

THE UNIVERSITY OF CALGARY

THE IDEOLOGY OF ENVIRONMENTAL PRESERVATION:  
HOW ENVIRONMENTALISM HAS FAILED THE ENVIRONMENT

BY

ANDREW M. BEH

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF ARTS

DEPARTMENT OF POLITICAL SCIENCE

CALGARY, ALBERTA

April, 1990

© Andrew M. Beh 1990



National Library  
of Canada

Bibliothèque nationale  
du Canada

Canadian Theses Service    Service des thèses canadiennes

Ottawa, Canada  
K1A 0N4

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

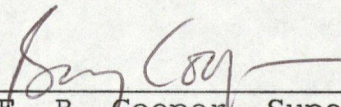
ISBN 0-315-61741-1

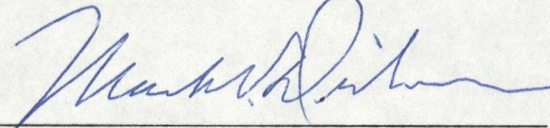


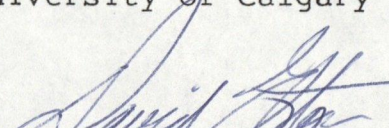
THE UNIVERSITY OF CALGARY

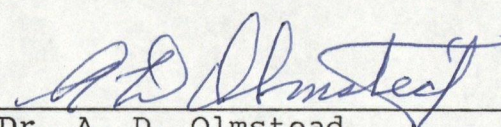
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled THE IDEOLOGY OF ENVIRONMENTAL PRESERVATION: HOW ENVIRONMENTALISM HAS FAILED THE ENVIRONMENT submitted by ANDREW M. BEH in partial fulfillment of the requirements for the degree of Master of Arts in Political Science.

  
\_\_\_\_\_  
Dr. F. B. Cooper, Supervisor  
Department of Political Science  
University of Calgary

  
\_\_\_\_\_  
Dr. M. O. Dickerson  
Department of Political Science  
University of Calgary

  
\_\_\_\_\_  
Dr. D. K. Elton  
Department of Political Science  
University of Lethbridge

  
\_\_\_\_\_  
Dr. A. D. Olmstead  
Department of Sociology  
University of Calgary

April 11, 1990



## ABSTRACT

This thesis argues that the relationship between the theory and practice of environmentalism is positive in the sense that the former influences the latter. It follows that, if the theory underlying environmentalism is self-negating, the practice of environmentalism will be self-negating as well. In order better to understand the practical problems of environmental policy, this thesis argues that environmentalism can be analyzed as a particular ideology. By so doing, problems common to ideology as such can be brought into focus. Next the thesis examines problems inherent in collective action, and suggests alternative policy instruments to those that are currently used. These alternative market-oriented instruments, it is argued, are more effective than current policies, which are motivated by the ideology of environmentalism, because they can achieve genuine environmental protection whereas most current approaches do not.

## ACKNOWLEDGEMENTS

I must thank Dr. Barry Cooper for supervising this attempt - his patience, clear advice and thorough editing have been extraordinary. I would also like to thank Alison for enduring the pain of reading early drafts of the thesis.

My Mother saved me when my outlook became all too bleak and Lisa provided me with loving friendship. I could never have completed this thesis without their support. This thesis is dedicated to them.

## CONTENTS

	PAGE
ABSTRACT .....	iii
ACKNOWLEDGEMENTS .....	iv
TABLE OF CONTENTS .....	v
INTRODUCTION .....	1
CHAPTER I THE IDEOLOGY OF ENVIRONMENTAL PRESERVATION .....	4
I.1 INTRODUCTION	
I.2 EXTENDING ETHICS AND ENVIRONMENTALISM	
I.3 ECOLOGY, ECONOMICS AND ENVIRONMENTALISM	
I.4 THE RIGHTS REVOLUTION AND ENVIRONMENTALISM	
I.5 THE LANGUAGE OF RIGHTS	
I.6 PRESERVATION AND THE VALUE OF WILDERNESS	
I.7 CONCLUSION	
CHAPTER II ENVIRONMENTALISM AND ECONOMICS ..	44
II.1 INTRODUCTION	
II.2 THE COSTS OF ENVIRONMENTALISM	

II.3	IDEOLOGUES AND ECONOMIC IMPACT, AND THE PROBLEMS OF COLLECTIVE ACTION	
II.4	CONTRADICTION AND SUSTAINABLE DEVELOPMENT	
II.5	CONCLUSION	
CHAPTER III	ENVIRONMENTAL POLICY IN CANADA ..	77
III.1	INTRODUCTION	
III.2	THE EVOLUTION OF THE DIRECT REGULATORY APPROACH	
III.3	PROBLEMS WITH THE CURRENT APPROACH	
III.4	MARKET-ORIENTED POLICIES	
III.5	CONCLUSION	
CHAPTER IV	CONCLUSION .....	109
BIBLIOGRAPHY	.....	113

## LIST OF FIGURES

	PAGE
FIGURE 1 THE EXTENSION OF ETHICS .....	8
FIGURE 2 THE EXTENSION OF RIGHTS .....	9
FIGURE 3 SHARE OF MANUFACTURING SHIPMENTS FROM THE FIVE MOST POLLUTING INDUSTRIES ..	48
FIGURE 4 DIRECT SHARE OF GDP IN SECTORS VULNERABLE TO ENVIRONMENTAL PROTECTION ...	49
FIGURE 5 GEOGRAPHIC IMPACT OF ENVIRONMENTAL PROTECTION BY SHARE OF INDUSTRIES VULNERABLE TO STRICTER ENVIRONMENTAL REGULATIONS .....	53



## INTRODUCTION

This thesis expounds the argument that the ideology of environmentalism threatens to undermine the achievement of its own professed goals.(1) It will argue that environmentalism is an ideological movement characterized by an uneasy combination of conflicting accounts of the appropriate relationship between man and the environment. Its strength seems to derive from the residual power of North American liberalism, even though liberalism itself embodies a contradictory view of the relationship between man and the environment. This contradiction, as we will attempt to prove, cannot be successfully or coherently overcome by environmentalism. We will examine the extent to which problems inherent in the theory of environmentalism lead to inherent problems in environmental policy.

Mixing conservation and preservation, economic efficiency and ecology, support of liberalism and criticism of liberalism, environmentalism is an ideology filled with contradictory dualities. Moreover, as with other ideologies, environmentalism must use deceptive language to hide the realities of meaningful environmental protection while proclaiming its own doctrine. The idea that the environ-

ment has rights is perhaps the important aspect of the environmental ideology to be considered because this doctrine seeks to achieve an unattainable goal, and both expresses and hides its own contradictions through the use of irrational and deceptive language. The purpose of such language usage is to screen both commonsense reality and the actual activities of the persons using it.(2)

In Chapter I, we examine the theoretical basis of environmentalism - what it means, what it promotes, how it is promoted, and how it contradicts itself. The crises we identify in the theory of environmentalism also imply crises for the environment itself. Environmentalism confounds itself to the point that practical contradictions follow that undermine its own ostensible purpose.

In Chapter II, some practical manifestations of the theoretical problems inherent in environmentalism are examined. Underlying this examination is an attempt to demonstrate the implicit relationship between the theory and practice of environmentalism. Central to the argument is an explication of the inevitable conflicts between private interests and collective goods. Also, we attempt a critical analysis of the popular notion of "sustainable development" in order to establish the link between theory and practice in the arena of environmental policy.

"Sustainable development" represents the most recent and most popular example of how the theory underlying environmentalism become manifest in policy objectives.

Chapter III involves a brief description and criticism of current environmental regulatory policies, followed by recommendations for improved means of affecting genuine environmental protection.

Throughout the discussion two themes are traced: (1) that theoretical problems of environmentalism create practical problems for environmental policy, and (2) that the doctrines that sustain environmentalism as an ideology must be rethought if the environment is to be protected.

In pursuit of these objectives, I must acknowledge a general debt to the works of Roderick Nash, William Tucker and Donald Dewees. They have supplied this discussion with many important insights.

## CHAPTER ONE - THE IDEOLOGY OF ENVIRONMENTAL PRESERVATION

### I.1 INTRODUCTION

The concept of "rights" is a peculiarly modern phenomenon. According to Alasdair MacIntyre, the expression "a right" did not appear until the close of the Medieval Ages.(3) Moreover, the context within which "rights" were created was the "crisis of modernity." According to Leo Strauss, this "crisis" began when Machiavelli boldly stated that the end justifies the means - that the passions and not reason define both the end and the means by which to attain it. The language of rights, so evident in modern political dialogue, is part and parcel of this "modern project" that has excised man's reason from external standards of good and evil, and made reason a servant of desire.(4)

The application of rights as a means of ordering inter-human relations can be seen as an attempt to rescue man from the effect of the "modern project" - namely, dissociating him from any transcendent source of morality. The "modern project" has proclaimed man's autonomy from an external standard that is separate from, and unmalleable by man. Man as autonomous moral agent has used the concept of rights to establish himself as the ground of his own self-defined ethics.(5)

As benign as the "modern project" may appear, it hides a great danger: for man in modernity acts as if the transcendent standard of justice could be replaced by an immanent image of himself. This confusion and action based on it, on the part of modern man, MacIntyre argued, "derives one of the features of contemporary moral discourses ... [-] the gap between the meaning of moral expressions and the ways in which they are put to use." (6) For example (and as we will examine in further detail), some rights activists go so far as to argue for the "rights of the planet." (7) When such a notion is analyzed, the speaker cannot mean all that what he said entails.

We are left in both a theoretical and a practical conundrum. Aristotle, for example, understood quite clearly the connection between transcendent truth and immanent reality, but having lost that distinction, the crisis of modernity follows. Additionally, technology has now established new conditions for which our self-grounded ethics answer very few questions. This inadequacy is all too clear with regard to discussion about how best to protect the environment. Hans Jonas summarized the problem:

if the realm of making has invaded the space of essential action then morality must invade the realm of making, from which it has formerly stayed aloof, and must do so in the form of public policy. Public policy has never had to

deal before with issues of such inclusiveness and such lengths of anticipation. In fact, the changed nature of human action changes the very nature of politics.(8)

This thesis ultimately aims at demonstrating the practical manifestations of the theoretical crisis caused when ethics are not grounded in a world-transcendent order, but in an immanent image of man himself. How this theoretical transformation has occurred, and speculations about why it has happened are important points of inquiry; however, our purpose is to trace the general outline of this theoretical transformation and then to demonstrate that the modern denial of any transcendent standard of ethics has serious practical ramifications. But this having been said, it is important to stress that, as we will see in more detail, the modern preoccupation with including things other than humans under the umbrella of rights is counter-intuitive. Indeed, to say, as some do, that rocks and trees have rights is to make a claim contrary to commonsense.

The following, then, outlines the path of thought leading to the many practical problems that follow when ethics are extended beyond people. For our purpose, it is useful to follow Roderick Nash's discussion regarding "the history and implications of the idea that morality ought to include



the relationship of humans to nature."(9) Like Nash, we will focus on American intellectual history delineating the modern belief that ethics should be extended from merely prescribing ethical relations between people to include the environment itself. There is no reason to expect that any substantive differences can be made between American and Canadian experiences on this point.

The use of the expression "a right" causes considerable confusion, a confusion that cannot be totally dispelled here. It must suffice to say that whether it be used philosophically, legally or both, "a right" is usually meant by those who use it to indicate that its holder "has intrinsic worth which humans ought to respect."(10) Again, how it is that "a right" implies an "ought" when a transcendent measure of morality has been forsaken must be left for others to explain. We take this forsaking and the important loss caused thereby as givens. Our concern is to discuss its implications with respect to the politics of environmentalism.

## I.2 EXTENDING ETHICS AND ENVIRONMENTALISM

The ideology of environmental preservation, or environmentalism, began by extending ethics from inter-human activities to include the environment, which entailed as well a great extension of the tenets of American liberalism. It has been argued that as the world has become more populated and as distances between different peoples have become more easily crossed, ethical barriers between people have become decreasingly relevant.

FIGURE 1 - THE EXTENSION OF ETHICS(11)

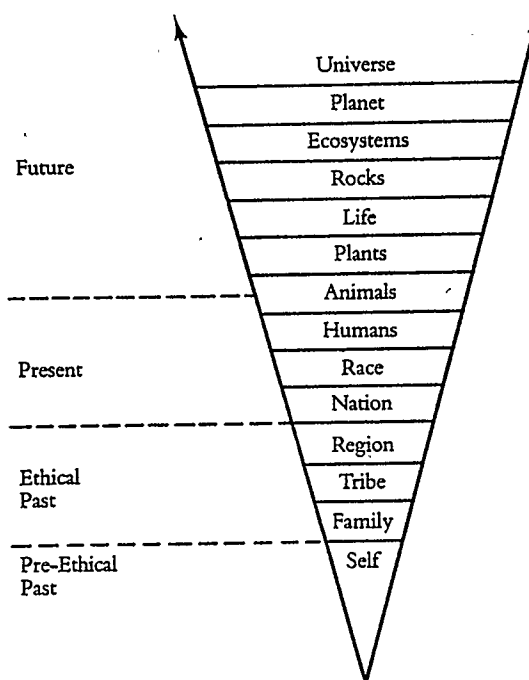


Figure 1 represents the extension of ethics from the individual, to all humans, to the environment. The doctrine that ethics is the appropriate term to refer to relations between humans and animals, plants, the environment and so on, we may call "extended ethics."

FIGURE 2 - THE EXTENSION OF RIGHTS(12)

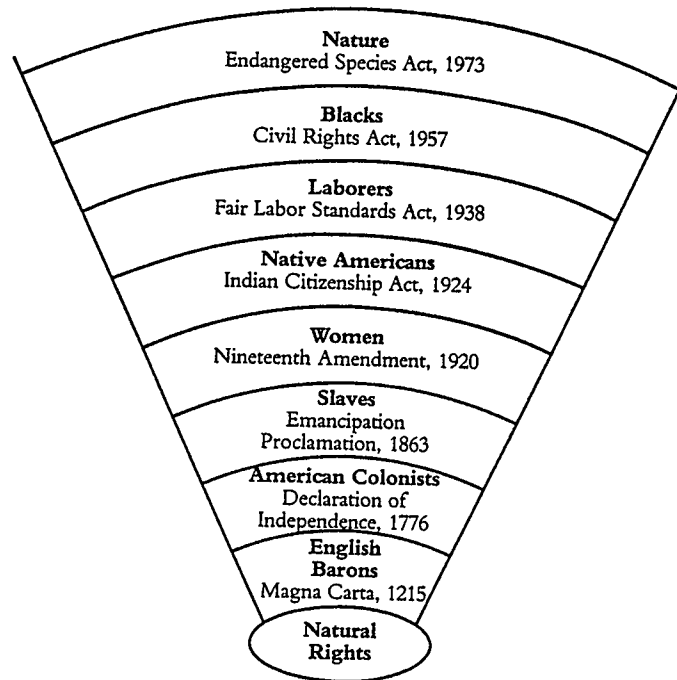


Figure 2 represents the expanding concept of rights in the United States from its first politically-meaningful expression in the Magna Carta all the way to legal documents such as the American Endangered Species Act of 1973. More recently, a proposal has been made that trees be given legal standing,(13) in addition to calls for "animal

liberation,"(14) "the liberation of nature,"(15) "the liberation of life,"(16) "the rights of the planet,"(17) and the right of the universe to be untarnished by human actions.(18) Moreover, Gary Snyder, a Pulitzer prize-winning poet, wished for the "ultimate democracy" in which rights would be distributed among all plants and animals (including humans).(19) For these thinkers, ethics and rights can be extended beyond the relations between people. The doctrine of extended ethics, then, has many supporters.

