

State
Of the
State
Survey

*Environmental Awareness
in Michigan*

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Briefing Paper No. 96-17

Environmental Awareness in Michigan

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THE SURVEY

- A telephone survey of 947 adult residents of the state of Michigan was conducted by Michigan State University's Institute for Public Policy and Social Research between January 26 and March 4, 1996. This is the sixth quarterly MSU State of the State Survey (SOSS). It focused on issues related to environmental policy, governmental performance and the state of higher education in Michigan. The sampling error is $\pm 3.25\%$.

The sample is designed to provide representative information for respondents from major regions of the state: Detroit City, Southeast Michigan (excluding Detroit), Southwest Michigan, Central Michigan (West and East), northern Lower Michigan, and the Upper Peninsula. (See attached information sheet for list of counties included in each region.) The data reported here are weighted to make the results representative of the adult population of Michigan.

KEY FINDINGS

- **Much of the public has heard little about environmental problems affecting Michigan.** The survey asked people how much they had heard about twenty-seven environmental problems that affect Michigan. (Q.5-Q.31 — *question wording is given below.*) Only one was well known to over three-quarters of Michigianians. Between half and three-quarters said they had heard a lot or a fair amount about 15 of the problems. Between half and a quarter reported being well informed about nine of the problems. Less than a quarter reported hearing a lot or a fair amount about two of the problems. (See Tables 1-4.)
- **Much of the public has heard little about the top local problems, but has heard a lot about the top global problems affecting Michigan's environment.** Experts believe that one of Michigan's top environmental problems is inadequate consideration of environmental impacts in land use decisions at the local level. Over half the public, however, said they had heard only a little or almost nothing about this problem. Another top local problem identified by experts is degradation of urban environments in Michigan, but only 53% said that they had heard a lot or a fair amount about this problem. In contrast, global climate change is ranked among the top environmental problems in Michigan and is well known to 66% of respondents. Depletion of the ozone layer is similarly ranked, and 73% reported hearing a lot or a fair amount about it. (See Table 1.)
- **Awareness of environmental policy options is much lower than awareness of environmental problems.** Eighteen public policies for reducing environmental risks were presented. (Q.32-Q.49). Eight were unfamiliar to over three-quarters of the public. Between half and three-quarters said they had not heard much about seven of the policy options. Only three policy options were familiar to more than half of the residents. (See Table 5.)
- **The public is not familiar with environmental policies that use economic incentives.** The three policies most familiar to Michigianians involved traditional command and control approaches to environmental regulation. The least familiar policies involved economic incentives such as permit trading and taxes on polluting inputs.
- **Younger adults hear less about environmental problems and policies affecting Michigan than older adults.** Everyone we interviewed was 18 years of age or older. Older people, especially those above age 50, had heard more about 20 of the environmental problems than younger residents. There was no difference between age groups for the other seven

environmental problems. The same pattern was found for 11 of the 18 environmental policy options presented.

- **There are regional differences in awareness of environmental problems and policies.** Regional differences in how much Michigan residents had heard about environmental problems were found for 17 of the 27 problems. People in the Upper Peninsula heard more and Detroit residents had heard less about these problems than other regions. Information levels reported in the remaining regions were virtually identical. The same pattern of regional differences was found for 14 of the 18 environmental policy options. (See Table 6.)
- **Lack of access to information may explain low environmental awareness levels.** Only 9% of Michigan adults said that it was very easy to get accurate information on environmental problems and policies in Michigan. (Q.3) (See Figure 1.) Newspapers were the most frequently mentioned information source. (Q.4) (See Figure 2.) Over half of residents said that it was very important to them to have information about environmental problems and policies in Michigan. (Q.2) (See Figure 3.)
- **Most think government is doing too little to protect Michigan's environment.** Half of respondents said that government is doing too little, 9% government is doing too much, and 38% said that government was doing about the right amount to protect Michigan's environment. (Q.1) (See Figure 4.)

