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THE CANADA WATER ACT

by

CAROL LYNN GALL, B.A., D.P.A.

A thesis submitted to the Faculty of
Graduate Studies in partial fulfillment
of the requirements for the degree of
Master of Arts in Public Administration

School of Public Administration

Carleton University

Ottawa, Ontario

January, 1974

(c)

Carol Lynn Gall

1974

A POLLUTION HYMN

God help us fellow citizens,
May nothing we pollute,
God save our water, earth and air,
Our wildlife and our food,
O may we walk and talk and breathe
Unsuffocatingly,
O please save air and water, man and tree,
from debris,
Or we'll all be moonward bound as refugees.

Our clothes are white,
Our teeth are clean,
Our days are labour free,
Whilst foam and slime and oil slicks
Cover river, lake and sea;
A brighter bright means darker days
For him and you and me,
If we don't change by 1983,
there will be
No one living to report we're all dirt free.

The fish are choking in the sea,
The birds are drowned in oil,
We daily take our nourishment
From Endrin ridden soil,
Salvation is a difficult and never ending task,
O please spare us the spacesuit and the mask,
all I ask,
Is to spare us all the spacesuit and the mask.

Please do your part this coming year
In this great time of strife,
Dispense with the dispensables
And concentrate on life;
Return your bottles faithfully,
Dephosphatize your wash,
O please spare us the catastrophic loss,
down with dross,
O let's save our earth, however high the cost.

by Clarelleen Wentwich
Toronto.

ABSTRACT

This paper is based upon the premise that the problems of water pollution are extremely complex and that the efforts of the Federal Government in dealing with them prior to the Canada Water Act have resulted in single-purpose programs rather than comprehensive and well co-ordinated water pollution control and abatement programs which the Canada Water Act is expected to facilitate.

The purpose of this paper, therefore, is to determine whether the Canada Water Act allows for and has given rise to comprehensive and well co-ordinated programs by examining the proposals put forth in the Act in the light of recent economic environmental theories; by describing various sections of the Act; and by evaluating the constitutional validity and administrative implications of the Act.

Finally, the author suggests some possible way to maximize the efficiency and effectiveness of the Act in view of the requirements of two other levels of government.

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DEDICATED TO MY LOVING PARENTS

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Caról L. Gall
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January, 1974

The undersigned recommend to the Faculty of
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AUTHOR'S NOTE

This thesis was written over an extensive period of time and was updated several times. Most of the thesis is up to date as of September 1972.

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INTRODUCTION

NATURE OF THE ENVIRONMENTAL PROBLEM

In recent years citizens and governments have become more acutely aware of the problem of water pollution; a problem which is only a part of a more encompassing environmental dilemma confronting all nations. This increase in awareness has come from the rise of interest groups like Pollution Probe and the Society To Overcome Pollution; the proliferation of reports and studies by the Science Council, government agencies and private consultants; and numerous international conferences like the United Nations Conference on the Human Environment in Stockholm, Sweden. In general, Canadian efforts to control and manage water pollution have resulted in single-purpose programs rather than co-ordinated comprehensive programs. Despite increased political pressure and attempts to treat water pollution, Canada's water resources have continued to deteriorate.

This paper focuses on the Canada Water Act. In Part One the background events leading up to the passage of the Act by Parliament and the various theoretical economic arguments discussed in formulating the concepts of the Act will be examined. It also covers the experience of other countries taken into consideration by Canadian decision-makers.

In Part Two various Federal programs and concepts in the area of water pollution will be outlined and the main features of the Act will be summarized.

In Part Three the Act will be assessed from two aspects: first, the legal-constitutional aspect and secondly, the administrative

aspect.

Finally, the thesis is concluded with an evaluation of the Canada Water Act in light of the Federal nature of government in Canada.

A. The Earthly Biosphere

In this introductory chapter the global environmental problem is briefly sketched with emphasis on the water pollution problem as it relates to Canada.

Pollution is an amorphous thing. It connotes different things to different people because one person may live in a smog-filled city while another resides in the idyllic countryside. As a concept pollution is difficult to articulate. However, the meaning of the term as used in this paper can generally be defined as the contamination of the environment (surroundings) with a substance or substances harmful or offensive to man and the animals and plants man values.¹ Like his ancestors, industrial man continues to pollute the environment. He fouls oceans and beaches with oil spills; contaminates clean air with poisonous gases; and litters highways and byways with garbage. Man is the victim of his own dilemma. On one hand man seeks economic growth and betterment of his community, while on the other hand through betterment he is rapidly annihilating himself. Since World War II, economic growth coupled with increasing world population has accelerated environmental problems. The world's population is forecasted to double in the next 35 years, and again in less than 35 years.² Increased population is

1. Pollution and Our Environment Conference, Background Papers (Montreal: Canadian Council of Resource Ministers, 1966).

2. Dennis L. Meadows et al., The Limits of Growth, A Potomac Associates Book (New York: Universe Books, 1972), p. 28.

always accompanied by greater volumes of waste." Therefore, future environmental problems will be magnified. These problems are accentuated by the concentration of population growth and economic activity around major urban centers. It is such trends that have tremendous environmental impacts upon the ecosystem.

In traditional economic theories, land, labor and capital are considered as prerequisite resources for viable industrial growth. Air and water are not covered in the list of resources of such theories. They have been treated as free resources with the attitude that you can do as you like with them. However, clean air and water are becoming scarce resources. A jurisdictional issue arises as to what extent the public sector can encroach upon these diminishing resources.

Multiple demands by people and industry upon the resources of air, water and land can be compared to the human body. Water and air are like support systems to the environment just as blood is the life support system to the human body delivering necessary elements to various organs and tissues while simultaneously transporting away wastes. In some countries water is used for domestic consumption as well as transporting effluent to the oceans. The use of a resource for one purpose affects its use for other purposes. For example, the sharing of a lake by industry and citizens can result in conflict because industry makes use of the lake for its wastes and citizens use this water as a resource for recreation and consumption. The use of primary resources such as air and water, which are not true public goods, can generate certain diseconomies if treated as free goods.

There are two aspects to the challenge of effectively con-

trolling environmental problems. The first is remedial. It is going to cost both citizens and industry something in order to clean up the damage already done to the environment. The second is preventative. Pollution control equipment will have to be installed by polluters and regulated by governments. In either case it must be recognized that there are cost implications. Society may have to accept either higher tax burdens or higher prices for finished industrial products, or both. And more specifically, industry may have to pay more for the privilege of polluting while governments will have to impose and enforce standards.

Before standards can be enforced, an acceptable level of environmental quality has to be determined. The problem of choosing such a level is usually cast in terms of trade-offs. For instance, pursuit of a pollution abatement program will likely be accompanied by a rise or fall in employment. Stricter pollution abatement regulations will both generate greater employment in the industries producing pollution abatement equipment and will reduce employment in economic activities which will be constrained. The net effects are not easily calculated; however, it is useful to view the problem in terms of such trade-offs.

In Canada today, the environment has not as yet reached a crisis state. However, because citizens and industry have a tendency to ignore the consequences of their polluting activities and transfer clean-up costs to society as a whole, the crisis state is rapidly approaching. Despite the general growing awareness of this tendency, the problem is not given to spontaneous solution; therefore, the public sector has a responsibility in undertaking clean-up and environmental management programs. This means that collective decisions have to be made as to

what level of environmental quality is acceptable; policies have to be formulated and translated into legislation; and legislation has to be effectively administered.

In Canada, responsibility for the environment rests with three levels of government. The subject matter of the environment is ambiguous, and the constitution regarding this question is also ambiguous. This causes a problem in achieving a consensus on an acceptable level of environmental quality and also determining what the environmental goals and objectives should be. Even if there is agreement among the three levels of government, there may be major obstacles, such as how to administer environmental abatement programs, in getting environmental goals and objectives off the ground. This process is always at the mercy of the art of political decision-making. Therefore, decision-making, policy formulation, and policy execution should be integrated by all three levels of government in continuous consultation and co-operation. This integration is essential where powers and responsibilities are divided because environmental spill-overs do not respect political boundaries.

B. Biological Causes of Water Pollution

. . . and all the waters that were in the river were turned into blood. And the fish that was in the river died; and the river stank; and the Egyptians could not drink of the water of the river,

Exodus 7:21, 22.

In the previous section environmental problems were discussed in terms of broad categories of pollution. Although all forms of pollution are important in our earthly biosphere, the ensuing discussion concentrates mainly on water pollution because everything from human sewage

to asphalt and salt from streets is washed away down the St. Lawrence past Quebec City, into the Atlantic Ocean and the entire world water system. In other words, it is important to focus on water because it washes away society's sins.

Water pollution usually occurs when substances are added to a body of water in quantities and concentrations that are in excess of that which it normally receives.³ The result is the over-stimulation of certain types of growth and the subsequent disruption of the water ecosystem. Because this reaction can result in the removal of liquids, solids, or gases from waters, this can have detrimental consequences to man and other forms of life.

The water pollution problem has many dimensions. Our technological way of life is typified by chemicals, synthetics and analytic dyes. The Federal Food and Drug Directorate checks foodstuffs for proportions and amounts of various chemicals to see if they are safe for human consumption. Such tests have indicated large amounts of mercury in fish living in polluted waters and in humans who have regularly consumed fish taken from such contaminated bodies of water. The whole industrial complex is gradually killing our society. Blood and grease from meat packing plants, spoiled milk from dairies, acids and alkalies from metals manufacturing, tailings from mines, oil from shipping accidents, thermal waters from nuclear power plants, all contribute to the deterioration of waters. The immediate consequences are such that fish die or certain species like trout are replaced by coarser fish like carp. Blue-green algae accumulating on shores create odorous scums,

3. Donald A. Chant, ed. Pollution Probe (Toronto: New Press, 1970), p.53.

and aquatic weeds rooted to shorelines obstruct seagoing traffic. The accumulation of tremendous amounts of waste can also have ripple effects such that Municipalities with large industrial sectors will have to continually improve treatment facilities for domestic use in proportion to the increase in industrial effluent. If downstream users of water are fishermen, then their fishing industry can be affected by heavily polluted waters.

In some cases both industry and Municipalities are doing an adequate job of waste water treatment. In the next few decades wastes will double and triple. To preserve the waters of the country at an acceptable level of quality, great strides in water management will be required. Managing waters on the basis of a drainage basin system has considerable merit and will be discussed in a later chapter.

C. The Nature of the Water Pollution Problem in Canada

It is convenient to look at domestic and industrial water pollution separately. On the people pollution side, the focus is on urban centers and the problems associated with urban growth and development. Whether perceived or not, the onus falls upon Municipalities through their role in water management. All things considered, the situation in Canada is quite serious.

Table Intro. 1 shows that in 1970, about 44% of Municipal sewage was discharged without any treatment into bodies of water. Over 90% of this untreated sewage originated in urban areas with populations of over 50,000 while another 25% of the effluent from urban areas only received primary treatment.

TABLE Intro. 1

<u>Degree of Treatment</u>	<u>Per Cent of Volume Collected by Municipal Systems, 1970</u>
Untreated	44%
Primary	25%
Secondary	31%

Source: A. Penman and R. Gosselin, A Report to the
Pollution Control Committee of the Canadian
Federation of Mayors and Municipalities,
April, 1972.

Uneven geographical distribution of sewage treatment in major Canadian cities as shown in Table Intro. 2 can be attributed to numerous factors. The attitude of Municipalities may be such that they do not wish to incur the expense of costly anti-pollution equipment because it is not an urgent need on their list of priorities or they may lack the necessary financial resources. The constantly changing character of Federal abatement and control programs of a financial nature has further compounded the Municipal quandary.

One contributing factor to the great costs of water pollution control and abatement is the periodic occurrence of wastewater overflows. This is a result of inadequate water collection capacity. Some treatment systems are unable to handle sudden overloads during a rain storm. The separation of storm and sanitary sewers reduces the Municipal waste-load during storms. This of course requires large investments. In Winnipeg all newly developed areas have separated storm and sanitary sewers. If a decision was made to separate storm and sanitary sewers in the built-up area of Winnipeg the costs of separation would be between 200 - 300 million dollars. However, some sanitary engineers believe that separation of sewers is not the answer

TABLE Intro. 2

SEWAGE TREATMENT IN SELECTED URBAN AREAS, 1969

Metropolitan Area	Wastewater Flow	Percentage of Waste Water Flow Subject to:		
		No Treatment	Primary	Secondary
	(Million gallons per day)			
St. John's.....	12.7	100.0		
Halifax-Dartmouth..	9.9	99.0	1.0	
Saint John.....	5.4	99.8		0.2*
Quebec.....	42.0	100.0		
Montreal.....	290.2	91.6	2.6	5.8
Ottawa.....	40.0		100.0	
Toronto.....	194.0			100.0
Hamilton.....	60.0		100.0	
Sudbury.....	11.0			100.0*
London.....	28.0			100.0*
Windsor.....	4.0	85.0	**	15.0
Winnipeg.....	46.3	4.0		96.0*
Regina.....	12.0			100.0*
Saskatoon.....	10.0	93.0		7.0*
Edmonton.....	37.5	0	46.5	53.5*
Calgary.....	38.8		100.0	***
Vancouver.....	100.0	59.0	41.0	
Victoria.....	18.0	98.9		1.1

• Note: Primary treatment removes 30-50 per cent of nonsuspended solids; secondary treatment removes about 80-85 per cent of total solids and reduces the biological oxygen demand by about the same proportion.

*Part or all of the treatment is in lagoons, which can be regarded as close to secondary treatment.

**Primary treatment plant to be completed in late summer 1969.

***Secondary treatment facilities being constructed.

Source: Based on data from Department of National Health and Welfare and the Metropolitan Corporation of Greater Winnipeg as found in Economic Council of Canada, Perspective 1975, Sixth Annual Review (Ottawa: Queen's Printer, 1969), p.44.

Since storm sewers discharge polluted waters and the strength of such polluted water is often too high for Municipal treatment facilities to handle.

Industries use bodies of water as convenient receptacles to convey large quantities of waste. A great deal of waste generated by industry could be containerized and buried in the ground. Industries can recycle various elements in the wastes which they produce. This can be an expensive undertaking, but may be comparatively inexpensive in the long run if the costs imposed upon the environment are considered. Such chemicals and other substances which cannot be recycled could be stored in high concentrations in small lagoons, thereby effectively removing them from society's supply of potable water.

The presence of major industrial polluters which are usually located in or near large urban centers, compounds the Municipal waste-load disposal problem. Domestic sewage can be adequately treated by most Municipal sewage treatment facilities; however, increased concentrations of toxic substances are an added burden to Municipal sewage treatment facilities, particularly if industrial wastes are not connected to Municipal waste collection systems.

It has been estimated that the overall capital costs for a ten year planning period (1970-1980) - during which urban centers alone would be equipped with secondary treatment facilities - would be at least \$1.3 billion (in 1970 dollars), excluding land costs, legal costs, replacement costs, interest charges, inflation, and capital expenditures for the normal expansion of the collection network.⁴

4. A. Penman and R. Gosselin, A Report to the Pollution Control Committee of the Canadian Federation of Mayors and Municipalities, April, 1972.

More comprehensive studies, such as the Seadon Report,⁵ project costs to the year 2000 and include costs excluded by other studies. The Seadon Report indicates that the overall costs will be approximately 1.8 to 2 billion dollars. It suggested that if action is taken now to improve water quality, then a minimum water quality program could be achieved in 9 years and a good water quality program in 13 years.

Traditionally the Federal and Provincial Governments have not been involved in water pollution control, abatement and management. The Municipalities have been left helpless to cope with the problem. The same holds true in other areas such as housing and transportation. But within the last few decades a number of the traditional Municipal problems have become "Federalized". The Canada Water Act represents to a considerable degree Federal intervention into the water field, and we are now beginning to see the implications of such action.

5. George Seadon, Municipal Sewage Disposal - Trends, Problems, Solutions, A Report for Central Mortgage and Housing Corporation, Ottawa, 1970.

PART ONE:

THE THEORETICAL BACKGROUND OF THE ACT

CHAPTER I

THE ECONOMICS OF WATER POLLUTION

Long before the Canada Water Act became a reality, bureaucrats and politicians closely examined various water quality control methods and the economic basis for them. In this chapter we will examine first the factors contributing to water pollution, and secondly, the effects of rapid urbanization, industrialization, and population growth.

The basic theories of public goods, spillover effects and cost-benefit analysis are briefly described and followed by a discussion of the concepts of water quality standards and river basin authorities. In discussing the maxim, "the polluter must pay", various devices used in making the polluter pay are analyzed and an optimal solution suggested. Finally, the practical problems of Municipal construction of sewage treatment facilities are discussed in terms of Federal and Provincial financial schemes.

A. Efficient Water Quality Control

Water pollution, like solid waste disposal and crime prevention, is one of the major social concerns that is directly related to urbanization. The problem has increased very dramatically as a result of the growth and spatial concentration of world population. In 1951, about 62% of the Canadian population was urban;¹ by 1966, that portion

1. "Urban Population" includes all population living in cities, towns and villages of 1,000 or more, whether incorporated or not.

was up to 74%.² Within the next 30 years, it is predicted that approximately 95% of the Canadian population will live in urban areas and that 77% of that total will be concentrated in 12 major cities.³ The question to be asked is, can we manage and control wastes from such continuously growing areas and restore damage already done by the accumulation of wastes?

The growth of population and industry has created a tremendous rise in the amount of wastewater produced. This increase has major implications for the whole water question, such as the overloading of sewage treatment capacities and implications for water supplies. Some indication of the throughput of water can be obtained from the following estimates: in 1970 2,000 million gallons daily; by the year 1980 this figure will increase by 1,000 million gallons per day.⁴ All this water is taken out of water courses and put back. Water after it is used reverts back to the source. The problem here is that even though industries or Municipalities may not be major polluters, they would feel the financial burden or impact if the water supply was cut off. An example is oilspills from tankers. These oilspills form a film that rests on top of bodies of water relied upon by industries and Municipalities for water supplies.

Twenty years ago or so there was relatively no water pollu-

-
2. A. Penman and R. Gosselin, A Report to the Pollution Control Committee of the Canadian Federation of Mayors and Municipalities, April 1972.
 3. A. Goracz, I. Lithwick, and L. Q. Stone, Urban Canada, Vol. V; The Urban Future (Ottawa: Central Mortgage and Housing Corporation, 1971).
 4. Penman and Gosselin, supra, n. 2.

tion problem. Industries and municipalities alike could afford to dump their effluents which would be cleansed by flowing rivers and lakes. But today even if a little town adds the smallest amount of effluent to a body of water it will affect the threshold capacity of a body of water's capability of cleansing itself. Furthermore, in a time comparison, the need for sewage treatment has become much more generalized and applies to polluters to whom it did not apply previously.

Canada is in the situation now where considerable sums of money must be invested in order to correct the water pollution problem. This money must be invested for two reasons. The first is preventative - cleaning up the existing water pollution problem and the second is the cure - ensuring that the situation does not get worse.

Studies done by the Department of Environment (Federal) indicate that by 1980 approximately \$1.5 billion (1967 dollars) or about 1 to 2 per cent of our G. N. P. will be required to protect Canada's environment.⁵ This is primarily the bulk required to clean up water pollution but more is required for the cure because the concentration of investment is in physical resources, e.g. sewage treatment plants, which are expensive compared to the prevention of other forms of pollution like air pollution. To prevent air pollution one could get a big fan and blow it away or cut off a smoke stack and let the wind naturally blow it away. Whatever devices are used the comparative cost of investment is much lower than anti-pollution devices for

5. Andre Raynauld, "Protection of the Environment: Economic Perspective," Canadian Public Administration, Vol. 15, No. 4 (Winter 1972), p. 558, 568.

water pollution. One reason for the difficulties of investing in devices to control water pollution is the way that responsibilities are allocated between the three levels of government. Municipalities constitutionally are "creatures of the province". However, it is obvious that Municipalities deal with the water problem on a daily basis and they must shoulder most of the financial burden which is estimated at \$800 million⁶.

From another point of view which gives a different perspective on the magnitude of the fiscal problem, estimates of the overall capital cost for equipping urban centers with secondary treatment facilities are approximately \$1.3 billion (1970 dollars) with certain exclusions. The total is broken down as follows:

The Capital Cost
of a Secondary Treatment
Policy for Canada (millions of dollars),
1970-80

Plants	\$ 700
Interceptors	\$ 600
TOTAL	<u>\$1,300</u>

Of the 700 million required for treatment plants, according to the report, Municipalities exceeding a population of 50,000 would absorb 75% of this amount. As was pointed out earlier in Table Intro. 2, approximately 70% of the wastewater is discharged with only primary treatment or no treatment at all.

Having outlined the magnitude of the problem in terms of

6. Ibid., p. 568.

7. Penman and Gosselin, supra, n. 2.

dollars and cents and in terms of C. M. P., one can appreciate the immensity of the problem and the expense which is required to get pollution abatement and control programs underway.

On a regional basis the cost of secondary treatment plants would be distributed somewhat as follows:

Maritimes	\$ 79 million (11%)
Central (Quebec & Ontario)	\$454 million (67%)
Western Canada	\$137 million (22%)
TOTAL	\$717 million (100%) ⁸

Of course this distribution is dependent upon the increase in population and the present number of secondary treatment facilities in each region. In turn, the number of facilities is dependent upon regional spending priorities. If employment has a high priority in the Maritimes, then cleaner water may have to be traded off for jobs. In the past the Maritimes had no need to put in primary and secondary sewage treatment facilities because effluent was conveniently dumped into the ocean. Now the volume of effluent has increased in such proportions that polluted water is coming down the St. Lawrence Seaway.

In Quebec large sums are required because the present sewage treatment facilities are few in number.

Rapid growth and urbanization, would be the determining factors in allotting large portions of funds to Ontario and British Columbia. Even though in the Maritimes there is not rapid industrialization and growth, installation and maintenance of sewage treatment facilities is expensive because the Maritimes are one of the "have not"

8. Ibid.

regions of Canada. Such facilities in Ontario and British Columbia are just as expensive because the rapid rate of growth demands a higher investment. In the richer Provinces fewer facilities were required in the past because rivers were able to cleanse themselves. But today people and industry are concentrated into smaller areas and greater volumes of waste require treatment so as not to pollute water use by downstream users.

It is obvious that the gap between existing facilities and that which is required cannot be bridged over night. It is equally clear that decision-makers have to order priorities for the implementation of water policies such that the rate of construction and operation of new facilities will keep up with increased wastewater production. Before looking at existing economic policies with regard to water pollution control and abatement, it is prudent at this juncture to examine some of the economic theories that are relevant to controlling any level of water quality.

1. Public Goods

Generally speaking there are two main criteria to be considered in discussing public goods. The first is the concept that once a particular good is made available it is generally available to all; there is no way of excluding the non-contributors from consuming. In other words, there is no price system in operation. The other concept is that once a particular good is available, consumption by one does not reduce the quantity available for consumption by others.⁹

9. P. A. Samuelson and A. Scott, Economics (Toronto: McGraw-Hill, 1966), c. 8.

In considering the water pollution problem from the public goods point of view, there are two aspects to be kept in mind, namely, prevention and cure. It may be that society (including industry) perceives the water pollution problem and the necessity of preventing further deterioration of bodies of water. They might even be willing to pay for cleaner water. One difficulty is that there is no way private individuals can accomplish this task because they would not be able to recover the costs involved. If, for example, a particular firm decided to clean up Lake Erie and everyone in Ontario and the bordering states agreed that it was a good idea, in terms of individual interest no one individual would be prepared to say, "I will pay so much." Once the good is provided, i.e. Lake Erie is cleaned, whether an individual pays or not, the benefits are still enjoyed by all. It would seem that prevention and control of water pollution is an area in which the public has to act. Despite the fact that society's awareness of the problem has increased to the point where individuals desire cleaner water, there exists no mechanism to get things in motion unless the government participates.

As far as industry is concerned it has to remain competitive. Individual firms desire to remain competitive and pollution control equipment is an expensive cost. For an individual firm to compete with other firms in a given industry, it must reckon with the water pollution problem. Even if the firm is concerned about the amount of pollutant it generates, anti-pollution equipment is a cost constraint which may mean the difference between a firm staying in business or else going bankrupt.

Municipalities also try to avoid burdensome costs. If a municipality which contributes ten per cent effluent to a waterway decides to clean up its pollution, the stream will likely not appear cleaner because of the additive effect of the Municipalities contributing to the other ninety per cent. The action of one Municipality will not do much to abate water pollution. What is required is concerted action. Even though all of the Municipalities along the waterway agree that they want a clean stream, they are all aware when the question is put to them, "How much are you willing to pay for the clean-up job?", that even if they do nothing and the other ninety per cent of the Municipalities do something that they can get away with no cost to themselves. In the public goods case, every individual has a vested interest in underrevealing or understating a preference to the extent of avoiding the cost burden. The Municipal problem described above is one of a genuine public goods problem. It shows the need for an overall co-ordinative mechanism which will tackle the problem, set the standards, and then allocate costs in accordance with the degree to which each individual contributes to the problem. Therefore, what is required is a Provincial and National role. The question is who should have this role? Given the bifurcation of powers between the Federal and Provincial Governments under the constitution it would seem that it should be a Federal-Provincial role, notwithstanding the fact that the Provinces are in the same position as Municipalities in that they receive funds from another level of government. What should the Federal role be? The Federal Government cannot always rely on the Provinces. If nine Provinces accept certain national guidelines and

one does not, then there is a breakdown in the process. The problem is how to proceed and how to enforce national guidelines without destroying the principle of participatory democracy by making unilateral decisions. At best, there is no one answer to this dilemma and all three levels of government will have to co-operate in trying to find satisfactory solutions.

2. Spillover Effect

The pollution activity of an upstream user is a diseconomy which is external to the bookkeeping of the upstream community, but it is still a cost to society as a whole.¹⁰ Therefore, given the spatial requirements to internalize a public good, the appropriate provider of that good is the government whose jurisdiction coincides with the area containing that good. If more than one level of government is in that jurisdiction, then all levels of government will have to co-operate to achieve efficiency and effectiveness in maintaining a high quality of clean air and water.

It is because of the spillover effects that the interjurisdictional approach to management of resources is required. Basically there are three variations of the environmental problem that any level of government can be confronted with:

- (a) The source and effects all contained wholly within the spatial boundaries of one jurisdiction;
- (b) The source within the boundaries of one jurisdiction but the effects spilling over the boundaries of neighboring jurisdictions; and conversely

10. Dr. E. R. Tinney, "Pollution and the Canada Water Act," Ottawa River Conference, June 12-13, 1970, Carleton University, Proceedings, p. 71.

- (c) The source outside a jurisdiction but the effects spilling into its boundaries.¹¹

In the last two cases action by one level of government may be enjoined by others, domestic or foreign.

The spillover phenomenon can be illustrated by Figure 1.1 which shows Municipality X and Municipality Y.

(a)

(b)

B = Benefits
C = Costs

In part (a) of the illustration, Municipality X is providing some kind of a beneficial service but the benefits are enjoyed not only by Municipality X but some benefits also spill over to the residents of neighboring Municipality Y. Municipality Y enjoys the benefits, but there is no way Municipality X can recoup the cost of

11. J. W. MacNeill, Environmental Management (Ottawa: Information Canada, 1971), p. 16.

providing that service to it. The situation is analogous to a parasitic community. The residents of Municipality Y would suffer if Municipality X ever cut off the benefits. The problem is to develop a price system for the benefits Municipality Y enjoys; otherwise there is no way to solicit political or financial contributions from Municipality Y.

