

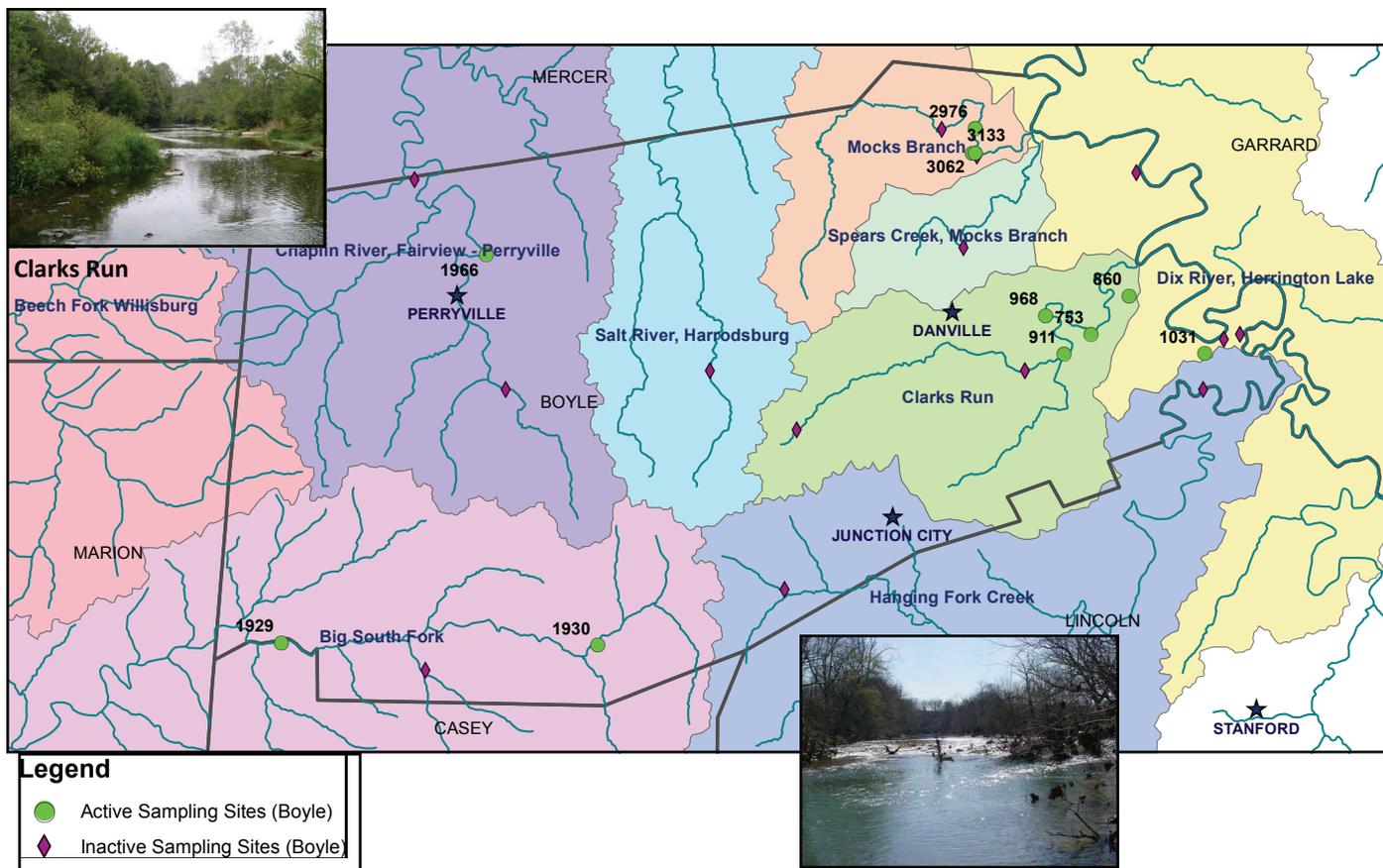


Watershed Watch in Boyle County

Prepared by Kentucky River Watershed Watch, October 2015

Volunteer Monitoring of Streams

Since 1999, Kentucky River Watershed Watch volunteers have been sampling Boyle County streams and rivers, in order to learn more about water quality in the area. There are currently 10 active sampling sites in Boyle County, 4 of which were sampled in the past year (2014/2015). These 10 active sites are located in the Kentucky River Basin on Clarks Run, Herrington Lake, and Mocks Branch, and in the Salt River Basin on North Rolling Fork and the Chaplin River.



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 the Clean Water Act goals of making our water fishable, swimmable and safe to drink. 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.krwww.org.

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

Results of Boyle County Sampling Efforts

From 1999 to 2014, trained volunteer samplers tested water quality in Boyle County streams. These results have allowed assessments of pesticides, bacteria, nutrients, metals and aquatic chemistry in the water. *A few issues have been found with bacteria and nutrients (nitrogen and phosphorus) in the streams.* Also, conductivity levels were higher than desired at a few sites, which can serve as a likely indication of these and other pollutants of concern. The following is a summary, based on the past 10 years of sampling results.

