Project Final Report

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- **Breckinridge County Extension Service**
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- **Meade County Conservation District**
- **Kentucky Division of Forestry**
- **Kentucky Department of Fish & Wildlife Liaison**
- **Kentucky Corn Growers Association**
- **Kentucky Division of Conservation**
- **Soil Conservation Districts of Kentucky**
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Conversion Factors

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
	Area	
acre	4,047	square meter (m^2)
acre	0.4047	hectare (ha)
acre	0.4047	square hectometer (hm^2)
acre	0.004047	square kilometer (km^2)
square mile (mi^2)	259.0	hectare (ha)
square mile (mi^2)	2.590	square kilometer (km^2)
	Flow rate	
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m^3/s)
	Mass	
pound, avoirdupois (lb)	0.4536	kilogram (kg)
	Application rate	
pounds per acre (lb/acre)	1.121	kilograms per hectare (kg/ha)
pounds per day (lb/d)	0.4536	kilogram per day (kg/d)
pounds per year (lb/yr)	0.4536	kilograms per year (kg/yr)
pounds per square mile ($lb/mi^2{}_2$)	0.17514	kilograms per square kilometer (kg/km^2)
pounds per square mile per year ($(lb/mi^2)/yr$)	0.17514	kilograms per square kilometer per year ($(kg/km^2)/yr$)
pounds per year per square mile ($(lb/yr)/mi^2$)	0.17514	kilograms per year per square kilometer ($(kg/yr)/km^2$)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:
°F=(1.8×°C)+32

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:
°C=(°F-32)/1.8

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius (µS/cm at 25 °C).

Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micrograms per liter (µg/L).

Abbreviations and Acronyms

AIC – Akaike Information Criterion
CES – Cooperative Extension Service
EDI – equal-discharge increment
EWI – equal-width increment
GC/MS – gas chromatography/mass spectrometry
HAL – health advisory level
KDA – Kentucky Department of Agriculture
LOWESS – Locally Weighted Scatterplot Smoothing
MOVE.1 – Maintenance Of Variance-Extension, type 1
MCL – maximum contaminant level
MDL – method detection limit
mg/L – milligrams per liter
MRL – method reporting limit
N – normal
NADP – National Atmospheric Deposition Program
NASS – National Agricultural Statistics Service
NWQL – National Water Quality Laboratory
RPD – relative percent difference
TOPMODEL – TOPography-based hydrological MODEL
µg/L – micrograms per liter
USEPA – United States Environmental Protection Agency
USGS – United States Geological Survey

Executive Summary

An investigation of pesticides, nutrients, and suspended sediment was conducted, in cooperation with the Kentucky Department of Agriculture, in the karst terrane of the Sinking Creek Basin (also known as the Boiling Spring Basin) to characterize water quality based on data collected from April 2004 through November 2004 and March 2005 through December 2005 at all sampling sites, and April 2006 through June 2006 at select sites. Select pesticide, nutrient, and suspended sediment data were used to estimate loads and yields from the two mainstem Sinking Creek monitoring sites. Loads were estimated using the USGS LOADEST program. Loads were not estimated at the karst window or spring sites, because a streamflow relation between these sites and the mainstem sites could not be established.

Herbicides were detected more frequently than insecticides. Twelve of the 14 pesticides detected in water were herbicides. The commonly used herbicides, atrazine, simazine, metolachlor, acetochlor, and prometon were found throughout the basin. Atrazine was detected in 97 percent of all surface-water samples. The pesticide transformation compound, deethylatrazine (DEA), was detected in 93 percent of the surface-water samples. Prometon was the only nonagricultural herbicide detected. The insecticides, carbaryl and Malathion, were the only insecticides detected.

Most pesticides were present in low concentrations. Atrazine and simazine (row-crop herbicides) had the highest measured concentrations (24.6 µg/L and 2.68 µg/L, respectively) and were the most heavily applied herbicides in the basin. Atrazine was the only pesticide compound to exceed the U.S. Environmental Protection Agency's (USEPA) standard for drinking water (3 µg/L). Concentrations of select pesticides generally indicated a positive correlation with streamflow. Seasonal variations and the relations of pesticides to streamflow generally corresponded with nonpoint-source loadings.

The estimated annual loads of acetochlor, atrazine, metolachlor, and simazine for the study period were less than 0.01 to 1.2 percent of the amount assumed applied in the basin. The largest mean-annual load of atrazine was at the Sinking Creek near Lodiburg site (1,020 lb/yr). The estimated load of atrazine at the Sinking Creek at Rosetta site was about 7 percent of the atrazine load at the Sinking Creek near Lodiburg site (1,020 lb/yr).

