Putting Water Quality Information into the Hands of the Public

KCWaters’ New Mobile Apps
Avoid contact during & 72 hours after rain storm!

For more information, call 816-513-9124

Evita el contacto durante y 72 horas después de la tormenta de lluvia!

Para más información, llame 816-513-9124
A red sign with white text on the left side reads:

**STREAM RECEIVES CONCEALED SEWER OVERFLOWS**

**AVOID CONTACT DURING & 72 HOURS AFTER RAIN STORM!**

For more information, call 816-913-0824

**EVITA EL CONTACTO DURANTE Y 72 HORAS DESPUÉS DE LA TORRENTA DE LLUVIA!**

For more information, call 816-913-0824

The sign is in English and Spanish.

Two people are in a stream, one is using a long tool to interact with the water.
Estimation of Constituent Concentrations, Loads, and Yields in Streams of Johnson County, Northeast Kansas, Using Continuous Water-Quality Monitoring and Regression Models, October 2002 through December 2006

Scientific Investigations Report 2008–5014

U.S. Department of the Interior
U.S. Geological Survey
(C) *Escherichia coli* bacteria (ECB)

- \( \log\text{ECB} = 1.38 \log\text{TBY} + 0.287 \)  
  \( R^2 = 0.74 \)
- \( \log\text{ECB} = 1.54 \log\text{TBY} - 0.0563 \)  
  \( R^2 = 0.86 \)
- \( \log\text{ECB} = 1.02 \log\text{TBY} + 1.58 \)  
  \( R^2 = 0.71 \)
- \( \log\text{ECB} = 1.29 \log\text{TBY} + 0.524 \)  
  \( R^2 = 0.79 \)

![Monitoring sites (fig. 1)]

- Blue River at Kenneth Road
- Cedar Creek near DeSoto
- Indian Creek at State Line Road
- Kill Creek at 95th Street
- Mill Creek at Johnson Drive

- Sites combined
- 90-percent prediction interval
LINE CREEK
SHOAL CREEK
CREEK
TURKEY CREEK
INDIAN CREEK
TOMAHAWK CREEK
WOLF CREEK
BLUE RIVER LITTLE BLUE RIVER
BRUSH CREEK
REAL TIME BACTERIA ESTIMATION NETWORK
“Is it safe?”
SEPTEMBER 2011

How People Learn About Their Local Community

Citizens’ media habits are surprisingly varied as newspapers, TV, the internet, newsletters, and old-fashioned word-of-mouth compete for attention. Different platforms serve different audience needs.

The Top Sources for Local News and Information Vary by Age

Percentage of adults in each age group who rely on source for each topic

<table>
<thead>
<tr>
<th></th>
<th>Weather</th>
<th>Restaurants/Clubs</th>
<th>Politics</th>
<th>Community Events</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age 18-39</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>44%</td>
<td>Internet 41%</td>
<td>Internet 26%</td>
<td>Internet 19%</td>
<td>Internet 24%</td>
</tr>
<tr>
<td>Internet</td>
<td>41%</td>
<td></td>
<td>Television 19%</td>
<td>Word of mouth 17%</td>
<td>Newspaper 12%</td>
</tr>
<tr>
<td><strong>Age 40+</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>67%</td>
<td>Newspaper 22%</td>
<td>Newspaper 34%</td>
<td>Newspaper 32%</td>
<td>Newspaper 27%</td>
</tr>
<tr>
<td>Internet</td>
<td>26%</td>
<td>Internet 21%</td>
<td>Television 34%</td>
<td>Internet 15%</td>
<td>Internet 15%</td>
</tr>
</tbody>
</table>

Source: Pew Research Center’s Project for Excellence in Journalism and Internet & American Life Project in partnership with the Knight Foundation, January 12-25, 2011 Local Information Survey. N=2,251 adults age 18 and older. Conducted in English and Spanish and included 750 cell phone interviews.
### Smartphone penetration 2009

Q3 2009, U.S. Mobile Insights, National

- **Feature Phone**: 82%
- **Smartphone**: 18%
- **Females**: 45%
- **Males**: 55%

#1 Device = Motorola Razr V3

### Smartphone penetration 2011


- **Feature Phone**: 56%
- **Smartphone**: 44%
- **Females**: 51%
- **Males**: 49%

#1 Device = Apple iPhone4

### Penetration by Age

#### 2009
- 13-17: 16%
- 18-24: 23%
- 25-34: 28%
- 35-54: 19%
- 55+: 10%

Those 25-34 and 18-24 have always been the leading age groups in smartphone penetration