Assuming a situation of water pollution exists in part (b), then there are costs to Municipality X such as not being able to use a beach. Municipality X also has within its boundaries a phosphate firm. The residents desire such an industry because at that particular point in time jobs are more important than anything else. It can be said that the benefits of Municipality X are contained within the phosphate firm. However, the firm generates some pollution which incurs costs to both Municipality X and Y. The benefits in Municipality X may offset the costs but Municipality Y may have no beaches and must also incur costs from the polluting phosphate firm with no benefits to offset the costs. Such costs are an external diseconomy to Municipality Y.

Going one step further in the public goods case, due to the problems described above, it may be socially optimal for Municipality X to provide a certain quantity of services so everyone in the whole consensus area benefits. But since they have to pay for it alone, given certain trade-offs, Municipality X may provide less than the optimal which can be considered sub-optimal. Sub-optimal would be the provision of that particular public good, but in an amount less than what would be desired by all in that area. To correct the situ-

ation the two municipalities could work together and perhaps establish a specialized body for that purpose. But one Municipality working alone would not be able to rectify the situation.

If the problem of externalities is not taken into account, the result can be a distortion in the allocation of resources. An example would be considering all the real costs attributed to the use of oil.¹² If such considerations were made, the resulting price of oil would no doubt rise and its rate of utilization would decrease to the benefit of other energy sources. To counteract such distortions, the costs of pollution must be internalized such that upstream users would be accountable to downstream users whether the users be industries or Municipalities. To internalize the problem would be saying that the boundaries of the competent jurisdiction have to be wide enough to encompass the whole problem. In Canada the competent jurisdiction is the Federal-Provincial institutional structure which implies a joint role in the solution of the pollution problem.

3. Cost-Benefit Analysis

The purpose of internalizing the external costs as indicated above is to create the framework within which each polluter would be made to comprehend the true social cost of his decision.¹³ In other words, this means would make it possible to create the basis through which the external costs of a polluter's activities could be summed up. Then through governmental measures in the form of direct regulation, taxes, grants, effluent fees or other incent-

12. Raynauld, supra, n. 5, at p. 560.

13. Tinney, supra, n. 10, at p. 72.

ives, the polluter could be made to bear a requisite cost burden. This approach has become known as the "polluter must pay" concept.

Whatever water quality standard is established, the polluter should bear the cost of seeing that the standard is kept.

Figure 1.2 is an illustration of the concept of cost-benefit analysis as applied to water pollution. The first graph plots dollars (value) against increased environmental quality. The "total cost"¹⁴ curve represents the cost of achieving any environmental quality by calculating, for example, the cost of beautification, construction of sewage treatment plants, paper recycling, etc. The "total benefit" curve represents the benefit to society of achieving any environmental quality level. This curve cannot be calculated because subjective things such as aesthetic value, recreational value and pleasing environment are subjective determinations. This concept is merely illustrated by use of an instructional aid, i.e. a curve on a graph. It is difficult to assign a dollar value to such intangible benefits, which are more or less subjective community judgements based upon the community's perceptions of the pollution problem. The vertical distance between the "total cost" curve and the "total benefit" curve represents the net social benefit (excess of benefit over the cost of achieving that benefit) for any level of quality. To go from point A to B would cost C dollars and gives D dollars in benefits. Unless D Benefits are greater than or equal to C Costs,

14. In economic terms, "cost" means the value of foregone opportunities. Allen V. Kneese and Blair T. Bower, Managing Water Quality: Economics, Technology, Institutions. Resources for the Future Inc. (Baltimore: The Johns Hopkins Press, 1968), p. 184.

Figure 1.2

then the extra effort is not economical.

The second diagram shows a marginal cost curve and marginal benefit curve corresponding to the first diagram. The intersection of the marginal cost and benefit curves determines the optimal point (i.e., that point to which society is willing to allocate resources to achieve a certain standard of water quality). The point of maximum social benefit will vary with the level of quality desired and the cost of achieving that level. The marginal cost and benefit diagram can be interpreted in the following manner. Up to the optimal point, F, marginal benefits exceed marginal costs. Beyond such a point the marginal cost of each additional unit of resources required to achieve one additional unit of benefits exceeds the value of achieving it.

In general the costs as put in dollar terms can be reckoned because costs are objectively determined, but benefits are subjectively determined. Hence, there is difficulty in reconciling costs and benefits. Economists can calculate the costs, but the politicians must ask the people what they want, e.g. more social welfare, less water pollution etc. In the private sector the profit motive determines what industry wants; the public sector requires some political expression of opinion.

4. Water Quality Standards

Because water has many uses it is reasonable that pollution control must be related to the functions water is to serve. One water quality standard is to require Municipalities and industries to treat all water for the highest possible use - drinking purposes. This rigid standard may be socially unjustifiable particularly where water is not needed for drinking supplies. In such a case the costs of

water treatment would exceed the perceived benefits.

On the other hand, waterways could be classified according to various uses. Costs would reflect the capacity of a river to assimilate wastes being discharged while at the same time balancing benefits based upon the value of treatment.

Another method of control as it applies to industrial pollution is by plant operation. In any particular industry, standards can be applied to raw material entering a process, or to the magnitude of waste discharged at the end of a production phase, or to the receiving body, i.e., a water course in terms of level, duration and concentration of wastes.

It is obvious that some type of classification or setting of standards is essential to water pollution control. Standards can be applied uniformly or selectively, continuously or for a specific period of time depending upon the circumstance, e. g. water level and water flow. However, the danger in establishing formal standards is that once made, they are difficult to change. There is another problem as well in that judgements as to reasonable standards of water quality will differ among communities and over time. Therefore, if waters are classified according to use, some mechanism for conflict resolution such as water basin planning must be devised.

5. River Basin Authorities

The concept of river basin authorities has generated considerable discussion particularly in the past few years. Such institutions make it possible for planning the control of wastewaters produced by various industries and Municipalities on a comprehensive basis, because as outlined in the discussion on spillovers there are

some inherent obstacles to individual industries and Municipalities achieving a desired level, quality and standard. To facilitate the internalization of externalities found on rivers, a river basin authority makes sense because it is a natural boundary which can be drawn. Accordingly, a river basin authority would consider the long term optimal abatement strategy which would be ignored if confined to tax incentives and other forms of decentralized decision-making.¹⁵ By means of integrated planning, a river basin authority can account for "spillover effects", the complexities of stream hydrology, and emergencies like oilspills. In the next chapter, the experience of river authorities of several foreign countries is examined in detail.

It is submitted that a river basin authority could not work in isolation. Measures such as direct regulations, taxes, grants, effluent fees or other devices would have to be the raison d'être for the operation of the authority so that polluters would be induced to internalize their costs effectively and efficiently.

B. Possible Devices to be Used in Making the "Polluter Pay"

1. Direct Regulation

Once a set of water quality standards have been established, those standards must be enforced. But as King Cahute found, "command does not necessarily assure compliance".¹⁶ Like any other laws, if water pollution standards are established in accordance with laws and

15. Marc J. Roberts, "River Basin Authorities: A National Solution to Water Pollution" (1970), 83 Harvard Law Review 1527 at p. 1545.

16. Marshall I. Goldman, Controlling Pollution: The Economics of a Cleaner America (Englewood Cliffs, N. J.: Prentice-Hall Inc., 1967), p. 21.

ministerial orders, and if they involve inconvenience or economic loss for too many individuals or groups, the laws will tend to be ignored or violated. Violations occur because of the costs associated with compliance. If, on the other hand, anti-pollution laws provide direct benefits for potential violators, laws will most likely be adhered to in the absence of a policing mechanism. It would seem that the law is not enough. A moderate approach would be to have a satisfactory mix of policing and financial inducement. The lawbook, pocket-book, moral suasion and public opinion are a little bit of everything, and no one thing is the solution to the problem.

It follows from the discussion on water quality standards that an ideal situation would be one in which standards account for differing waste assimilation capacities, seasonal flows, location, levels of demand upon the waterway, and different incremental costs of abatement.¹⁷ This would mean that a set of differential standards would be established and tailored specifically to the cost conditions of each polluter. Such standards would be administered by issuing permits or licences to polluters. Each permit confers upon the polluter the right to discharge waste of a certain quality and quantity which may be periodically analyzed. It also shows the source and point of the discharge and the period for which the permit is valid.

Permits and licences give rise to the problem of competing priorities as well as to the problem of political lobbying. Supposing two applicants vie for the last segment of absorptive capacity of

17. Kneese, supra, n. 14 at p. 314.

a stream both having similar quantities to discharge, which one should be granted the licence?¹⁸ Would the basis for a decision be "first come, first served"; or a competitive one on the basis of applications filed; or would it be an arbitrary decision? Furthermore, where several permit holders are on the same watercourse and the level of pollution rises beyond acceptable limits, which polluter will be required to increase treatment, or is it deemed desirable to raise the standard?¹⁹ Most likely the latecomer will be discriminated against because it would be highly uneconomical to require all polluters to construct additional facilities. This system generates regulatory bureaucracy, ad hoc arrangements and graft. Another obstacle of this system would be that massive success of this system would largely depend upon the regulatory agency's ability to gather reliable, up-to-date information on production and abatement technology for each industry and to determine the economic effects of alternative waste programs. Therefore, even though most of our present control programs are in the form of direct regulation, it is suggested that they be resorted to only if other economic alternatives prove unworkable. Some of these economic schemes are as follows.

2. Subsidies

(a) Payments

Discharge payments are paid to polluters "not to pollute" and are paid per unit of pollutant not discharged. An analogous

18. A. R. Lucas, "Water Pollution Control in British Columbia (1969), 4 U.B.C. Law Review '6 at p. 72.

19. Ibid.

situation is in the United States where agricultural producers are paid to reduce their output in proportion to the amount produced. On the basis of cost externalities generated, the regulatory agency would institute a schedule of payments for waste reduction to induce Municipalities and industries to reduce waste concentrations to an optimum level. In principle, payments should equal downstream costs and simultaneously vary with water availability and the quantity of the effluent discharged.

There are serious administrative problems in applying a system of payments, particularly when firms decide to locate in an industrial area.²⁰ To be effective, payments must be continued when a plant shuts down as well as when industrial plants do not locate in the area but "would do so if a payment reflecting the costs their effluents would impose were not made."²¹ Such payments would be open to extortion, unless the prospective firm was provided with an estimate of the unit charge on its effluent.

It is important to note that payments require information to calculate a "status quo" rate of discharge. At best, obtaining this information is difficult. Moreover, this method would invite unscrupulous enterprises to benefit by exaggerating waste discharge loads.

Payments would require the expenditure of huge sums of money, more than a system of effluent fees.

20. Kneese, supra, n. 14 at p. 104.

21. Ibid.

(b) Grants and Loans

Direct public grants to cover capital or operating costs of pollution control for Municipalities or industries is generally unwarranted.²² The difficulty with grants is that they may invite industry to choose less efficient methods of waste disposal because financial support reduces costs for the firm. Grants discriminate in favour of firms reluctant to attack their pollution problems, and administrative costs of a grant system are likely to be high.²³

However, some means are available through which the cost could be moderated. For instance, the Federal Government can float large bond issues for pollution control projects. Through this means the cost for small borrowers could be decreased "both through the reduction of risk yielded by the Federal signature and through reductions in the transaction costs of one large issue as compared to floating a large number of smaller bond issues."²⁴

(c) Tax Incentives

Considering the types of subsidies examined thus far, tax incentives (designed to influence behaviour) to industry for pollution control purposes is the most feasible politically but the least

22. Leonard Haverman, "Fiscal Instruments and Pollution: An Evaluation of Canadian Legislation", Canadian Tax Journal, Vol. 18, No. 6 (November-December, 1967), p. 511; Roberts, supra, n. 15 at p. 1528.

23. N. W. Hines, "Controlling Industrial Water Pollution: Color the Problem Green" (1968), 9 Boston College Industrial & Commercial Law Review 553 at p. 598.

24. Haverman, supra, n. 22 at p. 511.

defensible on its merits. Tax incentives include income tax credits, accelerated depreciation for investments, remission of sales and excise taxes, and investment credit. Tax breaks are unlikely to have a considerable impact upon pollution control because they invite firms to continue using inefficient waste methods and they promote inequities.

As an incentive, tax breaks are highly questionable. An American example of a special investment credit (does not exist in Canada) of seven per cent yields a net benefit of only three and one-half per cent to a firm.²⁵ While the credit looks attractive and makes an unprofitable investment less unprofitable; the benefits recouped represent a net loss. Therefore, it is unlikely that industrialists, subjected to orders to build new facilities, would choose to undertake expensive pollution projects to gain the tax relief. An industry whose financial position is weak would not lay out additional expenses which could prove disastrous. Furthermore, any industry will shy away from additional costs - it is the nature of competition!²⁶

There is no guarantee that the methods chosen will be the lowest cost to the firm or government, or be of maximum benefit to society. In Canada, accelerated depreciation provisions are similar to tax credits in their application and in their effects. Such provisions apply to capital assets in place and create incentives to

25. Hines, supra, n. 23 at p. 600.

26. A. E. Grady, "Effluent Charges and the Industrial Water Pollution Program" (1969), 5 New England Law Review 61 at p. 69.

invest in capital-intensive abatement techniques that qualify for tax breaks, even though diminished capital intensive techniques may be cheaper.²⁷ The remission of sales and excise taxes on anti-pollution equipment could also bias a firm's choice of method for pollution abatement.

Government-sponsored aid allows industrial pollution to shift the abatement costs from the polluter and the consumer of the industrial goods to the government. Traditionally, polluters have imposed costs on the users of waterways by pouring untreated effluent into the waters, and the benefactors have been individuals who own the polluting company, e.g., shareholders, and the purchasers of the goods produced by the polluting firm. However, the benefactors have not paid the "external costs" and the logic of economic efficiency indicates that consumers and firms producing pollution products should pay prices that reflect the real cost to society of producing such goods, including the cost of abating pollution.

Tax concessions can lead to inappropriate allocation of costs among polluters. Many industries have curbed pollution through changing plant procedures or some obscure method which does not show tangible results to which X dollars can be attached. The overall result is inequity. Industries which have done nothing in the past or have been dilatory in cleaning up their wastes will get tax write-offs; whereas, industries shouldering responsibilities for waste management will have no tax benefits for expenses incurred prior to the inauguration of the tax concessions. Furthermore, tax

27. Waverman, supra, n. 22 at p. 511.

incentives are of greater value to large, prosperous businesses reaping a large profit and having greater access to capital markets than they are to smaller firms with low economic efficiency and gargantuan pollution problems.

Any subsidy scheme which allows third parties to bear polluter's costs or transfers the burden to the public purse rather than foisting the costs upon the polluter is not to be condoned. Clear air, clear water and unadulterated land are becoming scarce resources and should be preserved, which means that a price must be put on their value, even if the price is arbitrary. If these prices are obscured by tax schedules, grants, or loans, the purpose of the price - to make people aware that clean air and clean water are not available for the taking - is defeated. Consequently subsidies are not adequate remedies for pollution problems because the polluter is not forced to internalize relevant external costs.

3. Effluent Fees

One of the most controversial approaches to water quality management in recent years is the imposition of effluent fees on polluters. Before discussing effluents fees, it is useful to distinguish between stream and effluent standards. Table 1.1 illustrates a set of stream standards which reflect the needs of a particular area. Setting stream standards are like establishing zoning by-laws; the needs of a city will reflect the composition of the standards. In determining stream standards, uses of water must be considered. The highest value and use of water is for human consumption, while other uses depend upon the economic and aesthetic needs of the community. Stream standards inform the public as to

how much waste a particular stream is being permitted to hold. Judicially, such standards eliminate the "reasonable amount of pollution" test because experts will have declared that "stream X has been classified as Grade B, so therefore only Y amount of impurities may be discharged into this stream".²⁸ Problems arising out of the use of stream standards include: identifying the polluter, monitoring the stream, accounting for streamflow and seasonal variation, and underclassifying streams, thereby giving polluters the licence to pollute.

Table 1.1

WATER QUALITY CRITERIA
FOR THE POTOMAC RIVER BASIN

Class A - Waters are suitable for a potable water supply with no treatment necessary except chlorination or disinfection. The waters may also be used for bathing, fish life, recreation and industrial process waters.

Class B - Waters are suitable for bathing, fish life, and for other similar recreational purposes. This water is also satisfactory for domestic water supplies with complete treatment, for industrial process water, and other similar uses.

Class C - Waters are suitable for domestic water supplies, with complete treatment, also for industrial ~~process water~~, navigation, and similar uses.

Class D - Waters shall have a satisfactory general sanitary condition and shall not create a nuisance in the surrounding area. The waters can be used for navigation, as cooling water, and for similar purposes. They will in no way affect public health unless used for domestic water supplies or for swimming purposes.

Source: J. E. McKee and H. W. Wolf, Water Quality Criteria, 2nd ed. (Sacramento: California State Water Quality Control Board, 1963), p. 463-4.

28. Grady, supra, n. 26 at p. 71; See also D. M. Carmichael, "Forty Years of Water Pollution Control in Wisconsin: A Case Study" (1967), Wisconsin Law Review 350 at p. 410.

Effluent fees are charges made in proportion to the amount and strength of effluent being discharged. These charges are based upon effluent standards (as distinct from stream standards) which are stated in terms of amounts of wastes discharged (pounds, tons, etc.). Table 1.2 shows the differences between stream and effluent standards. In the case of stream standards, public notice will be given to polluters of the standards to be met. Finally, effluent charges will enforce both stream and effluent standards.

Effluent charges, adopted from the German river organization model in the Rhur Valley, are founded upon a controversial economic theory which states that: "If market forces do not allocate resources efficiently, an optimizing system should be created to stimulate the allocative processes of a viable market".²⁹ If polluters are charged for polluting and the charge is equivalent to the downstream damage caused by the polluters, the external diseconomies would be eliminated and the price mechanism of private markets would operate efficiently. The situation would be such that if industries did not employ the least cost methods of discharging wastes, they would change their methods. Private incentives would encourage firms to reduce their waste loads by making changes in processes and treatment of water. This end could be accomplished by recovering raw materials, reclaiming waste water and by instituting by-product production in order to off-set reduced effluent charges. Therefore, theoretically, effluent charges promote optimum waste management that

29. Hines, supra, n. 23 at p. 604.

Table 1.2

STREAM AND EFFLUENT STANDARDSStream Standards

Two kinds:

- (1) state dilution requirements
- (2) state quality of receiving waters

Advantages:

- takes into account dilution and the assimilative capacity of the receiving waters and consequently leads generally to more economical pollution abatement
- socially acceptable standards of dilution

Disadvantages:

- standards difficult to formulate, define and administer

Effluent Standards

Two kinds:

- (1) restrict strength and/or amount of substance discharged
- (2) specify degree of treatment or percent removal of specific pollutants

Advantages:

- simple and easy to administer well defined standards and equitable among industries

Disadvantages:

- uneconomical use of assimilative capacity of receiving waters
- not necessarily socially acceptable

Source: J. E. McKee and H. W. Wolf, Water Quality Criteria, 2nd ed. (Sacramento: California State Water Quality Control Board, 1963), pp. 29-30.

should minimize social costs.³⁰

Difficulties in implementing effluent fees raise administrative problems. Seasonal and geographic variations in the quality level of the watercourse are indicators to polluters that waste discharges sometimes have to be curtailed and effluent fees do not take into consideration these changes. Once mistakes made on a decentral-

30. Kneese, supra, n. 14 at pp. 135-139, 315.

ized basis are made in determining water quality standards, they are hard to change. If firms make capital investments to respond to the initial effluent charges, it is difficult to make subsequent changes based on fluctuating stream conditions; therefore, there is a need for reliable information about existing water quality conditions before feasible standards can be formulated. The only way to efficiently use effluent standards is to account for stream standards.³¹

Stream standards would reflect the needs of the community while effluent charges would punish polluters who violate water quality standards by assessing each polluter the cost of reducing the stream pollution back to the prescribed standard. If the cost of pollution abatement is too great to an industry, statutory ceilings based upon a percentage of the cost of production could be imposed, thereby requiring industry to only pay up to a certain point and leaving the government to pick up the rest. The effluent charge coupled with efficient basin authority operation would minimize the purification expense of each particular industry. If pollution is stopped before it starts, industries will not pay more and will not worry that a new industry locating upstream will create an unexpected disaster.

The range of options open to an authority having planning, implementation and enforcement jurisdictions is almost unlimited. Some of these include: stream monitoring, adjustment to seasonal variations, realization of economies of scale in the construction and

31. Grady, supra, n. 26 at p. 77; Kneese, supra, n. 14 at p. 135.

operation of collective treatment facilities, and regulating stream flow through diversion channels or reservoirs. With the perspective of comprehensive planning for the whole basin, the agency could combine measures to achieve water quality standards at the lowest cost.

The only major impediment to basin water quality management would be the political difficulty in creating an effective authority. Management by river basins is a new concept and political co-operation is not always forthcoming despite support from a national government. Local Governments either do not have the impetus or the financial base upon which to initiate such regional management authority. In some countries the impetus has come from a deliberate national program to launch the concept of problemshel organizations in pollution abatement.

Industry uses all but about 10% of an industrialized nation's water for its purposes and has for years hesitated to curb pollution because of a competitive market. Effluent charges would make all industries answerable for pollution control in an equitable basis. The advantage of effluent fees over subsidies or tax incentives is that external diseconomies would be accounted for and economic persuasion would induce industry to stop polluting.

Although effluent charges are necessary, viewed as a solitary remedy, they are not flexible enough to incorporate the diverse factors required in water quality control. Therefore, strategically located river basin authorities are necessary. With adequate funds, an authority can produce efficient, rapid, flexible, and equitable

results both for industry and the community. A healthy, happy nation is a pollution-conscious one!

4. Marketable Pollution Rights

A variation of regulations, subsidies, or effluent charges is marketable pollution rights. Professor Dales suggests that property rights in air and water should be established in order to protect the environment from being destroyed by establishing a Water Control Board which creates only a certain number of "rights".³² Each right entitles the bearer the right to discharge one equivalent ton of waste into watercourses during a period of one year. If one million rights represent one million tons of waste, only that number of rights would be issued. The Board might withhold 5% of the rights to allow for growth and production. Assuming the rights were priced at 20 cents per right, some firms would find it profitable to treat their wastes prior to discharge, thereby reducing the number of rights required. Once the market is in operation the holders of the rights would buy and sell rights through one broker, the Water Control Board. Bankrupt firms would have rights to sell to firms exceeding their production. Those firms or Municipalities constructing new sewage treatment plants would sell rights to polluters not doing anything about cleaning up their wastes. Through bids and offers the buyers and sellers would establish the price of rights. The trend would no doubt be upward, for the scarcer the resource the higher the price paid. The cost of administering market-

32. J. H. Dales, Pollution, Property & Prices (Toronto: University of Toronto Press, 1968), c.c.

able pollution rights would be small as compared to other schemes.

Dales suggests that the market is open to anyone including conservationists to purchase rights. Conservationists may purchase rights in order to prevent increased pollution. The ensuing warfare between polluters and conservationists would be transformed from a guerilla warfare to a "war with dollars".³³

The major disadvantage of this scheme is the impracticability of including "multiple source" pollution such as run-off from herbicides, pesticides, fertilizers and exhaust from automobiles. In these cases regulations, subsidies and tax incentives would be more appropriate.

C. An Optimal Solution

All techniques of enforcement have advantages and disadvantages in maintaining water quality standards. On balance, it would seem that the traditional remedies, tax incentives, grants, loans, and payments, are not as adequate as effluent fees. Such fees shift the burden of pollution to the producer, such that the "polluter must pay". In considering effluent fees and stream standards, one is really an integral part of the other. One advantage of effluent fees is that they force the internalization of externalities which other remedies do not do. Effluent fees also generate direct revenue as opposed to indirect revenues generated by other remedies.

As previously mentioned, effluent fees and river basin

33. Ibid., p. 96.

agencies may work in theory, but without political backing they will not work, even in day to day pollution control. Once a minimum water quality standard is determined, then a political decision must be made as to how much increased quality is worth. Laws must not be so stringent as to shatter the competitive market; on the other hand, standards must not be so low as to give polluters a "licence" to pollute. An adequate balance must be found. To achieve this balance requires a satisfactory combination of legal, institutional and organizational mechanisms. There are several actors in the decision-making process. Private enterprise is motivated by profits dependent upon consumer satisfaction while the public sector is motivated by general welfare and dependent upon satisfying an electorate within a legislative framework.

An optimal institutional arrangement, as viewed by many economists, is the regional water management agency. The region is the geographic area incorporating the greatest number of polluters, the anti-pollution facilities, the major part of the polluted area, and the activities of the area. In determining the area several factors must be considered. Since water and air pollutants know no boundaries, a region should incorporate pollution of prime importance as opposed to pollution with only trace effects. Long-run potential projections, i.e., increase in concentration and density of population and industry, should also be taken into consideration. It is one thing to have an optimal institutional arrangement but another thing for any government to finance such an undertaking.

D. Policy Implications

In assessing various economic arguments for water pol-

lution, decision makers could not ignore the financial programs in effect prior to the Canada Water Act. One of the largest programs is the granting of loans by Central Mortgage and Housing Corporation (C.M.H.C.). This agency has been used by the Federal Government as a vehicle to financially help Provinces and Municipalities construct sewage treatment plants. Under Part VIII of the National Housing Act³⁴ Municipalities having received permission from their respective province can obtain loans from C.M.H.C. up to 2/3 the cost of construction of sewage treatment plants and main sewers. The Act provides that 25% of the loan and 25% of the paid on accrued interest may be forgiven for work in place prior to March 31, 1975. However, like any other loans they must be repaid.

Table 1.3 shows C.M.H.C. loans from 1961-1971. In the last three years it can be readily seen that funds have increased only incrementally from 50 million dollars in 1969 to approximately 80 in 1972. This loan program has served a useful purpose; however, there are several drawbacks. First, the funds do not necessarily take into consideration spiralling inflation costs and differences in various regions of the country. Secondly, C.M.H.C. funds have been perceived by the Provinces as being distributed on a "first come first served basis", although some Provinces have taken greater advantage of the program than others. An executive assistant to the former Minister of State for Urban Affairs summed up the situation as follows:

34. R.S.C. 1970, c. N-10. (At the time of writing, this Act is in the process of being amended).

At the present time when the available funds, are not sufficient to meet all of the demands, Central Mortgage and Housing Corporation endeavours to meet the total demand from those provinces which have taken the least advantage of the program in the past and endeavours to hold the line in those provinces so as to meet their most pressing requirements. This requires consultation with the individual provinces who help to establish priorities among their respective municipalities.³⁵

Table 1.3

LOANS APPROVED FOR MUNICIPAL SEWAGE TREATMENT PROJECTS
(SECTION 51, NHA)

	Number of Loans	\$000	Number of Projects Completed	Amount of Federal Forgiveness
1961-1966	1,116	208,015	793	32,874
1967	140	26,594	196	7,933
1968	125	37,579	146	5,850
1969	142	50,390	112	6,191
1970	206	72,487	130	6,930
1971	196	67,936	171	14,291
1971 Nfld.	1	97	-	-
P.E.I.	3	1,923	1	55
N.S.	21	3,262	8	139
N.B.	9	1,712	5	278
Que.	21	4,679	26	1,169
Ont.	75	24,650	85	8,523
Man.	9	2,937	9	234
Sask.	5	263	21	1,376
Alta.	22	3,871	22	1,652
B.C.	33	23,324	14	865

Provincial data are gross. All other data are net.

Source: Canada, Central Mortgage and Housing Corporation,
Canadian Housing Statistics (Ottawa: Information Canada,
1971), p. 51.

35. Daniel Coates, Executive Assistant to the Honourable R. K. Andras, Minister of State Responsible for Urban Affairs, to C. L. Gall, August 25, 1971.