Concentrations of nitrite plus nitrate ranged from 0.21 mg/L to 4.9 mg/L at the 7 sites. The highest concentration of nitrite plus nitrate of 4.9 mg/L was observed at the Big Spring site. The lowest concentration of nitrite plus nitrate of 0.21 mg/L was observed at the Sinking Creek at Rosetta site. The median concentration of nitrite plus nitrate for all sites sampled was 1.61 mg/L. Total phosphorus concentrations in 46 percent of the samples were greater than 0.1 mg/L (USEPA's recommended maximum concentration). The median concentration of total phosphorus for all sites sampled was 0.09 mg/L. Concentrations of orthophosphates ranged from <0.006 to 0.46 mg/L. The highest concentration of orthophosphate was measured at the Big Spring site: 0.46 mg/L.

An analysis of the nutrient data typically indicated a positive correlation of nitrite plus nitrate with streamflow. Concentrations of total phosphorus and orthophosphate with streamflow showed greater variability than nitrite plus nitrate, perhaps reflecting the greater potential of transport of phosphorus on sediment. Seasonal variations and the relations of nutrients to streamflow generally corresponded with nonpoint-source loadings. Estimated mean annual loads of

nutrients at the downstream monitoring site (Sinking Creek near Lodiburg) were larger than loads at the upstream monitoring site (Sinking Creek at Rosetta).

Concentrations of suspended-sediment generally were low in karst terrane of the Sinking Creek Basin. The concentrations of suspended sediment ranged from 1.0 mg/L to 1,490 mg/L at the 7 sites. The median concentration of suspended sediment (excluding storm-event samples collected by the automatic sampler) for the 7 sites sampled was 148 mg/L. The median concentration of suspended sediment including storm-event samples collected by the automatic sampler was 270 mg/L. The highest concentration of suspended sediment was measured at the Sinking Creek near Lodiburg site (1,490 mg/L) during an early summer runoff event. Estimated mean annual loads of suspended sediment at the downstream monitoring site (Sinking Creek near Lodiburg) were larger than loads at the upstream monitoring site (Sinking Creek at Rosetta).

TOPMODEL (TOPography-based hydrological MODEL), a physically based watershed model, was used to simulate rainfall runoff through the karst terrane of the Sinking Creek Basin. The model specifically simulates the interaction between groundwater and surface water based on the water table and incorporates topography characteristics. The model was applied in calibration mode in order to confirm the accuracy of applying the model to the karst terrane of the Sinking Creek Basin.

Introduction and Background

Pesticides are chemical or biological substances that are used to control pests such as weeds (herbicides), insects (insecticides), and fungi (fungicides). Nearly 1 billion pounds of pesticides are used annually in the United States (Barbash and Resek, 1997). About 80 percent of pesticides are used for agricultural purposes, but pesticides also are used for industrial, commercial, and residential purposes. Pesticides are present in streams and aquatic ecosystems in many parts of the United States and the world (Larson and others, 1997). Many streams also contain nutrients (including nitrogen and phosphorus compounds) at concentrations exceeding natural conditions. Although pesticide and nutrient applications are useful for many purposes, excessive amounts of these compounds in the environment may cause a variety of adverse ecological or human-health effects. Suspended sediment plays a major role in the transport and fate of contaminants such as pesticides and nutrients because contaminants may sorb onto the surface or the suspended sediment particles and be transported and deposited in other areas downstream.

Water resources in the Sinking Creek Basin potentially are vulnerable to applications of pesticides and fertilizers associated with both agricultural and nonagricultural activities, especially because much of the basin is characterized by karst topography. Karst topography is characterized by internal (sinkhole) drainage and rapid flow through solutional conduits, providing reduced opportunity for natural attenuation of contaminants and enhanced potential for surface- and ground-water contamination (Field, 1990).

In Kentucky, about 520 stream miles are impaired because of nutrients and about 470 stream miles are impaired because of suspended sediment (U.S. Environmental Protection Agency, 2006a). Currently, no streams in Kentucky are listed as impaired for pesticides, because there is a lack of data on concentrations of pesticides in surface water. The Kentucky Energy and Environment Cabinet--Division of Water has listed some streams in the Sinking Creek Basin as impaired streams for nutrients and suspended sediment in the State's 2008 Integrated Report to Congress on the Condition of Water Resources in Kentucky (Kentucky Energy and Environment Cabinet, 2008). These streams have been on the State's 303(d) List of Impaired Waters since the 2002 303(d) List of Impaired Waters (Kentucky Natural Resources and Environmental Cabinet, 2003). Because of these impairments, the State must develop plans to restore and maintain the water quality of the streams in the Sinking Creek Basin. The plans establish a "total maximum daily load", or TMDL, for the impaired streams. A TMDL represents the total amount of contaminant a water body can assimilate without violating the designated water-quality standard established by the U.S. Environmental Protection Agency.

