

THE ROLE OF INTEREST GROUPS IN
THE ACID PRECIPITATION ISSUE IN ONTARIO

by

Randy Webber

A Practicum Submitted
In Partial Fulfillment of the
Requirements for the Degree
Master of Natural Resources Management

Natural Resources Institute
The University of Manitoba
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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

Interest groups are one of the many institutions that participate in the formulation of public policy. In the context of the acid precipitation issue in Ontario interest groups have contributed to the development of policy. This study has outlined that contribution. Groups have been described and defined and an attempt has been made to demonstrate that they play an important role in policy formulation and strengthen our democratic system. The research methodology has combined an extensive literature review with questionnaire and personal interview data to achieve a broad range of viewpoints.

It has been determined that interest groups have played a significant role in the policy process dealing with acid rain. Beginning largely as loosely structured ad hoc organizations, the groups involved in the issue evolved to form an effective coalition. They have been able to coordinate their activities, present a concise and consistent message and gain expertise and respect in the environmental policy community. This sophisticated aspect of interest groups is balanced with a calculated use of media related techniques designed to influence public opinion and embarrass governments and industry.

Groups perform three basic functions in society: communications, education and legitimation. Within this context groups have identified and publicized acid rain to the extent that it is now easily recognized as an issue by the public and a priority on the political agenda for governments. Interest groups have educated their members, governments and the general public on the environmental impact of acid rain and the consequences of inaction on the issue. They have participated in the formulation of acid rain policies in Ontario and largely support government initiatives on the issue.

The acid precipitation issue is the most significant environmental issue of the decade. Interest groups have been involved in the issue from the beginning. They are now recognized as legitimate players in the environment policy community which has necessarily expanded to meet their needs and demands. Groups will continue to be active not only in policy formulation but in implementing and monitoring of existing and emerging policy programs.

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CONTENTS

ABSTRACT ii
ACKNOWLEDGEMENTS iv

<u>Chapter</u>	<u>page</u>
I. INTRODUCTION	1
Preamble	1
Objectives	3
Definition of Terms	4
Criteria	9
Methods	11
Summary	12
II. BACKGROUND TO THE ISSUE	15
III. ACID RAIN	30
IV. INTEREST GROUPS	51
V. SUMMARY, CONCLUSIONS, RECOMMENDATIONS	82
Summary	82
Conclusions	88
Recommendations	91

BIBLIOGRAPHY 97

OTHER SOURCES 101

<u>Appendix</u>	<u>page</u>
A. INTERESTS, INTEREST GROUPS AND GOVERNMENT OFFICIALS CONTACTED	103
B. QUESTIONNAIRES	105

LIST OF FIGURES

<u>Figure</u>	<u>page</u>
1. The Acid Precipitation Phenomenon	16
2. Major SO ₂ Sources and Prevailing Winds in N. America	20
3. Where Acid Rain Falls and the Ph Scale	34
4. Terrestrial/Lake Effects of Acid Rain	35
5. Target Loading	38
6. Reductions in SO ₂ to be Achieved by 1994	43
7. Projected impact of reducing SO ₂ emissions. Major Canadian Sources of SO ₂ emissions. 1980 eastern Canadian emissions of SO ₂ , NO _x , and Canadian and eastern U.S. emissions of SO ₂ and NO _x	45

Chapter I
INTRODUCTION

1.1 PREAMBLE

Interest groups play an important role in the formulation of environmental policy in Canada. Their contribution is positive both in the sense that they strengthen the democratic system and that they generally help government make more comprehensive policy. The acid precipitation issue is an environmental problem of international scope. The long-range transport of air pollutants (LRTAP) phenomenon means that acid precipitation crosses international and intranational boundaries creating political, scientific and social problems. In Canada, much of the activity surrounding the issue has taken place in the province of Ontario which creates and receives the largest amount of acid precipitation in the country.

In the context of the acid precipitation issue, interest groups have been a contributing force in influencing government actions over the past decade. They have created, and sustained, a lively debate on the issue, encouraged, sometimes prodded, governments to address the issue and formulate policies to solve the acid precipitation problem.

Finally, they continue to monitor and to suggest improvements to policies now in place. From the stand point of an environmental policy maker, interest groups have done several things. First of all, in the intial stages of the issue they helped identify and then publicize what is now recognized to be an environmental problem of international dimensions. Secondly, they sustained the issue and over time have become increasingly sophisticated and knowledgeable about the issue. This knowledge has been effectively utilized to educate the public and government on the acid rain issue. In fact, for government, groups have become an alternative source of information upon which policy decisions can be made.

The Canadian Coalition on Acid Rain, is an umbrella organization representing 53 diverse interest groups and some two million Canadians. It is able to impress upon policy makers not only what acid rain means to its members, who may be directly affected by a loss of job, income, or recreational opportunity, but to criticize, encourage or otherwise comment on government policy initiatives. Thus a two-way flow of communication has been created whereby groups not only provide information to government but receive it as well, allowing them to offer feedback. This enables policy-makers the opportunity to create a more balanced effective policy.

The process makes for not only a more comprehensive policy over-all but for a policy that is legitimate in the eyes of those affected by it. Because they have had input into the formulation of policies pertaining to the acid precipitation issue, the interest groups involved have a stake in seeing them succeed. They are better informed, more aware of the policy system and the complexities of the issue and are more capable to work for its resolution.

1.2 OBJECTIVES

The purpose of this paper is to determine the role interest groups have in the formulation of public policy pertaining to the acid precipitation issue. Concentrating on group activities in the province of Ontario, the project has:

1. Presented a general overview of the acid precipitation phenomenon - what it is, what causes it, and what effects it has on the environment;
2. Defined interest groups and described their functions in the policy process;
3. Identified and described the major interest groups and interests involved in the acid precipitation issue; and,
4. Sought to demonstrate that interest groups play an important role in policy formulation and contribute in a positive manner to our democratic system.

1.3 DEFINITION OF TERMS

While interest groups or pressure groups will be dealt with fully in Chapter 4, some clarification of terms is necessary at this point. Paul Pross defines a pressure group as an "organization whose members act together to influence public policy in order to promote their common interest." [1] Pross assigns four basic functions to all groups:

1. interest promotion - which includes interest aggregation and interest articulation;
2. communications - which are transmitted in any of four directions: (i) from groups to governments, (ii) from public officials to groups, (iii) within governments, and (iv) among groups themselves;
3. legitimation - when groups participate in the policy process, and;
4. regulation and administration - regulation of their members and in some circumstances, administration of government policies [2].

It should be noted that this typology as presented above tends to ignore two significant segments of the political process. They are the media and the public at large. The media are very important because they are a major vehicle used by groups to perform part of the communications function. The public is important partly because this is

where groups draw their membership but more significantly because in a democracy it is the ultimate arbiter of any government policy or interest group initiative. Thus while this paper deals mainly with interest groups, the role of the general public and the media must not be forgotten.

Pross makes a distinction between what he calls institutionalized groups and issue-oriented groups. Each type is placed at extreme ends of a continuum along which all groups can be placed. Pross assigns five major characteristics to institutionalized groups:

1. They possess organizational continuity and cohesion; that is, there is a clear delineation of responsibility and well-defined channels of communication to facilitate an orderly flow of information;
2. They have extensive knowledge of those sectors of government that affect their clients, and enjoy communications with those sectors;
3. There is a stable membership;
4. They have concrete and immediate operational objectives, and;
5. Organizational imperatives are generally more important than any particular objective; that is, group officials work under a set of informal rules that allow them to achieve organizational goals easily but restrict certain methods of influence such as public condemnation of civil servants[3].

Institutional groups, then, are generally well-funded, multi-faceted organizations staffed by experts who know the system well and often have a great deal of influence with policy-makers.

Issue oriented groups have the reverse characteristics of institutionalized groups:

1. They have limited organizational continuity and cohesion; most are very badly organized;
2. Their knowledge of government is minimal and often naive;
3. Their membership is very fluid;
4. They encounter considerable difficulty in formulating and adhering to short-range objectives, and;
5. They usually have a low regard for the organizational mechanisms they have developed for carrying out their goals[4].

Groups are spread out along the continuum and possess varying degrees of institutional and issue-oriented attributes. Here Pross makes a further distinction between mature institutionalized groups that possess most of the characteristics described above and fledgling institutionalized groups who only have some of these attributes[5]. While no group in the research fits Pross' description of the extreme ends of the continuum, it is useful because it allows a differentiation of groups through function as well as description.

As Pross points out

This enhances the possibilities of comparative analysis of groups over space and over time. From a comparative analysis we can achieve general statements about the characteristics of pressure groups operating in different environments. The last point underlines the most important feature of the continuum model: it can be used to relate pressure group behaviour to the structures and processes of the policy system - to the structure of decision-making power in the state[6].

In this manner, it is hoped one can determine the influence groups might have on acid precipitation policy. This paper will rely heavily on Pross' typology of groups and on the continuum framework.

To use some examples from the research, the Ontario Mining Association (O.M.A.) would be considered a mature institutionalized group in the context of Ontario. A group such as Pollution Probe began as an issue-oriented group but has evolved and migrated along the continuum to become a fledgling institutionalized group today. The Canadian Coalition on Acid Rain (C.C.A.R.) has also followed this pattern and is now recognized to be a major lobbying force in Ottawa, and in Washington D.C. where much of its energies are now directed[7].

However, the list of groups and interests cited in Appendix A do not all fit this definition of interest groups. Inco, Falconbridge, Noranda and Ontario Hydro are major corporations not interest groups. Nevertheless, they have an interest in the issue because as major polluters

they are the targets of environmentalists' attacks and subject to government regulations on acidic emissions. These corporations work closely with government in the context of many issues beyond the scope of acid precipitation. Their influence and power exceeds that of all interest groups, including the ones they may belong to, the O.M.A. being a case in point. Thus for example,

individual corporations have command over resources that exceeds that of some of the smaller provinces. McMillan Bloedel is a dominant interest in the Province of British Columbia in ways that vastly exceed their membership in the Canadian Pulp and Paper Association. Inco Canada Limited is a major interest in the life of Sudbury and North Bay, as are other companies in many hinterland "company towns." Imperial Oil and Dome Petroleum are interests of no small importance in the energy industry because of investment decisions they make or do not make. While interest groups can often take positions on issues and can sometimes act as a groups [e.g., the C.C.A.R.], interests can often act without taking position[8].

Thus a study such as this cannot afford to ignore the influence on policy that interests have especially when they have a direct stake in the issue as is the case with Inco, for example, in the acid rain issue. For the purpose of this study, then, the term interest or pressure group will refer to groups such as Greenpeace, C.C.A.R. or the O.M.A. Finer distinctions can be made within this grouping such as public interest group, environmental interest group, corporate interest group, umbrella group etc. The meaning of these terms should be self evident. Corporations and unions will be referred to as interests that have a stake in

the issue and may even belong to an interest group but are not interest groups themselves. Again, distinctions such as corporate, union or government interests can be made. While it is true governments have an "interest" in the issue, they have legal mandates to act which is an important distinction between government and non-government organizations.

1.4 CRITERIA

In order to effectively measure the role that groups play in the policy process, it is necessary to formulate a criteria framework for evaluation. It is not sufficient simply to know that a group exists; it must represent someone, have a message, a goal, and a target audience. Unfortunately, even the best criteria cannot accurately measure the influence a given group has on policy. Besides the obvious fact that interest groups are only a part of the policy process, it is possible that even a highly motivated and organized group presenting well-researched data to the proper authorities will simply be ignored. Conversely, spontaneous citizen outrage at a particular environmental problem might prompt immediate government action. Nevertheless, some form of criterion is necessary.

Interests, or interest groups, must have organizational capabilities and be able to articulate and aggregate a common interest. They must have a solid base of support, though it need not necessarily be numerically large. A

group must have a measure of credibility, have good background research to support its views and operate within the acceptable limits of society. This latter criterion is quite broad and could easily range from non-violent demonstrations and protests to private meetings with government officials.

An interest group should not only have a message, a goal, and a target audience, but ought to understand what the message means, the implications of the goals, and who the audience is. For example, if a group is going to demonstrate and hand out 'Stop Acid Rain' leaflets, the members ought to know what entails stopping acid rain, the implications of stopping acid rain -- as well as not stopping it -- and that by handing out leaflets on the street, the target audience is not the Prime Minister but the public at large.

Finally, a group ought to be able to present realistic and workable alternatives if it is against a given policy and be open to constructive criticism if it is promoting a policy. In other words, a group must on occasion be willing to compromise, if not its ultimate goals, then its effectiveness as an influence on policy.

1.5 METHODS

The project has employed two basic research methodologies in order to ensure that a wide range of viewpoints were included in the investigation. An extensive literature review has been conducted, providing a background and context for the issue. The major actors and their basic positions have been identified.

The second method has been an interview process, largely conducted by mail, although several contacts were made in person. Questionnaires have been sent out to a number of interests involved in the issue, as well as to federal and provincial agency personnel and politicians. A list of persons contacted is given in Appendix A and a copy of the questionnaires is given in Appendix B.

The questionnaire data was in one sense not as productive as had been anticipated. The original intent was to conduct face-to-face interviews with most of the people involved in the issue. For various reasons this could not be accomplished so the second best alternative of a mail-out questionnaire was used. While the response was quite high - 60% - the content of the answers, in many cases, left much to be desired. However, some individual responses were excellent and in this sense, the objective of gaining an insight into the issue from actual participants was accomplished. I do not feel that the conclusions arrived at

in this paper would have been possible without the questionnaire data and the additional information provided by the groups and interests involved. Thus, implicit reference to questionnaire data exists throughout the paper and explicit references will be used as deemed applicable.

1.6 SUMMARY

Interest groups play a positive and important role in the formulation of policy pertaining to the acid precipitation issue. They have created and sustained a debate on the issue and encouraged government to address the acid precipitation problem. Groups have also become experts on the issue and are an alternative source of information for governments to call upon.

The purpose of this paper is to determine the role interest groups have in the formulation of public policy pertaining to acid precipitation. Groups can be placed within the framework of a continuum with institutionalized groups at one extreme, issue-oriented groups at the other and groups with varying degrees of institutional or issue-oriented characteristics in between. The research also deals with interests, such as corporations, that are active participants in the issue but not interest groups.

This paper will argue that interest groups play an important and valuable role in the context of the acid precipitation issue. However, despite the positive role groups have played in the issue, they have had, and continue to have, difficulties in influencing decision-makers. All groups are not given, a priori, the right to have input into policy decisions. Certain groups command more influence than others and legal and jurisdictional barriers are a hindrance to others. These aspects of the issue will be explored in Chapter 4 which will also outline the functions groups play in the policy process. Chapter 3 will offer a brief discussion of the impact of acid rain on the environment. Chapter 2 will provide a background and describe how groups fit into the issue.

The scope of interest group participation in the policy process has widened considerably over the past decade. Groups must now consolidate their positions to hold the influence they have gained if they wish to continue to be heard by government officials, politicians, and the public at large.

Notes

- [1] A. Paul Pross Group Politics and Public Policy (Toronto: Oxford University Press, 1986), page 3.
- [2] Ibid., pages 87-95
- [3] Ibid., pages 114-15
- [4] Ibid., page 117.
- [5] Ibid., page 116.
- [6] Ibid., page 129.
- [7] Maclean's vol. 99, no. 8 Feb 24, 1986 page 18.
- [8] G. Bruce Doern, Richard W. Phidd Canadian Public Policy - Idea's Structure, Process, (Toronto: Methuen Publications, 1983), page 74.

Chapter II

BACKGROUND TO THE ISSUE

Acidic air pollution is a serious environmental problem. It threatens to degrade or destroy entire ecosystems, the human activities dependent upon the natural environment, as well as human environments by damaging buildings, corroding metals and adversely affecting health [Figure 1]. Acidic pollution is also a global problem, being part of a larger phenomenon known as long-range transport of air pollutants LRTAP[1].

The major components of acidic air pollution - which can be in either wet form such as snow, rain, or fog, or dry form such as particulates - are sulphur and nitrogen oxides, SO₂ and NO_x respectively. They, along with carbon dioxide, ozone, toxic heavy metals, fluorocarbons, and other substances, are largely the result of modern industrial activity.

