

A SURVEY OF ENVIRONMENTAL ATTITUDES AND PERCEPTIONS  
OF ELECTED MANITOBA MUNICIPAL OFFICIALS

by



JANE R. RIEWE

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OF ELECTED MANITOBA MUNICIPAL OFFICIALS

by

JANE RAMSAY RIEWE

A practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of Master of Natural Resources Management.

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## ABSTRACT

To assist in implementing a Policy for Public Consultation and Information Availability in Manitoba, the federal Department of the Environment, Environmental Protection Service, expressed an interest in 1982 in learning about the environmental views of interest groups.

The views of Manitobans on environmental issues had been measured, but no information had been gathered on the views of municipal officials, which are significant considerations affecting the environmental decision-making of senior governments in the Province. This study was undertaken during the summer of 1983 to investigate the environmental attitudes and perceptions of this pan-provincial group outside the City of Winnipeg. A questionnaire of 223 variables was developed and mailed to the 201 Mayors of cities, towns and villages and Reeves of rural municipalities and local government districts.

The responses from 146 senior elected municipal officials (74 percent of the census population) were analyzed to test four hypotheses: (1) that elected municipal officials were a cohesive group insofar as they collectively exhibited uniform demographic characteristics; (2) that the environmental concerns and opinions expressed by Manitobans



in opinion polls were shared by elected municipal officials; (3) that elected municipal officials did not have a common perception of the term "environment"; and (4) that elected municipal officials had diverse opinions about the role of government in environmental matters.

The first hypothesis was not substantiated, since municipal officials varied in age (27 to 79 years), education (elementary school to university graduation), and income (under \$10,000 to over \$45,000). The majority:

- were older middle-aged, English-speaking males with adult children
- lived in detached dwellings and were long-term residents of smaller communities of less than 10,000 inhabitants
- had not gone beyond elementary or secondary school to university or technical school
- had household incomes greater than \$30,000
- were interested in current political affairs, reported their knowledge of these affairs was average, and defined themselves politically in the centre and to the right of centre
- belonged to community and civic/service groups
- participated in year-round outdoor activities more than once a month

A comparison of environmental opinions of the Manitoba public and municipal officials confirmed, in part, the second hypothesis. The environmental attitudes and perceptions of municipal officials paralleled or went

beyond public opinion. The majority of municipal officials:

- regarded, as did the Manitoba public, the most important problems facing the Province to be economic and assigned a secondary importance to environmental issues
- awarded a positive assessment to the condition of Manitoba's natural environment, as did the Manitoba public
- felt that water pollution was an important environmental problem, as did the Manitoba public
- expressed support for increased funding for environmental education in schools, as did the Manitoba public
- wanted to know more about pollution control, as did the Manitoba public
- acknowledged, as did the Manitoba public, that they did not know what pollution control standards existed in the Province, but defined themselves as more knowledgeable than did the Manitoba public
- perceived that acid rain, sewage disposal, the use of pesticides, and industrial emissions were more important than did the Manitoba public

The views of municipal officials did not accord with public opinion with regard to the transportation and disposal of hazardous substances. Unlike other Manitobans, municipal officials preferred to move hazardous materials out of their local area rather than store them in their community.

This study compiled data on other environmental attitudes and perceptions of municipal officials distinct from those collected in public opinion surveys. These

data further define the environmental views of municipal officials and would serve as a basis for future surveys.

The majority of municipal officials:

- felt the condition of Manitoba's natural environment had either worsened or remained the same from 1973 to 1983
- thought the condition of Manitoba's natural environment would not improve between 1983 and 1993
- rated the condition of Manitoba's natural environment in 1983 as better than that in Ontario, Quebec and British Columbia, as the same as in Saskatchewan, Alberta and the Atlantic provinces, and as worse than the northern environment in the Yukon and Northwest Territories
- viewed provincial environmental problems as being of greater importance than local ones
- selected the Garrison Diversion Project, hazardous waste spills, soil erosion, sewage disposal, threats to Winnipeg's drinking water, urban expansion onto farmlands, and the use of pesticides as most important provincial environmental problems, in that order
- expressed the greatest concern for loss of agricultural land and water pollution locally
- felt that industry is guided by profit considerations and must be compelled to undertake measures to protect the environment
- expressed confidence in the continuation of industrial development without increased environmental damage
- held the opinion that the public is adequately informed about threats to the environment

The term "environment" did not evoke a common perception among municipal officials, which substantiated the third hypothesis. While most included natural

surroundings as a component of the environment, others also added man-made structures, or economic and social institutions, or both.

The fourth hypothesis was, with exceptions, not substantiated. Individual attitudes and perceptions regarding government's role and public involvement programs for environmental issues were generally consistent. The majority of municipal officials:

- felt that environmental quality should be monitored and perceived this to be a function of government
- supported increased government spending to protect the natural environment
- thought the provincial government or municipal governments had done the most to protect environmental quality in the Province
- did not recognize the federal government's role in environmental matters and had not participated in federal government public involvement programs for environmental issues
- recognized the names of provincial government environmental agencies, particularly those concerned with local environmental issues, to a greater extent than federal government environmental agencies
- had dealt with provincial and municipal governments concerning environmental matters and had attended a public meeting or hearing for specific environmental issues
- rejected reducing pollution control standards to attract industry to Manitoba, but supported the building by government of transportation networks and the offering of grants, interest-free loans and tax concessions

- felt the public is not as concerned as it should be about environmental issues and supported information and education programs to increase public concern
- viewed public hearings and meetings as effective forums for the expression of the public's environmental concerns
- strongly supported public involvement in environmental planning and decision-making by government

In contrast to these majority views which did not confirm the fourth hypothesis, the opinions of municipal officials were polarized with regard to four issues: (1) the level of government with the greatest obligation to protect the environment, (2) government's development of a long-term environmental strategy, (3) government's consideration of the perspective of environmentalists, and (4) the acceptability of government reducing utility rates for industries locating in the Province.

Manitoba public opinion shifted between 1983 and 1986 from a position which differentiated between a primary importance for economic issues and a secondary importance for environmental issues to a linking of economic and environmental issues as paramount. The implications of this shift and of the results from this study relative to the evolution of public policy for environmental decision-making subsequent to 1983 are discussed in this study. Recommendations are made to define and clarify the

role of municipal officials in public involvement programs undertaken by government, such as environmental hearings and meetings, mediation of environmental disputes, and implementation of sustainable economic development.

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## CHAPTER 1: INTRODUCTION

A consistently high level of importance is attached to environmental issues by Canadians. Pollsters indicate that the environment is a top issue of concern to the Canadian public, alongside key economic issues such as jobs.<sup>1</sup>

The Canadian public speaks uncompromisingly with regard to the environment and the economy.<sup>2</sup> Canadians are unwilling to sacrifice the environment for economic gain, even though the nation's economy is also a source of dissatisfaction and uncertainty for the future. Nine out of ten Canadians reject the argument that environmental laws must be relaxed to achieve economic growth. Similarly, when asked whether protecting the environment or keeping prices down was more important, nearly 90 percent of Canadians preferred the former. In opinion polls conducted over the last eight years, two-thirds of Canadians responding to each survey indicated that Canada should be doing more to protect its environment, even if it means loss of jobs in the process.

Surveillance and stewardship of the environment is vested with government under federal and provincial environmental statutes and regulations. The environmental public policy development process is clearly affected by public views on the issues. For example, public concerns expressed in response to road and railway spills of toxic chemicals resulted in the passage of The Transportation of Dangerous Goods Act (Canada) in 1980. This statute regulates shippers of hazardous goods in general, and safety standards for rail, marine, air and inter-provincial transportation.

In 1981 Canada's Department of the Environment (Environment Canada) created a formalized channel for public participation in environmental decision-making. A Policy for Public Consultation and Information Availability was adopted to offer a systematic avenue of ordered access for public and private interest groups, professional associations and the general public. The purpose of the Policy was to ensure consideration of the perspectives of these groups in the federal government's environmental decision-making process.<sup>3</sup>

The federal Policy provided for the establishment of uniform, nationwide procedures with regard to:

- Public Consultation: the assurance of regular and predictable opportunities for the public to meet with Department officials to discuss environmental issues and concerns;
- Regulation Making: the requirement that all significant new regulations and guidelines be subject to an explicit procedure to allow for public comment at all stages of their development;
- Information Availability: the provision of departmental information to the public; and
- Contribution to Transportation Expenses: the granting of financial assistance to help qualified groups attend designated meetings.

To achieve consistency yet to allow flexibility, the Policy stipulated each operational unit and region within the Department would develop program activities in a way that would best meet their particular needs and circumstances.<sup>4</sup>

The Policy has been implemented through annual public meetings in each of Environment Canada's five regions and at headquarters in Ottawa. At Manitoba meetings, senior departmental officials representing operational units from the Western and Northern Region met with various interest groups and individuals. During Environment Canada's 1982, 1983 and 1984 consultation meetings in Winnipeg, a range of environmental issues was discussed, many of which were of direct concern to provincial and municipal authorities (Table 1). Issues of a multi-jurisdictional nature such as mosquito spraying in Winnipeg and the effects of management practices within Riding Mountain National Park on

TABLE 1

TOPICS OF DISCUSSION AT ENVIRONMENT CANADA'S  
ANNUAL PUBLIC CONSULTATION MEETINGS, 1982 TO 1984

Meeting Date	Topic of Discussion
September 12, 1982	Environment Canada's involvement in heritage conservation and preservation
	Rural environmental quality, including the use of chemicals in agriculture and Environment Canada's role in promoting organic farming and decreased dependency on pesticides, herbicides and fertilizers
	Role and operations of the Federal Environmental Assessment Review Office
	Riding Mountain National Park and impacts of park management practices on surrounding area
	Preservation of agricultural and forestry land bases
	Nuclear energy
	Mosquito spraying programs conducted by the City of Winnipeg
	Information on health hazards associated with the use of polychlorinated biphenyls (PCBs) and the use of PCB-contaminated oil as a dust suppressant on Winnipeg roads
	Reforestation in Manitoba and depletion of forest resource
	Acid rain in Manitoba

..... continued

TABLE 1 (CONTINUED)

Meeting Date	Topic of Discussion
September 12, 1982 (continued)	Pricing of leaded and unleaded fuels
October 16, 1983	<p>Environment Canada's priorities for 1984: toxic substances, acid rain, forest management, water management, the North, protection of natural heritage, and climate change</p> <p>Environment Canada and the North</p> <p>Environment Canada's role in mosquito spraying programs</p> <p>Acid rain</p> <p>Riding Mountain National Park and services provided therein</p> <p>Garrison Diversion Project</p> <p>Pricing of leaded and unleaded fuels</p> <p>Actions of the federal Crown which affect the environment</p> <p>Weather reporting</p> <p>Environment and the economy: establishment of a resource accounting system</p> <p>Promotion by Environment Canada of environmental awareness and concern</p> <p>Role of the Federal Environmental Assessment Review Office</p> <p>Harvesting of renewable resources</p> <p>Recycling of reusable materials</p>

..... continued

TABLE 1 (CONTINUED)

Meeting Date	Topic of Discussion
October 14, 1984	Environment Canada's Public Consultation Policy and process
	Hazardous waste management
	Vehicle emissions
	Agent Orange
	Environment Canada's role in pesticide control
	Natural pest controls
	Mosquito spraying in the City of Winnipeg and effects on fauna and flora
	Environment Canada's educational and awareness materials and distribution in Manitoba
	Air quality emission standards
	Environment Canada's role as advocate of reduced resource consumption
	Use of aerosol spray cans
	Environment Canada's role in establishing and enforcing uniform national standards
	Radioactive waste hazards in Manitoba
	Reforestation in Manitoba and depletion of forest resource

Source: Summary minutes prepared by Environment Canada staff and circulated to participants.

surrounding areas, for example, would require further consultation with provincial and municipal authorities.

### 1.1 PROBLEM STATEMENT

To augment Environment Canada's 1981 Policy for Public Consultation and Information Availability, the Manitoba District Office of the Environmental Protection Service expressed an interest in learning more about the environmental views of vested interest groups in the Province. This study was undertaken during the summer of 1983 to investigate the environmental attitudes and perceptions of elected municipal officials outside the City of Winnipeg so as to provide guidance for future environmental activities by government which would affect and/or involve this pan-provincial constituency.

As a major stakeholder in environmental matters in the Province, municipalities and local government districts are not regular participants in annual public meetings hosted by Environment Canada. The views of municipal officials, however, are important for a number of reasons, including:

- (1) Municipalities and local government districts deal, on a regular basis, with matters of environmental concern, such as the siting of waste disposal sites, agricultural land-use, and water quality management.



- (2) Municipal officials residing outside the City of Winnipeg urban area contribute significantly to provincial attitudes.
- (3) Municipal governments are a third-order public sector decision-making body, and they are or should be effective forces for adopting and ensuring adherence to environmental standards, and for entering into collaborative dialogue with senior governments to resolve environmental problems.

The environmental attitudes and perceptions of Manitoba municipal officials are significant considerations affecting the decision-making of senior governments in the Province. The environmental views of this constituency, however, have not been measured and are not known.

Inherent in this study are two subproblems: (1) what are the environmental attitudes and perceptions of municipal officials in Manitoba, and (2) what will an analysis of these views indicate to government to assist in inter-jurisdictional undertakings involving and/or affecting local officials in the Province?

## 1.2 HYPOTHESES

This study tests four hypotheses regarding the environmental attitudes and perceptions of municipal officials in Manitoba:

- (1) THAT elected municipal officials can be described as a cohesive group insofar as they exhibit uniform collective demographic characteristics;
- (2) THAT the environmental concerns and opinions of the general public recorded in province-wide opinion polls are shared by elected municipal officials;
- (3) THAT elected municipal officials as a group do not hold a common perception of the term "environment"; and
- (4) THAT the opinions of elected municipal officials about the role of government in environmental matters are diverse.

### 1.3 RESEARCH OBJECTIVES

In relation to these hypotheses, the objectives of this study are to determine:

- |              |     |     |                                                                                                                                                             |
|--------------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hypothesis 1 | ... | (a) | demographic and other descriptive characteristics of elected municipal officials in Manitoba;                                                               |
| Hypothesis 2 | ... | (b) | the attitudes of elected municipal officials on a number of issues related to the quality of life in Manitoba;                                              |
| Hypothesis 2 | ... | (c) | the opinions of elected municipal officials on a number of local and provincial environmental issues;                                                       |
| Hypothesis 3 | ... | (d) | the perceptions of elected municipal officials as to what constitutes "environment";                                                                        |
| Hypothesis 4 | ... | (e) | the opinions of elected municipal officials regarding the role of federal, provincial and municipal governments in environmental protection and management; |
| Hypothesis 4 | ... | (f) | the opinions and behaviour of elected municipal officials regarding government activities to involve the public in environmental decision-making; and       |

..... (g) the sources of environmental information on which elected municipal officials rely.

Objective (g) is ancilliary to the hypotheses and is included to measure environmental information use by elected municipal officials in Manitoba.

#### 1.4 DEFINITION OF TERMS

The phrase "elected Manitoba municipal official" in this study includes Mayors of cities, towns and villages and Reeves of rural municipalities and local government districts located within the boundaries of the Province of Manitoba. The City of Winnipeg is excluded, as are elected Chiefs of Indian Reserves administered by the federal government.

Following Dillman<sup>5</sup> and Fishbein,<sup>6</sup> a distinction is made in this study between "perceptions" and "attitudes". A perception is a mental image or concept, an awareness of the elements of the surroundings through physical sensation, whereas an attitude is a view, judgment or appraisal formed in an individual's mind about a particular matter. Specifically, "attitudes" are subjective judgments individuals make about their "perceptions". The term "opinion" as used in this study is synonymous with the term "attitude".

The term "environment" is a capacious concept, and its precise meaning is hypothesized in this study to be dependent on the user's perceptions, which can change over time as well as vary from individual to individual. Dictionary definitions reflect the expansive nature of the term:

"(a) the complex of climatic, edaphic, and biotic factors which act upon an organism or an ecological community and ultimately determine its form and survival [and]

(b) the aggregate of social and cultural conditions that influence the life of an individual or community"<sup>7</sup>

The term's meaning in the biological sciences emphasizes physical elements surrounding life-forms: the air, water and land. In the social sciences, emphasis is placed on socioeconomic elements of the environment. In both disciplines, environment can be site-specific, local, regional, continental (national), intercontinental (international) or global.

Initial (first-generation) environmental legislation passed nearly two decades ago assigned a relatively narrow definition to the term "environment" as inclusive of the air, water or soil.<sup>8</sup> The notion of human interaction with the environment was not articulated at that time.

Knowledge of the relationships among life-forms

increased markedly during the 1960's and 1970's. The science of ecology and the application of its concepts by the social sciences to human interrelationships grew in prominence. The current trend in environmental legislation is toward an enlarged definition of the term "environment". For example, Manitoba's Environment Act, proclaimed in April 1988, defines the term as: "(a) air, land and water; or (b) plant and animal life, including humans".<sup>9</sup>

Various survey research terms are used in this study and are defined as follows:

Attribute .....	a characteristic or quality that describes an object
Census .....	an enumeration in which all members of a population are chosen for examination
Population .....	the theoretically specified aggregation of all units of observation
Sampling frame .....	a list of units composing a population from which a sample is selected
Sampling instrument ....	a vehicle through which the units of observation are sampled; in this study, the sampling instrument is a mail-out questionnaire
Socially desirable response .....	an answer that conforms to the dominant belief patterns among the group to which the respondent feels some identification or allegiance

Survey population .....	the population that is actually sampled; in this study, "population" and "survey population" are the same
Unit of observation ....	an element or aggregation of elements from which information is collected; in this study, the "units of observation" are individuals
Variable .....	a logical grouping of mutually exclusive attributes; a quantity that may assume any one of a set of values

## 1.5 METHODOLOGY

This study describes the attitudes and perceptions of a population composed of 201 individuals who share the known common characteristic of being elected by local residents to serve as Mayor of a Manitoba city, town or village, or as Reeve of a Manitoba rural municipality or local government district. These individuals were serving in the following capacities during this study:

Mayor of a city .....	4 individuals
Mayor of a town .....	35 individuals
Mayor of a village .....	40 individuals
Reeve of a rural municipality .....	105 individuals
Reeve of a local government district .....	17 individuals

To survey the environmental attitudes and perceptions of these individuals, a questionnaire was developed to

measure the variables conceptualized from the research objectives. Prior to being distributed by mail to all individuals in the survey population, the sampling instrument was subjected to an extensive mail-out pretest involving members of various interest groups who had participated in public meetings sponsored by Environment Canada in Manitoba.

A mail-out questionnaire was chosen in preference to face-to-face or telephone interviews because of the wide geographic distribution of the survey population and to minimize the degree of bias resulting from socially desirable responses. Environmental issues are viewed as important in the public's opinion. There are indications that, once environmental issues are elevated to prominence, they almost always receive a higher level of attention and general concern than environmental issues which have not gained public attention.<sup>10</sup> Because respondents in this study were elected government officials and there was a perceived possibility of political posturing on the issues, direct contact with respondents was avoided.

Methodological deficiencies associated with mail-out questionnaires are well-documented.<sup>11</sup> The questionnaire developed for use in this study was relatively long, making it particularly vulnerable to known difficulties such as

non-response. Attempts to minimize problems of non-response were made during the design of the questionnaire and its administration. The pretest provided a quality control check on question wording and questionnaire length. Follow-up correspondence with individuals to whom the final questionnaire was sent assisted in stimulating response.

The respondent-returned questionnaires were manually coded onto transfer sheets according to a codebook developed from the questionnaire format. The data were subsequently entered into an electronic storage file for analysis. Random verification of the file was undertaken, using the original completed questionnaires and a hard-copy of the data file.

The questionnaire data were computer analyzed using the software package known as StatPac Gold Statistical Analysis Package.

#### 1.6 LIMITATIONS

The descriptive survey undertaken in this study measured attitudes and perceptions through a single (one-time) census of a population of individuals. The questionnaire was administered in 1983. Inferences from the collected data are not possible outside this time frame. The data, however, provide a baseline which subsequent



research might use to measure change in environmental attitudes and perceptions of elected Manitoba municipal officials over time.

In this study, no attempt is made to postulate or establish causal relationships between documented attitudes or perceptions and possible instigative factors. The literature contains numerous explanatory studies of environmental opinions and actions, including age,<sup>12</sup> education,<sup>13</sup> income,<sup>14</sup> political orientation,<sup>15</sup> residence<sup>16</sup> and social class.<sup>17</sup>

This study quantifies the individually held attitudes and perceptions of a subset of Manitobans who were elected municipal officials. No attempt is made to determine how long respondents had been serving in their elected capacity or their occupations outside of public office. Respondents in this study could stand in a leadership role in affecting or influencing local citizen opinion. At the same time, respondents could also mirror the opinions of their constituents. The dual role of elected municipal officials in shaping and in transmitting public opinion was outside the scope of this study.

Because of the anonymity of respondents in this study, it was not possible to analyze regional differences in

environmental attitudes and perceptions.

The environmental issues chosen for inclusion in the questionnaire reflect a mixture of general (such as air pollution and littering) and specific (such as hydro development in northern Manitoba and threats to Winnipeg's drinking water). Efforts were made to provide respondents with a balanced list of environmental issues which would be both topical and comprehensive. Because environmental issues are often multi-jurisdictional, they are of potential interest to municipal governments.

The environmental issues chosen for this survey are not exhaustive, and, while there may well be linkages among specific environmental issues, no inferences should be made regarding environmental issues not measured.

#### 1.7 IMPORTANCE OF THE STUDY

The results of this study will be of interest to representatives of the federal, provincial and municipal governments in Manitoba by providing background information for inter-governmental interactions concerning environmental issues.

In the five years since this study's questionnaire was

administered, inflationary pressures have continued to force economic choices between environmental quality and resource development, yet demand for public involvement in environmental decision-making has continued. Since adoption by Environment Canada of the Policy for Public Consultation and Information Availability in 1981, participants have grown more-sophisticated in their demands for and expectations of cooperative decision-making interactions. Public interest in environmental issues has not diminished, and awareness by all parties of participation as a process, as distinct from a product, has been sharpened.

A key issue addressed by Environment Canada's 1981 Policy was information availability, the provision of departmental information to the public. The legislated right of citizens to access government information was entrenched federally in 1983 with the proclamation of The Access to Information Act (Canada). The Province of Manitoba followed a year later with passage of The Freedom of Information Act (proclaimed in force on September 30, 1988). Both statutes establish processes whereby the public can obtain copies of government records, subject to specific exemptions.

As a corollary to the implementation of governmental processes for formalized and informed public involvement in

environmental matters, increasing consideration has been given to the augmentation of existing legislated channels for public participation such as public hearings and meetings. Within the last few years, other procedures for environmental conflict resolution developed in the United States have encountered a receptive audience in Canada.<sup>18</sup> Canadian public policy for environmental decision-making still relies heavily on public hearings and meetings, but it is also changing to incorporate notions of negotiation and consensus building with regard to environmental matters. Second-generation federal and provincial legislation reflects these changes to varying degrees,<sup>19</sup> as does Environment Canada's Multistakeholder Consultation Process, initiated in 1984 to formally involve federal and provincial government officials, business, labour, environmental groups and technical support personnel under the guidance of an independent facilitator.<sup>20</sup>

Experience with mediated resolution of environmental issues in Canada<sup>21</sup> and the United States<sup>22</sup> has shown the importance of the local government perspective. The intent of this study is to provide a preliminary understanding of the environmental attitudes and perceptions of elected municipal officials in Manitoba.

## 1.8 ORGANIZATION OF THE PRACTICUM

Chapter 2 provides information on public opinion polling conducted in Manitoba by various agencies from 1982 to 1986 and serves as a reference for this study's results. Chapter 3 documents the methods used in this study. Results of questionnaire administration and analysis are given in Chapter 4. Chapter 5 summarizes the study's results relative to its hypotheses and provides conclusions based on the findings. Recommendations for integration of the study's findings into evolving environmental public policy development are presented in Chapter 6.

