

Kurt L. Heise
Director



Robert A. Ficano
County Executive

May 26, 2006

Ms. Hae-Jin Yoon, District Supervisor
Water Division
Michigan Department of Environmental Quality
27700 Donald Court
Warren, Michigan 48092-2793

**RE: Revision to Annual Report: January 1 – December 31, 2005
Wayne County Certificate of Coverage (COC) MIG610040
General Storm Water Discharge Permit MIG619000**

Dear Ms. Yoon:

Wayne County has recently discovered an error in our Annual Report for the year 2005 transmitted to you on April 17, 2005. Wayne County submitted this report as required by our Certificate of Coverage (COC) MIG610040 under the General Storm Water Discharge Permit (MIG619000).

Please note that the information presented to summarize the results of Wayne County's Illicit Discharge Elimination Program efforts since 1987 (second paragraph on page 14) is incorrect. For your convenience, I have enclosed a corrected copy of page 14, along with a corrected copy of the entire report. Please replace your current copy with this one.

I apologize for any inconvenience our error may have caused. Please to contact me at (313) 224-8282 if you need additional information or have questions about Wayne County's annual report for 2005.

Sincerely,

Kelly A. Cave, P.E.
Director, Watershed Management Division
Wayne County Storm Water Manager

Cc: Betsy Nightingale, MDEQ-WD

Kurt L. Heise
Director



Robert A. Ficano
County Executive

April 17, 2006

Ms. Hae-Jin Yoon, District Supervisor
Water Division
Michigan Department of Environmental Quality
27700 Donald Court
Warren, Michigan 48092-2793

**RE: Annual Report: January 1 – December 31, 2005
Wayne County Certificate of Coverage (COC) MIG610040
General Storm Water Discharge Permit MIG619000**

Dear Ms. Yoon:

Wayne County is pleased to transmit its seventh Annual Report, as required by Wayne County's Certificate of Coverage (COC) MIG610040 under the General Storm Water Discharge Permit (MIG619000).

This annual report covers storm water management activities conducted by the County for the period January 1 through December 31, 2005. A summary of the County's activities is presented within each of five separate sections as follows: *Determination Of Effectiveness*, *Illicit Discharge Elimination Plan* (IDEP) activities, *Public Education Plan* (PEP) activities, *Storm Water Pollution Prevention Initiative* (SWPPI) activities, and *Watershed Planning* activities. Please note that Wayne County did not include any additional nested jurisdictions under our permit during this reporting period.

Thank you for your review of Wayne County's annual report prepared under the Michigan General Storm Water Permit. Please feel free to contact me at (313) 224-8282 if you need additional information or have questions.

Sincerely,

Kelly A. Cave, P.E.
Director, Watershed Management Division
Wayne County Storm Water Manager

Cc: Betsy Nightingale, MDEQ-WD



Wayne County, Michigan

Seventh Annual Report

For Reporting Period January 1, 2005 – December 31, 2005

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

Submitted to:

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

**April 2006
Revised: May 2006**

WAYNE COUNTY
Certificate of Coverage MIG610040
General Storm Water Discharge Permit (MIG619000)
Annual Report: January 1, 2005 – December 31, 2005

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 that 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. A five-year plan for monitoring in the Rouge River watershed was developed and being implemented by the Alliance of Rouge Communities. This plan is currently being updated and will be submitted in 2006 as part of the revisions to the County's Storm Water Pollution Prevention Initiative. In previous years, the Rouge Wet Weather Demonstration Project (Rouge Project) issued a "DataView" CD each year which contained all data collected for the Rouge watershed. In August of 2005, the Rouge Project Watershed Monitoring Database was transferred to the Rouge Project website and is available at www.rougeriver.com/database. There are several publications which present trend analysis for the monitoring data, including the Rouge River Ecosystem Monitoring and Assessment Report (RREMAR), published annually by the Rouge Project. During 2005, the RREMAR was published in January and included data collected through 2003. A summary of the water quality trends in each of the seven Rouge subwatersheds 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, Amphibians. In particular, trend analysis indicates Stream Flow to be improving in 5 of the 7 Storm Water Management Watershed Areas. DO trend analysis shows improvement in 6 of the 7 watershed areas and *E.coli* trend analysis indicates an improving trend in 4 of the 6 watershed management areas. None of the watershed areas show a definitive declining water quality trend for any of the monitored parameters.

In 2005, the Assembly of Rouge Communities published two *Measuring our Success* posters for the Upper Rouge and Main 1-2 Rouge subwatersheds. These posters present 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 Upper Rouge subwatershed (partially within Wayne County) is attached to this report.

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

- 10 of the 18 Report Card indicators are "making progress"
- 4 of the 6 pollution control and water quality indicators (indicators 1-6) are "making progress"; none of these 6 are "losing ground".
- While 5 of the 6 habitat and wildlife indicators (indicators 7-12) are reported as "losing ground"; 6 of the 6 understanding/stewardship, and leadership related indicators (indicators 13-18) are all reported as "making progress".

Downriver Watersheds. During 2005, Wayne County continued its partnership with the Downriver Citizens for a Clean Environment "Stream Team" and expanded the number of

macroinvertebrate monitoring locations to 12 in the downriver watersheds of Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. Work is underway with the Huron River Watershed Council, USGS, the local communities and other watershed partners to expand the monitoring locations and monitored parameters to establish the necessary ecosystem monitoring program for measuring watershed management progress in these watersheds.

Lake St. Clair (Direct Drainage) Watershed. As described in Section 5, the Watershed Advisory Group is currently developing the management plan for this watershed, including a plan to assess progress. Wayne County has also been an active participant in the Lake St. Clair Regional Monitoring Project. Information about this project can be found at

http://quickplace.altarum.org/QuickPlace/lakestclair/Main.nsf/h_B2AC2F66BAA97EB5852570F600463C29/cd5d5942b17fa902852570f60046415e/?OpenDocument

Table 1: Analysis of Rouge River Conditions
Developed from 2003 Rouge River Ecosystem Monitoring and Assessment Report, Rouge Project, January 2005

Parameter	Main ½	Main ¾	Upper	Middle 1	Middle 3	Lower 1	Lower 2
Stream Flow	↑	↑	↑	NA ¹	↑	NA ¹	↑
Temperature²	↑	↑	↑	↑	↑	↑	↑
Dissolved Oxygen	↑	↑	↑	NA ¹	↑	NA ¹	↑
Total Phosphorus	↔	↔	↔	↔	↔	↔	↔
E.coli	↑	↔	↑	↔	↑	↔	↑
Fish Community	↔	↔	↔	↔	↔	↔	↔
Habitat³	↑	↔	↑	↑	↔	↑	↑
Macroinvertebrates⁴	↑ 7/7	↑ 1/1	↑ 7/7	↑ 11/13	↔ 1/2	↑ 5/5	↑ 1/1
Frogs & Toads⁵	↑ 8/8	↔	↔ 6/8	↑ 8/8	↔ 4/8	↑ 8/8	↔ 7/8

- 1) Lack of data to perform trend analysis. For Middle 1, dissolved oxygen (DO) data for one year was nearly all above the state standard of 5 mg/l. For Lower 1, DO data collected for three years has been above the state standard of 5 mg/l 100% of the time.
- 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 in 2003.
- 3) Trend arrow was established by comparing 1995 MDNR & 1996 RPO studies ratings with 2000 MDEQ study ratings.
- 4) Arrow was established based on the 2000 MDEQ biological assessment survey. Up arrows were given if a majority of the sites being rated received an "Acceptable" or better.
- 5) Up arrow indicates 8 of the 8 species were heard in the watershed during Friends of the Rouge Frog & Toad Survey.

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, 2005 – December 31, 2005**, 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. A summary of the results of Wayne County's IDEP is presented in Table 2.

Pollution Complaint Reporting System (IDEP #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, to log and coordinate responses to environmental concerns and information requests of all types. During the reporting period, approximately 1,700 calls were handled through the WCDOE Environmental Hotline. Nine hundred sixty seven (967) of these calls were referred to outside agencies. WCDOE responded to over 733 complaints or inquiries involving air, land or water pollution concerns. Approximately 230 of these inquiries were addressed by staff over the telephone, without need for a field investigation. The balance of calls, approximately 500, were transferred to WCDOE field operation staff in either the Land Resource Management Division (LRMD), the Facilities Management Division (FMD) or the Watershed Management Division (WMD). 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 described below.

The Facilities Management Division (FMD) handled a total of 249 complaints during the reporting period, categorized as follows: 165 were related to flooding, blockages or debris in a County Drain; one was a pollution discharge complaint involving illegal dumping of oil (see "Response to Emergency Spills" below); and the balance of complaints (82) were determined to be outside the jurisdiction of the FMD-Drain Office. For the complaints outside the jurisdiction of the FMD-Drain Office, potential responsible parties were notified (if sufficient information available) for action/follow up investigation.

The Watershed Management Division (WMD) of WCDOE handled a total of 84 complaints during the reporting period. Of these, 52 were various water related issues; 12 of the complaints were property drainage and West Nile Virus concerns; 7 were sewage related issues; 12 were related to odor and other misc. concerns or were requesting information; and one was an illegal dumping incident. Of the 84 complaints, 44 were referred to other agencies or County Departments and 40 were investigated by WMD. Of the 40 investigated by WMD, 7 of the complaints were confirmed as illicit discharges and resolved, 1 was flooding and debris in Bell

Creek, 1 concerned proper disposal of contaminated gasoline, 2 were West Nile Virus issue, 27 were closed due to an inability to field substantiate the complaint as an illicit discharge, and 2 are still under investigation.

**Table 2: Illicit Discharges Found Within Wayne County
January 1 through December 31, 2005**

<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	1,700	
Water Quality Complaints into DOE-Watershed Division	84	
Drainage Complaints directly into DOE-Drain Office	249	
Complaints into directly into DOE-Land Resources Division	234	
OSDS Complaints into Environmental. Health Division	39	
Illicit Discharges Identified during Complaint Investigation		
Sanitary Sewer Overflows		8
Grease/Oil/Fuel		4
Other Industrial Fluids		7
Manure		2
Paint		1
Laundry Waste		1
Brine		1
Failing Onsite Sewage Disposal Systems		26
<i>Subtotal, Complaint Investigation</i>		50
Emergency Spill Response	4	
Sludge spill cleanup on County Road		2
Oil spill into waterways		1
Fuel spill into waterways		1
<i>Subtotal, Emergency Spill Response</i>	4	4
Identified during Routine Field Operations		
Sanitary sewer from house		1
Sanitary sewer overflow		1
Other Industrial Fluids		3
Cooking Grease		1
Improper Pond Dredging Operation		1
<i>Subtotal, Field Operations</i>		7

**Table 2 (Continued): Illicit Discharges Found Within Wayne County
January 1 through December 31, 2005**

<i>Method of Identification and Type of Illicit Connection</i>	<i>Number Handled or Investigated</i>	<i>Number of Illicit Discharges</i>
Facility (Dye Test) Inspections	620 facilities inspected ¹	20 facilities w/ violations
Floor Drains		70
Sinks		51
Toilets		61
Drinking Fountains		6
Sump Pumps		3
Showers		2
Washing Machines		2
Urinals		17
Others (not specified)		0
Outdoor Vehicle Washing Pad		5
Wash Area Bypass		2
Material Storage		1
Inappropriate Dumping of Mop Bucket		2
Oil in Catch Basin		1
Non-Contact Cooling Water		1
Outdoor Power Washing		1
<i>Subtotal, Facility (Dye Test) Inspections</i>		225
Public Swimming Pools (new or modified permits)	7	0
Illegal Dumping Prevention/Cleanup		
Cleanup of illegal dump sites (C.L.E.A.N. program)	935 cu yds + 720 tires	
Cleanup of material dumped on County property	Daily removal from Roads, Parks, Drains	
Household Hazardous Waste Collection Days	518,336 lbs	
TOTAL ILLICIT DISCHARGES IDENTIFIED		286

¹Includes 3 County facilities

The Land Resource Management Division (LRMD) received and responded to 234 complaints during 2005. The complaints were broken down as follows: 1 dust, 9 illegal dumping, 1 noise, 222 odor-landfill, and 1 odor-other.

As further described in the IDEP #9 section, the Wayne County Department of Health, Environmental Health Division (EHD) responded to 39 complaints related to onsite sewage disposal systems (OSDS). Twenty-six of these complaints were identified as failing OSDSs.

Response to Emergency Spills and Other Emergency Water Quality Issues: 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 two major spills or other “emergency” water quality issues that required investigation assistance from Wayne County. Of the two emergency spills, one was an oil change facility discharging oil into the storm sewer tributary to the south branch of the Straight Drain (Middle 3 Rouge River Watershed) in the City of Westland; the other was diesel fuel spill, which discharged into Bell Creek (Lower Rouge Watershed) via a storm sewer in Van Buren Township. Both of these emergency spill issues were cleaned up and resolved. In response to MDEQ comments on our 2004 Annual Report (January 24, 2006 letter), WMD staff considered these spills as significant discharges (discharges that show evidence of impairing water quality in the receiving water) because of the intensity and extent of these spills and subsequent investigation and corrective action taken.

The Roads Division also responds to spills on County roads. During 2005, Roads contracted to clean up a sludge spill on Telegraph Road and Huron River Drive, and County staff cleaned up a second sludge spill at Toledo Road and Carter Road.

Coordinated Complaint Response: A variety of products have been developed and activities have been carried out to promote and advertise the WCDOE Environmental Hotline number. These include: dissemination of two WCDOE brochures (*24-Hour Hotline* and *WCDOE Overview*) and a video describing the services of WCDOE, e-mail broadcasts to County employees, on the Wayne County website (www.waynecounty.com) and WCDOE website (www.wcdoe.org), inclusion of the number in various educational displays and workshops. In 2005, each of the Wayne County communities with a Storm Water Permit was given a supply of 24-Hour Hotline brochures (approximately 500 each) and encouraged to promote the Hotline for reporting of illicit discharges. The Detroit News published the WCDOE Hotline number on March 24, 2005.

Illicit Discharge Elimination Training Workshops (IDEP #2):

In 1999, the WCDOE Watershed Management Division (WMD) 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 1,300 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 18 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 regionally offered the *Combined Basic/Advanced IDEP Training Workshop* two times, May 23 and 24, 2005, in Canton Township. A total of 97

people completed training offered during these workshops. The training workshops were promoted by distributing flyers through southeast Michigan watershed management planning committees, County Drain Commissioners, MDEQ NPDES Permit Office, and internal county distribution mechanisms.

Statewide IDEP Training: As described in the annual report for 2004, under a 105(b) grant to MDEQ, WMD developed a Wayne County designed and produced the short video “Working for Clean Water---It Begins with You” for use by local communities throughout Michigan to educate field staff about the importance of clean water and how to recognize signs of illegal/inappropriate discharges. The video also introduces what a person can do to prevent water pollution in their personal and business life.

In 2005, Wayne County distributed the video and video guidelines to all persons that attended Wayne County’s *Combined Basic/Advanced (8 hour) IDEP training program*. Video guidelines provide information on the reason for the video, the target audience, a script for introducing the video prior to viewing it, a script with post-viewing talking points, and a discussion on the need to clarify the reporting procedure specific to the agency/community. The video was also distributed to regional community stormwater coordinators by Southeast Michigan Council of Governments (SEMCOG), who estimates that over 1,300 people have viewed the video. Approximately six videos were provided to other communities throughout the country by Wayne County. Wayne County distributed three hundred and three (303) videos and guidelines during 2005.

Summary: During the reporting period, Wayne County provided the *Combined Basic/Advanced (8 hour) IDEP Training workshop* to 97 persons. Table 3 summarizes workshop attendees by community or agency in 2005. Since inception of its training program, Wayne County WMD has directly provided IDEP training to approximately 1,300 people and indirectly via the video to another 1,300 people for a total training outreach of approximately 2,600 people.

