



# Oronogo-Duenweg Mining Belt Superfund Site

## **COMMUNITY INVOLVEMENT PLAN**

### Remedial and Removal Actions



**May 2024**  
Jasper County, Missouri

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# INTRODUCTION

## Oronogo-Duenweg Mining Belt (ODMB) Superfund Site Boundary (Jasper County wide)

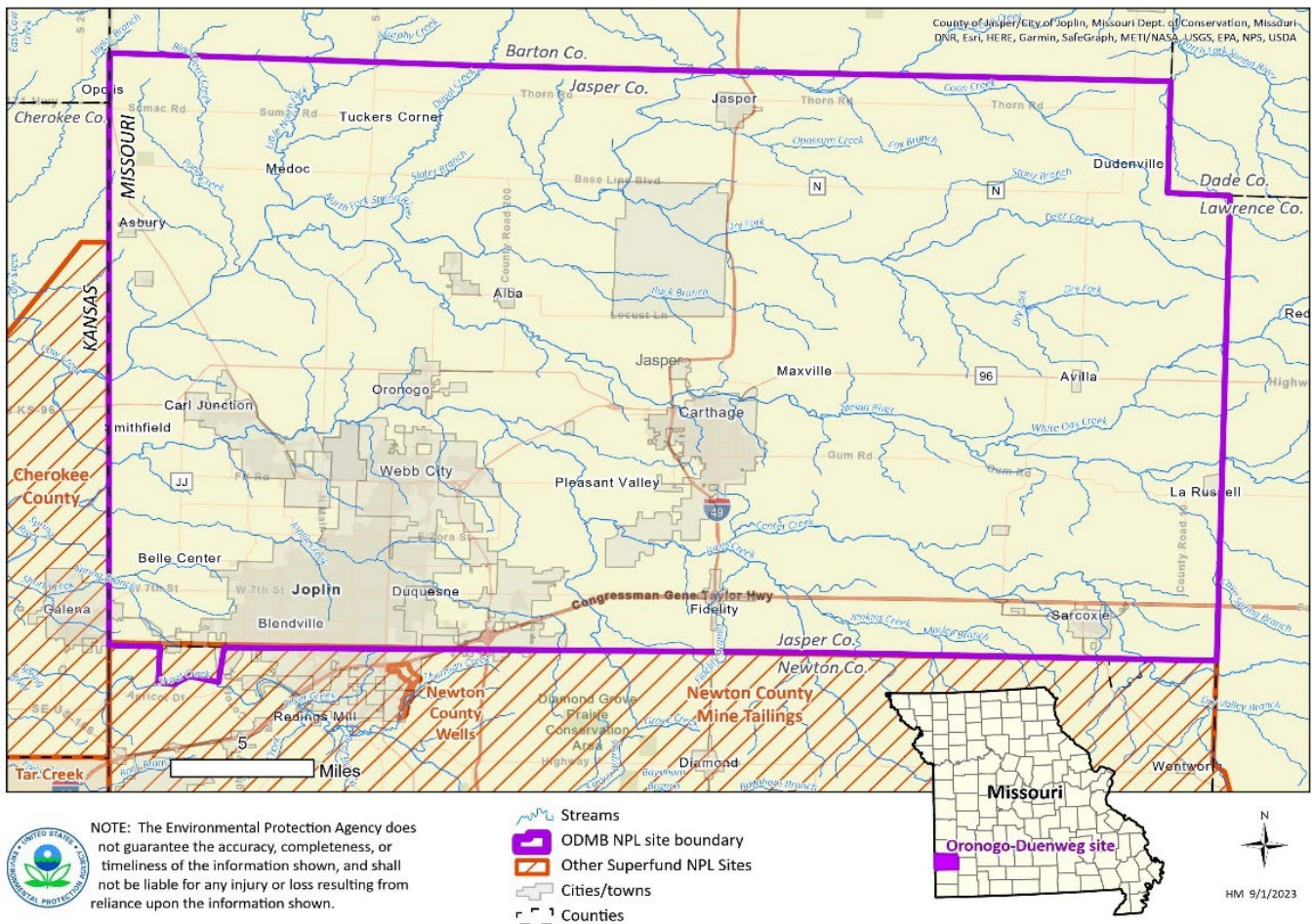


Figure 1: Oronogo-Duenweg Mining Belt NPL Superfund Site boundary expansion to include all of Jasper County, MO (2024)

### Community Involvement Goals at the Site

The goal of this Community Involvement Plan (CIP) is to encourage and facilitate community engagement throughout the cleanup at the Oronogo-Duenweg Mining Belt (ODMB) National Priorities List Superfund site (site), see Figure 1 for an updated site map above (2024). This CIP describes how the U.S. Environmental Protection Agency (EPA), Region 7 (R7) will involve the community and address local needs during the Superfund process. The EPA R7 and the community will work together by using the tools described in this plan. Community involvement activities at the site are designed to inform the public of all cleanup activities and include the community in the decision-making process.

Active and participatory community involvement is an important part of the Superfund cleanup process and is crucial to its success. EPA's Superfund Community Involvement Program is designed to facilitate participation of community members throughout the cleanup process, including the investigation phase and the remedy selection phase. EPA works closely with state and local agencies to provide community involvement throughout the Superfund process.

### What is a Community Involvement Plan?

A Community Involvement Plan (CIP) is the site-specific strategy to enable meaningful community involvement throughout the Superfund cleanup process. CIPs, which are required by the NCP and CERCLA, specify EPA-planned community involvement activities to help communities understand: 1. the Superfund cleanup process; 2. how, when, and where EPA will provide site-related information to the public; 3. how the public can be actively involved in the

cleanup process; and 4. the key points in the cleanup process and the ways in which EPA takes public input into consideration during interim and final decisions. The CIP reflects community needs, concerns, and expectations that are identified through community interviews and other means; learn more, at: [www.epa.gov/superfund/superfund-community-involvement](http://www.epa.gov/superfund/superfund-community-involvement).

The CIP is both a document and the culmination of a planning process. As such, the CIP provides the backbone of the community involvement program and serves as a useful resource that the site team often turns to during the Superfund cleanup for advice on appropriate activities for community involvement. EPA prepares CIPs based on community interviews and other information during these types of phases in the superfund process:

- Prior to field work for the Remedial Investigation.
- At the commencement (start) of the Remedial Investigation.
- After a Record of Decision (cleanup decision, or remedy) is signed, EPA reviews the CIP and considers a comprehensive revision, if necessary, to take a fresh look at EPA's community involvement approach during Remedial Design/Remedial Action (RD/RA) phase of the Superfund process.
- EPA can also revise or update a CIP when site or community conditions significantly change from what EPA initially planned.

**The CIP is a “living” document, meaning that it can be updated or revised over the course of the site cleanup to reflect long-term changes in the community.** This means the plan for community engagement at the site can be updated or revised as the investigation and cleanup progresses; site conditions change; EPA receives significant input from the community or other stakeholders on cleanup work; and is intended to be flexible, adaptable, and used as a guideline for EPA communication with the community.

EPA defines the “community” as those people and entities who have an interest in or are affected by the site. EPA also recognizes that other entities and stakeholders, including local, state, and federal agencies and federally recognized Tribal governments (Tribal governments or tribes), may have an interest in or may be impacted by the site. This CIP is based on a series of community interviews conducted throughout 2023 and earlier with the affected community and stakeholders in accordance with EPA's Superfund community involvement and cleanup guidance.

### **How to Access the CIP and Site Information:**

The CIP and Appendices are published for the public to review on EPA's Site Profile Page, online at: [www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining). Future CIP updates (such as new site contacts, updates, or new resources) are added as addendums to the CIP online. You can access these and other site documents by clicking under the “**Site Documents & Data**” heading. Alternatively, you can **scan the QR code** (at right). For more information about the ODMB site, including ongoing remedial and removal actions, resources about protecting the community from site hazards, periodic site updates, fact sheets, newsletters, and more, visit the online information repository. Electronic copies may be viewed by computer online. If you do not have internet access, you view site documents online at a local library, such as the **Joplin Public Library, 1901 E. 20th St., Joplin, MO 64804, Phone: 417-623-7953**. For more information, contact EPA's Records Center, at: 913-551-7003, U.S. EPA Records Center, Region 7, 11201 Renner Blvd., Lenexa, KS 66219.



### **EPA Wants to Hear from You!**

**EPA is accepting public comments on this CIP; we are looking for community feedback about:**

- The information in this Community Involvement Plan.
- Concerns and expectations about the cleanup.
- Your site-related communication and technical assistance needs.
- How you prefer to receive information from EPA.

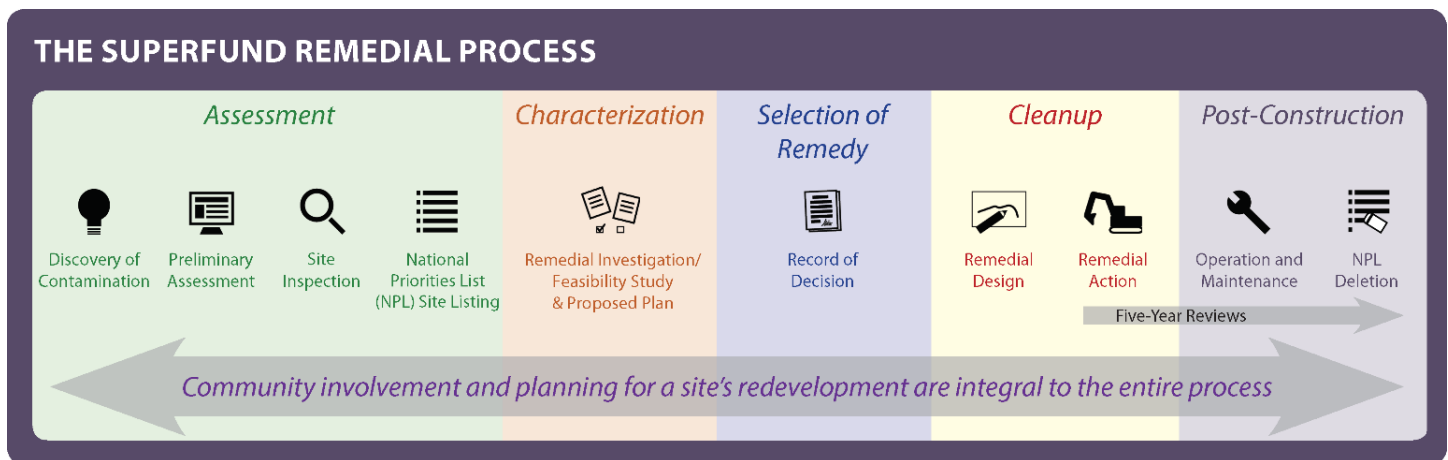
**To submit comments or questions, please reach out to, EPA Community Involvement Coordinator, Elizabeth Kramer** for all project areas statewide; phone: (913) 551-7186; Email: [Kramer.Elizabeth@epa.gov](mailto:Kramer.Elizabeth@epa.gov) or the site team's group email address, at: [r7-tsmd@epa.gov](mailto:r7-tsmd@epa.gov). Please feel free to contact EPA's primary ODMB Remedial Project Manager, Liz Blackburn, at (913) 551-7899 email: [Blackburn.Lizi@epa.gov](mailto:Blackburn.Lizi@epa.gov).

## About Superfund and Community Involvement

Community involvement is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the “Superfund” law. This CIP follows community involvement requirements in the Superfund Amendment and Reauthorization Act of 1986 (SARA) §117 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.430. U.S. Environmental Protection Agency’s (EPA’s) Superfund program, enacted in 1980 under CERCLA and amended in 1986 by SARA, is responsible for cleaning up the nation’s most toxic hazardous waste sites and responding to environmental emergencies, oil spills and natural disasters. EPA requires that those entities responsible for contaminating Superfund sites clean up the sites or reimburse the government if EPA cleans them up. EPA selects a cleanup plan and then works with Tribal governments, local, and state and/or federal partners to finalize and implement the remedy.

Once EPA has been made aware of a site requiring cleanup, EPA follows a step-by-step process to determine the best way to clean it up and protect human health and the environment. If the site poses an immediate threat to public health or the environment, EPA can intervene with an emergency response action (called a “removal action”). For more information about the **Superfund cleanup process, and the remedial and removal action processes, see Appendix A.**

The next sections include a site project area and contaminant of concern overview to ensure community members understand the site’s project areas, progress, hazards, and ways to protect human health and the environment.



**For more information about EPA’s cleanup programs and community involvement, please visit:**

Basic Information About Superfund Cleanups: [epa.gov/cleanups/basic-information-about-cleanups](https://www.epa.gov/cleanups/basic-information-about-cleanups).

EPA Community Involvement Resources: <https://www.epa.gov/superfund/superfund-community-involvement>.

EPA’s Role in Emergency Response: [epa.gov/emergency-response/epas-role-emergency-response](https://www.epa.gov/emergency-response/epas-role-emergency-response).

# ABOUT THE SITE

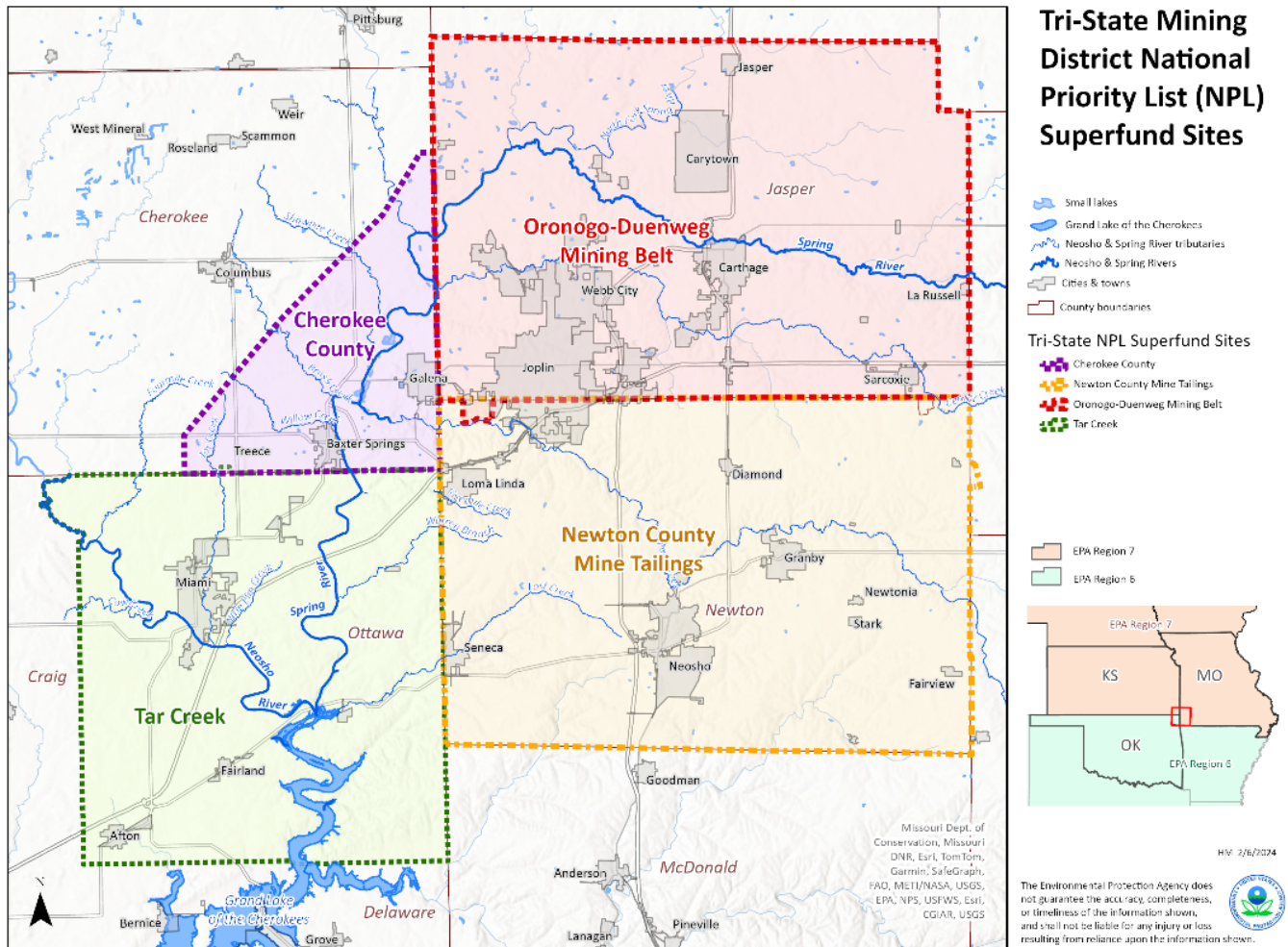


Figure 2: Map of Tri-State Mining District NPL Superfund Sites

## Site Overview

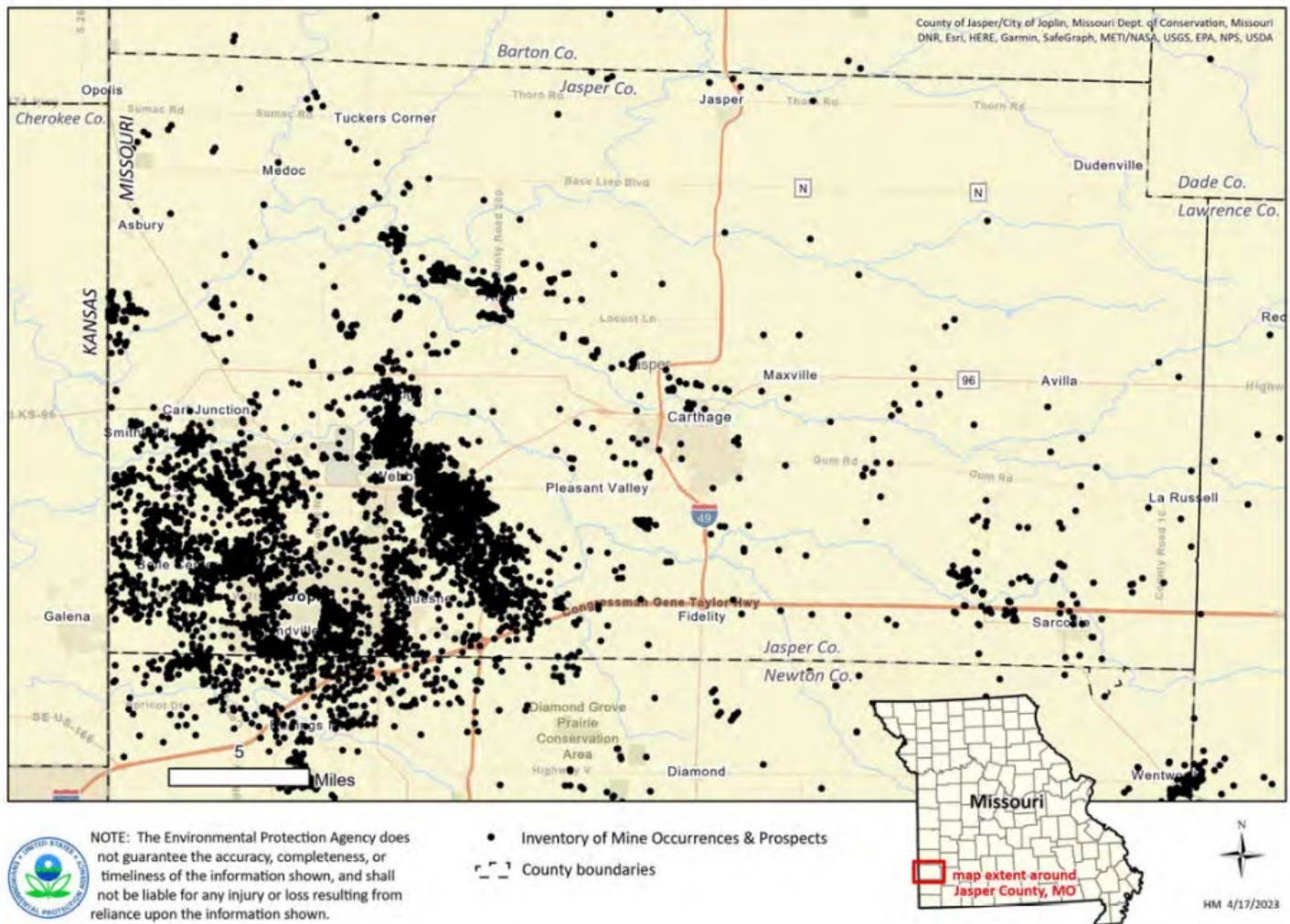
The **Oronogo-Duenweg Mining Belt (ODMB)** National Priorities List (NPL) Superfund Site (site) is in the historic **Tri-State Lead and Zinc Mining District (TSMD)** located in southeastern Kansas, southwestern Missouri, and northeastern Oklahoma (see above map). Mining, milling, and smelting of lead and zinc ore began in the mid-1800s and continued for more than 100 years (see Figure 1 on page 3 and Figure 2, above).

Former mining and smelting operations contaminated soil, groundwater, and surface water sediments with lead, zinc, and cadmium in numerous areas across the site. A map of mining area across the area of Jasper County, Missouri is included on page 7; this map depicts widespread mining across the county. See Figure 3, which shows a map of the “Inventory of Mine Occurrences and Prospects (IMOP)” across Jasper County, Missouri.

Millions of tons of surface mining wastes contaminated thousands of acres. EPA recently completed the Fifth Five-Year Review (FYR) of site’s cleanup decisions (remedies). FYRs are conducted to evaluate the effectiveness of the cleanup activities to protect public health and the environment.

In 2024, the site boundary was expanded to include all of Jasper County (nearly 642 square miles) – including Carthage, Sarcoxie, and other areas in the eastern portion of the county – beyond EPA’s original boundary that covered Joplin,

## Inventory of Mine Occurrences & Prospects (IMOP) over Jasper County, MO



**Figure 3: Locations of historic mining activities found in Jasper County from Missouri's Inventory of Mine Occurrences and Prospects.**

Webb City, Oronogo and the western side of the county. The boundary expansion allows EPA to conduct long-term cleanup actions necessary to protect human health and the environment.

### Learn More Online:

To learn more about the site, site risks, contamination, boundary expansion, EPA's current and past activities, Five-Year Reviews, and more, please visit EPA's ODMB Site Profile Page (see Site Documents and Data), online at:

[www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining).

### Operable Unit Overview

EPA added the site to the NPL in 1990. To manage different project areas identified at the site, EPA divided it into five Operable Units (OUs). An OU is a clearly defined, a smaller portion of the overall work to be completed at a superfund site. Each OU is generally investigated and remediated on an individual basis; each OU follows the required superfund process (see the Appendices for more information).

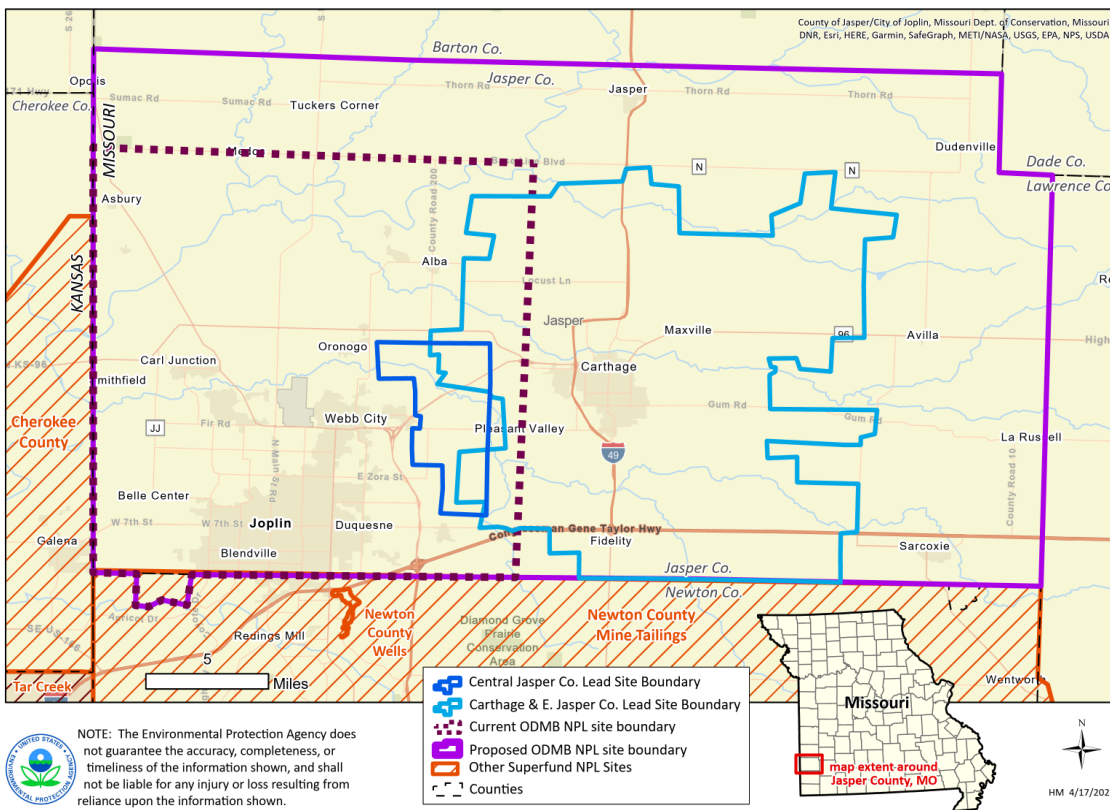
OUs are subject to change as more information becomes available; the site's five Operable Units (OUs) are described in the table on page 8, below. This CIP includes feedback from the community about each OU.

An overview of each OU and cleanup activities conducted to date is summarized in this section.

| Operable Unit | Cleanup Focus   | Cleanup Status  |
|---------------|---|---|
| OU-00         | Sitewide Activities   | Sitewide  |
| OU-01         | Mine and Mill Waste   | Remedial Action: <b>Under Construction</b>                                      |
| OU-02         | Residential Yard Soil (in former smelter areas), Residential properties, childcare centers, and schools (located in former smelter areas)                             | Remedial Action: <i>Under Construction</i>                                      |
| OU-03         | Residential Yard Soil (near mining and milling wastes), Residential properties, childcare centers, and schools (located in the vicinity of mining and milling wastes) | Remedial Action: <i>Under Construction</i>                                      |
| OU-04         | Groundwater (Jasper County wide))   | Remedial Action: <i>Under Construction</i>                                      |
| OU-05         | Spring River Basin (Tri-State Mining District Watershed)  | Site Characterization Underway: <b>Remedial Investigation/Feasibility Study</b> |

**Table 1: Oronogo-Duenweg Mining Belt Superfund Site Operable Units**

**Oronogo-Duenweg Mining Belt Superfund Site Boundaries with Jasper County/Carthage Lead Sites**



**Figure 5: Map from April 2023 Community Meeting Explaining the Proposed ODMB Boundary Change. In 2023, EPA proposed to expand the original Superfund site boundary (dashed line) to include all of Jasper County.**

### Overview of Cleanup Activities Conducted (OU-01 through OU-04)

After detecting elevated heavy metal levels in mine waste, soil, groundwater and sediment, EPA has continued to work with federal, Tribal governments, state, and local and community partners to clean up lead-contaminated areas for over three decades. Since cleanup began in the original site boundary (see Figure 5), EPA has since remediated nearly **25 million cubic yards of mining wastes** over thousands of acres, remediated more than **3,000 residential yards**, and supplied over **500 homes with a clean, permanent source of drinking water**.



# Operable Unit Project Areas of Oronogo-Duenweg Mining Belt National Priority List (NPL) Superfund Site



**Figure 6: Map of ODMB and Site Operable Units**

In 2024, EPA continues to: sample and remediate mining waste areas; identify if residential yards (and child high-use areas) and domestic drinking water wells need EPA response actions (such as yard soil remediation for eligible properties); provide alternate water for properties that have impacted domestic drinking water wells; provide lead health education resources to protect public health; implement institutional controls and more.

## Overview of Groundwater & Drinking Water Wells (OU4):

Early testing of private drinking water supply wells indicated that many wells were contaminated with lead, cadmium, and zinc attributable to historical mining activities. EPA’s initial response action was to provide bottled water, treatment systems, or city water connections to residences with contaminated private drinking water supply wells. Cleanup of the upper groundwater has not been feasible, due to the way the groundwater flows through an extensive network of abandoned underground mines.

Since contaminated groundwater is widespread and not feasible to cleanup due to time, money, technology, and limitations in EPA’s ability to implement cleanup of groundwater, EPA issued a **Technical Impracticability Waiver** for OU-4. **What is an EPA Impracticability Waiver?**

EPA recognizes that it may not be possible to restore groundwater to its designated beneficial use in some cases. In situations where, from an engineering perspective, it is not possible to restore all or part of a groundwater plume, EPA may waive applicable or relevant and appropriate requirements (ARARs) and establish alternative, protective remedial strategies. For more information about technical impracticability of groundwater restoration, visit:

<https://www.epa.gov/superfund/selecting-groundwater-remedy#technical>.

## Overview of Removal Actions Sitewide (Residential Yard Soils and Groundwater)

To address immediate threats to human health and the environment, cleanup activities have also included short-term actions, also known as **removal actions** or **removals**, for residential yard remediation, providing alternate water to residents with impacted wells, and more. This CIP is for the site's remedial and removal actions, incorporating previously separate response actions in the city of Carthage and in eastern Jasper County. Prior **short-term removal actions** (emergency removals [ERs] and time-critical actions) included cleanup of soils at **six childcare centers** and **more than 300 residences**, in addition to **providing alternate water**, such as bottled water, to affected residences.

Throughout the Superfund process, EPA will have new **non-time critical, time-critical** and/or **emergency removal actions**, such as a new ER Action underway for contaminated private, domestic drinking water wells across Jasper County. To learn about removals and site-related Administrative Records (ARs) file links, see Appendix A about the superfund process and the CI Action Plan in Section 3 of this CIP "Webpages: Site Resources and Information Repository Online" for links to more information.

- To inquire about **remedial and removal property status**, contact EPA or see the publicly-available Beacon Database: <https://beacon.schneidercorp.com/Application.aspx?AppID=151&LayerID=1976&PageTypeID=2&PageID=995>
- For a publicly available map depicting **well test data**, see the Missouri Department of Natural Resources' Well Installation Section Drilling Information database Map (WISDIM): <https://dnr.mo.gov/land-geology/maps-data-research/well-installation-section-drilling-information-wisdim>.

## Overview of Spring River Basin (TSMD Watershed) Activities (OU-5)

EPA is in the Remedial Investigation and Feasibility Study (RI/FS) phase for the TSMD watershed in advance of proposed plan(s) to address site contamination across the watershed, including the **Upper Spring River Basin (OU-5)** at the ODMB site. EPA prepares presentations and outreach materials to explain the superfund process and various projects conducted throughout the watershed. Examples of these materials are in the CI action plan and site page online. In addition, approximately **14 miles** of streams have been remediated at this site in recent years.

## Partnerships to Protect Public Health (Sitewide)

- EPA has provided ongoing funding through Cooperative Agreements with the Missouri Department of Health and Social Services (MDHSS), the Joplin Health Department and the Jasper County Health Department (JCHD) for lead health educational programs and to implement Institutional control programs to test and manage soils prior to new construction of homes and prevent building on mining/smelting waste areas. These programs maintain the site's cleanup decisions (remedies) and are reinforced by a county lead health ordinance.
- EPA works with federal, state, and local partners to protect public health and the environment/natural resources at the site, including, but not limited to federal, state, and local agency partners, such as the Natural Resource Damages Trustees for the Tri-State Mining District sites/watershed, federally recognized Tribal governments, community groups, environmental groups, and more.
- EPA Region 7 (R7) is the lead agency for Superfund site activities, and collaborates with local, state and federal partners, such as the Missouri Department of Natural Resources (MoDNR), MDHSS, Missouri Department of Conservation (MDC), the Missouri Geological Survey, U.S. Fish and Wildlife (USF&W), Housing and Urban Development (HUD), U.S. Health and Human Services (HHS), the Center for Disease Control and Prevention – Agency for Toxic Substances and Disease Registry and additional agencies. See the Appendix for Key Contacts and Partners with links to additional site information; please note that this section can be updated with new contacts and links.