The use of this approach is open to question because it does not offer the optimum use of funds. As previously mentioned, loans can alleviate costs in the short run but will place the burden upon Municipalities in the long run. A more logical approach would be to build an assistance program on the basis of a clearly defined National Water Quality Policy. Funds could then be more equitably allocated according to more meaningful criteria, e.g. regional priorities, need, degree of pollution.³⁶

Provincially, Ontario, being one of the most advanced provinces in the field of water pollution control and abatement, has recognized Municipal financial difficulties and has delegated administrative responsibilities to the Ontario Water Resources Commission (O.W.R.C.) for administering four Provincial schemes which include:³⁷

1. Municipal financing by issuing debentures approved by O.W.R.C.
2. O.W.R.C. Municipal financing, whereby construction and operation of facilities are arranged by O.W.R.C. Funds acquired by the Municipality can be paid over a thirty year period, after which time ownership of the facilities reverts to the municipality:
3. Provincial Ownership Plan allows O.W.R.C. to arrange financing, construction and operation of facilities and in return, the Municipality buys treated water as

36. A. Penman and R. Gosselin, supra, n. 2.

37. Ontario Water Resources Commission, 1969 Annual Report, p. 5.

needed on a per gallon basis at a certain rate -
in perpetuity; and

4. Subsidy Plan allows a Municipality to apply for assistance up to 50% of the total cost, if the cost of sewage treatment exceeds 120 dollars per household and 100 dollars for water. Taxpayers at Hawkesbury, Ontario, are paying \$14.40 per capita per annum and do not qualify for the subsidy; whereas, in Kenora it is costing \$500 per household because expensive rock blasting operations must precede laying of sewer pipes.³⁸

Of the 73 million dollars allocated by C.M.H.C. in 1970 for sewage treatment loans, Ontario received approximately one third (25 million dollars).³⁹ Like C.M.H.C., Ontario gives financial assistance on a "first come first served" basis with consideration given to the effectiveness of the proposed project in reducing pollution.

Unfortunately, not all Provinces have comprehensive financial schemes for their Municipalities. Similar arrangements will have to be devised and implemented if all Municipalities in Canada are going to bear the preponderance of the financial burden for the construction and maintenance of sewage treatment facilities.

The Federal Government also has another assistance program

38. Interview with C.M.H.C. officials.

39. Ontario Water Resources Commission, 1970 Annual Report, p. 7.

for municipalities in the form of tax incentives. This program is also available to industry. Under section 110 (1) (t) of the Income Tax Regulations⁴⁰ made by the Minister of Finance, assets acquired after April 26, 1965 and prior to the end of 1973 for anti-pollution purposes can be amortized at the rate of 50% per annum. New plants will not be able to take advantage of this provision but firms using anti-pollution equipment for the recovery of material or by-products from discarded wastes would be eligible for the tax incentives. The Excise Tax Act⁴¹ exempts equipment used for pollution reduction, sewage disposal and water purification from Federal sales tax.

As previously mentioned, the disadvantage of tax concessions is that in certain cases they tend to subsidize inefficient waste treatment. Generally, industries are financially in a better position than Municipalities and they are usually responsible for the larger part of the pollutant load in polluted waters. Because most industries are better able to afford pollution control equipment, they should pay for it, not be subsidized.

In this chapter the problem of the public goods case has been covered and a range of instruments which can be used to deal with this problem. In the next chapter the experience of other countries in developing and using comprehensive water basin authorities is examined.

40. P. C. 1966 - 115, as am.

41. R. S. C. 1970, c. E - 13.

CHAPTER II

A COMPARISON OF WATER BASIN AGENCIES

A. Experience of Other Countries

As mentioned in the last chapter, effluent charges or fees based upon water quality standards have been modelled in various countries after the German water authority experience. In this chapter, we examine the structure and function of water basin authorities - first in Germany, then England and Wales, France, Delaware in the United States, and finally Sweden.

1. The Genossenschaften

The Ruhr Valley of West Germany extends over some 4,300 square miles and contains 70 to 90% of West Germany's production of coal, coke, iron and steel and some 10 million people.¹ For almost the last 60 years comprehensive planning has encompassed waste disposal, water supply, flood damage reduction, and land drainage - problems all common to coal-mining areas. This has been done through eight large associations called Genossenschaften which have been established for the purpose of water management. Industries, Municipalities, coal mines, and rural government districts comprise the membership of the Genossenschaften. Membership is mandatory. In some ways the Genossenschaften are similar to American co-operatives except voting power is proportional to size and financial contribution.

1. Allen V. Kneese and Blair T. Bower, Managing Water Quality: Economics, Technology, Institutions. Resources for the Future Inc. (Baltimore: The Johns Hopkins Press, 1968), p. 239.

Three rivers, the Ruhr, the Lippe, and the Emscher, run parallel through the Ruhr region. In determining water quality objectives, considerable attention is given to aesthetics and recreation. As a general rule of thumb, a river suitable for use must be diluted by at least eight parts of river water.² The water quality objectives of the Ruhr and Lippe rivers are generally to maintain water quality standards suitable for recreational purposes and water supply. The smallest of the three streams, the Emscher, is a single-purpose stream used exclusively for waste dilution, degradation and transport. This river is sometimes referred to as the "cloaca maxima" of the Ruhr.³ The water quality objective for the Emscher is the avoidance of aesthetic nuisance, which is accomplished through mechanical treatment. Therefore, adjoining streams are used as sources of water supply and recreational activities. Everything is done to make this stream aesthetically beautiful - trees are planted, curves are made in the stream and bridges are architecturally attractive.

The Genossenschaften operates on a systems basis rather than treating wastes at individual waste outfalls (where the discharge pipes enter the water). A single treatment plant may link several towns and cities to it. The Genossenschaften will construct its own plants where warranted or levy charges for effluent discharges based on the quality and quantity of waste water and act as a market agency for the

2. Marshall I. Goldman, Controlling Pollution: The Economics for a Cleaner America (Englewood Cliffs, N. J. & Prentice-Hall Inc., 1967), p. 117.

3. Ibid., p. 118.

recovery of wastes. Planning procedures take into account cost-benefit analysis, land use, and water quality alternatives. Once a pattern is developed the water authorities will influence industrial location decisions as well as encouraging waste recovery through effluent charges. Because the Genossenschaften force industry to bear at least a significant portion of the costs of waste disposal, numerous adjustments in process design are being made by industry. Indirect methods of recovery, i.e. recovery and process changes, are thought to be on par with work of the Genossenschaften.⁴

Public supervision of the Genossenschaften is in the hands of the Ministry of Food, Agriculture, and Forestry. The Ministry ensures that the Genossenschaften comply with the laws which created them. The governing statutes set forth the goals and responsibilities in general terms, leaving the staff and members relatively free to adapt to changing needs and conditions. One general provision is that operating and construction costs of the system are to be borne by the members responsible for them as well as by those who benefit.

The organizational structure of a Genossenschaften is generally composed of an Assembly, Board of Directors, President and Managing Director as well as professionals and other staff workers. The political power lies in the hands of the Board of Directors, composed mainly of business and industrial establishments, communities in the area, and a representative of the waterworks. Assembly mem-

4. A. V. Kneese, Effluent Taxes: "The German Model" in Water Law, Planning and Policy by J. L. Sax (New York: Bobbs-Merrill Co., 1968), p. 407 at p. 412.

bers (about 1500)⁵ elect the Board of Directors, approve or disapprove a plan for water quality management and assessment fees, and decide how the fees should be calculated. Assembly voting is proportional to financial contribution and all decisions are on the basis of absolute majority. The Assembly also elects the members of the Board of Directors, which consists of a chairman, his deputy and seven additional members, on a part-time basis. Day to day administration of the Genossenschaften is the responsibility of the Managing Director and his staff.

The cost of operating over 100 treatment plants in the Ruhr region has been obtained from a capital market (issuing of bonds) for capital costs. Maintenance costs are met by a system of charges which vary according to the amount and quality of effluent discharged. The staff prepares lists of charges based upon stream monitoring. A member can appeal charges to a commission or to the courts.

The Minister's powers are limited to approving the lists to see that they conform to the statutes creating the Genossenschaften. The effluent charges can be enforced like taxes; however, due to the success of the Genossenschaften and public character of water pollution obligations, there has been little need for enforcement.

2. The English and Welsh River Authorities

The British Water Resources Act⁶ is an attempt to deal with water management on a comprehensive basis. The Act provides for

5. Kneese, supra, n. 1 at p. 261.

6. 1963 (Imp.), c. 38; see also Lyle E. Craine, Water Management Innovation in England, Resources for the Future (Baltimore: The Johns Hopkins Press 1969); Kneese, supra, n. 1 at pp. 262-7.

twenty-seven River Authorities and two separate regional agencies. Each Authority varies in membership from 21 to 31 members. Some are appointed by Local authorities and others by Cabinet Ministers. The law provides that the managing boards be composed of Local and Central government representatives in such proportions that Local Governments have a bare majority and no more. In contrast with the representation of the Genossenschaften, which varies with water interest and financial contribution, the members of the River Authorities consist of experts appointed by the Central Government. Financial contribution (via taxation) is provided by the Local level of Government. Industry is not well represented because its representation is in a more indirect way through Local politics.

Instead of having effluent discharge fees the River Authorities are authorized to issue licenses for water withdrawals from all sources based upon the quantity withdrawn. Section 19(5) of the Act requires each River Authority to determine a minimum acceptable flow at each of certain designated control points. Not less than the minimum flow (in respect of both quantity and quality of water) is required for safeguarding public health, and other uses of water such as, agriculture, industry, water supply, land drainage, navigation and fisheries.

At the National level the Ministry of Housing and of Local Government and the Ministry of Agriculture, Fisheries and Food play major roles in the operation of the water Authorities. However, under the 1963 Act, the Ministry of Land and Natural Resources has responsibilities for research, collection of data, surveys relating

to water resources, and the Water Resources Board. The Board is composed of 8 members and is responsible for policy and planning and also advises on the operation of River Authorities. Day to day functions of stream monitoring and minimum flows also are susceptible to the scrutiny of the Board, hence the real power lies with the Board and not the River Authorities.

3. The French Basin Agencies

The French Basin Agencies in many ways resemble the Genossenschaften but the organizational structure and application of effluent charges is different. In 1964 comprehensive legislation was passed which established six river basin agencies with powers to implement water quality management programs and provided for a levying of effluent charges to finance the programs.⁷ As in Britain, the River Basin Agencies are creatures of the National Government and therefore, the agencies only serve as regional branches of the National Government.

Even though the legislation governing the Agencies is broad and general, it does take an encompassing approach to pollution and the causes of pollution by physical, chemical or biological means. The Agencies have general water resource powers, particularly with regard to water quality, but do not plan collective facilities. The River Basin Agencies operate primarily through the use of economic incentives and in co-operation with industry and other government agencies. It is expected that the law will be changed eventually to permit collective facilities to be constructed and operated by the

7. Kneese, supra, n. 1 at p. 270.

Agencies.

Politically and administratively the River Basin Agencies are controlled by the Central Government. A standing Inter-Ministerial Committee and National Water Committee of the Prime Minister will plan, establish agencies and advise on the feasibility of water projects. A Board of Commissioners composed equally of the Central Government representatives and the water users, both public and private, will be set up for each Agency. If economic and technical studies indicate a need for water quality management programs, such programs must first be approved by the Central Government, otherwise the Board of Commissioners can plan alterations or projects for the common benefit of the Basin.

In the 1964 Act, effluent charges which incorporate external costs, are the method of financing treatment facilities. Instead of supporting the idea that Agencies should only be set up in pollution problem areas, the Act provides for comprehensive planning for the whole country from the source to the mouth of a waterway.

Because there are several differences in the structures and function of river basin authorities in France and Germany, it has not been possible to determine whether the system of charges in one is more efficient and effective than the other.

4. The Delaware Basin Commission

In 1961 the American Congress approved the Federal-Interstate compact establishing the Delaware River Basin Commission. The Commission, composed of governors in four states and the Secretary of the Federal Department of the Interior, is the only Interstate-Federal

compact in the United States and the only regional agency to have a comprehensive multi-purpose water resource program which would be efficient and effective in benefits and service to the public welfare.

Since the Commission has the authority to plan, construct, operate, finance and implement measures affecting quality and quantity of water in the Basin, it is an asset to the Commission to have Commissioners who are knowledgeable in the field of water management. The Commission also has powers to implement plans, delegate powers to the signatory governments, and establish cost-sharing standards and formulas. Each state contributes to capital funds as set out in the compact, as well as proportional annual expenses.

How the Commission will proceed on the question of effluent charges is not certain. A study by the Federal Water Pollution Control Administration showed that given the water quality goal in the estuary, it was less costly to remove wastes to a higher degree at some outfalls than others.⁹ Another study showed that effluent charges (8 cents to 10 cents per pound of oxygen-demanding material)¹⁰ could induce a similar least cost treatment system. However, the critical criterion in implementing either scheme is political feasibility.

After holding public hearings, the Commission can classify waters and set and amend standards for the treatment of wastes. If

8. Ibid., p. 189.

9. Ibid.

10. Sweden, National Environment Protection Board, "The Water Situation in Sweden", 1970, (mimeo), p. 8.

the regulations are violated, the Commission, after making investigations and holding a hearing, can issue orders to an individual or corporation to cease discharging wastes. Appeal of this decision by the polluter can be made to a court of competent jurisdiction.

The Commission can appoint advisory groups representing any order of government, water interests, industry or labour. Such groups have a purely advisory role as compared to France where such advisory groups comprise an integral part of the system and have critical powers to participate in the decision-making process.

Of the regional agencies considered thus far, the Delaware Basin Commission has the weakest links with local governments and water users in the area, possibly because there are three levels of government in the United States instead of two as in most European countries. However, Germany also has a three-tiered government and it is interesting to note that the Federal level is not involved in the administration of the Genossenschaften and all the Genossenschaften are contained within a single state (Ruhr region). It is also noteworthy that the Germans have emphasized direct industrial representation in solving water pollution problems. In the light of the German success it is not an approach to dismiss lightly.

5. The Swedish Environmental Protection Board

In Sweden an environmental protection law has been in force since 1969 and is based upon the presumption that access to clean water, clean air, and untouched nature is an essential part of the standard of living.¹¹ Because modern society has detrimental effects

11. Ibid., p. 10 - 11.

on the environment, provision should be made to hold disturbances in the environment in check and unnecessary disturbances should not be tolerated. The general rule dealing with waste discharges caused by industrial, Municipal, agricultural or private activities makes mandatory protective measures for anyone engaging in activities having detrimental effects on the environment, enforces limitations on such activities, and urges that additional precautions be taken that may reasonably be deemed necessary to prevent or remedy injury. The interpretive rules require that the most efficient technical equipment and methods available be used by industries and Municipalities, and secondary treatment of wastes is a minimum for Municipal sewage disposal. Due consideration must be given to the aesthetic values of the affected area, the importance of the effects of a disturbance in the environment vis-a-vis the advantage of continuing or commencing operations, and the cost of the protective measures.

Environmental protection is the responsibility of the Ministry of Agriculture. An appointed Environmental Advisory Committee advises the Ministry on protection of the environment and physical planning of communities. The National Environment Protection Board is responsible for planning, co-ordination, and research of all aspects of the environment. Its prime function is the central management of matters pertaining to environmental protection. Because the County Governments are responsible for the conservation of nature, they work closely with the Board.

Like Britain, Sweden operates water pollution activities on a permit system. The difference is that the Swedish permit is for discharging wastes into waterways instead of withdrawing quantities

of water. A Franchise Board for the Protection of the Environment considers applications for permits. In certain cases the National Environmental Protection Board or the county governments may exempt a party from applying for a permit if the conditions are specified for which the polluting activity can be carried on. To ensure compliance with the conditions, the National Environment Protection Board and the County Governments make periodic inspections.

Generally the costs of water pollution control are financed by polluters. Industries invest approximately 5% of their total annual investments in anti-pollution measures.¹² The pulp and paper and chemical industries report the highest costs for anti-pollution measures. Consumers pay for only a very small part of the operating costs of pollution abatement through the price of tap water. The government contribution to sewage treatment projects is 30 - 50% of the construction costs and 25% for anti-pollution measures implemented by industries established prior to July 1, 1969. Grants are made to industries for changes in industrial processes, treatment plants, and special units designed to dispose of sludge or concentrates. New industries can deduct pollution control expenses over a five year period. Municipalities normally can obtain grants up to about a million dollars, but where regional solutions are an important consideration, the grant can exceed that amount depending on the severity of the problem. The use of effluent charges as a means of financing pollution abatement activities has been discussed and rejected because

12. Ibid., p. 12.

it is an arbitrary scheme that does not give a guarantee for an intended result.¹³

In formulating policies for the Canada Water Act, decision-makers took into consideration the experience of some of the countries mentioned above. It would seem that the German model was most appealing because of its river basin authority concept based upon effluent fees. The Canadian experience with river basin authorities will be discussed in Chapter V.

In Part Two background events leading up to the passage of the Canada Water Act and the specific clauses of the Act are examined.

13. 1-2 George V., A 1911 Sessional Papers No. 52, p. 107.

PART TWO:
THE LEGISLATION

CHAPTER III

WATER POLLUTION POLICIES AND PROGRAMS

Having considered some theoretical arguments for effluent fees based upon water quality standards and water basin authorities in Part One, we now turn to the background events - both bureaucratic and political - in the formulation of the Canada Water Act. Included is a discussion of events in the Department of Energy Mines and Resources under the direction of Jean L. Pepin, Minister of Energy Mines and Resources; the creation of the Interim Interdepartmental Committee on Water which dealt with much of the policy formulation and co-ordination of the Act; and main features of the Act as passed by the House of Commons and the Senate.

Governments in any political system serve a common purpose - to meet the political, economic, and social needs of the community. How this purpose will be achieved in any one locale will depend upon constitutional or delegated powers (or capability) and access to real and financial resources (or ability). However, the impact of a "multilevel political system" spread over a distance of 3300 miles and a centralized bureaucracy may not be dynamic enough to cope with rapidly changing socio-economic conditions. Perhaps the political system has to be reconsidered,¹ but it is more likely that goals and objectives in vital areas of the community will have to be formulated

1. N. H. Lithwick, "Urban Policy-Making: Shortcomings in Political Technology", Canadian Public Administration, Vol. 15 No. 4 (Winter 1972), p. 573.

and then translated into policy or strategies for action. At the same time policy-makers and administrative authorities must realize that with increased urbanization and industrialization, the roles and functional responsibilities of the three levels of government have both changed and expanded, particularly in the post World War II period.² The Federal Government has become interested in Provincial and Local Government areas and vice-versa. This has led to greater interaction and oft times conflict between the three levels. As yet no effective mechanism exists through which these problems can be resolved.

A. Background of the Canada Water Act

In 1961 the Canadian Council of Resource Ministers sponsored the Resources for Tomorrow Conference in Montreal. The purpose of this meeting was to discover ways in which senior governments could better manage Canada's water resources. On the heels of this Conference (in 1962) the Glasco Commission began reporting to the Federal Government. A consequence of the Commission's findings was the establishment of the Department of Energy, Mines and Resources (E.M.R.) with jurisdiction over the administration of energy, mines, minerals, explosives, other resources and the Resources and Technical Surveys Act.³ Under s. 8A of the Resources and Technical Surveys Act the Minister of E.M.R. was made responsible for "co-ordinating,

2. T. A. Shevcaw, Policies Programs and Finance, Municipal Submission to the First National Tri-Level Conference, Document No. TCT 7; October 30, 1972.

3. R. S. C., 1970, c.N-19. This responsibility has now been given to the Minister of Environment, S. C. 1970-71-72, c. 42.

promoting and recommending national policies and programs with respect to energy, mines and minerals, water and other resources."

In carrying out his responsibilities he could instruct his Department to conduct basic research programs and study the feasibility of acquisition and disposal of resources. With the new mandate as Minister of P. M. R., The Honourable Jean Luc Pepin, expressed concern about pollution at a conference of the Engineering Institute of Canada:

We see the great nation to the south of us struggling with this problem (pollution) but in a vastly worse stage of water deterioration. President Johnson said recently of the United States: 'Every major river system is now polluted.'

Here we can see the handwriting on the wall for us; but we still have a chance to reform and are taking the actions necessary to prevent a similar situation developing in this country.

The need to do something to avoid the dimension of the environmental problem in the United States, and the opportunity to do so, has obviously influenced the Canadian Government; this is a clear case for 'learning by others' mistakes'.

In November 1966, the Canadian Council of Resources Ministers sponsored the Pollution and Our Environment Conference in Montreal involving experts, opinion moulders, and decision-makers. The Conference recommended guidelines for dealing with Federal-Provincial relations, research, comprehensive and regional based plan-

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4. Quoted by Brian A. Stamp, "Constitutional Aspects of Water Pollution," Constitutional Aspects of Water Management, Grassiz. Center for Water Studies, Research Report No. 2 (Winnipeg: University of Manitoba, 1968).

ning, water quality standards, education and training, financial matters, and major changes in Provincial and Federal legislation. Following the conference these guidelines were discussed at the Federal and Provincial levels. One of the Federal proposals which emerged was the embryotic Canada Water Act, however when the proposals were formally presented to provincial Ministers, few responded. On its own the Federal Government began taking initiatives in certain areas to demonstrate its concern for pollution abatement and urgency of their readiness to do something about it. First, the Department of E. M. R. set to work on the Canada Water Act and second, the Department of National Health and Welfare assumed responsibility of controlling and abating water pollution from Federal facilities by assessing the efficiency of existing plants, recommending designs and operation and approving plans for pollution control systems. Simultaneously, the Canada Center for Inland Waters was established at Burlington, Ontario for research on the Great Lakes. The Center was designed to provide the expertise upon which Federal-Provincial joint programs under the anticipated Canada Water Act could be formulated. As well, the Center was encouraged to enter into joint research and personnel training programs with universities.

In the fall of 1967 representatives of several Federal departments found that there was a need for an assessment of the needs and priorities for Federal efforts in water pollution control and a much further need for the clarification of the role of various agencies in data gathering, monitoring, planning and research, and increasing the effectiveness of the Federal role through greater co-

ordination. They agreed to form an Ad Hoc Advisory Committee on Federal Water Pollution Programs which would develop an overall policy framework for Federal programs.

Meanwhile, at the Ministerial level, Mr. Pepin again approached the Provincial Ministers late in 1967, reiterating previous proposals. By mid 1968 only half of the Provinces had responded but there was no evidence of real support. The failure of the Provinces to support Federal initiatives indicates that Provincial co-operation does not necessarily come forth simply for the asking. The fact that Canada has a constitution which gives specific responsibilities to the Provinces and the residual to the Federal Government cannot be ignored, particularly when the demarcation line is not clear as in the area of water pollution. Perhaps a letter from M. Bernard, Ministere des Affaires Intergouvernementales (Quebec) indicates a few reasons for the lack of Provincial enthusiasm:

Recently, the federal government has tried to justify its interest in water through its powers over navigation, fisheries, agriculture or by the allegedly 'national' dimensions of the problem. The government of Quebec believes, however, that the basic responsibility should remain provincial because pollution control is only one aspect of the owner's responsibility for the overall development and conservation of the resource.

Provincial co-operation may be forthcoming when Provinces feel the problem is sufficiently serious, if they are unable to handle technical, financial, or jurisdictional areas on their own, or if they perceive a greater public demand for a joint Federal-Provincial ap-

5. Ibid.

proach to pollution control. If Provinces are to be encouraged, rather than coerced, Federal authorities will have to take the initiative in developing an overall strategy, a system designed to generate agreed priorities, and the machinery for co-ordination; they will also have to indicate that greatly expanded resources are likely to be made available.

While drafting was continuing on the Canada Water Act, Mr. Pepin and one of his assistant Deputy Ministers, Mr. A. T. Davidson, started the ball rolling in the field of water management by offering to completely finance a pilot project study in each region of the country. All the Provinces flatly rejected the offer. As a result compromises were developed and these resulted in negotiations on Federal-Provincial agreements with respect to water basins affected significantly by pollution (as shown in Table 3.1).⁶

By early 1968 Mr. Pepin was prepared to introduce the Canada Water Act into the House of Commons; however, there were difficulties in getting the Bill on the Order Paper due to the Government's view of more "pressing" legislation in light of the upcoming June election. Changes in the bureaucracy, which followed the election, brought fresh ideas on water quality management into focus. For instance, the original draft of the Bill was silent on water quality management, and the Minister was now persuaded to withdraw that draft and have it rewritten to include this subject.

In the spring of 1969, The Honorable Joe Greene became Minister of E. M. R., Mr. Pepin had used the "soft touch" approach to

6. See Appendix II, for present Water Basin Agreements.

water pollution control to gain co-operation from the Provinces, but Greene, with his "flair for politics", gave priority to action in respect of water quality management. With the untimely illness of Greene, Otto Lang became acting Minister of E. M. R. Lang, a noted authority on constitutional law, made the Canada Water Act a constitutional issue and gave the Act a "get tough approach" by including a unilateral clause which enabled the Federal Government to take unilateral action if the Provinces failed to co-operate. The reaction of the Provinces, as one might expect, was far from submissive.

After sixteen revisions by the legal draftsmen, the Bill C-144 was finally ready to be introduced into the House of Commons on November 5, 1969. Seven months later, after much debate, the Bill was given third reading on June 4, 1970 and Royal Assent on June 26, 1970.

1. Interim Interdepartmental Committee on Water

As mentioned previously, the Ad Hoc Advisory Committee was formed on the initiative of several Federal departments. In 1963 as a result of a Cabinet directive, the Committee was transformed into the Interim Interdepartmental Committee on Water (ICW) which was to be chaired by the Assistant Deputy Minister of E. M. R. (now Department of Environment) responsible for Water and Renewable Resources. The ICW was designed to consider and approve all Federal water programs until a permanent mechanism could be established under the Canada Water Act. Contrary to what might be expected, the Ad Hoc Committee did not disappear, rather, its membership was enlarged and reconstituted as the ICW Sub-Committee on Water Quality with the

TABLE 3.1

SELECTED WATER BASINS SIGNIFICANTLY AFFECTED BY POLLUTION

Region	Water Basin
Atlantic Region.....	Saint Croix River Basin Annapolis River Basin Saint John River Basin Miramichi River Basin
Eastern Ontario and Quebec.....	Rideau River Basin Ottawa River Basin St. Lawrence River Basin Upper Yamaska Watershed
Great Lakes Region.....	Maitland River Basin Don River Basin Lake Erie Lake Ontario
Prairie Region and Western Ontario.	Rainy River Basin North Saskatchewan River Basin Bow and South Saskatchewan River Basin Red River Basin
British Columbia.....	Fraser River Basin

Note: Various water uses, such as fisheries and spawning grounds, recreational activities, aquatic life and industrial water supplies, are impaired or threatened collectively in at least some parts of the above water basins, although each water basin has its own particular problems and these vary also within each basin.

Source: Based on data from Departments of Energy, Mines and Resources; Fisheries and Forestry; and National Health and Welfare, as found in -

Economic Council of Canada, Sixth Annual Review, Perspective 1975 (Ottawa: Queen's Printer, 1969), p. 43.

prime objective of reporting on Federal strategy, policies and programs respecting water quality, priorities of action, water quality management policies, legislative support, and the cost, over a five year period, required to implement these programs.

(a) Internal Structure

The ICW has representation from thirteen departments, with sixteen participants including the Chairman and Secretary. All members of the Committee are at the director level except the Chairman and Secretary who are of ranks above and below respectively. The Committee, meeting once a month, is supported by the research staff of the Department of Energy, Mines and Resources (now Department of the Environment); therefore, outside personnel have not been used. The Committee has three main functions: a) to provide advice to the Minister, b) to review water policies and programs referred to it by any Federal agency or the Cabinet, and c) to undertake studies necessary to make recommendations on Federal water policies and programs. These functions are executed through a system of permanent sub-committees of a regional or program nature and ad hoc or temporary working groups. A specific mandate of the Committee was to scrutinize the final draft of the Canada Water Act.

