

THE ROUGE RIVER PROJECT
A WORLD CLASS EFFORT



BRINGING OUR RIVER BACK TO LIFE

Rouge River National Wet Weather Demonstration Project

Wayne County, Michigan

1999 PUBLIC OPINION SURVEY Rouge River Watershed (TR12.00)

March 1999

CONTENTS

INTRODUCTION 1

METHODOLOGY 2

FINDINGS 4

ISSUES OF CONCERN 4

THE RIVER: KNOWLEDGE AND USE 6

Familiarity 6

Use 6

FLOODING, WATER QUALITY, AND POLLUTION SOURCES 6

PUBLIC INVOLVEMENT AND INFORMATION 7

Individual Actions 7

Education and Information 8

PRIORITIES 8

COMPARISONS WITH FINDINGS FROM OTHER SURVEYS 10

1999 UNIVERSITY OF MICHIGAN MAIL SURVEY 10

1993 ROUGE PROJECT PUBLIC OPINION SURVEY 10

Issues of Concern 11

The River: Knowledge and Use 11

Water Quality and Pollution Sources 11

Public Involvement 12

CONCLUSIONS 13

**APPENDIX A: 1999 Public Opinion Survey of
Rouge Watershed Residents, with Percentage Responses 15**

INTRODUCTION

The Rouge River National Wet Weather Demonstration Project (Rouge Project) is a joint effort by federal, state, and local communities to improve water quality in the Rouge River watershed. The Rouge Project is funded, in part, by the U.S. Environmental Protection Agency (EPA) Grant #X995743-01 to Wayne County, Michigan. The views expressed in this report are those of the authors and do not necessarily reflect those of the EPA.

The mission of the Rouge Project is to (1) demonstrate effective solutions to the water-quality problems experienced by an urban watershed highly impacted by wet weather and (2) develop potential solutions and implement projects that will lead to the restoration of water quality in the Rouge River. This watershed-based national demonstration project is intended to provide guidance and, potentially, effective solutions to similar areas across the nation.

The primary purposes of this survey, funded under the Rouge Project, are to (1) measure the effectiveness of various public information and education programs conducted since the project began, in 1993, and (2) help guide public-involvement activities in the development of watershed management plans now being prepared.

METHODOLOGY

In September 1999, Public Sector Consultants, (PSC) Inc., interviewed 400 residents of the Rouge River watershed, 100 in each of four geographic regions of the watershed (see Exhibit 1).

- Region 1 Northern headwaters (central southern Oakland County)
- Region 2 Western headwaters (western Wayne County, west of Haggerty Road and north of Van Born Road, and northern Washtenaw County)
- Region 3 Middle river (Wayne County south of Eight Mile Road, east of Haggerty Road, north of Van Born Road, and west of Detroit; includes western half of Dearborn)
- Region 4 Downriver (City of Detroit, eastern half of Dearborn, cities of Melvindale and River Rouge, and portions of Allen Park).

Other than to assure that 50 percent of the interviewees were female and 50 percent male and all were aged 18 or older (the majority of respondents are aged 28–59), survey participants were randomly selected.

A comparison of other characteristics of the sample with census data reveals that the sample is a good representation of the entire watershed population. The appendix presents the survey questions and the responses, by percentage of total responses to each. The answers given to the open-ended questions are not included but are available on request.

The regional comparisons presented in this report are based on the responses from 100 interviewees in each of the four regions. The overall conclusions of the survey are based on a subsample of 300, to reflect the actual population mix of the four regions in the watershed. The sample of 300 has a margin of error of plus or minus 6 percent in 95 of 100 samples.

The intent of the survey was to (1) ascertain residents' current attitudes and knowledge about the Rouge River and its watershed, (2) explore changes in attitudes and knowledge that have occurred since a similar survey was conducted in 1993, and (3) help determine public priorities for planned river-restoration efforts.

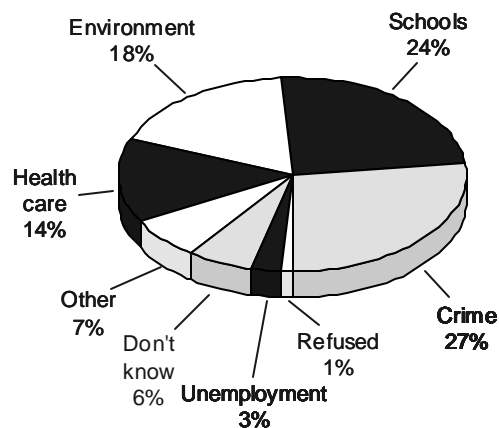
The survey was written and conducted by PSC for Wayne County, under the Rouge Project.

FINDINGS

ISSUES OF CONCERN

Survey respondents were asked which of five issues (crime, unemployment, schools, health care, and quality of the environment) they view as the most pressing current problem facing their local community. Overall, crime is the concern expressed most often, followed closely by schools and the quality of the environment. Exhibit 2 presents the overall results.

EXHIBIT 2
Issue of Primary Concern, Percentage Responses



SOURCE: Public Sector Consultants, Inc.

Exhibit 3 presents the results by region, and it may be seen that concern about the environment is cited with about the same frequency in three of the four regions.

