

LITTH EDILION

Clashing Views on Controversial Environmental Issues

Theodore D. Goldfarb



Clashing Views on Controversial Environmental Issues

5th edition

Edited, Selected, and with Introductions by

Theodore D. Goldfarb

State University of New York at Stony Brook

The Dushkin Publishing Group, Inc.

This book is dedicated to my children and all other children for whom the successful resolution of these issues is of great urgency.

Photo Acknowledgments

Part 1 Sunshine and Wilson Peaks/Colorado Tourism Board
Part 2 UNITED NATIONS/RICK GRUNBAUM NJ
Part 3 Alcoa can processing plant/ALCOA
Part 4 Saranac Lake/New York State Department of Commerce

© 1993 by The Dushkin Publishing Group, Inc., Guilford, Connecticut 06437

Copyright law prohibits the reproduction, storage, or transmission in any form by any means of any portion of this publication without the express written permission of The Dushkin Publishing Group, Inc., and of the copyright holder (if different) of the part of the publication to be reproduced. The Guidelines for Classroom Copying endorsed by Congress explicitly state that unauthorized copying may not be used to create, to replace, or to substitute for anthologies, compilations, or collective works.

Taking Sides ® is a registered trademark of The Dushkin Publishing Group, Inc

Manufactured in the United States of America

Fifth Edition, First Printing

Library of Congress Cataloging-in-Publication Data

Main entry under title.

Taking sides: clashing views on controversial environmental issues

1. Environment—Government policy. 2. Conservation of natural resources 3. United States—Social policy. 1. Goldfarb, Theodore D., comp

304.2

ISBN: 1-56134-125-8 92-74287





The Dushkin Publishing Group, Inc. Sluice Dock, Guilford, CT 06437

PREFACE

For the past 16 years I have been teaching an environmental chemistry course, and my experience has been that the critical and complex relationship we have with our environment is of vital and growing concern to students, regardless of their majors. Consequently, for this fifth edition, I again sought to shape issues and to select articles that do not require a technical background or prerequisite courses in order to be understood. In addition to the sciences, this volume would be appropriate for such disciplines as philosophy, law, sociology, political science, economics, and allied health—any course where environmental topics are addressed.

Faculty are divided about whether it is appropriate to use a classroom to advocate a particular position on a controversial issue. Some believe that the proper role of a teacher is to maintain neutrality in order to present the material in as objective a manner as possible. Others, like myself, find that students rarely fail to recognize their instructors' points of view. Rather than reveal which side I am on through subtle hints, I prefer to be forthright about it, while doing my best to encourage students to develop their own positions, and I do not penalize them if they disagree with my views. No matter whether the goal is to attempt an objective presentation or to encourage advocacy, it is necessary to present both sides of any argument. To be a successful proponent of any position, it is essential to understand your opponents' arguments. The format of this text, with 36 essays arranged in pro and con pairs on 18 environmental controversies, is designed with these objectives in mind.

In the *introduction* to each issue, I present the historical context of the controversy and some of the key questions that divide the disputants. The *postscript* that follows each pair of essays includes comments offered to provoke thought about aspects of the issue that are suitable for classroom discussion. A careful reading of my remarks may reveal the positions I favor, but the essays themselves and the *suggestions for further reading* in each postscript should provide the student with the information needed to construct and support an independent perspective.

Changes to this edition This fifth edition has been considerably revised and updated. There are four completely new issues: Did the United Nations Earth Summit Produce Useful Results? (Issue 1); Will the "Greening" of Multinational Corporations Lead to Environmental Improvements? (Issue 6); Should Energy Policy Focus on Reducing the Use of Fossil Fuels? (Issue 7); and Will Environmental Degradation be a Feature of International Conflicts in the Future? (Issue 18). For seven of the issues retained from the previous edition, the issue question has been significantly modified and both selections have been replaced in order

to more sharply focus the debate and bring it up to date: Issue 3 on endangered species; Issue 5 on the use of risk assessment; Issue 9 on acid rain; Issue 12 on municipal waste disposal; Issue 14 on tropical deforestation; Issue 15 on ozone layer depletion; and Issue 16 on global warming. I have also replaced both selections for Issue 11 on hazardous waste and the NO selection for Issue 13 on nuclear waste. The result is that 25 of the 36 selections in this fifth edition are new.

