



Rouge River National
Wet Weather
Demonstration Project

Wayne County, Michigan

Review of Year 2000

April 2001

ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
REVIEW OF YEAR 2000

April 17, 2001

In the year 2000, the major progress in restoration of the Rouge River included:

1. Certification of 6 combined sewer overflow (CSO) storage treatment facilities by the Michigan Department of Environmental Quality (MDEQ). There are now 130 miles of the Rouge River and its tributaries free from uncontrolled CSO discharges.
2. Successful completion of 15 additional significant projects for water quality improvement, geographic information systems (GIS) and public education by local units of government in the watershed.
3. Development of 7 subwatershed management plans.
4. Implementation of new ordinances for on-site sewage disposal systems in Wayne and Washtenaw counties and a new Storm Water Ordinance in Wayne County.
5. Development of the Rouge Gateway Master Plan – a plan for recreation and ecosystem restoration along the concrete channel section of the Rouge.
6. Initiation of work on three Rouge Gateway Master Plan elements – the Oxbow Restoration at Henry Ford Museum/Greenfield Village; the hydrologic and hydraulic study of the concrete channel modification by the Corps of Engineers; and the Environmental Interpretive Center by the University of Michigan – Dearborn.
7. Continuing improvement in the water quality with the dissolved oxygen standard being met 94 (or more) percent of the time in wet and dry periods at several monitoring stations along the river. There were improvements in overall ecosystem health and recreational opportunities as measured by new fish sightings and the first triathlon.

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

Combined Sewer Overflow Control

Seventy-six of the 83 Phase 1 CSO outfalls are now under control (retention/treatment basins) or have been eliminated (sewer separation). Nine CSO retention/treatment basins are currently in operation. The process, launched in 1998 by MDEQ for evaluating the CSO basin Phase 1 performance and resulting water quality impacts, continued with great success.

A detailed evaluation study of the CSO control basins, utilizing approximately two years of sampling at each basin, has been completed. This study examines the performance of the completed CSO facilities and the water quality impacts of their discharge to the Rouge River. Based upon the completed evaluations, it is very important to note that MDEQ has concluded that all 6 CSO treatment facilities that have completed data collection, were certified as meeting 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 CSO Work Group, the Stream Data Committee, and the Retention Basin Work Groups met throughout the year and reached some major conclusions that were included in two reports titled "Physical Characteristics of Treated Effluent from Oakland and Wayne county Demonstration CSO Facilities" and "Rouge Stream Data Committee Interim Report". These reports documented the extensive analysis by the MDEQ, and the CSO communities on the operation of the CSO basins and their design. The conclusions reached in those documents are useful demonstration findings to all CSO communities across the country.

As a result of the CSO control program to date, 130 miles of stream are now free of CSO discharges. All of the completed basins are controlling overflows at a rate of about 4 billion gallons per year. The aesthetics of the river are greatly improved. Also, there are more sightings of larger and more diverse species of fish. And finally, the recreational use of the River is expanding at an increasing rate. This success can be attributed to CSO controls, illicit connection elimination, a multitude of other Rouge Project programs including developing better public, industry and community awareness of pollution control and prevention.

Implementing the Michigan Storm Water General Permit

Planning The seven subwatershed management plans being developed under the MDEQ General Storm Water Permit proceeded with impressive success. The Subwatershed Advisory Groups (SWAGs) made noteworthy progress in the development of those plans. A total of 38 local units of government and County agencies have Certificates of Coverage under the General Storm- Water Permit. These permittees have worked collaboratively with the MDEQ and their respective county agencies 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 SWAGs proceeded on an aggressive schedule to have their draft subwatershed management plan by the end of January 2001 with full plan approval by the member communities/agencies by May 2001. That schedule will be met.

Public Education and Involvement. The Rouge River Public Involvement (PI) Team facilitated two new initiatives and successfully continued others in 2000.

The PI Team wrote the script, picked out shooting locations and edited the tape for "Reclaiming the Rouge: A Partnership in Restoration and Preservation". This 10-minute video was produced by the Rouge Project to describe the Rouge River National Wet Weather Demonstration Project and to highlight the many successes throughout the Rouge River Watershed. Featured projects included educational projects in Salem Township, downspout disconnection in Livonia, stream bank restoration in Dearborn, the construction of CSO retention basins in Oakland and Wayne Counties, activities of the Friends of the Rouge, and many other projects and programs.

Public interest in frog and toad surveys continued to grow in 2000. There were over 340 volunteers that participated in 6 training sessions and survey events.

For the third successful year, the PI Team helped organize and coordinate the Rouge River Water Festival held in May 2000 at University of Michigan/Dearborn. The Water Festival featured 64 presentations and 8 exhibits and was attended by 1,536 fifth-graders from 31 schools in 13 Rouge River Watershed communities. Presentation topics included: municipal, agricultural and industrial uses and the hydrologic cycle, which includes weather, wastewater treatment, soil erosion, wetlands and wildlife.

The first annual Newburgh Lake Wayne County Triathlon was held in August 2000 in cooperation with the USA Triathlon Association. The PI Team created brochures, designed the logo and t-shirts and provided other support services for the Newburgh Lake Triathlon. Over one hundred entrants competed in two legs of the triathlon. The swimming portion had to be cancelled due to recent rains, but we hope for sunny weather in August 2001 for the next event.

Results from the new Public Involvement Survey of 1999 show that the public involvement techniques being used in the watershed are working. Almost half of the respondents indicated that they knew of the Rouge River project, a majority said that they were changing their practices on lawn fertilizing, and a majority felt that continuing actions by government would be needed to sustain the restoration.

