

THE ROUGE RIVER PROJECT
A WORLD CLASS EFFORT



BRINGING OUR RIVER BACK TO LIFE

Rouge River National Wet Weather Demonstration Project

Wayne County, Michigan

Review of Year 2002

RPO-WMGT-TR50

March 2003

ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT

REVIEW OF YEAR 2002

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1.0 INTRODUCTION

In the year 2002, the major progress in restoration of the Rouge River included:

1. The U.S. EPA's Office of Inspector General issued its report on the nation-wide audit of the national Combined Sewer Overflow (CSO) Control program. The report cites a number of examples of the successes of the Rouge Project's CSO control program. The report calls the watershed approach being utilized on the Rouge Project a "blueprint for success."
2. The water quality and the overall ecosystem health of the river continued to steadily improve in 2002. The improvements clearly reflect the benefits of the watershed management strategies that have been implemented to address and control both dry and wet weather pollution sources in the watershed. The preliminary data shows that the dissolved oxygen standard was met the majority of the time in wet and dry periods at monitoring stations along the river.
3. The River Rouge CSO Basin became operational in August 2002. This basin was designed to capture the 10-year 1-hour storm and has a capacity of 5.2 million gallons. All ten of the CSO retention/treatment basins planned for Phase 1 of the Rouge Watershed CSO control program are now in operation.
4. The combined sewer overflow (CSO) storage treatment facilities continued to meet or exceed expectations. In 2002, MDEQ certified the three Detroit CSO basins as meeting the Phase II criteria of eliminating raw sewage and protecting public health. Therefore, all nine basins evaluated to date have all been certified as meeting Phase II criteria. In addition, the three Oakland County basins were certified by MDEQ in 2002 as meeting the Phase III requirement of achieving river water quality standards at times of discharge (except for meeting the instream standard for total residual chlorine).
5. Storm Water Pollution Prevention Initiatives (SWPPIs), required under the MDEQ watershed-based NPDES permit program for stormwater discharges, were submitted by 43 communities and agencies in the Rouge Watershed and were approved by MDEQ. Implementation of other elements from the 7 Rouge Subwatershed Management Plans, such as the community illicit discharge elimination plans (IDEP) continued, and contributed to the improvements in Rouge River water quality.
6. The Rouge Gateway Master Plan is a compendium of planning and design initiatives to transform the Rouge Gateway to a diverse, rich fishery drawing visitors from local communities and around the country to the river for recreation. A major element of the Master Plan, "The Rouge Oxbow Restoration Project - Phase I" was completed in 2002 and is 'open for business'. Work progressed with the Detroit District US Army Corps of Engineers regarding potential restoration of the concrete channel section of the lower Rouge.

7. A “Drafting Committee” prepared a Memorandum of Agreement (MOA) establishing the Rouge River Watershed Local Management Assembly. In January 2003, the MOA was distributed for conditional approval by the communities and agencies.
8. Several projects completed as part of the Rouge Project were awarded achievement awards by regional, national, or international organizations; included in this list is the “Superior Achievement Award” awarded to the Rouge Project by the American Association of Environmental Engineers.
9. The communities, Counties and agencies in the watershed continue to implement a very impressive number of actions that are furthering the restoration of the Rouge River.

The following sections briefly summarize some of the most significant accomplishments that occurred during the year.

2.0 WATER QUALITY / ECOSYSTEM HEALTH IMPROVEMENTS

A. Water Quality Improvements

The Long-Term Monitoring Network, operated by Wayne County’s Rouge Program Office (RPO), includes continuous measurement of Rouge River dissolved oxygen (DO) content at seven locations in the watershed. Adequate DO is one key element of a healthy river ecosystem. In 2002, the network was expanded by two sites to provide at least one station in each subwatershed. DO is measured from mid-April through mid-November each year, and several of the sites have been monitored since 1994. Since the measurements are continuous, they show the combined effect of dry and wet weather conditions in the river. A review of the preliminary 2002 data from these long-term monitoring locations is summarized below.

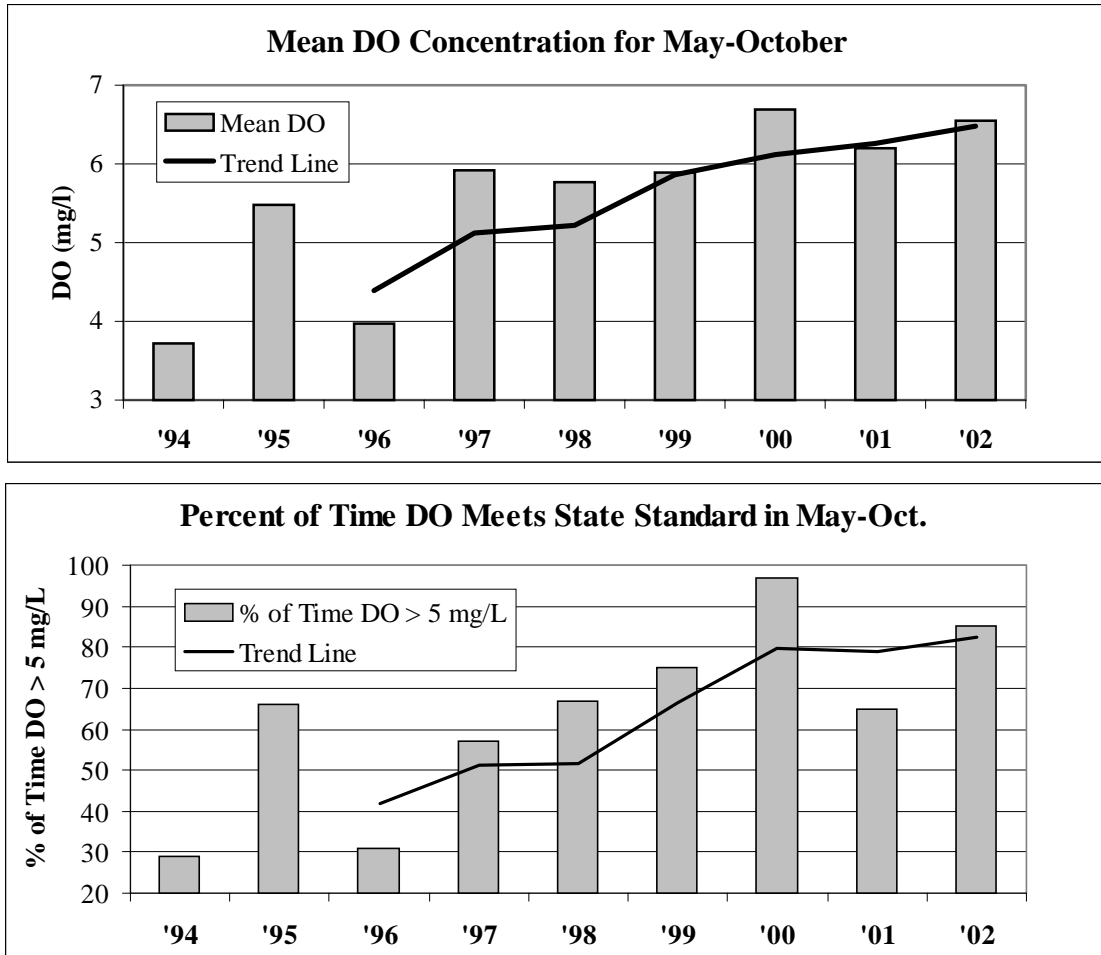
During 2002 the water quality in the Rouge River continued to show improvement. The MDEQ water quality standard for DO is 5 mg/l. This standard was met nearly 100% of the time at 3 stations, 85% at another three stations, and 75% at the one remaining station. At several stations, the percentage of DO values below the State standard continues to show an encouraging long-term trend of fewer exceedances in the more recent years. Figure 1 shows significant improvement in dissolved oxygen measurements taken in the Lower Rouge River at Military Road. Similar trends of water quality improvement have been observed at several other Rouge monitoring locations. The water quality improvements that are occurring clearly reflect the benefits of the watershed management strategies that have been implemented to address and control both dry and wet weather pollution sources in the watershed.

B. Ecosystem Health Improvements

High quality amphibian habitat is still present in the headwaters regions of the Rouge, based on the findings of the 5th Annual Rouge River Watershed Frog and Toad Survey organized by the Friends of the Rouge. Volunteers heard nine species of frogs and toads in the headwaters of the middle and lower Rouge branches and eight of the nine species in the headwaters of the main branch. An average of more than 3 species were heard calling in each quarter square mile block surveyed in the headwaters of these three branches. The headwaters of the upper branch did not have the same level of diversity as the other three

branches, but only a small part of this branch was surveyed. Increased coverage in the upper branch is needed.

Figure 1: Lower Rouge River Dissolved Oxygen (DO) at Military Road



In the downstream, highly urbanized portions of the watershed, 6 species were heard, showing that pockets of amphibian habitat remain. Since the first year of the survey (1998), Friends of the Rouge has noted that, in general, survey blocks with a higher amount of impervious surfaces (paved) have a lower diversity of amphibians. Yet, some highly impervious survey blocks have a good diversity of frogs and toads. A University of Michigan graduate student will be analyzing the imperviousness infrastructure of these sites to determine why some sites are successful for amphibian recruitment despite a high amount of imperviousness.

This year's frog and toad survey generated an all-time high level of interest, with over 700 Rouge River residents signing up to participate and monitor a site for amphibians. Through the experience of learning to identify and listen for the calls of their local amphibians, residents of the watershed learn the importance of Rouge River wetlands first hand.

The Rouge headwaters also contain some high quality stream segments according to the results of Friends of the Rouge's benthic macroinvertebrate sampling program. Like frogs and toads, benthic macroinvertebrates (aquatic insects, clams and snails that live in the streambed) can be used as indicators of water quality. Since the program was started in May 2001, hundreds of volunteers have joined a team to search the river for "bugs." "Bug hunts" are held in the spring and fall. In January, volunteers come out to look for winter stoneflies. The first annual winter stonefly search attracted 37 people despite the cold.

It will take several years of collecting baseline data before Friends of the Rouge can make any comparisons over time, but volunteers have been pleased to find sensitive families of insects at many of the sites. Eight new families of insects were identified this year; five of which are sensitive families only found under high quality water conditions. Sampling results are provided to the Michigan Department of Environmental Quality and to all of the Rouge Subwatershed Advisory Groups. Additionally, volunteers have unearthed problems affecting water quality at sites that have been reported to the local community and addressed.