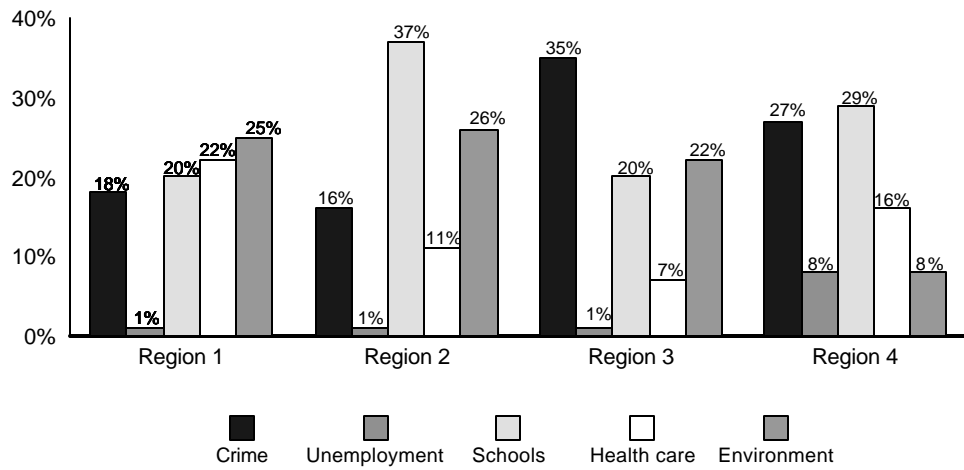
- In Region 1 (northern headwaters), the quality of the environment is cited most often as the issue of primary concern.
- In Region 2 (western headwaters), schools are of concern to the greatest number of respondents.
- In Region 3 (middle river), crime is cited most frequently.
- In Region 4 (downriver), crime and schools are cited with close to the same frequency, and the environment is cited by considerably fewer than in the other regions.

The majority of respondents believe that government action is somewhat to very important in (1) improving the quality of area rivers and lakes, (2) increasing wetland protection, (3) preserving fish and wildlife habitat, (4) reducing flooding and erosion, and (5) cleaning up toxic waste sites. A very high number of interviewees (80 percent) believe that government action is very important in controlling air pollution.

All interviewees were asked about specific matters in which government should become in-

EXHIBIT 3

Issue of Primary Concern, by Region, Percentage Responses



SOURCE: Public Sector Consultants, Inc.

volved to improve the quality of rivers and lakes. Half simply were asked to name such matters—it was an open-ended question—and they volunteered the responses in the list that follows. Their responses closely parallel those of the other half of the interviewees, who were asked to rate a list of government actions that was read to them (that is, it was posed to them as a close-ended question).

- Fertilizer use
- Smoke pollution
- Waste disposal issues
- Protecting parks from effects of tourism
- Noise pollution
- General overcrowding
- Automobile emissions
- Recycling
- Illegal dumping
- Over-development of land
- Industrial pollution
- Hazardous waste
- Drinking-water quality
- Indoor air quality
- Deforestation
- Ozone depletion and global warming
- Loss of wildlife habitat, open space, and farmland

THE RIVER: KNOWLEDGE AND USE

Familiarity

A large majority of respondents (61 percent) feel somewhat or very familiar with the Rouge River and its tributaries. Region 3 has the most people who feel somewhat familiar or very familiar with the river (73 percent), and Region 4 has the least (51 percent). Region 4 also has the greatest number (49 percent) of respondents who say they are not very familiar with the river.

Use

In regions 1, 2 and 4, approximately two-thirds of respondents indicate that in the last two years they have visited a nearby park that has a river or stream running through it. In Region 3, the figure is 80 percent (it should be noted that the majority of public parks adjacent to the river are found in this region).

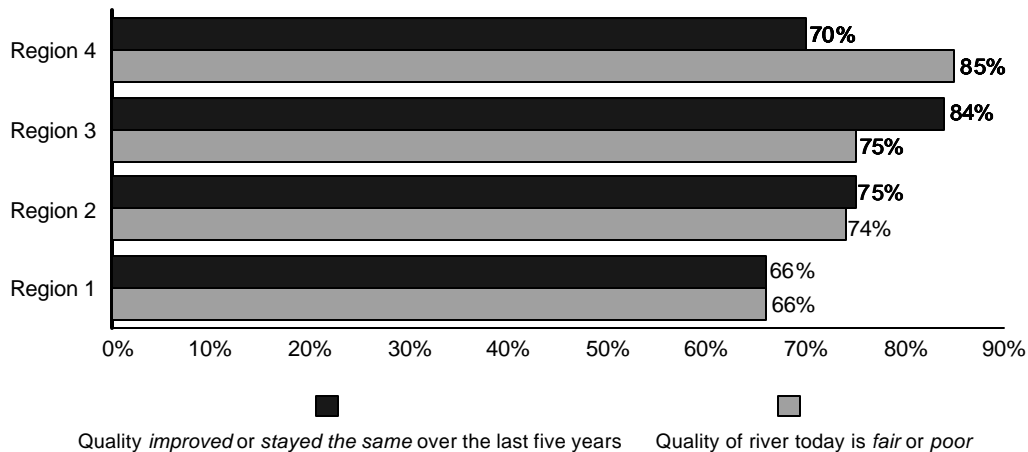
Walking and picnicking are the number one and two uses, respectively, for river parks. When asked about ideal uses of the Rouge River, its tributaries, and the land along them, many individuals suggest that cleaning it up, maintaining it, reducing pollution, and increasing recreational opportunities (fishing, swimming, boating, parks) should be high priorities.

FLOODING, WATER QUALITY, AND POLLUTION SOURCES

The majority of respondents believe that the water quality in the Rouge River is only fair or poor and has stayed the same or only improved slightly in the last five years. Exhibit 4 presents regional responses to the questions about quality and improvement. Compared to the other regions, in Region 4 there is a high percentage of people who believe that the river's water quality is only fair or poor.

EXHIBIT 4

Water Quality Perception, by Region, Percentage Responses



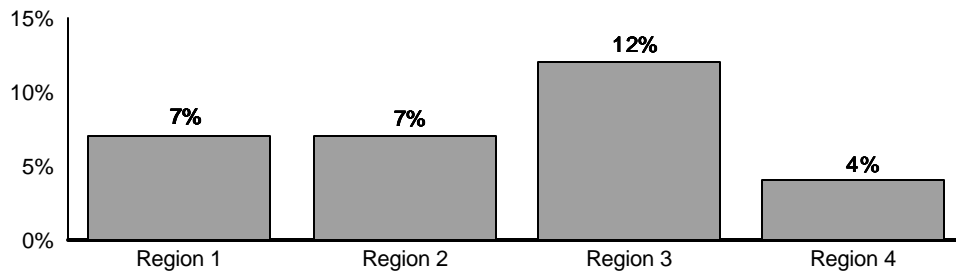
SOURCE: Public Sector Consultants, Inc.