Major enhancements to the Rouge Project web site were accomplished with more planned in the near future. The objectives of the enhancements are to review --- information currently on the web site, expunge outdated material, provide a complete description of the various Rouge River restoration programs underway and to include the latest information about the Rouge Project. In this way, the website can be utilized as the main outreach vehicle for the Project.

The web site continues to average approximately 40,000 hits per month. The web site also provides helpful links to other watershed-related information. The web site was recognized with a "Lightspans StudyWeb Award" as one of the best educational resources on the Web. StudyWeb is one of the internet's premier sites for educational resources for students and teachers.

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) and submit it with their application. Over 40 communities in the Rouge River watershed have submitted storm water permit applications and have implemented their illicit discharge elimination plans. Typical activities include outfall surveys, sampling of storm drain discharges and receiving waters, and inspection of properties. Most communities have also established a complaint line for calling in suspicious discharges.

As an example of one community's implementation of its IDEP, the illicit detection program in Inkster examined 9 outfalls and 19 storm drain laterals in the year 2000. Of interest is that testing of the laterals revealed that 11 of the 19 laterals had E.coli levels above 2,200 but none of the outfalls were above 2,000. The range of sample results for the laterals above 2,200 was 2,220 - 793,000 E.coli per 100 ml of sample. Six laterals tested above 100,000 E.coli. per 100 ml. The City is working on finding the sources of the high E.coli. This illustrates the value of the IDEP testing program and presents challenges to Inkster to eliminate the causes for the high E.coli levels.

Training in Illicit Discharge Elimination Techniques. The Wayne County Illicit Connection/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 four (4) modules: (A) Overview, (B) Basic Investigations, (C) Design Considerations, and (D) Advanced Investigations. The program includes presentations of technical information, "hands on" instruction in investigative techniques, 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 2000, six sessions of the "Overview" and "Basic Investigation" Modules were held for 205 staff from communities in the Rouge River watershed, Clinton River watershed and Lake St. Clair watershed. The "Construction-Related Illicit Connection" module was completed in 2000 to familiarize plan reviewers, building inspectors, and others in the development industry with building practices that can help reduce illicit connections. There were 3 sessions held in 2000, with 108 participants. Wayne County also continued development of the "Advanced Investigations" Module during 2000.

On-Site Sewage Disposal. In 1999, Washtenaw County and Wayne County enacted new ordinances for the control of on-site disposal systems (OSDS). Those ordinances went into effect on January 1, 2000. Implementation of those ordinances proceeded during the year with excellent success. The regulations require the inspection of all residential OSDS by private evaluators at the time of sale of a property. Several hundred systems have been evaluated with approximately 20% needing corrective action. As part of the OSDS program, the Rouge Project developed several useful tools to assist in the implementation. These included use of the GIS system, evaluation tools, inspection techniques and evaluation profiles. In addition, training of evaluators was provided.

During 2000, Washtenaw County received 854 reports of inspections of OSDS. Eighteen percent (18%) of these were found to be failing. Twenty percent of the failures (31) had surface discharges of sewage directly from the home or septic tank. Sixty percent (92) of the failures have been corrected. A surprising finding was that some of the surface discharges were from new plumbing.

Wayne County received 108 OSDS evaluations in the year 2000. Twenty percent of the locations (22) were found to be failing. Eighteen of the failures were corrected by the end of 2000.

Stormwater Management Regulations. The Wayne County Commission adopted the new Wayne County Storm Water Management Ordinance and Administrative Rules in October 2000. These documents, along with the new Wayne County Storm Water Standards Manual are now being fully implemented to address storm water issues in the watershed. Wayne County has established and implemented training programs for County staff on the technical requirements of the ordinances.

Washtenaw County made refinements to its existing storm water design rules, which were put into effect in May 2000. The design changes focus on improving water quality and on long-term maintenance. In addition, Washtenaw County has developed model ordinances for local units of government for regulating storm water, natural features, storm water system use (what can be discharged to a storm sewer) and reduction of phosphorus from new developments.

Advancing the Watershed Management Vision

Recreation. The first annual Newburgh Lake Wayne County Triathlon was discussed earlier. Plans are underway to hold a second triathlon at Newburgh Lake in August 2001.

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. During 2000, this group of local municipalities, Wayne County, state and federal agencies, institutions, small businesses, corporations and citizens created the Gateway Master Plan. This document 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. The Rouge Oxbow Restoration Project, described below, is one of the first elements of the Master Plan to receive funding.

As part of the Gateway Project, 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 program 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.

Wayne County continued to work with the Detroit District US Army Corps of Engineers regarding potential restoration of the paved channel section of the lower Rouge River. Actions continue for funding two projects to modify the concrete channel through a Corps of Engineers Section 1135 authorization.

Institutional Arrangements

In 1999 the Rouge Project Steering Committee was reconstituted to expand its charge and enlarge its membership. During 2000, the reconstituted Steering Committee focused on federal grant issues and also on issues needing watershed-wide coordination or issues of interest to all. One of their major areas of focus was basement flooding and related sanitary sewer overflows (SSOs). The Steering Committee formed a SSO Prevention Subcommittee and developed a report that analyzed the issue and made recommendations on how to address this problem. This report was presented to the US District Court and was the basis of numerous discussions with MDEQ on this topic.

The work of the US District Court's Coordination and Planning Committee for the Rouge Watershed was completed with the determination of the Federal Court that the steering committee meetings' are an effective forum of communication of project issues.