Illegal Dumping Control (IDEP #3):

In 2004, Wayne County established the *County Lending Environmental Assistance to Neighborhoods (C.L.E.A.N.)* program to address the problem of illegal dumping in the County. Twice per year, the program solicits proposals from municipalities and community groups for sites needing cleanup in their communities. A seven-person committee comprised of representatives of the Conference of Western Wayne, Downriver Community Conference, the City of Detroit and Wayne County staff evaluate these proposals and select deserving projects for cleanup. Selected projects must include measures such as physical deterrents (e.g., installation of no dumping signs) and community involvement (e.g., increased police presence) to keep the problem from reoccurring at these sites and in other parts of their communities. Wayne County physically removes the waste material and the municipality or community group implements preventative measures.

In 2005, the C.L.E.A.N. program removed 720 tires and over 935 cubic yards of trash at eight sites that were impacted by illegal dumping. Program staff worked with community groups to implement preventative measures at sites cleaned up by the program. The preventative measures implemented by the communities at the clean-up sites included the installation cameras, fencing,

Table 3
Wayne County IDEP Training Workshops
Attendance Summary for 2005

Community/Agency	Number
Wayne County communities	20
Wayne County staff	3
Oakland County staff	17
Oakland County communities	15
Macomb County staff	4
Macomb County communities	8
Monroe County communities	1
Washtenaw County communities	5
St. Clair County communities	2
Livingston County staff	6
Livingston County communities	3
Consultants representing communities	7
School Districts	3
MDEQ	2
MDOT	1
TOTAL IN 2005	97

barriers and improved lighting, and increased police patrols. All had a positive effect in stopping further dumping and subsequent illicit discharges. The C.L.E.A.N. program is administered by the WCDOE Land Resources Management Division.

The Wayne County Department of Public Services-Roads Division daily removes illegally dumped items (e.g., trash, tires, auto parts, garbage, roofing material, appliances, etc.) from County Roads located in townships. Roads in the Downriver area with high volumes of dumped materials during the reporting period include Beech Daly Road between Pennsylvania Road and Sibley Road, Streicker Road between Huron River Drive and Jefferson, and Peters Road south of Van Horn Road. Roads in western Wayne County with high volumes of dumped materials are Ash Road between Bell Road and Waltz Road, Prescott Road between Wahrman Road and Vining Road, Van Born Road between Beck Road and Belleville Road, Morton Taylor Road between Van Born Road and Ecorse Road, Ridge Road south of Cherry Hill Road and Old Rawsonville Road south of Michigan Avenue.

The Wayne County Department of Public Services-Parks Division also cleans up illegally dumped items within County parks. Crosswinds Marsh had several incidents of household trash being dumped along the ditches surrounding the park; this material was cleaned up and properly disposed of by Parks maintenance. In the Holliday Nature Preserve, there has been an ongoing problem with broken glass and garbage being dumped near the Joy Road bridge entrance. In 2005, Park maintenance removed the old bridge at this entrance to discourage illegal dumping activity in this area and to prevent the existing litter and debris from being discharged to waterways.

In 2005, the Land Resources Management Division of WCDOE initiated a new program to hold three Household Hazardous Waste (HHW) collection days per year for County residents. The collections are designed to accept unwanted household chemicals for proper disposal and electronics for recycling from residents. Additionally, mercury thermometers are collected and replaced with safer digital thermometers. A summary of Wayne County's HHW collection events is shown in Tables 4 and 5 below. Efforts used to advertise the events included: flyers distributed to each of the 43 Wayne County communities; newsletter notices sent to each of the 43 Wayne County communities; notice placed on the County and Division web pages; news releases sent to the major newspapers (notices were printed); notices printed in several local newspapers; and placement of notices by several local communities on their local cable channels.

Table 4
Summary of Wayne County's
2005 Household Hazardous Waste Collection Days

Date	Location	Cars through the HHW Drop Off Line	Mercury Thermometers Exchanges
April 16, 2005	Romulus Civic Center	1,000	200
August 6, 2005	Redford Township	1,300	200
November 5, 2005	Southgate	1,200	170

Table 5
Summary of Material Collected During
Wayne County's 2005 Household Hazardous Waste Collection Days

Waste Classification	Amount	Pounds
Bulk Motor Oil	2,750 Gallons	22,000
Flammable Liquids	10,650 Gallons	70,290
Aerosols	14.5 Cu. Yds.	6,960
Pesticide Liquid	540 Gallons	3,564
Pesticide Solid	37 Drums	7,400
Corrosive Liquid	440 Gallons	2,904
Batteries (Lead Acid)	11 Pallets	24,500
Propane	10 Pallets	9,060
Fluorescent Tubes	12 Boxes	480
Oxidizers	5 Drums	680
Bio-Medical Sharps	5 Boxes	200
Mercury	10 Pails	118
Fire Extinguishers	3 Drums	480
Electronic Waste	73 Pallets	36,500
Latex Paint & Non Reg.	41,250 Gallons	330,000
TOTAL		518,336

Total Cars = 3478; average pounds dropped off per car = 149

Swimming Pool Inspections (IDEP #4):

The Wayne County 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 season. For the 2005 swimming season, EHD inspected 572 swimming pools, an increase of 2 pools over the number inspected last year.

EHD issues permits for proposed new public swimming pools or for existing pools proposing extensive modifications. EHD implemented the process of reviewing plans and specifications for these facilities specifically to prevent illicit connections. For this reporting period, seven newly constructed pools were inspected and the backwash water system for each was confirmed to be connected properly to the sanitary sewer system.

Prevention of illicit discharges at public swimming pools is also part of WCDOE WMD's facility inspection activities. During the current reporting period, however, there were no public pool facilities tested under the WMD program.

LOCATE SOURCES OF ILLICIT DISCHARGES TO WAYNE COUNTY STORM DRAINAGE SYSTEMS

County-Owned Building Inspections (IDEP #5)

During 2005, the Watershed Management Division (WMD) continued to inspect County-owned buildings for illicit discharges. During the reporting period, facilities operated by the Department of Public Works Roads Division in Brownstown Township, Huron Township and Van Buren Township were inspected. Inspection of the Brownstown Township facility determined that all fixtures were properly connected to the sanitary sewer system. Inspections at the Huron Township and Brownstown Township facilities determined that all fixtures were properly connected to an on-site sewage disposal system. WMD maintains a spreadsheet that includes the status of all County-owned building inspections to date. WMD has now completed inspection of all County-owned buildings that are located in areas served by separate sewer systems. Our focus in 2006 will be to verify corrections at all remaining illicit connections discovered in previous inspections.

Visual Observation (IDEP #6):

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; such training has been provided to personnel from the Divisions of Roads, Parks, FMD, LRMD, and WMD. Table 6 presents a summary of the suspicious discharges identified during routine field operations, and the outcome of subsequent investigations.

Table 7 below presents a summary of the types of illicit discharges found during subsequent investigations. Most of the suspicious discharges identified by County field personnel are referred to the WCDOE-Watershed Management Division for investigation and followup. Examples of identified and corrected discharges include an illicit connection from a house to a County road (7 Mile in Livonia) sewer identified and eliminated by the Roads Division during a reconstruction project. Roads Division staff also noticed green water in a ditch at a home on

**Table 6: Suspicious Discharges Identified through Routine Field Operations
January 1 through December 31, 2005**

Department	Suspicious Discharges Identified	Verified Illicit Discharges	Source/Cause Identified	Corrections Confirmed
WMD	11*	6	6	3
Roads	2	1	1	1

*Of this number, 10 were referrals from other Wayne County field operations: WCDOE Director (4), FMD-Industrial Pollution Pre-treatment (IPP) (3), EHD (2) and Parks (1).

Denton Road between Mott Road and Geddes Road. The homeowner denied that a pipe coming from the home was from the septic system; the Roads Division continues to monitor the site. Additionally, the Wayne County Weigh Master requires the clean up of mud tracked onto County Roads from construction projects; contractors normally respond quickly to resolve such situations. Another example of illicit discharges during field operations is given by the WMD staff, who noticed high turbidity in the Middle Rouge River in Northville Rec Area, Hines Park during a period of no rain in five days. Staff followed the highly turbid Rouge River up to the County border, then notified the Oakland County Drain Commissioner's Office (OCDC) of the problem. Their staff reported finding a pond dredging operation in a subdivision near Nine Mile and Northville Road that was releasing the wet sediment laden spoil directly to the Rouge River. OCDC corrected the problem by addressing the dredging operation.

The WCDOE FMD Drain Office contributes to the prevention of storm water pollution to waterways by inspecting and/or maintaining County Drains. During the reporting period, approximately 135 miles of 54 County Drains were inspected for maintenance needs and suspicious discharges. Additionally, 115 County Drains were maintained resulting in the removal and proper disposal of approximately 400 cubic yards of debris.

**Table 7: Types of Illicit Discharges Found Within Wayne County
Identified during Routine Field Operations
January 1 through December 31, 2005**

<i>Type of Illicit Discharge</i>	
Sanitary sewer from house	1
Sanitary sewer overflow	1
Other industrial fluids	3
Cooking grease spill	1
Improper Pond Dredging Operation	1
TOTAL	7

Additional Investigation by County Staff (IDEP #7):

Illicit Discharge Investigations, Facility (Dye-Test) Inspections: During this reporting period, the inspections of facilities for improper connections of plumbing fixtures to the storm sewer system/waterways took place in three watersheds: the Rouge River watershed, Ecorse Creek watershed and the City of Ecorse portion of the Detroit River watershed. Plumbing fixtures at 617 facilities were dye-tested, which resulted in the identification of 212 illicit connections and

13 illicit discharges at 18 facilities. During the reporting period, corrective actions of identified illicit connections were verified at 20 facilities. Table 8 provides a summary of the types of illicit connections and illicit discharges found by Wayne County during facility inspections for this reporting period. Table 9 presents an estimate of the pollutant loading reductions to Wayne County waterways that will be achieved per year when all of the illicit discharges identified in 2005 are eliminated. *In summary, over 14,800 pounds of pollutants contained within over 4,369,000 gallons discharge per year will be eliminated from Wayne County waterways upon correction of the illicit discharges identified by WMD 2005 dye-test inspections.*

Since the inception of its Illicit Discharge Elimination Program in 1987, Wayne County staff have inspected 7,173 facilities and identified 1,922 illicit connections 522 facilities. Confirmation of corrective action has occurred at 480 of these facilities. Confirmation of corrective action is pending at 45 facilities.

The following subsections present a summary of the illicit discharge facility inspections conducted by watershed.

**Table 8: Types of Illicit Discharges Found Within Wayne County
During Facility (Dye-Test) Inspections
January 1 through December 31, 2005**

<i>Type of Illicit Connection</i>	<i>County-Wide</i>	<i>Percent of Total Identified</i>
Floor Drains	70	33.0%
Sinks	51	24.1%
Toilets	61	28.9%
Drinking Fountains	6	2.8%
Sump Pumps	3	1.4%
Showers	2	0.9%
Washing Machines	2	0.9%
Urinals	17	8.0%
Others (not specified)	0	0.0%
TOTAL	212	100.0%
<i>Type of Illicit Discharge</i>	<i>County Wide</i>	<i>Percent of Total Identified</i>
Outdoor Vehicle Washing Pad	5	38.5%
Wash Area Bypass	2	15.4%
Material Storage	1	7.7%
Inappropriate Dumping of Mop Bucket	2	15.4%
Oil in Catch Basin	1	7.7%
Non-Contact Cooling Water	1	7.7%
Outdoor Power Washing	1	7.7%
TOTAL	13	100.0%

Table 9: Summary of Illicit Connections and Estimated Pollutant Load Reduction to Wayne County Watersheds: January 1, 2005 through December 31, 2005

Parameter	Estimated amount of polluting material prevented from entering Wayne County Waterways annually in pounds*
Ammonia	303
Total Suspended Solids	2,035
Total Organic Carbon	500
Surfactants	1,358
Potassium	1,183
Biological Oxygen Demand	1,789
Total Solids	7,260
Phosphorus	406
Total (Pounds)	14,834
Flow (gallons/year)	4,369,265

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

Rouge Watershed Facility Inspections (Dye-Testing): The WMD continued County and Rouge Project funded IDEP activities as well as initiated activities under a Clean Michigan Initiative Clean Water Fund grant (#2002-0240) in the Lower Rouge Storm Water Management Areas (SWMA). The grant was given to support efforts to expand recreational opportunities in the Lower Rouge River. Facility dye testing is the primary focus of this grant.

In 2005, 540 facilities were dye-tested in the Rouge River Watershed, resulting in identification of 43 illicit connections and 12 illicit discharges at 11 different facilities. Dye-test inspections were performed in the communities of Westland, Northville, Northville Township, Redford Township, Canton Township, Wayne and Livonia; within the Storm Water Management Areas (SWMA) of the Lower 2, Middle 1, Middle 3, and Upper. Table 10 presents the types of illicit connections and illicit discharges found in the Rouge Watershed in 2005. During the reporting period, corrective actions of identified illicit connections were verified at seven facilities. There are 26 facilities pending corrective action. Table 11 presents an estimate of pollutant loading reductions to the Rouge River that will be achieved when all of the illicit discharges identified in 2005 are eliminated.

**Table 10: Types of Illicit Discharges - Rouge River Watershed
January 1 through December 31, 2005**

<i>Type of Illicit Connections</i>	<i>Rouge River</i>
Floor Drains	16
Drinking Fountains	1
Sinks	14
Washing Machines	2
Sump Pump	2
Toilets	8
Other (Not Specified)	0
Total	43
<i>Type of Illicit Discharges</i>	<i>Rouge River</i>
Outdoor Vehicle Washing Pad	5
Wash Area bypass	2
Material Storage	1
Inappropriate Dumping of Mop Bucket	2
Oil in Catch Basin	1
Non-Contact Cooling Water	1
TOTAL	12

**Table 11: Rouge River Illicit Connections and Estimated Pollutant Load Reduction
January 1 through December 31, 2005**

Parameter	Estimated amount of polluting material prevented from entering the Rouge River annually in pounds*
Ammonia	255
Total Suspended Solids	1,051
Surfactants	1,347
Potassium	1,155
Biological Oxygen Demand	805
Total Solids	3,887
Total Organic Carbon	311
Total Phosphorus	314
Total (Pounds)	9,125
Flow (gallons/year)	3,877,015

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

Ecorse Creek Watershed Facility Inspections (Dye-Testing): During the reporting period, WMD completed dye-testing inspections of facilities within the Ecorse Creek watershed. This effort was conducted in collaboration with nine communities within the watershed. In 2005, 70 facilities were dye tested in the Ecorse Creek Watershed. This resulted in the identification of 11 illicit connections and one illicit discharge at four facilities. Dye testing inspections were performed in the communities of Lincoln Park and Taylor. Table 12 is a summary of the types of

illicit connections and illicit discharges found in this reporting period. During the reporting period, corrective actions of identified illicit connections were confirmed at nine facilities. Confirmation of corrective action is pending at eight facilities. Table 13 presents an estimate of pollutant loading reductions to Ecorse Creek that will be achieved when all of the illicit discharges identified in 2005 are eliminated.

Services under the Ecorse Creek watershed IDEP were tailored to each community, and may also include (in addition to dye-testing) outfall identification, advanced investigations, water sampling, and education regarding pollution prevention. Communities participating in the program include Dearborn Heights, Ecorse, Inkster, Lincoln Park, Taylor, Romulus, Southgate, Westland, and Wyandotte.

A final report on activities in this watershed under the Clean Michigan Initiative Clean Water Fund (#2001-0078) Grant *Illicit Connection Elimination In Ecorse Creek* was completed and submitted to the Michigan Department of Environmental Quality-Water Bureau-Surface Water Section-Nonpoint Source Unit. Maps of outfalls are in the final report for this project, which is attached to this report.