3.0 COMBINED SEWER OVERFLOW (CSO) CONTROL

Ongoing efforts to control or eliminate uncontrolled CSO discharges took another step forward in 2002 when the City of River Rouge retention/treatment basin became operational in August. With this addition, all ten of the CSO retention/treatment basins planned under Phase 1 of the Rouge watershed CSO control program are now in operation and are removing a significant source of untreated sewage overflow to the Rouge River. A total of 77 of the 83 Phase 1 CSO outfalls are now under control (retention/treatment basins) or have been eliminated (sewer separation).

The completed basins are controlling overflows at a rate of about 4 billion gallons per year with a commensurate improvement in water quality, improvements in the aesthetics of the river, and increased recreational use. There are approximately 127 miles of the larger streams and tributaries (stream order 3, 4 and 5) in the Rouge River watershed. Approximately 89 of those miles are now free of the adverse impacts of CSO discharges. That means that only about 38 stream miles currently are adversely impacted by CSO discharges. This is a 51% reduction in the past 7 years. In addition to the CSO controls, the improvements to the River can be attributed to the multitude of other Rouge Project programs including illicit connection elimination, storm water management activities, and developing better public, industry and community awareness of pollution control and prevention.

The successful demonstration of performance at the CSO control basins continued in 2002. The demonstration has evaluated the performance of nine CSO facilities and is still evaluating the water quality impacts of their discharge to the Rouge River. In 2002, MDEQ certified that three Detroit CSO basins meet the Phase II criteria of eliminating raw sewage and protecting public health. All nine basins evaluated to date are now certified as meeting the Phase II criteria.

In 2002, three basins in Oakland County were certified as meeting the Phase III requirement of achieving river water quality standards at times of discharge, except for meeting the instream standard for Total Residual Chlorine (TRC). Significant progress was also made towards demonstrating that the Inkster basin is meeting Phase III requirements.

Lessons learned as part of the Phase I CSO control demonstration are impacting the design of future CSO treatment basins. Within the Rouge watershed, considerable planning and design work is underway in regards to control or elimination of all remaining uncontrolled CSO discharges. Alternative evaluation reports were submitted to MDEQ in 2002 for remaining uncontrolled CSOs in Inkster, Redford Township and Dearborn Heights. The Cities of Detroit and Dearborn also conducted a study in 2002 to determine the feasibility of constructing a joint regional capture tunnel to control the majority of their uncontrolled CSOs. Based on the outcome of this study, which is nearing completion, both communities will move forward on design of major CSO control facilities - whether the facilities are joint or independent.

During the latter part of 2001, U.S. EPA's Office of Inspector General (OIG) conducted a nationwide audit of the national CSO control program. They interviewed EPA headquarters personnel, three EPA Regions, eight states, 22 communities and some others. The MDEQ, the Rouge Project and several Michigan cities were interviewed as part of the study. The OIG issued their final Evaluation Report on "Wastewater Management - Controlling and Abating Combined Sewer Overflows" in August 2002.

The report cites a number of examples of the successes of the Rouge Project's CSO control program. The following is a quote from the report about the program and the watershed approach being utilized:

"Rouge River Project a Blueprint for Success - The Rouge River National Wet Weather Demonstration in Michigan is an excellent example of how utilizing a watershed approach can help to achieve water quality goals more efficiently. We have previously described in this report some of the successful results that have been achieved by this project."

4.0 SANITARY SEWER OVERFLOWS

A. MDEQ SSO Workgroup

The Rouge Project staff participated in the Michigan Department of Environmental Quality (MDEQ) Sanitary Sewer Overflow (SSO) Workgroup, which is helping the MDEQ to develop additional guidance and policy to communities regarding sanitary sewer overflow (SSO) management. While the municipalities participating on the MDEQ Workgroup disagreed with the final staff recommended guidance, it was approved by then MDEQ Director Harding in late December 2002. SEMCOG, Rouge communities and project staff are continuing to discuss their concerns with the state's guidance and determining what, if any, steps should be taken.

B. Municipal Liability for Basement Flooding

Directly related to sanitary sewer overflows is the municipal liability for basement flooding. The State of Michigan passed municipal liability for basement flooding legislation (PA 222, 2001) addressing this topic. This law applies only to new basement flooding cases and did not impact the cases that were already pending in court. The Michigan Supreme Court ruled, in April 2002, that that trespass-nuisance was not an exception to the municipal immunity statute.

C. 2002 SSO Projects Approved for Rouge Program Grants

There are 8 projects related to SSO evaluation/control supported by the Rouge Project:

- City of Dearborn-Downspout Disconnection Program (IIA-20)
- City of Melvindale-Illicit Discharge Investigation and Elimination and Sanitary Sewer Evaluation Study (IIB-08)
- City of Garden City-Water Quality Based Determination of SSO Design (IIA-02)
- City of Farmington Hills-East Lincolnshire Subdivision SSO Elimination-Phase I (IIA-08)
- City of Garden City-Reduction of Excess Peak Flows Through Evaluation and Modification of In-line Storage (IV-08)
- Oakland County Drain Commissioner's Office - Edwards Relief Drain Siphon Removal (IV-03))
- Oakland County Drain Commissioner's Office - Farmington to Evergreen SSO Interceptor with CSO Regulator Adjustments (IV-04)
- Wayne County Department of Public Works - Two Balancing Chambers to Improve the Efficiency of the Lower Rouge Interceptor (IV-10)

5.0 IMPLEMENTING THE MICHIGAN STORM WATER GENERAL PERMIT

A. Watershed Management Plans

Following the successful development of subwatershed management plans and SWPPIs in 2001, the Rouge Subwatershed Advisory Groups (SWAGs) continued to meet and work collaboratively with the local units of government and County agencies that have Certificates of Coverage under the watershed-based MDEQ General Storm Water Permit. Major issues addressed at SWAG meetings in 2002 included:

- Governance following RPO reductions,
- SWPPI revisions,
- Funding mechanisms,
- Development of ordinances,
- Monitoring program development and funding, and
- Rouge Project grant opportunities for plan implementation.

The Rouge communities and agencies that have Certificates of Coverage also prepared and

submitted their third annual report to the MDEQ documenting compliance with the terms of the General Storm Water Discharge Permit.

B. Storm Water Pollution Prevention Initiative Plans

The SWPPIs were finalized by 43 communities and agencies in the Rouge watershed and submitted to MDEQ at the end of 2001 as required by the General Storm Water Permit. The SWPPI details the storm water management activities that will be completed during the next 3 years. Following review by MDEQ some communities were required to revise their SWPPIs. Eventually all 43 Plans were approved by MDEQ by fall 2002.

C. Illicit Discharge Elimination

A requirement of the Michigan General Storm Water Discharge Permit application is that each community develop an Illicit Discharge Elimination Plan (IDEP). Over 43 communities in the Rouge River watershed have implemented their illicit discharge elimination plans. Typical activities include outfall surveys, sampling of storm sewer discharges and receiving waters, and inspection of properties. Most communities have also established a complaint line for calling in suspicious discharges.

Wayne County continued its active IDEP program. During the past year, 528 facilities were inspected and 44 buildings / facilities / structures were found to have over 190 improper connections to the storm sewer system. Since the inception of Wayne County's IDEP program in 1987, 5415 facilities have been inspected with a total of 1447 illicit connections found at 500 facilities. Only 63 facilities still have outstanding violations.

The Oakland County Drain Commissioner (OCDC) Storm Water Action Team (SWAT) continued identification and elimination of illicit discharges in 2002. SWAT has completed inventory of all OCDC drains in the Rouge River watershed (approximately 450 outfalls). In total, OCDC SWAT has inventoried 3,834 storm water outfalls throughout the Rouge River watershed in Oakland County.

The Washtenaw County Drain Commissioner's Field Inspection Division completed inspection of Rouge Watershed Drains in Washtenaw County during 2002.

D. Training in Illicit Discharge Elimination Techniques

The Wayne County Illicit Discharge Elimination Training Program was created and implemented in 1999-2000. The training program was developed to provide training for county and local community staff responsible for locating and eliminating illicit discharges to surface waters, as required under the federal National Pollutant Discharge Elimination System (NPDES) regulations for municipal storm water discharges. A key goal of the training program is to facilitate partnerships with other local agencies to provide united, comprehensive, and cost-effective efforts to reduce improper discharges to our water resources. The training program consists of five modules: (A) Overview, (B) Basic Investigations, (C) Design Considerations, (D) Advanced Investigations, and (E) Basic/Advanced Investigations, which is a combination of the Basic Investigations and Advanced Investigation modules designed to fit into one day. The specialty sessions include: (1) Recognizing Signs of Illicit Discharges, a two hour session to familiarize field staff with

illicit discharges, a reporting mechanism and how individual actions can prevent water pollution; and (2) Problem Solving Exercise, a two-hour session that presents a short summary of techniques for looking for illicit discharges and the problem solving exercise from the advanced investigations module. The program includes presentations of technical information, “hands on” instruction in investigative techniques, a tabletop problem solving exercise, and provision of software to aid in program management. Each participant receives a notebook containing recommended standard operating procedures, field forms, and other useful information. Through December 2002, six sessions of the Basic/Advanced Investigations module were provided to 136 people. Regionally, the Michigan Rural Water Association also sponsored a session for 25 of their members. Nationally, the City of Duluth, Minnesota, sponsored a session with 24 participants, including staff from the City of Duluth, Superior, Wisconsin and the State of Minnesota. Three presentations on the IDEP Training Program were given at state and national conferences. The state venue was the Southeast Michigan Council of Governments (SEMCOG) Phase II Storm Water Conference in Detroit, Michigan. National venues included StormCon-2002 at Marco Island, Florida and the Water Environment Federation’s annual technical conference (WEFTEC 2002) in Chicago, IL.

E. On-Site Sewage Disposal System Management

New ordinances went into effect on January 1, 2000 in Washtenaw County and Wayne County for the management of on-site disposal systems (OSDS). The regulations require the inspection of all residential OSDS by private evaluators at the time of sale of a property. Implementation of those ordinances proceeded during 2002 with excellent success as summarized below.

In year 2002, there were 121 evaluations performed in the Wayne County portion of the Rouge watershed as a result of the County’s ordinance. A total of 31 failed systems were found and by the end of the year 25 had been corrected.

The Washtenaw County Environmental Health Division inspected 881 septic systems countywide. 180 (20%) failed systems were found, and 48% of the corrections were complete by year end.

The Oakland County Drain Commissioner has drafted a regulation for regular inspection of onsite sewage systems. The regulation was not adopted in 2002.

