

# Environmental Ethics

AN INTRODUCTION TO ENVIRONMENTAL PHILOSOPHY

SECOND EDITION • JOSEPH R. DES JARDINS



# ENVIRONMENTAL ETHICS

An Introduction to  
Environmental Philosophy

Second Edition

JOSEPH R. DES JARDINS  
College of Saint Benedict



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# DEDICATION

One summer morning, while driving through the countryside, my four-year-old son asked, "Daddy, what are trees good for?" Sensing a precious moment of parenthood, I began gently to explain that as living things they don't need to be good for anything, but that trees do provide homes to many other living things, that they make and clean the air that we breathe, that they can be majestic and beautiful. "But daddy, I'm a scientist and I know more than you because you forgot the most important thing. Trees are good for climbing."

I hope that I have not missed too many other such obvious truths in writing this book, which I dedicate to Michael and Matthew.

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# PREFACE

One winter evening several years ago I re-read Aldo Leopold's *A Sand County Almanac*. This occurred a few months after I had moved to rural Minnesota from suburban Philadelphia. I came upon Leopold's entry for February:

There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace. To avoid the first danger, one should plant a garden, preferably where there is no grocer to confuse the issue. To avoid the second, he should lay a split of good oak on the andirons, preferably where there is no furnace.

This passage struck me in a way that it never could have had I still been living in a metropolitan area. The fact that it was twenty-seven degrees below zero outside and I was sitting in front of a roaring oak fire might have had something to do with this. I recognized that there are more than just two spiritual dangers in not owning a farm; one other concerns divorcing your life from your work. That evening, I realized that teaching courses on environmental and ecological issues would mean more to me now, personally and professionally, than it could have in the city. This book grows out of a commitment to integrate more fully my life with my work.

The primary aim of this book is simple: to provide a clear, systematic, and comprehensive introduction to the philosophical issues underlying environmental and ecological controversies. As we approach the twenty-first century, it is fair to say that human beings face environmental challenges unprecedented in the history of this planet. Largely through human activity, life on Earth faces the greatest mass extinctions since the end of the dinosaur age sixty-five million years ago. Some estimates suggest more than one hundred species a day are becoming extinct and that this rate could double or triple within the next few decades. The natural resources that sustain life on this planet—air, water, and soil—are being polluted or depleted at alarming rates. Human population growth is increasing exponentially. The 1990 world population of 5.5 billion people will increase by one billion people (nearly a 20 percent increase) by the year 2000. The prospects for continued degradation and depletion of natural resources multiply with this population growth. Toxic wastes that will plague future generations continue to accumulate worldwide. The world's wilderness areas, its forests, wetlands, mountains, and grasslands, are being developed, paved, drained, burned, and overgrazed out of existence. With destruction of the ozone layer and the potential for a greenhouse effect, human activity threatens the atmosphere and climate of the planet itself.

The tendency in our culture is to treat such issues as simply scientific, technological, or political problems. But they are much more than this. These environmental and ecological controversies raise fundamental questions about what we as human beings value, about the kind of beings we are, the kinds of lives we should live, our place in nature, and the kind of world in which we might flourish. In short, environmental problems raise fundamental questions of ethics and philosophy. This book seeks to provide a systematic introduction to these philosophical issues.

## **OVERVIEW**

A significant amount of philosophically interesting and important research on environmental and ecological issues has been conducted during the past few decades. The structure of this book tells the story of how the fields of environmental ethics and environmental philosophy have been developing during that period.

Two initial chapters introduce the relevance of philosophy for environmental concerns and some traditional ethical theories and principles. Chapters 3 and 4 survey topics that essentially fit an “applied ethics” model. Traditional philosophical theories and methodologies are applied to environmental issues with the aim of clarification and evaluation. The applied ethics model, it seems to me, accounts for much of the early work in environmental ethics.