## CHAPTER 1 ENDNOTES

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- <sup>3</sup>Environment Canada. n.d. Policy for Public Consultation and Information Availability. Booklet, no pagination.
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- <sup>8</sup>The Clean Environment Act (C.C.S.M. c. C130), section 1, clause (e).
- <sup>9</sup>The Environment Act (C.C.S.M. c. E125), subsection 1(2).
- <sup>10</sup>Downs, A. 1973. "The Political Economy of Improving Our Environment." Pp. 59-81 in: J.S. Bain (ed.). Environmental Decay: Economic Causes and Remedies. Boston, Little, Brown and Company, 235 pp.
- <sup>11</sup>Supra, note 5.
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- <sup>18</sup>Bingham, G. 1986. Resolving Environmental Disputes: A Decade of Experience. Washington, D.C., The Conservation Foundation, 284 pp.
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- <sup>19</sup>The Environment Act (C.C.S.M. c. E125), subsection 3(3).  
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<sup>21</sup>Supra, Sadler, note 18.

<sup>22</sup>Supra, Bingham, note 18.



## CHAPTER 2: RELATED MANITOBA STUDIES

To assist in establishing and maintaining relevancy in provincial government policies and programs under its authority, the Manitoba Department of Environment and Workplace Safety and Health has commissioned opinion polls to record the public's views on environmental and occupational safety and health issues.

This chapter contains details on the results of public opinion polling undertaken for the Department in November 1982 (prior to the survey administered in this study), in March 1985 and in November 1986 (both subsequent to this study's survey).<sup>1</sup>

The purpose of this chapter is to provide information on the environmental concerns and opinions of Manitobans. Further details on the environmental opinions of the Manitoba public from these three surveys are presented in Chapter 4, where they are compared to the opinions of senior elected Manitoba municipal officials (see sections 4.3, 4.4 and 4.6).

## 2.1 MANITOBA PUBLIC ENVIRONMENTAL OPINIONS IN NOVEMBER 1982

CanWest Survey Research Corporation undertook a public opinion survey in 1982 to measure the views of Manitoba adults (18 years of age or older) on three issues: (1) the environment, (2) workplace safety and health, and (3) workers compensation. The poll was conducted during November by telephone interviews of a random sample of 504 individuals, 55 percent of which were residents of the City of Winnipeg and 45 percent from across the Province outside Winnipeg.

The environmental portion of the survey had five objectives:

- (1) To determine the degree to which the general public was concerned about Manitoba's environment in 1982;
- (2) To measure the awareness of and level of concern for specific environmental issues;
- (3) To investigate the perceptions of the public regarding government responsibility for environmental protection and how this responsibility was being met in 1982;
- (4) To measure the willingness of the public to make specific economic trade-offs for environmental protection; and
- (5) To estimate the need and desire for increased environmental information and education.<sup>2</sup>

CanWest found that environmental issues were of secondary concern to Manitobans in 1982 (3 percent of

mentions). Concerns about employment and the economy were most important (127 percent of mentions), followed by social issues (16 percent of mentions).

Nearly nine out of ten Manitobans (87 percent) rated the condition of the Province's environment as good or very good. Manitobans were fairly evenly divided in their opinions as to whether some areas of the Province's environment needed improvement (52 percent) or whether maintenance of conditions in 1982 was acceptable (46 percent).

The majority of Manitobans felt the condition of the Province's environment was about the same as other provincial environments (43 percent) or better than most (37 percent).

Most Manitobans (67 percent) felt that the provincial environment was protected the same or better in 1982 as it was in 1977, and 52 percent thought environmental protection would be the same or better in 1987. Nearly four out of ten Manitobans (37 percent) held the opinion that environmental protection would worsen from 1982 to 1987.

CanWest measured the level of public concern in 1982 for the specific environmental issues of pesticide use, transportation and disposal of hazardous chemicals, acid

rain, contamination of lakes and rivers, and industrial emissions (air pollution). These issues were viewed by Manitobans as being somewhat or very much a problem as follows: contamination of lakes and rivers (75 percent), industrial emissions into the air (56 percent), transportation and disposal of hazardous chemicals (55 percent), pesticide use (51 percent), and acid rain (31 percent).

Of the Manitobans surveyed in 1982 who thought that contamination of lakes and rivers, industrial emissions into the air, transportation and disposal of hazardous chemicals, pesticide use, and acid rain were problems, most felt that responsibility for protecting the environment from these risks rested with government or industry or both, depending on the issue. For all issues except industrial emissions into the air, government was viewed by the largest number of Manitobans as being responsible for environmental protection; percentages ranged from a low of 38 for transportation and disposal of hazardous chemicals to a high of 47 for pesticide use. Environmental protection from industrial air pollution was felt by 37 percent of Manitobans to be the responsibility of industry, by 27 percent to be the responsibility of government, and by 23 percent to be the responsibility of both industry and government.

Approximately seven out of ten Manitobans who thought that each of these issues was a problem also expressed the opinion that not enough attention was being directed toward addressing the issues.

The majority of Manitobans surveyed in 1982 felt the costs of environmental protection should be shared by government and industry, with industry paying the larger portion.

Most Manitobans polled by CanWest were willing to make economic trade-offs to protect the environment. Specifically, 67 percent were of the opinion that industries should be shut down if they did not meet pollution control standards and that all lakes and rivers should be clean enough to swim in, regardless of cost. Six out of ten Manitobans (61 percent) felt that agricultural use of pesticides should be substantially reduced, even if crop production was affected. A similar number disagreed with the statement that some danger must be expected in transporting hazardous chemicals because complete safety would cost too much. Approximately half of the Manitobans surveyed (49 percent) indicated they would accept a hazardous waste disposal site near their community, if it was continually monitored, while only 29 percent were willing to allow such a facility to locate in their area to generate local employment.

Manitobans surveyed by CanWest in 1982 considered themselves to be moderately well-informed (50 percent) or very well-informed (12 percent) about increasing pollution of land, air and water. However, 85 percent felt they did not know what pollution control standards were in place, and nine out of ten indicated a desire to know more about pollution control efforts. An increase in spending for environmental education was supported by 77 percent of Manitobans surveyed in 1982.

## 2.2 MANITOBA PUBLIC ENVIRONMENTAL OPINIONS IN MARCH 1985

As part of a public policy omnibus, Criterion Research Corporation surveyed the environmental opinions of 800 adult Manitobans (18 years of age or older) in March 1985. All interviews were conducted by telephone. Half were City of Winnipeg residents, and half were Manitobans living outside Winnipeg. The 400 interviews outside Winnipeg were distributed across census divisions in proportion to their share of the adult population. A further quota of 50 percent females and 50 percent males was utilized. Results from Winnipeg and non-Winnipeg respondents were weighed separately to correspond to the age-sex distribution found in the 1981 census of the Province.

The Criterion survey was composed of questions

concerned with the following environmental issues: (1) provincial environmental conditions, (2) hazardous wastes, (3) water pollution, and (4) acid rain.

Manitobans surveyed by Criterion in 1985 continued to exhibit confidence in provincial environmental conditions. As was the case in 1982, nearly nine out of ten (86 percent) rated the condition of Manitoba's environment as good or very good.

When asked to compare environmental protection in 1985 to that of five years before, 77 percent felt that the Province's environment had the same or better protection, and 74 percent thought environmental protection would be the same or better in 1990. These comparison figures were more positive than they had been in 1982 (see section 2.1).

Transportation and disposal of hazardous wastes were viewed by 63 percent of Manitobans surveyed in 1985 as being somewhat or very much a problem in the Province. Only one-quarter thought the Province was doing anything about hazardous waste disposal. In contrast, seven out of ten felt no provincial efforts were being taken. The most frequent response, when asked what the Province was doing about hazardous waste disposal, was "discussion" or "studying the issue".

Nine out of ten individuals surveyed in 1985 thought that Manitobans needed to be better informed about the problems of hazardous waste disposal in the Province.

Nearly six out of ten Manitobans (58 percent) disagreed with the statement that a certain amount of danger had to be expected in transporting hazardous chemicals because complete safety would cost too much. This was consistent with public opinion in 1982.

Criterion measured the opinions of Manitobans regarding preferred ways to handle hazardous wastes, and asked respondents whether they thought the government should provide a hazardous waste disposal facility or whether disposal of these materials should be left to private industry. Approximately six out of ten Manitobans (63 percent) said the government should build a facility, while 28 percent were of the opinion that it should be provided by industry. Only 4 percent of Manitobans surveyed in 1985 felt that disposal of hazardous wastes should be completely forbidden in the Province.

When asked how acceptable a hazardous waste disposal facility near their community would be, Manitobans surveyed in 1985 were generally positive; 65 percent concurred with the local siting of a disposal facility. This level of



acceptance was considerably higher than that recorded in 1982.

The issue of water pollution elicited the highest level of concern among Manitobans surveyed by Criterion in 1985. The contamination of lakes and rivers was viewed by 82 percent as being somewhat or very much a problem in the Province. Concern for water pollution in 1985 increased slightly from 1982 public opinion levels, where it was also the issue of greatest concern.

When specifically asked about water quality in the Red River, 75 percent of Manitobans surveyed in 1985 expressed concern, and 91 percent felt that the provincial government should spend more money to improve Red River water quality.

The majority of Manitobans (78 percent) surveyed by Criterion in 1985 viewed acid rain as a problem which was somewhat or very important to them personally. Virtually all (96 percent) agreed that acid rain was an international problem, but only 34 percent felt that acid rain was a particularly serious problem in Manitoba.

### 2.3 MANITOBA PUBLIC ENVIRONMENTAL OPINIONS IN NOVEMBER 1986

A telephone survey of the environmental opinions of

803 Manitobans was conducted in November 1986 by Viewpoints Research as part of the firm's fall economic omnibus. Respondents were Manitoba adults (18 years of age or older), chosen by systematic random sampling of the Winnipeg and Manitoba provincial telephone directories according to a cluster sampling technique known as probability proportionate to size sampling.<sup>3</sup> Sixty percent of respondents were residents of the City of Winnipeg, and 40 percent lived outside Winnipeg. The male:female ratio was 48:52.

Viewpoints' environmental survey consisted of questions on the following matters: (1) specific environmental issues, (2) environment and the economy, and (3) the role of government and environmental laws in environmental protection.

As was the case in previous public opinion polls conducted in 1982 and 1985, the environmental issues of water pollution and hazardous chemicals ranked highest in importance to Manitobans surveyed in 1986. Contamination of lakes and rivers was viewed by 78 percent as being somewhat or very much a problem in Manitoba, followed by transportation and disposal of hazardous chemicals (69 percent) and drinking water contamination (59 percent).

The majority of Manitobans (85 percent) surveyed in

1986 were concerned about water quality in the Red and Assiniboine Rivers, and 90 percent were in favour of the provincial government spending money to improve water quality in these rivers.

Other environmental issues that were assessed by Manitobans to be somewhat or very much a problem to the Province in 1986 were environmental spills and emergencies (52 percent), sewage treatment and disposal (50 percent), smoke from agricultural stubble burning (49 percent), air pollution (45 percent), and acid rain (42 percent). Over eight out of ten Manitobans agreed that there should be stricter controls on pesticide use (85 percent) and that the Province should oppose in principle the disposal of nuclear wastes within its boundaries (82 percent).

With regard to the environment and the economy, the majority of Manitobans surveyed in 1986 held two interrelated views:

- (1) Social and economic factors should be considered when governments make decisions about the environment (86 percent); and
- (2) We should do more to protect the environment, even if this means additional costs for industry, taxpayers and consumers (85 percent).

Approximately two-thirds of Manitobans in 1986 were of the opinion that there is a conflict between protecting the

environment and long-term economic development in the Province (68 percent) and between protecting the environment and short-term provincial economic development (61 percent).

Manitobans surveyed by Viewpoints Research in 1986 expressed varying levels of satisfaction with the performance of the provincial government in protecting the environment; 27 percent were of the opinion that the provincial government was doing a good or excellent job, 54 percent rated provincial environmental protection efforts as average, and 12 percent felt that performance was poor or terrible.

Approximately four out of ten Manitobans (41 percent) surveyed by Viewpoints Research in 1986 felt that rules and regulations in place at that time were strong enough to protect the environment from potentially harmful economic development. Over five out of ten (52 percent) disagreed.

Recognition by Manitobans of the proposed new provincial Environment Act was low in 1986. Only 14 percent had heard anything of the statute, which was enacted the following year. The majority of Manitobans who had heard about the new Environment Act in 1986 felt that it would strengthen environmental protection in the Province.

The role of government in environmental protection was viewed by most Manitobans in 1986 to be educating the public about environmental issues, followed by enforcing environmental regulations and, thirdly, by conducting research about the environment.

In general, the majority of Manitobans surveyed by Viewpoints felt the enforcement of environmental laws in Manitoba was too weak, as were the penalties for breaking these laws. Fifty-five percent said environmental laws were too weak, and 37 percent said they were adequate. While 61 percent expressed the opinion that penalties for breaking environmental laws were too meagre, almost one-quarter (24 percent) felt the penalties were adequate.

With regard to individuals who intentionally pollute the environment, most Manitobans (63 percent) said offenders should simply be fined and ordered to clean up the mess rather than be criminally charged and face possible incarceration. The majority of Manitobans (63 percent) also felt that municipal governments found to be responsible for environmental pollution should be treated like private companies or citizens guilty of similar offences.

## 2.4 SUMMARY OF MANITOBA PUBLIC ENVIRONMENTAL OPINIONS

In public opinion polls in 1982, 1985 and 1986, Manitobans expressed an overall positive assessment of the condition of the Province's environment and a stable forecast for future environmental quality.

The majority of Manitobans were concerned about a range of environmental issues, most particularly the contamination of provincial lakes and rivers and the transportation and disposal of hazardous chemicals, which, from among different issues presented in each survey, scored consistently as most important and second-most important to the Province. In contrast, acid rain was seen by most Manitobans to be of less importance locally, but of greater international importance.

An overall willingness to live near a hazardous waste disposal site was shown by the majority of Manitobans, with the proviso that such a facility be continually monitored.

Manitobans looked to government to protect the environment, to educate the public about environmental matters, and to enforce environmental laws. An ancillary role for industry in paying some costs associated with environmental protection was noted in the 1982 poll.

Environmental issues were of secondary concern to Manitobans in 1982. Four years later, a strong public awareness of and support for the interaction of the environment and the economy were recorded. This latter result parallels pan-Canadian public opinion polls in 1986 and 1988 (see Chapter 1).

## CHAPTER 2 ENDNOTES

<sup>1</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 196 appendices.

Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 230 appendices.

Viewpoints Research. 1986. Environment Report. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 40 pp. + 162 appendices.

<sup>2</sup>Supra, CanWest, note 1.

<sup>3</sup>For discussion of the probability proportionate to size sampling technique, see E. Babbie. 1983. The Practice of Social Research, 3rd edition. Belmont, California, Wadsworth Publishing Company, 551 pp.



## CHAPTER 3: METHODOLOGY

This study of environmental attitudes and perceptions of elected Manitoba municipal officials involved two phases: (1) orientation and design, and (2) implementation.

Orientation and design included formation of a study team; review of related studies, background information and survey research methodology; development of a sampling instrument; and definition of the survey population.

Implementation consisted of administration of the sampling instrument; development of a codebook; entry and verification of survey data to computer storage, analysis and interpretation.

This chapter provides further details on each of these activities.

### 3.1 ORIENTATION AND DESIGN

Funding for survey sampling was provided by Employment and Immigration Canada, while the Environmental

Protection Service (Manitoba District) provided general administration, office accommodation, equipment and supplies.

An interdisciplinary study team was formed to undertake the investigation (see Appendix A). The author of this practicum served as Project Manager to direct, coordinate and report on team activities.

During June and July 1983, activities centred on orientation of the study team toward environmental issues and the role of governments in regulating environmental matters; on search for and review of related studies; and on familiarization with the survey research process and methods.

Questionnaire development was accomplished as a group activity, with assistance from the Director and other staff of the Environmental Protection Service. The process involved the identification of variables for each of the research objectives (Table 2) and the drafting and finalization of questions to measure the variables.

The questionnaire was pretested during July 1983 through a mail-out to 38 Manitobans who were known to have an interest in and knowledge of environmental issues. These individuals were selected by the process of isolating Manitoba entries from Environment Canada's Western and

TABLE 2  
 RELATIONSHIP BETWEEN RESEARCH OBJECTIVES  
 AND VARIABLES MEASURED IN THE STUDY

Question Number	Variable Number	Variable Name
OBJECTIVE (A): TO DETERMINE DEMOGRAPHIC/DESCRIPTIVE CHARACTERISTICS OF MUNICIPAL OFFICIALS		
1	A004	Population of present community
2	A005	Number of years in present community
3	A006	Population of childhood community
4	A007	Present dwelling type
7	A010	Maintenance of garden
8	A011	Highest level of education
9	A012	First language
10	A013	Frequency of warm weather outdoor activities
11	A014	Frequency of cold weather outdoor activities
12a	A015	Interest in political affairs
12b	A016	Self-selected knowledge of political affairs
12c	A017	Self-selected placement on political spectrum
13	A018-A025	Political affairs sources of information
14	A026-A035	Membership in groups/associations
45	A213	Household income category
46	A214-A221	Children and their age categories
47	A222	Respondent's age
48	A223	Respondent's gender

..... continued

TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (B): TO DETERMINE ATTITUDES OF MUNICIPAL OFFICIALS REGARDING QUALITY OF LIFE IN MANITOBA		
19	B058-B063	Most important problems facing Manitoba
20a	B064	Forced choice of greatest concern
20b	B065	Forced choice of second-greatest concern
20c	B066	Forced choice of least concern
21a	B068	Forced choice of greatest concern to Manitobans
21b	B069	Forced choice of second-greatest concern to Manitobans
21c	B070	Forced choice of least concern to Manitobans
22a	B071	Forced choice of most threatening
22b	B072	Forced choice of second-most threatening
22c	B073	Forced choice of least threatening
OBJECTIVE (C): TO DETERMINE OPINIONS OF MUNICIPAL OFFICIALS REGARDING LOCAL AND PROVINCIAL ENVIRONMENTAL ISSUES		
23	C074	Rating of condition of Manitoba's environment now
24	C075	Saskatchewan compared with Manitoba
24	C076	Alberta compared with Manitoba
24	C077	British Columbia compared with Manitoba
24	C078	Ontario compared with Manitoba

..... continued

TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (C): CONTINUED		
24	C079	Quebec compared with Manitoba
24	C080	Atlantic Provinces compared with Manitoba
24	C081	The North compared with Manitoba
25a	C082	Manitoba now compared with 10 years ago
25b	C083	Manitoba 10 years from now compared with today
27a	C091-C104	Local environmental issues, importance of
	C091	Noise pollution
	C092	Dutch elm disease
	C093	Mosquito control
	C094	Lack of green space
	C095	Air pollution
	C096	Water pollution
	C097	Littering
	C098	Loss of agricultural land
	C099-C104	Other local environmental issues
28a	C114-C133	Provincial environmental issues, importance of
	C114	Proposed Garrison Diversion Project
	C115	Threats to Winnipeg's drinking water
	C116	Proposed nuclear laboratory at Lac du Bonnet

..... continued

TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (C): CONTINUED		
28a	C117	Overhunting
	C118	Mercury pollution
	C119	Workplace hazards
	C120	Soil erosion
	C121	Acid rain
	C122	Urban expansion onto farmlands
	C123	Sewage disposal
	C124	Hazardous waste spills
	C125	Use of pesticides
	C126	Industrial emissions
	C127	Hydro development in northern Manitoba
	C128-C133	Other provincial environmental issues
29	C144	Danger in transporting hazardous chemicals
29	C145	Knowledge of Manitoba pollution control standards
29	C147	Schools expenditures on environmental education
29	C148	Local siting of hazardous waste disposal
29	C149	Desire to know more about Manitoba pollution control
31	C157	Assessment of conservation efforts
33a	C160	Pesticides and crop production
33b	C161	Cleanliness of Manitoba lakes/rivers and swimming

..... continued

TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (C): CONTINUED		
33c	C162	Motivations of industry in environmental protection
36	C186	Social class concern for environmental issues
37	C187	Public adequately informed about threats to environment, how often?
44	C212	Industrialization and environmental damage
OBJECTIVE (D): TO DETERMINE PERCEPTION OF MUNICIPAL OFFICIALS AS TO WHAT CONSTITUTES "ENVIRONMENT"		
18	D057	Definition of term "environment"
OBJECTIVE (E): TO DETERMINE OPINIONS OF MUNICIPAL OFFICIALS REGARDING ROLE OF GOVERNMENT IN ENVIRONMENTAL MATTERS		
26	E084-E090	Monitor environmental quality, who?
29	E146	Government spend more to protect
32	E158-E159	Government champions, how often?
33d	E163	Government environmental strategy
41a	E193	Greatest obligation to protect, which government?
41b	E194	Done most to protect, which government?
42	E196-E206	Environmental agency quiz
43	E207	Offer tax concessions, acceptability of

..... continued

TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (E): CONTINUED		
43	E208	Offer reduced utility rates, acceptability of
43	E209	Build highways/railways, acceptability of
43	E210	Reduce pollution control standards, acceptability of
43	E211	Offer grants/interest-free loans, acceptability of
OBJECTIVE (F): TO DETERMINE OPINIONS AND BEHAVIOUR OF MUNICIPAL OFFICIALS REGARDING GOVERNMENT PUBLIC-INVOLVEMENT ACTIVITIES		
16a	F054	Dealings with government on environmental issues
16b	F055	Dealings with government on environmental issues, which government?
17	F056	Attendance at public hearing or meeting on environmental issues
34a	F164	Public concerned as much as ought to?
34b	F165-F169	Public concern, what to increase?
35a	F170	Involve public more in government planning/decision-making
35b	F171-F180	Specific activities to effectively increase public involvement
35c	F181-F185	Specific activity to most effectively increase public involvement

..... continued



TABLE 2 (CONTINUED)

Question Number	Variable Number	Variable Name
OBJECTIVE (F): CONTINUED		
38	F188	Effectiveness of public meetings to express public's concerns
39a	F189	Attendance at Environment Canada public meeting
39b	F190	Cooperativeness of staff
39c	F191	Staff knowledge
40	F192	Awareness of Environment Canada's Public Consultation Policy
OBJECTIVE (G): TO DETERMINE ENVIRONMENTAL INFORMATION SOURCES OF MUNICIPAL OFFICIALS		
15a	G036-G044	Most trustworthy information source
15b	G045-G053	Most used information source
27c	G105-G113	Best information source for local environmental issues
28c	G135-G143	Best information source for provincial environmental issues

Northern Region mailing list for public consultation meetings.<sup>1</sup> Following the pretest, minor modifications were made to the sampling instrument, primarily to rectify ambiguities or unclear wording.

The sampling frame used for this study was an annual publication of the Manitoba Department of Municipal Affairs titled Municipal Officials in Manitoba. The survey used the 1983 edition, which contained the 202 names and addresses of all senior elected Manitoba municipal officials, including the Mayors of cities, towns and villages across the Province as well as Reeves of provincial rural municipalities and local government districts. The Mayor of the City of Winnipeg, while included in this publication, was omitted for this study.

### 3.2 IMPLEMENTATION

The questionnaire (Appendix B) was mailed to each senior elected Manitoba municipal official outside the City of Winnipeg on July 29, 1983, along with a covering letter explaining the study, its purpose and sponsorship, and the importance to the study of the addressee's response. A stamped, addressed envelope and postcard were also enclosed in the questionnaire package. Respondents were asked to use the envelope to return the completed questionnaire, and to

identify themselves on the postcard and return it under separate cover to ensure their name was removed from the survey mailing list.

The mailing list consisted of file cards, one for each Mayor and Reeve, transcribed from the sampling frame listing. As each postcard was returned by mail, the respondent's file card was removed, leaving the names and addresses of senior elected municipal officials who had not responded and information as to when the questionnaire had been sent.

A second mail-out of questionnaires was sent on August 26, 1983 to all senior elected Manitoba municipal officials outside the City of Winnipeg from whom postcards had not been received. Included was a second covering letter as well as an additional stamped return envelope and postcard.