**Table 12: Types of Illicit Discharges - Ecorse Creek Watershed
January 1 through December 31, 2005**

<i>Type of Illicit Connections</i>	<i>Ecorse Creek</i>
Interior Floor Drains	3
Interior Catch Basins	8
TOTAL	11
<i>Type of Illicit Discharges</i>	<i>Ecorse Creek</i>
Power washing	1
TOTAL	1

**Table 13: Ecorse Creek Watershed - Illicit Connections and Pollutant Load Reduction
Estimates: January 1 through December 31, 2005**

Parameter	Estimated amount of polluting material prevented from entering Ecorse Creek annually in pounds*
Ammonia	0.02
Surfactants	4.5
Potassium	3.95
Total (Pounds)	8.47
Flow (gallons/year)	11,000

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

Additional Investigation on Behalf of Communities (IDEP #8):

Detroit River Watershed Facility Inspections (Dye-Testing): During the reporting period, the City of Ecorse contracted with WMD to perform illicit discharge elimination activities within the City of Ecorse in the Detroit River watershed. For the period January 1, 2005 through December 31, 2005, seven facilities were dye tested in the Detroit River Watershed, and completion of two facilities initiated in December of 2004, resulting in the identification of 158 illicit connections at three facilities. These three facilities are located in an area that has an inter-connection between city sanitary system and the storm sewer system. The City was sent a Notice of Noncompliance from the MDEQ in August 2002 requiring correction of the system. During routine facility dye testing in the Detroit River Watershed portion of the City, these systemic concerns about the storm sewer systems were discovered. In the vicinity of the intersections of Southfield and West Jefferson (northeast corner), Outer Drive and West Jefferson (southwest corner), and High and Cicotte Streets, it appears that the sanitary sewers are connected to the storm sewer system at multiple locations. These systems discharge into the Detroit River. Wayne County conferred with (City personnel and spent a period of time tracing the sewers in these areas.) Compliance is at the discretion of the MDEQ. A broken sanitary sewer line was discovered serving one facility while staff investigated a complaint. Table 14 presents a summary of the types of illicit connections and illicit discharges found in this reporting period. During the reporting period, corrective actions of identified illicit connections were confirmed at one facility. Confirmation of corrective action is pending at 11 facilities. Table 15 presents an estimate of pollutant loading reductions to Detroit River. The pollutant loading reductions are projected, assuming that the illicit connections are eliminated.

WMD performed an outfall survey of the Detroit River within the City of Ecorse political boundary. The results of this survey, and additional investigations conducted in Ecorse in the Detroit River watershed, will be communicated in a final report to the community when the work is completed.

**Table 14: Types of Illicit Discharges - Detroit River Watershed
January 1 through December 31, 2005**

<i>Type of Illicit Connections</i>	<i>Detroit River</i>
Floor Drains	30
Trench Drains	3
Catch Basins	10
Hand Sink(s)	27
Utility Sink/Janitor Sink(s)	6
Toilets	53
Urinals	17
Drinking Fountains	5
Kitchenette Sinks	4
Showers	2
Sump Pump	1
Total	158
<i>Type of Illicit Discharge</i>	<i>Detroit River</i>
Broken Sewer Line	1

**Table 15: Detroit River Illicit Connections and Pollutant Load Reduction Estimates
January 1 through December 31, 2005**

Parameter	Estimated amount of polluting material prevented from entering Detroit River annually in pounds*
Ammonia	48
Total Suspended Solids	984
Total Organic Carbon	189
Surfactants	6
Potassium	24
Biological Oxygen Demand	984
Total Solids	3,373
Total Phosphorus	92
Total (Pounds)	5,700
Flow (gallons/year)	481,250

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

MINIMIZE INFILTRATION OF SEEPAGE FROM SANITARY SEWERS AND SEPTIC SYSTEMS INTO WAYNE COUNTY'S SEPARATE STORM WATER DRAINAGE SYSTEM

Evaluation and Maintenance Program for Onsite Sewage Disposal Systems (IDEP #9)

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) and program during the reporting period. The program was expanded to cover the entire County in September 2003 as required by the Ordinance. As shown in Table 16, 177 "time of sale" evaluations of onsite sewage disposal systems were performed during the calendar year 2005. Thirty-seven of these systems were identified as failing. An additional 16 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 three additional failing systems. In 2005, a total of 101 failed systems were identified by EHD via complaints, repair permit evaluations as well as the "time of sale" and MDHS requested evaluations. Ninety-six failing systems were repaired in 2005. Since program inception in February 2000 through December 2005, 789 OSDS were inspected under the "time of sale" provision of the ordinance. Two hundred and sixty-three OSDS were identified as failing. Twenty-seven inspectors are certified to perform OSDS "time of sale" evaluations in Wayne County.

**Table 16: Summary of OSDS Evaluations Performed
January 1 through December 31, 2005**

Type of OSDS Inspection	Number of Inspections	Number of Failures	Percent (%) of Failures
Time of Sale	177	37	21%
MDHS Licensed ⁽¹⁾	16	3	19%
Totals	193	40	21%

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

The Wayne County EHD requires permits for the construction of new OSDS and for repair/replacement of existing OSDS. In 2005, a total of 158 new and repaired systems were installed in Wayne County. Eight hundred fifty seven inspections were made during and/or after construction. 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 8,000 permits have been put into the database. Septage haulers have a responsibility under Ordinance #99-527 to file septic tank evaluation reports for all pump outs in Wayne County. Approximately 25% of the pump-out reports indicate a problem with the OSDS system at time of pump out. The owner of the system is contact by EHD for repairs in these instances.

**Table 17: Summary of OSDS Permits Issued
January 1 through December 31, 2005**

Permit Type Issued	Number of Permits	Percent (%) of Permits
New Construction	78	49%
Repair or Replace	80	51%
Total	158	100%

**Table 18: Summary of OSDS-Related Complaints Investigated
January 1 through December 31, 2005**

Number of Complaints	39
Number of Complaints identified as failing OSDSs	26
Number of Complaints Resolved	28

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, 2005 – December 31, 2005** in compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000.

Information Dissemination (PEP #1):

Pollution Prevention Literature and Messages: Between January 1, 2005 and December 31, 2005, approximately 65,000 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 5,700 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 these 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...* flyers; the *Rouge River Activity Book*, 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 in Wayne County's illicit connection investigations and dye testing program conducted under *IDEP#9*. 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, 610 brochures were distributed.

LRMD distributed the *Wayne County Resource Recovery Guide* (RRG) and the brochures *Disposal Tips for Home Health Care* and *Compost "Black Gold"* during 2005. The *Disposal Tips* and *Compost* brochures were distributed at the Ecological Gardening Class, the Rouge Water Festival and at Livonia's Healtharama. Quantities distributed at each event were not documented but number into the hundreds.

Information Dissemination from County Buildings: *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, Health Department, Jobs & Economic Development, Mental Health Department, Parks Headquarters, Permit and Field Engineering Office, Regional Educational Services Agency, Roads-Central Maintenance Yard, and the Wayne County Building (600 Randolph).

Education: Waste Disposal Locations: 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 contained with the *Resource Recovery Guide* (RRG) available on the DOE website

for download/printing. In addition, the RRG was distributed as follows in 2005: copy provided to each person attending the three household hazardous waste collection days sponsored by Wayne County (total of 3,478 cars); 250 copies of the RRG were provided to Detroit for placement in each of their branch libraries; a copy of the RRG was sent to each Wayne County municipality clerk, DPW, and mayor/supervisor. RRGs were also sent/provided to residents upon request. The RRG includes the listing of recreational vehicle (RV) waste disposal facilities as well as a listing of where septage tank cleaners and haulers can safely dispose of septage.

WCDOE Environmental Information Line: WCDOE continues to promote the use of its *24-Hour Environmental Hotline* (888-223-2363) for water quality complaints extensively 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) and several departmental and division brochures. During the reporting period, materials to promote use of the *24-Hour Environmental Hotline* and the services of all WCDOE Divisions were revised/developed and implemented, including a revised *24-Hour Environmental Hotline* brochure and a revised *Mission and General Description* brochure outlining WCDOE services to the citizens of Wayne County.

Rouge River Data: A new 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. Additionally, the *2003 Rouge River Ecosystem Monitoring and Assessment Report* was published and made available via the Rouge Project website. A new product, the “*Measuring Our Success*” poster, was developed this year to summarize watershed management projects and instream water quality benefits for the public. *Measuring Our Success* posters for the Main 1-2 and Upper Subwatersheds were completed this year, and over 1000 copies of each were distributed to communities and the public.

Information Dissemination via Websites: During the reporting period, the *Rouge Project website* (www.rougeriver.com) experienced over 2.3 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 100 E-mails from the site. People have contacted us from all over the watershed, every point in the United States, England, Australia, and a variety of 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 website 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 County environmental ordinances.

Displays-Community/Agency Events: The WCDOE planned, coordinated, promoted and participated in numerous community events, meetings, seminars and workshops with environmental displays and educational information. They included:

- *Shiver on The River* – February 5, 2005
- 2005 Public Education Efforts For Rouge River Communities Open House-Westland February 2005
- *Johnson Creek Protection Day* – March 2005
- *8th Annual Rouge River Water Festival* – May 5, 2005
- *4rd Annual Wyandotte Wastewater Treatment Plant Open House* – May 16 - 20, 2005
- *Ecological Gardening Course* – September 22, 2005
- *Cranbrook Water Festival* – September 14 - 16 2005
- *Public Education Tools & Techniques Workshop* – September 28, 2005
- *Rouge 2005- Annual Event University Dearborn* – October 29, 2005 (volunteers included staff from DOE, EHD, and DPS-Engineering).

Additionally, the WCDOE-Land Resources Management Division provided a display for the 2005 Project Healthy Living, Health-O-Rama on April 25th and 26th in Livonia. Information was provided on the proper disposal of home health care waste, mercury, and household hazardous waste. The event location was well attended with approximately 500 participants as well as many other residents dropping by the display for information.

Children's Education: The 8th Annual *Rouge River Water Festival*, co-sponsored by Wayne County, was held on May 5, 2005. A total of 3,634 fifth grade students from 66 elementary schools in 12 Rouge River watershed communities and 3 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 58 presentations and 11 exhibits. Approximately 142 presenters and exhibitors donated their time and skills to the festival, including numerous Wayne County staff. More than 17 organizations contributed 118 volunteers to the effort. This was the fourth 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. The 2005 event had the best attendance in its 8-year history.

During May and again in November 2005, the LRMD sponsored education assemblies, arranged with Scheer Genius Productions. The assemblies were specifically designed to teach children in grades K-6 about environmental topics. The show, called the "Pollution Solution", is a fast-paced, 40-minute ecology lesson filled with high-energy excitement and audience involvement. Topics covered included: causes of air, land, and water pollution; resource conservation; endangered species; recycling; environmental facts and issues and what students can do to help. Approximately 8,000 students in 24 schools throughout Wayne County received the special show that was both educational and fun. Additional handout materials were provided to each school office.

A presentation on vermi-composting was made to 24 second-grade students on October 28th at OLGCE Elementary School in Plymouth. Additional handouts and information regarding DOE programs was provided to the teacher.

In 2005, Wayne County's *Dirt Doctors* appeared at three events including the UM/Wayne County *Rouge River Water Festival*. In total, approximately 250 students were involved/experienced the educational and hands on demonstration of soil erosion and sedimentation control. The *Dirt Doctors* also completed their commitment to Oakland County to provide training to Oakland County staff to become 'Dirt Doctors'. This effort trained Oakland County staff to perform the *Dirt Doctors Outdoor Science Presentation*. Oakland County staff plan to use this training to present at future Cranbrook Institute Waterfestivals and to Summer Camps and Day Care Facilities.

Displays-Static: 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 2005 in Dearborn).
Middle Rouge:	Four events/locations (Canton Township riparian corridor management workshop; Dearborn Heights City Hall; Westland Library, and Rouge 2005).
Upper Rouge:	Two events/locations (Bloomfield Hills for the Cranbrook Water Festival and Rouge 2005).
Main Rouge:	One events/location (Rouge 2005).

Wayne County's *Our Actions Affect the River Display* was also stationed at 2 different locations/events Rouge watershed (the Westland Library and the Rouge 2005 event in Dearborn) during the reporting period. The *Watershed Model* developed by WCDOE WMD was displayed at the Cranbrook Institute of Science as part of the Oakland County Water Festival.

The *Frog and Toad* display developed by WCDOE WMD was stationed at 8 different locations/events during the reporting period: Canton Township (River Day and the Fun Fair); Bloomfield Hills (Cranbrook Water Festival); Dearborn at the University of Michigan-Dearborn Environmental Interpretive Center (Rouge 2005, Rouge Water Festival and on general display), and Detroit (River Day, Detroit River Clean-up Day).

Wayne County stationed the *7 Simple Steps to Clean Water* display developed by the Southeast Michigan Partners for Clean Water at 11 locations/events during the reporting period, including: Inkster City Hall, Canton Township (RCM Workshop, School Fun Fair, River Day); Dearborn (Rouge Water Festival, Dearborn City Hall, and Rouge 2005); Detroit (River Day); Westland Library; Wyandotte City Hall, and Sumpter Township Hall.

In total, during 2005 WCDOE stationed a display to educate the public about storm water/watershed management topics at 31 different locations across the County for approximately 30 days per location. The *WCDOE 24-Hour Environmental Hotline* is made

available at all display locations. 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* and the *Our Actions Affect the River Display*. Various *7 Simple Steps to Clean Water Tip Cards* are made available with the *7 Steps* display.

Education: Home Lawn and Garden Maintenance: As part of WCDOE's *Rouge River Nutrient Reduction Education Campaign*, WMD coordinated WCDOE's involvement and support of the *2005 Earth-Friendly Fertilizer Sticker Program* and the *2005 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 have included program planning and development, development and distribution of promotional flyers, window signs and staff reporting forms, retailer recruitment and training support, newsprint advertisements, website promotions and information, and billboard and dasher board advertisements.

Three different newsprint advertisements were placed in six different publications for a total of 51 advertisements purchased during the reporting period. The advertisements were as follows:

- The *Earth-Friendly Fertilizer Sticker* advertisement was run 24 times: 3 times in the Observer & Eccentric newspapers, (October 20, 27, & November 3, 2005); 3 times in the Heritage newspapers (October 23, 30, and November 3, 2005); 6 times in the Sunday Times newspaper (September 25, October 2, 9, 16, 23, & 30, 2005); 6 times in the Press and Guide newspaper (September 28, October 5, 12, 19, 26, and November 2, 2005); and 7 times in the Michigan Gardener publication (May, June, July, August, September, October, November)
- The *Fertilize Sparingly & Caringly* advertisement was run 18 times: 4 times in the Observer & Eccentric newspapers (May 5, 12, 19, & 26, 2005); 4 times in the Heritage Newspapers (May 1, 8, 22, & 29, 2005); 5 times in the Sunday Times newspaper (May 1, 8, 15, 22, 29, 2005); 5 times in the Press and Guide newspaper (May 4, 11, 18, 25 and June 1, 2005)
- The *Mow High* advertisement was run 8 times in the Metro Times publication, (April 20th – August 3, 2005).

The “*Earth-Friendly Fertilizer*” sticker was used to continue the placement of 11 dasher board advertisements at 4 different venues each for the year. The dasher board locations were: 2 at Arctic Edge in Canton Township, 4 at High Velocity in Canton Township, 1 at Arctic Pond in Plymouth Township, and 4 at Soccer Zone in Novi.

The *Earth-Friendly Fertilizer Sticker* advertisement was placed on restaurant placemats through 2 different advertising companies. The first distributed 60,000 placemats to restaurants twice, once in the spring and once in the fall. Both the spring and fall placemat ads went to seven different restaurants in northwestern Wayne County and south Oakland County. The second company distributed a total of 180,000 placemats to four different restaurants in Wayne County, 3 in the summer and 1 in the fall.

