

Prehistoric Water Management in the American Southwest

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PUPOSE OF STUDY

Water control and management issues have been persistent through time in the American Southwest. Many areas remain environmentally marginal for agricultural purposes even in a technologically advanced era. For prehistoric cultures, devices to enhance and control unpredictable precipitation and perennial water sources were crucial to successful crop production. To this end, the Anasazi of the Four Corners area developed many techniques that allowed them to inhabit harsh environments for centuries. These include contour terraces, check dams, and strategic field location.

Between AD 900 and 1300, ancestors of the modern Pueblo Indians inhabited the middle Rio Puerco valley of New Mexico. The Anasazi culture that lived in the valley is considered to be an outlying community culturally and materially associated with the larger community of the Chaco Canyon area to the northwest.

Using like areas and populations as analogues, water control techniques will be compared in this study. The increasing entrenchment of the Rio Puerco is considered to be a contributing factor to agricultural degradation. Population estimates through time and agricultural yield will be analyzed to assess the level of sustainability. A more recent dating method indicates that water control devices in the valley were in use earlier than previously thought. The abandonment of the valley will be discussed in relation to environmental and social factors that occurred throughout the northern southwest before the Spanish Entrada. Finally, issues of sustainability through time, environmentally and culturally, will be explored to compare differing world views of land and water use.

RESULTS

The study is ongoing and will be completed by December 31, 2004. Anticipated results are a Geographical Information System (GIS) whose layers would be keyed to distinctive time frames and types of water use. Such a GIS would also have useful applications for contemporary water managers and planners.



Aerial view of Guadalupe Ruin taken in 1984. Photo by Larry L. Baker.



View of the southern tip of Guadalupe Mesa with the Rio Puerco valley on the left. Photo by Stacy Galassini.



View from the top of Guadalupe Mesa and Ruin, 160 feet above the middle Rio Puerco valley floor in Sandoval County, New Mexico. Photo by Stacy Galassini.



Stacy Galassini is a third year master's student at Eastern New Mexico University where she also received her B.S. degree. She is originally from Roswell and has worked summers for the U.S. Forest Service in Grants doing archaeological surveys for cultural resources clearance.



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