

# Environment

AN INTERDISCIPLINARY ANTHOLOGY



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## PART ONE Concepts and Case Studies

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Keystone Essay: Gifford Pinchot, from "The Birth of Conservation"  
in *Breaking New Ground* (published posthumously, 1947), 13

### I. Climate Shock 17

*Human activity has altered the atmosphere in what, geologically speaking, is but an instant. Since the industrial revolution, burning carbon fuels has markedly raised carbon dioxide levels. The Greenhouse Effect is linked to a complicated series of chemical, biological, oceanic, meteorological, and atmospheric events. It seems very likely that in the near future global warming will continue and intensify.*

John Houghton, from "The Greenhouse Effect" in *Global Warming: The Complete Briefing* (1997), 22

- Thomas R. Karl and Kevin E. Trenberth, "Modern Global Climate Change" (2003), 25  
 John Gribbin, from "Earth's Temperature Trends," "CO<sub>2</sub> and Ice Ages," and "Oceans and Climate" in *Hothouse Earth: The Greenhouse Effect and Gaia* (1990), 34  
 Seamus Heaney, "Höfn" (2004), 49

## 2. Species in Danger: Three Case Studies

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*The conservation of biological diversity (biodiversity) can focus on different levels of organization—from the biosphere and major biomes like the tropical rainforest through individual ecosystems down to populations and genes—but the level that is most tractable and understandable to the lay person is the species. Here, specific examples illustrate overexploitation, habitat destruction, and introduction of invasive species, the three major causes of species extinction.*

### IVORY AND ELEPHANTS

- Mafaniso Hara, from *International Trade in Ivory from the African Elephant: Issues Surrounding the CITES Ban* (1997), 53  
 Philip Muruthi, Mark Stanley Price, Pritpal Soorae, Cynthia Moss, and Annette Lanjouw, from "Conservation of Large Mammals in Africa: What Lessons and Challenges for the Future?" (2000), 60

### IVORY-BILLED WOODPECKER

- David Wagoner, "The Author of *American Ornithology* Sketches a Bird, Now Extinct" (1979), 63  
 Jonathan Rosen, from "The Ghost Bird" (2001), 65  
 United States Fish and Wildlife Service, "Recovery Outline for the Ivory-billed Woodpecker" (2005), 68

### THE BROWN TREE SNAKE AND THE AVIAN FAUNA OF GUAM

- Alan Burdick, from "It's Not the Only Alien Invader" (1994), 70  
 Julie Savidge, from "Extinction of an Island Forest Avifauna by an Introduced Snake" (1987), 76

## 3. Nuclear Power: Three Mile Island, Chernobyl, and the Future

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*In 1979, at Three Mile Island south of Harrisburg, Pennsylvania, on the Susquehanna River, a series of events, human errors, and equipment malfunctions triggered an accident that alarmed tens of millions. Though there were no serious health or environmental effects, TMI proved that previous expert reports and safety*

*projections were unreliable. And the accident could have been worse. In 1986 in Ukraine, a poorly designed reactor suffered a steam explosion and released massive radiation. It was not an accident but a disaster. TMI and Chernobyl effectively halted development of nuclear power in most countries. But is this environmentally wise?*

John Jagger, from *The Nuclear Lion* (1991), 86

L. Ray Silver, from *Fallout from Chernobyl* (1987), 91

David R. Marples, from "Introduction" to *No Breathing Room:*

*The Aftermath of Chernobyl* by Grigori Medvedev (1993), 97

Charles Perrow, from *Normal Accidents* (1984), 102

Hans Blix, from "Nuclear Power and the Environment" (1989), 107

#### 4. Biotechnology and Genetically Manipulated Organisms:

*Bt* Corn and the Monarch Butterfly

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*The history of food is to a large extent the history of human manipulation of wild plants and animals. Long before acquiring knowledge of genetics or natural selection, human cultures were changing wild grasses into corn and wheat through cross-breeding, an early form of genetic manipulation. Modern technology allows us to move genes from one species (e.g., a bacterium) into another not closely related to it (e.g., corn). Is this a panacea for the world's impoverished billions or an ecological disaster in the making?*