Philosophers soon recognized that traditional theories and principles were proving inadequate to deal with new environmental challenges. In response, philosophers began to extend traditional concepts and principles so that they might become environmentally relevant. The next three chapters examine attempts to extend moral standing to such things as individual animals, future generations, trees, and other natural objects. Within much of this thinking, traditional theories and principles remain essentially intact, but their scope and range have extended to cover topics not previously explored by philosophers.

In recent years, many philosophers working in this field have come to believe that ethical extensionism is an inadequate philosophical response to environmental issues and controversies. To many of these thinkers, traditional ethical theories and principles are part of a worldview that has been responsible for much environmental and ecological destruction. What is needed, in their eyes, is a more radical philosophical approach that includes rethinking metaphysical, epistemological, and political, as well as ethical, concepts. At this point, the field once identified as environmental ethics is better conceived of as environmental philosophy. The final five chapters examine several of these more comprehensive environmental and ecological philosophies. These views include biocentrism (the view that all living things deserve moral standing), ecocentrism (the view that shifts away from traditional environmental concerns to a more holistic and ecological focus), Deep Ecology, social ecology, and ecofeminism.

## **THE SECOND EDITION**

A second edition provides an author a public opportunity to correct his mistakes. One result of this is a strong temptation to write a much longer book. But one important lesson we learn from ecology is to tread lightly because not every change is an improvement and not all growth is development. My primary goal for this book remains to provide a reasonably clear and simple introduction to the philosophical issues underlying environmental controversies. In this edition, I have tried to correct mistakes, of both commission and omission, without sacrificing this primary goal.

I have tried to keep major changes to a minimum. I have revised the sections on intrinsic and instrumental value as well as the sections that describe various ecological models of nature. In these cases, I hope to have achieved greater accuracy and clarity by simplifying the discussion. I have also added new sections on cost-benefit analysis, sustainable economics, social justice, environmental justice, and environmental racism, as well as an epilogue in which I consider the question of moral pluralism. Most other changes are relatively minor updates, additions, corrections, and clarifications.

## **TO STUDENTS AND TEACHERS**

Writing a book like this carries two intellectual dangers. One is the danger of supposing that students are as motivated by and interested in abstract philosophical issues as their teachers. The other is that in pointing to the immense practical relevance of environmental ethics, I ignore or understate the importance of careful and rigorous conceptual analysis. I have tried to address these dangers in a number of ways.

Each chapter begins with a description of one or two issues that can be used as an entry into the philosophical discussion that follows. These discussions describe issues that are at the forefront of the contemporary environmental scene, and they implicitly raise fundamental ethical and philosophical questions. My hope is that after some directed reflection and discussion, students will see the need to address philosophical questions in developing their own environmental and ecological positions. Each chapter also ends with a series of discussion questions that can be used either as the basis for a chapter review or as the basis for further study.

To avoid the second danger, I have tried to follow the philosophical debates far enough to provide an accurate example of how philosophers reason and how reasoning can make progress. There can be no substitute for a careful study and reading of the many primary sources that I have used in this book. But the nature of this book requires that these debates not be so developed that readers get lost in, or bored by, the detail.

I have not always been successful in my own teaching at balancing a relevant introduction to the issues with an in-depth analysis. Without a clear context to motivate the need to know, students often get lost in philosophical analysis. On the other hand, without depth students can become convinced too easily that they now know all the answers. Class time spent providing



context, of course, takes away from time spent developing analysis; time spent following through on the debates prevents the forest from being seen for all the trees.

I wrote this book to address that tension. I suspect that for many teachers, the book provides a context and introduction, allowing them to use class time for fuller development of selected issues. They might do this in a number of ways: by reading classic or contemporary primary sources, by studying more empirical resources like the *Worldwatch* publications, by using some of the many excellent videos on environmental topics that are now available, by addressing the claims of more activist groups, ranging from the Sierra Club to Earth First!. However individual instructors choose to develop their courses, I hope that this book can provide a context to ensure that students remain as connected to the important philosophical issues as they so often are to the practical environmental ones.

### **ACKNOWLEDGMENTS**

I owe my greatest debts to those thinkers who are doing the original research in this field. I have tried to acknowledge their work at every turn, but if I have missed someone, I hope this general acknowledgment will suffice.