A codebook for the questionnaire was developed subsequent to completion of the summer 1983 field work. The codebook allowed the mutually exclusive attributes that composed each variable measured by the questionnaire to be converted to numerics for entry into computer storage and subsequent analysis. The codebook described the location of each variable in the data file and listed the codes assigned

to the attributes composing each variable. The codebook was used to direct the coding process and as a locational guide during data analysis.

Data capture using the codebook and questionnaires returned by respondents consisted of a two-step process:

- (1) coding directly from the questionnaire onto ruled, 80-column IBM Fortran coding forms (Form GX09-0011-6 U/M050); and
- (2) entering the data from these forms into a computer file.

The data were verified subsequent to entry through a random selection of data files and visual comparison of the original questionnaire and codebook with a hard-copy of the data on file. Additionally, during analysis, the data files were reviewed when problems such as unallocated code values were identified.

Analysis of questionnaire data was undertaken using the micro-computer capabilities of Viewpoints Research and the StatPac Gold Statistical Analysis Package. The data files were transferred from storage on the University of Manitoba computer to portable disc. Minor reformatting modifications were made to accommodate the software program.<sup>2</sup>

Data analysis for all research objectives consisted of

the computation of frequencies for all code values of each of the 223 variables. Additionally, the range, mode and mean values were calculated for two ratio variables, A005 (number of years in present community) and A222 (respondent age).

The frequencies of selected variables beginning with the letters "B", "C" and "E" were compared with the frequencies of similar variables used to measure the environmental opinions of the general Manitoba public in 1982, 1985 and 1986 (see Appendices C-E).

The respondent-returned questionnaires, the codebook and the data files have been deposited with the Natural Resources Institute at the University of Manitoba for reference and use by other researchers.

### 3.3 HANDLING OF NON-RESPONSE

Non-response can be particularly problematic in mail-out surveys, although it is a factor from which no survey escapes.<sup>3</sup> The difficulty associated with non-response centres on the likelihood that non-respondents differ significantly from respondents, so that estimates based on the latter are biased.

There are two types of non-response; some individuals

may refuse to answer any question (refusal non-response), while others may omit selected responses (item non-response). Non-response can be mitigated to some extent by preventive efforts undertaken before the questionnaire is mailed out and, afterwards, by attempts to contact non-respondents to identify characteristics which would allow comparison with known characteristics of respondents to determine the possible degree of bias.<sup>4</sup>

Because the questionnaire used in this study was comparatively lengthy, and because it was administered during the summer holiday season when respondents might not be available, non-response was viewed as a potentially significant factor. At the same time, because respondents were elected government officials and there was a perceived possibility of political posturing on the issues, a decision was made during the design of this study to avoid direct contact with these individuals. This would preclude any subsequent definition of salient characteristics of non-respondents to attempt to measure the degree of possible bias from non-response.

Consequently, during the design and pretesting of the questionnaire, concerted efforts were made to ensure that question wording was as clear, unambiguous and non-threatening as possible to minimize or prevent

non-response. Care was also taken to develop a professional appearance to the questionnaire booklet to encourage respondent confidence in the survey and a desire to participate in the study.

As a control, the procedures used in the questionnaire mail-outs to the survey population were pretested, along with the questionnaire itself, during an initial and reminder mail-out to the pretest sample of Manitobans with known interest in and knowledge of environmental issues. Survey literature indicates that response rate is correlated with interest in the survey subject,<sup>5</sup> and, therefore, the pretest of individuals with known interest in environmental issues might serve as a maximum standard against which to measure possible non-response by the survey population. The pretest response rate was 74 percent ( $= 28/38 \times 100$ ).

This response rate accords well with an assessment of response rates undertaken by Babbie.<sup>6</sup> He indicates that a response rate of at least 50 percent is adequate for analysis and reporting; a response rate of 60 percent is good; and a response rate of 70 percent is very good.

## CHAPTER 3 ENDNOTES

<sup>1</sup>To provide a comparison against which to gauge possible non-response from municipal officials, the pretest followed the same procedures for questionnaire administration, including follow-up mail-out. Twenty-eight pretest questionnaires were returned (= 74 percent response rate).

<sup>2</sup>These modifications consisted of left-justifying all record entries in the data file and the subsequent collapsing of all entries in each case to one record.

<sup>3</sup>Babbie, E. 1983. The Practice of Social Research, 3rd edition. Belmont, California, Wadsworth Publishing Company, 551 pp.

Mason, G., B. McPherson, D. Hum, L. Roberts and A. Anderson. 1983. Survey Research Methods, 2nd edition. Winnipeg, Institute for Social and Economic Research, Faculty of Arts, The University of Manitoba, 278+ pp.

Moser, C.A. and G. Kalton. 1972. Survey Methods in Social Investigation, 2nd edition. New York, Basic Books Inc., 549 pp.

<sup>4</sup>Supra, Mason et al. and Moser and Kalton, note 3.

<sup>5</sup>Supra, Moser and Kalton, note 3.

<sup>6</sup>Supra, Babbie, note 3.



## CHAPTER 4: RESULTS AND DISCUSSION

Analysis and discussion of the environmental attitudes and perceptions questionnaire responses of senior elected Manitoba municipal officials are presented in this chapter.

Section one (4.1) reports results of the administration of the sampling instrument.

Sections two through seven provide information on the variables measured in the survey according to the objectives of the study, specifically:

- Section 4.2 [objective (a)] .... demographic and other descriptive characteristics
- Section 4.3 [objective (b)] .... attitudes on the quality of life in Manitoba
- Section 4.4 [objective (c)] .... opinions on environmental issues
- Section 4.5 [objective (d)] .... perceptions of the term "environment"
- Section 4.6 [objective (e)] .... opinions on the role of government in environmental matters
- Section 4.7 [objective (f)] .... opinions and behaviour regarding public involvement programs of government

Section eight (4.8) details the sources of environmental information on which senior elected Manitoba municipal officials indicated they relied.

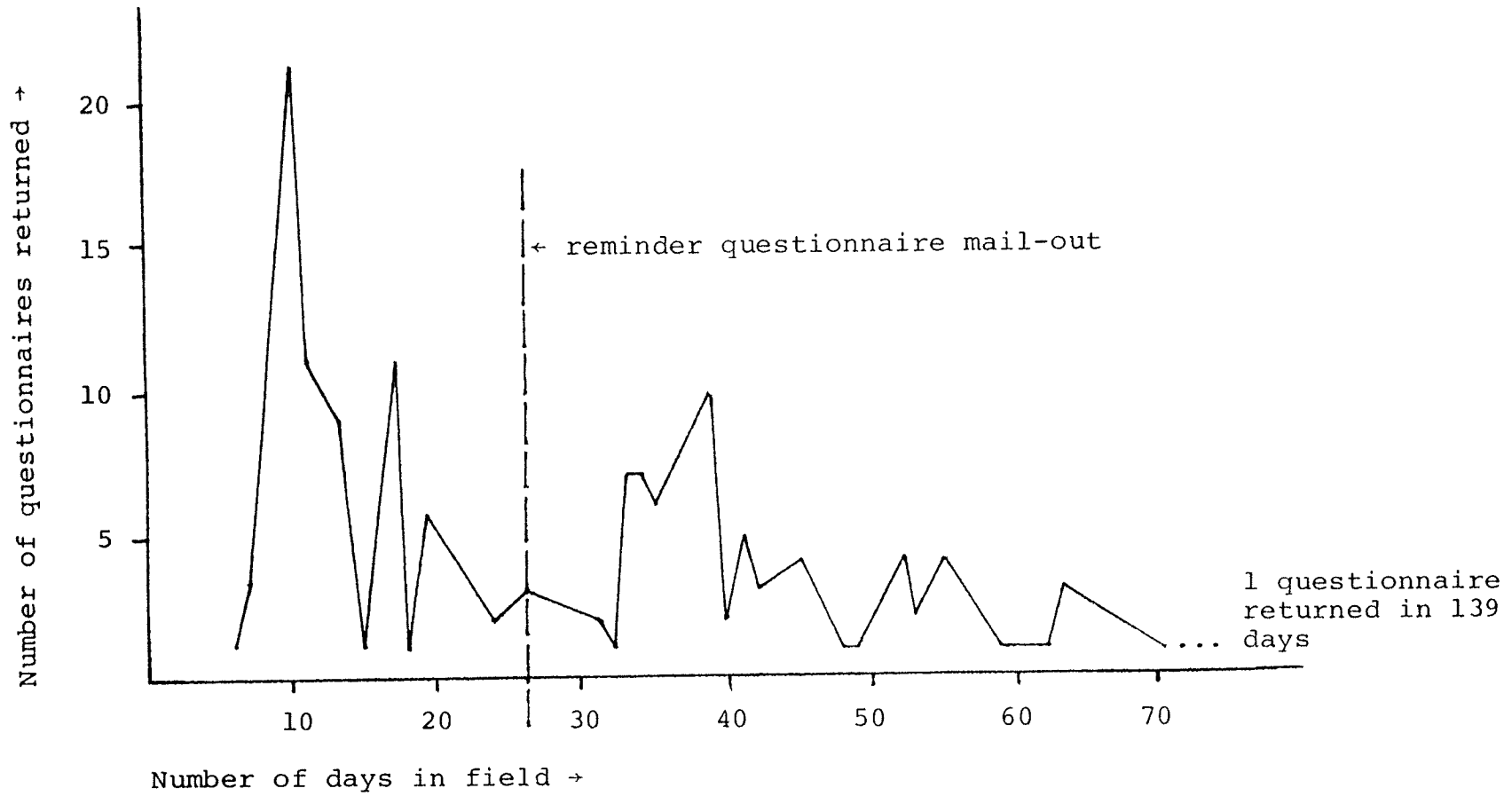
#### 4.1 QUESTIONNAIRE ADMINISTRATION

A total of 146 questionnaires were completed by respondents and returned. This represents a 73-percent response rate ( $= 146/201 \times 100$ ). Since the rate of response from municipal officials is nearly the same as from environmentally interested individuals who returned completed questionnaires during the pretest (74 percent), it is evident that possible bias from refusal non-response was minimized. Further, the similarity of the two response rates indicates equally strong interests by the two populations regarding environmental issues.

Figure 1 depicts the questionnaire returns from municipal officials over time and shows that nearly 50 percent ( $= 69/146 \times 100$ ) were received after the second questionnaire mail-out. This testifies to the effectiveness of follow-up to increase response rates for mail-out surveys.

The use of separate, respondent-returned postcards to determine the list of follow-up mailings proved valuable in this study. It was not, however, a totally accurate method

Figure 1. Questionnaire returns from senior elected Manitoba municipal officials, 1983.



of identifying all non-respondents. The assumption that every respondent who returned a completed questionnaire would also send the postcard under separate cover was not valid for either the pretest population or for municipal officials; the postcard response rate (68 and 67 percent, respectively) was 6 percent lower than the questionnaire response rate for both populations.

#### 4.2 DEMOGRAPHIC AND OTHER DESCRIPTIVE CHARACTERISTICS

Senior elected Manitoba municipal officials who responded to the questionnaire reported demographic characteristics with regard to the following variables: age; gender; education; first language; household income; children and their age categories; dwelling type, size of community and length of residence there; and size of childhood community (see section 4.2.1). In addition, respondents provided information on selected characteristics descriptive of political interest, knowledge, sources of information and placement on the political spectrum; membership in groups and associations; and outdoor activities (maintenance of a garden and frequency of warm and cold weather outdoor activities) (see section 4.2.2).

#### 4.2.1 DEMOGRAPHIC CHARACTERISTICS

Municipal officials who responded to the questionnaire exhibited a wide age range from 27 to 79 years (Figure 2). As a group, however, they were predominately older middle age (sample average = 53.4 years).

Senior elected municipal officials in Manitoba in 1983 were, for the most part, male; only four respondents were female. This is an expected result, since the sampling frame indicated that there were at least two and at most four females Mayors and Reeves in Manitoba in 1983. The four female respondents were 27, 29, 42 and 50 years of age in 1983.

Table 3 shows the highest level of education obtained by respondents. Nearly half of municipal officials (43.8 percent) had attended secondary school, and approximately four out of ten (38.5 percent) had attended university or technical school.

All respondents spoke English, and 82.2 percent indicated that English was their first language. Other languages reported by respondents as their mother tongue included French (5.5 percent), Ukrainian (3.4 percent), German (2.4 percent), Icelandic and Dutch (1.4 percent each),

Figure 2. Age distribution of respondents, 1983.

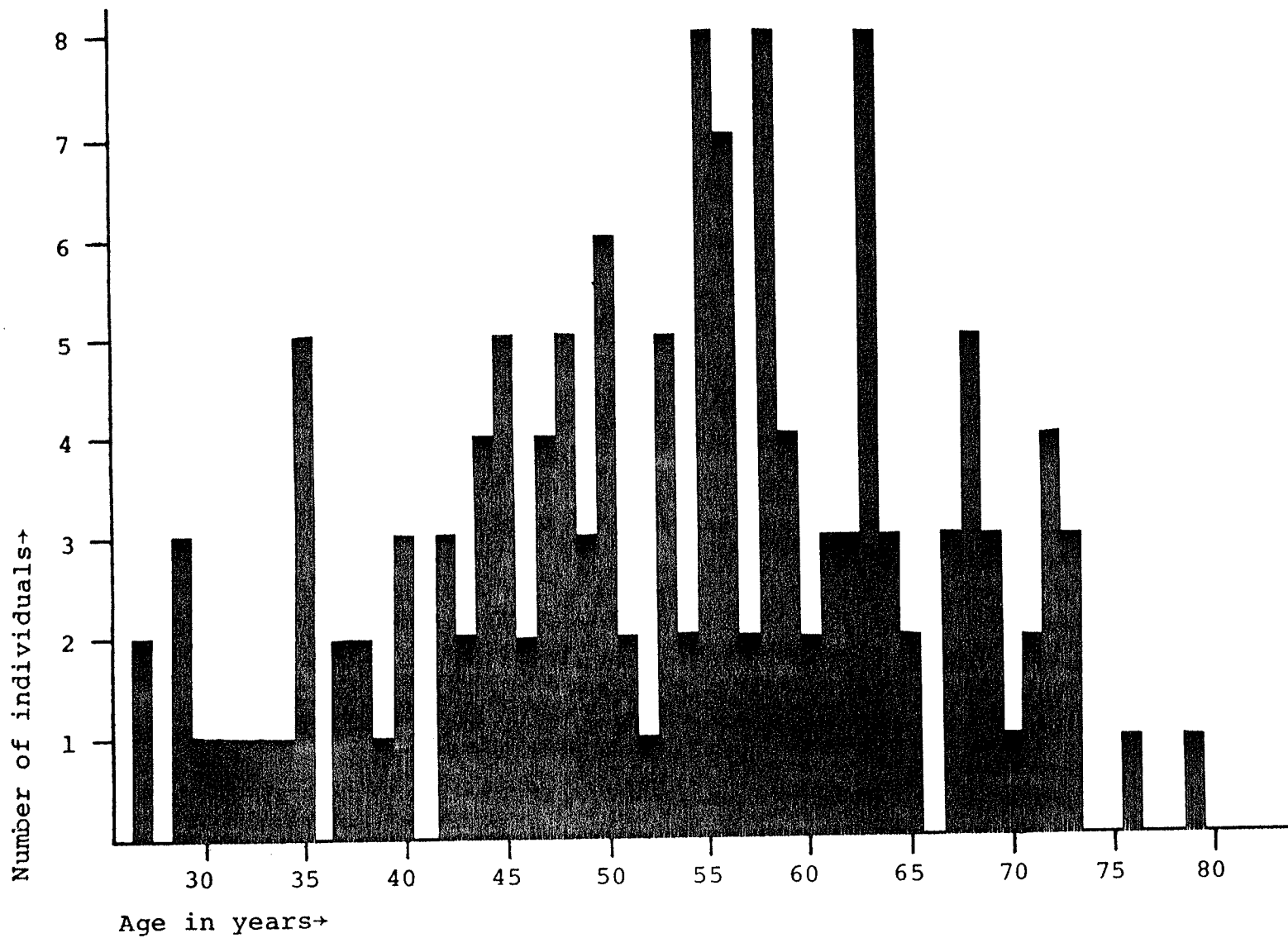


TABLE 3  
 HIGHEST LEVEL OF EDUCATION REPORTED BY  
 SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Highest Level of Education	Percent of Respondents <sup>1</sup> (n = 146)
Elementary school (up to grade 8)	15.1
Secondary school (grades 9-12)	43.8
Some university	14.4
University degree	13.0
Some technical school	4.8
Technical school diploma/certificate	6.2
Other	1.4
No response	1.4

<sup>1</sup>Percentages do not total 100.0 due to rounding.

and Polish, Flemish, Finnish and Armenian (0.7 percent each).

Annual household income reported by municipal officials in 1983 ranged from under \$10,000 to over \$45,000 (Table 4). Nearly one-third (30.8 percent) indicated their household income was \$40,000 or greater. The largest group of respondents (41.1 percent) reported annual household income in the range of \$20,000 to \$39,999. Non-response to the household income question was 6.2 percent.

Nearly all respondents (91.8 percent) had children. The number of children per respondent ranged from one to more than seven, and approximately eight out of ten respondents had children who were over the age of 21 (Table 5).

Ninety-eight percent of municipal officials lived in a detached or mobile home in 1983. Most respondents resided in communities which ranged in size from 100-999 (38.4 percent) or 1,000-9,999 (41.1 percent), and nearly two-thirds reported they had grown up in communities of these sizes (Table 6). Approximately one-quarter of municipal officials had grown up on a farm.

The length of time that respondents had resided in their present communities ranged from 1 to 72 years. The majority



TABLE 4  
HOUSEHOLD INCOME REPORTED BY  
SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

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Level of Household Income	Percent of Respondents (n = 146)
Under \$10,000	4.1
\$10,000 to \$14,999	8.2
\$15,000 to \$19,999	8.9
\$20,000 to \$24,999	10.3
\$25,000 to \$29,999	6.8
\$30,000 to \$34,999	13.0
\$35,000 to \$39,999	11.0
\$40,000 to \$44,999	7.5
\$45,000 and over	23.3
Not stated	6.9

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TABLE 5

NUMBER AND AGE CATEGORIES OF CHILDREN REPORTED BY  
SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Number of Children	Percent of Respondents (n = 146)
0	6.8
1	4.8
2	28.1
3	23.1
4	15.8
5	10.3
6	1.4
7 or more	2.1
Not stated	7.6

Age Categories of Children	Percent of Mentions
Infant (<2 years)	0.7
Preschool (2 to <5 years)	6.2
Elementary school (5 to <13 years)	21.9
Teenage (13 to <21 years)	34.2
Young adult (21 to <30 years)	45.9
Adult (30 years and over)	37.7

TABLE 6

PRESENT AND CHILDHOOD COMMUNITY SIZE REPORTED BY  
SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Community Size	Percent of Respondents (n = 146) <sup>1</sup>	
	Present Community	Childhood Community
Farm	14.4	26.0
Less than 100 inhabitants	0	0.7
100 to 999 inhabitants	38.4	31.5
1,000 to 9,999 inhabitants	41.1	32.9
10,000 to 49,999 inhabitants	4.1	4.1
50,000 or more inhabitants	0	2.7
Not stated	2.1	2.1

<sup>1</sup>Percentages may not total 100.0 due to rounding.

of municipal officials reported stable tenure in their present community of residence; average length of time in present community was 39.2 years.

#### 4.2.2 OTHER DESCRIPTIVE CHARACTERISTICS

All but three senior elected municipal officials in Manitoba (97.9 percent) reported an interest in current political affairs. Approximately two-thirds (63.7 percent) indicated their knowledge of political affairs was average, while nearly one-third (31.5 percent) felt their knowledge was above average. Four respondents (2.7 percent) who reported an interest in current political affairs considered themselves below average in political knowledge.

The most frequently mentioned sources of information on political affairs reported by municipal officials were television (90.4 percent of mentions), newspapers (84.6 percent of mentions) and radio (72.6 percent of mentions).

Nearly half of municipal officials (49.3 percent) defined themselves politically as right of centre, while approximately one-quarter (22.6 percent) reported they were politically left of centre. Fourteen percent of respondents placed themselves politically in the centre, equally between left and right. One out of ten respondents (10.3 percent)

refused to place themselves on the political spectrum.

Approximately one out of seven municipal officials (13.7 percent) did not belong to any group or association. Table 7 lists the memberships reported by respondents according to the group or association category. Of particular note is the finding that membership of elected municipal officials in political organizations and in environmental interest groups was uncommon; in fact, membership in environmental interest groups (4.8 percent of mentions) surpassed reported memberships in political groups (2.7 percent of mentions).

In 1983, the majority of municipal officials (87.0 percent) maintained a garden. Nine out of ten reported participation of varying frequencies in other summer outdoor activities, while seven out of ten indicated they participated in winter outdoor activities (Table 8). It appears from the questionnaire responses that outdoor activities of a biweekly frequency or greater were slightly more common among municipal officials in the winter than in the summer (58.0 and 50.6 percent, respectively).

#### 4.3 ATTITUDES REGARDING THE QUALITY OF LIFE IN MANITOBA

Senior elected Manitoba municipal officials were asked

TABLE 7  
MEMBERSHIPS REPORTED BY  
SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

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Group/Association Category	Percent of Mentions
Community organization (voluntary)	51.4
Civic/service group (appointed)	48.6
Professional association	15.1
Sports/recreation group	11.0
Trade union	7.5
Religious group	7.5
Environmental interest group	4.8
Political organization	2.7
Other groups/associations	6.2

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TABLE 8

COMPARISON OF THE FREQUENCY OF REPORTED PARTICIPATION  
OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
IN OUTDOOR ACTIVITIES DURING WARM AND COLD WEATHER MONTHS,  
1983

Activity Frequency	Percent of Respondents (n = 146) <sup>1</sup>	
	Warm Weather	Cold Weather
Not at all	6.8	25.3
A few times a year	30.8	13.7
About once a month	8.2	2.7
About 2-3 times a month	9.6	11.6
About once a week	16.4	15.8
About 2-3 times a week	17.1	23.3
Daily	7.5	6.8
Not stated	3.4	0.7

<sup>1</sup>Percentages do not total 100.0 due to rounding.

in an unprompted manner to indicate the most important problems facing the Province in 1983 (see section 4.3.1). They were also offered a list of six issues of specific concern and asked to rank the issues according to three levels of importance (first, second and least), both to themselves personally and, in their estimation, to Manitobans (see section 4.3.2). Similarly, a list of five dangers to humans was presented for respondent ranking according to those dangers which were most threatening, second-most threatening and least threatening (see section 4.3.3).

#### 4.3.1 MOST IMPORTANT PROBLEMS FACING MANITOBA

Response rate to the open-ended question regarding the most important problems facing the Province was 91.8 percent. The majority of municipal officials felt that the most important problems facing Manitoba in 1983 were economic (69.2 percent of mentions). Responses included issues such as unemployment, particularly among younger people; the deficit and interest on provincial loans; cost of living and interest rates; inflation; taxes; and farm produce prices to producers. Economic problems were mentioned by respondents at least twice as often as any other problem.

Problems concerning political, governmental or legal



affairs received 32.2 percent of mentions. These included lack of good government; too much government, regulation, control and waste; rural versus urban emphasis; the New Democratic Party provincial government; hydro development; tourism; attracting industry; medicare and health care programming; and the condition of roadways.

Social/cultural problems received 29.5 percent of mentions. These included bilingualism; crime, vandalism and theft; alcohol and drug abuse; native peoples; social assistance and welfare; and people demanding too much or something for nothing.

Problems of a physical or environmental nature received 27.4 percent of mentions. Respondents' concerns in this area included matters such as chemicals and their use; the disposal of toxic wastes and chemical containers; water pollution, water quality and quantity; air pollution and acid rain; land use, soil erosion, wildlife, forests and recreation areas; Garrison Diversion Project; garbage disposal; and natural resources use, development and depletion.

The public opinion polling conducted nine months prior to this study produced similar results; unemployment and the economy were uppermost public concerns, followed by social

issues. Environmental issues were of concern to a small portion of the public and were viewed as a secondary issue in the public's mind.

