

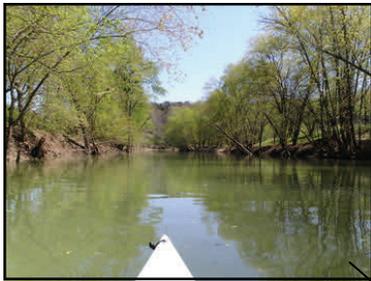


# Watershed Watch in Madison County

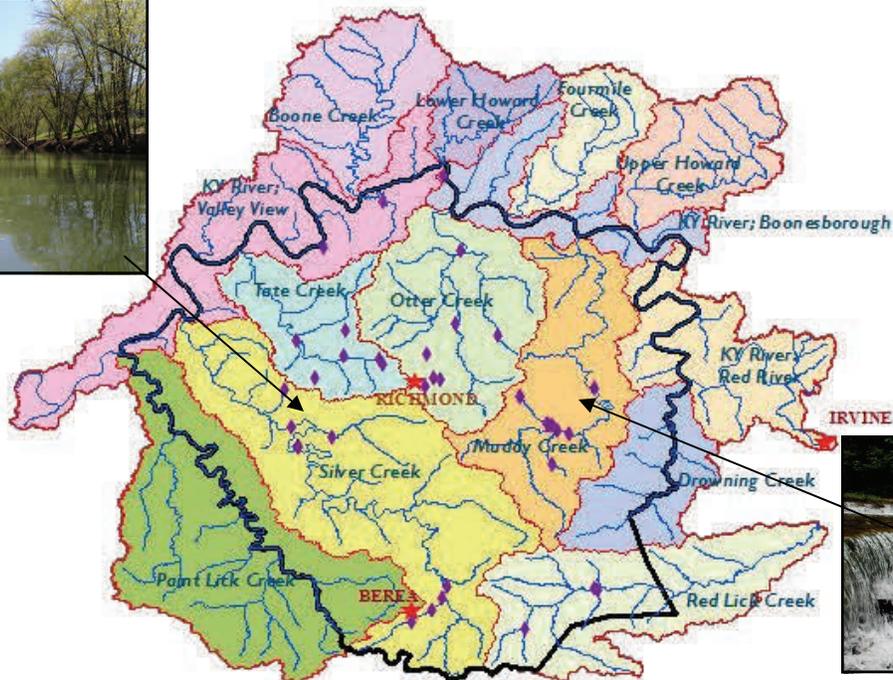
Prepared by Kentucky River Watershed Watch, December 2015

## Volunteer Monitoring of Streams

Since 1999, Kentucky River Watershed Watch volunteers have been sampling Madison County streams and rivers in order to learn more about water quality in the area. There are currently 37 active sampling sites in Madison County, 10 of which were sampled in the past year (2014). These 10 sites were located on Calloway Creek, Muddy Creek, Otter Creek, Silver Creek, Tates Creek and the Kentucky River.



Sugar Creek



Muddy Creek

### What is Watershed Watch?

Kentucky River Watershed Watch is part of a statewide organization, Watershed Watch in Kentucky. The goal of the organization is to coordinate a citizen monitoring effort to improve and protect water quality by raising community awareness and supporting implementation of the goals of the Clean Water Act. The organization hopes to encourage people to venture out into the Kentucky River Basin to see, first-hand, the condition of their local streams and rivers.

More information about Kentucky River Watershed Watch is available at [www.krww.org](http://www.krww.org).

*This report provides general water quality observations and is a working document, open for discussion and further interpretation. This is not a legal document.*

## Results of Madison County Sampling Efforts

The past 10 years of sampling of Madison County streams has allowed assessments of pesticides, pathogens, nutrients, metals and aquatic chemistry in the water. *Some issues have been found with pathogens in the streams.* In general, measured nutrient levels, and their potential to increase algae and negatively impact aquatic life habitat, are not of as great concern.

**Pathogen** levels are measured by testing for an indicator bacterium, E. coli. E. coli is commonly found in the intestines of humans and animals. The presence of this bacterium indicates fecal contamination and the potential for waterborne disease.

Sources may include failing septic systems, leaking sewer lines, livestock manure, and pet and wildlife wastes.

High pathogen levels can cause excessive nutrients in the stream and human health issues.