6.0 PUBLIC EDUCATION AND INVOLVEMENT

The Wayne County Department of the Environment (WCDOE), the Rouge Project Public Involvement (PI) Team, the Main 1-2 PI Subcommittee, Friends of the Rouge, and watershed municipalities and counties successfully continued many of the initiatives from 2001 with increasingly positive results.

A. WCDOE Rouge River Nutrient Reduction Campaign

Wayne County Department of Environment (WCDOE) continued to design and implement various advertising techniques, including newspaper ads and public service announcements, to raise awareness and change behavior of watershed residents.

Print Ads: The Spring 2002 print ads were the “Slow Release Sticker”, “Got Grass? Mow High!” and “Got Grass? Feed It Right!”. These ads were placed twenty-nine times during the weeks of April 25, 2002 through June 19, 2002. The ads appeared in The Observer & Eccentric, The Heritage Newspaper (News Herald, Press & Guide newspapers), and Metro Times. The Fall 2002 print ads were the “Slow Release Sticker”, “Got Grass? Mow High!” and “Rake it... or Leave it”. These ads were placed thirty times during the weeks of August 21, 2002 through October 31, 2002. The ads appeared in The Observer & Eccentric, The Heritage Newspaper (News Herald, Press & Guide newspapers), and Metro Times. In all, 4 different ads were placed in three 3 different publications a total of fifty-nine times. A total readership of 321,400 was reached.

Cable TV: The message from the slow-release sticker, which included the Wayne County Department of Environment Hotline number and the Wayne County website address, was sent to Comcast Cable to be run as a free public service announcement (PSA). The placement of this PSA was not confirmed.

Billboards: The slow-release sticker was used as the format for a total of five billboards, three billboards in Wayne County and two in Oakland County. The run dates for the billboards were October and November 2002.



B. Fertilizer Point of Sale Education

The Southeastern Oakland County Water Authority (SOCWA), WCDOE and other members of the Healthy Lawn and Garden Technical Advisory Committee continued outreach efforts to fertilizer retail outlets regarding their cooperation in offering and providing “River Friendly” lawn and garden maintenance guidance and products.

Three methods for encouraging cooperation and delivering Point of Sale education have been recognized:

- “Don’t Guess – Soil Test” campaign
- Slow-Release Fertilizer Sticker program
- Healthy Garden Problem Solver Tip Cards

In spring 2002, WCDOE staff assisted the Wayne County MSU Cooperative Extension Service with implementing the “Don’t Guess – Soil Test” campaign. A lawn care workshop was given to the retailers who participated in the previous years soil test campaign. This workshop invited the retailers to take part in the 2002 soil test campaign. Eight retailers participated.

Along with the soil test campaign, the Slow-Release Fertilizer Sticker program was implemented in spring 2002. This program was initiated by SOCWA in 2001. Seventeen Wayne County retailers participated in this program. Across the region, over 35 stores participated in the 2002 program including all of the English Gardens and Dammans Hardware stores, who were secured by SOCWA. WCDOE staff distributed approximately 7000 stickers to the participating retailers of Wayne County. Promotional efforts included: the development of a window poster for the retailers, advertising slow-release fertilizers; a press release was sent out a number of times to several local newspapers as well as the Detroit Free Press and The Detroit News; flyers were created and several hundred were distributed to community offices and public building as well as public events, informing residents of the participating retailers and listing the approved fertilizers; a print ad of the slow release sticker was placed in three publications and billboards of the sticker were placed in five locations around the Rouge watershed.

Efforts are currently underway to implement the Healthy Garden Problem Solver Tip cards. Distribution of the cards will coincide with the 2003 slow-release sticker participating retailers.

Slow-Release Fertilizer



- Good for the Grass
- Good for Rivers and Lakes
- Good for Groundwater

Project sponsored by Wayne Co. Dept. of the Environment • 888-223-2363

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Funded through the Rouge River National Wet Weather Demonstration Project

C. River Friendly/Nutrient Reduction Education Activities

Wayne County DOE held six *River Friendly Lawn & Garden* workshops in 2002. Three workshops were held in the spring in the City of Westland and in Van Buren Township; two workshops were open to the public and one workshop was geared directly towards municipal employees. Three workshops were held in the fall in the City of Westland and the townships of Van Buren and Canton Township (sponsored by Western Township Utilities Authority (WTUA)); all were open to the public.

General Public Workshops Results:

- Communities represented include: Canton, Westland and Van Buren Township (Belleville) Livonia, Farmington Hills, Plymouth, Garden City, Northville, Redford, South Lyon, Dearborn Heights, Trenton, Romulus, Detroit
- Total attendance was 134 people.
- 66% of the attendees responded to the participant evaluation.
- 81% of the respondents are interested in attending additional River Friendly workshops.
- 81% of the respondents stated that they would make changes to their lawn care practices based on the workshop information.

Municipal Workshop Results:

- Total attendance was 67 people.
- 43% responded to the participant evaluation.
- 96% are interested in attending other River Friendly workshops.
- 66% stated that they intend to change their lawn care practices at work and at home.
- 66% of the respondents were from Wayne County municipalities, 7% were from Wayne County, and 27% were from other groups/organizations.

One *Lake Friendly Lawn Care* Workshop was held at Highland in Northville for homeowner associations and the general public in Northville Township, City of Northville and Plymouth Township. Twenty people attended and learned about “How Rivers and Lakes Work”, lake healthy lawn fertilizing/mowing/watering, riparian buffers and native plants.

To promote the participation in the workshops, individual flyers were created and distributed to community libraries and public buildings. A press release was written and distributed to several local newspapers as well as The Free Press and The Detroit News. Also, the Metro Times was used to distribute information about the lawn care workshops. Groups such as Friends of the Rouge and Johnson Creek Protection Group sent out group wide e-mails advertising the lawn care workshops.

One new brochure has been developed, “How to be a River Friendly Gardener”. This brochure is to go along with the previously created brochures, which offer many of the healthy lawn and garden tips on one-page tri-fold brochures.

D. Friends of the Rouge

Rouge Education Project (REP): The year 2002 marked the 15th anniversary of the REP. In the 2001-02 school year, 74 schools within the Rouge River watershed participated: 57 of those were returning schools and 17 new schools. In all, 141 teachers and 5,905 students participated. Additionally, the REP team recruited 19 College Student Assistants (CSAs), trained them in water quality testing and other aspects of the program and assigned them to assist teachers in the classroom and on monitoring day. In addition to the 74 schools that came from within the boundaries of the watershed to participate in the REP, 10 schools outside the boundaries also participated in the program. These 10 schools monitored within the Rouge watershed boundaries.

The REP team began a pilot program for fall monitoring in October of 2001. There were several teachers who expressed interest in monitoring in the fall and spring so they could compare data seasonally and have more time to analyze and interpret their data. The pilot program included 13 schools, 15 teachers and 408 students from within the watershed boundaries. An additional three schools from outside the boundaries monitored within the watershed.

Frog and Toad Surveys: The PI team held seven *Frog and Toad* workshops in 2002 with a total of 448 volunteers attending. This is a record number of attendees since the inception of the program in 1998. Workshops were held in Southfield, Dearborn, West Bloomfield, Livonia, Wayne, Plymouth, and Canton. The workshops provided volunteers with the information and materials needed to successfully monitor their designated sites for the calls of frogs and toads. Materials included a guidebook and a CD or tape of the breeding calls. There was a total of 703 volunteers signed up to participate in the 2002 survey, which made up 333 teams of both new and returning volunteers.

The American Toad has been the most commonly heard species in the Rouge River Watershed since 2001. In 2002, the percentage of survey blocks with calling toads reached an all-time high. Seventy-one percent (71%) of survey blocks had toads, compared to 58% in 2001.

Rouge Rescue/River Day: In 2002, FOTR successfully completed its 16th annual *Rouge Rescue/River Day* activities at 20 sites throughout the Rouge River watershed with the participation of 844 volunteers. In 2002, the FOTR team worked with individuals from the Michigan Department of Environmental Quality (MDEQ) and the Wayne County Dept. of Environment to develop a new technique called “Woody Debris Management (WDM) – the Clean and Open Method.” Participating communities in Rouge Rescue/River Day included Beverly Hills, Birmingham, Bloomfield Township, Lathrup Village, Southfield, Troy, Dearborn, Detroit, Melvindale, Farmington Hills, Livonia, Redford, Westland, Wayne, Novi, Northville Township, Plymouth, Plymouth Township and Canton. Projects included: streambank stabilization projects, the removal of invasive species and planting of native species, bird house building, storm drain stenciling, nature walks and the clean up of man made debris.

Storm Drain Stenciling: In 2001-02 there were 270 stenciling volunteers. Many of these volunteers were from the Ford Motor Co. through the 16-hour Community Service Program. Additionally, many Boy Scout and Girl Scout troops stenciled and several scouts organized a group as part of their Eagle Scout certification. These volunteers collectively stenciled 4,309 storm drains in Dearborn, Detroit, Livonia, Redford, Dearborn Heights, Garden City, Wayne, Westland, Plymouth and Canton.

Information Outreach Workshops (IOWs) FOTR IOWs are designed to educate local citizens on the history of the Rouge River and how they can help to improve the health of the Rouge River watershed. In 2002, the PI team offered Rouge River bus tours, streambank stabilization workshops and hands-on projects, a wetland tour, River Friendly Lawn Care workshops (in conjunction with Wayne County DOE), rain garden workshops, and riparian workshops. The PI team tailored the requested workshops to meet the needs of the community holding the event.

The PI team coordinated five bus tours in 2002. The primary facilitator of the bus tours was Dr. Orin Gelderloos, professor of Biology and Environmental Studies at the U of M Dearborn, in addition to other local experts. There were two bus tours held in the Main 1-2 subwatershed, one in the Middle 1, one in the Middle 3, and one in the Main 3-4.

Three additional workshops were held in 2002. In Farmington Hills, FOTR worked with the Woodcreek Watershed Protection Committee, the Farmington Hills Beautification Committee, and the City of Farmington Hills to conduct a hands-on streambank stabilization project on Pebble Creek in Farmington Hills. This was followed by a classroom workshop on riparian corridor management. The final workshop was a tour of the Inkster Wetlands.

Benthic Monitoring: The FOTR benthic monitoring program was designed to involve a large number of volunteers in sampling the headwaters creeks of the Rouge River for the small insects, snails, clams and worms that live in the streambed. These organisms vary in their sensitivities to water pollution so the type and number found can be used to assess the health of a creek site. Group sampling events, called Bug Hunts, are conducted in the spring and fall. Additionally, a winter stonefly search is held in January.