Thus, acidic air pollution - commonly known as acid precipitation or acid rain - is a product of the modern world. Our homes produce acidic pollutants directly or perhaps use electricity from thermal power plants and are full of gadgets and appliances produced by acidic polluting industry. Cars, trucks, etc. not only are major sources of

THE ACID RAIN PHENOMENON

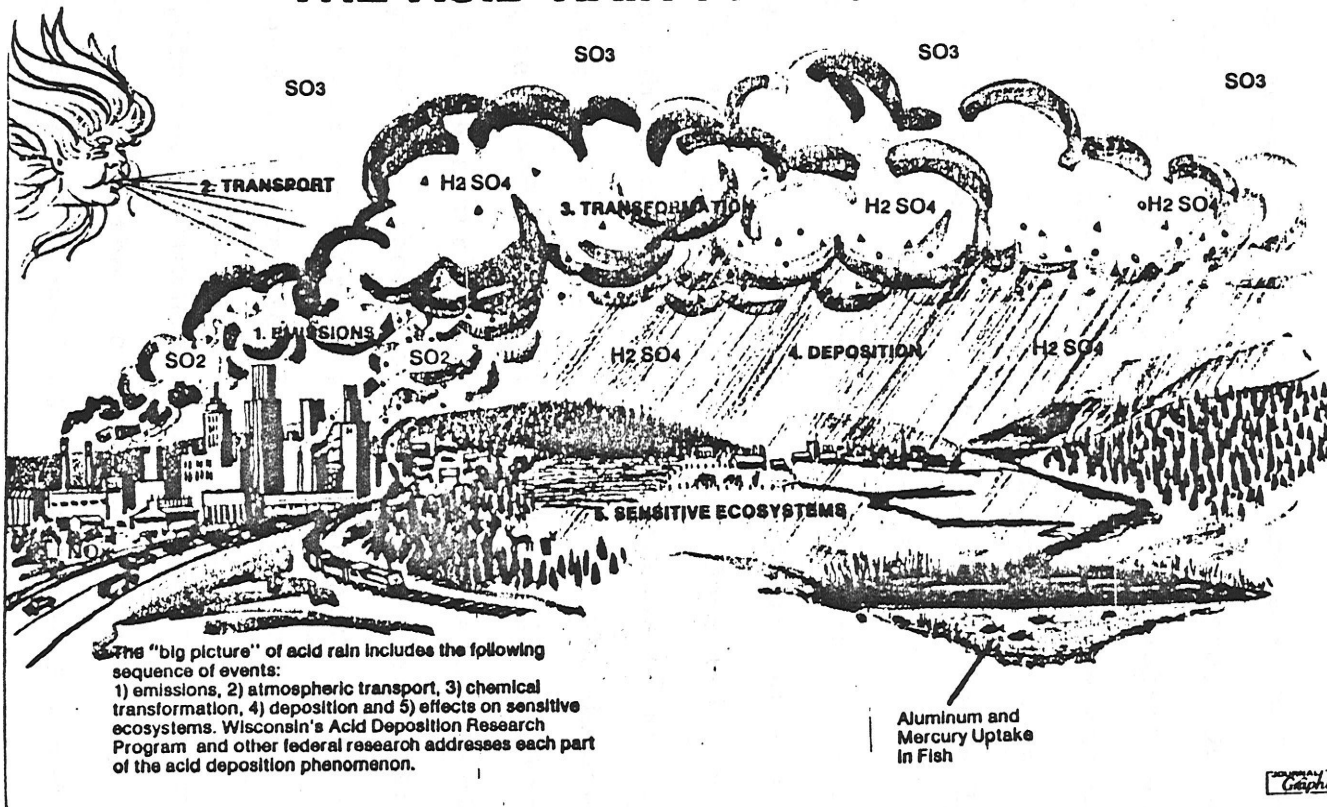


Figure 1

Source: The Milwaukee Journal

NOx but are produced by industrial activity that contributes heavily to acid rain.

Up until recently, the major focus on the damage being done by acid rain in North America has been on the acidification of lakes, mostly in Ontario, Quebec, and the Maritimes in Canada, and on the North-eastern United States. The SO₂ and NOx has fallen as rain or snow and over time has lowered the pH of susceptible lakes, thus destroying aquatic life. Research has shown, however, that as well as lowering pH, the acids are also leaching heavy minerals out of the soil and rocks. These minerals, such as aluminum, lead, and mercury, build up to toxic levels in lakes and in ground water, or disrupt soil balances. Once released, it is not easy to rebind the toxic concentrations of metals, so merely increasing pH levels is not enough. The damage, then, may be long-term and irreversible. There is growing evidence of damage to terrestrial ecosystems. Acidic pollutants also destroy the livelihoods of people who fish, hunt, or trap, work in tourist, forestry, or related industries, or who enjoy outdoor recreation in the areas effected.

Despite the evidence available there is not a complete consensus in the scientific community that acid precipitation is a serious environmental issue. In fact, depending on geographical and geological factors, among others, acidic deposition has varied effects on the ecosystem from unmeasurable to obviously damaging to occasionally positive.

On the technological side of the issue, control technologies for emission abatement are also controversial, expensive and often create waste problems of their own. For example, certain kinds of scrubber technology to remove sulphur from smokestack emissions can cost upward of \$100 million and create as a by-product a sulphuric acid sludge which must be disposed of. Critics often argue that a technological break-through could make this expensive equipment obsolete and want to hold off utilizing the existing technology. Ultimately the consumer pays either directly through increased costs passed on if emission abatement equipment is utilized, or indirectly because of environmental degradation if it is not.

It would seem, therefore, that acidic air pollution is a social problem; that is, the solution to the acid rain problem depends on social action. Our way of life is not only a cause of the problem, but is threatened by the problem and must be part of the solution. Because of the magnitude of the issue, acid precipitation is a political problem. Only governments have the resources and power to arrive at, implement, and enforce a solution.

However, governments are often slow to take the initiative in new areas of public policy[2]. The acid precipitation issue did not exist two decades ago and it took a push to get governments in Canada to move on the issue. To their credit, although after a very slow start, the federal and provincial governments in Canada have now

taken the lead in North America in working to solve the acid precipitation issue[3].

Virtually no one in Ontario would argue that acid precipitation is not a serious problem. There seems to be a consensus that a solution must be found. However, there are disagreements as to the seriousness of the problem and in the methods necessary to correct it. As might be expected, those who believe the problem to be less serious relative to others (e.g. unemployment), also believe in a carefully managed incremental solution. Conversely, those who believe acid rain to be a high priority, if not a crisis, believe solutions should be drastic and immediate[4].

Ontario is the principal source of acid emissions in Canada, producing 2194 thousand tonnes of sulphur dioxide and 483 thousand tonnes of nitrogen oxides in 1980[5]. It is the home of the International Nickel Company (Inco), whose smelter near Sudbury has the dubious distinction of being the world's largest single source of SO₂ emissions. Ontario is in the unfortunate geographic position of being situated on highly acid-sensitive land, the Canadian Shield [Figure 2]. This curse is also a blessing, for the Shield provides diverse and lucrative forest, wildlife, and recreation resources; it also yields vast mineral resources, which create jobs, production and wealth, and acid precipitation as well.

Figure 2

Location of major sources of SO₂ emissions in North America
and prevailing wind patterns



- Areas having SO₂ emissions greater than 100 kilotonnes per year
- ▨ Areas most sensitive to acid precipitation
- ➔ Important storm paths

This map clearly illustrates why Canada's efforts to control acid rain are concentrated in the seven eastern provinces, from Manitoba east. Most major Canadian sources of SO₂ emissions are located within this area and much of it is quite sensitive to acid precipitation. In addition, prevailing winds transport the pollution towards the eastern portions of the country.

Figure 2

Source: Environment Canada

Thus the stage is set for a confrontation between two opposing concerns: the industrial interests and their trade organizations versus the interest groups and interests demanding acid rain be cleaned up. The groups demanding a clean-up center around the loss of a cottage-resort area around Muskoka Lakes and Haliburton Highlands that affect not only jobs and development but recreational opportunity for well-to-do Torontonians[6]. Also lining up on this side are the traditional environmental groups, with broader environmental concerns, forestry groups concerned with the negative impact acid rain has on the industry, and a number of other varied groups concerned with the issue.

The consequences of delayed action, according to these groups, will be dead lakes resulting in a devastated tourist and sport fishing industry with losses as high as \$70 million per year[7]. Negative impacts on forest regeneration of only 5% could cost \$200 million in lost production in eastern Canada[8]. In general terms, a lower quality environment and reduced species variety would also be expected.

On the other side of the issue are Ontario's big business interests, the metal smelting industry in the north, heavy industry in the Great Lakes Basin, and Ontario Hydro, which operates and may build additional coal-fired plants. At stake are millions of dollars of non-productive investment -- the Subcommittee on Acid Rain estimates capital

expenditures of \$900 to \$1100 million (1983 dollars) to reduce by one-half to two-thirds (1980 levels) Canada's five largest emitters of SO₂ -- larger operating expenses, lower profits, and submitting to greater government regulation[9]. The consequences, according to industry, would be lower investment, loss of jobs, the closing of operations, and a fundamental threat to the province's economic well being.

The Ontario government has been slow to respond to the groups demands for stricter controls on acid emissions.

There are several reasons for the weakness of Ontario's abatement response. Government leaders and officials of regulatory agencies are rarely inclined to take stern action against corporate powers (including both public and private corporations). Often this reflects shared ideology, perceived common interest, and close professional association ... But the hesitancy results as well from the inherent difficulties of regulation where legal traditions are devoted more to protection of private property rights than to preservation of public goods, and where regulators must rely heavily on the cooperation of the regulatees. Pollution control orders in Ontario ... are generally the products of private negotiations between polluting companies and government officials, especially when they are major players or pivotal actors in local economies, the companies can also threaten economically and politically undesirable cutbacks or closures in response to pressure for costly abatement action[10].

In addition to the initial weak bargaining position, Ministry of Environment officials in Ontario must face industry with a lack of scientific data regarding the precise processes involved from the time acid pollutants leave a given source to when they fall as a particulate or

as acid rain or snow. Moreover, even if emissions were cut to zero overnight, the environmental benefits would be much less immediate and perceptible compared to the costs and consequences of abatement[11].

The interest groups demanding regulations are not, by and large, so well connected nor powerful as the polluting interests. Thus tactics for influencing policy must be different than the more powerful corporate interests. While corporate officials are regularly consulted in the drafting, implementation, and regulation of environmental legislation, groups such as the Canadian Coalition on Acid Rain must attempt to influence policy more indirectly, by attempting to sway public opinion, and by meeting with officials to present views. Groups such as Greenpeace, for example, operate on the fringes of respectability, relying mainly on publicity stunts by committed supporters. Yet in some instances they have had tremendous success in achieving goals[12]. Groups such as the Canadian Coalition on Acid Rain, attempt more moderate, mainstream tactics, putting forth constructive criticism and workable alternatives, while publicizing the environmental destruction caused by acid pollutants.

Institutionalized interests, such as Inco, operate low profile public relations, but are in constant contact with not only environment officials at both federal and provincial levels, but with Industry and Trade officials and

Energy, Mines, and Resources officials. In many cases, corporate and government officials know each other well, having moved up the ranks in their respective careers together; some have moved from the public service to private industry or vice versa[13].

Interests and interest groups alike must negotiate a complex web of legislative and jurisdictional authorities to influence a given policy. The acid precipitation issue creates added complexities because the pollutants cross international and national boundaries and hence jurisdictional boundaries. In Canada further complexities arise because different levels of government have authority over different pollutants. For example, NO_x is created primarily by automobile exhausts, a federal responsibility. Sulphur dioxide pollution comes under provincial jurisdiction. The following will briefly describe jurisdiction in Canada as it relates to the acid precipitation issue and how this affects interest groups.

Jurisdictional and legislative authority over the environment in Canada is split between the federal government and the provinces. Since environmental matters were not considered to be very important in the 19th century, the 1867 British North America Act, now the Constitution Act of 1982, does not allocate jurisdiction to either authority.

Because of this legislative division of jurisdiction, the provinces have primary

responsibility for the control of intraprovincial air pollution. The federal government has jurisdiction over extraprovincial air pollution or may legislate in reference to intraprovincial air pollution under the criminal law power when it presents a danger to public health or safety.

The Federal Government has exclusive jurisdiction to negotiate and conclude treaties and other types of international agreements. This jurisdiction does not give the Federal Government exclusive power to implement the terms of any such treaty of international agreement. Such implementation is effected in accordance with the division of legislative jurisdiction set out in the British North America Act. Consequently, the effective implementation of any Canada-U.S. agreement on the LRTAP will require both federal and provincial action[14].

Because of the shared jurisdiction, there is a necessity for provincial-federal cooperation in formulating, implementing, and enforcing a national air pollution policy. While in some respects a positive thing, the same necessity for cooperation can be used by one level of government to avoid taking responsibility, or by private interest to prevent or promote -- depending on the circumstances -- action from either level[15].

Due to the complexities of jurisdiction and the need for federal-provincial co-operation a system of inter-jurisdictional co-ordinating institutions has evolved in Canada in all policy areas including the environment. At the broad political level the federal-provincial ministers conference is used[16]. For example federal and provincial environment ministers met on March 6, 1984 and agreed to a 50% reduction of emissions causing acid rain by 1994[17].

A senior-bureaucratic co-ordinating system operates as well. Committees of deputy ministers advise ministerial conferences and also oversee the implementation of joint programs. At operational levels federal and provincial officials participate in committees generally geared to recommending solutions to specific problems[18].

The significance of this discussion in relation to interest groups is that some groups have advantages over others in negotiating the complex tangle of jurisdictional authorities. A national group will find it easier to deal with more than one level of government at a time than a locally based group, especially if the locality is away from decision-making centers. An institutional group would have the resources to establish contacts with key officials and the ability to find out who these people are; an issue-oriented group might not. Institutional groups can hire lawyers or constitutional experts; issue-oriented groups usually cannot. Thus, the difficulties of jurisdiction are hurdles all groups and interests must overcome, but it is easier for some than for others.

Clearly, acid rain policy is not set in a vacuum. The environmental ministry at both provincial and federal levels is but one of many around the cabinet table and is not necessarily a high priority portfolio. Employment, deficit, trade and foreign affairs issues, among others, all compete for scarce recognition and funds. There is also a temporal

aspect as the importance of a given issue rises and falls in the governments' (and publics') perception. As well, the influence and power of individual ministers depends upon that person's ranking and prestige within caucus and the cabinet. Acid rain is not the only concern environment ministries have within their mandates. In Ontario, for example, water pollution is a major problem, as are toxic waste dumps and nuclear waste disposal issues.

Thus, interests and interest groups that lobby officials on the acid precipitation issue are competing not just with each other, but with other government agencies and departments, plus politicians ever-mindful of election day. The policy formulation process is complex and interest groups are but one factor influencing policy decisions. Nevertheless, as this paper will argue, they are an important factor.

Notes

- [1] John Carroll, Environmental Diplomacy: An Examination and a Perspective of Canadian-U.S. Transboundary Environmental Relations, (Ann Arbor: University of Michigan and the C.D. Howe Institute, 1983), p. 29.
- [2] R. Brian Woodrow, "Resources and Environmental Policy-making at the National Level: The Search for Focus", in O.P. Dwivedi (Ed.), Resources and the Environment: Policy Perspectives for Canada, (Toronto: McClelland and Stewart, 1980) p. 24.
- [3] For example, the 1985 initiative by the Ontario government, Countdown Acid Rain.
- [4] A cursory glance at the literature shows a vastly different perception of the same problem. For example, a 1980 Discussion Paper by Ontario Hydro in discussing the considerable public and government interest in finding solutions to the acid precipitation issue says "...this same interest may produce a climate in which steps are taken which would not only be ineffective but may further delay the adoption of worthwhile, long-term solutions." From Ontario Hydro Discussion Paper on Acid Rain, Nov. 12, 1980. page 1.
In contrast, a 1985 Pollution Probe publication states "Time is running out for Ontario's cottage country...Overall, the Ministry of the Environment estimates that 2000-4000 lakes in Ontario have suffered the same fate [(i.e.) all the fish are dead.] They also project that these could be followed by tens of thousands more Ontario lakes over the next decades if present levels of acid rain are maintained." From The Acid Rain Primer, 1985.
- [5] Environment Canada, Stop Acid Rain Fact Sheets.
- [6] John E. Carroll, Environmental Diplomacy: An Examination and a Perspective of Canadian-U.S. Transboundary Environmental Relations, (Ann Arbor: The University of Michigan and the C.D. Howe Institute, 1983), p. 255.
- [7] Ontario Ministry of the Environment, Countdown Acid Rain: Ontario's Acid Gas Control Program for 1986-1994, p. 4.
- [8] Ontario Forestry Association Newsletter, p. 4.
- [9] Time Lost: A Report of the Subcommittee on Acid Rain, 1983, p. 36.
- [10] Robert Gibson, "Acid Rain as a Political Dilemma", Alternatives, 11, 2, Winter, 1983, p. 6.

