and on the Park Website.
- *Large Family Events:* Fliers are electronically mailed to those on the Parks mailing lists, local libraries and Recreation Departments. These events are also advertised in the Park Brochure and on the Park Website, and an illustrated advertisement is displayed on an announcement board in the Park Office lobby and on the Park electronic sign on Hines Drive.
- Co-sponsored events are advertised by the event co-sponsor. For example, Native American Day, which gets radio coverage and is listed in Native American publications.

In addition to the 12,963 visitors who came to Nankin Mills Interpretive Center to visit and attend an interpretive program in 2008; an additional 3,626 people visited the Interpretive Center exhibits without attending an interpretive program, for a total of 16,589 visitors in 2008. Total Interpretive Center attendance since opening in January 2001 through December 31, 2008:

2001:	15,664
2002:	15,112
2003:	17,804
2004:	22,055
2005:	19,509
2006:	17,524
2007:	17,233
<u>2008:</u>	<u>16,589</u>
Total:	141,490

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 22 presents a summary of the environmental educational information distributed from the Crosswinds Marks Parks Office during 2008.

Table 22
Environmental Educational Information Distributed From Crosswinds Marsh, Wayne
County Parks, January 1 – December 31, 2008

Educational Item	Approximate Number Distributed
Crosswinds Marsh Visitor Guide/Map	6,500
Eagle Facts (Bookmark)	280
Wetland Word Search	200
The Fish of Crosswinds Marsh	175
2008 Fishing Guide	140
Wildlife Observation Guide (info sheet)	65
Conservation of the Bald Eagle (booklet)	45
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
Recycling Guidelines (info sheet)	150
Nature's Recycling Coloring Book (booklet)	150
Tree Identification Guides (booklet)	75
Wildflower Identification Guide (booklet)	45
Natural History of Michigan Owls (booklet)	300
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 3,790 children and 339 adults participated in education programs offered by the naturalists stationed at Crosswinds Marsh.

Crosswinds Marsh School Programs:

<i>Spring Fling</i>	<i>Wetland Field Investigation</i>
<i>All About Birds</i>	<i>Wetland Homes and Habitats</i>
<i>Geologic Wonders of Michigan</i>	<i>Wetland Plant and Animal Adaptations</i>
<i>Marsh Mammals</i>	<i>The Wonders of Water and Wetlands</i>
<i>Michigan Owls</i>	<i>Insect Incognito</i>
<i>Michigan Reptiles and Amphibians</i>	<i>Michigan Trees</i>
<i>Nature Detective</i>	<i>Fall Frolic</i>
<i>Predators and Prey</i>	<i>Canoe Hike</i>

Crosswinds Marsh Outreach Programs:

<i>All About Birds</i>	<i>Michigan Reptiles and Amphibians</i>
<i>Insect Incognito</i>	<i>Nature Detective</i>
<i>Fall Frolic</i>	<i>Predators and Prey</i>
<i>Marsh Mammals</i>	<i>Wetland Plant and Animal Adaptations</i>
<i>Michigan Frogs and Toads</i>	<i>Winter Tracks</i>
<i>Michigan Owls</i>	

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

<i>Spring Bird Hike</i>	<i>Incredible Insects</i>	<i>Fall Canoe Hike</i>
<i>Michigan Frogs and Toads</i>	<i>Earth Connections</i>	
<i>The Wonders of Water and Wetlands</i>	<i>Marsh Hike</i>	
<i>*Family Fishing Fun Day</i>	<i>Fall Bird Hike</i>	
<i>Spring Canoe Hike</i>	<i>Nature Detective</i>	
<i>*Nature Fest</i>	<i>Fall Color Hike</i>	

Crosswinds Marsh Scout Badge Programs:

