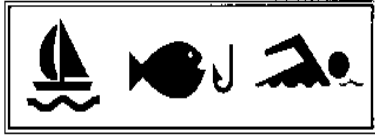


THE ROUGE RIVER PROJECT
A WORLD CLASS EFFORT



BRINGING OUR RIVER BACK TO LIFE

Rouge River National Wet Weather Demonstration Project

Wayne County, Michigan

Review of Year 2001 RPO-TR40

February 2002

ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT

REVIEW OF YEAR 2001

February 2002

Introduction

In the year 2001, the major progress in restoration of the Rouge River included:

1. The water quality and the overall ecosystem health continued to steadily improve in 2001. 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 at least 94% of the time in wet and dry periods at several monitoring stations along the river.
2. The combined sewer overflow (CSO) storage treatment facilities continued to meet or exceed expectations.
3. Seven subwatershed management plans were completed cooperatively by the Subwatershed Advisory Groups (SWAGs) and submitted to the Michigan Department of Environmental Quality (MDEQ) on May 31, 2002 as required by the General Storm Water Permit.
4. Storm Water Pollution Prevention Initiatives (SWPPIs) were finalized by 43 communities and agencies in the Rouge watershed and were submitted to MDEQ by the end of the year as required by the General Storm Water Permit.
5. Over 43 communities in the Rouge River watershed have implemented their illicit discharge elimination plans (IDEP) contributing to the improvements in the Rouge River water quality.
6. The Rouge Gateway Master Plan report was completed on February 19, 2001. This is a master plan for ecosystem restoration and recreational improvements along the lower seven-mile reach of the Rouge River. As part of this plan, construction was initiated on the Rouge Oxbow Restoration Project. Work progressed with the Detroit District US Army Corps of Engineers regarding potential restoration of the paved channel section of the lower Rouge.
7. A "Drafting Committee" has been established to develop recommendations to present to the Rouge River communities and agencies concerning long-term institutional arrangements to further the Rouge River restoration.
8. The communities, Counties and agencies 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.

Water Quality/Ecosystem Health Improvements

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 five key locations. Adequate dissolved oxygen content is one key element of a healthy river ecosystem. The DO measurements are made from mid-April through mid-November each year, and most 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 2001 data from these long-term monitoring locations is summarized below.

During the year 2001 the water quality in the Rouge River continued to show the very encouraging trend of continuous improvement. The MDEQ water quality standard for DO is 5 mg/l. This standard was met over 94% of the time at all stations. Higher water temperatures and an increased number of rain events in the months of June, July and August 2001 caused the standard to be violated at certain stations more times than in 2000. However, at each of the 5 stations, the percentage of DO values below the State standard continues to show an encouraging trend of fewer exceedances in the most recent years. 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

Ecosystem Health Improvements

Coupled with the water quality improvements discussed above, the ecosystem health continues to improve as well. This improvement is demonstrated by the results of the 4th Annual Friends of the Rouge Frog and Toad Survey. Over 400 volunteers listened for the mating calls of nine different species of frogs and toads in the areas of Wayne, Oakland and Washtenaw Counties within the Rouge River Watershed. The volunteers, who covered 231 survey blocks of one-quarter acre in size, heard a greater number of green frogs and northern leopard frogs during the 2001 survey than they did in the previous year. Of particular interest is that six species were found in the Inkster man-made wetland that was constructed as part of the Project to demonstrate wetland habitat improvements in an urban area. These findings contradict a recent report by the Audubon Society, which stated that constructed wetlands are inadequate at replacing the biological diversity of species in existing wetlands.

The results of the Friends of the Rouge Bug Hunt, a collection of aquatic macroinvertebrates - bugs - from streams by volunteers, was also very interesting. About 20 volunteers participated in the May 19th collection day and about 40 volunteers participated in the October 6th collection day at 13 different sites in the watershed. The data collected were compared. It should be noted that the fall collection day was preceded by about 24 hours of steady rain which created a wash out situation and less potential for insect collection overall. Each sampling site was assigned a score of "poor,

fair, or good" based on the species and diversity of the insects collected. Sites considered "poor" included the Middle Branch at Waterford Bend and Tonquish Creek. "Good" sites included Bishop Creek, Johnson Creek at 5 Mile, and Fowler Creek. This is a program that will continue twice each year and recruit more watershed volunteers. There will be a winter stonefly search in January in addition to the fall and spring hunts. These Bug Hunts are establishing good base line data as well as building volunteer awareness of the importance of clean water and healthy ecosystems in their communities. As the number of volunteers increase and as more data are gathered, it is anticipated that more ecosystem health improvements will be documented in the watershed.

Combined Sewer Overflow Control

The nine CSO retention/treatment basins continued to operate well, thereby removing a significant source of untreated sewage overflow to the Rouge River. A total of 76 of the 83 Phase 1 CSO outfalls are now under control (retention/treatment basins) or have been eliminated (sewer separation).

As reported last year, a detailed evaluation study of six of the CSO control basins, utilizing approximately two years of sampling at each basin, was completed in 2000. The study examined the performance of the six CSO facilities and the water quality impacts of their discharge to the Rouge River. Based upon the completed evaluations, the MDEQ concluded that all six CSO treatment facilities that have completed data collection, met the Phase II criteria of the elimination of raw sewage and the protection of public health. This is a very significant conclusion that will have impacts on future design of CSO treatment basins. The three Detroit basins have completed their monitoring program and are expected to be certified by MDEQ early in 2002.

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 6 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.

Control programs for all remaining CSO outfalls in the Rouge River Watershed were recently defined in reissued NPDES permits. Lessons learned as part of the Phase I CSO control program were critical in developing permits that were acceptable to everyone. A joint tunnel project between Detroit and Dearborn, with likely participation by Redford, Dearborn Heights, and Inkster is the major new construction project likely to be undertaken, if several issues can be resolved within the next year. Construction of

additional outfalls to existing basins in Dearborn Heights and Inkster are expected to move into the design phase in 2002.