Site Id	River Basin	Stream	Location	Water Quality Findings
753	Kentucky River	Clarks Run	Upstream bridge on Goggin Lane	Concern about conductivity, phosphorus, nitrogen and pathogens.
860	Kentucky River	Clarks Run	At KY34, 1 mile west of 127 bypass	Concern about pathogens
911	Kentucky River	Clarks Run	At confluence with Bee Creek next to Kentucky School for Deaf property	Concern about conductivity and pathogens
968	Kentucky River	Clarks Run	At end of Winterhawk Drive, at Goggin Lane.	Concern about conductivity, nitrogen, phosphorus and pathogens.
1304	Kentucky River	Clarks Run	At Stanford Road	Concern about conductivity and pathogens.
1929	Salt River	North Rolling Fork	Ellis picnic area on Hwy 37. 0.5 miles east of Hwy 243 intersection.	Concern about pathogens.
1930	Salt River	North Rolling Fork	Just downstream of Carpenter Creek Road bridge.	No concerns.
1966	Salt River	Chaplin River	At jct with Crawford Spring just off US 68, approximately 1 mile north of Perrieville. 50-100 yds before the quarry.	Occasionally low dissolved oxygen levels, moderately high pathogen levels.

Bacteria or 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 is 240 cfu/100ml.

Nitrogen and phosphorus are major nutrients used by plants. However, when they are overly abundant, they can lead to increased algae growth. As the algae dies off, crucial oxygen supplies are consumed, making it difficult for fish and other aquatic animals to survive. Possible sources of nitrogen and phosphorus in streams include sewage, feed lot runoff, animal wastes (manure), runoff from fertilized agricultural fields and lawns, and discharges from car exhausts.

The recommended nitrogen limit for healthy aquatic life is 3.0 mg/L. The recommended phosphorus limit for aquatic life is 0.3 mg/L.

Conductivity is a water quality measurement that helps assess the amount of dissolved material in water, as shown by its ability to carry an electrical current.

High conductivity values can indicate problematic levels of a variety of pollutants from a variety of sources, including sewage, oil and gas wells and mining.

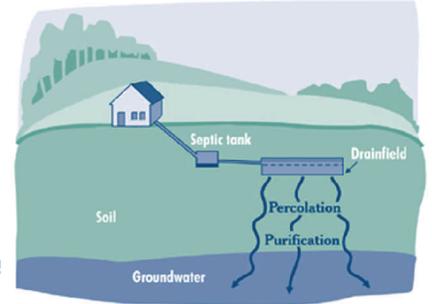
High conductivity levels can make it very difficult for aquatic plants and animals to survive, and can affect the suitability of water for industrial, agricultural and domestic uses.

Conductivity levels between 300 and 800 have been shown to have negative impacts, but there is no official water quality standard for the state of Kentucky.

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).



Possible Actions to Reduce Bacteria (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.



Possible Actions to Reduce Nutrient (Nitrogen and Phosphorus) Levels:

- Reduce sewage and other animal waste contribution to waterways.
- Educate residents about responsible fertilizer usage, prevent over-application of fertilizers.
- Encourage local farmers to take advantage of federal cost-share opportunities for installing nutrient reduction practices.



Contact Kentucky River Watershed Watch for more information.

www.krww.org

Phone: 800-928-0045

**KENTUCKY
RIVER
WATERSHED
WATCH**

Helpful Contacts in Boyle County:

Conservation District Office (agricultural assistance)

446 N. Danville Bypass, Suite 300, Danville, KY 40422

Phone/E-mail: (859)238-7461 or Brandon.campbell@ky.usda.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.

Boyle County Health Department (septic system assistance)

448 South Third Street, Danville, KY 40422

Phone/E-mail: (859)236-2053 or danielt.troutman@ky.gov

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.

City of Danville Water and Sewer Department (drinking water and sewage collection and treatment)

445 West Main Street, Danville, KY

Phone/E-mail: (859)238-1200 or ecoffey@danvilleky.org

The City utility system currently operates one water filtration plant, two wastewater treatment plants, over 15 pump and lift stations; and maintains over 400 miles of water and sewer lines.

City of Danville Stormwater Program (stormwater runoff, flooding issues)

445 W. Main Street, Danville, KY 40422

Phone/E-mail: (859)236-1200 or ecoffey@danvilleky.org

The Clean Water Act defines the City of Danville as a Phase II community. Therefore, the City is required to implement programs and practices to control polluted storm water runoff from entering the City's waterways. The City of Danville has a permit from the Kentucky Division of Water which requires six minimum controls for stormwater:

1. Public Education and Outreach.
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management, and Pollution Prevention
6. Good Housekeeping for Municipal Operations

The city's website posts various information relating to its stormwater program and ongoing stormwater improvement activities in the community.

Kentucky Division of Water

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 **Columbia Regional Office** at 270-384-4734, 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) 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.