<i>Animals</i>	<i>Science Discovery</i>	<i>Geologist</i>
<i>Eco-Explorer</i>	<i>Water Wonders</i>	<i>Outdoorsman</i>
<i>Movers</i>	<i>Water Fun</i>	<i>Scientist</i>
<i>Outdoor Adventurer</i>	<i>Wildlife (Juniors)</i>	<i>Fishing (A&S)</i>
<i>Playing Around the World</i>	<i>Your Outdoor Surroundings</i>	<i>Geology (A&S)</i>
<i>Science in Action</i>	<i>All About Birds</i>	<i>Map and Compass (A&S)</i>
<i>Senses</i>	<i>Wildlife (Cadette)</i>	<i>Wildlife Conservation (A&S)</i>
<i>Watching Wildlife</i>	<i>Birds</i>	<i>Nature (Merit Badge)</i>
<i>Water Everywhere</i>	<i>Fishing (Wolf)</i>	
<i>Earth Connections</i>	<i>Your Living World</i>	
<i>Finding Your Way</i>	<i>Sharing Your World with Wildlife</i>	
<i>Hiker</i>	<i>Nature Crafts</i>	
<i>Outdoor Creativity</i>	<i>Weather</i>	
<i>Plants and Animals</i>	<i>Forester</i>	
<i>Rocks Rock</i>	<i>Naturalist</i>	

Nature Explores Summer Nature Series (ages 10-14):

<i>Aquatic Critters</i>	<i>Outdoor Survival</i>
<i>Mammal Study</i>	<i>Art in Nature</i>

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

Bird Buddies

Fun With Geology

Mad Scientist

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. We provide two staff that conducted six programs, for 200 students and approximately 50 adults. The topic presented was *Aquatic Invertebrates of the Rouge Watershed*.

Crosswinds Marsh Wetland Interpretive Preserve – Workshops and Other Events

- Naturalists are currently working with an Eagle Scout on a project to construct and install 10 additional benches and small boardwalk along trail system.
- Naturalists are currently working with an Eagle Scout on a project to plant shade trees at the picnic area in park.
- Naturalist contacted the Detroit Audubon Society to discuss programming partnership projects.
- Naturalists established a partnership with Trenton Parks and Recreation and conduct their *Nature Nook Program Series*.
- Naturalists established a partnership with Van Buren Parks and Recreation are currently conducting Spring, summer and fall programs.
- Naturalists established a partnership with Flat Rock Parks and Recreation and are currently conducting a summer camp program in July.
- Naturalists established a partnership with Romulus Parks and Recreation and are developing a program schedule for spring or 2009.
- Naturalists established a partnership with Grosse Ile Parks and are developing a program schedule for spring or 2009.

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 the Parks Website. Currently an E-mail mailing list is being developed for school and outreach programs.
- *Crosswinds Marsh Scout Programs:* Fliers and the *Parks Events and Interpretive Programs* brochure listing all Scout Badge Programs is available at the entrance to the Park. The fliers 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 the Parks 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 the Parks Website. A Press Release for each program is sent to the local newspapers.

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

Signage – Don’t Feed the Geese: Ten signs remain in place near the Middle Rouge impoundments, five signs are at Elizabeth Park and 10 signs are installed at Crosswinds Marsh.

Signage - Holliday Nature Preserve: No new activities reported for 2008.

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 2008 work day.

Signage – Crosswinds Marsh:

- Six “No Fishing” signs were installed in restricted areas.
- Five “No Bicycles Beyond This Point” were installed in restricted areas.
- Four additional Don’t Feed the Geese Signs are to be installed at Crosswinds Marsh.
- Two to four additional Endangered Species signs are to be installed near the bald eagle nest.
- Signs identifying the various wetland types (wet meadow, shallow water emergent, forested wetland) are being developed by naturalists.
- Signs explaining the negative impacts of zebra mussels and why no personal watercraft are allowed at Crosswinds are being developed by naturalists.