The reviewers who read this book for Wadsworth provided thorough, insightful, and tremendously helpful advice. I must especially acknowledge Claudia Card of the University of Wisconsin, Arthur Millman of the University of Massachusetts in Boston, and Ellen Klein of the University of North Florida. Although their advice improved this book immeasurably, the usual disclaimers of responsibility apply. My thanks also to Ned Hettinger, College of Charleston; Dale Jamieson, University of Colorado; Donald C. Lee, University of New Mexico; Jon McGregor, Arizona State University; and Charles Taliaferro, Saint Olaf College. These scholars and teachers provided thoughtful and helpful guidance for the first edition. I also want to thank Douglas Browning, University of Texas, Austin; Claudia Card, University of Wisconsin, Madison; Wade Robinson, Rochester Institute of Technology; and William O. Stephens, Creighton University for thoughtful advice for the second edition. I have also benefited from advice offered by Holmes Rolston and Ernie Diedrich.

My students at the College of St. Benedict and St. John's University worked through early versions of this text. We were all students in those classes, and their comments helped substantively and pedagogically. The College of St. Benedict provided financial support for research during the writing of this book. Heidi Heintz, my research assistant, contributed in many ways. Everyone associated with Wadsworth Publishing proved once again why they are simply the best textbook publishers around. My oldest debts at Wadsworth are to Ken King for his enthusiasm for this project and to Tammy Goldfeld and Kelly Zavislak for their help, good humor, and patience. For help with this second edition, I wish to thank Peter Adams, Clay Glad, Angela Mann, and Polly Kummel for their professionalism and support.

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# CONTENTS

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## PART I Basic Concepts 1

---

### Chapter 1 Ethics, Science, and the Environment 2

*Discussion: Technological Solutions* 2

1.1 Introduction: Why Philosophy? 4

1.2 Science and Ethics 5

1.3 What Is Environmental Ethics? 9

1.4 Summary and Conclusions 11

Notes, Discussion Questions, and Further Readings 11

### Chapter 2 Ethical Theory and the Environment 13

*Discussion: Individual Rights and Social Goods* 13

2.1 Introduction 15

2.2 Why Ethical Theory? 18

2.3 Ethical Relativism 19

2.4 Natural Law—The Tradition of Teleology 20

2.5 The Utilitarian Tradition 24

2.6 Deontology: An Ethics of Duty and Rights 27

2.7 Social Justice 29

2.8 Summary and Conclusions 32

Notes, Discussion Questions, and Further Readings 32

---

## PART II Environmental Ethics as Applied Ethics 35

---

### Chapter 3 Forests, Pollution, and Economics 36

*Discussion: Development Versus Preservation* 36

3.1 Introduction 38

3.2 Forests: Conservation or Preservation? 39

3.3 Managing the National Forests 41

3.4 Pollution and Economics 46

3.5 Ethical Issues in Economic Analysis 49

3.6 Cost-Benefit Analysis 52

3.7 Ethical Analysis and Environmental Economics 53

3.8 Sustainable Economics 58

3.9 Summary and Conclusions 60

Notes, Discussion Questions, and Further Readings 61

### Chapter 4 Ethics, Energy, and Responsibilities to Future Generations 64

*Discussion: Greenhouse Gases and Nuclear Wastes* 64

4.1 Introduction 66

4.2	Energy and Future Generations	67
4.3	Population Policy and Population Growth	69
4.4	Climate Change and Duties to Posterity	73
4.5	Nuclear Wastes and the Rights of Future Generations	75
4.6	The Rights of Future Generations	79
4.7	Conserving Resources and Caring for Future Generations	82
4.8	Summary and Conclusions	85
	Notes, Discussion Questions, and Further Readings	86

### **Chapter 5 Responsibilities to the Natural World 89**

*Discussion: Mass Extinctions* 89

5.1	Introduction	90
5.2	Moral Standing in the Western Tradition	91
5.3	Early Environmental Ethics: Passmore and Blackstone	94
5.4	Moral Standing: The Recent Debate	99
5.5	Do Trees Have Standing?	102
5.6	Summary and Conclusions	104
	Notes, Discussion Questions, and Further Readings	105