It is important to put the idea of environmental ethics into the context of the history of the extension of ethics and rights within American liberalism. In that context, each level of extension has been met with similar objections. From independence of the American colonies through to the racial integration of schools, we should not be too quick to dismiss the likelihood that trees might one day be granted standing before the courts. "Every great movement," John Stuart Mill wrote, "must experience three stages: ridicule, discussion, adoption."(20)

Mill's assessment not only explains what has hitherto been the inevitable course of movements of ethical extensions in American history, but it also foreshadows the conflicts inherent in these movements. In order to extend rights in a society, the group that enjoys the benefits derived from

an ethically-based superiority must concede some measure of its power to the heretofore excluded group. As ethical consideration spreads, so must the benefits be distributed. Such concessions are almost always marred by crisis, and often by violence - the American Revolution and Civil War were not, after all, peaceable exchanges of opinions. A spokesman for Greenpeace has indicated that his group is fully part of this tradition by exhorting that: "whether anyone likes it or not, force will eventually have to be brought against those who would continue to desecrate the environment." (21)

Again following Nash's analysis, we see that the signing of the Magna Carta in 1215, by declaring that 25 barons could claim rights independent of the will of the Monarch, formed the intellectual basis for Locke's natural rights possessed by all men: "Life, Liberty, Health, Limb or Goods." (22) Similarly, Hobbes defined natural rights as existing prior to the social contract (although without a social contract, because life was a war "of every man against every man" (23) in the state of nature, these natural rights had no substantive meaning). Jefferson expressed the culmination of the natural-rights philosophy when he wrote that it is a "self-evident" truth "that all men are created equal" in so far as all men, by virtue of being men, possess the

"unalienable rights" of "life, liberty, and the pursuit of happiness." Perhaps Jefferson was exaggerating somewhat considering the political practices of his day: blacks were not constitutionally enfranchised until 1890, women until 1920 and Indians until 1924.

From both Hobbes' and Locke's ideals of natural rights came one more - the right to rebel. If the state hindered the security of one's natural rights, the Hobbesian-Lockean had the right to rebel. By this argument natural-rights philosophy has justified revolution from the Glorious to the American and even the French. Environmentalism continues this revolutionary expansion.



### I.3 ECOLOGY, ECONOMICS AND ENVIRONMENTALISM

The path of revolution leading to the extension of rights to the environment has not, however, been a simple uni-directional movement. Indeed as rights and ethics have extended to include more humans (and things other than humans) since the signing of the Magna Carta, much side-to-side motion had to take place first. For this reason, the resultant vector of modern environmentalism is largely an admixture of two opposite but similar ideals - "conservation" and "preservation." But while they have been largely blended into one today, remnants of their differences manifest in many of our internally divided thoughts and actions.

American environmental politics is divided. One can see the division by comparing the essential difference between Gifford Pinchot's "conservation" of 1907, with the environmentalism of the 1960s. The difference lies in the addition to the latter of the ecologically-grounded concept of "preservation." Pinchot's notion was very much a continuation of the American liberal tradition. Pinchot, the first Chief of the U.S. Forest Service, had no use for preserving wilderness. Rather, conservation in his understanding meant the wise use, or stewardship of natural resources. His purpose was to ensure sustainable yield

through wise management and multiple use (later to be revived in somewhat similar form in "sustainable development"). A necessary but secondary result of conservation was the preservation of vast areas of American wilderness - preserving for the purpose of eventual exploitation. Pinchot's ideal of conservation became practice in the dam building projects of the Bureau of Reclamation and a Forest Service geared towards efficient and sustained timber production.

By the 1960s however, conservation had been replaced by preservation, as environmentalists championed the rights of nature.(24) As Samuel Hays put it, Pinchot's ideal of conservation is the product of the "gospel of efficiency," while the environmentalism begun in the 1960s is an expression of the "gospel of ecology." The former began with economic utilization of natural resources in order to achieve the highest sustained yield of those resources possible, while the latter stressed the idea that the environment must be protected from economically-minded exploitation.(25) Conservation seeks to conserve natural resources in order to achieve the maximum sustainable yield - preservation of natural resources, then, is only a means towards the end of efficient utilization of them. Preservation, on the other hand, seeks to preserve natural

resources in order to prevent the economic utilization of them - preservation of these resources has nothing to do with economic utilization, but with preserving a sort of "ecological purity."

Both "economics" and "ecology" come from the Greek word oikos, meaning literally "household." Economics, the older of the two words, has to do with household management literally - how resources are distributed within the household. In 1866 Ernst Haeckel created the term "oecologie," that in the 1890s came to be spelled in its modern form. Like economics, ecology refers to the ways in which the environmental 'household' is managed - how different species interact with each other and their inanimate natural surroundings. Also like economics, ecology views these interactions from a systems or holistic level.

Implicit in the study of ecology is the notion of interdependence among parts of the environmental whole. From an American liberal point of view, once this interrelatedness is admitted, the extension of ethics from the human realm to the ecological follows as a matter of course. Ecology promoted the rights of nature by promoting scientific reasons explaining why ethics are as much related to people

as they are to the environment (precisely because humans and the environment are interrelated).

The interdependence of man and the environment became a matter of substantial popular concern after the publication of Rachel Carson's Silent Spring in 1962. Carson showed that insecticides had channeled through the food chain to the extent that human health was put at risk. Anti-capitalist radicals took this as perhaps the best example of what capitalistic greed could achieve, and these radicals threw their support behind the suddenly important environmental movement.

Thus did the science of ecology add to the conservation movement of the 1920s the holistic view of interdependence between people and the environment. Interdependence was taken to mean that ethical relations are also interdependent; because people and plants and animals are ecologically interdependent, it was argued that they must therefore be ethically interdependent as well. From this connection, some concluded that plants and animals deserve rights just as do people.

But by the 1970s much controversy remained as to whether environmental ethics were utilitarian, or whether the environment should have rights and value independent of any

human interests. The former view echoes the thought of Locke who argued that harming animals needlessly is morally wrong, wrong that is, because of the effects such actions have on the human perpetrators. He believed that children who habitually "torment, and treat very roughly young Birds, Butterflies, and other such poor Animals, which fall into their hands ... will, by Degrees, harden their Minds even towards men."(26)

The latter argument - radical environmentalism arguing that utilitarian concerns are not relevant when discussing the rights of nature - takes form in such notions as expressed in Christopher Stone's "Should Trees Have Standing?" He concludes that trees should indeed have legal standing:

I am quite seriously proposing that we give legal rights to the forests, oceans, rivers and other so-called "natural objects" in the environment - indeed, to the natural environment as a whole.(27)

Stone proposes a revamping of American society to the extent that under the law trees (and the rest of nature) would be treated as if they were people. He seeks "to bring the environment into the society as a rights holder,"(28) not because of the utility of the environment, nor because of the harm done to people when people harm animals, as Locke would argue, but because the environment

deserves rights because the environment is an intrinsic rights holder.

It is this latter view - that the environment deserves rights independent of what anybody thinks - that needs special attention, because this view is both extreme and popular. Its popularity poses a serious problem for those who truly want to affect environmental protection because, lacking opposition and the need to argue for its position, the more popular any ideology, the less moderate and realistic it will need to be. Beyond the counter-intuitive notion of trees having rights, in the following Chapters we will see the degree of immoderation inherent in much environmental policy and law. In fact, the objective of extending rights to the environment is not realistic because, as we will see in Chapter III, the policies needed to reach this end are virtually impossible to implement. Those who promote such goals must themselves espouse an imaginative (and imaginary) world where such projects are (imaginatively) realistic. This requires an act of self-deception. It follows, then, that the more unrealistic an objective is, the more thorough the deception and self-deception will need to be. Therefore radical environmentalists must be deceived to the point that



unrealistic and immoderate beliefs are seen as realistic and moderate.

#### I.4 THE RIGHTS REVOLUTION AND ENVIRONMENTALISM

At first glance, calls from radical environmentalists appear to be demanding too great an extension of ethics of American liberalism. Nevertheless, according to Nash's analysis (see Figures 1 and 2), ethical extension to include the environment seems to be the next 'logical' step. From the English Barons in 1215, to American slaves in 1863, through to animals in 1973, there appears to be no 'logical' stopping point for the extension of rights. In one sense, then, environmentalism asks for nothing new, nor does it ask for anything that could have been expected.

In another sense, however, the extension of rights to the environment stretches ethics to new limits. A right according to the Oxford English Dictionary is a "justification, fair claim, ... privilege or immunity, thing one is entitled to." (29) Thus when we say that we have a right, we say that we own something. Jefferson said that men own certain "unalienable rights" by virtue of being men. Environmentalism seeks to give rights beyond people to the natural environment or, in plainer language, to everything. But in what sense can we say that the environment has rights (that is, that the environment owns something)? It is not possible to have rights to something to which everything claims possession, for it is simply impossible

to own or have a right to something when you have no one (or thing) against which to claim it. Clearly if trees and rocks and squirrels and people have rights to be treated in an ethical fashion independent of human determination of utility, then we in fact have no rights at all. Snyder's plea for the "ultimate democracy" in which life becomes the basis of rights is for this reason contradictory. To say that trees and squirrels should have the same rights as do people is to demonstrate that the language of rights is profoundly impoverished.

Unfortunately Snyder's "ultimate democracy" would likely look very much like Hobbes' state of nature. In Hobbes' state of nature "every man has a Right to every thing; even to one anothers body,"(30) which means, in other words, that no one has an exclusive right to anything. The result is a war "of every man against every man" in which might becomes right. The hope of environmentalism is analogous to this in so far as extending rights to include the environment achieves nothing more than a radical dilution of the force of meaning supporting the concept of rights. In other words, to say that the environment has rights is to say that everything has a right to everything, which is to say that nothing has a right to anything, which is to

return to the state of nature in which no one has a right to anything.

Hobbes' account of the role of rebellion in the state controlled by the omnipotent leviathan has an important parallel with the environmental movement. Subjects cannot rebel against that to which they had contractually consented - the leviathan. This is the formal requirement of being a member of that civil society. However, should the leviathan not protect adequately individual safety, then Hobbes sees a role for rebellion. This is the material condition for rebellion.(31)

The problem arises when subjects question the legitimacy of the leviathan, because any questioning implies a return to the state of nature. Hence the political oxymoron of rebellion, and hence the problem that comes about when rights are extended to nature. This revolutionary expansion seeks, in essence, to remove rights from everyone and everything, thereby watering down the force behind rights, and thereby returning us to the state of nature. The environmental revolution claims the material case for rebellion - that the rights of the environment are not being adequately protected by the current moral institutions. Here is the bitter irony - the attempt to extend rights to nature in fact achieves nothing but the complete

emptying of any meaning that rights may have by diluting the force of meaning underlying rights. Extending rights to the environment - that is to say, to everything - takes away any force that rights have. Extending rights to nature returns us to the state of nature. When, for example, Quebec legislators legislated the Quebec Environmental Bill of Rights(32) they were essentially stretching rights to include so much that, beyond stretching the bounds of commonsense, they also stretched the force of meaning empowering rights so thin that that empowerment becomes inextricably weakened. This revolutionary expansion cannot succeed simply because it is self-undermining.

Furthermore, when rights become so common, conflicting rights claims are inevitable. In liberal societies one might have positive rights to certain things (for example, in Canada citizens have a right to free speech), and negative rights to be protected from certain things (for example, bodily harm, libel and discrimination).(33) Thus citizens of liberal societies are said to have rights to certain goods (positive rights), and the right to be protected from certain harms (negative rights). Of course serious problems arise when rights (whether they be positive or negative) conflict. If, for example, a government

seeks to uphold its citizenry's right to a certain material standard of living, it must take some control over the economy in order to finance this objective. Such action, however, which attempts to uphold a positive right may easily offend the negative right of individuals not to have their economic liberty encroached upon. It would seem that there are very few cases in which ensuring one right does not threaten another, which is why competing rights so often have to be balanced.

Extending positive rights to the environment (that the environment has a right, for example, to be pristine), or a negative right (that the environment has a right, for example, not to be harmed by people) is just such a case; for it is simply impossible to protect the environment's rights while not trampling upon the rights of humans. For example, one could argue that a pulp mill worker has a right to a job he desires and to live where he desires. If the environment has the right not to be harmed by the pulp mill, then a clear conflict exists.

While in this case a balance can be achieved, neither 'party' will ever be totally satisfied. And given that the environment encompasses everything on the planet, the room for conflicts is limitless. When rights are extended so far, protecting the individual - which was, after all, the



primary reason for legal entrenchment of rights - becomes impossible. Simply put, when almost anything (that is, the environment) has rights and when rights conflict, whoever (or whatever) is strongest will prevail. Strength of will becomes the measure of the rightness of rights because the language of rights is predicated on the assumption that no other benchmark or standard exists. When strength becomes the measure of the rightness of a right, then rights become arbitrary.

Environmentalism thrives in spite of these merely logical problems. In this respect, environmentalism is no different from other ideology. This is why the project of Destutt de Tracy, who coined the term ideology, to reduce human existence to mere sensation is based on an inherently unstable foundation - when anyone's sensations are equal to anyone else's, rational persuasion is replaced by passionate coercion. A serious commitment to ideology leaves us with a land of meaninglessness. As William Martin observes,

chaos can only be known in relation to order. Hence, although there is a philosophical foundation of ideology, there can be no ideological foundation of ideology. Herein lies the element of tragedy, for the ideologist can be what he is only so long as he is aware of the non-ideological truth against which, by his own admission, he must fight. If he admits the distinction

between metaphysics and ideology, he condemns himself. If he does not admit it, he deceives himself. Of necessity he must prefer deception to condemnation. By the same necessity he must try to make this deception universal.(34)

The tragedy of ideology is the reign of universalized deception, and the "goodness" of ideologies can be measured only in terms of the "intensity" of "sentiment" exhibited by the ideologues.(35) Ideologies, laments George Grant, "claim to be rational, scientific and philosophic, and therefore to be giving knowledge of what is happening, when in fact they do not. In this sense they are destructive of common sense and moderation - the two great protectors of the health of the political realm."(36)

Environmentalism, like fascism, and other ideologies, can be judged only in terms of "intensity" of "sentiment." In this respect, environmentalism is a good ideology; it has garnered significantly immoderate and intense sentiment around the logically difficult idea that nature has rights simply by replacing reason with will. One need only witness the serious contradictions between political objectives and policy instruments used towards those objectives, as we do in Chapters II and III, in order to gauge the degree to which discourse about the environment is today defined by the effects of immoderate and intense sentiment.

## I.5 THE LANGUAGE OF RIGHTS

Each ethical extension in America has been achieved within the language of American liberalism. Environmentalists of the 1960s continued this trend when speaking of the rights of the environment. Pinchot's philosophy of conservation, a clear expression of the American tradition founded in the experiences of the North American wilderness, has now been mixed with the argument for environmental rights put forth three decades ago, to make our modern version of environmentalism. Both conservation and ecology may appear to be uneasy bedfellows, but ultimately both begin from the same principles, analyse from the same holistic perspective and speak within the same tradition of liberal, progressive, rights-based language.

As Roderick Nash has pointed out, this combination of conservation and ecology (or preservation) is tenuous at best:

much of the new environmentalists' criticism of American tradition is warranted, but in adopting a subversive, countercultural stance, they overlooked one important intellectual foundation for protecting nature that is quintessentially American: natural-rights philosophy, the old American ideal of liberty that they themselves were applying to nature.(37)

The built-in contradiction runs much deeper; for natural rights became enlivened in America under conditions of hardship caused by the hostile physical environment. The founding members of the American colonies - those first to make rights a pervasive and intrinsic social, political, economic, and moral norm - viewed their relationship to nature in the same way to which today's environmentalists spend their time objecting. The founders of the American liberal, progressive society were spurred on by the need to overcome the obstacles thrown at them by their natural environment. For those early colonists, nature was an enemy - something to be dominated mercilessly in the pursuit of survival and basic comforts.