A 30 second cable television advertisement showing how lawn care chemicals effect our waterways ran 754 times on Comcast Cable. The coverage area included the communities of Northville, Plymouth, Canton, Dearborn, Dearborn Heights, Livonia, Novi, Farmington, Farmington Hills, Redford, Garden City, Inkster, Taylor, Allen Park, Melvindale, River Rouge, Ecorse, Southgate, Brownstown, Grosse Ile, Flat Rock, Rockwood, South Rockwood, Woodhaven, Lincoln Park, Trenton Gibraltar, Riverview, Westland, Wayne, Belleville, Romulus, and Van Buren.

For the *Point of Sale Retailer Outreach Program*, WCDOE staff distributed approximately 2577 slow-release fertilizer stickers to the 24 participating retailers in Wayne County. The participating retailers carried 7 of the 11 approved fertilizers. Customers had positive feedback on the program, and requested additional information on earth-friendly fertilizers. Overall, comments from the retailers were positive and they were satisfied by the way the program is managed. The “*Don’t Guess...Soil Test*” campaign is a partnership between Michigan State University Extension and Wayne County Department of Environment and is made up of 7 participating retailers. During the three-week campaign, 49 completed soil test kits were collected and delivered to the MSU-E soils lab for analysis.

WCDOE staff distributed approximately 1,834 handouts/flyers to Wayne County communities. The flyers offered lawn care pollution prevention tips or announced public workshops, public events, bus tours and volunteer opportunities for events sponsored by WCDOE and/or Friends of the Rouge.

LRMD continued to distribute the *Soil Erosion and Sedimentation Control Program Information Package* and the “*Soil Erosion, Sediment Pollution, and Your New Home*” brochure to community buildings/public service officials, to land developers and builders for distribution to new home owners. During 2005, approximately 250 brochures were distributed.

Staff Training/Awareness (PEP #2):

Wayne County staff receives training necessary for their jobs, which often also has storm water management benefits. For example, select staff from the LRMD and FMD of WCDOE and the Engineering Division of the Department of Public Services (DPS) are semi-annually certified under the MDEQ soil erosion control certification program. Staff from the DPS-Forestry Division as well as other Roads, Drains, or Park personnel received pesticide application training. Various County staff participated in the IDEP *Advanced Investigations Training* classes held by WMD. Some of the specific staff training activities that occurred in 2005 are described below as well as in the sections for *PEP #6-9*.

Staff Training: The participation of Wayne County staff in “environmental” training programs during the reporting period is shown in Table 19, 20, and 21 for the Department of Public Services (DPS), Department of Environment (WCDOE), and Environmental Health Division (EHD), respectively.

Table 19
WCDPS Staff Training in Environmental Issues
January 1 – December 31, 2005

Training Topic	Number of Staff Trained
Soil Erosion & Sedimentation Control	14
Storm Water Operator Certification	4
Preserving Healthy Communities	1
Context Sensitive Design/Comm. Character	1
Salt Spreader Calibration	20
Storm Water Management topics	
--Low impact development	11
--Wayne County Storm Water Summit	15
Pesticide Application Certification	19

Table 20
WCDOE Staff Training in Environmental Issues
January 1 – December 31, 2005

Training Topic	Number of Staff Trained
Illicit Discharge Identification (Basic/Advanced Course)	3
Mercury Spill Response Training	1
Medical Waste Disposal Training	5
Hazardous Waste and Emergency Response (HAZWOPER)	12
MDEQ – Maximum Allowable Headworks Loading	2

Table 21
WCEHD Staff Training in Environmental Issues
January 1 – December 31, 2005

Training Topic	Number of Staff Trained
Cross Connection – water supply protection	25
Emergency Response Action Plan	19
Rodent Control	29
Lead Poisoning	28
Wayne County OSDS O&M Ordinance Seminar	9

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 during the reporting period. All Wayne County employees with email accounts received messages encouraging their participation in the May

Rouge River Water Festival in Dearborn at the University of Michigan campus. Email was also used to encourage County staff to attend the *River Friendly Lawn Care* and the *Riparian Corridor Management* workshops held in 2005, the *Wayne County Parks Annual Fishing Derby* in Northville, and the *Rouge Park Appreciation & Rouge Rescue Day*.

Leader, Watershed Approach (PEP #3):

By developing and promoting partnerships, facilitating coordination and hosting/co-hosting meetings and workshops, Wayne County has continued its mission of being a leader in the protection, restoration, and stewardship of streams, rivers, lakes, ponds, wetlands and ground water.

Local and regional presentations regarding storm water management, watershed management and pollution prevention were made by Wayne County during the reporting period as summarized below.

Each year, Wayne County co-hosts a *Rouge 200X* event, 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 2005 event was held in October at the University of Michigan-Dearborn. This year's event included dedication of a newly constructed 2 mile trail that extends Wayne County's Hines Park system along the Rouge River down to Michigan avenue, with connections to the Henry Ford Community College, University of Michigan-Dearborn and the commercial districts at Fairlane and along Michigan Avenue. More than 300 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, US Congressman John Dingell, and WCDOE Watershed Director Kelly Cave. There were informational and educational displays by thirteen organizations and handouts on a variety of storm water and watershed management topics.

In July, Kurt Heise and Kelly Cave (Wayne County) gave a presentation on the watershed management and the Rouge Project to 20 regional earth science teachers participating in UM-Dearborn's Geoscience Research Institute program.

Wayne County co-sponsored and participated in a Public Information Workshop held by the Assembly of Rouge Communities (ARC) on September 28, 2005 at Lawrence Technological University, Southfield. WCDOE staff delivered four presentations: *The Johnson Creek Protection Group*; *Rouge River Nutrient Reduction Program*; *Household Hazardous Waste*, and *Illicit Discharge Elimination Plan Training*. This presentation included information on the trainings effectiveness in training field staff to recognize and report illicit discharges. WCDOE staff also moderated the *Storm Drain Awareness and Illicit Discharges* session. Wayne County also held or co-sponsored a number of workshops on a variety of topics targeted at various local stakeholder groups. These workshops are summarized under the report for PEP#5.

In December, Wayne County's storm water management program was highlighted at the "Current Issues in Storm Water Regulation in Michigan" conference held in Grand Rapids, MI.

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:

- Water Environment and Technology (WE&T), a publication of the Water Environment Federation (WEF), featured “*Sherlocks of Stormwater: A Michigan County offers tips to investigate illicit connections and discharges*” in the Operations Forum section of its May 2005 edition. The article summarizes the illicit discharge detection techniques WMD presents in its IDEP training workshops and WMD’s success in implementing its IDEP program. The WEF publishes WE&T twelve times a year, reaching over 30,000 subscribers.
- WMD’s illicit discharge investigation efforts were highlighted in several articles in a special report on the Rouge River recovery featured in the *Detroit Free Press* on May 3, 2005. The feature article writer and photographer accompanied WMD field staff during an outfall survey training exercise April 14, 2005.
- In July 2005, Wayne County gave a presentation on the Rouge Project and the Rouge Gateway initiative to senior staff from the US Army Corps of Engineers; the presentation was followed by a field tour of the Rouge Gateway area
- Wayne County’s IDEP program was featured in the July/August 2005 issue of *Stormwater* magazine, the Journal for Water Quality Professionals. The article, “*Illicit Discharge Detection and Dry Weather Flows: Targeting Unexpected Sources of Pollutants*” highlights the history and successes of Wayne County’s efforts at finding and eliminating illicit discharges. *Stormwater* magazine is published seven times a year and reaches more than 21,000 subscribers nationally.
- On October 15, the WCDOE-WMD Division Director gave the presentation “Advancing A Comprehensive Watershed Management Approach: The Rouge River National Wet Weather Demonstration Project” at the Great Lakes Bioneers Conference held at Wayne State University.

Partnerships: Wayne County initiates and participates in numerous partnership activities each year and on a continuing basis 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.

Johnson Creek Protection Group: Wayne County helped establish the *Johnson Creek Protection Group* (JCPG) in 2001 as a partnership between citizens, businesses and government to help protect this unique natural resource. Since that time, WCDOE has actively supported efforts of this group, including implementation of the Middle 1 Subwatershed Management Plan and the Johnson Creek Watershed Management plan/strategy. Activities of the JCPG cosponsored by Wayne County during the reporting period include:

- The 5th Annual Johnson Creek Protection Group (JCPG) Volunteer rally was held on February 21st in Northville Township. This citizen led group works toward protecting one of the highest quality tributaries in the Rouge watershed that starts in Salem Township in Washtenaw County and flows through Northville Township, the City of Northville and Plymouth Township. WMD staff helped organize the event and staffed displays. Over 90 people attended the event, which highlighted last year’s activities, awards received by members, and upcoming events. The guest speaker, Wayne Walker, a PhD candidate at the School of Natural Resources and Environment, University of Michigan, gave a presentation

entitled "Watershed Wonders: the Big Benefits of Big Trees." The rally also featured many displays from other local environmental groups and was a great chance where the public got to interact with their neighbors, local officials, and interesting organizations. (Feb 05)

- Wayne County helped plan, coordinate and implement Johnson Creek Day 2005 (JCD 2005) on May 14th 2005. JCD 2005 was extremely successful, with over 250 people participating in this year's activities. One of the two main events of JCD 2005 was the 2nd Annual Johnson Creek Day Trail Run/Walk. Over 100 participants and volunteers participated in the trail run/walk. WMD staff designed, cleared, and marked the course for the event, which showcased the natural features of the Johnson Creek watershed and the former Detroit House of Corrections (DeHoCo) property. A nature walk was led by JCPG volunteers for the participants wishing to enjoy the natural feature of Johnson Creek at a more leisurely and educational pace. The event included a fun run for kids held after the fun run/walk finish. Additionally, WMD staff assisted at the Fish Hatchery Park JCD events, providing environmentally educational and fun interactive activities, assisting with the trail run/walk award ceremonies, and staffing divisional displays. The Fish Hatchery Park JCD events had approximately 170 people attend throughout the day. (May 05)

The C.L.E.A.N. Program is a partnership between Wayne County and local communities to fight illegal dumping. The County physically removes the waste at the site; the community then implements measures to stop future dumping. The C.L.E.A.N. program cleaned up eight sites that were impacted by illegal dumping in 2005 (See *IDEP #3* above).

Rouge RAP Advisory Council: Wayne County staff (WCDOE & EHD) actively participated in and supported efforts of MDEQ's Rouge RAP Advisory Council (RRAC) and its subcommittees during the reporting period. Activities included assistance with development and distribution of the 2005 Rouge River Report Card; RAP Revision subcommittee participation; coordination/communication of RRAC activities with the seven Rouge Subwatershed Advisory Group (SWAGs); and participation and/or chairmanship of RRAC and RAP implementation subcommittees, including Pollution Prevention, Watershed, Public Education, and Habitat/Wildlife.

Friends of the Rouge: Wayne County actively supported and provided funding for all efforts of Friends of the Rouge (FOTR) including Rouge Rescue, Rouge Education Project (REP), Public Outreach Workshops, Storm Drain Stenciling, Rouge Frog & Toad Survey and Macro invertebrate Volunteer Monitoring. Specific activities completed in support of FOTR included setting up public information displays at FOTR sponsored workshops throughout the watershed; acting as volunteer monitoring team leaders at both the spring, fall and winter 2005 Bug Hunts; coordinating t-shirt and water sampling delivery for the REP School Monitoring Day; distributing promotional flyers for FOTR events to community libraries; and participating on both the REP Advisory Task Force and the REP Public Involvement Projects Task Force.

Riparian Corridor Management Technical Advisory Committee and Work Group: WCDOE continued to lead the Riparian Corridor Management Technical Advisory Committee (RCMTAC) and participate on the Riparian Corridor Management Work Group established in 2002. The RCMTAC has and continued to develop principles and guidelines for riparian

corridor management in southeastern Michigan. The RCM Work Group is cooperating to identify and implement projects that demonstrate the principles and guidelines as well as offer technical assistance to landowners interested in proper riparian corridor management. There were two meetings of the RCM Work Group and six meetings of the RCMTAC during the reporting period. At meetings, general guidance documents were reviewed and updated, ideas for workshops on RCM were discussed and implemented and successes of River Day Projects were discussed. In March, five RCM project profiles were completed and added to the RCM Tool Kit. The projects highlighted are Holliday Nature Preserve 1998 and 2000, Shiawassee Park Streambank and Buffer Project, City of Wayne WDM 201, and Johnson Creek Streambank Project. (Mar 05) In November 2005, RCMTAC developed the idea of “2006 – The Year of the Grow Zone.” Using this theme, any environmental projects that utilized native plants could be tied together and promoted. Projects could be inspired by this idea to utilize native plants in their design in order to take part in the Year of the Grow Zone. Local communities would be encouraged/assisted to create small 20 by 20 foot plots of native plants at their township/city halls to be participants in the effort. The RCMTAC members are currently looking for ways to expand this idea into a workable effort in 2006.

Regional PE Committee – Southeast Michigan Partners for Clean Water: WCDOE has been actively participating in this initiative since its inception providing staff support and financial resources to SEMCOG. In 2005, WCDOE staff was instrumental in helping to promote the use of and expand the development of the concepts, messages and materials that have and are being developed in the *7 Simple Steps to Clean Water Campaign*. WCDOE has also been involved in the other initiatives of the Regional PE Committee including the Low Impact Development (LID) Subcommittee and the Municipal Training Subcommittee.

Stream Team/Friends of Detroit River/Riverkeeper: In 2005, Wayne County continued its partnership with *The Stream Team* and the *Friends of the Detroit River* to assist with watershed management in the downriver area through three major efforts: stream monitoring, riparian corridor management/creek restoration 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 WMD work with high school students empowering them to identify, evaluate and solve real world problems using real world techniques and technology. *The Stream Team* is a part of *Downriver Citizens for a Safe Environment*, which was founded in 1989 by residents in 5 downriver communities to address chemical exposure to area residents. Public education and involvement activities of this partnership are reported under *PEP #5 and SWPPI #1*.

Lake St. Clair Regional Monitoring Project: WMD staff is an active participant in this project coordinated by the Macomb County Health Department. In 2005, staff attended or kept informed of the planning/coordination meetings held regarding the project. Activities included review and comment on the project’s website, preliminary database and outline for the final report.

Publication Clearinghouse (PEP #4): 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 3780 items provided to communities for subsequent distribution to others.

Watershed and stream crossing awareness signage is made available to communities at cost through the Wayne County Publication Clearinghouse. In 2005, Rouge River Watershed signage orders were filled for the City of Wayne (3 signs) and the City of Bloomfield Hills (10 signs). An order for Lower Huron River watershed signage was filled for Berlin Charter Township (15 signs).

Co-Sponsor Workshops (PEP #5): 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.

Volunteer Monitoring. In support to Friends of the Rouge (FOTR), WMD staff participated in multiple volunteer monitoring events in 2004 as follows:

- Winter Stonefly Search, January 8, 2005. Over 60 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.
- On April 23rd, 2005, staff participated as team leaders at the FOTR Spring “Bug” Hunt for Benthic Macro invertebrates. Staff helped teams of volunteers survey 6 sample areas. Over 100 people from around the Rouge Watershed participated. Staff participated in FOTRs Spring Bug Hunt ID Day (benthic macro invertebrate identification to family.) Staff assisted FOTR and volunteer team leaders in the identification of benthic samples to family.
- On April 28th, 2005, staff participated in the 1st Middle Rouge River Spring Bug Hunt Day on April 8th, 2005 (benthic macro invertebrate sampling.) Staff sampled at the ten streambank stabilization locations throughout the Edward Hines Parkway. This sampling will continue to monitor the improvement and/or degradation of water quality at the sites over the next few years. Results were reported in May. Preliminary evaluations show much better results than expected.
- On October 15th, 2005, staff participated as team leaders at the FOTR Fall “Bug” Hunt for Benthic Macro invertebrates. Staff helped teams of volunteers in the collection and identification of benthic macro invertebrates survey 6 sample areas for the purpose of using the data to gauge the water quality of the Rouge River. Over 82 people from around the Rouge Watershed participated.
- In October and November 2005, staff participated in the 2nd Middle Rouge River Fall Bug Hunt Day (benthic macro invertebrate sampling.) Staff sampled at the ten streambank stabilization locations throughout the Edward Hines Parkway as well as six other locations in the watershed. This sampling will continue to monitor the improvement and/or degradation

of water quality at the sites over the next few years. Results were reported in November. Preliminary evaluations shows results similar to last fall.