(b) Effectiveness of the Committee

There are differing opinions as to the effectiveness of the ICW. One view is that the ICW has not been outstanding in its performance compared to other interdepartmental committees. It requires more specific direction and more scope if it is to function as ef-

fectively as, say, the Preparatory Committee on Collective Bargaining.⁷

The ICW has met on an average of once a month.⁸ However, the Executive Secretary does not spend all of his time on committee work and his support staff is small; both factors contribute to the weakness of the ICW.

The other view is that the ICW has been successful because, in addition to scrutinizing the Canada Water Act, the ICW has reviewed amendments to the Fisheries Act, the Canada Shipping Act, the North-ern Inland Waters Act, and also the drafting of the Arctic Waters Pollution Act. Committee meetings have resulted in useful definitions of "deleterious substances" and what constitutes a "polluted condition".

In light of these examinations affecting other Departments it must be recalled that Ministers are equals in the Cabinet. The only way to co-ordinate ministerial powers is by a gentleman's agreement, unless a particular Minister's department holds the purse strings. In the case of the ICW, the apparent support of the Treasury Board gave it power. All water program budgets had to go to the ICW to be discussed before Treasury Board or the Privy Council would approve the program. Therefore, all departments were made to fall into

7. For further discussion of this Committee see G. Bruce Doern, The Role of Interdepartmental Committees in the Policy Process, unpublished M. A. Thesis, Carleton University, 1966.

8. This corresponds to Guetzkow's criteria for an effective committee. His findings show that the more often committees meet (an average of once every three weeks) the more effective they are. Also a high level of interest is sustained which accounts for low absenteeism. See H. Guetzkow, "Interagency Committee Usage", Public Administration Review, Vol. 10-11 (Summer, 1950), p. 195.

line. Of course there are exceptions, and in a few instances departments have gone through their own Minister to the Cabinet and bypassed the ICW. In the final analysis a Minister is boss in his own balliwick; any Minister can take anything directly to Cabinet where questions can be asked whether it has been "co-ordinated enough".

Following the passage of the Canada Water Act and the establishment of the new Department of Environment, the ICW has not disappeared. It is expected that the ICW will be enlarged in membership and will continue to co-ordinate water policy within the Department as well as between departments.

B. The Canada Water Act

The Federal Government, in an attempt to establish a national environmental framework for water pollution control, on June 26, 1970 passed Bill C-144, The Canada Water Act.⁹ The Act is intended to carry out schemes of comprehensive water management and water quality management through data collection, research, maintenance of inventories, planning, implementation of plans, and the regulation of water quantity and quality related to the conservation, development and utilization of water resources.¹⁰

The Act is composed of four parts: Comprehensive Water Resource Management, Water Quality Management, Nutrients, and a General Section on powers of inspection, offences and the establishment of Advisory Committees.

9. R. S. C. 1970, 1st Supplement, c. 5.

10. S. 2(1) (b).

Under the Act the Minister of Energy, Mines and Resources¹¹ in co-operation with Provincial Ministers can jointly form consultative committees "where there is a significant national interest",¹² and can establish priorities and supervisory agencies for comprehensive water management. Once a water basin¹³ has been demarcated and an agreement signed, a Planning Board¹⁴ composed of Federal-Provincial representatives can be established to supervise plans and to set up working groups to carry out specific studies for the whole or parts of the basin. Once the plans have been developed and formulated by the Boards the studies will be published in the Canada Gazette and a local newspaper in the area affected by the plan. If in the first instance the Minister cannot gain the co-operation with one or more Provincial Governments (having partial jurisdiction over the water resource in question)¹⁵ and he has satisfied the Governor-in-Council that all reasonable efforts have failed, he can take unilateral action with respect to interjurisdictional water,¹⁶ (any waters,

11. Now Minister of the Environment with the passage of Bill C-207, (creating the Department of the Environment), House of Commons, Debates, Wednesday, May 26, p. 6146.

12. S. 4.

13. See Appendix II for present Water Basin Agreements.

14. Department of Energy, Mines and Resources, "The Canada Water Act - A Resolution of Forces", E. Roy Tinney and J. G. Michael Parkes, Water Planning and Operations Branch. A paper presented at the seminar on Pollution and Environmental Issues, Algonquin College, Ottawa, Ontario, October 17, 1970, p. 6.

15. S. 5(2).

16. S. 5(1) (b).

whether international, boundary or otherwise, that whether wholly situated in a Province or not, significantly affect the quantity or quality of waters, outside such Province),¹⁷ any international waters,¹⁸ (rivers that flow across the international boundary between the United States and Canada),¹⁹ boundary waters²⁰ (as defined by the Preliminary Article of the Boundary Waters Treaty)²¹ and any Federal water²² programs, of course, require no Provincial approval.²³

The section of the Act which deals with water quality management provides for the establishment of a water quality management agency which is charged with the responsibility to preserve the quality of the water (by a joint agreement between the Federal and Provincial Governments concerned) in a Basin.²⁴ Each agency is required to plan, initiate and implement programs to restore, preserve, and improve water quality. The agencies may build and operate effluent treatment plants where required, use loans provided by Provincial

17. S. 2 (1) (g).

18. S. 5 (1) (c).

19. S. 2 (1) (h).

20. S. 5 (1) (c).

21. S. 2 (1) (c); S. C. 1911, c. 28.

22. S. 5 (1) (a).

23. S. 2 (1) (e).

24. S. 9; supra, n. 10. Talks with officials from the Department of Energy, Mines and Resources did not make it clear why water quality management is in a separate section from comprehensive planning.

and Federal Governments for this purpose, and assume the position that the "polluters should pay" to allocate abatement costs. The effluent standards of discharged wastes will be monitored by agency facilities. If and when it is determined that effluents may be discharged into a basin, the agency may levy fees for the discharge of any polluting effluents.²⁵ Further, in the event that Provincial co-operation to establish such an agency is not forthcoming, as determined by the Governor-in-Council, and the waters are of "significant national interest", the Minister may take unilateral Federal action²⁶ to establish water quality management agencies with respect to interjurisdictional, international, and boundary waters.

The idea of comprehensive river basin planning to manage and utilize water resources in a systematic way has become increasingly acceptable within the past twenty years.²⁷ Water quality control as outlined by the Canada Water Act is an integral part of river basin planning; it is not divorced from the overall management responsibility. Too often the immediacy of the pollution problem is ignored when planners consider comprehensive water resource programs; the years of working involved to develop sophisticated inventories of water supply and demand and the formulation of alternatives for water use and reuse often represent delays to required remedial action. As

25. Tinney and Parker, supra, n. 14 at p. 9.

26. S. 11 (1).

27. N. W. Hines, "Not any Drop to Drink: Public Regulation of Water Quality", Part II: Interstate Arrangements for Pollution Control, 52 Iowa Law Review 432 at p. 453.

Professor N. W. Hines points out, "in the long run, the emphasis on comprehensive river basin development bodes well for regional pollution control; but if concerted short-run abatement programs are not successfully mounted, carefully planned future projects may become somewhat irrelevant".²⁸

The part of the Act pertaining to nutrients prohibits the manufacturing for use or for sale or the importation of any cleaning agent or water conditioners containing nutrients in excess of prescribed maximum concentrations.²⁹ This part of the Act gives authority to inspectors to seize at any time a cleaning agent or water conditioner in violation of section 18. Upon application any person (not defined by the Act but presumed to mean individual, Municipality or corporation) can within two months apply to a local magistrate for restoration and notify the Minister of this intention in writing.³⁰ If an offence is committed, the cleaning agents or water conditioner can be forfeited³¹ and disposed of as the Minister directs.³²

The Act provides for and outlines the powers of analysts and inspectors³³, it specifies the assistance and access to valid in-

28. Ibid., p. 455.

29. S. 18.

30. S. 21.

31. S. 22 (1).

32. S. 22.

33. S. 23.

formation that must be provided to the inspectors by public and private concerns.³⁴ On the basis of consequent analysis, offenders may be liable to prosecution (with penalties on summary conviction not exceeding five thousand dollars per day),³⁵ courts may invoke an injunction order against offenders,³⁶ and a civil action may be initiated for any act or commission which is an offence under the Act.³⁷ All proceedings against offenders must be instituted within two years.³⁸

Section 8 of the Act prohibits the deposit of waste of any type in any waters within a water quality management area unless permitted by the regulations made by the Governor-in-Council or by licence or permit, which involves the payment of effluent discharge fees.³⁹ The regulations may require that books and records of a deposit be kept, that a report be made to the agency, if Section 8 is contravened and that a test portion of effluent waters be submitted for analysis. Any offence under section 8 or the regulation is subject to prosecution and a penalty not exceeding five thousand dollars per day may be levied.

34. S. 25.

35. S. 28, 29, 30.

36. S. 30.

37. S. 34.

38. S. 32.

39. S. 16.

It has been argued that the definition of "water resource management" under the Act means that "no charges can be prescribed for water or sewage services performed in the implementation of any water resource management plans or projects"⁴⁰ since no offences, per se are committed with respect to water resource management although presumably, offences could be ascertained in respect of water quality management. It would follow, therefore, that regulations related to resource management are invalid and that "control and regulation" must be taken to mean control and regulation by physical means and not by law.⁴¹

The Honourable Gordon Aiken (Parry Sound - Muskoka) goes one step further and says, by implication, that there is nothing under Bill C-144 which permits the government to set national standards for even water quality control.⁴²

The questions of jurisdiction and of the effectiveness of unilateral Federal regulations are complex; therefore, it is necessary at this juncture, to examine Federal and Provincial powers in relation to the Canada Water Act.

40. Henry Landis, "Legal Controls of Pollution in the Great Lakes Basin" (1970), 48 Canadian Bar Review 66 at p. 140.

41. Ibid.

42. Canada, House of Commons, Standing Committee on Natural Resources and Public Works, 2nd Session, Twenty-Eighth Parliament, 1969-70, No. 5, February 12, 1970, p. 31.

PART THREE

VALIDITY OF THE LEGISLATION

CHAPTER IV

THE CONSTITUTIONAL VALIDITY OF THE CANADA WATER ACT

As stated previously, Canada is a Federal country, and by its very nature, there is bifurcation of constitutional jurisdiction over all facets of life as governed by the British North America Act (B.N.A. Act).¹ Water pollution control and water resource management, besides being interdisciplinary in nature and rather complex and confusing, involve both Federal and Provincial constitutional powers. This bifurcation of jurisdiction has resulted in poorly coordinated and rather obfuscating administration. Professor Gibson has stated that "most law is opinion, and that is particularly true of constitutional law" because constitutional principles are not like the principles of mathematics, chemistry or physics.

If the problem of water pollution control in the form of an act or reference case was placed before the courts, guesses must be made as to what they would decide, upon the basis of stare decisis. It will be useful to examine the question of jurisdiction under the headings of Proprietary Rights, Legislative Jurisdiction, and Federal - Provincial - Municipal Co-operation.

A. Proprietary Rights

1. Riparian Rights at Common Law

Canadian courts have declared, primarily on the basis of

1. 1871, 30 and 31 Victoria, c. 3.

2. "The Constitutional Context of Canadian Water Planning" (1969), 7 Alberta Law Review 71.

English Common Law, that although a landowner has no private proprietary rights (ownership) in water flowing in a defined channel either above or below the surface,³ the existence of percolating waters entitles the owner to pump them and gives him ownership of the soils. Generally then, water in the natural state of lakes, rivers or streams is not capable of legal ownership. Only if water is reduced to possession by capturing it in a pail or reservoir will legal rights be acquired; otherwise only right of use (i.e. domestic purposes) will be available.⁴ Where water flows in a defined channel, riparian owners are entitled to access regardless of ownership; "each riparian owner has a right, equal to every other riparian owner, to use the water as it flows by his land. His right is usufructory, that is, a right to use the water, and does not create an ownership interest in any particular quantum of water".⁵ A riparian owner is also entitled to use the water flowing by his land in an undiminished quantity and unimpaired in quality. If the above principle was strictly enforced it would mean that no riparian owner could make a consumptive use of the water. In view of this limitation, riparian rights have been modified by the reasonable use doctrine as explained by Lord Cairns in Ewinton Waterworks v. Wilts and Berks Canal Navigation Company:

3. Embrey v. Owen (1851), 6 Ex. Rep. 353.

4. Canada, House of Commons, Standing Committee on National Research and Public Works, 2nd Session, Twenty-eighth Parliament, 1969-70, No. 5, Feb. 12, 1970, p. 21.

5. N. W. Hines, "Legal and Regulatory Aspects of Water Pollution Control," in Water Pollution Control and Abatement, ed. by T. L. Willrich and N. W. Hines. Seminar, Iowa State University, 1965 (Ames, Iowa: Iowa State University Press, 1967), p. 52.

Undoubtedly the lower riparian owner is entitled to the accustomed flow of the water for the ordinary purposes for which he can use the water, that is quite consistent with the right of the upper owner also to use the water for all ordinary purposes, namely, as has been said ad lavandum et ad potandum, whatever portion of the water may be thereby exhausted and may close to come down by reason of that use. But farther, these are uses no doubt to which the water may be put by the upper owner, namely uses connected with the tenement of that upper owner. Under certain circumstances, and provided no material injury is done, the water may be used and may be diverted for a time by the upper owner for the purpose of irrigation. That may well be done; the exhaustion of the water which may thereby take place may be so inconsiderable as not to form a subject of complaint by the lower owner, and the water may be restored after the object of irrigation is answered, in a volume substantially equal to that in which it passed before. Again it may well be that there may be a use of the water by the upper owner for, I will say, manufacturing purposes, so reasonable that no just complaint can be made upon the subject by the lower owner. Whether such a use in any particular cases could be made for manufacturing purposes connected with the upper tenement would, I apprehend, depend upon whether the use was a reasonable use. Whether it was a reasonable use would depend at all events in some degree, on the magnitude of the stream from which the deduction was made for this purpose over and above the ordinary use of the water.⁶

It would appear that irrigation and manufacturing uses would be permitted, including the disposal of wastes, if a court could find on the facts of a case that it was a reasonable use over and above the ordinary use.

Also under common law, an upper riparian owner is responsible to a lower riparian owner if he pollutes the water. The remedies available to the lower riparian owner are compensatory for

6. (1875), L.R.E. & I. App. 697 at p. 704.

damages and enforceable by injunction; beyond private redress the plaintiff riparian can be enjoined by the Attorney-General. Not always have private remedies such as compensation and injunction proved effective for water pollution control. The greatest difficulty seems to be in marshalling the necessary facts (i.e. technical evidence).

Also, the onus is on the pollutee to show that the defendant has polluted his waters: in most cases therefore, the plaintiff lacks the expertise in the biochemical phenomena associated with the problem.⁷ Even where an action has been taken by an Attorney-General, the actions have sometimes not been brought in time and the suit has been barred by a statute of limitations. In order to control the ever increasing problem it has been apparent that legislation has been necessary.

2. Provincial Ownership

For the most part Provinces are entitled to proprietary rights related to water. Under section 109 of the B.N.A. Act, "all lands, mines, minerals and royalties" which were publicly owned before Confederation became vested in the confederating Provinces. The Dominion owned and administered all the public lands in the Prairies and the Railway Belt of British Columbia until 1930 when a statute was passed⁸ applying to Alberta, Saskatchewan, and Manitoba which vested in the Crown (in right of the Provinces), "lands, mines,

7. Supra, n. 5. at p. 53.

8. British North America Act 1930, 20 - 21 Geo. v, c. 26.. It was presumed that since the railway belt was given to the Dominion after Confederation that s. 109 applied to B.C.

minerals and royalties," with the intention of placing the provinces "in the same position as the original Provinces of Confederation".

But the question of water rights was still not settled; consequently an amendment was made to the Natural Resources Transfer Act giving the "... interest of the Crown (in right of the Province) in the waters . . . " making the position of the Prairie Provinces unique.

One author argues that Ontario does not have property in flowing waters by statute, and is thus not in the same position as the Prairies,¹⁰ although he justifies Ontario's ownership of the "water rights incidental to those lands" (referred to in s. 109) by Burrard Power Co. Ltd. v. Rex.¹¹ The implication here is that Provinces other than the Prairies do not have statutory provision for sole jurisdiction over water rights, but it will be up to the courts to determine if the hypothesis is correct. The question could be asked, "Does the Minister under the Canada Water Act have the proprietary rights to make unilateral decisions in the Prairie Provinces or the other Provinces?" Hopefully this question will be answered in part, later in this paper.

3. Federal Ownership

The proprietary rights of the Federal Crown, though considerable, are not quite as extensive as the Provincial rights. Schedule

9. 1930, 2 Geo. VI, c. 36.

10. Henry Landis, "Legal Controls of Pollution in the Great Lakes Basin" (1970), 48 Canadian Bar Review 66 at p. 101.

11. 1911 A. C. 87 at p. 91.

III of section 108 of the B.N.A. Act refers to in particular:

1. Canals, with lands and water power connected therewith.
2. Public Harbors.
3. Lighthouses and piers and Sable Island.
4. Steamboats, Dredges and Public Works.
5. Rivers and Lake Improvements.
10. . . . and lands set apart for general public purposes.

This gives the Federal Crown property rights primarily in the Provincial fields of "works and property". Like section 109, it applies principally to the Provinces at the time of Confederation. British Columbia and Prince Edward Island and the items of property in existence at the time.¹²

Under section 117, the Dominion can assume any lands or property of the several Provinces for the "fortifications and for the defence of the country." Although the validity of this power in war time is not in doubt, the peace time application is not as clear. Conceivable as it is that the power could be used for the storage of water and a reservoir system for defences, this power cannot be used as a general basis for water pollution control.¹³ Finally, the Federal Crown can acquire property by expropriation¹⁴ or by outright purchase.

Unclear as the ownership of Canadian waters is, it seems to rest with the Provinces, although the Federal Crown can acquire ownership of property incidental to waters by expropriation or by purch-

12. Reference re Waters and Water Powers (1929), 2 D.L.R. 481.

13. Bora Laskin, "Jurisdictional Framework for Water Resources Management" Resources for Tomorrow Conference, Background Papers, (Montreal: Canadian Council of Resource Ministers, 1961), p. 220.

14. Munro v. National Capital Commission (1966), 57 D.L.R. (2d) 753.

ase. Landis points out that under the Canada Water Act if the Federal Government decided to take Federal action, construction of dams, reservoirs, dykes, and sewage treatment plants could mean acquisition of lands bordering water by the Federal Government, also, the revenues accrued from effluent fees could be used to acquire more property and expand Federal property rights.¹⁵ So if actual proprietary rights are few - since there is no specific head of power for jurisdiction over water by either the Provinces or the Federal Government - there is potential substantial gain if the Federal Government can justify the use of its powers under legislative jurisdiction.

B. Legislative Jurisdiction

Pollutants introduced into water become completely vagrant and follow the natural flow of the water course. As a rule, the meanderings of water courses show little respect for the sanctity of state boundaries.¹⁶

In Canada water jurisdiction is divided between section 91 and 92 of the B.N.A. Act belonging to the Federal and Provincial Governments respectively.

1. Federal Power

(a) Criminal Law

Section 91 (27) gives the Dominion power to legislate in the field of criminal law. It is open to Parliament to enact "legislation to make new crimes".¹⁷ The only limitation on the plenary

15. Landis, supra, n. 10 at p. 141.

16. N.W. Hines, "Not A Drop To Drink: - Public Regulation of Water Quality." 52 Iowa Law Review, 432 at p. 443.

17. Proprietary Articles Trade Association v. A.-G. Can., [1931] A.C. 310 p. 324.

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power as stated by Lord Atkin is the condition that:

... Parliament shall not in the guise of enacting criminal legislation in truth and in substance encroach on any of the classes of subjects enumerated in section 92. It is no objection that it does in fact affect them.¹⁸

It could be argued that the prohibition in section 8 of the Canada Water Act is criminal in nature. The judicial Committee of the Privy Council in Canadian Federation of Agriculture v. A.-G. Quebec¹⁹ said that a prohibition section was "in pith and substance" law for the protection and encouragement of the dairy industry in Canada, even though there were penalties provided for in breach of the prohibition and was not "in relation to the criminal law."²⁰ In a "Background Note" the Federal Government has stated explicitly that "like the Federal Food and Drug Act which deals with the poisoning of foods, the Water Act could make contamination of water a criminal offence."²¹ Presumably this statement relies on Standard Sausage Co. v. Lee²² where the Federal Food and Drug Act was held to be intra vires Parliament's criminal law power. However the purpose of section 8 of the Canada Water Act, viewed in the context of the whole Bill, is to enable implementation of water quality management agen-

18. A.-G. B.C. v. A.-G. Can., 1937 A.C. 308 at p. 375. See also A.-G. Ont. v. Reciprocal Insurers, 1924 A.C. 328 at p. 392.

19. [1951] A.C. 179 at p. 100.

20. Ibid., p. 195.

21. Canada, Department of Energy, Mines and Resources, "The Proposed Canada Water Act --- Background Notes," p. 4.

22. [1934] 1 D.L.R. 706.

cies, effluent fees, construction of water and sewer works, and comprehensive planning which in "pith and substance" is not criminal in nature. It must not be forgotten that there are many uses for water. One of them is for potable water (i.e. drinking water), and the object of water pollution control is to secure the quality of water most suitable for the greatest number of uses. The section purports to be part of a regulatory scheme within Provincial jurisdiction; therefore, it is an invasion of Provincial legislative authority under the guise of criminal law.²³

The common nuisance section of the Criminal Code prohibits an unlawful act or failure to discharge a legal duty which "endangers the lives, safety, health, property or comfort of the public."²⁴

Whether or not Parliament would use this section to make pollution a crime depends upon the meaning of the words "common nuisance". If the objective of water pollution control is efficient use of water as a resource and the equitable distribution of waste water disposal, the nature of the criminal law power is inappropriate.

It is questionable whether criminal legislation can be used where no direct injury is caused by discharge of waste, where there is an accumulative effect produced by waste, or where the criminal quality varies as do the different uses of water.²⁵ Is mens rea required by a prohibition of pollution? The answer is not always clear. In refer-

23. Supra, n. 18.

24. R.S.C. 1970, c. C-34 and C-35.

25. Landis, supra, n. 10 at p. 121.

ence to section 27 of the Ontario Water Resources Commission Act²⁶ (which is very similar to section 8 of the Canada Water Act) the defendant company's employee in the Industrial Tankers Case²⁷ had unknowingly allowed some oil to escape from the tank he was cleaning into a nearby creek. Sprague, Co. Ct. J., found that

... the statute in this case does not require proof of mens rea in the sense it used in the Hawinda case ... and I also find that the words of the section of the statute create an absolute prohibition in the sense that to succeed, the Crown does not need to prove that the accused had knowledge of guilt or criminal intent, or mens rea ...²⁸

whereas, in Regina v. Canadian Motor Lamp Co. the learned magistrate stated that the company

... knew they were discharging this waste and, in addition, it was within their authority or within their province to prevent the discharge of this waste.²⁹

on the basis of the fact

... that steps have been taken since this charge was laid to prevent the discharge of this waste into the water indicates that they had the ability to stop and prevent the discharge.³¹

Whether either of the above cases will be followed is not known. It is submitted that the Federal nature of criminal law does not control

26. R.S.O. 1970, c. 332, as am; see also Appendix I - Ontario.

27. Regina v. Industrial Tankers Ltd., 1968 2 O.R. 142.

28. Ibid., p. 140.

29. [1967] 1 O.R. 484.

30. Ibid., 486.

31. Ibid.

and regulate individual cases and that it is an inadequate substitute for administrative discretion which can be exercised in the case of pollution by an individual Municipality or corporation, which can be adapted to meet changing conditions in the environment and the advance of new technology and innovations; and which can be modified after the first finding of pollution in an individual case.

To make pollution a crime would be foisting upon the courts another problem which has not been solved elsewhere. An analogy would be the drug problem which has spread so far and wide so rapidly that it cannot simply be termed "criminal in nature". Like the drug problem, pollution involves many citizens, Municipalities and industries who otherwise are law-abiding; therefore, recourse to the criminal courts should not be made until all other remedies (e.g. administrative tribunals) have been exhausted against individual polluters.

(b) Peace, Order, and Good Government

If the Dominion is unable to find authority for dealing with water management under the criminal law power it must look for another power under section 91 of the B.N.A. Act. The most feasible power is the "peace, order and good government" clause, preceding the enumerated heads of section 91. At one time the power was construed as being a power of the Dominion not specifically given to either the Federal or Provincial legislatures.³² However, there has been no consensus as to how far "peace, order and good government" extends to matters which in one context would be Provincial but because of the national character are within Dominion competence. The Privy Council

32. Russell v. The Queen (1882), 7 A.C. 829.

limited this power to emergencies such as to meet special conditions in wartime,³³ and later Viscount Simon stated that peace, order, and good government could be used only if the evil was a menace to the national life of Canada such as war and pestilence and maybe the drink or drug traffic, carrying of arms, and in the prohibition or restriction of the sale or exposure of cattle having a contagious disease.³⁴

The Canada Water Act does not purport to respond to a national emergency. In the "Policy Statement" by the Honorable Otto F. Lang (then Minister of Energy, Mines and Resources), he stated, in proposing the Act, that "water pollution is a problem of urgent national concern, (*italics mine*) and ensuring full economic and social benefits requires an effective management system beyond simple punitive measures."³⁵ In the Act the term "significant national interest" is used to justify unilateral Federal resource management which falls short of the conditions required in a national emergency such as war or pestilence.

The general power has been used where the subject matter

33. In re Board of Commerce Act and Combines and Fair Prices Act, 1919, 1922 1 A.C. 191. Followed in, Fort Frances Pulp and Paper Co. v. Manitoba Free Press, 1923 1 A.C. 695; Co-operative Committee on Japanese Canadians v. A.-G. Can., 1947 A.C. 87; Reference re Validity of Wartime Leasehold Regulations, 1950 S.C.R. 124.

34. A.-G. Ont. v. Canada Temperance Federation, 1946 A.C. 193 at p. 206.

35. Otto F. Lang, "Policy Statement on Proposed Federal Legislation for the Management of Water Resources in Canada," see Department of Energy, Mines and Resources, supra, n. 21.

of legislation such as the establishment of a Federal district,³⁶ the location of aerodromes,³⁷ and uranium mining,³⁸ has been held to be intra vires the Federal Parliament, even where no emergency exists. One author argues that it could be used for the subject of water pollution control if it has national significance such that it would not be possible for "any province by itself to create the kind of all embracing multi-use administrative agency that most resource administrators seem to think would be ideal."³⁹ For example, an administrative Authority on the Fraser River in British Columbia or the Miramichi River in New Brunswick would not have power to make regulations to deal with the problems of navigation, fishing seasons and in some cases immunity of Federally-incorporated companies. This is the type of situation covered by the "peace, order, and good government" clause which gives Parliament the "constitutional capacity to create the type of multi-purpose basin authorities that the provinces cannot create".⁴⁰ Such a unilateral move would take political boldness.

The Federal Government can refer the subject of water pollution or water resource management to the Supreme Court of Canada in the form of a reference case. Reference cases are based on either the

36. Supra, n. 14.

37. Johannesson v. West St. Paul, 1952 1 S.C.R. 292.

38. Pronto Uranium Mines v. Ontario Labour Relations Board (1956), 5 D.L.R. (2d) 342.

39. Supra, n. 2 at p. 86.

40. Ibid.

validity of legislation already in force or in progress through a legislature or abstract questions such as the Off-shore Mineral Rights case.⁴¹ In that case the Court decided that jurisdiction of mineral and other natural resources under the territorial sea and on the continental shelf off the West coast and the right to explore and exploit these lands belongs solely to the Federal Government. This advisory opinion is not an actual case, therefore it is not a binding decision. Most often though, reference cases can prevent enactment of legislation which in the opinion of the Court would be ultra vires.