#### 4.3.2 CONCERN FOR SPECIFIC ISSUES

This study's results from the unprompted question regarding most important problems facing Manitoba are reinforced by results from forced choice questions asking respondents the degree of personal concern and degree of concern they perceived was felt by Manitobans regarding six issues: alcohol and drug abuse; pollution; the state of the economy; women's rights; racial prejudice; and worker's health and safety (Table 9).

The state of the economy was of greatest concern to 65.8 percent of senior elected Manitoba municipal officials and was deemed by 75.3 percent to be of greatest concern to all Manitobans. Pollution was an issue of secondary concern to municipal officials (26.7 percent) and, in the estimation of 24.7 percent, to Manitobans. The state of the economy and pollution were seen as being of least concern by only 2.7 and 3.4 percent of respondents, respectively.

A similar forced choice question, but without the inclusion of an economic issue, was asked of the Manitoba

TABLE 9

CONCERN FOR SIX ISSUES BY SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
AND PERCEIVED BY THEM OF CONCERN TO MANITOBANS, 1983

Issue	Percent of Respondents (n = 146) <sup>1</sup>					
	Personal Concern			Concern to Manitobans		
	First	Second	Least	First	Second	Least
Alcohol/drug abuse	18.5	36.3	5.5	13.0	26.7	6.2
Pollution	8.9	26.7	3.4	3.4	24.7	6.2
State of the economy	65.8	15.8	2.7	75.3	14.4	0.7
Women's rights	1.4	2.7	30.8	1.4	6.2	26.7
Racial prejudice	1.4	4.8	41.8	0	4.8	41.8
Worker health and safety	1.4	7.5	8.9	0	14.4	9.6
Not stated	2.8	6.2	6.8	6.8	8.9	8.9

<sup>1</sup>Percentages may not total 100.0 due to rounding.

public in November 1982. The public polling results parallel the trends identified in this study, although the magnitude of public concern was greater for all issues (Table 10). An explanation for this may be that the addition of an economic issue to the question asked in this study overshadowed the importance of the other issues, because of the primary (first-order) importance respondents in both this study and public opinion polling attributed to economic matters.

#### 4.3.3 SPECIFIC ISSUES THAT THREATEN

To measure the degree to which senior elected Manitoba municipal officials were threatened by possible health risks associated with environmental issues, respondents were asked to choose from a list of five dangers to humans. Two of the dangers related to environmental issues (health risks caused by pollution and by chemicals found in food).

Results indicate that environmental pollution was nearly as threatening as crime/violence and the possibility of an automobile/airplane accident, the two greatest threats chosen by respondents (Table 11). Health risks from pollution were more threatening than health risks from chemicals found in food.

TABLE 10

SPECIFIC ISSUES OF GREATEST AND OF SECOND GREATEST CONCERN  
TO SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS (1983)  
AND TO THE MANITOBA PUBLIC (1982)

Issue	Percent of Respondents <sup>1</sup>	
	Greatest and Second Greatest Concern	
	to Municipal Officials (n = 146)	to Manitoba Public <sup>2</sup> (n = 504)
State of the economy	81.6	--
Alcohol/drug abuse	54.8	82.1
Pollution	35.6	56.1
Worker health and safety	8.9	21.1
Racial prejudice	6.2	19.7
Women's rights	4.1	14.5
Not stated	9.0	6.6

<sup>1</sup>Columns represent the sum of the frequencies for two variables: (1) greatest concern and (2) second greatest concern. Percentages do not total 200.0 due to rounding.

<sup>2</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 196 appendices.

TABLE 11

DEGREE TO WHICH SPECIFIC ISSUES ARE VIEWED AS THREATENING  
BY SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Issue	Percent of Respondents (n = 146)		
	Most Threatening	Second Most Threatening	Least Threatening
Health risks caused by environmental pollution	21.9	19.2	12.3
Crime/violence	23.3	26.7	14.4
Possibility of automobile/airplane accident	26.0	19.2	15.8
Health risks caused by chemicals found in food	18.5	15.8	17.1
Possibility of accident at work	6.2	12.3	34.9
Not stated	4.1	6.8	5.5

#### 4.4 OPINIONS REGARDING ENVIRONMENTAL ISSUES

Senior elected municipal officials were asked to rate the condition of Manitoba's natural environment in 1983, to compare it with the Province's environmental condition in 1973, and to speculate on the condition of the provincial natural environment in 1993. They were also requested to rate the condition of other provincial and regional environments in comparison with Manitoba's in 1983. Results from these questions are detailed in section 4.4.1.

A list of eight local environmental issues was presented to respondents, who were asked to rate the importance of each issue in terms of their home community. Following this, an open-ended question allowed respondents to indicate other local environmental problems which they felt were also very important in their home community. Results from these questions are detailed in section 4.4.2.

Similarly, a list of 14 provincial environmental issues was presented to respondents to rate in terms of each issue's importance to Manitoba, followed by an open-ended question asking respondents to identify other provincial environmental problems which, in their opinion, were also very important to Manitoba. Results from these questions are detailed in section 4.4.3.

Municipal officials were requested to indicate the degree to which they agreed with a series of five statements concerning hazardous materials, pollution control, and environmental education. Respondents were also asked to choose the statement which best reflected their views from among a series of statements dealing with conservation efforts, pesticides and crop production, cleanliness of provincial lakes and rivers, and motivation of industry in environmental protection. They were asked a series of questions regarding social class concern for environmental issues, adequacy of public information on environmental threats, and industrialization and environmental damage. Results from these questions are detailed in section 4.4.4.

#### 4.4.1 COMPARISONS OF CONDITION OF MANITOBA'S NATURAL ENVIRONMENT

Municipal officials rated the condition of Manitoba's natural environment in 1983 in a positive manner. Nearly half (48.6 percent) viewed the environmental condition as very good or good, while only 7.5 percent felt it was poor or very poor. Four out of ten respondents (39.7 percent) indicated that Manitoba's environmental condition in 1983 was acceptable.

The inclusion in this study of an environmental assessment category of "acceptable" makes it difficult to



compare results with public opinion polling, where this category was not included. As Table 12 shows, the public's assessment of Manitoba's environmental condition in 1982 and 1985 was similar. Generally the Manitoba public, like municipal officials surveyed in this study, viewed environmental conditions in the Province in a positive manner.

When asked to compare Manitoba's natural environmental condition in 1983 with its condition ten years before (in 1973) and its expected condition ten years following (in 1993), municipal officials were generally pessimistic (Table 13). Approximately three out of ten felt Manitoba's environmental condition had deteriorated from 1973 to 1983 (34.2 percent of respondents) and would continue to worsen to 1993 (35.6 percent of respondents). In comparison, approximately one out of ten municipal officials perceived the natural environment in Manitoba had improved in condition (15.8 percent of respondents) and expected this improvement to continue for the next ten years (16.4 percent of respondents).

As Table 14 indicates, municipal officials surveyed in 1983 generally viewed the condition of the natural environment in Ontario, Quebec and British Columbia as worse than the condition of Manitoba's natural environment (60.3,

TABLE 12

COMPARISON OF ASSESSMENT OF THE CONDITION  
OF MANITOBA'S NATURAL ENVIRONMENT  
BY SENIOR ELECTED MUNICIPAL OFFICIALS (1983)  
AND BY THE MANITOBA PUBLIC (1982 and 1985)

Condition of Natural Environment	Percent of Respondents <sup>1</sup>		
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>
Very good	8.2	16.1	13.9
Good	40.4	70.6	71.5
Acceptable	39.7	--	--
Poor	6.8	9.1	11.6
Very poor	0.7	0.8	1.5
Other or not stated	4.1	3.4	1.5

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 196 appendices.

<sup>3</sup>Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 230 appendices.

TABLE 13  
 COMPARISON OF THE CONDITION  
 OF MANITOBA'S NATURAL ENVIRONMENT (1973-1993)  
 AS PERCEIVED BY SENIOR ELECTED MUNICIPAL OFFICIALS IN 1983

Assessment Category	Percent of Respondents (n = 146)	
	Condition of Manitoba's Natural Environment In 1983 compared to 1973	In 1993 compared to 1983
Better	15.8	16.4
The same	43.8	33.6 <sup>1</sup>
Worse	34.9 <sup>2</sup>	35.6
Don't know	3.4	10.3
Other or not stated	2.1	4.1

<sup>1</sup>Includes one response (0.7 percent) between better and the same.

<sup>2</sup>Includes one response (0.7 percent) between the same and worse.

TABLE 14

COMPARISON OF PROVINCIAL NATURAL ENVIRONMENTAL CONDITIONS  
AS PERCEIVED BY SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Province	Percent of Respondents (n = 146) <sup>1</sup>				
	Better than Manitoba	The Same as Manitoba	Worse than Manitoba	Don't Know	No Response
Saskatchewan	7.5	58.2	6.8	21.9	5.5
Alberta	8.2	39.0	24.7	19.9	8.2
British Columbia	12.3	23.3	30.1	26.0	8.2
Ontario	4.1	7.5	60.3	19.9	8.2
Quebec	2.1	4.1	44.5	40.4	8.9
Atlantic provinces (New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland)	3.4	22.6	14.4	51.4	8.2
The North (Yukon and Northwest Territories)	34.2	9.6	4.1 <sup>2</sup>	43.2	8.9

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>Includes one response (0.7 percent) between the same and worse than Manitoba.

44.5 and 30.1 percent of respondents, respectively). The natural environment in Saskatchewan, Alberta and the Atlantic provinces of New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland was generally felt to be in the same condition as Manitoba's (58.2, 39.0 and 22.6 percent of respondents, respectively). The northern natural environment in the Yukon and Northwest Territories was generally perceived by respondents (34.3 percent) to be in better condition than Manitoba's natural environment. An overall average of nearly one-third of respondents indicated they did not know about the environmental condition in other provinces; this was greatest with regard to the Atlantic provinces (51.4 percent of respondents), the North (43.2 percent of respondents) and Quebec (40.4 percent of respondents).

#### 4.4.2 LOCAL ENVIRONMENTAL ISSUES

The importance of eight specified local environmental problems to senior elected Manitoba municipal officials was ascertained in this study (Table 15). Of greatest importance to the home community of respondents were loss of agricultural land (49.3 percent of respondents) and water pollution (47.3 percent of respondents). Littering, mosquito control and dutch elm disease were of some importance to the home community of 44.5, 37.0 and 30.1

TABLE 15

DEGREE OF IMPORTANCE OF EIGHT LOCAL ENVIRONMENTAL ISSUES  
TO SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Local Environmental Issue	Percent of Respondents (n = 146)				
	Very Important	Of Some Importance	Of Little Importance	Unimportant	No Response
Noise pollution	9.6	24.0	35.6	23.3	7.5
Dutch elm disease	21.9	30.1	24.7	18.5	4.8
Mosquito control	30.8	37.0	21.9	6.2	4.1
Lack of green space	15.8	17.8	22.6	36.3	7.5
Air pollution	21.9	21.9	24.7	25.3	6.2
Water pollution	47.3	28.8	11.6	8.2	4.1
Littering	33.6	44.5	14.4	3.4	4.1
Loss of agricultural land	49.3	24.0	14.4	8.9	3.4

percent of respondents, respectively. Over one-third of respondents (35.6 percent) attached little importance to noise pollution within their home community, and 36.3 percent felt that lack of green space was unimportant in their home community.

The 1983 opinions of municipal officials with regard to water pollution were markedly similar to the 1982 views of the Manitoba public on this issue (Table 16). Subsequent public opinion polling in 1985 and 1986 revealed the importance of water pollution shifted over time, but water pollution remained somewhat or very much of a problem to approximately 80 percent of Manitobans.

Similarly, air pollution was perceived by over 40 percent of municipal officials in 1983 and the Manitoba public in 1986 as somewhat or very important (Table 17).

Two out of ten municipal officials (19.9 percent) did not respond when asked if, in addition to local environmental problems presented in the questionnaire, there were others of importance to their home community. Another four out of ten (43.8 percent) indicated there were no other environmental problems of importance to their community. Two out of ten (20.5 percent) felt there were other local environmental problems relating to land management,

TABLE 16

DEGREE OF IMPORTANCE OF WATER POLLUTION TO SENIOR ELECTED MUNICIPAL OFFICIALS (1983)  
AND TO THE MANITOBA PUBLIC (1982, 1985 AND 1986)

Degree of Importance	Percent of Respondents <sup>1</sup>			
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>	1986 (n=803) Manitoba Public <sup>4</sup>
Very important (very much)	47.3	46.6	51.8	33.3
Of some importance (somewhat)	28.8	28.4	30.0	44.6
Of little importance (slightly)	11.6	11.5	12.6	17.2
Unimportant (not at all)	8.2	9.5	2.7	3.4
Not stated	4.1	4.0	2.9	1.6

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health.

<sup>3</sup>Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health.

<sup>4</sup>Viewpoints Research. 1986. Environment Report. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health.



TABLE 17

DEGREE OF IMPORTANCE OF AIR POLLUTION  
TO SENIOR ELECTED MUNICIPAL OFFICIALS (1983)  
AND TO THE MANITOBA PUBLIC (1986)

Degree of Importance	Percent of Respondents	
	1983 (n=146) Municipal Officials	1986 (n=803) Manitoba Public <sup>1</sup>
Very important (very much)	21.9	14.7
Of some importance (somewhat)	21.9	30.3
Of little importance (slightly)	24.7	34.1
Unimportant (not at all)	25.3	19.7
Not stated	6.2	1.2

<sup>1</sup>Viewpoints Research. 1986. Environment Report. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 40 pp. + 162 appendices.

including agricultural chemicals and soil erosion. Water management problems, including water quality, drainage and flooding, were reported by 11.0 percent of respondents, while problems relating to human settlement, primarily sewage and garbage disposal, were mentioned by 6.8 percent of municipal officials.

#### 4.4.3 PROVINCIAL ENVIRONMENTAL ISSUES

Senior elected municipal officials were asked in this study to provide an assessment of the importance to the Province of Manitoba of 14 specified environmental problems (Table 18). Of greatest individual importance to respondents, in descending order of magnitude, were the Garrison Diversion Project in the United States and hazardous waste spills (63.0 percent of respondents each), soil erosion (58.2 percent of respondents), sewage disposal (57.5 percent of respondents), threats to Winnipeg's drinking water and urban expansion onto farmlands (56.2 percent of respondents each), and the use of pesticides (50.7 percent of respondents). Workplace hazards were viewed by respondents (57.5 percent) as an important secondary issue. The nuclear facility at Lac du Bonnet and hydro development in northern Manitoba were perceived by municipal officials as unimportant (8.9 and 6.2 percent, respectively). No respondent felt sewage disposal was

TABLE 18

DEGREE OF IMPORTANCE OF 14 PROVINCIAL ENVIRONMENTAL ISSUES  
TO SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Provincial Environmental Issue	Percent of Respondents (n = 146) <sup>1</sup>				
	Very Important	Of Some Importance	Of Little Importance	Unimportant	No Response
Garrison Diversion Project	63.0	28.1 <sup>2</sup>	5.5	1.4	2.1
Threats to Winnipeg's drinking water	56.2	34.2	2.7	2.7	4.1
Nuclear laboratory at Lac du Bonnet	36.3	37.7	15.8	8.9	1.4
Overhunting	37.7	39.0	18.5	2.7	2.1
Mercury pollution	37.0	42.5 <sup>2</sup>	14.4	3.4	2.7
Workplace hazards	19.9	57.5	15.8	3.4	3.4
Soil erosion	58.2	30.8	7.5	0.7	2.7
Acid rain	37.7	38.4	17.8	2.7	3.4

See next page for footnotes.

..... continued

TABLE 18 (CONTINUED)

Provincial Environmental Issue	Percent of Respondents (n = 146) <sup>1</sup>				
	Very Important	Of Some Importance	Of Little Importance	Unimportant	No Response
Urban expansion onto farmlands	56.2	31.5	6.8	2.7	2.7
Sewage disposal	57.5	36.3	3.4	0	2.7
Hazardous waste spills	63.0	26.7	6.2	0.7	3.4
Use of pesticides	50.7	39.0	6.2	2.1	2.1
Industrial emissions	40.4	44.5 <sup>2</sup>	8.2	2.7	4.1
Hydro development in northern Manitoba	43.2	32.9	15.1	6.2	2.7

<sup>1</sup>Percentages not total 100.0 due to rounding.

<sup>2</sup>Includes one response (0.7 percent) between very important and of some importance.

unimportant.

The overall importance of all provincial environmental problems presented in this study to municipal officials for assessment was high; between seven and nine out of ten respondents indicated these issues were somewhat or very important (Table 19). As might be expected, the overall ranking of importance was inversely proportional to the degree of little or no importance of the provincial environmental issues to respondents.

Non-response to questions pertaining to provincial environmental issues was less than for questions concerning local environmental issues (1.4 to 4.1 and 3.4 to 7.5 percent of respondents, respectively). At the same time, the provincial environmental issues presented to respondents in this study generated greater assessment of overall importance than did local environmental issues (see Tables 15 and 18, pages 85 and 90-91).

Acid rain, sewage disposal, use of pesticides and industrial emissions were provincial environmental issues included in public opinion polling conducted in Manitoba. In all but one poll, these issues were rated as somewhat or very important by a greater percent of municipal officials in this study than by the Manitoba public (Table 20).

TABLE 19

OVERALL IMPORTANCE OF 14 PROVINCIAL ENVIRONMENTAL ISSUES  
TO SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS, 1983

Provincial Environmental Issue	Percent of Respondents (n=146) <sup>1</sup>		
	Somewhat or Very Important	Little or No Importance	Not Stated
Sewage disposal	93.8	3.4	2.7
Garrison Diversion Project	91.1	6.9	2.1
Threats to Winnipeg's drinking water	90.4	5.4	4.1
Hazardous waste spills	89.7	6.9	3.4
Use of pesticides	89.7	8.3	2.1
Soil erosion	89.0	8.2	2.7
Urban expansion onto farmlands	87.7	9.5	2.7
Industrial emissions	84.9	10.9	4.1
Mercury pollution	79.5	17.8	2.7
Workplace hazards	77.4	19.2	3.4

See next page for footnote.

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TABLE 19 (CONTINUED)

Provincial Environmental Issue	Percent of Respondents (n=146) <sup>1</sup>		
	Somewhat or Very Important	Little or No Importance	Not Stated
Overhunting	76.7	21.2	2.1
Hydro development in northern Manitoba	76.1	21.2	2.7
Acid rain	76.1	20.5	3.4
Nuclear laboratory at Lac du Bonnet	74.0	24.7	1.4

<sup>1</sup>Percentages may not total 100.0 due to rounding.

TABLE 20

DEGREE OF IMPORTANCE OF ACID RAIN, SEWAGE DISPOSAL, USE OF PESTICIDES  
AND INDUSTRIAL EMISSIONS TO SENIOR ELECTED MUNICIPAL OFFICIALS (1983)  
AND TO THE MANITOBA PUBLIC (1982, 1985 AND 1986)

Issue and Importance	Percent of Respondents <sup>1</sup>			
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>	1986 (n=803) Manitoba Public <sup>4</sup>
<b>ACID RAIN</b>				
Very important (very much)	37.7	14.5	45.9	18.8
Of some importance (somewhat)	38.4 <sup>5</sup>	16.3	32.3	23.3
Of little importance (slightly)	17.8	13.7	13.5	31.1
Unimportant (not at all)	2.7	30.0	5.6	20.0
Not stated	3.4	25.6	2.7	6.7
<b>SEWAGE DISPOSAL</b>				
Very important (very much)	57.5	n.s. <sup>6</sup>	n.s.	19.3
Of some importance (somewhat)	36.3	n.s.	n.s.	30.5
Of little importance (slightly)	3.4	n.s.	n.s.	25.5
Unimportant (not at all)	0	n.s.	n.s.	18.3
Not stated	2.7	n.s.	n.s.	6.4
<b>USE OF PESTICIDES</b>				
Very important (very much)	50.7	25.4	n.s.	n.s.
Of some importance (somewhat)	39.0	25.6	n.s.	n.s.
Of little importance (slightly)	6.2	22.4	n.s.	n.s.
Unimportant (not at all)	2.1	18.5	n.s.	n.s.
Not stated	2.1	8.1	n.s.	n.s.

See next page for footnotes.

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TABLE 20 (CONTINUED)

Issue and Importance	Percent of Respondents <sup>1</sup>			
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>	1986 (n=803) Manitoba Public <sup>4</sup>
<b>INDUSTRIAL EMISSIONS</b>				
Very important (very much)	40.4	25.2	n.s.	n.s.
Of some importance (somewhat)	44.5 <sup>5</sup>	30.4	n.s.	n.s.
Of little importance (slightly)	8.2	16.9	n.s.	n.s.
Unimportant (not at all)	2.7	21.4	n.s.	n.s.
Not stated	4.1	6.2	n.s.	n.s.

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study.

<sup>3</sup>Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985.

<sup>4</sup>Viewpoints Research. 1986. Environment Report.

<sup>5</sup>Includes one response (0.7 percent) between very important and of some importance.

<sup>6</sup>n.s. = not sampled

Acid rain was the only environmental issue for which data were gathered from the public in each polling year. Results indicate the importance of acid rain to the public in Manitoba varied from year to year; as an issue of some or very much importance, it ranged from a low of 30.8 percent (1982) to a high of 78.2 percent (1985). Acid rain was rated nearly two-and-one-half times as important, either somewhat or very, by municipal officials responding to this study as by the Manitoba public surveyed nine months before this study.

Similarly, municipal officials rated sewage disposal as a somewhat or very important environmental issue nearly twice as often as the Manitoba public surveyed three years later in 1986. Sewage disposal was also a very important environmental issue to municipal officials three times more than it was to the Manitoba public.

The use of pesticides and industrial emissions were both rated as somewhat or very important by a greater percentage of municipal officials in 1983 than the Manitoba public surveyed in 1982. As was the case with sewage disposal, the greatest differences were in the "very important" category.

Nearly three out of ten municipal officials (27.4

percent) did not respond when asked if there were environmental problems of importance to Manitoba other than those presented in the questionnaire. An additional four out of ten (44.5 percent) indicated they did not think there were any other environmental problems of importance to the Province. One out of ten (10.3 percent) felt there were other provincial environmental issues relating to land management, including the preservation of agricultural land and natural ecosystems, and wildlife problems. Water management issues, including water quality, pollution, drainage and flooding, were reported by 9.6 percent of respondents, while issues relating to human settlement, such as transportation of dangerous goods and automobile-related problems, were mentioned by 6.8 percent of municipal officials.

#### 4.4.4 OTHER ENVIRONMENTAL ISSUES

In this study, senior elected Manitoba municipal officials provided their opinions on two statements about hazardous materials, two statements about provincial pollution control, and one statement about environmental education. These statements were also used in public opinion polling in Manitoba, and, therefore, comparison of the views of municipal officials and the Manitoba public is possible.

Table 21 lists the opinions of municipal officials regarding hazardous materials, provincial pollution control, and environmental education statements. Respondents most strongly agreed with the statements:

- (a) "I would like to know more about pollution control in Manitoba" (37.0 percent of respondents);
- (b) "More money should be spent on environmental education in our schools" (35.6 percent of respondents); and
- (c) "A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much" (26.7 percent of respondents).

These three statements also received the greatest overall agreement by municipal officials [78.8 percent strongly or moderately agreed with (a) and (b), and 65.1 percent strongly or moderately agreed with (c)].

The only statement to which a majority of municipal officials did not agree concerned the siting of a hazardous waste disposal facility near their community. Responses to this statement were divided; 45.2 percent agreed, while 49.3 percent disagreed.