## Site Contaminants of Concern

Historic mining activities dispersed mining and smelting waste across the Tri-State Mining District. Lead (Pb), Zinc (Zn), and Cadmium (Cd) are the primary contaminants of concern (COCs) at the site. COCs are chemicals that need to be addressed by a cleanup action because they pose a potential threat to human health or the environment. The Centers for Disease Control and Prevention's Agency for Toxic Substances and Disease Registry (ATSDR) has a series of ToxFAQs, which provide summaries about contaminants. ToxFAQs on lead, zinc and cadmium are available at

[www.cdc.gov/TSP/ToxFAQs/ToxFAQsLanding.aspx](http://www.cdc.gov/TSP/ToxFAQs/ToxFAQsLanding.aspx). For more information on contaminants at Superfund sites, please visit [www.epa.gov/superfund/contaminants-superfund-sites](http://www.epa.gov/superfund/contaminants-superfund-sites).

**Zinc (Zn):** Zinc can enter the environment through natural processes or human activities such as mining. Harmful effects of zinc typically begin at levels 10-15 times higher than the amount needed to maintain good health. High levels of zinc exposure can cause short-term health issues such as stomach cramps, nausea, and vomiting. Long-term impacts include anemia, metal fume fever and skin irritation.

- About Zinc: <https://www.cdc.gov/TSP/toxfaqs/toxfaqsdetails.aspx?Faqid=301&toxid=54>

**Cadmium (Cd):** Cadmium enters soil, water, and air from practices such as mining. It does not break down in the environment and binds strongly to soil particles. People can be exposed to cadmium by eating foods containing cadmium, smoking cigarettes, or ingesting contaminated air or water. Long-term exposure may lead to health issues such as kidney disease, lung damage and fragile bones. Cadmium and cadmium compounds are known human carcinogens.

- About Cadmium: <https://www.cdc.gov/TSP/toxfaqs/toxfaqsdetails.aspx?Faqid=47&toxid=15>

**Lead (Pb):** Lead contamination at Superfund sites presents a threat to human health and the environment. Lead is a naturally occurring element. However, most lead found in the environment is due to human activity. Lead can be harmful to humans, especially children, if exposed to it. A person can come in contact with lead through ingesting (eating or drinking) something with lead in it or through inhaling (breathing) lead dust. Over time, lead has become a commonly found contaminant at Superfund sites.

- About Lead: <https://www.cdc.gov/TSP/toxfaqs/toxfaqsdetails.aspx?Faqid=93&toxid=22>

## About Lead and Public Health

Lead is a toxic metal that is harmful to humans, especially children, if it is inhaled or swallowed. Lead can pose serious health risks at low concentrations, particularly to children under 7 years old, as well as to those who are pregnant or nursing. Lead can accumulate in other environmental media (e.g., soil, water, sediment, biota), contributing to a wide range of effects in humans and wildlife.

Although lead is a naturally occurring metal, human activities such as lead mining, milling, and smelting and the use of leaded gasoline, lead based paint, and other uses have increased human exposure to lead. Lead can be found in dirt, dust, and rocks in yards as well as contaminated drinking water wells, old plumbing, and lead-based paint in homes built before 1978 (when lead-based paint was banned). People can also be exposed to lead from eating certain kinds of fish caught in areas with lead contamination (as designated through local fish advisories).

Lead can decrease mental development, especially learning, intelligence and behavior in children. Even low levels of lead in the blood of children can result in behavior and learning problems, hyperactivity, slowed growth, hearing problems, and anemia. Some effects of lead poisoning in a child may continue into adulthood.

Adults exposed to lead can suffer from cardiovascular effects, increased blood pressure and incidence of hypertension, decreased kidney function, and reproductive problems (in both men and women). For those who are pregnant or nursing, lead can pass to the baby during pregnancy and breastfeeding. Exposure to lead during pregnancy can also result in premature births.

Lead is particularly dangerous to children because their growing bodies absorb more lead than adults do, and their brains and nervous systems are more sensitive to the damaging effects of lead. Babies and young children are at greater risk for exposure to lead because they often put their hands and other objects into their mouths, possibly ingesting lead-contaminated dust, or soil.

- **At lower levels of exposure**, lead can negatively impact mental development, especially learning, intelligence and behavior. Physical growth may also be decreased.
- **A child who swallows large amounts** of lead may develop anemia, severe stomachache, muscle weakness, and brain damage. Some effects of lead poisoning in a child may continue into adulthood.

**In general, lead poisoning can cause adverse health effects in infants and young children, including, but not limited to:** *Slowed physical growth; Hearing problems; Nervous system damage; Decreased intelligence (IQ) scores; Learning difficulties; Behavioral problems, including hyperactivity (easily excitable or upset, difficulty concentrating, short attention span).* **For more information about lead, preventing lead exposure, and lead at superfund sites, see links to EPA websites about lead in the Key Contacts section of the Appendix or contact EPA.**

# THE COMMUNITY

This community profile describes the community affected by the site; summarizes demographic information; and identifies significant subgroups in the population, languages spoken, and other important characteristics of the affected community. It also identifies whether parts of the community might bear a disproportionate burden of exposure or environmental health effects compared to other communities (i.e., issues related to environmental justice, such as race/ethnicity, national origin, or income).

## About the Community

The Jasper County NPL Superfund Site is in southwest Missouri, situated in the southwest corner of Missouri and bordered to the west by the Kansas state line, lies within the Osage Plains and Springfield Plateau regions.



*Figure 7: Downtown Webb City Historic District in Jasper County, Missouri.*

The Oronogo-Duenweg Mining Belt NPL Superfund Site is in the northeastern corner of the TSMD located in southeastern Kansas, southwestern Missouri, and northeastern Oklahoma. The environmental issues facing the site have parallels to those of the Tar Creek Superfund site in Oklahoma (EPA Region 6) Cherokee County Superfund site in Kansas (EPA Region 7) and Newton County Mine Tailings (EPA Region 7). All four sites are on the NPL, are in the Tri-State Mining District, and are in relatively close proximity to one another (see Figure 3, pg. 6).

Jasper County is bounded on the north by Barton County and Dade and Lawrence Counties to the east. To the south, Newton County is another countywide TSMD NPL Superfund Site. The Cherokee County NPL TSMD Superfund site is in the southeasternmost corner of Kansas. The Tar Creek TSMD NPL Superfund Site is located south of the Cherokee County NPL Site.

While these three areas are separate and distinct for the purposes of EPA Superfund activities, their history and conditions overlap greatly. The size of the Tri-State Mining District and the issues surrounding the water pollution within the district have been factors contributing to the notoriety of these sites.

For additional information about the **History of Community Involvement** at the site, from the 1990s to present day, please see page 23 (below).

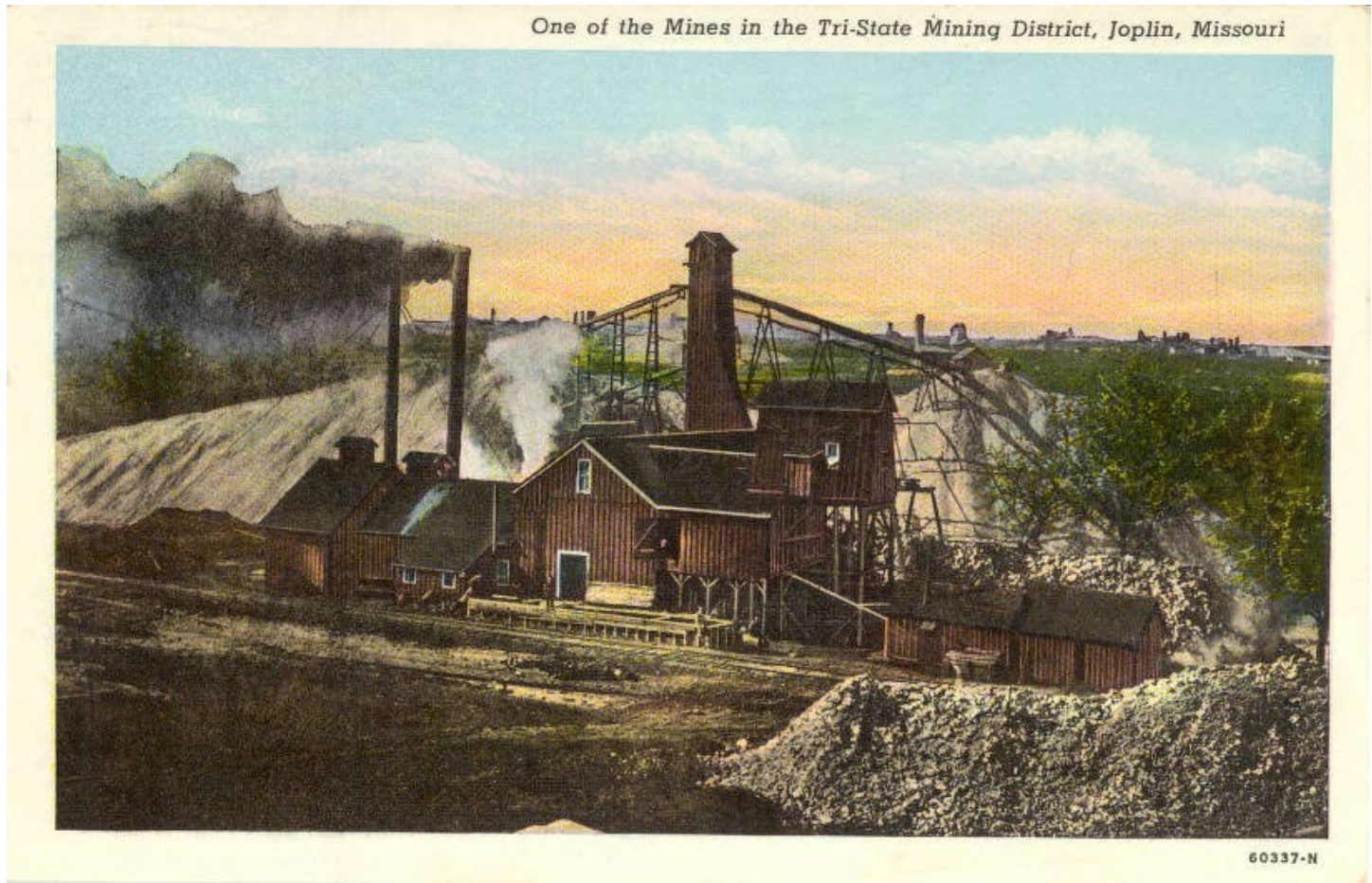
### Early History of Jasper County

Early pioneers settled in present-day Jasper County after the original indigenous inhabitants were removed from the region. These Native American Tribal Nations included the Big and Little Osage, Kickapoo, Delaware, and Shawnee, all of whom were relocated from their traditional lands and moved to territory in Kansas by the late 1830s.

Jasper County was established in 1841. Named after Sergeant William Jasper, a heroic figure during the Revolutionary War, the county's first prominent settlements were Sarcxie, Carthage, and Sherwood.

Jasper County experienced significant change during the Civil War period of 1861-1865. The area, previously experiencing growth and prosperity, was left devastated by both Northern and Southern forces. The county was left with a small population and destroyed settlements. The mining of lead and zinc deposits allowed for a faster recovery from the detrimental effects of the Civil War and soon several new mining towns were formed, drawing many families into the area for employment.

The construction of the first railroad line in 1877 further allowed mining and its profitability to increase, ultimately reaching peak production in 1916. At the end of the 19<sup>th</sup> century, Carthage was believed to have been the city with the most millionaires per capita in the nation.



*Figure 8: Postcard of One of the Mines in the TSMD, Joplin, Missouri.*

### **Long and Rich Mining History**

Jasper County has a long and rich mining history. The community has a rich mining history and with a lot of pride in the heritage. Mining of lead and zinc deposits began in 1848 and continued at varied levels throughout the Tri-State Mining District until about 1976. During this period, mining resulted in honey-combing of the area by mine shafts and tunnels underground, and large piles of mine waste rock and "chat" tailings above ground.

When the mines were active, groundwater was continually pumped to keep the mines dry. Once mining operations ceased, groundwater and surface water runoff began to flood the mines. As flood water made contact with lead and zinc sulfide ores in the mines, acidic water resulted which contained high concentrations of dissolved metals.

The acidic water gradually migrated into the groundwater – in the Boone, and possibly Roubidoux, aquifers – and began affecting domestic and agricultural water use in certain areas of the district.

Over the years, the acidic water contaminated major streams and rivers in the mining district. Surface and groundwater contamination has also been aggravated by runoff or seepage from the mine waste rock and chat piles which are



*Figure 9: The Jasper County Courthouse located in Carthage, Missouri.*

contaminated with heavy metals. For many years, residents of the mining district were troubled with land subsidence and personal tragedies. In several instances, drownings occurred in the water-filled mine pits. In 1980, a campaign initiated in the Galena, Kansas area resulted in Congressional appropriation of funds to the U.S. Bureau of Mines to study existing environmental conditions (i.e., groundwater, surface water, and soil contamination) and possible solutions to physical safety problems such as drownings.

### Jasper County Today

In Jasper County today, several museums and walking and driving tours, help the community and visitors reflect on the rich history of the area. The Jasper County Courthouse, a recognizable landmark for the community, is included on the National Register of Historic Places. Historic Route 66 runs through Jasper County and takes travelers past several stops in the heart of Carthage and Joplin. The county seat is Carthage, Missouri and the largest city is Joplin.



*Figure 10: A residential neighborhood in Webb City, Missouri.*

Since 1966, the city of Carthage has celebrated its annual Maple Leaf Festival, showcasing the area's fall foliage and entertaining area residents and visitors with the largest parade in Southwest Missouri. To help raise awareness about EPA's projects in Carthage, local officials in Carthage invited EPA to participate in the Annual Maple Leaf Festivals and Parades.

The original site boundary included the western side of the county that covered areas of Joplin, Webb City, and Oronogo. The expanded site boundary includes all cities across the county, such as: Joplin, Sarcoxie, Carthage, Oronogo, Duenweg, Webb City, Prosperity, Carl Junction, Avilla, Fidelity, Reeds, Kendricktown, Alba, Asbury, and Waco.

All these communities are served locally by television and radio stations broadcasting from Joplin and Carthage and newspapers print and/or online published in Joplin, Webb City, and Carthage. Most of these communities have local

schools and libraries. Across Jasper County, there are approximately 184 Schools, three large hospitals, and 31 places of worship. According to the U.S. Census’ 2017-2021 American Community Survey 5-Year Countywide estimates, Jasper County is 641.27 square miles and includes the following demographics:

Total Population of Jasper County: **122,059 people**

- Households: **47,105**
- Renter occupied Households: **36.4%**
- Persons with disabilities: **17%**
- Low income: **39%**
- People of Color: **17%**
- Primary languages: **English, Spanish, Asian-Pacific Island Languages, Other Indo-European Languages, including: Spanish, Dari, Pashto, Sudanese Arabic, Swahili, Russian and Ukrainian**

Jasper County, Missouri - Census Bureau Profile:

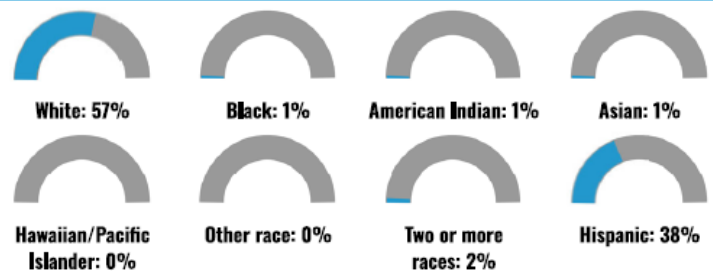
[https://data.census.gov/profile/Jasper\\_County,\\_Missouri?g=050XX00US29097](https://data.census.gov/profile/Jasper_County,_Missouri?g=050XX00US29097)

- Today, this county is incredibly diverse with a large refugee population and many different languages spoken. With a higher-than-average percentage of households with limited English fluency, the community in areas of Joplin and Carthage may need additional language support services.
- According to the U.S. Census’ 2017-2021 American Community Survey 5-Year data, countywide, 25% of the population speaks Spanish in the home and 1% speak Vietnamese in the home.
- Areas of central Carthage have a higher percentage of limited English-speaking households than 95% of the rest of the state 80% of the rest of the U.S.; approximately 38% of Carthage residents report being Hispanic. And the number of limited English-speaking households in Joplin is greater than 80% of the state.
- Additional Socioeconomic and Demographic data is included in the EJScreen section(s) below, and in Appendix G.

**Local Values:**

- People have a strong sense of community and care deeply about the area.
- People are proud of their rich cultural history and mining heritage.
- People value the natural resources for services, wildlife, plants, and animals.
- People want good fishing, recreation, and tourism; they want to attract people to the area.
- People value environmentally safe and healthy families and neighborhoods.
- People care deeply about children’s health and future generations.
- People want citizen input to be valued and transparency in government activities.

**BREAKDOWN BY RACE**



**BREAKDOWN BY AGE**



**LIMITED ENGLISH SPEAKING BREAKDOWN**



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

*Figure 11: Chart of Demographic Information from EJScreen Community Report for central Carthage, Missouri. The Source for EJScreen Data: U.S. Census’ 2017-2021 American Community Survey 5-Year Estimates: <https://data.census.gov>*



- People want a robust local economy with well-paying jobs and opportunities for development, such as affordable housing.
- On Sunday, May 22, 2011, Jasper County was struck in Joplin with a catastrophic EF5 multiple-vortex tornado. The 2011 Joplin tornado ranked as the seventh deadliest in America's history. The greater community, federal, state, and local agencies, partners, community groups and families all came together to rebuild with incredible strength and resilience – a theme interwoven throughout Jasper County's history.
- Areas of Jasper County contain a Justice 40 (CJEST) Disadvantaged Community. Areas of Jasper County contain an EPA Inflation Reduction Act disadvantaged community. *(Note: Justice40 mandates that at least 40% of the benefits of certain federal investments must flow to disadvantaged communities. Justice40 is a whole-of-government approach and is jointly led by the Council on Environmental Quality (CEQ), Office of Management and Budget (OMB), and the White House Office of Domestic Climate Policy, along with the White House Environmental Justice Interagency Council that is convened by CEQ; learn more at: <https://www.epa.gov/environmentaljustice/justice40-epa>.)*
- This site is in the historic TSMD and is located upstream of federally recognized Tribal reservations and areas where some members have identified watershed-wide environmental justice issues related to mining wastes.

In Jasper County, in addition to the ODMB NPL countywide Superfund site, there are 14 Hazardous Waste Treatment, Storage and Disposal Facilities. There are 826 Water Dischargers with areas designated as Impaired Waters and there are approximately 100 Air Pollution Sources Reporting to EPA, according to EJScreen countywide results. Environmental Justice and EJScreen is defined in the next section.

| Demographic Facts<br>U.S. Census Quick Facts   | Fact<br>Note | Jasper County,<br>Missouri | Joplin,<br>Missouri | Carthage,<br>Missouri |
|--|--------------|----------------------------|---------------------|-----------------------|
| Population estimates, July 1, 2023, (V2023)  |              | <b>125,056</b>             | NA                  | NA                    |
| <b>Population Estimates, July 1, 2022, (V2022)</b>                                   |              | 124,016                    | 52,518              | 15,491                |
| Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022) |              | 1.00%                      | 1.50%               | -0.50%                |
| Population, Census, April 1, 2020  |              | 122,761                    | 51,762              | 15,522                |
| Population, Census, April 1, 2010  |              | 117,404                    | 50,150              | 14,378                |
| Persons under 5 years, percent   |              | 6.30%                      | 6.20%               | 8.40%                 |
| Persons under 18 years, percent  |              | 24.30%                     | 22.00%              | 31.60%                |
| Persons 65 years and over, percent   |              | 16.30%                     | 18.60%              | 12.20%                |
| Female persons, percent  |              | 50.70%                     | 50.60%              | 53.10%                |
| White alone, percent   |              | <b>90.20%</b>              | <b>84.90%</b>       | <b>77.70%</b>         |
| Black or African American alone, percent   | (a)          | <b>2.40%</b>               | <b>2.80%</b>        | <b>2.40%</b>          |
| American Indian and Alaska Native alone, percent                                     | (a)          | <b>2.00%</b>               | <b>1.10%</b>        | <b>1.50%</b>          |
| Asian alone, percent   | (a)          | <b>1.30%</b>               | <b>1.90%</b>        | <b>0.70%</b>          |
| Native Hawaiian and Other Pacific Islander alone, percent                            | (a)          | <b>0.60%</b>               | <b>0.40%</b>        | <b>0.10%</b>          |
| Two or More Races, percent   |              | <b>3.50%</b>               | <b>7.10%</b>        | <b>10.20%</b>         |
| Hispanic or Latino, percent  | (b)          | <b>9.10%</b>               | <b>7.20%</b>        | <b>33.40%</b>         |
| White alone, not Hispanic or Latino, percent   |              | <b>82.50%</b>              | <b>82.40%</b>       | <b>57.60%</b>         |
| <b>Veterans, 2018-2022</b>   |              | 7,449                      | 3,145               | 721                   |
| Foreign born persons, percent, 2018-2022   |              | 4.00%                      | 3.40%               | <b>14.20%</b>         |
| Housing units, July 1, 2022, (V2022)   |              | 54,446                     | X                   | X                     |
| Owner-occupied housing unit rate, 2018-2022  |              | 63.20%                     | 57.60%              | 46.80%                |
| Median value of owner-occupied housing units, 2018-2022                              |              | \$147,500                  | \$147,000           | \$130,400             |
| Median selected monthly owner costs -with a mortgage, 2018-2022                      |              | \$1,129                    | \$1,086             | \$1,048               |
| Median selected monthly owner costs -without a mortgage, 2018-2022                   |              | \$461                      | \$462               | \$467                 |
| Median gross rent, 2018-2022   |              | \$878                      | \$873               | \$854                 |
| Building permits, 2022   |              | 1,083                      | X                   | X                     |
| Households, 2018-2022  |              | <b>47,481</b>              | <b>21,274</b>       | <b>5,612</b>          |

|  |          |          |               |
|--|----------|----------|---------------|
| Persons per household, 2018-2022   | 2.54     | 2.35     | 2.67          |
| Living in same house 1 year ago, percent of persons age 1 year+, 2018-2022             | 85.40%   | 82.80%   | 84.10%        |
| Language other than English spoken at home, percent of persons age 5 years+, 2018-2022 | 6.70%    | 5.10%    | <b>29.20%</b> |
| Households with a computer, percent, 2018-2022   | 93.20%   | 93.60%   | 92.60%        |
| Households with a broadband Internet subscription, percent, 2018-2022                  | 87.30%   | 87.90%   | 81.70%        |
| High school graduate or higher, percent of persons age 25 years+, 2018-2022            | 88.30%   | 89.80%   | 73.50%        |
| Bachelor's degree or higher, percent of persons age 25 years+, 2018-2022               | 24.70%   | 25.70%   | 22.20%        |
| With a disability, under age 65 years, percent, 2018-2022                              | 12.00%   | 14.50%   | 10.40%        |
| Persons <b>without health insurance</b> , under age 65 years, percent                  | 15.30%   | 16.10%   | <b>20.50%</b> |
| In civilian labor force, total, percent of population age 16 years+, 2018-2022         | 63.10%   | 61.30%   | 57.70%        |
| In civilian labor force, female, percent of population age 16 years+, 2018-2022        | 59.00%   | 57.60%   | 50.70%        |
| Median household income (in 2022 dollars), 2018-2022                                   | \$54,963 | \$50,996 | \$43,526      |
| Per capita income in past 12 months (in 2022 dollars), 2018-2022                       | \$28,371 | \$29,295 | \$21,019      |
| Persons in poverty, percent  | 18.10%   | 17.30%   | <b>34.90%</b> |
| Total employer establishments, 2021  | 2,805    | X        | X             |
| Total employment, 2021   | 48,371   | X        | X             |
| Total nonemployer establishments, 2021   | 7,691    | X        | X             |
| All employer firms, Reference year 2017  | 2,315    | 1,477    | 324           |
| Population per square mile, 2020   | 192.3    | 1,359.30 | 1,332.50      |
| Population per square mile, 2010   | 183.9    | 1,410.30 | 1,234.20      |
| Land area in square miles, 2020  | 638.51   | 38.08    | 11.65         |
| Land area in square miles, 2010  | 638.49   | 35.56    | 11.65         |

**Fact Notes**

- a. Includes persons reporting only one race
- b. Hispanics may be of any race, so also are included in applicable race categories
- c. Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data.

**Table 2: U.S. Census Bureau Quick Facts** comparing Jasper County Demographics with Joplin and Carthage, Missouri. For more information, visit: <https://www.census.gov/quickfacts/fact/table/US/PST045221>

In addition to this Community Profile and summary of Demographics, Appendix G includes the EJSCREEN Community Reports for Joplin and Carthage, Missouri; these reports provide a detailed summary of the characteristics of several of the communities included within the boundaries of the Jasper County Superfund site.

## Environmental Justice

**Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation and enforcement of environmental laws, regulations, and policies.** EPA Region 7 programs collaborate closely to make sure underserved, low income and tribal communities facing disproportionate environmental risks have opportunities for meaningful participation in environmental decision-making. Region 7 also coordinates closely with EPA Headquarters and states to support initiatives that provide all people living near Superfund sites with technical assistance, training opportunities and other services. EPA has a variety of environmental justice resources available at [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice) and <https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance>, including:

[Environmental Justice Collaborative Problem-Solving \(CPS\) Cooperative Agreement Program](#) provides funding for eligible applicants for projects that address local environmental and public health issues in an affected community. The

program assists recipients in building collaborative partnerships to help them understand and address environmental and public health concerns in their communities.

**Environmental Justice Small Grants Program:** EPA’s Environmental Justice Small Grants Program supports and empowers communities working on solutions to local environmental and public health issues. The program helps communities understand and address exposure to multiple environmental harms and risks.

**Environmental Justice Clearinghouse:** EPA established a national EJ Clearinghouse; it is an online collection of resources related to environmental justice to help the public access federal and non-federal resources online. <https://www.epa.gov/environmentaljustice/forms/ej-clearinghouse>

**EJScreen:** EJScreen is an environmental justice mapping and screening tool. The tool is an approach EPA frequently uses to assess environmental and socioeconomic information for a particular geographic area. EPA looks at these additional factors to gain a better understanding of the baseline exposure risks and concerns within a community resulting from living in this location, apart from any risks associated with a specific site.

- The EJScreen analysis looks at **13 environmental indicators** that include pollution exposure sources, such as air particulate matter, traffic proximity, and proximity to wastewater discharge, to determine whether these background conditions in the community could potentially have a greater or cumulative impact when combined with site-specific risks.
- The analysis also looks at **10 socioeconomic indicators**, such as education levels, income levels, and employment, so EPA can work to ensure that the community is not being made to bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

#### **EJScreen Quick Facts:**

For more information about EJScreen, please visit [epa.gov/ejscreen](http://epa.gov/ejscreen).

To summarize how environmental indicators and demographics come together in the same location, EJScreen uses EJ Indexes. EJScreen has 13 EJ Indexes that reflect the 13 environmental indicators below. In the EJ Indexes, environmental indicators are combined with information about the low-income and minority population in a Census block group. EJScreen presents results in terms of percentiles, allowing the community to be compared to the rest of the state, EPA Region, or nation.

- |   |   |
|---|---|
| 1. National Scale Air Toxics Assessment Air Toxics Cancer Risk          | 6. Lead Paint Indicator                               |
| 2. National Scale Air Toxics Assessment Respiratory Hazard Index        | 7. Traffic Proximity and Volume                       |
| 3. National Scale Air Toxics Assessment Diesel Particulate Matter (DPM) | 8. Toxic Releases to Air                              |
| 4. Particulate Matter (PM2.5)   | 9. Proximity to Risk Management Plan (RMP) Sites      |
| 5. Ozone  | 10. Proximity to Hazardous Waste Facilities           |
|   | 11. Proximity to National Priorities List (NPL) Sites |
|   | 12. Underground Storage Tanks Indicator               |
|   | 13. Wastewater Discharge Indicator                    |

## EJScreen Analysis (central Joplin and Carthage, MO):

A 2024 EJScreen analysis for the current countywide site (**641.27 square-mile site area**) found indicators of potential environmental justice concerns within Jasper County. Based on input during community interviews, countywide demographics and those of central Joplin and Carthage were reviewed for this analysis to assess potentially disadvantaged areas and opportunities for meaningful involvement.

### Joplin, Jasper County, Missouri

At the time of this EJScreen analysis for the area of central Joplin, Missouri, the analysis of the **10 socioeconomic indicators** found that:

- The number of **limited English-speaking households** is **greater than 80%** of the state. With a higher-than-average percentage of households with **limited English fluency**, the community in this area may need additional language support services.
- **Low life expectancy rates** are **higher than 84% of the state and 89% of the U.S.**
- The **percentage of low-income residents** is **higher than 83% of the rest of the state and 84% of the rest of the country.**
- The **unemployment rate** is also **higher than 75% of the state**, and the **percentage of people with less than a high school education** is **72% higher than the state.**
- Socioeconomic Indicators also show that **lack of health insurance** is **78% higher** than the rest of the state and **83%** higher than the rest of the U.S.
- It should be noted that the mining history of this area could impact health outcomes.
- In addition to EJScreen data described above, some community members identified that **nearly half of children in Joplin Public Schools face food insecurity**. Based on additional research and information from the 2022-2023 school year, from the National Center for Education Statistics, **43% of children in an elementary and/or early childhood school** in Joplin are eligible for reduced-price lunch. *This percentage is the unduplicated number of students who are eligible to participate in the Free Lunch and Reduced-Price Lunch Programs under the National School Lunch Act of 1946.*

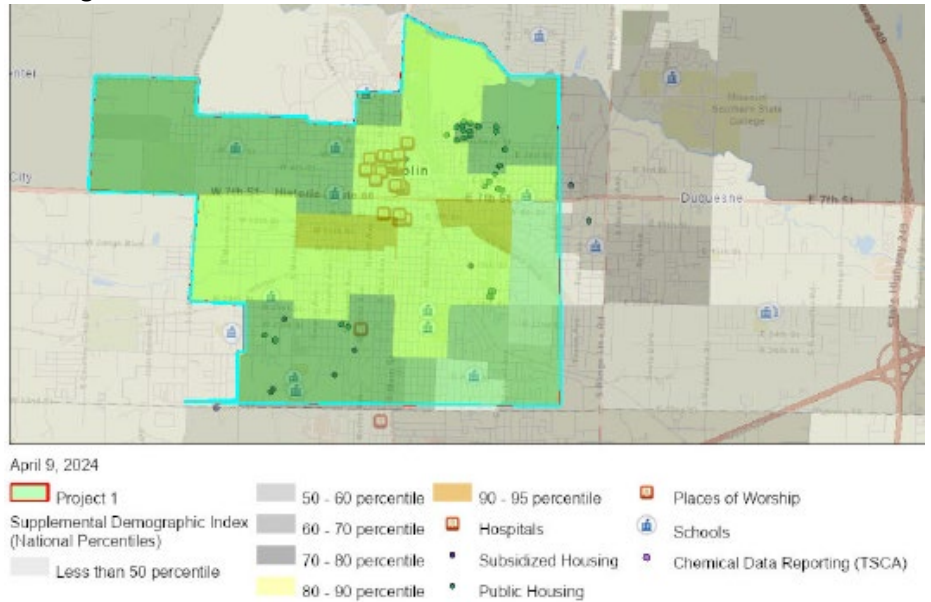
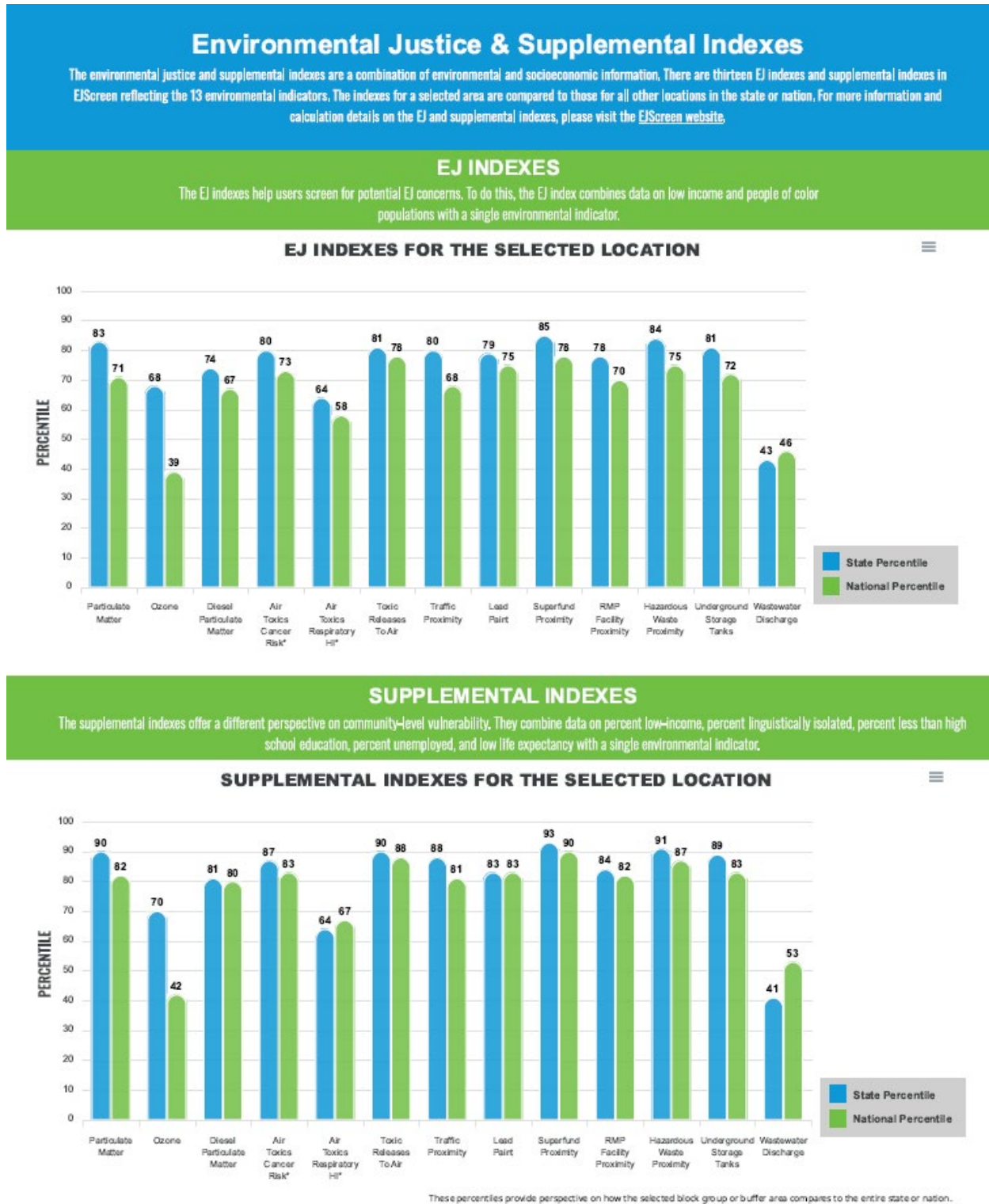


Figure 12: Map of area mapped in EJScreen Community Report, central Joplin, Mo.