- [11] Ibid, p. 6.
- [12] For example, the end of the Harp Seal Hunt is considered by Greenpeace to be a victory in its efforts to end seal hunting. Greenpeace Examiner Vol. 10, no. 2. April/June 1985, page 16.
- [13] Interview material, C. Ferguson, Inco Limited 23/06/86.
- [14] Still Waters: A Report of the Subcommittee on Acid Rain, page 79. p. 79.
- [15] O.P. Dwivedi, "Resources and the Environment: An Introduction", in O.P. Dwivedi (Ed.), Resources and the Environment: Policy Perspectives for Canada, (Toronto: McClelland and Stewart), p. 12-13.
- [16] Michael Whittington "Environmental Policy" in G.B. Doern, V.S. Wilson (Eds.), Issues in Canadian Public Policy (Toronto: Macmillan, 1974), page 218.
- [17] Environment Canada Fact Sheets.
- [18] Whittington, Pages 218-19.

Chapter III

ACID RAIN

Air pollution has been a recognized problem for a long time. As early as 1273 A.D. the air in London was so bad that King Edward I banned the use of sea-coal in the city. In 1661, polluted air was attributed to cause one-half of all deaths in London and the British Public Health Act of 1848 included provisions for smoke abatement. The infamous 1952 smog in London killed four thousand people and by this time vegetation damage and minor health problems were being documented in the Los Angeles area[1].

In Ontario, air pollution was creating problems as early as 1916 when 12 farming townships in the Sudbury area were withdrawn from cultivation because of sulphur dioxide damage to the land[2]. The 1918 Ontario Industrial Mining Lands Compensation Act established "smoke easements" allowing polluters, principally Inco, to purchase permits to pollute. The Damage by Fumes Arbitration Act of 1921 essentially entrenched the right to pollute until it was repealed in 1970[3].

In 1963, researchers published an account of SO₂ damage to vegetation in the Wawa area resulting from Algoma Steel's iron sintering plant there[4]. Many more examples such as

those above exist. However, it is important to note the examples involve local problems in relatively small, localized areas. There was no indication of long-range transport of pollutants.

The first documented accounts of air pollution causing damage to the environment long distances from the source came from Europe, specifically Sweden. Studies conducted over 20 years indicated air pollution blown from Great Britain and other parts of Europe was causing fish kills, crop and forest damage, property corrosion, and health effects in Sweden. A Swedish report, based on the studies and given to the 1972 United Nations Conference on the Human Environment, speculated a similar situation could exist in North America[5].

One of the first documented indications of a long-range problem in Canada emerged from an accidental discovery by Harold Harvey, a University of Toronto zoologist, who was doing fish experiments in the La Cloche region, north of Toronto[6].

In the late 1960's and early 1970's, governments began to seriously take notice of pollution problems of all kinds, and environmental legislation was enacted in Canada and the U.S. The conventional wisdom of the day was that sulphur and nitrous oxides emitted into the atmosphere dissipated into harmless substances quite quickly -- perhaps in as

little as ten hours or thirty kilometers distance from the source[7]. As much of the visible problem, and legislation, was with local air pollution, the solution was to build "super stacks" which would lift the pollutants high into the atmosphere where they presumably would safely dissipate before they could fall to earth and do damage. We now know the practice greatly exacerbates the problem, allowing pollutants to travel up to thousands of kilometers.

Sulphur oxides, SO_2 , are the product of burning fossil fuels which contain sulphur and from smelting mineral ores which contain sulphur. The largest contributors of SO_2 pollution in North America are coal-fired thermal electric generating plants and non-ferrous mineral smelters, although anything that burns fossil fuels is a potential source. Thus, large cities with thousands of buildings, cars, trucks, etc. are also major contributors to SO_2 pollution. A small amount of SO_2 is produced by natural means, such as volcanic eruptions.

Nitrogen oxides, NO_x , are produced from a high temperature combustion of any fuel. Most NO_x in North America is produced by automobiles and other transportation vehicles but home or building furnaces, industrial production, smelters, and thermal power generators all contribute.

The industrial hub of North America produces 25% of the world's human-made sulphur dioxide emissions; 80% of this comes from the United States, from Pennsylvania and the Mississippi and Ohio River Valleys. The remaining 20% originates in eastern Canada, and most of that is from the province of Ontario, where 2.4 million tonnes of SO₂ are emitted annually[8].

In 1980, 21.3 million tonnes of nitrogen oxides were produced in North America, 1.74 million tonnes in Canada as a whole and about .95 million tonnes in eastern Canada. Automobiles accounted for 24.7% of the Canadian totals, other transportation vehicles a further 37.1%[9].

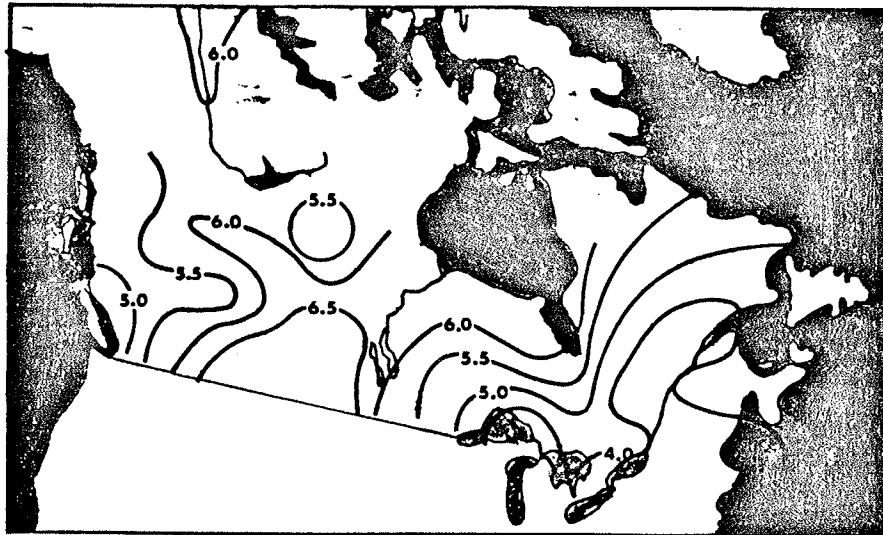
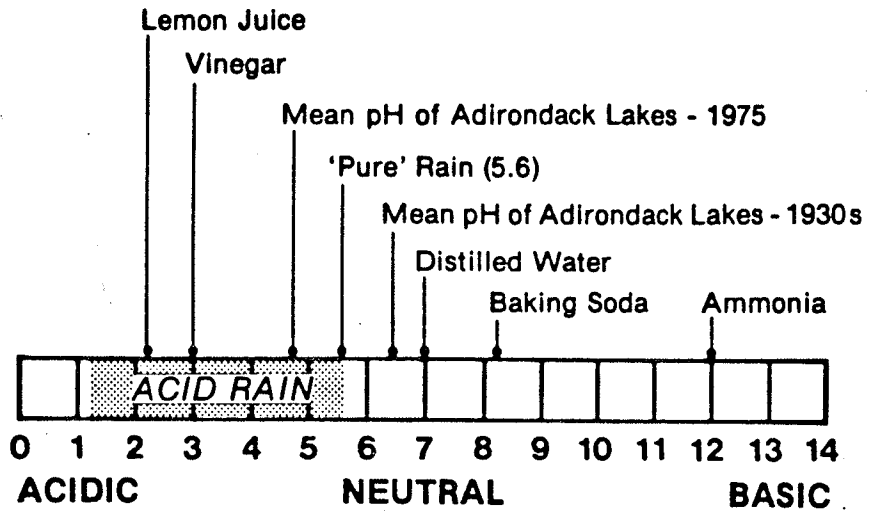
Acid rain or precipitation is one part of a broader phenomenon known as long-range transport of air pollutants (LRTAP). The pollutants transported include toxic heavy metals, organics, ozone, and other substances, and LRTAP occurs in both wet and dry form. The wet form, acid precipitation, returns to earth causing acid deposition. Acid precipitation is defined as naturally occurring moisture which has become acidified (i.e., has experienced a decrease in its pH to lower than 5.0 - 5.6) [see Fig. 3] by the addition of sulphur and nitrogen oxides, SO₂ and NO_x, which have been emitted high into the atmosphere, remaining there for a period of time, and travelling long distances before returning to earth[10] [see Fig. 4].

In aquatic environments, acidic anions such as sulphates (SO₄⁻⁻), nitrates (NO₃⁻), and chlorides (Cl⁻) are the major pollutants. Water bodies have various inherent capabilities to neutralize acid pollutants in the form of basic cations such as calcium (Ca⁺⁺), magnesium (Mg⁺⁺), sodium (Na⁺),

Figure 3

WHERE THE ACID RAIN FALLS

The pH scale



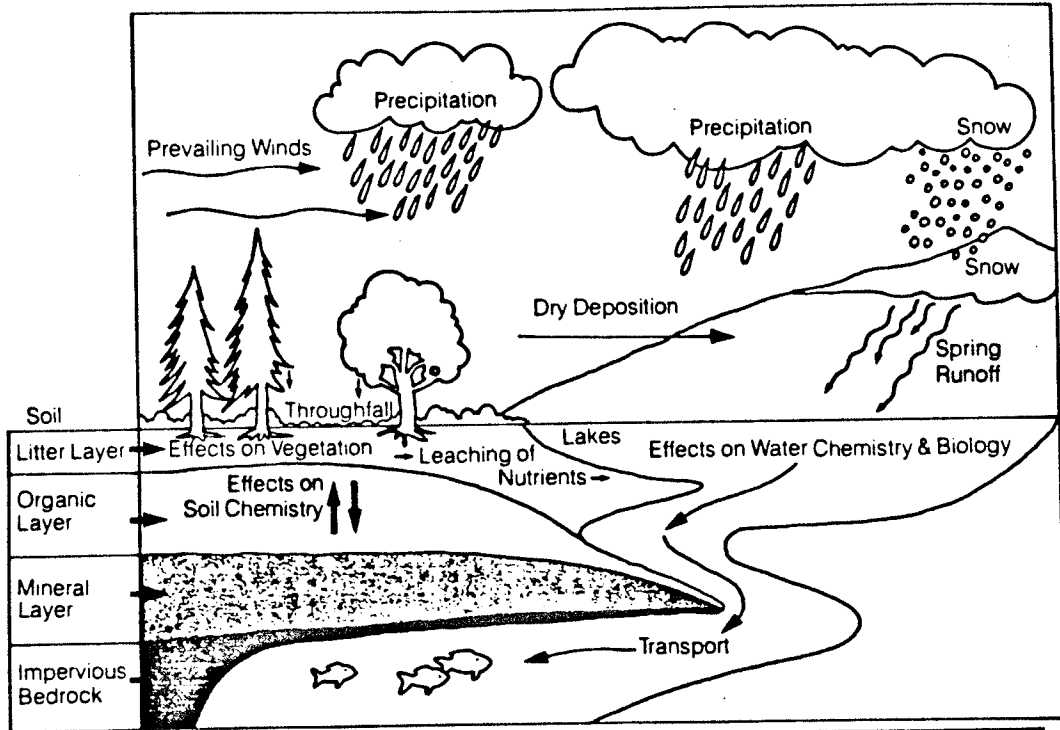
Source: Adapted from A.P. Altshuller and G.A. McBean, *The LRTAP Problem in North America: A Preliminary Overview*, report prepared by the United States-Canada Research Consultation Group on the Long Range Transportation of Air Pollutants (Downsview, Ont.: Atmospheric Environment Service, Environment Canada, 1979).

Figure 3

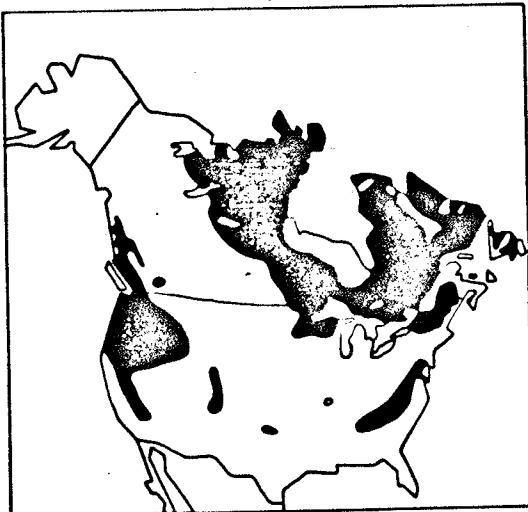
Source: Foster and Sewell, 1981

Figure 4

Illustration of Terrestrial/Lake Effects



North American Areas Containing Lakes Sensitive to Acid Precipitation



Source: James N. Galloway and Ellis B. Cowling, *Journal of the Air Pollution Control Association* 28 no. 3 (March 1978)

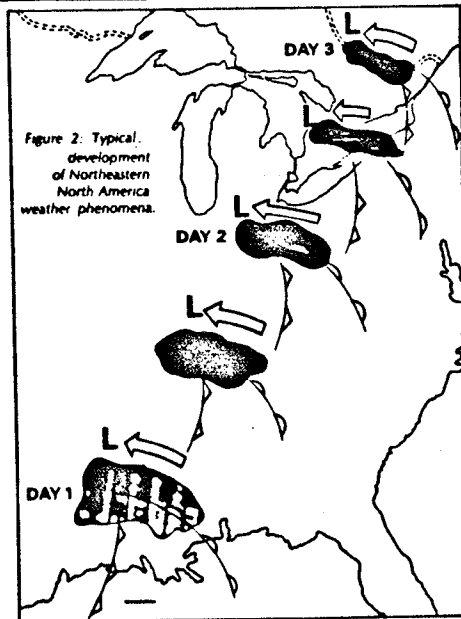


Figure 4
Source: Environment Canada

ammonium (NH_4^+). These cations are contained in the surrounding soils and in the water and can buffer incoming acids to counter the lowering of the pH of the waters. However, many lakes and surrounding country in Ontario lack sufficient buffering capacity to prevent significant lowering of the pH of waters[11].

Reduced pH increases levels of dissolved metals such as aluminum and can have serious effects on aquatic ecosystems. Adverse effects can begin at levels of pH 6.0 and by pH 5.3 severe stress is placed on many species. At pH 4.5 few species can exist. Even if pH is not lowered to levels where all or most species are unable to live, a general decrease in species diversification often occurs, making the ecosystem less stable which has an adverse impact on the entire community structure of a given area[12].

Another characteristic of acid precipitation is the buildup of acid pollutants in the winter snow pack, so that with spring melt, there is a sudden "acid shock". This phenomenon causes not only a sudden and dramatic lowering of pH but also coincides with a crucial period in many aquatic species life cycle -- mating, spawning, and hatching. The stress of acid shock either destroys a species outright or causes infertility or difficulties in spawning or hatching of eggs[13]. Insects and other microscopic aquatic life may also be destroyed, disrupting the food chain at its lower end with effects on species at the high end of the chain.

Research on surface water acidity on a mean annual basis shows high correlation to sulphate concentrations but almost none to nitrate concentrations. However, in spring snowmelts, nitrate concentrations often equal or exceed sulphate concentrations and contribute to the acid shock phenomenon[14].

Control strategies for acid pollutants must consider not only technical data but also practical matters of what pollutant is most easily controlled -- economically and politically. Thus, most government thrust to date -- and research activity -- has been towards the control of sulphate pollution rather than nitrates. As such, a value of 20 kg of wet sulphate per hectare per year has been recommended and accepted as a target loading value that the environment can neutralize and society can afford to pursue[15] [see Fig. 5].

However, this ignores three important factors. Firstly, nitrates are associated with the spring acid shock phenomenon and most abatement programs to date ignore nitrate emissions. Canada currently has standards on automobile emissions of 3.1 grams per vehicle mile of nitrogen oxides compared with 1.0 grams in the U.S.[16]. Up to 1986, recommendations to equal U.S. standards had been ignored by the federal government, which is authorized to set and enforce regulations on automobiles[17].