DISCUSSION

In 1992, the Michigan Relative Risk Analysis Project (RRAP) ranked lack of environmental awareness among the top environmental risks in the State.¹ Consequently, questions designed to track environmental awareness levels in Michigan were included for the first time in the sixth State of the State Survey. The results are useful for assessing the need to improve environmental awareness in Michigan.

The survey described 27 environmental problems and asked respondents to indicate how much they had heard about each one. For each problem, they could say that they had heard a lot, a fair amount, only a little, or almost nothing (see Survey Questions Q5-Q31). The environmental problems in the survey represent 24 environmental risks identified by RRAP. A larger number of problems was presented in the survey because two of those identified by RRAP were too complex to describe in a single question.

RRAP grouped the 24 environmental problems they identified into four categories of risk: High-High, High, Medium-High, and Medium. The survey results are similarly grouped (Tables 1 through 4). This was done to facilitate comparison between the importance experts placed on each problem and how well citizens were informed about it. For example, if most of the public had heard little about an environmental problem in the highest risk category, it would suggest that increased efforts are needed to provide public information on that problem.

The category of highest risk included environmental problems of both a local and global nature. Included were local land use, the declining quality of the environment in urban areas, inefficient energy use, global climate changes, and ozone depletion. As Table 1 shows, awareness is relatively low for local environmental problems, but relatively high for global problems. Only 43% of residents said that they had heard a lot or a fair amount about poor land use decisions, and 53% reported the same about degradation of urban environments. In contrast, two-thirds reported hearing much about

global climate change, and 73% reported the same about stratospheric ozone depletion. These results might be partially due to more extensive media coverage of the latter two issues.

The second highest category of risk included alteration of surface and groundwater, air toxins, biodiversity and habitat loss, indoor pollutants, nonpoint-source water pollutants, and trace metals. We broke the category of biodiversity and habitat loss into four related questions about species extinction, foreign species introduction, wildlife habitat loss, and loss of ecologically sensitive lands such as wetlands and sand dunes. As Table 2 shows, we found relatively high levels of awareness for all four of these. In the category of nonpoint-source water pollution, we asked two related questions about pollution of surface water and pollution of ground water. We found relatively high levels of awareness for these two issues as well. In contrast, we found relatively low levels of awareness for alteration of surface and groundwater, air toxins, and trace metals. Awareness of indoor pollutants was split, with half having heard at least a fair amount.

The medium-high category of environmental issues identified by RRAP included contaminated sites, contaminated surface water sediments, hazardous waste, high-level radioactive waste, low-level radioactive waste, solid waste, photochemical smog and point-source water pollution. Table 3 shows that the highest level of awareness was found for point-source water pollution. This scored the highest out of all 27 categories. Contaminated sediments, hazardous waste and contaminated sites showed the next highest awareness levels with 62%, 63%, and 53%, respectively, having heard at least a fair amount about each. Awareness was relatively low for solid waste, with only 45% having heard either a fair amount or a lot about the problem. We found extremely low levels of awareness for high and low-level radioactive waste and photochemical smog.

The medium risk category included accidental chemical spills, acid deposition, criteria air pollutants, and electromagnetic field effects. Chemical spills and criteria air pollutants were issues that a majority of respondents indicated they had heard a lot or a fair amount about (Table 4). Awareness of acid deposition was mixed. Most had not heard much about electromagnetic field effects.

The survey also measured awareness of policy options for reducing environmental risks (see Survey Questions Q.32-Q.49). The results indicate that the public has heard more about environmental problems than solutions. As Table 5 shows, awareness of policy alternatives for addressing environmental problems was much lower. Some of the policy alternatives presented have been in place for years, whereas other policies are seldom used. The latter category includes some of the policy alternatives that incorporate economic incentives.

Residents had heard more about commonly practiced and well established policies than those that have not been used extensively. For example, a majority of Michigianians had heard about requiring automobiles to get better gas mileage, requiring businesses and homeowners to recycle, and prohibiting certain types of waste such as lawn clippings. These are policies that directly affect many people and that have been discussed at length at the community level. In contrast, a majority know only a little about tradeable pollution permits, the buying and selling of development right to protect sensitive lands, increasing taxes on fertilizers and pesticides, establishing low-level radioactive waste sites, and allowing private owners of property negatively affected by environmental regulations to sue for compensation. Other categories receiving low scores included raising taxes on waste collection and water usage, requiring businesses and homeowners to install water-saving appliances, and protecting farm land from development.