A word to the instructor An Instructor's Manual With Test Questions (multiple-choice and essay) is available through the publisher for the instructor using Taking Sides in the classroom. Also available is a general guidebook, called Using Taking Sides in the Classroom, which has general suggestions for adapting the pro-con approach in any classroom setting.

Acknowledgments I received many helpful comments and suggestions from friends and readers across the United States and Canada. Their suggestions have markedly enhanced the quality of this edition and are reflected in the new issues and the updated selections.

Special thanks go to those who responded to the questionnaire with specific suggestions for the fifth edition:

Richard D. Bowden Allegheny College

C. M. Bristow

Michigan State University

Marthe Chandler Depauw University

Michael J. Degnan
University of Saint Thomas

P. J. Kingsbury Drake University

Elmo A. Law

University of Missouri at

Kansas City

Elizabeth Law-Evans Metropolitan State College John F. Logue

University of South Carolina

Priscilla Mattson

Middlesex Community College

Alan S. Miller

University of California, Berkeley

Elaine L. Schalck Alvernia College Joseph D. Stogner Ferrum College

Alan Tautges

Oregon State University

Finally, I am grateful to Mimi Egan, program manager of the Takmg Sides series, for her assistance.

Theodore D. Goldfarb State University of New York at Stony Brook

INTRODUCTION

The Environmental Movement

Theodore D. Goldfarb

ENVIRONMENTAL CONSCIOUSNESS

During the first two weeks of June 1992, mass media attention was focused on Rio de Janeiro, the site of the United Nations Conference on Environment and Development (UNCED), popularly billed as the Earth Summit. UNCED consisted of two massive, global conferences—one of official government delegations and the other of a diverse array of nongovernmental organizations (NGOs), as well as a separate Earth Parliament comprising 800 delegates of indigenous and ethnic peoples. An assessment of the outcome of this event, which was the follow-up to the much more modest UN conference on the Human Environment held 20 years earlier, is the focus of Issue 1. Two years earlier, on April 22, 1990, 200 million people in 140 countries around the world participated in a variety of activities to celebrate Earth Day, another event given wide publicity by the media. It was also a follow-up to an event that took place two dacades earlier, the first Earth Day (celebrated only in the United States) that many social historians credit with spawning the ongoing global environmental movement.

Comparing the enormous increase in size, complexity, range of issues, and diversity of participation in either UNCED or Earth Day 1990 with its predecessor event reveals the explosive growth in political, scientific and technical, regulatory, financial, industrial, and educational activity related to an expanding list of environmental problems that has occurred in the intervening years. Industrial development has reached the level that pollutants threaten not only local environments but also the global ecosystems that control the Earth's climate and the ozone shield that filters out potentially lethal solar radiation. The elevation of environmental concern to a prominent position on the international political agenda persuaded commentators on Earth Day 1990 events to speculate that the world was entering "the decade—or even era—of the environment." The attention given to UNCED and the ambitious ongoing activities it has spawned appear to confirm this prediction.

THE HISTORY OF ENVIRONMENTALISM

The current interest in environmental issues in the United States has its historical roots in the conservation movement of the late nineteenth and early twentieth centuries. This earlier, more limited, recognition of the need for environmental preservation was a response to the destruction wrought by uncontrolled industrial exploitation of natural resources in the post-Civil War period. Clear-cutting forests, in addition to producing large devastated areas, resulted in secondary disasters. Bark and branches left in the cutover areas caused several major midwestern forest fires. Severe floods were caused by the loss of trees which previously had helped to reduce surface water runoff. The Sierra Club and the Audubon Society, the two oldest environmental organizations still active today, were founded around the turn of the century and helped to organize public opposition to the destructive practice of exploiting resources. Mining, grazing, and lumbering were brought under government control by such landmark legislation as the Forest Reserve Act of 1891 and the Forest Management Act of 1897. Schools of forestry were established at several of the land grant colleges to help develop the scientific expertise needed for the wise management of forest resources.