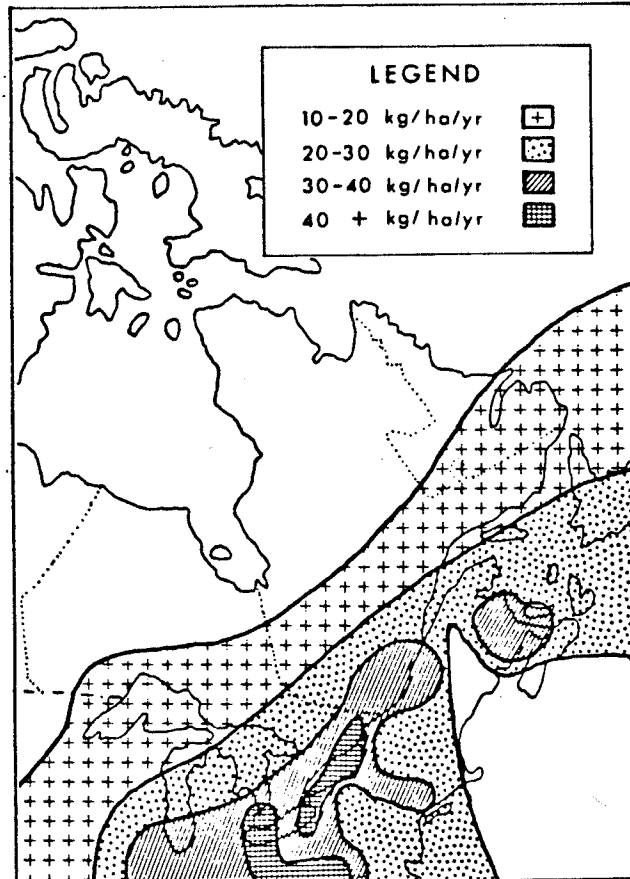
Figure 5

TARGET LOADING

A group of Canadian and United States scientists, formed to support the Impact Assessment Workgroup for international negotiations of a Memorandum of Intent on Transboundary Air Pollution, proposed the concept of 'target loading' based on sulphates to control the influx of acidic pollutants into aquatic ecosystems. A preliminary value of 20 kilograms of sulphate per hectare per year was recommended by the Canadian scientists. This deposition rate is believed to be acceptable for protecting those lakes of eastern Canada and the northeastern United States having moderate to low sensitivity to acidic pollutants. The Canadian government has since accepted this target loading value as the basis for its international position on acid rain controls.

Models developed by Hendriksen in Norway, and further refined by Thompson of the National Water Research Institute (Environmental Conservation Service), have formed the basis for Environment Canada's target loading estimate. These models related sulphate deposition to the total buffering capacity of a drainage basin in terms of aquatic acidity levels which will not be detrimental to most life forms. The annual loading of 20 kilograms per hectare per year was selected as the rate which would allow pH to remain above 5.3 for all but the most sensitive aquatic ecosystems.

The basis of the target loading value was designed to permit early efforts for control measures to be instituted. There is sufficient confidence in the tentative estimates for such actions. Further research and experimental observation will continue to provide additional refinement and validation of the preliminary models and target loading. Once additional results are known, the adequacy and accuracy of control measures will be more precisely assessed. This is especially true for the West and North, where little research has been done to date.



Source: Atmospheric Environment Service, 1983.

PRECIPITATION — WEIGHTED MEAN SULPHATE ION DEPOSITION FOR 1980.

Figure 5

Source: Environment Canada

New regulations introduced in 1986 require emission standards on NOx of 1.0 gram per vehicle mile on all 1988 cars and light duty trucks. Lead allowed in gasoline will also be reduced from .77 grams per litre to .29 grams per litre as of January 1, 1987[18].

Secondly, even with the achievement of a 50% reduction in emissions proposed in the Ontario Countdown Acid Program, the target of 20 kg per hectare cannot be met in much of Ontario. For example, in the highly acid-sensitive Muskoka region, wet sulphate deposition is reduced almost 14% from the 1980 base level of 32 kg per hectare to 27.6 kg/ha in 1994 under the program's guidelines. In fact, even if Canadian SO₂ emissions were reduced to zero, the target could not be met unless there is abatement action taken in the United States[19].

Thirdly, control strategies deal only with wet sulphate deposition and do not account for dry deposition. The major reason for this is scientists simply are not sure of the effects of dry deposition nor exactly how it can be measured.

By the late 1970s, acid rain was an issue that was receiving a fair amount of attention in the media and from politicians. Much of the credit for the attention must be given to interest groups such as the Sierra Club in the U.S., Pollution Probe in Ontario, and Greenpeace worldwide.

These groups, along with many others helped identify the acid precipitation phenomenon as an important issue and through various techniques both publicized and maintained public awareness over a long period of time.

There is a strong possibility that present legislation, regulations and control strategies would not exist today if it were not for group pressure on government. Questionnaire data backs this assertion. Of fifteen respondents answering the question "what role do you think interest groups have played in the issue?", fourteen indicated they believed the role had been significant. This response cut across all parties involved, politicians, government officials, industry and interest groups. For example, Associate Deputy Minister of Environment in Ontario, Walter Giles, indicated he thought groups had played a "significant" role. Jim Whiteway of Ontario Hydro said they played a "major" role and Adele Hurley of the C.C.A.R. felt that without groups "there would be no legislation in Canada"[20].

During the period of 1965 to 1975 there was increased public participation and interest group involvement in the policy process. Traditional interests and lobby groups had always been involved in the policy process, but during this period there was an upsurge of citizen-based groups demanding a voice in the decision-making process. Many of the groups during this period were ad hoc and local in nature, disorganized, and often not very influential.

Nevertheless, as pointed out, the groups have been successful despite the difficulties they have had to overcome. One of the difficulties conservationist and environmentalist groups had, and continue to have to overcome is that North America is an energy-consuming society. For Greenpeace "emission controls [in the long-run] will be another technological fix. For a lasting solution we must begin to cut back on our fossil fuel dependency"[21].

In fact, while rising energy prices have made North Americans use fossil fuels more efficiently, we are not necessarily any less dependent upon them. For example, the oil shocks of the 1970's that saw prices quadruple prompted President Carter to announce a drive for energy self-sufficiency. This program was based upon using coal mined domestically to produce electricity for energy-hungry Americans[22].

Coal-fired electric generating plants are a potential source of acid pollutants and the tall stack mentality meant that emissions produced in Pennsylvania and Ohio could find their way to Ontario and fall as acid rain or snow. This reinforced a fact that many already knew; that acid rain was an international problem of enormous scope and not simply a localized issue of minor dimensions.

By 1982 the Canadian government, in part as a response to group pressure, announced it was ready to take the initiative and make emission reduction commitments of 50% of the current levels by 1994[see Fig 6]. The plan was contingent on parallel action in the U.S. which would reduce acid deposition to the internationally agreed level of 20 kg SO₂ per hectare per year[23] [see Fig. 7].

The following year, provincial and federal environment ministers met and agreed to an abatement strategy, which in conjunction with U.S. controls would meet with the 20 kg/hectare/yr target. In 1984, the ministers met again and agreed Canada should reduce emissions causing acid rain by 50% by 1994[24].

However, while the governments were long on proposals, not much was happening in practice. In the U.S., President Carter, who had been receptive to abatement proposals, had been replaced by the anti-regulatory, anti-environmentalist Reagan administration and a deep economic recession. Proposals to spend billions on abatement, when jobs were scarce and target industries suffering, fell on deaf ears. Formal negotiations on the problem, begun in the late 1970's and culminating with a Memorandum of Intent in 1980 to work towards solving the issue, collapsed in 1982[25].

The acid rain issue reached an impasse. Canadian governments expressed concerns but were unwilling to act

Figure 6

2 Reductions in total SO₂ emissions east of the Saskatchewan/Manitoba border to be achieved by 1994 under the Canadian acid rain control program

Acid Rain

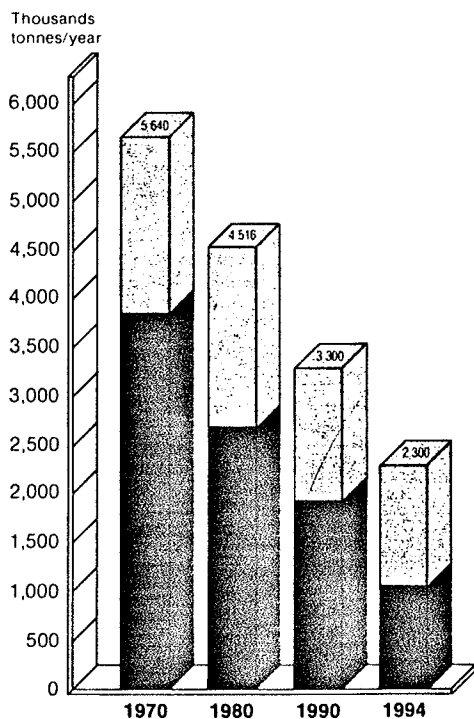
The Statistics

Non-ferrous Smelters

nickel, copper, lead, zinc

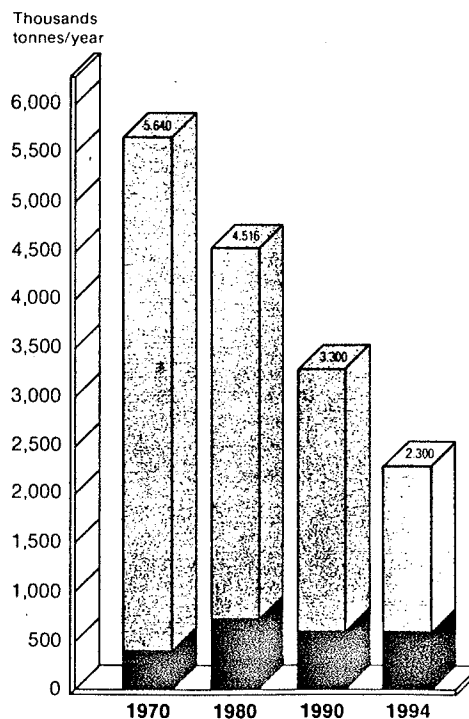
Utilities

coal-fired, electric power generation



Sulphur Dioxide Emissions

■ Total emissions, all sectors
■ Smelter



Sulphur Dioxide Emissions

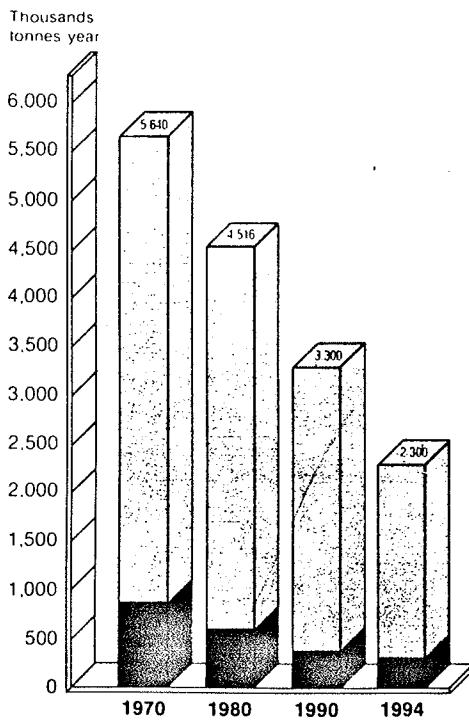
■ Total
■ Utilities

Figure 6
Source: Environment Canada

Figure 6 Con't

Non-Utility Fuel Use

industrial, commercial and residential heating

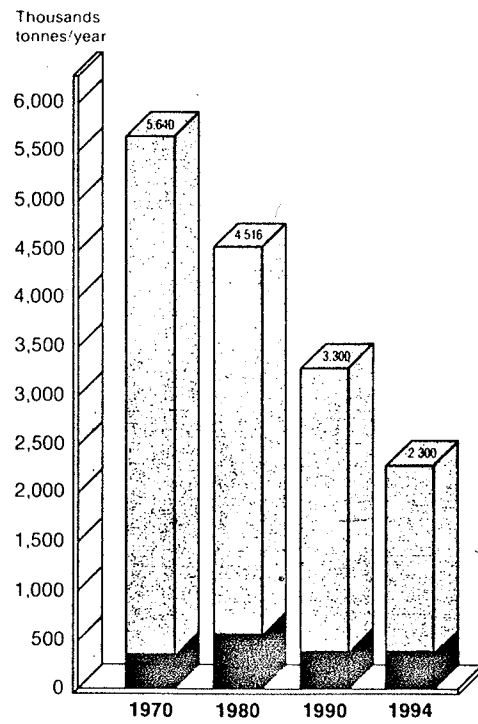


Sulphur Dioxide Emissions

■ Total
■ Non-Utility Fuel Use

Other

for example, petroleum refining and sulphate pulping



Sulphur Dioxide Emissions

■ Total
■ Other

Figure 7

3 Projected impact of reducing SO₂ emissions on the amount of wet sulphate deposited annually at five locations in eastern North America

Sensitive ecosystems receiving more than 20 kilograms per hectare per year of wet sulphate (figures in bold type) are likely to be damaged.

Acid Rain
The Statistics

Area	Wet sulphate deposited (approx. kg/ha/yr)			
	Now	Estimated effects of reducing SO ₂ emissions by		
		50% in Canada	100% in Canada	50% in Canada 50% in US
Muskoka	29-35	24-30	20-26	13-19
Quebec City	27-35	23-31	19-27	15-23
Central Nova Scotia	17-23	16-22	14-20	15-20
Adirondacks	29-37	26-34	23-31	13-21
Vermont/New Hampshire	20-30	17-27	15-25	10-20

4 Major Canadian sources of SO₂ emissions

	Tonnes SO ₂ emitted/ tonne product		Tonnes SO ₂ emissions per year*		Est. capital cost to achieve 1994 target
	1970	1980	1980	1994 target	
INCO, Thompson, Man. Nickel Smelter	8.94	6.30	414,000	Being negotiated	\$0-\$125 million
Hudson Bay Mining & Smelting, Flin Flon, Man. Copper/zinc smelter	Cu 4.16 Zn 1.05	2.70 1.0	293,000	Being negotiated	\$40-\$170 million
INCO, Sudbury, Ont. Nickel/copper smelter & iron ore recovery plant	4.75	2.92	1,155,000	Being negotiated	\$450-\$700 million
Falconbridge, Sudbury, Ont. Nickel/Copper Smelter	4.03	2.26	154,000	Being negotiated	\$12-\$50 million
Noranda, Rouyn Noranda, Quebec Copper smelter/custom feed	2.86	2.43	552,000	276,000/year by 1990	\$80-\$150 million
Noranda, Murdochville, Quebec Copper smelter	1.93	1.32	91,000	275 kg/tonne of copper concentrate	—

Figure 7
Source:
Environment
Canada

* The cyclical nature of the metal business, changes in the international prices for copper or nickel, the competition for markets from smelters throughout the world, and the occurrence of labour disputes affect the level at which a particular smelter may operate

during a given year and thus, the amount of actual SO₂ emissions 1980 was chosen as the base year for the acid rain control program. These figures reflect the regulated emission levels

Figure 7 Con't

Acid Rain
The Statistics

5 1980 eastern Canadian emissions of SO₂ (000 tonnes/yr)

	Smelters	Utilities	Other Sources	Total	% of eastern Canadian Total
Manitoba	707		31	738	16%
Ontario	1,309	452	433	2,194	49%
Quebec	643		442	1,085	24%
New Brunswick	13	122	80	215	5%
Nova Scotia		124	95	219	5%
P.E.I.		2	4	6	—
Newfoundland		21	38	59	1%
Total for eastern Canada	2,672	721	1,123	4,516	100

6 1980 eastern Canadian emissions of NO_x (000 tonnes/yr)

	Utilities	Transportation	Other Sources	Total	% of Eastern Canadian Total
Manitoba	2	60	7	69	7
Ontario	102	290	91	483	48
Quebec	5	201	79	285	28
New Brunswick	19	27	12	58	6
Nova Scotia	31	34	10	75	7
P.E.I.	1	2	—	3	—
Newfoundland	4	25	6	35	4
Total for eastern Canada	164	639	205	1,008	100

7 1980 eastern Canadian and eastern US emissions of SO₂ and NO_x in 1980

	SO ₂ tonnes x 10 ³ /yr		NO _x tonnes x 10 ³ /yr	
	Eastern Canada	Eastern US	Eastern Canada	Eastern US
Smelters	2,672	157	—	—
Utilities	721	14,576	164	4,336
Transportation	128	489	639	5,624
Others	995	4,601	205	2,767
Total	4,516	19,823	1,008	12,727
Eastern Can./US Total		24,339		13,735
% Eastern Can./US total	19%	81%	7%	93%

unilaterally. The American government was opposed to any abatement controls and insisted more research was needed. Interest groups on both sides of the issue continued to press their views. While critical of the governments refusal to act unilaterally most groups were in support of the proposed 50% reduction. *The C.C.A.R., for example uses this figure as its official goal for emission controls[26]. Groups continued to push the federal government to pressure the Americans to take action and the C.C.A.R. began a full-time lobby campaign in Washington for the same purpose.