Representatives of the Rouge Project have participated very heavily in policy development at local, state, and national level. As part of our technology transfer efforts, the Rouge Project has participated in numerous forums to develop or evaluate watershed management policies at all levels. Those efforts have proven to be very successful. Locally, new regulations for management of wetlands, storm water, and onsite sewage disposal systems have been developed. At the state level, the Rouge Project continues to have productive interactions with MDEQ on watershed-based NPDES storm water regulations and water quality trading regulations. Nationally, the Rouge Project has had a major influence on national policies and regulations dealing with the use of the watershed approach and its tie to the control of sanitary sewer overflows and CSO controls.

Community and Grant Funding. Local units of government, county and state agencies, and non-governmental organizations continue to commit funding and staff resources to the restoration of the Rouge watershed. Table 1 shows new projects awarded in the Year 2000, and Table 2 shows projects completed. Wayne County advertised grants for Round 2B in October 2000. Project awards made in early 2001 totaled over \$2 million in federal grants and \$2 million in local matching funds.

**ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
COMMUNITY PROJECTS INITIATED IN 2000**

TABLE 1

Project ID	Community/ Agency	Project Title
SN2-01	City of Wayne	GPS Survey of Storm Water Sewer & Outfalls
SN2-03	WCDPW	Wayne County Drain Information System Phase II
SN2-04	Plymouth Township	Tonquish Creek Ponds and Bank Improvement
SN2-06	Cranbrook	Sustainable Water Resources Management & Public Education Plan
SN2-08	Dearborn Heights	River Oaks Subdivision Pond Restoration
GP-Wash	Washtenaw County Drain Commissioner	Illicit Discharge Elimination Tracking Software Application
GP-wixom	Wixom	Additional StormWater General Permit Activities
FOTR-ED9900	Friend of the Rouge	Rouge Education Project 1999-2000 support
GP-FOTRM3	Friend of the Rouge	Rouge Watershed Education Center (from Middle 3 Subwatershed)
GP-FOTRM1	Friend of the Rouge	Rouge Education Project support from Middle 1 Subwatershed
GP-FOTRL1	Friend of the Rouge	Rouge Education Project support from Lower 1 Subwatershed
GP-FOTRL2	Friend of the Rouge	Rouge Education Project support from Lower 2 Subwatershed
GP-FOTRM34	Friend of the Rouge	Rouge Education Project support from Main 3/4 Subwatershed

**ROUGE RIVER NATIONAL WET WEATHER DEMONSTRATION PROJECT
COMMUNITY PROJECTS COMPLETED IN 2000
TABLE 2**

Project ID	Community/ Agency	Project Title
M1-04	Salem Township	Public Awareness
M1-05	Wash. County Drain Office	Application of Soil Bioengineering Techniques for the Restoration of Johnson Creek
M1-09	City of Novi	Soil Erosion Control Blanket Program
M3-12	City of Westland	Illicit Connection Investigation
SW-06	Inkster	Inkster Storm Water Ordinances, Implementation of Illicit Discharge Elimination and Public Education Plans Project
SW-12	SOCWA	SOCWA Healthy Lawn and Garden Education Project
GIS-06	Westland	Westland GIS Data Development Project
GIS-07	Plymouth Township	Plymouth Township GIS Development Project
GIS-11	Livonia	Enhancement of Current GIS Public Storm Sewer Layer Project
GIS-41	West Bloomfield	GIS Data for Water Quality Indices and Wetlands Assessment
GIS-42	Livonia	GIS to Support Illicit Discharge Elimination Plan
GIS-43	City of Farmington	Fundamental GIS Project
GIS-44	Westland	GIS Septic Field Data and Soil Erosion
RH-12 (3)	University of Michigan - Dearborn	Recreation, Habitat Restoration, Environmental Education and Rouge River National Automotive Heritage Site Project
OSS-02	Washtenaw County	Washtenaw County OSDS Management Project
OSS-04	Wayne County Environmental Health	Development of OSDS Evaluation and Maintenance Program

COMMUNITY SUCCESS STORIES

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

Steering Committee/SEMCOG/MDEQ SSO Subcommittee Task Force Report. The SSO Task Force was a collaborative effort among SEMCOG (Southeast Michigan Council of Governments), Wayne County DOE, Oakland County Drain Commissioner, several communities, and the MDEQ. A report prepared by the group outlines a policy-level approach for assessing means to control sanitary sewer overflows. This approach is being adopted by a number of communities and by the DWSD (Detroit Water and Sewerage Department) in assessing control strategies for SSOs.

Lower One Subwatershed Wetland Assessment and Protection Plan. Wetlands in the Lower One have been studied and a plan has been developed to identify certain wetlands that perform valuable functions protecting water quality, water quantity and wildlife in the subwatershed. The final protection plan will include information about wetland functions, current regulations and stewardship opportunities, as well as general recommendations for actions to protect certain key functions like fish and wildlife habitat, water quality protection and groundwater recharge potential. Using trained staff from the six participating communities --- Canton, Salem, Superior, Plymouth, Van Buren and Ypsilanti Townships -- about 125 wetlands were assessed in the subwatershed. The resulting products will be an ArcView based database linked with an Access database so that wetlands and their functions can be viewed both in a geographic and quantitative context, as well as the associated wetland maps for each community to use for planning purposes. The project report and maps will be available on the www.rougeriver.com web site in the spring of 2001.