A large majority of respondents are somewhat to very optimistic about the potential for improving flooding and water-quality problems in the Rouge River watershed. Optimism is expressed most frequently by Region 4 respondents (82 percent are somewhat or very optimistic) and least frequently—although the figure still is high (76 percent)—by Region 3 respondents.

Public concern about property flooding, stream bank erosion, and other damage due to high flows in the Rouge River appears to be low (see Exhibit 5). Watershed residents generally report that they believe that in the last five years, flooding-related problems have stayed the same or slightly improved. The highest rate of concern (12 percent) is expressed in Region 3, where about twice the number of respondents as elsewhere view flooding, bank erosion, and flow damage as a very significant problem.

EXHIBIT 5

Perception of Very Significant Flooding Problems, by Region, Percentage Responses



SOURCE: Public Sector Consultants, Inc.

Opinion as to which source of pollution contributes most to the river’s problems today is divided equally among (1) business and industrial waste flowing into the river, (2) combined sewer overflow (CSO) problems, and (3) the presence of chemicals, oils, fertilizers, and other polluting materials in storm water. In response to a question specifically about storm water pollution, most respondents (75 percent) deem it a very significant or a somewhat significant problem affecting the river.

PUBLIC INVOLVEMENT AND INFORMATION

Individual Actions

In the survey, half of the interviewees were read a list of personal actions and asked which, if any, they have changed in order to reduce problems associated with storm water runoff; the other half were asked to name the actions they had changed. The responses to the former (the closed-ended question) are very similar to those received to the latter (the open-ended question). Most respondents indicate that they have changed the type, amount, or application frequency of lawn and garden fertilizers, pesticides, or other garden chemicals. In regard to their lawn and garden practices, Region 4 respondents report significantly less change than do respondents in other regions.

Education and Information

It appears that the most effective means to relate information about environmental concerns are television news programs and radio public-service announcements (see Exhibit 6). Newspaper articles and community newsletters closely follow as useful information sources. There are mixed reports on the utility of information bulletin boards with pamphlets at public gathering places: They are found not useful at all by 52 percent of Region 2 respondents but very or somewhat useful by 73 percent of Region 4 respondents.

EXHIBIT 6

Usefulness of Various Information Sources

Source	Percentage Finding Source Very Useful
Television news programs	60%
Public service announcements on radio	53
Community newsletter sent to your home	48
Article in one's own local community newspaper	48
Article in a Detroit newspaper	45
Materials distributed through local schools	44
Video tapes shown on local cable television or available from local libraries	38
Information provided by citizen groups	34
Presentations at local service clubs and organizations	33
Community town hall meetings or workshops	31
Information bulletin boards at malls, civic buildings, or at local events with pamphlets	22

SOURCE: Public Sector Consultants, Inc.

Environmental information from state and federal agencies (e.g., Michigan Department of Natural Resources, Michigan Department of Environmental Quality, EPA), Friends of the Rouge, university scientists, county departments of health and environment, environmental organizations, and Michigan State University Extension are trusted more than other sources. For these selected sources, a majority of respondents from all regions trust the information all or most of the time (see Exhibit 7).

Nearly half (45 percent) of all respondents are aware the Rouge Project. The survey results indicate that the most effective way to involve the public in river restoration is through informational mailings with the opportunity to return comments. Formal public hearings before local boards and commissions, with opportunity for presentations, and informal public workshops at which resource people are available to answer questions also are cited by a considerable number of respondents as an effective means to solicit public input on watershed management plans.

PRIORITIES

A majority of respondents express the opinion that public monies dedicated to improving quality or managing the flow of area rivers and streams should stay the same or increase. For the latter (increased funding), there is more support in Region 4 than elsewhere.

EXHIBIT 7

Confidence in Trustworthiness of Information, Various Sources

Source	Percentage Believing Information to be True All or Most of the Time
Friends of the Rouge	58%
University professors/scientists	54
Michigan Department of Natural Resources	62
Michigan Department of Environmental Quality	60
Church leaders	46
Broad-based citizen advisory panels	33
Neighborhood association	44
U.S. Environmental Protection Agency	56
Environmental organizations	53
Elected local officials	35
County departments of health and environment	60
County drain commissioners	39
MSU Extension	57
Local schools	43

SOURCE: Public Sector Consultants, Inc.

There appear to be three tiers of public priority for improving the Rouge River watershed:

- In the first tier are protecting public health and removing trash and debris (aesthetic concerns).
- In the second are restoring wetlands and other wildlife habitat, reducing water pollution from soil erosion, and reducing chemical and animal waste runoff from agricultural lands.
- In the third are restoring boating, fishing, and other recreational uses; regulating new development; and preventing flooding and bank erosion.

COMPARISONS WITH FINDINGS FROM OTHER SURVEYS

1999 UNIVERSITY OF MICHIGAN MAIL SURVEY

A November 1999 mail survey conducted by the University of Michigan (UM) for the Southeastern Oakland County Water Authority (SOCWA) sampled 2,000 citizens in Troy, Birmingham, Beverly Hills, Lathrup Village, and Southfield under a grant from the Rouge Project. This area corresponds roughly to Region 1 (see Exhibit 1 above). The SOCWA return rate was 26 percent, and the average respondent age was slightly higher than in the 1999 PSC telephone survey.

Mail surveys often show results different from telephone surveys because people who take the time to complete and return a mail survey typically have a higher interest in the survey topic than is the case with the general population. Telephone surveys generally are less prone than mail surveys to this “interest bias,” since the respondent does not have to take any action other than to verbally answer questions. In both survey methods, people unwilling to participate may have views different from those who do. Written survey instruments have the advantage of allowing in-depth questions, and they allow time for thoughtful responses to complex questions.

The following are the major findings that emerge when Region 1 data from the 1999 PSC telephone survey are compared with the UM mail survey. Only similar questions are compared, and, in general, the results are comparable.