The January 2002 stonefly search, hosted by Bueter's Outdoors in Northville, had 37 volunteers. The April 2002 spring bug hunt, hosted by the University of Michigan - Dearborn Environmental Interpretive Center, had 54 volunteers. Following each fall and spring bug hunt, Bug Identification Days were held. These were hosted by University of Michigan - Dearborn Environmental Interpretive Center and were attended by a total of 28 volunteers.

E. Southeastern Oakland County Water Authority Activities

Events and Presentations: During 2002, SOCWA organized and sponsored 45 events and presentations on a wide range of topics. Of special note were three area-wide public education workshops: Healthy Lawn Care Seminar at Southfield Public Library (April 10); Native Plants and Natural Landscaping at Auburn Hills Public Library (May 10); and Feed

the Earth . . . Compost at Lathrup Village Children's Garden (June 1, River Day). All were VERY well attended by the public.

Outreach Events: An estimated additional 50 outreach events were carried out by volunteers independently (more than 1,000 community volunteer hours).

Rain Garden Events: With co-sponsorship and support from the Oakland County Drain Commissioner and the Wayne County Department of the Environment, SOCWA initiated the rain garden "agenda" for professionals in developed communities (e.g., planners, engineers, developers etc.). Demonstration rain garden projects are now proceeding. The City of Lathrup Village Rain Garden was featured in an article in the Observer Eccentric newspapers.

Rouge Green Corridor/Greenways Project: In cooperation with the Oakland County Planning and Development Division, the Oakland Land Conservancy, and several communities, SOCWA initiated the "Rouge Green Corridor/Greenways" map and project.

Healthy Lawn and Garden Technical Advisory Committee: The Healthy Lawn and Garden Technical Advisory Committee held 4 meetings with special emphasis on healthy lawn care and native shrubs.

Slow Release Fertilizer Sticker Program: Enlisted participation of over 20 retailers for the slow-release sticker program, working in cooperation with municipal representatives from Bloomfield Township and West Bloomfield Township.

Hands-on Science for Students: Activities included 5 days at Cranbrook Eco-Week ("ecosystem in a cup project"); 3 field trips to Douglas Evans Nature Preserve (biodiversity/hula hoop project); hands-on science for at McIntyre Elementary (Southfield/Lathrup Village) - for 60 students; 3 different projects; host students at SOCWA Native Landscape Education Site; etc. This program received a full-page article with photos in the metro section of the Detroit News (April 2002).

F. Other Public Education and Involvement Activities

Section 10 of this report, "Community Success Stories", includes numerous other public education and involvement activities implemented by Rouge communities. Other watershed-wide activities are noted below.

Rouge 2002: The annual briefing on the progress of Rouge River restoration for elected officials, state legislators, community staff, business, and other watershed stakeholders took place September 20, 2002 at Cranbrook Institute of Science with approximately 250 people in attendance. Presentations included a progress report on the state of the Rouge River by Kelly Cave (Director, Watershed Management Division, WCDOE); an overview of Rouge activities at Cranbrook by Michael Stafford (acting director, Cranbrook Institute of Science); and an overview of Oakland County efforts to protect water resources by John McCulloch (Oakland County Drain Commissioner) and L. Brooks Patterson (Oakland County

Executive). In addition, a panel discussion included remarks by Wayne County Executive Ed McNamara, Oakland County Executive L. Brooks Patterson and Congressmen Joe Knollenberg and John Dingell. Displays included SOCWA, Friends of the Rouge, the Johnson Creek Protection Committee, Wayne County Department of Environment and the Oakland County Drain Commissioner's Office.

The Rouge River Water Festival: For the fifth successful year, the *Rouge River Water Festival*, sponsored by Wayne County and the University of Michigan – Dearborn, was held on May 2, 2002. The 2002 Rouge Water Festival was attended by 2,658 fifth graders from 53 schools representing 18 watershed communities. There were 62 individual presenters recruited to accommodate the 107 classes at the Water Festival. Presentation topics included: municipal, agricultural and industrial uses and the hydrologic cycle, which includes weather, wastewater treatment, soil erosion, wetlands and wildlife. There were an additional 16 exhibits for the students to see. The 6th Annual Rouge River Water Festival will be held May 1, 2003 at the University of Michigan-Dearborn.

Cranbrook Institute of Science (CIS): CIS successfully sought a Rouge Project grant to hold a Rouge River Water Festival for 750 Oakland County fifth-graders in September 2003. This event will mirror the Rouge River Water Festival presented by Wayne County and the University of Michigan-Dearborn annually in the first week of May. In addition, Cranbrook will open a satellite office for Friends of the Rouge in the CIS.

Rouge River Web Site: The web site (www.rougeriver.com) receives approximately 200,000 successful hits per month. The site is continually updated with current information as appropriate.

7.0 ADVANCING THE WATERSHED MANAGEMENT VISION

A. Institutional Arrangements

At the conclusion of the October 4, 2001, retreat of Rouge River watershed communities and representatives of three counties (Wayne, Oakland and Washtenaw), a Rouge River Watershed Drafting Committee was formed and charged with three tasks. The Drafting Committee made up of representatives from each of the three counties and community members from Plymouth Township, Canton Township, the City of Dearborn Heights and the City of Farmington Hills accepted the responsibility for: 1) assessing alternative watershed organizations as potential models for the Rouge River; 2) analyzing the present and future costs of providing essential services to communities for the regulation of storm water discharges; and 3) developing recommendations for a watershed-wide institutional arrangement that met the guiding principles established by consensus at the October 2001 retreat. The Rouge River Drafting Committee met numerous times during 2002 and hosted two meetings of public agency water discharge permit holders within the Rouge watershed.

At the second Rouge Retreat on June 7, 2002, the Drafting Committee presented a comprehensive summary of various watershed organizations around the country and within Michigan, as well as preliminary cost figures for providing the services identified by the

communities as essential in meeting their storm water discharge permit requirements. In addition, the Drafting Committee presented a draft Memorandum of Agreement for the formation of a Rouge River Watershed Local Management Assembly (Rouge Assembly) that would replace the role of the Rouge River Steering Committee and provide funding to begin the transition from federal funding to local funding for watershed activities.

The draft Memorandum of Agreement establishing the Rouge Assembly was discussed at the June Rouge Retreat and a revised version was distributed for review and comment by all Rouge River watershed communities and the three counties. The Drafting Committee received and responded to extensive comments and presented a revised draft at a December 6, 2002 Workshop. Following discussion at the December Workshop, a final version of the Memorandum of Agreement was distributed to all communities and the three counties with the goal of establishing the new Rouge River Watershed Local Management Assembly by July 2003.

The Memorandum of Agreement includes the following elements:

- Membership and allocation of voting shares among Rouge River watershed communities and counties with state, watershed-based, storm water discharge permits
- Organizations structure, elected officers and committees of the new Rouge Assembly
- Operating mechanisms that include the establishment of an executive committee and the hiring of two part-time staff positions
- Allocation of assessed costs to each community based upon equal weight to 2000 population within the watershed and land area within the watershed
- A budget for the first year of operation to cover contributions for monitoring and data management, facilitation of seven Subwatershed Advisory Groups, support for Assembly staff, and public education/involvement coordination.

The final version of the Memorandum of Agreement was distributed at the end of the 2002 for conditional approval of the communities and counties. Once a minimum of 20 conditional approvals is received, the Wayne County Department of Environment will call the first meeting. At the first meeting, representatives will determine whether or not there is sufficient commitment from the communities to proceed, and, if so, the Rouge Assembly will be formally initiated and assessments for the first year of operation collected from members.

The Rouge River Drafting Committee has completed its role. The preliminary comments received by communities on the Memorandum of Agreement indicate that the new Rouge Assembly is likely to begin functioning by July 2003.

B. Gateway Project

The Rouge River Gateway Partnership is a public/private stakeholder group formed in the summer of 1999 to restore the 8-mile section of the Rouge River, from its confluence of tributaries near Ford Road in Dearborn to its discharge into the Detroit River. This reach of the river includes 1-mile of natural river, a 4-mile concrete channel and a 3-mile section of navigable dredged waterway downstream of the channelized section.

The Rouge Gateway Master Plan (completed in 2001) identifies opportunities for ecosystem restoration, cultural/natural interpretive opportunities, recreational improvements, and economic development. The Master Plan is a compendium of planning and design initiatives to transform the Rouge Gateway to a diverse, rich fishery drawing visitors from local communities and around the country to the river for recreation. Several major elements of the Master Plan are now complete, including the University of Michigan-Dearborn Environmental Interpretive Center and Phase I of the Rouge Oxbow Restoration Project at Henry Ford Museum & Greenfield Village. The Environmental Interpretive Center (EIC) at University of Michigan-Dearborn (opened in May 2001) provides environmental education activities for school children, teachers, and university students, as well as civic organizations and community residents.

Phase I of the Rouge Oxbow is complete and 'open for business!' This project was one of the first elements of the Master Plan to receive funding. Wayne County DOE received funding from the Clean Michigan Initiative Waterfront Redevelopment Grant Program. Construction began in 2001 and was substantially complete, including an initial hydraulic connection to the Rouge River, in May 2002. The restoration provides a 2,200-ft channel that varies in width from 15 to 105 feet and depths of 3 to 8 feet. The channel is surrounded by 3 acres of submergent and emergent wetland systems (0-3 foot depths) that provides habitat for various wildlife species. Planted slope stabilization techniques provide additional shrub areas. Different types of wildlife have already begun to use the new habitats including macroinvertebrates and amphibians. Also, herons, migratory songbirds, wood ducks, frogs, turtles, raccoons and coyotes have moved into the area. Fish are also migrating into the oxbow from the Rouge River through the new storm sewer hydraulic connection. In August, a survey of fish present was conducted while the water level in the oxbow was lowered during final construction. All fish have all found the oxbow on their own by migrating through the 300 feet of culvert from the Rouge. It was particularly exciting to see that the number and variety of fish present, including both largemouth and smallmouth bass (*Micropterus salmoides* and *Micropterus dolomeui*), 2 species of Bullhead, 2 species of Minnow, 2 species of Sunfish, and Goldfish (*Carassius auratus*), White Sucker (*Catostomus commersoni*), Golden Shiner (*Notemigonus crysoleucas*), Gizzard Shad (*Dorosoma cepedianum*), Channel Catfish (*Ictalurus punctatus*), and Common Carp (*Cyprinus carpio*). It is developing into an excellent nursery area and will only get better as the aquatic plant communities and associated aquatic invertebrates continue to develop. Currently, plans are underway to construct trails and other amenities in the oxbow, which should be completed in early summer 2003.