Johnson Creek Protection Group (JCPG) Activities. This local citizens' action group has been meeting monthly and is comprised of local, county and state agency representatives as well as a number of concerned citizens who live and/or fish in the Johnson Creek shed. Their stated primary concerns are stream flow and flooding, erosion and sedimentation, and loss of natural features. Northville Township has taken the lead in providing coordination and facilitation of the group. Since its inception, the group has organized into various committees to work to meet stated long- and short- term goals. Committees include Construction, History, Natural Features/Greenbelt, and Public Relations/Education. The JCPG hosted a mass public meeting on February 26th at the Northville Township High School to generate awareness about the group, its goals, its committees, and how more people could get involved in its activities. The meeting was a great success with over 70 people in attendance representing Salem and Northville Townships as well as other organizations like Trout Unlimited. The next major event for the group is Johnson Creek Day, which will be held on River Day/Rouge Rescue Day, June 2, 2001. The event will include four activities: a guided nature walk along the creek, clean up at Fish Hatchery Park, a streambank stabilization project on the creek, and a fishing derby.

Johnson Creek Bioengineering Project. The Office of the Washtenaw County Drain Commissioner, in partnership with Salem Township, restored and protected a section of Johnson Creek, a high quality cold water stream, while incorporating different streambank stabilization techniques including live stakes, fascines and a lunger structure for fish habitat. Protecting the habitat of special concern species like the Redside Dace minnow, as well as the established brown trout fishery, was of great importance in the Johnson Creek area. Emphasizing both classroom and hands-on training, the bioengineering work was completed, in part, by area volunteers.

Canton's River Environmental Excellence Committee (CREEC). Canton's citizen advisory committee CREEC (Canton's River Environmental Excellence Committee) has been meeting on a bimonthly basis since June 2000 to discuss the developing Lower One and Middle One Subwatershed Management Plans. In response to an advertisement in Canton's newsletter, the meetings have had about 20-30 regular participants. The meeting series consists of discussions about what concerns and priorities the participants would like the Township to address in the Subwatershed Management Plans and in the community's Storm Water Pollution Prevention Initiative (SWPPI). Each participant has been given copies of draft Plan chapters to review and use as a springboard for discussing potential solutions to storm water challenges in the community. CREEC participants include a diverse range of community members: teachers, a developer, a retired civil engineer, a wildlife biologist, a Ford employee, a Wild bird Rescue volunteer, a County employee, riparian landowners and many caring citizens. This group seems to have an interest in continuing to be active once the Subwatershed Management Plans have been completed and have discussed

opportunities such as creek clean ups, encouraging business stewardship, a detention pond stewardship, among other programs.

Wayne County Illicit Discharge Elimination Team. In its thirteenth year of operation, the Wayne County's illicit discharge elimination team inspected 449 facilities in the Rouge watershed during the year 2000. The team found 359 illicit connections to storm sewers or waterways from 26 facilities in the watershed. Detection and removal of these improper discharges to the region's water resources is a major component of the County's efforts to prevent pollution and ensure water quality protection.

Wayne County Wetland Mitigation Bank. Wayne County has created two innovative wetland programs known as the Wetland Mitigation Bank and the Wetland Preservation Fund (WPF). These programs merge environmental restoration, wetland protection, passive recreation, outdoor education, and public participation while encouraging economic development. These programs facilitate a streamlined wetland permitting process within the County by providing wetland replacement at locations that were selected for their value to water quality, fish and wildlife, and restoration of the Rouge River. In 2000, the first 8 acres of wetlands were created for the Wayne County Mitigation Bank, and these areas have been valuable outdoor classrooms, wildlife habitat, and filters of storm water runoff. Wetland Mitigation Banks have been used in numerous locations across the country. The Wayne County WPF is the first of its kind. The National Association of Counties awarded the Achievement Award for 2000 to Wayne County for its Wetland Preservation Fund. The award said in part "In recognition of an innovative program which contributes to and enhances county government in the United States."

The Wayne County WPF is the first of its kind in the nation and represents a unique approach to funding the enhancement, creation and protection of wetlands. In effect, the Wayne County WPF is a revolving fund much like the State Revolving Fund used in the federal and state construction grants program. In the WPF funds can be used for the wetlands program and as new funds become available from the mitigation bank or other sources, the Fund is replenished. This will be an important demonstration to others on how to make such a revolving fund work to protect wetlands.

Westland Sanitary Sewer Overflow Reductions. In 1999, work was completed to reduce sanitary sewer overflows in communities in the Middle 3. Westland constructed relief sewers to increase the capacity of their sanitary sewer system to transport wastewater. In September 1999, a new Wayne County sewage pump station (Pump Station 1A), designed to help alleviate a surcharge condition in the Wayne County sewer system, started operation. This pump and the relief sewers in Westland have significantly reduced the number and volume of SSOs from the Middle 3 communities. The number of SSOs reported, dropped from 34 in 1999 to 11 in 2000, even though 2000 was a year of greater rainfall than 1999. The difference in the volume of sewer overflows was also significantly reduced. In 1999 Garden City, Livonia and Westland reported the discharge of

7,349,000 gallons from sanitary sewers. In 2000, 1,478,000 gallons of sanitary sewer overflow was discharged, a reduction of almost 6,000,000 gallons.

In Westland, sanitary sewers have been extended to existing homes that are without sanitary sewers. Properties with onsite sewage systems can now connect to a sanitary sewer.

Upper Rouge Activities. On behalf of the Upper SWAG, Farmington Hills took the lead in the production of a public information video entitled, "Storm Sewers Are Not Garbage Cans". The fifteen minute animated video describes those activities that homeowners can do to help prevent pollution of the Rouge River. Residential car washing, home lawn and garden care, proper disposal of household waste, and other activities are highlighted. The video has been provided to all 10 subwatershed communities and advisory groups for showing throughout the watershed. It will also be shown on local cable stations.

Livonia took the lead for the Upper Subwatershed in acquiring display boards and materials for use at public gathering places to provide information on the Rouge Restoration efforts. The display boards and materials have been provided to each community and agency participating in the General Permit for the Upper Subwatershed.