In 1985 major movement again occurred in the political sphere. Prime Minister Mulroney made a conscious effort to put acid rain on the agenda and raised the issue with President Reagan at the March 1985 summit. The result was the appointment of the special envoys, Drew Lewis and William Davis, who were to study the issue and report the following year.

The same year, the Ontario government changed to a Liberal administration, supported by the N.D.P., elected partly on a promise for action on acid rain[27]. The Peterson government delivered on the promise in December 1985 with the Countdown Acid Rain Program. The new program implements the previous recommendations for a 50% reduction in SO₂ emissions with a target deadline of 1994. It explicitly acknowledges, however, that while significant reductions in deposition would occur, the 20 kg/hect/yr

target could not be met without U.S. action[28]. Expectations that the Davis-Lewis Report would call for such action were dashed in January 1986 when the report was released and merely called for more research. Canadian hopes for U.S. action are now resting on legislation introduced through Congress or by abatement control legislation enacted by individual states.

Notes

- [1] P.W. Purdom and S.H. Anderson, Environmental Science: Managing the Environment, (Columbus, Ohio: Charles E. Merrill, 1980), p. 280.
- [2] Phil Weller, Acid Rain: The Silent Crisis, (Kitchener: Between the Lines Press and the Waterloo Public Interest Research Group, 1981), p. 60.
- [3] Ibid, p. 60.
- [4] Ibid, pp. 60-61.
- [5] Ross, Howard and Michael Perley, Acid Rain: The North American Forecast, (Toronto: House of Anansi Press, 1980), p. 14.
- [6] Ibid, p. 21.
- [7] Ibid, p. 27.
- [8] H.D. Foster and W.R.D. Sewell, Water: The Emerging Crisis in Canada, (Toronto: James Lorimar and Company, 1981), p. 46.
- [9] Time Lost, A Report of the Subcommittee on Acid Rain, 1983, p. 11.
- [10] John Carroll, Environmental Diplomacy: An Examination and a Perspective of Canadian-U.S. Transboundary Environmental Relations, (Ann Arbor: The University of Michigan and the C.D. Howe Institute, 1983), p. 239.
- [11] Environment Canada Long-Range Transport of Acid Pollutants, Target Loading for Aquatic Systems, p. 8.
- [12] Ibid, p. 2.
- [13] Time Lost, p. 12.
- [14] LRTAP, Target Loading for Aquatic Systems, p. 2.
- [15] "This theme recurs constantly in publishing reports about changes in environmental standards - for asbestos, lead, radioactive materials and many others. The political process mediates temporary trade-offs among a wide range of considerations, including scientific research, unemployment, capital investment, public awareness, and rates of occupational disease. The "number" selected for an environmental standard only appears to be derived directly from pure disinterested inquiries of the laboratory; in fact, it usually represents a rough compromise among vested interests, balancing science, politics and the economy on the

knife-edge of potential catastrophe" - "Political aspects of environmental issues" William Leiss -- in William Leiss, (Ed.) Ecology vs Politics in Canada, 1979, page 264.

- [16] Time Lost, p. 12.
- [17] Michael Perley, Toronto Star, March 8, 1984.
- [18] Environment Canada Bulletins "Stop Acid Rain Campaign." Michael Perley "Acid Rain - How Far Have We Come?", Probe Post Vol. 9, no. 1, Spring 1986, pages 22-23.
- [19] Ontario Ministry of the Environment, Countdown Acid Rain: Ontario's Acid Gas Control Program for 1986-1994, p. 10.
- [20] Questionnaire Data.
- [21] Elsa Bruton Greenpeace Examiner, vol. 9 no. 2 Spring, 1984 page 2.
- [22] Ontario Hydro has picked up on the goal of reduced fossil fuel dependency in what some might consider a perverse manner. It is now part of Hydro policy to use nuclear power to replace coal-generated power, in part to reduce the corporations acid-gas emissions. From Nuclear and Coal Electric Power Generation: Strategies for Control of Acid Rain at Ontario Hydro. R. Taborek, Ontario Hydro, 700 University Avenue Toronto., May, 1985.
- [23] Environment Canada Acid Rain Fact Sheets.
- [24] Ibid.
- [25] Still Waters: A Report by the Subcommittee on Acid Rain, 1981, page 41.
- [26] Questionnaire Data
- [27] Perley, Probe Post, vol. 9, no. 1, Spring 1986, page 23.
- [28] Countdown Acid Rain, page 10.

Chapter IV

INTEREST GROUPS

Interest group, or pressure group, activity is increasing in our society and provides a healthy and important contribution to the democratic process. Groups bring to the attention of government, and the public, relevant and important issues that demand action. They also provide a greater opportunity for individuals, special interests, or business sectors to express opinions and participate in the policy process and hence, help government create balanced and effective policy.

This chapter will outline the various options for participating in the policy process in Canada - individual action, court action and group action - and conclude group action is the most productive of the three. Then groups themselves will be described and their basic functions outlined. An attempt will be made to relate each of these points to the acid precipitation issue.

The role of individuals in the policy process is a good place to begin a discussion of interest groups. Indeed, such a topic leads to the question: what can interested and concerned members of society do to ensure meaningful participation and input in policy decisions that may affect

them? There are three basic options available: individual action, legal action, and group action[1].

Individual action includes writing letters to the editor or members of parliament, voting, and in general trying to set a good example in day-to-day life. To be a good "environmental citizen" may mean conserving energy, recycling trash, eating less meat, etc. The choices are up to the individual and his/her initiative and conscience[2]. Clearly, the impact of a single individual is normally small, but should not be trivialized, for the basis of change in society is with the individual. In fact, one of the objectives of the environmental movement is to influence individuals to change their behavior and adopt an environmental consciousness in their day-to-day activities.

The possibility of groups or individuals influencing acid precipitation through legal means has great potential. However, while the potential may exist, the legal framework is not in place for satisfactory results -- at least not for those who face the impact of acid precipitation.

Acid rain is considered a "nuisance" under tort law. In order to successfully establish a nuisance case, one must show four things:

1. A duty of care owed to the injured party;
2. An intentional or negligent breach of duty of care;

3. The injury was caused by a failure to conform to duty of care; and

4. The extent and amount of loss[3].

However, due to the characteristics of acid precipitation -- the distance pollutants travel and the difficulty in establishing sources and cause and effect -- there is little chance that private legal actions will provide satisfactory solutions to the acid precipitation issue[4].

Courts in Canada are also reluctant to allow individuals or groups "standing"[5].

The question of standing relates to the courts view as to whether a would-be litigant has "an interest in the subject matter of the legal proceedings that is greater than and different from that of the general public." In other words the courts, and many regulatory bodies, insist that before they will listen to requests to interfere with the actions of others, the parties making the requests should prove that they are directly and substantially affected by those actions. In general Canadian courts have defined standing narrowly and have not been very willing to receive the assistance of *amici curiae* (friends of the court), individuals and groups concerned to show how the public interest might be affected by the outcome of a case[6].

* Cost is also an inhibiting factor preventing individuals and groups from using the courts. The case of Palmer et al. vs. Stora Kopperburgs in Nova Scotia serves as a grim reminder to anyone who uses the courts that if they lose, they are responsible for the costs incurred[7].

Class action suits, where cases are brought to court by individuals on behalf of others who may not have given their consent to the action, while successful in environmental matters in the U.S. have not been in Canada. Only Quebec has a class action law to date in Canada and class actions have been described as "inappropriate for use by interest groups"[8]. Pross quotes at length H. Patrick Glen who concludes:

Class actions procedures, where they exist, now appear to be failing, both as significant measures of social reform and as procedures viable even on a limited scale in the court system. There are profound and systematic reasons for this which no amount of legislative design or fine-tuning can overcome[9].

Class action laws may become part of a larger effort at law reform in Canada but needless to say, such changes may be a long time in coming[10].

Furthermore, court action almost always implies the damage has already been done, and is not preventative in nature. [To be more useful, laws should be designed to prevent environmental damage before it occurs, not to determine damages and award restitution after the fact[11]. Legal action, therefore, is not a satisfactory means for individuals or groups to combat acid precipitation.]

Group action is probably the most powerful force available to individuals for influencing policy. Groups can command resources, time, money, and publicity unavailable to individuals and deal with issues broader than the courts are

capable of. There is a strength in numbers and this strength can be directed with success to make the public, the planner, and the decision-makers aware of problems[12].

Interest groups perform three vital functions: communication, legitimation, and education. "The communications function is central. It embraces the transmittal of every type of politically relevant information from highly technical data to the protestations of an outraged citizenry"[13]. Groups not only bring demands to government, but help government identify community interest and channel information to groups to test public opinion, thus establishing a two-way flow of information.

There are two broad levels of communication. The first level is media-oriented and includes methods such as publicity stunts, protests designed to attract attention, presentation of briefs to inquiries or to officials, as well as more subtle ways to cultivate public opinion[14]. These are the same tactics associated with issue-oriented groups and are often the only type of communications channel available. Several points must be made. Firstly, these activities are usually confrontationist in nature. The result is the classic win-lose situation, and often hard feelings on both sides of an issue. Secondly, and leading from the first point, the reason there is confrontation is often because the groups were not consulted in the initial

policy process and are now being forced to deal with secondary options after the major policy mechanisms are in motion.

The problem at the heart of these planning failures is the rejection of the traditional problem-solving mechanisms themselves. Many people appear to be no longer content to tolerate unilateral decision making by institutions, but feel they must involve themselves personally in the events of the day, trust their own feelings, and make their own judgements[15].

There are also profound suspicions among many citizens' groups of any technique [of participating in the decision making process] which implies co-option. For the most part, citizens' groups appear to prefer participation as an adversary process. Representatives of such groups also emphasize the need to indicate that real options exist, and to consider issues in a broader societal context than an agency typically does[16].

Energy Probe is such a group. It likes the confrontationist approach and would not want to be a part of the initial policy process for fear of being co-opted by other interests. The group sees its program as being too radical to be accepted by the status quo decision makers and so prefers to work on the outside edge of the policy system[17].

It must be noted that Energy Probe leaves most of the lobbying activity concerning acid rain to the C.C.A.R. as do all groups belonging to the umbrella organization. The interaction of the variety of groups composing the coalition would make an interesting study in itself. For example, the interplay between decidedly middle-class groups such as the

cottagers, a status quo group such as the Forestry Association, whose president is also the Associate Deputy Minister of the Environment, and groups such as Energy Probe and Pollution Probe must test the very fabric of the coalition.

Throughout this paper, the coalition on acid rain has been portrayed as a tight knit cohesive lobby group. In general this can be assumed to be the case. However, one would expect that any coalition of diverse groups will have internal tensions and disagreements. While the research revealed no explicit references to such tensions in the C.C.A.R., a combination of comments and remarks and a reading of the coalition's history suggest they may indeed exist. It must be reiterated, however, this is speculation on the researcher's part.

The second level of communication is access-oriented and focuses on generating a receptive attitude at the political and administrative levels. Regular and private meetings are held to exchange ideas and receive feedback. It is not uncommon for the members of these groups and the public sector to move in and out of each others spheres[18].

This level of communication is usually associated with institutionalized groups and interests and is utilized to influence, or even initiate, policy in the primary development stages as well as the implementation and

regulatory stages. It is not uncommon for institutionalized groups to monitor and regulate their own members. The groups do not always get their way; obviously government has other inputs and other considerations. However, in these cases there is less a "win-lose" scenario and more one of compromise.

The Canadian policy system, then, tends to favour elite groups making functional accommodative consensus-seeking techniques of communication rather than conflict-oriented techniques that are directed towards objectives through rousing public opinion. It follows that groups that are not accommodative and consensus-seeking (issue-oriented groups) have very little chance of achieving desired changes in policy. They may, through the use of the media, achieve some short-term modifications of policy[19].

While it has been the conventional wisdom, as Pross notes above, to view groups using media-oriented techniques as marginally effective at best, the research indicates this may not necessarily be the case in the acid precipitation issue. For a number of very good reasons - the magnitude of potential damage, shifts in public behaviour to name two - governments in Canada have recently begun to take steps to correct the problem of acid rain. These steps may not go as far as some would hope, nor as fast, but they are clearly more than "short-term modifications" and interest groups using media-oriented techniques of pressure can take part of the credit for this. By and large, and especially in the early stages of the issue, it was the non-accommodating, conflict-oriented groups who put the pressure on government, and on industry to take abatement action on acid rain.

For example, a Greenpeace activist parachuted from the top of a smokestack in Ohio. The dramatic leap was filmed and became the opening sequence to the 1984 "Nova" documentary on acid rain[20]. This type of activity is designed to attract attention and, hopefully, from Greenpeace's point of view, public opinion will be shifted and pressure will be put on government to take action on acid emissions.

Less spectacular, but also designed to attract attention and influence government through public opinion, was the Acid Rain Caravan, co-organized by Kai Millyard, now a researcher with the Toronto-based Pollution Probe. The caravan travelled for six weeks through south-eastern Canada and the north-eastern United States, distributing literature, holding press conferences, and speaking with local media[21]. The purpose of the caravan was to publicize the issue, particularly the environmentalist side of the issue, and to motivate public opinion in favour of this viewpoint.

While the comparison may not be completely fair, because of the differences in Canada's and the United State's political systems, interest groups in Canada pushing for controls on polluters appear to have had more success than their American counterparts. The significance of this is that the U.S. "pro-control" acid rain lobby is a very sophisticated well-funded and powerful force compared to

Canada's. The point is, that large budgets and highly organized lobbying structures do not guarantee a successful campaign.

The second major role groups play is the legitimating role. Simply by having input in a policy gives the group and its members a stake in that policy and in seeing it work. All too often, planners assume they understand everything important about a policy, yet input from a broader range of groups could expand understanding. It would reveal potential conflict, hidden costs, and, significantly, support[22].

Groups, therefore, not only expand the range of information available to government, but allow government to neutralize group objections to policy. The group, then, becomes an instrument for eliciting support for policy, as well as for testing public opinion[23].

The relationship also benefits interest groups who are cooperative, since government recognition will give credibility and leads to the support for a measure of influence over policy. Also important is the overall contribution to the political system of the agency-group relationship. Providing groups and agencies are sensitive to changes in society and adapt accordingly, the process promotes general political and social stability. Conversely, "closed and captive agencies and groups through

their failure to absorb external demands, may compound rigidities existing elsewhere in the system"[24].

In the context of the acid precipitation issue, many interest groups such as Pollution Probe, Greenpeace and later the C.C.A.R. were for the most part shut out of the policy process. They felt, with justification, that existing policies did not represent their interests and they went to great lengths to make this point. In 1987, they are able to more effectively participate in policy formulation and hence, by and large support government initiatives[25].

The third role groups play is educational and is divided into categories of self-education, public education, investigation of problems, be they local, regional, national, or global, and action on the problems through pressure on government, publicity, or court action[26]. All sectors of society benefit from the educational role. The government benefits because it expands policy options and receives feedback on initiatives. The general public benefits in several ways. Firstly, it has a right to know what is happening in the community and how decisions may affect it. Secondly, a balanced and informed "public opinion" is formed.

A poorly informed public is unable to sustain a high level of concern on any issue and is unlikely to demand more information, let alone be included in the decision making

process[27]. Therefore, the educational role is important, not only for sustaining an informed public opinion and interest in issues, but also to sustaining interest groups themselves.

Finally, the education role allows individuals who may be affected by a policy decision, but were previously unaware of it to come forward and express their concerns and opinions and to communicate with others in similar circumstances, i.e. become a member of a group. Other groups will also benefit because they will see and learn the other side on an issue.

At one end of Pross' continuum are institutionalized groups. These groups are often, but not always, national in scope, powerful, well-funded, and professionally staffed. Typically, these groups have ready access to techniques of influence denied to issue-oriented groups[28]. For example, the Ontario Mining Association represents and speaks for the mining industry in the province, and the officials from this group are in regular contact with government[29].

However, in the context of the acid precipitation issue, the two largest members of the association, Inco and Falconbridge, represent their own interests. Because of their size, power, and influence -- and because they are major polluters -- Falconbridge, and particularly Inco, deal directly with government officials in a manner far more

encompassing than any interest group, institutionalized or otherwise[30].