Grant observes that in their technological drive to overcome the inconveniences of nature, the founding Americans caused an important shift in the way in which morality was understood. Technological progress overtook Christianity as the source of meaning in their lives. However, Grant concludes, "the religion of progress may have been able to kill Christianity in the consciousness of many, but it has not succeeded in substituting any other lasting system of meaning." (38)

Probably because of this lack of success, Americans still unwittingly call upon the authority of Christianity even

though Christianity has been largely renounced on the path towards technological domination of nature. For this reason, the language of rights still evokes extra reverence from Americans despite the fact that that reverence is in their view unfounded. This phenomenon Grant refers to as our "civilizational contradiction"; we use the language of rights as if it were sanctioned by God and as if we were prepared to accept what that means.(39) But at the same time we know it is not so sanctioned and we do not entirely accept it.

Thus it appears that environmentalism taps into a philosophical tradition in order to overthrow the social attitudes towards the environment upon which that tradition is predicated. The environmental movement succeeds in little more than propagating the very tradition it is trying to undermine; therefore, "the alleged subversiveness of environmental ethics should be tempered with the recognition that its goal is the implementation of liberal values as old as the republic."(40)

Perhaps this contradiction is inherent in any fundamental intellectual change. According to MacIntyre, the key to understanding anything is to begin with the basic insight that what you think is intimately linked with where and when you think it. According to his view, understanding

something as fundamental as the relationship among man, the environment, and rights can be achieved only from within a tradition. That is to say, it can be understood from within traditions of rational enquiry, or those "sets of shared attitudes, beliefs, and presuppositions, developed in very different ways ... and affording different and incompatible answers"(41) to questions of moral action. No one can think separately or as if totally removed from personal and cultural history.

For this reason, environmentalism, like any other attempt at intellectual change, must work within the language and thought of the particular tradition in which its proponents find themselves. Therefore, environmentalism promotes extending ethics to the environment, while in the next breath denouncing the liberal tradition that is seen as embodying attitudes towards the environment that have caused the reckless environmental degradation characterizing the late twentieth century.

Allan Bloom's insight regarding the "two state-of-nature teachings"(42) goes a long way to explain this contradiction implicit in environmentalism, and underlines many uneasy dualities inherent in both the theoretical and practical manifestations of environmentalism. According to Bloom, two competing understandings of the states of

nature, that of Hobbes and Locke, and the opposed view of Rousseau, have had a profound effect on the ways in which modern Americans think. Hobbes and Locke derived from the basic assumption that because the summum malum is violent death, society must be based on rational consent designed to contract away this fear. In this way, reason becomes an instrument for escape from the state of nature in which life is little more than a constant battle "of all against all"; the movement from the state of nature is of both practical necessity and practical desirability.

For Rousseau, the movement from the state of nature to civil society is much more a matter of practical necessity than desirability. Here the transition is made with great difficulty; in Rousseau's understanding, Hobbes and Locke are somewhat misdirected in believing that the fear of violent death is the primary motive for politics, because for such a fear to be so powerful there must be a yet more powerful experience underlying it. This, according to Bloom's interpretation of Rousseau, is love of existence simply in man's original condition before civil society. Rousseau's state of nature is not so obviously worth avoiding except when a limited supply of resources makes it difficult for that innocent and sweet existence to continue

unfettered. Thus the split in the Rousseau man between man-in-nature and man-in-society.

Unlike Hobbes and Locke, Rousseau cannot agree that calculated self-interest is a sufficient basis for the establishment of a stable society, because a Rousseauian society requires appeasement of man's desire to return to his earlier form of "noble savage."

Americans, says Bloom, have unwittingly absorbed these two contrary understandings of the state of nature, and hence the split within them: they are inadequately appeasing both the Hobbesian-Lockean need to conquer nature, and the Rousseauian longing for bucolic serenity. This dualism is somewhat resolved in the American context by a decision usually based on economic convenience. Therefore

on the one hand you have the farmer who never looked at America's trees, fields and streams with a romantic eye. The trees are to be felled, to make clearings, build houses and heat them; the fields are to be tilled to produce more food, or mined for whatever is necessary to make machines run; the streams are there to be used as waterways for transporting food, or as sources of power. On the other hand there is the Sierra Club, which is dedicated to preventing such violations of nature from going any further, and certainly seems to regret what was already done. More interesting is the coexistence of these opposing sentiments in the most advanced minds of our day. Nature is raw material, worthless without the



mixture of human labour; yet nature is also the highest and most sacred thing. The same people who struggle to save the snail-darter bless the pill, worry about hunting deer and defend abortion. Reverence for nature, mastery of nature - whichever is convenient. The principle of contradiction has been repealed.(43)

Indeed the contradiction is repealed, but only by ignoring it. Therefore because this theoretical tension is usually unseen as such, the same person can protect or destroy nature, and the decision of what to do usually depends on which alternative is cheaper. Thus the environmental movement is fueled by an insidious contradiction that cannot remain merely a theoretical problem because, when the cheaper alternative is usually preferred, potentially disastrous practical manifestations ensue. The following Chapters investigate how serious a problem this development into practice of a contradictory theory really is.

The concept of sustainable development advanced by the United Nations' World Commission on Environment and Economy, as we will discuss in detail in Chapter II, is an example of this contradictory dualism. The Rousseauian in us wishes to "sustain" the environment in its primordial condition; the Hobbesian-Lockean in us stresses "develop-

ment" of natural resources; hence the theoretically and practically incoherent concept sustainable development.

## I.6 PRESERVATION AND THE VALUE OF WILDERNESS

The environmental movement has recast Pinchot's "conservation" into "preservation"; protecting wilderness from human contamination has come to be the focus of many environmentalists' effort. This "wilderness concept"(44) is little more than a throwback to Rousseau's state of nature, except in the modern formulation the "noble savage and other indigenous peoples have been carefully excised from the landscape."(45) William Tucker finds this to be a strange development that "wilderness is a value against which every other human activity must be judged, and that human beings are somehow unworthy of the landscape."(46)

Indeed the notion that wilderness should be free of people has less to do with the actual workings of the ecosystem than with a perverted notion of Rousseau's state of nature. Palaeoecology sheds light on the reality of the situation. With very few exceptions, humans have been as much a part of the ecosystem since the beginning of the Holocene as rocks and fish and trees.(47) "For most ecosystems," Robert Neil observes, "it is therefore effectively impossible to study environmental history separate from cultural history and vice-versa."(48) The emphasis by environmentalists on the need to protect nature from man

overlooks the simple fact that it is as natural for man to belong in nature as it is for rocks and fish and trees.

The "pastoral impulse"(49) behind the "wilderness concept" is one of the forces driving the environmental movement, and it is evidence of the immoderation inherent in the movement. There is, on the one hand, a desire to put aside large tracts of wilderness area free from human contamination, while on the other hand, in order to be able to protect these parks, the reality that sufficient economic wealth must be produced in order to operate them, and that this wealth must ultimately come from environmental exploitation.(50) In order to afford wilderness, wilderness first has to be exploited; in order to enjoy wilderness we must first attend to the simple physical threats that that wilderness presents, and then profit from its resources. In other words, we must first "tame" wilderness before we can afford to sacrifice vast areas that are usually rich in valuable natural resources, and before we can afford the leisure time to enjoy it.

One alternative to the costs of establishing wilderness areas is multiple use - the central concept in Pinchot's ideal of conservation. For example, the National Audubon Society owns, operates and protects the 26,800-acre Rainey Wildlife Sanctuary in Louisiana in which the protected

animals are not even disturbed by birdwatchers. However within the Sanctuary six gas wells run by large oil companies produce royalties for the Audubon Society of almost one million dollars per year. This revenue, in addition to that derived from leasing part of the Sanctuary for cattle grazing, covers most of the cost of operation. The Audubon Society is clear as to the advantages of multiple use:

there are oil wells in Rainey which are a potential source of pollution, yet Audubon experience in the past few decades indicates that oil can be extracted without measurable damage to the marsh. Extra precautions to prevent pollution have proven effective.(51)

It would be misleading to say that multiple use is always going to be a viable alternative, but it is equally misleading to assume that humans contaminate wilderness. A harmony between realistic goals and preservation must be achieved. As Tucker concludes, "we should be concerned about the preservation of wilderness, but not obsessed with it. We cannot produce harmony simply by setting up sacred wilderness temples, while downgrading, excluding, and eventually learning to despise human beings."(52)

## I.7 CONCLUSION

The path of the environmental movement has come full circle; now, it seems, pristine nature has replaced God and reason and similar sorts of out-dated notions as the benchmark of excellence. But it is precisely this irrational commitment that delivers environmentalism to a theoretical and practical impasse. Environmentalism has eroded itself by successfully obscuring the fact that no other result than this is possible.

The problem faced by today's environmentalists began with the initial setting of objectives by their most radical predecessors; namely, that the environment has a right to be protected from human predation. From there, because, as we have seen, extending ethical consideration to the environment is a doomed project, environmentalists had to deceive themselves and the public that this objective was in fact possible. And because the more impossible an objective is the more thorough the deception will need to be, and because giving rights to the environment is impossible in any substantive sense, environmentalists have had to become great deceivers.

The result is clear: an incoherent theory that undermines itself while all the time purporting clarity of purpose and

thought. Unfortunately, as Bloom points out, this incoherence is manifested practically as well. Thus environmentalism fails to achieve its own goals. The following Chapters demonstrate the degree to which environmental policy has become misdirected by its own theoretical incoherence.

- 
- (1) The term "ideology" itself was coined by Destutt de Tracy in the 1790s. (Emmet Kennedy, Destutt de Tracy and the Origins of Ideology. Philadelphia: American Philosophical Society, 1978, pp. 36-7). For him, ideology was the means by which men could unshackle themselves from the superstition of intellect. It is the "idea" underlying that is most important; "ideas" are ultimately reducible to sensation, for beyond sensation there is nothing. Thus de Tracy sought to present a universal analysis of human existence that appealed to the lowest common denominator in order to overcome the irreconcilable differences among so-called rational men.
  - (2) Eric Voegelin, "Extended Strategy - A New Technique Of Dynamic Relations," Journal of Politics, 1940, Vol. II, pp. 189-200.
  - (3) Alasdair MacIntyre, After Virtue: A Study in Moral Theory. (Notre Dame: University of Notre Dame Press, 1981), p. 65.
  - (4) Leo Strauss, Natural Right and History. (Chicago: University of Chicago Press, 1974).
  - (5) MacIntyre, After Virtue, p. 66
  - (6) MacIntyre, After Virtue, p. 66.
  - (7) Theodore Roszak, Person/Planet: The Creative Disintegration of Industrial Society. (New York: Anchor Press/Doubleday, 1978), p. 31.  
See also: James Lovelock, The Ages of Gaia: A Biography of Our Living Earth. (New York: Norton, 1988).

- (8) Hans Jonas, The Imperative of Responsibility: Foundation of an Ethics for the Technological Age, with an Appendix on the Impotence of Subjectivity. (Chicago: University of Chicago Press, 1984), p. 9.
- (9) Roderick Nash, The Rights of Nature: A History of Environmental Ethics. (Madison: The University of Wisconsin Press, 1989), p. 4.
- (10) Nash, Rights, p. 4.
- (11) Taken from Nash, Rights, p. 5.
- (12) Taken from Nash, Rights, p. 7.
- (13) Christopher Stone, Should Trees Have Rights?: Toward Legal Rights for Natural Objects. (Los Altos: Kaufmann, 1974).
- (14) Peter Singer, "Animal Liberation," New York Review of Books. Issue 20, April 5, 1973, pp. 17-21.
- (15) Herbert Marcuse, Counterrevolution and Revolt. (Boston: Beacon Press, 1972), p. 59.
- (16) Charles Birch and John Cobb, Jr., The Liberation of Life: From the Cell to the Community. (Cambridge: Cambridge University Press, 1981).
- (17) Roszak, Person/Planet, p. 31 and Lovelock, Gaia.
- (18) Eugene Hargrove (ed.), Beyond Spaceship Earth: Environmental Ethics and the Solar System. (San Francisco: Random House, 1986).
- (19) Gary Snyder, "Energy is Eternal Delight," The New York Times. Jan. 12, 1973, p. 43.
- (20) As quoted in Tom Regan, The Case for Animal Rights. (Berkeley: University of California Press, 1983), p. vi.
- (21) Editorial, Greenpeace Chronicles. April 1979, p. 1.
- (22) John Locke, Two Treatises of Government, Peter Laslett (ed.). (Cambridge: Cambridge University Press, 1967), p. 289.



- (23) Thomas Hobbes, Leviathan. (Harmondsworth: Penguin Books, 1984), p. 185.
- (24) Samuel Hays has documented the politics of the transition from "conservation" to "preservation" in Beauty, Health and Permanence: Environmental Politics in the United States, 1955-1985. (Cambridge: Cambridge University Press, 1987).
- (25) Samuel Hays, Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920. (Cambridge: Harvard University Press, 1959).
- (26) John Locke, The Educational Writings of John Locke, James L. Axtell (ed.). (Cambridge: Cambridge University Press, 1968), pp. 225 -226.
- (27) Christopher Stone, "Should Trees Have Standing? Toward Legal Rights for Natural Objects," Southern California Law Review. Spring 1972, pp. 450-501. This essay was later published as a book: Should Trees Have Standing? Toward Legal Rights for Natural Objects. (Los Altos: Kaufmann, 1974), p. 14.
- (28) Stone, Standing, p. 14.
- (29) R. Allen (ed.), Oxford English Dictionary. (Oxford: Oxford University Press, 1984), pp. 643-44.
- (30) Hobbes, Leviathan, p. 190.
- (31) Martin Bertman, "Hobbes and Xenophon's Tyrranicus." Mimeo, 1989.
- (32) Quebec Environmental Quality Act, R.S.Q. 1977, c. Q-2.
- (33) David Sills (ed.), International Encyclopedia of Social Sciences. (New York: The Macmillan Company and The Free Press, 1968), p. 308.
- (34) William Martin, Metaphysics and Ideology. (Milwaukee: Marquette University Press, 1959), p. 73.
- (35) George Sorel, Reflections on Violence, T. Hulme and J. Roth (trans.). (Glencoe: The Free Press, 1950), p. 144-45.

- (36) George Grant, "Ideology in Modern Empires," in John Flint and Glyndwr Williams (eds.), Perspectives of Empire: Essays Presented to Gerald S. Graham. (London: Longmans, 1973), p. 196.
- (37) Nash, Rights, p. 11.
- (38) George Grant, English-Speaking Justice. (Toronto: House of Anasi Press Limited, 1985), p. 58.
- (39) Grant, English, p. 58.
- (40) Nash, Rights, p. 12.
- (41) Alasdair MacIntyre, Whose Justice? Which Rationality?. (Notre Dame: Notre Dame University Press, 1988), p. 401.
- (42) Allan Bloom, The Closing of the American Mind. (New York: Simon and Schuster, 1987), p. 172.
- (43) Bloom, Closing, p. 172
- (44) Leo Marx in William Tucker, Progress and Privilege: America in the Age of Environmentalism. (Garden City: Anchor Press, 1982), p. 145.
- (45) Tucker, Progress, p. 142.
- (46) Tucker, Progress, p. 135.
- (47) Neil Roberts, The Holocene: An Environmental History. (New York: Basil Blackwell, 1989), p. 188.
- (48) Roberts, Holocene, p. 188
- (49) Marx in Tucker, Progress, p. 144.
- (50) The International Union for the Conservation of Nature and Natural Resources (IUCN) defines a wilderness park as "one or several ecosystems not materially altered by human exploration ... and where the highest authority has taken steps to prevent or eliminate as soon as possible exploitation or occupation in the area." International Union for the Conservation of Nature and Natural Resources, World Directory of National Parks and Other Protected Areas. (Morges: IUCN).

