

Appendix 2: 1995 photographs of Cuerda de Lena. All photographs by S. Rutman, Organ Pipe Cactus National Monument, March, 1995.



Photograph 1a. West bank of the western branch of Cuerda de Lena at the north boundary of the Monument, looking north onto public lands managed by the Bureau of Land Management. The riparian zone has patches that are devoid of woody perennials; remaining trees are hedged. The wash bank is chiseled by livestock. Vines are scarce or absent.



Photograph 1b. East bank of the west branch of Cuerda de Lena at the north boundary of the Monument, looking south onto public lands managed by the NPS (wash bed in foreground). Trees line the riparian zone, and understory growth is abundant. Note the vine *Clematis drummondii* (Virgin's bower) in the tree in the left foreground; this species is abundant along Cuerda de Lena within the Monument.



Photograph 2a. West of the western branch of Cuerda de Lena, looking north of the northern boundary of the Monument on lands managed by the Bureau of Land Management. Note the general lack of understory perennials, especially vines, and the hedged appearance of the trees.



Photograph 2b. West bank of the western branch of the Cuerda de Lena, looking south onto public lands managed by the National Park Service. Trees have begun to regain natural form and understory perennials were common. Open spaces have yet to recover, although one young creosote bush had colonized the open area (near center).



Photograph 3. West side of Cuerda de Lena, about 1/4 mile north of the Monument's north boundary. Large barren areas have developed where there are no mature or young perennial plants. Note the young tree rooted in the eroding and chiseled wash bank.



Photograph 4. West side of the degraded Cuerda de Lena riparian area, on Bureau of Land Management land near the north boundary of the Monument. A view of the large open areas lacking woody perennials. The mesquite trees (left center and background right) are hedged, as is the large creosote bush (right center).



Photographs 5 (left) and 6 (right). Photograph on the left was taken on the west side of Cuerda de Lena, on Bureau of Land Management land about 1/4 mile north of the north boundary of the Monument. The riparian zone was open, trees were hedged, understory woody perennial cover and density was low, and a lot of sunlight reached the soil surface. Photograph on the right was taken on the west side of Cuerda de Lena, on the Monument just south of the north boundary. Photographs of the riparian forest here were difficult to take because light was low and general tangle of vines and other understory shrubs prevented a view.



Photograph 7. The bank of Cuerda de Lena, on the Monument near the north boundary. Note the discrete interface between the active stream bed (white sand/gravel) and the wash bank. A cryptobiotic soil crust stabilized this interface, even in the flood-scour zone. Mosses were an important component of the soil crust. The discrete interface and presence of cryptobiotic soil crust along the wash banks was typical of most but not all of the Cuerda de Lena on the Monument.



Photograph 8. The bank of Cuerda de Lena, on the Monument near the north boundary, showing another view of the discrete interface between the active stream bed (white sand/gravel) and the wash bank.



Photograph 9. The bank of Cuerta de Lena, on Bureau of Land Management land north of the Monument's north boundary. The banks of the wash were destabilized and devoid of cryptobiotic soil crust. The canyon ragweed (*Ambrosia ambrosioides*) on the left side of the photograph was being undercut by bank erosion.



Photograph 10. The bank of Cuerta de Lena, on Bureau of Land Management land north of the Monument's north boundary. Close-up of the area in Photograph 9. Cattle were chiseling the wash bank. Establishment of woody perennials would be difficult if not impossible under these conditions.



Photograph 11 (left) and 12 (right). Comparison of deer crossing versus livestock crossing of Cuerda de Lena. A deer trail (left) across a bank of Cuerda de Lena was narrow. Livestock crossed where convenient and caused widely dispersed impacts.