In addition, several elements of the Master Plan are well underway:

- Greenway Planning, Design and Construction
 - Rouge Gateway Greenway – Phase 1
 - Dearborn Greenway
 - Allen Park Greenway
 - Southwest Detroit-Dearborn Greenway
- Channel Restoration, Michigan Avenue to I-94
- Fish Passageway at Henry Ford Estate Dam
- Greening of the Ford Rouge Manufacturing Complex and Surrounding Area

- New “Green Roofed” Manufacturing Plant
- New car storage areas constructed of porous pavement
- Mass plantings of native plant materials
- Reconstruction of Miller Road with stormwater detention within the boulevard

Major funding for Rouge Greenway planning design and construction was provided by the GreenWays Initiative, the Rouge Program Office, Wayne County and federal grants through the Michigan Department of Transportation. Construction of the Rouge Gateway Greenway Phase I should be substantially complete in 2003.

Wayne County continued to work with the Detroit District US Army Corps of Engineers (COE) regarding restoration of the paved channel section of the Rouge. A Preliminary Restoration Plan for modification of the concrete channel between Michigan Avenue and Interstate 94 through a Corps of Engineers Section 1135 authorization was accepted by COE district management. A Feasibility Study is currently underway. If all goes well construction documents should be complete by 2005.

Wayne County is also working with the COE on evaluation of a fish passageway at Fair Lane Estate, restoration of the Tournament Player's Club Wetland, the Oakwood Commons Lagoon, and Fordson Island Restoration.

Ford Motor Company is responsible for their building and site improvements within the Rouge Manufacturing Complex. Ford partnered with Michigan Department of Transportation, Wayne County, and the City of Dearborn to accomplish the Miller Road improvement project.

The Gateway Partnership is actively seeking funding for different aspects of the Gateway Master Plan through a series of grant requests to a variety of sources. To date, over \$2 million in grants have been received for various projects under the Gateway Master Plan. Additional grant requests are pending.

C. Recreation

The third annual *Newburgh Lake Wayne County Triathlon/Duathlon* took place on August 18, 2002 on the shores of Newburgh Lake in Livonia. The event was a huge success with over 210 participants from all over the tri-county area and surrounding states. The swim portion of the event was again cancelled, however, due to water quality/public health concerns.

More than 75 miles of the Rouge River flows through parkland, making it one of the most publicly accessible rivers in the state. Within the watershed there are over 300 public recreation areas, 20,000 acres of parkland, 27 nature preserves, and over 400 lakes, impoundments, and streams. Four “put and take” trout derbies are held annually in the Rouge River.

MDEQ have recommended to the Michigan Department of Community Health that the fish consumption advisory for Newburgh Lake be reduced from “No consumption” to a limited consumption advisory for women and children.

8.0 OUTREACH

Rouge River Project a Blueprint for Success. One of the most far-reaching and important outreach tools for 2002 for the Rouge Project was the U.S. EPA's Office of Inspector General (OIG) report on its nationwide audit of the national CSO control program. During the latter part of 2001, they interviewed EPA headquarters personnel, three EPA Regions, eight states, 22 communities and some others. The MDEQ, the Rouge Project and several Michigan cities were interviewed as part of the study. The OIG issued their final Evaluation Report on "[Wastewater Management - Controlling and Abating Combined Sewer Overflows](#)" in August 2002.

The report cites a number of examples of the successes of the Rouge Project's CSO control program. The following is a quote from the report about the program and the watershed approach being utilized:

"Rouge River Project a Blueprint for Success

The Rouge River National Wet Weather Demonstration in Michigan is an excellent example of how utilizing a watershed approach can help to achieve water quality goals more efficiently. We have previously described in this report some of the successful results that have been achieved by this project."

An OIG report such as this receives broad distribution to Members of Congress, senior managers and staff at USEPA, associations such as the Association of Metropolitan Sewerage Agencies (AMSA), and many others. People that are familiar with the tone and content of usual OIG reports say the above language is unprecedented. The OIG very seldom is complimentary about an audited project. To specifically identify the Rouge Project as “a Blueprint for Success” is definitely a rarity if not a first. Because of the distribution of the OIG report and its clear endorsement of the Rouge Project’s successes, this becomes a very effective outreach tool to others demonstrating effective wet weather controls and use of the watershed approach.

Briefings for Members of Congress and the USEPA. Letters were sent to the Members of Congress apprising them of the conclusions of the Office of Inspector General report on the status of the nationwide CSO program and the report’s compliments to the Rouge Project.

The USEPA Headquarters underwent major changes in key personnel that are charged with implementing wet weather programs across the country. A letter was sent to Mr. James Hanlon, the new Director, Office of Waste Water Management, to provide him summary information on wet weather issues and the accomplishments of the Rouge Project in those areas. Also held telephonic discussions with him on some of the details of the Project.

Over the past few years, USEPA has had a major focus on the Total Maximum Daily Load (TMDL) program trying to determine how to make that program more workable and effective. The Project provided detailed written and verbal information to key personnel in the EPA TMDL program on the use of the watershed approach in fulfilling the requirements of the TMDL regulations.

Presentations. Representatives of the Rouge Project presented numerous technical papers and presentations at professional meetings and conferences including the StormCon 2002 Conference and the Watershed 2002 Conference. For a complete listing of these papers and presentations see the Project's web site at www.rougeriver.com. In addition to these conferences where technical papers were presented, there were numerous occasions throughout the year where Rouge Project personnel made more informal presentations about the work of the Project. An example of that is the keynote talk at the Fourth Annual Three Rivers Wet Weather Sewer Conference in Warrendale, PA.

Web Site. The Rouge Project is using its web site as the main outreach tool to communicate actions, technical information, and success to others. The Rouge Project continues to update information and add new items to the site. Because this is the main outreach tool, a detailed schedule was developed for reviewing all sections of the site during the year with certain sections such as combined sewer overflows, watershed, etc being reviewed and updated every other month. By adhering to this schedule, the most timely and accurate information about the Project is readily available to the reader. Approximately 95 products were added or updated on the website in 2002.

The web site continued to be extremely popular for viewers. Over 75,000 people accessed the site with over 1,250,000 "hits" on individual pages on the web site. The site is located at www.rougeriver.com.

USEPA has a very extensive web site to present information on its many programs as well as information on many projects across the country that are related to USEPA programs. A very large number of individuals obtain information from EPA's site. The Rouge Project reviewed and updated the information EPA had on its site about the Rouge Project including accurate links to the Project's web site in order to provide another outreach vehicle.

Other Watersheds. The Project continued to work with watershed groups in other watersheds for the purpose of working together to comply with the MDEQ General Storm Water Permit. These included the Lake St. Clair Subwatershed Advisory Group and the Ecorse Creek Watershed Advisory Group, which encompasses 10 Wayne County downriver communities.

9.0 OTHER ITEMS OF INTEREST

Wayne County received the official award letter for Grant 9 of the Rouge River National Wet Weather Demonstration Project in the amount of \$1.93 million.

The American Academy of Environmental Engineers (AAEE) has awarded the Rouge River Project its prestigious Superior Achievement Award in the Academy's 2002 Excellence in Environmental Engineering competition. The award was in recognition of the project's achievements since 1992.

The American Council of Engineering presented the 2002 National Recognition Award to Oakland County for its Septage Unloading Facility. John P. McCulloch, Oakland County Drain Commissioner accepted the award. The Oakland County Septage Unloading Facility provides a more convenient, controlled, and cost-efficient manner to dispose of septage from residential septic tanks and sediment from municipal catch basins. The facility features easy access for loading and unloading septage, diversion provisions for storm water surface runoff, and watertight construction to prevent septage leaks and groundwater infiltration.

The Michigan Chapter of the American Society of Landscape Architects has selected Wayne County's Rouge River Gateway Master Plan for an Honor Award in the category of Landscape Planning and Analysis.

The RPO Data CD Volume 8 was completed. The CD contains all RPO monitoring data current to year 2001 plus it includes Data View, the exploratory data analysis application tool. In past Data CDs, GIS coverage was also included. A stand-alone GIS CD will be issued in 2003.

10. COMMUNITY SUCCESS STORIES

There were a number of particularly successful Rouge Watershed restoration efforts by communities, subwatershed advisory groups, agencies and partnerships that merit special recognition:

Historically Styled Covered Bridge Constructed. The City of Dearborn completed construction of a historically styled covered bridge at Ford Field Park. The new bridge is constructed almost entirely of wood and has greatly improved flows in the Rouge River. The old bridge constricted high flows and caused severe bank scouring during storm events. In addition, near the bridge the city constructed a large pond that is connected to the river. This pond provides a greatly improved habitat for fish and waterfowl during high flow periods. The pond will be planted with native Michigan plants and suitable fish habitat structures will be installed in the spring. The city also plans to extend its highly successful soft engineered stream bank stabilization techniques throughout the entire reach of the river within the park.

Baseline Sampling. The City of Melvindale, with the aid of funding from Rouge Project subgrant, obtained baseline samples from 7 locations within the city's storm sewers and one location within the Rouge River. These samples were tested for: total dissolved oxygen, *E. coli* and total coliforms, PNAs, metals, and VOCs. Two samples were obtained from each location, one in dry weather and one in wet weather. Some good news is that the preliminary results were remarkably high for total dissolved oxygen, and low for total coliforms and bacteria. These numbers are very favorable for fish and other aquatic life using the River. A

few of the sites had random hits for PNAs, and VOCs. These are locations where further investigations are warranted.

Storm Water Facility. The N&S railroad in Melvindale, a listed superfund site, has completed the installation of a \$1,000,000 storm water detention and cleansing facility at its diesel locomotive fueling station in Melvindale. This facility captures and treats all rain water falling on this contaminated ground, preventing the uncontrolled discharge of contaminated leachate and ground water to the storm sewers of Melvindale.