(51) Quoted in John Baden and Richard Stroup, "Saving the Wilderness," Reason. July 1981.

(52) Tucker, Progress, p. 152.

## CHAPTER TWO - ENVIRONMENTALISM AND ECONOMICS

### II.1 INTRODUCTION

We have seen the degree to which environmentalism, as a political movement, is built upon an unstable foundation. Because it cuts its own theoretical throat, this suggests that the practical manifestations of environmentalism in the form of environmental policy might be equally self-destructive. Chapters II and III develop an argument intended to indicate the connection between environmentalism as an ideology and the practice of environmental policy.

The following Chapter sets the stage for this demonstration by: (1) examining the economic impact of environmental protection initiatives in concrete, local terms; (2) exploring the implications of that economic impact in terms of the tension between public and private goods; and (3) attempting to show how two recent policy statements, one by the World Commission of Environment and Economy, and another by the Canadian National Task Force on Environment and Economy, fail to work within the context of political and economic reality.

## II.2 THE COSTS OF ENVIRONMENTALISM

In our modern, technological and bureaucratized world, government provides not merely protection from enemies of peace from both without and within, as early forms of government were content to do, but a vast array of regulation. The modern state looks much different from its early predecessors; today the state regulates everything from the thickness of the wall of a toilet bowl to how much sulphur dioxide a factory is allowed to emit.

The Canadian government utilizes the means of public policy and law in order to regulate a wide array of our behaviour. With respect to environmental protection, these means are conditioned by the ideology upon which they are based. For this reason, environmental policy and law reflect the inherent contradictions of the ideology of environmentalism.

The first political response to the demands of environmentalism has usually been to impose regulations on polluting industries. Given current political pressure to decrease allowable pollution across Canada, continuing environmental protection will likely require increasingly tough and specific regulations (for example, reducing emissions, utilizing best available pollution control tech-

nology) that could constrain relative rather than absolute growth in resource-related sectors. The following Section explores the potential economic impact of increased environmental protection measures in order to highlight the clash between a collective interest in environmental quality, and private interests in jobs and wealth that, environmentalists argue, may entail environmental change. The potential economic impact is defined in detail in order to make a simple, concrete fact apparent: namely, that protecting the environment may not be in the private interests of all Canadians. With that fact in mind, policy makers can then make more effective policy with respect to the environment.

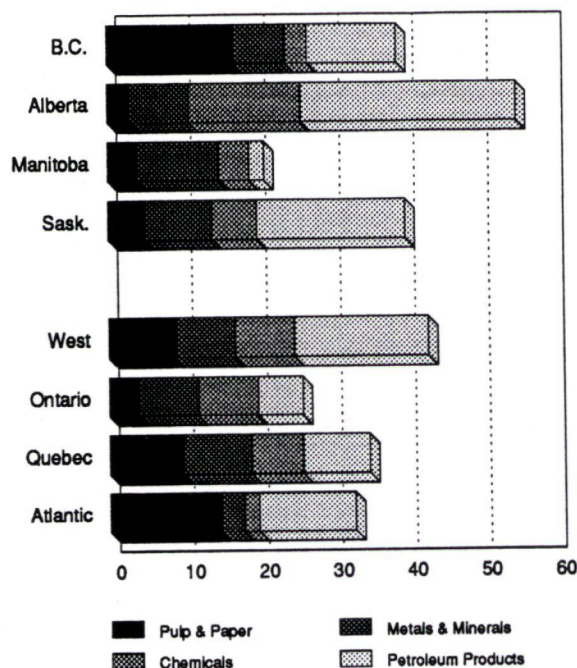
In order to achieve this end, it will be useful to concentrate on a region that is particularly dependent on polluting industries and therefore particularly sensitive to increasingly strict environmental protection measures - namely, Western Canada. Also, given the diverse nature of Canada's regional economy, it is more accurate for our analysis to concentrate on one region rather than making difficult generalizations that try to integrate the different regions within Canada. Assumed by the following analysis is that increasingly tough regulations may also cause significant regional imbalance, the degree of which will depend upon the character of each region's economic

base. While this potential imbalance is worth noting, we cannot consider its implications here.

According to Informetrica, an Ottawa-based economic forecasting firm, there are five manufacturing industries in Canada - primary metals (including iron and steel), non-metallic mineral products, pulp and paper, petroleum/coal refineries, and chemicals - that could undergo lower growth rates as a result of environmental protection initiatives.(1) Figure 3 indicates the share of manufacturing shipments in each region due to these five "most polluting manufacturing industries."(2)

Approximately 43 per cent of manufacturing shipments in the West are in these sectors, led by a 55 per cent share in Alberta, compared to 35 per cent in Quebec, 33 per cent in Atlantic Canada, and 26 per cent in Ontario. Manitoba, with 20 per cent, has the lowest share of "polluting" industries in the country, except for P.E.I. which has a negligible manufacturing sector. Thus while the West represents only 18 per cent of Canada's manufacturing activity, its manufacturing sector contains a significantly higher proportion of industries likely to be adversely affected by environmental regulations than in any other region of the country.

FIGURE 3  
SHARE OF MANUFACTURING SHIPMENTS FROM THE FIVE MOST  
POLLUTING INDUSTRIES



Source: derived from Statistics Canada 31-203.

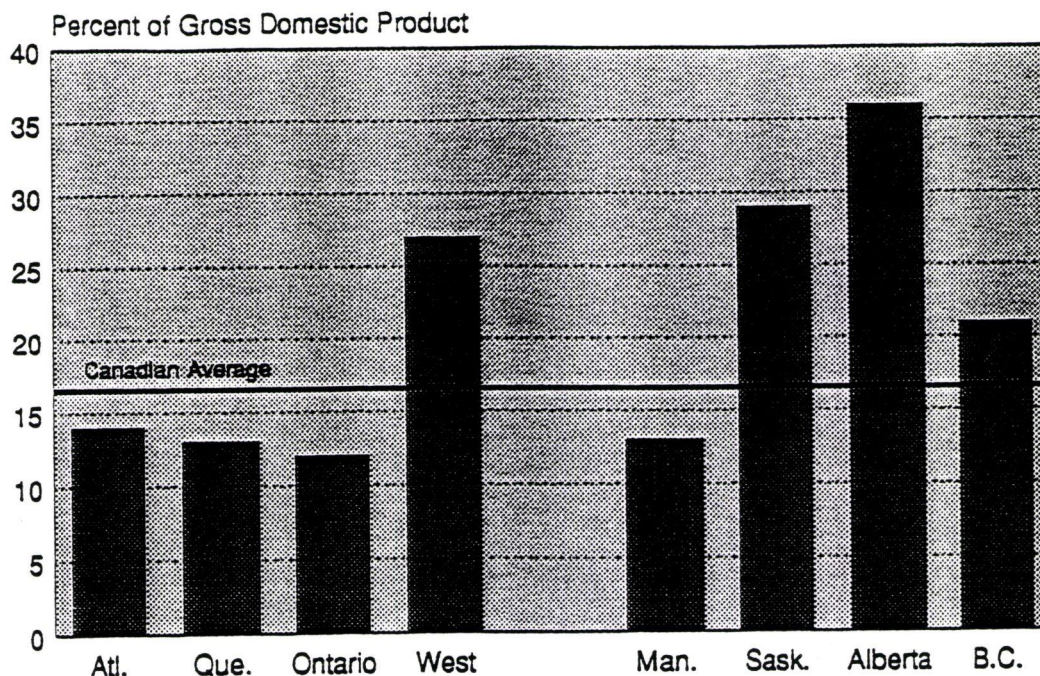
\* includes pulp and paper, metal smelting and refining, mineral products, petroleum and coal refining, and chemicals.

As with any change in public policy, certain industries are affected much more than others. In addition to the five aforementioned industries, other manufacturing and resource sectors are likely to be negatively affected by environmental protection initiatives. For classification purposes the industries most likely to be adversely affected by these initiatives include: primary agriculture; fisheries; mining (including oil, gas and coal); forestry products; metal smelting and refining; mineral products; petroleum



and coal refining; and chemicals, rubber and plastics.

FIGURE 4  
DIRECT SHARE OF GDP IN SECTORS VULNERABLE TO ENVIRONMENTAL  
PROTECTION



Source: derived from Statistics Canada 31-203.

Figure 4 indicates the direct share of provincial GDP involved in these sectors vulnerable to stronger environmental regulations. This graphic does not intend to indicate that these types of industries will be lost or even diminished, but that this is the direct share of economic activity where growth would likely be constrained by tougher environmental regulations in Canada. In 1988 these sectors directly represented 17 per cent of GDP in Canada, down from an estimated 22 per cent in 1960, and

concurrent with a gradual downward shift in the importance of resources to the Canadian economy.

As shown in Figure 5, Western Canada, particularly Alberta, Saskatchewan and B.C., would be the most adversely affected region in Canada. This should come as no surprise given the resource dependency of the region. However, the magnitude indicates the serious economic implications (and corresponding political ramifications) that substantially stricter environmental protection policies could have on the West.

While nationally only one in six dollars are directly involved with the industries vulnerable to environmental protection measures, in Alberta this figure is more than one in three dollars. Saskatchewan and B.C. are the only other two provinces that exceed the national average in this respect. Furthermore, the real impact of a substantial shift towards tougher environmental regulations would depend, of course, on actual legislation affecting each particular sector. Any impact would also be experienced by other sectors of the economy that provide supplies and services to that sector. For example, a regulatory restriction on logging would affect sawmills, and pulp and paper mills, and the subsequent slowdown would in turn adversely affect transport, communications, utilities,

wholesale and business services dependent on actual resource and manufacturing production of forestry resources. The net impact of direct, indirect and induced effects of such action would be detrimental to communities and regions dependent upon forestry activity.

Because the burden of a cleaner environment will fall much more heavily on particular industries, communities could be directly hurt in terms of plant contractions or shutdowns, lost jobs, lost income, lost taxes, and lost revenues. Affected communities may experience the doubly-negative effect of declining tax revenues and increased capital requirements for water and air pollution-control, not to mention increased demands for social assistance.

Resource-based industries requiring adjustment to tougher environmental measures are often in rural communities with a limited industrial base. Hence regional differences in vulnerability are important to identify in order to better understand possible employment disruptions, municipal fiscal pressures, adjustment assistance requirements, and political disputes.

The potential impact of environmental protection measures is best shown at the community level. Figure 5 depicts the direct share of employment in sectors vulnerable to environmental protection among all regions in Western Canada.

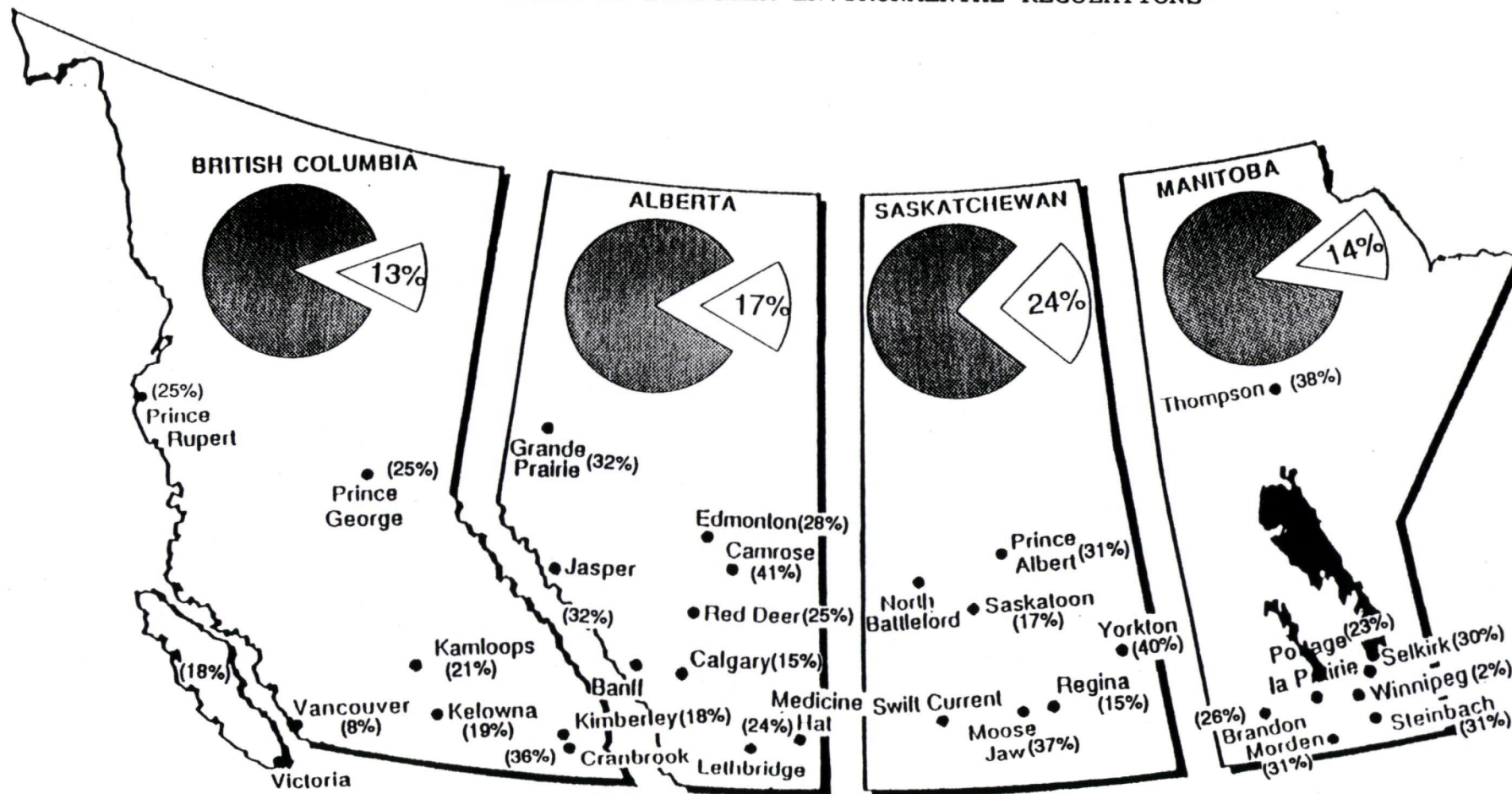
These statistics are rough indicators of subprovincial areas vulnerable to environmental protection. For example, although Manitoba's total job share in these industries is well below the national average, this is skewed by the very low number of these types of jobs in Winnipeg (only two per cent), that represents approximately 60 per cent of the provincial economy.

A number of areas outside Winnipeg, however, could be significantly affected by tough environmental regulations. For example, increased regulatory constraints on mining and forestry production would profoundly affect Northern Manitoba where 38 per cent of the labour force is directly employed in these two sectors that drive that entire regional economy. Communities such as Thompson, Flin Flon, The Pas, and Lynn Lake would be vulnerable to strong environmental protection action.

Similarly, most rural communities in the prairie grain belt would be affected negatively by constraints on agriculture production such as restriction on use of marginal land, reduction of existing acreage under use, or limitations on fertilizer and pesticide usage. Because Saskatchewan is heavily dependent on agriculture, that province would be most adversely affected by these types of measures.