As described under PEP#3, Wayne County, the Stream Teams and Friends of Detroit River formed a partnership to assist with watershed management in the downriver area through three major efforts: stream monitoring, riparian corridor management/creek restoration projects and watershed management public awareness education. Volunteer monitoring activities completed by the partnership during 2005 include:

- WMD provided a benthic macro invertebrate training for the Stream Team teachers on April 5th, 2005 in anticipation for the 1st Annual Lake Erie Watersheds (LEW) Spring Bug Hunt Day. The training was at a site on Brownstown Creek, one of the twelve LEW sampling sites. This training prepared participating teachers for Bug Hunt activities, including the collection and identification of benthic macro invertebrates.
- WCDOE and the Stream Team teachers and students sampled twelve LEW sites in Spring 2005. Over 140 Stream Team volunteers from seven local schools sampled nine sites Thursday, April 7, 2005. The students from schools in Ecorse, Riverview, Woodhaven, Trenton, and Southgate participated on this day. WMD staff sampled a Taylor site on May 9, 2006 and Wilson Middle School students sampled a site near their school in Wyandotte. Quality scores for the sites averaged from Poor-Fair (8.4-25.5) and number of taxa from 4-11. This is the first year for spring sampling in the LEW.
- WMD and the Stream Team led over 150 student volunteers from six schools in macro invertebrate sampling at twelve different locations throughout the LEW during the 2nd Annual Lake Erie Watershed Fall Bug Hunt Day on October 22nd, 2005. Local schools participating in the monitoring effort were from the communities of Ecorse, Riverview, Woodhaven, and Southgate. On October 28, 2005, Trenton High School students sampled a site in Trenton. WMD staff sampled two sites in November in Brownstown and Trenton. Quality scores for the twelve sites ranged from Poor-Good (11.2-36.9) and number of taxa from 4-16.
- In October 2005, WMD held a benthic macro invertebrate identification workshop session for the Stream Team students from Southgate Anderson High School. During this session, students identified the benthic macro invertebrates they collected during the Fall Bug Hunt to family.

State of the Streams: On March 2nd, 2005, students from 9 schools gathered for the first "State of the Streams" workshop at Southgate Anderson High School. The Stream Team, Wayne County Department of Environment, the Trenton Soroptimist Club and DTE Energy sponsored this event. Its purpose was to allow the student participants in the Lake Erie Watersheds (LEW) Bug Hunt (Wayne County's LEW Volunteer Benthic Monitoring Program) to report their results to the public. Students from Ecorse High School, Riverview High School, Southgate Anderson High School, Trenton High School and two local elementary schools gave presentations reporting their findings from the sampling event in October of 2004. Also speaking at the event were Staff from WMD, Ms. Rose Ellison (USEPA), Robert Burns (Detroit Riverkeeper) and Mr. David Howell, President of the Friends of the Detroit River (FDR). After all presentations were complete, DTE Energy representatives distributed the limited edition publication "Explore our Natural World" Great Lake Natural Features Atlas to each of the Participating schools. Over 100

people attended this event. A “State of the Streams” workshop is in the planning stages for 2006.

Riparian Corridor Management. Over the past several years, Wayne County’s riparian corridor management efforts have been increasing due to availability of funding from new sources such as new grants. These efforts are described throughout this report. Riparian corridor management workshops held by Wayne County during the reporting period include:

- In January 2005, WCDOE staff spoke at a ‘Watershed Seminar’ at Schoolcraft College informing attendees of the multiple opportunities they have available to them to participate in hands-on activities and training in the Wayne County Watersheds in 2005. Staff also informed attendees about the Assembly of Rouge Communities, Wayne County’s IDEP Program and its upcoming grant projects, including Bennett Arboretum.
- On March 10th, WCDOE staffed a Woody Debris Management Workshop for the City of Southfield and the Detroit Chapter of the National Audubon Society. Speakers included Matthew Best and Bill Craig (President of the Holliday Nature Preserve Association/Chair of RRAC) Topics included how a river works, woody debris management methods, case studies and a question and answer session. Woody Debris Management has been specifically developed to give guidance on how to manage logjams, preserving the benefits they provide while minimizing the problems they can create. The method and topics covered in this workshop can be used at individual sites effectively and is designed to be part of a larger riparian corridor management plan.
- In March of 2005, WCDOE gave a presentation on Riparian Corridor Management to staff from the City of Novi. Participants who attended the presentation were exposed to concepts including River Friendly Lawn Care, Streambank Stabilization, Woody Debris Management, how rivers work, River maintenance Techniques and the Riparian Corridor Management Principles and Practices.
- In April of 2005, WCDOE gave a presentation on Riparian Corridor Management to the Wayne County Masters Composters Class. Participants who attended the presentation were exposed to concepts including river friendly lawn care, streambank stabilization, woody debris management, how rivers work, river maintenance techniques and buffers.
- In April of 2005, WCDOE gave a Woody Debris Management presentation at FOTR River Day Site Coordinators. The participants that attended the presentation were exposed to concepts including Streambank Stabilization, Woody Debris Management, how rivers work, River maintenance Techniques and the Riparian Corridor Management Principles and Practices.
- On June 16th, WCDOE gave a Riparian Corridor Management presentation at Novi City Hall. The thirty participants who attended the presentation were exposed to concepts including river friendly lawn care, streambank stabilization, woody debris management, how rivers work, river maintenance techniques and buffers. (Jun 05)
- In partnership with the City of Dearborn Heights, WCDOE hosted a *Riparian Corridor Management Workshop* at Dearborn Heights City Hall on July 20th. Participants learned how a river works, river friendly lawn care techniques and all about riparian buffers.
- In partnership with the Assembly of Rouge Communities, WCDOE hosted *Detention Pond Maintenance Workshops* at the City of Westland’s Bailey Center on July 28th, 2005 and at Plymouth Township Library on September 12, 2005. Participants attending the presentation were exposed to concepts including river friendly lawn care, native plant buffers, woody

debris management, habitat creation, invasive species removal how rivers work, pond maintenance techniques and the Riparian Corridor Management Principles and Practices. Approximately 20 people attended the workshops.

- In September 2005, WCDOE staff gave a presentation to local community representatives at the Assembly of Rouge Communities Public Education Workshop hosted at Lawrence Technical University. The presentation, 'Johnson Creek Protection Group: Utilizing a Subwatershed Group Model to meet and Achieve your Community's 'Blue Ribbon' Goals.' Focused on providing attendees with a model on how to utilize a subwatershed group to meet and exceed SWPPI and General Permit Goals. Staff also had two displays at the workshop. The first was a display and handout materials outlining Wayne County's Riparian Corridor Management effort, and the second was a display and handout materials outlining Wayne County's Bennett Arboretum Restoration Project.
- Staff completed work on the Lake Erie Watersheds (LEW) Riparian Corridor Improvement Project. This project was funded through a grant for approximately \$97,000 from the Great Lakes Commission. The grant project consisted of (4) Riparian Corridor Management Workshops, four (4) Hands-On Technique Training Workshops, and four (4) Demonstration projects in the Wayne County Watersheds that drain into Lake Erie. The overall goal of these workshops and demonstration projects was to reduce soil erosion and sedimentation to Lake Erie. The workshops and demonstration projects highlighted, to both public and private citizens, the benefits of riparian corridor management techniques and soil erosion and sedimentation controls. The projects and workshop training built capacity at the local level in the proper use, installation and maintenance of urban erosion control measures and stream bank protection and restoration methods using bioengineering techniques. The grant targeted to directly involve over 200 people within the 4 watersheds and indirectly reach hundreds more via local press and publicity. In 2005, the remaining three demonstration sites were completed. On May 7th, over 70 *Stream Team* volunteers participated at the Taylor project site, where 60 linear feet of streambank was stabilized along the Frank and Poet drain adjacent to Southland Mall. Approximately three cubic yards of garbage was removed from the site. On May 21st, over 40 *Stream Team* volunteers stabilized 30 linear feet of bank in Rockwood. Approximately, two cubic yards of garbage was removed from this site. At the final demonstration on June 4th, WMD staff and a handful of volunteers stabilized approximately 120 linear feet of streambank along the Brownstown Creek adjacent to Brownstown Township Hall. WCDOE purchased signs for each streambank project with partner logos and began distribution of the signs to project community partners. The final report was completed and submitted to the GLC. Monitoring of the project sites is part of the on-going volunteer monitoring done in partnership with the *Stream Teams*.

Healthy Lawn and Gardens. During the reporting period, Wayne County continued efforts to educate homeowners and municipal land managers about river friendly landscaping and invasive species management. Workshops held by Wayne County on these topics during the reporting period include:

- In May 2005, WMD partnered with the Wayne County MSU Extension, Michigan Green Industry Association, Friends of the Rouge, and Barson's Green House to hold a *River Friendly Lawn Care* workshop. The workshop was targeted to the general public with an attendance of 12 people. Seventy-five percent (75%) percent of respondents intend to change

lawn care practices based on information presented at the workshops and sixty-five percent (65%) of participant survey respondents indicated an interest in attending future River Friendly workshops.

- Healthy lawn practices were included in the two *Detention Pond Maintenance* workshops described above. For the Westland workshop, fifteen percent (15%) percent of respondents intend to change lawn care practices based on information presented at the workshops and eighty percent (80%) of participant survey respondents indicated an interest in attending future River Friendly workshops.
- In September 2005, a *River Friendly Fall Lawn Care* workshop was co-sponsored by WMD and City of Dearborn Heights. Twenty-nine (29) people attended this workshop. Eighty-three percent (83%) percent of respondents intend to change lawn care practices based on information presented at the workshops and seventy-seven percent (77%) of participant survey respondents indicated an interest in attending future River Friendly workshops.

Miscellaneous Storm Water Management Workshops

- The Spring 2005 Master Composter Course was held April 21st through May 19th with seven registered participants. The participants completed their final exam and began the required 10 volunteer hours to become Master Composters. Following is a summary of the volunteer efforts performed in 2005 by participants from the Spring 2004 and Spring 2005 Master Composter classes:

- 2 hour vermicomposting presentation
 - 8 hours of preparing, presenting an earth day presentation on composting
 - 2 hour vermicomposting/soil presentation
 - 2 hours preparing and participating in Detroit Agriculture Network summer series
 - 10 hours preparing and teaching a class at Greening of Detroit
 - 2 hour composting presentation to neighborhood improvement organization
 - 3 hours assisting in writing newsletter article for neighborhood group on composting
 - 3 hours of volunteer work with All Seasons Landscaping to begin composting
 - 2 hours assisting neighbors in the building of compost bins
 - 4 hours spent building community compost bins
 - 3.5 hours presenting composting techniques to neighborhood group
 - 5 hours working with community children's gardening group
 - 13 hours spent teaching vermicomposting, backyard composting and recycling to community
 - 25 hours researching, preparing and creating slide presentation for adult enrichment course "Gardening the Natural Way"
 - 4 hours teaching composting, water conservation, organic gardening
 - 13.5 hours pulling invasives and planting natives in Cobblestone historic garden
- Total = 102 hours

- In the summer of 2005, WMD partnered with LRMD and MSU-E to develop an Ecological Gardening Course. The course was designed as an advanced program for Master Gardeners and Master Composters and took place in replace of a fall Master Composter Course. This six-week course took place during the months of August and September 2005. Thirteen

people attended this course. The course topics were Basic Biodiversity Concepts, Soils and Compost; Ecosystems and Ecological Functions; Riparian Buffers, Environmental Benefits, Nutrient Reduction; Aliens, Invasives, and Exotics - Native and Non-Native; Maintenance and Problem Solving; and Garden Design Concepts.

Integrate Public Education into Facilities Management Division (PEP #6): The Wayne County Public Works Division has been renamed the Facilities Management Division (FMD).

Information Dissemination: FMD has a series of four brochures which are regularly distributed to help inform the public regarding services and operations of the division. These brochures are entitled: *Wayne County Drains*, *Service Referrals*, *Wayne County Contract Operations*, and *Wyandotte Wastewater Treatment Plant*. Educational brochures and other information was also distributed during tours of FMD facilities. FMD also hosts an annual “Open House” at the Wyandotte Waste Water Treatment Plant. The May 2005 event involved over 250 students, parents, and teachers.

Signage: No new illegal dumping signs were installed during the reporting period.

DPW Industrial Pretreatment Excellence Award and Zero Discharge Club: Nine entities were awarded the *Excellence Award* and 17 entities were identified as *Zero Discharge Club* members during the reporting period.

Integrate Public Education into Department of Public Services, Roads Division (PEP #7):

Information Dissemination: An informational display rack was set up at the Wayne County Roads Division Central Maintenance Yard. The *Storm Drains Aren't Garbage Cans*, *WCDOE 24-hour Environmental Hotline*, *Rouge Action Plans*, *Our Actions Can Affect the Rouge River*, *Our Business Practices Can Affect the River* brochures, and other informational material, such as *Clean Air Car Care* and *Ozone Action Tips* is available to employees and the general public.

In addition, Wayne County Roads continues their long-running *Adopt-a-Road* program. During the reporting period, the Roads Division supported the activities of 123 groups who have adopted more than 149 miles of road within the County.

Watershed Awareness Signage: Roads Division previously placed 44 river crossing signs within the Rouge River watershed and 10 watershed identification signs at the watershed boundary. The Roads Division Sign Shop fabricates the signs provided through the County's *Publication Clearinghouse* (See *PEP #3*).

Road Staff Training: Ten staff members received soil erosion and sedimentation control training from the State. Nineteen Roads Division staff (Forestry Section) received pesticide application training and certification. Approximately 20 mechanics are trained on salt spreader calibration every fall.

Integrate Public Education into Department of Public Services-Parks Operations (PEP #8)

Information Dissemination from Parks Offices: The Parks Administration office at Nankin Mills continues to supply the public with educational and informational brochures developed by the Rouge Project, Friends of the Rouge and others. Table 22 presents a summary of the environmental educational information distributed from Parks Offices during 2005.

Table 22
Environmental Educational Information Distributed From Parks Offices
January 1 – December 31, 2005

Educational Item	Approximate Number Distributed
Rouge Watershed Public Recreation Areas Map and Index	200
Storm Drains Aren't Garbage Cans	400
Our Actions Can Affect the Rouge River	400
Rouge River Activity Books for school children	200
Holliday Nature Preserve Association newsletters	200
Friends of the Rouge newsletters and other brochures	200
<i>Naturalist Notes from Nankin Newsletter</i>	2400
New in 2005:	
"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
"Bennett Arboretum History" brochure	200
Rouge River Report Card, December 2005	100
Holliday Nature Preserve Park Map	100

The Nankin Naturalist researched and wrote text, found photographs for "*What is a Floodplain?*", "*Herps of the Rouge*", "*Owls of Michigan*", "*History of Bennett Arboretum*" brochure and "*Bennett Arboretum Trail Map and Interpretive Guide*". Nankin Naturalist mapped trails and produced "*Holliday Nature Preserve Trail Map*" using GPS. We are ordering another brochure rack to display more Rouge information.

Nankin Mills Interpretive Center – Stormwater/Watershed Displays:

Bulletin board display in classroom. "Learn About the Rouge River", includes "Use Your Head, You Live in a Watershed, We're all part of the solution, Storm drains aren't garbage cans, etc.