Main 1-2 Activities . The Oakland County Drain Commissioner's office, in cooperation with all of the Main 1-2 communities, have completed the first phase of their Illicit Discharge Elimination Program. All County Drains and all waters of the State have been walked, all outlets have been located on their GIS, Digital pictures have been taken of each outlet, and samples have been taken of every suspicious discharge. All illicit discharges that were identified were located and corrected. Areas with signs of minor problems are now being investigated. The Drain Commissioner established a "SWAT Team" to perform this work, and the team has been successful in identifying specific discharges and reporting them to the respective municipal jurisdiction.

Main 3-4 Activities.The Main 3-4 communities are seeking grant funding from a wide variety of sources to complete various aspects of the master plan. Several of these grant requests have been successful with a large number pending. In November 1997, Wayne County Department of Environment (WCDOE) began a collaborative effort to address environmental issues in the Lower Rouge / Southwest Detroit area. Working initially with the U.S. Environmental Protection Agency (EPA), the Michigan Department of Environmental Quality (MDEQ), and the City of Detroit, WCDOE's new GNUI effort targeted communities in Allen Park, Dearborn, Southwest Detroit, Ecorse, Lincoln Park, Melvindale, and River Rouge and recruited participants from those communities. Task Forces were formed to address the most pressing issues identified by the participants: Air (later broken into Odor, Dust, and Toxics groups), Brownfields, Public Information/Education, Solid Waste/Illegal Dumping, and Water. The GNUI has enjoyed a number of successful achievements, including: development and distribution of Arabic

and Spanish informational/instructional brochure for reporting environmental complaints to WCDOE's 24-hour Hotline, resulting in increased publicity and accountability; Ecorse/River Rouge Cleanup organized by the Illegal Dumping Task Force; dust survey and letters to facilities sent by the Dust Task Force; Fugitive Dust Workshop and Odor Workshop organized by the Dust and Odor Task Forces; and the GNUI poster contest.(over 170 students 3 – 5 grade participated) winning posters art work being incorporated to environmental billboards to be displayed in Spring 2001

Lower 2 Activities. The Lower 2 communities have been diligently completing the items outlined in the Lower 2 Subwatershed Plan. The largest concern remains the control of SSO's in older "wet" sewer systems. To proceed in a coordinated manner, Garden City has taken a leadership position in a study to better define the characteristics of SSO's and their impact on the river. This work group continues to work with SEMCOG, MDEQ and Wayne County to reshape the SSO control "presumptive criteria." The outcome of this study will have national significance.

Water Quality/Ecosystem Health Improvements

The most important story is that the water quality in the Rouge River continued to show significant improvement during the year 2000. The long-term monitoring network has shown steady improvements with Year 2000 being the best year of record throughout the watershed.

For example, in the lower Rouge in Dearborn the mean dissolved oxygen (DO) increased from 4.5 mg/l in 1994 to almost 7.0 mg/l in 2000. The percent of DO readings that violated the State water quality standard of 5 mg/l dropped from 61 percent in 1994 to less than 4 percent in 2000. Similar improvements occurred at all stations in the watershed. It is important to note that these figures are for the entire year during wet and dry periods. This clearly reflects the benefits of the watershed management strategies that have been aimed at controlling both dry and wet weather pollution sources in the watershed.

Appendix 1 presents additional information on the DO improvements in the watershed.

APPENDIX 1

Trends in Rouge River Continuous DO Monitoring Data **Updated with Final 1999 Data and Preliminary 2000 Data**

The RPO's Long-Term Monitoring Network is proving valuable in showing positive DO trends in the Rouge River. Since the data are continuous (mid-April through mid-November), they reflect the benefits of watershed management strategies aimed at both dry and wet weather pollution sources in the watershed.

Lower Rouge Watershed in Dearborn - Figure 1

- DO has steadily improved with 2000 being the best year on record.
- Mean DO has increased from 4.5 mg/l in 1994 to almost 7.0 mg/l in 2000.
- The percent of DO readings below the 5 mg/l State standard dropped from 61 percent in 1994 to 4 percent in 2000.

Middle Rouge Watershed in Dearborn Heights - Figure 2

- DO has steadily improved each year since 1997.
- Mean DO has increased from 6.5 mg/l in 1997 to 7.4 mg/l in 2000.
- The percent of DO readings below the 5 mg/l State standard dropped from 25 percent in 1997 to 2 percent in 2000.

Upper Rouge Watershed in Redford Township - Figure 3

Upstream of the Bell Branch Confluence

- DO has averaged above 7 mg/l for in this river reach previously impacted by CSOs.
- While some minor excursions below the 5 mg/l State standard still remain (4 percent or less of the readings), they can be attributed to a single pollutant source which has yet to be located.

Downstream of the Bell Branch Confluence

- The Upper Rouge downstream of the Bell Branch confluence has not yet shown a clear trend of DO improvement, primarily due to the presence of other uncontrolled CSOs and the unidentified source mentioned above.

Main Rouge 1 & 2 Watershed - Figure 4

In Birmingham

- DO improved in 1999 compared to the previous year monitored, and there were no excursions below the 5 mg/l State standard.

In Beverly Hills

- DO has steadily improved with 2000 being the best year on record.
- Mean DO has increased from 7.0 mg/l in 1994 to 8.1 mg/l in 1999.
- The percent of DO readings below the 5 mg/l State standard dropped from 13 percent in 1994 to 0 percent in 1999.

In Southfield

- DO has clearly improved since the Oakland County CSO controls were implemented.
- Mean DO has increased from 6.8 mg/l in 1997 to 8.0 mg/l or higher in each subsequent year.
- The percent of DO readings below the 5 mg/l State standard dropped from 4 percent in 1997 to 0 percent in each subsequent year.