Paul C. Mangelsdorf, from "Modern Breeding Techniques" in *Corn:*

*Its Origin, Evolution, and Improvement* (1974), 119

John E. Losey, Linda S. Raynor, and Maureen E. Carter, "Transgenic

Pollen Harms Monarch Larvae" (1999), 124

Lincoln Brower, from "Canary in the Cornfield: The Monarch and the *Bt*

Corn Controversy" (2001), 126

Molly Leshner, "Seeds of Change" (2004), 131

#### 5. The Paradox of Sustainable Development

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*Advocates of sustainable development envision a future that includes environmental protection, economic growth, and social progress. This compelling vision has inspired useful collaboration of government, industry, and civil society. But is sustainable development really sustainable? Despite acceptance of sustainable development as a goal, it remains a notoriously murky concept.*

World Commission on Environment and Development, from *Our Common Future* (1987), 142

- Sharachchandra Lélé, from “Sustainable Development: A Critical Review” (1991), 144
- Mathis Wackernagel and William E. Rees, from *Our Ecological Footprint* (1996), 152
- J. C. Kumarappa, from “Standards of Living” in *The Economy of Permanence* (1945), 157
- Joseph Tainter, from *The Collapse of Complex Societies* (1988), 161
- John Clare, from “The Lament of Swordy Well” (1832–37), 166

## 6. Deforestation

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*The exploitation of forests is a global phenomenon. Nineteenth-century North America and the modern Amazon Rainforest illustrate this.*

- Michael Williams, from *Americans and Their Forests* (1989), 174
- George M. Woodwell, from “Forests at the End of the Second Millennium” in *Forests in a Full World* (2001), 178
- Robert Pogue Harrison, from *Forests: The Shadow of Civilization* (1992), 183
- Alexis de Tocqueville, from *Democracy in America* (1835–40), translated by Henry Reeve, 186
- John Muir, from “Save the Redwoods” (published posthumously, 1920), 188
- William Dietrich, from “The Cutter” in *The Final Forest: The Battle for the Last Great Trees of the Pacific Northwest* (1992), 190
- Robert K. Anderberg, “Wall Street Sleaze: How the Hostile Takeover of Pacific Lumber Led to the Clear-Cutting of Coastal Redwoods” (1988), 193
- Elizabeth Bishop, “Brazil, January 1, 1502” (1965), 196
- Ranee K. L. Panjabi, from *The Earth Summit at Rio: Politics, Economics, and the Environment* (1997), 198
- Thomas K. Rudel with Bruce Horowitz, from *Tropical Deforestation: Small Farmers and Land Clearing in the Ecuadorian Amazon* (1993), 203
- Charles M. Peters, Alwyn H. Gentry, and Robert O. Mendelsohn, “Valuation of an Amazonian Rainforest” (1989), 210

## 7. War and Peace: Security at Stake

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*In an era of heightened concern for global security, old questions take on new urgency: How do environmental scarcities cause or exacerbate conflicts?*

*What impact do warfare and terrorism have on the environment? What constitutes environmental security?*

Robert Kaplan, from "The Coming Anarchy" (1994), 216

Organization for Economic Co-operation and Development (OECD),

"Water and Security in the Middle East" (1999), 225

Jeffrey A. McNeely, from "Biodiversity, War, and Tropical Forests"

(2003), 227

Elizabeth L. Chalecki, from "A New Vigilance: Identifying and Reducing the Risks of Environmental Terrorism" (2002), 232

Amory B. Lovins and L. Hunter Lovins, "What Is Real Security?"

(2002), 237

Jeremy Rifkin, from *The Hydrogen Economy* (2002), 240

Gordon West and John Wilson (U.S. Agency for International

Development), from "The United States and the Iraqi Marshlands: An

Environmental Response," Testimony Before U.S. Congress (2004), 244

## 8. Globalization Is Environmental

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*Imbalances between rich and poorer nations in capital, military power, human population, and biological diversity create tensions that are often difficult to resolve using international legal and economic arrangements, especially as the latter have frequently been created by the wealthier countries for their own benefit. In what ways does a global economy help ameliorate these imbalances, and in what ways does it compound the problem? How will the environment fare in this global economy?*

Thomas L. Friedman, "Politics for the Age of Globalization" from

*The Lexus and the Olive Tree* (1999), 253

Paul Hawken, from "The WTO: Inside, Outside, All Around the World"