Although municipal officials were relatively accepting of danger from transporting hazardous chemicals in a general sense, they were less willing to specifically live near a hazardous waste disposal site. This is a reversal of the results from public opinion polling on these two issues, and

TABLE 21

OPINIONS OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
REGARDING HAZARDOUS MATERIALS, PROVINCIAL POLLUTION CONTROL,  
AND ENVIRONMENTAL EDUCATION, 1983

Statement	Percent of Respondents (n = 146) <sup>1</sup>					
	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	No Opinion	No Response
A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.	26.7	38.4	15.8	15.8	0	3.4
A disposal site for hazardous wastes would be acceptable near my community if it was continually monitored.	14.4	30.8	17.8	31.5	2.1	3.4
I don't really know what pollution control standards exist in Manitoba.	17.8	39.0	22.6	8.2	5.5	6.8
I would like to know more about pollution control in Manitoba.	37.0	41.8	6.2	2.1	7.5	5.5
More money should be spent on environmental education in our schools.	35.6	43.2	11.0	4.8	0.7	4.8

<sup>1</sup>Percentages may not total 100.0 due to rounding.

is due to the fact that municipal officials who responded to this study were more tolerant regarding transportation of hazardous chemicals than was the Manitoba public surveyed in 1982 and 1985 (Table 22). Nearly two-thirds of municipal officials (65.1 percent) and approximately one-third of the public (37.3 percent) agreed moderately or strongly that a certain amount of danger has to be expected because complete safety would cost too much. The willingness of municipal officials and the Manitoba public surveyed nine months before this study to allow a continually monitored disposal site for hazardous wastes near their community was approximately the same (45.2 and 49.4 percent, respectively). Of note is the fact that public opinion shifted between 1982 and 1985 toward greater acceptance of a local site for hazardous wastes (from 49.4 to 63.5 percent, respectively).

Three out of ten municipal officials (30.8 percent) felt they knew, either moderately or strongly, about Manitoba pollution control standards, while a majority (56.8 percent) indicated a moderate or strong lack of knowledge in this area (Table 21). Over three-quarters of municipal officials surveyed (78.8 percent) wanted to know more about pollution control in the Province. In comparison to the Manitoba public surveyed in 1982, a greater percentage of municipal officials in this study defined themselves as knowledgeable about provincial pollution control standards

TABLE 22

COMPARISON OF OPINIONS OF SENIOR ELECTED MUNICIPAL OFFICIALS (1983)  
AND THE MANITOBA PUBLIC (1982 AND 1985)  
REGARDING HAZARDOUS MATERIALS, PROVINCIAL POLLUTION CONTROL, AND ENVIRONMENTAL EDUCATION

Statement and Opinion	Percent of Respondents <sup>1</sup>		
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>
A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.			
Agree (moderately or strongly)	65.1	37.3	39.6
Disagree (moderately or strongly)	31.6	58.1	57.6
No opinion or not stated	3.4	4.6	2.8
A disposal site for hazardous wastes would be acceptable near my community if it was continually monitored.			
Agree (moderately or strongly)	45.2	49.4	63.5
Disagree (moderately or strongly)	49.3	45.8	33.8
No opinion or not stated	5.5	4.8	2.7

See next page for footnotes.

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TABLE 22 (CONTINUED)

Statement and Opinion	Percent of Respondents <sup>1</sup>		
	1983 (n=146) Municipal Officials	1982 (n=504) Manitoba Public <sup>2</sup>	1985 (n=800) Manitoba Public <sup>3</sup>
I don't really know what pollution control standards exist in Manitoba.			
Agree (moderately or strongly)	56.8	84.5	n.s. <sup>4</sup>
Disagree (moderately or strongly)	30.8	13.1	n.s.
No opinion or not stated	12.3	2.4	n.s.
I would like to know more about pollution control in Manitoba.			
Agree (moderately or strongly)	78.8	89.5	n.s.
Disagree (moderately or strongly)	8.3	7.9	n.s.
No opinion or not stated	13.0	2.6	n.s.
More money should be spent on environmental education in our schools.			
Agree (moderately or strongly)	78.8	76.8	n.s.
Disagree (moderately or strongly)	15.8	18.1	n.s.
No opinion or not stated	5.5	5.2	n.s.

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>CanWest Survey Research Corporation. 1982. Public Opinion Study.

<sup>3</sup>Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985.

<sup>4</sup>n.s. = not sampled



(13.1 and 30.8 percent, respectively; Table 22).

Municipal officials surveyed in 1983 and the Manitoba public surveyed in 1982 both expressed strong support for increased funding for environmental education in provincial schools (78.8 and 76.8 percent, respectively; Table 22).

Three statements offering different perspectives on each of four environmental issues were presented to municipal officials, with the request that they choose the statement in each set which most nearly agreed with their views on the issue. The second (middle) statement in each set was drafted to present a status quo or moderate view, from which the first and third statements diverged in opposite perspectives. The four sets of statements were:

- (1) Conservation efforts will enhance the present quality of the natural environment.

Conservation efforts are sufficient to protect the present quality of the natural environment.

Conservation efforts are not sufficient to protect the present quality of the natural environment.

- (2) We must substantially reduce the agricultural use of pesticides, even if this affects crop production.

Crop production and pesticide use should be held at current levels.

Crop production must be increased, even if that means an increase in the use of pesticides.

- (3) All of Manitoba's lakes and rivers should be clean enough to swim in, regardless of cost.

It would be all right if most Manitoba lakes and rivers were clean enough to swim in.

It would be acceptable if only lakes and rivers in recreational areas were clean enough to swim in.

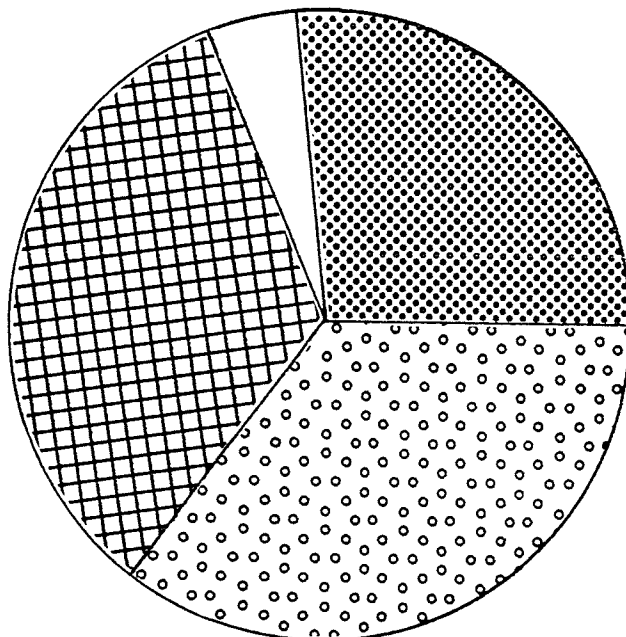
- (4) Industry is guided by its sense of responsibility in taking measures to protect the natural environment.

Industry is sensitive to public concerns, and will act to protect the natural environment if costs are low.

Industry is guided only by its desire for profit, and must be compelled to take measures to protect the natural environment.

Figures 3 to 6 depict the frequency of responses to these four sets of statements. The opinions of municipal officials regarding enhancement or protection of the natural environment through conservation efforts and regarding the use of pesticides and crop production were fairly evenly divided (Figures 3 and 4, respectively). In contrast, nearly half of respondents (49.3 percent) felt that most lakes and rivers, but not all and not just those in recreation areas, should be clean enough for swimming; approximately one-third (34.2 percent) indicated a willingness to pay undefined costs to ensure that all provincial lakes and rivers were suitable for swimming (Figure 5). The motivations and sensitivities of industry with regard to environmental protection were perceived by nearly six out of ten municipal officials (57.5 percent) to

Figure 3. Opinions of senior elected Manitoba municipal officials regarding enhancement or protection of the natural environment through conservation efforts, 1983.







- 26.7%  Conservation efforts will enhance the present quality of the natural environment.
- 35.6%  Conservation efforts are sufficient to protect the present quality of the natural environment.
- 33.6%  Conservation efforts are not sufficient to protect the present quality of the natural environment.
- 4.1%  No response

Figure 4. Opinions of senior elected Manitoba municipal officials regarding the use of pesticides and crop production, 1983.

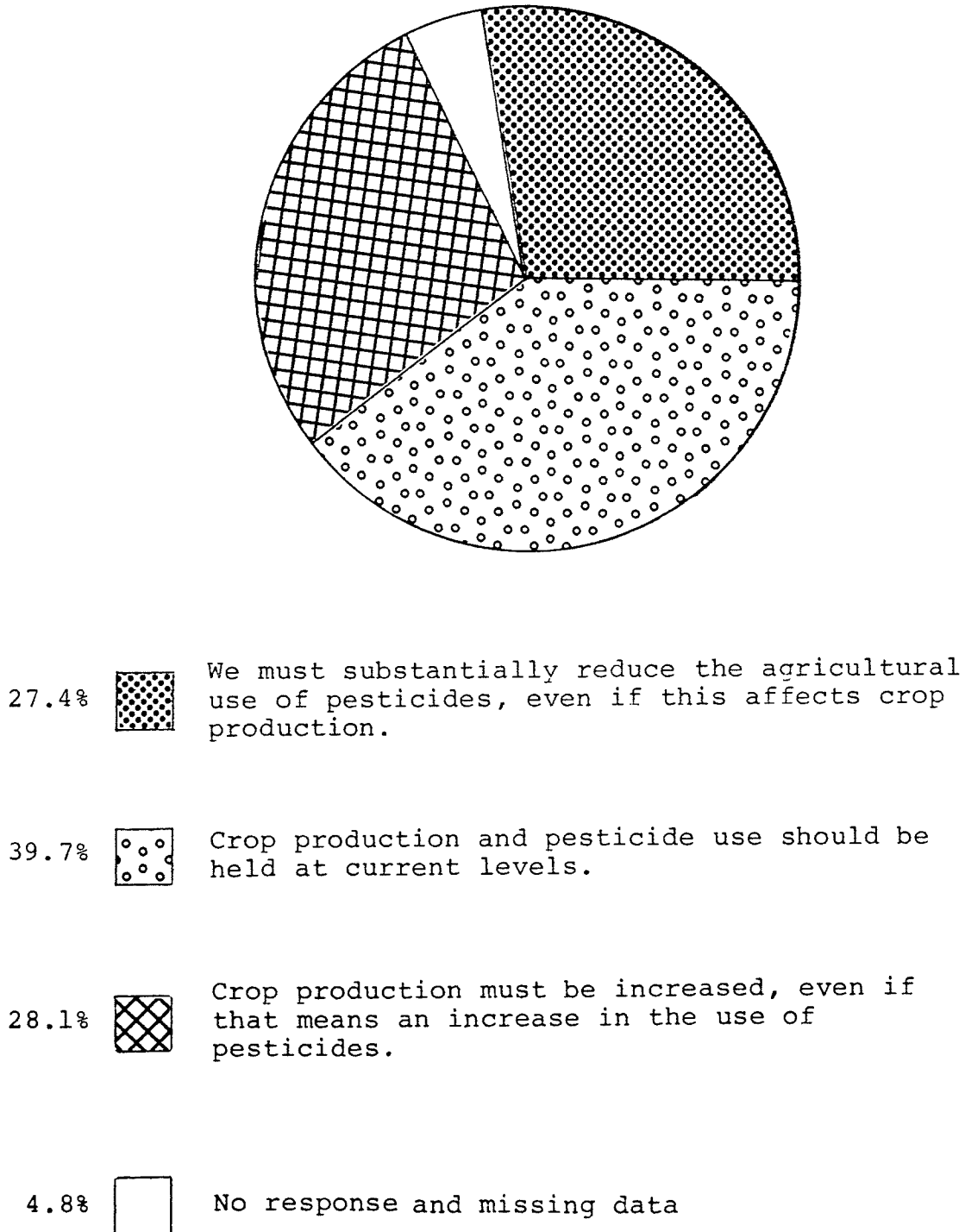


Figure 5. Opinions of senior elected Manitoba municipal officials regarding cleanliness of lakes and rivers, 1983.

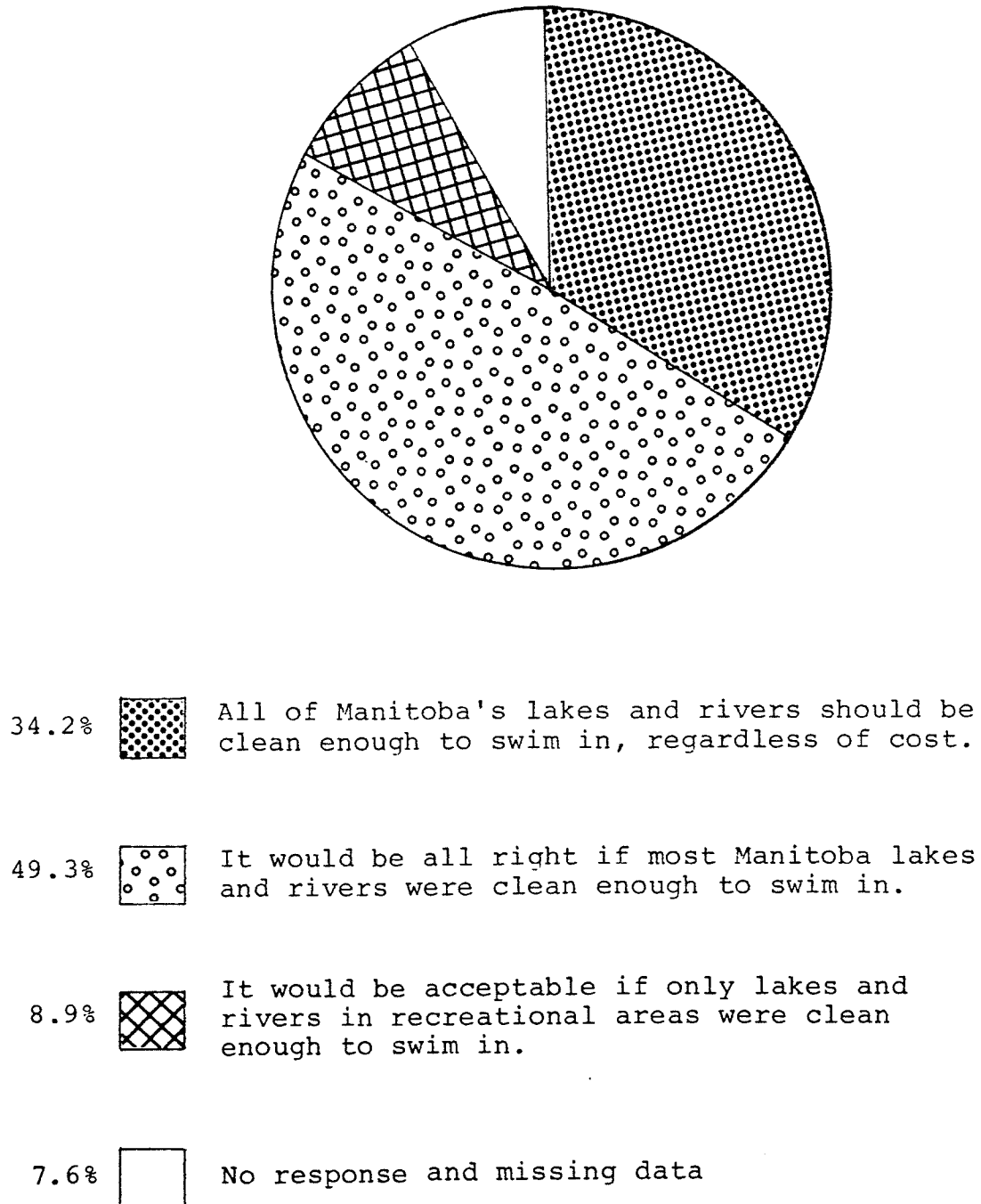
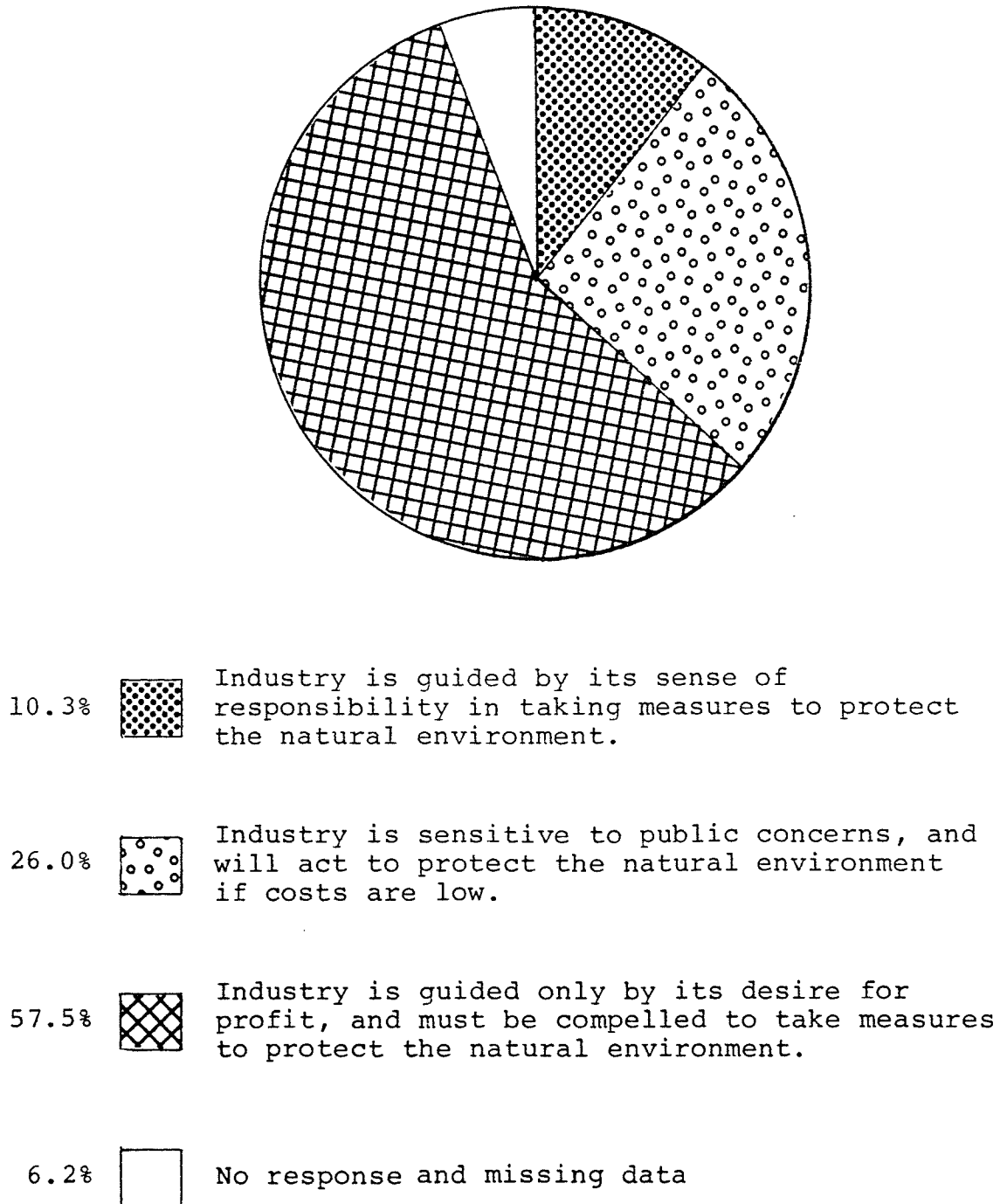


Figure 6. Opinions of senior elected Manitoba municipal officials regarding the motivations of industry for environmental protection, 1983.



be based on profit considerations such that industry must be compelled to undertake environmental protection measures (Figure 6).

Over eight out of ten municipal officials surveyed in this study felt either that the lower, middle and upper classes share an equal concern about environmental issues (49.3 percent of respondents) or that the middle class shows more concern about these issues (34.2 percent of respondents). Only one out of ten municipal officials perceived environmental issues as being of greatest concern to the upper class (6.2 percent of respondents) or the lower class (4.1 percent of respondents).

A majority of respondents (62.3 percent) felt the public is adequately informed about threats to the natural environment, while over one-third (36.3 percent) held the opinion that the public is rarely or never informed of these matters.

In response to the question, "do you think that industrialization can progress without increasing damage to the natural environment?", nearly two-thirds of municipal officials (60.3 percent) indicated affirmatively, approximately one-third (32.9 percent) indicated negatively, and 5.5 percent indicated they did not know.

## 4.5 PERCEPTIONS OF THE TERM "ENVIRONMENT"

To determine the degree to which the term "environment" evoked a common perception among senior elected Manitoba municipal officials, respondents were asked:

"When you think of the term 'environment', which of the following are included (check those that apply)?"

- |                                  |                          |
|----------------------------------|--------------------------|
| natural surroundings             | <input type="checkbox"/> |
| man-made structures              | <input type="checkbox"/> |
| economic and social institutions | <input type="checkbox"/> |

Municipal officials were divided in their perceptions of the term (Table 23). Approximately two out of 25 (8.3 percent) viewed environment as exclusive of natural surroundings, while over 90 percent included natural surroundings within their definition of the term.

Nearly half of municipal officials surveyed (47.3 percent) regarded the environment as being composed solely of natural surroundings, while approximately two out of ten (18.5 percent) included man-made structures with natural surroundings.

Economic and social institutions were a component of



TABLE 23  
 CONCEPTS INCLUDED  
 BY SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
 IN THE TERM "ENVIRONMENT", 1983

Concept	Percent of Respondents <sup>1</sup> (n = 146)
Natural surroundings only	47.3
Natural surroundings, man-made structures, and economic and social institutions	19.2
Natural surroundings and man-made structures	18.5
Natural surroundings and economic and social institutions	5.5
Man-made structures only	4.8
Economic and social institutions only	2.7
Man-made structures and economic and social institutions	1.4
No response	0.7

<sup>1</sup>Percentages do not total 100.0 due to rounding.

the environment, either in whole or in part, to approximately three out of ten respondents (28.8 percent).

Nearly one-fifth (19.2 percent) considered the environment included natural surroundings, man-made structures, and economic and social institutions.

#### 4.6 OPINIONS REGARDING THE ROLE OF GOVERNMENT IN ENVIRONMENTAL MATTERS

Views on the role of federal, provincial and municipal governments in environmental protection and management were provided by senior elected Manitoba municipal officials in this study. Respondents indicated who they felt should monitor the quality of the natural environment, which level of government had the greatest obligation to protect the natural environment, and which level had done the most in this regard (see section 4.6.1).

To determine the degree to which municipal officials recognized various government agencies concerned with environmental matters, respondents were offered a list of 11 federal and provincial organizations and asked to identify the level of government to which each was affiliated (see section 4.6.2).

Government funding for environmental protection,

strategic environmental planning by government, and the consideration given by government to the concerns of environmentalists and industry were the subject of questions offered to municipal officials in this study. Their opinions regarding a number of options available to government to attract industry to the Province were solicited (see section 4.6.3).

#### 4.6.1 ENVIRONMENTAL MONITORING AND PROTECTION

Most senior elected municipal officials felt that environmental quality should be monitored (Table 24); only 2.1 percent of mentions indicated that no one should monitor. The opinions of respondents were divided with regard to who should monitor the quality of the natural environment. Government was the most-often cited (58.2 percent of mentions), followed by environmental groups and independent agencies (23.3 percent of mentions each). Approximately one out of five responses (17.8 percent of mentions) favoured a role for individual citizens, while one out of seven responses (14.4 percent of mentions) indicated industry.

Over two-thirds of municipal officials (68.5 percent) felt that the greatest obligation to protect the natural environment rested with only one level of government. In

TABLE 24

OPINIONS OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
REGARDING WHO SHOULD MONITOR ENVIRONMENTAL QUALITY, 1983

---

Agent for Environmental Monitoring	Percent of Mentions
Government	58.2
Environmental groups	23.3
Independent agencies	23.3
Individual citizens	17.8
Industry	14.4
No one	2.1

---

contrast, 15.1 percent thought the obligation was shared between two government levels, and 11.6 percent indicated federal, provincial and municipal government responsibility (Table 25).

Respondents were not of one mind regarding which level of government had the greatest obligation to protect the natural environment. Nearly three out of ten municipal officials (28.8 percent) perceived the greatest environmental protection obligation to be vested with Manitoba's provincial government. Two out of ten respondents (20.5 percent) ascribed this role to the federal government, and another two out of ten (19.2 percent) felt municipal governments had the greatest obligation to protect the natural environment.

Over one-fifth of municipal officials (21.9 percent) indicated they did not know which level of government had done the most to protect the natural environment (Table 25). The environmental protection activities of the provincial and municipal governments were most-often noted by respondents (32.9 and 30.8 percent, respectively). In contrast, only one out of ten (11.0 percent) felt the federal government had done the most to protect the natural environment.

