Contents

List of figures ix
Acknowledgments xi
Permissions xiii

1 **Introduction: history and ecology** 1

Environmental history 4
The community of life 5
Community ecology and history 6
Ecological process 7

2 **Primal harmony** 12

The Serengeti: kinship of humans with other forms of life 14
Kakadu, Australia: the primal tradition 19
Hopi, Arizona: agriculture in the spirit of the land 22
Conclusion 27

3 **The great divorce of culture and nature** 30

The Uruk Wall: Gilgamesh and urban origins 33
The Nile Valley: ancient Egypt and sustainability 38
Tikal: the collapse of classic Maya culture 42
Conclusion 48

4 **Ideas and impacts** 52

Athens: mind and practice 59
Xian: Chinese environmental problems and solutions 66
Rome: environmental reasons for the decline and fall 73
Conclusion 78

5 **The Middle Ages** 83

Florence and the European scene: the barriers to growth 86
Tahiti, Hawai'i, New Zealand: Polynesian impacts on island ecosystems 93

Cuzco: conservation in the empire of the Incas 99
Conclusion 104

6 The transformation of the biosphere **109**

Tenochtitlán: the European biotic invasion 113
London: city, country, and empire in the Industrial Age 119
The Galápagos Islands: Darwin's vision of evolution 127
Conclusion 136

7 Exploitation and conservation **141**

The Western Ghats: tradition and change 148
Grand Canyon: preservation or enjoyment? 155
Aswan: the dams and their effects 162
Conclusion 168

8 Modern environmental problems **174**

Bali: a green revolution? 182
Willamette National Forest: now that the big trees are down 188
Bryansk: the aftermath of Chernobyl 193
Conclusion 199

9 Present and future **206**

Denver: a sense of place 213
Amazon: the threats to biodiversity 217
Nairobi and the world: the United Nations Environment Program 224

10 A general conclusion **238**

Bibliographical essay: writing on global environmental history **242**

Index 249

Figures

Map	Geographical location of case studies	xv
1.1	A landscape transformed by human actions, Madeira Island	2
2.1	An example of one of many species adapted to the East African dry forest ecosystem	15
2.2	An elder in the forest near Manyallaluk, which means "Frog Dreaming Place" in Northern Territory, Australia	20
2.3	The Hopi town of Moenkopi in Arizona	23
3.1	The wall of the ancient city of Uruk in Sumeria	35
3.2	Salinization in the Fayum Oasis, Egypt	41
3.3	The Temple of the Giant Jaguar (Temple I) rises above the plaza in the ancient Maya city of Tikal, Guatemala	43
4.1	The Parthenon and other buildings in Athens, Greece, crown the Acropolis	61
4.2	An Orthodox church in Messenia, Greece	63
4.3	The historic city of Xian	67
4.4	The Tiber River served as water supply and means of transportation for the imperial city of Rome	75
4.5	Trajan's Column, in the Forum of Trajan, Rome	77
5.1	The city hall (Palazzo Vecchio) and cathedral of Santa Maria del Fiore, Florence	88
5.2	Aerial view of Ra'iatea, a high island in the Society Islands of Polynesia	96
5.3	Breadfruit, a food plant introduced to many of the Pacific islands by the Polynesians	97
5.4	View of the lagoon and barrier reef from the high island of Bora Bora in the Society Islands	98
5.5	Machu Picchu, a city of the Incas in the Andes Mountains east of Cuzco, Peru	100
6.1	Statue of Tlaloc, the Aztec god of rain, now located at the National Museum of Anthropology in Mexico City	114
6.2	The Tower Bridge over the Thames River, in London, built in 1886–94	121
6.3	A giant tortoise at the Charles Darwin Research Center on the Galápagos Islands	128

6.4	A Galápagos tortoise, "Lonesome George," the last surviving member of the Pinta Island subspecies	133
6.5	A cactus finch, one of "Darwin's finches"	135
7.1	The moist evergreen forest canopy of Devaravattikan sacred grove in Mattigar village in the Western Ghats of south India	149
7.2	Karivokkaliga peasant praying in the grove near votive offerings	150
7.3	View of the Grand Canyon from the North Rim near Bright Angel Point	156
7.4	A Havasupai Indian harvesting alfalfa beneath the Wigleeva rocks, in the Grand Canyon	157
7.5	Aerial view of the Aswan High Dam on the Nile River in Egypt	163
8.1	A Balinese farmer plowing in a rice paddy with banteng, the native cattle	183
8.2	The Barong, the huge, fiercely friendly apotheosis of animals, defender against evil, is represented by dancers in the town of Jimbaran on Bali	185
8.3	View from Hills Peak Lookout eastward toward Diamond Peak in the Willamette National Forest, Oregon, in 1950	188
8.4	A view from Hills Peak Lookout toward Diamond Peak in 1995	189
8.5	Drawing of hedgehogs by a child in Bryansk, Russia	194
9.1	Denver's downtown skyline from Broadway, next to the state capital	214
9.2	A lizard in a rainforest tree on the canopy walk at the Amazon Center for Environmental Education and Research near the Rio Napo, Peru	220
9.3	A fisherman casting a net into the River Amazon below Iquitos, Peru	223
9.4	The attractive campus of the United Nations Environmental Program in Nairobi, Kenya	225

All photographs are originals taken by J. Donald Hughes, except where noted in the full figure captions.