The Project's CSO control program was summarized in a report and was included as a case study by USEPA in their recent Report to Congress on the nationwide CSO control efforts.

The Rouge CSO control program was audited by the Office of the Inspector General, U.S. Environmental Protection Agency as one part of a much broader audit of several State CSO control programs. The final report has not been issued to date.

Sanitary Sewer Overflows

The Rouge Steering Committee looked into the sanitary sewer overflow (SSO) issue and participated with SEMCOG in the development of regional recommendations for implementing the state's SSO strategy. These recommendations were many of the lessons learned in the Rouge Project. The MDEQ has determined that the State policy should be reviewed and has invited SEMCOG and other participants from the Rouge effort to assist them. Previous and on-going participation by Rouge representatives in the National Strategy are helping to ensure that there is a logic and consistency linking Federal, State and local actions. A report on the state's strategy from the SSO Workgroup is expected in early March 2002.

In summary, the strategy that is emerging is to eliminate preventable SSOs, focus on protection of public health and the environment if an SSO overflow occurs, and provide for ongoing improvements to sewer systems as part of minimizing the residual risk of overflow events.

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. Since this had been raised as an issue in previous meetings, several Rouge Steering Committee members worked with the legislature in developing the language that links municipal liability for basement flooding to responsibility for the backup. Simply put, the law will hold municipalities liable only if the claimant can demonstrate that a number of conditions are met including the following: the sewage disposal system had a defect; the governmental agency knew, or in the exercise of reasonable diligence should have known about the defect; the governmental agency, having the legal authority to do so, failed to take reasonable steps in a reasonable amount of time to repair, correct, or remedy the defect; the defect was a substantial proximate cause of the event and the property damage or physical injury, and proper notification procedures are followed. In addition, the legislation says that none of the following was a substantial proximate cause of the backup: an obstruction in a service lead that was not caused by a governmental agency; a connection to the sewage disposal system on the affected property, including, but not limited to, a sump system, building

drain, surface drain, gutter, or downspout; or an act of war, whether the war is declared or undeclared, or an act of terrorism.

The law also provides a very specific notification process that must be followed by a property owner in order to pursue a claim against a municipality. The municipality is also required to make information about the notice provisions available to potential claimants.

While this law does not impact the cases that are already pending in court, the Michigan Supreme Court is expected to issue its ruling clarifying if trespass-nuisance was an exception to the municipal immunity statute. The ruling is anticipated in early 2002.

MDEQ SSO Task Force

The Rouge Project staff participated in the MDEQ SSO Task Force, which is helping the MDEQ to develop additional guidance and policy to communities regarding sanitary sewer overflow (SSO) management.

Implementing the Michigan Storm Water General Permit

Watershed Management Plans

Seven subwatershed management plans were developed under the MDEQ General Storm Water Permit and submitted to MDEQ on May 31, 2001. The Subwatershed Advisory Groups (SWAGs) worked collaboratively with the local units of government and County agencies that have Certificates of Coverage under the General Storm Water Permit to:

- Develop and implement public participation plans,
- Establish short-term and long-term goals for protecting and/or restoring the River,
- Compile information on the nature and status of the subwatershed,
- Identify and agree on actions to be taken to achieve the short-term and long-term goals, and
- Assess management alternatives.

The Rouge communities and agencies that have Certificates of Coverage also prepared and submitted their second annual report to the MDEQ documenting compliance with the terms of the General Storm Water Discharge Permit.

Storm Water Pollution Prevention Initiative Plans

The Rouge Project and MDEQ co-sponsored a workshop on preparation of Storm Water Pollution Prevention Initiatives (SWPPIs). A SWPPI is required from each community or agency that holds a Certificate of Coverage under the MDEQ Storm Water General Permit. Over 100 people from local units of government in Wayne, Oakland, Washtenaw, and Macomb Counties attended the workshop. A complete summary of the workshop including a CD of workshop materials was made available to the attendees and other interested parties. This information is also available on the Project's web site.

The SWPPIs were finalized by 43 communities and agencies in the Rouge watershed and were submitted to MDEQ by the end of the year 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. MDEQ will notify the communities and agencies within 90 days of the approval of the SWPPI.

Illicit Discharge Elimination

A requirement of the Michigan General Storm Water Discharge Permit application is that each community develops 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, 211 facilities were inspected and 17 buildings / facilities / structures were found to have over 50 improper connections to the storm sewer system. Since the inception of Wayne County's IDEP program in 1987, 4,886 facilities have been inspected. A total of 1,249 illicit connections were found at 371 facilities. Only 35 facilities still have outstanding violations.

The Oakland County Drain Commissioner (OCDC) Storm Water Action Team (SWAT) continued identification and elimination of illicit discharges in 2001. Three major municipal drains were identified as receiving illicit discharges, one has been eliminated and two are under investigation. Illicit discharges from two commercial establishments were identified and eliminated. Twenty five (25) failing residential on-site sewage disposal systems were discovered in the City of Southfield and turned over to City personnel, who are working directly with the Oakland County Health Department to cause elimination. SWAT has completed inventory of all OCDC drains in the Rouge River watershed (approximately 450 outfalls). In addition, SWAT has completed ten (10) IDEP community contracts. In total, OCDC SWAT inventoried 3,834 storm water outfalls throughout the Rouge River watershed in Oakland County.

In Washtenaw County, the Washtenaw County Drain Commissioner's Field Inspection Division completed inspection of 20% of Rouge Watershed Drains in Washtenaw County during 2001. These resulted in a single referral for further investigation to the Washtenaw County Environmental Health Division. Water samples were collected and analysis is pending.