TABLE 25

OPINIONS OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
REGARDING RESPONSIBILITY FOR AND DEGREE OF ACTIVITY  
OF LEVELS OF GOVERNMENT IN ENVIRONMENTAL PROTECTION, 1983

Government Level(s)	Percent of Respondents (n = 146) <sup>1</sup>	
	Greatest Obligation To Protect	Done Most To Protect
Provincial government only	28.8	32.9
Federal government only	20.5	11.0
Municipal government only	19.2	30.8
Federal, provincial and municipal governments	11.6	1.4
Provincial and municipal governments	7.5	0.7
Federal and provincial governments	5.5	0
Federal and municipal governments	2.1	0
Don't know	3.4	21.9
Not stated	1.4	1.4

<sup>1</sup>Percentages may not total 100.0 due to rounding.

## 4.6.2 ENVIRONMENTAL AGENCY IDENTIFICATION

Senior elected Manitoba municipal officials were asked to indicate the level of government to which the following agencies belonged:

- Garrison Focus Office
- Inland Waters Directorate
- Emergency Planning
- Clean Environment Commission
- Environmental Protection Service
- Conservation Districts Authority
- Agricultural Lands Protection Board
- Environmental Conservation Service
- Environmental Management Services
- Atmospheric Environment Service
- Flood Forecasting Committee

Municipal officials recognized provincial agencies, particularly those concerned with local environmental issues, to a greater extent than federal agencies (Table 26). Seven out of ten respondents correctly identified the provincial government affiliation of the Flood Forecasting Committee (76.0 percent of respondents), the Agricultural Lands Protection Board (74.7 percent of respondents) and the Conservation Districts Authority (71.9 percent of respondents).

The Atmospheric Environment Service, which provides

TABLE 26

RECOGNITION BY SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
OF THE AFFILIATION OF 11 FEDERAL OR PROVINCIAL ENVIRONMENTAL AGENCIES, 1983

Government Agency	Level of Government <sup>2</sup>	Percent of Respondents (n = 146) <sup>1</sup>			
		Correct Affiliation Chosen	Incorrect Affiliation Chosen	Don't Know	No Response
Flood Forecasting Committee	P	76.0	14.3	2.7	6.8
Agricultural Lands Protection Board	P	74.7	13.0	5.5	6.8
Atmospheric Environment Service	F	73.3	8.3	8.2	10.3
Conservation Districts Authority	P	71.9	8.2	11.0	8.9
Clean Environment Commission	P	64.4	26.0	3.4	6.2
Garrison Focus Office	P	55.5	31.5	7.5	5.5
Inland Waters Directorate	F	50.7	24.0	15.8	9.6
Environmental Management Services	P	45.2	22.6	21.2	11.0
Emergency Planning	F	41.8	49.3	2.7	6.2
Environmental Protection Service	F	30.8	47.9	11.6	9.6
Environmental Conservation Service	F	21.9	43.2	24.7	10.3

<sup>1</sup>Percentages may not total 100.0 due to rounding.

<sup>2</sup>P = provincial and F = federal.



weather forecasting services across the Province, was correctly recognized as being a federal government agency by 73.3 percent of respondents. Over six out of ten municipal officials (64.4 percent) assigned the correct affiliation to the Clean Environment Commission, a provincial agency that conducts public hearings on local environmental issues across Manitoba.

The government affiliations of the provincial Garrison Focus Office and the federal Inland Waters Directorate were correctly identified by approximately half of municipal officials (55.5 and 50.7 percent, respectively). These agencies were concerned with the Garrison Diversion Project and related transboundary water quality and management issues. Respondent recognition of the Garrison Focus Office and the Inland Waters Directorate corresponds to the importance of these issues perceived by respondents in this study. The Garrison Diversion Project was one of the two provincial environmental problems of greatest importance to municipal officials surveyed (see Table 18, pages 90-91). Similarly, water pollution was one of two environmental problems of greatest importance to the home community of respondents (see Table 15, page 85).

Environmental Management Services, a branch of the Manitoba Department of Environment and Workplace Safety and

Health, was recognized by 45.2 percent of municipal officials surveyed. Another 21.2 percent indicated they did not know the government to which this agency belonged, and 11.0 percent did not respond.

Most municipal officials surveyed in this study felt they knew the government to which Emergency Planning was affiliated (only 2.7 percent indicated they did not know and 6.2 percent did not respond), but nearly half (49.3 percent) chose the wrong affiliation for the federal agency.

Of the 11 agencies presented to municipal officials to assign according to government affiliation, two branches of the federal Department of the Environment, the Environmental Protection Service and the Environmental Conservation Service, received the lowest recognition by respondents; 30.8 and 21.9 percent, respectively, correctly identified the affiliation of these agencies. Uncertainty among respondents with regard to government affiliation of these agencies and refusal to respond were also relatively high; 11.6 percent did not know and 9.6 percent did not respond to the Environmental Protection Service, and 24.7 percent did not know and 10.3 percent did not respond to the Environmental Conservation Service.

The Environmental Protection Service, from whom this

study was undertaken, and the Environmental Conservation Service were operational units of Environment Canada.<sup>1</sup> The Environmental Protection Service was responsible for implementing the federal government's environmental quality strategy in the areas of air pollution, water pollution, waste management, contaminants, environmental impact assessment and control, and environmental emergencies. The Environmental Conservation Service was responsible for inland waters, wildlife and lands under the authority of the federal Crown. The names of these two agencies are similar, and the names also closely resemble the Environmental Management Services, the provincial branch which received greater recognition by municipal officials in this study.

#### 4.6.3 FUNDING, STRATEGIC PLANNING AND CONSIDERATIONS

The majority of senior elected municipal officials (76.1 percent) felt that government should spend more money on protecting the natural environment. Approximately two out of ten (19.2 percent) disagreed. This level of support for increased government spending for environmental protection was similar to that expressed by the Manitoba public in 1982 (76.8 percent agreed and 17.7 percent disagreed).

Long-term strategic environmental planning by

government was not recognized by municipal officials; only 4.8 percent were of the opinion that there is a coherent, long-term government strategy for environmental conservation. The majority opinions were divided between two statements:

- (1) 43.2 percent felt that government had tried, with some success, to develop a long-term environmental strategy; while
- (2) 46.6 percent thought that government had no long-term environmental strategy, but only reacts to political pressures on an issue-by-issue basis.

Municipal officials were asked how often governments champion the goals of industry and the concerns of environmentalists when environmental issues are raised. Respondents generally perceived the frequency of government consideration of industry's perspective in environmental matters was appropriate; 46.6 percent indicated "often enough". In contrast, two out of ten municipal officials (20.5 percent) felt that consideration given by government to industry in environmental matters was not frequent enough, and a similar number of respondents (19.2 percent) held the opposite view that consideration was given by government "too often".

With regard to the frequency of government consideration of the concerns of environmentalists, the opinions of municipal officials were mixed; 34.9 percent felt consideration was given "often enough", 28.8 percent

thought "not often enough", and 22.6 percent indicated "too often".

From among five choices offered to municipal officials in this study, the most acceptable options to government to attract industry to the Province were viewed to be the building of transportation systems such as highways and railways (61.6 percent of respondents) and the offering of certain financial incentives such as grants or interest-free loans (50.0 percent of respondents) and tax concessions (49.3 percent of respondents). The economic incentive of reduced utility rates received mixed assessment by municipal officials; 39.0 percent were in favour, while 37.7 percent were opposed. Reduction in pollution control standards for industries locating in Manitoba was overwhelmingly rejected; 64.4 percent did not accept this option, and only 9.6 percent were willing to reduce pollution control standards for new industries in the Province.

#### 4.7 OPINIONS AND BEHAVIOUR REGARDING GOVERNMENT PUBLIC INVOLVEMENT PROGRAMS

This study solicited senior elected Manitoba municipal officials' perceptions about the level of public concern for environmental issues, suggestions to increase public concern, and attitudes about the effectiveness of public meetings to express the public's concern. The views of

municipal officials on whether the public should be more involved in environmental planning and decision-making by government and on effective forums for accomplishing this were requested. The opinions of municipal officials on government public involvement programs are discussed in section 4.7.1.

Municipal officials were asked if they had dealt with government about environmental issues, which government(s) and if they had attended a public hearing or meeting on environmental issues. A series of questions specifically about Environment Canada's annual public consultation meetings and its Policy for Public Consultation and Information Availability was presented to respondents. Section 4.7.2 details the results of questions regarding activities of senior elected municipal officials in government public involvement programs for environmental issues.

#### 4.7.1 OPINIONS ON GOVERNMENT PUBLIC INVOLVEMENT PROGRAMS

Over two-thirds of municipal officials (67.8 percent) felt the public is not as concerned as it ought to be about environmental issues. In contrast, one-fifth (19.2 percent) were satisfied with the level of public concern for these matters, and one-tenth (9.6 percent) indicated they did not

know.

The most-frequently mentioned methods identified by municipal officials to increase overall public concern about environmental issues were passive: education (26.7 percent of respondents) and information (22.6 percent of respondents). Only 4.1 percent expressed the opinion that public participation and citizen involvement would raise overall public concern for environmental matters.

Municipal officials generally concurred that, once public concern for environmental matters has been raised, public participation and citizen involvement are desired activities. Seven out of ten respondents (69.2 percent) felt that public meetings provide an effective forum for the expression of the public's environmental concerns. Additionally, most municipal officials (82.9 percent) thought the public should be more involved in environmental planning and decision-making undertaken by government.

Forums preferred by municipal officials for effectively increasing public involvement in government environmental policies and programs are shown in Table 27. Again, public information programs were favoured by a majority of respondents, and participatory activities such as public hearings and citizens' advisory committees received high

TABLE 27

OPINIONS OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS  
REGARDING EFFECTIVE WAYS TO INCREASE PUBLIC INVOLVEMENT  
IN ENVIRONMENTAL PLANNING AND DECISION-MAKING  
BY GOVERNMENT, 1983

Activity	Percent of Mentions
Public information programs	56.2
Public meetings and hearings	42.5
Citizens' advisory committees	42.5
Workshops and conferences	27.4
Neighbourhood planning councils	21.2
Citizen surveys	19.9
Environmental ombudsman	17.8
Hotlines	15.8
Citizen referendums	15.1
Drop-in centres	3.4



ratings (42.5 percent each).

#### 4.7.2 BEHAVIOUR IN GOVERNMENT PUBLIC INVOLVEMENT PROGRAMS

Over eight out of ten senior elected municipal officials (84.2 percent) indicated they had dealt with government concerning environmental issues.

Table 28 lists the governments with which respondents indicated they had interacted. The greatest number of municipal officials (74.0 percent) had environmental dealings with the Manitoba provincial government, alone or in combination with other governments. Nearly six out of ten (58.2 percent) had interacted with municipal governments, alone or in combination with other governments. In contrast, only 15.8 percent of respondents indicated they had dealt with the federal government on environmental matters; the majority of these municipal officials (13.7 percent) had interacted with the federal government in combination with municipal and provincial governments.

Over eight out of ten municipal officials (87.0 percent) also indicated they had attended a public meeting or hearing which concerned environmental issues such as the location of a new industry, new roads, pollution concerns or rezoning.

TABLE 28

GOVERNMENT(S) WITH WHICH  
 SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS INDICATED  
 THEY HAD DEALT REGARDING ENVIRONMENTAL ISSUES

Government(s)	Percent of Respondents (n = 146)
Municipal and provincial	32.9
Provincial only	26.0
Municipal, provincial and federal	13.7
Municipal only	11.6
Provincial and federal	1.4
Federal only	0.7
Municipal and federal	0
No government dealings or not stated	13.7

When asked if they had attended a public consultation meeting to discuss environmental concerns with representatives of Environment Canada, three out of ten municipal officials (34.2 percent) responded affirmatively. This finding does not conform with that reported above, namely that 15.8 percent of municipal officials reported they had dealt with the federal government on environmental matters.

The majority of municipal officials who reported they had attended an Environment Canada public consultation meeting felt departmental personnel were always or usually cooperative (32.9 percent of respondents) and always or usually well-informed (34.2 percent of respondents).

Awareness of Environment Canada's Policy for Public Consultation and Information Availability was low; 28.1 percent of municipal officials were aware of the Policy, while 69.2 percent were not.

#### 4.8 SOURCES OF ENVIRONMENTAL INFORMATION

Senior elected Manitoba municipal officials were asked to choose the environmental information sources they found most trustworthy and to indicate which of these sources they relied on most often. Respondents were also requested to

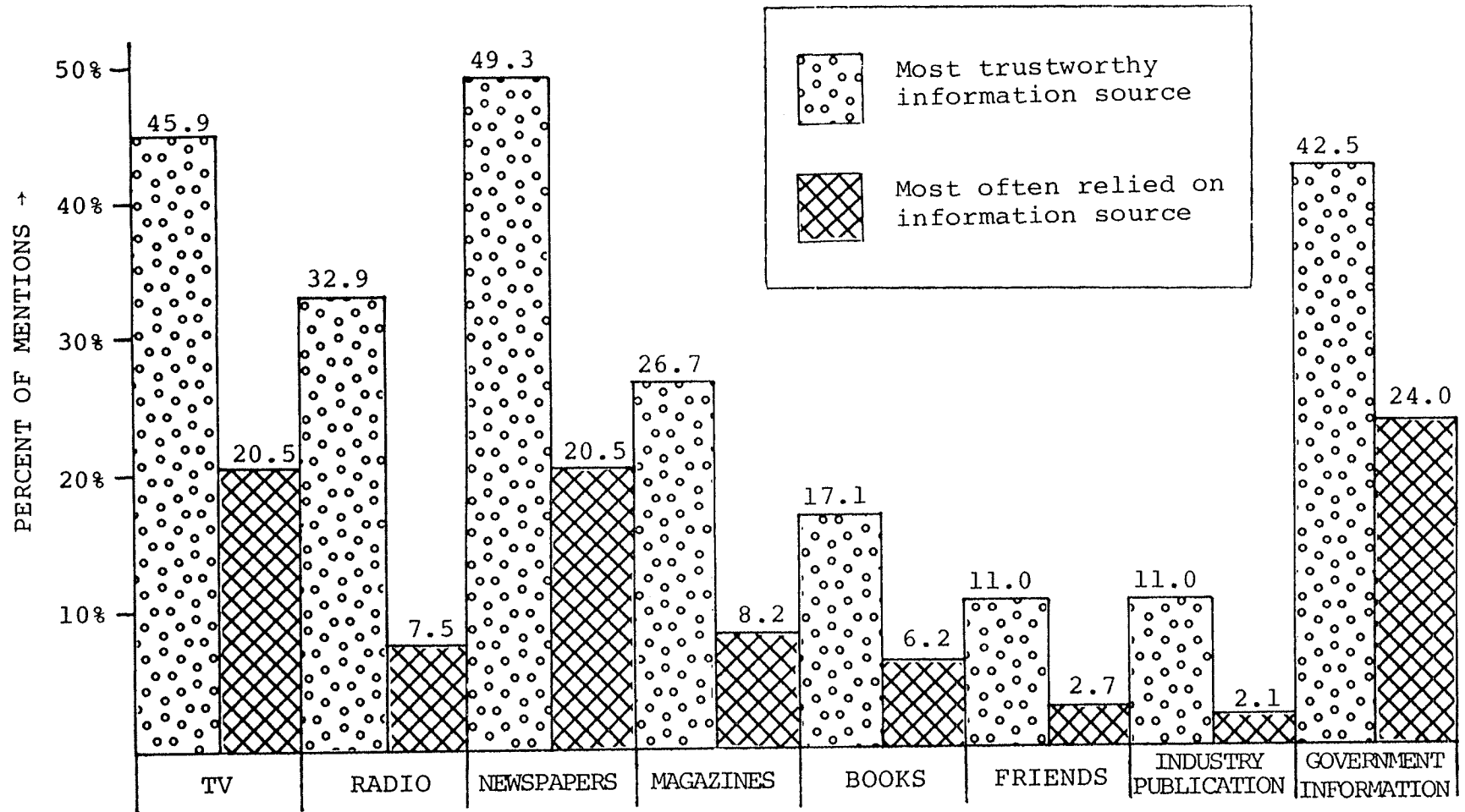
identify the best information source to consult for local environmental issues in their home community and for provincial environmental issues.

Figure 7 depicts the most trustworthy environmental information sources and those on which municipal officials indicated they relied. Friends and industry publications as sources of environmental information were not viewed by respondents as comparatively trustworthy, nor were these sources often used by respondents. Radio and magazines were identified by approximately three out of ten municipal officials (32.9 and 26.7 percent of mentions, respectively) as most trustworthy information sources, but these sources were not generally used by respondents for information on the environment.

Municipal officials reported they had most trust in environmental information from newspapers (49.3 percent of mentions), television (45.9 percent of mentions) and government (42.5 percent of mentions). Respondents indicated they most often relied on these same information sources, with government information receiving the highest rating.

Newspapers and government information were also selected by municipal officials as the best information

Figure 7. Most trustworthy environmental information sources and those most often relied on by senior elected Manitoba municipal officials, 1983.



sources to consult for local environmental issues (50.7 and 36.9 percent of mentions, respectively) and for provincial environmental issues (57.5 and 41.8 percent of mentions, respectively) (Table 29). Respondents indicated that television was a good source of information for provincial environmental issues (54.1 percent of mentions), while radio (28.8 percent of mentions) displaced television as a preferred information source for local environmental issues. The role of friends as an information source for local environmental issues was comparatively stronger than for provincial environmental issues.

TABLE 29

OPINIONS OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS ON BEST INFORMATION SOURCE  
TO CONSULT FOR LOCAL AND PROVINCIAL ENVIRONMENTAL ISSUES, 1983

Most Mentions	Environmental Information Source and Percent of Mentions			
	Local Environmental Issues		Provincial Environmental Issues	
1st	Newspapers	50.7	Newspapers	57.5
2nd	Government information	36.9	TV	54.1
3rd	Radio	28.8	Government information	41.8
4th	Friends	25.4	Radio	40.4
5th	TV	23.3	Friends	8.9
6th	Industry publications	4.8	Magazines	6.8
7th	Magazines	4.1	Industry publications	6.2
8th	Books	2.7	Books	2.1

CHAPTER 4 ENDNOTE

<sup>1</sup>Environment Canada. 1982. Departmental Strategic Plan.  
n.p., 27 pp.



## CHAPTER 5: SUMMARY AND CONCLUSIONS

This chapter summarizes the study's results relative to four hypotheses:

- (1) THAT elected municipal officials in Manitoba can be described as a cohesive group insofar as they exhibit uniform collective demographic characteristics (section 5.1);
- (2) THAT the environmental concerns and opinions of the general public recorded in province-wide opinion polls are shared by elected municipal officials (section 5.2);
- (3) THAT elected municipal officials as a group do not hold a common perception of the term "environment" (section 5.3); and
- (4) THAT the opinions of elected municipal officials about the role of government in environmental matters are diverse (section 5.4).

Conclusions based on these findings are provided.

#### 5.1 HYPOTHESIS 1

With regard to collective demographic characteristics, the majority of senior elected Manitoba municipal officials surveyed by this study in 1983:

- (a) were older middle-aged, English-speaking males with adult children;
- (b) lived in detached dwellings and were long-term residents of smaller communities of less than 10,000 inhabitants;
- (c) had not gone beyond elementary or secondary school to university or technical school;
- (d) had household incomes greater than \$30,000;
- (e) were interested in current political affairs, reported their knowledge of these affairs was average, and defined themselves politically in the centre and to the right of centre;
- (f) belonged to community and civic/service groups, associations and organizations; and
- (g) participated in year-round outdoor activities more than once a month.

As a group, however, municipal officials who responded to the questionnaire exhibited variation in age (27 to 79 years), education (elementary school to university graduation), and income (under \$10,000 to over \$45,000). It is not valid, therefore, to assume that senior elected Manitoba municipal officials had uniform collective

demographic characteristics. The influence of variation in age, education and income on environmental attitudes and perceptions warrants further investigation.

## 5.2 HYPOTHESIS 2

This study collected data on senior elected municipal officials' attitudes regarding the quality of life in Manitoba and on their opinions regarding specific local and provincial environmental issues. Many of the variables measured in this study were replicated in Manitoba public opinion polls, thus allowing comparison of results.

Municipal officials perceived the most important problems facing the Province in 1983 to be economic. Problems such as unemployment, the provincial debt, cost of living and interest rates, inflation and taxes were cited two-and-one-half times as often as environmental problems. These results parallel those from public opinion polling undertaken in Manitoba less than one year before this study.

The condition of Manitoba's natural environment received a positive assessment ranging from acceptable to very good from nearly nine out of ten municipal officials surveyed in 1983. Public opinion polling in 1982 and 1985 indicated similar results for all Manitobans.

Approximately 80 percent of municipal officials in 1983 regarded water pollution as an important local problem. In contrast, air pollution was somewhat or very important to over 40 percent of respondents. These results are consistent with those from public opinion surveys in 1982, 1985 and 1986 (water pollution) and in 1986 (air pollution).

A comparison of the opinions of municipal officials and the Manitoba public with regard to four provincial environmental issues (acid rain, sewage disposal, use of pesticides, and industrial emissions) revealed that municipal officials surveyed in 1983 placed a higher rating of importance on these issues than did the Manitobans surveyed in 1982 and 1986 (acid rain), in 1986 (sewage disposal), and in 1982 (use of pesticides and industrial emissions). The percentage of increase in assessment by municipal officials over the Manitoba public ranged from a low of 153 percent (industrial emissions) to a high of 247 percent (acid rain in 1982).

While a majority of municipal officials in 1983 were accepting of dangers associated with the transportation of hazardous chemicals, they were less willing to live near a hazardous waste disposal site. The Manitoba public surveyed in 1982 and 1985 held the opposite view; the public was comparatively more willing to live near a disposal site

than to tolerate dangers associated with transportation, particularly in the latter (1985) survey. This issue would benefit from additional study. Public opinion shifted between 1982 and 1985 toward greater willingness to live near a hazardous waste disposal site. Because of the significance of municipal officials in the local siting of such a site, their present opinions on the issue are important.

A majority of municipal officials agreed they did not know what pollution control standards existed in Manitoba in 1983, and they indicated they would like to know more about pollution control. These views accord generally with those of the Manitoba public in 1982. However, municipal officials defined themselves as relatively more knowledgeable about provincial pollution control standards than did Manitobans surveyed nine months before this study.

Municipal officials surveyed in 1983 and the Manitoba public surveyed in 1982 both expressed strong support for increased funding for environmental education in provincial schools.

The findings of this study confirm, in part, the hypothesis that environmental concerns and opinions of the general Manitoba public are shared by municipal officials.

Supporting results include the assessment of secondary importance to environmental matters relative to other issues, the importance of water and air pollution, and the need for increased funding for environmental education in schools.

Self-assessment of knowledge of and interest in provincial pollution control standards followed the same trend for both groups, but municipal officials expressed greater confidence in their knowledge of this issue than did Manitobans surveyed. Municipal officials also attributed greater importance to four specific environmental issues (acid rain, sewage disposal, the use of pesticides, and industrial emissions) than did the Manitoba public.

The views of municipal officials did not accord with the hypothesis with regard to hazardous materials transportation and disposal. Unlike other Manitobans, municipal officials preferred to move hazardous chemicals out of their local area rather than store them in their community.

This study compiled other data on environmental attitudes and perceptions of senior elected Manitoba municipal officials distinct from those that were collected in public opinion surveys. While these data are not presently useful for comparative purposes, they assist in

defining the environmental attitudes and perceptions of municipal officials in Manitoba and serve as a basis for future surveys.

Municipal officials were not optimistic about the condition of Manitoba's environment over time. A majority felt that environmental conditions in the Province had either worsened or remained the same in the ten-year period from 1973 to 1983. Only four out of 25 respondents thought Manitoba's environmental condition would improve between 1983 and 1993.