**The regulated limit of E. coli levels for safe swimming and wading is 240 cfu/100m.**

### Summary of Madison County KRWV Sampling Results for Nutrients & Pathogens (Past Ten Years, 2006-2015)

*\*Sample size is in parentheses next to result.*

Site ID#	Stream Name	Total Nitrogen Concentration (mg/L)	Total Phosphorus Concentration (mg/L)	E. coli (Geometric mean of cfu/100 ml)
	Kentucky Water Quality Benchmarks	3.0 for Aquatic Life Protection	0.3 for Aquatic Life Protection	240 for Safe Swimming
<i>Muddy Creek Watershed</i>				
918	Muddy Creek	0.35 (8)	0.08 (8)	754 (16)
919	Muddy Creek	0.45 (6)	0.09 (6)	702 (13)
969	South Viny Fork	0.16 (2)	0.08 (2)	630 (11)
970	North Viny Fork	0.13 (2)	0.06 (2)	671 (14)
972	Unnamed Trib	<0.07 (1)	0.14 (1)	1,816 (11)
973	Muddy Creek	0.40 (2)	0.12 (2)	375 (13)
974	Unnamed Trib	0.17 (2)	0.14 (2)	1,083 (10)
975	Unnamed Trib	0.09 (1)	0.03 (1)	1,520 (10)
977	Muddy Creek	0.24 (6)	0.07 (6)	553 (10)
978	Muddy Creek	0.34 (8)	0.07 (8)	684 (15)
990	Unnamed Trib	2.36 (8)	0.19 (8)	8,011 (19)
1055	Muddy Creek	0.14 (3)	0.09 (3)	402 (14)
<i>Otter Creek Watershed</i>				
921	Otter Creek	4.6 (5)	0.62 (5)	1,397 (12)
3187	Otter Creek	NO DATA	NO DATA	272 (3)
<i>Silver Creek Watershed</i>				
938	Silver Creek	0.52 (6)	0.17 (6)	347 (7)
985	Silver Creek	0.14 (1)	0.13 (1)	241 (5)
3211	Silver Creek	<0.6 (2)	0.03 (2)	665 (2)
<i>Tates Creek Watershed</i>				
1076	Tates Creek	0.59 (1)	0.08 (1)	831 (6)
2924	Tates Creek	0.46 (3)	0.11 (3)	382 (7)
3172	Tates Creek	<0.6 (3)	0.10 (3)	571 (6)
<i>Kentucky River Watershed above Red River</i>				
1077	Kentucky River	0.26 (4)	0.39 (4)	129 (4)
1175	Calloway Creek	0.36 (6)	0.15 (6)	1,114 (15)



Good



Fair

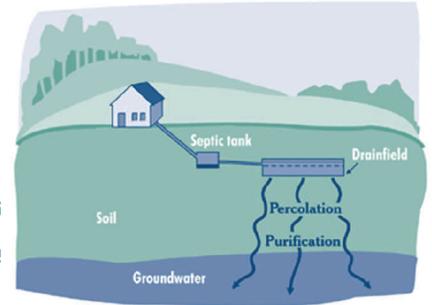


Poor

## **GENERAL**

### **Next Steps and/or Recommendations for Improving Water Quality:**

- Focused Sampling Effort to sample water quality at additional sites in areas of high readings.
- Present results to local officials and community groups.
- Submit article or findings to local paper or radio station.
- Discuss any concerns with relevant local agencies, such as health department, sewer agency, or Natural Resources Conservation Service (NRCS).



## **PATHOGENS**

### **Possible Actions to Reduce Pathogen Levels:**

- Conduct outreach/education campaign about proper septic system care.
- Check for sewer system leaks and repair where possible.
- Reduce livestock access to waterways.
- Eliminate straight piping of sewage to waterways.
- Encourage residents to pick up pet waste.



## **NUTRIENTS**

### **Possible Actions to Reduce Nitrogen and Phosphorus Levels:**

- Reduce sewage and other animal waste contribution to waterways.
- Educate residents about responsible fertilizer usage, prevent over-application of fertilizers.



**Contact Kentucky River Watershed Watch for more information.**

[www.krww.org](http://www.krww.org)

**Phone: 800-928-0045**

**KENTUCKY  
RIVER  
WATERSHED  
WATCH**

## Helpful Contacts in Madison County:

### **Conservation District Office** (agricultural assistance)

**1024 Ival James Blvd., Suite A-1, Richmond, KY**

**Phone/E-mail:** (859)624-1981 or Jamie.ponder@ky.gov

Each county in Kentucky is represented by a local conservation district, consisting of seven elected supervisors. These conservation districts assist the landowners in each county with creating and implementing practices to protect the soil and water quality. The conservation districts help conserve Kentucky's resources by helping local people match their needs with technical and financial resources.

### **Madison County Health Department** (septic system assistance)

**214 Boggs Lane, Richmond, KY**

**Phone/E-mail:** (859)626-4249

Each county has a health department with a dedicated "Environmentalist" staff member to oversee septic system permitting and installation, as well as follow up on citizen complaints related to septic system issues. These individuals are also knowledgeable about septic system function and maintenance and can help ensure that a system is working properly.

### **Richmond Stormwater Program** (stormwater runoff, flooding issues)

239 W. Main Street, Richmond, KY

**Phone/E-mail:** (859)623-1000, Jason Hart

**Website:** <http://richmond.ky.us/index.php/planning-and-zoning/stormwater>

The Clean Water Act requires the city of Richmond to implement programs and practices to control polluted storm water runoff from entering the local waterways.

### **Kentucky Division of Water**

**Website:** [www.water.ky.gov](http://www.water.ky.gov)

For environmental emergencies such as spills of gas, oil or other substances, contact the **Environmental Response Team** at 502-564-2380 or 1-800-928-2380. You may also contact the **Division of Water** (DOW) at 502-564-3410, or the **Frankfort Regional Office** at 502-564-3358, and inform the operator that you wish to report a concern or complaint. Please be prepared to explain the nature of the problem and give the location of the problem, including directions to the site. You do not have to give your name; however, if you wish DOW to either contact you during the investigation or provide you with the results of the investigation, you must leave your name and contact information.

The Division of Water's Water Health Portal (**[watermaps.ky.gov/WaterHealthPortal](http://watermaps.ky.gov/WaterHealthPortal)**) is a helpful online resource for learning more about the water quality status of local waterways and learning more about what is being done to protect Kentucky's waters.

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### **Kentucky Riverkeeper**

**Website:** <http://kyriverkeeper.org>

**Email:** [kyriverkeeper@wildblue.net](mailto:kyriverkeeper@wildblue.net)

The Kentucky Riverkeeper was founded on the notion that we can find a way to restore the Kentucky River in the next decade by working with citizen coalitions throughout the watershed. The Riverkeeper works with the Kentucky River Water Trail Alliance, an evolving group of organizations dedicated to supporting the development and stewardship of the Kentucky River Water Trail. They hope to unify projects and points of interest, improve recreational access to the river, network throughout the watershed, educate communities and promote stewardship of the river.