

Southwest Region

In conjunction with a multi-year cultural resource inventory survey being conducted at Bandelier National Monument, two research projects are underway. The first is to develop an obsidian hydration calibrational curve in order to date the flake scars on obsidian artifacts. Small glass cells have been placed at 18 different elevations ranging from 5520' to 9000' at Bandelier. The cells will be left in place for one year to monitor the environment. Data from the cells will then be used to develop a calibration curve for dating obsidian artifacts from the area.

The second study is designed to identify which clay sources were used prehistorically in the ceramic industry at Bandelier. Eight of the 16 sources earmarked for study have been sampled and treated in a variety of ways in preparation for mineral composition analysis using x-ray fluorescence (XRF). If the clay can be extracted from prehistoric shards found in the area, their XRF signature can be obtained and compared to those from source areas. Those that match will suggest a link between the two.

* * *

In April, SWR Chief Scientist Milford Fletcher chaired the western workshop on the biological effects of air pollutants. This gathering was sponsored by the Air Quality Division in Denver to obtain objective peer review of this NPS program. The focus was on adverse impacts (especially gases) on plants in the western U.S. A similar workshop is slated for the eastern United States and results of both workshops will be summarized by the Research Branch of the Air Quality Division.

* * *

More work is being done by members of the Air Quality Division in Denver, the EPA's Region 6 office in

Continued on next page

Dallas, Texas, and the SWR Division of Resources Management and Science staff in relation to the MAB effort with Mexican Biosphere Reserves. This work involves the heavy air pollution loadings that impact visibility and other air quality related values in Big Bend and Guadalupe Mountains NPs. There pollutants are transported by air masses emanating primarily from northeastern Mexico and the Texas Gulf Coast, although Guadalupe Mountains receives emissions as well from the El Paso, Texas/Juarez, Mexico urban area. A meeting in mid-June in Mexico City is discussing possible means to mitigate these impacts.

* * *

A collaboration among staff of Big Bend NP, MAB Coordinator Bill Gregg, and staff members in the SWR's Division of Natural Resources Management and Science is undertaking to link Big Bend with two other Biosphere Reserves in the Chihuahuan Desert of northern Mexico. A series of meetings is fostering exchange of research findings and resource management information. Common problems are being analyzed, and a plan is being developed to restore the Bolson tortoise in these three areas.