- Respondents to both are relatively familiar with the Rouge River and its network of rivers and streams. More mail than telephone respondents report such familiarity.
- Both surveys addressed individual behavior and actions that are to the advantage of the watershed, but because the questions were stated so differently, the responses cannot be directly compared. It is apparent, however, that many respondents already are engaging in behavior that benefits the Rouge River and its tributaries, or they are willing to do so. In regard to household hazardous-waste disposal programs, in particular, and also in reducing and/or changing fertilizer or pesticide use, there is more interest expressed by mail respondents than by telephone respondents. The latter indicate that they have used household hazardous-waste disposal programs more in the last five years than they have changed their use of fertilizers and pesticides.
- In regard to the river’s water quality, the majority of mail respondents feel it has stayed the same or improved over the last five years. Among telephone respondents, fewer than 17 percent believe the river has improved, and more than 60 percent are not sure.

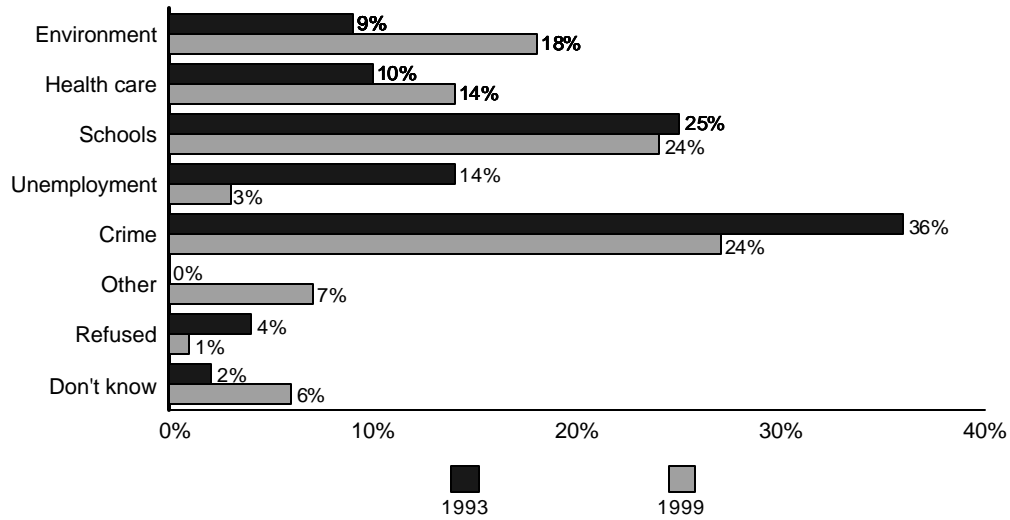
1993 ROUGE PROJECT PUBLIC OPINION SURVEY

In 1993 a telephone survey similar to the 1999 survey was conducted, using the same methodology. The following are major findings when comparing data sets from the two surveys. Only the responses to similar questions are compared.

Issues of Concern

Since 1993 some issues of concern have shifted dramatically (see Exhibit 8). Most notable is that the percentage of respondents expressing concern about the quality of the environment has nearly doubled in the six-year span. Concern for both crime and unemployment shows a decrease.

EXHIBIT 8
Primary Issue of Concern, 1993 and 1999, Percentage Responses



SOURCE: Public Sector Consultants, Inc.

Compared to 1993, southeast Michigan residents now seem to have a heightened sense of awareness about air pollution. While the questions regarding government actions to improve specific environmental problems were slightly different on the two surveys, air pollution ranked last on the list of concerns in 1993 but very high in 1999 (80 percent now consider it *very important*).

The River: Knowledge and Use

Knowledge of the Rouge River watershed and its network of rivers and streams did not change much from 1993 to 1999, but use of nearby parks with rivers or streams running through them has risen. This suggests that despite park use being up, not all residents associate the streams and rivers running through them with the Rouge River watershed. In both years, picnicking and walking are ranked the number one and two uses, respectively.

Water Quality and Pollution Sources

Citizen perception of the river's water quality has remained constant over the six-year period, despite the optimism that was expressed in 1993 about the potential for improvement. The majority opinion in 1999 is that water quality has *not improved* over the last five years.

Unlike in 1993, 1999 respondents rank the major pollution sources (industrial and municipal waste discharges, combined sewer overflows, and storm water) relatively evenly. In 1993 storm

water was not cited as a major problem, and business and industrial waste was considered the overwhelming source of pollution entering the Rouge River and its tributaries.

Public Involvement

A significant and positive difference is noted between the two surveys in regard to knowledge of the Rouge Project. In 1999 almost 41 percent of respondents had heard of the Rouge Project, while in 1993 only 9 percent of respondents knew of it.

Overall, it appears that citizens now find a variety of sources of information related to the Rouge to be very useful. In almost every comparable category, 1999 respondents indicate that the particular information medium is more useful than it was considered to be by 1993 respondents. Exhibit 9 presents the various information sources and how their usefulness was rated in the two surveys.

EXHIBIT 9
Usefulness of Various Information Sources, 1993 and 1999, Percentage Responses

Source	Percentage Finding Source Very Useful	
	1993	1999
Television news programs	53%	60%
Public service announcements on radio	NA	53
Community newsletter sent to your home	37	48
Article in your local community newspaper	39	48
Article in a Detroit newspaper	41	45
Materials distributed through local schools	NA	44
Video tapes shown on local cable television or available from local libraries	40	38
Information provided by citizen groups	NA	34
Presentations at local service clubs and organizations	NA	33
Community town hall meetings or workshops	24	31
Information bulletin boards at malls, civic buildings, or at local events with pamphlets	NA	22

SOURCE: Public Sector Consultants, Inc.
NA = Not available.

The survey results indicate that the trust level of basic sources of information pertaining to water-quality issues has stayed relatively constant. Since the 1993 survey, the Michigan Department of Natural Resources has been reorganized into two separate agencies (the Department of Natural Resources and the Department of Environmental Quality), but this does not seem to have affected the public's basic level of trust for the state agencies charged with managing natural resources and protecting water quality.

CONCLUSIONS

The analysis of the data from this public opinion survey and comparisons with other surveys lead to several conclusions.