Signage - Grow Zone Areas: Interpretive Grow Zone signs remain at the Nankin Mills Grow Zone and the Bennett Arboretum Grow Zone. Permanent and temporary Grow Zone boundary marker signs were also installed throughout the Grow Zones installed throughout Edward Hines Park. Additional signage will be installed as new Grow Zone areas are identified and established. An Interpretive Panel has been developed for the Newburgh Pointe Rain Garden in 2008 for installation in 2009.

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: Three staff received training/certification for pesticide application.

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 Industrial Pretreatment Program placed 22 permitted companies in 2008 on their Zero Violators Club.

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 homeowner 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. In the calendar year 2008 approximately 200 of these packets were distributed. 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 Wayne County Department of Environment webpage and to other environmental education sites. Environmental Health Department (EHD) staff also participated in Rouge Water Festival distributing 500 Cross Connection Control pamphlets to inform the students how to protect drinking water from contamination. EHD staff also distributed educational material to children about radon gas. Education materials included pencils, coloring books, and literature about radon and how to prevent radon gas exposure.

Land Resources Division – Soil Erosion Permits: Approximately 50 *Soil Erosion, Sediment Pollution and Your New Home* brochures were distributed to local building departments by the LRMD in 2008.

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. In 2007, a significantly updated version of the manual was published and provided to MDEQ. New guidance documents for the program were published and posted on the "storm water ordinance" section of the Wayne County website in April, July, and August of 2008.

The ordinance, administrative rules, and standards manual are available online from Wayne County's website <http://www.waynecounty.com>. Additionally, supplemental materials not included in the Standards Manual, which may be helpful in implementing the Wayne County Storm Water Management Program, are available at

http://waynecounty.wc/mygovt/doe/depts/wqd/supplement_info.aspx. A registry of example Storm Water and Water Quality Practices Constructed/Implemented in Southeast Michigan is found at http://waynecounty.wc/mygovt/doe/depts/wqd/stwm_water_pract.aspx. This section of the website presents information (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
- Green Buildings

Hard copy versions of the manual are available from the Permit Office (33809 Michigan Avenue, Wayne, MI). Staff from WCDOE 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.

Page left blank intentionally

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, 2008– December 31, 2008** 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 will be created.

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

Wetlands – Constructed (County Projects): Wayne County continued to maintain approximately seven acres of wetlands that have been created by the Wayne County Wetland Bank and Wetland Protection Fund during the reporting period.

Low Impact Development/Green Infrastructure Projects: Wayne County Parks and WQMD continued their partnership on the *Rouge River Riparian Corridor Management Project* within Hines Park. This project was initiated with Rouge River National Wet Weather Demonstration Project funding and is now being funded by a grant from the MDEQ under the Clean Michigan Initiative. 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 cell, two detention pond native plant retrofits, and 12 native plant grow zones. See also activities reported under WCPEP #11 and WCSWM #27.

Road Construction – DPS Field Engineering Office (FEO): Table 23 summarizes the Wayne County road construction projects administered by the Field Engineering Office in 2008. 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.

Table 23
Wayne County Road Construction Projects
January 1 – December 31, 2008

Project Name	Project Limits	Project Name	Project Limits
Howe	Van Born to Michigan	Northline	Fort to West Jefferson
Hubbard(f)	Evergreen to Southfield	Oakwood	Michigan to Park
Lilley/Hanford	Intersection Improvement	Outer Drive, West.	Ann Arbor Trail to Warren
Mack (d)	Cook to Vernier	Palmer/Haggerty(h)	Intersection
Mack (d)	Moross to Cook	Pav't Maintenance	Canton Township
Mercury(f)	Hubbard to Ford	Toledo	Southfield Fwy to W. Outer Drive
Piqette Ave Bldg	Facade Restoration	Toledo	Northline to Goddard
Schaefer	West Jefferson to Detroit C.L.		