Manitoba's environmental condition in 1983 was generally viewed by those municipal officials who indicated an opinion regarding interprovincial comparisons (approximately two-thirds of respondents on average) as better than the environmental condition in Ontario, Quebec and British Columbia, as the same as in Saskatchewan, Alberta and the Atlantic provinces, and as worse than the northern environment in the Yukon and Northwest Territories.

Provincial environmental problems were of greater importance than local environmental problems to municipal officials surveyed. Of greatest importance provincially, in descending order, were the Garrison Diversion Project, hazardous waste spills, soil erosion, sewage disposal,

threats to Winnipeg's drinking water, urban expansion onto farmlands, and the use of pesticides. Environmental problems of greatest concern to municipal officials within their local community included loss of agricultural land and water pollution. Littering, mosquito control, and dutch elm disease were also of some importance locally.

Municipal officials did not share a common perspective on the effectiveness of conservation efforts to protect or enhance the natural environment, nor did they hold a single view regarding levels of pesticide use and agricultural crop production.

Approximately two-thirds of municipal officials:

- (a) felt that industry is guided by profit considerations and must be compelled to undertake measures to protect the environment;
- (b) expressed confidence in the continuation of industrial development without increased environmental damage; and
- (c) felt that the public is adequately informed about threats to the environment.

Municipal officials were of two opinions regarding social class concern for environmental issues; nearly five out of ten felt environmental concerns transcend class distinctions, while over three out of ten thought the middle class shows more concern about environmental issues than do other social classes.



Municipal officials felt nearly as threatened personally by possible risks from pollution as from crime or violence and from an automobile or airplane accident. Health risks from pollution were threatening to a greater number of municipal officials than were health risks from chemicals found in food.

### 5.3 HYPOTHESIS 3

The findings of this study substantiate the hypothesis that the term "environment" does not evoke a common perception among senior elected Manitoba municipal officials. Respondents were divided in their perceptions of the term, as follows:

- (a) Most, but not all, included natural surroundings within their definition of environment;
- (b) Nearly half regarded the environment as being composed solely of natural surroundings;
- (c) An additional two out of ten included man-made structures with natural surroundings;
- (d) Economic and social institutions were a component of the environment, either in whole or in part, to three out of ten respondents; and
- (e) Nearly one-fifth considered the environment included natural surroundings, man-made structures, and economic and social institutions.

#### 5.4 HYPOTHESIS 4

The fourth hypothesis, that the opinions of senior elected Manitoba municipal officials about the role of government in environmental matters are diverse, was not unconditionally substantiated by the study's findings. Individual respondent attitudes and perceptions regarding government's role and public involvement programs for environmental issues were generally consistent. However, responses were mixed with specific regard to four areas: the level of government with the greatest obligation to protect the environment, the development by government of a long-term environmental strategy, the consideration by government of the perspective of environmentalists, and the acceptability of reducing utility rates for industries locating in the Province. Recognition by municipal officials of the federal government's role in environmental matters was not strong, and few respondents had participated in federal government public involvement programs for environmental issues.

Most municipal officials felt that environmental quality should be monitored, and a majority perceived this to be a function for government.

Over two-thirds of municipal officials felt the

greatest obligation to protect the natural environment rested with only one level of government in Manitoba. Opinions on which of the three governments in the Province (municipal, provincial or federal) had the greatest obligation for environmental protection were divided among respondents, but the largest number felt the provincial government has the greatest obligation. In addition, nearly two out of ten elected municipal officials acknowledged a role for their government in environmental protection. A similar number identified the federal government as having an environmental protection responsibility.

As a corollary to these opinions, a majority of municipal officials thought the provincial government or municipal government had done the most to protect environmental quality in the Province. Over three out of ten felt municipal governments alone had done the most to protect Manitoba's natural environment, while only one out of ten highlighted the federal government's environmental protection efforts and activities.

Municipal officials recognized the names of provincial government environmental agencies, particularly those concerned with local issues, to a greater extent than federal government environmental agencies. Of the 11 agencies presented, the only provincial environmental

agency not recognized by a majority of respondents was Environmental Management Services. Respondents exhibited confusion as to the government affiliation of the federal Emergency Planning organization.

Two federal government agencies, Environmental Protection Service and Environmental Conservation Service, received the lowest recognition by municipal officials in this study. The names of these agencies, and of the provincial Environmental Management Services, are similar, a factor which may have contributed to uncertainty among respondents who were not familiar with the mandate of these organizations.

The majority of municipal officials felt government should spend more money on protecting the natural environment. This level of support for increased government funding for environmental protection was similar to that expressed by the Manitoba public nine months earlier in 1982.

The opinions of municipal officials regarding the development by government of a long-term environmental strategy were generally divided between those who thought that government had tried, with some success, to develop such a strategy, and those who perceived a lack of a

proactive government environmental plan and a reaction by government to political pressures on an issue-by-issue basis.

The frequency of consideration by government of industry's perspective on environmental matters was viewed by the greatest number of municipal officials as being appropriate, while a majority opinion regarding government consideration of the perspective of environmentalists was divided between "often enough" and "not often enough".

From among five choices offered to municipal officials, the most acceptable options to government to attract industry to the Province, in descending order, were the building of highways and railways, and the offering of the financial incentives of grants, interest-free loans and tax concessions. Reducing utility rates for industries locating in Manitoba received mixed reaction from municipal officials, while reducing pollution control standards was rejected.

The majority of municipal officials felt the public is not as concerned as it should be about environmental issues. Respondents expressed support for information and education programs to increase the public's concern for environmental matters.

Public participation and citizen involvement were not preferred by municipal officials as ways to foster public concern for environmental matters. The majority of respondents thought public participation and involvement were desired activities, however, once public concern for environmental issues had been raised.

Public hearings and meetings were viewed by municipal officials as an effective forum for the expression of the public's environmental concerns. Respondents strongly supported public involvement in environmental planning and decision-making by government. The most-frequently mentioned ways chosen by municipal officials to accomplish this were public information programs, public hearings, and citizens' advisory committees.

The majority of municipal officials had dealt with provincial and municipal governments concerning environmental matters, and had attended a public meeting or hearing for specific environmental issues such as the location of a new industry, new roads, pollution concerns or rezoning.

Participation by municipal officials in interactions with the federal government regarding environmental issues was comparatively low, and most respondents were not aware

of Environment Canada's Policy for Public Consultation and Information Availability. Only one-third had attended an Environment Canada public consultation meeting; those that had attended indicated they found departmental staff to be cooperative and well-informed.

## 5.5 OVERVIEW

This study determined that senior elected Manitoba municipal officials had a strong interest in environmental matters in 1983. Response rate for the questionnaire indicated this interest was as substantial as that exhibited by environmentally active individuals during the same period.

Like Manitobans surveyed in a public opinion poll nine months before this study, municipal officials perceived environmental issues as having secondary importance to economic and social issues in 1983. Possible risks associated with pollution were nearly as threatening as crime/violence or an automobile/airplane accident.

Municipal officials viewed environmental conditions in the Province in 1983 in a positive manner, but they were generally pessimistic about historic and future improvements. They expressed optimism that industrialization

could proceed without increased damage to the environment, but were not prepared to lower pollution control standards in Manitoba to attract industries to locate in the Province. They were of the opinion that industry is profit-motivated and must be compelled to take measures to protect the environment.

The majority of municipal officials looked to government to monitor and to protect the condition of Manitoba's natural environment. They felt the provincial and municipal governments had done the most to protect the environment, and supported increased government spending to accomplish this.

The majority of municipal officials felt the public in 1983 was not as concerned as it should be about environmental issues, but they felt the public usually received adequate information about threats to the environment. The majority of respondents thought that more money should be spent on environmental education in schools.

Municipal officials strongly supported public involvement in environmental planning and decision-making by government and were of the opinion that government had yet to formulate and implement a coherent, long-term environmental conservation strategy.



This study found that "environment" did not mean the same thing to all municipal officials. While most included natural surroundings as a component of the environment, others also added man-made structures, or economic and social institutions, or both.

Most municipal officials had participated in public meetings or hearings dealing with environmental issues. They exhibited a well-developed knowledge of government agencies involved in environmental matters insofar as they correctly identified the government affiliation of a range of agencies, particularly provincial ones.

The federal government fared poorly in terms of recognition of its environmental policies and programs by municipal officials and in terms of acknowledgement by respondents of federal government efforts to protect or enhance the environment in Manitoba.

Municipal officials in 1983 were not a cohesive group vis-a-vis significant descriptive characteristics (age, education and income), but they expressed a number of majority opinions on a range of important environmental issues. The majority opinions of municipal officials recorded in this study either paralleled public opinion on the issue or went beyond public opinion in assessing the

importance of environmental issues to the Province. In one area sampled by this study, the majority opinion of municipal officials was contrary to public opinion.

The influence of opinion polls can be easily overstated, and it is misleading to assume that one poll, in and of itself, can be interpreted as a binding referendum on an issue or as a primary basis for public policy making. A properly conducted opinion survey can indicate the general feelings of a population. Polls communicate the importance people attach to issues and the general public policy direction they wish to be pursued. Survey results are most-helpful in establishing the points to be negotiated and resolved as public policies are developed.

## CHAPTER 6: RECENT DEVELOPMENTS AND RECOMMENDATIONS

This chapter provides recommendations which derive from this study and place it within evolving environmental initiatives in the Province. The recommendations are directed to federal, provincial and municipal governments in Manitoba.

### 6.1 ENVIRONMENTAL ISSUES FROM 1983 TO THE PRESENT

Since this study's questionnaire was circulated among senior elected Manitoba municipal officials, there has been a marked shift in public opinion regarding environmental issues.<sup>1</sup> The environment was an important concern to Manitobans in 1982, but public opinion at that time differentiated between economic issues, which were of primary importance, and environmental issues.<sup>2</sup> The 1983 attitudes and perceptions of municipal officials with regard to these issues conformed to 1982 public opinion. Only three out of ten Manitoba Reeves and Mayors in 1983 recognized economic institutions as a component of the environment.

Three years later in 1986, strong public support for government recognition of the interaction of the environment and the economy was recorded in Manitoba.<sup>3</sup> This was congruous with Canadian public opinion; the prevailing Canadian attitude in 1986 was unwilling to sacrifice the environment for economic gain, and over 90 percent of Canadians rejected the argument that environmental laws must be relaxed to achieve economic growth.<sup>4</sup>

The strength of this acknowledgement by Manitobans and other Canadians of a linkage between environmental protection and economic development was expressed at a time when the United Nations' World Commission on Environment and Development (the Brundtland Commission) visited Canada.<sup>5</sup> The Commission's mandate to propose long-term environmental strategies for achieving sustainable development by the year 2000 encountered a receptive audience in Manitoba, which assumed a subsequent lead role in the Canadian Council of Resource and Environment Ministers' National Task Force on Environment and Economy.

Final report from the National Task Force was tabled in 1987.<sup>6</sup> Public opinion polling across Canada in the summer of 1988 recorded sustained support for environmental protection when weighed against possible economic factors such as loss of jobs.<sup>7</sup> In September 1988, Canada's Prime

Minister, in a presentation before the United Nations General Assembly, announced that an international centre for sustainable development would be established in Winnipeg.<sup>8</sup>

The Government of Manitoba during the period from 1986 to the present has moved toward integration of environmental and economic issues, encouraged, in part, by increased citizen support and a sense of public sector confidence in entrenching environment-economic linkages in policy implementation processes in the Province.

Recognition by federal politicians of the importance placed by constituents on both environmental issues and on the relationship between the environment and the economy appeared to be a strategic factor in the 1988 federal election.<sup>9</sup> Earlier that year, a new Canadian Environmental Protection Act was passed, which, among other things, provided for sizeable economic sanctions and penalties and fostered public participation in environmental matters.<sup>10</sup> The statute recognized inter-governmental collaboration through the requirement for a federal-provincial advisory committee.

The evolution of Canadian environmental opinions in recent years is mirrored by trends in the United States. A Harris Survey in 1986 reported a growing unrest among the

American electorate regarding government inaction to remedy serious environmental problems.<sup>11</sup> Commenting on this survey, pollster Louis Harris calculated:

"... in our latest study among voters, we did an analysis of the bite or cut of the environmental issue. All told, 16% of the electorate this year say the environment is an issue that will make a big difference to them.... How does this vote divide between those who are pro the environmental movement and those who are anti? In total, 11% are pro and 5% are anti. This means that the net impact of the environmental issue is that it can account for a swing of 6% in this fall's vote. That means in turn that it can turn a 56-44% runaway vote into a 50-50 vote or it can turn a 50-50% vote into a 56-44% landslide victory. By any measure, this environmental vote is crucial and decisive."<sup>12</sup>

Two years later, in a departure from its tradition of naming a "Man of the Year", TIME Magazine designated "Endangered Earth" as "Planet of the Year" for 1988:

"... this year's bout of freakish weather and environmental horror stories seemed to act as a powerful catalyst for worldwide public opinion. Everyone suddenly sensed that this gyrating globe, this precious repository of all the life that we know of, was in danger. No single individual, no event, no movement captured imaginations or dominated headlines more than the clump of rock and soil and water and air that is our common home."<sup>13</sup>

## 6.2 STRATEGIC ENVIRONMENTAL OPTIONS FOR GOVERNMENT

Implementation of public policy for environmental decision-making at present relies on the historic processes

of public hearings and meetings. During the two decades that public hearings and meetings have been undertaken by the federal and provincial governments, the feeling among some participants coalesced to the point of articulation that:

"While these [public hearings and meetings] often are useful in disseminating information and receiving input on a potentially large scale, they cannot be considered as interactive mechanisms per se. Public hearings provide a means by which issues and conflicts can be clarified. Somewhat paradoxically, however, their success as a means of encouraging participation becomes a weakness since they essentially prevent any opportunity for citizen interests or public or corporate officials to engage in joint problem solving and work toward acceptable compromises."<sup>14</sup>

A difficulty associated with public hearings and meetings on environmental matters is the determination of the representativeness of viewpoints offered to government decision-makers. Ascertaining the degree to which attendees speak for others is a difficult process, one that appears to have not been explored extensively. There are, however, indications in the literature that the point-of-view promulgated by vested interest groups may not be completely representative in all cases. For example, Call reports substantially different opinions from local citizens attending an environmental hearing and those contacted randomly via telephone survey with regard to arsenic emissions from a copper smelter.<sup>15</sup> He concludes that

opinions of small, self-selected samples (such as attendees at public hearings) may not be representative of the opinions of the entire interested population.

Call's findings are confirmed by proponents of a Consultative Issues Management program, offered as a public policy strategy for dealing with organized interest groups.<sup>16</sup> Noteworthy points on which this program is based include:

- (a) Interest groups often claim to speak for the community at large, not only for their members.
- (b) They often speak as authorities in an area (e.g., environmental groups as experts on environmental issues).
- (c) Interest groups arise in response to actions by government, and such groups seek to gain, prevent or otherwise influence specific government actions.
- (d) Interest groups are, at least implicitly, in competition with other interest groups. These competitions are seldom joined in direct dealings between interest groups.
- (e) Competing interest groups work by applying pressures at the political level. Governments increasingly find themselves responding to interest group pressures, rather than carrying out their own strategies and agendas. They concern themselves with addressing interest groups on ground selected and defined by the interest groups critical to the party in power.
- (f) Interest group pressures are normally most intense at the provincial level, because of the greater responsibility for direct service delivery held by the provinces and because provincial governments are less remote than the federal authority.



- (g) The major error governments make in dealing with interest groups is to utilize only one-on-one contacts. This allows the group to be narrowly defined and forces government to attempt to speak for all other interests.

In Manitoba, public policy for environmental decision-making is evolving beyond public hearings and meetings to incorporate a second strategic option, negotiation and consensus building among involved and affected parties (sometimes referred to as "stakeholders"). The Province's new Environment Act specifically provides for mediation of environmental disputes, either through the efforts of the Clean Environment Commission or by ministerial appointment of an environmental mediator.<sup>17</sup>

Manitoba's statute does not define mediation, and its mediation provisions are not known to have been invoked as yet. Mediation is a conflict management technique commonly associated with labour disputes. Environmental mediation is a dispute resolution process characterized by the involvement of a neutral third party, variously called a mediator or a facilitator. The Institute for Environmental Mediation in Seattle, Washington suggests a definition, based on its experience with the process:

"Environmental Mediation is a voluntary process in which those involved in dispute jointly explore and reconcile their differences. The mediator has no authority to impose settlement. His or her strength

lies in the ability to assist the parties in resolving their own differences. The mediated dispute is settled when the parties themselves reach what they consider to be a workable solution."<sup>18</sup>

Environmental mediation has five criteria which must be met if a dispute is to have potential for resolution by mediation:<sup>19</sup>

- (1) All parties who have a stake in the outcome of the negotiations or who could prevent an agreement from being carried out must be identified and included.
- (2) All parties must be willing to enter into mediation in good faith.
- (3) The mediator must have the complete trust and confidence of all parties to the dispute, and he or she must be financially independent of all interests in the dispute.
- (4) Government authorities must provide reasonable assurances that they will cooperate with the mediation process. Regulatory agencies may not want to participate in the mediation process, for fear of compromising their statutory obligations. In such instances, the mediator will have to maintain close communication with government agencies to ensure their requirements are met by any agreement. Support from the senior government politician for the mediation effort is important in this regard.
- (5) The issues under dispute must be amenable to a compromise solution. This usually means that the dispute does not centre on differences of value systems, but on differences of interpretation of fact.

Canadian experience with environmental mediation indicates that each must start with a concession in favour of development.<sup>20</sup> A position which advocates that there be no development is not capable of compromise. If an interest

group agrees to participate in mediation of an environmental dispute, therefore, it also agrees that there will be consideration of both economic and environmental factors.

A third strategic option for environmental decision-making is presently being implemented in Manitoba. The Province has established a 16-member Round Table on the Environment and Economy.<sup>21</sup> As recommended by the Canadian Council of Resource and Environment Ministers' National Task Force on Environment and Economy, provincial round tables are intended to provide a forum at which senior decision-makers can meet to discuss environmental-economic issues, to work toward consensus, and to make recommendations directly to provincial premiers.<sup>22</sup> The National Task Force proposed that round table membership be drawn from governments, industry, environmental organizations, labour, academia, and aboriginal peoples.

The Winnipeg Centre for Sustainable Development mentioned earlier represents a fourth potential strategic option for environmental decision-making in the Province. Comprehensive plans for this facility have yet to be publicly released, but preliminary reports indicate the Centre's objectives will have regional and international components:<sup>23</sup>

- (a) to develop environmentally sound strategies for Manitoba, Saskatchewan, Alberta and British Columbia as they diversify their economies; and
- (b) to help Third World countries develop industrially, with special regard for their regional environments.

Planning for the Winnipeg Centre for Sustainable Development is being undertaken by a federal-provincial steering committee. The local media have reported that funding for the Centre's international projects in an initial amount of \$5M will be provided by the federal government.<sup>24</sup> The four western provinces, the private sector and the United Nations environment program are also expected to contribute to the Centre's financial support. The Centre will be a non-profit corporation, concerned with education, research and development.<sup>25</sup>

Sustainable economic development, as defined by the National Task Force, is "development which ensures that the utilization of resources and the environment today does not damage prospects for their use by future generations".<sup>26</sup> It is a proactive, preventive strategy, based on forethought and integration of economic and environmental factors during planning and decision-making, thus alleviating the need for subsequent reactive, remedial actions to mitigate or reverse environmental problems. Implementation of sustainable economic development will require pervasive institutional changes within the public and private sectors.<sup>27</sup>

### 6.3 RECOMMENDATIONS FOR A ROLE FOR MUNICIPAL GOVERNMENT

This study of the environmental attitudes and perceptions of Manitoba Reeves and Mayors was predicated on the fact that municipal government is an important, third-order government body, which is or should be an effective force for adopting and ensuring adherence to environmental standards and for entering into collaborative dialogue with the provincial and federal governments to resolve environmental problems.

Senior municipal officials, as a group of elected representatives and as individual communicators for their constituents, have a key role to play in environmental protection in Manitoba. The municipal perspective is integral to the success of environmental hearings and meetings, mediation efforts and sustainable economic development.

Manitoba's Reeves and Mayors are well positioned to speak of local environmental opinions and needs at public hearings and meetings; to participate with other involved or affected groups in environmental negotiation and consensus building; to recommend environmental-economic strategies designed during round table discussions involving them; and to plan and carry out sustainable development

across the Province. Elected municipal officials are the locally based link between the Manitobans they represent, and comparatively more distant provincial and federal government decision-makers.

Senior elected Manitoba municipal officials surveyed in 1983 expressed a strong interest in environmental issues and advocated solid support for public involvement in environmental planning and decision-making. Most had participated in local or provincial public hearings or meetings dealing with environmental matters, and were familiar with the names of government environmental agencies, particularly provincial agencies. The findings from this study assist in defining the historic agenda of senior elected municipal officials in environmental issues as at 1983. The degree to which these findings are currently relevant, however, is not known.

It is recommended that a survey of present environmental attitudes and perceptions of senior elected Manitoba municipal officials be undertaken. Because Manitoba Reeves and Mayors surveyed in 1983 expressed greater interest in, knowledge of and concern for provincial environmental issues, this recommendation is directed to the provincial government in Manitoba.

In light of recorded shifts in public opinion about environmental issues, a follow-up survey among senior elected municipal officials should concentrate on measuring variables concerned with both the importance of environmental issues and the interaction of these issues with economic issues. Six years ago, Manitoba Reeves and Mayors viewed environmental issues as secondary to economic issues, and only one-third perceived economic institutions as being part of environmental concepts. In their optimism that industrialization could proceed in Manitoba without increased environmental damage, however, senior elected municipal officials were not prepared to lower pollution standards to attract industry to the Province.

Results from a follow-up survey of the environmental attitudes and perceptions of Manitoba Reeves and Mayors would assist the provincial government in ensuring future public hearings and meetings include municipal and local government representatives in areas of particular concern to these groups.

The findings of the present study, as well as those from possible future surveys, are of direct interest to senior elected Manitoba municipal officials. It is recommended that these individuals and their associations (the Union of Manitoba Municipalities and the Manitoba

Association of Urban Municipalities) be consulted and apprised relative to the environmental attitudes and perceptions recorded in this and future studies.

As the Province moves to implement environmental mediation and integration of economic and environmental considerations, the Union of Manitoba Municipalities and the Manitoba Association of Urban Municipalities, and their respective members, would strategically benefit from knowing about the results of this and follow-up studies. Armed with knowledge of individual and collective views of senior elected municipal officials and of how these views may have changed over time, these associations could act to ensure that:

- (a) regional differences in environmental attitudes are recognized and the local importance of these differences is communicated;
- (b) a united front is presented to senior governments through the consolidation of environmental views whenever possible; and
- (c) a proactive role in site-specific mediation efforts and in planning and implementing sustainable economic development across the Province is assumed.

Municipalities and local government districts in Manitoba have a significant contribution to make to provincial round table discussions on environmental issues. If these groups have not already been invited to the table, it is recommended they be added at the earliest opportunity.



To ensure that round table agendas and planning and implementation of sustainable development are effective pan-provincial initiatives, it is recommended that senior policy planners and decision-makers in the provincial government establish a prominent role for the municipal perspective. The Departments of Municipal Affairs, and Environment and Workplace Safety and Health should develop communication linkages for information sharing at all levels.

The Centre for Sustainable Development, particularly through its planned activities to develop environmentally sound strategies for the western provinces, will benefit municipalities and local government districts in Manitoba. In turn, municipal governments can assist the Centre in identifying appropriate regional strategies and in testing technological applications.

Based on the results of this study and on statutory and public policy changes in the environmental area over the last few years, there does not appear to be a rationale for strengthening municipal-federal government liaison. It is recommended, however, that the federal government target its environmental information and education programs (e.g., annual Environment Week) to reach municipalities and local government districts and their constituents in Manitoba.