FIGURE 5  
GEOGRAPHIC IMPACT OF ENVIRONMENTAL PROTECTION BY SHARE OF  
INDUSTRIES VULNERABLE TO STRICTER ENVIRONMENTAL REGULATIONS\*



\*percent of jobs in sectors vulnerable to stricter environmental protection regulations  
number in brackets indicates share of jobs directly employed in these sectors within a particular economic region, of which the community included is the major centre

Most regions in Alberta have over 25 per cent of their labour force directly employed in resource-related activities that would be vulnerable to environmental protection policies. Edmonton is the only area with a relatively low share, while Calgary has the highest share of any major city in Western Canada (largely because of the oil and gas sector). The recent strong growth of the forestry sector in Alberta would also be dampened by tough environmental regulations, that would in turn negatively affect communities such as Grande Prairie, Peace River and Slave Lake.

The areas most likely affected in B.C. are mining and forestry communities in the North and East Kootenay regions. Environmental restriction on forestry production would slow economic growth across B.C. and directly hurt several communities (for example, Campbell River, Prince George, Prince Rupert, Port Alberni, Castlegar, Nanaimo, Powell river, etc.). Key communities that could be affected by tough pollution control requirements on mining operations include: Kimberley, Kitimat, Prince George, and Trail.

From this analysis we can see that increasingly strict environmental protection measures would have a great effect on the economy of the West. It is important to understand

this potential impact in local terms since it is at this level that political and economic realities of environmentalism are crystalized. It is also at this level that the motif of contradiction that runs throughout environmental politics becomes clear; while many support the general notion of protecting the environment, when it comes to actual dollars and jobs lost, environmentalism is seen in a less attractive light. The following Section deals with precisely this: namely, the tension between public and private goods.

### II.3 IDEOLOGUES AND ECONOMIC IMPACT, AND THE PROBLEMS OF COLLECTIVE ACTION

Because of its theoretical difficulties, environmentalism encounters practical problems as well. In other words, because the theory underlying environmentalism is both vacuous and rife with contradictions, the actions emanating from this theory is equally doomed. Environmentalism is a powerful ideology in so far as many Canadians feel strong sentiments regarding their fears over what they symbolize as environmental holocaust. According to a 1989 Gallup poll, 72 per cent - as compared to only 51 per cent in 1985 - see pollution as a "very serious problem." (3) Moreover, according to a Maclean's/Decima poll of that same year, Canadians consider environmental protection as one of their most important public policy concerns. (4)

However during this public outcry, the potentially negative impact of increased environmental protection has been overlooked. The purpose of the preceding Section is to highlight the fact that environmental protection is not an obvious good for all Canadians. Particular regional economies are dependent on particularly polluting industries. At a deeper level what is often overlooked is the problematic nature of collective action within a democratic system.



The inherent problems with collective action call into question the assumed validity of pluralist democratic theory. Pluralism assumes that each individual member within a society holds a plurality of interests, and that each interest might also be held by other members of the society.(5) Individuals holding similar interests are then expected to act collectively, and through competition with other groups, pluralistic democracy results. In the final analysis, it is also assumed that the net result of such competition is basically fair for all participants.

Mancur Olson argues that except in certain limited cases, individuals do not congregate in these groups for collective action.(6) Indeed, Olson points out that in most cases the common good, or the social welfare function, is antipodal to individual choices based on a self-interested utility function.(7)

At this point it is worth clarifying the essential difference between private and public goods. Private goods are defined by exclusivity - those things to which access can be controlled.(8) Clothing, for example, is a private good. The producer maintains exclusive ownership until the consumer buys the clothes, and the buyer thereby excludes others from using them. With private goods, individuals

act according to their own private utility function without reference to the collective, public utility function.

Public goods are those things defined by "jointness of supply" or "nonexcludability." (9) Clean water and most roads are examples of public goods in so far as access to them cannot readily be controlled so as to discriminate against those who have paid for the good, and those who have not.

Olson argues that individuals maximizing their own private utility will contribute to producing public goods only to the extent that their own contribution will cause a perceivable benefit to their own utility. Given that individuals cannot be excluded from public goods, there is an inherent disincentive to pay for that which can be had for free.

Although individuals in a society often recognize the validity and value of a collective good, collective action rarely follows. Self-interested analysis promotes free-riding. "The implication of this analysis," notes Keith Archer, "is that even though all individuals, or a large majority of individuals, might agree that a goal is desirable, they may decide not to pursue that goal, and thereby forego the public welfare function, because they

based their decision on a self-interested utility function."(10)

Because the environment is the quintessential collective good, it is an excellent example of the problem inherent in collective action. Archer explores this issue with reference to disposable diapers. Soiled diapers, after a useful life of only a few hours, are either incinerated releasing polyfluorocarbons into the atmosphere, or buried in landfills where they take considerable time to degrade while all the time providing a breeding ground for disease.(11) While Canadians show in public opinion polls an overwhelming concern for protecting their environment, environmental degradation continues precisely because the environment is a public good. As Archer puts it, "anyone who has ever removed a lid from a pail of well-fermented cloth diapers can quickly tell you how they can maximize their self-interested utility function."(12) According to the individual's self-interested calculations, his individual contribution to pollution does not make a significant, measureable difference. With respect to the environment, individual interests do not necessarily correspond with the group's.

The problem, however, is more complex than that created by disposable diapers. Pollution reduction, as we saw in the

previous Section, could cost billions of dollars, thousands of jobs and add significantly to regional economic imbalances. When a family in Grande Prairie, Alberta dependent on the pulp and paper industry is told that their livelihood will be diminished because other Canadians dislike pulp and paper industry pollution, self-interested utility function is likely to appeal to them strongly. According to our analysis, it will have greater appeal in the West, particularly in Alberta, than Eastern and Central Canada. Not only will this cause a significant split within Canada, something perhaps of the magnitude created by the National Energy Policy, but it also highlights how hard meaningful environmental protection is to achieve.

Obviously no one will say that he is not in favour of protecting the environment, but when it comes to dollars and jobs lost, the problem of collective action comes to the fore. In a 1989 Maclean's/Decima poll, Canadians were asked how much extra money per month they were willing to spend in order to buy more "environmentally-friendly" products for household use. 13 per cent said that they would pay nothing more, 61 per cent \$10-\$20 more, 16 per cent \$21-\$40 more, and nine per cent over \$40 more.(13) Canadians are willing to make limited sacrifices for a cleaner environment. However this question becomes moot if, as may be the case for the family in Grande Prairie,

little money exists in the first place to buy products, whether they be "environmentally-friendly" or not.

Environmentalism may simply mean increasing the gap between commonsense reality and imaginary possibilities. The reality of environmental protection entails potential hardship for many Canadians, particularly Western Canadians; the fantasy involves abstract and moralistic talk of rights that overlooks the fact that such talk is not cheap in so far as it leads to real consequences. When the rhetoric is analyzed, Canadians will see that environmental protection is expensive and involves significant readjustments. What will happen to the environmental movement then? Will there be a pro-development backlash in the 1990s as was experienced after the sudden burgeoning of the environmental movement in the late 1960s and early 1970s?

The most prudent course would be to moderate the rhetoric and realize that there are inherent problems when dealing with collective goods. Environmentalism overlooks the fact that, when presented with a choice between private and public interest maximization, individuals will almost always choose the former. With respect to the environment, as the example of disposable diapers demonstrates, private interest is usually seen as more important. The concept of sustainable development, which we will examine in the

following Section, fails for precisely the same reason. This failure, however, is somewhat tempered by rejuvenated concerns as to the costs of environmental protection, rejuvenated by current interest in sustainable development.

All this is not to say that nothing can be done to affect environmental protection. Chapter III addresses practical measures with which this goal can be achieved based on the recognition of the perennial conflict between collective goods and individual self-interest.

## II.4 CONTRADICTION AND SUSTAINABLE DEVELOPMENT

Perhaps the clearest examples of the theory of environmentalism influencing environmental policy are the policy statements made by the World Commission on Environment and Economy and the Canadian National Task Force on Environment and Economy. Both show how contradictions in theory lead to contradictions in practice. The following Section highlights this connection.

### II.4.1 The Brundtland Commission

The World Commission on Environment and Economy (WCED), headed by Gro Harlem Brundtland, former Prime Minister of Norway, was established by the United Nations in order to assess the prospects for integrating environmental protection and economic development. The Brundtland Commission is a watershed in political and economic thinking - it has caused government and business leaders to reexamine current development policies.

The Brundtland Commission's final report, Our Common Future, notes that careful management of future economic development is required so as "to make way for a new era of economic growth." (14) Its purpose is to induce governments and individuals to reassess what the proper relationship

between the environment and economic development should be. Simply put, the Brundtland Commission stresses the importance of a radical reprioritization; in its judgement, economic development without explicit deference to the environment is ultimately self-defeating. Damage to our environment promises a grim economic future because economics are ultimately dependent upon environmental exploitation. The goal is to promote sustainable development; that is, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (15)

This general aim takes form in the following objectives: (1) to put forth plans by which sustainable development can be reached by the year 2000; (2) to suggest a process of reconciliation among nations regarding economic development; (3) to recommend means of enhancing the ability of the international community to affect the necessary copenetration of economic development and environmental protection; and (4) to make positive suggestions as to what a future characterized by sustainable development might look like, and how such a future might be achieved.

In essence, sustainable development is development that is not based on energy and material intensity to the extent that the environment is harmed for future use. Thus the



Brundtland Commission suggests that sustainable development might mean, more precisely, sustainable growth. Exactly how governments are to achieve this change is left by the World Commission for others to determine: "painful choices have to be made. Thus, in the final analysis, sustainable development must rest on political will."(16)

#### II.4.2 The Canadian National Task Force on Environment and Economy

The Canadian National Task Force on Environment and Economy (CNTFEE), established by the Canadian Council of Resource and Environment Ministers (CCREM) in October, 1986, was organized in order to make suggestions drawing upon the expertise of environment and resource ministers, senior executive officers of Canadian industry, and members of environmental organizations and the academic community. The National Task Force sought to propose environment-economy integration in practicable terms. To this end, the Task Force proposed, in its 1987 Report of the National Task Force on Environment and Economy, to:

- (1) enhance understanding of potential for environment and development linkages, and encourage environment-economy linkages in leadership decision making;
- (2) establish government-industry Round Tables with which effective environmental protection can be achieved;
- (3) develop conservation strategies across Canada in all federal, provincial

and territorial jurisdictions; and (4) further Canada's international role in integrating environment and development.(17)

Although still in the initial stages, the proposals of the National Task Force have already succeeded where the Brundtland Commission left off. Concrete and specific discussions among those constituents that would be affected by a policy of sustainable development within the Canadian context are underway, and timetables for the production of yet more specific recommendations in the form of sustainable development strategies for economic-environment policy integration have been set. In fact, all provinces and territorial governments have developed action plans and conservation strategies.

#### II.4.3 Can Sustainable Development Be Actualized?

The key to the Brundtland Commission's concept of sustainable development, as is also echoed by the Canadian National Task Force, is sustainability: that the development of natural resources (the ultimate basis of all economic development) must be done in such a way so as not to hinder future generations from meeting their own "needs." Some argue that sustainable development is possible in the development of 'renewable' resources such as

fish. Of course, it is not so simple when one considers that sustainable development of even 'renewable' resources will require careful management of a degree that very few countries have achieved. Off the coast of Eastern Canada, for example, fishing quotas have had to be scaled back because of overfishing and overfishing resulted from wrong assumptions made by Fisheries officials in their computer models. The fishing industry in Canada has not yet attained the status of a sustainably-developable industry although it would appear to be an obvious candidate for sustainability.

Perhaps worst of all, the current popularity and blind acceptance of the concept of sustainable development can be attributable to its "a-cake-and-eat-it-too quality that runs a grave risk of overstating the possibilities and nurturing frustration and disillusion.... More may be demanded of us than the report allows." (18) Perhaps, given this criticism, the concept should be considered more carefully given the potentially strong swings of anti-environmental protection sentiment that could result should sustainable development come to be seen as nothing more than an expensive, complicated and empty dream.

Both the Brundtland Commission, and to a lesser extent the National Task Force, offer a solution that requires a

change in current attitudes to development to such a degree that our fundamental liberal economic predilections, such as deregulation and the efficacy of the marketplace, will have to be turned on their heads. The proponents of sustainable development, while recognizing their radical approach to the development-environment problem, do not suggest how the schism between liberalism and government intervention (domestic and international) required for the actualization of real sustainable development is to be bridged.

Fred Hirsch points out that individual altruism is insufficient when it comes to promoting the public good; the public good cannot be fostered by anything but an overarching governing authority. Both the Brundtland Commission and the National Task Force believe that our current environmental crisis will cause a change in human nature to the point that "rather than the pursuit of self-interest contributing to the social good, pursuit of the social good contributes to the satisfaction of self-interest."(19)

Forsaking such a radical shift, as Hirsch wisely concludes, the pursuit of the public good, in this case an admixture of environmental quality and economic growth - sustainable development - has to be organized under existing standards

and patterns of individual behaviour.(20) Sustainable development calls for "collaboration, cooperation, more attention to equity, and a massive role for governments and international institutions in a world that is to some degree in flight from these values."(21)

It is worth noting that Hirsch's 'solution' - to appeal to individual's self-interests in order to achieve a public good - merely represents a softer version of the same problem. Many see our drive towards technological domination over nature as the cause of current environmental crises.(22) Unfortunately for those wanting to affect environmental protection, the thinking that has allowed for this technological advance has become so inherent that solutions to technologically caused problems are invariably technological. In our case, we suggest the seemingly softer technology of people management rather than more direct nature management. All of this is not to say that a non-technological solution does not or cannot exist: rather, that such a solution is not readily apparent. For now it seems that soft technologies are the best means, but we must not forget that by employing them we may in fact be contributing to technological domination, which in the long run is the greater problem.

Sustainable development necessarily requires that certain industries will be negatively affected. If the goal is general dematerialization and energy conservation, clearly industries such as petroleum product manufacturing and forestry will be negatively affected. As we demonstrated, communities dependent on such vulnerable industries will have a difficult time accomodating this requirement. In these cases, sustainable development could take the form of no development at all.

Again, private utility function will almost invariably win out over the public. Hirsch poses two solutions to the problem presented by collective goods in liberal societies. These solutions involve reconnecting "individual and collective rationality in one of two ways: through collectively imposed compulsion or through collectively imposed incentives (taxes and subsidies), both acting on individuals' private interests to secure the necessary shift in behaviour."(23)

The key element in Hirsch's argument is that a public objective is itself not sufficient cause for changing behaviour, nor is it capable of changing essentially self-interested individuals acting within society. Thus he concludes that:

the best result may be attained by steering or guiding certain motives of individual behaviour into social rather than individual orientation, though still on the basis of privately directed preferences.(24)

With respect to the environment, in keeping with Hirsch's analysis, policy should be formulated so as to satisfy individual utility functions that also meet the conditions of the public good. In other words, individuals should be moved towards environmental protection through the carrot of incentives and the stick of regulations.

Conservation is preferable to the concept of sustainable development because the latter requires government intervention to such an extent that satisfaction of self-interests would call the exercise into question. Conservation - that is, treating the environment with an eye to achieving the maximum sustainable yield - seeks to internalize the external costs of environmental degradation so as to make it a matter of self-interest to protect the environment. However, while conservation so defined offers a reasonable and effective approach to the problem, it is a difficult approach politically because of the negative image attributed to approaching public concerns in terms of self-interest.

Conservation differs from the Brundtland Commission's notion in so far as the latter appeals for much wider influence and compulsion from formal, governmental institutions that would theoretically transform selfish interests into more publically-minded pursuits. However, it seems highly unlikely that human nature could be changed to the degree that individuals would pursue public goods in order to satisfy individual interests. As we saw in Section II.3, individuals will in fact 'pursue' public goods usually as only an incidental by-product of their own individual utility maximizations.