Training in Illicit Discharge Elimination Techniques

The Wayne County Illicit Connection/Discharge Elimination Training Program was created and implemented in 1999-2000. In 2001 the Advanced Investigations module was completed, a fifth module was added and the development of two specialty sessions was completed. 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 Connections, a two hour session to familiarize field staff with illicit connections, 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 connections 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 the end of 2001, seven training sessions were given to 204 participants. Four sessions of the Advanced Investigation Module were given to 104 participants for participants from the Rouge River watershed, Clinton River watershed, and Lake St. Clair watershed. The Basic/Advanced Investigations module was given to 34 participants from the Kalamazoo watershed. The specialty session “Recognizing Signs of Illicit Connections” was given to 30 members of the Washtenaw County Road Commission. The “Problem Solving Exercise” specialty session was presented at the annual Michigan Water Environment Association Industrial Pretreatment Program conference with 80 persons in attendance.

On-Site Sewage Disposal System Management

In 1999, Washtenaw County and Wayne County enacted new ordinances for the management of on-site disposal systems (OSDS). The ordinances went into effect on January 1, 2000. 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 2001 with excellent success as summarized below.

In year 2001, there were 100 inspections performed in Wayne County as a result of the ordinance. A total of 32 failed systems were found and addressed. In addition, the County received 38 complaints of failed systems. The County has brought to closure 27 of those complaints.

The Washtenaw County Environmental Health Division inspected 118 Rouge Watershed septic systems. Of the systems inspected to date, 26 failed and 21 have been corrected. County wide, 874 inspections yielded 181 failures and 131 corrections to date.

The Oakland County Drain Commissioner developed a proposal for an OSDS Program that will allow for a Time-of-Sale Ordinance and Periodic Inspection with County tracking and administration.

Public Education and Involvement

The Wayne County Department of the Environment (WCDOE) and the Rouge Project Public Involvement (PI) Team facilitated two new initiatives, the Nutrient Reduction Campaign, and Riparian Land Owners Workshops, and successfully continued many others in 2001.

Nutrient Reduction Campaign: Wayne County's new Nutrient Reduction Campaign was successfully launched in 2001 and is summarized below.

Print Ads: WCDOE and PI staff placed the first print ads in support of the spring 2001 "Don't Guess Soil Test" campaign. The ads appeared Sunday, April 1, 2001 in the Observer/Eccentric Newspapers and the Heritage Newspapers (News Herald, Press & Guide newspapers).

The "Ours To Protect" watershed awareness ad was placed in the Metrotimes publication. The ad ran for four consecutive weeks (Oct 14th – Nov 14th, 2001). Numerous calls and comments were received as a result of the ad.

Billboards: Three different messages were placed on 10 different billboards adjacent to major roads in Wayne County. Messages included the River Friendly Partners Program and the Environmental/Rouge Info Line (888-223-2363).

Cable TV: WCDOE staff placed free public service announcements via cable TV providers in support of, or to promote, the Rouge Info Line/WCDOE Environmental Hotline, the Spring 2001 "Don't Guess Soil Test" campaign, and the Wayne County Master Composters Program.

Fertilizer Point of Sale Education: Three mechanisms for encouraging cooperation and delivering Point of Sale education have been identified as effective:

- Don't Guess Soil Test campaign,
- Slow Release Fertilizer Sticker program,
- Healthy Garden Problem Solver Tip Cards

In spring 2001, staff assisted the Wayne County Michigan State University Cooperative Extension Service with implementation of the "Don't Guess Soil Test" campaign. Nine stores in Wayne County participated.

Efforts are currently underway to plan and implement the spring 2002 Soil Testing campaign in conjunction with the Slow Release Fertilizer Sticker Program created and implemented by Southeastern Oakland County Water Authority (SOCWA) in the spring of 2002.

River Friendly/Nutrient Reduction Education Activities: WCDOE staff organized and implemented two River Friendly Lawn & Garden Workshops in May and June 2001 (City of Northville and Canton Township). Nearly 70 citizens attended. Presentations were given by Wayne County MSU Extension staff and Metropolitan Detroit Landscape Association board members.

New Brochures: Three new brochures have been developed. The new brochures are “Fertilizer Selection & Application”, “Building a Healthy Lawn” and “Compost: Black Gold”. These brochures offer many of the healthy lawn and garden recommendations developed and made by the Healthy Lawn and Garden Technical Advisory Committee (HLGTAC) and are available through Wayne County’s Publications Clearinghouse.

Riparian Land Owners Workshops: Wayne County Department of Environment and the RPO PI staff organized and supported two successful workshops for Rouge River riparian landowners. Nearly 150 people attended one or both of the workshops. The first was held in March 2001 at Henry Ford Community College and featured sessions on native plants, watershed planning, stewardship and how to interact with government officials. The second workshop featured sessions on water quality testing, creek or lake groups, and stewardship projects in Northville, Southfield, Birmingham and Detroit.

Rouge 2001: The annual briefing on the progress of Rouge River restoration for elected officials, state legislators, community staff, business, and other watershed stakeholders took place May 25th at the University of Michigan-Dearborn, with approximately 520 people in attendance. A “Status of Watershed” report was given, along with an overview of the “Rouge Gateway Partnership” project. The dedication ceremony for the Environmental Interpretive Center also took place at this event with Bill Ford Jr. as the keynote speaker. Displays were present by the Subwatershed Advisory Groups and other groups including SOCWA, Cranbrook Educational Community, and Johnson Creek Protection Group.

The Rouge River Water Festival: For the fourth successful year, the Wayne County Department of Environment and the RPO PI Staff helped organize and support the 2001 Rouge River Water Festival, sponsored by Wayne County and the University of Michigan – Dearborn. The Water Festival, held on May 3, 2001, was attended by 1,502 fifth graders with another 981 students wait-listed. There were 60 individual presenters recruited to accommodate the 62 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. The 5th Annual Rouge River Water Festival will be held May 2, 2002 at the University of Michigan-Dearborn.

