

III. ENVIRONMENTAL OVERVIEW

An Environmental Overview Report was developed in 2004 for the US 431 project area. A preliminary environmental analysis was completed to identify potential issues and concerns within the defined US 431 study area, extending 2,000 feet on either side of the existing alignment. This chapter presents a summary of the Environmental Overview.

Relevant environmental data for the four-county area was collected and then mapped using GIS applications. Additional “windshield surveys” were conducted within the project area. From these venues, an overview of environmental concerns within the project area was assembled, and issues have been identified that will require consideration for any likely transportation improvements.

An electronic copy of the full text of the Environmental Overview Report is available in **Appendix C**, including maps depicting the location of the discussed features. For each county, information is presented on Natural and Manmade Water Features; Biotic Communities; Social, Economic, and Environmental Justice Concerns; Historic and Archaeological Sites; Prime and Unique Farmland Concerns; UST, HAZMATs, Oil, and Gas Concerns; and Additional Issues. The following sections summarize the findings of this Overview Report.

A. Logan County Environmental Issues

Water Features – A number of manmade water resources are located within the study area, including multiple water tanks, public supply facilities, water lines, wells, and gauges. There are also a number of natural water resources: the Mud and Red Rivers divide the county into two main watersheds. The proximity of the rivers creates floodplain concerns: Adairville and portions of Russellville lie in FEMA’s 100 year flood zones. A total of 65 individual streams are concentrated in the northern half of the county; karst topography south of Russellville limits the number of aboveground streams occurring here. Over 182 acres of wetlands have been identified, similarly concentrated in the northern half of the county around stream corridors and floodplains. The Natural Resources and Environmental Protection Cabinet (NREPC) has not identified any Outstanding Resource waters or Wild Rivers. Though there are no lakes in this portion of the study area, small farm ponds are common.

Biotic Communities – Records from the Kentucky State Nature Preserves Commission (KSNPC) and the US Fish and Wildlife Service (USFWS) identify a number of endangered, threatened, and special concern species in the project area, including as many as six plant

species and five animal species. The Indiana Bat is the only species that appears in the databases of both agencies.

Social, Economic, & Environmental Justice – A number of community sensitive locations lie within the study area. Within the 4,000 foot wide corridor, there are four churches, five cemeteries, an elementary school, and various businesses and industries concentrated around Russellville. There are fifteen major manufacturing sites in the city; Logan Aluminum is the largest, employing 1,100 persons.

An environmental justice profile was developed for the study area based on 2000 Census data. Minority population concentrations above the state and county averages exist in Tracts 9603, 9605 (north and south of Russellville, respectively) and 9606 (southern portion of the county). Concentrations of persons living in poverty are greater in Tracts 9602 (northwestern Logan County), 9603, and 9604 (west of Russellville) than statewide and countywide averages. Additional environmental justice information is presented in **Chapter 4** and in the Environmental Justice Overview prepared by the Green River, Barren River, and Pennyriple Area Development Districts.

Historic Sites – Numerous historical points of interest exist in Logan County dating back to the American Civil War. Among these sites are a 2,100 acre historic district in Russellville and other historic structures, two of which are listed on the National Register of Historic Places. There are also 23 officially registered archaeological sites.



*Sexton House at US 431
intersection with US 79*

Farmlands – An estimated 79% of land area in the county is harvested cropland; over 44% is designated as prime farmland. Karst features in the southern portion of the county may allow agricultural chemicals an opportunity to infiltrate underground water systems. Relocating portions of the US 431 corridor could increase this concern.

Monitored Sites and Wells – Monitored sites, HAZMAT disposal sites, permitted discharge locations, and wells are common in the area. The most significant issue in this category is a CERCLIS/Superfund site west of Lewisburg which should be avoided unless further investigation finds no environmental hazards. Information about the other sites is presented in the complete Environmental Overview and its appendices.

Additional Concerns – Six fault lines run predominantly east-west between Lewisburg and Logan Aluminum. There is also a sewage treatment plant on the edge of the 4,000 foot wide corridor just north of the Russellville corporate limits.