Northville Township Johnson Creek Protection Group (JCPG) Activities. Continuing its efforts to improve the water quality of Johnson Creek and the Rouge River, this group of residents, businesses, and local, county and state representatives has strived to build upon its past successes as well as increase its level of involvement in the watershed. The JCPG has continued to meet monthly throughout 2002 to discuss issues facing the watershed and to educate members on a variety of topics, including riparian corridor management activities and the various habitats and species found in the area. The JCPG has continued to work with area developers to devise more ecologically sensitive approaches to development in this creekshed. The group has been successful in securing resolutions from each Johnson Creek watershed community inviting review of all plans affecting the watershed. The JCPG has also initiated a wildflower/native plant rescue program that can be utilized by developers to maintain native site vegetation for reintroduction following construction. The JCPG has also been successful in organizing a volunteer-based Natural Features Inventory program to document areas of interest and concern within the creek corridor. This program is planned for expansion once 20 initial site inventories have been performed. The group has also continued to work closely with area communities, particularly its sponsor, Northville Township, to increase awareness among local decision makers. Once again, the group's major public involvement activity for the year was Johnson Creek Day on May 18. Over 200 volunteers participated in five activities: a Johnson Creek Nature Walk at the Western Wayne County Conservation Association (WWCCA) property; a Garlic Mustard Pull by Visteon employees at WWCCA; a Wet Meadow Creation project incorporating plantings and removing invasive species along the riparian corridor; a Riparian Corridor Enhancement project that consisted of stabilizing a streambank with coir logs and vegetation as well as expanding the riparian buffer zone through an enlarged no-mow zone and additional plantings; and a Celebration at Fish Hatchery Park that included displays, presentations by the Bat Conservancy and a trout fishing derby. For all of their efforts, the JCPG received recognition from the State of Michigan House of Representatives in the form of "House Resolution No. 410 - A Resolution Honoring the Johnson Creek Protection Group." The group's efforts will continue for 2003 and will expand to include additional efforts as interest allows.

Sanitary Sewer Connections. The City of Northville utilized a Rouge Project subgrant to connect residents to the City sanitary sewer and thus abandon existing failing septic systems. This was a financial incentive to residents who insisted on staying on septic despite the construction of a nearby sanitary sewer and in violation of the state requirements for automatic connection if the sewer is within 250 feet of a property line. As a result of the delay in connection, residents were paying interest on the sewer assessment since the 1980's

making it financially difficult to connect (some had accumulated \$5,000 in interest alone). Under this innovative project, 8 residents connected to the sanitary sewer and abandoned their septic systems.

Storm Water Ordinance. The City of Novi adopted a new storm water ordinance that not only manages increased storm water runoff from new developments, but also addresses the water quality aspect of storm water runoff.

Quail Ridge Drain Project. The Quail Ridge Drain Project was completed in 2002 and was managed by Northville Township. The project was paid for by both the City of Novi and Northville Township. It controls the velocity and quantity of the water passing under 8 Mile Road as it leaves Novi and enters Northville Township.

Annual Headwaters Bus Tour. The City of Novi hosted the Friends of the Rouge bus tour, which will take place again in May 2003.

Soil Erosion and Sediment Control Certification. In the City of Novi, 6 staff members were certified under this MDEQ program in 2002, and 6 staff members are currently taking the course for 2003.

Fertilizer Ordinance. The City of Novi recently passed an ordinance that requires commercial applicators to register with the City and promotes the use of safer lawn fertilizers.

Home Owners' Association Manual. The City of Novi developed, with assistance from the Washtenaw County home owners' manual, a new manual that addresses important storm water educational topics including fertilizer application, pet waste disposal, storm drains and car washing. The manual was distributed throughout the community in 2002.

Detention Basin Enhancements. Canton Township received a grant from the Rouge River National Wet Weather Demonstration Project to identify up to four existing detention basins suitable for modification in order to enhance storm water quality. Prior to the adoption of Canton's new storm water standards, detention basins were designed to primarily manage the increased flows generated from new developments. Through the grant, basins were selected for redesign in order to effectively manage both the increased flows and the pollutant loadings associated with the storm water runoff.

The selected basins are all located in residential settings on private property, thus coordination and approval from each of the homeowners' associations has been an integral part of the project. Homeowners' associations are typically responsible for long-term maintenance of detention basins and without the support of the association, the project could not proceed.

Three of the four detention basins are currently in the preliminary design stages, while construction has begun on the fourth. The designs include a combination of regrading, dredging, wetland plantings, tree and shrub plantings, habitat improvements, and outlet structure modifications. Canton's Public Works Division is completing the grading work

while community staff and residents will install the plantings during volunteer planting days in the spring.

To date, the project has been very successful in gaining consensus from the homeowners' and in educating the residents about storm water quality issues. The association board has in fact taken charge of further educating their neighbors about storm water quality issues through a website (www.covingtonsquare.org) that is tracking progress of the retrofit project. Their website clearly demonstrates that they are attempting to change common perceptions about detention basins and wetland habitats.

This project, thus far, has far exceeded the community expectations for the benefits it is providing in public education. Since this project has actually involved residents hands on, through the design and construction, people are taking ownership in the end product. They are going to be stewards of the areas we are enhancing, and ultimately better understand the importance of wetland habitats and clean water in our environment.

The final projects will demonstrate the feasibility of incorporating storm water best management practices into the natural landscape while gaining consensus from the residential community to an extent that they eagerly take ownership of the basins for long-term maintenance. At the same time, the basins will demonstrate improved water quality, increased wetland habitat and enhanced plant diversity.

Storm Water Management in Plymouth Township. During the development process, the community is identifying new and innovative ways to manage storm water and incorporate healthy river practices into construction techniques. One example includes the new Comcast Communications facility. Comcast Communications is working on plans to build a new facility utilizing rain garden techniques to control storm water. The rain gardens will provide benefits such as ground water recharge, wildlife habitat, chemical filtration of phosphates and nitrates, sediment removal and reduce run-off and erosion.

Plymouth Township Johnson Creek Protection Group Activities. In August of 2002, the Plymouth Charter Township Board of Trustees approved a resolution in support of the Johnson Creek Protection Group. The resolution provides that the Township will seek out the input of the group on all construction projects within the Johnson Creek watershed, and therefore, be better able to assess the impacts construction in area will have on creek. The Township has also been working with one our homeowners associations to institute bio-engineered erosion control techniques along a section of the Tonquish Creek. There has been discussion by members of this homeowner's association to begin creating a Tonquish Creek support group similar to that of the Johnson Creek.

Household Hazardous Waste Collection. The Charter Township of Plymouth Household Hazardous Waste Collection program was modified in 2002 from an annual event to a semi-annual event, and for the first time, was held in conjunction with the City of Plymouth. As a result, participation rates nearly doubled as did the volume of wastes that were collected and disposed of properly, keeping hazardous materials from entering our environment.

Illicit Discharge Elimination Program. The City of Plymouth and Wayne County worked cooperatively to identify and eliminate illicit connections throughout the community. A significant illicit connection was eliminated in the community during 2002, which demonstrated the importance of working cooperatively to restore and protect the Rouge River.

Code and Ordinance Worksheet Completed. Van Buren Township Environmental and Building & Planning staff completed the Code and Ordinance Worksheet (COW), developed by the Center for Watershed Protection. The COW allowed staff to compare the Township's development rules to site design rules aimed at reducing impervious surface area and resultant storm water runoff.

Education Activities in Van Buren Township.

- **Lawncare Workshops:** The Township co-sponsored *River Friendly Lawn Care* Workshops at Township Hall in March and October of 2002. Healthy lawns and gardens can provide numerous benefits to the homeowner and to the environment by lowering maintenance costs, lowering material costs, minimizing nuisance pests, lowering chemical/fertilizer runoff, and maintaining a healthy appearance.
- **Website:** New features for 2002 include how-to information about landscaping with Native Plants, and links to organizations that help landowners establish conservation easements.
- **Cable:** The Environmental Department worked with Cable Operations to air original and interesting educational programs about wetland protection, household hazardous wastes, and watershed management- to name a few. A unique feature that was completed in 2001, and continued to air throughout 2002, was the in-house produced Household Hazardous Waste video.
- **Local/Regional Papers – Nature Watch:** The Environmental Department continued its relationship with *The View* newspaper, by providing a monthly column, Nature Watch, on environmental issues facing the Township. Topics for 2002 included Open Space Preservation, Belleville Lake, Septic System Maintenance, and Geographic Information Systems. Significant press coverage was obtained for the Huron River Clean Up (*Independent- Front Page*) and Belleville Lake water quality/*E. coli* sampling (*Detroit News- Wayne Co. Feature Story*).

Engineering Standards Manual Overhaul. In 2002, Van Buren Township began revisions to their Engineering Standards Manual. An important segment of this manual will be devoted to storm water management. The Engineering Standards Manual defines how storm sewer systems are to be constructed and how much detention or retention is required on-site.

GIS Implementation (Phase 1). Following completion of a needs assessment, Van Buren Township began planning for implementation of Phase 1 of the Township GIS. A GIS Steering Committee was formed consisting of representatives from the Water and Sewer Department, Building & Planning Department, and the Environmental Department.

Greenways Master Plan and Trail Project. Van Buren Township has been developing a master plan for trail routes throughout the Township. The first draft of the Master Plan was completed and reviewed by the Township in late 2002 and will be finalized in the first quarter of 2003. In addition, Van Buren Township completed the conceptual design for the first segment of their greenways trail. The proposed Van Buren greenways trail is a 3.6 mile pedestrian and bicycle path located in the southeastern corner of the Township, extending the Lower Huron Metropark trail system to the north and west.

Household Hazardous Waste Drop Off Event. On October 5th, Van Buren Township coordinated a free household hazardous waste drop off event for Township residents. 339 cars/households attended the event, making it the most successful collection to date. The Environmental Quality Company (EQ) sponsored the collection day, reducing the Township's costs to what was required for promotion and coordination.

Storm Water Management. Van Buren Township applied for and received conditional approval for two Rouge Project Round III storm water management grants in 2002. The grants, "Constructed Wetlands for Storm Water Management: Lake Fringe Wetlands" and "Interpretive Wetland Recreational Trails: Telling the Story of the Rouge Headwaters" will help implement innovative environmental controls and improvements on the future Visteon Village site.

Septic Tanks. Van Buren Township worked in cooperation with the Wayne County Department of Public Health to implement the County On-Site Sewage Disposal System Evaluation and Maintenance Ordinance. In 2002, Township staff provided ownership and historical information when needed. When there were questions on where a system discharges, the Township completed dye tests.

Woodland Ordinance. Van Buren Township is implementing and enforcing a new Woodland Preservation Ordinance. Significant technical reviews and enforcement actions were completed in 2002 for the following projects:

- Mission Pointe on the Lake (Residential Site Condominium Development),
- Visteon Village (Office-Technology Development),
- The Timbers (Residential Subdivision Development), and
- Country Walk (Planned Residential Development).