1. The location's **Demographic Index** (the average of the percentage of low-income and people of color) scored in the 75<sup>th</sup> percentile in the state and the 60<sup>th</sup> in the county. Compared to the rest of Missouri, **ten (10) of the thirteen (13) EJ Index indicators** and **compared to the rest of the U.S., eight (8) of the 13 EJ Index indicators** scored above the 70<sup>th</sup> percentile.
2. The area's **Supplemental Demographic Index** (based on the average low-income, unemployment, limited English, less than high school education and low life expectancy indicators) scored in the 82<sup>nd</sup> percentile in the state and in the 78<sup>th</sup> percentile nationally. Compared to the rest of Missouri, **eleven (11) out of the 13 Supplemental Index EJ indicators** scored at or above the 70<sup>th</sup> percentile. **Compared to the rest of the U.S., ten (10) out of the 13 Supplemental Index EJ indicators** scored at or above the 70<sup>th</sup> percentile compared to the rest of the U.S.

At the time of this report in the spring of 2024, the results identify that community members in this area may be exposed to higher Particulate Matter (and Diesel Particulate Matter concentrations), to higher concentrations of toxins released to the air, traffic proximity, Lead Paint, greater proximity to Superfund sites, Risk Management Plan facilities, Hazardous Waste Proximity and Underground Storage Tank facilities than 70% of the state of Missouri. This means that people in this community may potentially have a higher-than-average impact to their lives from air pollution, lead paint, and potential exposure to nearby waste management facilities.



**Figure 13:** 2024 EJScreen Community Report results for central Joplin, Mo.: EJ Indexes and Supplemental Indexes; see full reports in Appendix G.

## Carthage, Jasper County, Missouri

An EJScreen analysis for the site's newly expanded area of **Carthage and Eastern Jasper County** was also completed. The city of Carthage's overall population includes 15,101 people over nearly 12 square miles. Based on community input, an analysis of the more populated areas of central Carthage, with a population of around 11,224 people located within 3.61 square miles was conducted. The results are described below (see tables, below). These analyses also highlighted socioeconomic indicators of note:

1. The location's **Demographic Index** (the average of the percentage of low-income and people of color) scored in the 88th percentile in the state and 77th in the county. **EJ Index: Twelve (12) of the thirteen (13) indicators** of the EJ Indexes were above the **70th percentile** compared to the rest of the state and **Six (6) of the thirteen (13) indicators** of the EJ Indexes were above the **70th percentile** compared to the rest of the country.
2. The area's **Supplemental Demographic Index** (based on the average low-income, unemployment, limited English, less than high school education and low life expectancy indicators) scored in the 96th percentile in the state and in the 92nd percentile nationally. **EJ Supplemental Index:** Particulate Matter, Toxic Releases to Air, RMP Facility Proximity and Wastewater Discharge – scored at the **70th percentile** or above compared to the rest of the state. Three of the 13 indicators – Toxic Releases to Air, RMP Facility Proximity and Wastewater Discharge – scored above the **80th percentile** compared to the rest of the U.S.
3. An analysis of the **10 Socioeconomic Indicators** identified that **eight (8) of the (10) indicators were above the 80th percentile**.
  - Carthage area has a higher percentage of **limited English-speaking households** than **95%** of the rest of the state **80%** of the rest of the U.S.; 25% of residents speak Spanish at home; approximately 38% of residents are Hispanic.
  - About **34% of people have Less than a High School Education**, over three times the state average of 10% and nearly three times the national average of 12%. This area's percentage is 98% higher of than the rest of the state and 94% than the rest of the county.
  - In this area, **the percentage of People of Color is higher than 83% of the rest of the state**.
  - *The population of low-income residents is 90% higher than the rest of the state and U.S.*
  - The **Unemployment Rate** is also **higher than 82% of the rest of the state and 77% of the rest of the country**.
  - This population of **Children Under Age 5** is **80%** higher than the rest of the state and **82 percent higher** than the rest of the county.
  - The **Socioeconomic Indicators Data** also shows that lack of health insurance is **78% higher** than the rest of the state and **83% higher** than the rest of the U.S.
  - **Low Life Expectancy** is higher than **67%** of the state and **78%** of the U.S.
  - **With a higher-than-average percentage of households with limited English fluency, the community in Carthage, Joplin and other areas of this county may need additional language support services.** In addition, it is possible that the mining history and other environmental indicators could impact health outcomes.

## Carthage, MO

A3 Landscape

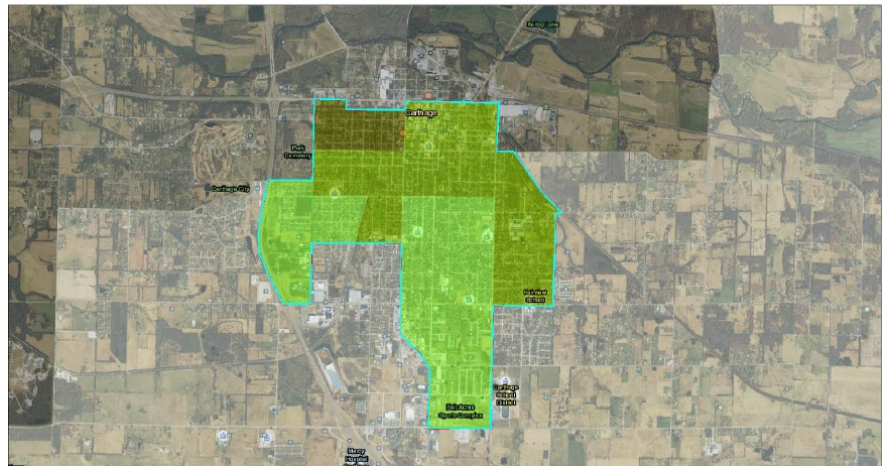


Figure 14: Map of area mapped in EJScreen Community Report, central Carthage, Mo.

| SELECTED VARIABLES                  | VALUE | STATE AVERAGE | PERCENTILE IN STATE | USA AVERAGE | PERCENTILE IN USA |
|-------------------------------------|-------|---------------|---------------------|-------------|-------------------|
| <b>SOCIOECONOMIC INDICATORS</b>     |       |               |                     |             |                   |
| Demographic Index                   | 53%   | 28%           | 88                  | 35%         | 77                |
| Supplemental Demographic Index      | 27%   | 14%           | 96                  | 14%         | 92                |
| People of Color                     | 43%   | 23%           | 83                  | 39%         | 61                |
| Low Income                          | 63%   | 33%           | 90                  | 31%         | 90                |
| Unemployment Rate                   | 9%    | 5%            | 82                  | 6%          | 77                |
| Limited English Speaking Households | 7%    | 1%            | 95                  | 5%          | 80                |
| Less Than High School Education     | 34%   | 10%           | 98                  | 12%         | 94                |
| Under Age 5                         | 9%    | 6%            | 80                  | 6%          | 82                |
| Over Age 64                         | 10%   | 18%           | 22                  | 17%         | 27                |
| Low Life Expectancy                 | 23%   | 21%           | 67                  | 20%         | 78                |

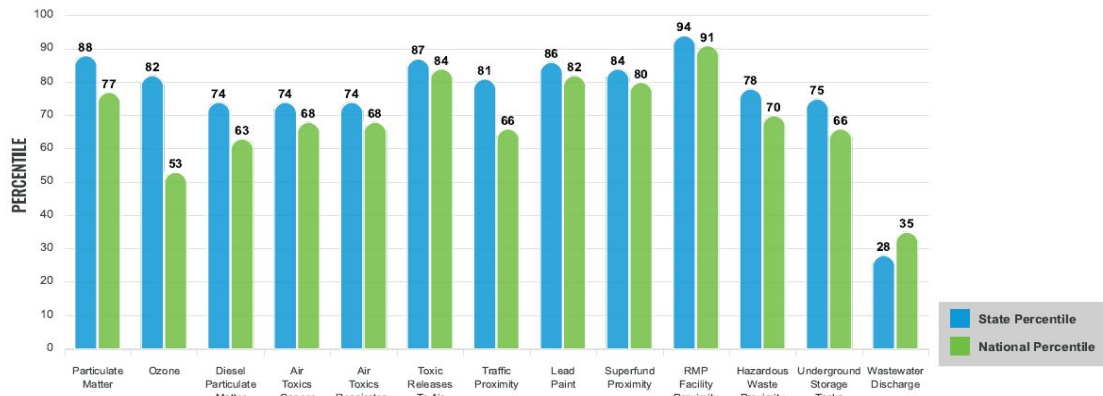
## Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

### EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

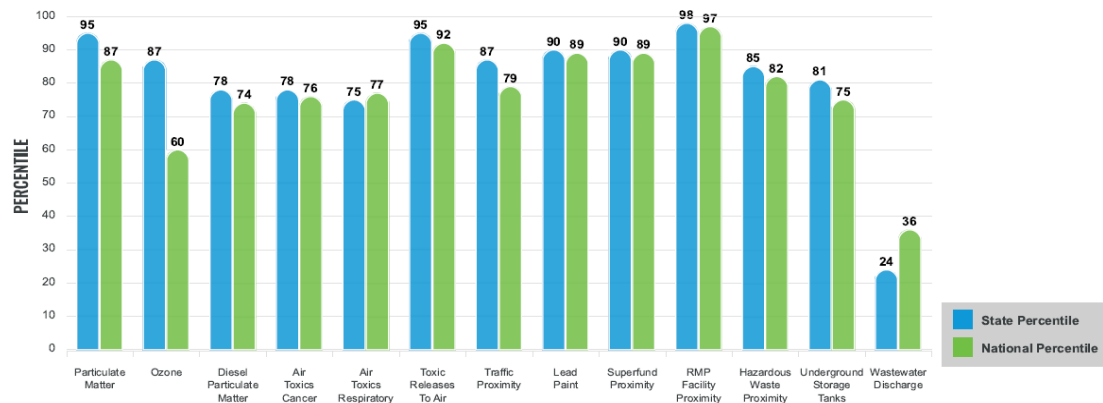
#### EJ INDEXES FOR THE SELECTED LOCATION



### SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

#### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

Figure 15: 2024 EJScreen Community Report results for central Joplin, Mo.: EJ Indexes and Supplemental Indexes; see full reports in Appendix G.

## Overview of Community Involvement at the Site

*This section provides an overview of community involvement at the site, including a history of early site actions, early and ongoing community involvement.*

During initial phases of the site's progress, the community and local leaders were very actively involved in each aspect of the new site and utilized EPA's technical assistance services to form community groups, hire technical advisors, and meet regularly with EPA. During each step in the superfund process, community members and leaders continue to collaborate with EPA and partners, utilizing local community groups and community advisory groups, or CAGs, and utilizing technical assistance resources (such as technical assistance grants).

These community groups and local leaders met with EPA and partners on a frequent basis during the remedial investigation and feasibility phase, as well as in the early years of the active remediation action phases.

A summary of the early site community involvement activities and ongoing coordination with local agencies and community groups is included below with a detailed history of Community Involvement below; information was gathered from interviews, the site's Information Repository, RODs, and FYRs. For more information and a detailed history of early Community Involvement at the site, EPA's [2002 Five-Year Review](#) (FYR) and subsequent FYRs on the EPA's Site Profile Page (see community involvement section) or the CIP Appendix.

## Community Involvement Background, Early and Ongoing Involvement

A history of early site actions, early and ongoing community involvement, was gathered from EPA's site Information Repository in the Site Documents and Data section of the site profile page, including Five-Year Reviews and RODs. For more information and site updates, please visit [www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining).

Initially, during the Remedial Investigation/Feasibility Study phase of the Superfund Remedial Process, EPA had frequent public meetings to ensure the community had a voice in the decision-making at the site. As the Remedial Actions proceeded, EPA continued to coordinate with the community through the local governments, community groups and impacted property owners, etc. Currently, although EPA's environmental sampling, removal actions, mine waste remedial activities and RI/FS for the watershed continue, much of EPA's more visible remedial site work may be out of view from the public in order to ensure site activities are as minimally disruptive to the daily activities of the larger community.

During the early phases of the site actions, EPA supported Community Advisory Groups (CAGs) to better engage with members of the community and maintain clear and consistent communication during residential yard cleanup action, with Technical Assistance Grant (TAG) support to hire a local advisor and more.

A key component of EPA's ongoing community engagement strategy for the site has been to empower the local community with information and opportunities to get involved and ways to protect families and young children from lead hazards. EPA, partners, and support agencies have continued to raise awareness about preventing lead poisoning since the 1990s have funded health education throughout the remedial actions conducted to date and aim continue funding these efforts until final milestones are completed. RODs for OUs also specify the development of ICs for future residential development within the site.

- **Lead Health Education** components of the site remedies have continued to build capacity over three decades. These programs engage the public and raise awareness about lead hazards utilizing Cooperative Agreements to provide resources to state and local agencies, such as MDHSS, JHD, and the JCHD.
- **Institutional Controls (ICs)** programs implemented by the Jasper County Health Department and Missouri Department of Natural Resources early into the cleanup continue to educate the public about site hazards to maintain the remedy and protect the public. RODs for OUs also specify the development of ICs for future residential development within the site.





**KEY TERM:** What are Institutional Controls? EPA defines institutional controls (ICs) as non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and/or protect the integrity of a response action. For more information, see the December 2012 Guide, *“Institutional Controls: A Guide to Planning, Implementing, Maintaining and Enforcing Institutional Controls at Contaminated Sites.”* Local government and community institutions may have to implement and monitor ICs. As a result, it is important that the site team ensure that local government and community institutions fully understand their role with ICs.

- In the late 1970s, U.S. Representative Robert Whittaker of Kansas first raised widespread public attention regarding the problems of the Tri-State Mining District. Representative Whittaker enlisted the support of U.S. Representatives Gene Taylor of southwest Missouri and Mike Synar of northeast Oklahoma to co-sponsor a request for a special appropriation to study the problem throughout the 500-square-mile Tri-State Mining District.
- Their efforts in Congress resulted in the analyses and development of corrective measures for physical hazards in the region. Numerous articles appeared in Kansas, Oklahoma, and Missouri newspapers describing Representative Whittaker's efforts, and the environmental problems in the region attributed to mining. Numerous newspaper articles also appeared in local community newspapers throughout the Tri-State Mining District.
- Beginning in 1984, public awareness activities increased regarding the Tar Creek and Cherokee County Superfund sites. In February 1984, elementary school students in Joplin, Missouri produced a film on Tar Creek and presented a petition supporting the Tar Creek clean-up to the public and Congressional representatives of the area. At that time community relations activities continued around the Tar Creek and Cherokee County sites while activities related to the Jasper County site were not apparent.
- Over the next several years, residents of Jasper County watched the activities taking place across the state line in Kansas and Oklahoma with great interest. Some residents apparently assumed that the problems in Jasper County were not as serious as those at the Tar Creek and Cherokee County sites because there were no apparent local EPA studies or investigations taking place in the area. There were other residents, however, who were members of environmental groups who were very aware of the health and safety concerns associated with the Jasper County site as well as other environmental issues in the area. These groups included geologists who were familiar with the effects that the abandoned mines had on groundwater quality and ultimately the health of local residents. The members of these groups sought to raise public awareness of environmental concerns in the area (i.e., associated with landfill operation, incinerator construction), including those associated with the Jasper County Superfund site.
- On February 25, 1992, the EPA held an RI/FS kick-off meeting, which was open to the public, at the Jack L. Webb Convention Center in Joplin. The purpose of the meeting was to discuss plans for the remedial investigation at the Jasper County Superfund site.
- In June 1992, the EPA stepped up community relations activities by conducting interviews with local community leaders and interested citizens. Most of the interviewees indicated a desire to be kept abreast of information concerning the site as it becomes available.
- In August 1992, the EPA ran a classified advertisement seeking groups interested in receiving Technical Assistance Grants. Two groups responded: **Citizens to Save Our Environment**, and **Citizens for Environmental Safety**. These groups formed the **Jasper County Superfund Coalition**.
- **In 1991, the Missouri Department of Health (MDOH), now the Missouri Department of Health and Senior Services (MDHSS), funded by EPA through the Agency for Toxic Substances and Disease Registry (ATSDR), began a large-scale health study to learn how local residents had been and were being affected by mine-related contamination.**
  - The results of that study released in May 1994, “found increased blood-lead levels due to exposure to contaminated soils in the **Jasper County Superfund Site**” and recommended “that exposure to the lead-contaminated soil in the study area be reduced.” The study showed approximately **14 percent of children less than seven years of age at the Site had blood-lead levels exceeding 10 micrograms per deciliter (µg/dl)**.
- In response to the health study, EPA developed in cooperation with other state, local, and federal agencies, a **Lead Strategy for the Site** which was presented to the public in **May 1994** along with the findings of the health study.

- The strategy generally describes the cleanup action contemplated for the soils and mine wastes including a prioritization method to take care of those most at risk first. The strategy also describes the actions EPA took to provide bottled water to area residents whose wells were contaminated.
  - The priority of the [1994] **lead strategy** was to address the areas with the highest health risks first.
  - These areas included daycare centers with **play area soil exceeding 500 parts per million (ppm) lead, yard soil exceeding 500 ppm lead at homes where children with elevated blood-lead reside, and residential yards soils exceeding 2,500 ppm lead.**
  - The second priority was to remediate all soil in residential yards exceeding 500 ppm lead at homes where soils exceeded the **action level of 800 ppm.**
  - The final Site priority was to replace the temporary bottled water program at homes with metals-contaminated private drinking water wells with a public water supply.
- Beyond the human health issues in the area, a significant evaluation of the ecological impacts from mining was undertaken as a part of the Remedial Investigations. A detailed ecological risk assessment was performed by EPA and the Potentially Responsible Parties (PRPs).
- The U.S. Fish and Wildlife Service, under an interagency agreement with EPA, identified a federally listed endangered species and critical species habitat in the Site streams. The **Ecological Risk Assessment** (completed in **May 1998**) identified significant risk to both aquatic and terrestrial life.
- EPA awarded a **Technical Assistance Grant (TAG)** to the **Jasper County Superfund Site Coalition (Coalition)**; this Community Advisory Group was also known as the **Jasper County Superfund Site Citizen's Task Force**. The Coalition retained a group of professors at **Kansas State University** to serve as technical advisors. Members of the Coalition include federal, state, and county agencies, as well as local citizens, business owners, and county commissioners.
  - In general, EPA provided documents generated from Site activities such as the RI report, risk assessments, and FS for review and comment.
  - EPA, MDNR, MDHSS, ATSDR, and Jasper County Health Department representatives met with the Coalition periodically in a public forum to update the members on Site activities and discuss Site issues.
  - The Coalition focused on problems associated with mining, milling, and smelting wastes found throughout the Site.
  - **The TAG to the Jasper County Superfund Site Coalition expired in 2006;** the prior Jasper County Superfund Site Coalition has not been actively involved in the Site for some time.
- **Additionally, at the encouragement of EPA, another community group, the Environmental Task Force of Jasper County, was formed by the Joplin City Council in 1995.** The Task Force membership consisted of local citizens, bankers, realtors, business owners, county commissioners, county and city health department employees, local health care providers, state legislator representatives, city council members from several cities, the Joplin city manager and city attorney, school district representative, and a Joplin planning and zoning board member.
  - EPA, ATSDR, MDNR, and MDHSS meet regularly with the city's Task Force to provide status updates, discuss site-related issues, and solicit input and feedback on ongoing and proposed EPA actions. The focus of the CAG was primarily on the actions EPA was conducting on residential yards surrounding a large primary lead smelter in northwest Joplin.
- **EPA signed a ROD for residential yard remediation in August 1996** and began cleanup of yard soil under the remedial program in November 1996. One remedial action objective (RAO) was stated in the ROD which was **"Reduce public exposure, particularly children's exposure, to residential soils with elevated lead and cadmium concentrations resulting from historic mining and smelting activities."** The ROD specified excavation and replacement of all residential yard soils exceeding 500 ppm lead at properties where at least one soil sample result exceeded 800 ppm.
- **In April 1998, the community group reformed to the Environmental Task Force of Jasper and Newton Counties (ETF or Task Force) and expanded its membership to include representatives from Newton County, Missouri.** The Task Force developed a **two-county-wide environmental master plans** which established recommended

**institutional controls (ICs) for development of future residential areas** in and around the mining and smelting areas as well as addressed other non- Superfund-related environmental problems in the counties.

- **Involvement of the ETF was extensive.** EPA shared and discussed results of investigations, risk assessments, and cleanup actions with the group. EPA's work with the Task Force resulted in a widespread community acceptance of the cleanup actions performed and proposed for the future to mitigate Site risks.
- EPA worked with the Task Force and local governments to establish the ICs program for the residential portion of the Site. **The ETF successfully developed and achieved implementation of ICs for residential development at the site.** The ICs were to prevent improper development of lead-contaminated land in the future. The citizens' Task Force for developed local ordinances and development plans that could be adopted by the various governmental entities to ensure safe residential development in the Site. A health ordinance was adopted by Jasper County in early 2006 **requiring soil sampling at all new residential properties and replacement of contaminated soils. The Jasper County Commission and several municipalities adopted and implemented the ordinance.**
- EPA completed soil removal and replacement actions at **2,192 yards by September 2001.** Except for approximately 30 owner-occupied homes where access for cleanup was denied by the owners, EPA replaced all smelter- and mining-related contaminated soil exceeding 500 ppm lead in the residential yards where the trigger level of 800 ppm lead was met. At homes where owners denied access for cleanup and yard soil exceeded 1,200 ppm lead, EPA sought to order owners to allow cleanup. Where soil concentrations are less than 1,200 ppm lead but exceed 800 ppm, EPA sought to place deed notices in the Recorder of Deeds Office or place other property controls to notify potential buyers of the presence of lead contamination. All contaminated soils were placed in the repository near the Route 249 corridor at 17th and Pine Street, southeast of Webb City.
- **In addition to the soil replacement actions conducted by EPA, extensive health education activities have been carried out at the site. Education activities continue to be conducted by many groups including the Joplin Health Department, Jasper County Health Department, MDHSS, ATSDR, Joplin and Jasper County school districts, and the local Girl Scout chapter.**
- **The Jasper County and Joplin Health Departments did an excellent job in conducting local lead health education.** Among a variety of educational activities conducted, the agencies involved have supported the screening of blood-lead levels of several thousand children per year and conducted consultations with parents of those children that are elevated.
- **EPA provided support through Cooperative Agreement funding to ATSDR, MDHSS, and the Jasper County Health Department to support many of the health education activities. These activities have included the following:**
  - Support for extensive blood-lead screening and in-home assessments of children in the contaminated areas including door-to-door screening and distribution of educational material.
  - Development and publication of a site-specific lead awareness and health education coloring book for distribution to preschool children – see the activity book, **“Pb Possum: Plays it Safe Around Lead,”** at: <https://semspub.epa.gov/work/07/30202087.pdf>
  - Development of lead poisoning awareness curriculum in the local school district
  - Development of a Lead Poisoning Prevention merit badge for the local Girl Scouts chapter.
  - Maintaining information booths at local health fairs held in shopping malls, schools, and hospitals.



*Figure 16: Lead Poisoning Prevention merit badge for the local Girl Scouts chapter, Missouri, courtesy of JCHD.*

- Contacting local pediatricians to provide lead awareness and health educational information packets and encourage blood-lead screening.
- Conducting lead awareness and education seminars in conjunction with prenatal classes at local hospitals.
- Mass mailings (22,000+ copies) of a community newsletter devoted to lead awareness, health education, and lead poisoning prevention.
- Providing lead educational materials to schools, daycare centers, and the Parents and Teachers Association
- Off-site blood-lead screening activities at local community events and more.



**KEY TERM:** A **Cooperative Agreement (CA)** is a grant awarded by EPA to support and stimulate a public purpose. CAs are tailored to a specific EPA announcement and are used when substantial programmatic involvement is anticipated between EPA and the recipient during the performance of the activities. For more information about EPA's funding instruments and authorities, please visit <https://www.epa.gov/grants/epa-funding-instruments-and-authorities#grants>.

**As described throughout this section, EPA** community involvement activities have been ongoing at this site since the 1990s. These activities have included: formal public meetings, community meetings, open houses, public comment periods, public notices, fact sheets, raising awareness about technical assistance opportunities and grants, and other activities as required by CERCLA and the NCP. EPA followed community involvement requirements and recommendations at major milestones in remedy selection – including when a remedial action plan for an operable unit was proposed and beyond. In addition, EPA also established a toll-free telephone number, designed a Community Involvement Coordinator and agency spokespersons, addressed community issues and concerns, translated documents, briefed local/county/state officials, went door-to-door, provided opportunities for redevelopment/reuse, and more throughout EPA's site actions. EPA has also provided additional, informal opportunities for community input beyond the required activities in NCP and CERCLA.

In addition, EPA has conducted several FYRs through the years. The public is informed of the start and completion of EPA's five-year review, community interviews for the FYR, through Fact Sheet distribution, Press Releases, mailouts and local media notifications.

Also ongoing since the 1990s, under remedial actions or new removal actions, EPA has continued to conduct residential yard removals and has provided alternate water to homes with impacted private, domestic drinking water wells, once identified. EPA continues publish public notices about removal actions. The OU 4 ROD specified ICs to control the installation of drinking water wells in the contaminated shallow aquifer at the site. In 2001, the MDNR Division of Geology and Land Survey promulgated a well-drilling code regulating the installation of drinking water wells in both Jasper and Newton Counties.

Actions at OU4 included the installation of public water supply mains to homes with private drinking water wells contaminated with lead and cadmium. Construction of the new public water supply lines began in September 2001 and were completed in July 2007.

The OU4 ROD specified ICs to control the installation of drinking water wells in the contaminated shallow aquifer at the Site. In 2001, the MDNR Division of Geology and Land Survey promulgated a well-drilling code regulating the installation of drinking water wells in both Jasper and Newton Counties.

- The code sets forth specific guidelines that must be followed when installing wells in the shallow and deep aquifers. This code supplemented EPA's action of installing public water lines and provides protection to future residents at the Site from exposure to metals in the shallow aquifer.
- In recent years, Missouri changed the well drilling code; therefore, EPA is continuing to work with state and local entities to identify solutions to these changes.

Currently, EPA continues to work extensively on OU1, OU2/3, OU4 and OU5, sitewide activities and on removal actions for yards and wells with the impacted community. EPA RPMs and OSCs meet with residents and landowners regularly. For OU1, EPA meets with property owners and community members weekly and closely coordinates remedial activities with site contacts at the local and county government level.

At this time, for the Upper Spring River Basin at OU-5 for the site, EPA continues to collaborate with numerous partners across EPA Region 6 and 7 to address site hazards (Upper and Lower Spring River Basin and the Tri-State Mining District Watershed). EPA R7 coordinates ongoing monthly RI/FS Watershed calls with over 90+ stakeholders for all four TSMD NPL Superfund sites. These calls include EPA, partner, and stakeholder coordination across the four NPL Sites.

In addition to EPA's engagement with local leaders, state, and local health agencies continue ongoing work important on-site ICs and lead health education – including encouraging lead testing for children under 7 and local outreach.

EPA continues to meet with city council members from across the county, the Jasper County Commission, and community groups to discuss site activities. EPA continues to regularly meet with and provide site updates to the **Environmental Task Force of Newton and Jasper County** (quarterly), the TSMD Watershed Group (monthly), State and Local Health Agency, NRD Trustees, federally recognized Tribal governments, other state, and local partners.

EPA has continued to coordinate and collaborate with the ETF on a nearly quarterly basis since the 1990s. Even during the COVID-19 public health emergency, EPA continued to provide site updates. Some local officials and interviewees were not aware that the former CAG still met regularly and were interested in signing up for the ETF's email listserv to attend quarterly meetings and hear EPA's site updates.

In 2023, with ongoing efforts to address mine wastes, and with the expansion of the overall site boundary to include additional areas for testing and cleanup (including residential property cleanups, domestic drinking water wells, and abandoned mining waste areas), EPA R7 requested a technical assistance needs assessment (TANA) and assistance with updating the CIP through Technical Assistance Services for Communities (TASC) contract.

EPA's most recent Community Meeting / Open House was held in April 2023 in Carthage, Missouri. During this meeting, EPA provided a site update and an overview of the proposed boundary expansion.

EPA also provided various opportunities for community members to get involved and invited community members to sign up for an anonymous community interview to update the Community Involvement Plan and perform a Technical Assistance Needs Assessment.



*Figure 17: An Oronogo-Duenweg Mining Belt Site open house community meeting, April 2023.*

## Obtaining Community Input for the CIP and TANA Process

Through the TANA and CIP Update process, EPA and the TASC contractor reached out to over **187 local contacts** and conducted over **45 anonymous community interviews**. EPA and the TASC contractor summarized the results of the interviews in this plan to address current information needs, technical assistance opportunities, issues, concerns, and more.

Throughout 2023, EPA conducted telephone and in-person discussions with local stakeholders and residents to gather information to inform this **CIP** and conducted a **Technical Assistance Needs Assessment (TANA)** for the site. EPA requested the assistance of EPA's Technical Assistance Services for Communities (TASC) program during the interview process to identify community needs to better understand and participate in the cleanup process.

TASC contractors assisted EPA at April 2023 community meetings, discussions, and follow-up activities. TASC then formulated recommendations, provided in this document, based on technical assistance needs identified during this process that could be fulfilled by EPA and/or other involved entities, with support from the TASC program, where appropriate.

Anonymous community interview participants included community leaders, residents, property owners, redevelopment groups, community NGO groups, local environmental organizations, and area realtors, as well as local stakeholders including city government officials from Joplin, Carthage, Webb City, and Duquesne, Missouri, reporters from local news stations, and individuals representing organizations.

## Community Issues and Concerns

**The following sections summarize the feedback provided to EPA during community interviews for the CIP and TANA.**

During the TANA/CIP discussions, interviewees and stakeholders shared their concerns and perspectives about the site. Most grew up in or around the site, and many had spent most of their adult lives in the area. Due to the history of the site and decades-long EPA involvement most participants were aware of the site, present or only past EPA engagement, but had varying degrees of familiarity with lead risks and the cleanup process and current site actions. The below section provides a summary of what we heard in each category but is not an exhaustive list of all topics discussed during more than 45 anonymous community interviews.