Friends of the Rouge Frog and Toad Surveys: Public interest in frog and toad surveys continued to grow in 2001. The 4th annual (March – July) Friends of the Rouge (FOTR) Frog and Toad Survey has been designed to teach community volunteers the importance of amphibians as sensitive biological indicators of the health of the Rouge River watershed, including the river, wetlands, streams, and riparian areas. By attending a two-

hour workshop facilitated by the FOTR team, volunteers are provided with the necessary tools, such as a tape or CD of frog and toad calls and a survey manual. The volunteers listen for the mating calls of nine different species of frogs and toads in the areas of Wayne, Oakland and Washtenaw Counties within the Rouge River Watershed. With improved volunteer recruitment in 2001, attendance at 6 workshops was greatly increased from past years. The volunteers who covered 231 survey blocks of one-quarter acre in size heard a greater number of green frogs and northern leopard frogs during the 2001 survey than they did in the previous year. This appears to be the reversal of a trend. Of note were six species were found in the Inkster man-made wetland that was constructed as part of the Project. The Audubon Society has reported that constructed wetlands are inadequate at replacing the biological diversity of species in existing wetlands. The frog and toad program offers a unique opportunity for people of all ages to become more attuned to the natural world, while at the same time, collecting valuable information for the watershed.

Wayne County Master Composters Training and Volunteer Coordination: WCDOE planned and implemented Fall 2001 Master Composters Class (Canton Township). Six training classes were held with several speakers well versed in this topic.

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.

Rouge River Road Signs: A large number of road signs were installed by Wayne County, the Oakland County Drain Commissioner, and several Oakland County communities; these signs were installed at river crossings, and at entry points into the watershed throughout the watershed to make people more aware of the Rouge River. Below is a photograph of one of the signs. Also shown is a photo of one of the billboards signs.



Rouge River Publication Clearinghouse: Because there was a significant increase in demand for large numbers of Public Information materials created by the Rouge Project, a “Rouge River Publication Clearinghouse” was established in January 2001. The Clearinghouse provides materials such as “Rouge River Activity Books”, “Storm Drains Aren’t Garbage Cans” magnets and bags, and “Use Your Head You Live In a Watershed” posters in bulk quantities to local communities and others at cost. In addition, the

Clearinghouse can produce community-specific orders. Since its inception, the Clearinghouse has provided over 60,000 pieces of educational materials to communities for their watershed education efforts.

Oakland County: In addition to hosting numerous public participation and awareness events, the Oakland County Main 1-2 Public Education Committee purchased a number of educational items such as Rouge lapel pins, mini-minder clips, storm drain markers, and other Rouge Products, which were distributed to the Rouge Oakland County communities.

Washtenaw County: The Washtenaw Drain Commissioner's "Homeowner's Association Handbook", A Guide to Water Quality Protection for Homeowner Associations and Households" was distributed to Rouge Watershed Townships as a water quality education tool for homeowner associations.

Advancing the Watershed Management Vision

Institutional Arrangements

The Rouge River Steering Committee met three times during the year to discuss many issues associated with the Project, including the seven subwatershed management plans developed by the Rouge communities under the MDEQ Storm Water General Permit, the Rouge Gateway Master Plan, the Project's grant funding process and other related issues.

A major item of focus in 2001 was discussion on the direction of the Rouge Project for 2002 and 2003. A planning retreat for communities with NPDES permits in the Rouge watershed was held on October 4, 2001 to explore options associated with institutional arrangements for the Rouge Watershed. Representatives from approximately 35 communities attended this all-day retreat to discuss Rouge Project activities and processes for the next several years. The principle conclusion was that a new watershed-wide organization was needed to further the continued efforts in the Rouge River restoration. It was decided that a new "Drafting Committee" would be established to work in parallel with the Steering Committee over the next few months to develop recommendations on a number of issues including the following:

- Planning for water quality and water quantity issues in the watershed;
- Establishing priorities for projects that relate to goals, targets and schedules;
- Providing advocacy for the members at the federal/state/regional and local level;
- Coordinating the activities and management plans for the Subwatershed Advisory Groups;
- Coordinating and perhaps managing watershed-wide sampling/monitoring; and
- Addressing regional concerns including providing a forum for coordination of issues with the Detroit Water and Sewer Department.

The Drafting Committee is continuing in its deliberations.

Gateway Project

The Rouge River Gateway Partnership is a public/private stakeholder group formed in the summer of 1999 to restore the 7-mile section of the Rouge River, from Ford Road in Dearborn to the confluence with the Detroit River. This reach of the river includes a 4-mile concrete channel and a 3-mile section of navigable dredged waterway downstream of the channelized section.

The Rouge Gateway Master Plan report was completed on February 19, 2001. This is a master plan for ecosystem restoration and recreational improvements along the seven-mile reach of the Rouge River from Ford Road in Dearborn to the Detroit River. The Plan is a compendium of planning and design initiatives to transform this section of the Rouge River from a concrete-lined drainage channel to a diverse, rich fishery drawing visitors from local communities and around the country to the river for recreation. The public entities of the Gateway Partnership are 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 \$1 million in grants have been received for various projects under the Gateway Master Plan. Additional grant requests are pending.

The Rouge Oxbow Restoration Project is one of the first elements of the Master Plan to receive funding. The Wayne County Department of Environment received funding from the Clean Michigan Initiative Waterfront Redevelopment Grant Program for an Oxbow Restoration at Henry Ford Museum and Greenfield Village. This exciting Project will restore valuable fish and wildlife habitat within the Rouge and will restore functioning riverine wetlands that have been lost due to channelization of the river. Secondary objectives include improvement of water quality, increased floodplain storage, education/interpretative opportunities and improved aesthetics. Excellent progress was made in 2001. Approximately 95% of the oxbow excavation and grading are complete. Final excavation and planting will resume in early spring 2002.