Inco officials and personnel are in daily contact with Ontario government personnel to fulfill regulatory commitments. At the policy level, a process described as the zipper approach takes place. Both Inco and the Ministry of the Environment have bureaucratic hierarchies and personnel in each sphere deal with their counterparts. So, for example, area managers in Sudbury deal with each other, Inco Vice-Presidents deal with deputy ministers, etc[31].

Often groups [or interests] will organize themselves to mirror the structure of the agency and its chief affiliates. They will hire professionals to maintain a continuing liaison with these parts of the agency whose work is vital to them, and they will organize members' [employees] committees to evaluate the information derived from monitoring, and to respond to initiatives from the agency and related groups[32].

Inco and government personnel meet formally on a regular annual, semi-annual, or quarterly basis -- depending on the level of contact; for example, the President and Minister might meet annually while lesser officials might meet quarterly on a formal basis. These officials would also be in contact informally on a daily or weekly basis. In this manner, Inco officials are actively consulted in the formulation and writing of environmental legislation as well as in implementation and regulation aspects of policy[33]. Pross elaborates on this pattern.

Because the policy community, works in this bureaucratic fashion, a group wishing to be influential in it ... must possess some of the attributes of bureaucracy. A group may be able to control the flow of human, material, or financial resources to the sector but power alone is not enough. It may enable a group to have a say in policy development, but the impact of that contribution will depend on how well the group understands and exploits its strategic position in the policy community. Access to decision centers, a strategic place in the information flow, and possession of technical expertise are also essential. Expert knowledge of the substantive policy field is a valuable commodity, particularly if the group holds a monopoly or near monopoly of vital information. Such information can be exchanged for access to decision-makers and for a continuing place in the information flow, such as group representation on advisory committees or automatic inclusion in technical conferences and consultative exercises. Access to key decision-makers denotes more than recognition - it is an acknowledgement of power in the community, of the possession of vital information and/or the ability to persuade others to support or abandon a cause. Above all, however, it is an acknowledgement of the group's familiarity with the policy process; of its ability to deal with a bureaucratic structure and to share bureaucratic values, such as a high regard for factual information and rational decision-making[34].

While Pross speaks here of interest groups, it seems justifiable to substitute "interests" as defined in Chapter 1 because Inco fits this pattern, perhaps better than any interest group could ever hope. * The point is that the challenge interest groups have is the need to break into the policy community and to expand it in order to be effective in influencing policy. The argument of this paper is that this indeed has occurred and that acid rain policy has been influenced by interest groups traditionally locked out of the policy process.

Two trends are at work in this context. The first trend is that the interest groups involved in the issue have taken on the attributes of institutionalized groups and have come to understand the policy process that they have become a part of. Secondly, there is a trend for greater openness by government in the policy process. While in the past, policy may have been solely the result of corporate-government interactions this is clearly not the case today.

Thus business is not alone in being admitted to circles of power and decision-making. However, they do hold a privileged position compared to unions and interest groups which have accrued only limited access. Another tendency is for government officials to accept industries specialized knowledge and competence[35] yet refuse to accept the information presented by interest groups.

Experts are trained in their field and presumed to be objective and impartial. Normally, citizens or issue-oriented groups are neither expert nor trained in the technical fields represented in environmental management that might range from biology to zoology. If they are experts, the messages that they bring are often not welcome to some ears. They are presumed to be subjective and biased. This "...ignores the politicization of science through its dependence upon and links to industry and government. It assumes that scientific and technical information is somehow neutral and value free"[36].

Official knowledge is not only institutionalized, it is compartmentalized and specialized. It is then taken out of the citizen's sphere and placed in the hands of experts, who then advise politicians who rely upon the experts. In effect, we have a short circuiting of democracy, whereby citizens are excluded from the decision-making process[37].

For example, when National Energy Board hearings were being held to decide whether to accept Ontario Hydro's proposal to export electricity to the U.S. via a cable under Lake Erie -- the so-called General Public Utilities Deal (GPU Deal) -- arguments of Energy Probe were rejected almost out of hand. Hydro's arguments, however, were accepted and apparently not even seriously questioned by NEB officials[38].

On the other hand, the Sub-committee on Acid Rain not only accepted Friends of the Earth's arguments regarding Ontario Hydro's performance in SO₂ abatement, it blasted Hydro's testimony as "imprecise and undependable" and termed the corporations activities as "irresponsible"[39].

This seemingly uncharacteristic response from a government institution towards a large corporation (crown corporation) could be the result of two trends. The first is a trend towards parliamentary committees gaining larger amounts of power. The second trend is that interest groups - such as F.O.E. - are becoming more sophisticated and possess expertise that governments wish to utilize. The former trend is beyond the scope of this research; the

latter shall be dealt with below in the context of a discussion on issue-oriented groups.

At the other end of the continuum from institutionalized groups are groups described as issue-oriented groups[40]. Groups that tend toward being issue-oriented are usually, but not always, poorly funded and staffed by non-experts. They exist generally because of a local issue or problem. Denied access to senior officials and sophisticated pressure mechanisms, the issue-oriented group must use tactics such as publicity stunts, door-to-door or phone petitioning and pressuring local politicians. This does not mean, however, that these groups are ineffective as was noted earlier in relation to Greenpeace and Pollution Probes activities.

Endeavors such as these have helped identify acid precipitation as an international problem and educate the public, and government, on the environmentalist viewpoint regarding the issue. Through the effective use of the media and media-oriented techniques the issues has been publicized and sustained for almost a decade. As mentioned previously, while these techniques are often viewed as being acts of last resort and generally ineffective, in the context of the acid rain issue, the groups using them have been relatively successful.

Public education efforts have had an impact. A survey conducted in Ontario found that 97% of the respondents had

heard of acid rain and 73% said it was a serious problem. Furthermore, 75% agreed or agreed strongly that the Ontario government was too soft on polluters and the same amount were willing to pay higher taxes and prices in exchange for a cleaner environment[41]. While encouraging to environmental groups, the figures do not necessarily reveal an informed public. After extensive media coverage on Great Lakes pollution between 1969 and 1971, a survey revealed that while 75% knew the lakes were polluted, only 15% knew why or by what means they were polluted[42].

On the other hand, there is a possibility that the public is more informed in 1987 than it was in 1971. The issue-attention cycle[43] describes a five-stage process the public often follows concerning an issue. In the first stage, only a few informed or concerned people are aware of an issue or problem. In stage two, the issue bursts into prominence and receives extensive media attention and public awareness is significantly raised. Governments may be goaded into limited action; perhaps cosmetic changes are made in a policy or program. The third stage reveals that the issue is quite complex and not as simple as first imagined. Costs begin to add up and other issues begin to replace the original one, leading to stage four, a general decline in the issue, and finally to stage five, where only a few committed individuals -- more than existed at stage one -- remain interested[44].

However, if the cycle repeats itself many times, and in environmental and pollution issues it has, then the general awareness of the public should be increased and a larger number of individuals should remain involved in, and committed to, solving an issue.

Implicit in the idea of public information is the role that the media plays, particularly in terms of agenda setting. To a large extent proponents of emission controls on major polluters have been able to set the agenda in the acid rain issue. Pictures of "super-stacks" belching out clouds of smoke, dead or dying trees, dead fish and particularly publicity stunts such as climbing up or jumping off smoke-stacks, demonstrations and picket-lines with participants carrying acid rain umbrella's make for good television coverage. The term "Acid Rain" is itself a catchy, easily remembered phrase that suits bold type headlines in newspapers. It also gives headline writers a chance to use a play on words; for example, "Acid rain eating away tourism" or "Acid rain agreement showered with scorn." This has undoubtedly been exploited by environmental interest groups to draw attention to their cause.

The effect has been to put government, and industry, on the defensive. If environmental groups charged the government was doing nothing, steps were taken to at least appear to be doing something, for example initiating studies

on the issue. As pressure mounted and the studies revealed evidence that acid rain was a serious problem concrete action was eventually taken.

The media, then, was an outlet for groups to get their message across to a wider audience than would be possible given their limited resources. In this manner the issue was identified and sustained over a period of years and to a degree difficult to measure, government and industry were pushed into action as public opinion shifted towards the environmental groups' viewpoint.

Greenpeace has been particularly adept at these tactics. A stated goal of the group is to keep the darker side of Inco's Sudbury operations in the news. Greenpeace has shares in Inco and has disrupted shareholder meetings and repeatedly proposed emissions cuts at the yearly meetings. After losing a court challenge to Inco a Greenpeace activist arrived at Inco headquarters in Toronto, in front of T.V. cameras, dressed as Santa Claus and proceeded to pay the court cost award given to Inco in one dollar bills[45].

As useful as the media is in publicizing issues, there is little independent serious research done by the mainstream media. Reporters rely heavily on press handouts for their information[46] and the inability or unwillingness to invest time in a detailed acquisition of knowledge results in a trivial reporting of events. Furthermore, if the suppliers

of news, politicians or groups, sense this they will comply by feeding the system with more trivia[47]. For example, in the build up to the January, 1987 visit by Vice-President George Bush to Ottawa, reporters repeatedly stated that the Prime Minister was going to give him "an ear-full" on acid rain. On cue, Mr. Bush said at the news conference after the talks, "I got an earful on acid rain"[48].

Viewing the solemn faces of T.V. pundits discussing "The Acid Rain Problem" - usually only in the context of Canada-U.S. relations - gives one who has at least a limited knowledge of the issue the impression that they are basically unaware of the details. The question is, then, if the reporter has only a superficial knowledge of the subject, what is being conveyed to the average viewer or reader? One would speculate not very much. In fact, a poll taken by the National Wildlife Federation in the U.S. found that 40% of respondents believed acidic pollutants came from nuclear plants[49]. While Canadians might be better informed, as indicated earlier, because of the high publicity the issue received here, the quality of the publicity is still suspect.

Perhaps recognizing that now the public is aware of the issue, but needs to become better informed, groups have begun to publish their own books and journals that provide well-researched, in-depth discussions of not just acid rain but all environmental issues. International Wildlife, a

journal produced by the Canadian Wildlife Federation has a regular Acid Rain Update section. Alternatives, a journal formally published in association with Friends of the Earth, now published out of the University of Waterloo, provides well researched articles on a variety of issues, including acid rain. Greenpeace produces its own publication, The Examiner as does Pollution Probe with Probe Post. The Ontario Forestry Association produces a newsletter and series of pamphlets dealing with forestry issues, including acid rain and the C.C.A.R. produces a monthly newsletter as well as brochures and pamphlets on acid rain.

To their credit, governments also publish excellent sources of information on acid precipitation. Industry is less willing to publicize itself. Inco, for example, monitors what is being said in the various media and takes steps to correct anything it believes to be a misrepresentation of facts. Aside from an internal newsletter it does not publish any material regarding the issue. Ontario Hydro does publish a number of information brochures explaining its side of the issue and also has a library, open to the public, which contains a section dealing with the issue.

Part of the reason environmental groups produce their own publications may be to provide more in-depth information to the public, and to their members, than the media is able to furnish. It is also however because they have evolved. The

original environmental groups were often ad hoc, loosely structured organizations, but many have become increasingly sophisticated over the years; in fact, they have migrated along Pross' continuum towards the institutionalized end. The reasons for this movement are obvious. "To be successful, a group must be business-like. It must follow through effectively on administration and all its other activities, and in fact have a recognized, stable physical presence"[50]. These publications are evidence of that evolution.

Both Greenpeace and Pollution Probe have evolved over their histories in this manner. While neither is an institutionalized group, they are not pure issue-oriented either, having managed a balance of both. Greenpeace is an international organization with a multi-million dollar budget, but it relies heavily on non-expert committed volunteers to perform field activities. Pollution Probe operates almost exclusively in southern Ontario localities and while certainly utilizing non-professional volunteer help, is staffed by well-trained experts in environmental research. As mentioned, the Canadian Coalition on Acid Rain has become an extremely effective lobby group. It has evolved to the point that its leaders now decry the extremist positions taken by other groups involved in the issue[51]. Nevertheless, these groups do not have the privileged access to power available to officials at Inco.

Despite the lack of access to power and the difficulties of operating without huge budgets and professional staff, interest groups involved in the acid precipitation issue have by and large advanced towards their goals.

Because of the diversity of the groups involved in the issue it is difficult to pinpoint any single uniform purpose; however, in the broader sense two basic objectives have emerged that sum up the basic goals of the movement. These objectives also tend to separate the philosophical aspects of the objectives associated with the environmentalist groups, from the more pragmatic aspects associated with the groups representing tourism or forestry.

The philosophical side of the movement - the environmentalist side - seeks a societal change in the way Canadians do things; how we view the environment, consume energy and other goods, and pollute and degrade the environment. Greenpeace wants Canadians to reduce our reliance on fossil fuels[52]. Energy Probe promotes a philosophy known as the "Soft Path"[53].

While it is impossible for a paper such as this to measure the exact impact environmental groups have had on how society views the environment, it is clear there has been a shift in that view over the past two decades. Canadians clearly are concerned about the environment, feel that its degradation is a threat to their quality of life

and are willing to pay to clean and maintain it[54]. The work of interest groups has undoubtedly had an effect on this shift in public opinion.

The pragmatic side of the issue is much easier to identify and explain. Here, groups representing tourist facilities, sport fisheries, forestry, cottagers etc. are saying "we have a problem here. Our jobs, income, recreational opportunities are being threatened by acid rain and we want you - government - to do something about it." These groups are not particularly advocating a change in societal attitudes, they have a specific problem and they want it fixed. The members of these groups are solid middle-class and mainstream Canadians. Politicians clearly pay attention to the wishes of these people, the proof being the commitments to reducing acid rain by 50% by 1994.

The environmental groups have sided with the pragmatic groups for obvious pragmatic reasons; they see emission controls as a logical first step towards a conserver society, a means to an end but not the end in itself. A further point needs to be made. Members of all groups, all interests, all governments are also part of the society that now views the environment differently than twenty years ago. Thus while it is convenient to separate the pragmatic aspects of this issue from the more philosophical ones, they are also closely linked.

This paper has argued interest groups have had considerable influence in the formulation of environmental policy relating to acid precipitation. Their role has been one of identifying the problem, publicizing it, arguing action on solutions and the continuing role of monitoring and offering improvements to the regulations they have helped create.

Many of the groups began as issue-oriented organizations operating outside the policy system. They overcame many difficulties, became more sophisticated and helped expand the policy community so that today, it would be rare for an environment minister to ignore the environmental constituency or undertake a major policy initiative without some form of public consultation.

The process is not perfect. Only one of the groups or interests that answered the question "Are you satisfied with the present system of interest group involvement?" said yes. However, two government officials answered they were quite satisfied with the process[55]. The groups raise issues of a generally weak group-government interface. The process is described as weak and inadequate by the groups and satisfactory and open by the officials. None of the interests that responded were satisfied with the process, one respondent claiming a system of government-group interface does not exist at all[56]. Interestingly, while the groups are almost unanimously dissatisfied with the process they are split as to why. The environmental groups

tend to decry the lack of grass-roots involvement and the lack of government commitments. The institutionalized groups complain of the squeaky wheel getting the grease and too much negative commentary by other groups[57].

A formalized framework in which groups and governments can interact does not exist. While it is unlikely that everyone can be completely satisfied, a formal process would eliminate most of the problems raised by the groups. However, it must be noted that with the government seemingly satisfied with the existing process, if more changes are to be made and a formal process put in place, they may have to come from outside government in the form of pressure from interests and groups.

Notes

- [1] Paul Wilkinson, "The Role of the Public in Environmental Decision making", in O.P. Dwivedi (Ed.), Protecting the Environment: Issues and Choices - Canadian Perspectives, (Toronto: Copp-Clark, 1974), pp. 246-247.
- [2] Ibid, pp. 246-247.
- [3] James Kraus, "Legal Alternatives to the Control of Acid Rain", Alternatives, 11, 2, p. 25. Winter, 1983.
- [4] Douglas Johnston and Peter Finkle, Acid Precipitation in North America: The Case for Transboundary Cooperation, (Calgary: Canadian Institute of Resources Law, 1982), pp. 12-16.
- [5] Wilkinson, pp. 246-247.
- [6] Pross, Group Politics and Public Policy, page 172.
- [7] Natural Resource Administration and the Law, 1986, pages 279-80. Pross, page 172. Briefly, this case involved several Nova Scotia land owners attempting to prevent Nova Scotia Forest Industries from spraying herbicides. The plaintiffs lost the case and actions were dismissed with costs.
- [8] Pross, Group Politics and Public Policy page 173.
- [9] Ibid., page 173.
- [10] Ibid., page 173.
- [11] Dr. Dixon Thompson, "A Proposal for Anticipatory, Preventative System", in C.G. Morley (Ed.), Ask The People: Proceedings of a Multi-Disciplinary Workshop on Public Participation in the Environmental Management Decision-Making Process, (Agassiz Center for Water Studies, 1973), p. 107.
- [12] Wilkinson, page 247.
- [13] Pross, Pressure Group Behavior in Canada Politics, page 6.
- [14] Ibid, p. 13.
- [15] Wilkinson, pp. 131-132.
- [16] W.R.D. Sewell, "Public Participation: Toward an Evaluation of Canadian Experience", in Barry Sadler (Ed.), Involvement and Environment: Proceedings of the Canadian Conference on Public Participation, Volume 2, 1977, p. 219.