However, the advisory power of the Supreme Court has its drawbacks. One of these is that the advisory powers seem contrary to the adversary system of settlement of a real lis inter partes based upon concrete facts. In advising, the judges are forced to make hypothetical decisions which may prove to be erroneous when a genuine case is decided by the same judges who, although not bound by the reference decision, may, through human nature hesitate to reverse their previous decision. A further dilemma ensues on political grounds. Neither British Columbia nor Quebec is willing to recognize the Court's ruling on off-shore mineral rights. At the time of the ruling former Premier Bennett indicated his intention to bring a concrete case before the Court. Quebec does not even recognize the Court as a proper constitutional arbiter.⁴²

41. Reference re Ownership of Off-shore Mineral Rights, 1968 65 D.L.R. (2d) 353.

42. Edmonton Journal, July 25, 1965, p. 4; see also Peter H. Russell, The Supreme Court of Canada as a Bilingual and Bicultural Institution, Documents of the Royal Commission on Bilingualism and Biculturalism, No. 1 (Ottawa: Queen's Printer, 1969).

Of course it is open to the Federal Parliament to legislate in health and welfare if health conditions in Canada were at "epidemic" proportions.⁴³ The decision in the Margarine case⁴⁴ affirms the Federal Government's power to protect health by legislation. According to the former Attorney-General of Ontario the Canada Water Act gives "no indication that it was designed to meet or to prevent a crisis of that scope."⁴⁵ As previously mentioned there are various uses of water and not all uses required the same standards. Citizens do not have to drink 100% pure water - in fact it might not be good for them!

(c) Navigation and Shipping

Under section 91 (10) the Federal Government has exclusive jurisdiction over navigation and shipping to authorize the prohibition and regulation of the deposit in waters of "sawdust, edgings, slabs, bark or like rubbish" of any description which might obstruct navigation. The B.N.A. Act thereby indirectly assists in preventing or abating pollution.⁴⁶

The Canada Shipping Act⁴⁷ has been amended to authorize the Governor-in-Council to regulate and prevent (by regulation) the pollu-

43. Supra, n. 19 at p. 208.

44. Supra, n. 19.

45. Attorney-General of Ontario, "Opinion re Constitutionality of Bill C-144, The Canada Water Act," tabled in the Ontario Legislature, May 19, 1970, p. 6. (mimeo).

46. Navigable Waters Protection Act, R.S.C. 1970, c. N-19.

47. R.S.C. 1970, c. 29, s. 495 A (2) (b).

tion by "oil, chemicals, garbage, sewage or any other substance, of any Canadian waters." Further amendments will give rise to regulations prescribing the types of pollutants, maximum quantities, and the method of stowage with respect to any designated class of ship.⁴⁸

The courts have said that the power to control navigation and shipping conferred upon the Dominion by s.91 is to be widely construed,⁴⁹ but the scope of this power has never been made clear. In fact, those setting the limits have been extremely cautious.⁵⁰ In Booth v. Lottery,⁵¹ Duff, J. (dissenting) construes the power in a narrow sense:

... it may be safely affirmed that the assumption that every work designed for the improvement of navigation or to provide facilities for navigation and shipping is necessarily a work within the exclusive authority of Parliament for all purposes in virtue of section 91 (10) cannot be supported consistently with due effect being given to the language of section 92 (10) which plainly shows that the expression "local works and undertaking", as used there embraces "canals" and "lines of ships".⁵²

It would appear by this case that the Federal Government's powers with regard to section 92 (10) (a) (b) (c) would apply only to canals, ships, and telegraphs and not to dams, reservoirs, hydro-

48. R.S.C. 1970, 1st Supplement, c. 38.

49. Montreal City v. Montreal Harbour Commissioners, 1926 A.C. 299 at p. 313.

50. Laskin, supra, n. 13 at p. 217.

51. (1917), 54 S.C.R. 421.

52. Ibid., p. 430. Duff, J. (in the majority) followed this same argument in Reference re Waters and Water Powers (1929), 2 D.L.R. 481.

electric power plants or sewage treatment plants, and not beyond Schedule III of section 108. Also it would appear that the Federal jurisdiction in relation to navigation and shipping does not apply to water quality standards for any use other than navigation and shipping nor does it control waste inputs by Municipalities situated on navigable waters. Mr. Jack Davis, Minister of the Department of the Environment, has stated with regard to the Great Lakes that the Municipalities on the lower lakes will be obliged to render an exceptional performance⁵³ in waste treatment (which means more than just ordinary primary or secondary treatment). If the Federal Government intends to use the navigation and shipping powers to clean up the Great Lakes it is submitted that it would be colorable legislation vis-a-vis the Municipalities which are "creatures of the provinces."

(d) Fisheries Power

Section 91 (12) gives the Federal Government exclusive jurisdiction over sea coast and inland fisheries for the conservation of fish. The Fisheries Act⁵⁴ prohibits the throwing overboard of ballast, coal ashes, stones or other prejudicial or deleterious substances in any river or harbor or in any water where fishing is

53. The Globe and Mail, February 17, 1971, p. 4; Canadian Federation of Mayors and Municipalities, unpublished documents. The approximate cost of a medium-sized primary plant, i.e. Ottawa (50 million gallons/day) is 7.3 million dollars and approximately 6.7 million for a secondary plant and approximately 8.7 million for a tertiary plant.

54. R.S.O. 1970, c. F-14, as am. by R.S.C. 1970, 1st Supplement, c.17.

carried on,⁵⁵ or the deposit of debris from the logging industry, land clearing, lumbering or other operations.⁵⁶ Any person is prohibited from putting lime, chemical substances poisons or other deleterious substances⁵⁷ (subject to regulation) into these waters. There has not been sufficient research done to determine the water quality standards necessary for the preservation of fish. One of the difficulties is the differing responses of individual species to specific waste and environmental factors such as pH, temperature and oxygen; therefore, the conservation of fish is too narrow a purpose for a piece of legislation.⁵⁸ What is needed is a co-ordinated effort in determining water qualities for human consumption, domestic use and the conservation of fish, all of which are interrelated. Laskin, J. reaches a similar conclusion regarding the fisheries power in that the Federal Parliament has a right to regulate the public right of fishing, to impose license regulations in respect of fishing and closed seasons but he has some doubts as to whether a public right of fishing exists in any but tidal waters.⁵⁹

(e) Miscellaneous Powers

The most obvious exercise of the spending power of the Dominion is to enter directly into a field like insurance with production

55. Ibid., s. 33 (1).

56. Ibid., s. 33 (3).

57. Ibid., s. 33 (11).

58. Landis, supra, n. 10 at p. 115.

59. Laskin, supra, n. 13 at p. 218.

of rubber as in the Polymer Corporation.⁶⁰ Authority for this power is in section 91 (A), public property, which has been construed in its broad sense as comprising every kind of asset including money.⁶¹

By giving grants either conditional or unconditional, to Provinces, individuals and organizations, whether directly in the Provincial scope or not, the Dominion can effectively influence the nature and operation of programs. Prime Minister Trudeau has said on several occasions that the "Federal Government can give its money to any blond or brunette in Canada as it wishes." Section 102 establishes the Consolidated Revenue Fund to spend "for the Public Service of Canada." Public property comprises every kind of asset consequently the Dominion's discretion under the scope of the words "for the Public Service of Canada" is not more restricted than it is under any other head of power.⁶² A piece of legislation is valid as long as it does not amount to a regulatory scheme falling within Provincial powers.

By virtue of the Federal Government's power over trade and commerce under section 91 (2) it could be argued that water is an exportable commodity between Provinces, but in view of the fact that the courts have interpreted the clause in a restricted manner,⁶³ it is

60. G. V. LaForest, Allocation of Taxing Power under the Canadian Constitution (Toronto: Canada Tax Foundation, 1967), p. 36.

61. Reference re Employment and Social Insurance Act, [1936] S. C. R. 427 at p. 431.

62. LaForest, supra, n. 63, p. 37.

63. Gibson, supra, n. 2 at p. 88.

doubtful that it would be invoked.

2. Provincial Power

The Provinces have sweeping powers under specific heads of the B.N.A. Act such as sections 92 (13) "Property and civil rights in the provinces," 92 (16), "Generally all matters of a merely local or private nature in the provinces," 92 (10), "Local works and undertakings . . . " (with exceptions), 92 (8), "Municipal institutions in the provinces," and finally concurrent jurisdiction with the Federal Government in section 95, "Agriculture in each province . . . and the Parliament of Canada . . . "

It can be generally assumed that domestic and industrial uses of water are within Provincial competence. There has been legislation governing the allocation and use of water, particularly with regard to public utilities and the control of water supplies by fluoridation and chlorination.

Water management in the form of sewage and water works projects, as provided for in the Canada Water Act, is within Provincial authority within the realm of a local or private nature in the Province and most Provinces have passed legislation to this effect.⁶⁴ Nonetheless, one of the impediments of the Provincial power could be the fact that Federal agencies, Inter-Provincial companies and perhaps Federally-incorporated companies are immune from Provincial laws "concerning all matters which are a vital part of their operations."⁶⁵

64. See Appendix I.

65. Ibid., p. 82.

This could be an exaggeration of Federal immunity.

Both Professor Bird and Professor Waverman argue, from an economic viewpoint, that water pollution is essentially of a Local or Provincial nature,⁶⁶ and the sole reason for Federal intervention is competition between Municipalities and the Provinces for the fiscal dollar. Theoretically, if uniform taxes or effluent charges are made they reduce the desirability of industry to locate in one Municipality or region where anti-pollution laws are lax. Further, a few areas will take the initiative to introduce strong anti-pollution laws unless other areas do so first, and hence the need for Federal legislation to co-ordinate and to "ensure that while pollution controls vary somewhat among areas to reflect local needs and desires, no one area becomes a pollution haven to the detriment of the tax base in all other areas."⁶⁷

3. International Waters

Under section 132 of the B.N.A. Act, "The Parliament and Government of Canada shall have all powers necessary or proper for performing the obligations of Canada or any province thereof, as a part of the British Empire, towards foreign countries, arising under treaties between the Empire and such foreign countries."

In Re Regulation and Control of Aeronautics in Canada,⁶⁸ it was settled that the regulation of aviation was a matter for Dominion

66. Leonard Waverman, "Fiscal Instruments and Pollution: An Evaluation of Canadian Legislation," Canadian Tax Journal, Vol. 18 No. 6 (November-December 1967), p. 508.

67. Ibid.

68. [1932] A.C. 54.

competence (although not exclusive) since Canada had ratified a Convention in 1922 on behalf of the British Empire which the Privy Council held was a valid treaty under section 132. The same year as the Aeronautics case was decided so was the Radio case.⁶⁹ In the latter case, Viscount Dunedin, giving the decision, said that radio communications were not explicitly mentioned in section 91 or 92 and therefore must fall exclusively under the residual power, meaning that Parliament had the exclusive treaty-making power even if a subject normally came under Provincial jurisdiction.⁷⁰ Lord Atkin in the Labour Conventions case⁷¹ distinguished the two previous cases by the fact that the proper authority of a Canadian treaty would depend upon the "classes of subjects" and "as a treaty deals with a particular class of subjects so will the legislative power of performing it be ascertained."⁷² In effect, this means that a treaty cannot be implemented if it extends beyond the ambit of section 91 unless prior approval is secured from the Provinces. While Canada has not been prevented from signing the United Nations Charter, a binding covenant such as the International Covenant on Civil and Political Rights refers to matters clearly under section 92 and Canadian representatives may have to set appropriate qualifications to Canada's participation if

69. In Re Regulation and Control of Radio Communications, in Canada, [1932] A.C. 304.

70. Ibid., p. 312.

71. A.-G. Can. v. A.-G. Ont., [1937] A.C. 327.

72. Ibid., p. 351.

there is not consensus between the Federal and Provincial Governments.⁷³ If the Labour Relations case remains law,⁷⁴ then the legislative authority of Parliament to make a treaty in the future with the United States of America for the control of pollution of international waters rising either in Canada or the United States and flowing into the reciprocal country would depend upon its authority under sections 91 and 92 and not section 132. In order to implement the treaty domestically, prior approval would have to be forthcoming from the Provinces due to the bifurcation of jurisdiction over water. On the other hand, a Province could make informal arrangements for water pollution control but not an international agreement with a foreign country. In A.-G. Ont. v. Scott⁷⁵ the Supreme Court found that the Provinces could make arrangements which were not obligatory but were reciprocal or concurrent legislative action with Great Britain in their respective jurisdictions for the enforcement of maintenance orders issued by the other against deserting husbands. An international agreement as opposed to an informal arrangement is the basis for domestic action and is enforceable by international law. The only exception to this enforcement is a "Federal state" clause in the agreement. As Laskin has said, it is a matter of speculation whether the difference in international and informal agreements is a willingness of the foreign country to forego legal sanctions or if it is a case of co-operation to circumvent a Federal constitution. The compromise would have to be

73. W. G. Friedman et al, Cases and Materials on International Law (St. Paul, Minn.: West Publishing Co., 1969), p. 232; see also P. H. Russell, Leading Constitutional Decisions, Carleton Library Series No. 23 (Toronto: McClelland and Stewart Ltd., 1965), p. 135.

74. Supra, n. 40; Francis v. The Queen, [1956] S.C.R. 618.

75. [1956] 1 D.L.R. (2d) 433.

made by both Canada and the foreign country.⁷⁶

The ratio decidendi of the Labour Relations case could also be applied to boundary waters. The Boundary Waters Treaty⁷⁷ by Article IV confers an obligation upon Canada and the United States by agreement " . . . the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other." The International Joint Commission, created by the Treaty, has reported that there has been considerable pollution by both countries to the extent that the "concentration levels of polluting materials are remarkably uniform" (both are to blame) throughout Lake Erie, Lake Ontario and the International section of the St. Lawrence River.⁷⁸ One author argues that the Federal competence does not extend to the enforcement of water quality standards for all uses of water and pollution control, hence the Provinces must be consulted.⁷⁹ The same conclusion was reached in a more indirect way at the Environmental Conference⁸⁰ sponsored by Ontario and including representatives from the Provinces and States on the Great Lakes. A sense of urgency concerning the status of the

76. Bora Laskin, "The Provinces and International Agreements" in Ontario Advisory Committee on Confederation: Background Papers and Reports (Toronto: Queen's Printer of Ontario, 1967), p. 112.

77. R.S. C. 1970, c. I-20.

78. International Joint Commission, Report on the Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River, Vol. I - Summary, N. J. Campbell et al., eds. (International Joint Commission, 1969), p. 7.

79. Landis, supra, n. 10 at 132.

80. Great Lakes Environmental Conference, Ontario Science Center, Transcript of Proceedings, Toronto, September 1970, p. 43.

Great Lakes prompted delegates to affirm their commitment to "achieve improved environmental quality in the Great Lakes Basin." This commitment took the form of two resolutions, the first recommending that the respective Federal powers strengthen the I.J.C. to carry out surveys, promote exchanges of information and data, review standards and promote enforcement of them, and urge representatives of states and provinces to co-operate in programs. The second resolution recommends that before the I.J.C. even assumes the foregoing powers that an ad hoc action group, comprised of senior representatives appointed by the head of each state, province, and federal government, carry out the suggested activities of the I.J.C. on a volunteered co-operative basis.

C. Federal-Provincial-Municipal Co-operation

The key to any immediate solution of the pollution problem lies in co-operation. If it can be done on the international level, surely it can be done at the national level. The fundamental concept of "co-operative Federalism" is not inimical to some form of agreement between Federal, Provincial, and Municipal Governments. Each government agrees to use its respective regulatory powers and personnel to accomplish a particular task, such as Medicare. The agreement involves the collaboration of powers of jurisdiction, finance and personnel to accomplish the defined objective and also to divide up the things to be done. In the United States, the Federal Government has increasingly become directly involved in water pollution control particularly in Interstate waters, but this effort has not been entirely successful.⁸¹ In 1966, the Clean Water Restoration Act,⁸² a measure

81. Hines, supra, n. 16 at p. 455.

82. United States, Public Law 89-753, 89th Congress, s. 2947, November 3, 1966, s. 101.

to facilitate effective Interstate water pollution control, provides for a regional river basin approach to water quality improvement through Federal-State co-operation in interstate planning agencies.

The B.N.A. Act does not specifically mention powers of Municipalities nor delegated powers of the Provinces to the Municipalities. It only says under section 92(8) that the Provinces may exclusively make laws in relation to Municipalities. Of course this statement is open to interpretation by the courts and as one author has stated, "most law is opinion, and that is particularly true of constitutional law".⁸³

This chapter has been written on the basis of certain assumptions, namely:

- (1) that the constitution will continue to exist in its present state until an adequate amending formula has been agreed upon by the Federal Government and the Provinces;
- (2) that if changes in the powers of the Provinces, Federal Government and perhaps Municipalities are made in the B.N.A. Act that they will be gradual and not radical;
- (3) that the present political, administrative and judicial system will continue with all the remedies and powers of enforcing compliance of the law; and finally
- (4) that fundamental individual freedoms and also competitive markets will continue and regional disparity will not change significantly in Canada.⁸⁴

With these assumptions in mind, it has been pointed out earlier in this chapter that constitutional jurisdiction over water is di-

83. Gibson, supra, n. 2 at p. 71.

84. Adapted from a confidential source.

vided between the Federal and Provincial Governments. However, most sources of water pollution in rivers, lakes and streams are in Municipalities - the larger the population and the more industry or agricultural runoff, the greater the water pollution problem. The constitution does not preclude intergovernmental co-operation, that is co-operation between the Federal, Provincial and Municipal Governments. One means of co-operation is through mutual delegation of powers either by legislation or administration. Delegation by legislative powers (i.e. the Federal Parliament attempting to delegate to a Provincial legislature to make laws respecting some portion of an exclusive Federal category of power) has been ruled by the courts as not valid.⁸⁵ On the other hand, administrative delegation (i.e. Parliament investing Provincial officials with the power and responsibility to apply Federal laws including regulation-making powers) to Provincial officials of an exclusive Federal legislative field has been ruled as valid⁸⁶ legislation; therefore, the power not delegated by Parliament to a Province can be delegated indirectly to an agency.

Another means of co-operation is through consultation. The Special Joint Committee of the Senate and House of Commons has recognized that jurisdictional powers of the constitution and immediate environmental problems are not necessarily compatible. They also recognize that the constitution does not forbid three levels of government sitting down and talking together, and have recommended that:

85. A.-G. Nova Scotia v. A.-G. Can., [1951] S.C.R. 31.

86. P.E.I. Potato Marketing Board v. A.B. Willis Inc., [1952] 2 S.C.R. 392.

1. More communication and fuller co-operation among all levels of government are imperative needs. The achievement of these ends involves the improvement and simplification of the means of liaison and, where necessary, the creation of new mechanisms.
2. A Tri-Level conference among Federal, Provincial and Municipal governments should be called at least once a year.
3. While we recognize the difficulties of larger cities in providing for their needs, financing their programs and determining their own priorities, as well as in negotiating with the Provincial and Federal Governments on works which seriously affect municipal planning, and also their need for more status and more autonomy in order to achieve these goals, we do not see how these matters can be entrenched in the Constitution. They should be negotiated between the cities and the Provincial Governments under whose jurisdiction they fall.
4. The municipalities in each Province, in conjunction with their provincial and national bodies, should determine which representatives from that municipalities would attend the annual Tri-Level conferences we have recommended in Recommendation 63.
5. Such Tri-Level meetings would not have the power of veto over any Federal or Provincial programs but would rather operate by way of moral suasion.
6. In the light of the injustice done municipalities by their having to rely on the property tax for the bulk of their revenue, there should be a sharing of tax fields between Governments that would allow municipalities direct access to other sources of revenue.
7. Where feasible, representatives of municipalities should meet with other levels of government to discuss common problems particularly in the area of economic planning through representation at meetings of Ministers of Finance and Provincial Treasurers.⁸⁷

87. Canada, Special Joint Committee of the Senate and House of Commons, Constitution of Canada, Final Report (Ottawa: Information Canada, 1972), pp. 54-60.

This chapter has concentrated on the constitutional validity of the Canada Water Act and has reflected very strongly the writer's own opinions. The writer submits that the Canada Water Act as it presently stands is unconstitutional for reasons which have already been discussed at some length and in some detail. However, until a real test case comes before the Supreme Court of Canada, the constitutional validity of the Act is uncertain. Therefore, the remainder of this thesis will be written on the assumption that the Canada Water Act is intra vires the Federal Government and that since it is a law of the land it has to be applied in such a fashion so as to accomplish the task of preventing the "biosphere from collapsing" and cleaning up Canada's polluted waters.

It is also submitted that because the Provinces may hesitate for political reasons to bring a constitutional case before the Supreme Court of Canada, a more practical means of "immediately" cleaning up the water pollution problem is through Federal-Provincial-Municipal Co-operation. It would seem that this approach was taken by various decision-makers in formulating the policy for the Canada Water Act which was examined in Chapter III.

In the next chapter we examine how the Act is being administered under the auspices of the newly created Department of the Environment.

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CHAPTER V

ADMINISTRATIVE VALIDITY, STRUCTURES AND PROCESSES

In the preceding chapter the constitutional validity of the Canada Water Act was analyzed. In this chapter, the weaknesses and strengths of the administration of the Canada Water Act by the Department of the Environment are examined. This examination is followed by a discussion of various Federal-Provincial implications resulting from the Act.

A. Department of the Environment

By Order-in-Council dated November 26, 1970, under the Public Service Re-arrangement and Transfer of Duties Act, responsibilities for the following were transferred to the Minister of Fisheries and Forestry:

- (1) the Marine Sciences Branch, Inland Waters Branch and the Policy and Planning Branch of the Department of Energy, Mines and Resources;
- (2) the Canada Water Act;
- (3) the Air Pollution Division and the Public Health Engineering Division of the Environmental Health Directorate of the Department of National Health and Welfare;
- (4) the Meteorological Branch of the Air Division of the Department of Transport;
- (5) the Canadian Wildlife Service of the Department of Indian Affairs and Northern Development; and
- (6) the Canada Land Inventory from the Department of

Regional and Economic Expansion.

In addition the administration and personnel staffs serving the above were also transferred.

On June 10, 1971 the House of Commons passed the omnibus Bill on Government Organization which included, among other things, the creation of the Department of the Environment, also known as Environment Canada.¹ This new Department is headed by The Honourable Jack Davis, former Minister of Fisheries and Forestry. In essence, the enlarged Department of Fisheries and Forestry has become the Department of the Environment with a few administrative changes. The Minister's powers and functions encompass sea coast and inland fisheries; renewable resources including forest resources, migratory birds and other fauna and flora; meteorology; enhancement of environmental quality, including air, water and soil; and enforcement of any rule or regulations made by the International Joint Commission.² The Minister can initiate and co-ordinate programs designed to promote objectives or standards relating to environmental quality, hopefully in co-operation with other levels of government.³

Mr. Davis has stated that "shaping our Canadian environment is the biggest challenge of the 1970's".⁴ To him economic growth and social progress are essential but their spin-offs must not result in

1. Government Organization Act, 1970, S.C. 1970-71-72, c. 45.

2. Ibid., s. 5.

3. Ibid., s. 6.

4. Canada, House of Commons, Debates, Thursday, October 15, 1970, p. 101.

deterioration of our surroundings. The emphasis should be on wise management of living resources and natural elements supporting them. Industries and Municipalities must avoid damage to the environment by re-cycling their wastes and regenerating their renewable inventories; they must keep in step with modern technological innovations and improved understanding of the social implications of overtaxing the "assimilative capacity" of our environment.

Once the Department became a reality, Mr. Davis consolidated some of his previous aims and objectives into six departmental goals:

- (1) To carry on established resource programs and services.
- (2) To clean up and control pollution.
- (3) To assess and minimize the environmental impact of major development.
- (4) To initiate long-term environmental programs.
- (5) To develop an environmental information and education program.

To accomplish these goals Mr. Davis has his staff of 10,000 organized under several missions; namely, the Atmospheric Environmental Service; Fisheries Service; Water Management Service; Policy, Planning and Research Service; and the Environmental Protection Service. The Environmental Protection Service provides the link with private industry and other levels of government; it is also the Federal Government's link to "John Q. Public" on environmental matters.

Part of this reorganization includes the I.C.W. Committee,

mentioned in Chapter III, which has continued as an inter- and intra-departmental Committee and provides liaison with other interested government departments not under the umbrella of the Department. Mr.

Davis does not have divisions in his Department dealing with agriculture, national parks, native people, the North, or urban centers. To even attempt to include these parts of other departments would result in an unwieldy and uncontrollable bureaucracy.

As an administrative body responsible for the Canada Water Act, the Department's effectiveness is somewhat in doubt. In the Introductory Chapter existing water pollution problems which can be attributed to the shortage of sewage treatment facilities were discussed. In Chapter I the economic theory of effluent fees was emphasized along with present Federal Government programs based upon financial assistance for the construction of sewage treatment facilities. The Canada Water Act does not have any financial provisions for sewage treatment facilities. Financial schemes are under the control of another government agency, namely Central Mortgage and Housing Corporation. As previously mentioned C.M.H.C. funds have been perceived by the Provinces as being dispensed on a "first come first served basis." The accuracy of this statement is in doubt; however, the Seadon report has recommended a review of this program. It would seem that in order to correct weaknesses in this program that the degree of need, type of sewage treatment plant, and regional disparity should be some of the criteria taken into consideration in the distribution of such funds. Coincidentally, the Minister of State for Urban Affairs is also the Minister responsible for C.M.H.C. which means that the Minister of State has a mandate to research and formulate

policies on all forms of pollution control affecting urban areas as well as having jurisdiction over the administration of funds designated for pollution control and abatement. In the case of water pollution, the Minister has control over sewage treatment loans. This puts the Minister of the Department of the Environment, who is responsible for the Canada Water Act, in a perplexing position. Because the Canada Water Act does not provide for funding of sewage treatment plants, the Minister of the Environment is dependent upon the co-operation of the Minister of State for Urban Affairs to assist financially in programs created under the auspices of the Canada Water Act. Such dependency may not bode well for efficient administration.

Politically speaking, the co-operation between Ministers cannot always be assumed either. The Ministers of State for Designated Purposes are not junior ministers as are their British counterparts. Those Ministers may persuade Department Ministers to consider a policy proposed by their Ministry, although it would appear that a Minister with money to implement a program (i.e. a Departmental Minister) carries the "big stick". On the other hand, if a Ministry of State program receives general Cabinet approval, the Minister of State for a Designated Purpose could theoretically negotiate with Departmental Ministers on a fairly strong basis. In the case of the Ministry of Urban Affairs such negotiations could result in the Minister becoming a super power because he not only has jurisdiction in urban problems such as water pollution but he also has funds available to dispense to Provinces and Municipalities. The Urban Affairs Minister would be in a strategic position to consult and co-operate with the

other two levels of government, thus diminishing the authority of the Department of Environment in intergovernmental relations. This statement is reinforced by the fact that the Minister of State for Urban Affairs has participated in the First National Tri-Level Conference to which representatives of both the Provinces and Municipalities participated on an equal basis.

Perhaps one solution to the conflict of Ministerial jurisdiction would be the transfer of Part VIII of the National Housing Act to the Department of Environment. It may make more political as well as administrative sense to have one Department responsible for administering the Canada Water Act and sewage treatment loans. Provincially, Ontario already has such an arrangement. Financial schemes for the construction and maintenance of sewage treatment plants has been in the hands of the Ontario Water Resources Commission which is now under the umbrella of the Department of Environment (Ontario); such financial schemes are not under the jurisdiction of the Ontario Housing Corporation which is the equivalent of C.M.H.C.