In 2004, the U.S. Geological Survey, in cooperation with the Kentucky Department of Agriculture, began a study to determine concentrations, and estimate loads and yields of pesticides, nutrients, and suspended sediment in the karst terrane of the Sinking Creek Basin. Information from this study will assist State and local water managers and planners, who are responsible for implementing TMDLs and who are responsible for drinking-water supplies in the Sinking Creek Basin, to make informed management decisions on pesticides, nutrients, and suspended sediment.

Purpose and Scope

The purpose of the study was to determine the presence and distribution of select pesticides, nutrients, and suspended sediment in streams, springs, and karst windows in the karst terrane of the Sinking Creek Basin to evaluate the variability in concentrations of pesticides, nutrients, and suspended sediment by site and season, and to estimate the loads and yields of select pesticides, nutrients, and suspended sediment at select sites in the basin.

This report summarizes the occurrence and distribution of select pesticides, nutrients, and suspended sediment and provides estimates of select pesticides, nutrients, and suspended sediment loads and yields from samples collected from streams, springs, and karst windows in the karst terrane of the Sinking Creek Basin from 2004-06. Select pesticides, nutrient, and suspended sediment loads are computed using LOADEST, a U.S. Geological Survey software program used to compute mean constituent loads in rivers using regression models. Loads and yields of select pesticides, nutrients, and suspended sediment are presented for the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site.

Study Design

Sampling sites in the karst terrane of the Sinking Creek Basin were selected to assess the spatial and seasonal variability of nutrients, pesticides, and suspended sediment in areas of mixed land use and different types of agricultural land. Samples were collected on two Sinking Creek main stem sites (Sinking Creek at Rosetta and Sinking Creek near Lodiburg); four springs (Big Spring, Flat Rock Spring, Fiddle Spring, and Boiling Spring); and one karst window (Ross Karst Window) (fig. 1 and table 1).

Water-quality and suspended-sediment samples were collected from April 2004 through November 2004 and March 2005 through December 2005 at all sampling sites (Sinking Creek at Rosetta; Sinking Creek near Lodiburg; Big Spring; Flat Rock Spring; Boiling Spring; Ross Karst Window; and Fiddle Spring), and April 2006 through June 2006 at all sites except Boiling Spring and Ross Karst Window. One hundred and thirty-one nutrient samples were collected and one hundred and fifty-five suspended sediment samples were collected at the sites. One hundred and twenty-nine samples were collected for pesticides and transformation compounds. Twenty-two samples were collected for quality assurance/quality control (blanks, replicates, and spikes).