Main Rouge 3 & 4 Watershed in Detroit - Figure 5

- DO has improved significantly since 1998 with 2000 being the best year on record.
- Mean DO has increased from 5.4 mg/l in 1998 to 6.9 mg/l in 2000.
- The percent of DO readings below the 5 mg/l State standard dropped from 40 percent in 1998 to 5 percent in 2000.

Ford Road and Military Road Figures 6 and 7

The data in Figures 6 and 7 show a comparison of dissolved oxygen measurements from 1994 to 2000 at the continuous monitoring stations D06 and L05. The DO standard is represented by the horizontal line at 5 mg/l, and the individual data points show the continuing elevation of DO readings from year to year.

Figure 1
Lower Rouge River Continuous DO and Temperature Summary
 (with Preliminary 2000 data)

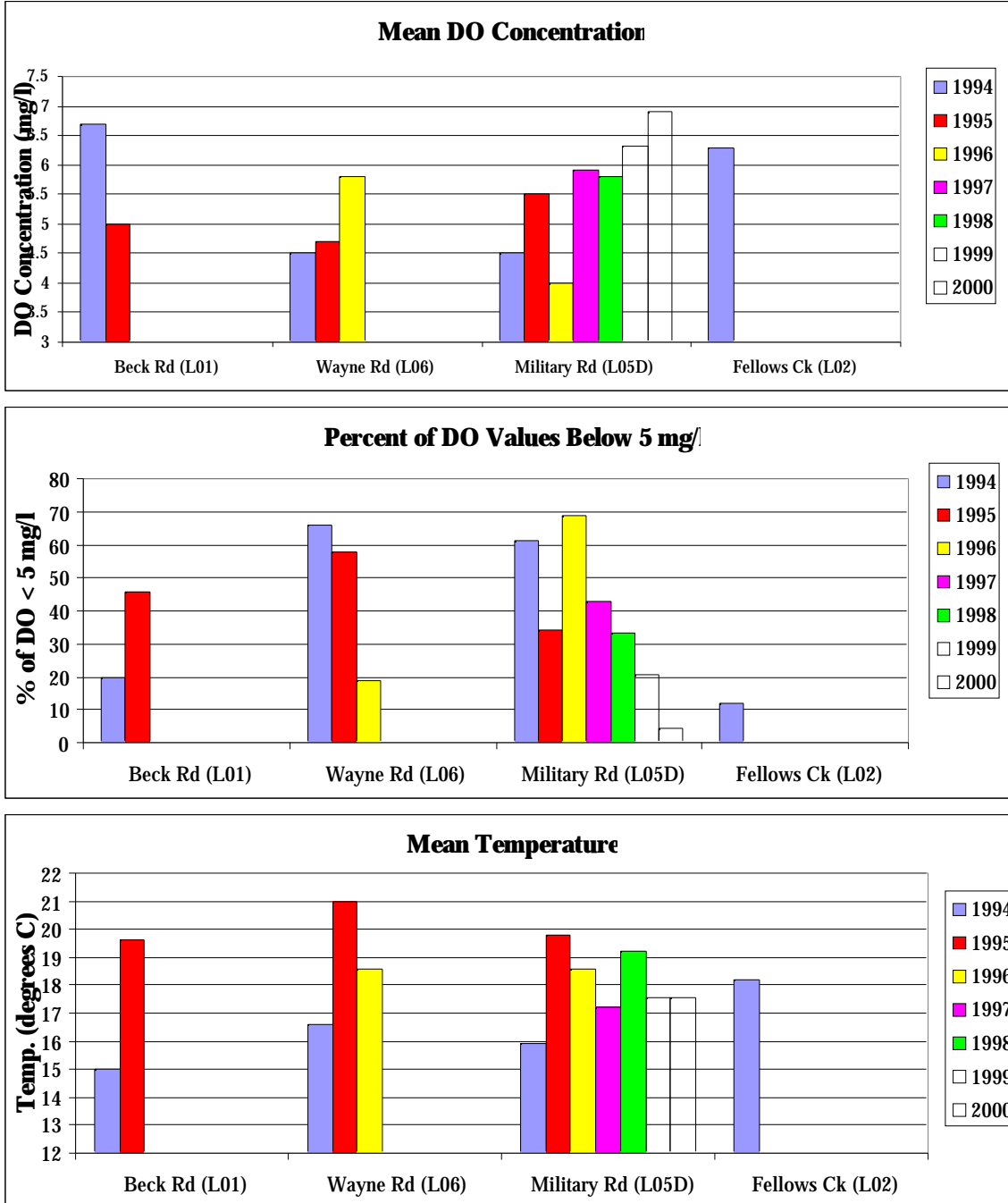


Figure 2
Middle Rouge River Continuous DO and Temperature Summary
 (with Preliminary 2000 data)