Wayne County continued to work with the Detroit District US Army Corps of Engineers (COE) regarding potential restoration of the paved channel section of the Rouge. A draft Preliminary Restoration Plans for modification of the concrete channel between Michigan Avenue and Interstate 94 through a Corps of Engineers Section 1135 authorization were finalized and submitted by Wayne County and the COE for review by COE district management.

Another element of the Gateway Master Plan, the Environmental Interpretive Center (EIC), located on 300 acres of natural area traversed by the Rouge River at University of Michigan-Dearborn (UM-D), opened in May 2001. The EIC provides environmental education activities for school children, teachers, and university students, as well as civic organizations and community residents. The EIC provides, to students of all ages, a living laboratory for education about the natural world as the basis of a sustainable human society. In addition to UM-D, Wayne County, the State of Michigan, and Ford Motor Co provided funding.

Recreation

The Newburgh Lake Wayne County Triathlon/Duathlon took place on August 19, 2001 on the shores of Newburgh Lake in Livonia. The event was a huge success with over 180 participants from all over the tri-county area and surrounding states. The swim portion of the event was cancelled due to the large amounts of rain that took place the evening before the race.

Outreach

Briefings for USEPA

The Project provided two major briefings to senior management at USEPA Headquarters. The first was to Mr. Michael Cook, Director, Office of Wastewater Management, and his senior staff with a focus on wet weather issues and the accomplishments of the Rouge Project in those areas. The second meeting was with the new EPA Assistant Administrator for Water, G. Tracey Mehan, and some of his senior staff. The purpose of the meeting was to exchange information on the successes of Project and to discuss ways in which the Rouge Project could help EPA accomplish its tasks associated with the watershed approach, combined sewer overflow control, sanitary sewer overflow control, and related issues.

Presentations

Representatives of the Rouge Project have presented numerous technical papers and presentations at professional meetings and conferences including the National Storm Water Managers Roundtable, the TMDL Science Issues Conference, the United Engineering Foundation Conference, Non-Point Source Pollution Education and Information Conference, and the Water Environment Federation Technical Conference. For a complete listing of these papers and presentations see the Project's web site.

Other Watersheds

The Project worked 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.

Web Site

As reported above, there were approximately 200,000 successful hits per month to the www.rougeriver.com website. The Project is using the web site as the main outreach tool to communicate actions, technical information, and success to others. The Project continues to update information and add new items to the site.

Other Items of Interest

Wayne County received the official award letter for Grant 8 of the Rouge River National Wet Weather Demonstration Project in the amount of \$4.75 million.

Ms. Kelly A. Cave, Wayne County Watershed Division Director was awarded the *Water Conservationist of the Year* award by the Michigan United Conservation Clubs for her work associated with watershed protection in the Rouge River.

In February 2002, Washtenaw County Drain Commissioner Bobrin will receive a statewide award from the Michigan Association of County Drain Commissioners for the Johnson Creek Bioengineering Workshop and Streambank Stabilization Demonstration Project, located in Salem Township.

Representatives of the Project received a “Rouge River Remedial Action Plan Advisory Council Habitat Protection and Enhancement Honor Roll Award” for their work with the Johnson Creek Protection Group. Specifically, they were recognized for their participation in the partnership in supporting Johnson Creek Day 2001. The event provided several opportunities for watershed residents to learn about Johnson Creek, a rare cold-water tributary of the Rouge River and home of the red-sided dace. The event included a creek nature walk, Rouge River clean-up, fishing derby, woody debris management demonstration and the planting of native vegetation in the riparian corridor. The Rouge River RAP Council recognized staff for their significant contribution to the restoration and protection of the uses in the Rouge River Watershed and celebrated their efforts as a model for other organizations and stakeholder groups.

The RPO Data CD Volume 7 was completed and distributed. The CD contains all RPO monitoring data current to year 2000 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 2002.

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:

Johnson Creek Protection Group Activities – In an effort to improve the water quality of Johnson Creek and the Rouge River, Northville Township, with help from others, facilitated the creation of the Johnson Creek Protection Group (JCPG) in 2000. This group is a venue in which residents, businesses and local officials can work together to identify how the community can work to preserve and restore water quality, as well as educate the public regarding their role in this on-going endeavor. The JCPG has continued to meet monthly throughout 2001 to discuss various issues from how to better control construction erosion to educating potential purchasers/developers of the last undeveloped property in the creekshed. The group’s major public involvement activity this year culminated with the Johnson Creek Protection Day on June 2nd. Over 130 volunteers from around the creekshed participated in four activities: Johnson Creek Nature Walk with the Western Wayne County Conservation Association; a streambank

stabilization project using logs, brush bundles, cables and stakes; a creek clean-up effort at Fish Hatchery Park; and a presentation by the MDNR Fisheries Division followed by a demonstration of the trout planting process and an opportunity for kids to fish Johnson Creek and the Mill Pond. Because of their leadership in this event, several members of the JCPG received the Rouge River RAP Advisory Council (RRAC) Habitat Protection and Enhancement Honor Roll award on December 5th for their efforts to create an excellent public involvement opportunity. Activities that are being planned for 2002 include conducting a natural features inventory along the creek corridor where volunteers will be looking for erosion, logjams, noting outfalls, and looking for threatened and endangered species. The group is also planning now for Johnson Creek Protection Day, 2002.

