U.S. Geological Survey Fact Sheet

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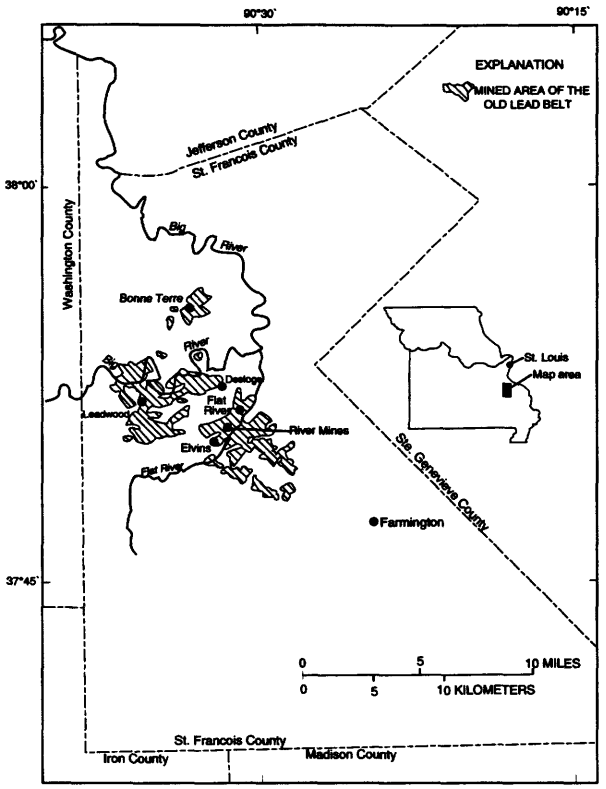
Stream water and sediment quality in the Old Lead Belt, Missouri

The effect of mining on stream waters and sediments is an issue vital to the American public. U.S. Geological Survey (USGS) scientists are addressing this issue in several states by trying to relate toxic metal concentrations in stream water to specific abandoned mine areas upstream.



Location of the Old Lead Belt, southeastern Missouri, and generalized location of lead and zinc mining (modified from Association of Missouri Geologists, 1969)

The Old Lead Belt in southeastern Missouri is one of many areas where the USGS is investigating metal contamination resulting from historic mining of lead deposits. This study also involves scientists from the Missouri Department of Natural Resources. Geochemists and hydrologists from both agencies have assessed stream-water quality, physical and chemical processes that govern stream-water quality, and trace-element concentrations in the water and in the stream sediments.

These investigations show that the water quality of the Big River and the Flat River in the Old Lead Belt mining district meets the established criteria for the protection of aquatic life, livestock, and waterfowl as defined by the Missouri Department of Natural Resources. Bed sediment at some river sites is affected by mining and contains large amounts of carbonate minerals. Bed sediment at other river sites is unaffected by previous mining and consists mainly of quartz. The study found no sign of harm to fish or other wildlife at either type of site. Nevertheless, continued monitoring and cleanup of the contaminated mine sites will insure against any harmful effects in the future.

Reference Cited

Association of Missouri Geologists, 1969, Major geologic features of lead and barite districts of southeast Missouri, 16th Annual Field Trip Guide, Viburnum, Mo., 24 p. ❑

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