We examined possible relationships between the demographic characteristics of residents and how much they had heard about environmental problems and policies in Michigan using Pearson's Chi Square and Spearman's correlation coefficient where appropriate. We found the amount heard to

increase with age and to vary by region. Age was significant for 20 of the 27 problem categories, with older adults indicating a higher level of awareness. With respect to region, persons in the Upper Peninsula were more aware on average of all problems and policies, while those in the Detroit area were less aware on average. Residents of the other five regions scored very close to each other overall for both problems and policies. The regional variation is shown in Table 6. We found no relationship for education, income, and gender.

Lack of environmental awareness among Michigan citizens is not due to any feeling that environmental problems are unimportant. Figure 3 shows that 57% of Michigan adults said that it is very important to them to have information on environmental problems and policies affecting Michigan. Thirty-seven percent said it was somewhat important. Five percent said it was somewhat unimportant. Less than one percent said it was very unimportant.

Lack of access to accurate information seems to be a better explanation. Figure 1 shows that only 9% of Michigan adults said that it was very easy to get accurate information on environmental problems and policies affecting Michigan. Thirty-nine percent said it was somewhat easy. Thirty-eight percent said it was somewhat difficult to get this information. Nine percent said it was very difficult while 5% said they did not know whether it was easy or difficult. Perhaps these numbers result from the way in which information is disseminated. For example, lesser known problems may not have been covered in the more popular media channels.

In response to an open-ended question, 41% of residents said that newspapers were their primary source of information on environmental problems and policies affecting Michigan (Figure 2). Television was mentioned as a source by 16%. Libraries were listed by 10% and 8% mentioned government agencies. Radio and environmental groups were each mentioned by 2%. Less than 1% mentioned schools.

Half of Michigan adults think government is doing too little to protect the State's environment, but 38% think government is doing about the right amount and 9% think government is doing too much (Figure 4). This result suggests an interest among much of the public to hear more about the policies used to address environmental problems in the state.

Table 1. Information about High-High Environmental Risks

Environmental Risk	A lot (%)	Fair amount (%)	Only a little (%)	Almost nothing (%)
Ozone layer	42	31	18	9
Global climate	34	32	18	16
Urban environment	16	37	28	19
Energy	15	32	32	21
Land use	16	27	35	21

Table 2. Information About High Environmental Risks

Environmental Risk	A lot (%)	Fair amount (%)	Only a little (%)	Almost nothing (%)
Habitat loss	37	30	22	12
Sensitive land loss	30	31	27	11
Foreign species	31	28	22	19
Species extinction	21	28	32	19
Nonpoint ground water	33	31	27	9
Nonpoint surface water	27	35	26	12
Indoor pollutants	26	30	28	16
Air toxins	23	27	30	20
Trace metals	16	28	35	20
Surface water alteration	13	28	37	22

Table 3. Information about Medium-High Environmental Risks

Environmental Risk	A lot (%)	Fair amount (%)	Only a little (%)	Almost nothing (%)
Point source water pollution	42	36	17	6
Hazardous waste	39	24	26	11
Contaminated sediments	28	34	28	11
Contaminated sites	30	23	30	17
Solid waste	17	28	33	21
High-level radioactive waste	16	21	39	25
Low-level radioactive waste	14	14	36	36
Smog	6	18	37	38

Table 4. Information about Medium Environmental Risks

Environmental Risk	A lot (%)	Fair amount (%)	Only a little (%)	Almost nothing (%)
Criteria air pollutants	39	32	21	8
Chemical spills	30	34	26	10
Acid deposition	20	27	28	24
Electromagnetic field effects	7	14	33	45

Table 5. Information about Environmental Policy Options

Policy Option

Requiring businesses and homeowners to recycle waste

Requiring auots to get better gas mileage

Prohibiting businesses and homeowners from disposing of certain kind of waste such as yard waste

