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The Profession

Historical records can prove very valuable in environmental restoration work by revealing the locations of early fence lines, trails, and grazing areas, as pictured in this example from Red Rock Canyon State Park. Read more about how environmental historians can assist scientists in these projects in the article below.

How Historians Can Assist Environmental Restoration Projects

By David A. Bainbridge, Sustainable Management, Alliant International University, San Diego

Probably more environmental restoration projects have failed from lack of due diligence in analyzing historical impacts and changes in ecosystem structure and function than for any other reason. Yet developing a site environmental history is not difficult or costly. Hiring an environmental historian to develop a site environmental history can help project biologists and environmental scientists understand what types of disturbances to look for, reveal historical or archeological sites that should be protected, and identify special problem areas where ecosystem structure and function have been dramatically altered.

A better sense of environmental history can also help refine restoration plans for a site. An environmental historian can help restoration planners decide what the restoration goals should be by determining what was on the site in the past. In Southern California for example, we might consider a restoration goal of 2006 (before current disturbance), 1890 (before widespread farming), 1800 (before extensive grazing), or 10,000 or 25,000 years ago, before people arrived. Ideally we would like to find an undisturbed reference site; but there are few, if any, undisturbed sites in Southern California.

We can learn a great deal by developing a good site environmental history. In many cases more information is available to us than we might first suspect. The visit of Jedidiah Smith to San Diego in 1827 is a good example of what we can learn from historical study. He noted the oaks and pines around Old Town. These had to be Torrey Pines (*Pinus torreyana*), but by the time botanists got here they were all gone except for a small grove near Del Mar. Ethnoecologist Florence Shipek also unearthed evidence of the presence of Torrey Pines on Point Loma through interviews with Kumeyaay elders and field work. Research is also highlighting the potential impacts of prehistoric management activities that can affect restoration.

An environmental history can also help identify the likely disturbance effects on a site. This can enable limited resources to be focused on the changes in ecosystem structure and function that are most likely to be an issue. A detailed study can identify the location of old roads, corrals, building sites, and other disturbances that will require special efforts during the restoration project. It may also help identify special problems that may demand special soil or water tests, such as the use of boron as a weed killer in early industrial areas.

Many consulting firms neglect environmental history because they do not have an environmental historian on staff. Researching environmental history takes training and experience; it is very local, with resources varying widely from place to place. Going back in time through papers, photographs, maps, books, air photos, fieldwork, and the internet starts out as a scientific and historical procedure, but often ends up as an "art."

Expertise in environmental historical research is often needed by ecologists, biologists and others who are trained in the latest science - but not very well versed in history. If you are interested in expanding your environmental history work to include restoration you might arrange a meeting with your local restoration firms (you can look them up in the yellow pages or on-line). You might also contact and/or join the Society for Ecological Restoration; see www.ser.org

Recommended Reading:

Bainbridge, D. A. 2007. *A Guide for Desert and Dryland Restoration*. Island Press, Washington, DC 391 p. (see especially Chapter 4 which describes site evaluation).

Egan, D. and E. A. Howell. 2001. *The Historical Ecology Handbook: A Restorationist's Guide to Reference Ecosystems*. Island Press, Washington, DC. (see especially Chapter 2, by M. Kat Anderson).

Sandor, A., P.L. Gersper and J.W. Hawley. 1990. Prehistoric agricultural terraces and soils in the Mimbres area, New Mexico. *World Archeology* 22(1):70-86.

Smith, J. S. 1977 [1827]. *The Southwest Expedition of Jedediah. S. Smith*. Univesity of Nebraska Press, Lincoln, NE.