Plymouth Township Tonquish Creek Bioengineering Demonstration Project – A section of Tonquish Creek, a tributary to the Middle Rouge River that flows through Plymouth Township Recreational Park, was stabilized using bioengineering techniques in the fall of 2001. Bioengineering techniques included installing live fascines, a vegetated geogrid, and brush and live post revetments. Project highlights include the restoration of badly eroded stream banks with aesthetically pleasing native plants, stabilization against future erosion, an interpretive sign communicating the importance of the project, providing an additional component to an adjacent outdoor classroom.

Lower One Wetland Assessment and Protection Plan Completed – About 125 wetlands in the six communities of the Lower One Subwatershed were assessed at the completion of this project in February of 2001. Communities were provided with maps, reports, and digital information so that the analysis of the project as well as recommendations for protecting wetland functions could be accessed as needed. As communities begin to implement the Rapid Assessment Method (RAM) process to assess the remaining wetlands in their communities as projects arise, additional training workshops, as requested, will be held in 2002.

Canton Township's River Day Tree Planting – Canton Township conducted extensive riparian tree planting as part of a very well-attended River Day celebration on June 2nd. Despite a rainy day, over 200 trees were planted along Fellows Creek by over 200 volunteers. Other activities for volunteers included making bird boxes to be installed at home or at schools.

Lower One and Middle One SWAG Pull Resources Together to Augment Water Quality Monitoring – In preparing the Subwatershed Management Plans, the Lower One (L1) and Middle One (M1) SWAGs found that historical data in the headwaters areas was lacking in baseline information. Based on SWAG recommendations, 9 additional sites in the M1 and 6 additional sites in the L1 were suggested as an addition to the Rouge Program Office's annual baseline water quality monitoring program. A financial allocation procedure for funding the 50% local match to be shared among the SWAG members for the RPO service was developed and successfully implemented. The results of the monitoring, although preliminary, show that the additional monitoring was a good

investment. Several of the “new” sites sampled in the headwaters uncovered high *E. coli* levels that will need to be investigated as a result of this monitoring.

Wixom Hosts Commercial Lawn Care Workshop – A goal of the Middle One Subwatershed Management Plan is to reduce phosphorus from fertilizers from lawns. On September 14th, the City of Wixom, with mostly commercial land use in the Rouge portion of the community, conducted a successful lawn care workshop targeting regional commercial lawn care companies and providers. The workshop was entitled “Beautiful Lawns; Healthier Rivers”. In cooperation with the Detroit Metropolitan Landscape Association, Michigan State University Extension, and the Oakland County Drain Commissioner’s office, several presentations were made to a group representing 8 communities and agencies from across the watershed. Workshop materials were provided to other SWAGs so that they could offer similar workshops in their areas.

Van Buren Township Conducts Land Preservation Options Workshop for Landowners – As preservation of open space and influencing land use change is a key element of the Lower One Subwatershed’s management plan, Van Buren Township conducted a workshop for private landowners to inform them of their options for long-term protection of their land in conservation easements and other land conservation tools. Brian Ballard, the Township’s Environmental Director, gathered experts in conservation law and accounting, including representation from the Southeast Michigan Land Conservancy to present options and answer questions for approximately 40 residents who attended the workshop held on October 17th. The workshop was received with positive response.

Novi Creates Storm Water and Watershed Stewardship Committee – In response to the finalization of the Subwatershed Management Plans as well as the upcoming implementation of the SWPPs, the City of Novi has instituted this separate committee to deal with city projects that have a storm water component. The group conducts monthly meetings and is comprised of a city council member, one city staff member and seven Novi residents. The committee provides input on appropriate storm water Best Management Practices and recommends these to the planning commission and council. The committee has also drafted and finalized a new Storm Water Ordinance, modeled from the Salem Township Storm Water Ordinance. Additionally, the committee will be providing input on future master plan reviews with regard to land use changes and improving storm water management.

Schoolyard Wildlife Habitat Enhanced on Truesdell Creek at Field Elementary School in Canton – In April, roughly 150 students, parents, teachers and friends volunteered their time to plant native trees, flowers and seeds along the banks of Truesdell Creek, a tributary to the Lower Rouge River that flows through the school’s property. General debris removal was also conducted during the planting installation. This streambank habitat enhancement initiative is an ongoing project of Field teacher, Rick Plecha (awarded the Best Friends of the Rouge award in 2001) for 5 years, with overwhelmingly positive support from the school and larger community. Students use

the creek area as an outdoor classroom, studying the water quality and wildlife habitat of the headwaters of the Rouge River.

City of Novi and Friends of the Rouge Bus Tour of the Middle One Subwatershed –

In cooperation with Friends of the Rouge and University of Michigan-Dearborn, the City of Novi hosted a Middle One Rouge River Subwatershed Bus Tour on August 1st to teach residents and local decision-makers about the environmental history of this part of the watershed, some of the threats to water quality, and the many local projects going on to protect and restore the river. The bus tour was attended by over 45 people from across the subwatershed, ranging from concerned residents, members of the Johnson Creek Protection Group, and local decision-makers from Farmington Hills, Commerce Township, and Northville Township. The tour was so popular that Novi and FOTR had to turn some interested participants away for lack of space on the bus. Stops on the tour included a wetland restoration site, a streambank stabilization site, the groundwater springs of Johnson Creek and historical Fish Hatchery Park.

Friends of the Rouge “Bug Hunts” – FOTR in 2001 began to implement the benthic macroinvertebrate data collection in a different and more successful way by creating a comprehensive training program and conducting specific field, or Bug Hunt, days as opposed to having individual volunteers collecting the data at separate times. The program has already become a big success and an excellent method for involving the public in learning about and collecting valuable information about local creeks and the river. Bug hunts were held in the spring and in the fall so that seasonal data could be compared. Volunteer training for this program was provided by MDEQ, enabling FOTR to contribute their data to MDEQ databases. Once a volunteer is certified in the training, the volunteer can be a “Team Leader” and take untrained volunteers out to collection sites. Sampling sites have been established both in the headwaters and downstream and promise to provide good long-term biological data upon which the quality of the Rouge can be assessed. In 2002, FOTR also offered a “Winter Stonefly Search”, which attracted over 45 volunteers to look for these sensitive creatures that are more abundant in the winter months.