1. Canadian Environmental Advisory Council

The Canadian Environmental Advisory Council (C.E.A.C.) is a structure created shortly after the creation of the Department of Environment. Its purpose is to advise the Minister of Environment on:

- (a) the state of the environment and the threats to it;
- (b) the effectiveness of "Environment Canada's" efforts to restore, preserve and enhance the quality of the environment; and
- (c) priorities for Federal or joint Federal-Provincial action.

The Council's membership is comprised of a cross-section of society from industry, universities, voluntary organizations and government.

In comparing the C.E.A.C. to other councils like the Economic Council of Canada, the C.E.A.C. has a somewhat smaller membership which is potentially suited to facilitate consensus on policy matters. Because Federal representatives are members of the Council, the Council cannot always be expected to offer completely impartial advice to the Minister. Further, the Council is not an independent body like the Economic Council and must rely on a Federal department for research and resource staff. The Council's main weakness lies in its lack of power to publish its findings. It can only advise the Minister of Environment, who is not obliged to act upon the Council's advice. However, the Minister may in his discretion decide to publish the Council's findings.

The question to be asked about all Councils is whether they serve any useful purpose. In the case of independent councils that publish their findings, it is submitted that the general public has an independent source of advice upon which to judge the effectiveness of the policies of the party in power. The effectiveness of the C.E.A.C. in relation to the general public may be minimal for reasons stated above.

B. Federal-Provincial Co-ordination

1. Federal Water Quality Objectives and Standards

In 1910, conservationists recognized various uses for water - water for drinking purposes, plant and animal life, transportation, and water as a source of power.⁶ A further important use not emphasized

6. 1 - 2 George V, 1911 Sessional Papers, No. 52, p. 102.

was the use of water as a receptacle for the disposal of wastes - human and otherwise. Because industrialization was not as widespread or as concentrated and wastes were generated by a smaller population at the turn of the century, sewage treatment was not generally required; most bodies of water were long enough and deep enough to cleanse themselves. However, where population was dense and waters less flowing, waters did become polluted and caused diseases such as typhoid fever. The utility of domestic water began to be measured by its purity. In essence this was one of Canada's first water quality objectives. Several pieces of legislation dealing with water quality have been passed since 1867 but the quality of waters continues to deteriorate as urbanization and industrialization increases.

In 1967 the Federal Government became concerned about pollution being generated by Federal facilities and authorized the Public Health Engineering Division of the Department of National Health and Welfare to assume responsibility for the control and abatement of water pollution emanating from Federal facilities. Simultaneously, this same branch of National Health and Welfare together with the Canadian Health Association recommended water quality standards and objectives for drinking purposes. These objectives are based upon the philosophy that water for drinking, culinary and domestic uses should be "free from deleterious chemical substances and radioactive material, and it should be palatable, aesthetically appealing and devoid of objectional colour, odour, and taste."⁷ Water supplies emanating from

7. Canada, Department of National Health and Welfare, Canadian Drinking Water Standards and Objectives (Ottawa: Queen's Printer, 1968), p. 11.

polluted sources must, as a minimum, have primary treatment to ensure safety and consistency in the quality of the finished water.

An international body, the International Joint Commission (I.J.C.) which is composed of representatives from both Canada and the United States has defined water quality criteria as simply the requirements for the preservation of the aquatic environment and has designated uses of water.⁸ Water quality objectives are desirable for measuring the quality of receiving waters. They should take into account the spectrum of water uses such as industrial, Municipal, recreational and aesthetic. The following objectives have been adopted by the I.J.C. for effective water pollution control:

- (a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits, or that will adversely affect aquatic life or waterfowl.
- (b) Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious.
- (c) Free from materials attributable to municipal, industrial or other discharges producing colour, odour or other conditions in such a degree as to create a nuisance.
- (d) Free from substances attributable to municipal, industrial or other discharges in concentrations that are toxic or harmful to human, animal and aquatic life.
- (e) Free from nutrients derived from municipal, industrial and agricultural sources in concentrations that create nuisance growths of aquatic

8. International Joint Commission, Final Report on Pollution of Lake Erie, Lake Ontario, and the International Section of the St. Lawrence River, 1970, p. 67.

weeds and algae.⁹

Furthermore, no substance should be introduced into the waters unless it is certain that the substance will not violate these objectives. In addition, specific technical objectives dealing with the physical, chemical and microbiological characteristics of water have also been developed.

In making its recommendations the I.J.C. has urged the governments of both Canada and the United States to adopt specific water quality objectives by implementing a program of phosphorus control which would eliminate the use of phosphorus in detergents by the end of 1972 and reduce Municipal and industrial use by 80% in 1975.¹⁰ The Commission also recommended that construction of Municipal and industrial collection and treatment facilities and other anti-pollution measures be considered as a matter of urgency.

Shortly after the I.J.C. published its Final Report, a regulation was formulated under the auspices of the Canada Water Act which regulates the concentration of phosphorus in laundry detergents. Sections 3 and 4 of the regulation are as follows:

- s. 3. On and after the 1st day of August, 1970, the maximum permissible concentration of prescribed nutrients in laundry detergents shall be 20 per cent by weight expressed as phosphorus pentoxide of 8.7 per cent by weight expressed as elemental phosphorus.
- s. 4. The concentration by weight of prescribed nutrients in any laundry detergent shall be determined by the method prescribed from time to time by the American Society for Testing and Materials,

9. Ibid., pp. 69-70.

10. Ibid., pp. 89-90.

(A.S.T.M.)¹¹

Of course when the regulations were passed manufacturers of detergents had to find adequate substitutes in a relatively short period of time. They also had to sell the general public on the idea of new detergents without phosphates that would wash just as white. Public concern for the environment has made the elimination of phosphate detergents possible; apparently housewives are ready and willing to make such anti-pollution programs work.¹²

It would not appear that other regulations under the Canada Water Act would be issued because the Minister of the Department of Environment feels that more immediate action can be taken against water polluters under the Fisheries Act. The Fisheries Act which clearly falls within the Federal Government's exclusive jurisdiction over sea coast and inland fisheries has been in force since Confederation. Therefore, National effluent standards for each industry, e.g. pulp and paper, are in the process of being established. Representatives of each industrial complex are being consulted prior to the drafting of these regulations.

2. Creating Basin Agreements

Those who design effluent standards must assure that such

11. Phosphorus Concentration Control Regulation, P.C. 1970 - 1341, July 29, 1970.

12. Margaret Sinclair, A Survey of Housewives' Attitudes (Burlington, Ontario: Canada Center for Inland Waters, 1971), mimeo. It was reported in the survey that 37% of the housewives were not aware that there was a phosphate problem. But when asked whether the Federal Government should ban phosphates, 70% said yes and 72% were willing to pay a higher price for a non-phosphate detergent.

standards are enforceable; those who pass the related legislation must assure that the standards are enforced. One logical approach to the achievements of this public management principal, is to involve all relevant authorities in the design phase since they will all be involved in the operational phase. As mentioned in Chapter III, however, the Provinces flatly turned down the initial Federal offer to establish joint pilot project studies in water management in each region, even though these projects would have been fully financed by the Federal Government. Despite first impressions that can be gathered from this apparent lack of co-operation, the Provinces were concerned about the growing water pollution problem. Following the Federal Government's offer to reach agreement with the Provinces, through consultation and compromise, co-operative development of standards began.

Three Basin Agreements resulted from the original offer.¹³ New Brunswick, being a depressed region, could not have carried out such a project on its own; 90% Federal financing together with Provincial participation seemed too good an offer to turn down, given that New Brunswick was indeed concerned about water pollution in the Province. In the case of British Columbia, Saskatchewan and Manitoba, a 50:50 cost-sharing ratio with the Federal Government was agreed upon for the study of the Okanagan and Qu'Appelle Basins. However, if program recommendations result from these studies, the Provinces will no doubt want to re-negotiate financial arrangements in respect of

13. See Appendix II.

program and project implementation. The above agreements were negotiated, and in one case formally agreed to, prior to June 20, 1970, when Royal Assent was given to the Canada Water Act. The only two agreements signed under the auspices of the Canada Water Act to date are the Canada-Ontario Agreement and the Canada-United States Agreement on the water quality of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River.

In the Canada-Ontario Agreement, both levels of government have agreed to undertake the necessary measures to abate and control inputs of pollutant materials from Municipal, industrial and other sources pouring into the Great Lakes. Financially, the Canadian government will undertake to assist a five year program of construction of Municipal waste treatment facilities and trunk sewers by making available to the Ontario government and Municipalities \$167 million in loans. This amount represents 2/3 of the estimated \$250 million total cost. Under the National Housing Act, 25% of \$42 million will be "forgiven" if the agreed projects are completed by March 31, 1975. Six million dollars to be paid for on a 50:50 basis by Ontario and the Federal Government will be spent on research. Approximately 2.5 million dollars will be designated for pre-engineering studies of all present sewage treatment facilities (or lack of) prior to installation in individual Municipalities. These studies are partly chemical, e.g. phosphorus removal studies, and partly cost studies. The remaining 3.5 million dollars will support continuing research on technology which is being carried out by the Ontario Government, the Federal Government, universities and private industry.

Although the money available to the Ontario Government in the Canada-Ontario Agreement represents a considerable expenditure, it is not as significant as the overall expenditure for pollution control and abatement for the whole country. Accelerated programs in areas other than the Great Lakes, and significant changes in technology could alter this anticipated demand for Federal assistance. What is significant about the Canada-Ontario Agreement is the fact that Ontario, being the richest Province, has also received the largest portion of Central Mortgage and Housing Corporation loans. Under this agreement, Ontario will also receive additional loans. If the Federal Government decided that Ontario did not need the incentive to clean up pollution, (in the form of a 2% forgiveness on loans) and there happens to be a demand for loans which far exceeds the supply, the Municipal sewage treatment programs in other Provinces would be in danger of being delayed. However, after granting substantial amounts over the last fifteen years, with the richest Province receiving a large portion, it would be unfair for the Federal Government to deny this attractive incentive to Provinces which are now developing comparable pollution abatement programs.

The Canada-United States Agreement was signed on April 14, 1972 during President Nixon's visit to Canada. The objectives of the agreement are to restore and enhance the water quality in the Great Lakes; to recognize the right of each country in its use of the lakes; and to develop and implement co-operative programs. Programs related to Municipalities to be completed or be in the process of completion by December 31, 1975, include, the construction and operation of waste

treatment facilities as specified by water quality objectives; measures to find practical solutions to reduce overflows from storm and sanitary sewers; monitoring, surveillance and enforcement activities; and construction and operation of waste treatment facilities to remove phosphorus from Municipal sewage.

Shortly after this agreement was signed it was feared that the Americans would not appropriate funds to keep their part of the Agreement. However, pressures from the Stockholm-Conference for all nations to co-operate in cleaning up world water pollution and pressures from Ottawa to have the I.J.C. begin its monitoring function have had some impact in pushing the Americans to get going on anti-pollution projects. The Americans are saying that they intend to live up to the terms of the agreement and that their projects will "be either completed or in process of implementation by December 31, 1975."¹⁴

C. Water Basin Agreements - Then What?

Despite the fact that Canada has only one basin authority, the Great Lakes region which can be considered more of an international pilot project rather than a distinctly Canadian venture, it is really too early to tell whether river basin authorities will be adequate vehicles to abate water pollution and prevent further deterioration of Canada's waters. The success of water authorities may hinge upon the formulation and implementation of a National Water Quality Policy in co-operation by all three levels of government.

Because the Provinces had participated in negotiations with

14. See Appendix II.

the Federal Government prior to the enactment of the Canada Water Act, no doubt they, as well as "John Q. Public" expected the Act to be the Federal Government's National Policy on Water Quality which would be the panacea to Canada's water pollution problem. Almost three years have elapsed since the Act was passed, and with the exception of the Canada-Ontario and Canada-United States Agreements which provide administrators with the authority to begin cleaning up the waters, all other basin areas are still under study. Whether other basin authorities will be created to implement present studies is difficult to determine because there are several obstacles which first need to be overcome. First is the observation that comprehensive water quality objectives are not contained in the Act or regulations. The Minister of the Environment (Federal) has admitted that the Canada Water Act is a cumbersome vehicle, and more effective action can be accomplished by drafting regulations affecting industrial polluters under the Fisheries Act. This leads to the question of whether in fact Canada has a National Water Quality Policy based upon definite National goals and objectives. It is submitted that the answer is not clear and on the basis of the above discussion it would appear that such a Policy does not exist.

Another obstacle is a weakness in the Act which fails to provide for financial resources for water control and management. Because the Federal Government controls the purse strings, it has adopted the attitude that it can allocate resources as it wishes. But such an attitude is becoming an anachronism. If the social, economic and political needs of citizens in a rapidly changing society are to be met, the priority determinations of the Federal Government are going to

have to deliberately allow the other levels of government to participate in determining the processes preceding the national priorities and objectives. Furthermore, most Federal policies and programs have national, regional and local implications. In order for the other levels of government, particularly Local Government, to effectively participate in Federal programs requires access to resources and discretion over allocation of resources. This discretion could be accomplished, at least in part, by involving Local decision-makers in Federal and Provincial policies and programs.¹⁵

In a Federal State there are difficulties, constitutional and otherwise, in equitably dividing the tax pie between all levels of government. However, the constitution is silent on the matter of "co-operative Federalism". To facilitate "action" in the control and abatement of water pollution, perhaps the role of each Government in this area should informally be agreed upon through consultations such as Federal-Provincial Conferences or the National Tri-Level Conferences. The Federal Government, because of its national and international perspective, might have the role of formulating national goals and objectives in the area of water pollution. Proliferation of statutes and duplication of research has resulted in overlapping Federal, Provincial, and in some cases Municipal programs. It would seem that a National Water Quality Policy would be a necessary pre-requisite to the co-ordination, implementation and success of water quality programs.

15. Municipal Submission to the First National Tri-Level Conference,
Document No. TCT2, October 31, 1972.

Because research on water pollution has resulted in need-less duplication and wasting of money, there is a need for the Federal Government to devise and implement a concerted national plan for co-ordinated interdisciplinary research. In devising such a plan Federal decision-makers should note certain requirements, namely, (a) complete inventories of water resources are required so that as population, urbanization and industrialization continue to grow, these resources can be wisely planned and managed; (b) continuous, practical research needs to be applied to suit the needs of individual communities; and (c) all information acquired needs to be shared with and communicated to all levels of government.

A related function would be the need for the Federal Government to assess the potential impact upon the environment of technological innovations. For example, if a restaurant owner decides to replace wine glasses made of glass with disposable plastic ones, the resulting effect may be to diminish the pollutant load on a river system, but the burden would be transferred to the land and problems of solid waste disposal may arise. If the Federal Government with its vast research resources studied such an innovation, then perhaps a decision could be made on the basis of anticipated ecological effects as to whether such a consumer good should be placed on the market.

The role of the Provincial Government would be to look at national goals and objectives from a Provincial perspective. The Provincial Governments could review their own policies in terms of national goals and objectives, and then in consultation with the Federal and Local Governments agree upon certain water quality control and water management policies. Once these policies have been agreed upon,

the Provinces could establish standards and priorities for attaining them by passing legislation. Regulations under the legislation could be formulated through joint consultations between the Provincial and Local Governments.

To ensure that Provincial legislation and regulations are implemented, Local Government with its community perspective can play the role of enforcer by using official plans and Municipal by-laws. This is not to say that Municipalities would pre-empt the functions of water basin authorities. In some basin areas it could be expected that such functions would co-exist, while in others there would be only one enforcer, i.e. the water basin authority. In isolated areas and in Municipalities not in a river basin, Local Government would be the only enforcer.

Local Government can also monitor both the adequacy of standards and enforcement procedures since Local Government deals with the day to day problems of pollution control. In administering water pollution standards set by a Province, Local Government can: (a) deal with complaints about water pollution; (b) determine the sources of water pollution by taking water samples and analyzing them; (c) monitor the quality of water by establishing monitoring stations and laboratories for analysis of water samples; and (d) approve plans and certifications for new sources of water pollution. Changes in environmental conditions can be most readily recognized by Local Government which should have the means of conveying such information to the other levels of Government. If certain regulations or enforcement procedures are not adequate, then Municipalities and their Provincial Governments, could discuss alternative procedures.

Because various forms of pollution interact and funds for water pollution abatement and management are limited, regional priorities are a means of accounting for differences in climate, geography, industry, urban density and wealth. Priorities in one region might be the control of air pollution; whereas, the control of water pollution might be a priority in another region. Regional needs must be recognized in implementing water quality standards and in allocating financial assistance.

If three levels of government are going to co-operate in developing National goals and objectives, it would seem that the same co-operative process should be used in providing the financial resources to operationalize such aims. Sewage treatment in a municipality is just as important as peace-keeping in Vietnam. But a Federal policy to reduce inflation could have the effect of reducing grants to Provinces and ultimately to Municipalities for necessary sewage treatment facilities. Such action can lead to competition between governments. "Competition in the private sector is creative and constructive; but competition among governments in a Federal system is destructive."¹⁶ It is not only obvious that policy and administrative co-ordination is required within a level of government but more important co-ordination and co-operation is a necessity between levels of government.

As previously stated, various forms of pollution interact one with another and these problems cannot be dealt with in isolation.

16. T. A. Shevciw, Policies, Programs and Finance, Municipal Submission to the First National Tri-Level Conference, Document No. TCT7, October 31, 1972.

In the same way, other problem areas of the community need to be acknowledged. Transportation, housing, industrial growth and recreation, place pressures on our environmental resources. Because of this interaction, we have to recognize that solving the problems of the environment also involves consideration of these activities and the pressures they create. Therefore, it seems logical to suggest that Canada needs a National Environmental Policy within which a National Water Quality Policy operates. If an Environmental Policy is adopted then national goals and objectives, policies, legislation, and programs could be formulated in such a way as to encompass the environment in which our society lives.

• It is obvious from the foregoing discussion that the constitution does not need to be overhauled before three levels of government with different jurisdictions can talk and work in close cooperation with one another. Local Government can no longer entertain Federal and Provincial arguments that Local Government as a "creature of the province" must thoroughly undergo restructuring before it can participate in decision-making, priority determination or policy formulation as a partner with the other two levels.¹⁷ But the roles and responsibilities of the three levels are clearly interrelated and interdependent. Structures, roles, responsibilities and financial allocation of resources are the tools that can be utilized to maximum efficiency in controlling and managing water pollution. We can no longer talk about hierarchies of government; we must talk about a partnership of different forms of government.

17. Ibid.

CHAPTER VI

SUMMARY AND CONCLUSIONS

It is evident from the foregoing analysis that the problem of water pollution is an extremely complex one that Federal^a legislators have attempted to deal with in enacting the Canada Water Act. The aim of this study has been to consider the background economic theories discussed by decision-makers when attempting to draft the Act; to examine various parts of the Act; and finally to evaluate the constitutional and administrative aspects of the Act.

As previously stated, the problem of water pollution is part of a much larger environmental problem. It is not just a national problem; it is an international problem. It is a problem that has caused concern since World War II due to the increase in population, urbanization and industrialization. As a result of these factors, considerable Municipal sewage is discharged without any treatment. Costly anti-pollution equipment and lack of financial resources are factors deterring most Municipalities from installing satisfactory treatment systems. However, traditional Municipal problems, like water pollution control, abatement and management are becoming "Federalized".

In considering the background economic theories in Part One, it was concluded that since clean water is a public good that is fast becoming a scarce resource, some type of price mechanism must be placed on its value. Also the costs of untreated waters can be imposed upon downstream users by upstream users. The effects of externalities can be a distortion in the allocation of resources unless

the costs of water pollution are internalized. The competent jurisdiction in Canada capable of internalizing such costs is the Federal-Provincial institutional structure.

There is also a problem with the cost-benefit analysis of water pollution. The costs can be objectively determined but the benefits derived are subjective and are much more if not almost impossible to calculate. The suggested optional solution to "making polluters pay" is by a system of effluent fees or charges within an administrative structure of a river basin authority. In Chapter II the structures and functions of river basin authorities was examined in light of the experience of other countries. Generally, the success of such a system depends upon political, economic and geographic features of any given country. It works better in some, e.g. Germany, than in others. How it will work in Canada remains to be seen.

In order to clean up the existing water pollution problem the costs have been estimated in the hundreds of millions of dollars. The sewage treatment program administered by Central Mortgage and Housing Corporation has been an adequate program in the past, but the criteria for dispensing loans and the method of dispensing loans needs to be reviewed in order to take into consideration spiralling inflation costs, regional disparity, etc.

In Part Two the background events leading up to the passage of the Canada Water Act and a description of the Act were considered. Several conferences were the catalysts which got the policy formulation and legislative drafting process started. Simultaneously, the Interim Interdepartmental Committee on Water was organized to scrutinize the Act as it was being drafted. It was concluded that although

this committee was effective, its effectiveness would have been enhanced if it had been given more specific direction as say the Preparatory Committee on Collective Bargaining.

Although the Canada Water Act deals with comprehensive water resources, water quality management, the control of nutrients and general administrative matters, the overall intent of the Act appears to be one of a "get tough approach" which the Provinces have found to be considerably repugnant to their sense of "participatory democracy." This feeling is made evident by the sections which provide for unilateral action by the Governor-in-Council if co-operation by the Provinces in establishing water quality management agencies is not forthcoming.

Finally, the assessment of the constitutional and administrative validity of the Act was where the emphasis in this study was placed. The Federal powers over water and the management of water can be defended under the British North America Act in section 91. The powers over criminal law, navigation and shipping, fisheries, trade and commerce and the general section dealing with peace, order and good government belong to the Federal Government. The Provincial powers can be defended under section 92 and more specifically the subsections concerning property and civil rights, local matters, and municipal institutions. After considering the powers of the two senior levels of government, it was concluded that the Canada Water Act as it now stands is ultra vires the Federal Government. However, the remainder of the study was written on the assumption that the constitutionality of the Act will not be challenged in the Supreme Court of Canada.

Responsibility for the administration of the Act lies now with the new Department of Environment and the Honorable Jack Davis is the responsible Minister. It was pointed out that the Minister is using the Fisheries Act as a more immediate means of controlling and abating pollution. Regulations formed under this Act will regulate industrial effluent. It was also shown that the matter of providing sewage treatment plants is in the hands of the Minister of State for Urban Affairs, and it was suggested that since the Minister of the Environment is responsible for administering the Canada Water Act, and the major weakness of the Act is the lack of financial resources, he should also have the responsibility of dispensing sewage treatment loans.

Another structure described was the Canadian Advisory Council which advises the Minister of the Environment. In view of the nature of the entire water pollution problem, it was concluded that this body will generally be a weak body unless it is given the power to publish its findings.

Finally, the Basin Agreements between the Federal and Provincial Governments and Federal and United States Governments were examined in detail. It was concluded that the concept of basin authorities is so new that it is really too soon to assess whether they will be a useful vehicle for controlling, abating and managing water resources. It was suggested that a Federal policy on National Water Quality which was a part of a more encompassing National Environmental Policy may be a pre-requisite to the successful operation of basin authorities.

Furthermore, it was concluded that constitutional jurisdic-

tion would not hinder the defining of roles of each level of Government in the area of water management if it was done in the light of "co-operative Federalism." The Federal Government would look at goals and objectives for the control, abatement and management of water resources from a national perspective; the Provinces from a Provincial perspective; and Local Government from a community perspective. Again it was also emphasized that the Federal Government's attitude to the allocation of financial resources in view of present social, economic and political needs was anachronistic and there was a need for participation by the other levels of government in setting the priorities for the allocation of such resources before participating in Federal programs.

Finally, it cannot be emphasized enough that the problem of water pollution is an extremely complex one that overlaps with other community problems of housing, transportation, recreation and so on, and that it will take the consultation of all three levels of government in order to effectively be able to co-operate in seeking to solve the problem and to co-ordinate effective programs.

However, it is not enough that the dangers of water pollution have been dramatized through the mass media or debated at length in Parliament. Society needs to be informed and educated as to the quality of our environment and to be shown how each individual plays a part in the ecological balance of nature. If the attitude of society, its governments, and its administrators is enlightened, then it can be reflected in goals and planning processes used in establishing a comprehensive environmental framework. This attitude in turn will allow for alternative approaches to water quality management, compre-

hensive resource planning, expenditure, incentives, and regulations both in the private and public sectors.

In the next few decades, questions of progress in technology and progress in planning and controlling population growth; food and water supply, alienation, and economic co-operation will all be related to the grand design of the human environment. With progress as a prevailing view,¹ man is developing a tremendous capacity to fashion his own environment. Yet this power, by its very nature, threatens to become a force out of control, destroying not only the physical man but even more so the "inner essence" of man. Social action and relationships will increasingly become important and may disrupt the foundations of our democratic country. The effects of planned or haphazard economic, political or social policies are increasing, and the corresponding consequences of mistakes are likely to grow. Man can try to improve his understanding of future possibilities and the long-term consequences of policy, but at best all he can do is try in general to moderate. Above all, the freedom of human choice among alternatives for present and future man must be preserved.

1. Herman Kahn and Anthony J. Weiner, The Year 2000 (Toronto: The Macmillan Company, 1969), p. 412.

APPENDIX I
PROVINCIAL LEGISLATION

PROVINCE	STATUTE	DEFINITION OF POLLUTION	PENALTIES
British Columbia Minister of Lands, Forests and Water Resources	<p>Pollution Control Act, S.B.C. 1967, c.34; S.B.C. 1968, c.38. B.C. Reg. 96/67.</p> <p>s.25 - Crown of B.C. and its agents bound by this Act.</p>	<p>s.2 - "Contaminant" means any substance, whether gaseous, liquid, solid, odorous, or any combination of any of them, (a) that is foreign to or in excess of the natural, physical, chemical or biological quality of the air; or (b) that affects the natural physical, chemical or biological quality of air, and that is, or may be, injurious to health or safety or comfort of a person or injurious or damaging to property or to plant and animal life, or that may interfere with visibility or the normal conduct of transport or business or is obnoxious to the public.</p> <p>"Pollution" means the introduction into a body of water, or storing upon, in or under land or discharging or emitting into the air such substances or contaminants of such character as to substantially alter or impair the usefulness of the land, water, or air.</p> <p>"Effluent" means a deleterious material flowing in or out of a drain sewer, outfall, sewage-disposal system or works.</p>	<p>s.20A - Summary conviction to a fine not exceeding \$1000 or to imprisonment for a term not exceeding 3 months, or to both.</p> <p>Continued offence, of a fine not exceeding \$1000 for each day offence continued.</p>

PERMIT

BOARD, COMMISSION AGENCY

(Board, Commission, Agency cont'd) REVIEWABLE

Reg. 96/99

2.02 - The applicant shall be exempt from requirements of this Division unless directed otherwise by the Director (1) where a discharge of domestic sewage of less than 10,000 gallons per day is contemplated or (2) where at the time of the enactment of this regulation, an established volume of industrial waste or domestic sewage is being discharged from existing works.

2.01 - Three days notice to cancel, permit of Directors proposal to cancel served on permittee.

2.02 - Notice to be published in the Gazette.

2.03 - Permit may be cancelled 60 days after director's order or 60 days after date of publication.

2.1 - Pollution Control Board includes Chairman plus others as Lt.-Governor-in-Council determines.

2.4 - FUNCTIONS - (a) Determine quality to constitute a polluted condition,
(b) to prescribe quality standards
(c) appoint advisory or technical committees
(d) to take remedial action in the public interest and report to Lt. Governor who may direct Board to take action.

2.5 - Director issues permits to pollute water.

2.6 - Director power to amend permit.

2.9 - A Director and staff appointed according to Civil Service Act.