B. Muhlenberg County Environmental Issues

Water Features – Numerous manmade water resources are located within the study area, including multiple water tanks, water lines, and abandoned wells. The Green River runs along the eastern boundary of the county. Its watershed covers the entire area. There are also 101 individual streams in the study area. The NREPC has not identified any Outstanding Resource waters or Wild Rivers. Though there are no lakes, the gently rolling terrain facilitates the pooling of small ponds throughout the county. Additionally, there are approximately 900 acres of wetlands. Portions of the study area north of KY 949, near Drakesboro, and at the northern end of the county have been classified as FEMA Zone A (100 year floodplain).

Biotic Communities – The KSNPC and USFWS list as many as two plant species as threatened. The *Pyramid Pigtoe* bivalve is listed as an endangered animal species by both agencies. The habitat of the *Copperbelly Water Snake* is subject to conditions outlined in the Kentucky Department of Fish and Wildlife Resources (KDFWR) Conservation Agreement. The Peabody Wildlife Management Area provides a 264 acre refuge within the study area.

Social, Economic, & Environmental Justice – Seventeen community sensitive locations were identified within the 4,000 foot wide study area. This includes 11 churches, 2 elementary schools, and 4 historic cemeteries.

Central City provides the industrial base for the county, with 11 major manufacturing sites. Retail trade and services compose the largest employment sector percentages, followed by manufacturing. The 2001 unemployment rate is over 10% and puts Muhlenberg County at nearly double the state and national unemployment rates.



Church along US 431 in South Carrollton

Four census tracts cover the study area. Concentrations of minority populations below state averages in each of these should be considered in future phases. Each tract also shows a higher concentration of persons living in poverty than state and county averages.

Field review confirms that the project area contains evidence of low-income housing developments.

Historic Sites – The study area within Muhlenberg County is home to one historic structure and one historic land marker. There are also 18 known archaeological sites, predominantly located north of Drakesboro.

Farmlands – An estimated 35% of the county is harvested cropland, supporting a \$47 million agriculture economy. Though most farmland areas would not be affected by construction, irregular runoff and poor drainage caused by new development could impact farming.

Monitored Sites and Wells – Monitored sites, HAZMAT disposal sites, permitted discharge locations, and wells are common in the area. The most significant issue in this category is a CERCLIS/Superfund site south of Central City, a quarter-mile west of US 431. There are also a number of UST and well sites identified; information about the other sites is presented in the complete Environmental Overview and its appendices. Because this area is located within the Western Kentucky Coal Field, it has seen a high amount of geotechnical activity which increases the potential for environmental hazards and contaminations.

Additional Concerns – There are nine fault lines crossing the study area. There are also three sewage treatment plants and a tire dump along the corridor.

C. McLean County Environmental Issues

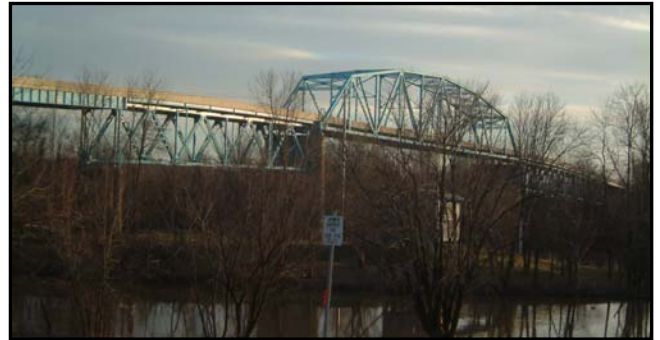
Water Features – Similar to the other counties in the study area, McLean County contains various water resources. Water tanks, wells, and lines are located throughout the corridor; there is also a water gauge on the Green River in Livermore. The Green River is the major waterway in the county, merging with the Rough River near Livermore. Forty-five individual streams throughout the county drain through this watershed. No Outstanding Resource waters or Wild Rivers occur within the study area. Farm ponds exist along the US 431 corridor although there are no natural or manmade lakes. Approximately 328 acres of wetlands line the stream and river channels and floodplains. Floodplains in the area vary from FEMA Zone A (inundated by a 100 year flood) to Zone X (beyond the range of a 500 year flood).