15-Minute Public Education Video- *Storm Sewers Are Not Garbage Cans* – On behalf of the Upper Rouge River Subwatershed Advisory Group, Farmington Hills produced and distributed copies of a public education video covering information on how the actions of homeowners can impact the river. Guidelines for car washing, environmentally friendly lawn and garden care, preservation of streamside buffers, proper hazard waste disposal and other homeowner activities that can affect the river are reviewed in the video. Two copies were distributed to each member with the intent that it will be shown on local cable television channels, distributed for public viewing through area libraries, and presented at meetings of local service clubs and neighborhood associations as part of the Upper SWAGs storm water public education program.

Stream Bank Stabilization and Rouge Friendly Lawn Care – Because of widespread citizen concerns over the damage caused by high river flows in Livonia, that City hosted a FOTR workshop on Stream Bank Stabilization on August 9th at the Livonia Civic

Center where homeowners were given expert advice on what they could do to minimize the loss of property. Farmington Hills also hosted an Upper SWAG workshop conducted by FOTR on Rouge Friendly Lawn Care on August 28th at the Farmington Hills City Hall.

Cooperative Agreement for Regional Storm Water Detention – Redford Township announced that it had reached an agreement with the West Golf & Country Club to jointly fund a storm water detention and wetland education area on the Bell Branch of the Rouge River. This facility will be located within the Wayne County Bell Creek Park through an agreement reached with the Wayne County Parks and Recreation Department. Partial funding for construction is being provided through the Rouge Project.

City of Wayne BMPs – The City of Wayne has incorporated detention of runoff into the site design for the new city interim fire station/DPW project which will be constructed in Spring, 2002. The City has also implemented best management retrofits at its Department of Public Works yard and has scheduled the same for its City Hall parking lot.

City of Dearborn Heights – The City of Dearborn Heights will continue to spend over \$4 million to make substantial recreational, habitat and wetland improvements to Parkland Park. The City is also studying the creation of an environmental center or nature trail area in a secluded area of the park. Using RPO, Clean Michigan Initiative and Wetland Banking grants, the city of Dearborn Heights has developed a project plan for the remediation of the Old Orchard Pond.

City of Melvindale – Beginning in the Spring 2002, the City of Melvindale will designate areas along the Rouge River from Greenfield Road to Schaefer Road as “No Mow Zones,” to slow storm water runoff before it enters the concrete channel portion of the river.

West Bloomfield Township and City of Farmington Hills Partner on a Master Plan - West Bloomfield Township and the City of Farmington Hills are partnering on a pilot study to develop a storm water master plan using modeling and GIS.

F.L.O.W. and Bloomfield Township Develop Strategies – The Forest Lake Outlet Watershed (F.L.O.W.), a group of riparian landowners from multiple lake areas, in conjunction with Bloomfield Township developed management strategies and set long and short-term goals in an effort to improve water quality. The F.L.O.W. group also conducts water quality testing on several open water bodies. In addition, the F.L.O.W. group created a video on fertilizers and landscaping that was aired on local cable.

West Bloomfield Township Fertilizer Ordinance – West Bloomfield Township passed a fertilizer ordinance which outlines water-friendly fertilizer use practices, information regarding the choice of fertilizers to use and also initiated a program of township registration of commercial fertilizer applicators who promote water-friendly fertilizer use. West Bloomfield Township also implemented a Wetland Protection Ordinance and a Natural Features setback ordinance.

City of Southfield Videos – The City of Southfield has produced several education videos related to the City’s stewardship of the Rouge River. Video topics include: Rouge River Clean-up Event; Rouge River Friendly Household Tips; Healthy Lawn Care and Rouge River Signage.

Water Quality Monitoring – The Washtenaw County Environmental Health Division conducted two Rouge Watershed sampling programs in year 2001; 19 samples were taken in May and 16 samples were taken in July.

Erosion and Sedimentation Control – Washtenaw County Erosion and Sedimentation Control permits were issued by the County's Resource Management Division as follows: Salem Township: 8 Major Permits; 45 Minor Permits; 4 Waivers; 1 Stop Work Order. Superior Township: 6 Major Permits; 117 Minor Permits; 8 Waivers; 0 Stop Work Orders (Note: Ypsilanti Township administers its own program.)

Washtenaw Drain Commissioners Review of Development Proposals – The Washtenaw Drain Commissioners Rules, a Michigan model for storm water compliance review, were utilized by the Drain Commissioners Office for all development proposals under the Drain Commissioner's jurisdiction as well as for those entities requesting the Drain Commissioners review.

In addition, the Washtenaw Drain Commissioner, in partnership with Salem Township, originated a storm water ordinance that exceeds the Drain Commissioners Rules' requirements. An adapted version of this ordinance is currently being considered for adoption by the City of Novi.

Wayne County Storm Water Management Ordinance – In October of 2000, Wayne County adopted a storm water management ordinance which requires that storm water management measures be incorporated into new development or re-development projects. The Rules of the Washtenaw County Drain Commissioner, described above, were used as a model for Wayne County’s program. During 2001, this ordinance assured that post-development storm water management measures were incorporated into approximately 300 development projects in Wayne County.

Soil Erosion Control Ordinances – The Oakland County Drain Commissioner's Office prepared amendments to their Soil Erosion/Sedimentation Control Ordinance to reflect the new State legislation. In October, Wayne County adopted a new “Soil Erosion and Sedimentation Control Ordinance” for administering the state soil erosion control program and to reflect the new State legislation on this issue.