Compared to this earlier period of concern about the misuse of natural resources, which developed gradually over several decades, the present environmental movement had an explosive beginning. When Rachel Carson's book *Silent Spring* appeared in 1962, its emotional warning about the inherent dangers in the excessive use of pesticides ignited the imagination of an enormous and disparate audience who had become uneasy about the proliferation of new synthetic chemicals in agriculture and industry. The atmospheric testing of nuclear weapons began to cause widespread public concern about the effects of nuclear radiation. City dwellers were beginning to recognize the connection between the increasing prevalence of smoky, irritating air and the daily ritual of urban commuter traffic jams. The responses to Carson's book included not only a multitude of scientific and popular debates about the issues she had raised, but also a ground swell of public support for increased controls over all forms of pollution.

The rapid rise in the United States of public concern about environmental issues is apparent from the results of opinion polls. Similar surveys taken in 1965 and 1970 showed an increase from 17 to 53 percent in the number of respondents who rated "reducing pollution of air and water" as one of the three problems they would like the government to pay more attention to. By 1984, pollster Louis Harris was reporting to Congress that 69 percent of the public favored making the Clean Air Act more stringent. A CBS News/New York Times survey revealed that 74 percent of respondents in 1990 (up from 45 percent in 1981) supported protecting the environment regardless of the cost.

The growth of environmental consciousness in the United States swelled the ranks of the older voluntary organizations, such as the national Wildlife Federation, the Sierra Club, the Isaac Walton league, and the Audubon

Society, and has led to the establishment of more than 200 new national and regional associations and 3,000 local ones. Such national and international groups as the Environmental Defense Fund, Friends of the Earth, the National Resources Defense Council, Environmental Action, the League of Conservation Voters, and Zero Population Growth have developed considerable expertise in lobbying for legislation, influencing elections, and litigating in the courts. Critics of the environmental movement have frequently pointed out that the membership of these organizations comes from the upper socioeconomic classes. Although they acknowledge that this is true, environmentalists deny that the causes they champion are elitist, and they cite evidence that most of their goals are supported by majority sentiment among people from all walks of life.

Environmental literature has also grown exponentially since the appearance of *Silent Spring*. Many popular magazines, technical journals, and organizational newsletters devoted to environmental issues have been introduced, as well as hundreds of books, some of which, like Paul Ehrlich's *The Population Bomb* (1968) and Barry Commoner's *The Closing Circle* (1972), have become best-sellers.

CLASHING VIEWS FROM CONFLICTING VALUES

As with all social issues, those on opposite sides of environmental disputes have conflicting personal values. On some level, almost everyone would admit to being concerned about threats to the environment. However, enormous differences exist in individual perceptions about the seriousness of some environmental threats, their origins, their relative importance, and what to do about them. In most instances, very different conclusions, based on the same basic scientific evidence, can be expressed on these issues.

What, then, are these different value systems that produce such heated debate? Some are obvious: An executive of a chemical company has a vested interest in placing greater value on the financial security of the company's stockholders than on the possible environmental effects of the company's operation. He or she is likely to interpret the potential health effects of what comes out of the plant's smokestacks or sewer pipes differently than would a resident of the surrounding community. These different interpretations need not involve any conscious dishonesty on anyone's part. There is likely to be sufficient scientific uncertainty about the pathological and ecological consequences of the company's effluents to enable both sides to reach very different conclusions from the available "facts."

Less obvious are the value differences among scientists, which can divide them in an environmental dispute. Unfortunately, when questions are raised about the effects of personal value systems on scientific judgments, the twin myths of scientific objectivity and scientific neutrality get in the way. Neither the scientific community nor the general population appear to understand that scientists are very much influenced by subjective, value-laden considera-

tions and will frequently evaluate data in a manner that supports their own interests. For example, a scientist employed by a pesticide manufacturer may be less likely than a similarly trained scientist working for an environmental organization to take data that show that one of the company's products is a low-level carcinogen in mice and interpret those data to mean that the product therefore poses a threat to human health.