2.10 - DIRECTOR'S POWERS - Functions 4(a) and 4(b) of Board

- (c) Conduct tests to determine extent of pollution
- (d) examine existing and proposed works
- (e) notify polluters
- (f) order increased treatment
- (g) order cease polluting water

(h) determine his own procedure
(i) exercise powers of engineers

2.20 - No action may be brought against the Board, Director, any engineer, or any other person for anything done or left undone by him in good faith in the performance or intended performance of any authority conferred or duty imposed under this Act or regulations.

2.24 - RESTITUTION OF PROCEEDINGS

Except as provided in this Act, no hearing, inquiry, investigation, proceeding, order or decision of an engineer, the Director, the Board the Lt.-Governor-in-Council, the member(s) of the Executive Council delegates under s.12, shall be questioned, reviewed or restrained by injunction, prohibition, or other processes or proceedings in any court, or be removed by certiorari or otherwise into any court, save for excess or want of jurisdiction.

2.58 - If conflicts in other Acts and municipal by-laws, this Act prevails.

2.12(1) - Appeal lies

- (a) from every order of an engineer to the Director;
- (b) from every order of the Director; and
- (c) from every order of the Lt.-Governor-in-Council, or any delegate any member(s) of the Executive Council of the Province to hear the appeal and pronounce a decision thereon for or on behalf of the Lt.-Governor-in-Council; or the Supreme Court of B.C. as the appellant may decide.

(2) Appeal within 15 days from engineer or Director and within 30 days from order of the Board.

(6) Decision of B.C. Supreme Court, Lt.-Governor-in-Council, delegated member(s) Executive Council is final.
"Order" includes any decision or direction given in writing.

2.12 - Objections to granting of a permit to pollute.

(3) to be filed by

- (a) any resident within 5 miles of proposed point of discharge, or
- (b) an immediate adjoining municipality.

(Reviewable cont'd)

WATER QUALITY STANDARDS

CASES

(4) The Director shall decide, in his sole discretion, whether or not the objection will be the subject of a hearing, and shall notify the objector of his decision.

(5) If the Director decides to hold a hearing, the applicant and objectors are entitled to be notified of the time and place thereof and to be heard, and to be notified of the decision following the hearing the Director has all the powers and jurisdiction of a Justice of the Peace under the Summary Convictions Act.

(6) Anyone not qualified under (2) or (3) may object to the Director and may make an application to the Board whose decision is final and if so the Director will give effect thereto.

1969-Recommended Water Quality Standards

(Division of Public Health Engineering, Dept. of Health Services and Hospital Insurance).

Western Mines Ltd. (N.P.L.) v. Greater Campbell River Water District, (1967) 58 W.W.R. 705. (B.C.C.A.).

PROVINCE	STATUTE	DEFINITION OF POLLUTION	PENALTIES	PERMIT
Alberta	The Environment Conservation Act, S.A. 1970, c.36			
No Minister designated	Letter 26.A.71 from H. L. Haege. (Director, Division of Environmental Health of Dept. of Health) says a new Bill in March, 1971, to set up a Department of Environmental Improvement.			

BOARD, COMMISSION, AGENCY (Board, Commission, Agency cont'd) REVIEWABLE

2.4(1) - THE ENVIRONMENT CON-
SERVATION AUTHORITY

- 3 members
- appointed by Lt.-Governor-in-Council

2.7(1) - FUNCTIONS

- (a) Review government policy and programs.
- (b) Inquire into matters pertaining to environment conservation and report to and give recommendations to Lt.-Governor-in-Council.
- (c) Inquire by order of Lt. Governor.

- (d) Require information be furnished by other departments.
- (e) Hold public hearings for briefs and submissions.
- (f) Refer a matter to the conservation and Utilization Committee.

2.8(1) - CONSERVATION AND
UTILIZATION COMMITTEE

- (a) 12 members appointed by Lt.-Governor-in-Council.
- (b) At least one member from each of

Dept. of Agriculture

Dept. of Health

Dept. Highways and Transport

Dept. Industry and Tourism

Dept. Lands and Forests

Dept. Mines and Minerals

Dept. Municipal Affairs

Oil and Gas Conservation Board.

- 2.10(a) - Inquiry, study, report and recommendations on any matter directed by Lt.-Governor-in-Council
- (b) Liaison between all government departments and agencies.
- (c) May appoint a sub-committee

- 2.12 - Lt.-Governor-in-Council may make regulations for Authority and Conservation and Utilization Committee.

PROVINCE

Saskatchewan

President of the Executive Council

STATUTE

The Water Resources Commission Act,
R.S.S. 1965, c. 361;
S.S. 1967, c. 18;
S.S. 1969, c. 76.

Sask: Reg. 88/68

S.23 - INTERPROVINCIAL AND INTERNATIONAL WATERS

Commission advises Lt.-Governor-in-Council on the planning and use of projects in or outside Saskatchewan. Commission maintains close touch with Prairie Prov. Water Board.

Minister with approval of Lt.-Governor-in-Council may enter into agreement with governments of other provinces and with Government of Canada to investigate, regulate and control water pollution that flows across or along boundaries of Saskatchewan.

DEFINITION OF POLLUTION

S.2(c) - "Pollution" means any alteration of the physical, chemical, biological or aesthetic properties of any of the waters of Saskatchewan, and includes any change in the temperature, taste or odour of the waters, or the addition of any liquid, solid, radioactive, gaseous or other substance to any of the waters, or the removal of any such substance from the waters, or the removal of any such substance from the waters that will render or is likely to render the waters harmful to the public health, safety or welfare or harmful or less useful for domestic, municipal, industrial, agricultural, recreational or other lawful uses, or harmful to or less useful for wild animals or birds or aquatic life.

2.1.1.A - "Sewage" means any liquid waste of domestic commercial or industrial origin containing animal, vegetable or mineral matter in suspension or solution and includes rain water or water resulting from the melting of snow or ice which enters sewage works.

PENALTIES

S.51 - OFFENCES - Violation of the Act or regulations, failing to comply with order of convicting magistrate or Justice of the Peace or Commission.

S.51(2) - Where an offence is committed by an individual, the individual is liable: (a) for first offence to a fine of not less than \$10 or more than \$100 and under certain sections to a further fine not exceeding \$25 for each day during which the offence continues.

(b) for a second or subsequent offence to a fine not less than \$100 or more than \$500 and if applicable to a further fine not exceeding \$50 for each day offence continues.

S.51(3) - Where an offence is committed by a corporation, the corporation is liable;

(a) for a first offence not less than \$100 or more than \$1000 and under certain sections to a further fine not exceeding \$250 for each day offence continues (b) for a second or subsequent offence to a fine of not less than \$1000 or more than \$5000 and under certain sections to a further fine not exceeding \$500 for each day offence continues.

(Penalties cont'd)

s.51(4) - Where default is made in payment of any cost, or sum ordered to be paid no imprisonment in default of payment shall be ordered.

s.52 - Where monies due to the Commission and not paid, the Commission can without notice cancel the right or privilege in respect of the amount payable but Commission still has right to collect.

PERMIT

s.37 - Subject to approval of Lt.-Governor-in-Council, Minister of Health and Minister of Natural Resources issue approval, revoke approval (on 30 days notice or no notice), alter approvals, prescribe fees for an approval, prescribe standards of operation and maintenance of water and sewage works.

s.40(2) - Commission can exercise its power (to revoke) only where in its opinion the continued exercise of the rights of the person or the municipality, or other organization concerned would cause serious danger to the public.

BOARD, COMMISSION, AGENCY.

s.4(1) - Saskatchewan Water Resources Commission. Members are Deputy Minister of Agriculture, Deputy Minister of Natural Resources, Deputy Minister of Public Health, the General Manager of Saskatchewan Power Corporation and not more than 3 other members appointed by Lt.-Governor-in-Council.

Chairman is part-time or full-time and is chief executive officer if full-time. If part-time an executive director appointed is chief executive officer of the Commission.

s.17 - FUNCTIONS

(a) Advise Lt.-Governor-in-Council respecting planning, developing, use of land and water resources.

(b) Consult and advise departments and agencies of (a)
(c) Undertake and co-ordinate research investigations and planning for the conservation, development and management and use of water and related land resources.
(d) Recommend to Lt.-Governor-in-Council what actions seem necessary.

REVIEWABLE

s.35 - The Commission may:
(a) make investigations respecting the pollution and quality of waters.

(b) inquire into and hear and determine any complaint made by or on behalf of any person, or organization entitled to the use of water, that material that may cause pollution of the water or impact its quality or render it unfit for its normal use has been placed in or near or discharged into or near the water and for the purpose of any such investigation or inquiry the Commission shall have all powers conferred upon Commissioners appointed under the Public Inquiries Act.

s.54 - No prosecution can be commenced after two years from the date of the alleged offence.

WATER QUALITY STANDARDS

CASES

2.26 - The Commission, on the advice of and with the approval of the Minister of Public Health and Minister of Natural Resources make regulations establishing general standards respecting the quality of water.

Water Quality Criteria, June 1970.

Water Pollution Control
Branch of Saskatchewan Water
Resources Commission.

PROVINCE	STATUTE	DEFINITION OF POLLUTION	PENALTIES
Manitoba Member of Executive Council charged by Lt.-Governor-in-Council to administer the Act. (Presently the Minister of Health and Social Development).	The Clean Environment Act, S.M. 1968, c. C130; S.M. 1970, c. 62. S.M. 1971, c. 82. No preamble. s.22 - Crown bound by the Act which means all provincial government agencies will be required to apply for licences and be subject to hearings like any private agency.	s.1(d) - "Contaminant" means any substance whether gaseous liquid or solid; (1) that is foreign to or in excess of the natural constituents of the environment; or (11) that affects the natural, physical, chemical or biological quality of the environment; and that is, or may be, injurious to health or safety of a person, or injurious or damaging to property or to plant and animal life, or that may interfere with visibility of the normal conduct of transport or business, and "contaminate" has a similar meaning. (e) - "Environment" means the air, water or soil. (j) - "Waste" includes rubbish, slimes, tailings, fumes and smoke of mining, factory and industrial works, effluent or sewage, or waste products of any kind whatsoever.	s.6 - A person who contravenes or violates any provision of this Act or the regulations or fails to comply with any order of the commission made under this Act, is guilty of an offence and is liable, on summary conviction, (a) in the case of an individual to a fine not exceeding \$100; and (b) in the case of a corporation to a fine not exceeding \$1000. s.7 - Continuing offence, for each day guilty of another offence.

Reviewable (cont'd)

REVIEWABLE

BOARD, COMMISSION, AGENCY

PERMIT

s.4(1) - No contamination of water without a licence.
(2) - Exceptions, if there is a permit under the Public Health Act, the Metropolitan Waterworks Act, or the Mines Act.
s.11(4) - Commission may without notice, or hearing, suspend in whole or in part any licence or permit issued by it.

s.8(1) - COMMISSION - The Clean Environment Commission consisting of not less than 3 members appointed by Lt.-Governor-in-Council to hold office for such terms as the Lt. Governor in Council may designate.
(9) The Commission may make rules governing its procedure.
s.11 - The Commission has general supervision and control over all matters relating to the preservation of the natural environment, and the prevention and control of contamination of the environment.

s.12 - INVESTIGATIONS - Commission may investigate any matter respecting the contamination of the environment and in the course of the investigation it may summon witnesses and take evidence.

s.8(5) - Commissioners have the powers and protection under the Manitoba Evidence Act. The powers include to subpoena witnesses, to require documents to be produced and to enter into and inspect premises, to enlist assistance of police and commit persons to gaol for refusal to answer questions.

s.13(2) - Before making an order to cease polluting the environment the Commission shall hold a hearing of which the permittee is given at least 7 days notice at which he is given the opportunity to appear and be heard, and the time and place.

s.15(1) - APPEAL - Where a person is dissatisfied by an order or decision of the Commission he can by written notice of appeal filed with the Municipal Board within one month from the date of the order or the decision appeal to the Municipal Board and appeal heard by way of hearing de novo.

s.18(4) - On the appeal the Municipal Board may
(a) Confirm the order or decision of the Commission; or
(b) vary the order or decision of the Commission; or
(c) quash any order of the Commission setting out the decision of the Commission; and may order the Commission to issue, reissue, cancel, raise the suspensions of, or vary the term or condition of, a licence, or decision of the Commission and any other person affected shall comply with the order or decision of the Municipal Board.

s.21 - May give notice by
(a) personal service on the person,
(b) registered prepaid mail
(c) in any such other manner as a Judge of a County Court.

Municipal Board.

PERMIT

s.6(1) - No contamination of water without a licence.
(2) - Exceptions, if there is a permit under the Public Health Act, the Metropolitan Waterworks Act, or the Mines Act.

s.11(1) - Commission may, without notice, or hearing, suspend in whole or in part any licence or permit issued by it.

BOARD, COMMISSION AGENCY

s.8(1) - COMMISSION - The Clean Environment Commission consisting of not less than 3 members appointed by Lt.-Governor-in-Council to hold office for such terms as the Lt. Governor in Council may designate.
(9) - The Commission may make rules governing its procedure.

s.11 - The Commission has general supervision and control over all matters relating to the preservation of the natural environment, and the prevention and control of contamination of the environment.

s.12 - INVESTIGATIONS - Commission may investigate any matter respecting the contamination of the environment and in the course of the investigation it may summon witnesses and take evidence.

s.8(5) - Commissioners have the powers and protection under the Manitoba Evidence Act. The powers include to subpoena witnesses, to require documents to be produced and to enter into and inspect premises, to enlist assistance of police and commit persons to jail for refusal to answer questions.

REVIEWABLE

(Reviewable cont'd)

s.13(9) - Before making an order to cease polluting the environment the Commission shall hold a hearing of which the permittee is given at least 7 days notice at which he is given the opportunity to appear and be heard, and the time and place.

s.18(1) - APPEAL - Where a person is dissatisfied by an order or decision of the Commission he can by written notice of appeal filed with the Municipal Board within one month from the date of the order or the decision appeal to the Municipal Board and appeal heard by way of hearing de novo.

s.18(4) - On the appeal the Municipal Board may
(a) Confirm the order or decision of the Commission; or
(b) vary the order or decision of the Commission; or
(c) quash any order of the Commission setting out the decision of the Commission; and may order the Commission to issue, re-issue, cancel, raise the suspensions of, or vary the term or condition of, a licence, or decision of the Commission, and the Commission and any other person

affected shall comply with the order or decision of the Municipal Board.

s.21 - May give notice by
(a) personal service on the person,
(b) registered prepaid mail
(c) in any such other manner as a Judge of a County Court.

WATER QUALITY STANDARDS CASES

s.19(1) - REGULATIONS
Lt.-Governor-in-Council may make regulations prescribing the maximum level of contaminants to be discharged or emitted from any process or system or into environment.

One subsection of s.19(1) allows for the designation of a body of water or soil for the purpose of deposit and disposal of contaminants authorized by the Commission.

s.19(2) - A regulation or provision may be made to a part of the province only.

PROVINCE

STATUTE

DEFINITION OF POLLUTION

PENALTIES

Ontario

Minister is Member of Executive Council designated by Lt.-Governor-in-Council to administer the Act. (Currently Minister of Energy and Resources Management).

The Ontario Water Resources

Commission Act,
R.S.O. 1970, c.332.

No preamble.

Ontario Reg. 471/60
472/60
212/61
46/69
70/63
178/64
246/66
221/67
4/70

(Water Wells)

(Exemptions)

(Plumbing Code)

236/66
365/66
141/68
142/68
284/69

(Discharges from Pleasure Boats)

261/70
(Marines)

*s.27(1) - Every municipality or person that discharges or causes or permits the discharge or deposit of any material of any kind into or in any well, lake, river, pond, spring, stream, reservoir, or other water or water course or on any shore or bank thereof or into or in any place that may impair the quality of the water of any well, lake, river, pond, spring, stream, reservoir or other water or water course is guilty of an offence and on summary conviction is liable to a fine of not more than \$1000 or to imprisonment for a term of not more than one year, or to both.

*s.50(2) - If an industry or commercial enterprise makes unsatisfactory arrangements or no arrangements for treatment or disposal of sewage the Commission may with Ministers approval issue order to change and contravention of compliance is a summary conviction of not more than \$200/day of offence.

*s.50a(2) - Where a municipality or person permits a discharge or deposit of sewage into sewage works which in the opinion of the Commission may interfere with the proper operation of the sewage works is liable to a summary conviction for up to \$200 per day.

(Penalties cont'd)

s.28 - If Commission makes a report to clerk of municipality that in the public interest that water works or sewage works be established, or changed or kept in order, not necessary to obtain assent of electors to any by-laws to incur debt to implement report and it is not done municipality on summary conviction liable to a fine of \$500 for every day offence continues. Commission may implement project and recover costs from municipality.

s.16(2) - Anyone who contravenes an order in the control or regulation treatment, and distribution of water for public purposes is guilty of an offence and on summary conviction of a fine not exceeding \$100 for every day contravened.

s.28(2) - Anyone who swims, discharges or deposits or unduly diminishes the amount of water supply in a public water supply is guilty of an offence and liable to a fine of not more than \$200 for each day of offence.

s.28(b)(4) - No one can add pesticides to any body of water without a permit, otherwise liable to a fine not more than \$500.

(Penalties cont'd)

s.28(c)(3) - No one can bore a hole or well without a permit, otherwise on summary conviction liable to a fine not more than \$150.

s.29 - A well drilling business must hold a licence or be liable on summary conviction to a fine not less than \$10 not more than \$100.

s.30(1a) - Every municipality or person who does not submit plans etc. for establishment of any water works and gets approval from the Commission before passing a by-law for raising money to finance such works is guilty of a summary conviction offence and liable to a fine of not more than \$2000.

s.30(2a) - Where everyone except a municipality fails to seek approval for establishment, extension or make such changes as Commission deems necessary or is in public interest of Commission to refuse an approval and is not obeyed, on summary conviction liable to a fine of \$500 for every day offence continues.

s.30(4) - Failing to make water works returns not more than \$100.

s.30(5a) - Everyone, except a

(Penalties cont'd)

municipality who does not keep waterworks in good repair as directed by Commission is liable on summary conviction to a fine of \$500 for each day offence continues.

s.31 - When any municipality or person contemplates establishment of sewage works or change without submitting plans, engineers report etc. and gets approval from Commission before passing a by-law for raising money to finance such works is guilty of summary conviction and liable to a fine of not more than \$2000.

s.31(3a) - Same as 30(3a) except applies to sewage works with 31(4) exceptions.

s.37 - Same as 30(5a) except applies to sewage works.

s.36 - Any owner of sewage works fails to make returns is liable to not more than \$100.

s.46(13) - In the public interest the Commission may make an order defining and designating an area of public water or sewage services and may impose terms and conditions, require any contracts to be terminated for, and impose rates or charges upon any municipality and every municipality or person contravene liable to fine of \$1500 for every day offence continues.

PERMIT

s.28a(2) - Permit for taking water in excess of 10,000 gallons/day.

s.28b(1) - Permit to put pesticides into the water.

s.28c(1) - Permit to drill a well or a hole.

s.29(1) - Well drillers (business) need a permit.

CASES

WATER QUALITY STANDARDS

REVIEWABLE

BOARD, COMMISSION, AGENCY

Guidelines and Criteria for
Water Quality Management in
Ontario, June 1970.

s.2 - Ontario Water Resources Commission constituted as a corporation without share capital, and composed of not fewer than 3 and not more than 11 persons appointed by the Lt.-Governor-in-Council.

s.16 - FUNCTION -

- (a) Control and regulate collection and distribution and make orders for use of water for public purposes;
- (b) Construct water works and make available water supplies to municipalities and persons;
- (c) to construct and maintain sewage works to dispose of sewage delivered by municipalities and persons;
- (d) to make arrangements with one or more municipalities or persons with respect to supply of water treatment and disposal of sewage.
- (e) Conduct research programs and prepare statistics;
- (e-e) disseminate information;
- (f) duties assigned by Lt.-Governor-in-Council.

s.26(3) - Commission can apply to courts for an injunction to prevent pollution of waters.

Under the following sections Commission may hold a public hearing before giving approval, s.32 (municipal extension of sewage works); s.32a (person or municipality extending or establishing sewage treatment works); s.46a(4), (where a public water or sewage area designated).

s.23 - Board may inquire to hear and determine an application by a municipality or person complaining of municipal construction has failed to do any act, is improper or causing loss or injury and Board may make an order as it seems just (Ontario Municipal Board).

s.24(2) - All claims for compensation for expropriation of lands for sewage works to be heard by Ontario Municipal Board.

s.52 - Proceedings to enforce any provision of this Act or any regulation may be instituted within one year after the time when the subject-matter of the proceedings arose.

Re Regina v. Mitspeck Construction Ltd. et. al. (1965) 20R. 730.
Re Regina v. Canadian Motor Loop Co. Ltd. (1967) 10R. 484.
Re Regina v. Industrial Tankers Ltd. (1968) 20R. 172.

PROVINCE

STATUTE

DEFINITION OF POLLUTION

PENALTIES

Quebec

Quebec Water Board Act,
R.S.Q. 1964, c. 183.

Minister of Municipal
Affairs

s.1(2) - "Person" an individual,
a firm or a corporation other
than a municipality.

s.26 - Whoever infringes any
provision of this Act or regula-
tions shall be liable, on summary
proceedings, for the first offence,
to a fine of \$25 to \$100 and, for
each subsequent offence within 12
months, to a fine of \$100 to \$500.

In addition to such penal-
ties, the works carried out without
the required authorization shall
upon request by the Board be alter-
ed or demolished by the municipal-
ity or person that carried them out.

s.27 - Whoever does not comply
with an order of the Board, within
a delay of 30 days from its service
shall be liable, upon summary pro-
ceeding to a fine not exceeding
\$500; if the order is not carried
out within 3 months after the jud-
gement is rendered on the first
proceeding, the municipality or
person in default shall be liable
to an additional fine not exceeding
\$25 for each day the default con-
tinues.

The order shall remain ex-
ecutory and the Board may cause
the works or improvements ordered
to be carried out at the expense
of a municipality or person in
default.

PERMIT

BOARD, COMMISSION, AGENCY

(Board, Commission, Agency cont'd) REVIEWABLE

s.17 - No municipality or person can establish water or sewer works unless plans approved by the Board.

No operation of the above without a permit.

A person may not cease to operate a water works or sewer system without written permission of the Board.

s.18 - Upon request by any interested party may annul or amend a contract or by-law respecting a water works, if the applicant shows that the conditions are abusive.

s.19 - Board is composed of 5 controllers all appointed by Lt.-Governor-in-Council.

s.14 - Board may supervise and control purity of surface and subterranean waters and ascertain degree of pollution.

s.10 - Board may make such rules and procedures necessary which are published in Quebec Official Gazette.

s.19 - If joint possession of water works etc. Board can prescribe where the works are to be located and how to be operated and apportionment of cost.

s.20 - Any municipality with approval of Minister and Board may make inter-municipal agreements by by-law, which also may establish an inter-municipal committee charged with carrying out of the works.

s.21 - Board can compel a municipality to build a treatment system if it has no satisfactory waterworks.

s.23 & 24 - With approval of the Board, a municipality by agreement and failing by agreement by expropriation acquire such needed sources as well as immovable

buildings and machinery.

s.25 - A municipality can grant an exclusive right to a person to establish and operate a water treatment plant.

s.12 - No writ of quo warranto, mandamus, certiorari, or prohibition shall be issued and no injunction against the Board or controllers in their official capacity.

Appeal lies from Board to Court of Queen's Bench on a point of law only, must have leave from the Court.

s.13 - Board and members have the powers and immunities of the Public Inquiries Act.

WATER QUALITY STANDARDS CASES

s.16 - Board can make regulations pertaining to all operations entailing the pollution of water.

Must be published in Quebec Official Gazette.

*Before submitting such regulations to Lt.-Governor in-Council, Board will hear all objections made in writing, within 30 days of publication. Then approved by Lt.-Governor in-Council.

PROVINCE	STATUTE	DEFINITION OF POLLUTION	PENALTIES
New Brunswick	Water Act S.N.B. 1960-61, c. 19.	s.1(e) - "Pollution" means any alteration of the physical, chemical, biological, or aesthetic properties of the waters of the province, including change of temperature, taste or odour of the waters, or the addition of any liquid, solid, radioactive gas, or other substance to the waters or the removal of such substances from the waters, which will render or is likely to render the waters harmful to the public health, safety or welfare or harmful or less useful for domestic, municipal, industrial, agricultural, recreational, or other lawful uses, or for animals, birds or aquatic life.	s.15 - Every municipality or person who contravenes or fails to comply with any provision of this Act or the regulations made thereunder is guilty of an offence and on summary conviction is liable: <ul style="list-style-type: none"> (a) individual, to a fine not exceeding \$100, per day or to imprisonment not exceeding 6 months, (b) municipality, to a fine not less than \$100, for each day offence continues, (c) corporation, other than a municipality, to a fine of not less than \$500, for each day offence continues.
Minister of Natural Resources	s.1(2) - Lt. Governor may authorize the Minister to enter into agreements with Canada or any other government to provide for the planning, conducting and implementing of programs for the more efficient management of water resources.	s.1(f) - "Sewage" includes domestic, commercial and industrial wastes, and unless from natural run-off, drainage and storm water.	

PERMIT

BOARD, COMMISSION, AGENCY

Board, Commission, Agency cont'd

REVIEWABLE

s.8(1) - Approval by Minister and Minister of Health and Welfare jointly for establishment of all water works or alterations thereto. Where in the public interest the Minister may refuse to grant approval.

s.9(1) - Same as 8(1) except pertains to sewage works.

s.10 - No one shall pollute unless approved by the Minister of Health and Welfare.

s.12 - No dams, hydro-electric power, river diversion or any alteration of a lake or water course may be proceeded with until approved by the Minister.

s.2 - New Brunswick Water Authority.

The Lt.-Governor-in-Council appoints a Chairman to hold office at pleasure, 4 members to represent one or more of:

- (i) Dept. Economic Growth
- (ii) Dept. Natural Resources
- (iii) Dept. Municipal Affairs
- (iv) Dept. Agriculture
- (v) N.B. Electric Power Commission and not more than 4 additional members.

s.4 - Authority, control of,
(a) use of all ground, surface and shore waters,

- (b) allocation of use of water,
- (c) pollution within the province,
- (d) alteration of any natural features of a water course or lake and movement therein.

s.1 - Lt. Governor may appoint an Advisory Board to the Authority,
composed of not less than 10 and not more than 15 members, one from each of the following:

- (i) Dept. Agriculture and Rural Development
- (ii) Dept. Health and Welfare
- (iii) Dept. Finance
- (iv) Dept. Natural Resources
- (v) Dept. Municipal Affairs
- (vi) N.B. Electric Power Com-

mission
(vii) Dept. Public Works and the Board will plan and conduct any implement programs for the more efficient management of water resources but all plans and proposals must be approved by the Authority.
The Board may appoint local Boards for specified areas which are responsible to the Board.

s.8(2) - Where water works to be established or altered and done without approval the Minister may order an investigation and charges will be made at the expense of the municipality or person.

s.9(2) - Same as 8(2) except pertains to sewage works.

s.13A - A peace officer shall have the power and authority to enforce this Act and shall have all the power and protection of a provincial constable.

s.14 - The Minister shall decide all matters of doubt or dispute in the application of this Act subject to appeal to the Lt.-Governor-in-Council.

WATER QUALITY STANDARDS CASES

PROVINCE

Prince Edward Island

Minister designated by
Lt.-Governor-in-Council for
purposes of this Act.