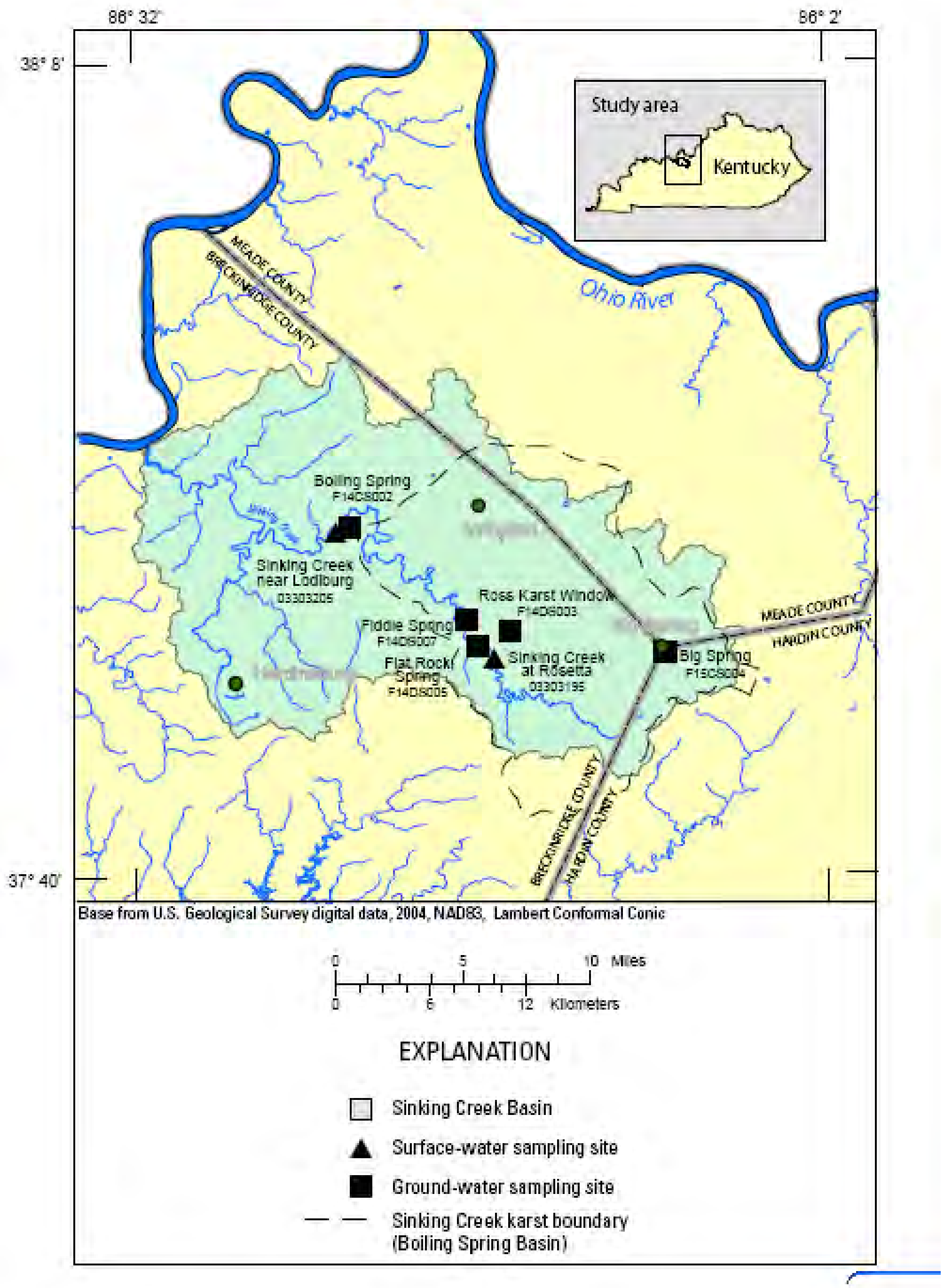


Figure 1. Location of the surface- and ground-water sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, study area.

Table 1. Surface-water and ground-water sites sampled in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

							Percentage of basin area in indicated land use[1]				
Map reference number (figure1)	**USGS station number**	**USGS site name**	**Type of site**	**Latitude**	**Longitude**	**Drainage area (mi^2)**	**Agriculture**		**Forest**	**Urban**	**Water**
							Cultivated	**Pasture**			
1	374755086090401	Big Spring - F15CS004	GW	37°47’55”	86°09’04”	--	--	--	--	--	--
2	374846086154101	Ross karst window - F14DS003	GW	37°48’46”	86°15’41”	--	--	--	--	--	--
3	374813086171501	Flat Rock Spring - F14DS005	GW	37°48’13”	86°17’15”	--	--	--	--	--	--
4	374847086172901	Fiddle Spring - F14DS007	GW	37°48’47”	86°17’29”	--	--	--	--	--	--
5	375209086224001	Boiling Spring - F14CS002	GW	37°52’09”	86°22’40”	--	--	--	--	--	--
6	03303195	Sinking Creek at Rosetta, KY	SW	37°47’47”	86°16’25”	36	--	--	--	--	--
7	03303205	Sinking Creek near Lodiburg, KY	SW	37°52’06”	86°23’16”	125	11	37	47	4	<1

[USGS; U.S. Geological Survey; GW, ground water; SW, surface water; KY, Kentucky; mi^2, square miles;--, data not available; <, less than]

[1]Kentucky Land Cover Data Set, 2001, Kentucky Commonwealth Office of Technology, November, 2005.

Description of the Upper Sinking Creek Basin, Kentucky

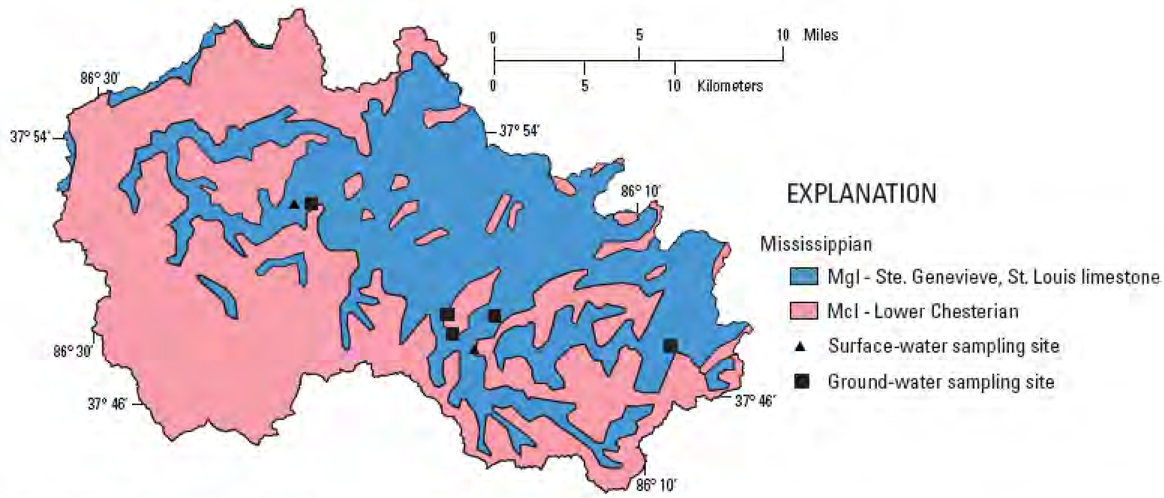
The karst terrane of the Sinking Creek Basin (also known as the Boiling Spring Basin) encompasses about 125 mi^2 (fig. 1). Water quality throughout the basin is directly affected by natural (geology, climate, and soils) and human (population and land use) factors. The karst terrane of the Sinking Creek Basin has a high hydrogeologic sensitivity rating indicating it is highly vulnerable to effects from runoff because much of the area is underlain by karst. The hydrogeologic sensitivity rating of an area is defined as the potential ease and speed with which a contaminant can move into and within a ground-water system (Ray and others, 1994). Ground water from the subsurface channels comes out at several natural springs and karst windows and flows directly into Sinking Creek within the karst terrane of the Sinking Creek Basin. The Sinking Creek Basin is listed as a target priority watershed by the Kentucky Division of Water because of impairments to water resources in the basin. These impairments include siltation, nutrients, pathogens, organic enrichment (low dissolved oxygen (DO)), and habitat modifications (Kentucky Energy and Environment Cabinet, 2008).