#### 2011
- 13-17: 40%
- 18-24: 53%
- 25-34: 64%
- 35-54: 47%
- 55+: 25%
U.S. Smartphone Penetration

February 2012, Nielsen Mobile Insights

71% 70% 70% 66% 64% 62% 63% 59% 58% 57% 56% 56% 54% 52% 52%
29% 30% 30% 35% 36% 38% 37% 37% 40% 41% 42% 43% 44% 44% 46% 48% 48%

Read as: During February 2012, 50 percent of US mobile subscribers owned a smartphone

Source: Nielsen
Manufacturer operating system share-smartphones

Aug-Oct 2011, U.S. Mobile Insights, postpaid mobile subscribers

Smartphone OS penetration by age group
Aug-Oct 2011, U.S. Mobile Insights, National

ANDROID LEADS IN EACH AGE GROUP
Smartphone Penetration by Age and Income

January '11

Source: Nielsen
iTunes is the world’s easiest way to organize and add to your digital media collection.

We are unable to find iTunes on your computer. To download the free app KCWatertBug 1.0 by KCWaters.org, get iTunes now.

Already have iTunes? Click I Have iTunes to open it now.

Free
Category: Utilities
Released: Apr 25, 2012
Version: 1.0
Size: 1.0 MB
Language: English
Seller: Jeffrey Rabichaud
© KCWaters.org
Rated 4+
The Air Quality Index (AQI) is a measure used to communicate the air quality in a simple way. It is calculated using the formula:

\[ I = \frac{I_{high} - I_{low}}{C_{high} - C_{low}} \left( C - C_{low} \right) + I_{low} \]

This formula is used, where:
- \( I \) is the (Air Quality) index,
- \( C \) is the pollutant concentration,
- \( C_{low} \) is the concentration breakpoint that is \( \leq C \),
- \( C_{high} \) is the concentration breakpoint that is \( \geq C \),
- \( I_{low} \) is the index breakpoint corresponding to \( C_{low} \),
- \( I_{high} \) is the index breakpoint corresponding to \( C_{high} \).

The table below shows the Air Quality Index values and their corresponding levels of health concern:

<table>
<thead>
<tr>
<th>Air Quality Index (AQI) Values</th>
<th>Levels of Health Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 50</td>
<td>Good</td>
</tr>
<tr>
<td>51-100</td>
<td>Moderate</td>
</tr>
<tr>
<td>101-150</td>
<td>Unhealthy for Sensitive Groups</td>
</tr>
<tr>
<td>151-200</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>201-300</td>
<td>Very Unhealthy</td>
</tr>
<tr>
<td>301 to 500</td>
<td>Hazardous</td>
</tr>
</tbody>
</table>
“Is it safe?”
Kansas City Waters - KC Water Bug iPhone App

Building upon the Kansas City Urban Stream Network, EPA worked with the USGS and local partners to establish a real-time monitoring network in the Kansas City area to provide real-time water quality data. The United States Geological Survey has pioneered an innovative approach for estimating bacteria concentrations based on tracer water quality parameters. An example of this information can be found for Indian Creek at State Line Road here.

As part of this project, EPA collected paired e-coli and turbidity samples over the course of 2011, to develop a dataset sufficient to establish the necessary relationship. The results of these samples will be available by clicking on any one of the KC Urban Stream Monitor locations on the [metro area map](#), and then clicking on the link called 2010 Bacteria Sampling. Note these results were in most instances taken at another location on the stream itself, at the potential locations of the future real-time sites.

[KCWaters.org](http://www.KCWaters.org) has deployed an application for iPhones and iPads which provides hourly updates of stream quality. You can obtain this through the Apple Store.

For More Information

To learn more about bacteria click here. For the results of bacteria sampling conducted during 2010 and 2011 click on one of the following streams: [Line Creek](#), [Shoal Creek](#), [Blue River](#), [Tompkins Creek](#), [Little Blue River](#), [Coffee Creek](#), [Mill Creek](#), [Brush Creek](#), and [Turkey Creek](#).

In Kansas, the Kansas Department of Health and Environment is responsible for establishing and enforcing water quality criteria, including bacteria, for streams in the state. These criteria vary depending on the type of stream and its uses. KDHE has a nice white paper describing bacteria and water quality [here](#).

In Missouri, the Missouri Department of Natural Resources establishes water quality criteria for bacteria again based on the type of stream. This criteria is found in their Code of State Regulations [here](#).

Bacteria results from previous years (once per year) may be found by accessing the [metro area map](#), click on the monitoring station and then clicking on water.

For more information about KCWaterBug or KCWaters contact: info@kcwaters@gmail.com.
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