- [17] Interview material, N. Ruben, Energy Probe 25/06/86.
- [18] Pross, Pressure Group Behavior in Canada Politics, page 13.
- [19] Ibid, p. 19.
- [20] Greenpeace, STOP ACID RAIN, pamphlet.
- [21] Alternatives, 11, 2. Notes from FOE, pp. 7-8, Winter 1983.
- [22] Wilkinson, pp. 236-237.
- [23] Pross, Pressure Group Behavior in Canada Politics, page 6-7.
- [24] Ibid, pp. 6-7.
- [25] Questionnaire Data.
- [26] R.D. Brinkhurst and D.A. Chant, This Good, Good Earth: Our Fight for Survival, (Toronto: Macmillan, 1971), p. 165.
- [27] Steven Schatzow, "The Influence of the Public on Federal Decision-making in Canada", in W.R.D. Sewell and J.T. Coppock (Eds)., Public Particiaption in Planning, (London: John Wiley and Sons, 1977), pages 153-54.
- [28] Pross, Pressure Group Behavior in Canadian Politics, page 1.
- [29] Interview Material, Mr. Reid, O.M.A. 24/06/86.
- [30] Interview Material, Mr. C. Ferguson, Inco Ltd. 23/06/86.
- [31] Ibid.
- [32] Pross, Group Pressure and Public Policy, page 138.
- [33] Interview Material, Mr. C. Ferguson Inco Ltd. 23/06/86.
- [34] Pross, Group Politics and Public Policy, page 134. Pross uses the term policy community to describe all of the interested parties, including the government agency involved in any given policy area.
- [35] Still Waters: Report of the Subcommittee on Acid Rain. page 184.
- [36] Donna Smyth, "Finding Out: The Rise of Citizen Science" Ideas, CBC Transcripts, page 16.

- [37] Ibid., page 14.
- [38] Interview material, Mr. N. Ruben, Energy Probe 25/06/86.
- [39] Time Lost, page 23.
- [40] Pross, Pressure Group Behavior in Canada Politics, page 1.
- [41] Countdown Acid Rain, p. 4.
- [42] Steven Schatzow, "The Influence of the Public on Federal Decision-Making in Canada", in W.R. Derrick Sewell and J.T. Coppock (Eds.), Public Participation in Planning, (London: John Wiley and Sons, 1977), pp. 152-154.
- [43] H.D. Foster and W.R.D. Sewell, Water: The Emerging Crisis in Canada, (Toronto: James Lorimar and Company, 1981), pp. 1-5.
- [44] Ibid, pp. 1-2.
- [45] Greenpeace Examiner vol. 10, no. 2, April/June, 1986, page 11.
- [46] W.T. Stanbury "Lobbying and Interest Group Representation in the Legislative Process" in W.A.W. Neilson, J.C. MacPherson (Eds.), The Legislative Process in Canada - The Need for Reform. (Toronto: Butterworth and Co. (Canada) Ltd., 1978), page 193.
- [47] D.G. Hartle. A Theory of the Expenditure Budgetary Process (Toronto: Published by the Ontario Economic Council by the University of Toronto Press, 1976), page 72-3.
- [48] The Winnipeg Free Press Vol. 115, no. 52, January 22, 1987, page 1.
- [49] Acid Rain News, December 1, 1986. page 4, Canadian Coalition on Acid Rain.
- [50] D.A. Chant, "Pollution Probe: Fighting Polluters With Their Own Weapons", in Paul Pross (Ed.), Pressure Group Behavior in Canadian Politics, 1975, p. 83.
- [51] Questionnaire Data - C.C.A.R.
- [52] Questionnaire Data - Greenpeace.
- [53] Interview Material, Mr. Norm Ruben, Energy Prove, 25/06/86.

[54] Equinox, Vol. 6, no. 1, January 1987, "Protecting
Canada's Environment" page 100.

[55] Questionnaire data.

[56] Ibid.

[57] Ibid.

Chapter V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

5.1 SUMMARY

Acid precipitation has been shown to be a complex issue that transcends the boundaries of more conventional pollution-related issues. Rather than being a local and comparatively easily managed problem, acid rain is a global issue. It results largely from the sum total of thousands of local emission sources that, while individually insignificant on a global scale, collectively threaten the ecological stability of susceptible regions. The issue is further complicated because damage is often being done in a different political jurisdiction thousands of kilometers away from the source. Finally, while the technology exists to control acid gas emissions, it is expensive technology, sometimes prohibitively expensive depending on one's point of view. Moreover, the benefits of emissions control accrue to people who do not necessarily pay the costs of abatement.

The characteristics of acid precipitation ensure the necessity of government involvement in the issue. It is clear, that in Canada's case, only coordinated action by the federal government and the provinces will allow appropriate

measures to be taken on the issue. Perhaps more importantly, cooperation and coordination with the United States is necessary.

Effective measures have been taken in Canada where the federal government and the eastern provinces are committed to a 50% reduction in SO₂ emissions by 1994. Federal standards on automobile emissions producing NOx have also been increased. The situation in the United States vis-a-vis acid rain falling in Canada is less optimistic but not hopeless. There are powerful interests resisting stricter regulations in the U.S. but they are faced with growing opposition from proponents of tougher air pollution laws.

Most recently, President Reagan has formally agreed to seek two and one half billion dollars from congress to be spent on acid emission abatement technology in compliance with the recommendations of the Davis-Lewis Report. Critics have charged the move was only to placate Prime Minister Mulroney before th annual meeting between the two leaders. Reagan's announcement not only depends on congressional approval but does not set limits on emissions or set a time-table for reductions to take place[1].

Governments do not formulate policy in a vacuum. Within any given policy community, many different forces are in action pushing and pulling various ways to have their voices

heard. Similarly, no single policy community operates in a vacuum and is also subject to outside forces.

Thus policy dealing with acid precipitation must be seen in light of the complex task of governing Canada with international, federal, provincial and municipal actors - government and non-government - operating in policy areas including finance, energy, external relations, federal-provincial relations and of course, the environment. Within the environmental policy community itself, acid rain is but one of many issues and interest groups are only one source of input into policy formulation dealing with the issue. Other inputs have been mentioned such as corporate interests, unions, the media, other governments and the public at large. In the context of the Canadian democratic system, the role of the public is central to the orderly functioning of the institutional process of which groups, unions, corporate interests and governments are all a part.

In a very important sense, the public remains the ultimate arbiter (although admittedly a rather unwieldy and sometimes capricious one) of what happens with regards to resources and environmental issues. Through popular attitudes and opinions, consumer preferences and buying habits and participation in group action, public meetings and the election of governments the public plays a crucial role in setting the agenda and establishing the limits within which governments and other actors must operate[2].

It is within this context that groups must be viewed. This paper's primary objective has been two-fold: firstly to outline the role of interest groups in the environmental

policy formulation process and secondly, to assess the significance of that role. The secondary objective has been to determine how groups fit into the policy process pertaining to the acid precipitation issue and to identify the major players in the issue.

Groups perform three major functions in society: communications, legitimation and education. Groups facilitate a two-way communication flow between their members and the government, with other groups and the public and finally, they stimulate communication within government itself. The legitimation function is accomplished when groups participate in the policy process in a meaningful way which helps strengthen the policy, the process and the overall democratic system. Groups educate their members, the government, other groups and the public at large. They inject new ideas and concepts into the process which again strengthens the democratic system.

The interest groups involved in the acid precipitation issue have performed all of these functions. Some have performed certain functions more successfully than others, but over-all they have formed a cohesive force - culminating with the Canadian Coalition on Acid Rain - that has been able to influence government policies pertaining to acidic pollutants.

The Canadian Coalition on Acid Rain has been successful in cultivating communications between its diverse membership as well as between itself and government. Greenpeace, with its calculated use of the media and related techniques, has also performed the communications function. While leaping from smokestacks is not the best way to convey factual information, the simple message, 'Stop Acid Rain', is effectively broadcast to a mass audience.

The ability to 'get the word out' has been an invaluable contribution by interest groups involved in the acid rain issue. The issue has been brought out of relative obscurity to become a national issue. As noted in Chapter 4, 97% of people in Ontario responding to a survey had heard of acid rain. Interest groups, with the aid of the media, have indeed, gotten the word out.

Groups have not only introduced the issue of acid rain to the public, they have attempted to educate people as well. Groups such as the Environmental Law Association, Pollution Probe and the Canadian Coalition on Acid Rain have become experts on the issue and are able to present precise factual data to government and to the public. Governments, who compile or fund most scientific research on acid rain, have also had a major role in educating the public on acid rain. The interest groups publish brochures and pamphlets on acid rain, write articles for magazines and newspapers and fund the publication of books dealing with the issue.

The legitimation function stems largely from the communications and education functions. Groups such as Greenpeace, Pollution Probe and the Canadian Coalition on Acid Rain were traditionally locked out of the policy process. They now have meaningful input, either directly through group-government interaction or indirectly through their ability to influence public opinion, and now generally accept present government initiatives to curb acid rain. Groups are accepted as legitimate participants in the policy community by other actors and institutions and are an influential part of the policy process.

What has occurred, at least within the context of the issue, is the parameters of the decision-making process have been broadened over the past two decades, primarily at the encouragement of interest groups. Twenty years ago the government of Canada and the provinces, for various reasons, did not extensively consult with the public on decisions about pollution control. The public, in the form of interest groups, began to perceive the traditional way of doing things was not in their best interest. Through letter-writing campaigns, demonstrations and publicity stunts they demanded information and a say in what was going on at centers of decision-making. As this process has occurred there has been a broadening of the parameters of the decision-making process. More people are involved in the policy process, a wider variety of voices and alternatives

are being heard, and the resulting policies are reflecting the wishes of greater numbers of people. Democracy has in fact been strengthened, at least within the context of this issue.

5.2 CONCLUSIONS

While not possible to accurately measure the relative influence interest groups have had on acid rain policy compared to corporate interests, government, unions, the public etc., the evidence gathered in the research and questionnaire data indicates interest groups have played a significant role. This is especially true when viewed over time. As noted above, fifteen or twenty years ago there were no groups involved in the issue; there was in fact no issue. A great deal of the credit for identifying, sustaining and publicizing the issue must go to the interest groups.

Acid rain was first identified by the scientific community[3] but it was interest groups that took the initiative and pushed the issue to the fore of the political agenda. The coalition on acid rain solicited and published positions on the issue from the three federal party leaders in Canada before the 1984 election. It intends to do the same in the New England primaries in the 1988 Presidential elections in the United States. Acid rain discussions are ongoing at the highest levels of Canadian and American

government relations. Interest groups have consistently pushed for this high level recognition of the issue.

It is comparatively easy to demonstrate groups have played a role in the acid rain issue but more difficult to determine the significance of that role. Would, for example, governments have acted on the issue on their own if no groups existed? Would the public be adequately informed or would industry voluntarily reduce emissions by installing abatement equipment? This seems unlikely and one would conclude that programs now in place would not exist if not for interest group activity. Questionnaire data backs this assertion. Therefore, it can be concluded that direct interest group involvement in the acid precipitation issue has had a significant impact on policy formulation pertaining to the issue.

It has also been noted that groups, particularly environmental groups, have played a part in the transformation of public attitudes towards the environment. This indirect influence has also been a factor, not only in acid precipitation issue, but in all environmental and pollution-related issues. It is doubtful that governments in Canada would be as forthcoming about emission control strategies if a strong public opinion did not exist indicating a demand for such programs. This is not to say that governments will not act against public opinion; they do so frequently. However, they may be more inclined to

follow through with programs with popular support and more so if there is strong pressure from interest groups as well. For example, the aforementioned survey also indicated 75% of respondents felt government was too soft on polluters. Moreover, corporations are not immune to public opinion. The desire for a positive image of corporate citizenship can also be a motivation to take steps to abate pollution.

In conclusion, then, interest groups have been active and useful participants in the policy process pertaining to acid precipitation. They have been able to coordinate their activities in a coalition, present a concise and consistent message, and gain expertise and respect in the environmental policy community. However, this sophisticated institutionalized side of the groups has been balanced with a calculated use of media-related techniques designed to garner favourable public opinion and embarrass industry and government. The combination has been effective in influencing policy on acid rain.

Because of the characteristics of acid rain and the acid rain issue noted at the beginning of this chapter, it is not clear that interest groups involved in other environmental issues can replicate the experiences of groups described in this paper. Nevertheless, certain problems are common for most groups involved in environmental issues. All groups, institutionalized or issue-oriented, face constraints due to lack of funding and expertise. Obviously this is less of a

problem for institutionalized organizations but the reality remains that information and expertise are expensive and not easily obtained. This is especially true in areas of environmental pollution and health and safety where all parties involved are often literally breaking new ground. Groups must also negotiate the jurisdictional and bureaucratic tangle inherent in Canada's federal system. Once again some groups have an easier time than others. Finally groups have a choice of a variety of methods and techniques and must carefully choose those which suit their situation and are the most effective.

That institutionalized groups and interests have an advantage over issue-oriented groups in overcoming the challenges of influencing public policy should not discourage issue-oriented groups from pursuing their objectives. The dogged determination of the environmental groups, especially in the early stages of the issue has not only paid off for these groups but paved the way for new groups dealing with new environmental issues.

5.3 RECOMMENDATIONS

The course of interest group involvement in the policy process has not completely matured. A formal consultation process is not in place and the problem of inequality among the various actors presents an especially difficult problem. The acid rain issue is also far from resolved. Despite new

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legislation in Canada and Ontario target deadlines are not until 1994 and there is no guarantee they will be met or that government will enforce its own rules. Moreover, there is little consensus for immediate action in the U.S. and prospects for tougher regulations there are mixed.

Interest groups, therefore, have a continuing role to play in the acid rain issue. In Canada, they must continue to press for emission abatement of all pollutants and monitor compliance of existing regulations. They must also push government for a formal participation process not just for the acid rain issue but all environmental issues. The Canadian Coalition on Acid Rain and U.S. interest groups need to continue to lobby the American government to enact tougher laws and regulations on polluters and to monitor compliance of existing laws. On the technological side of the issue, research is necessary to develop not just more effective abatement equipment, but more affordable abatement equipment. A breakthrough in costs of technology could remove many of the major stumbling blocks to significant progress on pollution control strategies.

Finally, there are several implications for environmental and resources managers in both public and private sectors. This paper has shown interest groups to be active participants in the policy process. They are capable of identifying environmental problems and providing additional expertise for input into policy. On the output or

implementation side of environmental policy, interest groups can work closely with environmental managers. Besides monitoring, groups can provide feedback on the effectiveness of policy and suggest improvements and modifications. This would complete the two-way communications function of groups. Thus environmental and resources managers must be prepared and equipped to not only deal with groups but work with them in problem solving.

On a broader scale, environmental management plans in acid-sensitive areas will need to consider the impact acid rain may have for at least the next decade and probably beyond. Forest, wildlife and water management strategies cannot afford to ignore the potential or on going effects of acid rain. Again, interest groups can play a useful role in these areas.