Stratigraphy

The upper Sinking Creek Basin mostly is underlain by karstic limestone formations of Mississippian through Pennsylvanian age (fig. 2). The limestone units of significance within the upper Sinking Creek Basin study area are the St. Louis and Ste. Genevieve Limestone Formations. The St. Louis Limestone mostly is composed of sequences of massively bedded (tabular) limestones and shales, and the Ste. Genevieve Limestone mostly is composed of thin-bedded, cherty limestones.

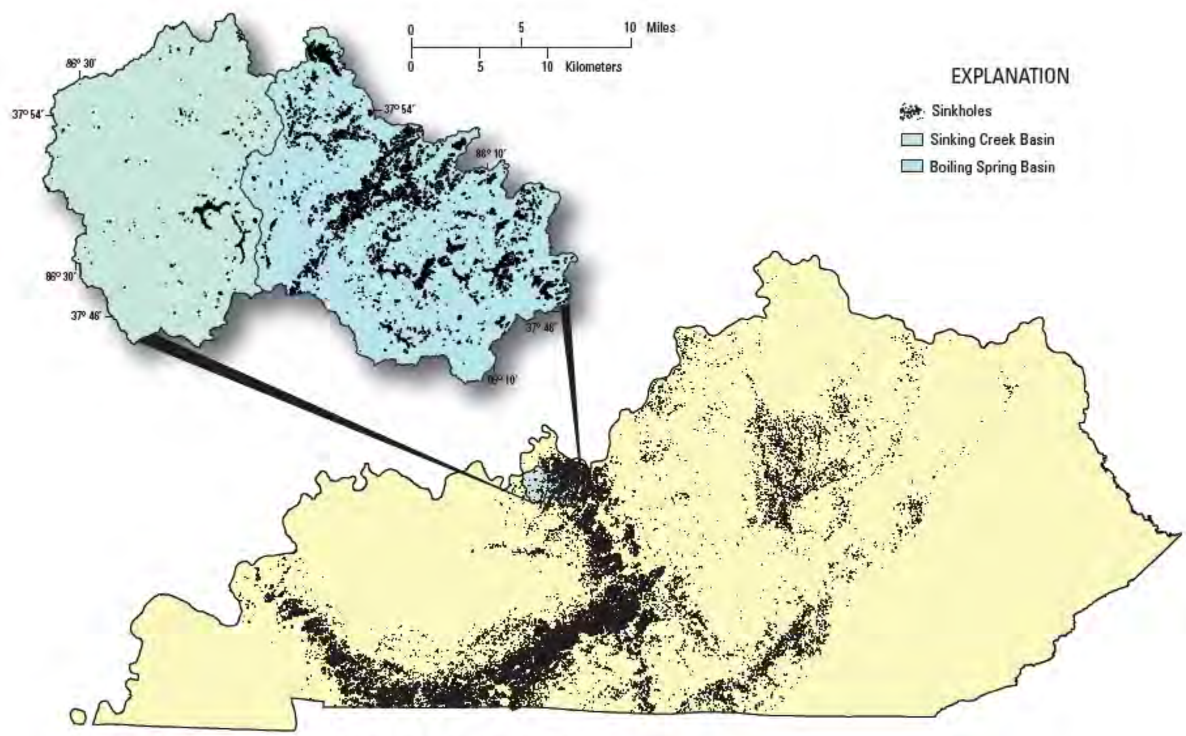
Ground-water Hydrology

Numerous karst features are present in the study area including sinkholes (fig. 3), caves, springs, and sinking streams. The exposure of Ste. Genevieve Limestone at the



Source: Kentucky Geological Survey, A GIS Sinkhole Coverage for the Karst Areas of Kentucky, 2003.
Stratigraphic data source: McDowell and others, 1981.