CSO Control Implementation (WCSWM #3)

Wayne County continued operation and maintenance of combined sewer overflow control facilities in Dearborn Heights, Harper Woods (Milk River RTB), 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 (WWTF) and of parts of the interceptor system tributary to the Detroit WWTP. 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. In 2008, WQMD began the process of developing Pollution Prevention (P2) Action Plans as described in the County's Storm Water Pollution Prevention Initiative. The Wayne Yard was inspected in 2008 and a P2 Action Plan, along with inspection checklist and template P2 Action Plan is being developed for use at inspections to be performed in 2009. Additionally, 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).
- Cleaning of Paved Surfaces is accomplished with road sweepers as in WCSWM#10. Spills of materials on County roads are handled by an environmental cleanup company under contract to Wayne County. Michigan Department of Transportation (MDOT) is notified of

spills on State trunk lines. MDOT then 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.
- Dumpster and Loading Dock Maintenance: Thirty cubic yard and six cubic yard dumpsters are placed at 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. Other yards have outside truck wash areas that are constructed of impervious asphalt and drained into a sanitary sewer.
- Miscellaneous Activities: Cyclone catch basins have been installed on several County projects.

Staff Training (WCSWM #6)

See activities reported under WCPEP #25.

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

Wayne County contracts require contractor compliance with all applicable local, state and federal regulations. WQMD has previously dye-tested all County facilities within the municipal separated storm sewer system area and has stenciled the storm sewer manholes within maintenance yards and parking lots. In 2008, WQMD began the process of developing Pollution Prevention (P2) Action Plans as described in the County's Storm Water Pollution Prevention Initiative. The Wayne Yard was inspected and a P2 Action Plan, along with inspection checklist and template P2 Action Plan is being developed for use at inspections to be performed in 2009. 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 2008, the Design Office of the WCDPS-Engineering Division generated plans and specifications for the construction of 10 road improvement projects in Wayne County. All 10 projects were hot-mix asphalt resurfacing of an existing paved roadway. 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 2008, WCDPS-Roads Division maintenance staff removed and properly disposed of 7,602 cubic yards of material from catch basins, storm sewers, roadside ditches and other features. The Roads Division has a policy and contractor in place to ensure that hazardous materials spilled on the roadways are appropriately disposed of and reported.

P2: Road Maintenance and Sweeping (WCSWM #10)

The WCDPS-Roads Division sweeps the curbed roadways under its maintenance responsibility. Table 24 below presents a summary of roadway sweeping for this reporting period.

Table 24
2008 Roadway Sweeping Summary
Wayne County Roads Division

Type of Roadway	Cycles	Road Miles
Urban Freeway	1	868.7
State Trunk Lines	1	98.5
County Primary Roads	1	913.2
County Local Roads	0	0

In addition, cleaning of catch basins to ensure positive drainage is done on an as-needed basis. During this reporting period, the Wayne County DPS-Roads Division removed and properly disposed of 7,602 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: 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)

Wayne County Department of Public Services 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)

Several times during the year, the DPS-Roads Division hires a contractor to clean up oil and fuel spills on roads and freeways that result from accidents. Oil-water separator tanks at maintenance yards are routinely cleaned.

Goose Control Program (WCSWM #14)

The program to control Canada Goose populations in Wayne County Parks was not conducted in 2008.

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 38 Certified Storm Water Operators. Twenty-seven of these employees have also successfully passed the exam for the MDEQ SESC (Construction) training.

The WCDOE-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)

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 a variety of types of BMPs is provided in *Wayne County Storm Water Standards Manual*. In 2008, Wayne County’s Permit Office reviewed 428 development projects to ensure compliance with the Wayne County

Storm Water Ordinance. One hundred one construction permits were issued to projects in compliance with the County Storm Water Ordinance.

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 22 violation notices issued under Wayne County's Municipal Civil Infraction Ordinance as follows:

- Eighteen for violations of the Soil Erosion and Sedimentation Control Ordinance, issued by the Land Resource Management Division of WCDOE, and
- Four for violations of the Solid Waste Ordinance, issued by the Land Resource Management Division of WCDOE.