Biotic Communities – USFWS and KSNPC records report up to two threatened plant species and one possible threatened animal species. The habitat of the *Copperbelly Water Snake* is subject to conditions outlined in the KDFWR Conservation Agreement.

Social, Economic, & Environmental Justice – McLean County has relatively few community sensitive locations within the study area: three churches, one school, and two cemeteries. Industry, retail, and services comprise the largest sectors of the economy. County unemployment rates are higher than both state and national levels.

Environmental justice data for McLean County was taken from 2000 US Census data for two tracts. Both have minority populations less than one percent, well below state and county averages. Poverty rates are comparable to state and county averages. More environmental justice data is presented in **Chapter 4**.

Historic Sites – There are several historic points of interest in the study area. There are 21 historic sites within the study area; 16 of these fall within a one-block area of Livermore although it is not officially designated as a Historic District. The Livermore Bridge is the only river bridge in the world which begins and ends in the same county, spans two rivers, and crosses another county. There are three additional National Register approved/eligible sites near Livermore and ten known archaeological sites.



Livermore Green River Bridge

Farmlands – Harvested cropland makes up an estimated 65% of the land area in McLean County. The potential for crop damage due to flooding in the fertile floodplains around the Green and Rough Rivers is an ever-present reality. Any corridor relocations may result in land use changes which could impact farmlands.

Monitored Sites and Wells – UST sites, oil and gas wells, and permitted disposal locations are common along the study route which may impact roadway improvements. As part of the Western Kentucky Coal Fields, this county has experienced a large amount of geotechnical activity which may increase the potential for environmental hazards and contaminations.

Additional Concerns – In addition to the previously discussed features, there are eight fault lines crossing the study area between the Green River and the Daviess County line. A

sewage treatment plant lies at the northern end of the corridor east of the existing alignment. A riverport and intermodal terminal within the 4,000 foot wide corridor at Livermore provide transport/shipping services for grains.

D. Daviess County Environmental Issues

Water Features – This county has a number of water facilities falling within 2,000 feet of either side of the existing US 431 alignment: two public water supply facilities, two water treatment plants, and a water tank, in addition to wells and water lines. The Ohio River forms the northern border for both the county and the state, but Daviess County is part of the Green River watershed to the south. Streams and wetlands are common in the study area although there are no lakes and few ponds. No Outstanding Resource waters or Wild Rivers have been identified in the area. Most of the area is within 500 year floodplain elevations; an area around Panther Creek is within 100 year floodplain levels.

Biotic Communities – According to KSNPC and USFWS records, no threatened or endangered plant species are found within the study corridor. There is one possible animal species listed as endangered. The habitat of the *Copperbelly Water Snake* is subject to conditions outlined in the KDFWR Conservation Agreement.

Social, Economic, & Environmental Justice – Community sensitive locations within the project area include four churches, Brescia and Kentucky Wesleyan Colleges, seven other schools, and a cemetery. Services, government, and retail trade are the largest industries based on 2000 data. Income levels and unemployment rates are comparable to state averages.

Based on 2000 Census rates, minority populations exist in Tracts 2, 3, and 5 (south central Daviess County and central Owensboro west of US 431). These tracts also have a higher percentage of persons living in poverty than state and county averages. Residential dwellings exhibiting low-income housing characteristics were encountered during a field review.

Historic Sites – Four historic districts are located within Owensboro. There are 121 identified historic structures, 22 of which are listed on the National Register of Historic Places. There are also a number of historic markers and monuments. No separate archaeological sites have been identified in the study area, but they are likely to exist around any historic structures.

Farmlands – Daviess County is the state's highest producer of soybeans. It is estimated that 64% of the area is harvested cropland. Any relocations of the US 431 alignment may lead to land use changes and impacts to farmlands.

Monitored Sites and Wells – There are a number of monitored sites, HAZMAT disposal sites, UST locations, and oil/gas wells in the study area. The primary issue in this category is a CERCLIS/Superfund location along US 431 in Livia. High amounts of geotechnical activity increase the potential for hazards and contaminations.

Additional Concerns – Seven fault lines cross the study area, concentrated in the southern portion of the county. There are two sewage treatment plants in the area. In addition, the Division of Environmental Analysis cautions that noise factors could be a concern in Daviess County.