- There is an interesting relationship between respondents' perception of the water quality of the Rouge River and their optimism about whether the quality can/will be improved. Watershed respondents indicated in 1993 that they were optimistic about the potential for improvement despite their perception that the water quality was poor. The same is true six years later. The public perception is that the water quality has not improved over the last five years, and most respondents still view the quality as poor. While respondents have a fairly negative view of the Rouge River in terms of water quality, within the last two years roughly 66 percent have visited a nearby park with a water feature.
- While the use of public parklands adjacent to the Rouge River is high, the survey results indicate that a substantial number of park users do not associate the park's watercourse as being part of the watershed. Signs and interpretive displays in the parks would help residents understand the connection between the Rouge River watershed and the recreation areas they use.
- Today, respondents seem to have a more comprehensive understanding of environmental issues than they did in 1993. This can be seen in the finding that general concern about environmental issues has risen. In 1999 there appears to be a better understanding than there was six years ago about the diverse sources of pollution.
- The marketing and education strategies of the Rouge Project and similar efforts by cooperating organizations, such as Friends of the Rouge, and local public agencies have worked. More than 40 percent of the 1999 respondents have heard of the Rouge Project, compared to only 9 percent in 1993.
- The public places the highest priority on public health and river aesthetics, which corresponds to their major uses (picnicking and walking), of riparian parklands.
- On water-quality issues, the public places its highest trust in an array of specific public and nonprofit organizations. Using these organizations as the means to provide public information—cooperatively developed and having consistent themes—has the greatest chance of reaching the widest audiences.
- The public places a great deal of faith in agencies and organizations that have a name implying a responsibility/interest in public health and the environment. Agencies that have health or environmental responsibility/interest but not a name that reflects this—e.g., drain commissioner, public works—evoke a lower level of public trust.
- While there are some regional differences in public perception and priorities concerning water quality in the Rouge River watershed, there is a surprising level of consensus about (1) the need for water-quality improvements and (2) support for public programs to restore the river. This consensus is present despite wide diversity in the watershed in regard to demographics, age and value of homes, and degree of urbanization.
- Overall public concern about the environment, including water quality, has increased greatly in the last few years. In part, it may be that the good economy enables people to think more about quality-of-life issues than about meeting their basic needs, which

now are being met with nearly full employment. It also may be that the public is more aware of environmental problems and potential solutions. Whatever the reason, support for public expenditures for pollution control and people's willingness to change behavior to protect water quality have created an opportunity to make significant progress in restoring the river.

- Finally, the public remains optimistic that progress can be made to improve water quality and reduce problems due to flooding despite the fact that visible signs of improvement have yet to be seen in many areas of the watershed.

APPENDIX A
**1999 Public Opinion Survey
of Rouge Watershed Residents,
with Response Percentages**

For ease of reading, most instructions to the interviewer have been eliminated (e.g., rotation of closed-end questions, skip instructions, split of samples between open and closed-end, and recording notations). Percentages indicate responses from 300 random telephone interviews from entire watershed unless otherwise noted. Percentages under the headings 1, 2, 3, and 4 indicate the responses from 100 interviews in each of the four regions: 1 = northern headwaters; 2 = western headwaters; 3 = middle river; and 4 = downriver. In some places, parentheses have been placed around the numbers; these are for ease of reading only and do not indicate negative numbers.

1. Which of the following do you believe is the biggest problem facing your local community at the present time?

	All	1	2	3	4
a. Crime.....	26.6	18.4	15.7	35.1	27.4
b. Unemployment.....	03.4	00.0	00.0	01.0	08.3
c. Schools.....	24.4	19.5	37.1	19.6	28.6
d. Health care.....	14.1	01.8	11.2	07.2	15.5
e. The quality of the environment.....	18.0	05.3	25.8	21.6	08.3
f. Other [VOLUN.].....	06.9	06.9	03.4	06.2	08.3
g. Don't know [VOLUNTEERED].....	06.1				
h. Refused/other [VOLUNTEERED].....	00.5				

2a. I will now read you a list of ways for government to take action to improve upon the environmental concerns in southeast Michigan. Please tell me whether you believe government action to be very important, somewhat important, or not very important.

	Very Important	Somewhat Important	Not Very Important	Refused (vol.)	Don't know (vol.)
a. Controlling air pollution	80.2	15.7	03.8		00.3
b. Improving the quality of area rivers and lakes	76.0	22.1	01.9		
c. Increasing wetland protection	51.8	35.0	10.9		02.3
d. Preserving fish and wildlife habitat	68.2	27.3	03.7		00.9
e. Reducing flooding and erosion	59.6	31.0	06.1	00.3	03.0
f. Cleaning up toxic waste sites	88.2	08.8	02.3		00.7

NOTE: No significant difference among regions 1–4 (i.e., all responses within 10% of the mean for all regions) on question 2a–f except for 2a, controlling air pollution. The following are the regional percentage responses for controlling air pollution:

Region	Very Important	Somewhat Important	Not Very Important	Refused	Don't Know
1	70.1	25.3	03.4	00.0	01.1
2	70.8	22.5	06.7	00.0	00.0
3	85.6	12.4	02.1	00.0	00.0
4	84.5	10.7	04.8	00.0	00.0

2b. Are there other environmental concerns you feel are **very** important that were not listed?

3. How familiar would you say that you are with the Rouge River Watershed and its network of rivers and streams running through southeast Michigan? Would you say that you are very familiar, somewhat familiar, or not very familiar?

	All	1	2	3	4
a. Very familiar	18.8	17.2	16.9	21.6	17.9
b. Somewhat familiar	42.3	42.5	47.2	51.5	33.3
c. Not very familiar	38.9	40.2	36.0	26.8	48.8
d. Don't know [VOLUNTEERED]					0
e. Refused/other [VOLUNTEERED]					0

4. In the past two years, have you or members of your family used or visited a nearby park with a river or stream running through it?

	All	1	2	3	4
a. Yes [CONTINUE TO QUESTION 5]	69.4	66.7	64.0	79.4	64.3
b. No [GO TO QUESTION 6]	30.4	33.3	33.7	20.6	35.7
c. Don't know [VOLUNTEERED. GO TO QUESTION 6]					00.2
d. Refused/other [VOLUNTEERED. GO TO QUESTION 6]					00.0

5a. For what specific activities have you or members of your family used the river or parks during the past two years? **NOTE:** Half of those interviewed were asked this open-ended question.