The ideal of sustainable development may be seen to exemplify Bloom's "two-state-of-nature teaching" mentioned in Chapter I. The "sustainable" aspect of sustainable development is derived from Rousseau, in so far as we attempt to maintain the environment in such a way so as to enjoy its fruits in perpetuity; while the "development" aspect of sustainable development is derived from Hobbes and Locke who taught humans to exploit nature to provide security and comfort. Holding to these two teachings simultaneously, as Bloom points out, leads us into strange contradictions. In this case, the doctrine of sustainable development allows us to protect the environment while exploiting its resources without due consideration of how the ideal of sustainable development would be achieved.



Unfortunately, whether it be "saving the darter snail while blessing the pill," or sustaining the environment while promoting development, parts of a contradiction cancel each other out.

Thus sustainable development may offer us an opportunity to feel good - because we can think we are both protecting the environment and utilizing its resources - but it cannot offer a coherent policy approach to the problem. The ideal of sustainable development must be re-examined in terms of the realities of individual self-interest maximization.

With respect to the goal of sustainable development, the pendulum of environmentalistic public sentiment has recently swung back from Rousseau to Hobbes and Locke. Prior to the Brundtland Commission, environmentalism stressed the importance of preservation of wilderness with little respect for development. Sustainable development is the most recent attempt to find a middle ground between environmental preservation and development, between the Rousseauian and the Hobbesian-Lockean visions. But given the built-in contradiction, it remains open to doubt whether any satisfactory mean can be found so long as the contradictory "two-state-of-nature teachings" remain integral to both our theory and action.

## II.5 CONCLUSION

The task for today's policy makers is to resolve the conflict internal to the concept of sustainable development, and environmental policy in general. That there are costs to development in terms of environmental degradation, and that this degradation threatens to stunt future development is the obvious conclusion to be drawn from the argument for sustainable development. But what is less obvious is the implication that collective goods could be treated as if individuals act in an altruistic fashion in pursuit of the public utility function. Chapter III explores means by which essentially self-interested individuals can be moved towards a collective purpose without significant detriment to either public or private interests.

- 
- (1) For the purposes of this examination, we cannot distinguish between those industries that pollute at the production as opposed to the consumption end. We assume that these five industries pollute at one end or the other, or in some cases, both.
  - (2) Informetrica, The Environment-Economy Linkage. (Ottawa: Informetrica, 1989).
  - (3) Gallup Canada Inc., Canadians Increasingly Concerned About Dangers of Pollution. (Toronto: Gallup Canada Inc., 1989).
  - (4) Maclean's/Decima, Maclean's. June 1989, p. 18.
  - (5) Robert Dahl and Charles Lindblom, Politics, Economics and Welfare. (New Haven: Yale University Press, 1953).

- (6) Mancur Olson, The Logic of Collective Action: Public Goods and the Theory of Groups. (Cambridge: Harvard University Press, 1965).  
See also: Russell Hardin, Collective Action. (Baltimore: Johns Hopkins University Press, 1982).
- (7) Olson, Collective Action, 1965, p. 2.
- (8) Dennis Mueller, Public Choice. (Cambridge: Cambridge University Press, 1979), p. 13.
- (9) Mueller, Choice, p. 13.
- (10) Keith Archer, "The Limits of Canadian Democracy: A Theoretical Perspective," in Alain Gagnon and James Bickerton (eds.), Canadian Politics: An Introduction to the Discipline. (Peterborough: Broadview Press, in press).
- (11) Andre Picard, "Markham Mother Starts Business to fill Metro's diaper gap," The Globe and Mail. July 8, 1989, p. A14.
- (12) Archer, "Limits," p. 20.
- (13) Maclean's/Decima. Maclean's. June 1989, p. 18-9.
- (14) The Brundtland Commission of Environment and Economy, Our Common Future. (Oxford: Oxford University Press, 1988), p. 8
- (15) Brundtland Commission, Future, p. 8.
- (16) Brundtland Commission, Future, p. 9.
- (17) Canadian Council of Resource and Environment Ministers, The Report of the National Task Force on Environment and Economy. (Ottawa: Minister of Supply and Services, 1987).
- (18) Ian Stewart, "The Brundtland Commission: Pathways to Sustainable Development" in The Brundtland Challenge and the Cost of Inaction, Alex Davidson and Michael Dence (eds.). (Halifax: The Institute for Research on Public Policy, 1988), p. 119.
- (19) Brundtland Commission quoted in Stewart, "Pathways," p. 119.

- (20) Fred Hirsch, Social Limits to Growth. (London: Harvard University Press, 1976), pp. 144-47.
- (21) Stewart, "Pathways," p. 120.
- (22) For a comprehensive theoretical account of this problem, an account which is presupposed for the purposes of this thesis, see:  
George Grant, English-Speaking Justice. (Toronto: House of Anansi, 1986);  
Technology and Empire. (Toronto: House of Anansi, 1969); and  
Technology and Justice. (Toronto: House of Anansi, 1986).
- (23) Hirsch, Social Limits, p. 145.
- (24) Hirsch, Social Limits, p. 146.

## CHAPTER THREE - ENVIRONMENTAL POLICY IN CANADA

### III.1 INTRODUCTION

The ideology of environmental protection has pervaded the realm of practice. Indeed, current Canadian environmental policy and law is defined by the same contradiction in purpose evident in the ideology of environmentalism. For our purpose it is important first to understand the pervasiveness of the contradiction in environmental policy and law. After so doing, we can then suggest means by which to correct the practical and theoretical failings of environmentalism in light of the problematic nature of collective action.

### III.2 THE EVOLUTION OF THE DIRECT REGULATORY APPROACH

Since Confederation both the federal and provincial governments have enacted legislation related to environmental protection - for example, the 1868 Fisheries Act (Section 14), and Ontario's Public Health Act, 1884 (section 69(1)) - in the form of simple, blanket regulations. In the 1950s and 1960s legislation became increasingly specific. For example, the 1871 Manitoba Sanitary Act prohibited the deposit of "any stable or barn manure, or any night soil, or any other filthy or impure matter of any kind, along the bank of any river or running stream,"(1) whereas the Alberta Clean Air (Maximum) Regulations, among many others, states that:

sulphur dioxide in the ambient air shall not exceed an average maximum permissible concentration, at standard conditions, of

- (a) 30 micrograms per cubic meter as an annual arithmetic mean;
- (b) 150 micrograms per cubic meter as a 24 hour concentration;
- (c) 450 micrograms per cubic meter as a one hour concentration;
- (d) repealed AR 40/84.(2)

Environmental legislation has also become backed by increasingly stiff penalties: noteworthy in this regard is amended subsection 33(2) of the Fisheries Act, in which penalties for exceeding emission control regulations were raised from \$2,000 in 1960, to \$5,000 in 1970, to \$50,000

in 1977. Moreover, the Canadian Environmental Protection Act (CEPA) has provisions to make directors of corporations criminally liable.(3) In addition to these increasingly tough penalties, the courts have been empowered to force non-compliers to correct the source of the pollution. By the mid-1970s, this direct regulatory regime was in place in all federal and provincial jurisdictions. Today we retain this legacy of environmental legislation in the form of a transition from blanket prohibitions to more specific control regimes, to what might be called the direct regulatory regime.

In the last century Canadian environmental law has become significantly more specific and strictly enforced. And given the preeminence that environmental issues have in current political dialogue, one may expect that environmental regulations will become yet more strict in the near future.

In addition to direct regulatory responses there exist supplemental subsidies and incentives. Non-coercive measures have been effective in pushing polluters to clean operations without forcing them into what are usually unproductive adversarial positions. Three examples of such incentives are:

(1) Accelerated Capital Cost Allowance. This program is in a financial subsidy administered by Energy, Mines and Resources Canada. Its purpose is to provide a tax write-off against taxable business income for conservation and renewable energy equipment. In order to qualify, the business must have acquired an asset before 1985, must have been purchased by a Canadian taxpayer for use in Canadian business, and must be certified by the Minister of Energy, Mines and Resources.

Beneficiaries can write-off these specified assets either in two years, if acquired within the eligible period before November 12, 1981 (up to 50 per cent in the first year and the balance in any subsequent year, or three years), if acquired within the eligible period but after November 12, 1981 (up to 25 per cent in the first year, up to an additional 50 per cent in the next year and the balance in any subsequent year).(4)

(2) Development and Demonstration of Resource and Energy Conservation Technology (DIRECT). This is a financial subsidy administered by Environment Canada. Its purpose is to induce the private sector to develop and demonstrate new, innovative equipment, systems or products designed to recover or save energy through resource recovery. Any business can qualify for this program. Beneficiaries are



expected to contribute up to 50 per cent of the total estimated cost of an approved project (usually to a maximum of \$200,000 per project in any one fiscal year). The ratio of shared costs is dependent upon the degree of technical risk and the extent to which the technology can be applied by others.

Criteria for qualification include: environmental protection benefits, energy conservation, potential employment spinoffs, potential displacement of imported materials, and uniqueness of proposed innovative technology. After completing the project, the beneficiary of DRECT is also expected to make any technologies developed available to all others in Canada who are interested.(5)

(3) ENERDEMO (ENERgy and DEMOnstration) is a financial subsidy aimed at developing and demonstrating new technologies and their applications that employ alternative energy resources, conserve energy or make more efficient the use of energy. This program is aimed at not only creating new industries and increased employment, but at accelerating acceptance and commercialization of demonstrated technologies. Potential qualifiers include a wide range from industry, and consultants, through to federal, provincial and territorial governments and

agencies. Beneficiaries will receive cost-sharing assistance.

Beyond the objectives outlined above, the transfer of technology is an essential part of each project. Approval of a project is therefore dependent upon an approved information dissemination and technology transfer plan.(6)

Thus Canadian environmental law has travelled through three distinguishable stages: blanket prohibitions; direct regulation; and influencing through subsidies and incentives. While the first stage has been largely replaced by the more refined direct regulatory regime, incentive regimes are becoming increasingly significant. It has been discovered that polluters are able in some cases to exceed minimal standards given the proper incentives in order not only to avoid punitive action, but anticipate future environmental regulations as well.

Moreover, proactive responses are usually cheaper than reactive responses. For example, in the early 1970s the Japanese government imposed draconian emission standards on its automotive industry. At that time, the manufacturers claimed that they could not comply with the new standards, but they were given no choice but to comply. By the early 80s, those same automobile manufacturers had essentially

redesigned the internal combustion engine; they also dominated the market for fuel-efficient cars. Simultaneously the American government imposed similarly tough standards for American manufacturers. Instead of redesigning their engines, as their Japanese counterparts were doing, the Big Three took the government to court. They won their court battle, but lost their market share to the Japanese. The Japanese, in essence, prepared for what became in the 80s tough emission standards in America (Japan's largest market for exporting automobiles) proving that proactive responses to environmental regulations are not only cheaper than reactive, but potentially profitable as well.

However it must be stressed that although incentive regimes are becoming increasingly important to pollution abatement and reduction, punitive action will likely continue to be the backbone of environmental protection for sometime to come simply because it is reasonable to expect that polluters will try to avoid potentially expensive pollution abatement unless they are at least threatened with penalties.

### III.3 PROBLEMS WITH THE CURRENT APPROACH

Government environmental regulatory regimes can take the form of statutes, regulations, judicial precedents, guidelines, criteria, planning and evaluation, technical methods, policy statements, and administrative procedures. A necessary preliminary to establishing a regulatory regime is the formulation of environmental objectives. These objectives can be anything from general prohibitions, to required water quality conditions, to specifications of what pollution control equipment is required from certain industries.

Theoretically, achieving environmental protection within our direct regulatory regime (through the control and abatement of ongoing pollution, and prohibition of future environmental problems) begins by establishing environmental objectives. Standards have to be set, and monitoring and enforcing agencies have to be established. Objectives include general legal prohibitions,(7) ambient standards,(8) discharge or emission limits,(9) and equipment technology specifications.(10)

While setting these regulations and objectives are obviously an important step on the path towards environmental protection, they are not sufficient. Implementation incen-

tives are those legal, administrative or economic instruments designed to induce polluters to comply with environmental objectives. Traditionally, these incentives are usually the threat of prosecution, court injunctions, emission charges, and the like. Typically, most North American jurisdictions first define their environmental objectives and then rely on moral suasion, fines and voluntary compliance.

While this direct regulatory regime is lauded as successfully bringing polluters under the watchful eye of legislation, the subsequent increase in government intervention has drawbacks; while government must set standards for allowable pollution given what standards are financially and/or technically feasible, government must also expand into the business decision-making process. Until recently this has had the unfortunate effect of pushing pollution control into the hands of government bureaucracy, thereby tending to remove the regulatory and licensing process from public scrutiny.

Furthermore, using that direct regulatory approach, Canadian environmental control has not been generally successful in forcing polluters to abide by environmental objectives. Marginal costs of pollution control are usually so high that polluters have little incentive to reduce pollution

and therefore delay or avoid pollution reduction. While financial assistance has played a significant role in overcoming the friction caused by the costs of implementation, the incentive regime has sometimes mixed objectives - in some instances, governments may be at once discouraging and encouraging pollution. Water pollution combined with water use is such an instance. According to the Science Council of Canada, "the artificially low price of Canadian water - \$0.33 per cubic metre compared to \$4 in parts of the United States or \$7 in Japan - has undoubtedly helped to discourage the commercial exploitation of clean water technology developed in Canada."(11) Thus while the federal government discourages water pollution through specific legislation and regulations, municipal governments encourage water wastage by depressing the price thereby keeping the real cost of clean water external to the price.

A clearer example of this sort of lack of inter-governmental cooperation and consensus is inherent in policies promoting production and land-based income safety nets for farmers, and Canadian Wheat Board quotas, both of which result in added stress on the soil by encouraging production on marginal lands. Incentives have not in this instance overcome the weaknesses of the direct regulatory regime.

A further problem inherent in the direct regulatory approach involves the way in which those regulations are expressed. Despite the tough-sounding language of most legal prohibitions,(12) there are usually so many exceptions to regulations that the scope of most prohibitions are not so great as may appear on first reading. For example, subsection 33(2) of the Fisheries Act prohibits the deposit into water of any substances deemed to be harmful to fish except when allowed under regulation. As the Law Reform Commission of Canada notes, "if a literal interpretation of this provision were adopted, few industries in Canada could operate. Courts and government officials alike have struggled with the stark nature of the offence."(13)

Donald Dewees argues that despite the extreme language of most prohibitions, and in addition to many exceptions, negotiating and bargaining go further in softening the harsh regulatory language.(14) Thus, despite what one might expect after reading most environmental legislation and regulations, federal officials rarely call upon formal sanctions in order to force compliance. Instead, officials are more likely to negotiate. As stated by the Law Reform Commission of Canada, the regulatory approach in the 1980s has been characterized by

'compliance agreements' with many polluters, working in conjunction with provincial authorities and relying on formal sanctions only as a last resort.... While surveillance, detection and formal sanctioning are part of their functions, environmental bureaucrats are just as likely to be advising a polluter about a new pollution control technology, explaining how abatement expenditure may be eligible for a tax deduction or grant, or negotiating compliance agreements.(15)

While negotiation has been successful in finding low-cost solutions to short-term pollution problems, Dewees notes that when pollution amounts have been large, and costs of abatement high, bargaining and negotiating have achieved little more than delaying implementation. This is the most serious flaw with the direct regulatory approach; for there are, without proper incentives, few reasons for polluters to comply. The best strategy for the polluter, therefore, is to delay implementation through prolonging the negotiating and bargaining process.