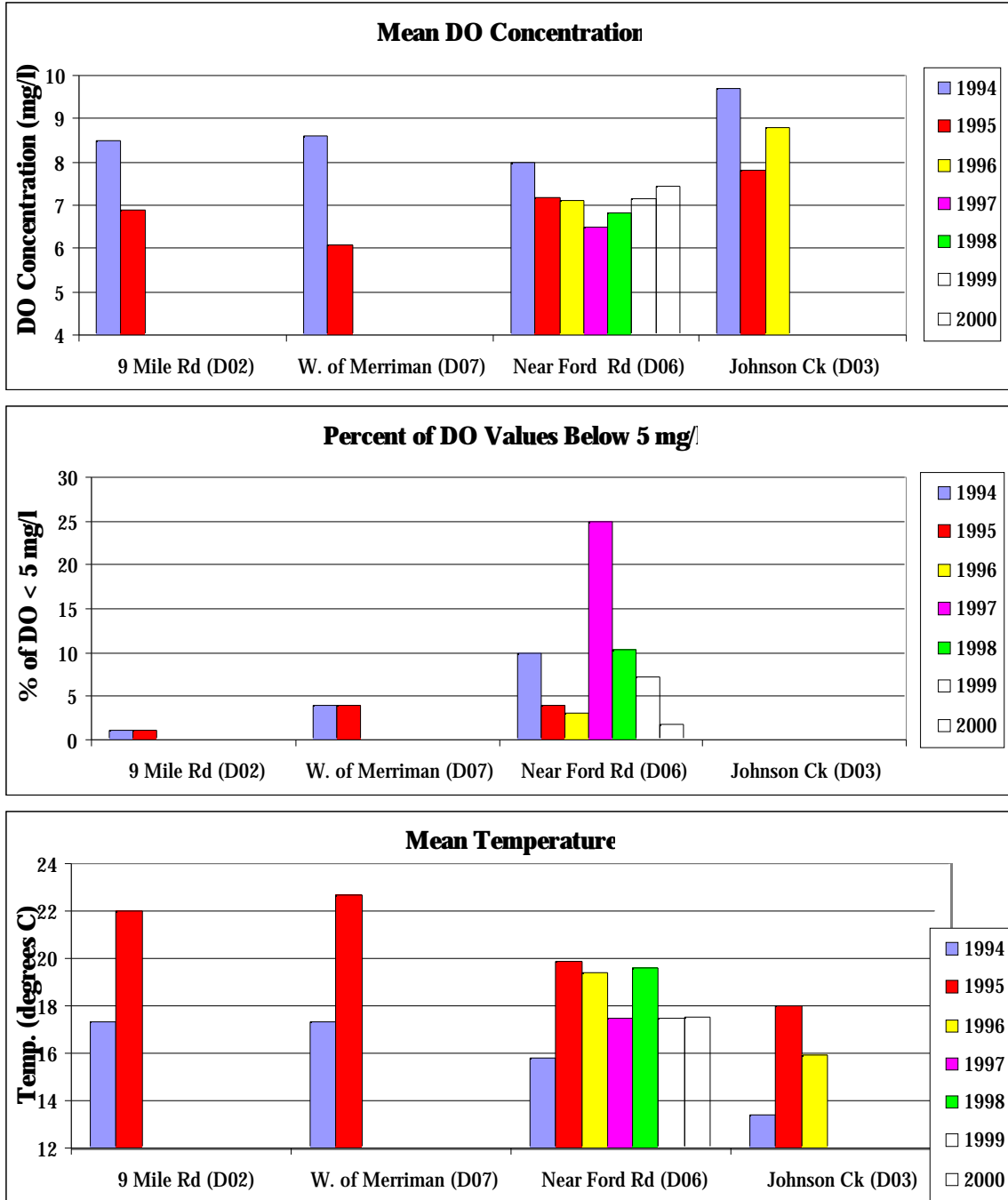


Figure 3
Upper Rouge River Continuous DO and Temperature Summary
 (with Preliminary 2000 data)