Figure 2. Surficial geology in the karst terrane of the Sinking Creek Basin, Kentucky, study area.



Source: Kentucky Geological Survey, A GIS Sinkhole Coverage for the Karst Areas of Kentucky, 2003.

Figure 3. Generalized distribution of sinkholes in the karst terrane of the Sinking Creek Basin, Kentucky, study area.

land surface allows for water from surface-water streams to enter the underground cavities through sinkholes. Water also enters the Ste. Genevieve and Girkin Limestones through sinkholes developed in the sandstone members of the Golconda

Formation. Potential contaminants may enter the karstic limestone aquifers with surface runoff drained by sinkholes in the St. Louis and Ste. Genevieve and through sinking streams.

Sinking Creek is one of the largest losing streams in Kentucky (Ray and others, 2005). Blue Fork and Stony Fork are two springs that form the headwaters of Sinking Creek in eastern Breckinridge County. Sinking Creek's main losing reach of is about 3 miles (mi) south of Irvington. A dry channel extends about 12 mi. from the losing reach to Boiling Spring, where Sinking Creek once again flows on the surface to the Ohio River at Stephensport (George, 1976; Ray, 2001). Additional springs in the area of Boiling Springs Basin that drain into Sinking Creek include Hardin Springs, Burtons Hole Spring, and runoff from Sugar Tree Run and Dry Valley (Ray and others, 2005).

Surface-Water Hydrology

Annual mean flow differs appreciably from year to year, with variations in weather conditions. Mean annual streamflow at the Sinking Creek near Lodiburg site was 237 cubic feet per second (ft^3/s) in 2005 and 233 ft^3/s in water year 2006 (fig. 4). Mean streamflow in water year 2004 (June through September) was 128 ft^3/s. Mean monthly streamflow peaks in the spring (March–May); however, there is a second peak in the winter (December–February) months. Low streamflow conditions typically occur from late summer (June–August) to early fall (September–November). The mean daily streamflows for the Sinking Creek near Lodiburg site in water year 2004 ranged from 13 ft^3/s (September 26-30) to 4,140 ft^3/s (May 31); mean daily streamflows in water year 2005 ranged from 9.3 ft^3/s (July 21) to 3,910 ft^3/s (March 28); mean daily streamflows in water year 2006 ranged from 9.1 ft^3/s (November 25) to 5,440 ft^3/s (May 26). The estimated mean daily streamflows for the Sinking Creek at Rosetta site in water year 2004 (end of May through December) ranged from 2.4 ft^3/s (September 26-30) to 1,825 ft^3/s (May 27); estimated mean daily streamflows in water year 2005 ranged from 1.8 ft^3/s (July 21) to 1,321 ft^3/s (March 28); estimated mean daily streamflows in 2006 ranged from 1.8 ft3/s (November 25) to 1,893 ft^3/s (May 26). Daily streamflow was estimated at the Sinking Creek at Rosetta site the by use of the MOVE.1 technique. The MOVE.1 technique assumes that a linear relation exists between the concurrent flows at the short-term site (Sinking Creek at Rosetta) and long-term site (Sinking Creek near Lodiburg).

The Kentucky Division of Water has gaged Boiling Springs six times in 8 years during low flow periods. Flow ranged from a 6.3 ft^3/s during the 1999 drought to 12.9 ft^3/s. The mean low-flow discharge is 9.8 ft^3/s (Ray, 2005). High-flow events have been estimated at about 2,000 ft^3/s (George, 1976).

Precipitation

Mean annual precipitation for the upper Sinking Creek Basin at the streamflow station was 14.7 in. in 2004 (June through September), 42.6 in. in 2005, and 51.8 in. in 2006. The precipitation gage was not installed at the streamflow station in 2004 until late spring. Mean annual precipitation at the nearest COOP precipitation station (Hardinsburg, ID 153604) was 54.2 in. in 2004, 35.73 in. in 2005, and 52.5 in. in 2006 (National Oceanic and Atmospheric Administration, 2004-2006) (fig. 4). The mean annual precipitation that occurred during the growing season from April through October was 60 percent (32.6 in.) of the total mean annual precipitation in 2004, was 55 percent (19.8 in.) of the total mean annual precipitation in 2005, and was 64 percent (33.5 in.) of the total mean annual precipitation in 2006. The long-term mean annual precipitation for the Sinking Creek Basin is about 48 in.

Land Use and Land Cover

Streams and springs in the upper Sinking Creek Basin drain a diverse landscape of forest, agricultural areas, and developed areas, such as Irvington, Kentucky. Agricultural land uses represent about 48 percent of the study area (fig. 5). Most of the agricultural land (37 percent) is used for pasture; the remaining 11 percent of the agricultural land is used for corn, soybeans, wheat, hay, and tobacco production. Soybeans are the principal row crop harvested in the basin, followed by corn. Table 2 shows the number of acres of soybeans harvested and the number of acres of corn harvested for grain in 2004, 2005, and 2006 from Breckinridge, Meade, and Hardin Counties (National Agricultural Statistics Service, 2008).