Storm Water Activities. Salem Township developed a model Storm Water Ordinance that not only addresses water quality, but also addresses water quantity in terms of pre and post development volumes. A Wetland Ordinance was enacted that addresses all new developments and construction in the community. Staff from Salem Township, including the Zoning Administrator and Building Inspector attended Illicit Discharge Elimination Training.

Public Education Activities. Salem Township is a very active participant and supporter of the Johnson Creek Protection Group (JCPG). JCPG activities are described under Northville Township. Salem also participates in the Huron River Watershed Activities. Working collaboratively with other Washtenaw County Rouge municipal organizations, the community provided educational workshops on Septic Systems and the Washtenaw County regulations, Backyard Wildlife and Natural Features. Members of the community have

participated in the Friends of the Rouge Frog & Toad Survey. Environmental exhibits, including Community Partners for Clean Streams, Johnson Creek, Huron River Watershed, Home-A-Cyst and Farm-A-Cyst, Public Health on Septic Care, and others have been displayed yearly at the local Flag Day Celebration. Scouts yearly do a Clean Up of the Johnson Creek; Eagle Scouts are also interested in working with the Township on an environmental project.

Environmentally Friendly Golf Course. Construction of the City of Farmington Hills' new 9-hole golf course, located in the Middle 1 Subwatershed, is nearly complete. This course was designed to preserve water quality by recycling stormwater for irrigation, mitigating and enhancing wetlands, and by using state-of-the-art facilities management practices. These practices, such as proper chemical storage and containment areas, are the cornerstone of Michigan State University's Turfgrass Stewardship Program. City staff is currently working to obtain certification under this program.

Washtenaw County Activities.

- During the year 2002, Washtenaw County Stormwater General Permit activities continued under the coordination of the Office of the Drain Commissioner and continued the implementation of Illicit Discharge Elimination and Public Education permit activities.
- The Johnson Creek Bioengineering Demonstration Project (sponsored in 1999 by the Drain Commissioner, Wayne County Department of the Environment, other government and local agencies and SmithGroup JJR) was reviewed by Smithgroup JJR to verify the ongoing viability of the completed stream bank stabilization project. Plant growth has been established and bioengineering structures are withstanding ice flow and flood events.
- The Drain Commissioner's Field Inspection Division completed the inspection of Rouge Watershed County Drains per 2002 plan.
- The Washtenaw County Environmental Health Division conducted three rounds of Rouge Watershed water quality sampling and also continued implementation of the countywide Onsite Well and Septic Inspection at Point of Transfer program.
- The Community Partners for Clean Streams Program, a voluntary no cost program that offers businesses, institutions and multi complexes the opportunity to self assess how their daily site activities affects stormwater quality reached 76 participants in 2002.
- The Homeowner's Handbook, a stormwater quality guide for single-family residents produced under an RPO grant is now in second printing. The Homeowner's Handbook has also been adapted and published by another Rouge Watershed community, the City of Novi, through the Drain Commissioner's ongoing offer to supply existing water quality program materials to communities to use/adapt upon request.

- The Drain Commissioner's Office continued to partner with local governments in 2002 by conducting Intergovernmental Coordinating Committee meetings where County, local government, and the Washtenaw County Road Commissioner shared resources for Stormwater Permit activities and implementation. This Washtenaw County Rouge Watershed Intergovernmental Coordinating Committee concept was expanded to a countywide Phase II Stormwater Permit Intergovernmental Coordinating Committee that now includes local government, school district, university and Road Commission representatives. Five coordination meetings were held in 2002 and the meetings have continued into 2003.
- The Drain Commissioner was awarded the Michigan Association of County Drain Commissioners 2002 Drain Awards Honorable Mention Award for public Education/participation for the Restoration of Johnson Creek Project. The restoration project, completed in conjunction with SmithGroup JJR, featured stormwater public education, habitat improvement and watershed stewardship.

Friends of the Rouge Lower One/Middle Schoolyard Habitat. Friends of the Rouge (FOTR) received a grant from the Rouge River National Wet Weather Demonstration Project to provide schoolyard habitat enhancement projects at five schools in the Plymouth-Canton Community Schools. The goals of the project were many but were focused in two main areas. First, the project designs would provide storm water quality improvements that met the overall goals of Rouge River protection initiatives. The second goal is to provide outdoor educational opportunities for the students and community members in the school district.

The projects are formatted to maximize the effectiveness of the project from the standpoint of water quality benefits as well as outdoor education areas. The scale of the projects are site specific and may act as demonstration projects for homeowners and other small property owners. The storm water quality benefits will be demonstrated in various projects elements including small frog ponds, wetlands, rain gardens, prairies, butterfly gardens, and reforestation. All elements will be designed to fit into the existing site with minimal disturbance and provide maximum safety for users of the areas.

From an educational standpoint, the projects take in account several objectives, including cross-age focus (five schools ranging from high school level to elementary schools). The schools are spread throughout the district to serve as demonstration projects for other schools. All projects will include features to benefit wildlife and the human users of the space, such as bird boxes, habitat structures, benches, trails and informational signage.

The key to this project is to include all potential users (direct and indirect) of the sites including district level administration, school staff (maintenance), teachers, students, parents, community members, local businesses, local governments and interested groups. Providing a variety of input will create a strong sense of ownership and sustainability in the projects.

Illicit Discharge Elimination in the City of Wayne. In 2002, the City of Wayne documented two illicit discharges within its boundaries. One illicit connection was found where kitchen and bathroom facilities within a building addition had been improperly

connected to the storm sewer system instead of the sanitary sewer system; this problem has been corrected. City staff also located and identified a leaking bulkhead at former CSO outfall. The City is currently determining the corrective actions needed to address this issue.

BMP Implementation in the City of Wayne. The City initiated the implementation of storm water quality BMPs on several City properties. Recent projects include:

- The incorporation of a storm water detention basin into the City's Department of Public Works site during construction of an interim fire station at this location.
- Redesign of the City Hall parking lot, incorporating a variety of BMPs to address the quality and quantity of storm water being discharged to the Lower Rouge River. This project is currently in the design stage and is being funded in part by a grant from the Clean Michigan Initiative.
- Cooperation with area volunteers to incorporate woody debris management techniques along the Lower Rouge River for habitat enhancement and erosion control at the City's new fire station site.

BMPs are also being incorporated into site designs throughout the community. Recent development projects integrating storm water management facilities include the Annapolis Hospital addition at Venoy Avenue and Annapolis Street, the Ford Motor Company childcare facility at Venoy Avenue and Annapolis Street, and the new City of Wayne police station on Howe Road and Michigan Avenue.

Public Education Activities in the City of Wayne. The City continued to implement several public education activities throughout the City, including the development of seasonal displays for use in its public library, the dissemination of educational brochures at public buildings and the inclusion of storm water related articles in the City of Wayne Update. The City also hosted a Friends of the Rouge Frog and Toad Survey Workshop and a Rouge Rescue site.

Sanitary Sewer Constructed. The City of Livonia constructed the Sunset Hills Sanitary Sewer to eliminate a SSO. Approximately 1,250 feet of 12-inch sanitary sewer was placed.

Riparian Corridor Management Workshops: Friends of the Rouge (FOTR) worked with the Woodcreek Watershed Protection Committee, the Farmington Hills Beautification Committee, and the City of Farmington Hills to conduct a hands-on streambank stabilization project on Earth Day on Pebble Creek in Farmington Hills. The project was followed by a classroom workshop on riparian corridor management. In addition, Wayne County and Friends of the Rouge co-facilitated a *Riparian Corridor Management* workshop in Canton Township for municipal employees from Canton, Livonia and Farmington Hills on September 25, 2002.

There were two workshops related to riparian corridor management as part of the third annual *Johnson Creek Day* held in June 2002. A Streambank Stabilization/Riparian Corridor

Expansion Training Workshop was held and a demonstration project completed. A workshop on Wet Meadow Creation/Invasive Plant Removal Training was also held that day, along with a demonstration project for these concepts.

Wayne County Master Composters Training and Volunteer Coordination: Wayne County DOE planned and implemented the Spring 2002 Master Composters Training Class. Seven training sessions were held, and volunteer activities thus far included 4-H, Earthworks Urban Farm, Healthy Lawn and Garden Workshops, and Junior Master Gardener classes. Through these efforts, eighty hours of volunteer time was given.

Oakland *Plus* presents \$25,000 check to Cranbrook Schools. Oakland County Drain Commissioner John P. McCulloch presented Cranbrook Schools with a check for \$25,000. McCulloch made the donation on October 24, 2002, behalf of Oakland *Plus*, a non-profit charitable organization founded last year to preserve and protect the environment with an emphasis on water quality. He said the contribution will help the Cranbrook Educational Community continue with its important work in environmental protection and is earmarked for Cranbrook's water festival. I can't stress enough the good work Cranbrook has done in that area," McCulloch said. "The dedicated men and women who spearhead educational initiatives focused on water quality, provide a contribution that not only improves the quality of life for today's citizens, but offers hope for the citizens of the future. I'm proud to be a partner with them in this effort."

Oakland County Activities.

- The Main 1-2 Public Education Committee continued with initiatives with the Friends of the Rouge for bus tours, completed a Riparian Newsletter (mailed to over 2000 residents), was awarded additional grant monies to continue efforts for cable advertising, newsletters and other outreach programming.
- The Oakland County Drain Commissioner's Office (OCDC) has also utilized its experiences with the Rouge Communities to establish a new Environmental Unit to address the Impending Phase II regulations, hiring five additional planning and technical support staff. OCDC worked closely with stakeholders to establish subwatershed groups around the County to move forward with a collaborative, cost-effective program with monies dedicated by the Board of Commissioner's to support the program.
- OCDC also collaborated with the Oakland County Health Department to coordinate for Countywide amendments to the Sanitary Code to institute an on-site sewage disposal system program. A public hearing was held in October and will be taken up by the Board of Commissioner's in 2003 programming.
- OCDC continued to promote sound institutional arrangements with the Rouge Assembly group and present information to the other watershed areas about the regulations, watershed planning, and mechanisms to implement watershed management.

- The SWAT team continued to respond to citizen complaints and work with the communities to address illicit discharges as well as completing outfall inventory work in the City of Troy and Rochester Hills.

Oakland County Watershed Bus Tour: The Main 1-2 Subwatershed Public Education Committee sponsored a bus tour of the subwatershed in July 2002.