**An overall theme from interviewees was that the site expansion presents an opportunity both to re-engage with stakeholders within the original site boundary and to engage new stakeholders from the expansion area.**

### Lead Hazard Awareness

During community interviews conducted for the purposes of this CIP, many interviewees were aware of the site; however, many were not aware of the current site actions and some community members were not aware of the

### What is a Technical Assistance Needs Assessment?

A Technical Assistance Needs Assessment (TANA) is a site-specific process that identifies whether a community requires additional support from EPA to understand technical information and to enable meaningful community involvement in the Superfund decision-making process.

Through discussions with community members, the TANA process produces a blueprint for a coordinated effort to meet a community's needs for additional technical assistance while minimizing the overlap of services provided by EPA site staff, external partners, and EPA grants and contracts.

For more information, please visit EPA's Superfund Community Involvement Tools and Resources webpage at:

[www.epa.gov/superfund/superfund-community-involvement-tools-and-resources](http://www.epa.gov/superfund/superfund-community-involvement-tools-and-resources).

The Technical Assistance Needs Assessment for this site is on EPA's Site Profile page, under Site Documents and Data, online at:

[www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining)

superfund site in their community. Most community members that knew about the site and mining in the area and many assumed cleanups were already completed years ago. While most interviewees were aware of the potential for exposure to lead contamination in soil and groundwater, many knew about EPA's prior cleanups in their community, but many did not know about EPA's continued / ongoing cleanup actions and where to request testing for lead in soil or groundwater or for lead-based paint.

### Clarity on Testing/Cleanup Costs, Cleanup Timeframes, Site Awareness for Real Estate transactions

Residents expressed questions and these potential concerns about:

- Unknown property testing/cleanup costs (if they choose to participate or not).
- The potential for test results (or knowledge of testing results) to impact real estate transactions or devalue property in the short term while awaiting lead cleanup/remediation.
- Unknown cleanup timeframes or long delays between confirmed test results and actual cleanup services.

### Considerations for community outreach to the expanded boundary areas

Interviewees identified the need for comprehensive outreach – especially when additional residential testing and larger-scale remediation of residential yards would gear up again, especially with the site boundary expansion.

- Despite knowledge of contamination in soil amongst stakeholders in the initial boundary, many expressed concerns for community members who live in the expansion areas, may be new to the area, may not speak English fluently or may not be able to advocate for their welfare for reasons such as immigration status, low literacy levels, and/or fear of retribution or even firing/eviction from employers or landlords.
- For example, interviewees identified a large Spanish speaking population throughout the county, especially around the city of Carthage, plus a large refugee population in the county.

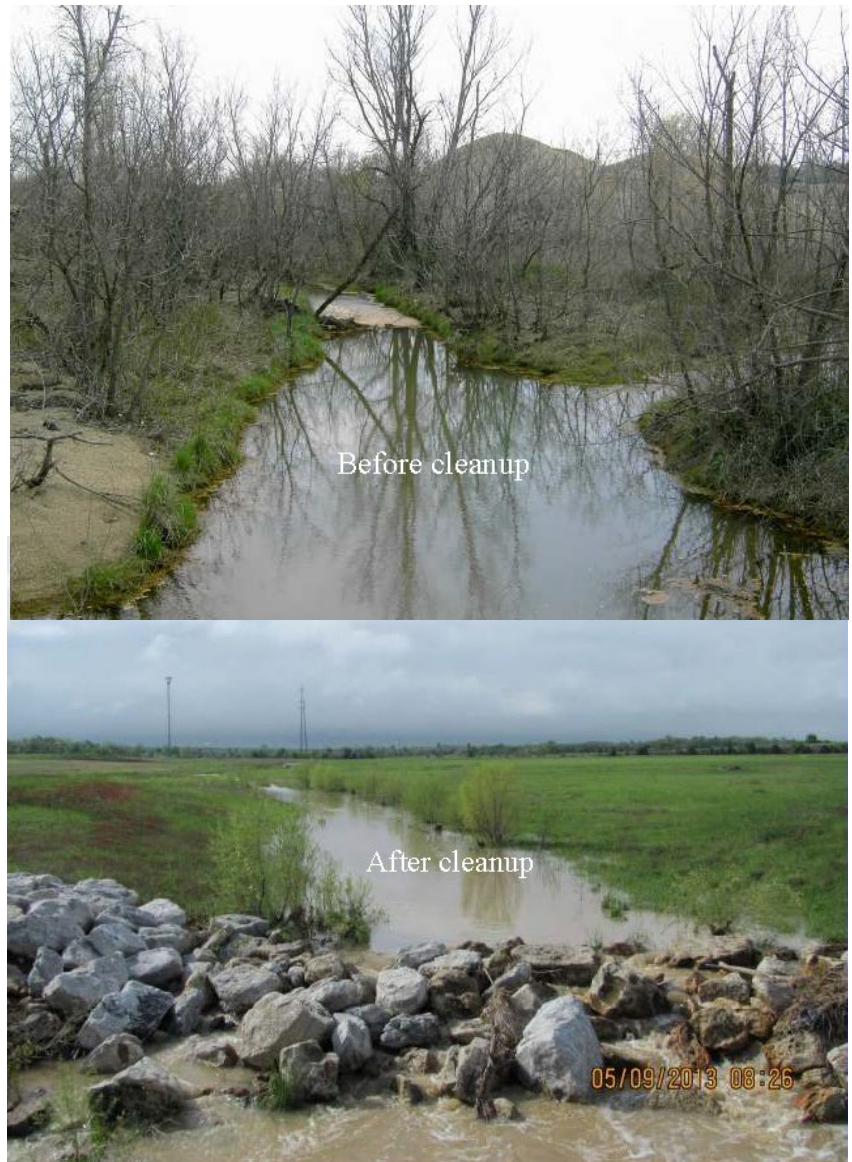
### Skepticism about Lead Hazards

Another stakeholder group of concern includes residents that remain unconvinced of the seriousness and long-term consequences of exposure to high concentrations of lead.

- Several of these community members have lived in the area for generations

**Chat deposits are sand-to-gravel-sized material resulting from the crushing, grinding and dry separation of the ore material.**

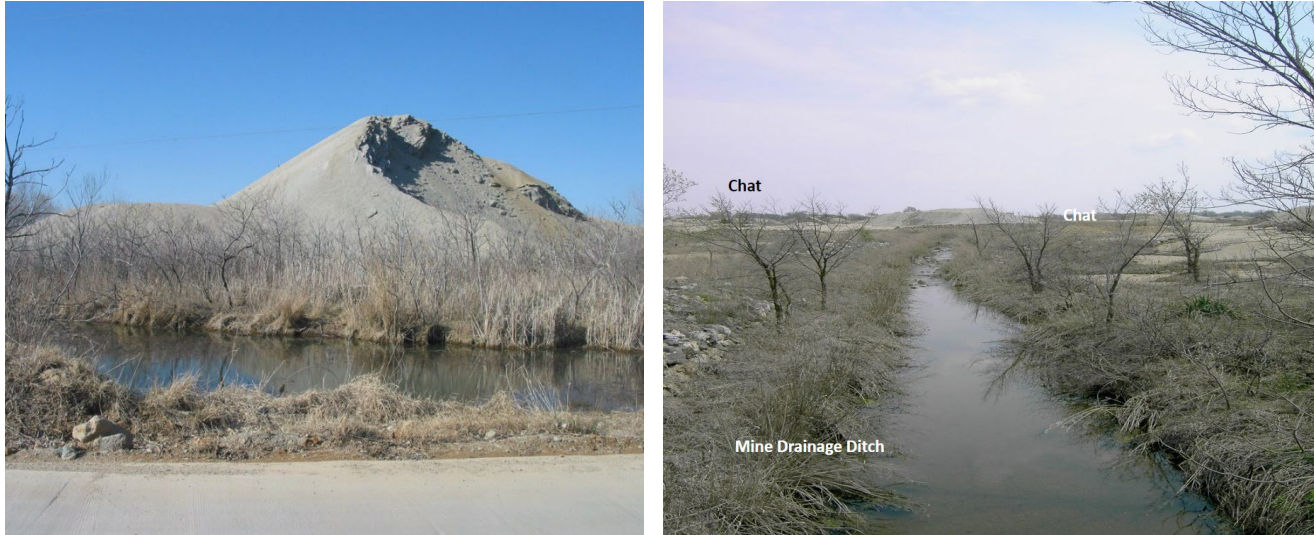
**Tailings deposits are sand- and silt-sized material resulting from the wet washing or flotation separation of ore material.**



*Figure 18: Before and After EPA's Cleanup of Chat Piles at the Oronogo-Duenweg Mining Belt Site.*

and have played in chat piles themselves. Without firsthand knowledge of a person who has suffered negative effects of lead exposure, some of these stakeholders questioned whether cleanup is necessary.

- For various reasons, residents explained that some residents may be suspicious of or lack trust in state and/or federal government agencies, in general.



*Figure 19: Left: Mine waste piles at the Site; Right: A mine waste pile ditch and chat piles at the site.*

### Ongoing EPA Cleanups in Communities Legacy Mining Wastes

Interviewees shared that the site expansion presents an opportunity both to re-engage with stakeholders within the original site boundary and to engage new stakeholders from the expansion area.

- Some interviewees were emphatic about the need to address mining waste areas as soon as possible in order to transition from remediation of wastes into restoration of the native habitat as soon as possible.
- The city's former Lead Task force changed into a non-profit called the **Environmental Task Force (ETF) of Newton and Jasper County**. EPA has continued to provide regular updates to this Task Force each quarter, for decades. This non-profit task force is exploring ways to build capacity to reach a greater audience, locally, with an updated online presence.
- With a lot of the original large-scale visual residential site cleanups ending years ago, plus travel restrictions resulting from the COVID-19 public health emergency, and the dissolving of other, prior Community Advisory Groups and a formal city-run task force, and the lack of regular public events, the broader community may not have continued to be aware of EPA's ongoing presence in the community, until more recently.
- Long-term residents that may have had their properties addressed early on, or were involved in public events, thought cleanup was complete – without realizing that EPA cleanup continues in other areas and across the site. For instance, some thought that OU2 – **Residential Yard Soil** (in former smelter areas), OU3 – **Residential Yard Soil** (near mining and milling wastes), and OU4 – **Groundwater** (Domestic Drinking Water Wells) were completed without knowledge of additional, recent Remedial Action projects. Given the size of the site, many stakeholders suggested working with additional community groups in the area to get information to the public – in addition to regular communication from EPA about site status and cleanup.
- By dovetailing outreach to community groups/organizations, members of the community who were wary of federal agencies could receive information via a trusted, local source, and disadvantaged areas could be more easily reached. See lists of agencies and organizations in the Key contacts of the appendix.
- Community members with strong ties to the area, were concerned about how community members need to use local streams and waterways for subsistence / traditional lifeways and for plants and animals to survive and thrive.

### Consultation and Coordination with Tribal Governments

EPA's Superfund projects located within the Upper and Lower Spring River Basin and Neosho River Basin watersheds impact downstream lands and interest by federally recognized Tribal governments. Interviewees underscored the importance of consultation and coordination with Tribes during each key milestone of the site's progress, especially during the RI/FS phases for the TSDM Watershed OU-5.



- EPA’s policy is to consult and cooperate on a government-to-government basis with federally recognized Tribal governments when EPA actions and decisions may affect Tribal lands and interests. For more information, visit: <https://www.epa.gov/tribal>.
- EPA interacts with Tribal governments on several levels as a part of the Tri-State Mining District Superfund cleanup activities. EPA consults directly with Tribal governments for significant developments at the site, such as Proposed Plans leading to a Record of Decision at the site.
- EPA coordinates with the Tar Creek Trustees Council of Indian Tribes and other Tribal entities on a regular basis and at key times during the Superfund process.
- EPA collaborates with the Quapaw Nation and Tribal Environmental Programs within the TSMD.

### Indigenous Knowledge and Traditional Ecological Knowledge

Interviewees asked how EPA might consider data and information collected via participatory science and Indigenous Knowledge in decision-making. Interviewees who provided feedback about the TSMD Watershed were interested in knowing how EPA will seek input from Tribal governments and Indigenous Peoples to determine how Indigenous Knowledge could inform an EPA action.

- “Indigenous Knowledge” means a body of observations, oral and written knowledge, innovations, practices, and beliefs developed by Tribes and Indigenous Peoples through direct contact and experience with the environment, as described by the White House Office of Science and Technology Policy’s Guidance for Federal Departments and Agencies.
- “Indigenous Knowledge” can include a variety of terms, including Traditional Ecological Knowledge, Traditional Knowledge, Indigenous Traditional Knowledge, Native Science, and related terms, are used, and preferred by different Tribes and Indigenous Peoples.
- The White House’s 2022 Guidance for Federal Departments and Agencies on Indigenous Knowledge is available at: <https://www.whitehouse.gov/wp-content/uploads/2022/12/OSTP-CEQ-IK-Guidance.pdf>.
- During anonymous community and group interviews, several interviewees identified the TSMD contamination flowing downstream into Ottawa, County, Oklahoma as an **environmental justice issue** impacting downstream tribal areas.



Figure 20: Before and After Cleanup of mining waste piles in Jasper County, Mo.

Outreach recommendations and preferences from stakeholders are included in below tables.

Comments fit into nine main categories:

1. Lead Hazard Awareness
2. Community Engagement & Outreach
3. Outreach Preferences
4. Real Estate & Rental Concerns
5. Technical Assistance Needs
6. Soil Testing & Cleanup
7. Lead in Private, Domestic Drinking Water Wells
8. Native Habitat Restoration
9. TSMD Watershed & Downstream Impacts

## Outreach recommendations, concerns, and preferences from stakeholders:

### 1. LEAD HAZARD AWARENESS



- While many stakeholders are aware of the presence of lead in areas of the community and have some awareness of health risks from exposure, particularly to children under 7, many are not. There are members of the community that are unaware of the superfund site and/or do not take lead poisoning/intervention seriously. Many are aware of children who continue to play in yards, chat piles, and areas that have not been remediated.
- Some think that sitewide cleanup is complete and site-related lead exposure is no longer a risk. Others do not have a vulnerable member of the population living on their property or do not fully believe in the lead hazards/risks – having not seen negative impacts directly.
- Several stakeholders noted the need for heightened coordination with lead health activities, such as activities between MoDHSS, the Jasper County Health Department (JCHD), Joplin Health Department and other local health practitioners, childcares, schools, and community organizations.
- Residents voiced concerns about childhood blood-lead testing levels and children not being lead tested per recommendations by doctors; and, even in instances when a test is performed and an elevated blood lead level detected, the next steps may be difficult for them to understand, particularly for non-English speaking and refugee communities.
- Families of children found to have elevated blood lead levels do not always know to test for lead sources in and around the home and that lead testing (of yards, private wells, childcares, and mining areas can be provided free of charge). As a result, known exposures may go unaddressed. Further, many stakeholders indicated confusion over access agreements for sampling; property owners may avoid testing rather than signing a document they do not understand.
- Several stakeholders knew of families who have not made use of soil testing services. It is possible that these families are afraid to test and get results indicating the need for remediation, which could be frightening, particularly when cleanup is not immediate and cleanup timelines are not clear.
- Stakeholders expressed concern about perceived stigma if sampling is necessary on their property. Some homeowners shared concerns that lead testing results could presumably impact their property value when the residential cleanup timelines may take years, even if offered for free.

### 2. COMMUNITY ENGAGEMENT & EDUCATION



- Work started at the site decades ago and some of the more visible large surface mine waste piles have long been addressed. The community expressed interest in more frequent updates of the Superfund site activities. For many that were aware of the site, the perception was that all site-related cleanup was completed. However, mine waste, yard and private well cleanup continues, and a remedy has not yet been selected for the Upper Spring River Basin.
- The long timeline for cleanup over large areas, relatively non-disruptive approach the EPA site team takes, and especially the change in site-communication and on-site federal government presence during the COVID-19 public health emergency, may have also contributed to the false assumptions that the cleanup was complete, the health impacts of lead were possibly not as bad as initially thought, and/or there were no remaining health risks.
- Stakeholders generally view the site boundary expansion favorably, but many expressed concerns about community members not being aware of or feeling fully informed about EPA activities – such as areas where mining wastes were found in additional residential yards and private, domestic drinking water wells. Many consider the boundary expansion to be an opportunity for EPA to re-engage with community members to let them know that EPA continues cleanup, including additional areas of the Jasper County where former mine holdings are as less densely clustered as the original site boundary.
- Several stakeholders suggested that EPA should leverage existing and new partnerships and begin working in areas and meeting with communities who may not know about lead-contaminated soil, or the cleanup actions to date.
- Stakeholders want EPA to be accessible and transparent, communicating deviations from publicized project timelines, and taking time to engage with members of the community to bolster baseline understandings of the site, lead health risks, and things that they can do to protect their families. A few stakeholders raised trust concerns regarding testing and cleanup. Some interviewees expressed concerns about a state-led site in Carthage called the, "[Carthage PCE Plume Site](https://dnr.mo.gov/waste-recycling/sites-regulated-facilities/superfund/interest/carthage-pce-plume)". A few interviewees said they lacked updated information from MoDNR about the investigation of groundwater contamination at that site and assumed or heard rumors that the investigation/cleanup was discontinued. Some feared that the same would happen with the EPA superfund investigations and cleanup of groundwater issues in Carthage. The community asked for regular updates to avoid misinformation or false assumptions. MoDNR site page: <https://dnr.mo.gov/waste-recycling/sites-regulated-facilities/superfund/interest/carthage-pce-plume>.

### 3. OUTREACH PREFERENCES



- Stakeholders suggested sharing a periodic bulletin about site updates/activities; if it is during “low activity” periods, annually would be appropriate to confirm EPA’s continued engagement and ongoing cleanup efforts. For parts of the site experiencing active cleanup, quarterly was preferred.
- EPA has been providing site updates to the Environmental Task Force of Newton and Jasper County for years. The ETF is planning to increase their online presence and raise awareness about their meetings and meeting invites.
- Door-to-door outreach was viewed unfavorably unless in an emergency as many people are suspicious of door-to-door solicitations, trespassers, strangers and may avoid answering their door as a precaution, especially when home alone. Phone outreach is not ideal as people avoid telemarketing.
- Partnerships with trusted organizations – sharing communications with community group email lists, newsletters, Facebook, and other social media platforms (posting on local groups pages – closed and open groups), etc. – was seen as the *best option* to amplify EPA’s outreach efforts and reach hard-to-contact community members.
- An EPA presence at local events can help build trust and positive relationships. EPA can host events and/or attend locally led events, meetings to deliver updates. An EPA Community Meeting and/or Open House was recommended at least annually. EPA was also invited participate to regular community-wide and/or local events, such as Third Thursdays, Maple Leaf Festival, Health Fairs, and more.
- Outreach and educational resources should be accessible to those with very little or no literacy skills. Succinct, plain language conveyance of key points can be accompanied by a link with a QR code for residents to access more detailed information, as needed.
- The community needs lead and health education in languages other than English (including Spanish, Vietnamese, Arabic, Sudanese Arabic, Punjabi, Dari, Pashto, Swahili, Russian and Ukrainian) to reach all residents.
- Interviewees suggest meeting locations/times: Mon., Tues., and Thurs. evenings for public events (not Wednesdays due to faith-based events); avoid city/county council meetings. If coordinating with local groups, daytime-events during work hours.

### 4. REAL ESTATE & RENTAL CONCERNS



- Realtors want more information and outreach about how to manage lead contamination disclosures and site-related liability in property transactions – including soil lead, private well tests/results, and the presence of mining waste areas. Realtors asked for fact sheets, presentations, and outreach.
- Some shared that broad community awareness about asking for the status of a residential soil-lead test and/or cleanup could be advantageous for real estate transactions, especially if the property is already in the cue for an EPA *no cost* yard remediation. They explained how buyers and their agents ideally prefer being in EPA’s cue for a free cleanup rather than in the dark or unaware of lead hazards at any given property (unknown hazards). A standardized approach to questions during transactions could “level the playing field” – especially if owners had documentation / confirmation that free remediation was forthcoming.
- In the meantime, owners wondered about perceived stigmas of property testing and remediation, even of neighboring properties, was a common concern shared. Property testing and remediation could be seen as depressing area-wide property values, making sales and even local tourism challenging.
- Some Realtors were concerned about owners feeling “stuck” in their property if they have testing done that confirms a cleanup is needed. The real estate transaction window is typically 30-45 days, whereas some properties requiring cleanup may not get remediated for months to years.
- In addition to site-related lead contamination, many residents may not be aware of risks posed by lead-based paint or of the resources available to mitigate risk, such as lead abatement and/or encapsulation.
- There is a perception that tenants of rental units cannot request soil testing or cleanup because, given the limited amount of affordable housing, the landlord could evict them, withhold their deposit, and/or not renew their lease – in favor of tenant who would not voice such concerns.
- Tenants lack access to information about the lead levels and testing results and/or the cleanup status (for yards and wells) at their rental property. Therefore, they lack knowledge about contaminated areas awaiting cleanup and if their property’s private well has been tested and/or needs alternate water. Tenants fear disputes with landlords, lack support, and are overburdened.
- Some families with remediated properties either cannot afford to maintain the revegetation (costs associated with watering the grass) or are unaware of the maintenance requirements for remediated properties.

## 5. LEAD IN PRIVATE, DOMESTIC DRINKING WATER WELLS



- Overall, people were concerned about Jasper County residents unknowingly using private, domestic drinking water wells that are contaminated with lead and other heavy metals.
- Residents may mix-up bacteria and metals testing and voiced confusion about which agencies test wells and at what cost. Interviewees identified a lack of consistency amongst organizations testing for metals and the need for standardization.
- Residents discussed the need for additional outreach to new areas within the expanded site boundary as this area may have impacted wells. Some wanted to know the exact locations and contamination levels found in private, domestic drinking water wells across the county, including 90 wells discussed during an EPA meeting.
- Questions arose about how to provide clean drinking water for areas outside of the original site boundary as the ROD identified a remedy to install water lines in the original boundary.
- Some residents were unaware of EPA's Impracticability decisions about the groundwater and metals in area wells.

## 7. WILDLIFE AND NATIVE HABITAT RESTORATION



- Interviewees want to restore a native habitat as soon as possible. Concerns were voiced about the timing and wildlife impacts while waiting. For example, some waterfowl have extremely high zinc levels as do some native plants that can't grow in high zinc areas. Interviewees were also concerned about the lack of clean soil to grow grass, restore native habitats and native plants.
- Suggestions were made about having interpretive trails near restoration areas to explain the site's progress and transformation. Many residents are proud of the rich history of the area, the miners, and city leaders who advocated for cleaning up and transforming their city for future generations.
- Other interviewees shared concerns about the impact of contamination on plants and wildlife in the area, and whether the risks associated with consumption of wild game, fish and edible plants are adequately communicated to residents.
- People may be catching and storing large amounts of fish. They may or may not know that the water is contaminated. Low-income populations may be disproportionately affected by the contamination due to reliance on subsistence hunting, fishing.

## 6. TSMD WATERSHED & DOWNSTREAM IMPACTS



- Interviewees voiced concerns about lead and zinc mining and smelting wastes and impacts to the entire TSMD watershed, including the need to coordinate a joint approach amongst regions and superfund sites because of the watershed linkages throughout the area.
- During anonymous community and group interviews, several interviewees identified the TSMD contamination flowing downstream into Ottawa County, Oklahoma, as an environmental justice issue impacting downstream Tribal areas.
- Concerns were voiced about downstream impacts to Tar Creek (TC) and the TC NPL Superfund Site covering Ottawa County and federally recognized Tribal governments. As Tar Creek is the only TSMD in EPA R6, interviewees wonder why the action level for lead cleanup is different in R7 and what the different risk exposures mean for their health and the cleanup process. Many people stressed that the cleanup should be consistent in both Regions and that it is important to continue to communicate and express concerns related to the cleanup.
- A primary concern shared in interviews is that the contamination in the watershed is negatively impacting the Tribal communities and their right to subsist and Tribal traditional lifeways. Due to contamination from upstream areas, there are nine Tribes in the affected area that are unable to participate in cultural practices such as gathering materials for baskets, and gathering nuts, berries, onions, and other items in the riparian floodplain.
- Interviewees noted that Tribal lifeways scenarios have been presented to EPA, and they want those to be considered in riparian floodplain areas in the TSMD and TC. Specifically, subsistence uses will always need to be considered.
- Concerns were raised about mining waste impacting the Grand Lake 'O the Cherokees and local interests such as recreation, restoring and preserving water quality, and difficulty restoring downstream areas without completing it upstream.
- Residents mentioned concerns about the "off-site" rule with chat sold in Oklahoma and trucked to other areas in the TSMD without awareness of how its adequately tracked and relocated. For example, an interviewee shared a story of a young child in Missouri with lead poisoning whose in-home risk assessment was tied to chat purchased at the Tar Creek site and hauled to their area.
- Residents expressed concerns about mining waste piles continuing to run-off to downstream areas and the need for EPA to have consistency amongst TSMD sites. Many impacted residents, tribal and non-tribal, realize the relationship of their community location to the entire TSMD and wish to see the R7 TSMD sites cleaned up as soon as possible.

## 8. TECHNICAL ASSISTANCE NEEDS



- Several questions and concerns raised in discussions with community members and stakeholders focused on safety: testing of surface water bodies, physical risks such as sinkholes and mineshaft cave-ins, heavy metals in private drinking water wells, potential redistribution of contaminated soil during the 2011 Joplin Tornado and whether even “clean” soils will permit plant growth or allow for safe consumption of garden fruits and vegetables.
- Areas impacted by the site is socioeconomically depressed with roughly 40% of the population living at or below the poverty line. Employing community members in cleanup efforts could help address current unemployment and underemployment and build community pride.
- Technical assistance tools requested included fact sheets, flyers and presentations that could be used to deliver key messages from EPA directly or via partner organizations.
- Short videos that could be shared online may be a more accessible means of sharing information with broader audiences, especially busy working parents, over email lists and social media.
- Interviewees asked questions about how to protect and preserve the natural environment, animals, and restore it to the native plant species. They wondered about lead and zinc uptake into plants and welcomed discussions about how to grow plant species in zinc rich environments. In addition to lead concerns, they voiced concerns about high levels other metals and how those levels impact the community. Residents asked about cancer rates and if it could be related to lead exposure.
- Interviewees also described that the name of the site can be confusing or messaging dismissed by people that do not live in Oronogo or Duenweg. This can be especially confusing to people new to the area as the site name doesn’t include the main cities, such as the Joplin, Carthage, and Webb City.
- Residents asked for a fact sheet explaining the county code / health ordinance explaining how it will apply to new communities at the site – for property sales and to protect health.
- Realtors asked how the health ordinance, requiring lead testing of private wells for property transfers, is enforced/enforceable if /when property transactions are filed with the county without notifying other organizations enforcing codes. Carthage was identified as an area with atypical property transfers not using realtors and/or banks with potential cultural considerations.

## 9. TESTING AND CLEANUP



- Many community members and leaders were not aware of an opportunity to test and/or cleanup residential yards, parks, playgrounds, and high child use areas.
- Many residents asked for additional information about which areas could request free lead testing and/or cleanup for yards, private wells and for information about how to initiate that process and/or recommend it to their friends, neighbors, relatives and other.
- Including a timeline of steps in the testing and cleanup process would be helpful. Residents were also interested in seeing reports broadcasting the work already completed and highlighting opportunities to redevelop areas that have been cleaned up and ready for new development (including residential and commercial).
- Signage, with a link to local/city level community information and updates across the county was recommended to depict what EPA is doing in any given community. Some residents felt they lacked awareness due to the lack of physical markers and signs where cleanups occurred or are ongoing (with links to “What EPA is Doing In this Area”). Ideas included: links to signage about with the cleanup timeline, success stories, and/or virtual storytelling about EPA’s ongoing/past cleanups in different areas of the county/cities.
- For instance, when residents drive past EPA contractors operating heavy equipment, residents would like to see signs with links or a contact at EPA. They don’t want to miss an opportunity to be informed and amplify the good stories. Interpretive trails around a remediated natural area and a site cleanup timeline/map with major milestones shown for each area were other ideas. Stories and/or videos about current and past cleanup projects (with a before and after) were preferred.
- Residents expressed concerns about the seemingly slow pace of addressing vast areas of lead mining waste and waste piles in the Tri-State Mining District, especially the many remaining mining waste piles located at the Tar Creek Site due to concerns about contamination blowing the dust around contaminating or re-contaminating other areas and sites already tested or remediated.
- Residents shared general concerns about airborne mining waste dust contaminating re-contaminating other areas downwind and wanting information about air monitoring.

# THE COMMUNITY INVOLVEMENT ACTION PLAN

## Introduction to the Action Plan

EPA believes that an engaged public benefits the overall superfund cleanup process. EPA is committed to providing and encouraging public participation so that the people whose lives have been impacted by the site and its cleanup have a say in how it is cleaned up. EPA will strive to maintain a consistent community presence and build relationships with the community and local, state, Tribal governments, and other federal government agencies.

The Community Involvement Action Plan (action plan) highlights EPA's key objectives, methods, and timelines for keeping residents, community stakeholders and local officials informed and involved throughout the cleanup process. The activities and their frequency relate to the stage of the cleanup. They also reflect the level of interest expressed by the community. EPA based the action plan on several factors, including the needs, concerns and recommendations identified in the community interviews. The action plan is the foundation of EPA's community involvement program. It is a reference that the EPA site team often turns to during cleanup to identify useful community involvement strategies.

## Community Involvement Objectives

Community involvement is the process of engaging in dialogue and collaboration with community members. The goal of Superfund community involvement is to advocate and strengthen early and meaningful community participation during Superfund cleanups. **The primary goals of the Community Involvement Action Plan are to:**

1. Provide the community with accurate, timely and understandable information about the site in a manner that is considerate of the community's preferences and culture.
2. Facilitate opportunities for public input and ensure community needs and concerns are considered.
3. Respect and consider community input and feedback throughout the Superfund process.

***Three key priorities of Superfund Community Involvement are to ensure that community members affected by a Superfund action:***

1. *Aware of agency activities.*
2. *Have an opportunity to influence site cleanup and reuse.*
3. *See that their concerns are considered in the site decision-making process.*

## Ongoing Communication

EPA will continue to work with Tribal governments, county and state staff, elected officials, community organizations and community members to ensure that any important updates or information regarding the site are shared directly with the public. EPA will use a variety of resources and activities to share information and actively communicate with community members. EPA will continue to work with partners identified throughout this CIP to share important updates or information, such as: MDNR, MDHSS, JCHD, Joplin County Health Department, ATSDR, local governments, community organizations, such as the ETF and Head Starts, parents and caregivers of young children and community members. See the list of partners in the Appendix.

EPA's ODMB site team continues to collaborate frequently with the community for on-site investigations, recommendations for community involvement, and proposed interim and final remedies.

**To sign up for the site email list, please contact EPA's Community Involvement Coordinator, Elizabeth Kramer, via email at [kramer.elizabeth@epa.gov](mailto:kramer.elizabeth@epa.gov) or [r7-tsmd@epa.gov](mailto:r7-tsmd@epa.gov) or by phone at (913) 551-7186 or (913) 551-7003.**

## Community Involvement Tools and Activities

EPA has identified and developed a variety of tools and activities to better engage with and involve the community:



### EPA-hosted Events, Meetings and Community Events

Based on availability, EPA staff may attend meetings held by community groups, the local government, and other organizations upon request to share information about the site and to address community questions, concerns, ideas, and comments. EPA identified appropriate opportunities and venues to deliver information about the Site., EPA may host meetings, public, in-person and/or virtual events to share information with the community at least once per year (e.g., community meetings, workshops, public availability session or open house). These and other events will be an opportunity for EPA to answer questions, address concerns and provide progress updates.



*Figure 21: The SMB Community Center in Duquesne, Missouri offers a space for community members to hold meetings and events.*

- EPA Meetings will be held at a central location that is Americans with Disabilities Act (ADA)-accessible and accessible by public transportation, such as the: Joplin Library, Carthage Memorial Hall in Joplin or Carthage, Missouri Southern State University, George A. Spiva Center for the Arts, JC Library in Carthage Library, etc. Interviewees indicated an overall preference for Monday, Tuesday, and Thursday evenings for general public; Wednesdays are to be avoided due to faith-based activities; weekends, nights and Sundays are not recommended. They recommended avoiding evenings with county and/or city council meetings in the area.
- **Frequency and Format:** Meeting frequency will depend upon activities at the site, being held more frequently when something new or different will be taking place with cleanup. Community members expressed a preference for EPA update events to be more interactive, rather than a lecture format. This could be achieved with an open house and/or Q&A forum format.
- **Virtual or Phone Options:** EPA staff may also host or participate in meetings virtually, as coordinated with the community. To best accommodate community members, EPA staff may provide options to participate by phone for people unable to join a web-based meeting. EPA staff may share meeting materials ahead of the meeting so people unable to view the presentation can follow along.