Even self-proclaimed environmentalists frequently argue over environmental issues. Hunters, while supporting the prohibition of lumbering and mining on their favorite hunting grounds, strongly oppose the designation of these regions as wilderness areas because that would result in the prohibition of the vehicles they use to bring home their bounty. Also opposed to wilderness designation are foresters, who believe that forest lands should be scientifically managed rather than left alone to evolve naturally.

Political ideology can also have a profound effect on environmental attitudes. Those critical of the prevailing socioeconomic system are likely to attribute environmental problems to the industrial development supported by that system. Others are likelier to blame environmental degradation on more universal factors, such as population growth.

Changes in prevailing social attitudes influence public response to environmental issues. The American pioneers were likely to perceive their natural surroundings as being dominated by hostile forces that needed to be conquered or overcome. This attitude clearly extended to the human inhabitants, as well as the flora and fauna, native to the lands the pioneers were claiming for their own. The notion that humans should conquer nature has only slowly been replaced by the alternative view of living in harmony with the natural environment, but the growing popularity of the environmental movement evidences the public's acceptance of this goal.

PROTECTING THE ENVIRONMENT

There has always been strong resistance to regulatory restraints on industrial and economic activity in the United States. The most ardent supporters of our capitalist economy argue that pollution and other environmental effects have certain costs and that regulation will take place automatically through the marketplace. Despite mounting evidence that the social costs of polluted air and water are usually external to the economic mechanisms affecting prices and profits, prior to the 1960s, Congress imposed very few restrictions on the types of technology and products industry could use or produce.

As noted above, the turn-of-the-century conservation movement did result in legislation restricting the exploitation of lumber and minerals on federal lands. In response to public outrage over numerous incidents of death and illness from adulterated foods, Congress established the Food and Drug Administration (FDA) in 1906 but gave it only limited authority to ban products that were obviously harmful or improperly labeled.

Regulatory Legislation

The environmental movement of the 1960s and 1970s produced a profound and controversial change in the political climate concerning regulatory legislation. Concerns such as the proliferation of new synthetic chemicals in industry and agriculture, the increased use of hundreds of inadequately tested additives in foods, and the effects of automotive emissions were pressed on Congress by increasingly influential environmental organizations. Beginning with the Food Additives Amendment of 1958, which required FDA approval of all new chemicals used in the processing and marketing of foods, a series of federal and state legislative and administrative actions resulted in the creation of numerous regulations and standards aimed at reducing and reversing environmental degradation.

Congress responded to the environmental movement with the National Environmental Policy Act of 1969. This act pronounced a national policy requiring an ecological impact assessment for any major federal action. The legislation called for the establishment of a three-member Council on Environmental Quality to initiate studies, make recommendations, and prepare an annual Environmental Quality Report. It also requires all agencies of the federal government to prepare a detailed environmental impact statement (EIS) for any major project or proposed legislation in which they are involved. Despite some initial attempts to evade this requirement, court suits by environmental groups have forced compliance, and now, new facilities like electrical power plants, interstate highways, dams, harbors, and interstate pipelines can proceed only after preparation and review of an EIS.

Another major step in increasing federal antipollution efforts was the establishment in 1970 of the Environmental Protection Agency (EPA). Many programs previously administered by a variety of agencies, such as the departments of the Interior, Agriculture, and Health, Education and Welfare, were transferred to this new, central, independent agency. The EPA was granted authority to do research, propose new legislation, and implement and enforce laws concerning air and water pollution, pesticide use, radiation exposure, toxic substances, solid waste, and noise abatement. The year 1970 also marked the establishment of the Occupational Safety and Health Administration (OSHA), the result of a long struggle by organized labor and independent occupational health organizations to focus attention on the special problems of the workplace. A major responsibility of OSHA is the enforcement of legislation regulating the workplace environment.