Quarton Lake Restoration Project. The City of Birmingham started construction of its Quarton Lake Restoration Project in November 2002; this project is being funded through a grant from the Rouge River National Wet Weather Demonstration Project. Problems in the lake, an impoundment in the Main 1-2 subwatershed, included shoreline erosion, anaerobic sediment accumulation, high turbidity, an unbalanced fish population (with over 90% carp), and excessive waterfowl. The restoration plan consists of dredging, sediment traps, carp removal and game fish restocking, bio-engineered shoreline stabilization, and installation of fish spawning beds and habitat structures.

The City created an Ad Hoc committee to direct the planning and design of the restoration project. The committee, comprised of two Quarton Lake neighborhood residents, three City residents-at-large, a City commission representative and a City recreation board representative, met nine times during the design phase to solicit input from citizens and ensure that key concerns were addressed in the design.

Dredging was completed in December 2002. Fish habitat structures are currently being placed. Shoreline stabilization will commence in the spring with carp removal and game fish restocking to follow in the summer.

Springdale Golf Course Streambank Stabilization. One year after completion of construction, the City of Birmingham's Springdale Streambank Stabilization Project has been deemed successful, with plantings well established and streambanks able to withstand significant storm events. The City used a combination of traditional hard armoring along with bioengineering techniques to stabilize streambanks and enhance aesthetics along a quarter-mile reach of the Main Rouge through the City-owned Springdale Golf Course. Bioengineering techniques consisted of coir rolls to protect the toe of the slope, temporary erosion blankets to protect grass seeding on restructured slopes, buffer strips and live stake plantings. Stabilization techniques were chosen to be compatible with the golf course land use and not adversely impact play of the course.

Post construction monitoring was conducted to ensure that the plantings survived and matured and to evaluate the projects abilities to withstand significant storm events. After one year, the plantings were well established. The project has withstood all rain events, including a 3-inch event that occurred shortly after construction was completed when the seeding was only 30% established.

The streambank stabilization project has altered the look of the golf course, where once the manicured lawn was mown to the water's edge. Now, a variety of rye, sedge and fescue grasses grow along the streambanks with red osier dogwood, buttonbush, and willow shrubs.

Public reaction to the more natural look has been extremely favorable. One of the biggest challenges has been educating the golf course maintenance staff to not mow along the vegetated banks.

The success of this project highlights the opportunity for other Rouge communities to incorporate bioengineering techniques in stabilization projects.

Pilot Swale Project. The Village of Beverly Hills initiated a pilot swale project as an alternative to constructing enclosed storm drains in response to citizen concerns about poor drainage. Much of the roadside drainage in the Village is handled through ditch and swale systems. Recently citizens have requested improving their streets by enclosing the existing systems with paving and curb and gutter drainage systems. Although enclosed systems provide an efficient means of conveying storm flow, they have a negative impact on water quality, as they provide minimal sediment removal and increase peak flows to the Rouge. The pilot program will evaluate a swale with underdrain system. These systems consist of a shallow grass lined swale with a perforated plastic pipe underdrain. Project construction began in October 2002 and will be completed in the spring 2003. Project monitoring and evaluation will commence thereafter. Should the pilot project prove to be successful, similar systems will be utilized to address additional areas in the Village.

Farmington Hills

- The City created an Environmental Coordinator position and filled it in 2002. The position coordinates, plans, and implements matters related to the MS4 general permit as well as other environmental issues that arise in the community. Some of the 2002 activities included working with a newly formed riparian group; working on a variety of public education efforts; work on development of a fertilizer policy; responding to IDEP complaints and environmental related inquiries from the public.
- The City completed a study of the Kendallwood sanitary sewer system in 2002 to address a local SSO. The study consultant completed the design of the recommended improvements and the project was bid in early 2003. A contract has been awarded and construction is scheduled to begin in March 2003.
- The City installed meters to monitor sewer flows in the Lincolnshire area upstream of the Skye Drive pump station SSO in 2002. This SSO along with the Kendallwood SSO are the only 2 known local system SSO's. Additional rain events are needed to evaluate and determine the adequacy of a relief sewer that is planned for the area.
- The City initiated construction of a Nature Center on the Heritage Park property in 2002. Development of the Nature Center was accomplished through a joint effort between the City and Farmington Public Schools with a grant from the Michigan Department of Natural Resources. The Nature Center will offer nature classes and programs as well as a variety of hands-on educational opportunities.

City of Southfield River Crossing Condominium Emergency Retaining Wall Replacement. The project required a cost effective solution to eliminate the potential

collapse of a 16' high retaining wall. The footing of the wall was being eroded by the Evans Branch of the Rouge River. This erosion had caused the wall to begin rotating outwards approximately 10 degrees from plumb. The solution for the project involved moving the Evans Branch channel approximately 100' to the north and away from the wall. This would allow soil fill against the wall, effectively burying the wall and providing a gentle slope from the Condominium area to the Stream Channel area. This is a Joint Venture project between the City of Southfield and the River Crossing Condominium Association and involves private funding.

A total of 300 feet of stream channel was reconstructed. The proposed channel included natural cobblestone stream bottom and banks. The stream bottom also included artificial stone riffles and pools. The cobblestone banks also received a live stake planting in the stone joints. The slopes above the banks were planted with masses of natural vegetation. Deciduous trees were specified to increase the shade along the stream.

The stream restoration techniques were gleaned from the work completed on the Rouge River under the National Wet Weather Demonstration Project. The projects administered by the RPO guided the selection of streambank restoration methods, habitat improvement techniques, soil erosion and sedimentation control methods for this project.

City of Wixom Wetland Mitigation at Habitat Park. This project involves the creation of wetland for mitigation purposes for projects in the City of Wixom. The 25 acre site of this mitigation is adjacent to a 300 acre nature center that is currently being developed by the City of Wixom. The project is being modeled after the Wayne County Wetland Preservation Fund that was developed with a Grant from the Rouge River National Wet Weather Demonstration Project. The wetlands are in an area that will provide floodwater storage, habitat improvement and passive recreational opportunities. Funds generated from the sale of wetland credits will be utilized to fund improvements within the Habitat Park (Boardwalks, Viewing Platforms, Nature Trails and Interpretive Signage).

The proposed mitigation area has had a MDEQ Wetland Assessment conducted to verify the location of any existing wetlands and uplands. The familiarity that the MDEQ has with the Wayne County Wetland Preservation Fund has resulted in a greater understanding of the planning process and features that have been successful. The first project involved the construction of 1-acre emergent wetland that provided mitigation for a safety path project that impacted 0.6 acres of wetlands. The wetland utilized many features that had been incorporated into the wetlands constructed for the Wayne County Wetland Preservation Fund Sites (accelerated construction methods, seed mixes, habitat structures, plant installation and hydrology establishment).

B. Community and Grant Funding

Local units of government, county and state agencies, and non-governmental organizations continued to commit funding and staff resources to the restoration and protection of the Rouge River Watershed. Table 1 shows new projects awarded in 2002 and Table 2 shows projects completed in 2002. Wayne County awarded Round III grants in July 2002 totaling over \$3.8 million in federal grants and over \$3.8 million in local matching funds. Wayne

County also awarded Round IV grants for CSO/SSO control projects in December 2002 totaling over \$10 million in federal grants. The Rouge Project plans to advertise a notice of grant availability for Round V in the Spring of 2003.

TABLE 1
ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
COMMUNITY PROJECTS AWARDED GRANTS IN 2002

Project ID	Community / Agency	Project Title
RIII-01	Wayne County Parks	Vegetative and Structural Streambank Stabilization Controls in Middle Rouge
RIII-02	Northville Township	Continue IDEP and Storm Water Ordinance Modification
RIII-03	Northville Township	Fish Hatchery Park Water Quality & Habitat Improvements
RIII-04	Cranbrook	Oakland County Rouge Water Festival and Rouge Watershed Display
RIII-05	Cranbrook	Design and Construction of Fish Passage at Kingswood Lake Dam
RIII-06	University of Michigan - Dearborn	Bonnie Brook Stream Bank Stabilization Project
RIII-07	Bloomfield Hills Schools	E.L. Johnson Nature Visitor Center Improvements
RIII-08	City of Novi	Continue Public Education Effort 2002-2003
RIII-09	Beverly Hills	Pilot Swale with Underdrain Project
RIII-10	City of Melvindale	River Access Improvement And Bank Planting
RIII-11	Henry Ford Community College	Kingfisher Bluff Bank Stabilization and Scenic Overlook
RIII-12	City of Inkster	2003 Illicit Discharge Elimination and Public Education Activities
RIII-13	Plymouth Township	Pond Outlet Conversion, Stream Bank Stabilization, Basin Conversion Prioritization and Township Stormwater Ordinance
RIII-14	Plymouth Township	Presentations to Associations and Tributary Signage
RIII-16	Oakland County Drain Commissioner's Office	Oakland County On-Site Sewage Disposal (OSDS) Program
RIII-17	Oakland County Drain Commissioner's Office	Rouge Oakland County Public Education Activities 02-04
RIII-18	Rummell Relief Drainage District	Rummell Drain Improvement
RIII-19	Friends of the Rouge	2002-2003 Public Education and Public involvement in the Rouge Watershed
RIII-20	Southeastern Oakland County Water Authority	Healthy Lawn & Garden Education 2002-2004
RIII-21	Van Buren Township	Wetland Recreational Trail
RIII-22	Van Buren Township	Lake Fringe Wetlands
RIII-23	Canton Township	Fellows Creek Naturalization and Flow Reduction
RIII-24	Friends of the Rouge	Schoolyard Habitat Project

TABLE 2
 ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
 COMMUNITY PROJECTS COMPLETED IN 2002

Project ID	Community / Agency	Project Title
U2-04	Oakland County Drain Commissioner	Caddell Drain Regional Detention Pond Retrofit
U2-08L	Livonia	Stormwater System Evaluation & Maintenance
M3-10	City of Livonia	Street Waste Transfer Facility
SW-11	West Bloomfield Township	Pebble Creek Subwatershed Stormwater Drainage Master Plan
SW-17	City of Birmingham	Quarton Lake Design Project and Springdale Park Restoration Project
GIS-01	Oakland County GIS Utility	Farmington Hills Storm Sewers & Septic Data Development
OSS-01	Oakland County	Septage Unloading Site
OSS-05	Wayne County Environmental Health	Homeowners OSDS Public Education Material
IIA-23	Friends of the Rouge	Continuation of Public Education Programs 2001-2002
IIB-10	Southeastern Oakland County Water Authority	Healthy Lawn & Garden Education for Storm Water Pollutant Reduction
IIB-23	City of Livonia	Continuation of IDEP, PEP and Subwatershed Planning Activities