STATUTE

The Water Authority Act
S.P.E.I. 1965, c. 19.
S.P.E.I. 1967, c. 41;
S.P.E.I. 1970, c. 43.
P.E.I. Reg. /67

s.23 - Lt.-Governor-in-Council may enter into and carry out an agreement with the Government of Canada with Atlantic Development Board or with another person or corporation providing for co-operation in the acquisition, construction, establishment, maintenance, or operation of water or sewage works for the purposes of assisting in the development of an industry.

DEFINITION OF POLLUTION

s.2(c) - "Pollution" means any alteration of the physical, chemical, biological or aesthetic properties of the waters of the Province including change of the temperature, taste or odour of waters, or the addition of any liquid, solid, radioactive, gaseous or other substance to the waters or the removal of such substances from the waters which will render or is likely to render the waters harmful to public health, safety, or welfare, or harmful or less useful for domestic, municipal, industrial, agricultural, recreational or other lawful uses, or for animals, birds, or aquatic life.

s.2(h) - "Sewage" includes domestic, commercial and industrial wastes, and unless from natural run off, drainage and storm water.

PENALTIES

s.20(1) - Every municipality or person contravenes or fails to comply with any provision of this Act or the Regulations made thereunder, is guilty of an offence under this Act or the Regulations and shall be punishable on summary conviction.

(2) Every person or whose employee or agent commits an offence under this Act or the Regulations is liable on summary conviction to a fine of not less than \$50 or more than \$200 or to imprisonment for a term of not more than six months or both.

(3) Every municipality of whose employee or agent commits an offence under this Act or the Regulations is liable on summary conviction to a fine not less than \$100 or more than \$500.

(4) Every corporation other than a municipality or whose employee or agent commits an offence under this Act or the Regulations is liable on summary conviction to a fine of not less than \$100 or more than \$500.

(5) Where an offence against the Act or the Regulations is committed on more than one day or is continued for more than one day, it shall be deemed to be a separate offence for each day on which the offence is committed or continued.

(Penalties cont'd)

(6) Where a municipal-ity or person is convicted of an offence under this Act or the Regulations, the Court may, in addition, to any penalty it may impose, order that municipal-ity or persons to refrain from any further violations of the provisions of this Act or the Regulations for the viola-tion of which he has been con-victed or to cease to carry on any activity specified in the order the carrying on of which, in the opinion of the Court, will or is likely to result in any further violation thereof.

(7) In a prosecution for an offence under this Act or Regulation, it is sufficient proof of offence to establish that it was committed by an employee or agent of the accused whether or not the employee or agent is identified or has been prosecuted for the offence, un-less the accused establishes that he exercised all due dil-igence to prevent its commission.

(8) Proceedings in respect to an offence committed under this Act or the Regulation may be instituted at any time with-in two years after the time when the subject matter of the proceedings arose.

(Penalties cont'd)

s.16 - No one shall obstruct anyone examining waters other-wise liable on summary convic-tion to a fine of not less than \$25.

s.17 - No one shall pollute without the authority's permis-sion.

s.26 - No one shall construct water works without authority's approval. Issued at its discre-tion or cancelled.

s.27 - No one shall establish or alter sewage works without authority's approval.

BOARD, COMMISSION, AGENCY

PERMIT

s.2 - P.E.I. Authority to have nine members appointed by Lt. Governor-in-Council

Chairman, office held at pleasure

4 members selected from 4 of the 5 following:

(i) Dept. of Development

(ii) Dept. of Highways

(iii) Dept. of Municipal Affairs

(iv) Dept. of Agriculture

(v) Dept. of Fisheries

Not more than 4 others.

s.14 - FUNCTIONS - Control over use of all surface, ground and shore waters; allocation of use of waters; pollution within the Province; altera-tion of natural features of any water course or lake or movement therein.

s.16(2) - Without consent and with-out compensation may lay, maintain, repair, replace pipes and appurten-ances as it deems necessary, but land, highways, buildings or roads distributed shall be restored to original conditions without un-necessary delay.

s.27 - Authority has general powers of a corporation besides the special powers assigned to it. A controller has the powers of a commissioner under the Public Inquiries Act.

(Board, Commission, Agency cont'd) REVIEWABLE

WATER QUALITY STANDARDS

2.5- ADVISORY BOARD - May be appointed by Lt. Governor-in-Council of not less than 10 nor more than 15 each of which from:

- (i) Dept. of Agriculture
 - (ii) Dept. of Industry and Natural Resources
 - (iii) Dept. of Health
 - (iv) Dept. Tourist Development
 - (v) Dept. Municipal Affairs
 - (vi) Dept. Public Works
 - (vii) Fed. of P.E.I. Municipalities
 - (viii) Village Commissioners Assoc.
 - (ix) Dept. Fisheries
- May appoint Local Advisory Board in designated areas:

2.5(e) - Lt. Governor-in-Council may establish a Water Management Agency to plan, conduct and implement programs for the more efficient use of water resources.

2.12 - The controllers as well as the officers and employees of the Authority cannot be prosecuted by reason of official acts done in good faith in the exercise of their functions.

2.13 - No writ or quo warranto, mandamus, certiorari or prohibition shall be issued and no injunction shall be granted against the Authority, or against the controllers acting in their official capacity.

2.15 - Act and regulations prevail over any other in the province.

2.18 - The Authority may make regulations concerning all operations involving water pollution subject to approval by Lt. Governor-in-Council.

PENALTIES

DEFINITION OF POLLUTION

STATUTE

PROVINCE

Nova Scotia

Minister means the Member of the Executive Council to whom the Administration of the Act assigned by Governor-in-Council.

Water Act,
R.S.N.S. 1964, c. 335;
S.N.S. 1968, c. 64;
S.N.S. 1970, c. 77.

N.S. Reg. 164.
N.S. Reg. 167.

s.2 - Water rights vested forever in Crown of province of Nova Scotia within the province.

s.12 - Minister control and supervision of:

- (a) use of all surface, ground and shore waters;
- (b) the allocation of use of water;
- (c) pollution originating within the jurisdiction of the province; and
- (d) alteration of natural features of any water course or lake and movement of water therein.

s.22(2) - Governor-in-Council may enter or carry out or administer an agreement respecting any matter or purpose mentioned in the Canada Water Act with the Minister of E.M.R., or Government of Canada, or an agency mentioned in that Act.

s.1(f) - "Pollution" means any alteration of the physical, chemical, biological, or aesthetic properties of the waters of the Province, including change of temperature, taste or odour of the waters, or the addition of any liquid, solid, radioactive, gaseous or other substances from the waters, which will render or is likely to render the waters harmful to the public health, safety or welfare, or harmful or less useful, for domestic, municipal, industrial, agricultural, recreational or other lawful uses, or for animals, birds or aquatic life.

s.1(1) - "Sewage" includes domestic, commercial, and industrial wastes, and unless from natural run-off, drainage and storm sewer water.

s.20 - Where no other penalty provided for:

- (a) an individual subject to a penalty of not more than \$100. per day of imprisonment for not more than six months, or both;
- (b) municipality, a penalty of not more than \$100. per day;
- (c) corporation, other than a municipality, penalty of not more than \$500. per day.

s.17(4) - Anyone who violates an order in an area designated as a protected Water Area is liable on summary conviction to a penalty not exceeding \$50. and in default of payment to a term of imprisonment not exceeding 30 days.

PERMIT	BOARD, COMMISSION, AGENCY	REVIEWABLE	WATER QUALITY STANDARDS	CASES
s.13(1) - Approval for all water works or alterations. Minister may refuse to grant approval in the public interest.	s.2 - Nova Scotia Water Resources Commission of not fewer than 3 or not more than 5 members to be appointed by Governor-in-Council.	s.13(2) - Where water works to be established or altered and has been done without the Ministers and Minister may order an investigation and charges to be made at the expense of the municipality or person.	Objectives for Water Quality Control, 1966.	
s.14(2) - Same as 13(1) except applies to sewage works.	FUNCTIONS - General supervision of all water courses in the province, make all necessary examinations and inquiries and recommendations to the Minister.	s.14(2) - Same as 13(2) except as applied to sewage works.		
	s.17 - Minister may designate any source of supply for water works as a Protected Water Area and may make an order prohibiting or regulating acts which may impair the quality of the water.	s.16 - Absolute prohibition of pollution of water.		
		s.17(6) - Whether property injuriously affected by a designated or an order as to the amount of compensation shall be determined by arbitration under Arbitration Act.		

PROVINCE	STATUTE	DEFINITION OF POLLUTION	PENALTIES
Newfoundland & Labrador	<p>The Clean Air, Water and Soil Authority Act, S.N. 1970, c.</p> <p>Preamble - An Act to provide for the abatement and control of Pollution of Air, Soil and Water and for the conservation and use of water as a natural resource of the province; to provide an aid towards the centralization and co-ordination of the multiform controls over the use of water geography by the creation of an authority as an arm of government.</p> <p>2.13 - All property in land and right to use and flow of all water in any body is vested in the province of Newfoundland.</p>	<p>2.2(1) - "pollution" means any alteration of the physical, chemical, biological or aesthetic properties of air, soil or waters of the province, including change of temperature, taste or odour, or the addition of any liquid, solid, radio-active, gaseous or other substance to the air, soil or waters or the removal of such substances from the air, soil or waters of the province harmful to the public health, safety or welfare, or harmful or less useful for domestic, agricultural, industrial, power, municipal, navigational, recreational or other lawful uses, or for animals, birds or aquatic life.</p> <p>2.2(n) - "Sewage" means any works for or incidental to the collection, transmission, treatment and disposal of sewage, or any part of such sewage works.</p>	<p>2.28(1) - Every municipal authority or person who fails to comply with or otherwise contravenes any of the provisions of this Act or the regulations or any order made under this Act or the regulations or makes a false statement in any application, form return, account, record, statement or other document completed or made under this Act or the regulations, is guilty of an offence and is, where no penalty is specifically provided in this Act or the regulations liable on summary conviction:</p> <p>(a) in the case of a corporate body including a municipal authority, to a fine of not more than \$500. per day,</p> <p>(b) a person not being a municipality or corporate body to a fine of not more than \$100 per day and, in default of payment to imprisonment for a term not exceeding 6 months, or both fine and imprisonment.</p>
<p>Minister of Mines, Agriculture and Resources, or any other minister of the Crown appointed by Lt. Governor for the time being to administer the Act.</p>	<p>2.14 - Minister may make arrangements or enter into agreements with Government of Canada or any province, municipal authority to carry out this Act, or any Act of Canada (present or future) for the conservation, development, control, improvement or proper utilization of the water resources or the prevention of pollution of air, soil, or water resources, make investigations, studies, publish reports, statistics, and disseminate information generally.</p>		

PERMITBOARD, COMMISSION, AGENCY(Board, Commission, Agency (cont'd) REVIEWABLE)

s.12(1) - No right to pollute even with a licence beyond the degree which is prescribed by Act or regulation.

s.16(r)(a) - Regulations providing for the licensing of persons with respect to the use of the water from any specified body or bodies of water generally for any specified household, industrial, commercial, or irrigation purpose and fixing the licence fees payable by such persons at different amounts.

Licences may be issued, revoked or suspended.

s.18 - For establishment or alteration of a water works need approval of minister.

s.20 - For establishment or alteration of a sewage works, need approval of minister.

s.4 - Newfoundland and Labrador Clean Air, Water and Soil Authority.

s.4(2) - Authority composed of the Deputy Minister or other officials as designated by Minister

(i) Dept. Mines, Agriculture and Resources

(ii) Dept. Health

(iii) Dept. Fisheries

(iv) Dept. Economic Development

(v) Dept. Municipal Affairs and Housing,

and not less than 2 or more than 6 other members appointed by Lt.-Governor-in-Council.

s.12 - Authority may under the control and direction of the Minister:

(a) acquire land by purchase, lease or otherwise,

(b) sell or dispose of land

(c) act as Minister's agent.

s.5(1) - Lt.-Governor-in-Council may appoint Advisory Commission on Environmental Quality of not less than 15 and not more than 25 and at least 1 member from each of:

(i) Dept. Mines, Agriculture and Resources

(ii) Dept. Health

(iii) Dept. Fisheries

(iv) Dept. Economic Development

(v) Dept. Municipal Affairs and Housing
And Local Advisory Commissions may be made for certain designated areas.

s.16 - Lt.-Governor-in-Council may make such regulations as to

(a) inspection and testing air, water and soil,

(b) prescribing what qualities and properties of

(c) be a polluted condition, prevention of pollution,

(d) prescribing standards of water supplies for

(e) household, industrial or irrigational purposes,

(f) regulating quality of sewage prescribing methods of sewage treatment,

(g) anyone who pollutes will clean, disinfect or purify at own expense.

s.16(a) - Regulations made by Lt.-Governor-in-Council to provide for hearing of any charge or complaint of water pollution and providing that the person holding such enquiry shall have any or all of the powers that are or may be conferred upon a Commissioner by the Public Enquiries Act including the power to take evidence under oath.

s.25 - Anyone served with a stopping (to pollute) order may within 60 days appeal to a Judge of Supreme Court of Newfoundland. 14 days after service of notice of appeal appellant to apply to Judge for appointment for day of hearing and at least 14 days notice to be given to Deputy Minister of Resources.

The Minister shall cause to be produced before the Judge hearing the appeal all papers and documents in his possession affecting the matter of the appeal.

The Judge may keep, change or alter the order and assess costs.

*An appeal may be taken from the decision of the Judge to the Supreme Court upon any point of law raised upon the hearing of the appeal, and the rules governing appeals to that court from a decision of a Judge of the Supreme Court shall apply to appeals under this subsection.

APPENDIX II

WATER BASIN AGREEMENTS

OBJECTIVES **TERMS OF REFERENCE (Studies)** **FINANCING**

Canada - British Columbia
Lake Okanagan
Signed: October 29, 1969.
Duration: October 29, 1973.

To develop a comprehensive framework plan for the development and management of water resources for the social betterment and economic growth in the Okanagan Basin.

Economic Growth
Water Demand
Water Supply (quality and quantity)
Ecological and Aesthetic Values
Water reuse and advanced treatment of water.

Studies of financial and organizational structure

Public Involvement

Canada 50% of total cost, but not to exceed \$1,000,000.
B.C. 50%, but not to exceed \$1,000,000.

Canada - New Brunswick
Saint John River

Signed: June 30, 1970.
Duration: June 30, 1973.

To provide for optimum management of water resources for the social betterment and economic improvement of the region with due consideration to the maintenance of a proper ecological balance.

Water Demand
Water Supply (quality and quantity)
Ecological and Aesthetic Values
Institutional, Legal, and Administrative Aspects.

Canada 90%, but not to exceed \$697,500.

N.B. 10%, but not to exceed \$250,000.

Can be extended by mutual agreement, one year at a time.

Formulation of an effective water quality plan and implemented within framework of comprehensive Water Resource Management. (1st priority)

Public Involvement

International Implications.

Comprehensive plan for river system for optimum development and utilization of entire basin. (2nd priority)

ADMINISTRATIVE FRAMEWORK

Canada - B.C. Consultation Board.

- six member (3 appointed by Canada, 3 appointed by B.C.).
- Report to Minister of E.M.R. of Canada and Minister of Land, Forest and Water of B.C.

Okanagan Study Committee

- six member (3 appointed by Canada, 3 appointed by B.C.).
- planning studies and pilot projects
- public to be involved in planning process.

Federal-Provincial Saint-John River Basin

- six member (3 appointed by Canada, 3 appointed by N.B.).
- report to Minister of E.M.R. of Canada and Minister of Natural Resources of N.B.

Saint John River Basin Committee

- members to be appointed by Board
- to take into account during planning process the views expressed by persons likely to be affected by the implementation of the plan.

OBJECTIVES

Canada - Saskatchewan -

Manitoba

Cu'Appelle River

Signed: August 5, 1970.

Duration: March 31, 1972,

or

later date as agreed to by parties

To develop a comprehensive framework plan for development and management of water resources for the social betterment and economic growth in the Qu'Appelle Basin

Water Demand
- present and future needs
- land use

Engineering Studies
- hydrological
- nutrient budget
- water quality plan
Cost-Benefit Analysis

Implementation Plan

Public Involvement

Canada 50%, but not to exceed \$230,000.

Saskatchewan 45%, but not to exceed \$207,000.

Manitoba 5%, but not to exceed \$23,000.

TERMS OF REFERENCE (Studies)

FINANCING

Canada - Ontario

Agreement on Great Lakes

Water Quality

Signed: August 13/71.

Duration: Indefinite, may be amended from time to time to achieve compatibility with the Canada-United States agreement.
Target date for Convention v.q. objectives December 31, 1975.

To provide for the implementation by Canada and Ontario within their respective jurisdictions of commitment being assumed by Canada under an international agreement with the United States.

Commitments include undertaking programs and other measures. Within their respective jurisdictions to abate and control inputs of pollutant materials from municipal, industrial and other sources to those waters designed to meet agreed common water quality objectives.

To support an expanded role for the I.J.C. and provide I.J.C. with information on programs, measures to protect water

Ontario to accelerate construction during the period January 1, 1971, to December 31, 1975, of municipal sewage treatment facilities and trunk sewers in the Lower Great Lakes Basin.

Ontario and Canada agree to carry out all feasible measures within their respective jurisdictions to implement Canadian commitments. Canada and Ontario agree to co-operate closely to implement contingency plans in the event of a spill of oil or hazardous materials in the Great Lakes Basin.

Under this international agreement with respect to abatement and control of industrial

The total estimated cost is \$250 million which Canada agrees to pay.

Canada in turn undertakes to provide loans to Ontario or municipalities in this area from January 1/71 to December 31/75 amounting in total to a maximum of \$167 million.

- Loans committed by Canada in amounts not to exceed \$50 million in any one year.

- eligible projects shall have been included within an annual program prepared by OMRC and reviewed by the Joint Board; individual loan applications shall be recommended by OMRC, and subject to approval by CMHC.

• (Objectives cont'd)

(Terms of Reference, cont'd)

(Financing, cont'd)

ADMINISTRATIVE FRAMEWORK

- Qu'Appelle Study Basin Board
- 5 members (2 appointed by Canada, 2 appointed by Saskatchewan, 1 by Manitoba)
 - Chairman from Saskatchewan
 - report to Canada-Manitoba.

- Canada-Saskatchewan Consultative Committee
- can establish sub-committees

quality, and data relating to water quality in the Great Lakes drainage basin.

pollution, the primary responsibility for these programs will rest with Ontario.

Canada will undertake to provide, before December 31, 1971, in addition to \$7 million of loans previously allocated to Ontario under the C.I.C. budget for 1971, a further \$10 million in loans to be made available to the accelerated construction program in the Lower Great Lakes Basin.

Canada agrees to provide on a grant basis a maximum of \$9 million during the period January 1, 1971 to December 31, 1975, of which up to \$300,000 shall be provided before March 31, 1972, for a program to be prepared by Joint Review Board to meet one half the costs of treatment studies, and joint applied research, development and demonstration projects which are related to the improvement of water quality in the Lower Great Lakes area, to improve

- Great Lakes Joint Review Board
- six members (3 appointed by Canada, 3 appointed by Ontario)
 - to meet annually or as necessary to review selection and sequence of individual projects to be financed by loans provided by Canada, progress of construction, and satisfactory arrangements for local sewers and auxiliary works.
 - to establish a Technical Task Force to select projects for joint financing, assign responsibility for implementation of projects and to review progress to review annual estimates of funds required for projects
 - to review and consider I.J.C. reports regarding progress of co-operative international programs to restore and protect water quality in the Great Lakes, and consider measures which might increase the effectiveness of such co-operative programs.
 - to review progress of implementation of programs covered by this

(Financing, cont'd)

(Administrative Framework, cont'd)

the technology of the abatement of municipal pollution and to reduce the costs of such abatement, providing that Ontario shall provide on a grant basis equal amount of funds to meet the costs of such joint projects.

Financial administration of these projects is the responsibility of Ontario, and Canada to reimburse Ontario, for one half the costs of individual projects on receipt of claims submitted by Ontario.

agreement, and to recommend to responsible ministers in each Government appropriate changes in programs.

OBJECTIVES

Canada - United States

Lower Great Lakes Basin

Signed: April 15, 1972..

Duration: April 15, 1972 and thereafter until terminated by twelve month's notice by one of the Parties.

To restore and enhance water quality in the Great Lakes System.

To prevent further pollution of the Great Lakes system due to continuing population growth, resource-development and increasing use of water..

To recognize the rights of each country in the use of the Great Lakes.

To achieve improved water quality in the Great Lakes through the adoption of common objectives, the development and implementation of co-operative programs and other measures, and the assignment of social responsibilities and function to the I.J.C.

TERMS OF REFERENCE

Article II - The General water quality objectives adapted are those set out by the 1970 Report by the I.J.C. on the Pollution of Lakes Erie, Lake Ontario and the International section of the St. Lawrence River.

Article III - Specific water quality objectives relate to microbiology, dissolved oxygen, total dissolved solids, taste and odour, pH, iron, phosphorus and radioactivity.

Interim objectives will be observed for certain substances until such time as objectives refined.

The Parties agree to consult on specific water quality objective for ammonia, arsenic, barium, cadmium, chloride, chromium, copper, cyanide, fluoride, lead, mercury, nickel, oil, organic chemicals, phenols, selenium, sulphate and zinc, one year after the agreement has been implemented. Any amendments will be by mutual agreement.

Article IV - Canada and the United States agree that the Provincial and State water quality

FINANCING

Funds for this Agreement will be appropriated in accordance with the constitutional procedures of the Parties.

The Parties commit themselves to seek:

- (a) the appropriation of funds required to implement this agreement, including the funds needed to develop and implement measures and programs provided for in Article V, and the funds required by the I.J.C. to carry out its responsibilities effectively;
- (b) The enactment of any additional legislation that may be necessary in order to implement the programs and measures provided for in Article V; and
- (c) The co-operation of the States and Provincial Governments in all matters relating to this Agreement.

(Terms of Reference, cont'd)	(Terms of Reference, cont'd)	(Terms of Reference, cont'd)	(Terms of Reference, cont'd)
<p>objective will be consistent with those of the I.J.C.</p> <p>Article V - Programs and other measures will be either completed or in the process of implementation by December 31, 1975, and will include the following:</p> <p>(a). <u>Pollution by Municipal Sources</u></p> <ul style="list-style-type: none"> - construction and operation of waste treatment facilities in all municipalities to achieve the specified water quality objectives, taking into account the effects of wastes from other sources. - standards for construction and operation of facilities. - provision of financial resources to assist in construction of facilities. - measures to find practical solutions for reducing overflows from storm and sanitary sewers. - monitoring, surveillance and necessary enforcement activities. <p>(b). <u>Pollution from Industrial Sources</u></p> <ul style="list-style-type: none"> - establishment of effluent standards for all waste and in particular toxic heavy metals, 	<p>radioactive materials, and persistent organic contaminants.</p> <ul style="list-style-type: none"> - control of thermal discharges - monitoring, surveillance and necessary enforcement activities. <p>(c). <u>Eutrophication</u></p> <ul style="list-style-type: none"> - measures to control phosphorus and other nutrient inputs and programs to reduce phosphorus inputs which include construction and operation of waste treatment facilities to remove phosphorus from municipal sewage, regulating measures to require industry to remove phosphorus discharges, regulatory and advisory measures to control levels of phosphorus discharged through animal husbandry operations, and regulations limiting or eliminating phosphorus sold in detergents for use in the Great Lakes System. <p>(d). <u>Pollution from Agricultural, Forestry and Other Land Use Activities</u></p> <ul style="list-style-type: none"> - measures to control pesticides - measures for the disposal of liquid and solid wastes from animal husbandry operations 	<p>ations in order to minimize the loss of pollutants to receiving waters.</p> <ul style="list-style-type: none"> - measures to ensure the proper location of landfill and land dumping sites. - measures to abate and control inputs of nutrients and sediments into receiving waters from land use activities. <p>(e). <u>Pollution from Shipping Activities</u></p> <ul style="list-style-type: none"> - programs and regulations for vessel design, construction and operation to prevent harmful discharges of oil and hazardous substances. - efficient disposal of shipboard generated wastes including oil, hazardous substances, garbage, waste water and sewage. - establishment of a coordinated system for surveillance and enforcement of regulations <p>(f). <u>Pollution from Dredging Activities</u></p> <ul style="list-style-type: none"> - development of criteria for the identification of dredge spoil and development of programs for disposal. <p>(g). <u>Pollution from Onshore and</u></p>	<p><u>Offshore Facilities</u></p> <ul style="list-style-type: none"> - programs and regulations to prevent discharges of harmful quantities of oil and hazardous polluting substances. <p>(h). <u>Contingency Plan</u></p> <ul style="list-style-type: none"> - maintenance of a joint contingency plan for use in the event of a discharge or the imminent threat of a discharge of oil or hazardous substance. - responsibility of U.S. Coast Guard and Canadian Ministry of Transport to coordinate and maintain the plan. - unless otherwise agreed, the costs of operations of both Parties should be borne by the Party in whose waters the incident occurs.

ADMINISTRATIVE FRAMEWORK

Article VI - POWERS, RESPONSIBILITIES AND FUNCTIONS OF THE I.J.C.

Pursuant to Article IX of The Boundary Waters Treaty, the I.J.C. has the responsibility for collating, analyzing and disseminating data and information supplied by all Parties concerning water quality and effectiveness of water quality objectives.

The I.J.C. will tender advice and recommendations including specific recommendations for water quality objectives, legislation, standards, programs and intergovernmental agreements relating to the quality of water.

Co-ordination of research, contingency planning and consultation is the responsibility of the I.J.C. The I.J.C. is vested with powers conferred upon it by The Boundary Waters Treaty and by any legislation passed pursuant thereto including the power to conduct public hearings and compel the testimony of witnesses and the production of documents.

An annual report will be made to the Parties and State and

(Administrative Framework cont'd)

Provincial Government concerning the progress toward the achievement of the water quality objectives.

The Commission has the power to publish any report, statement or other documents that are prepared by it.

Data and other information submitted by the Parties and State and Provincial Governments can be independently verified by the I.J.C.

Article VII - JOINT INSTITUTIONS

Great Lakes Water Quality Board - to be established by I.J.C. - composed of equal number of members from Canada and the United States, including representation from the Parties and from each of the State and Provincial Governments.

Research Advisory Board - I.J.C. to determine size and composition of the Board and will appoint members from the academic, scientific, industrial communities, as well as the general public from appropriate Federal, State and Provincial agencies, organizations and institutions involved in Great Lakes research activities.

(Administrative Framework cont'd)

- Functions and responsibilities include:

- (i) review of research activities in terms of reliability of research results and effectiveness of application;
- (ii) identify deficiencies in funding and completing research;
- (iii) review and recommend research for referral and referral for international co-ordination of research.
- (iv) to facilitate referral and referral for international co-ordination of research.

The members of the Great Lakes Water Quality Board and the Research Advisory Board shall be appointed by the Commission after consultation with the appropriate governments concerned.

Article VIII - SUBMISSION AND EXCHANGE OF INFORMATION

I.J.C. to be given information a data at its request relating to the quality of the boundary waters of the Great Lakes System.

The Commission will make available to the Parties and to the State and Provincial Governments upon request all data or other information in accordance

(Administrative Framework cont'd)

with this Agreement.

The Commission also has the power to create subordinate bodies to undertake specific tasks as well as a regional office to assist in the discharge of functions under this Agreement.

Article IX - CONSULTATION AND REVIEW

Consultation will take place between the Parties after the I.J.C. has submitted its annual report to consider recommendations made by the I.J.C. In reviewing the recommendations the Parties will consider modification of existing water quality objectives and the adoption of new objectives and the modification or improvement of joint programs and measures.

Special pollution problems of joint concern that require immediate response will be dealt with by the Parties and they will consult about appropriate remedial action.

During the fifth year of this Agreement, the Parties will conduct a comprehensive review of the operation and effectiveness of this Agreement.

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