Permanent Watershed displays on first floor of Nankin Mills Interpretive Center include:

1. 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)
2. Changing Currents: Public Efforts to Restore the Rouge River
3. CSOs: What are they and how are they being eliminated?
4. Newburgh Lake clean up project
5. Industry takes a proactive role
6. Volunteer groups on the Rouge River

7. Computer kiosk filled with Rouge River information funded by a grant from the Rouge Project Office
8. Four touch-screen interactive computer programs focusing on our daily activities, and seeing how the results of our choices impact the Rouge River.
9. Kid's Map of the Rouge River Watershed: Know Your Watershed
10. Live reptiles and amphibians of the Rouge floodplain aquariums

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 facilities. There were a number of new programs (*) added at Nankin Mills Interpretive Center during the reporting period.

Nankin Mills School Field Trip and Outreach Programs

<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>	

Nankin Mills Scout Badge Workshop Programs

<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>Map and Compass</i>	<i>Leaf Hike</i>	<i>Your Outdoor Surroundings</i>

Nankin Mills Monthly Home School Series

<i>Fossils *</i>	<i>Outdoor Survival *</i>	<i>Maple Sugaring</i>
<i>All About Birds *</i>	<i>Tree Buds *</i>	<i>Herps of the Rouge</i>
<i>Native American Plant Uses *</i>	<i>Beginning Astronomy *</i>	<i>Pond Life</i>
<i>Creepy, Crawly Soil Critters *</i>	<i>Animal Tracks in Winter</i>	<i>Insect Investigations</i>
<i>Animal Signs and Skulls *</i>	<i>Owls of Michigan</i>	<i>Tree Identification</i>
<i>Michigan Geology</i>		

Nankin Mills Family Programs:

<i>Volunteer Day: Garlic Mustard Pull *</i>	<i>Seasonal Astronomy</i>
<i>Home Landscape Design Workshop *</i>	<i>Maple Sugaring</i>
<i>Earth to Spring: Searching for Signs of Spring *</i>	<i>Nature Tots 8 weeks</i>
<i>Spring Splendor Hike in Holliday Nature Preserve</i>	<i>Spring Frogs</i>
<i>Bird Feeding Basics</i>	<i>Fossil Friday</i>

Orienteering Adventures
Gargantuan Dinosaurs
Underwater Creature Feature
Animal Signs (Tracks, Skulls, etc.)

Nature Nuts 7 weeks
Owls of Michigan
Bat Conservation
Outdoor Survival

Nankin Mills Summer Nature History Day Camp

Week long sessions offer different age groups an opportunity to experience firsthand outdoor nature activities.

- Tot and Parent Camp - *Michigan Mammals, Turtles*
- Preschool Camp - *Birds, Dinosaurs, Nature Hike*
- Kindergarten/First Grade Camp - *Animal Homes, Rainbows, Sensory Trail, Astronomy, Megafauna of Ice Age, Nocturnal Animals: Bats, Recycling, Sharks & Whales, Ecosystems, Nature Crafts & Games.*
- Second/Third Grade Camp - *Trees, Owls, Landforms, Nature Games, Tornadoes, Fishing, Horseback Ride, Paddleboating on Newburgh Lake* (other programs were history topics)
- Fourth – Sixth Grade Camp - *Endangered Species, Tracks/Skulls/Animal Signs, Ecosystems, Wolf Packs, Forestry, Astronomy/Star Lab, Fishing, Horseback Ride, Paddleboating on Newburgh Lake* (other programs were history topics)

Table 23
Attendance at Nankin Mills Interpretive Programs
January 1, 2005 – December 31, 2005

Number of Interpretive Programs Provided	423
Number of Children Attending	11,038
Number of Adults Attending	5,281
Total Number Attending	16,319

Nankin Mills Interpretive Center – Educational Workshops:

- Nankin Naturalist worked with Parks Design Department and St. Valentine School in Redford on native planting project in Grow Zone on Nankin Mills site. Naturalist held informational workshop at the school and on site.
- Nankin Naturalist worked with an Eagle Scout on project to establish public benches on the Nankin site.
- Nankin Naturalist met with Detroit Audubon Society to discuss programming partnership projects.
- Nankin Naturalist met with MUCC to discuss programming partnership projects.
- Nankin Naturalist coordinated with Ford Motor Company volunteers to enhance Butterfly Gardens, Bridges and Grow Zones on Nankin site.
- Nankin Naturalist worked with City of Westland “Rooting for the Rouge” coordinator to participate in school educational programming related to curriculum. Met with teachers at workshop to present program information and provided program in the schools, “*Land and Water Connections*” for 427 Westland students in 2005.
- Nankin Naturalist presented “*Live Reptiles and Amphibians of the Rouge*” at the City of Westland Turn Off the Violence Event for approximately 600 people.

- Nankin Mills Naturalists also participate as instructors at the Rouge River Water Festival each year on University of Michigan Dearborn campus. Parks Division provided two staff, each doing eight programs, for 400 students and over 100 adults. Topics presented were: *Live Reptiles and Amphibians of the Rouge* and *The Rouge Watershed*. A third Nankin Mills Naturalist and a Park Executive Assistant served as tour guides for school groups at the Festival.

Nankin Mills Interpretive Center – Promotion and Advertisement of Programs:

- *Nankin Mills School programs:* A brochure listing our school interpretive programs is available in the Interpretive Center lobby and programs are listed in Park Brochure and on the Park Website. Schools also spread the information by word of mouth. We have more requests for school field trips and outreach programs than we can handle with our staffing.
- *Nankin Mills Outreach programs:* A flier is available in the Interpretive Center lobby and programs are listed in the Park Brochure and on the Park Website. The outreach program flier is also mailed to Wayne County libraries and Recreation Departments.
- *Nankin Mills Scout programs:* A scout flier and brochure with program information is mailed to those on our scout mailing list twice a year for walk-in registration dates. Information is also available in the Interpretive Center lobby, in our Park Brochure and on our Park Website. We send information to Scout Packs and Councils as requested.
- *Nankin Mills Family programs:* A seasonal family program flier is mailed to those on our family, scout and home school mailing lists and available in the Interpretive Center 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 Interpretive Center lobby. Our PR person sends out press releases to local papers. Sometimes reporters attend and photograph events or run articles about them.
- *Nankin Mills Home school programs:* An annual flier is mailed to those on our home school and family mailing lists, available in our Interpretive Center lobby, and program offerings are listed in the Park Brochure and on the Park Website. Fliers are also provided to home school groups for their meetings.
- *Nankin Mills Large Family Events:* Fliers are mailed to those on our family, home school and scout mailing lists, mailed to Wayne County libraries and Recreation Departments, packaged into bundles and brought into schools and local businesses and available in our Interpretive Center lobby. These events are also advertised in our Park Brochure and on the Park Website, and an illustrated advertisement is displayed on an announcement board in the Interpretive Center lobby. Our PR person sends out press releases to local papers and the County Web. Reporters often attend these events and run newspaper articles about them. Co-sponsored events are often advertised by the other sponsor, such as Native American Day, which gets radio coverage and is listed in Native American publications.
- *Nankin Mills Interpretive Center:* The Grand Opening for the Nankin Mills Interpretive Center was held in January 2001. The theme of the Center is “The Rouge River Runs Through History”. 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. The Center is free to the public, and open Monday through Saturday, 9am – 4pm. 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

Attendance figures for Visitors to Nankin Mills Interpretive Center
(January 1, 2005 – December 31, 2005):

In addition to the 16,319 who attended interpretive programming, another 3,190 visited the Center without attending a program, for a total of 19,509 visitors to the Center in 2005. Total Interpretive Center attendance since opening in January 2001 through December 31, 2005:

2001:	15,664
2002:	15,112
2003:	17,804
2004:	22,055
<u>2005:</u>	<u>19,509</u>
Total:	90,144

Because of necessary budget cuts Nankin Mills Interpretive Center lost three staff positions in September 2005, leaving two staff to cover naturalist programming in 2006.

Naturalist Programming – Crosswinds Marsh: The Parks Division continued to provide and expand educational programming focused on the natural environment for scout troops, school groups and families at Crosswinds Marsh. During the reporting period approximately, 2,866 children and 847 adults participated in education programs offered by the Naturalists stationed at Crosswinds Marsh. Highlights of the naturalist programming included Scout Programs: Plants and Animals, Earth Connections, Geologist, Water Everywhere, Forster, Naturalist, Wildlife Conservation and Fishing; School Programs: Michigan Trees, The Wonder of Water and Wetlands, Wetland Field Investigation and Geologic Wonders of Michigan; and Family Programs: Michigan Owls, Michigan Frog and Toads, Family Fishing Fun Day, Incredible Insects, Fall Color Hike and Cattail Kids Summer Camp.

Parks Website: The Wayne County Parks website promotes and advertises the Interpretive and Naturalist programming offered by the County and offers a direct link to the Rouge Project website "www.rouge river.com" and to the Department of Environment website www.wcdoe.org.

Signage – Don't Feed the Geese: Ten (10) signs remain in place near the Middle Rouge impoundments and 5 signs are at Elizabeth Park. Six signs are to be installed at Crosswinds Marsh in the spring of 2006.

Signage - Holliday Nature Preserve: During 2005, new signage was posted in the Ellsworth section of Holliday Nature Preserve addressing illegal brush and tree cutting and wetland dredging. The Nankin Naturalist is researching and developing text recommendations for future Holliday Nature Preserve interpretive signage:

Ellsworth Section:

White Pines/Mary Ellsworth History
Floodplain Woody Plants
River Bank Erosion
Oak Uplands Habitat
Buttonbush Swamp
Rouge River Turtles
Tonquish Creek/Rouge River
Confluence

Newburgh Section:

Prairie Ecosystem
Wetland Ecosystem
Remediation Project

Cowan Section :

Morgan Creek Tributary
Oak Tree Graveyard: Gypsy Moths
Stream Bank Erosion
Vernal Frog Breeding Pond
Wetland Giants Fall
Rouge River Wildlife

Koppernick Section:

Deer Creek Tributary
Chief Tonquish History
Field and Edge Habitat
Climax Beech/Sugar Maple Ecosystem
Pine Plantation History

Signage - Bennett Arboretum: The Parks Division and DOE-Watershed Management Division collaborated to develop permanent interpretive signs which were installed at Bennett Arboretum using grant funds from MDNR's Urban Forestry Community Grant Program:

- *Historic Oak Collection*, natural history information about ten oak tree species
- *Historic Beech Collection*, natural history information about six beech tree species
- *Wetlands*, environmental information about wetlands, wetland function, Rouge watershed

In addition, temporary kiosks on the following topics were also installed:

- *History of Bennett Arboretum*
- *Look What's Coming to Bennett Arboretum: Interpretive Features*
- *Many Land Uses: Historic Recreational Pursuits*

The Nankin Naturalist is researching and developing text for future Bennett Arboretum interpretive signage on the following topics:

- *Woodland Wildflowers*
- *Southern Floodplain Species*
- *Hardwood Swamp Ecosystem*
- *Rouge Watershed/Johnson Creek*
- *Mead's Mill Area History*
- *Historic Maple Collection*
- *Conifer Collection*
- *Forest Succession*
- *Native, Ornamental and Invasive Plants*

Signage – Nankin Mills Interpretive Center Grounds: Nankin Naturalist is researching and developing text recommendations for future Nankin Mills Historic site interpretive signage:

- *Miller's House*
- *Turbine Water Power*
- *Mill Race*
- *Historic Barn*
- *Pioneer Herb Garden*
- *Grist Mill Stones*
- *Butterfly Garden*

Signage – Auto National Heritage Trail: Nankin Naturalist is researching and developing text draft for Auto National Heritage Trail historic interpretive signage:

- *Henry Ford's Nankin School*
- *Newburgh Village Industry*

- *Waterford Village Industry*
- *Wilcox Village Industry*
- *Nankin Mills Village Industry*
- *Perrinsville School*
- *Phoenix Village Industry*

Signage – Crosswinds Marsh: Three additional *Dogs Must Be Leashed* signs were installed to keep them out of sensitive environmental areas.

Signage - Grow Zone Areas: Interpretive signage is being developed in cooperation with WMD staff and will be installed in a variety of locations. More Grow Zone signs will be put up throughout the Park property as additional areas are identified and established.

Staff Training: One Nankin Mills naturalist participated in the *Preserving Healthy Communities Workshop*. One Nankin Mills naturalist attended the *Context Sensitive Design/Community Character Workshop*.

Integrate Public Education with County-Issued Permits (PEP #9):

Facilities Management Division, Industrial Pretreatment Program (IPP): The Industrial Pretreatment Program (IPP) awarded the “Excellence” Award to nine industrial users of the County’s sanitary sewage system and recognized 17 “Zero Violation Club” members during the reporting period. The purpose of the Award is to acknowledge those industrial users that go above and beyond simple compliance to become good stewards of the environment especially where it relates to management of wastewater. The Club recognizes the treatment plant users that stayed within their use limitations throughout the whole year.

Wayne County’s Industrial Pretreatment Program routinely works with industrial/commercial facilities to prevent adverse impacts on the wastewater treatment plant and to environment. Examples of implemented programs are: slug/spill control plan evaluation, mercury reduction plans and investigation of spills into sewers/drains. Industrial Pretreatment Program staff participates in Department of Environment initiatives, including the Rouge River Water Festival.

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 Demo Info”, “Important if You are Selling Your Home” brochure, a “Home Sewage Disposal” brochure, the “Evaluator Recommendations” checklist, and a video on how to maintain an OSDS. These materials are provided to all property owners requesting OSDS permits (new or repair) and to those who become certified OSDS inspectors under the ordinance. In the calendar year 2005, approximately 186 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.

Land Resources Division – Soil Erosion Permits: The LRMD continues to distribute educational materials such as the *Soil Erosion and Sedimentation Control Program Information Packet* and the LRMD-developed brochure *Soil Erosion, Sediment Pollution, and Your New Home* in support of the County’s soil erosion and sediment control permit program administered under Part 91 of Act 451 of the Public Acts of 1994. The Information Package has been distributed to all local Wayne County community buildings/public service officials, and is also available to these officials for their distribution. It contains important information on obtaining a soil erosion control permit and implementing soil erosion control practices. The *Soil Erosion, Sediment Pollution, and Your New Home* brochure is distributed to owners of newly constructed homes and are also part of the Information Package. This brochure emphasizes the importance of soil erosion control and outlines how owners of newly constructed homes can practice soil erosion control techniques until their yard has been stabilized. The brochure is also available on the WCDOE website “<http://www.wcdoe.org>”. In 2005, approximately 250 brochures were distributed throughout the County.

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.

Efforts to publicize Wayne County’s storm water management program, including reference to and use of the *Wayne County Storm Water Management Standards Manual*, have been extensive and are ongoing. Such efforts include routine mailing of program updates to all Wayne County communities and other interested parties. Wayne County’s websites “<http://www.wcdoe.org>” and “<http://www.rougeriver.com>” have continually advertised the new ordinance since its adoption in October 2000. The manual is available from the Permit Office (33809 Michigan Avenue, Wayne, MI), the Land Resources Management Division offices which administers soil erosion permits in the County (3600 Commerce Court, Wayne, MI), or from the Wayne County’s websites “<http://www.wcdoe.org>” (goto “Stormwater Ordinance”) or “<http://www.rougeriver.com>”.

During the reporting period, Wayne County held the first “Storm Water Summit” on April 19. More than 100 community staff, engineers/consultants, developers, and other interested parties met with the Work Group to learn about the County’s Storm Water Management Ordinance program, and to provide feedback on what elements of the program should be improved. In addition, 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.

SECTION 4
WAYNE COUNTY POLLUTION PREVENTION
INITIATIVE
SUMMARY OF 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, 2005– December 31, 2005 for compliance with the County's Certificate of Coverage MIG610040 under the MDEQ General Storm Water Discharge Permit MIG619000.

Riparian Corridor Management (SWPPI #1)

Flow Obstruction Prevention/Removal and Woody Debris Management: As described above (PEP #3), Wayne County continues to actively participate in the RCMTAC and the RCM Work Group. In 2005, staff continued to manage a logjam on the Middle Rouge River at Nankin Mills Recreation Area using the "Clean and Open" method of woody debris management and managed a logjam on the Middle Rouge River at Hawthorne Valley Recreation Area using the "Clean and Open" method and the "Habitat and Bank Improvement" method of woody debris management.