- **Progress Updates for Local Organizations:** EPA staff will also work with potential partner organizations such as the Care Network, RAISE and Parents as Teachers to participate in established meetings held by these groups to likewise share progress updates and address questions and concerns specific to these groups. With prior planning, EPA’s attendance at an established partner meeting could also include training or an overview of key messages for the group to disseminate to their constituents. Many stakeholders indicated the importance of EPA having a visible presence in the community and suggested EPA could have an information booth at popular local events such as **Food Truck Fridays**, **Health Fairs**, and the **Carthage Annual Maple Leaf Festival** (largest local event). These would be other opportunities to connect with community members to share information about the site and lead awareness.



Figure 22: The Carthage City Council meeting in April 2023.

## Briefings with Local Officials

EPA staff may coordinate with local government bodies and Jasper County officials to provide brief, routine updates at established meetings such as City Council or County Commissioner meetings upon their request for information or in correspondence with relevant site information.

- These updates may be annual in times of low activity and more frequent depending on-site activities such as new testing or cleanup.
- For more information on elected officials, please visit <https://elections.mytimetovote.com>. State level elected officials can be found using the links below.

### Elected Officials

- **U.S. House of Representatives.** Visit [www.house.gov/representatives/find-your-representative](http://www.house.gov/representatives/find-your-representative) for contact information for your current congressional representative. The site is in the **7<sup>th</sup> congressional district**.
- **U.S. Senate.** Visit [www.senate.gov/senators](http://www.senate.gov/senators) for contact information for your current **U.S. senators for Missouri**.
- **State House/Assembly.** Visit <https://house.mo.gov> for contact information for your current state/assembly representative. **The site is in these districts: 161<sup>st</sup> (Joplin), 162<sup>nd</sup> (Carl Junction), 163<sup>rd</sup> (Carthage), and 127<sup>th</sup> (Lamar).**
- **State Senate.** Visit <https://senate.mo.gov> for contact information for your current senator. **The site is in the 32<sup>nd</sup> district.**

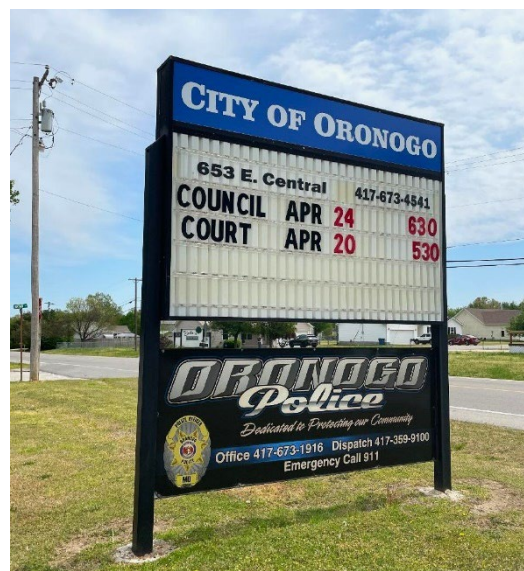


Figure 23: Oronogo City Hall and Police Department sign.



## Briefings with Local Faith-based Leaders

Many community members work multiple jobs and may find it challenging to attend EPA-hosted open houses or community meetings. However, many of these same community members regularly attend religious services and have established a basis of trust with their faith-based leaders. EPA staff may coordinate attending an established meeting with the Carthage Ministerial Alliance and other faith-based communities to meet with these leaders in person and share relevant key messages about the public health of their constituencies. This could significantly aid in the dissemination of information at in-person services, and in bulletins and announcements.

## Stakeholder Working Group

EPA will consider convening a stakeholder working group including federal, state, and local officials, faith-based leaders, and representatives from partner organizations.

- More frequent meetings of the stakeholder working group could help avoid information fatigue among community members while keeping stakeholders informed about progress and activities at the site. Regular meetings could also provide a venue for coordination and follow-up areas of the county with cases of elevated blood lead levels, as well as to help clarify the roles and responsibilities of the various agencies involved. Educational resources could be presented to and/or shared with this group for greater dissemination.

## Meetings with Property Owners

- The RPMs and OSCs make frequent visits to meet with property owners located in communities across Jasper County throughout the cleanup process. They address one-on-one questions and concerns.

## Our Partners

EPA Region 7 will continue to strengthen relationships with formal partners, partner agencies and informal local partners. **Some of the partnerships for the site include, but are not limited to the organizations listed in Key Contacts of this Appendix.**

## Tribal Consultation and Coordination

Tribal consultation is an important element of the federal government's trust responsibility that arises from treaties, statutes, executive orders, and the historical relations between the United States and Tribal Nations. EPA's Policies on Consultation and Coordination with Indian Tribes call for EPA to consult on a government-to-government basis with federally recognized Tribal governments on a broad range of EPA actions and decisions that may affect tribal interests.

- Conducting government-to-government consultation with Tribal governments is distinct, separate, and in addition to EPA's obligations regarding community involvement – as required by CERCLA, SARA, and the NCP.
- **For more information:** <https://www.epa.gov/tribal/consultation-tribes#consultation-policy>; <https://www.epa.gov/tribal>; and <https://www.epa.gov/tribal/consultation-tribes>. Region 7's 2017 policy on consultation and coordination is online, at: <https://www.epa.gov/tribal/epa-region-7-tribal-consultation-guidance>.

## Environmental Justice Considerations and Tribal and Indigenous Peoples Advisors

Chapter 2 provides an environmental justice analysis for area of the site including Joplin and Carthage, Missouri; indicators of potential environmental justice issues were found. In addition, this site has potential downstream impacts in Indian County with downstream communities voicing EJ concerns. EPA R7 can work with the EPA's Tribal and Indigenous Peoples Advisors on EJ considerations: <https://www.epa.gov/environmentaljustice/environmental-justice-tribes-and-indigenous-peoples>. EPA's National EJ TIPAs recorded webinars with information on EPA EJ Grants and resources for tribal partners. <https://www.epa.gov/environmentaljustice/environmental-justice-tribes-and-indigenous-peoples#webinars>.

EPA R7 also maintains a Community Information Guide about grants, events and other resources; sign up to receive updates: <https://www.epa.gov/aboutepa/region-7-community-information-guide>. As of May 2024, [EPA R7's Environmental Justice Thriving Communities Technical Assistance Center \(EJ TCTAC\)](#) – The Heartland Environmental Justice Center (non-EPA organization) at Wichita State University became an EJ TCTAC environmental justice resource for communities; send requests for assistance online: <https://heartlandej.org/>.

## Webpages: Site Resources and Information Repository Online



EPA keeps site project information and reference materials for the public to read at online information repositories. EPA will continue to maintain a webpage specifically for the Oronogo-Duenweg Mining Belt NPL Superfund Site. For past, current, and future updates on the site, please visit: [www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining).



### At this webpage, EPA will:

- Provide an overview and history of the site and EPA's involvement.
- Post updated information about the Superfund cleanup process to the public. New information is often featured under **Stay Updated, Get Involved (Announcements and Key Topics section)**.
- Share site-related reports and documents with the public as they become available. A link to the document section is under Site Documents and Data.
- Information is primarily provided electronically, but hard copies are available for the repository upon request. Some of the materials available include Records of Decision (ROD); Proposed Plans; Action Memorandum for time-Critical removal actions; Site fact sheets; Public Notices.

### EPA also posts Fact Sheets for Missouri and Kansas TSMD sites online at:

<https://www.epa.gov/mo/missouri-cleanups> and <https://www.epa.gov/ks/kansas-cleanups>

### Removal Action Administrative Record (AR) Files: See the below list of relevant ARs and information repositories:

<https://response.epa.gov/>

1. [Removal AR for Oronogo-Duenweg Alternate Water 2023 AR](#) and [response.epa.gov/ODMBAAlternateWater](https://response.epa.gov/ODMBAAlternateWater)
2. [Removal AR EBL Emergency Response 2022 AR](#), and [response.epa.gov/odebler](https://response.epa.gov/odebler)
3. [Webb City Church Removal](#)

Some residents inquired site prior Removal Actions and wanted links to review additional information online, beyond the AR, such as locations of wells tested and/or results.

- For a publicly available map depicting **well test data**, see the Missouri Department of Natural Resources' Well Installation Section Drilling Information database Map (WISDIM): <https://dnr.mo.gov/land-geology/maps-data-research/well-installation-section-drilling-information-wisdim>.
- To inquire about property status at this site, contact EPA or see the publicly-available Beacon Database: <https://beacon.schneidercorp.com/Application.aspx?AppID=151&LayerID=1976&PageTypeID=2&PageID=995>

### AR files for recent Removal Actions in eastern Jasper County, prior to the site boundary expansion are listed below:

1. Carthage City and Eastern Jasper County Lead Removal Site: <https://www.epa.gov/superfund/carthagecity> and [response.epa.gov/carthagecityandeasternjaspercountylead](https://response.epa.gov/carthagecityandeasternjaspercountylead)
2. Central Jasper County Lead Removal Site: <https://www.epa.gov/superfund/centraljasperco>

### ARs for Other Removal Actions at this site:

6. [UAO AR](#); 7. [Removal AR Addendum October 2000](#); 8. [Removal AR 8/2000 for MODoT Rangeline Bypass](#); 9. [Removal AR Addendum July 1995](#); 10. [Removal AR June 1995](#); 11. [Removal Lab AR Addendum Nov 1995](#).

Or, see the collection of 21 Administrative Record files for the Oronogo-Duenweg Mining Belt NPL Site organized by OU, online at: <https://semspub.epa.gov/src/collections/07/AR/MOD980686281> (EPA's Site ID: MOD980686281).

**EPA also has other webpages available for information about the Superfund program and Region 7:**

- National Superfund program: [www.epa.gov/superfund](http://www.epa.gov/superfund)
- EPA Region 7: [www.epa.gov/aboutepa/epa-region-7-midwest](http://www.epa.gov/aboutepa/epa-region-7-midwest)
- Superfund Community Involvement: [www.epa.gov/superfund/superfund-community-involvement](http://www.epa.gov/superfund/superfund-community-involvement)

**Other organizations with information about the site and site hazard information include:**

**State and Local Agencies:**

- Missouri Department of Natural Resources: <https://dnr.mo.gov/>
- Missouri Department of Health and Senior Services: <https://health.mo.gov/>, and the
- Jasper County Health Department (located in Carthage): <https://www.jaspercountymo.gov/health-department>
- Joplin Health Department: <https://www.joplinmo.org/157/Health-Department>

**CDC and ATSDR:**

- ATSDR Jasper and Newton Counties Missouri – Lead Exposure Investigation Page: <https://www.atsdr.cdc.gov/sites/jasper-newton-lead-ei/index.html>
- ATSDR Workplan after the Joplin Tornado: <https://www.atsdr.cdc.gov/sites/brownfields/docs/JoplinWorkPlan.pdf>
- Lead outreach and ATSDR SoilSHOPS: <https://www.atsdr.cdc.gov/soilshop/index.html>
- CDC Childhood Lead Poisoning Prevention Program: [www.cdc.gov/nceh/lead](http://www.cdc.gov/nceh/lead)

Additional links are in the Key Contacts section of the Appendix.

## Local Media Outlets

EPA may provide updates and information to local newspapers and radio and television stations and ask them to report on site-related issues. EPA staff will be available for interviews and will respond to media inquiries in a timely fashion. Inquiries from the news media should be directed to Community Involvement Coordinator Elizabeth Kramer at [Kramer.Elizabeth@epa.gov](mailto:Kramer.Elizabeth@epa.gov) or [r7-tsmd@epa.gov](mailto:r7-tsmd@epa.gov) and (913) 551-7186 or Toll-free at 1-800-223-0425. EPA may publish public notices about meetings and other events in local newspapers and send notices to other local news outlets. EPA may include the following media outlets as part of outreach and information delivery efforts.



### Newspapers

***Joplin Globe***

117 East 4th St.  
Joplin, MO 64801  
(800) 444-8514

***Miami News-Record***

211 N. Robinson Ave Ste. 201S  
Oklahoma City, OK 73102  
(405) 235-3100

***Big Nickel***

2918 E 20th St.  
Joplin, MO 64804  
(417) 624-4100

### Additional newspapers:

*Galena Sentinel Times*  
*Tulsa World*  
*Pittsburg Morning Sun*  
*Neosho Daily News*  
*Columbus News Report*  
*Jasper County Citizen*  
*Sarcoxie Recorder*  
*Webb City Sentinel*  
*Carthage Press*  
*Beatrice Daily Sun*



### Television stations:

WISH TV: <https://www.wishtv.com/>  
WTVG-TV 13 (ABC): <https://www.13abc.com/>  
KODE-TV Action 12 News (ABC affiliate): <http://fourstateshomepage.com>  
KSNF 16 Local News (NBC affiliate): <http://www.fourstateshomepage.com>  
KOAM-TV News Now on Channel 7 (FOX14 affiliate): <https://www.koamnewsnow.com/>



### Radio stations

- KKOW-FM – Country, 96.9 Pittsburg, Kansas
- KRPS-FM – Public Radio, 89.9 Pittsburg, Kansas
- KIX-FM – Top 40, 102.5 Joplin, Missouri
- KBTN-FM – Classic Country, 99.7 Neosho, Missouri
- KZRG-HD – News/Talk, 102.9 HD2 Joplin, Missouri
- The Word KNEO 91.7, Neosho
- KSGF – News/Talk 104.1, Springfield, Missouri

### Social Media Outreach

Stakeholders indicated that most people, especially parents of young children in the area, do not watch television but regularly watch videos online and access Facebook multiple times a day. Community members did not think residents would necessarily follow EPA Facebook pages. However, stakeholders did recommend being in contact with local governments about sharing EPA messages and announcements via their Facebook pages. Additionally, several local “what’s happening” groups were suggested as another popular means of getting the word out about local activities.

EPA will continue to share site updates through Facebook, Twitter, and/or other social media:

- [EPA Region 7 Facebook](#)
- [EPA Region 7 News and Events Webpage](#)

**EPA will also continue to explore opportunities to share information through local and/or partner organizations’ social media (such as Facebook pages), such as the groups listed below. (In addition, see contacts in the Appendix).**

- *Jasper County Health Department*
- *City of Joplin Health Department*
- *Tornado Zone page*
- *Carterville 4 U*
- *City governments*
- *City/local tourism webpages*
- *Joplin Chamber of Commerce*
- *Carthage Chamber of Commerce*
- *What’s Happening in Carthage? and What’s Happening in Joplin?*
- *School Districts and Schools*
- *Preschools, Head-Starts, and childcare groups*
- *Parenting groups, meet-ups and organizations that serve parents and caregivers of young children*
- *Non-profit, community-based and faith based groups*
- *Social and/or environmental groups*
- *Health-based organizations*
- *Radio stations such as a popular station in Carthage with a broad Spanish speaking audience*
- *Environmental groups*
- *Tribal Government Partners*

### Contact List: Email and Mailing List

EPA staff will maintain and continue to build a site mailing list. The list has been developed based on meeting sign-in sheets, community interviews, and email and telephone inquiries. If you would like to be on EPA’s mailing list to receive site updates via regular mail or electronically, please contact EPA’s community involvement coordinator. Updates will also be available at the Site’s information repositories. During discussions with stakeholders, several potential partner organizations offered to share site information, information about lead awareness and updates via their newsletters and mailing lists. EPA staff will coordinate with these groups to ensure consistent messaging.

EPA has established an overall site community contact mailing list for all four sites which includes over 20,000 addresses. In addition, this contact list includes approx. 1,200 email addresses for Tri-state Mining District wide coordination. Please contact EPA to sign up.

To sign up for the site email list, please contact Community Involvement Coordinator, Elizabeth Kramer at [Kramer.Elizabeth@epa.gov](mailto:Kramer.Elizabeth@epa.gov) or (913) 551- 7186. To reach the site team, send an email to: [r7-tsmd@epa.gov](mailto:r7-tsmd@epa.gov).

## Translations

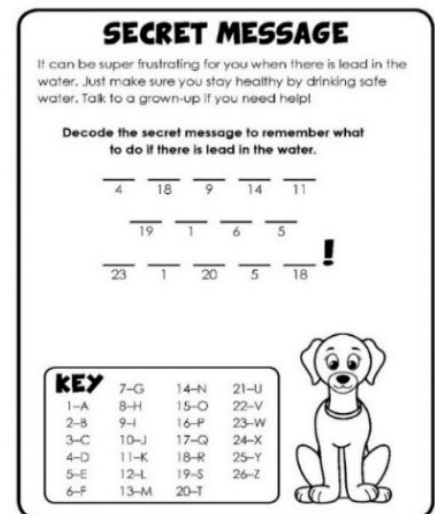
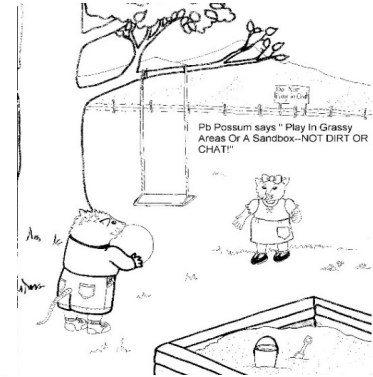
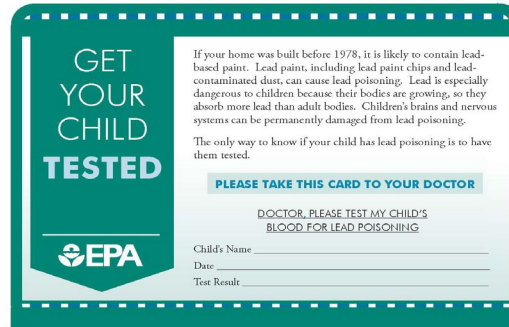
EPA may provide written information about the Site in English and other languages, including: **Spanish, Dari, Pashto, Sudanese Arabic, Swahili, Russian and Ukrainian.**

## Educational Materials

To raise awareness about the Site, potential risks, and cleanup, as well as help address community concerns about the Site, EPA staff may collect, prepare, and distribute user-friendly documents to help people understand site conditions.

Educational materials or information packets may be tailored to specific stakeholder groups and include topics such as:

- Healthcare providers:** highlight the importance of blood lead level testing and provide information to pass on to families regarding addressing lead risks in the home. For example, EPA can publish Fact Sheets and other materials to communicate site risks and ways to protect from site hazards. <https://www.epa.gov/mo/protect-your-family-lead-hazards-historic-lead-mining-areas-fact-sheet-august-2022> (Spanish)
- Early childhood development services:** summarize best practices for minimizing the potential for lead exposure, blood testing recommendations, how to access blood testing services and available resources, such as partner organizations who can provide guidance to families.
- Realtors:** provide a high-level summary of cleanup status, liability, succession of access agreements and requirements to consider for real estate transactions.
- Renters:** include assurances that renters will not need to move out during testing and potential cleanup and information about how they can help EPA work with landlords to address tenant concerns about lead in soil.
- Landlords:** emphasize that it is important they work with EPA on testing and cleanup and how their property value can be improved with cleanup.
- Developers:** include what they need to know when purchasing, breaking ground, or building on site parcels.



**Figure 24:** EPA Lead Program postcard and educational activity sheets showing how to stay safe from lead exposure created for elementary aged children.

Educational materials will be developed in multiple media formats, such as fact sheets, flyers, brochures, postcards, social media posts, presentations, and videos. To help address community concerns, EPA staff may collect, prepare, and distribute user-friendly documents to help people understand site conditions. Materials will be distributed through regular mail and electronically through partner agency and community organization newsletters.

## Outreach at Area Schools

EPA staff may work with area schools, school board members, teachers, and parents to explore opportunities to share site information as part of school events and curricula. The focus will be on environmental education opportunities as well as public health and safety, with the intention of building the capacity of community youth to understand risk and take safety precautions.

**Middle school and high school aged children** may be able to discuss topics such as exposure pathways, health effects of lead exposure, environmental effects from high concentrations of heavy metals, and the science of how cleanup addresses risks as part of existing science units at school. Lead exposure can be worked into biology, life sciences, earth sciences, health, and nutrition, as well as other science subject areas.

Curriculum materials exist in EPA's [Lead Awareness in Indian Country: Keeping our Children Healthy!](#) curriculum guide. The guide includes lesson plans, presentation slides, worksheets, and key messages, both in English and Spanish. Originally developed for community leaders to present in Indian Country, the messages and lessons are applicable to all communities seeking to raise awareness about childhood lead exposure.

**For elementary aged children and younger**, resources could include worksheets or an activity book introducing them to the dangers of lead exposure and how they can keep themselves and their families safe. Readily available resources include JCHD's coloring sheets featuring Pb Possum and the Centers for Disease

Control and Prevention's lead activity books (see Figure 13). In addition, postcards can be distributed for children to take home for their parents to use in requesting blood lead level tests. The EPA Lead Program's postcard could be improved by adding contact information for scheduling blood tests. **Public School Districts, include:**

1. Avilla R-XIIIiii, Po Box 7, Avilla, Mo 64833; (417) 246-5330: 124 Students 1 School
2. Carl Junction R-I, 206 S Roney, Carl Junction, Mo 64834; (417) 649-7026: 3,443 Students, 6 Schools
3. Carthage R-IX, 709 W Centennial Ave., Carthage, Mo 64836; (417) 359-7000: 5,092 Students, 11 Schools
4. Jasper Co. R-V, 201 W Mercer, Jasper, Mo 64755; (417) 394-2465: 472 Students, 2 Schools
5. Joplin Schools, Po Box 128, Joplin, Mo 64804; (417) 625-5200: 7,694 Students; 16 Schools
6. Sarcoxie R-II, 101 S 17th St, Sarcoxie, Mo 64862; (417) 548-3134: 686 Students; 2 Schools
7. Webb City R-VII, 411 N Madison, Webb City, Mo 64870; (417) 673-6000: 4,621 Students, 11 Schools

**Source:** CCD Public School District Data for the 2022-2023 School Year, visit: <https://nces.ed.gov/>

**Public Libraries:** <http://www.ims.gov/research/public-libraries-in-the-united-states-survey.aspx>. Visit: Carthage Public Library; Joplin Public Library; Sarcoxie Public Library; Webb City Public Library and Neosho Newton County Library.



Figure 25: The Webb City Junior High School.



Figure 26: The playground at Apple Park in Duenweg, Missouri.

## Infographics, Graphics, and Maps

EPA R7 also prepares easily to read and clear, translatable site infographics (see examples pictured on the next two pages) to inform the public about the site, protect families from lead hazards, and encourage participation in the free superfund testing and cleanup opportunities. These are translated to other languages identified in the Community Profile. See examples on the next two pages.

**How Will EPA Clean Up My Yard?**  
EPA needs your permission to take 10 steps:  
EPA's cleanup is **FREE** to eligible homeowners!

- 1 Testing Results**  
If elevated levels are found during sampling, EPA will discuss cleanup options with the property owner.
- 2 Sign Agreement**  
The owner signs an agreement to allow EPA to clean up the contaminated soil in the yard.
- 3 Meet with Homeowner**  
EPA will review the affected areas of the yard with the homeowner and answer questions.
- 4 Sign Checklist**  
The owner signs a checklist to allow the cleanup to begin.
- 5 Identify Utilities**  
EPA contractor identifies if utilities and septic systems are located on the property.
- 6 Soil Removal**  
Areas with contaminated soil are removed and disposed of safely.
- 7 Add Barrier (if needed)**  
If lead levels are high at the base of the excavation, a visible barrier will be placed before backfilling.
- 8 Soil Replacement**  
Excavated areas are replaced with clean soil.
- 9 Grass Replacement**  
Clean sod or seed is placed to restore the yard to its original condition.
- 10 Sign Final Checklist**  
The owner reviews work and signs the final checklist to confirm satisfaction.

For more information, visit: [www.epa.gov/mo/missouri-cleanups](http://www.epa.gov/mo/missouri-cleanups) or [www.epa.gov/ks/kansas-cleanups](http://www.epa.gov/ks/kansas-cleanups)  
U.S. Environmental Protection Agency, Region 7 | 11201 Renner Blvd., Lenexa, KS 66219 | Toll-free 1-800-223-0425 or 913-551-7003

**How Will EPA Test My Yard?**  
EPA needs your permission to take six simple steps:  
All testing activities are **FREE** to homeowners!

- Is Soil in Your Yard Safe?**  
Soil in your yard may be contaminated with lead, cadmium, or other heavy metals from mining or smelting waste.
- Sign Agreement**  
The owner signs an agreement to allow EPA to collect and test the soil in the yard.
- Soil Collection**  
EPA collects a small amount of soil from the yard.
- Soil Testing**  
EPA tests the soil to determine the levels of lead, cadmium, or other heavy metals.
- Soil Testing Results**  
EPA will send a letter with the soil test results in the mail.
- Next Steps**  
If elevated levels are found, EPA will contact you to discuss cleanup options.

For more information, visit:  
[www.epa.gov/mo/missouri-cleanups](http://www.epa.gov/mo/missouri-cleanups)  
[www.epa.gov/ks/kansas-cleanups](http://www.epa.gov/ks/kansas-cleanups)  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Blvd., Lenexa, KS 66219 – 913-551-7003

Figure 27: Infographics about Lead Testing and Cleanup Process Steps

## Lead Health Education Messaging

EPA Encourages Residents to Take Simple Steps to Reduce Exposure to Lead in Contaminated Soils or Dust and Water (see example infographics) using these key recommendations listed below.

In general, lead exposure and its effects can be reduced by following these steps:

1. Have children under 7 years old tested for lead poisoning each year, even if they seem healthy.
2. Wash hands, especially children's, after handling soil, playing outside, and before meals.
3. Take shoes off at the door; clean children's feet and pets' paws/fur at the door. Clean or remove shoes before entering your home to not track in lead from soil.
4. Make sure that children eat nutritious meals high in iron, calcium, and vitamin C.
5. Clean floors, window frames, windowsills, and other surfaces weekly. Use a damp (not dry) mop or sponge with warm water and general all-purpose cleaner and dust surfacers regularly. Thoroughly rinse sponges and mop heads often during cleaning of dirty or dusty areas, and again afterward.
6. Keep toys and play areas clean. Wash bottles, pacifiers, toys, and stuffed animals regularly.
7. Practice safe gardening and wash and peel foods grown in contaminated soil.
8. Before buying gravel (for driveways and other areas), request that the quarry provide certification that the material does not exceed EPA action levels.
9. Follow local fish advisories and be aware of other sources of lead, such as lead-based paint, and try to minimize your overall exposure. *For example, if your home was built before 1978, take precautions to avoid creating lead dust when remodeling, renovating, and/or maintaining your home. Avoid using home remedies (such as arzacon, greta, pay-loo-ah, or litargirio) and cosmetics (such as kohl or alkohl) that contain lead.*



## Encourage Annual Childhood Blood Lead Testing

EPA encourages parents and caregivers to have children under 7 years old tested for lead poisoning annually. It is important that children under 7 be tested annually, because lead-poisoned children do not always look or act sick. The only way to know if your child has elevated blood lead levels is to have their blood tested. Your doctor can do a simple blood test. Talk to your pediatrician, general physician, or local health agency about testing your child and to arrange for lead screening. **To arrange for blood lead screening**, and for information about *free* blood lead testing for children, contact the Jasper County Health Department by phone at: 417-358-3111; Address: 105 Lincoln St., Carthage, MO 64836; at. (24/7 line) or online at: <https://www.jaspercountymo.gov/health-department>.

## Realtor Education Toolkit

All residential properties in Jasper County are now part of the Superfund Site and clear information is needed for realtors to better understand:

- Parcel cleanup status.
- Lead disclosure requirements.
- Potential liability concerns associated with property transfer (e.g., for an unremediated parcel or should the cleanup level for lead in soils change in the future).
- Any land use restrictions connected to Site remedial actions.

**A continuing education training course** could incentivize realtor participation and a toolkit could be shared with and distributed by state realty associations, such as a previous Missouri REALTORS CE Training provided by EPA Region 7 in southeastern Missouri.

## Periodic Updates and EPA Presentations

EPA staff will develop and distribute information about the on an as-needed basis. These materials will:

- Provide regular updates about the Superfund process.
- Notify the public about public meetings and availability sessions and public comment periods.
- Provide links to publicly available documents and other resources.

Periodic Updates can include Fact Sheets, Public Notices, and Bulletins. For example, EPA plans to issue a Tri-State Mining District Digest at least annually.

## Formal Public Comment Periods

During the Superfund process, EPA announces and opens public comment periods and encourages people to submit information. EPA accepts formal comments on several types of documents, including Proposed Plans, as well as when EPA proposes a Site for NPL listing or deletion. EPA considers all public comments in the Superfund decision-making process.

### Public Comment Tips

Commenting is an important way to make your voice heard. Public comments can strengthen an environmental decision by providing the authoring agency with facts or perspectives lacking in the original draft. Commenting helps EPA create an accurate and comprehensive document to support appropriate and informed decision-making.

- Prepare for commenting by familiarizing yourself with the scope of the issue and relevant laws.
- Identify your key issues and concerns.
- Identify allies who can help with the document review and understanding of the report and coordinate your comments with them to strengthen your message.
- Be specific with your comments, including what you think could improve the document, what you think is missing from the document, what you like about the document, and what parts you want to remain in the document.



## Information Repository



EPA keeps site project information and reference materials for the public to read at local information repositories. Copies of cleanup documents for Oronogo-Duenweg Mining Belt are available at the locations below. Electronic copies of site documents may be viewed at

[www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining). You can access site documents by clicking under the “Site Documents & Data” heading. Alternatively, you can scan the QR code (below). Language about

internet access. Electronic copies of site documents may also be viewed by a computer, online. Information is primarily provided electronically, but hard copies are available for the repository upon request.

### Joplin County Public Library

1901 E. 20th St., Joplin, MO 64804  
417-623-7953

### EPA Region 7 Records Center

11201 Renner Blvd., Lenexa, KS 66219  
913-551-7003

## Fish Advisories

When contaminant levels in fish or shellfish are unsafe, advisories help people make informed decisions about where to fish or harvest shellfish. Advisories recommend that people limit or avoid eating certain species of fish and shellfish caught in certain places. They may be issued for the general public or for specific groups of people at risk.

EPA will work with partner agencies to identify and/or issue fish advisories, signage, and/or develop outreach materials about the advisories in different areas, such as recreational areas.

## Superfund Job Training Initiative (SuperJTI)

The Superfund Job Training Initiative program (SuperJTI) is a national job readiness program that provides unemployed and underemployed individuals with the technical skills and specialized training needed to work on cleanup projects at Superfund Sites, on other environmental cleanup projects, and on a broad range of construction projects. EPA, in coordination with Jasper County, Missouri partners, is conducting a SuperJTI in 2024.

EPA’s contractors are looking to employ SuperJTI graduates to work on TSMD projects. Each graduate should earn certificates in: **Occupational Safety Health Administration 10-hour construction card; CPR (cardiopulmonary resuscitation) and First Aid; 40-hour Hazardous Waste Operations and Emergency Response; and Certified Lead**

**Renovator. Learn more, at:**

<https://www.epa.gov/superfund/superfund-job-training-initiative>, and [SuperJTI.eventbrite.com](http://SuperJTI.eventbrite.com)

**SUPERFUND JTI**  
JOB TRAINING INITIATIVE

**FREE JOB TRAINING!**  
Tri-State Mining District Remediation

EPA’s contractors are looking for laborers and operators. Earn the certifications you need!

**FREE TRAININGS INCLUDE:**  
CPR/First Aid • Certified Renovator Work Readiness • OSHA 10 • Hazardous Waste Operations and Emergency Response (40-hour HAZWOPER)  
To learn more and apply, you **MUST** attend **ONE** of the one-hour **Information Sessions** held on:

| Location   | Date                  | Time   |
|--|-----------------------|--|
| Information Sessions in English:<br>Joplin Public Library<br>1901 E. 20th St.<br>Joplin, MO 64804                  | Thursday, April 25    | For each date, Information Sessions repeat at:<br><b>10 a.m., noon and 6 p.m.</b>              |
|  | Thursday, May 2       |  |
|  | Tuesday, May 14       |  |
| Sesiones de Información en Español:<br>Iglesia Alfa y Omega Covenant<br>2485 W. Old 66 Blvd.<br>Carthage, MO 64836 | Miércoles 24 de abril | Para cada fecha, las Sesiones Informativas se repiten en:<br><b>10 a.m., mediodía y 6 p.m.</b> |
|  | Jueves 2 de mayo      |  |
|  | Lunes 13 de mayo      |  |

**TO REGISTER**  
VISIT:  
[SuperJTI.eventbrite.com](http://SuperJTI.eventbrite.com)  
SCAN:  
  
or CALL:  
  
417-612-8273

**Job Training program scheduled May 2024—Certified by June 2024!**

The U.S. Environmental Protection Agency is offering this program to train residents for environmental jobs at the Kansas and Missouri Superfund site cleanups within the historic Tri-State Mining District Superfund sites. This program will provide participants with multiple certifications at no charge and prepare them for careers in environmental cleanup work. *Job placement is not guaranteed after completion of the training program.* To learn more, visit: [www.epa.gov/superfund/superfund-job-training-initiative](http://www.epa.gov/superfund/superfund-job-training-initiative)



Figure 29: SuperJTI flyer distributed in 2024.