The first major legislation to propose the establishment of national standards for pollution control was the Air Quality Act of 1967. The Clean Air Act of 1970 specified that ambient air quality standards were to be achieved by July 1, 1975 (a goal that was not met and remains elusive), and that automotive hydrocarbon, carbon monoxide, and nitrogen oxide emissions were to be reduced by 90 percent within five years—a deadline that has been repeatedly extended. Specific standards to limit the pollution content of effluent wastewater were prescribed in the Water Pollution Control Act of

1970. The Safe Drinking Water Act of 1974 authorized the EPA to establish federal drinking water standards, applicable to all public water supplies. The Occupational Safety and Health Act of 1970 allowed OSHA to establish strict standards for exposure to harmful substances in the workplace. The Environmental Pesticide Control Act of 1972 gave the EPA authority to regulate pesticide use and to control the sale of pesticides in interstate commerce. In 1976, the EPA was authorized to establish specific standards for the disposal of hazardous industrial wastes under the Resource Conservation and Recovery Act—but it wasn't until 1980 that the procedures for implementing this legislative mandate were announced. Finally, in 1976, the Toxic Substance Control Act became law, providing the basis for the regulation of public exposure to toxic materials not covered by any other legislation.

All of this environmental legislation in such a short time span produced a predictable reaction from industrial spokespeople and free-market economists. By the late 1970s, attacks on what critics referred to as overregulation appeared with increasing frequency in the media. Antipollution legislation was criticized as a principal contributor to inflation and a serious impediment to continued industrial development.

One of the principal themes of Ronald Reagan's first presidential campaign was a pledge to get regulators off the backs of entrepreneurs. He interpreted his landslide victory in 1980 to mean that the public supported a sharp reversal of the federal government's role as regulator in all areas, including the environment. Two of Reagan's key appointees were Interior Secretary James Watt and EPA Administrator Ann Gorsuch Burford, both of whom set about to reverse the momentum of their agencies with respect to the regulation of pollution and environmental degradation. It soon became apparent that Reagan and his advisors had misread public attitudes. Sharp staffing and budget cuts at the EPA and OSHA produced a counterattack by environmental organizations whose membership rolls had continued to swell. Mounting public criticism of the neglect of environmental concerns by the Reagan administration was compounded by allegations of misconduct and criminal activity against environmental officials, including Ms. Burford, who was forced to resign. President Reagan attempted to mend fences with environmentalists by recalling William Ruckelshaus, the popular first EPA administrator, to again head the agency. But throughout Reagan's presidency, few new environmental initiatives were carried out.

During his 1988 presidential campaign, George Bush promised a return to vigorous efforts to protect and improve the environment. With his support the long-stalled effort to update legislation regarding air quality came to fruition with the passage of the 1990 Clean Air Act amendments. Despite some criticisms concerning compromises with the automobile and fossil fuel industries, most environmentalists were pleased with many aspects of the new law, particularly its provisions designed to decrease the threat of acid rain (see Issue 9). The initial praise won by President Bush for promoting the clean air legislation was negated by a variety of tactics that environmentalists

claim he used to delay the law's implementation and to undermine its most forceful provisions. This criticism of the Bush administration was amplified by its failure to implement an environmentally sound energy policy and by the refusal of the United States to support the proposals of other industrial nations with regard to initiatives designed to slow global warming and deforestation (see Issues 7, 14, and 16).

