
Earth, according to some researchers, has entered a new phase in which human activity is the dominant influence over planetary systems—the Anthropocene. Uncertainty remains about when it began, what unit of geologic time it comprises, and whether the proposed periodization will pass the International Commission on Stratigraphy. Nonetheless, the term has become popular in a wide range of academic disciplines and in popular writing. Forest Conservation in the Anthropocene, a valuable collection of essays from forestry officials, ecologists, and policy scholars, works with the term at its broadest level. Forestry in the Anthropocene requires adaptive responses to anthropogenic climate change and nonclimate anthropogenic factors including ecosystem fragmentation and invasive species. It holds consequences for wildlife and landscapes but also threats to human health and society from degraded water quality, erosion, and flooding. It requires new, flexible solutions to the bureaucratic, technical, financial, and political challenges confronting forest managers and policymakers.

The authors argue that forests provide critical ecological services in a rapidly changing world. Most obviously, they serve as carbon sinks, but as Chapters 10, 11, and 14 demonstrate, forests offer flood and erosion prevention, water quality management, and temperature control for mountain snows and rivers at local and regional scales, east and west of the Mississippi. As legally protected areas around the world, forests and parks also provide critical refuges for wildlife (Chapter 6). The Anthropocene is an era defined by new and
intensified disturbances, and forests are critical to “create more resilient conditions rather than just clean up the damage” (p. 233).

Most of the essays focus on the threats to forests and strategies for resilience. The scale and pace of climatic shifts threatens to exceed evolutionary change. Evidence presented in Chapter 1 suggests that tree species can survive more extreme climatic conditions but that ecosystem fragmentation, deforestation, and the introduction of invasive plants, animals, and diseases (Chapter 2) limit the potential for migration and flexibility that enabled these earlier survivals.

Scale and pace have likewise created new problems for managers and policymakers. Migration is a critical strategy for adaptation, but many conservation activities take place at local levels. The authors of Chapters 9 and 13 make the case for large landscape-scale conservation policies, and they point toward examples of cooperative planning and policies that cross the US-Canadian border. Current administrative, political, and institutional structures create challenges, and there is a consensus among the essays on policy that integrated efforts including individuals, government, and nongovernmental organizations are essential. Current global climate models often lack the high-resolution data that several essays argue would benefit policymakers and managers. Nonetheless, the collection optimistically concludes, obstacles to “stemming the loss of private forests to development, restoring public forests to relieve climate-induced environmental stresses, reduce fire risks, and protect essential public values and ecosystem services . . . are eminently surmountable” (p. 251).

Forest Conservation in the Anthropocene poses a challenge to environmental historians, asking what, if anything, they contribute to policy or practice amid rapid, unprecedented changes in planetary systems. Authors in the collection vary on this point. Chapter 4 sets the threat of extreme landscape-altering wildfires in the context of nineteenth- and twentieth-century climatic, forestry, and settlement history in the Southwest. Processes familiar to Western and environmental historians—the introduction of railroads, widespread cattle ranching, and a focus on intensive fire suppression in forest management—created the dense, fuel-rich forests prone to fiery conversion into grasslands in a hotter, drier climate. Chapter 16 argues that local ecological knowledge should be incorporated into adaptive management strategies and suggests that “it may be time to relearn some of the ‘old’ science” (p. 234). In contrast, Chapter 8 suggests that historic conditions offer poor guides for policies surrounding assisted migration of species to more hospitable climates. Chapter 15 argues, “There is no body of knowledge derived from experience to underpin wildlife conservation policy for a period of rapid climate change"
(p. 217). Environmental historians studying recent fire and water pol-
ices, and federal forestry institutions will find useful essays but also
tough questions about their place in this new human age.

Keith Pluymers
California Institute of Technology
doi: 10.1093/envhis/emx069