In May 2005, WCDOE met with and led Ford Motor Company's volunteer work force to perform woody debris management on three logjams in the Hines Parkway in Ford Volunteer Work day. Over 25 volunteers from Ford performed valuable work on three logjams including one that was causing significant erosion threatening the bike path. This was a small part of a larger 600 volunteer effort that Ford does each year.

The WCDOE-Watershed Division and the Parks Division are collaborating to better manage woody debris in the Wayne County Parks system. With the increase of fallen trees due to the Emerald Ash Borer and increased stream flow (caused by upstream development), logjams and issues created by them appear to be increasing. A field reconnaissance of logjams in the system was performed during 2005 and action/maintenance recommendations are under review regarding log jam locations for use of woody debris management in the river between Nankin Mills and Middlebelt Road. In December 2005, an evaluation of the flooding issue in Edward Hines Parkway was initiated and recommendations for minimizing impacts will be developed in 2006.

WCDOE also responds to requests from citizens regarding riparian management issues on their property. For example, in both March and May, WMD staff performed technical site visits to evaluate streambanks on the property of individual homeowners. The citizens were informed about what can be done to improve their riparian corridor in an environmentally friendly way through the use of no-mow zones, native plants and other methods.

Stream Bank Stabilization Efforts: In January 2005, the RCM work group continued to provide technical assistance toward a project in Birmingham (Fairway Park.) Members of the RCM Work Group, including Wayne County, assisted with the planning and construction of this

project under a grant awarded to Friends of the Rouge. Phase one, installation of woody debris to stabilize the toe of slope of the main eroding banks, was completed In September 2005. One large elm tree, which had fallen in a storm, was cut, placed in the stream and affixed with cable. The next phase of the project involved grading the slope, planting fascines and creating a native plant buffer.

Wayne County staff partnered with the Stream Team and performed routine maintenance (weeding and invasive plant species removal) on four streambank stabilization sites in the Lake Erie Watersheds during 2005. Over forty high school students worked with staff on four sites (Frank and Poet in Taylor, Patriot Park in Riverview, Silver Creek in Flat Rock and Brownstown Creek in Brownstown). On May 7th, over 70 *Stream Team* volunteers participated at the Taylor project site, where 60 linear feet of streambank was stabilized with the assistance of WMD and FMD along the Frank and Poet drain adjacent to Southland Mall. Approximately three cubic yards of garbage was removed from the site. On May 21st, over 40 *Stream Team* volunteers stabilized 30 linear feet of bank in Rockwood. Approximately, two cubic yards of garbage was removed from this site. At the final demonstration on June 4th, WMD staff and a handful of volunteers stabilized approximately 120 linear feet of streambank along the Brownstown Creek adjacent to Brownstown Township Hall.

WCDOE continued to try to get the MDEQ with the Michigan Department of Transportation (MDOT) to resolve a slope stabilization/soil erosion problem on the west embankment of southbound I-275, between the Middle Rouge River and Hines Drive. MDOT plans for restoration of the slope, which includes bioengineering as part of the restoration, have stalled. During 2005, the eroding soil gulley expanded in size at the top of the bank along I-275 while starting to expose pavement.

WMD in cooperation with the Parks Division initiated planning for the construction of two more bioengineering stream bank stabilization projects along the Middle Rouge River in the Hines Parkway with funding from a CMI grant.

As part of County Road projects, the Department of Public Services stabilized streambanks at several sites in Wayne County as follows:

- Tarabusi Creek along 6 Mile Road, between Middlebelt Road and Inkster Road. Gabion baskets with backfill were used.
- Frank & Poet Drain, as part of the reconstruction of Pennsylvania Road (initiated in 2005).
- McClaughrey Drain, south of Ecorse Road between Hannan Road and Interstate 275 (initiated in 2005).

Habitat Restoration (Protection)

Grow Zone Initiative: WCDOE WMD and DPS-Parks Division continued a “Grow Zone” pilot project within Hines Park. Three areas in the Nankin Mills area (around the retention pond, across Hines Drive by Middle Rouge River, and along the Mill Race) have been reclaimed as natural areas by defining them as “Grow Zones.” These three areas have not been mowed regularly but have been managed as natural areas that will improve biodiversity, increase wildlife habitat and add additional passive recreational and educational opportunities. WCDOE and Parks staff worked with school children, scouts and other volunteers to introduce native plantings

into one of the “Grow Zone” areas. Other potential Grow Zone areas were identified within the Edward Hines Parkway ranging from Northville to Dearborn Heights. For 2006, WMD has Clean Michigan Initiative Funding to convert over 22 acres of the Parkway into Grow Zones featuring native grasses, wildflowers, trees and shrubs.

Bennett Arboretum Restoration and Riparian Corridor Management Project: State and Federal grant funding enabled WMD and DPS-Parks Division to initiate the “Bennett Arboretum Restoration and Riparian Corridor Management Project” to design and define a restoration plan for the Bennett Arboretum in Edward Hines Parkway. This effort is consistent with the goals and objectives of the Middle 1 Rouge River Watershed Management Plan. This project designed and defined a restoration plan for the Bennett Arboretum in Edward Hines Parkway. Staff hosted two stakeholder meetings and comments were solicited from attendees from various interested parties, including cross-country, interested citizens and local environmental groups. WMD purchased and volunteers planted 20 trees for the planting portion of the effort. This tree purchase was part of a partnership with MSU Extension Office to develop a shade tree alternative collection in the Bennett Arboretum. These alternatives to ash trees are part of an Emerald Ash borer grant project effort undertaken by the WC MSU Extension Office. This effort supplemented WCDOE efforts in the Bennett Arboretum. The first two information kiosks were installed and the trail system was being placed. Signage for the trails and the three interpretive signs was completed and installed.

In addition to the Grow Zone pilot project, DPS Parks Division naturalists continue to monitor and repair bluebird nesting boxes and bat boxes. In 2005, five blue bird boxes needed repair and 18 more bat boxes were installed at Crosswinds Marsh. Two unauthorized trails were blocked off to protect habitat and as mentioned above *Dogs Must Be Leashed* signs were installed to keep them out of sensitive habitat areas. At Nankin Mills the Naturalist worked with St. Valentine School students in Redford to plant native wildflowers in Grow Zone area on Nankin site. Ford Motor Company volunteers enhanced Butterfly Gardens and Wetland native plantings. An Eagle Scout established 6 bat roosting boxes in Holliday Nature Preserve. The Naturalist met with a volunteer interested in establishing fern/woodland garden at Nankin. Cub Scout volunteers, the Naturalists and seasonal staff removed garlic mustard in Ellsworth and Cowan sections of the Holliday Nature Preserve.

Detroit River International Wildlife Refuge: The Master Plan for the Refuge Headquarters was completed in fall 2005. Wayne County received funding in 2005 under a CMI Non-Point Pollution grant to begin The Humbug Marsh Water Quality Enhancement Project. The first phase of construction documents are being prepared by consultants with projected construction to take place in early fall 2006. Plans include the “daylighting” of the Monguagon Drain and creation of a storm water basin in an effort to collect sedimentation and filter pollutants before the storm water is discharged into Humbug Marsh and ultimately into the Detroit River. DTE Energy is sponsoring a grant for the first planning phase of the architectural element of the Gateway site for DRIWR; the contract is being negotiated at this time. A Kresge Foundation Planning Grant was awarded in December 2005 towards architectural planning and design of the DRIWR as an Architecturally green building initiative, promoting LEED Certification. A National Coastal Wetland Conservation Grant was awarded in December 2005 to enhance coastal wetlands and improve ecological buffers for Humbug Marsh. Wayne County is also

working with the U.S. Army Corps of Engineers on aquatic restoration/creation, upland restoration, and water quality improvements.

Rouge Oxbow Restoration: Wayne County partnered with The Henry Ford and the State of Michigan to restore an oxbow of the Rouge River at Greenfield Village. The main objective of the project is to restore valuable fish and wildlife habitat within the Rouge and to restore functioning riverine wetlands that have been lost due to channelization of the river. Secondary objectives include improvement of water quality, increased floodplain storage, educational/interpretative opportunities and improved aesthetics. The project is being completed in three phases: Phase I – Oxbow Wetland Restoration; Phase II – Combined Sewer Overflow (CSO) Modifications; and, Phase III – Open Connection to the Rouge.

Phase I of the project, funded by grants from the State of Michigan Clean Michigan Initiative (CMI) and the Rouge River National Wet Weather Demonstration Project, was completed in August 2003. Phase I provided restoration of the oxbow wetlands similar to riverine wetlands common in Michigan rivers. The restoration provided a 2,200-ft channel that varies in width from 15 to 105 feet and depths of 3 to 6 feet. The channel is surrounded by 3 acres of submergent and emergent wetland systems (0-3 foot depths) that provide habitat for various fish species. The wetland transitions to 10 acres of existing and upland woodlands and open areas and are planted with various tree, shrub, grass and wildflower species. Bioengineering (planted slope stabilization) techniques also provide shrub areas. An existing storm sewer connection provides river water to the oxbow during Phase I and a siphon connects the wetlands on both sides of the existing CSO until Phase II or III. A supplement Phase (1A) was performed in late 2003 and 2004. Phase IA included trails and signage on the oxbow island and overlook deck and train platform to improve access to the oxbow site. The Henry Ford is also developing new educational programs, which will be conducted on the oxbow island.

The City of Dearborn will perform Phase II of the project as part of their CSO construction project. Phase II consists of the removal of the CSO pipe across the oxbow and opening the connection between the east and the west sides of the oxbow channel. This effort will probably be completed in late 2006 or early 2007 after Dearborn has their CSO facility operational.

Wayne County and The Henry Ford have also partnered with the U.S. Army Corps of Engineers (COE) to explore using federal funding grants for completion of Phase 3 of the Rouge Oxbow restoration project. Phase III of this project will replace the current pipe connection of the Rouge River to the oxbow with open channel cuts at both ends. This effort will allow unrestricted access to/from the oxbow by boats and wildlife. The COE has prepared a preliminary restoration plan for this effort, which is under review by COE management. In March 2005, the COE was awarded federal funding to begin the Phase III effort. During 2005, Ford Land Development agreed to design and construct the downstream opening of the oxbow to the Rouge River in order to provide an adequate outlet for the storm water system necessary to accommodate redevelopment of property in the vicinity of the oxbow. The construction of open channel connection to the Rouge was completed in December 2005.

Wayne County Native Plant and Backyard Composting Demonstration Site: WMD 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 WMD 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. In 2005, an expansion to the native plant garden was developed. The area was prepared and planted. Seventy-eight plants, which consisted of 8 different native flowers and a native shrub, were planted. Between the two gardens, a 4' x 12' observation patio was constructed using paver bricks. Routine maintenance continued on the garden and trail system. Also, the wildlife monitoring activities continue. This demonstration site was used as a Master Composter/Master Gardener training location for the Ecological Gardening course. Future activities planned include installation of bird and bat houses to provide habitat enhancements. Continued use of the site for staff training and Ecological Gardener training.

Collaboration with the Detroit District US Army Corps of Engineers (COE): The COE received funding to assist with the Rouge River restoration efforts, including the potential restoration of the paved channel section of the Rouge. Detailed analysis for this project, started in 2003. Data collection and other activities necessary to evaluate alternatives for a channel cross section continued during in 2004 for the concrete channel between Michigan Avenue and Interstate 94, but was put on hold in 2004 by the COE due to funding restrictions. In March 2005, the COE was awarded federal funding to resume work toward designing and constructing this project. A design review meeting and design analysis discussions were conducted in August 2005. The COE are working on the analysis and design of this project. The hydraulic modeling of the channel modification alternatives was completed and a report was submitted in December 2005. The alternative will be evaluated in early 2006 to select the best option to move forward with the project.

Other initiatives: Wayne County has been actively pursuing funding to implement other riparian corridor management projects. Grant applications submitted during 2005 to provide funding for this effort include:

- Lake Erie Watersheds Natural Features Inventory and Monitoring Project, under the Coastal Zone Management Grant Program. The purpose of this project is to identify the natural features in the Lake Erie Watersheds and utilize this information for watershed management restoration and protection purposes including zoning/master plan decision-making.
- Southern Wayne County Watersheds Riparian Corridor Improvement Project, under the 2005 National Fish and Wildlife Federation Great Lakes Watershed Restoration Grant Program. The purpose of this project is to improve riparian corridor and instream habitat in the Ecorse Creek, the Combined Downriver (Frank/Poet Drain and the Blakely Drain) and the Lower Huron River watersheds (collectively referred to as the Southern Wayne County watersheds).

None of these applications were accepted for funding.

River Day - Johnson Creek Day Participation: As described under PEP#3, Wayne County was a major sponsor of the May 2005 Johnson Creek Day. Riparian corridor management and habitat restoration activities included clean-up projects, a bat conservancy display, a Michigan

amphibian display, a FOTR bug hunt display and the WMD Activities for Kids (Creature Feature, RiverBend, Frog Toss and Diggin' for Worms.)

River Day – Rouge River: WMD staff provided the following services and support to FOTR for Rouge Rescue 2005 at several locations. At Canton Township Site #2 (Fellows Creek at Palmer and Brookdale near the Meadows of Canton subdivision), Kesh Raizada from WMD served as the site coordinator with support from Peter Benz. Seventy-five volunteers assisted in storm drain stenciling, benthic macro-invertebrate monitoring and trash removal. WMD's Frog & Toad display was set up and a variety of educational materials were provided to all volunteers. At the Rouge Park site along the Main branch of the Rouge River, Marrian Louis participated in the afternoon educational event, setting up the Frog & Toad display and distributing educational materials. More than 100 volunteers participated in the afternoon event.

River Day – Ecorse Creek: FMD staff participated in the Ecorse Creek Clean Up May 2005. A total of five sites were staffed by 25 FMD employees for a total of 200 hours.

BMP Implementation Treatment Controls – County Projects (SWPPI #2)

Wetlands – Constructed (County Projects): Wayne County continued to maintain approximately 7 acres of wetlands have been created by the Wayne County Wetland Bank and Wetland Protection Fund during the reporting period.

Other BMP Treatment Controls (County Projects):

- Construction of the Pennsylvania Road Project was completed during the reporting period; this project includes installation of one Vortech swirl concentrator and a 10-year design storm underground pipe detention system.
- It was previously reported that the Warren Road reconstruction project would include the installation of one Vortech swirl concentrator; however, the redesign of the storm drainage for this project completed during 2005 eliminated the swirl concentrator.

The 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
2005 Roadway Sweeping Summary
Wayne County Roads Division

Type of Roadway	Cycles	Road Miles
Urban Freeway	8	5,188
Non-Urban Freeways	3	1,447
County Primary Roads	5	3,530
County Local Roads	1	286

In addition, cleaning of catch basins to ensure positive drainage is done on an as-needed basis. During this reporting period, Wayne County Roads Division removed and properly disposed of 15,000 cubic yards of material from catch basins, storm sewers, roadside ditches and other features. Over 16 miles of ditch were cleaned of trash and debris in 2005. The Roads Division has a policy to ensure that hazardous materials spilled on the roadways are appropriately disposed of and reported.

The Roads Division initiated planning for a new truck wash building, with oil water separator, for the Norton Yard (Rouge Watershed) in 2002. Construction of the facility has been postponed because of funding issues.

WMD in cooperation with the Parks Division initiated planning for the establishment of two bioswales in the Hines Parkway with funding from a CMI grant.

As described above, there are several storm water management features planned for implementation as part of the construction of the headquarters for the Detroit River International Wildlife Refuge, including construction of a storm water detention basin and stream bank stabilization efforts to restore and enhance the Humbug Marsh and ultimate the Detroit River. Grant possibilities are being investigated for future rain gardens and bioretention areas.