5b. Have you or members of your family used the river or parks during the past two years to... *NOTE:* Half of those interviewed were asked this closed-ended question. The percentages shown are based upon total sample size (300 for all regions and 100 for each individual region). Since only half the sample was asked the question, and only 69.4% indicated that they had visited a park, the numbers represent the relative rate of use by those visiting parks not absolute percentages.

	All: Yes	All: No	Yes: by Region			
			1	2	3	4
a. Fish in the river	10.1	23.6	09.2	12.4	12.4	08.3
b. Canoe, boat, or tube	13.3	20.5	14.9	14.6	10.3	14.3
c. Bike	18.7	15.1	21.8	16.9	20.6	15.5
d. Run or jog	14.1	19.6	13.8	14.6	15.5	13.1
e. Walk	25.7	8.1	31.0	24.7	26.8	21.4
f. Have a picnic	23.0	10.7	26.4	32.6	19.6	21.4
g. Play a sport	16.0	17.3	18.4	16.9	14.4	15.5
h. Sunbathe	10.4	22.9	11.5	11.2	06.2	03.1
i. Watch birds or other wildlife	21.5	12.2	26.4	20.2	26.8	14.3
j. Swim in the river	05.8	28.0	08.0	10.1	01.0	07.1
k. Play winter sports (skating, sledding, skiing)	13.1	20.6	16.1	19.9	15.5	08.3
l. Use playground equipment	16.5	17.3	14.9	21.3	17.5	15.5

6. If it were up to you to plan ideal uses of the Rouge River, its tributaries, and the land along them, what uses might you recommend? *NOTE: Responses to all open-ended questions are available on request.*

7. How would you rate the overall water quality of the Rouge River? Would you say that it is excellent, good, fair, or poor?

	All	1	2	3	4
a. Excellent					00.0
b. Good	08.3	09.2	09.0	10.3	06.0
c. Fair	30.8	31.0	32.6	29.9	31.0
d. Poor	45.5	34.5	41.6	45.4	53.6
e. Don't know [VOLUNTEER]	15.4	25.3	16.9	14.4	09.5
f. Refused/other [VOLUNTEERED]	00.0				

8. In the past five years, do you feel that the water quality of the Rouge River has gotten better, stayed the same, or gotten worse? If (better/worse): would that be a great deal (better/worse) or just a little (better/worse)?

	All	1	2	3	4
a. Great deal better	11.0	16.1	09.0	09.3	09.5
b. A little better.....	30.6	27.6	39.3	37.1	25.0
c. Same.....	32.1	21.8	27.0	37.1	35.7
d. A little worse.....	05.4	04.6	01.1	01.0	10.7
e. A great deal worse.....	0.60	05.7	02.2	03.1	09.5
f. Don't know [VOLUNTEERED]	14.9	24.1	21.3	12.4	09.5
g. Refused/other [VOLUNTEERED]	00.0				

9. How would you rate the flooding of property, stream bank erosion, and other damage related to high flows in the Rouge River **in the area where you live**? Would you say it is very significant, somewhat significant, occasionally a problem, or not a problem?

	All	1	2	3	4
a. Very significant.....	07.3	06.9	06.7	12.4	03.6
b. Somewhat significant.....	10.5	09.2	05.6	11.3	11.9
c. Occasionally a problem.....	32.6	32.2	39.3	37.1	27.4
d. Not a problem.....	41.5	44.8	44.9	32.0	46.4
e. Don't know [VOLUNTEERED]	07.6	06.9	03.4	07.2	09.5
f. Refused/other [VOLUNTEERED]	00.4	00.0	00.0	00.0	01.2

10. In the past five years, do you feel that the flooding and related problems of the Rouge River have gotten better, stayed the same, or gotten worse **in the area where you live**? If (better/worse): would that be a great deal (better/worse) or just a little (better/worse)?

	All	1	2	3	4
a. Great deal better	05.2	04.6	02.2	04.1	07.1
b. A little better.....	11.3	12.6	18.0	13.4	07.1
c. Same.....	56.2	56.3	61.8	61.9	50.0
d. A little worse.....	09.0	08.0	05.6	07.2	11.9
e. A great deal worse.....	03.4	01.1	01.1	04.1	04.8
f. Don't know [VOLUNTEERED]	13.5	16.1	11.2	08.2	16.7
g. Refused/other [VOLUNTEERED]	01.5	01.1	00.0	01.0	02.4

11. From what you have read about or heard about, which of the following sources of pollution do you think contributes most to the problems of the Rouge River today?

	All	1	2	3	4
a. Waste from businesses and industrial facilities flowing directly into the river.....	27.0	18.4	23.6	25.8	34.5
b. Combined sewer overflow problems which sometimes results in raw sewage flowing into the river during heavy rain storms.....	26.8	27.6	30.3	28.9	23.8
c. Chemicals, oils, fertilizers, and other polluting materials that are found on the surface of parking lots, streets, farms, and lawns washed into the river by rain.....	23.8	36.8	23.6	19.6	19.0
d. Other [VOLUNTEERED]	15.5	08.0	16.9	19.6	16.7
e. Don't know [VOLUNTEERED].....	00.3	08.0	05.6	06.2	06.0
f. Refused/other [VOLUNTEERED].....	00.0				

12. Would you say that you are optimistic or pessimistic that the water quality and flooding problems of the Rouge River Watershed can be improved? If (optimistic/pessimistic) would that be very (optimistic/pessimistic) or just somewhat (optimistic/pessimistic)?

	All	1	2	3	4
a. Very optimistic.....	27.7	31.0	32.6	29.9	22.6
b. Somewhat optimistic.....	52.1	48.3	51.7	46.4	59.5
c. Somewhat pessimistic	11.2	08.0	06.7	15.5	10.7
d. Very pessimistic.....	03.1	05.7	03.4	03.1	01.2
e. Don't know [VOLUNTEERED]	05.9	05.7	04.5	05.2	04.8
f. Refused/other [VOLUNTEERED]	00.9	01.1	01.1	00.0	01.2

13. The next question asks you about spending priorities for public monies. In order to improve the water quality or manage flows of rivers and streams in your area, would you say that we should spend more money, less money, or about the same amount? If (more/less) would that be much (more/less) or just a little (more/less)?