(2000), 261

Arlene Wilson, from "The World Trade Organization: The Debate in the

United States" (2000), 269

Vandana Shiva, from "Economic Globalization Has Become a War Against

Nature and the Poor" (2000), 274

## 9. What Is Wilderness and Do We Need It?

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*What is wilderness and what is its relationship to humans? Can we actually experience wilderness, or does it cease to be wilderness once we have contact with it? Is it enough for wilderness advocates to know that wilderness exists even if they are excluded*



*from it? The concept of wilderness is as intractable and as rich as wilderness itself, as the varied, even conflicting views of these writers attest.*

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 Henry David Thoreau, from "Walking" (1862), 284  
 Robert Marshall, "The Problem of the Wilderness" (1930), 288  
 Roderick Nash, from "The Value of Wilderness" (1977), 292  
 William Cronon, from "The Trouble with Wilderness; or, Getting Back to the Wrong Nature" (1995), 299  
 Donald Waller, from "Getting Back to the Right Nature: A Reply to Cronon's 'The Trouble with Wilderness'" (1998), 305  
 Gary Snyder, "Trail Crew Camp at Bear Valley, 9000 Feet. Northern Sierra—White Bone and Threads of Snowmelt Water" (1968), 309

## 10. The Urban Environment: Calcutta and Los Angeles

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*The environment of the city and the impact of cities on the environment span the development of urban areas in the nineteenth century to their likely future in the twenty-first. Aspects of this topic include air and water pollution, patterns of urban development and migration, population concerns, and social justice, especially with regard to women, the poor, minorities, and the Third World.*

- William Wordsworth, "London" from *The Prelude*, Book VII (1805), 313  
 World Commission on Environment and Development, from "The Urban Challenge" in *Our Common Future* (1987), 315  
 Anup Shah, from *Ecology and the Crisis of Overpopulation: Future Prospects for Global Sustainability* (1998), 320  
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Alfredo Sfeir-Younis and Andrew K. Dragun, from *Land and Soil Management: Technology, Economics, and Institutions* (1993), 418

Richard Manning, from "The Oil We Eat" (2004), 426

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- Mario J. Molina and F. Sherwood Rowland, “Stratospheric Sink for Chlorofluoromethanes: Chlorine Atom-Catalysed Destruction of Ozone” (1974), 472
- Kathryn S. Brown, “The Ozone Layer: Burnt by the Sun Down Under” (1999), 476
- Joshua I. Barzilay, Winkler G. Weinberg, and J. William Eley, from *The Water We Drink: Water Quality and Its Effects on Health* (1999), 478
- World Health Organization and UNICEF, from *Global Water Supply and Sanitation Assessment 2000 Report*, 483
- Rodney R. White, from “Water Supply” in *North, South and the Environmental Crisis* (1993), 486
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- From the Iroquois Creation Story, as told in David Cusick, *Sketches of Ancient History of the Six Nations* (1827), 567
- Francis of Assisi, “The Canticle of Brother Sun” (twelfth-thirteenth century C.E.), translated by Benen Fahy, O.F.M., 569
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- Alfred W. Crosby, Jr., from *The Columbian Exchange: Biological and Cultural Consequences of 1492* (1972), 661
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- Zygmunt J. B. Plater, Robert H. Abrams, William Goldfarb, and Robert L. Graham, from “The Three Economies” in *Environmental Law and Policy: Nature, Law, and Society* (1998), 727
- David Pepper, from “Science and Society: Influencing the Answers Obtained” in *Modern Environmentalism: An Introduction* (1996), 730
- Ranee K. L. Panjabi, from *The Earth Summit at Rio: Politics, Economics, and the Environment* (1997), 732
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*The environment and environmental issues are complex, organically connected, and massively detailed. To understand them, and then to act in ways that will protect the environment, avert disasters, and maintain both global and human health, requires nothing less than a redefinition of what it means to be human. Any one program or statement is insufficient. A new environmental consciousness will alter daily habits, economic planning, politics, spiritual orientations, the dedication of educational efforts, and the direction of scientific thinking.*

- Scott Russell Sanders, "Buckeye" in *Writing from the Center* (1995), 862  
 Archie Carr, "A Dubious Future" (1963) in *A Naturalist in Florida: A Celebration of Eden* (1994), 867  
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