Current policies for enhancing environmental standards through pollution reduction regulations are simply inadequate. There are many examples across Canada where environmental objectives have been set, but are ignored. Moreover, in many provinces major sources of pollution have not reduced pollutant emissions and discharges despite explicit demands from regulatory agencies.(16)



The problem begins at the stage when environmental objectives are being set. Often 'tough' legislative standards have been set for political reasons but are then followed with lenient enforcement standards. Unfortunately, when the symbolically 'tough' stance becomes too abstract, the cost to the polluter is overlooked, which thereby discourages compliance by overlooking the implementation costs to be charged to the polluter. While it is politically difficult to acknowledge that some pollution is allowable, prudence is required if significant pollution reduction is in fact to be achieved. Because in many cases, Dewees observes,

[legislation] may be unduly strict from a cost-benefit point of view, it is not surprising that exceptions are created when the relevant agency or ministry deals with specific industries or pollutants, or that many sources that clearly violate the act are not prosecuted.(17)

Section 33(2) of the Fisheries Act and section 14 of the Ontario Environmental Protection Act are examples of impracticable legislation: they contain strict prohibitions against discharges without acknowledging the risk that the polluter may decide to disregard or avoid the legislation because the potential costs of implementation are judged by him to be excessive.

Perhaps the best example of legislation that forces industry into non-compliance is an amendment to the 1970 Clean Water Act that was unsuccessfully promoted by United States' Senator Muskie. Senator Muskie sought to achieve zero pollutant discharge into all United States waterways by 1985.(18) Such artificially tough legislation would be unenforceable. As with the prohibition of alcohol, it would encourage polluters to continue polluting, and would thereby lead to widespread disappointment and panic in the public when inadequacies of the direct regulatory approach became evident.

The example of 'tough' anti-pollution legislation also indicates the positive relationship between theory and practice. Environmentalism, as we discussed in Chapter I, like all other ideologies, is necessarily built upon deception. It creates a theoretical vacuum that, by its own terms of reference, cannot admit of that vacuity. Politicians must therefore deceive the public with 'tough' sounding legislation so as to calm its environmental worries, while not enforcing that legislation so as to alienate the polluters. This example also illustrates Bloom's "two-state-of-nature teachings": we appease our Rousseauian longings by drafting draconian-sounding environmental legislation, while we appease our

Hobbesian-Lockean desire to profit from nature by making those statutes much less draconian in practice. This dualism clashes when laws become unenforceable; clearly legislators are victims of the ideology of environmental preservation and the "two-state-of-nature teachings." Frustrations fester, disappointments become the norm and meaningful environmental protection, which is, after all, the objective, is not attained. Thus, it is worth stressing what seems to be the all too positive relationship between theory and practice. With respect to the environment, that means that bad theory leads to bad practice; because the ideology of environmentalism is self-negating, the public law and policy emanating from it will be self-negating as well. This realization is the first step to correcting that ill-fated connection.

Although the direct regulatory regime has induced successes,(19) its inherent problems cannot easily be overcome. However, because individuals as well as industries act in order to maximize their self-interested utilities, and because of the inevitable conflict between public and private goods, it is in the interest of a polluter to continue to pollute if polluting is cheaper than abating. While compliance investments will likely provide long-term pay-offs (because, after all, pollution

is waste), the immediate costs of implementation are usually so high that short-term costs cannot be afforded.

Given the current Canadian direct regulatory regime, compliance costs usually exceed non-compliance costs by a considerable margin. Therefore, "company managers ... have strong economic incentives to delay and procrastinate, even if these tactics result in an occasional prosecution." (20) Two conclusions seem to follow. First, considerable effort will have to be spent in order to understand the inherent problems with the direct regulatory approach. Second, supplemental means, namely market-oriented policies, will have to be developed, tested and put into place when direct regulation fails. The emphasis in the following Section will be to indicate what market-oriented incentive policies might be available.

#### III.4 MARKET-ORIENTED POLICIES

In the face of the many inherent difficulties in the direct regulatory approach, market-oriented approaches appear to be an obvious and attractive alternative. However, despite the appeal of the instruments we will examine - escrows and surety bonds, emission charges, and emissions trading - implementation remains highly problematic. According to Douglas Hartle, there are two political pitfalls to most market-oriented measures of pollution reduction and abatement. He poses the problem in terms of two political axioms: first, that "voters will not accept any scheme that explicitly acknowledges that each human life is not infinitely valuable"; and second, that "voters will not readily accept the decision to allocate what they perceive to be rewards to those whom they perceive to be 'the bad guys.'"(21) Accepting these axioms as valid, let us consider the implications.

First of all, these axioms explain precisely why politicians satisfy those worried about the environment while at the same time appeasing polluters by drafting unenforceable 'tough' legislation. Robert Lerman concludes that because most market-oriented schemes do not sound 'tough,' they are therefore doomed to fail.(22) Indeed market-oriented policies do not hold the same symbolic value as does the

current direct regulatory approach. If direct regulation does not achieve results, the virtues of market-oriented instruments must therefore be explained and promoted so that meaningful pollution reduction can become a reality.

Economic incentives are attractive both to polluters and to those setting environmental objectives because such incentives, if properly administered, are both effective and efficient. Economic incentives can be implemented so as to provide a net benefit at the lowest possible cost. Given that many Canadian industries are keenly vulnerable to increasingly strict environmental objectives, it is prudent to advocate policies that make pollution reduction as economically painless as possible.

We consider below several economic incentives that can be useful in overcoming the inherent tendency of polluters to avoid abatement implementation. While each of the incentive instruments must be tailored to specific circumstances, our present concern is to establish the general principles involved. The following examples are not exhaustive, but simply indicate some of the more promising market-oriented measures of pollution abatement and reduction.

#### III.4.1 Escrows and Surety Bonds

An escrow, a discreet amount of money deposited with a trustee until a specified amount of time has passed; can serve as an effective instrument if a polluter deposits money with either an environmental agency or bank as soon as an abatement program is determined. The payment can be as much as the total estimated cost of abatement implementation, and will be deposited into an escrow account. As the polluter implements the pollution abatement program, the funding is refunded proportionately to the extent of implementation. Ultimately when the program has been completed, the firm would have received back all of its original deposit.

Surety bonds can be established in order to compliment the escrow account. These bonds can not only ensure certain performance standards will be met in the future, but can also provide funds for emergency repairs, damage or cleanup costs in the event of bankruptcy, and so on. The Ontario Ministry of the Environment, for example, required in 1974 that Cyanamid of Canada deposit \$1.5 million with the Royal Bank of Canada against the installation of an abatement program at its Welland, Ontario chemical plant. The deposit was refunded monthly as the abatement program was implemented.

Such one-time payments provide an excellent incentive for polluters to obey environmental objectives. Regulatory agencies can vary the amount required for deposit according to the case: where the incentive to reduce pollution is low, the deposit should be high; where the incentive is high, the deposit need only be small. In addition to this advantage, surety bonds ensure that implementation will be ongoing, and that future environmental damage can be dealt with, through clean-ups, for example, without resort to government funds.

The disadvantage of surety bonds and escrows is that they do not overcome inherent problems of the direct regulatory system because they do not help alleviate the high short-term costs of abatement.

#### III.4.2 Emission Charges

Under this system, a polluter pays a fixed amount per unit of pollution discharged. The rate at which a polluter is charged must be such that the cost of implementing abatement is less than paying emission charges. The most ambiguous aspect of emission charges concerns the determination of the "social cost" of pollution. The idea that producing certain goods implies social costs and benefits was first put forth by Arthur Pigou. According to him,



there are "aspects of social life which can, as a rule, be brought into relation with a money measure, and which, therefore, fall within economic welfare, are a certain limited group of satisfactions and dissatisfactions." (23) The emission charge should more or less reflect the notion that environmental damage is costly in a social sense. Emission charges attempt to internalize the otherwise external cost of environmental degradation. However, estimating this cost and therefore the appropriate charge, is difficult. Measurement techniques exist but they are not widely accepted because of the measurement difficulties inherent in estimating externalities in general, which are compounded with the multifaceted externality of the social good of environmental protection. (24)

Because social goods tend to involve a high number of often wide-reaching externalities, it becomes a difficult task to limit that social good sufficiently so as to measure it. The example of environmental protection illustrates this claim. When one attempts to measure the 'goodness' of a clean environment, one would have to consider variables such as human health, wildlife protection, aesthetic value, tourism, and so on. Moreover, the character of many social goods does not lend itself to quantitative measurement.

How, for example, could one adequately measure the 'goodness' of a pure mountain breeze?

The more practical and desirable approach is to estimate the incremental costs of achieving certain pollution reduction levels. By so doing, regulatory agencies can push polluters towards implementation without bankrupting the firm in the process.(25) If set at workable levels, emission charges present many key advantages. First, emission charges make it more costly to pollute than to abate thereby removing economic incentives for delaying implementation of abatement; second, they provide an on-going incentive for meeting pollution control standards; and third, they present incentives for firms to invest in research and development in order to find cleaner (more efficient) production techniques.

Despite these advantages, however, emission charges are not perceived by the public as effective. Emission charges are often interpreted as licenses to pollute rather than means by which abatement can be achieved.(26) This is an unfortunate interpretation in that a number of empirical studies have found that emission charges in fact work to induce polluters to reduce pollution. Donald Ethridge showed, for example, that in American poultry processing plants, Biochemical Oxygen Demand (BOD) discharges per

1,000 birds declined by 0.5 per cent per one per cent increase in sewer surcharge rates.(27) While this is not a particularly large decline in BOD discharge, the positive relationship between decreased BOD discharges and higher sewer surcharge rates is clear. Similarly, William Sims showed that breweries in several Canadian cities were responsive to increased surcharges. A one per cent surcharge rate on BOD discharges caused a 0.537 per cent decline in the BOD emissions from the breweries he studied.(28)

The most common criticism of the emission charge scheme from polluters is that they are forced to pay twice, once for the costs of abatement, and once for the charges themselves. However, this claim overlooks the fact that polluters actually reduce the emission charges by implementing abatement.

#### III.4.3 Emission Rights

First proposed by John Dales in 1968, emission rights trading is lauded as the least-intrusive, least-costly and most efficient means of actualizing pollution reduction objectives.(29) This market-oriented solution permits one industry in a given region to do better than the minimal standards, and sell the difference - a 'right' to pollute,

or 'pollution credit' - to another industry in that same region not meeting the standard. The net result is regional compliance with pollution-reduction standards. Under this system, pollution credits can be auctioned or given away in proportion to current emission and/or production output patterns, and with reference to environmental objectives.

There are two primary advantages to emissions trading. First, with the possibility of making money by selling pollution credit, there will likely arise a much larger pollution control sector than now exists, thereby making pollution control technology more readily accessible. Second, government can affect regional-pollution reduction objectives without hurting any one particular industry for which short-term compliance costs are such that substantial pollution reduction is a financial and/or technical impossibility.

No perfect case exists. However, several current policies in the United States are moving in the direction of this market-oriented policy. The best example is the "offsets" policy contained in the American Clean Air Act of 1970. The Act contained prohibitions against constructing new sources of pollution in regions already exceeding national air quality standards.(30) Because this provision excluded

many major American regions from further economic development, amendments to the original Act were introduced in 1977 in order to open the window for more flexible approaches to meeting the national ambient air standards.(31)

The "offsets" policy was the result. It is more flexible than earlier policies in that new sources of pollution can be introduced only if reductions by an existing polluter more than offsets the new source. This policy creates something like an emissions trading system in which the 'right' to pollute must be bought by the potential polluter from an existing polluter. However it differs in so far as the "offsets" policy requires that the existing pollution source reduce more pollution than that which will be produced by the new polluter. Since 1976, offset arrangements have been used 115 times. The Volkswagen plant in New Stanton, Pennsylvania, for example, was allowed to operate only because the Pennsylvania Transportation Department reduced hydrocarbon emissions from its road surfacing operations.

American President George Bush has revived interest in emission trading by proposing new legislation, that is currently being debated by Congress, that is more in keeping with a true pollution rights scheme. One of the

regions targetted as an example of where such a system is necessary is the Ohio River Valley, one of the major regional sources of sulphur dioxide in the world. Now, since it might be easier (that is, cheaper) for a Florida utility to meet pollution reduction standards than a similar plant in Ohio, because, say, the latter is more antiquated than the former, the Ohio plant could buy 'pollution credit,' or the 'right' to pollute more than is stipulated by the regulations from the Florida utility. The eventual result, as we will see below, is overall pollution reduction, because while the Ohio utility overpollutes, the Florida utility underpollutes in an equal but opposite amount.

Eventually, because of the incentive to find means with which to exceed the standard, pollution control equipment and technology will become more readily available. However without increasingly strict standards, a balance of marginal costs will eventually be attained; it is therefore imperative that regulatory boards push this market system of emissions trading only so hard that the price of buying pollution credit is greater than pollution control. In this way, government agencies can lead the otherwise invisible hand of the market while still utilizing individual intelligences working within it.

In essence, firms would be induced to cut pollution to the extent that the marginal cost of pollution reduction is less than the marginal revenue obtained from selling pollution credits. Less efficient firms (those utilizing polluting technologies) would purchase pollution credits to the extent that the marginal revenue from polluting (expanding output and so on) exceeds the marginal cost of the credit. The success of the argument hinges on the following two factors: (1) different cost/revenue curves for selling/buying industries as a result of scale or product line differences; or (2) an absence of technology transfer across firms (or perhaps both 1 and 2). The second factor is not desirable because technology transfer is an essential benefit of the pollution credit system.

In order for this system to succeed in reducing pollution through technological innovation and subsequent technology transfer, rather than maintaining a constant level of pollution, either the pollution credit would have to be less than the pollution reduction or there would have to be excess demand for credits. The latter would force the price of credits up in the short run (thereby inducing industries to clean up and sell credits), but in the long run, the supply of credits would bring prices downward resulting eventually in an equilibrium of credit supply and

credit demand. Hence the need for an externally driven excess demand. A regulatory board would have to push this system forward by incrementally increasing pollution reduction objectives.



## III.5 CONCLUSION

It is simply not the case that by adding these market-oriented pollution reduction measures to the existing regulatory regime all ills will be cured. No one, or three for that matter, changes can fix what is an insidious problem. The purpose of highlighting these alternative policies is to point out the general direction in which pollution reduction initiatives should be moved. That is, policy makers must become more aware of the inherent impossibility of dealing with public goods as if people did not act in their own immediate interest.

Underlying this realization is a yet more important and difficult one: namely, that modern thinking about environmental policy is defined by the contradictory "two-state-of-nature teachings." However while realization of this contradiction is crucial to meaningful environmental protection, it is only the first step. The second and more treacherous step is to act with that realization in mind. This must include, ultimately, creative and prudential policy creation and implementation.

---

(1) Manitoba, Sanitary Act, S.M. 1871, c. 28.

(2) Clean Air (Maximum Levels) Regulation, Reg. 218/75, Part 1, s. 2.

- (3) Canadian Environmental Protection Act, Part VII, s. 122.
- (4) Jerry White (ed.), Government Assistance for Canadian Business. (Don Mills: Richard De Boo Publishers, 1989), p. 2-18.
- (5) Canadian Business, p. 2-18.
- (6) Canadian Business, p. 2-13.
- (7) See for example Section 2 of the Canadian Environmental Protection Act:  
 "In the administration of this act, the Government of Canada shall, having regard to the Constitution and laws of Canada, take both preventative and remedial measures in protecting the environment."
- (8) See for example Part I, Section 5 of the Clean Air (Maximum Levels) Regulation:  
 "Suspended particulates in the ambient air shall not exceed an average maximum permissible concentration of  
 (a) 60 micrograms per cubic meter as an annual geometric mean;  
 (b) 100 micrograms per cubic meter as a 24 hour concentration."
- (9) See for example Part III, Section 12.1(2) of Alberta's Clean Air Act:  
 "The concentration of particulates emitted to the atmosphere from an effluent stream or other particulate emission source from a secondary lead smelter shall not exceed  
 (a) 0.046 grams per normal cubic metre of effluent from operations involving the use of blast furnaces, cupolas, or reverberating furnaces ...."
- (10) See for example Section 14 of Saskatchewan's Hazardous Substances Regulations (Reg. 211/75) specifying the design and construction of above ground storage of hazardous chemicals.
- (11) Science Council of Canada, Water 2020: Sustainable Use for Water in the 21st Century. (Ottawa: Minister of Supply and Services, 1988), p. 21.
- (12) See for example the Ontario Environmental Protection Act (S.O. 1971):  
 "No person shall deposit in, add to, emit or discharge

into the natural environment any contaminant, and no person responsible for a source of contaminant shall permit the addition to, emission or discharge into the natural environment of any contaminant from the source of contaminant, in an amount, concentration or level in excess of that prescribed by the regulations."