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 2001

and Table 2 shows project completions in 2001. Wayne County awarded Round IIA and IIB grants in 2001 totaling over \$4.7 million in Federal grants and \$4.7 million in local matching funds.

The Rouge Project advertised a notice of grant availability for Round III in January 2002. Project awards are expected in mid-2002 totaling \$5.0 million in Federal grants and \$5.0 million in local matching funds.

**TABLE 1
ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
COMMUNITY PROJECTS AWARDED GRANTS IN 2001**

Project ID	Community/Agency	Project Title
IIA-02	City of Garden City	Water Quality Based Determination Of SSO Design
IIA-04	City of Westland	Westland Storm Water Management Master Plan
IIA-05	Canton Township	Detention Basin Enhancements
IIA-08	City of Farmington Hills	East Lincolnshire Subdivision SSO Elimination – Phase 1
IIA-09	Northville Township	Quail Ridge Drain Improvements
IIA-11	Edward Relief Drainage District	Edwards Relief Drain Streambank Stabilization
IIA-12	Oakland County Drain Commissioner's Office (OCDC)	Main 1/2 Streambank Inventory Project
IIA-13	OCDC	Main 1/2 Storm Water Detention Pond Inventory & Assessment
IIA-20	City of Dearborn	Downspout Disconnection Program - Main 3/4
IIA-23	Friends of The Rouge	Continuation of Public Education Programs 2001-2002
IIA-25	City of Wixom	Commercial Lawn Maintenance Workshop
IIA-26	City of Livonia	Construction of Idyl Wyld Regional StormWater Treatment Facility
IIB-01	City of Inkster	Continue implementing illicit connection elimination & public education activities and plan and develop activities in SWPPI.
IIB-02	City of Inkster	Continue implementing Illicit Connection elimination activities
IIB-04	City of Troy	Firefighters Park Streambank Stabilization
IIB-05	Canton Township	Recreational Trails and Canoeing System in the Lower Rouge River Watershed
IIB-08	City of Melvindale	Illicit Discharge Investigation and Elimination and Sanitary Sewer Evaluation Study
IIB-09	UofM Dearborn	Education Exhibits on Storm Water Management @ EIC
IIB-10	Southeastern Oakland County Water Authority	Healthy Lawn & Garden Education for Storm Water Pollutant Reduction
IIB-11	City of Allen Park	Illicit Discharge Elimination Activities
IIB-12	Wayne County Parks	Gateway Corridor Greenway - Outer Drive to Evergreen Road.
IIB-13	City of Westland	Implement Manhole Rehabilitation and Continue Public Education
IIB-14	Oakland County Drain Commission	Franklin Branch Watershed Study
IIB-15	City of Dearborn Heights	Public Education, Pilot Commercial IDEP, Training and Storm Water Planning
IIB-17	City of Farmington Hills	Continue PE & IDEP and develop SWPPI
IIB-19	Redford Township	Bell Creek Off-line Detention Project
IIB-20&21	City of Garden City	Public Education / Public Participation Continuation and Illicit Discharge Elimination Program Continuation
IIB-23	City of Livonia	Continuation of IDEP, PEP and Subwatershed Planning Activities
IIB-22	City of Dearborn	Instream Dissolved Oxygen Augmentation
IIB-25	City of Birmingham	Quarton Lake Restoration project
IIB-27	City of Wayne	Continue IDEP, PE, Subwatershed Planning and Central Waste Oil Collection Facility Planning
IIB-28	Northville Township	Continue IDEP, PE, Subwatershed Planning and Johnson Creek Protection Group Support

**TABLE 2
ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
COMMUNITY PROJECTS COMPLETED IN 2001**

Project ID	Community/Agency	Project Title
U2-03	Redford Township	Roadway Source Controls
U2-06	Redford Township	Data Management / GIS Inventory
U2-08	Farmington Hills	Stormwater System Evaluation & Maintenance (Catch Basin Cleaning Study)
M1-01	City of Northville	Northville Mill Pond Restoration
M1-07	Washtenaw County Drain Office	Stormwater Conveyance and Wetland Treatment Facilities
M1-10	City of Novi	GIS/Public Awareness Educational Programs
SP-05	City of Southfield	Municipal Stormwater Planning & Renovation
SW-05	Garden City	Garden City Storm Water Ordinances, Storm Sewer System Base Map, initial implementation of Illicit Discharge Elimination and Public Education Plans Project
SW-14	City of Wayne	City of Wayne Storm Water Project
SW-16	Henry Ford Museum & Greenfield Village	Oxbow Restoration Project - Design & Preparation
SW-19	Oakland County Drain Commissioner's Office	Oakland County Illicit Connection Program
GIS-02	Canton Township	Canton Township Utility Coverage Project
GIS-04	City of Wayne	Wayne General GIS Development Project
GIS-05	Inkster	Inkster Storm Sewer Data Development Project
GIS-10	Van Buren Township	Van Buren Township GIS Development Project
GIS-12	Romulus	Romulus Environmental Data Development Project
GIS-34	Southfield	Southfield Storm System Data Development Project
GIS-36	Novi	Septic System and Illicit Discharge Data Development Project
GIS-38	Wayne County GIS Management Unit	Geo-Spatial Metadata Application
GIS-39	Birmingham	Building GIS Capacity to Protect the Rouge River
RH-01	Redford Township	Study and Concept Plan for Bell Creek Park Area Project
RH-02	Garden City Public Schools	Wetlands Education Project
RH-03	Plymouth Township	Interpretation and Educational System along Tonquish Creek
RH-14	Friends of the Rouge	Wildlife Habitat Survey 98-99 & River Watch 99-00
WET-01	Canton Township	Lower 1 Wetland Resource Protection Plan
OSS-03	Michigan State University	Onsite Wastewater System Evaluation Training