

NATURAL RESOURCES SYMPOSIUM  
BLUEPRINT FOR CHANGE: NEW APPROACHES AND NEEDED CHANGES TO MANAGING  
NATURAL RESOURCE RISKS, LIABILITIES AND OPPORTUNITIES

September 25-26, 2018  
Washington, DC

SOUTHEAST MISSOURI LEAD MINING DISTRICT, MO  
CASE/SITE SUMMARY

### Summary

The mining and smelting sites within St. Francois, Reynolds, Jefferson and Iron Counties in Missouri are located within the Southeast Missouri Lead Mining District, an area that was mined extensively for lead and zinc for more than a century. As a result of this mining and related activities, large amounts of metals including cadmium, lead, zinc, and nickel were released and are continuing to be released into Missouri's environment. Cadmium, lead, zinc, and other metals associated with mining may be toxic to a wide variety of plants and animals. Key features of the case include heavy industrial smelting history, numerous bankrupt PRPs, potential injury to mussels, an overarching regional restoration plan, and public backlash to certain restoration projects. This case was chosen to be included in the lessons learned segment because it helps show the diversity of NRDAR cases, not just geographically, but also as to resource type and injury profile. In particular, approaches and/or practices that could be transferred to other cases and sites include the use of a regional restoration plan in an attempt to aggregate numerous smaller settlements and streamline both the assessment and restoration processes.

### Site Name

Southeast Missouri Lead Mining District

### Trustees

Missouri Dept. of Natural Resources (MDNR); US Department of Agriculture/Forest Service; US Department of the Interior; and US Fish & Wildlife Service (US FWS)

### Trustee Council

The Missouri Trustee Council is made up of MDNR, US FWS, and the US Forest Service.

### Potentially Responsible Parties

ASARCO, LLC; Freeport/McMoRan; Magmont Joint Venture; NL Industries, Inc.; The Doe Run Resource Corporation; BP America, Inc.

### Site Description

The Southeast Missouri Lead Mining District contains large piles and impoundments of mine tailings and other waste. Movement of tailings and associated metals from these sites has led to extensive contamination of aquatic sediments and biota in streams that drain these areas, especially the Big River and its tributaries, which drain the St. Francois County and Washington County sites.

### NRDA and Related Documents

The following NRDA, Restoration, and related documents have been released:

- Draft Addendum Damage Assessment Plan for Southeast Missouri Lead Mining District: Madison County Mines Site (2015)
- DRAFT Natural Resource Restoration in the Southeast Missouri Lead Mining District (2015)
- Southeast Missouri Ozarks Regional Restoration Plan and Environmental Assessment (2014)
- Finding of No Significant Impact - Southeast Missouri Ozarks Regional Restoration Plan (2014)
- Preassessment Screen and Determination; Madison County Mines Site, Madison County, Missouri (2014)
- Draft Southeast Missouri Ozarks Regional Restoration Plan and Environmental Assessment (2013)
- Environmental Implications of Phosphate-Based Amendments in Heavy Metal Contaminated Alluvial Soils of the Big River, southeast Missouri, USA. (2011)



- Addendum to Final Phase I Damage Assessment Plan for Southeast Missouri Lead Mining District: Big River Mine Tailings Superfund Site (2010)
- Final Phase I Damage Assessment Plan for the Southeast Missouri Lead Mining District: Big River Tailings Superfund Site, St. Francois County and Viburnum Trend Sites, Reynolds, Crawford, Washington and Iron Counties (2009)
- Assessment of metal-contaminated sediments from the Southeast Missouri (SEMO) mining district using sediment toxicity tests with amphipods and freshwater mussels (2009)
- Viburnum Trend (Sweetwater et al.) Preassessment Screen (2008)
- Big River Mine Tailings Site Preassessment Screen (2008)
- Numerous other plans, reports, and studies – see <https://www.fws.gov/midwest/es/ec/nrda/SEMONRDA/index.html>

### **NRD Assessment Approaches**

- The Trustees have conducted a number of site-specific NRD assessments throughout the District over time.
- Generally, the Trustees' assessment activities have focused on four resources: surface water, geological, groundwater, and biotic resources (including mussels, songbirds, and crayfish).

### **Restoration Projects**

A number of restoration projects are completed or underway throughout the District. Previously funded projects include parcel acquisition for state parks; native plant diversity; river habitat restoration; wilderness connection and watershed protection; stream restoration; and more.

### **Points of Interest**

Below are some of the unique characteristics of this case/site.

- Numerous sites spread across a large, multi-county area.
- “Rolling” assessments and restoration projects, as additional sites are identified, assessed, and settled.
- A large number of potential PRPs, many defunct or bankrupt.
- A regional restoration plan that provides a framework under which the Trustees can identify and evaluate future projects.
- Public backlash against using restoration dollars for a small number of parcel acquisitions for new state parks.

### **Description of Approaches/Lessons Learned**

The following are key lessons learned and/or approaches from this case that may be transferable to other cases and sites:

- The importance of involving the public early and often in the NRDA process, especially when it comes to land acquisition with restoration funds.
- The innovative use of a regional restoration plan to provide consistency across related sites and promote efficiency.

### **Further Information**

For further information see below:

- <https://www.fws.gov/midwest/es/ec/nrda/SEMONRDA/index.html>
- <https://dnr.mo.gov/env/hwp/sfund/nrda.htm>