### **Chapter 6 Responsibilities to Animals 108**

*Discussion: Animal Research and Factory Farming* 108

6.1	Introduction	110
6.2	Peter Singer and the Animal Liberation Movement	110
6.3	Tom Regan and Animal Rights	112
6.4	Ethical Implications of Animal Welfare	114
6.5	Criticisms	115
6.6	Summary and Conclusions	119
	Notes, Discussion Questions, and Further Readings	120

---

## **PART III Theories of Environmental Ethics 123**

---

### **Chapter 7 Biocentric Ethics and the Value of Life 124**

*Discussion: Biodiversity* 124

7.1	Introduction	125
7.2	Instrumental Value and Intrinsic Value	127
7.3	Biocentric Ethics and the Reverence for Life	130
7.4	Ethics and Character	133
7.5	Taylor's Biocentric Ethics	134
7.6	Practical Implications	138
7.7	Summary and Conclusions	141
	Notes, Discussion Questions, and Further Readings	142

### **Chapter 8 Ecology and Ethics 145**

*Discussion: Yellowstone Fires and Olympic Goats* 145

8.1	Introduction	147
8.2	The Value of the Wilderness	149
8.3	The Idea of the Wilderness	150

- 8.4 Environmentalism and the Romantic Wilderness Myth 154
- 8.5 From Ecology to Philosophy 157
- 8.6 From Ecology to Ethics 163
- 8.7 Varieties of Holism 165
- 8.8 Summary and Conclusions 167
- Notes, Discussion Questions, and Further Readings 167

## **Chapter 9 The Land Ethic 170**

*Discussion: A Place for Predators* 170

- 9.1 Introduction 173
- 9.2 The Land Ethic 175
- 9.3 Leopold's Holism 178
- 9.4 Criticisms of the Land Ethic: Facts and Values 180
- 9.5 Criticisms of the Land Ethic: Holistic Ethics 184
- 9.6 Callicott's Revisions 190
- 9.7 Summary and Conclusions 194
- Notes, Discussion Questions, and Further Readings 195

## **Chapter 10 Deep Ecology 198**

*Discussion: Environmental Activism: Legal and Illegal* 198

- 10.1 Introduction 201
- 10.2 The Deep Ecology Platform 202
- 10.3 Ecology and Ecophilosophy 203
- 10.4 Metaphysical Ecology 205
- 10.5 From Metaphysics to Ethics 208
- 10.6 Self-Realization and Biocentric Equality 212
- 10.7 Criticisms 215
- 10.8 Summary and Conclusions 217
- Notes, Discussion Questions, and Further Readings 217

## **Chapter 11 Social Ecology and Ecofeminism 220**

*Discussion: Sustaining Agriculture and Hugging Trees* 220

- 11.1 Introduction 224
- 11.2 Theories of Social Justice 226
- 11.3 Environmental Justice and Environmental Racism 228
- 11.4 Murray Bookchin's Social Ecology 232
- 11.5 Critical Reflections 235
- 11.6 Ecofeminism: Making Connections 237
- 11.7 Ecofeminism: Recent Developments 242
- 11.8 Summary and Conclusions 245
- Notes, Discussion Questions, and Further Readings 245

## **Epilogue Moral Pluralism—Can We Ever Agree? 250**

Moral Pluralism 251

## **Index 255**

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PART

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# **BASIC CONCEPTS**

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# Ethics, Science, and the Environment

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DISCUSSION

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## Technological Solutions

With the publication of *Silent Spring* in 1962, Rachel Carson focused international attention on the deadly effects of DDT and other chemical pesticides. The continued indiscriminate use of these “elixirs of death” would, according to Carson, lead us to a time when death and poisoning would silence the “voices of spring.” This book had a profound influence on the public’s attitudes concerning chemical pollution and environmental protection.