Tax on gasoline, electricity, and natural gas to reduce consumption

Prohibiting private land owners from developing forest lands, wetland sand dunes and other environmentally sensitive lands

Including the cost or recycling or disposal in purchase price of tires, batteries and cars

Government management of forest lands, wetlands, sand dunes, and other environmentally sensitive lands

Increasing taxes on waste disposal to encourage waste reduction and recycling

Managing drainage of water into rivers, streams, and lakes on a watershed basis

Requiring businesses and homeowners to install water conserving showers, faucets, and toilets

Providing government grants to businesses that develop new technologies for improving the environment

Increasing taxes on water use to encourage businesses and homeowner to conserve water

Protecting farm land from development by prohibiting onwers of farm land to sell parcels smaller than 40 acres

Table 6. Average Amount Heard about Environmental Risks and Policies by Region

Region	Amount Heard about Environmental Risks*	Amount Heard About Environmental Policy Options*
Upper Peninsula	2.86	2.47
East Central	2.65	2.22
West Central	2.60	2.15
South East	2.59	2.16
North	2.56	2.16
South West	2.55	2.15
Detroit	2.35	1.99

*Scores are based on the following codes: Heard a lot = 4 A fair amount = 3 Only a little = 2 Almost nothing = 1

Figure 1. Getting Accurate Environmental Information About Michigan

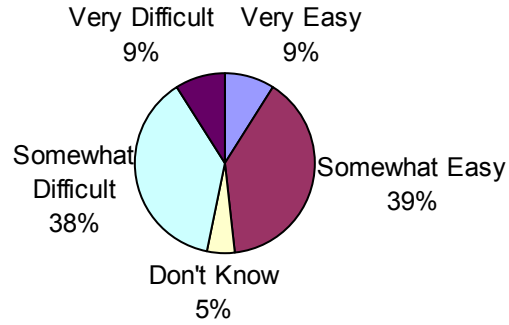


Figure 2. Sources of Information on Environmental Problems and Policies

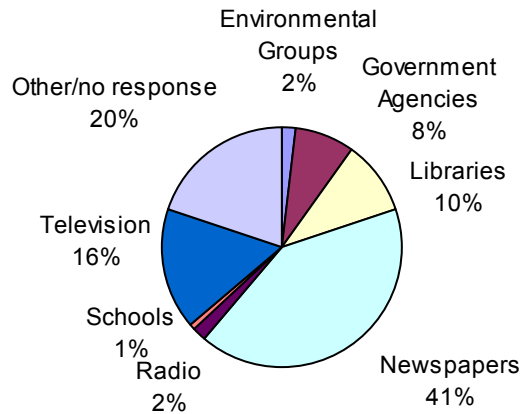


Figure 3. Importance of Having Environmental Information About Michigan

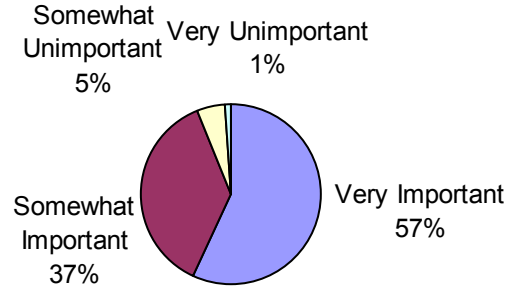
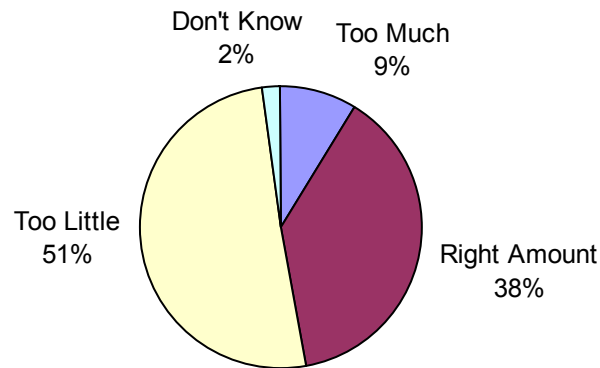


Figure 4. Government Protection of the Environment



MSU State of the State Survey (SOSS), Jan-Mar 1996, N=948, Sampling Error=3.2%, Michigan State University, IPPSR

SURVEY QUESTIONS

NOTE: The full wording of questions for the items discussed in this briefing paper is given below. The order of the questions conforms with the order for the questions in the survey instrument. Some questions were asked of only half the sample in order to reduce the total time per interview.

