Contents

Glossary		xiii
1.	The Conservation Paradox Two early conservation approaches: preservation and utilization The balance of nature? A paradigm shift in ecology	1 2 4 5
	Ecosystem management: coping with complexity The role of long-term data in ecosystem management	5 6 9
2.	The Elephant Dilemma: A Long-term Perspective on the Management	
	of African Savannas The Tsavo 'experiment' From 'command and control' to flux of nature: elephant management	13 14
	in the Kruger National Park, South Africa	18
	Elephants, trees, and carbon dioxide Palaeoecology and thresholds of potential concern	24 26
	Summary: too many elephants—or too many trees?	20
•	Where The Wild Things Were: Re-wilding and the Sixth Extinction	
3.	Late Quaternary extinctions	30 31
	Pleistocene parks	31
	Wild wood or wood-pasture? Re-wilding in europe	41
	Carnivores as keystone species	45
	Resurrecting island ghosts	48
	Summary: towards wildness?	51
4.	A Burning Question: Can Long-term Data Inform Fire Management	
	in the Twenty-first Century?	54
	Shifting baselines	56
	Resilience, feedbacks, and complexity	60
	What is natural?	63
	Fire management, biodiversity, and ecosystem services	68
	To burn or not to burn? Fire management in the Anthropocene	71
	Summary: friend or foe?	85
5.	Past, Present, and Future Climate Change: Can Palaeoecology	
	Help Manage a Warming World?	87
	Learning from past warm climates	88
	Climate change, palaeoecology, and conservation planning	99
	Summary: can we build resilience in a perfect storm?	114

xii Contents

6.	Ecosystem Services: Lessons From the Past for a Sustainable Future	116
	Water management	118
	Soil management, carbon storage, and sustainable agriculture in the tropics	125
	Biocultural diversity	129
	Cultural ecosystem services	134
	Summary: an integrated approach to ecosystem service management	136
7.	Nature, Culture, and Conservation in the Anthropocene	139
	Adaptive cycles in the palaeoecological and historical records	141
	Towards multifunctional landscapes	149
	Conserving the cultural landscapes of the Anthropocene	163
	Summary: can multifunctional landscapes sustain biodiversity	
	in the Anthropocene?	166
8.	Conclusions: Conservation in the Anthropocene	168
	Can ecosystem management resolve the conservation paradox?	169
	Benchmarks, baselines, and thresholds of potential concern	170
	Climate change adaptation and amelioration	171
	Complexity, uncertainty, and modelling the past-present-future continuum	171
	Disturbance, resilience, and heterogeneity	172
	Restoring ecosystem services	173
	Sustainability and adaptive capacity in socioecological systems; merging	
	'traditional' and adaptive management approaches	174
	Is there a place for 'wilderness' in the Anthropocene?	175
	Stakeholder engagement and collaborative learning	176
	Sustainability and multifunctional landscapes	177
	Summary: using palaeoecology to manage dynamic landscapes	
	in the Anthropocene	178
R	eferences	179

Index

209