	All	1	2	3	4
a. Much more	31.6	27.6	25.8	25.8	40.5
b. A little more	29.0	21.8	22.5	29.9	34.5
c. Same.....	28.6	34.5	41.6	36.1	15.5
d. A little less.....	01.7	03.4	00.0	00.0	02.4
e. Much less.....	0.23	02.3	01.1	01.0	03.6
f. Don't know [VOLUNTEERED]	0.59	09.2	09.0	05.2	03.6
g. Refused/other [VOLUNTEERED]	00.9	01.1	00.0	02.1	00.0

14. Prior to my mentioning it, are you aware of the Rouge River National Wet Weather Demonstration Project—or so-called Rouge Project—which is a joint effort by federal, state and local communities to improve water quality in the Rouge River?

	All	1	2	3	4
a. Yes	40.9	35.6	46.1	45.4	39.3
b. No.....	55.3	59.8	53.9	51.5	56.0
c. Don't know [VOLUNTEERED].....	03.0	04.6	00.0	02.1	03.6
d. Refused/other [VOLUNTEERED].....	00.8	00.0	00.0	01.0	01.2

One aspect of the Rouge River Demonstration Project is concerned with determining the effects of storm water runoff on the Rouge River. Storm water runoff can transport various pollutants—fertilizers, pesticides, oil, chemicals, etc.—from lawns, streets, parking lots, and commercial and industrial sites into the river. In addition, rapid storm water runoff and snowmelt from paved surfaces and roofs can increase flooding along the river.

15. From what you have heard about this issue, how significant do you believe the problems caused by storm water are in the Rouge River? Would you say that the storm water problems are significant or insignificant? If (significant/insignificant) would that be very (significant/insignificant) or just somewhat (significant/insignificant)?

	All	1	2	3	4
a. Very significant.....	37.4	36.8	36.0	40.2	35.7
b. Somewhat significant.....	37.7	36.8	36.0	34.0	41.7
c. Same [VOLUNTEERED].....	01.2	03.4	01.1	01.0	00.0
d. Very insignificant.....	04.6	00.0	03.4	08.2	04.8
e. Somewhat insignificant.....	11.8	11.5	16.9	10.3	11.9
f. Don't know [VOLUNTEERED].....	07.0	11.5	06.7	06.2	04.8
g. Refused/other [VOLUNTEERED].....	00.4	00.0	00.0	00.0	01.2

- 16a-1. Have your activities changed over the past three years based upon what you have learned about the problems created by storm water runoff? *NOTE: Half of those interviewed were asked this open-ended question.*

- 16a-2. Can you describe what activity you have changed to reduce problems caused by runoff of storm water from your property? *NOTE: Half of those interviewed were asked this open-ended question.*

16b. Have any of your activities changed over the past three years based upon what you have learned about storm water runoff? For example, have you . . . *NOTE: Half of those interviewed were asked this closed-ended question. Percentages shown are based on total sample size (300 for all regions and 100 for the individual regions). Values shown are relative percentages of those sampled; the absolute percentages for the total population would be approximately double those shown.*

	Yes	No	Don't know (vol.)	Refused/ other (vol.)
a. Changed the type, amounts or application of lawn and garden fertilizers, pesticides or other chemicals?	14.1	29.0	03.3	02.4
b. Taken waste motor oils, antifreeze, batteries or other surplus household hazardous materials to private or public facilities for recycling or proper disposal?	36.9	10.3	01.1	00.5
c. Restricted the use of detergents or other chemicals for home car washings?	23.5	20.6	01.3	03.4
d. Refrained from disposing of any waste material into storm drains?	38.5	10.1	00.3	00.0
e. Disconnected your downspouts from storm drains to allow roof runoff to seep into the ground?	19.2	25.6	03.6	00.4

NOTE: There is no significant difference among regions 1–4 (that is, all responses fall within 10% of the mean for all regions) on question 16a–e except for 16a in region 4, where only 07.1% indicated that they have “changed the type, amounts or application of lawn and garden fertilizers, pesticides or other chemicals.” Responses to this question in regions 2 and 3 are 19.1% and 19.6% respectively, and in Region 1 the response is 16.1%.

17. A major component of the Rouge River Demonstration Project is providing information to residents on the sources of storm water pollution and steps that individuals can take to help reduce polluting materials reaching the river. Please tell me if you would find the information from the following sources to be **very useful** in forming your opinions and taking appropriate actions, **somewhat** useful, or **not** useful.

		Very Useful	Somewhat Useful	Not Useful	Refused (vol.)	Don't know (vol.)
a.	An article in a Detroit newspaper	45.8	35.2	16.9	00.0	02.0
b.	An article in your local community newspaper	48.2	36.8	12.4	00.0	02.7
c.	Community town hall meetings or workshops sponsored by your city or township government	30.6	37.3	27.3	00.3	0.45
d.	A community newsletter sent to your home	48.5	38.2	11.0	00.0	02.3
e.	Info. provided by citizen groups	33.9	42.9	19.9	00.0	03.3
f.	Video tapes shown on local cable TV television or available from local libraries	38.4	35.2	23.8	00.0	02.5
g.	Television news programs	60.5	26.8	11.7	00.0	01.0
h.	Information bulletin boards at malls, civic buildings, or at local events with pamphlets	21.5	41.1	33.3	00.0	04.2
i.	Materials distributed through local schools	43.9	35.4	17.9	00.3	0.25

j.	Presentations at local service clubs and organizations	32.9	37.5	25.4	00.8	03.4
k.	Public service announcements on radio	52.9	36.0	09.5	00.0	01.5

NOTE: There is no significant difference among regions 1-4 (i.e., all responses fall within 10% of the mean for all regions) on question 17a-k except on questions 17b and h. 17b: The response for "not useful" is 43.8% in Region 3 but less than 30% in all other regions. 17h: Regions 3 and 4 responded 24.7% and 27.4%, respectively, for "very useful," (nearly double the percentage from the other two regions) and Region 2's response is 51.7% for "not useful" (the figure is 39% or less in other regions).