## Community Advisory Group (CAG) and Technical Assistance Grants (TAG)

EPA encourages those who want a greater level of participation to consider forming a **Community Advisory Group (CAG)** and/or applying for **Technical Assistance Grant (TAG)** funding. EPA can coordinate an initial CAG meeting and provide meeting facilitation, planning and support through a national contract.

For additional details, community members are encouraged to view the online Superfund community involvement webpage with tools and resources online, at: [www.epa.gov/superfund/community-involvement-tools-and-resources](http://www.epa.gov/superfund/community-involvement-tools-and-resources). You can also contact the CIC or the RPM for the Site. The Jasper County Superfund Site Citizen's Task Force is a former Community Advisory Group (CAG) that received TAG grants with a technical advisor. The Environmental Task Force of Newton and Jasper County is an active community group at the site.

## Conflict Prevention and Resolution Center (CPRC)

EPA's Conflict Prevention and Resolution Center (CPRC) is EPA's primary resource for services and experience in alternative dispute resolution, environmental conflict resolution, consensus-building, and collaborative problem solving.

EPA can use this national contract to utilize neutral facilitator (also known as a moderator) to aid in site communications. Learn more about CPRC Services online, at: [www.epa.gov/eccr/services-offered-conflict-prevention-and-resolution-center-cprc](http://www.epa.gov/eccr/services-offered-conflict-prevention-and-resolution-center-cprc) (many of EPA's large Superfund Sites where lead is a main contaminant of concern utilize these services to address issues, convene community group meetings, and more).

**Site facilitation/moderation activities can include:** Moderating, facilitating, and convening Community Advisory Group meetings or EPA public meetings; Coordinating agenda topics between Community Advisory Group members and agencies; Sharing meeting notes and materials.

## Technical Assistance Services for Communities

Providing independent technical assistance to communities helps people better understand technical issues related to a cleanup and key considerations for a site's future use. With this assistance, communities are in a better position to share their concerns and priorities with EPA. See link and below chart. <https://www.epa.gov/superfund/technical-assistance-services-communities-tasc-program>.

EPA provides additional assistance to communities through a variety of technical assistance resources. These resources include the Technical Assistance Grant (TAG) program, the Technical Assistance Services for Communities (TASC) program and Community Advisory Group (CAG) formation support. For more information on these resources, please visit: [www.epa.gov/superfund/superfund-technical-assistance-communities](http://www.epa.gov/superfund/superfund-technical-assistance-communities).

See the **Technical Assistance** chart on the next page.

**EPA Superfund Community Involvement Resources  
To Provide Technical Assistance Services for Communities**

| <b>EPA Resources</b>               | <b>TAG</b>  | <b>TASC</b>  | <b>CAG Formation Support</b>  |
|------------------------------------|---|--|---|
| <b>Overview of Program/Support</b> | <ul style="list-style-type: none"> <li>• Awards grants to eligible community groups affected by the Superfund National Priorities List (NPL) sites and proposed NPL sites to contract with independent technical advisors to provide the services listed below.</li> <li>• Community groups must be able to manage a grant, be an incorporated non-profit and provide a 20% match, which can include in-kind services.</li> </ul> | <ul style="list-style-type: none"> <li>• Provides technical information assistance services through a national EPA contract. Services are provided at no cost to communities.</li> <li>• Suitable for communities with short- and long-term needs.</li> </ul>  | <ul style="list-style-type: none"> <li>• CAGs provide a forum for community discussion of site-related issues and are made up of representatives of diverse community perspectives.</li> <li>• EPA can help with CAG formation.</li> </ul>                                    |
| <b>Services</b>                    | <ul style="list-style-type: none"> <li>• Review and explanations of site technical documents and information.</li> <li>• Comments on technical documents.</li> </ul>  | <ul style="list-style-type: none"> <li>• Reviews and explanations of site technical documents and information.</li> <li>• Comments on technical documents.</li> <li>• Community trainings and workshops.</li> <li>• Educational presentations.</li> <li>• Technical assistance needs assessments.</li> <li>• Facilitation of community meetings.</li> <li>• Technical advisor services during community meetings.</li> <li>• Outreach and educational materials for communities.</li> <li>• Assistance understanding the environmental decision-making process.</li> <li>• Language translations.</li> </ul> | <ul style="list-style-type: none"> <li>• Informational meeting about CAGs.</li> <li>• Assistance in determining CAG size and membership.</li> <li>• Training for CAG members.</li> <li>• Administrative support and translation and meeting facilitation services.</li> </ul> |

**Table 3:** Comparison of EPA Superfund Community Involvement resources to provide Technical Assistance Services for Communities.

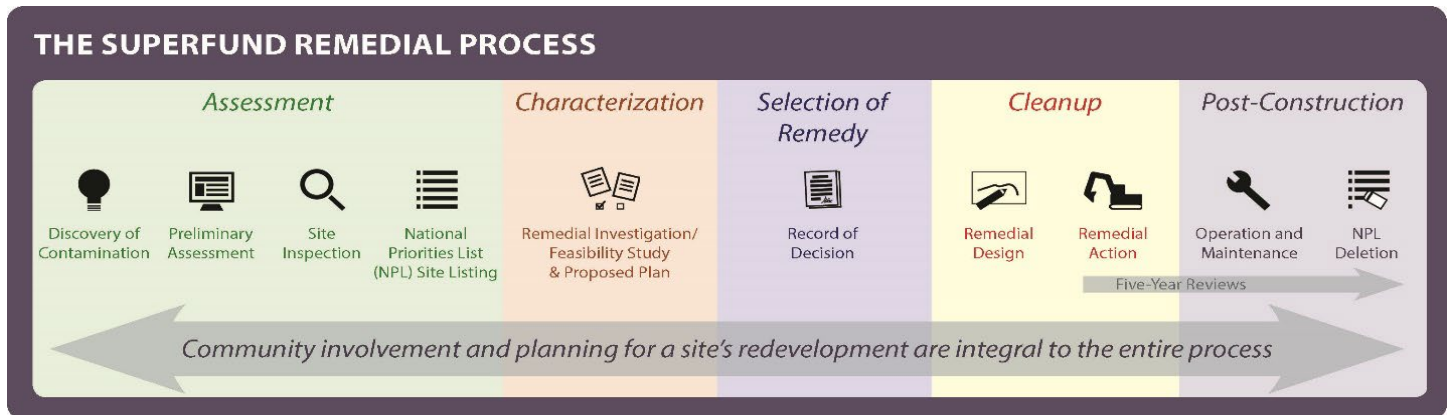
For more information, see EPA’s Community Involvement resources: <https://www.epa.gov/superfund/superfund-community-involvement>; About TAGs: <https://semspub.epa.gov/work/HQ/100001770.pdf>.

# APPENDIX A

## The Superfund Process

### Superfund Remedial Process

Remedial actions manage releases that do not pose an urgent threat to public health or the environment and do not require immediate action. Remedial actions involve complex and highly contaminated sites that often require several years to study the problem, develop a permanent solution and clean up the hazardous waste. These are the sites that most people think of when they hear about the Superfund program. The section below describes the general steps in EPA's Superfund remedial process.



#### Assessment

EPA determines if a site poses a threat to people and the environment and whether hazards need to be addressed immediately or if additional site information will be collected. EPA uses the information collected during the assessment phase of the Superfund process to score sites according to the danger they may pose to human health and the environment. If a site has a high enough score on the Hazard Ranking System (HRS) and meets all other criteria, EPA may propose it for listing on the National Priorities List (NPL).

#### Characterization

Once a site is on the NPL, further investigation into the problems at the site and the best way to address them is required. This is called the remedial investigation and feasibility study (RI/FS). After development of cleanup alternatives, EPA recommends the option it considers best for the site and offers it to the community for evaluation and comment in a Proposed Plan.

#### Selection of Remedy

The cleanup method ultimately chosen for the site, and the reasons for the selection, are set forth in the Record of Decision (ROD). The ROD discusses all activities prior to the selection of a cleanup method and describes how the cleanup method will be protective of human health and the environment.

#### Cleanup

The cleanup phase includes two parts. During the remedial design phase, plans for the cleanup method are carefully designed. The remedial action starts the actual cleanup at a site.

#### Post-Construction

After EPA determines that the physical construction at a site is complete, post-construction activities ensure that the cleanup actions will protect human health and the environment over the long term. These activities may include routine maintenance at a site such as making sure signs and fences are intact or soil treatment systems are running smoothly.

EPA may delete a site or portion of a site (sometimes called an operable unit) from the NPL if all cleanup goals have been met and no further cleanup action is required to protect human health and the environment.

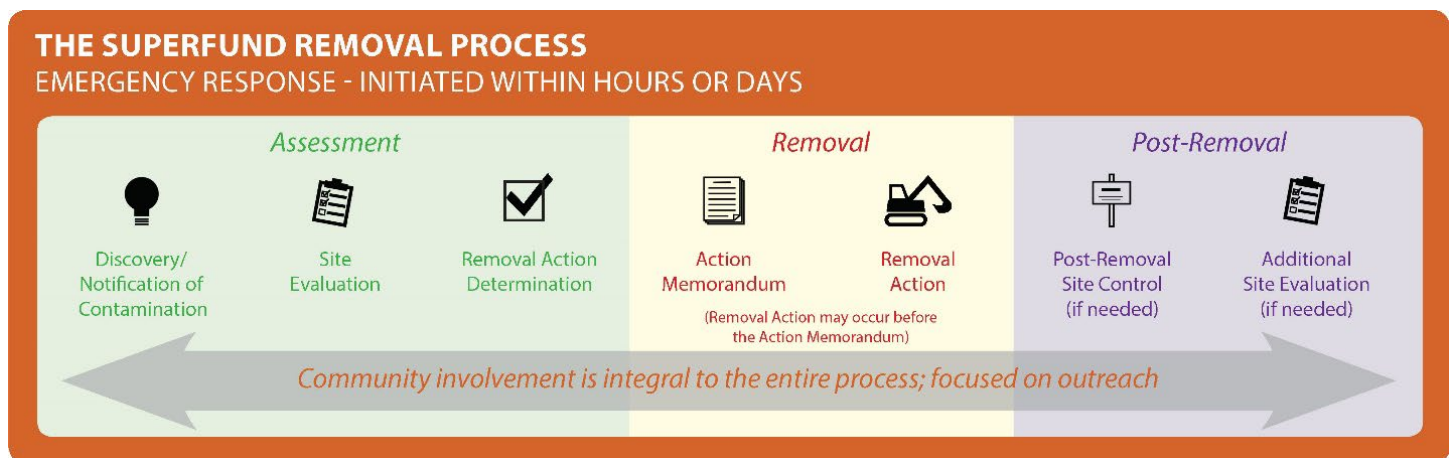
## Superfund Removal Process

After Superfund sites are discovered or identified, EPA uses two basic types of responses to manage polluted sites: removal actions and remedial actions. Removal actions handle emergency oil spills, chemical releases, and short-term responses. Emergency actions eliminate immediate risks and ensure public safety. Remedial actions handle complex sites needing long-term responses.

Removal responses are common at Superfund sites when the contamination poses an immediate threat to human health and the environment. Removal actions tend to be swift responses to immediate threats from hazardous substances, pollutants, or contaminants to eliminate dangers to the public. Removals are classified as either emergency, time-critical or non-time-critical, depending on the extent and type of contamination.

### Superfund Removal Process – Emergency Response

Emergency removal responses require an immediate response to releases or threatened releases to the environment. Emergency removals start within hours or days of the determination that a removal action is appropriate. Typical emergency removals address immediate threats such as fires, explosions, toxic spills, and imminent contamination of a water supply. The following section describes the general steps in an emergency removal response.



#### Assessment

After the contamination is discovered, EPA evaluates if the site poses a threat to people and the environment and whether hazards need to be addressed immediately or additional site information will be collected.

#### Removal

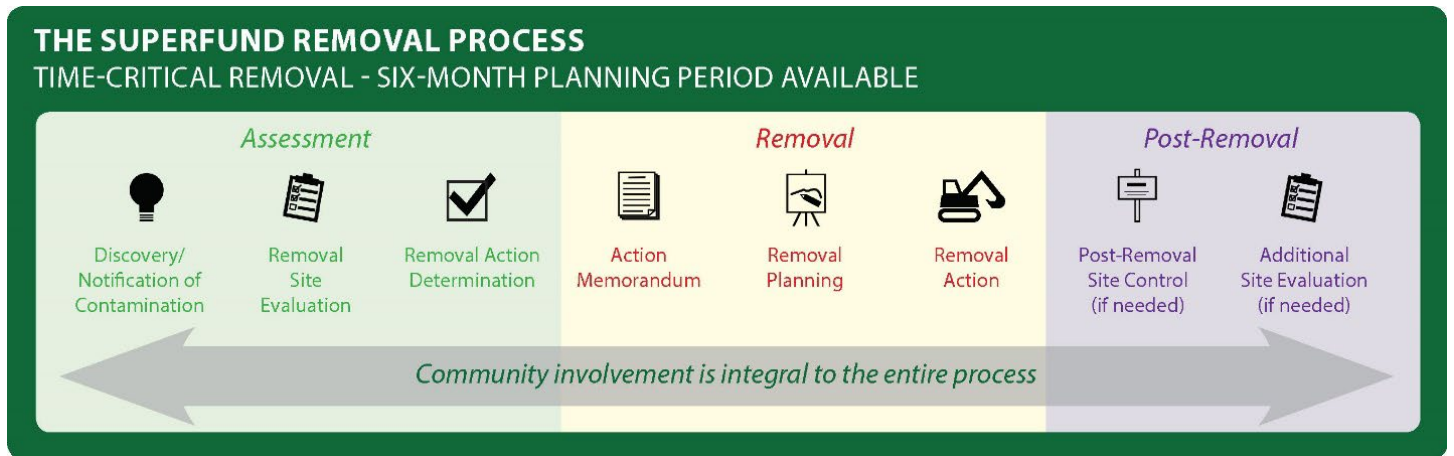
The Action Memorandum describes the cleanup method chosen for the site and the reasons for the selection. Because an emergency removal can begin within hours or days of the determination that a removal is appropriate, there is little or no time for planning. Removal action may take place prior to the signing of the Action Memorandum.

#### Post-Removal

After the removal action, site controls are implemented to protect human health and the environment if needed. Additional site evaluation may take place to determine whether further action is needed.

## Superfund Removal Process – Time-Critical Removal

Time-critical removals are situations where EPA determines that a removal is appropriate and on-site removal activities must begin within six months. Examples include removal of drums or small volumes of contaminated soil and stabilization of lagoons. The following section describes the general steps in a time-critical removal. EPA Region 7 has cleaned up some residential yards at this site under the time-critical removal program.



### Assessment

After the contamination is discovered, EPA evaluates if the site poses a threat to people and the environment and whether hazards need to be addressed immediately or additional site information will be collected.

### Removal

The Action Memorandum describes the cleanup method chosen for the site and the reasons for the selection. Removal planning is the phase during which the plans for removal are designed, and then removal action begins.

### Post-Removal

After the removal action, site controls are implemented to protect human health and the environment if needed. Additional site evaluation may take place to determine whether further action is needed.

## Superfund Removal Process – Non-Time-Critical Removal

Non-time-critical removals happen when EPA determines that a removal action is appropriate, and the situation allows for a planning period of at least six months before on-site activities must begin. Because non-time-critical removal sites do not present an immediate threat to public health or safety, more time is available to thoroughly assess potential threats and evaluate cleanup alternatives. The following section describes the general steps in a non-time-critical removal.



### **Assessment**

After discovery of the contamination, EPA evaluates if the site poses a threat to people and the environment and whether hazards need to be addressed immediately or additional site information will be collected.

### **Removal**

An engineering evaluation and cost analysis (EE/CA) is prepared to analyze removal alternatives. The report is available to the public for review and comment. The Action Memorandum describes the cleanup method chosen for the site and the reasons for the selection. During the removal planning phase, design plans for the removal are developed. Then, the removal action begins.

### **Post-Removal**

After the removal action, site controls are put in place to protect human health and the environment if needed. Additional site evaluation may take place to determine whether further action is needed.

## **Government and the Superfund Process**

The U.S. Environmental Protection Agency (EPA) administers the federal government's Superfund program.<sup>1</sup> EPA is part of the executive branch of our government – meaning EPA implements and enforces federal laws and regulations. The Superfund program is supported by other EPA offices and government agencies. All relevant offices and agencies coordinate to address contaminated sites, protect human health and the environment, pursue those responsible for the contamination, and support redevelopment of cleaned-up sites to restore and revitalize communities. The following sections describe various roles and responsibilities of the government agencies that may be involved at the site.

### **Federal Agencies**

Federal agencies are created by laws passed by Congress or through presidential executive orders. Federal agencies determine how federal laws should be implemented across the United States and its territories. Each federal agency manages different laws, and their work only falls within the parameters of those laws. Multiple federal agencies may become involved to help address local situations, depending upon the agencies' mission and expertise.

### **Tribal Governments/ Tribal Agencies**

The U.S. government has a government-to-government relationship with federally recognized Tribal governments. Federally recognized Tribes have the power to form their own governments, make and enforce laws, and tax, license and regulate activities within their jurisdictions. EPA may enter into cooperative agreements with Tribal governments to support EPA in the response to and cleanup of a Superfund site. A [Superfund cooperative agreement](#) is a legal agreement that provides for funds to be transferred from EPA to a state or Tribal government for cleanup activities.

- The **1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations** remains the cornerstone for EPA's Indian program; for more information, visit: <https://www.epa.gov/tribal/epa-policy-administration-environmental-programs-indian-reservations-epa-indian-policy> and see White House Executive Order 13175.
- EPA also works with Tribes and other indigenous groups and members to protect the environment and public health in Indian country and in other areas of interest to Tribes, Tribal governments, and other indigenous peoples; See EPA's July 2014 [Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples](#), which was accompanied by the [Administrator's memo](#). For more information and a link to the Policy, visit: <https://www.epa.gov/environmentaljustice/environmental-justice-tribes-and-indigenous-peoples>

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<sup>1</sup> There are also state Superfund programs that are different from the federal government's Superfund program. This section focuses on agency responsibilities as they relate to the **federal government's Superfund program**.

## State Agencies

Each state government has its own constitution and state agencies and is responsible for enforcing local laws that are separate from federal laws. At Superfund sites, EPA may enter into either [cooperative agreements](#) or contracts with state agencies to perform hazardous waste cleanup actions.

## Local Governments

Local governments generally include counties and municipalities (such as cities or towns). EPA and state environmental agencies keep local officials aware of cleanup progress through telephone conversations, emails, in-person meetings and briefings. City and county government agencies may also provide key information about Superfund sites, including information on past site operations and parties that may have contributed to contamination.

## Natural Resource Damages Trustees

In addition, some partner agencies appointed Natural Resource Damages Trustees from their agencies to assess the extent of injury to a natural resource and determine appropriate ways of restoring and compensating for that injury. For more information, visit: <https://www.epa.gov/superfund/natural-resource-damages-trustees>

For Remedial and Removal Actions, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)/Superfund (statute) as implemented by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (regulation) requires the lead agency to prepare a community relations plan, for many years now called the Community Involvement Plan (CIP) identifying timing and related CIP required activities during the Superfund remedial and removal cleanup processes. Here's CIP NCP language and first citation for remedial activities:

- NCP requires the lead agency to prepare a community involvement plan (formerly called a community relations plan) “based on community interviews and other relevant information, specifying the community relations activities that the lead agency expects to undertake during the remedial response.” The NCP specifies that the CIP must be in place before remedial investigation field activities start, “to the extent practicable.” [NCP 40 CFR §300.430(c)(2)(ii)(A-C)]
- For more information: [Superfund Community Involvement Handbook](#) (guidance document) Appendix A and Appendix B.
- [Community Involvement Plans Tool](#)
- [Community Interviews Tool](#) (Interviews are a required activity under the NCP and conducted to gather information and inform the CIP.)
- [Community Involvement Activities Throughout the Superfund Remedial Process](#) (Tool shows required and recommended remedial CI activities.)
- [Community Involvement Activities Throughout the Superfund Removal Process](#) (Tool shows required and recommended removal CI activities.)



# THE SUPERFUND REMEDIAL PROCESS

## ASSESSMENT



Discovery of Contamination



Preliminary Assessment



Site Inspection



National Priorities List (NPL) Site Listing

## CHARACTERIZATION



Remedial Investigation/ Feasibility Study & Proposed Plan

**CURRENT STAGE: Upper Spring River Basin**

## SELECTION OF REMEDY



Record of Decision

## CLEANUP



Remedial Design

**CURRENT STAGE: Operable Units 1 - 4**



Remedial Action

## POST-CONSTRUCTION



Operation and Maintenance



NPL Deletion

Community involvement and planning for a site's redevelopment are integral to the entire process.

Five-Year Reviews

## Opportunities for Public Participation

Reach out to the EPA site team to provide useful information about the Site or ask questions.

Provide comments on EPA's proposal to add the Site to the NPL.



**CURRENT STAGE: RI/FS Spring River Basin, Surface Water (Operable Unit 5 or OU5)**

Provide comments on the proposed plan.



### Opportunities for Engaging in the Superfund Process:

- Ask questions or request additional information by contacting the EPA site team.
- Participate in EPA public events.
- Visit the local information repository or site webpage to read site documents.
- Read information about the Site in fact sheets, public notices, and EPA's website.
- Invite EPA staff to attend community events to discuss the Site.
- Arrange a site tour with EPA staff.

Request to be interviewed by the EPA site team as part of the five-year review process.

Provide comments on EPA's proposal to delete the Site from the NPL.



# APPENDIX B

## Community/Stakeholder Guiding Questions for TANA and CIP Discussions

EPA used the following guiding questions when hosting community discussions about the Site. The responses to these questions informed the Technical Assistance Needs Assessment and the Community Issues and Concerns section of this CIP. Some questions were only used for discussions with community members and stakeholders, whereas other questions were only used for discussions with site partners.

### Background

1. **Community Only:** How long have you lived or worked in the area (or on this site)?
2. **Partners Only:** How have you been involved in this site/cleanup and what roles have you had?
  - a. **Partners Only:** How does EPA's work impact your work?
  - b. **Partners Only:** How does this work impact your organization's mission?
  - c. **Partners Only:** How can EPA better coordinate or collaborate with your organization at this site?
3. **All:** Please explain why this site is important to you.
4. **All:** Do you have any concerns about the Site and/or the cleanup status?
  - a. If so, what are your concerns about the Site and its cleanup? What is your biggest concern?
5. **Community/Partners** (contingent on individual experience/awareness with the Site): What is your understanding of the lead contamination related to the Site or the Tri-State Mining District (TSMD) and its impact on the community? (Lead is the main contaminant of concern.) Would you like a brief site update?

### Communication and Technical Assistance

6. **All:** How do you feel about EPA's community involvement and outreach to the residents and businesses affected by the Site? (Please feel free to supply feedback on past or present approaches.)
7. **All:** Are you currently receiving information about the Site and/or lead contamination in the area?
  - a. If so: Do you think the information is clear and easy to understand for the community?
8. **All:** Have you attended a community meeting or event about the cleanup activities?
  - a. Do you have suggestions to improve these community meetings/events for the local community and partners? (meeting format, days/times, venues, virtual vs. in person, etc.)
9. **All:** What is the best way to provide information to you and how often would you like to receive information?
10. **All:** What are the best ways to provide site information to the local community? (Examples include emailed updates, emailed newsletter/bulletin, open house, public meeting, virtual meeting, focus group, mailed fact sheet, mailed newsletter/bulletin, social media, phone call, text message, local community organizations, newspaper, radio, TV, etc.)
11. **Community Only:** Which newspapers, radio stations and/or local television (cable or local) stations are available to residents at this site? And, which community bulletins, church bulletins, mailers, newsletters, gathering spaces, and/or social media pages are available to share information with the community?
  - a. Are you aware of any that can reach parents and caregivers of young children (to raise awareness about lead hazards)?
12. **All:** How often do you think the local community would like to receive site information and updates?
13. **All:** What should we consider when developing outreach materials for the community? (plain language text, translation into different languages, format – electronic vs. print, other etc.)
14. **All:** Do you think that any community members need additional assistance understanding site information, such as local stakeholders, low-income populations, or Limited English Proficiency (LEP) communities? What types of assistance would be helpful? (workshops, document reviews, technical advisor assistance, fact sheets, translation services, etc.)
15. **All:** Are you familiar with any EPA programs that provide technical assistance to communities? (can discuss TASC, TAG, and/or other EPA assistance programs)

## Lead Issues

16. **Community Only:** What do you know about lead?
17. **Community Only:** How can EPA or our partners help fill any information gaps (or learning needs) about lead? (Specific topic areas, ways to provide information, etc.)
18. **All:** What ways could EPA and/or our partners provide information about lead and lead hazards to the community? (Emails, mailings, reaching out to schools, workshops, trainings, etc.)
19. **Partners Only:** What are the ways that we can work together to involve the community in the cleanup at this site? How can we work together?
20. **All:** Are you familiar with EPA's different project areas at this site to address lead contamination? (TSMD watershed level surface water investigations and cleanup plus the free opportunity to test yards and private wells for lead contamination?)
21. **All:** Are you aware of any organizations that are working on lead issues in the community?
  - a. Which organizations are they?
  - b. What kinds of resources are they providing?
  - c. Are you using these resources? If so, how?
  - d. Are there any barriers to getting these resources?
22. **All:** Are you aware of any organizations that serve parents and caregivers of young children, low-income populations and LEP communities? If so:
  - a. Which organizations are they?
  - b. What kinds of resources are they providing?
  - c. Are you using these resources? If so, how?
  - d. Are there any barriers to getting these resources?

## Wrap-Up Questions

23. **All:** Do you think there may be opportunities for future reuse? Do you have any comments, suggestions, or recommendations?
24. **All:** Can you suggest any other individuals or groups that should be contacted for more information, included in our community interviews, and/or added to the mailing/email list?
25. **All:** Do you have any questions, comments, suggestions/recommendations, or feedback for EPA? We welcome any feedback that you may have.

# APPENDIX C

## Glossary

See EPA's Superfund Glossary: <https://www.epa.gov/superfund/superfund-glossary>

## Acronyms and Abbreviations

|               |  |              |   |
|---------------|--|--------------|---|
| <b>ATSDR</b>  | Agency for Toxic Substances and Disease Registry                     | <b>NCP</b>   | National Contingency Plan                     |
| <b>CAG</b>    | Community Advisory Group   | <b>NPL</b>   | National Priorities List                      |
| <b>CERCLA</b> | Comprehensive Environmental Response, Compensation and Liability Act | <b>ODMB</b>  | Oronogo-Duenweg Mining Belt                   |
| <b>CIP</b>    | Community Involvement Plan   | <b>OU</b>    | Operable Unit                                 |
| <b>COC</b>    | Contaminant of Concern   | <b>PM</b>    | Particulate Matter                            |
| <b>DPM</b>    | Diesel Particulate Matter  | <b>RAISE</b> | Refugee and Immigrant Services & Education    |
| <b>EE/CA</b>  | Engineering Evaluation/Cost Assessment                               | <b>RI/FS</b> | Remedial Investigation/Feasibility Study      |
| <b>EJ</b>     | Environmental Justice  | <b>RMP</b>   | Risk Management Plan                          |
| <b>EPA</b>    | United States Environmental Protection Agency                        | <b>ROD</b>   | Record of Decision                            |
| <b>HRS</b>    | Hazard Ranking System  | <b>SARA</b>  | Superfund Amendments and Reauthorization Act  |
| <b>JCHD</b>   | Jasper County Health Department                                      | <b>TAG</b>   | Technical Assistance Grant                    |
| <b>LEP</b>    | Limited English Proficiency  | <b>TANA</b>  | Technical Assistance Needs Assessment         |
| <b>MDC</b>    | Missouri Department of Conservation                                  | <b>TASC</b>  | Technical Assistance Services for Communities |
| <b>MDOH</b>   | Missouri Department of Health  | <b>TSMD</b>  | Tri-State Mining District                     |
| <b>MDHSS</b>  | Missouri Department of Health and Senior Services                    | <b>USFWS</b> | United States Fish and Wildlife Service       |
| <b>MoDNR</b>  | Missouri Department of Natural Resources                             |              |   |

# APPENDIX D

## Site Technical Overview

This section includes more detailed information about the Site. Example links to existing site information and updates are provided to avoid overly technical site-related information.

The Oronogo-Duenweg Mining Belt (ODMB) Superfund site forms the Missouri portion of the Tri-State Mining District, an area of about 2,500 square miles across Oklahoma, Kansas, and Missouri where mining, milling, and smelting of lead and zinc ore began as early as 1830 and continued for more than 100 years. The area was once one of the richest lead and zinc ore deposits in the world.

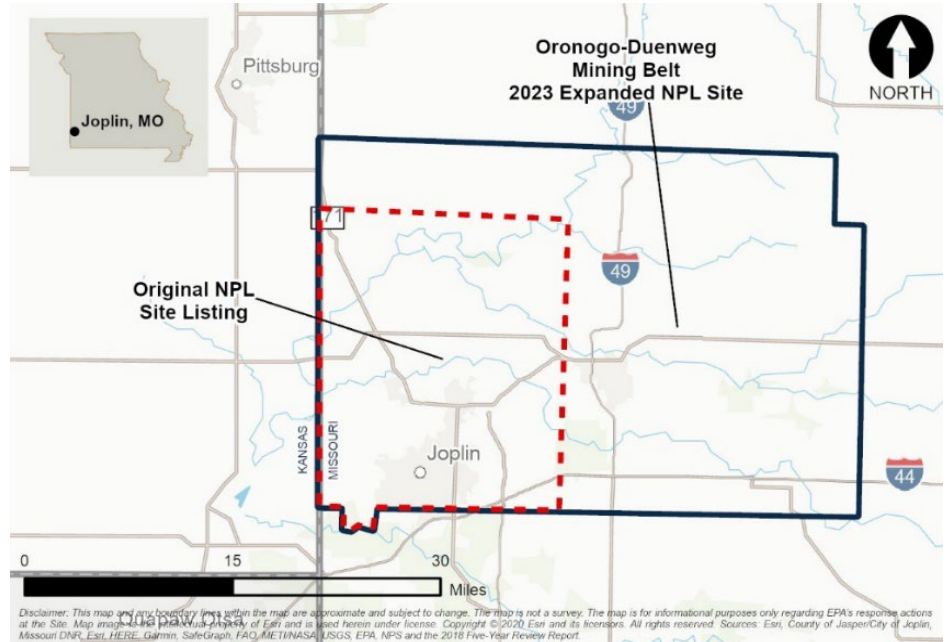


Figure 15: Expansion of the site boundary in 2023 to include all Jasper County.

The original site boundary consisted of a roughly 250-square-mile area impacted by contamination from former mining activities in Southwest Missouri. Over 200 mines have been found around the original site boundary alone. The now covers Jasper County, in its entirety.