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- <sup>16</sup>Anonymous. n.d. "Consultative Issues Management: A Proven Approach to the Political Management of Special Interest Groups." n.p., 14 pp.
- <sup>17</sup>The Environment Act (C.C.S.M. c. E125), subsection 3(3) and section 6.
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APPENDICES

APPENDIX A  
INFORMATION SHEET ON STUDY TEAM

MANITOBA  
ENVIRONMENTAL  
PERCEPTIONS

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I N F O R M A T I O N   S H E E T

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SUITE 800 • 275 PORTAGE AVENUE • WINNIPEG, MANITOBA R3B 2B3 • (204) 949-4397

Manitoba Environmental Perceptions is a 1983 Summer Canada Project sponsored by the Environmental Protection Service in Manitoba. Its purpose is to survey government officials in Manitoba to assess their awareness of and concern for environmental issues. The project will attempt to determine which informational sources are consulted most often for environmental issues, and how respondents feel about the effectiveness of governments in addressing these issues. Project results will be of interest to government policy makers.

The project is being designed and administered by a five-person, multidisciplinary team.\* The research team consists of Jane Riewe, Project Manager, and David Breckman, Douglas Henson, Maureen MacDonald and Paul Vogt, Researchers. All are students pursuing post-graduate studies.

Ms. Riewe is completing the requirements for a Masters of Natural Resources Management at the University of Manitoba. She has undergraduate training in anthropology, ecology, geology and mathematics, and previous work experience in public information, biological consulting and business administration.

Mr. Breckman has a Bachelor of Science degree in Zoology from the University of Manitoba. His training includes courses in ecology and pollution biology, and work experience in survey research and computer usage. He plans to enter medical school this fall.

Mr. Henson is completing an honours degree in Computer Science at the University of Toronto. He has a strong mathematics background, and work experience in natural resources management, computer user services and programming.

Ms. MacDonald has a Bachelor of Laws and a Bachelor of Arts in Sociology and Psychology from the University of Manitoba. Her related work experience includes journalism, Legal Aid, and research for the Federal Department of Justice. Ms. MacDonald will begin a Masters in Business Administration this fall.

Mr. Vogt holds an honours degree in Political Studies from the University of Manitoba. His work experience includes public relations, journalism and teaching. Mr. Vogt will continue his studies in political studies this fall at Oxford University in England under a Rhodes Scholarship.

Further information on Manitoba Environmental Perceptions can be obtained from the research group at the above address.

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\*A sixth member, Bruce Reimer, joined the study team in mid-summer. Mr. Reimer holds a Certificate in Commercial Art from Red River Community College, and is a graduate from the Faculty of Fine Arts at the University of Manitoba. His graduate studies begin this fall.

APPENDIX B  
QUESTIONNAIRE

We would first like to ask you some questions to determine how you have formulated your opinions on the environment.

1. What is the population of the community in which you live?

- 50,000 or more
- 10,000 - 49,999
- 1,000 - 9,999
- 100 - 999
- less than 100
- farm

2. Approximately how long have you lived in your present community?

\_\_\_\_\_ years

3. What size of community did you grow up in?

- 50,000 or more
- 10,000 - 49,999
- 1,000 - 9,999
- 100 - 999
- less than 100
- farm

4. What type of dwelling do you live in?

- house
- apartment
- mobile home
- other (please specify) \_\_\_\_\_

5. Do you have regular use of a car?

Yes  No

6. Do you make use of a bicycle?

Yes  No

7. Do you maintain a garden?

Yes  No

8. What is the highest level of education that you have obtained?

Elementary (up to grade 8)

Secondary (grades 9-12)

Some university

Some technical school

University degree

Technical school diploma

Other (please specify) \_\_\_\_\_

9. Is English your first language?

Yes  No  If no, what is your mother tongue?

\_\_\_\_\_

10. During the warm weather months, how often do you participate in outdoor activities (such as camping, hiking, bicycling, baseball and fishing, to name a few)?

Not at all

A few times a year

About once a month

About 2 to 3 times a month

About once a week

About 2 to 3 times a week

Daily

11. a) Do you participate in outdoor activities during the cold weather months?

Yes

No

b) If yes, how often?

A few times a year

About once a month

About 2 to 3 times a month

About once a week

About 2 to 3 times a week

Daily

12. a) Are you interested in current political affairs?

Yes

No

b) Do you consider yourself knowledgeable about current political affairs?

Above average

Average

Below average

c) Where would you place yourself on the political spectrum?

LEFT 

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 RIGHT

13. What are your main sources of information about current political affairs (such as TV, radio, newspapers, magazines, books, friends, political party literature)?

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14. What groups or associations do you belong to (for example, union, community organization, professional association, environmental interest group)?

None  or please specify: \_\_\_\_\_

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15. a) What sources have you found most trustworthy for information on the environment (check those that apply)?

- TV
- Radio
- Newspapers
- Magazines
- Books
- Friends
- Industry publications
- Government information
- Other (please specify) \_\_\_\_\_

b) Which one of these sources of environmental information do you rely on most often (please specify)?

---

16. a) Have you ever had dealings with a branch of government concerning environmental issues?

Yes  No

b) If so, what branches?

- Municipal government
- Provincial government
- Federal government



17. Have you ever attended a public meeting or hearing which dealt with environmental issues (such as location of a new industry, new roads, pollution concerns, rezoning)?

Yes

No

18. When you think of the term "environment", which of the following are included (check those that apply)?

Natural surroundings

Man-made structures

Economic and social institutions

\* \* \* \* \*

In the following section, we would like to ask you a few questions about your views on a number of issues related to the quality of life here in Manitoba.

19. Judging by your own experience, or by what you read or hear, what do you think are two or three of the most important problems facing Manitoba today?

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20. Considering the following issues in the context of Manitoba:

- A. Alcohol/drug abuse
- B. Pollution
- C. State of the economy
- D. Women's rights
- E. Racial prejudice
- F. Worker's health and safety

a) Which one is of GREATEST concern to you personally?

Enter choice by letter \_\_\_\_\_

b) Which is of SECOND GREATEST concern to you personally?

Enter choice by letter \_\_\_\_\_

c) Which is of LEAST concern to you personally?

Enter choice by letter \_\_\_\_\_

21. a) If all Manitobans were polled, which of these issues do you think would be of greatest concern to them?

Enter choice by letter \_\_\_\_\_

- A. Alcohol/drug abuse
- B. Pollution
- C. State of the economy
- D. Women's rights
- E. Racial prejudice
- F. Worker's health and safety

b) Which would be of SECOND GREATEST concern to Manitobans?

Enter choice by letter \_\_\_\_\_

c) Which would be of LEAST concern to Manitobans?

Enter choice by letter \_\_\_\_\_

22. Considering the following dangers to humans:

- A. Health risks caused by environmental pollution
- B. Crime/violence
- C. Possibility of automobile/airplane accident
- D. Health risks caused by chemicals found in food
- E. Possibility of accident at work

a) Which one do you feel MOST THREATENED by?

Enter choice by letter \_\_\_\_\_

b) Which one do you feel SECOND MOST threatened by?

Enter choice by letter \_\_\_\_\_

c) Which one do you feel LEAST threatened by?

Enter choice by letter \_\_\_\_\_

\* \* \* \* \*

In the following section, we would like to know how you feel about environmental issues and which sources of information about these issues you have found most helpful.

23. How would you rate the condition of Manitoba's natural environment right now?

Very good

Good

Acceptable

Poor

Very poor

24. Thinking in terms of the quality of our natural environment, rate the following regions as better, the same, or worse than Manitoba.

	BETTER	SAME	WORSE	DON'T KNOW
Saskatchewan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alberta	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
British Columbia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ontario	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quebec	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Atlantic provinces (New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The North (Yukon and Northwest Territories)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. a) Still thinking about the quality of Manitoba's natural environment, would you say we are better off, about the same, or worse than we were 10 years ago (about the time of the oil crisis)?

Better  Same  Worse  Don't know

b) Compared with today, what do you think the quality of Manitoba's natural environment will be 10 years from now?

Better  Same  Worse  Don't know

26. In your opinion, who should monitor the quality of the natural environment?

- Government
- Industry
- Environmental groups
- Individual citizens
- Independent agencies
- No one

27. a) Below is a list of LOCAL environmental problems. Thinking in terms of your home community, indicate which you consider very important, of some importance, of little importance, and unimportant.

	VERY IMPORTANT	OF SOME IMPORTANCE	OF LITTLE IMPORTANCE	UN- IMPORTANT
Noise pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dutch elm disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mosquito control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of green space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Littering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of agricultural land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) What local environmental problems, not listed above, do you feel are also very important in your home community?

None  or please specify: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c) Which source is generally the best to consult for information regarding local environmental issues in your home community?

TV

Radio

Newspapers

Magazines

Books

Friends

Government pamphlets

Industry publications

Other (please specify) \_\_\_\_\_

28. a) Moving now to the PROVINCIAL level, and thinking in terms of Manitoba, how would you rate the following environmental problems?

	VERY IMPORTANT	OF SOME IMPORTANCE	OF LITTLE IMPORTANCE	UNIMPORTANT
Proposed Garrison Diversion Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threats to Winnipeg's drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proposed nuclear laboratory at Lac du Bonnet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overhunting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workplace hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acid rain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urban expansion onto farmlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewage disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous waste spills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydro development in northern Manitoba	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) In your opinion, what provincial environmental problems, not listed above, are also very important in Manitoba?

None  or please specify: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c) What is generally the best source of information regarding provincial environmental issues?

TV	<input type="checkbox"/>
Radio	<input type="checkbox"/>
Newspapers	<input type="checkbox"/>
Magazines	<input type="checkbox"/>
Books	<input type="checkbox"/>
Friends	<input type="checkbox"/>
Government pamphlets	<input type="checkbox"/>
Industry publications	<input type="checkbox"/>
Other (please specify)	_____

29. Please indicate your opinion on the following statements.

	STRONGLY AGREE	MODERATELY AGREE	MODERATELY DISAGREE	STRONGLY DISAGREE	NO OPINION
A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't really know what pollution control standards exist in Manitoba.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government should spend more money on protecting the natural environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More money should be spent on environmental education in our schools.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A disposal site for hazardous wastes would be acceptable near my community if it was continually monitored.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would like to know more about pollution control in Manitoba.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. Who do you feel is most to blame for environmental pollution (please check one)?

Individual consumers	<input type="checkbox"/>
Small enterprises (such as farming, fishing, manufacturing)	<input type="checkbox"/>
Large industry	<input type="checkbox"/>
Politicians	<input type="checkbox"/>
Civil Servants	<input type="checkbox"/>
No one is to blame more than anyone else	<input type="checkbox"/>
Other (please specify) _____	

31. Which of the statements below best reflects your appraisal of present environmental conservation efforts (such things as hunting quotas, parks programs, emission standards, reforestation, recycling)?

(Check one)

Conservation efforts will enhance the present quality of the natural environment.	<input type="checkbox"/>
Conservation efforts are sufficient to protect the present quality of the natural environment.	<input type="checkbox"/>
Conservation efforts are not sufficient to protect the present quality of the natural environment.	<input type="checkbox"/>

32. When environmental concerns are raised, how often do governments champion:

	T O O O F T E N	O F T E N E N O U G H	N O T O F T E N E N O U G H
. . . the goals of industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
. . . the concerns of environmentalists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



33. From the following sets of statements, select those which most nearly agree with your own views.

(Check one)

- a) We must substantially reduce the agricultural use of pesticides, even if this affects crop production.

Crop production and pesticide use should be held at current levels.

Crop production must be increased, even if that means an increase in the use of pesticides.

(Check one)

- b) All of Manitoba's lakes and rivers should be clean enough to swim in, regardless of cost.

It would be all right if most Manitoba lakes and rivers were clean enough to swim in.

It would be acceptable if only lakes and rivers in recreational areas were clean enough to swim in.

(Check one)

- c) Industry is guided by its sense of responsibility in taking measures to protect the natural environment.

Industry is sensitive to public concerns, and will act to protect the natural environment if costs are low.

Industry is guided only by its desire for profit, and must be compelled to take measures to protect the natural environment.

(Check one)

- d) Government has a coherent, long-term strategy for environmental conservation.

Government has tried (with some success) to develop a long-term environmental strategy.

Government has no long-term environmental strategy, but only reacts to political pressures on an issue-by-issue basis.

34. a) Is the public as a whole as concerned as it ought to be about environmental issues?

Yes

No

Don't know

- b) If no, what do you think can be done to increase overall public concern?

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35. a) Should the public be more involved in environmental planning and decision-making done by government?

Yes

No

- b) Which of the following do you think would be most effective in increasing public involvement in environmental planning and decision-making (check those that you feel would be most effective)?

Citizen's advisory committees

Citizen surveys

Drop-in centres

Hotlines

Public meetings and hearings

Neighbourhood planning councils

Environmental ombudsman

Public information programs

Workshops and conferences

Citizen referendums

- c) Which do you feel would be MOST effective (please specify)?

---

36. Do you think that any particular social class shows more concern about environmental issues than the others (check yes or no)?

Yes: the lower class does  or No: concerns about environmental  
 the middle class does  issues are shared equally  
 the upper class does  among all social classes

37. Do you feel that the public is adequately informed about threats to the natural environment?

Always  Usually  Rarely  Never

38. Do you feel that public meetings provide an effective forum for the expression of the public's environmental concerns?

Yes  No

39. a) Have you ever attended a public consultation meeting to discuss environmental concerns with representatives of the federal Department of the Environment (Environment Canada)?

Yes  No

- b) If yes, did you find members of the department to be cooperative?

Always  Usually  Rarely  Never

- c) Did you find members of the department to be well-informed?

Always  Usually  Rarely  Never

40. Are you aware of Environment Canada's policy for Public Consultation and Information Availability?

Yes  No

41. a) Of the three divisions of government (municipal, provincial and federal), which do you feel has the greatest obligation to protect the natural environment (check one or more)?

- Municipal government
- Provincial government
- Federal government
- Don't know

b) Which one do you think has done the most to protect the natural environment (check one)?

- Municipal government
- Provincial government
- Federal government
- Don't know

42. To which government divisions do the following agencies belong?

	PROVINCIAL	FEDERAL	DON'T KNOW
Garrison Focus Office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waters Directorate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Environment Commission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Protection Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conservation Districts Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agricultural Lands Protection Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Conservation Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Management Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Atmospheric Environment Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood Forecasting Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

43. In order to attract industry to Manitoba, would it be acceptable to you if government were to:

	YES	NO
Offer tax concessions	<input type="checkbox"/>	<input type="checkbox"/>
Offer reduced utility rates	<input type="checkbox"/>	<input type="checkbox"/>
Build highways, railroads, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Reduce pollution control standards	<input type="checkbox"/>	<input type="checkbox"/>
Offer grants and/or interest-free loans	<input type="checkbox"/>	<input type="checkbox"/>

44. Do you think that industrialization can progress without increasing damage to the natural environment?

Yes       No       Don't know

Finally, we would like to ask you a few questions about yourself to help interpret the results of this survey. We remind you that all replies are strictly confidential, and that, in all handling and analysis, respondents will NOT be identified by name, address or any other distinctive characteristic.

45. Which of the following categories best describes your household income, that is, the total income before taxes of all persons living in your household?

under \$10,000	<input type="checkbox"/>
\$10,000 - \$14,999	<input type="checkbox"/>
\$15,000 - \$19,999	<input type="checkbox"/>
\$20,000 - \$24,999	<input type="checkbox"/>
\$25,000 - \$29,999	<input type="checkbox"/>
\$30,000 - \$34,999	<input type="checkbox"/>
\$35,000 - \$39,999	<input type="checkbox"/>
\$40,000 - \$44,999	<input type="checkbox"/>
over \$45,000	<input type="checkbox"/>

46. Do you have children?

Yes

No

If yes, what are their ages?

---

(please list ages of children)

47. How old are you?

\_\_\_\_\_ years

48. Sex:

Male

Female

\* \* \* \* \*

Is there anything else you would like to tell us about environmental issues or any of the questions on this survey? If so, please use the space on the back cover. We appreciate your comments.

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Thank you for completing this questionnaire.

APPENDIX C

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
OF THE MANITOBA PUBLIC IN 1982  
AND OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983

## APPENDIX C

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
 OF THE MANITOBA PUBLIC IN 1982  
 AND OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983

CanWest (1982)	This Study (1983)
VAR002-VAR004	B058-B063
Thinking of Manitoba right now, what issue or problem is of greatest concern here? Any other important issues you can think of?	Judging by your own experience or by what you read or hear, what do you think are two or three of the most important problems facing Manitoba today?
VAR005-VAR007	B064-B066
I would like to read you a number of current issues which may be concerns in Manitoba. Please tell me which of these issues you think is of greatest concern in Manitoba. Of second greatest concern? Of least concern?	Considering the following issues in the context of Manitoba:
<ul style="list-style-type: none"> <li>Alcohol/drug abuse</li> <li>Increasing pollution</li> <li>Women's rights</li> <li>Racial prejudice</li> <li>Worker's safety</li> </ul>	<ul style="list-style-type: none"> <li>Alcohol/drug abuse</li> <li>Pollution</li> <li>State of the economy</li> <li>Women's rights</li> <li>Racial prejudice</li> <li>Worker's health and safety</li> </ul>
VAR016	C125
To what degree do you see the use of pesticides being a problem in Manitoba in general? Is it vary much a problem, somewhat, only slightly or not a problem at all?	Thinking in terms of Manitoba, how would you rate the use of pesticides as an environmental problem? Is it very important, of some importance, of little importance or unimportant?

..... continued



## APPENDIX C (CONTINUED)

CanWest (1982)	This Study (1983)
<p>VAR022</p> <p>To what degree do you see acid rain being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>	<p>C121</p> <p>Thinking in terms of Manitoba, how would you rate acid rain as an environmental problem? Is it very important, of some importance, of little importance or unimportant?</p>
<p>VAR025</p> <p>To what degree do you see contamination of lakes and rivers being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>	<p>C096</p> <p>Thinking in terms of your home community, indicate which local environmental problems you consider very important, of some importance, of little importance and unimportant.</p> <p style="padding-left: 40px;">Water pollution</p>
<p>VAR028</p> <p>To what degree do you see industry emissions of pollutants into the air being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>	<p>C126</p> <p>Thinking in terms of Manitoba, how would you rate industrial emissions as an environmental problem? Is it very important, of some importance, of little importance or unimportant.</p>
<p>VAR031</p> <p>In your opinion, how would you rate the condition of Manitoba's environment right now? Is it very good, good, poor or very poor?</p>	<p>C074</p> <p>How would you rate the condition of Manitoba's natural environment right now? Is it very good, good, acceptable, poor or very poor?</p>

..... continued

## APPENDIX C (CONTINUED)

CanWest (1982)	This Study (1983)
VAR056	C144
<p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p>	<p>Please indicate your opinion on the following statement:</p>
<p>A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.</p>	<p>A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.</p>
VAR057	C145
<p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p>	<p>Please indicate your opinion on the following statement:</p>
<p>I don't really know what pollution control standards exist in Manitoba.</p>	<p>I don't really know what pollution control standards exist in Manitoba.</p>
	<p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>

..... continued

## APPENDIX C (CONTINUED)

CanWest (1982)	This Study (1983)
<p>VAR059</p> <p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p> <p>Government should spend more money on protecting the environment.</p>	<p>E146</p> <p>Please indicate your opinion on the following statement:</p> <p>Government should spend more money on protecting the natural environment.</p> <p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>
<p>VAR063</p> <p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p> <p>More money should be spent on environmental education in our schools.</p>	<p>C147</p> <p>Please indicate your opinion on the following statement:</p> <p>More money should be spent on environmental education in our schools.</p> <p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>

..... continued

## APPENDIX C (CONTINUED)

CanWest (1982)	This Study (1983)
VAR064	C148
<p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p> <p>A disposal site for hazardous wastes would be acceptable near my community if it was continually monitored.</p>	<p>Please indicate your opinion on the following statement:</p> <p>A disposal site for hazardous wastes would be acceptable near my community if it was continually monitored.</p> <p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>
VAR065	C149
<p>I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with the statement.</p> <p>I would like to know more about pollution control efforts in Manitoba.</p>	<p>Please indicate your opinion on the following statement:</p> <p>I would like to know more about pollution control in Manitoba.</p> <p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>

Source: CanWest Survey Research Corporation. 1982. Public Opinion Study. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 196 appendices.

APPENDIX D

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983  
AND THE MANITOBA PUBLIC IN 1985

## APPENDIX D

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983  
AND THE MANITOBA PUBLIC IN 1985

This Study (1983)	Criterion Research (1985)
<p>C096</p> <p>Thinking in terms of your home community, indicate which local environmental problems you consider very important, of some importance, of little importance and unimportant.</p> <p>Water pollution</p>	<p>V058</p> <p>To what degree do you see contamination of lakes and rivers being a problem in Manitoba in general? Is it very much a problem, some what, only slightly or not a problem at all?</p>
<p>C074</p> <p>How would you rate the condition of Manitoba's natural environment right now? Is it very good, good, acceptable, poor or very poor?</p>	<p>V065</p> <p>In your opinion, how would you rate the condition of Manitoba's environment right now? Is it very good, good, poor or very poor?</p>
<p>C148</p> <p>Please indicate your opinion on the following statement:</p> <p>A disposal site for hazardous waste would be acceptable near my community if it was continually monitored.</p> <p>Do you strongly agree, moderately agree, moderately disagree, strongly disagree, or do you have no opinion?</p>	<p>V089</p> <p>Now I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with that statement.</p> <p>A disposal site for hazardous waste would be acceptable near my community if it was continually monitored.</p>

..... continued

## APPENDIX D (CONTINUED)

This Study (1983)	Criterion Research (1985)
<p data-bbox="284 459 358 485">C144</p> <p data-bbox="284 527 748 615">Please indicate your opinion on the following statement:</p> <p data-bbox="342 653 748 873">A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.</p>	<p data-bbox="878 459 953 485">V093</p> <p data-bbox="878 527 1442 741">Now I am going to read you several statements and for each I would like you to tell me if you strongly agree, moderately agree, moderately disagree or strongly disagree with that statement.</p> <p data-bbox="938 779 1442 968">A certain amount of danger has to be expected in transporting hazardous chemicals because complete safety would simply cost too much.</p>
<p data-bbox="284 1041 358 1066">C121</p> <p data-bbox="284 1104 786 1325">Thinking in terms of Manitoba, how would you rate acid rain as an environmental problem? Is it very important, of some importance, of little importance or unimportant?</p>	<p data-bbox="878 1041 953 1066">V094</p> <p data-bbox="878 1104 1464 1356">When people talk about environmental issues, they talk about a lot of different things. How important is acid rain to you personally? Is it very important, somewhat important, not very important or not important at all?</p>

Source: Criterion Research Corporation. 1985. Manitoba Omnibus, Spring 1985. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 34 pp. + 230 appendices.

APPENDIX E

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983  
AND THE MANITOBA PUBLIC IN 1986



## APPENDIX E

VARIABLES USED TO MEASURE ENVIRONMENTAL OPINIONS  
OF SENIOR ELECTED MANITOBA MUNICIPAL OFFICIALS IN 1983  
AND THE MANITOBA PUBLIC IN 1986

This Study (1983)	Viewpoints Research (1986)
<p>C096</p> <p>Thinking in terms of your home community, indicate which local environmental problems you consider very important, of some importance, of little importance and unimportant.</p> <p>Water pollution</p>	<p>E4</p> <p>To what degree do you see contamination of lakes and rivers being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>
<p>C123</p> <p>Thinking in terms of Manitoba, how would you rate sewage disposal as an environmental problem? Is it very important, of some importance, of little importance or unimportant?</p>	<p>E10</p> <p>To what degree do you see sewage treatment and disposal being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>
<p>C121</p> <p>Thinking in terms of Manitoba, how would you rate acid rain as an environmental problem? Is it very important, of some importance, of little importance or unimportant?</p>	<p>E14</p> <p>To what degree do you see acid rain being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?</p>

..... continued

## APPENDIX E (CONTINUED)

This Study (1983)	Viewpoints Research (1986)
C095	E18
Thinking in terms of your home community, indicate which local environmental problems you consider very important, of some importance, of little importance and unimportant.	To what degree do you see air pollution being a problem in Manitoba in general? Is it very much a problem, somewhat, only slightly or not a problem at all?
Air pollution	

Source: Viewpoints Research. 1986. Environment Report. Study Commissioned by the Manitoba Department of Environment and Workplace Safety and Health, 40 pp. + 162 appendices.