The foregoing discussion raises a number of specific issues that continue to go unresolved, despite the progress interest groups have made within the acid rain issue. Future group involvement will not be assured unless a formal process is in place and groups can count on adequate support to perform a useful role. Present regulations on acid emissions is only a first step. Governments will need to move ahead with tougher regulations and strict enforcement of the rules that are set. Therefore, the following recommendations are deemed appropriate:

1. Groups and/or individuals with an interest in environmental or related legislation have a right to provide an input into the formulation of policy at the earliest stages of the process. Therefore, a formal mechanism should be put in place to ensure group input into policy formulation.
2. Groups and/or individuals often lack adequate funding to acquire specialized expertise. Therefore funding should be made available to groups or individuals wishing to have input into policy formulation. In addition, schedules should be flexible to allow groups additional time to gather information if necessary. Special times may have to be set aside to allow part-time activists an opportunity to make presentations to public hearings or commissions.
3. Given that at least one half of Canada's acid rain problem originates in the United States, the U.S. government should be actively pressured to abide by the principles of the 1980 Memorandum of Intent and the 1986 Report of the Special Envoys and to take further steps to lower acid gas emissions originating in that country.
4. A general transboundary air pollution agreement should be negotiated and signed by Canada and the United States.
5. Governments must not only set tough emission standards and regulations but must strictly monitor

compliance and be willing to enforce the standards to the fullest extent of the law.

The acid precipitation issue may be the most significant environmental issue of the 1980's and interest groups have played an important role in stimulating public opinion. Through perseverance and hard work they pushed the issue to the top of the political agenda and educated the public and government on the environmental damage caused by acid rain. Interest groups have played an important and useful role in policy formulation pertaining to acid precipitation and will continue to do so in the future.

Notes

- [1] The Winnipeg Free Press. vol. 115, no. 108. March 19, 1987. page 1.
- [2] R. Brian Woodrow. "Resources and Environmental Policy-Making at the National Level: The Search for Focus" in O.P. Dwivedi: (Ed) Resources and the Environment: Policy Perspectives for Canada. (Toronto: McClelland and Stewart, 1980), page 42.
- [3] See Beamish, R. J. and H.H. Harvey, "Acidification of the La Cloche Mountain Lakes, Ontario and Resulting Fish Mortalities", Journal of the Fisheries Research Board of Canada. Vol. 29, 1972, 1131-1142.

BIBLIOGRAPHY

- Berger, Mr. Justice Thomas. Northern Frontier Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry: Volume I. Ottawa: The Minister of Supply and Services, 1977.
- Bookchin, Murray. Toward an Ecological Society. Montreal: Black Rose Books, 1980.
- Brinkhurst, R.O. and D.A. Chant. This Good, Good Earth: Our Fight for Survival. Toronto: Macmillan, 1971.
- Burton, T.L. Natural Resource Policy in Canada: Issues and Perspectives. Toronto: McClelland and Stewart, 1972.
- Carroll, John E. Acid Rain: An Issue in American-Canadian Relations. Toronto: Canadian-American Committee, 1982.
- Carroll, John E. Environmental Diplomacy: An Examination and a Perspective of Canadian-US Transboundary Environmental Relations. Ann Arbor: The University of Michigan Press and the C.D. Howe Institute, 1983.
- Davis, William and Drew, Louis. The Joint Report of the Special Envoys on Acid Rain. January, 1986.
- Doern, G. Bruce and Richard W. Phidd. Canadian Public Policy: Ideas, Structure, Process. Toronto: Methuen, 1983.
- Doern, G. Bruce and U.S. Wilson (Eds). Issues in Canadian Public Policy. Toronto: Macmillan, 1974.
- Dwivedi, O.P. (Ed). Resources and the Environment: Policy Perspectives for Canada. Toronto: McClelland and Stewart, 1980.
- Dwivedi, O.P. (Ed). Protecting the Environment: Issues and Choices - The Canadian Perspective. Toronto: Copp-Clark, 1974.
- Elliot, Thomas C. and Robert G. Schweiger (Eds). The Acid Rain Sourcebook. New York: McGraw-Hill, 1984.

- Frederick, E.R. (Ed). A Specialty Conference on Atmospheric Deposition. Edited by the Air Pollution Control Association, November 7-10, 1982. Detroit, Michigan: Publishers Choice Book Manufacturing Co., Pennsylvania, 1982.
- French, William and Richard van Loon. How Ottawa Decides, Vol. 2. Toronto: James Lorimar and Company, 1984.
- Foster, H.D. and W.R.D. Sewell. Water: The Emerging Crisis in Canada. Toronto: James Lorimar and Company, 1981.
- Ganson, W.A. The Strategy of Social Protest. Homewood, Illinois: The Dorsey Press, 1975.
- Gorz, Andre. Ecology as Politics. Boston: South End Press, 1980.
- Howard, Ross and Michael Perley. Acid Rain: The North American Forecast. Toronto: House of Anansi Press Ltd., 1980.
- Johnston, Douglas and Peter Finkle. Acid Precipitation in North America: The Case for Transboundary Cooperation. Calgary: Canadian Institute for Resources Law, 1982.
- Kernaghan, Kenneth (Ed). Public Administration in Canada: Selected Readings, 4th edition. Toronto: Methuen, 1982.
- Leiss, William (Ed). Ecology Versus Politics in Canada. Toronto: University of Toronto Press, 1979.
- Lindblom, Charles. Politics and Markets. New York: Basic Books, 1977.
- Lundquist, Lennart J. Environmental Policies in Canada, Sweden, and the United States: A Comparative Overview. Beverley Hills: Sage Publications, 1974.
- Luoma, J.R. Troubled Skies, Troubled Waters: The Story of Acid Rain. New York: Viking Press, 1984.
- Luttberg, N.R. (Ed). Public Opinion and Public Policy: Models of Political Linkage. Homewood, Illinois: The Dorsey Press, 1968.
- Macdonald, Donald (Chairperson). Royal Commission on the Economic Union and Development Prospects for Canada. Ottawa: The Minister of Supply and Services, 1985.
- McBoyle, G.R. and E. Sommerville (Eds). Canada's National Environment: Essays in Applied Geography. Toronto: Methuen, 1976.

- Mitchell, B. and W.R.D. Sewell (Eds). Canadian Resource Policies: Problems and Prospects. Toronto: Methuen, 1981.
- Morley, C.G. (Ed). Ask the People: Proceedings of a Multi Disciplinary Workshop on Public Participation in the Environmental Management Decision Making Process. Organized and sponsored by the Westwater Research Centre and Environment Canada. Published by the Agassiz Centre for Water Studies, 1973.
- Nielson, W.A.W. and J.C. MacPherson (Eds). The Legislative Process in Canada: The Need for Reform. Proceedings of a conference held at the University of Victoria and sponsored by the Institute for Research on Public Policy and the Faculty of Law, University of Victoria, March 31-April 1, 1978. Institute for Research on Public Policy, Butterworth and Co. (Canada) Ltd., 1978.
- Pawlick, Thomas. A Killing Rain: The Global Threat of Acid Precipitation. Vancouver: Douglas and MacIntyre, 1984.
- Pross, A. Paul (Ed.). Pressure Group Behavior in Canadian Politics Toronto: McGraw-Hill Ryerson, 1975.
- Pross, A. Paul, Group Politics and Public Policy Toronto: The Oxford University Press, 1986.
- Sadler, Barry (Ed). Involvement and Environment Vols. 1 and 2. Proceedings of the Canadian Conference on Public Participation, Banff, Alberta, October 4-7, 1977. Published by the Environment Council of Alberta, Edmonton, 1979.
- Sadler, Barry (Ed). Public Participation in Environmental Decision Making: Strategies for Change. Proceedings of a national workshop, April 17-20, 1979. Published by the Environment Council of Alberta, Edmonton, 1979.
- Sewell, W.R.D. and J.T. Coppock (Eds). Public Participation in Planning. London: John Wiley and Sons, 1977.
- Scott, A. (Ed). Natural Resource Reviews: A Test of Federalism. Vancouver: University of British Columbia Press, 1976.
- van Lier, Irene H. Acid Rain and International Law. Toronto: Bunsel Environmental Consultants, 1981.
- Weller, Phil. Acid Rain: The Silent Crisis. Kitchener, Ontario: Between the Lines Press and the Waterloo Public Interest Research Group, 1980.

Whitney, J.B.R. and V.W. MacLaren (Eds). Environmental Impact Assessment: The Canadian Experience. Toronto: Institute for Environmental Studies, University of Toronto, 1985.

OTHER SOURCES

Environment Canada

Information Directorate, Environment Canada. Downwind: The Acid Rain Story. Ottawa: The Minister of Supply and Services, 1984.

"Stop Acid Rain Campaign". Environment Canada Bulletins.

Environment Canada, Environmental Conservation Service, Long Range Transport of Airborne Pollutants. Ecosystem Classification and Acid Rain, 1985. Loading for Aquatic Ecosystems, 1985. Acid Rain and Wildlife, 1985.

The Government of Canada

A Report by the Subcommittee on Acid Rain of the Standing Committee on Fisheries and Forestry. Still Waters. Ottawa: The Minister of Supply and Services, 1981.

A Report by the Subcommittee on Acid Rain of the Standing Committee on Fisheries and Forestry. Time Lost. Ottawa: The Minister of Supply and Services, 1984.

Government of Canada - The Freshwater Institute. Acid Rain. 1980.

The Province of Ontario

Ministry of the Environment. The Case Against Acid Rain - A Report on Acidic Precipitation and Ontario Programs for Remedial Action. Toronto: Ontario Ministry of the Environment, 1982.

Ministry of the Environment. Annual Report 1983-1984. Toronto: Ontario Ministry of the Environment, 1984.

Ontario Energy Board. Twenty-Fifth Anniversary Annual Report - March 31, 1985. Toronto: Ministry of Government Services, 1985.

Acid Precipitation in Ontario Study. Annual Report Fiscal Year 1984/1985. APIOS no. 023/85. Toronto: Ontario Ministry of the Environment, September 1985.

Ministry of the Environment. Acid Sensitivity of Lakes in Ontario, 1985. Toronto: Ontario Ministry of the Environment, 1985.

Ministry of the Environment. Countdown Acid Rain: Ontario's Acid Gas Control Program for 1986-1994. Toronto: Ontario Ministry of the Environment, 1985.

Ministry of the Environment. Countdown Acid Rain Fact Sheets, 1985.

The Honorable Jim Bradley, Ontario Minister of the Environment. A Statement to the Legislature on Countdown Acid Rain. December 17, 1985.

The Honorable Jim Bradley, Ontario Minister of the Environment. Remarks to Air Pollution Control Association, Pollution Control Association of Ontario Joint Annual Convention. April 28, 1986.

Periodicals

The New Internationalist, 157, March 1986 - Our Throwaway World.

Alternatives, 13, 1, December 1985. "Resisting Regulation: Environmental Policy and Corporate Power". Ted Schecker.

Alternatives, 11, 2, Winter, 1983. The Politics of Acid Rain issue.

Probe Post, 9, 1, June 1986. "Acid Rain: How Far Have We Come?" Michael Perley.

Canada Today, 12, 2, February 1981. "How Many More Lakes Have To Die?"

Other

Finding Out: The Rise of Citizen Science. Donna Smyth for CBC Radio Program "Ideas", January 8-22. CBC Transcripts, Toronto, 1985.

Ontario Hydro. Annual Report 1985. Toronto: Ontario Hydro, 1985.

Pollution Probe. The Acid Rain Primer, revised edition. Toronto: Pollution Probe, 1985.

Manitoba Environmental Management Division. Acid Rain: A Manitoba Perspective. Winnipeg.

Appendix A

INTERESTS, INTEREST GROUPS AND GOVERNMENT OFFICIALS CONTACTED

Government Officials

The Honorable Tom McMillan, Minister of the Environment, Government of Canada.
The Honorable Charles Caccia M.P., Former Minister of the Environment, Government of Canada.
John Roberts, Former Minister of the Environment, Government of Canada
Genevieve St. Mairie, Deputy Minister of the Environment, Government of Canada.
The Honorable Jim Bradley, Minister of the Environment, Government of Ontario.
Walter Giles, Associate Deputy Minister of the Environment, Province Ontario.

Interest Groups

Motor Vehicle Manufacturers' Association
Canadian Nature Federation
Ontario Forestry Association
Sierra Club of Ontario
Federation of Ontario Naturalists
Federation of Ontario Cottagers Association
Waterloo Public Interests Research Group
Canadian Coalition on Acid Rain
Ontario Medical Association
Friends of the Earth
Ontario Chamber of Commerce
Ontario Federation of Hunters and Anglers
Canadian Environmental Law Association
Greenpeace - Dan McDermott, Acid Rain Coordinator
Pollution Probe - Kai Millyard, Researcher
Energy Probe - Norm Ruben, Researcher
Ontario Mining Association

Interests

United Auto Workers Union - Local 673, Toronto
United Steelworkers of America - District 6, Sudbury -
Mr. Homer Seguin
United Steelworkers of America - Local 6500, Sudbury -
Mr. Ron Macdonald
Ontario Liberal Party
Ontario Progressive Conservative Party
New Democratic Party of Ontario
Great Lakes Forestry Products
Norcanada Inc., Dr. Frank Frantisak
Falconbridge Ltd., Frank Pickard
Ontario Hydro, Jim Whiteway
International Nickel Company, Charles Ferguson

Appendix B
QUESTIONNAIRES

Group Questionnaire

Please answer the following questions on your group's views regarding the acid precipitation issue. The questions are broad in nature, in part to reflect the broadness of the issue, and, to elicit open and candid responses. Anonymity will be respected if requested.

Feel free to use extra space where appropriate and any further comments or information would be both useful and appreciated. Thank-you.

- (1) Who does your group represent?
- (2) How many members does it have?
- (3) How is it funded?
- (4) What is your group's basic position on the acid precipitation issue, ie) what do you think the government ought to do to resolve the issue?
- (5) Is the issue one of controlling the major polluters, eg) thermal coal plants and non-ferrous smelters, or should the issue of controlling emissions also include stricter controls on individual homeowners, tougher automobile standards, conservation, etc.?
- (6) Do you believe that the issue presents a choice between economic growth vs. environmental protection, or is it possible to achieve both? Would your group be willing to trade off some economic growth for a cleaner environment?
- (7) What level of government (federal and provincial) do you have access to?
 - (i) Minister
 - (ii) Deputy Minister
 - (iii) Other senior officials
 - (iv) Opposition critics/local MPs or MPPs

- (8) How often do you make contact?
(i) Regularly
(ii) Sporadically
- (9) How do you make contact?
(i) Private meetings
(ii) Public meetings eg) public hearings, task forces, royal commissions, etc.
(iii) Informal meetings
- (10) What other channels of pressure/contact do you use?
(i) Media - national
- local
(ii) Public relations eg) your own publications, advertisements, etc.
(iii) Petitions
(iv) Other
- (11) What channels are used most often by your group?
- (12) What channels are the most successful for your group?
- (13) Do policy makers ever consult your group or solicit your views?
(i) Prior to policy decisions being made
(ii) After policy decisions have been made
- (14) Are you satisfied with the present system of interest group involvement in the policy process dealing with this issue? Why or why not?
- (15) How much of a role do you think interest groups -- of all kinds -- have played in policy formation in the context of this issue?

Government Questionnaire

Please answer the following questions on your views regarding the acid precipitation issue. The questions are broad in nature, in part to reflect the broadness of the issue, and, to elicit open and candid responses.

Feel free to use extra space where appropriate and any further comments or information would be both useful and appreciated. Thank-you.

- (1) How do you see the role of government in the context of this issue vis-a-vis interest groups? For example, as a passive referee mediating disputes, as an active participant, or otherwise.
- (2) Many groups claim a specific membership but go on to insist they speak for everyone else in society as well. Given the diversity of groups, each claiming wide support, how does government go about weighing the viewpoints of these groups?
- (3) What type of group has the most credibility with government; that is, without actually naming specific groups, which ones are most likely to get, not just a chance to express an opinion, but a chance for meaningful participation in the policy process?
- (4) Is the issue one of controlling the major polluters, eg) thermal coal plants and non-ferrous smelters, or should the issue of controlling emissions also include stricter controls on individual homeowners, tougher automobile standards, conservation, etc?
- (5) Do you believe the issue presents a choice between economic growth versus environmental protection, or is it possible to achieve both? Would the government be willing to trade off some economic growth for a cleaner environment?
- (6) Do you solicit the views of interest groups or do they normally petition the government? Do you solicit views before or after policy decisions are made; is policy initiated by the government or by public/interest group pressure?
- (7) How is contact made with interest groups?
 - (i) Private meetings
 - (ii) Public meetings eg) public hearings, task forces, royal commissions, etc.
 - (iii) Informal meetings
- (8) Which type of contact do you prefer? Which is the most useful to you in terms of effective policy formulation?
- (9) Are you satisfied with the present system of group involvement in the policy process? Why or why not?
- (10) How much of a role do you think interest groups -- of all kinds -- have played in the context of this issue?