- (13) Law Reform Commission of Canada, Pollution Control in Canada: The Regulatory Approach in the 1990s. Administrative Law Series, 1988, p. 25.
- (14) Donald Dewees. Evaluation of Policies for Regulating Environmental Pollution, Working Paper No. 4, (Ottawa: Economic Council of Canada, 1980), pp. 27-31.
- (15) Pollution Control, p. 19.
- (16) Peter Finkle and Alastair Lucas (eds.), Environmental Law in the 1980s. Proceedings of A Colloquium Convened by the Canadian Institute of Resources Law, 1982, pp. 169-70. See also the discussion of the "implementation gap" between legislation and enforcement in Pollution Control.
- (17) Dewees, Working Paper, p. 10.
- (18) "For 1985 we want to end all discharges into all of our waterways." (Senator Muskie, Congressional Record, Senate, 92nd Congress, 2nd Session, Vol. 117 Part 30, p. 38829, Nov. 2, 1971.
- (19) Between 1964 and 1979, for example, only eight monitoring stations in Ontario have measured deteriorating water quality while 65 stations have noted improvement. (Government of Ontario, Department of the Environment, Ontario Statistics, 1982, p. 62).
- (20) Peat, Marwick and Associates with William Sims, Economic Incentive Policy Instruments to Implement Pollution Control Objectives in Ontario. July, 1983, p. II-11.
- (21) Douglas Hartle in Dewees, Working Paper, pp. 73, 87.
- (22) Robert Lerman in Dewees, Working Paper, p. 88.
- (23) Arthur Pigou, The Economics of Welfare. (London: MacMillan Co. Ltd., 1962).

- (24) Richard and Peggy Musgrave, Public Finance In Theory and Practice. (New York: McGraw Hill Book Company, 1976), p. 58.
- (25) See the following for examples of this approach:
- J Donnan and P Victor, Alternative Policies for Pollution Abatement: The Ontario Pulp and Paper Industry. (Toronto: Ontario Ministry of the Environment. Vol. I and II, 1974, Vol. III 1976).
- James Stephenson, "Alternative Pollution Control Mechanisms in the British Columbia Pulp and Paper Industry" in James Stephenson, (ed.), The Practical Application of Economic Incentives to the Control of Pollution: The Case of British Columbia. (Vancouver: University of British Columbia Press, 1977), pp. 213-234.
- Peter Victor and T. Burrell, Environmental Protection Regulation: Water Pollution and the Pulp and Paper Industry. (Ottawa: Economic Council of Canada, 1981), Technical Report No. 14.
- (26) S. Kelman, "Economists and the Environmental Muddle," The Public Interest. Vol. 64, 1981, pp. 106-23.
- (27) Donald Ethridge. "User Charges as a Means for Pollution Control: The Case of Sewer Surcharges," The Bell Journal of Economics. Vol. 3, 1972, p. 346-54.
- (28) William Sims. "The Response of Firms to Pollution Charges," Canadian Journal of Economics. Vol. 12, 1979, p. 57-74.
- (29) John Dales, Pollution, Property and Prices. (Toronto: University of Toronto Press, 1968).
- (30) U.S. Clean Air Act, 40 C.F.R. Para. 51.18 (b)
- (31) U.S. Clean Air Act, 42 U.S.C. Para. 7410 (a)(2)(1) and 42 U.S.C. Para. 7501-7503.

## CHAPTER FOUR - CONCLUSION

The market-oriented approaches discussed in Chapter III cannot provide all the answers to our environmental problems. Just as the ideal of sustainable development cannot itself be sufficient, the attempt at environmental protection is far too complicated for any one 'solution' to suffice. Sustainable development does however teach us that there are costs to environmental exploitation, and that those external costs must be internalized if meaningful environmental protection is to occur.

Perhaps the most important first step towards environmental protection is realizing that simple fact - that there are costs in terms of environmental degradation involved with economic development, and that these costs are overlooked when individuals attempt to maximize their self-interested utility functions. As well, we need to realize the strange dynamics that arise when environmental policy issues are addressed. Indeed, environmental policy may be one of the clearest examples of how practical problems become manifest when the theory underlying the policy is unclear or contradictory.

The discussion in this thesis is an exercise in policy analysis that goes beyond the usual boundaries of consider-

ing policy formation and impact. In order to understand a policy area as emotionally-charged as is current discussion of environmental policy, one must consider as well the sources of that emotion. This entails an analysis of environmentalism as an ideology. Specifically, environmental preservation is an ideology that mobilizes strong emotions in support of inachievable, but superficially attractive goals. An understanding of the ideological dimension of environmentalism helps account for why effective environmental policies have been so difficult to achieve. Such an understanding of the reasons for currently ineffective environmental policies may assist policy-makers in designing alternative approaches that hold greater promise.

The difficulty should not be underestimated. In the case of environmental policy, environmentalism has become so ideological and self-confounding that if alternative policies have any hope of success it is likely to be over the long term. As Hartle points out, market-oriented policies simply do not hold the necessary symbolic value for an environmentally concerned public. A solution to this impasse must therefore begin, after analyzing the problem, with a realistic assessment of alternatives, which

is to say a realistic assessment of the political, social and moral context in which those alternatives are to work.

This means simply that the emotional/ideological fervour supporting environmentalism must be replaced with a prudential and reasonable insight. This means as well that the strong motives of self-interest must be taken into account. This motivation can be so strong that it is often something separate from the groups' utility. In the case of environmental protection, given that certain regions such as Western Canada will likely incur substantial costs leading to a lower standard of living, this schism between private and public interests is considerable.

A moderate approach to environmental protection must take into account the fact that attitudes towards environmental exploitation cannot, and should not change 180 degrees overnight. A moderate approach, moreover, promises to work rather than simply causing economic dislocation, ideological frustration and, worst of all, exacerbated environmental degradation, all of which flow from attempting to achieve an unattainable end.

In the final analysis, environmental protection will require pragmatic targetting of key actors, perhaps the most important of which is industry. And given the

appropriate combination of regulations and incentives, this appeal to clear and immediate interests can help achieve meaningful environmental objectives.



## BIBLIOGRAPHY

### PRIMARY SOURCES

- Allen, R. (ed.). The Oxford Dictionary of Current English. Oxford: Oxford University Press, 1984.
- Archer, Keith. "The Limits of Canadian Democracy: A Theoretical Perspective," in Alain Gagnon and James Bickerton (eds.). Canadian Politics: An Introduction to the Discipline. Peterborough: Broadview Press, in press.
- Birch, Charles and Cobb, John Jr. The Liberation of Life: From the Cell to the Community. Cambridge: Cambridge University Press, 1981.
- Bloom, Allan. The Closing of the American Mind. New York: Simon and Schuster, 1987.
- Canadian Council of Resource and Environment Ministers. The Report of the National Task Force on Environment and Economy. Ottawa: Minister of Supply and Services, 1987.
- Congressional Record, Senate, 92nd Congress, 2nd Session.
- Dahl, Robert and Lindblom, Charles. Politics, Economics and Welfare. New Haven: Yale University Press, 1953.
- Deweese, Donald. Evaluation of Policies for Regulating Environmental Pollution. Working Paper No. 4. Ottawa: Economic Council of Canada, 1980.
- Donnan, J and Victor, P. Alternative Policies for Pollution Abatement: The Ontario Pulp and Paper Industry. Toronto: Ontario Ministry of the Environment, 1974 and 1976.
- Finkle, Peter and Lucas, Alastair (eds.). Environmental Law in the 1980s. Proceedings of a Colloquium Convened by the Canadian Institute of Resources Law. Calgary: Canadian Institute of Resources Law, 1982.
- Government of Canada. Ministry of Supply and Services. Statistics Canada 31-203. Ottawa, 1984.

Government of Ontario. Department of the Environment.  
Ontario Statistics. Toronto, 1982.

Grant, George. English-Speaking Justice. Toronto: House  
of Anansi Press Limited, 1985.

-----". "Ideology in Modern Empires," in John Flint  
and Glyndwr Williams (eds.). Perspectives of Empire:  
Essays Presented to Gerald S. Graham. London:  
Longmans, 1973.

-----". Technology and Empire. Toronto: House of  
Anansi Press Limited, 1969.

-----". Technology and Justice. Toronto: House of  
Anansi Press Limited, 1986.

Hardin, Russell. Collective Action. Baltimore: Johns  
Hopkins University Press, 1982.

Hargrove, Eugene. Spaceship Earth: Environmental Ethics  
and the Solar System. San Francisco: Random House,  
1986.

Hays, Samuel. Beauty, Health and Permanence:  
Environmental Politics in the United States,  
1955-1985. Cambridge: Cambridge University Press,  
1987.

-----". Conservation and the Gospel of Efficiency:  
The Progressive Conservation Movement, 1890-1920.  
Cambridge: Cambridge University Press, 1959.

Hegel, Georg. Philosophy of Right. T. Knox (trans).  
Oxford: Clarendon Press, 1965.

Hirsch, Fred. Social Limits to Growth. London: Harvard  
University Press, 1976.

Hobbes, Thomas. Leviathan. Harmondsworth: Penguin Books  
Ltd., 1984.

Informetrica. The Environment-Economy Linkage. Ottawa:  
Informetrica, 1989.

International Union for the Conservation of Nature and  
Natural Resources. World Directory of National Parks  
and Other Protected Areas. Morges: IUCN.

- Jonas, Hans. The Imperative of Responsibility: Foundation of an Ethics for the Technological Age, with an Appendix on the Impotence of Subjectivity. Chicago: University of Chicago Press, 1984.
- Kennedy, Emmet. Destutt de Tracy and the Origins of Ideology. Philadelphia: American Philosophical Society, 1978.
- Law Reform Commission of Canada. Pollution Control in Canada: The Regulatory Approach in the 1990s. Administrative Law Series. Ottawa: Law Reform Commission of Canada, 1988.
- Locke, John. The Educational Writings of John Locke. James Axtell (ed.). Cambridge: Cambridge University Press, 1968.
- Locke, John. Two Treatises of Government. Peter Laslett (ed.). Cambridge: Cambridge University Press, 1967.
- Lovelock, James. The Ages of Gaia: A Biography of Our Living Earth. New York: Norton, 1988.
- MacIntyre, Alasdair. After Virtue: A Study in Moral Theory. Notre Dame: University of Notre Dame Press, 1981.
- , Whose Justice? Which Rationality? Notre Dame: University of Notre Dame Press, 1988.
- Marcuse, Herbert. Counterrevolution and Revolt. Boston: Beacon Press, 1972.
- Martin, William. Metaphysics and Ideology. Milwaukee: Marquette University Press, 1959.
- Meuller, Dennis. Public Choice. Cambridge: Cambridge University Press, 1979.
- Musgrave, Richard and Peggy. Public Finance In Theory and Practice. New York: McGraw Hill Book Company, 1976.
- Nash, Roderick. The Rights of Nature: A History of Environmental Ethics. Madison: University of Wisconsin Press, 1989.
- Olson, Mancur. The Logic of Collective Action: Public Goods and the Theory of Groups. Cambridge: Harvard University Press, 1965.

- Peat, Marwick and Associates with William Sims. Economic Incentive Policy Instruments to Implement Pollution Control Objectives in Ontario. Toronto: Peat, Marwick and Associates, 1983.
- Pigou, Arthur. The Economics of Welfare. London: MacMillan Co. Ltd., 1962.
- Regan, Tom. The Case for Animal Rights. Berkeley: University of California Press, 1983.
- Roberts, Neil. The Holocene: An Environmental History. New York: Basil Blackwell, 1989.
- Roszak, Theodore. Person/Planet: The Creative Disintegration of Industrial Society. New York: Anchor Press/Doubleday, 1978.
- Sills, David (ed.). International Encyclopedia of Social Sciences. New York: The Macmillan Company and The Free Press, 1968.
- Sorel, George. Reflections on Violence. T. Hulme and J. Roth (trans.). Glencoe: The Free Press, 1950.
- Stephenson, James. "Alternative Pollution Control Mechanisms in the British Columbia Pulp and Paper Industry" in James Stephenson (ed.). The Practical Application of Economic Incentives to the Control of Pollution: The Case of British Columbia. Vancouver: University of British Columbia Press, 1977.
- Stewart, Ian. "The Brundtland Commission: Pathways to Sustainable Development" in The Brundtland Challenge and the Cost of Inaction. Alex Davidson and Michael Dence (eds.). Halifax: The Institute for Research on Public Policy, 1988.
- Stone, Christopher. Should Trees Have Rights?: Toward Legal Rights for Natural Objects. Los Altos: Kaufmann, 1974.
- Strauss, Leo. Natural Right and History. Chicago: University of Chicago Press, 1974.
- The World Commission on Environment and Economy. Our Common Future. Oxford: Oxford University Press, 1987.

Tucker, William. Progress and Privilege: America in the Age of Environmentalism. Garden City: Anchor Press, 1982.

Victor, P. and Burrell, T. Environmental Protection Regulation: Water Pollution and the Pulp and Paper Industry. Ottawa: Economic Council of Canada, 1981.

White, Jerry (ed.). Government Assistance for Canadian Business. Don Mills: Richard De Boo Publishers, 1989.

## SECONDARY SOURCES

Baden, John and Stroup, Richard. "Saving the Wilderness." Reason. July, 1981.

Bertman, Martin. "Hobbes and Xenophon's Tyrranicus." Mimeo, 1989.

Editorial. Greenpeace Chronicles. April 1979.

Ethridge, Donald. "User Charges as a Means for Pollution Control: The Case of Sewer Surcharges." The Bell Journal of Economics. Volume 3, 1972.

Kelman, S. "Economists and the Environmental Muddle." The Public Interest. Volume 64, 1981.

Maclean's/Decima. Maclean's. June 1989.

Picard, Andre. "Markham Mother Starts Business to Fill Metro's Diaper Gap." The Globe and Mail. July 8, 1989.

Sims, William. "The Response of Firms to Pollution Charges." Canadian Journal of Economics. Volume 12, 1979.

Singer, Peter. "Animal Liberation," New York Review of Books. Issue 20, April 5, 1973.

Snyder, Gary. "Energy is Eternal Delight." The New York Times. January 12, 1973.

Stone, Christopher. "Should Trees Have Standing?: Toward Legal Rights for Natural Objects." Southern California Law Review. Spring 1972.

Voegelin, Eric. "Extended Strategy - A New Technique of Dynamic Relations." Journal of Politics. Volume II, 1940.

#### STATUTES AND REGULATIONS

Alberta Clean Air (Maximum Levels) Regulation. Reg. 218/75.

Canadian Environmental Protection Act.

Manitoba Sanitary Act. S.M. 1871.

Ontario Environmental Protection Act. S.O. 1971.

Quebec Environmental Quality Act. R.S.Q. 1977.

Saskatchewan Hazardous Substances Regulations. Reg. 211/75.

U.S. Clean Air Act. 40 C.F.R.

U.S. Clean Air Act. 42 U.S.C.