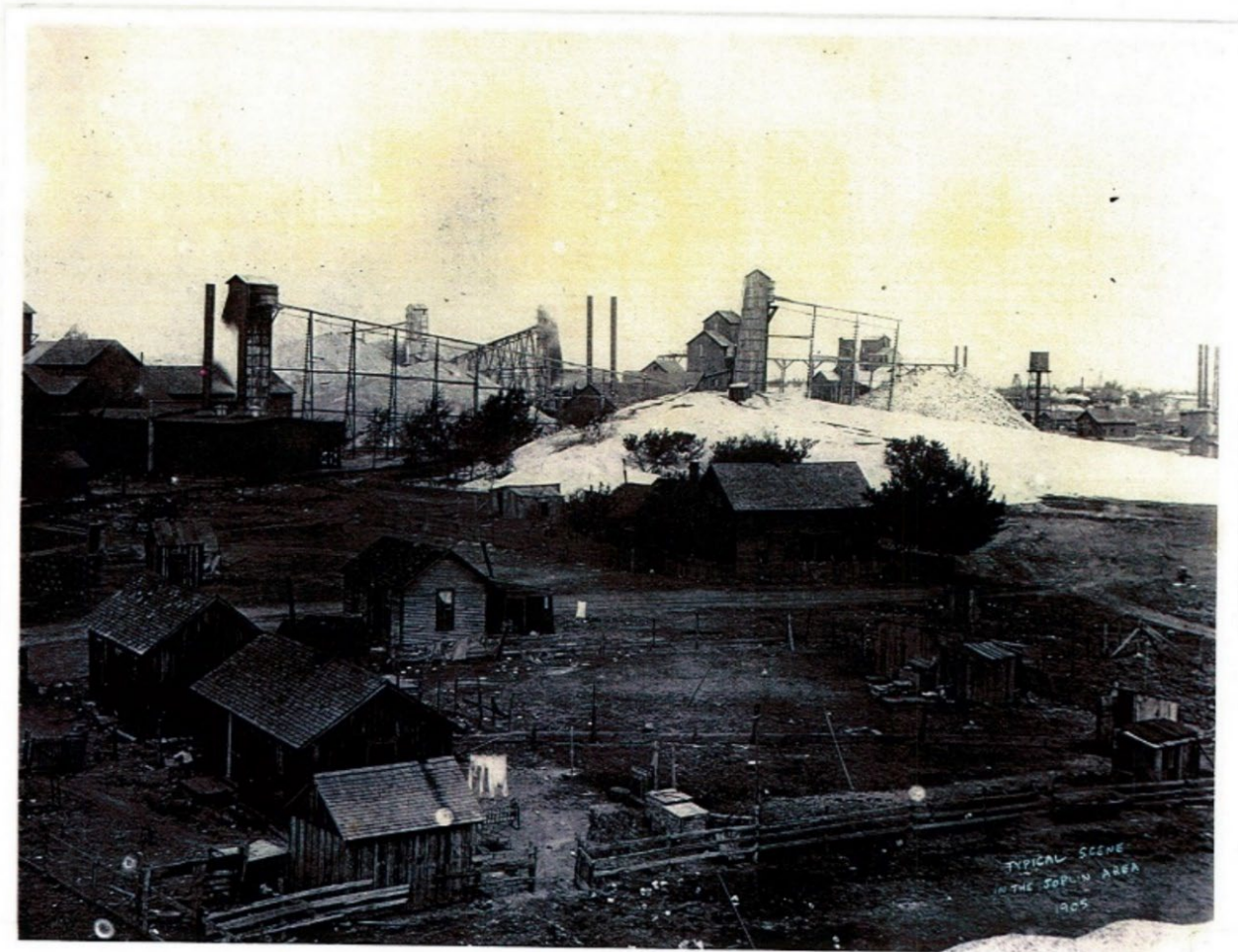
Extraction and milling of the ore created large piles of mining waste distributed throughout the county. Over 100 million tons of contaminated mining and milling wastes were created during mining activities. Wastes were contaminated with cadmium, lead, and zinc. Approximately 10 million tons of wastes remain on-site scattered over thousands of acres and are being addressed under Operable Unit (OU1), Mining Wastes.

These mine waste source piles have contributed to the contamination of surface water, sediment, groundwater, and soils. In addition, smelting operations dispersed airborne contaminants resulting in wide-spread deposition over a large area. Historic smelting operations contaminated thousands of residential yards with lead. EPA then remediated approximately 2,600 residential yards, mainly in area around largest lead smelter for over \$30 million dollars.

The citizens' Environmental Task Force of Newton and Jasper County (known as the ETF or Task Force) assumed the task of developing local ordinances and development plans that could be adopted by the various governmental entities to ensure safe residential development in the site.

| SITE CLEANUP LEVELS                                    |                            |  |
|--|----------------------------|--|
| OU   | Media                      | Cleanup Level                                    |
| OU1  | <b>Mine and Mill Waste</b> | 400 ppm lead<br>40 ppm cadmium<br>6,400 ppm zinc |
|  | <b>Sediment</b>            | 219 ppm lead<br>17 ppm cadmium<br>2,949 ppm zinc |
| OU2/OU3  | <b>Soil</b>                | 500 ppm lead (800 ppm lead action level)         |
| OU4  | <b>Groundwater</b>         | 0.015 mg/L lead<br>0.005 mg/L cadmium            |
| ppm = parts per million<br>mg/L = milligrams per liter |                            |  |

**Table 4: Summary of the cleanup levels selected for each OU.**



*Figure 30: Typical scene in the Joplin Area, 1905.*

The Jasper County Commission took action and adopted county-wide **Health Ordinance** (2005/2006) requiring property be tested for lead contamination before issuing a building permit. The Jasper County Health Department built capacity through EPA grants/cooperative agreements and ATSDR assistance with a county-wide lead education program. Studies found that blood lead levels in children tested had decreased by 78% after EPA's cleanup.

EPA added the site to the Superfund Program's National Priorities List (NPL) in August 1990. In 1991, the Missouri Department of Health (MDOH), now the Missouri Department of Health and Senior Services (MDHSS), began a large-scale health study to learn how residents had been and were being affected by mine-related contamination. The results of that study found increased blood-lead levels attributed to exposure to lead-contaminated soils at the site. In response to the health study, EPA developed a strategy for the site in cooperation with other state, local and federal agencies.

In 1995, EPA led a time-critical removal action to address areas with the highest health risks first. Cleanup work has included extensive sampling and remediation of mining and milling waste, contaminated soils in residential yards, and private drinking water wells.

To date, nearly **25 million cubic yards of mining wastes** and about **14 miles of intermittent stream tributary** have been remediated across the site, and **the average blood lead levels in areas that have been cleaned up have declined significantly in response to the environmental cleanup and extensive lead exposure and health effects education.** In early 2024, EPA expanded the current 250-square-mile site boundary to include all of Jasper County. This expansion allows EPA to continue site sampling and cleanup actions under the Superfund program and optimize resources from the Bipartisan Infrastructure Law to clean up mining waste and reduce lead exposure risks, particularly around Carthage, Missouri, and in eastern Jasper County.

## Overview: Key Stages of Site Timeline

|                         |  |
|-------------------------|--|
| <b>Around 1830-1957</b> | Mining and smelting activities took place in the Tri-State Mining District (TSMĐ).<br>Mining and smelting peaked from around 1900-1950 and in to the 1970s.  |
| <b>June 1988</b>        | EPA proposed the Site for listing on the National Priorities List (NPL).   |
| <b>August 1990</b>      | EPA finalized the site’s listing on the NPL.   |
| <b>1991</b>             | The Missouri Department of Health (now Missouri Department of Health and Senior Services) conducted a large-scale health study on effects of mine-related contamination.   |
| <b>1994</b>             | EPA developed a cleanup strategy that prioritized areas posing the greatest health risks. This included a time-critical removal of residential soils and day care center soils.  |
| <b>1995</b>             | In 1995, EPA led a time-critical removal action to address areas with the highest health risks first.  |
| <b>1996</b>             | EPA selected the remedy for residential soils in operable units (OUs) 2 and 3 and began cleanup.   |
| <b>1998</b>             | EPA selected the remedy for groundwater in OU4.  |
| <b>2001</b>             | EPA began cleanup for groundwater in OU4.  |
| <b>2002</b>             | EPA completed cleanup for residential soils in OU2 and OU3.  |
| <b>2004</b>             | EPA selected the remedy for mine wastes in OU1.  |
| <b>2007</b>             | EPA began cleanup for mine wastes in OU1.<br>EPA completed cleanup for groundwater in OU4.   |
| <b>2022</b>             | At the referral of MDHSS, EPA conducted testing of 50 residential properties in Jasper County beyond the original site boundary. EPA conducted removal actions at 23 of the properties.<br><br>Please see Appendix A of the CIP for more information about removal actions.  |
| <b>2023-2024</b>        | EPA notified the community of plans to expand the site boundary to include all of Jasper County.<br><br>EPA continued to work extensively on cleanup of mine wastes in OU1, OU2/3, OU4, OU5, and sitewide activities.<br><br>For residential yards and drinking water wells, EPA has ongoing or new removal actions to identify and cleanup impacted residences.<br><br>EPA continues the Remedial Investigation and Feasibility Study phase to develop a remedy for the Spring River Basin (OU5).<br><br>In May 2024, EPA is hosting the first Superfund Job Training Initiative for the Region 7 portion of the Tri-State Mining District Superfund Sites; it will be held in both English and Spanish in Joplin and Carthage.<br><br>In spring of 2024, EPA finalized the site boundary expansion to include all of Jasper County.<br>Spring 2024: EPA aims to publish the CIP update, TANA and notify the community on EPA’s site profile page online, at: <a href="http://www.epa.gov/superfund/oronogoduenwegmining">www.epa.gov/superfund/oronogoduenwegmining</a> . Additional site announcements will be shared on the above webpage. |

**Table 4:** Abbreviated ODMB Site Timeline.



Mine Interior, Joplin, Mo.



CAN OF ORE LEAVING FOR THE TOP, EAGLE-PICHER MINE, PICHER, OKLA.



Figure 31: Historic lead and zinc mining operation photos – interior and exterior -- Joplin, Missouri area, courtesy of the JCHD.



# APPENDIX E

## Site Reuse and Redevelopment

EPA’s mission is to protect human health and the environment. Selection of a cleanup approach is closely tied to the reasonably anticipated future land use. Reuse options can be considered at any point in the Superfund cleanup process, from investigation activities to deletion from the NPL.

Through the efforts of EPA, the state of Missouri, the Jasper County Health Department, other partners and the community, cleanup of the Site has allowed residential, agricultural, commercial, industrial, and public service uses to continue, while providing more than 4,000 acres of remediated land for redevelopment. Examples of redevelopment projects completed at remediated areas of the site include a solar farm, a scrap metal recycling facility, a highway bypass, and residential development. For more information, contact EPA or please visit:

<https://www.epa.gov/superfund-redevelopment/superfund-sites-reuse-missouri#oronogo>

**The site currently supports a wide range of beneficial uses, such as:**

- The Missouri Highway and Transportation Department redeveloped an area of the Site into the Route 249 highway bypass. The project also developed a guideline for the sustainable development of areas containing mine wastes.
- Liberty Utilities developed southwest Missouri’s first solar renewable energy generation facility on a 60-acre area of the site. This community solar farm will generate enough electricity to power 400 homes.
- The existing King Jack Park was expanded by 23 acres after the cleanup of a former mine pit nearby. The expansion allowed for a new park access road with direct connections to Webb City’s downtown area.
- Commercial reuses include a diverse range of business enterprises including restaurants, retail stores and the 300-acre business park, now known as Centennial Park.
- Residential housing is also being developed on numerous areas of remediated mine lands in Joplin.
- Additional reuse planning is underway for the 4,000+ acres of cleaned-up land.



*Figure 32: The Mining Days amphitheater at King Jack Park.*



*Figure 33: A new hotel built on a former mine tailing area in Webb City, Missouri.*



*Figure 34: A new restaurant, also built on a former mine tailing area in Webb City, Missouri.*



*Figure 35: New residential uses and continued residential use of homes in Webb City, Missouri.*

To learn more about cleanup and redevelopment on lead mining and smelting sites in EPA Region 7, visit: <https://sempub.epa.gov/src/document/HQ/100003237>.

See the EPA Superfund Redevelopment program: <https://www.epa.gov/superfund-redevelopment> (EPA R7's local redevelopment coordinator is Tonya Howell, email: [howell.tonya@epa.gov](mailto:howell.tonya@epa.gov))

### **Community Involvement During Reuse and Redevelopment**

EPA works with local governments, community organizations, businesses, residents, and partners to consider the reuse of Superfund sites. Reuse planning enhances community engagement during Superfund cleanups by proactively including communities in the decision-making process.

For more information about reuse planning and technical assistance resources available for communities, visit: [www.epa.gov/superfund-redevelopment-initiative/community-support-superfund-sites](http://www.epa.gov/superfund-redevelopment-initiative/community-support-superfund-sites).



*Figure 36: The Liberty Utilities community solar farm in Prosperity, Missouri.*

# APPENDIX F

## Key Contacts and Links to Additional Site Information

### Elected Officials

For more information on elected officials, please visit <https://elections.mytimetovote.com>. State level elected officials can be found using the links below.

- U.S. House of Representatives. Visit [www.house.gov/representatives/find-your-representative](http://www.house.gov/representatives/find-your-representative) for contact information for your current congressional representative. The site is in the **7<sup>th</sup> congressional district**.
- U.S. Senate. Visit [www.senate.gov/senators](http://www.senate.gov/senators) for contact information for your current **U.S. senators for Missouri**.
- State House/Assembly. Visit <https://house.mo.gov> for contact information for your current state/assembly representative. **The Site is in the 161<sup>st</sup> district**.
- State Senate. Visit <https://senate.mo.gov> for contact information for your current senator. **The Site is in the 32<sup>nd</sup> district**.

### EPA R7 Site Team Contacts

**Address:** 11201 Renner Boulevard, Lenexa, KS 66219

1. **Elizabeth Kramer, Community Involvement Coordinator** – All Operable Units (OUs) Sitewide; (913) 551-7186; [Kramer.Elizabeth@epa.gov](mailto:Kramer.Elizabeth@epa.gov) or utilize the **group email address, at: [r7-tsmd@epa.gov](mailto:r7-tsmd@epa.gov)**;
2. **Liz Blackburn, Remedial Project Manager** – Mine and Mill Waste (OU1); (913) 551-7899; [Blackburn.Lizi@epa.gov](mailto:Blackburn.Lizi@epa.gov)
3. **Dan Kellerman, Remedial Project Manager**– Residential Yards (OU2 and OU3); (913) 551-7603; [Kellerman.Dan@epa.gov](mailto:Kellerman.Dan@epa.gov)
4. **Creenen McGuire, Remedial Project Manager** – Groundwater/Drinking Water Wells (OU4); (913) 551-7124 [McGuire.Creenen@epa.gov](mailto:McGuire.Creenen@epa.gov)
5. **Jason Gunter, Remedial Project Manager** – Surface Water, Spring River Basin (OU5); (913) 551-7358; [Gunter.Jason@epa.gov](mailto:Gunter.Jason@epa.gov)
6. **Sharon Kennedy, On-Scene Coordinator (OSC)** – Groundwater/Drinking Water Well Removal Actions; (913) 551-7958 – [Kennedy.Sharon@epa.gov](mailto:Kennedy.Sharon@epa.gov)  
**Katie Gulley, EPA Site Attorney-Advisor** – Sitewide, Office of Regional Counsel; (913) 551-7745;
7. **Robert J. Webber** – EPA’s Office of Research and Development, Center for Environmental Solutions & Emergency Response, Technical Support Coordination Division

### Links to EPA Information about Lead

For more information about lead, preventing lead exposure, and lead at superfund sites, see EPA’s websites (below) or contact EPA.

- **EPA’s Lead pages:** [www.epa.gov/lead](http://www.epa.gov/lead), [www.epa.gov/lead/learn-about-lead](http://www.epa.gov/lead/learn-about-lead) and [www.epa.gov/superfund/lead-superfund-sites](http://www.epa.gov/superfund/lead-superfund-sites)
- **Protect Your Family from Lead Hazards:** [www.epa.gov/mo/missouri-cleanups](http://www.epa.gov/mo/missouri-cleanups) or <https://www.epa.gov/mo/protect-your-family-lead-hazards-historic-lead-mining-areas-fact-sheet-august-2022>. EPA R7 also posts many site update fact sheets online, at: [www.epa.gov/mo/missouri-cleanups](http://www.epa.gov/mo/missouri-cleanups).
- **Lead Awareness Curriculum:** To see future events and/or watch a prior recording in English or Spanish, visit: <https://www.epa.gov/lead/tribal-lead-curriculum#presentations>. Curriculum: <https://www.epa.gov/lead/tribal-lead-curriculum>; Contact: Marie Blankenship for details, via phone: 913-551-7908 or email: [blankenship.marie@epa.gov](mailto:blankenship.marie@epa.gov)
- EPA’s **Updated the Soil Lead Guidance**, Jan. 2024: <https://www.epa.gov/superfund/updated-soil-lead-guidance-cercla-sites-and-rcra-corrective-action-facilities>
- EPA’s **Updated the Integrated Science Assessment for Lead**, 2024: <https://www.epa.gov/isa/integrated-science-assessment-isa-lead>.

- EPA updated its **Superfund Lead-Contaminated Residential Sites Handbook** (March 2024) at <https://www.epa.gov/superfund/lead-superfund-sites-guidance#residentialsites>.
- To inquire about property status for remedial and removal activities, contact EPA or see the publicly-available **Beacon Database**: <https://beacon.schneidercorp.com/Application.aspx?AppID=151&LayerID=1976&PageTypeID=2&PageID=995>

## Support Agencies, Tribal Nations, and Stakeholders Identified for Tri-State Mining District Sites:

### EPA has identified the following Key Contacts, governmental entities, agencies, and stakeholders –

Additional key contacts and stakeholders may be identified throughout the ongoing superfund community involvement processes. This is not an all-inclusive list and can be updated.

### Federally recognized Tribal Nations and Tribal Agencies, such as Tribal Environmental Offices

1. Cherokee Nation
2. Eastern Shawnee Tribe of Oklahoma
3. Miami Tribe of Oklahoma
4. Modoc Tribe of Oklahoma
5. Ottawa Tribe of Oklahoma
6. Peoria Tribe of Indians of Oklahoma
7. Quapaw Nation
8. Seneca-Cayuga Nation
9. Wyandotte Nation

### EPA Offices:

1. EPA Headquarters Offices
2. EPA Region 6
3. EPA Region 7

### State Agencies:

1. Kansas Department of Health and Environment
2. Missouri Department of Natural Resources
3. Missouri Department of Health and Human Services
4. Missouri Department of Conservation
5. Missouri Department of Social Services
6. Missouri Department of Education
7. Missouri Geological Society
8. Oklahoma Department of Environmental Quality
9. Oklahoma State Department of Health

### Local Agencies/Communities/Other Federal Agencies:

EPA and supporting agencies can consult and collaborate with the following stakeholders, agencies, and community groups about EPA activities at this site and in the TSMD.

This list does not guarantee that services to be provided or imply any type of endorsement or recommendation by EPA; this list is for informational purposes only and can be updated.

### Local Areas:

1. City of Baxter Springs, Kansas
2. City of Carl Junction, Missouri
3. City of Carthage, Missouri
4. City of Galena, Kansas

5. City of Granby, Missouri
6. City of Joplin, Missouri, and the City of Joplin Health Department
7. City of Neosho, Missouri
8. City of Oronogo, Missouri
9. City of Webb City, Missouri
10. City of Commerce, Oklahoma
11. City of Miami, Oklahoma
12. **Other local governments, such as:** City of Afton, Commerce, Fairland, North Miami, Peoria, Quapaw and Wyandotte, Oklahoma

**Counties:**

1. Cherokee County Commissioners
2. Cherokee County Health Department
3. Jasper County Commissioners
4. Jasper County Health Department
5. Newton County Commissioners
6. Newton County Health Department
7. Ottawa County Commissioners (i.e., District #1)
8. Ottawa County Health Department

**NGO/Community-Based or Local Organizations:**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Local Environmental Action Demanded (L.E.A.D.) and Tar Creek Waterkeeper/Riverkeeper</li> <li>2. The Environmental Task Force of Newton and Jasper County</li> <li>3. United Way of Southwest Missouri and Southeast Kansas</li> <li>4. Care Partner Network</li> <li>5. Community Action Agencies, such as Economic Security Corporation (Southwest Area)</li> <li>6. Head Starts and Early Head Starts</li> <li>7. Public Housing Authorities and Housing Assistance</li> <li>8. Joplin Housing Authority</li> <li>9. Jasper County Public Housing Authority</li> <li>10. Webb City Housing</li> <li>11. God’s Resort (Housing Assistance, Wrap-Around Program), Joplin</li> <li>12. American Red Cross</li> <li>13. Carthage Economic Development Corporation</li> <li>14. Habitat for Humanity</li> <li>15. Hispanic Connection</li> <li>16. Refugee and Immigrant Services &amp; Education (RAISE)</li> <li>17. The Nature Conservancy</li> <li>18. Waterkeepers Alliance</li> <li>19. Local Environmental Action Demanded (L.E.A.D.) Agency and Tar Creek Riverkeeper/Waterkeeper</li> <li>20. Partnership for All Cherokee County Children</li> <li>21. Food pantries</li> <li>22. Job Centers</li> <li>23. Chambers of Commerce (county and city)</li> <li>24. Area Schools (approx. 184 Schools in Jasper County)</li> </ol> | <ol style="list-style-type: none"> <li>25. Preschools</li> <li>26. Childcares</li> <li>27. Places of Worship (approx. 31 in Jasper County)</li> <li>28. Catholic Charities of Southern Missouri</li> <li>29. Children's Center</li> <li>30. Children’s Haven</li> <li>31. CHOICES Medical Services</li> <li>32. City of Joplin GIS map</li> <li>33. Crosslines Food Pantry</li> <li>34. Independent Living Center</li> <li>35. Joplin Humane Society</li> <li>36. Joplin Public Library</li> <li>37. Lafayette House Shelter</li> <li>38. Legal Services of Southern Missouri</li> <li>39. Southwest Mo Legal Aid</li> <li>40. Mission Joplin Food Pantry</li> <li>41. Joplin Health Centers</li> <li>42. Salvation Army</li> <li>43. Souls Harbor Shelter</li> <li>44. United Way of Southwest Missouri and Southeast Kansas</li> <li>45. Watered Gardens Shelter</li> <li>46. Medicaid Transport</li> <li>47. Sunshine Lamp Trolley</li> <li>48. Homebound Services – Transportation; DAV Transportation Services; Disabled American Veterans; Emergency Transport- METS</li> <li>49. Carthage Crisis</li> <li>50. Crosslines Churches of Joplin</li> <li>51. Ministerial Alliances</li> <li>52. Hospitals, Clinics and Physician’s Offices</li> </ol> |
|---|--|

53. Area Agency on Aging
54. Community Clinic of Joplin
55. Community Clinic of Carthage
56. Access Family Care of Joplin
57. Freeman Hospital
58. Landmark Hospital of Joplin
59. MERCY McCune Hospital
60. MERCY Hospital
61. Division of Family Services
62. Ozark Center New Directions
63. Lafayette House
64. Blind Assoc.; Rehab for the Blind
65. Freeman Home Care
66. Integrity Health Care
67. Oxford Health Care
68. Independent Living Center

69. Alternative Opportunities
70. Charlotte's Angels
71. Community Support Services
72. Amedisys Home Health
73. Home Instead
74. Mercy Home Health
75. Access Home Health
76. Alzheimer's Association
77. Arthritis Association
78. Adult Education and Literacy
79. Career Center
80. Community Clinic
81. Access Family Care
82. Joplin Regional Center
83. The Alliance of Southwest Missouri

#### Universities:

1. University of Oklahoma
2. Pittsburg State University
3. Missouri Southern State University
4. University of Kansas
5. Harvard University Graduate School of Design – Environmental Justice Report for Tar Creek Site

**R7 Pediatric Environmental Health Specialist (PEHSU):** For more information about the PEHSU and lead exposure prevention, see the Healthy Homes Fact Sheets and resources online at: <https://www.childrensmercy.org/departments-and-clinics/pharmacology-and-toxicology/environmental-health-specialty-unit/>

#### Other:

1. Local chat processors
2. Natural Resource Damages Trustees
3. Tar Creek Trustees – Council of Indian Tribes
4. CSTAG

#### Federal:

1. U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), Center for Disease Control and Prevention
2. Department of Interior, Bureau of Indian Affairs
3. U.S. Fish and Wildlife Service
4. U.S. Geological Survey
5. U.S. Army Corps of Engineers
6. U.S. Department of Housing and Urban Development (HUD)
7. U.S. Occupational Safety and Health Administration (OSHA)
8. U.S. Department of Agriculture (USDA)
9. U.S. Food and Drug Administration (FDA)
10. U.S. Department of Education

## Key Contacts at Partner Agencies

**Agency for Toxic Substances and Disease Registry (ATSDR).** ATSDR provided oversight to MDHSS for the large-scale health study to learn how local residents had been and were being affected by mine-related contamination that led to

the listing of the Site on the NPL. ATSDR has continued working with the state to conduct follow-up assessments for lead exposure and assess whether educational and environmental interventions have been successful in reducing blood lead levels in children.

**For more information about lead and public health**, visit the **Centers for Disease Control and Prevention's (CDC)** and the **Agency for Toxic Substances and Disease Registry's (ATSDR)** webpages at:

- Childhood Lead Poisoning Prevention Program: [www.cdc.gov/nceh/lead](http://www.cdc.gov/nceh/lead) and
- CDC/ATSDR ToxFAQs™: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=96&tid=22>
- <https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html>
- Centers for Medicare and Medicaid Services (CMS)
- Health Resources and Services Administration (HRSA) and HRSA Clinic Network
- Administration for Children and Families (ACF): <https://www.acf.hhs.gov/>
- State Agency: Missouri Department of Social Services: <https://dss.mo.gov/>
- Administration for Community Living

**Agency for Toxic Substances & Disease Registry (ATSDR)**

**LCDR Erin Evans, MPH, REHS/RS,**  
Regional Director, **ATSDR R7**  
U.S. Public Health Service  
11201 Renner Blvd.  
Lenexa, KS 66219  
Phone: 913-551-1311  
[evans.erin@epa.gov](mailto:evans.erin@epa.gov)

**Agency for Toxic Substances & Disease Registry (ATSDR)**

**LCDR Cory Kokko, MPH, REHS/RS**  
Environmental Health Officer  
**U.S. Public Health Service**  
**Stationed at ATSDR R7,** Regional  
Representative: Region 7, Kansas City  
[Guc0@cdc.gov](mailto:Guc0@cdc.gov) or [ckokko@cdc.gov](mailto:ckokko@cdc.gov)  
Phone: 913-217-5981

**Agency for Toxic Substances & Disease Registry (ATSDR)**

**Matt Ferguson, PhD**  
**Environmental Health Scientist –**  
**ATSDR Region 7,** Office of Community  
Health and Hazard Assessment  
(OCHHA), Agency for Toxic Substances  
and Disease Registry (ATSDR)  
Centers for Disease Control and  
Prevention (CDC)  
[gcb9@cdc.gov](mailto:gcb9@cdc.gov) | 913-416-2118

**Missouri Department of Health and Senior Services**

**Michelle D. Hartman**

Health and Risk Assessment Program Manager, Bureau of Environmental Epidemiology, Division of Community and Public Health, 930 Wildwood Drive, P.O. Box 570, Jefferson City, MO 65102  
Phone: 573-751-6102; [michelle.hartman@health.mo.gov](mailto:michelle.hartman@health.mo.gov)

**For the Missouri Department of Health and Senior Services Lead Poisoning webpage:**

- MDHSS Lead Poisoning Prevention Page: <https://health.mo.gov/living/environment/lead/index.php>
- **Missouri Department of Health and Senior Services.** The department is responsible for health education in OU1 through a cooperative agreement with EPA. This includes providing blood lead testing services, monitoring, and reporting trends in blood lead levels (particularly for children aged 7 and younger) and referring properties to EPA for lead testing in soil. MDHSS is also supporting lead awareness and mitigation with sampling of indoor dust, indoor paint, exterior paint, and municipal drinking water sampling.

**Missouri Department of Natural Resources**

**Chinwe I. Ndubuka**

Superfund Section Chief  
Environmental Remediation Program

**Missouri Department of Natural Resources**

P.O. Box 176, Jefferson City, MO 65102-0176  
Phone: 573-751-5074; [chinwe.ndubuka@dnr.mo.gov](mailto:chinwe.ndubuka@dnr.mo.gov)  
Main: (573) 751-3176; [erp@dnr.mo.gov](mailto:erp@dnr.mo.gov)

**Missouri Department of Natural Resources.** The department helps implement cleanup activities such as testing soil and wells, conducting removal actions, and installing clean drinking water systems (municipal supply or deeper private well) under the State Superfund Contract with EPA. The state will also be responsible for a monitoring program to include the effectiveness of local government controls at preventing exposure to any waste left in place. This will include annual reports detailing development activities in areas of concern and how engineering components of the remedy are protected. For a publicly available map depicting well test data, see **the Missouri Department of Natural Resources' Well Installation Section Drilling Information database Map (WISDIM):** <https://dnr.mo.gov/land-geology/maps-data-research/well-installation-section-drilling-information-wisdim>.

### **Jasper County Health Department**

**Debbie Darby, Jasper County Health Department (JCHD) Administrator, Lead Health Educacion Program and JCHD Lead Health Ordinance Coordination**

105 Lincoln St., Carthage, MO 64836

(417) 358-3111; [Debbie.Darby@lpha.mo.gov](mailto:Debbie.Darby@lpha.mo.gov)

- **Jasper County Health Department (JCHD).** Through a memorandum of understanding, EPA provides the Jasper County Health Department with funding to support local blood lead testing, education about health risks associated with exposure to lead, and guidance for soil and well testing requirements associated with construction, development and property sales or transfers. EPA also has a cooperative agreement with the health department to implement and enforce the Jasper County Environmental Contamination Ordinance. The ordinance guides residential development projects at lead-contaminated properties and testing private drinking water wells when a property transfers ownership. The JCHD also implements a **Lead Health Education and Institutional Controls Program** to help maintain yards that have been remediated (cleaned up). For information about Jasper County's Health Ordinance regarding lead hazards, see JCHD Environmental Services link, online at: <https://www.jaspercountymo.gov/environmental-services>
- Contact about: Soil Testing Information, Well Testing Information & Environmental Contamination Ordinance: [https://www.jaspercountymo.gov/files/ugd/1b6863\\_d6135bee81a24b8fab4635949da48caa.pdf](https://www.jaspercountymo.gov/files/ugd/1b6863_d6135bee81a24b8fab4635949da48caa.pdf).
- To learn more about the JCHD Childhood Lead Poisoning Prevention Program, visit: <https://www.jaspercountymo.gov/childhood-lead>.