Forested land represents about 47 percent of the karst terrane of the Sinking Creek Basin. The most densely forested area is located in the headwaters of the basin.

Developed areas represent about 4 percent of the land use in the basin. The most heavily populated community in the upper Sinking Creek Basin is Irvington. Irvington has a population of about 1,447 (U.S. Census Bureau, 2002).

Pesticide Use, Properties, and Sales

Herbicides commonly are used to control weeds in agricultural areas in the upper Sinking Creek Basin. The most commonly used herbicides are atrazine,

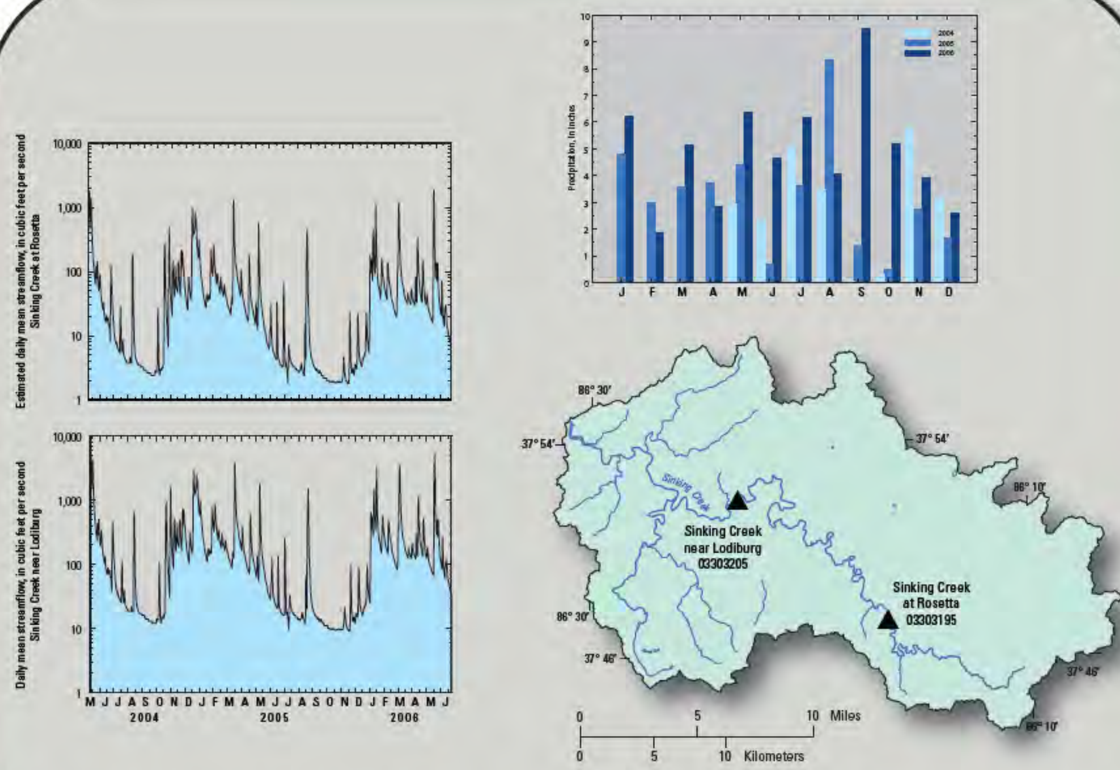


Figure 4. Precipitation and daily and estimated daily mean streamflow at selected surface-water sites in the karst terrane of the Sinking Creek Basin, Kentucky, study area.

Table 2. .Number of acres of soybeans harvested and corn harvested for grain in Breckinridge, Hardin, and Meade Counties, Kentucky, 2004-2006

County	Soybeans harvest, in acres[1]			Corn harvest for grain, in acres[1]		
	2004	2005	2006	2004	2005	2006
Breckinridge	16,400	16,700	17,000	12,800	12,300	11,800
Hardin	27,000	26,400	28,500	24,000	24,700	22,900
Meade	15,100	14,500	16,000	10,000	11,000	9,500

[1]U.S. Department of Agriculture, National Agricultural Statistics Service, 2008

glyphosate, acetochlor, and metolachlor. Glyphosate is another commonly used herbicide, but it was not examined during his study. The largest applications of these herbicides to agricultural land in the upper Sinking Creek Basin are on row crops such as corn, soybeans, tobacco, wheat, and on pasture and hay fields. Combinations of herbicides applied to row crops are sometimes used for more effective weed control. Multiple applications are common and include some combination of pre-plant applications of selective and nonselective herbicides and pre- and post-emergent applications of selective herbicides (Hippe and others, 1994).

