

Project Update: March 2016

While artisanal gold mining is an economically important practice in southeastern Senegal, mining waste, such as mercury or arsenic, could be contaminating the few water sources available to western chimpanzees (*Pan troglodytes verus*) living alongside mining communities. Our team collected water samples during the peak dry season in 2015 to test for mercury contamination associated with artisanal small-scale gold mining. We collected water from the high-intensity mining site of Kharakhena, the Fongoli site where artisanal mining is prevalent but less intense than the former location, and at Assirik in the Niokolo-Koba National Park where mining is prohibited. We exhaustively sampled surface water at each of these three sites within the home ranges of at least three chimpanzee communities. In addition, we collected samples from wells situated within three villages that were impacted by artisanal gold mining. Our team collected a total of 84 water samples within a 3-week period. One challenge of this field season was the extreme scarcity of water due to a late onset of the rainy season in southeastern Senegal. Although our primary concern was mercury contamination, there were qualitative differences in water quality among our study locations. At Fongoli, where chimpanzees drink from the water table by descending into mining pits, sediment and macrophyte levels were high. However, this community also had access to a relatively clean spring within their home range. The Kharakhena site is of great concern because a boom in human population density within the past 5 years has exhausted natural resources within the immediate vicinity. Consequently, people now live near a natural spring used by the Kharakhena chimpanzees and we found a hunting blind at this key water source. In contrast, the surface water at Assirik appeared to have lower sediment levels and no anthropogenic effects were apparent. Water scarcity is an environmental pressure for savanna chimpanzees and the current mining boom appears to be further limit this essential resource. Chimpanzee conservation plans in Senegal must address this problem head on.



Massylla Ndiaye samples water at Kharakhena, Senegal