The next set of questions concern the environment in Michigan. By environment I mean the air, water, soil, climate, plants and animals in Michigan.

Q1. For the most part, do you believe government is doing too much, too little, or about the right amount to protect the environment?

Q2 How important or unimportant to you is it to have information on environmental problems and policies affecting Michigan: would you say it is very important, somewhat important, somewhat unimportant, or very unimportant?

Q3. How easy or difficult is it for you to get accurate information on environmental problems and policies affecting Michigan: Would you say it is very easy, somewhat easy, somewhat difficult, or very difficult for you to obtain this information?

Q4. Where do you generally get your information on environmental problems and policies affecting Michigan? (Open-ended. Up to three responses recorded.)

Next, I'm going to read you a list of environmental problems that scientists and experts say affect Michigan to some extent. We'd like to know how much information has gotten out to the public about each one. While some Michigan residents may have heard quite a lot about some of these problems, some residents may have heard almost nothing about some of the others.

Regardless how serious a problem you think each one is, I'd like you to tell me whether you'd say you have heard a lot, a fair amount, only a little, or almost nothing at all about each problem.

Q5. The decline in the quality of the environment in urban areas.

Q6. Lack of attention to environmental quality when communities decide how land may be used (that is how it is zoned).

Q7. Inefficient energy use.

Q8. Global warming.

Q9. Holes in the earth's ozone layer.

Q10. Alterations of Michigan's water resources.

Q11. Air pollution from carbon monoxide, sulfur dioxide, nitrogen dioxide and other gases and particles.

Q12. Foreign species such as the zebra mussel in the Great Lakes.

Q13. Air pollution from toxic substances such as PCB's, mercury, and dioxin.

- Q14. Extinction of species. (Clarification: The permanent loss of a type of animal, bird, fish, or insect.)
- Q15. The loss of natural habitat for wildlife.
- Q16. Indoor air pollution. (Clarification: Particularly radon and volatile organic compounds.)
- Q17. Pollution of lakes, rivers, and streams from sewage overflows. (Clarification: Such as after storms.)
- Q18. Pollution of groundwater from fertilizers, pesticides, and soil erosion.
- Q19. Pollution of lakes, rivers, and streams from fertilizers, pesticides, and soil erosion.
- Q20. Lead, mercury, cadmium and other toxic metals in Michigan's environment.
- Q21. Chemically contaminated sites.
- Q22. Toxic chemicals in sediments in lakes, rivers, and streams.
- Q23. The disposal of hazardous waste.
- Q24. The disposal of high-level radioactive waste.
- Q25. The disposal of low-level radioactive waste. (Clarification: Such as the clothing from workers at nuclear reactors.)
- Q26. The disposal of household and industrial solid waste.
- Q27. Smog from ground-level ozone pollution.
- Q28. Accidental oil and chemical spills.
- Q29. Acid rain.
- Q30. The loss of wetlands, sand dunes, forests, and other environmentally sensitive lands.
- Q31. Electromagnetic field effects. (Clarification: Such as magnetic fields from power lines.)

Next I'd like to ask you how much you have heard about public policies related to the environment. Many different public policies have been proposed to address environmental problems. I'm going to read you a list of policies that are being tried in other countries and states. While some Michigan residents may have heard quite a lot about some of these, some residents may have heard almost nothing at all about some of the others. As I mention each policy, please tell me if you'd say you have heard a lot about it, a fair amount, only a little, or have you heard almost nothing at all about it.

- Q32. The public policy of increasing taxes on gasoline, electricity, and natural gas to encourage businesses and homeowners to reduce their energy consumption.
- Q33. Requiring automobiles to get better gas mileage.