Once again a new president, Bill Clinton, has been elected on a platform that pledges to reverse the environmental neglect of his predecessor. This pledge is reinforced by the fact that the new vice president, Al Gore, has gained a reputation as an environmental activist. Gore's controversial ecological ideology is detailed in his recent book, *Earth in the Balance* (1992)

RECENT DEVELOPMENTS

The April 30, 1990, issue of The Nation contains two critiques of recent environmental developments. In the first, "Ending the War Against Earth," Barry Commoner summarizes the principal theme of his book Making Peace With the Planet (Pantheon Books, 1990). He proposes that little will be accomplished by merely limiting the pollution produced by existing technology. Instead, he calls for redesigning industrial, agricultural, and transportar tion systems so that they will be environmentally benign and harmonious with the ecosphere. This is similar to the program advocated by Hilary French in Issue 8. The other article, "The Trouble With Earth Day," by author and social critic Kirkpatrick Sale, presents four fundamental criticisms of the agenda of Earth Day 1990 organizers. Sale contends that the focus on individual action is misguided because most environmental problems are a result of inappropriate systems of production or policies of governments or institutions that cannot be altered or reversed by each of us acting individu' ally to adopt a more ecological life-style. Second, he complains about the decision to use most of the \$3 million and unlimited publicity to put on a "week-long media bash" rather than to organize a long-range campaign with a continuing political thrust. Third, he accuses the organizers of having added support by accepting as partners many of the corporations, politicians, and lobbyists who have helped create existing problems. By doing so, Earth Day organizers have eliminated any possibility of developing a clear analysis of what needs to be done. Finally, Sale points to the narrow anthropocentric focus on human peril rather than a more appropriate ecocentric perspective that would identify the solutions as those that would begin to restore the balance of the Earth's natural systems.

Organizations such as Earth First! and the radical wings of various "green" political movements as well as other proponents of "deep ecology" are even more critical of the strategies linked to Earth Day. For an introduction to the policies, philosophies, and recent activities of these "ecorads," read "Radical Ecology on the Rise," by Brian Tokar, "Earth First! and Cointelpro," by Leslie Hemstreet—both in the July/August, 1990, issue of Z

Magazine—and "Earth First!ers Wield a Mean Monkey Wrench," by Michael Parfit, Smithsonian (April 1990).

Professor of political science and public and environmental affairs Lynton K. Caldwell was one of the principal authors of the National Environmental Policy Act (NEPA) of 1969, which established the basic legislative environmental philosophy and policy under which the EPA and other U.S. governmental agencies have been operating. He now thinks that a constitutional amendment is needed to place environmental protection within the country's fundamental law, as has been done by such other nations as Brazil, China, West Germany, the Netherlands, Sweden, and Switzerland. The December 1989 issue of *Environment* includes Caldwell's article "A Constitutional Law for the Environment—20 Years With NEPA Indicates the Need," as well as several reactions to his proposal.

GLOBAL DEVELOPMENTS

Although initially lagging behind the United States in environmental regulation, other developed industrial countries have been moving rapidly over the past decade to catch up. In a few European countries where "green parties" have become influential participants in the political process, certain pollutant emission standards are now more stringent than their U.S. counterparts. A uniform system of environmental regulations and controls is prominent among the controversial issues being planned and implemented by the nations of the European Economic Community.

Although the feeding and clothing of their growing populations continue to be the dominant concerns of developing countries, they too are paying increasing attention to environmental protection. Suggestions that they forgo the use of industrial technologies that have resulted in environmental degradation in developed countries are often viewed as an additional obstacle to the goal of raising their standard of living.

During the past decade, attention has shifted from a focus on local pollution to concern about global environmental degradation. Studies of the potential effects of several gaseous atmospheric pollutants on the Earth's climate and its protective ozone layer have made it apparent that human activity has reached a level that can result in major impacts on the planetary ecosystems. A series of major international conferences of political as well as scientific leaders have been held with the goal of seeking solutions to threatening worldwide environmental problems. The "North-South" disputes that limited the agreements reached at the Rio Earth Summit were about how to promote future industrial development so as to avert or minimize the threats to the world's ecosystems, while satisfying the frequently conflicting socioeconomic needs of the developed and developing nations.