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

See the report under *WCIDEP #5*.

Ordinance Enforcement: Sewer Use Ordinance (WCSWM #22)

The WCDOE FMD Industrial Pretreatment Program continued implementation of the Sewer Use Ordinance (Chapter 101 of Wayne County Code of Ordinances). In 2008, there were 43 violations, four notices, no municipal civil infractions and one show cause issued in the continued enforcement of the County Sewer Use Ordinance.

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

The WCDOE 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) of the 43 local communities within Wayne County. During the reporting period, LRMD issued 156 soil erosion control permits. Inspections were conducted at 100% of the projects underway and 33 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 2008; the program was audited by MDEQ in 2001 and received an "Approved" rating. LRMD staff are also active participants 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, WCDOE-LRMD, Corporation Counsel, and chaired by the WCDOE-WQD) periodically publishes a document entitled "Program Clarifications, Errata, And Revisions", along with other miscellaneous guidance. A significantly updated version of the manual was published in February 2007 and was submitted to MDEQ with last year's report.

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 2008, the Permit Office reviewed 428 development projects to ensure compliance with the Wayne County Storm Water Ordinance. The Field Engineering Office provides inspection for approved projects. One hundred one construction permits were issued. Twenty-five projects were completed and there are 157 approved projects under construction.

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

WCDOE-FMD staff implemented woody debris management as part of County Drain maintenance activities from August 2008 through December 2008. 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.

WCDPS-Parks Design staff solicited bids for Woody Debris Management projects where log jams had significantly obstructed the natural flow of the river and were causing severe erosion and flooding. These obstructions were in the Middle Rouge River in the City of Dearborn. The Clean and Open Method of log jam management was used and the trash and debris was disposed of properly. The large woody debris was pulled to side of river to allow river to flow and also to create wildlife habitat.

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

See activities summarized above in WCPEP #10, WCSWM #2, WCSWM #24 and WCSWM #25.

Habitat Restoration (Protection) (WCSWM #27)

Grow Zone Initiative: WCDPS-Parks Division with support from the WQMD is in the planning stages of expanding the Grow Zones Initiative into all of its park areas in support of storm water management and improvement of riparian corridors along river tributaries. See activities summarized in WCPEP #10 and WCSWM #2.

Detroit River International Wildlife Refuge: Many elements of the Wildlife Refuge Gateway site are still in the planning stages. The first phase of development will take place in 2009 with the day-lighting of the Monguagon Drain as it bisects the Gateway site. This project will collect storm water runoff and discharge it into a sedimentation basin. The water will flow into a wetland and ultimately flow into the Detroit River. This project is being funded through a MDEQ Clean Michigan Initiative grant.

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. 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 2008 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. A new (mostly native plant) butterfly garden was installed 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)

Silver Creek Drain Relocation - Self-Forming Channel Design was completed in 2008. This project was described by D. Mecklenburg's Ohio DNR as the best self-forming channel design that he has seen (per P. Durack, March 4, 2009 email) and the site is now on his link for self-forming channels.

<http://maps.google.com/maps?hl=en&ei=f5iuSd2nHI-eM-bK2ewE&resnum=0&q=self-forming%20streams&um=1&ie=UTF-8&sa=N&tab=wl>

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.
- Design of restoration plans for the Elizabeth Park canal shoreline, bike path and riparian corridor restoration.

Detroit River International Wildlife Refuge:

- Design and development of boat dock and adjoining pier
- Design and development of shoreline restoration

Active water-based recreation use within Wayne County Parks:

- 209 canoe rentals at Crosswinds Marsh
- 107 participants in Crosswinds Fishing Derby
- 200 participants in Waterford Bend Fishing Derby

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, 2008 – December 31, 2008** 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. Wayne County staff actively participated on the Technical Committee that RRAC formed to develop the report: *Delisting Targets for Fish and Wildlife Habitat and Population Beneficial Use Impairments for the Rouge River Area of Concern* 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.