Although chemical agents have been used to control pests since the beginnings of agriculture, the decades immediately after World War II witnessed tremendous development in the discovery, production, and use of chemical pesticides. (For simplicity’s sake, *pesticide* can be defined as any agent that kills a “pest” or undesirable form of life; insecticides target insects, herbicides target plants, fungicides target fungi, and so forth.) Increasing population growth and a corresponding increase in demand on agriculture, along with a decrease in the number of farmers, led to intense pressures to increase agricultural productivity. One large part of this involved the use of chemicals to limit crop loss from pests, estimated to be as high as 37 percent of all planted crops.<sup>1</sup>

Before the publication of *Silent Spring*, the only question generally asked about chemical pesticides, by both scientists and the public, concerned their effectiveness: Do they eliminate undesirable pests without harming humans or their crops? After Carson’s work, the long-term consequences—as well as the political and ethical implications—of pesticide use came to the forefront.

At first glance, the benefits of these pesticides seemed clear. Insecticides like DDT and other chlorinated hydrocarbons were quite effective in killing mosquitoes and other insects that transmitted such diseases as malaria, typhus, and bubonic plague. Pesticides also cut crop loss, which enabled farmers to meet demand without raising prices. In short, pesticides were an effective, economical, and technologically feasible answer to a variety of health and agricultural questions.

But other questions—ecological, political, and ethical—were not even being asked: What effects were pesticides having on other living things throughout the food chain? Who should decide levels of safety and risk? Are the benefits worth the risks?

*Silent Spring* challenged scientists, industry, farmers, and the public to examine the long-term ecological effects of pesticide use. For example, many of these chemicals were designed to resist breaking down in the environment, keeping them effective for longer periods. DDT, for one, is insoluble in water but soluble in fat. Thus, it not only remains in an ecosystem for a long time but can build up and become concentrated in the fatty tissues of living organisms. As a result, minute amounts of DDT in a body of water will, through a process called “biological amplification,” become concentrated in microorganisms such as plankton, more concentrated in the small fish that feed on plankton, and increasingly concentrated all the way up the food chain. In the decades after World War II, when pesticide use increased dramatically, many birds at the top of the food chain—bald eagles, peregrine falcons, ospreys, and pelicans—were severely threatened. Accumulated residues of DDT in the birds caused a decrease in the calcium content of their egg shells, which in turn meant that the shells were too thin to protect the unhatched chicks. Even today, a similar process of biological amplification of such toxins as PCBs, mercury, and lead has made many fish dangerous for human consumption.

But harm to other species was not the only unforeseen danger. Evidence shows that, over the long term, pesticides have not been effective in reducing crop loss from pests. In fact, despite a tenfold increase in pesticide use since the 1940s, the rate of overall crop loss has actually increased.<sup>2</sup> Several factors help explain how this has happened.

First, few pesticides are so precise that they destroy targeted pests without also killing their natural predators. An insecticide aimed at aphids, for example, may also kill ladybugs and preying mantis, which ordinarily feed on aphids. Without natural enemies, the pests that do survive can quickly reproduce. Second, the surviving organisms that are reproducing will be more resistant to the pesticide. By random genetic chance, some organisms will be naturally resistant to the specific pesticide. Through natural selection, these organisms will rapidly increase as less resistant members of the species as well as natural predators, are killed. Over a short period of time (a generation for many insect species is simply a matter of days), pests can develop a genetic resistance that makes the original pesticide ineffective. As a result, there is a strong incentive to increase the frequency and

concentration of pesticide use or turn to new chemicals and begin the process all over again.

Of course, defenders of pesticide use within the chemical and agricultural industries can point out that this remains merely a scientific and technological challenge. Can new chemical pesticides be developed that are safe for human use and that will prove effective in the fight against pests?

