

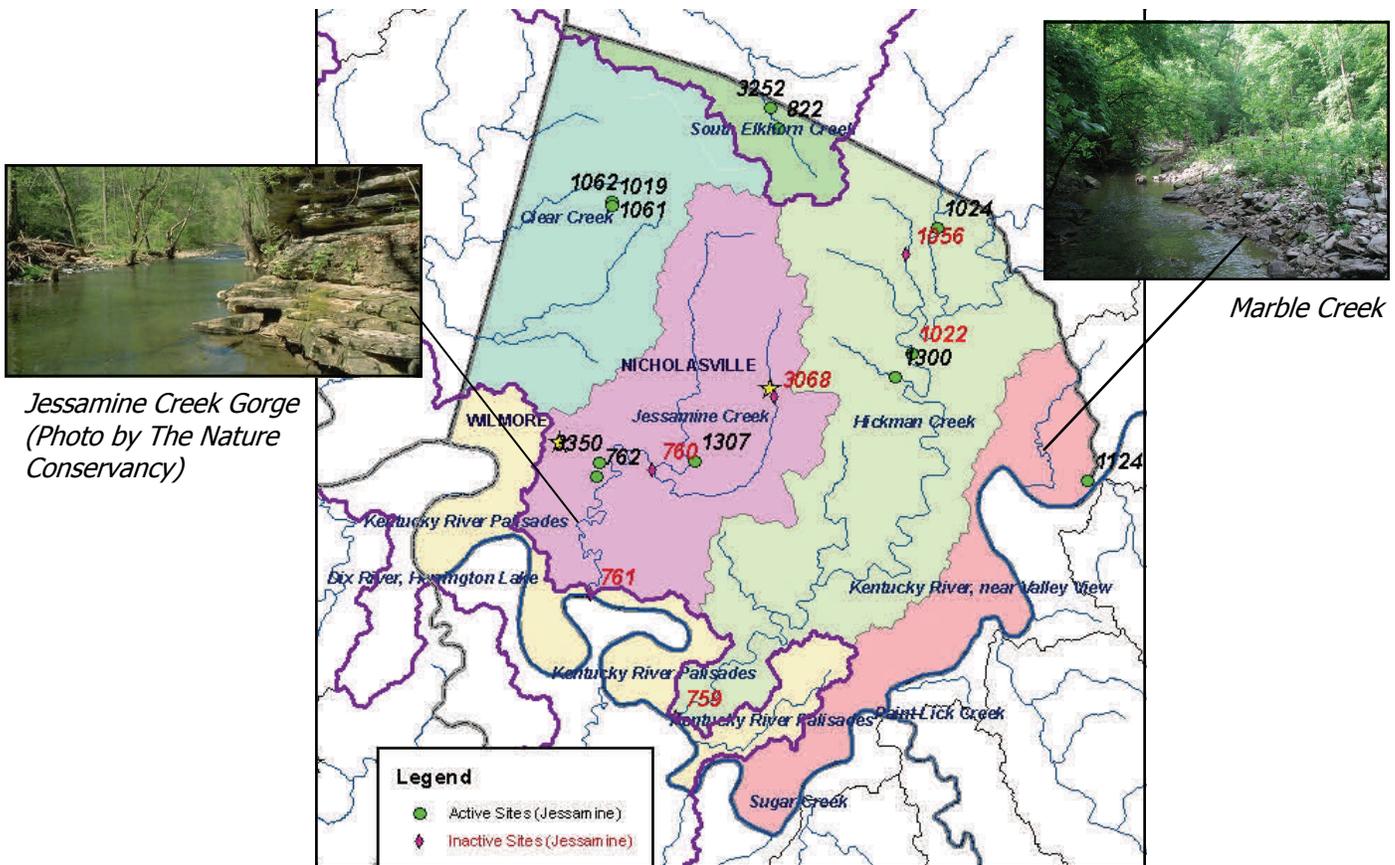


Watershed Watch in Jessamine County

Prepared by Kentucky River Watershed Watch, October 2015

Volunteer Monitoring of Streams

Since 1999, Kentucky River Watershed Watch volunteers have been sampling Jessamine County streams and rivers, in order to learn more about water quality in the area. There are currently 12 active sampling sites in Jessamine County, 4 of which were sampled in the past year (2014). These 12 sites are located on Clear Creek, East Hickman Creek, Hickman Creek, Jessamine Creek, Marble Creek, South Elkhorn Creek, Cave Spring Creek, Town Branch and West Hickman 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.

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 Jessamine County Sampling Efforts

From 1999 to 2014, samplers have tested for various indicators to determine the quality of the water in Jessamine County streams. These results have allowed assessments of pesticides, pathogens, nutrients, metals and aquatic chemistry in the water. Issues have been found with pathogens and nutrients in the streams.

Pathogens 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.

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.

Summary of Jessamine County KRWW Sampling Results for Nutrients & Pathogens (Past Ten Years, 2006-2015)

* Sample size in parentheses next to result.

Site ID#	Stream Name	Total Nitrogen Concentration (Avg mg/L)	Total Phosphorus Concentration (Avg 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
Elkhorn Creek Watershed				
822	South Elkhorn Creek	1.2 (3)	0.3 (3)	1,752 (6)
3252	South Elkhorn Creek	2.4 (2)	0.3 (2)	149 (3)
Hickman Creek Watershed				
759	Hickman Creek			305 (1)
1022	East Hickman Creek	0.28 (1)	0.3 (1)	236 (5)
1024	West Hickman Creek	14.0 (1)	0.5 (1)	216 (3)
Jessamine Creek Watershed				
760	Town Creek	no data	no data	404 (1)
761	Jessamine Creek	no data	no data	40 (1)
1307	Jessamine Creek	0.5 (3)	0.2 (3)	1,098 (11)
3068	Jessamine Creek	no data	no data	3,021 (2)
3350	Town Creek	2.1 (1)	0.3 (1)	653 (1)
Marble Creek Watershed				
1124	Marble Creek	0.6 (3)	0.3 (3)	180 (9)

 Satisfactory Quality

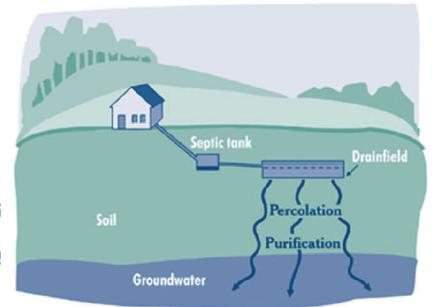
 Fair

 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

Phone: 800-928-0045

**KENTUCKY
RIVER
WATERSHED
WATCH**

Helpful Contacts in Jessamine County:

Conservation District Office (agricultural assistance)

308 W. Chestnut Street, Nicholasville, KY 40340

Phone/E-mail: (859)885-4673 or Charles.farmer@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.

Jessamine County Health Department (septic system assistance)

210 East Walnut Street, Nicholasville, KY 40356

Phone/E-mail: (859)885-2310 or LisaM.Bolton@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.

Jessamine County Stormwater Program (stormwater runoff, flooding issues)

Phone/E-mail: (859)887-8078 or mcassidy@jessamineco.com

City of Nicholasville Stormwater Program

517 Main Street, Nicholasville, KY 40356

Phone/E-mail: (859)885-9385 or stormwater@nicholasville.org

Website: <http://www.nicholasville.org/planning/stormwater.php>

The Clean Water Act requires Nicholasville and Jessamine County to implement programs and practices to control polluted storm water runoff from entering the local waterways. This includes the following activities:

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

Kentucky Division of Water

Website: 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**) 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.