- Q34. Including the cost of recycling or disposal as part of the purchase price of products, like tires, batteries, and cars.
- Q35. Increasing taxes on waste disposal to encourage businesses and homeowners to reduce or recycle waste.
- Q36. Requiring businesses and homeowners to recycle waste.
- Q37. Allowing businesses within a region to buy and sell air pollution permits.
- Q38. Allowing people to buy and sell development rights to protect environmentally sensitive lands.
- Q39. Prohibiting businesses and homeowners from disposing of certain kinds of waste such as yard waste.
- Q40. Increasing taxes on water use to encourage businesses and homeowners to conserve water.
- Q41. Requiring businesses and homeowners to install water conserving showers, faucets, and toilets.
- Q42. Increasing taxes on fertilizers and pesticides to encourage businesses, farmers, and homeowners to use them less.
- Q43. Providing government grants to businesses that develop new technologies for improving the environment.
- Q44. Having the state pay a community to establish a facility to accept low-level radioactive waste.
- Q45. Managing drainage of water into rivers, streams, and lakes on a watershed basis. (Clarification: That is, the natural drainage areas surrounding rivers, streams, and lakes.)
- Q46. Prohibiting private land owners from developing forest lands, wetlands, sand dunes, and other environmentally sensitive lands.
- Q47. Government purchase and management of forest lands, wetlands, sand dunes, and other environmentally sensitive lands.
- Q48. Allowing private owners whose property values are reduced by state environmental regulations to sue the state for compensation.
- Q49. Protecting farm land from development by prohibiting owners of farm land to sell parcels smaller than 40 acres.

REGIONAL CATEGORIES

NOTE: These regions are the ones used by the Michigan State University Extension Service, except that we treat Detroit City as a separate region.

Detroit:City of Detroit

Southeast: Genesee, Lapeer, Lenawee, Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, Wayne (excluding Detroit)

Southwest: Berrien, Branch, Calhoun, Cass, Eaton, Hillsdale, Ingham, Jackson, Kalamazoo, St. Joseph, Van Buren

West Central: Allegan, Barry, Ionia, Kent, Lake, Manistee, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa

East Central: Arenac, Bay, Clare, Clinton, Gladwin, Gratiot, Huron, Isabella, Midland, Saginaw, Sanilac, Shiawassee, Tuscola

Northern L.P.: Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Iosco, Kalkaska, Leelanau, Missaukee, Montmorency, Ogemaw, Otsego, Oscoda, Presque Isle, Roscommon, Wexford

U.P.: Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft

Background Information

Michigan State University State of the State Survey [MSU SOSS]

What Is MSU SOSS?

The MSU State of the State Survey is a quarterly statewide survey of a random sample of the residents of Michigan. Although dozens of surveys are conducted in Michigan every year, no other one is designed to provide a regular systematic monitoring of the public mood in major regions of the state. Through SOSS, MSU aims to fill this information gap. SOSS has five main purposes: (1) to provide timely information about citizen opinions on critical issues; (2) to provide data for scientific and policy research by MSU faculty; (3) to provide information for programs and offices at MSU; (4) to develop survey research methodology; and (5) to provide opportunities for student training and research.

Each quarterly round or “wave” of SOSS has a different main theme: (a) January–quality of life, governmental reform, higher education; (b) April–family, women, and children; (c) July–ethnic and racial groups, Michigan communities; (d) October (even numbered years)–politics, the election, and political issues; (odd-numbered years)–health and the environment.

Who Is Conducting SOSS?

The State of the State Survey is administered by the Survey Research Division (SRD) of the Institute for Public Policy and Social Research (IPPSR), using its computer-assisted telephone interviewing (CATI) technology.

The design and overall planning of SOSS is the responsibility of a 17-person Steering Committee chaired by Dr. Brian D. Silver, Professor of Political Science. The Steering Committee consists of representatives from sponsoring units, which are primarily colleges and other administrative offices within MSU.

Subject to final approval by the Steering Committee, the questionnaire for each wave of SOSS is developed by a Working Group, most of whom also serve as principal investigators or analysts for that wave. The Working Group for the February 1996 survey was comprised of:

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