## 1.1 INTRODUCTION: WHY PHILOSOPHY?

As we approach the twenty-first century, it is fair to say that human beings face environmental challenges unprecedented in the history of this planet. Largely through human activity, life on Earth faces the greatest mass extinctions since the end of the dinosaur age sixty-five million years ago. Some estimates suggest more than one hundred species are becoming extinct every day and that this rate could double or triple within the next few decades.<sup>3</sup> The natural resources that sustain life on this planet—air, water, and soil—are being polluted or depleted at alarming rates. Human population growth is increasing exponentially. The 1995 world population of almost six billion people will increase by one billion people (nearly a 20 percent increase) within ten years. The prospects for continued degradation and depletion of natural resources multiply with this population growth. Toxic wastes that will plague future generations continue to accumulate worldwide. The world's wilderness areas, its forests, wetlands, mountains, and grasslands, are being developed, paved, drained, burned, and overgrazed out of existence. With destruction of the ozone layer and the potential that the "greenhouse effect" will lead to global warming, human activity threatens the very atmosphere and climate of the planet Earth.

Although the pessimists among us might despair at this reality, many others look to science and technology for solutions. If only we can develop safe, inexpensive, and effective chemical pesticides. If only we could engineer more efficient solar panels or harness the energy potential of geothermal, wind, or tidal power. If only we could develop alternatives to the internal combustion engine. If only we could master cold fusion. If only we could arrange economic incentives to discourage pollution.

For many people in our culture, and especially for many in policy-making positions, science and technology offer the only hope for solving environmental problems. Because environmental problems often involve highly technical matters, it is only reasonable to turn to experts in these technical areas for answers. Who better than chemists, for example, to tell us about the safety and effectiveness of pesticides? Further, because science offers objective and factual answers in an area in which emotions run high and controversies abound, science seems an obvious candidate to look to for help with environmental concerns.

Unfortunately, turning to science with the optimistic hope for a quick fix is not much different from the pessimistic attitude. Each involves individual



citizens relinquishing the authority to make decisions about their world. Although turning to science and technology in the hope of a quick fix is tempting, environmental challenges are neither exclusively nor even primarily problems of science and technology. Environmental issues raise fundamental questions about what we as human beings value, the kind of beings we are, the kinds of lives we should live, our place in nature, and the kind of world in which we might flourish. In short, environmental problems raise fundamental questions of ethics and philosophy.

Western philosophy was born twenty-five hundred years ago with Socrates' questioning of Athenian society and an individual's role within it. "We are dealing with no small thing," Socrates said, "but with how we ought to live." Environmental issues, even seemingly innocuous issues such as pesticide use, raise philosophical questions about how we ought to live. For example, do we have any ethical responsibility to preserve the various life-forms around us? Is there anything wrong with defining some living organisms as pests and working to eradicate them? Philosophical assumptions are involved wherever we stand in this debate. Again, should pesticides be proved safe before they are used, or should the burden rest with those who predict danger? Answering this question also involves issues in ethics and political philosophy.

Relying upon science or technology (or even economics or the law) without also considering the ethical and philosophical issues can raise as many problems as it solves. Leaving environmental decisions to the "experts" in science and technology does not mean that these decisions will be objective and value neutral; it means only that the values and philosophical assumptions that do decide the issue will be those that these experts hold.

This book introduces the many ways in which philosophy can contribute to the creation of a sane and judicious environmental policy. Environmental issues raise fundamental questions about how we should live. These are philosophical and ethical questions and need to be addressed in a philosophically sophisticated way. I also assume that environmental policy ought to be decided in the political arena and not in scientific laboratories, corporate boardrooms, or government bureaucracies. Thus, a further goal of this book is to empower citizens to become full participants in these critical public policy debates. Familiarity with the philosophical issues involved in these debates is a necessary first step in this direction.

## 1.2 SCIENCE AND ETHICS

As Rachel Carson's writing suggests, we take risks when we treat environmental problems merely as technical problems awaiting solution from some specialized discipline. This is partly because the dimensions of environmental issues are seldom limited to the specific boundaries of any one particular discipline. Pesticide pollution, for example, involves agriculture, various branches of biology and chemistry, medicine, economics, politics, and law. But it is equally impossible to find an environmental issue that does not raise basic questions of value. Approaching any serious environmental issue with