Soil Erosion and Sedimentation Control Implementation (County Projects): The Wayne County Department of Public Services “Authorized Public Agency” (APA) status under Part 91 Soil Erosion Program was audited by MDEQ in 2003. On July 22, 2005, Wayne County DPS was approved by MDEQ as an APA under the Part 91 Soil Erosion Program. In 2005, twenty (20) projects that required soil erosion and sedimentation control measures were implemented by the Roads Division.

WCDOE – FMD’s status as an APA under the Part 91 Soil Erosion Program was deemed conditionally acceptable during MDEQ’s most recent audit of this program.

Goose Control Program: A total of 167 goose eggs laid on Wayne County Park property were replaced during 2005 at five (5) locations.

CSO Control Implementation (SWPPI #3)

Wayne County continued operation and maintenance of combined sewer system facilities in Harper Woods, Redford, Dearborn Heights, Inkster and River Rouge. 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.

The Roads Division is currently separating the road storm drainage along Oakwood Blvd south of Michigan Avenue from the City of Dearborn’s combined sewer system.

SSO Control Implementation (SWPPI #4)

Wayne County continued operation and maintenance of the sanitary sewer interceptor system tributary to the County's Wyandotte Wastewater Treatment Plant (WWTP) and of parts of the interceptor system tributary to the Detroit WWTP. Any SSO control activities necessary for these systems are defined in the NPDES permits for these systems.

General Public Facilities Management (SWPPI # 5)

Activities by the Wayne County Roads Division include:

- Oil and Grease Traps: Several times during the year, the 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. The Roads Division initiated planning for a new truck wash building with an oil/water separator for the Norton Yard in the Rouge River Watershed in 2002. As mentioned above construction of this facility has been postponed.
- Cleaning of Paved Surfaces is accomplished with road sweepers as described above. Spills on County roads are handled via a contract with an environmental cleanup company. 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 & Disposing Wastes: Waste such as sweeping material is either stock-piled on an impervious surface and hauled later or hauled directly to a Class 2 landfill
- Storing and Handling Inventory: Contained liquids at Roads yards are stored on bases of spill and overflow protection. Bulk storage is on covered impervious surfaces
- Dumpster & Loading Dock Maintenance at Roads yards is handled by a contractor.
- Cleaning Equipment- Wayne County Roads Division: Equipment used by the Roads Division is cleaned with water and an environmentally friendly soap.

Soil Erosion and Sedimentation Control – County Enforcing Agency (SWPPI # 6)

Program Administration & Ordinance Enforcement: The WCDOE Land Resources Management Division (LRMD) administers Part 91 (Soil Erosion and Sedimentation Control) (SESC) of the Michigan Natural Resource & Environmental Protection Act as the CEA within 31 (an increase of 4) of the 43 local communities within Wayne County. During the reporting period, LRMD issued 222 soil erosion control permits. Inspections were conducted at 100% of the projects underway and 39 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 2005; the program was audited by MDEQ in 2001 and received an "Approved" rating.

LRMD staff lead the Technical Advisory Committee of the Johnson Creek Protection Group and also actively participate on the JCPG steering committee. LRMD staff are and will continue to be active participants in the Wayne County Storm Water Ordinance Workgroup.

Storm Water Ordinance (SWPPI # 7)

Ordinance Enforcement: **Storm Water Management:** 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-WMD) periodically publishes a document entitled "Program Clarifications, Errata, And Revisions". During the reporting period, this document was published in April 2005 and was a primary topic of discussion at the "Wayne County Storm Water Summit" held on April 19. More than 100 community staff, engineers/consultants, developers, and other interested parties met with the Work Group to discuss the new guidance and other aspects of the county's Storm Water Management Ordinance program. The work group is using the feedback provided to develop additional guidance for complying with the program's requirements.

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 (cross-reference PEP#9) and include periodic mailings to local communities, developers, and other interested parties and posting on Wayne County websites. Copies of the ordinance, rules, and standards manual are available from the Permit Office (33809 Michigan Avenue, Wayne, MI), the Land Resources Management Division offices which administers soil erosion permits in the County (3600 Commerce Court, Wayne, MI), or from the Wayne County's websites "<http://www.wcdoe.org>" (go to "Storm Water Ordinance") or "<http://www.rougeriver.com>".

During the reporting period, 502 development projects were reviewed by the Permit Office to ensure compliance with the Wayne County Storm Water Ordinance. From these reviews, 217 construction approvals were issued. During the reporting period, 285 approved projects were completed, with 0 enforcement actions taken. There are currently 364 County-reviewed projects under construction within Wayne County. During the reporting period, the Field Engineering Office administered 19 contract construction projects for the County.

BMP Implementation: Projects Subject to County Ordinance. 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*. As described above, 502 development projects were reviewed to ensure compliance with the Wayne County Storm Water Ordinance during the reporting period.

Ordinance Enforcement (SWPPI # 8)

Municipal Civil Infractions Ordinance: 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). MCI provides options to address municipal ordinance violations by allowing County staff to focus on correcting violations of our ordinance rather than on proving guilt or seeking criminal incarceration for the violation. The Municipal Civil Infraction Bureau (MCIB), operated by the WCDOE Corporation Counsel, 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 14 violation notices issued under Wayne County's Municipal Civil Infraction Ordinance as follows:

- 9 for violations of the Soil Erosion and Sedimentation Control Ordinance, issued by the Land Resource Management Division of WCDOE;
- 1 for violation of the Solid Waste Ordinance, issued by the Land Resource Management Division of WCDOE; and
- 4 for violations of the Sewer Use Ordinance, issued by the Industrial Pretreatment Program of WCDOE Facilities Management Division.

The MCIB collected fines and penalties for these violations as authorized by the ordinance.

Sewer Use Ordinance: The WCDOE FMD IPP unit continued implementation of the Sewer Use Ordinance (Chapter 101 of Wayne County Code of Ordinances). There were 47 violations, 5 notices, four municipal civil infractions and zero show causes issued in the continued enforcement of the County Sewer Use Ordinance which governs sanitary sewer operations/maintenance and some storm water operations/maintenance countywide (excluding City of Detroit).

Illegal Dumping Ordinance: See the report under *IDEP #3*.

OSDS Evaluation and Maintenance Ordinance: See the report under *IDEP #9*.

Soil Erosion and Sedimentation Control Ordinance: See the report under *SWPPI # 6*.

Storm Water Management Ordinance: See the report under *SWPPI # 7*.

Other Activities And Projects:

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

The DPS-Engineering Division is constructing the new “Southwest Detroit-Dearborn” bike path, which should be completed in the fall of 2006.

Nankin Mills Interpretive Center - Passive Recreation Improvements:

- Nankin Naturalist coordinated with Ford Motor Company volunteers to build two footbridges on hiking trails over the Middle Rouge River and Tonquish Creek in Holliday Nature Preserve, Ellsworth and Koppernick sections.
- Nankin Naturalist coordinated with Ford Motor Company volunteers to build a dock on the Nankin site for Pond interpretive program use.
- Nankin Naturalist worked with DOE to establish trail directional markers, trail layout, interpretive and history brochures and interpretive signage on Bennett Arboretum hiking trails.
- Nankin Naturalist maintains bird feeding station area on Nankin grounds.
- Nankin Naturalist maintains trail markers in Ellsworth Section Holliday Nature Preserve, repairs vandalism.

Nankin Mills Interpretive Center Planned - Capital Improvement Projects for Passive Recreation:

- Holliday Nature Preserve bridge and boardwalk specifications are being drawn up for the large bridge replacements needed on trails over Middle Rouge River and Tonquish Creek and should be completed by fall 2006.
- Bennett Arboretum entry kiosk, hiking trail improvement, new Woodland Wildflower Area planting and interpretive signage is planned for 2006.

Wayne County Parks Capital Improvement Projects: Wayne County Parks completed the Elizabeth Park Riverwalk Northpointe project. The project allows for access to the Detroit River for recreational uses and also created interpretive emergent wetland areas in an effort to implement soft engineering applications and use as an education tool. Fishing is one of many uses in this area as well as other areas along the river.

The Heritage Water Trail is in planning stages. Intended to provide waterway access to various points along the Huron River and Lower Detroit River. WC Parks is an active player in the planning of the trail system.

Under a settlement agreement with General Motors, they will develop the Newburgh Lake Island at the western end into a Nature Trail / passive recreational island. The project is presently being reviewed by the MDEQ.

Active recreation use within Wayne County Parks during the reporting period included:

- 374 canoe rentals at Crosswinds Marsh
- 209 participants during a fishing contest at Crosswinds Marsh
- 930 paddleboats rentals at Newburgh Lake
- 217 row boat rentals at Newburgh Lake
- 60 Summer Campers were taken fishing and paddle boating on Newburgh Lake in July 2005.

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, 2005 – December 31, 2005 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 (6) 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. Significant assistance was provided in the completion of the 2005 *Rouge River Report Card* that was issued by RRAC in December 2005. Staff has also been instrumental in RRAC announcing 2006 as the Year of the Grow Zone.

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 structure involved a general assembly that meets at least twice a year where any member can require that issues be decided based upon a of voting shares with the communities having 88% of the voting shares proportional to their individual monetary assessments, and the three counties dividing the remaining 12% based upon their respective population within the watershed. The Assembly successfully operated for 2.5 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. As of February 28, 2006, there are 39 ARC members that have

approved the bylaws, including Wayne County. The first full meeting of the Alliance of Rouge Communities was held on January 6, 2006. A key agenda item included review and approval of the 2006 budget of \$592,876 that funds continuation of the five-year monitoring program, priority public involvement and education activities, established for the first time a budget line item for a collaborative IDEP effort, and staff support through 2006. An invitation to the Wayne County Airport Authority (WCAA) to join the Alliance as an Associate member was approved, and an amendment to the fiduciary services agreement with Wayne County was signed to extend the service through 2006 as approved by the Wayne County Commission and CEO. As of March 31, 2006, 41% of the community dues have been received by Wayne County for the FY 2006 budget.

Similar to the Assembly of Rouge Communities, the ARC structure involves a General Assembly that meets at least twice a year, an Executive Committee which 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. A new section of the Rouge Project website, www.rougeriver.com, serves as the primary tool for disseminating information to the ARC.

Wayne County was a founding member of the ARC, is an active participant on every 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 - 2005 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 serves as co-chair of the Organization Committee; during 2005, this group developed the bylaws for the new ARC under the new Watershed Alliance Act.

More information about the activities of the ARC during the reporting period can be found on the ARC webpages of the Rouge Project website www.rougeriver.com.

Activities in Ecorse Creek, Combined Downriver, And Lower Huron River Watersheds

Watershed Management Plan Development. During the reporting period, Wayne County was instrumental in all efforts of the Inter-Municipality Committees in Ecorse Creek, Combined Downriver and Lower Huron River watersheds. In Ecorse Creek, Wayne County serves as the fiduciary. All three watersheds successfully completed development of their respective watershed management plans and submitted them to MDEQ by the November 2005 deadline. Wayne County participated in all of the Public Participation Process activities. Wayne County WMD staff initiated efforts in 2005 to assist the local communities with the development of their Storm Water Pollution Prevention Initiatives (SWPPIs) and in the planning and implementation of a performance and environmental indicator based monitoring program to measure the success of watershed restoration and protection efforts (refer to *Stream Team* partnership efforts *PEP#3* & *PEP#5*).

Wayne County also financially contributed to having the Regional Public Education Survey coordinated by SEMCOG to include the Ecorse Creek, Combined Downriver and Lower Huron River watershed areas. Information gathered through this survey was useful in the Watershed Management Plan development.

Public Participation Plan Activities. During the reporting period, public participation plans (PPP) for watershed plan development process for the respective watersheds were implemented by the Ecorse Creek IMC, Combined Downriver IMC, Lower Huron River IMC, and Lake St. Clair Watershed Advisory Groups and members, including Wayne County. In January 2005 preparations were made and a joint Ecorse Creek and Combined Downriver watershed public meeting/workshop was held January 20, 2005. The second joint Ecorse Creek and Combined Downriver watershed public meeting/workshop was held June 1, 2005. The third and final joint Ecorse Creek and Combined Downriver watershed public meeting/workshop was held September 22, 2005. Support activities to these events included participation in flyer development and distribution, press release development, event education displays and invitation/announcement email to the County Commission, County Executive, and other appropriate County personnel consistent with the approved Public Participation Plan. The websites for the watershed planning efforts within the Ecorse Creek and Combined Downriver watersheds were maintained at www.ecorsecreek.com and www.combineddownriver.com. These websites were and are an important mechanism for informing and involving the public and other stakeholders in the watershed planning process.

For the Lower Huron River watershed, the website www.lowerhuronriver.net was launched in March 2005. The second PPP meeting for the Lower Huron River was held on May 19, 2005. The third and final PPP meeting for the Lower Huron River was held on September 28, 2005. Support activities to these events included participation in flyer development and distribution, press release development, event education displays and invitation/announcement email to the County Commission, County Executive, and other appropriate County personnel consistent with the approved Public Participation Plan.

Institutional Arrangements. 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. In the fall of 2005, Wayne County presented options for institutional arrangements for continuing collaboration on storm water permit compliance and watershed management issues and activities to all three groups. There was broad interest in forming a permanent watershed organization under the new Watershed Alliance legislation. Wayne County is participating in a subcommittee to draft bylaws to form new watershed organizations for the three downriver watersheds as required under the new statute.

Activities in Lake St. Clair (Direct Drainage) Watershed

Watershed Management Plan Development. 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. During the reporting period,

WMD staff have been working with Macomb County, the consultant and the other watershed partners to develop the watershed management plan for this area.

Public Participation Plan Activities. In January 2005 a stakeholders forum was hosted by the Lake St. Clair Watershed Advisory Group. In February 2005, a Community Forum for the general public was again hosted by the Lake St. Clair Watershed Advisory Group. Support activities to these events included participation in flyer development and distribution, press release development, event education displays and invitation/announcement email to the County Commission, County Executive, and other appropriate County personnel consistent with the approve Public Participation Plan.

Other Initiatives

Wayne County has been actively pursuing funding to implement the watershed management plans for all Wayne County watersheds. Grant applications submitted during 2005 to provide funding for these effort include:

- *Michigan Clean Water Corps Volunteer Stream Monitoring Program*, March 2005
- *Lake Erie Watersheds Volunteer Stream Monitoring Program Grant Application*
- *Lake Erie Watersheds Natural Features Inventory and Monitoring Program*, Coastal Management Program Grant Application, March 2005;
- *Detroit River Comprehensive Master Plan*, Coastal Management Program Grant Application, March 2005
- *Riparian Corridor Management in Southern Wayne County Watersheds*, Clean Michigan Initiative, Clean Water Fund, May 2005
- *Detroit River Monitoring Project: Pathway to Delisting*, USEPA Great Lakes National Program Office Grant Application, May 2005
- *Watershed Based Permit Compliance – Southern Wayne County Watersheds*, USEPA Water Quality Cooperative Agreements Request, August 2005
- *Riparian Corridor Management in Southern Wayne County Watersheds*, NOAA Community Based Restoration Program, October, 2005
- *Southern Wayne County Watersheds Riparian Corridor Improvement Project*, Fish and Wildlife Foundation's Great Lakes Watershed Restoration Grant Application, November 2005

SECTION 6
LIST OF ATTACHMENTS
Wayne County Annual Report: January 1, 2005 – December 31, 2005

SECTION 1: DETERMINATION OF EFFECTIVENESS

- *Measuring our Success: Upper Subwatershed poster*
- *RRAC Rouge Report Card*

SECTION 2: ILLICIT DISCHARGE ELIMINATION PLAN

- Final Report, “Ecorse Creek Illicit Discharge Elimination Project”, April 1, 2002 through March 31, 2005. Funded by CMI Grant #2001-0078

SECTION 3: PUBLIC EDUCATION PLAN

- Wayne County Department of Environment *Resource Recovery Guide*
- *Storm Water Public Education Materials* Clearinghouse CD

SECTION 5: WATERSHED PLANNING

- Public Participation Meeting Materials

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.