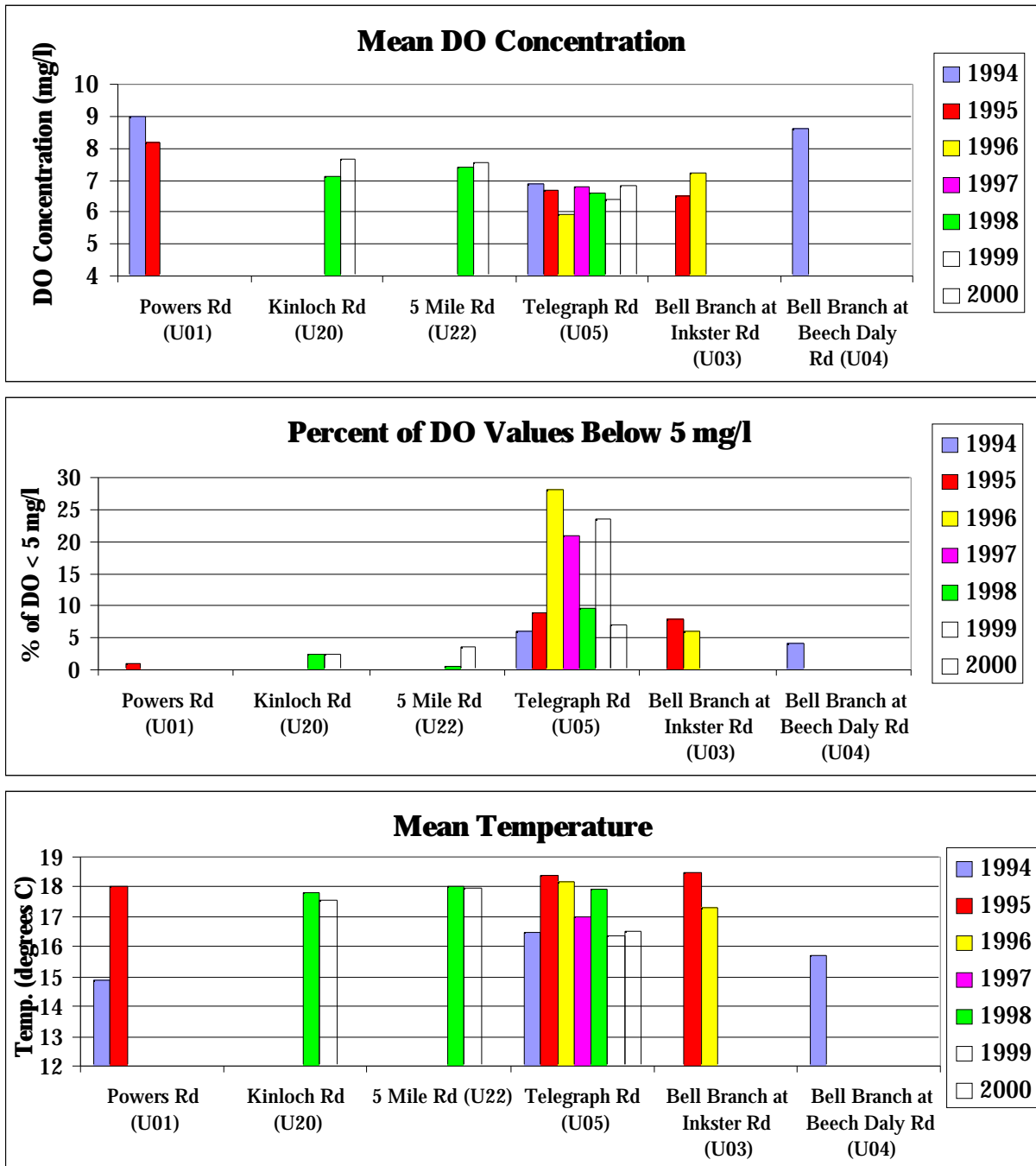


Figure 4
Main 1 & 2 Rouge River Continuous DO and Temperature Summary
 (with Preliminary 2000 data)

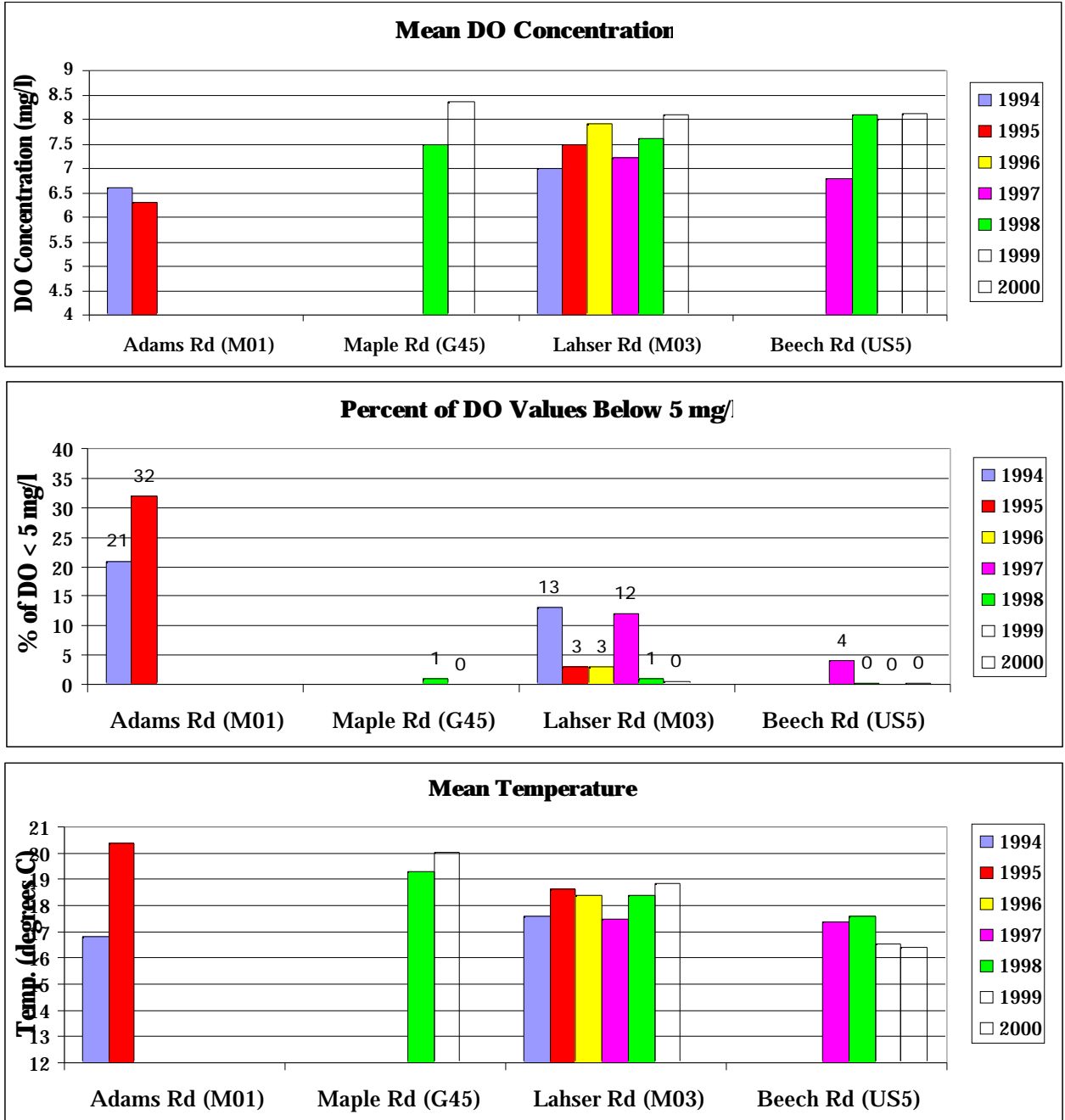


Figure 5
Main 3 & 4 Rouge River Continuous DO and Temperature Summary
 (with Preliminary 2000 data)