New Approaches

An evaluation of the apparent failure to control environmental decay in the past two decades has given rise to demands for new approaches Environ

mental policy analysts have proposed that regulatory agencies adopt a more holistic approach to environmental protection, rather than continuing their attempts to impose separate controls on what are actually interconnected problems. The use of economic strategies, such as pollution taxes or the sale of licenses to those who wish to produce limited quantities of pollutants, has received increasing support as potentially more effective than regulatory emission standards. Indeed, the 1990 Clean Air Act amendments specifically include provisions for the trading of "pollution rights" among regulated industries. Such schemes continue to enrage many environmentalists who consider the sale of pollution rights to be unethical. Environmental activists point out that both population growth and increasing worldwide industrial development will result in increasing total quantities of pollutants released despite attempts to reduce the impact of pollution from current, specific sources. Such concerns have resulted in intensive discussion about the concept of "sustainable development," whose advocates propose replacing our entire system of energy production, transportation, and industrial technology with systems that are designed from the start to produce minimal cumulative environmental degradation. An excellent introduction to this concept is included in the 1987 World Commission on the Environment report Our Common Future (often referred to as the Bruntland Report after its principal author, commission chairperson Gro Harlem Bruntland).

A new militant wing, spearheaded by Greenpeace, has sprung up within the environmental movement. Greenpeace first received widespread media attention for its actions designed to block the French atmospheric nuclear testing program. As a result of highly successful membership recruiting and fund-raising efforts, it has become the most powerful international grassroots environmental organization. More radical still are the politics and tactics of other "green" organizations such as Earth First! During a 1990 campaign that they called Redwood Summer, members chained themselves to trees to prevent the cutting of redwood trees in the ancient forests of northern California. The eco-radicals who constitute the small, but growing, extreme fringe of the environmental movement advocate such policies as a drastic reduction in the world's population and a return to much simpler, less materialistic life-styles.

ECOLOGY AND ENVIRONMENTAL STUDIES

Efforts to protect the environment from the far-reaching effects of human activity require a detailed understanding of the intricate web of interconnected cycles that constitute our natural surroundings. The recent blossoming of ecology and environmental studies into respectable fields of scientific study has provided the basis for such an understanding. Traditional fields of scientific endeavor like geology, chemistry, or physics are too narrowly focused to successfully describe a complex ecosystem. Thus, it is not surprising that chemists who helped promote the use of DDT and other

pesticides failed to predict the harmful effects that accumulation of these substances in biological food chains had on birds and marine life.

Ecology and environmental studies involve a holistic study of the relationships among living organisms and their environment. It is clearly an ambitious undertaking, and ecologists are only beginning to advance our ability to predict the effects of human intrusions into natural ecosystems.

It has been suggested that our failure to recognize the potentially harmful effects of our activities is related to the way we lead our lives. Industrial development has produced life-styles that separate most of us from direct contact with the natural systems upon which we depend for sustenance. We buy our food in supermarkets and get our water from a kitchen faucet. We tend to take the availability of these essentials for granted until something threatens the supply. It has been claimed that native peoples who lived off the land were more "in touch with nature" and were thus not likely to pollute their environment. This supposition has been discredited by studies showing that the practices of many Native American tribes, despite their generally greater respect for nature, seriously damaged the ecological systems on which they depended. It is unlikely that any people ever set about to intentionally poison their own nests. What clearly distinguishes our society from that of our forebears is the increased capability to employ technology in ways that ultimately result in environmental degradation.

SOME THOUGHTS ON ARMED CONFLICT AND INTERNATIONAL COOPERATION

It has long been recognized that a major nuclear war would produce devastating environmental consequences. In *The Fate of the Earth* (Alfred A. Knopf, 1982), Jonathan Schell provided a chilling analysis of the likely effects, including destruction of the ozone layer, radioactive contamination of the food chain, and other short- and long-term hazards of radioactive fallout. In 1983 a group of eminent scientists initiated a controversial debate by predicting that a "nuclear winter" that could threaten the continued existence of human civilization might result from even a limited nuclear conflict.