### **City of Joplin Health Department**

**Joplin Health Department:** Learn more, online at: <https://www.joplinmo.org/157/Health-Department>

### **Community Resource Guides:**

**Children's Mercy Hospitals and Clinics Community Resoure Guide – Jasper/Newton County, Missouri**

- [www.childrensmercy.org/contentassets/b39db98ce0514b04abef1cc0bffc1628/beacon-comm-resources-jasper-newton-counties-mo-resource-guide.pdf](http://www.childrensmercy.org/contentassets/b39db98ce0514b04abef1cc0bffc1628/beacon-comm-resources-jasper-newton-counties-mo-resource-guide.pdf)
- **Joplin Missouri Public Health Department Community Resource Guide:** <https://www.joplinmo.org/440/Community-Resource-Guide>
- The Alliance of SW Missouri: [https://www.theallianceofswmo.org/resource\\_guide/](https://www.theallianceofswmo.org/resource_guide/)



# APPENDIX G



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## EJScreen 2.2 Community Reports

1. Joplin, Missouri
2. Carthage, Missouri
3. Jasper County, Missouri



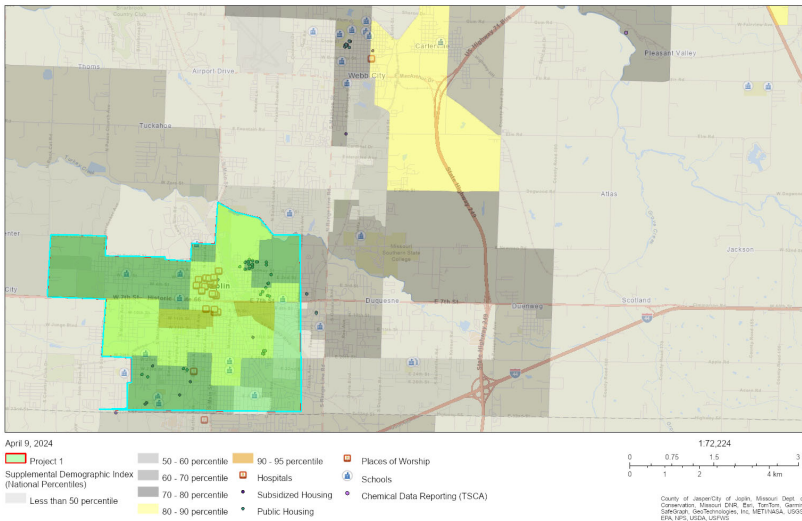
# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## Joplin, MO

the User Specified Area  
Population: 27,001  
Area in square miles: 11.26

A3 Landscape



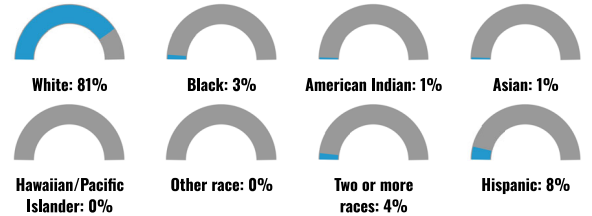
### COMMUNITY INFORMATION



### LANGUAGES SPOKEN AT HOME

| LANGUAGE          | PERCENT |
|-------------------|---------|
| English           | 95%     |
| Spanish           | 2%      |
| Vietnamese        | 1%      |
| Total Non-English | 5%      |

### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

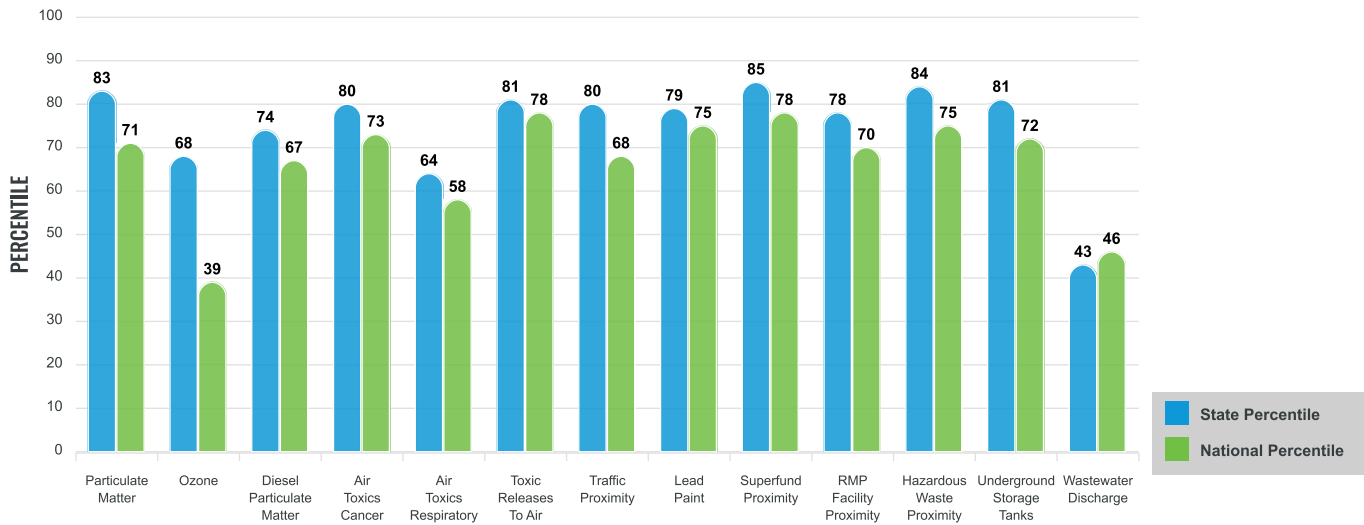
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

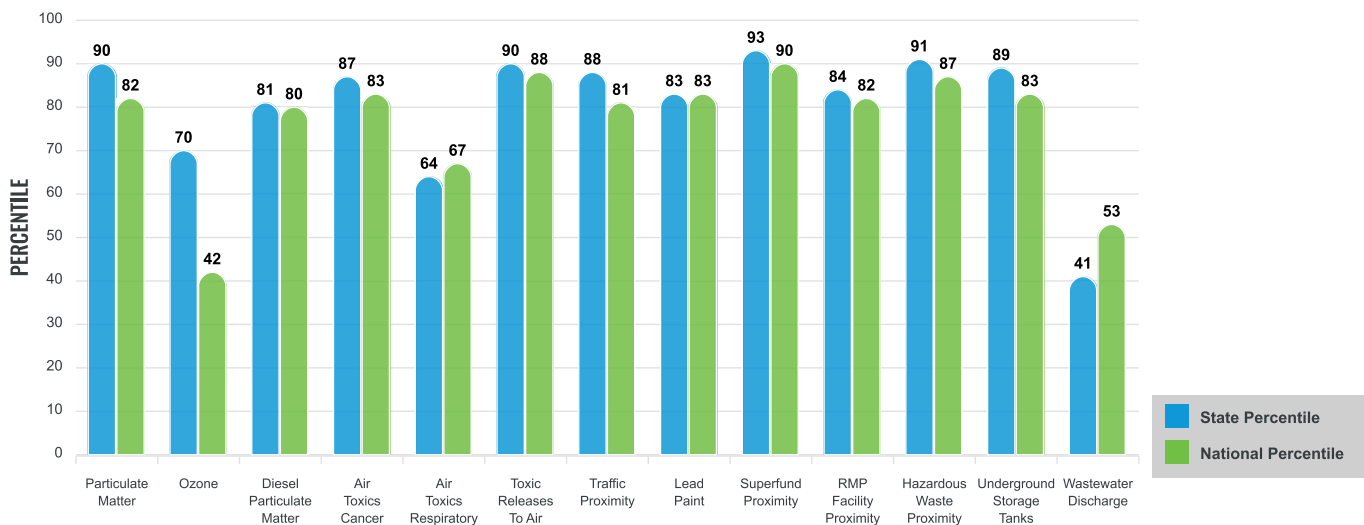
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

# EJScreen Environmental and Socioeconomic Indicators Data

| SELECTED VARIABLES  | VALUE | STATE AVERAGE | PERCENTILE IN STATE | USA AVERAGE | PERCENTILE IN USA |
|---|-------|---------------|---------------------|-------------|-------------------|
| <b>POLLUTION AND SOURCES</b>                                      |       |               |                     |             |                   |
| Particulate Matter (µg/m <sup>3</sup> )                           | 8.64  | 8.05          | 76                  | 8.08        | 62                |
| Ozone (ppb)   | 57.8  | 59.9          | 40                  | 61.6        | 23                |
| Diesel Particulate Matter (µg/m <sup>3</sup> )                    | 0.262 | 0.268         | 56                  | 0.261       | 60                |
| Air Toxics Cancer Risk* (lifetime risk per million)               | 29    | 25            | 0                   | 25          | 5                 |
| Air Toxics Respiratory HI*  | 0.3   | 0.31          | 14                  | 0.31        | 31                |
| Toxic Releases to Air   | 3,200 | 4,500         | 78                  | 4,600       | 80                |
| Traffic Proximity (daily traffic count/distance to road)          | 150   | 110           | 78                  | 210         | 68                |
| Lead Paint (% Pre-1960 Housing)                                   | 0.47  | 0.31          | 72                  | 0.3         | 71                |
| Superfund Proximity (site count/km distance)                      | 0.21  | 0.097         | 91                  | 0.13        | 86                |
| RMP Facility Proximity (facility count/km distance)               | 0.52  | 0.45          | 73                  | 0.43        | 77                |
| Hazardous Waste Proximity (facility count/km distance)            | 3     | 1.3           | 84                  | 1.9         | 81                |
| Underground Storage Tanks (count/km <sup>2</sup> )                | 4.1   | 2             | 83                  | 3.9         | 73                |
| Wastewater Discharge (toxicity-weighted concentration/m distance) | 0.002 | 0.49          | 43                  | 22          | 54                |
| <b>SOCIOECONOMIC INDICATORS</b>                                   |       |               |                     |             |                   |
| Demographic Index   | 37%   | 28%           | 75                  | 35%         | 60                |
| Supplemental Demographic Index                                    | 20%   | 14%           | 82                  | 14%         | 78                |
| People of Color   | 19%   | 23%           | 62                  | 39%         | 36                |
| Low Income  | 54%   | 33%           | 83                  | 31%         | 84                |
| Unemployment Rate   | 7%    | 5%            | 75                  | 6%          | 68                |
| Limited English Speaking Households                               | 1%    | 1%            | 80                  | 5%          | 58                |
| Less Than High School Education                                   | 13%   | 10%           | 72                  | 12%         | 67                |
| Under Age 5   | 7%    | 6%            | 68                  | 6%          | 69                |
| Over Age 64   | 14%   | 18%           | 37                  | 17%         | 41                |
| Low Life Expectancy   | 25%   | 21%           | 84                  | 20%         | 89                |

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

**Sites reporting to EPA within defined area:**

|  |     |
|--|-----|
| Superfund .....  | 0   |
| Hazardous Waste, Treatment, Storage, and Disposal Facilities ..... | 3   |
| Water Dischargers .....  | 142 |
| Air Pollution .....  | 29  |
| Brownfields .....  | 5   |
| Toxic Release Inventory .....                                      | 13  |

**Other community features within defined area:**

|                         |    |
|-------------------------|----|
| Schools .....           | 11 |
| Hospitals .....         | 1  |
| Places of Worship ..... | 0  |

**Other environmental data:**

|                          |     |
|--------------------------|-----|
| Air Non-attainment ..... | No  |
| Impaired Waters .....    | Yes |

|  |     |
|--|-----|
| Selected location contains American Indian Reservation Lands* .....            | No  |
| Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... | Yes |
| Selected location contains an EPA IRA disadvantaged community .....            | Yes |

Report for the User Specified Area

## EJScreen Environmental and Socioeconomic Indicators Data

| HEALTH INDICATORS         |       |               |                  |            |               |
|---------------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR                 | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Low Life Expectancy       | 25%   | 21%           | 84               | 20%        | 89            |
| Heart Disease             | 7     | 6.9           | 50               | 6.1        | 67            |
| Asthma                    | 10.1  | 9.9           | 67               | 10         | 58            |
| Cancer                    | 6.1   | 6.6           | 34               | 6.1        | 48            |
| Persons with Disabilities | 20.2% | 15.1%         | 81               | 13.4%      | 86            |

| CLIMATE INDICATORS |       |               |                  |            |               |
|--------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR          | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Flood Risk         | 3%    | 8%            | 23               | 12%        | 30            |
| Wildfire Risk      | 14%   | 5%            | 91               | 14%        | 82            |

| CRITICAL SERVICE GAPS    |       |               |                  |            |               |
|--------------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR                | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Broadband Internet       | 16%   | 16%           | 56               | 14%        | 64            |
| Lack of Health Insurance | 15%   | 10%           | 78               | 9%         | 83            |
| Housing Burden           | No    | N/A           | N/A              | N/A        | N/A           |
| Transportation Access    | Yes   | N/A           | N/A              | N/A        | N/A           |
| Food Desert              | Yes   | N/A           | N/A              | N/A        | N/A           |

Report for the User Specified Area



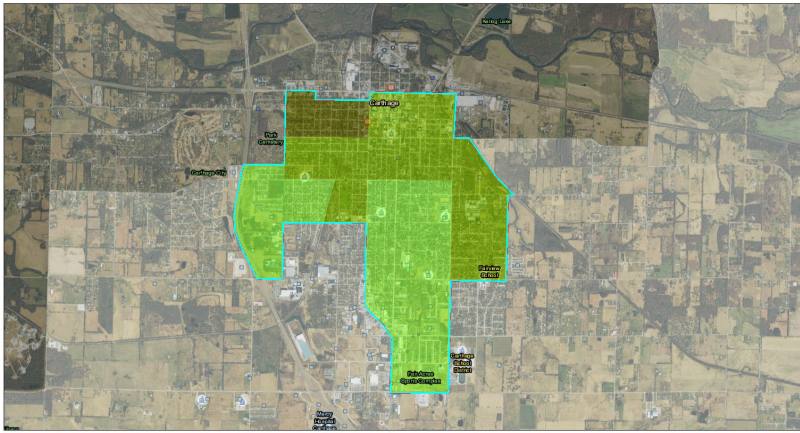
# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## Carthage, MO

the User Specified Area  
Population: 11,224  
Area in square miles: 3.61

A3 Landscape



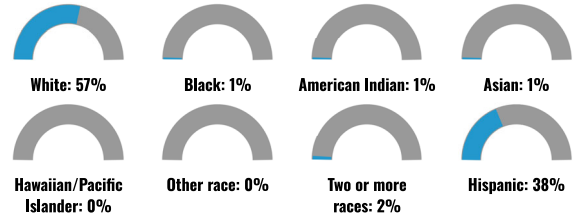
### LANGUAGES SPOKEN AT HOME

| LANGUAGE          | PERCENT |
|-------------------|---------|
| English           | 74%     |
| Spanish           | 25%     |
| Vietnamese        | 1%      |
| Total Non-English | 26%     |

### COMMUNITY INFORMATION



### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

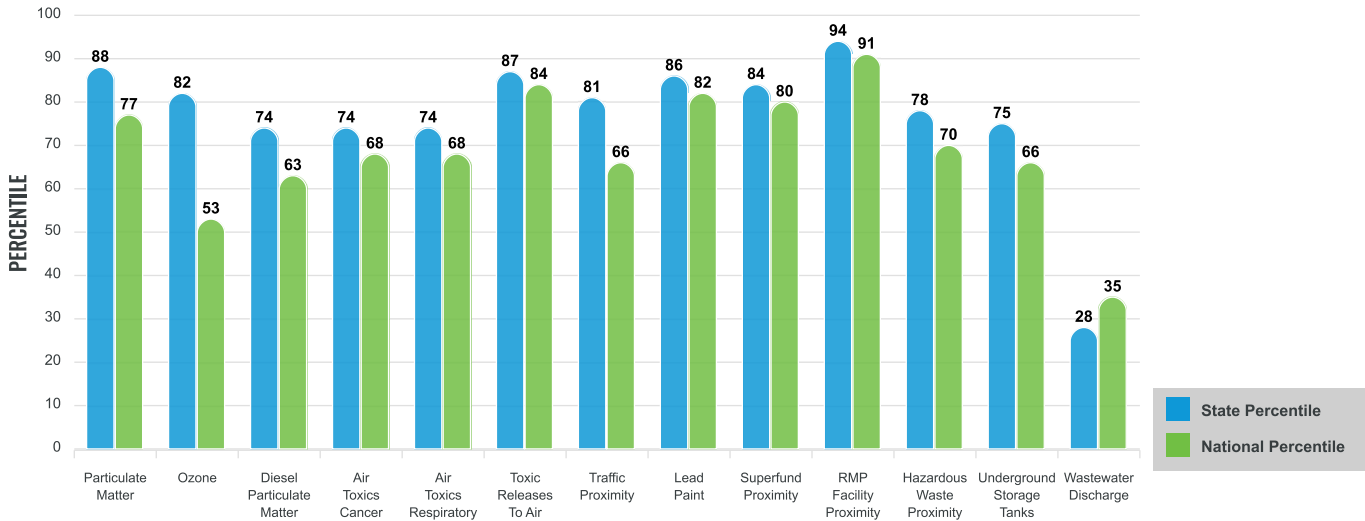
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

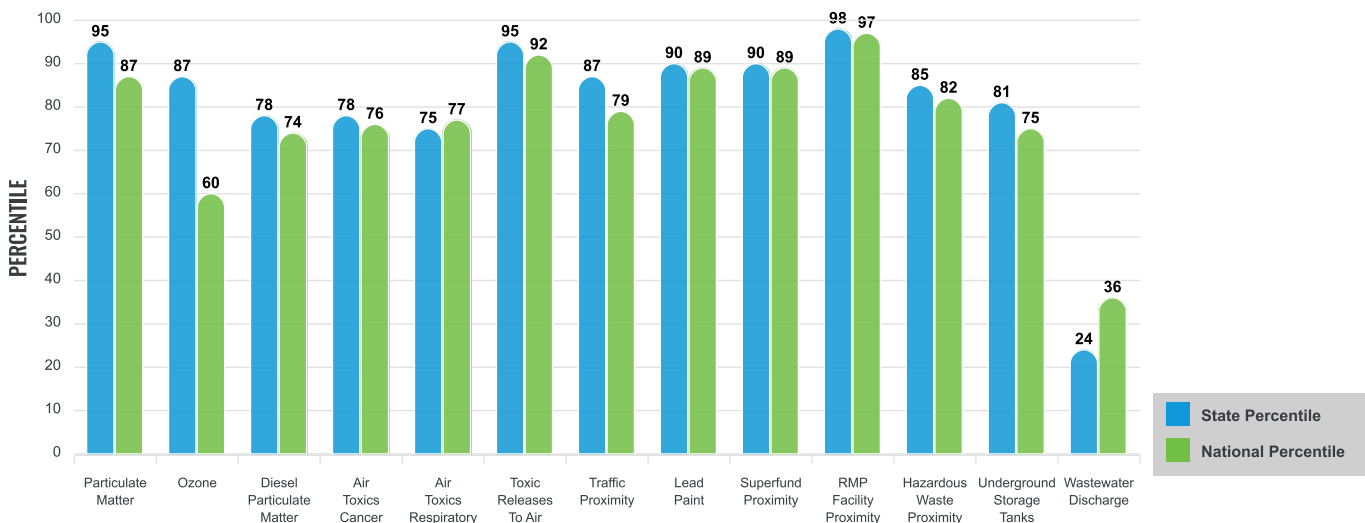
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

# EJScreen Environmental and Socioeconomic Indicators Data

| SELECTED VARIABLES  | VALUE   | STATE AVERAGE | PERCENTILE IN STATE | USA AVERAGE | PERCENTILE IN USA |
|---|---------|---------------|---------------------|-------------|-------------------|
| <b>POLLUTION AND SOURCES</b>                                      |         |               |                     |             |                   |
| Particulate Matter (µg/m <sup>3</sup> )                           | 8.35    | 8.05          | 70                  | 8.08        | 54                |
| Ozone (ppb)   | 58.1    | 59.9          | 45                  | 61.6        | 25                |
| Diesel Particulate Matter (µg/m <sup>3</sup> )                    | 0.167   | 0.268         | 38                  | 0.261       | 36                |
| Air Toxics Cancer Risk* (lifetime risk per million)               | 25      | 25            | 0                   | 25          | 5                 |
| Air Toxics Respiratory HI*  | 0.3     | 0.31          | 14                  | 0.31        | 31                |
| Toxic Releases to Air   | 1,500   | 4,500         | 69                  | 4,600       | 67                |
| Traffic Proximity (daily traffic count/distance to road)          | 66      | 110           | 56                  | 210         | 46                |
| Lead Paint (% Pre-1960 Housing)                                   | 0.39    | 0.31          | 67                  | 0.3         | 66                |
| Superfund Proximity (site count/km distance)                      | 0.083   | 0.097         | 57                  | 0.13        | 60                |
| RMP Facility Proximity (facility count/km distance)               | 2.4     | 0.45          | 97                  | 0.43        | 97                |
| Hazardous Waste Proximity (facility count/km distance)            | 0.46    | 1.3           | 47                  | 1.9         | 48                |
| Underground Storage Tanks (count/km <sup>2</sup> )                | 1.4     | 2             | 60                  | 3.9         | 52                |
| Wastewater Discharge (toxicity-weighted concentration/m distance) | 6.1E-06 | 0.49          | 9                   | 22          | 15                |
| <b>SOCIOECONOMIC INDICATORS</b>                                   |         |               |                     |             |                   |
| Demographic Index   | 53%     | 28%           | 88                  | 35%         | 77                |
| Supplemental Demographic Index                                    | 27%     | 14%           | 96                  | 14%         | 92                |
| People of Color   | 43%     | 23%           | 83                  | 39%         | 61                |
| Low Income  | 63%     | 33%           | 90                  | 31%         | 90                |
| Unemployment Rate   | 9%      | 5%            | 82                  | 6%          | 77                |
| Limited English Speaking Households                               | 7%      | 1%            | 95                  | 5%          | 80                |
| Less Than High School Education                                   | 34%     | 10%           | 98                  | 12%         | 94                |
| Under Age 5   | 9%      | 6%            | 80                  | 6%          | 82                |
| Over Age 64   | 10%     | 18%           | 22                  | 17%         | 27                |
| Low Life Expectancy   | 23%     | 21%           | 67                  | 20%         | 78                |

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

**Sites reporting to EPA within defined area:**

|  |    |
|--|----|
| Superfund .....  | 0  |
| Hazardous Waste, Treatment, Storage, and Disposal Facilities ..... | 0  |
| Water Dischargers .....  | 23 |
| Air Pollution .....  | 6  |
| Brownfields .....  | 0  |
| Toxic Release Inventory .....                                      | 0  |

**Other community features within defined area:**

|                         |   |
|-------------------------|---|
| Schools .....           | 6 |
| Hospitals .....         | 0 |
| Places of Worship ..... | 0 |

**Other environmental data:**

|                          |    |
|--------------------------|----|
| Air Non-attainment ..... | No |
| Impaired Waters .....    | No |

|  |     |
|--|-----|
| Selected location contains American Indian Reservation Lands* .....            | No  |
| Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... | Yes |
| Selected location contains an EPA IRA disadvantaged community .....            | Yes |

Report for the User Specified Area



## EJScreen Environmental and Socioeconomic Indicators Data

| HEALTH INDICATORS         |       |               |                  |            |               |
|---------------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR                 | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Low Life Expectancy       | 23%   | 21%           | 67               | 20%        | 78            |
| Heart Disease             | 8.6   | 6.9           | 80               | 6.1        | 89            |
| Asthma                    | 10    | 9.9           | 58               | 10         | 52            |
| Cancer                    | 6.9   | 6.6           | 58               | 6.1        | 67            |
| Persons with Disabilities | 13.8% | 15.1%         | 44               | 13.4%      | 58            |

| CLIMATE INDICATORS |       |               |                  |            |               |
|--------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR          | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Flood Risk         | 6%    | 8%            | 48               | 12%        | 49            |
| Wildfire Risk      | 0%    | 5%            | 0                | 14%        | 0             |

| CRITICAL SERVICE GAPS    |       |               |                  |            |               |
|--------------------------|-------|---------------|------------------|------------|---------------|
| INDICATOR                | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Broadband Internet       | 15%   | 16%           | 54               | 14%        | 63            |
| Lack of Health Insurance | 20%   | 10%           | 93               | 9%         | 92            |
| Housing Burden           | No    | N/A           | N/A              | N/A        | N/A           |
| Transportation Access    | Yes   | N/A           | N/A              | N/A        | N/A           |
| Food Desert              | Yes   | N/A           | N/A              | N/A        | N/A           |

Report for the User Specified Area



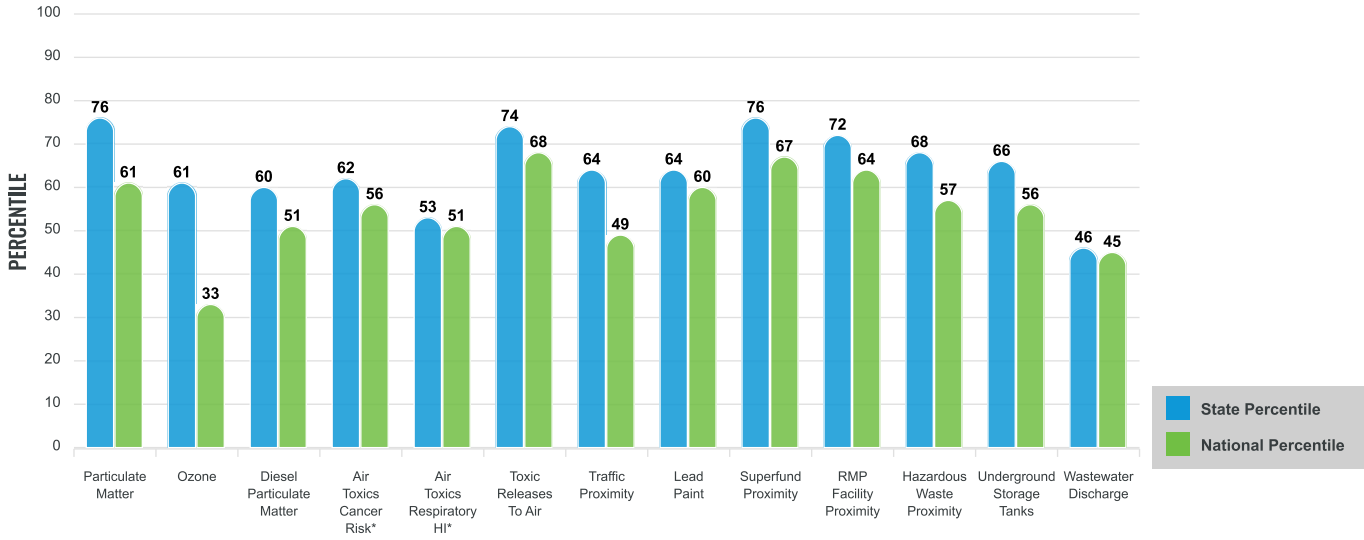
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

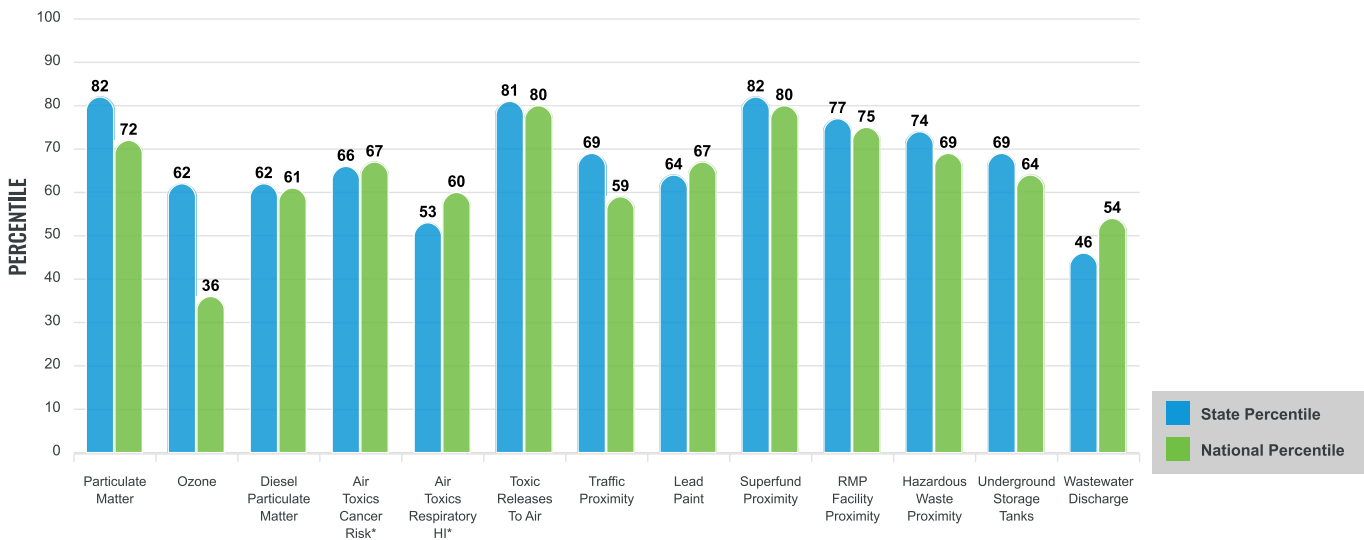
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for County: Jasper

# EJScreen Environmental and Socioeconomic Indicators Data

| SELECTED VARIABLES  | VALUE | STATE AVERAGE | PERCENTILE IN STATE | USA AVERAGE | PERCENTILE IN USA |
|---|-------|---------------|---------------------|-------------|-------------------|
| <b>POLLUTION AND SOURCES</b>                                      |       |               |                     |             |                   |
| Particulate Matter ( $\mu\text{g}/\text{m}^3$ )                   | 8.52  | 8.05          | 73                  | 8.08        | 58                |
| Ozone (ppb)   | 57.9  | 59.9          | 43                  | 61.6        | 23                |
| Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )            | 0.192 | 0.268         | 43                  | 0.261       | 43                |
| Air Toxics Cancer Risk* (lifetime risk per million)               | 30    | 29            | 14                  | 28          | 35                |
| Air Toxics Respiratory HI*  | 0.3   | 0.31          | 14                  | 0.31        | 31                |
| Toxic Releases to Air   | 2,700 | 4,500         | 76                  | 4,600       | 77                |
| Traffic Proximity (daily traffic count/distance to road)          | 71    | 110           | 58                  | 210         | 48                |
| Lead Paint (% Pre-1960 Housing)                                   | 0.28  | 0.31          | 56                  | 0.3         | 56                |
| Superfund Proximity (site count/km distance)                      | 0.16  | 0.097         | 83                  | 0.13        | 79                |
| RMP Facility Proximity (facility count/km distance)               | 0.72  | 0.45          | 80                  | 0.43        | 83                |
| Hazardous Waste Proximity (facility count/km distance)            | 1.2   | 1.3           | 66                  | 1.9         | 65                |
| Underground Storage Tanks (count/km <sup>2</sup> )                | 1.7   | 2             | 65                  | 3.9         | 56                |
| Wastewater Discharge (toxicity-weighted concentration/m distance) | 0.06  | 0.49          | 73                  | 22          | 79                |
| <b>SOCIOECONOMIC INDICATORS</b>                                   |       |               |                     |             |                   |
| Demographic Index   | 28%   | 28%           | 61                  | 35%         | 48                |
| Supplemental Demographic Index                                    | 16%   | 14%           | 66                  | 14%         | 65                |
| People of Color   | 17%   | 23%           | 59                  | 39%         | 34                |
| Low Income  | 39%   | 33%           | 64                  | 31%         | 68                |
| Unemployment Rate   | 4%    | 5%            | 60                  | 6%          | 51                |
| Limited English Speaking Households                               | 1%    | 1%            | 81                  | 5%          | 59                |
| Less Than High School Education                                   | 12%   | 10%           | 69                  | 12%         | 65                |
| Under Age 5   | 7%    | 6%            | 64                  | 6%          | 66                |
| Over Age 64   | 16%   | 18%           | 46                  | 17%         | 50                |
| Low Life Expectancy   | 22%   | 21%           | 63                  | 20%         | 75                |

\* Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

|  |     |
|--|-----|
| Superfund .....  | 1   |
| Hazardous Waste, Treatment, Storage, and Disposal Facilities ..... | 14  |
| Water Dischargers .....  | 826 |
| Air Pollution .....  | 100 |
| Brownfields .....  | 8   |
| Toxic Release Inventory .....                                      | 58  |

## Other community features within defined area:

|                         |     |
|-------------------------|-----|
| Schools .....           | 164 |
| Hospitals .....         | 3   |
| Places of Worship ..... | 31  |

## Other environmental data:

|                          |     |
|--------------------------|-----|
| Air Non-attainment ..... | No  |
| Impaired Waters .....    | Yes |

|  |     |
|--|-----|
| Selected location contains American Indian Reservation Lands* .....            | No  |
| Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... | Yes |
| Selected location contains an EPA IRA disadvantaged community .....            | Yes |

Report for County: Jasper

# EJScreen Environmental and Socioeconomic Indicators Data

## HEALTH INDICATORS

| INDICATOR                 | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
|---------------------------|-------|---------------|------------------|------------|---------------|
| Low Life Expectancy       | 22%   | 21%           | 63               | 20%        | 75            |
| Heart Disease             | 7     | 6.9           | 50               | 6.1        | 67            |
| Asthma                    | 9.7   | 9.9           | 44               | 10         | 43            |
| Cancer                    | 6.4   | 6.6           | 41               | 6.1        | 54            |
| Persons with Disabilities | 15.6% | 15.1%         | 56               | 13.4%      | 68            |

## CLIMATE INDICATORS

| INDICATOR     | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
|---------------|-------|---------------|------------------|------------|---------------|
| Flood Risk    | 5%    | 8%            | 42               | 12%        | 45            |
| Wildfire Risk | 8%    | 5%            | 90               | 14%        | 81            |

## CRITICAL SERVICE GAPS

| INDICATOR                | VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
|--------------------------|-------|---------------|------------------|------------|---------------|
| Broadband Internet       | 15%   | 16%           | 53               | 14%        | 62            |
| Lack of Health Insurance | 13%   | 10%           | 73               | 9%         | 80            |
| Housing Burden           | No    | N/A           | N/A              | N/A        | N/A           |
| Transportation Access    | Yes   | N/A           | N/A              | N/A        | N/A           |
| Food Desert              | Yes   | N/A           | N/A              | N/A        | N/A           |

Report for County: Jasper

# APPENDIX H

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## CIP Addendum

**Additional documents can be added to this CIP as a numbered CIP Addendum with updated information.**

Oronogo-Duenweg Mining Belt NPL Superfund Site  
**COMMUNITY INVOLVEMENT PLAN**

Remedial and Removal Actions

**May 2024**

Jasper County, Missouri

[www.epa.gov/superfund/oronogoduenwegmining](http://www.epa.gov/superfund/oronogoduenwegmining)

