

MEETING

Land Management in the Anthropocene: Is History Still Relevant?

*Incorporating Historical Ecology and Climate Change Into Land Management;
Lansdowne, Virginia, 22–25 April 2008*

Ecological restoration, conservation, and land management are often based on comparisons with reference sites or time periods, which are assumed to represent “natural” or “properly functioning” conditions. Such reference conditions can provide a vision of the conservation or management goal and a means to measure progress toward that vision. Although historical ecology has been used successfully to guide resource management in many parts of the world, the continuing relevance of history is now being questioned. Some scientists doubt that lessons from the past can inform management in what may be a dramatically differ-

ent future, given profound climate change, accelerated land use, and an onslaught of plant and animal invasions.

To address this issue, the U.S. Forest Service (USFS) and the Nature Conservancy (TNC) convened a weeklong workshop to (1) synthesize perspectives and approaches to incorporating historical ecology, natural variability, and future conditions into conservation and management of natural resources, and (2) provide leaders and decision makers with a more refined understanding of how a knowledge of history can inform their management decisions and actions.

The workshop attracted policy makers, ecologists working at the interface of science and management, experts in the science and application of historical ecology, and vegetation modelers. Participants represented the USFS, TNC, NatureServe, the Aldo Leopold Wilderness Research Institute, the U.S. Geological Survey, the Wilderness Society, Colorado State University, Oregon State University, and Oak Ridge National Laboratory. The workshop began with a review of past challenges and approaches and segued to case studies and an overview of current issues. A smaller working group closed the workshop with a day devoted to synthesis and planning.

Presentations and deliberations made it clear that it is no longer defensible to use historical information to establish static targets for restoration, conservation, or land management in a rapidly changing world. Approaches that assume “stationarity”—the idea that environments vary about some constant, long-term average—are no longer appropriate. They should be replaced by models that build from a historical context, using ecological responses to past environmental variability to shed light on the range of potential responses to future conditions.

Historical trajectories of pattern and processes in ecosystems and landscapes should be integrated into projections of future climate, land use, and invasive species spread.

The workshop gave birth to several new initiatives. One working group is synthesizing workshop conclusions into briefing papers and talking points for agency leaders. Another is focusing on the development of a series of technical reports that will help to define proper standards for the use of historical information in ecological restoration and land management. Finally, efforts are under way to use national forest pilot projects within the U.S. Climate Change Science Program to help determine how to tie historical ecology to resource management practices that can accommodate climate change.

—HUGH D. SAFFORD, Forest Service, U.S. Department of Agriculture, Vallejo, Calif.; E-mail: hughsafford@fs.fed.gov; JULIO L. BETANCOURT, U.S. Geological Survey, Tucson, Ariz.; GREGORY D. HAYWARD, Forest Service, U.S. Department of Agriculture, Denver, Colo.; JOHN A. WIENS, The Nature Conservancy, Arlington, Va.; CLAUDIA M. REGAN, Forest Service, U.S. Department of Agriculture, Denver, Colo.