Perhaps, as some political analysts suggest, the realignment of power following the demise of the Soviet Union has reduced the threat of nuclear war. Unfortunately, we have recently learned from the Persian Gulf War that modern *conventional* war can also produce catastrophic ecological damage. The intentional release of huge quantities of petroleum into the Persian Gulf and the ignition of the vast Kuwaiti oil fields produced severe water and air pollution problems whose long-term effects are still being assessed. The final issue of this edition raises questions about the likelihood that environmental factors will figure prominently as both causes and effects of future armed conflicts. Whether or not this proves to be the case, it is beyond doubt that solutions to the growing list of threats to global and regional ecosystems will require unprecedented efforts toward international cooperation.

CONTENTS IN BRIEF

PART 1	GENERAL PHILOSOPHICAL AND POLITICAL ISSUES 1
Issue 1.	Did the United Nations Earth Summit Produce Useful Results? 2
Issue 2.	Does Wilderness Have Intrinsic Value? 24
Issue 3.	Should the Endangered Species Act Be Reauthorized? 44
Issue 4.	Is Population Control the Key to Preventing Environmental Deterioration? 66
Issue 5.	Should Risk Assessment Methods Be Used to Set Environmental Priorities? 90
PART 2	THE ENVIRONMENT AND TECHNOLOGY 105
Issue 6.	Will the "Greening" of Multinational Corporations Lead to Environmental Improvements? 106
Issue 7.	Should Energy Policy Focus on Reducing the Use of Fossil Fuels? 126
Issue 8.	Can Current Pollution Strategies Improve Air Quality? 142
Issue 9.	Are the Effects of Acid Rain Serious Enough to Justify Strict Enforcement of Clean Air Legislation? 158
Issue 10.	Is the Widespread Use of Pesticides Required to Feed the World's People? 178
PART 3	DISPOSING OF WASTES 201
Issue 11.	Hazardous Waste: Are Cleanup and Control Efforts Succeeding? 202
Issue 12.	Municipal Waste: Should Recycling Be Promoted as the Key to Refuse Management? 222
Issue 13.	Nuclear Waste: Is Yucca Mountain an Appropriate Site for Permanent Waste Disposal? 242
PART 4	THE ENVIRONMENT AND THE FUTURE 263
Issue 14.	Can Incentives Devised by Industrial Nations Combat Tropical Deforestation? 264
Issue 15.	Should the Phaseout of Chlorofluorocarbons Be Accelerated to Protect the Ozone Layer from Further Depletion? 282
Issue 16.	Are Aggressive International Efforts Needed to Slow Global Warming? 304
Issue 17.	Are Abundant Resources and an Improved Environment Likely Future Prospects for the World's People? 324
Issue 18.	Will Environmental Degradation Be a Feature of International Conflicts in the Future? 342

CONTENTS

Preface i		
Introduction: The Environmental Movement xii		
PART 1 GENERAL PHILOSOPHICAL AND POLITICAL ISSUES 1		
ISSUE 1. Did the United Nations Earth Summit Produce Useful Results?		
YES: Peter M. Haas, Marc A. Levy, and Edward A. Parson, from "Appraising the Earth Summit: How Should We Judge UNCED's Success?" <i>Environment</i> 4		
NO: William F. Jasper, from "ECO '92: Launching Pad for International Global Governance," <i>The New American</i> 13		
Political science and public policy professors Peter M. Haas, Marc A. Levy, and Edward A. Parson acknowledge the failure of the Earth Summit to resolve many issues but are optimistic about the many resulting initiatives that may help solve the intertwined problems of environment and development. Conservative journal editor William F. Jasper sees the results of the summit as unnecessary threats to national sovereignty.		
ISSUE 2. Does Wilderness Have Intrinsic Value? 24		
YES: Robert K. Olson, from "Wilderness International: The New Horizon," Wilderness 26		
NO: William Tucker, from "Is Nature Too Good for Us?" Harper's Magazine 31		
Wilderness activist Robert K. Olson contends that global change and resource depletion have transformed wilderness preservation from a value in its own right to an international imperative. William Tucker, a writer and		

keep people out.

social critic, asserts that wilderness areas are elitist preserves designed to