18. I will read a list of organizations, people, and groups. If you received information about the Rouge River, its pollution problems and proposed remedies for those problems from these individuals or organizations, please tell me if you would trust the information **all** of the time, **most** of the time, **some** of the time, or **none** of the time?

		All of the time	Most of the time	Some of the time	None of the time	Don't know (vol.)	Refused/ other (vol.)
a.	Local city, township or village department officials	12.9	22.4	47.7	14.2	02.4	00.3
b.	Environmental organizations	23.0	30.1	37.8	06.1	02.8	00.3
c.	County departments of health and environment	24.3	36.2	27.8	10.3	01.1	00.3
d.	County drain commissioners	16.9	21.8	44.3	11.9	04.8	00.3
e.	Michigan Department of Environmental Quality	27.2	32.7	28.3	07.2	04.3	00.3
f.	U.S. Environmental Protection Agency	27.3	28.7	34.8	07.0	02.0	00.3
g.	Friends of the Rouge organization	30.3	27.5	30.5	04.9	06.0	00.3
h.	Your neighborhood assn	20.1	24.4	34.1	10.7	08.9	01.8
i.	A broad-based citizen advisory panel	11.1	21.9	48.5	10.3	07.8	00.3

j.	Michigan Department of Natural Resources	30.8	30.7	30.9	06.0	01.3	00.3
k.	MSU Extension	29.8	27.4	25.2	0.64	10.8	00.3
l.	Your church leaders	20.0	26.0	35.2	13.1	03.6	02.2
m.	Univ. professors/scientists	24.0	29.5	35.7	07.5	03.1	00.3
n.	Your local schools	17.3	25.9	43.4	09.8	03.0	00.6

19. Have you heard or seen in print any of the following phrases encouraging stewardship of the Rouge river in the past year?

		Yes	No	Don't know (vol.)	Refused/other (vol.)
a.	A clean river depends on you	47.6	49.8	01.8	00.8
b.	Storm drains aren't garbage cans	24.2	74.0	01.5	00.3
c.	Use your head you live in a watershed	09.9	89.1	00.7	00.3
d.	Our actions affect the Rouge River	38.7	59.1	01.9	00.3
e.	When it comes to pollution every home is waterfront property	16.7	81.7	01.6	00.0
f.	Be careful, what you do can affect the river	38.9	59.3	01.5	00.3

NOTE: There is no significant difference among regions 1-4 (i.e., all responses fall within 10% of weighted average for all regions) on question 19a-f except for 19a, where Region 1 responses are 60.9% "no," and 19d, where Region 1 responses are 27.6% "yes" and 70.1% "no."

20. The 48 communities and local agencies involved in restoring the Rouge River are seeking ways to effectively involve the public in the development of improvement plans. For each of the following, please indicate whether you believe they are **very** effective, **somewhat** effective, or **not** effective for encouraging public participation in the watershed planning process.

NOTE: Half of those interviewed were asked this closed-ended question—percentages shown are based upon total sample size (300 for all regions and 100 for the individual regions). Values shown are relative percentages of those sampled; the absolute percentages for the total population would be approximately double those shown.

		Very Effective	Somewhat Effective	Not Effective	Refused (vol.)	Don't know (vol.)
a.	Informal public workshops with resource people available to answer questions	15.9	23.0	09.0		01.1
b.	Formal public hearings before local boards and commissions with opportunity for presentations	14.9	24.3	08.8		01.0
c.	Informational mailings with opportunity to comment	17.5	23.1	07.7		00.7
d.	Posting of information on community Web site for review and comment	13.6	22.4	12.6		00.4
e.	Providing copies at local libraries/ municipal offices for review and comment	11.0	25.9	11.0	00.3	00.7

NOTE: There are no significant difference among regions 1–4 (i.e., all responses fall within 10% of the weighted average for all regions) on questions 20a–e.

21. I will now read you a list of goals for restoring the Rouge River. For each, please indicate whether you consider it to be **high** priority, **medium** priority, or **low** priority in the portion of the Rouge River watershed where you live.

	High Priority	Medium Priority	Low Priority	Refused (vol.)	Don't know (vol.)
a. Protect public health	45.6	03.3	01.2		00.9
b. Prevent flooding and bank erosion	27.3	17.9	04.5	00.3	01.1
c. Regulate new developments	27.4	14.7	08.0		00.9
d. Remove trash and debris	43.6	05.6	01.2		00.6
e. Restore boating, fishing, and other recreational uses	24.0	14.8	10.8		01.5
f. Restore wetlands and other wildlife habitat	30.4	12.4	06.0		02.3
g. Reduce water pollution from soil erosion	35.2	09.3	04.9		01.7
h. Reduce chemical and animal waste runoff from agricultural lands	34.0	08.7	05.5		02.8

NOTE: There is no significant difference among regions 1-4 (i.e., all responses fall within 10% of the weighted average for all regions) on questions 21a-h.

The final questions are for statistical purposes only.

22. In what year were you born? *NOTE: The oldest was born in 1911, the youngest in 1981. The majority were born from 1940 to 1971.*

23. How would you describe your main ethnic or racial background?

	ALL
a. Black/African-American	19.9
Regions 1-4: 04.6 01.1 08.2 44.0	
b. White/Caucasian.....	68.5
Regions 1-4: 78.2 85.4 85.6 44.0	
c. Asian/Pacific Islander	01.4
Regions 1-4: 03.4 0.34 01.1 00.0	
d. Hispanic.....	01.7
Regions 1-4: 00.0 02.2 02.1 02.4	
e. Native American/American Indian	00.4
Regions 1-4: 00.0 00.0 00.0 01.2	
f. Other [VOLUNTEERED].....	03.2
g. Refused/other [VOLUNTEERED]	04.8

24. What city, village, or township do you live in?

25. What county do you live in?
What is your ZIP code?

26. What is your gender?

- a. Male 50.0
- b. Female 50.0