Similar to the Assembly of Rouge Communities, 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. 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 this new entity to guide Rouge River watershed restoration efforts into the future. For example, the 2003 - 2008 water quality monitoring programs for the ARC were completed by WCDOE and Rouge Program Office staff and included both dry and wet weather sampling at different locations in the watershed. Wayne County has actively participated in the work of the Technical Committee and PIE committee to develop the templates of local Storm Water Pollution Prevention Initiatives. Wayne County participated in virtually every activity described in the *ARC Executive Director 2008 Annual Report* is included in the attachments for this report (Section 5). Additional information about the activities of the ARC can be found on the website 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 and provides many of the services being provided to the ADW. Wayne County activities ADW activities are summarized in the report, *Alliance of Downriver Watersheds - 2008 Summary of Activities/Accomplishments* provided in the Attachments (Section 5) to this report. Additional information about the activities of the ADW can be found on the website <http://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, who received grant funding from the US Army Corps of Engineers to assist with the effort. The watershed management plan was developed to meet Clean Michigan Initiative and 319 requirements and submitted to MDEQ on November 1, 2006. During the reporting period, WQMD staff worked with Macomb County, the consultant and the other

watershed partners to modify the watershed management plan for this area based on feedback from the MDEQ. Wayne County wrote exceptions to the plan concerning objectives and actions that were not an issue for the county's portion of the watershed. The plan was approved on June 27, 2008 for both CMI and 319 after the requested changes were made.

Page left blank intentionally

SECTION 6 LIST OF ATTACHMENTS

Wayne County Annual Report: January 1, 2008 – December 31, 2008

SECTION 1: DETERMINATION OF EFFECTIVENESS

- *Measuring Our Success: Main 3-4 Subwatershed* poster.
- The *2007 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>

SECTION 2: ILLICIT DISCHARGE ELIMINATION PLAN

- Table 2.1: Facilities with Confirmed Corrections (2008)
- Table 2.2: Facilities with Outstanding Illicit Discharges (2008)
- *Illicit Connection Monitoring for the Southern Wayne County Watersheds* report to the ADW
- *Illicit Connection for the Lake St. Clair (Alias: Illicit Connection Elimination Project for Southern Wayne County Watersheds* Clean Michigan Initiative Grant Project #2002-0226
- Table 2.3: No. 6 Drain 2008 Drain Inspection Outfalls Table
- Map: Outfalls to No. 6 Drain, N011, Sumpter Twp
- Potential Illicit Discharge in a Wayne County Drain in the City of Inkster

SECTION 3: PUBLIC EDUCATION PLAN

- 2008 Brochure Updates including *C.L.E.A.N. Program, How to Be A River Friendly Gardener, Building a Healthy Lawn, Fertilizer Selection and Application, Soil Erosion, Sediment Pollution, and Your New Home* and the *Resource Recovery Guide*.
- 2008 New Handouts including *Earth-Friendly Shopping Guide, Disposal Tips for Home Medical Waste and Pharmaceuticals*.
- 2008 Annual Report materials prepared for ARC and Alliance of Downriver Watersheds (see references in Section 5 below)
- Southeast Michigan Partners for Clean Water, *Community Annual Report Information*, October 2007-September 2008

SECTION 4: ADDITIONAL STORM WATER MANAGEMENT ACTIVITIES

- Wayne County Storm Water Management Program materials previously submitted

SECTION 5: WAYNE COUNTY WATERSHED PLANNING

- 2008 Interim Annual Report materials distributed to ARC Communities
- *Alliance of Downriver Watersheds - 2008 Summary of Activities/Accomplishments*.
- *Alliance of Rouge Communities Executive Director 2008 Annual Report*

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.