The three classes of herbicides most heavily used in the upper Sinking Creek Basin are triazines, chloroacetanilides, and organophosphate herbicides (glyphosate).

The most common triazines (atrazine, simazine, and cyanazine) are used primarily on corn. The most common chloroacetanilides (acetochlor and metolachlor) are used on both corn and soybeans. The most common organophosphate herbicide, glyphosate, is used on corn and soybeans. Both the triazine and chloroacetanilide groups have moderate to high water solubility and moderately low soil-sorption coefficients and, therefore, can be persistent in soil (Wauchope and others, 1992). As a result, they have moderate to strong potential for transport, primarily in the dissolved phase, from fields through surface runoff (Goss, 1992).

Chemical or biological processes can transform herbicides. Chemical-transformation processes include photolysis (photochemical degradation), hydrolysis, oxidation, and reduction. The transformation of herbicides through microbial metabolic processes is considered the primary mechanism of biological degradation (Ritter and Shirmohammadi, 2001, p.114).

Pesticide-transformation compounds are more water-soluble than their parent compounds. For example, Mills and Thurman (1994) found that one of the transformation compounds of the parent compound atrazine, deethylatrazine (DEA), sorbs less strongly to soils than does its parent compound. In some studies, pesticide-transformation compounds often have been detected at higher concentrations than their respective parent compound (Kolpin and others, 1998); Scribner and others, 1998). The toxicity of pesticide-transformation compounds is unknown (U.S. Geological Survey, 1999).

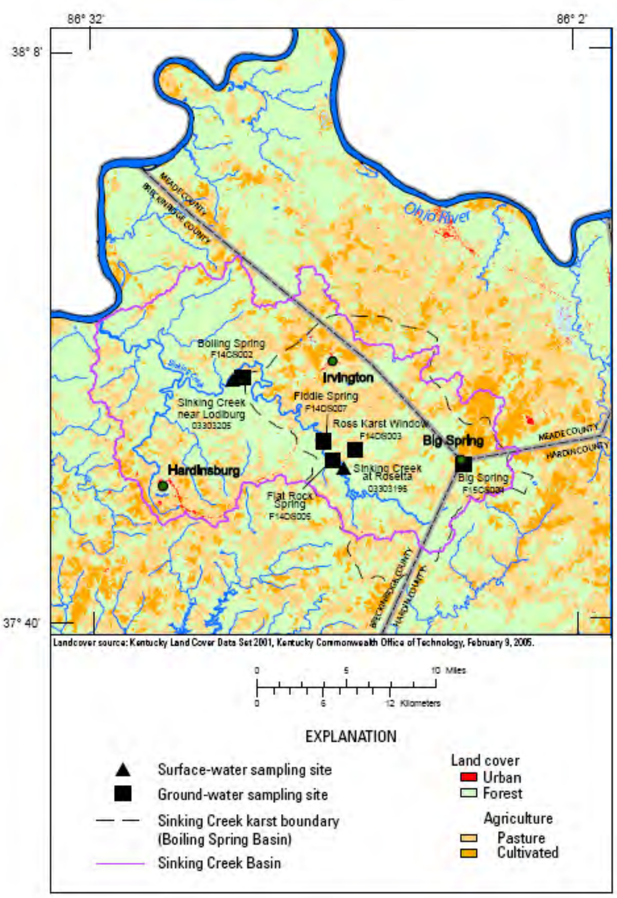


Figure 5. Land cover in the karst terrane of the Sinking Creek Basin, Kentucky, study area.

The amount of pesticides applied annually to agricultural land within the karst terrane of the Sinking Creek Basin (in pounds of active ingredient) was derived from county-based crop-acreage data and State-level estimates of pesticide-use rates for individual crops from the National Agricultural Statistics Service (NASS) database. County-crop acreages were combined with the State pesticide-use coefficients to calculate county-level pesticide usage by pesticide and crop. The crops of interest included corn, soybeans, winter wheat, alfalfa hay, pasture, and tobacco. Little information was available for pesticide use in forestry, transportation (weed control along roadways and right-of-ways), aquatic use (algae control), and various commercial and industrial applications.

Every year, the Kentucky Department of Agriculture assembles a database of agricultural pesticide sales (reported as amount of active ingredient) to evaluate where pesticides are purchased and potentially applied in each county in Kentucky. The number of active ingredients that were sold statewide in the years 2004, 2005, and 2006 were 183, 182, and 184, respectively. The top five active ingredients sold in Kentucky were glyphosate, atrazine, 2,4-D, fatty alcohol, and simazine in 2004; glyphosate, atrazine, 2,4-D, acetochlor, and S-metolachlor in 2005; and glyphosate, atrazine, 2,4-D, fatty alcohol, and acetochlor in 2006.

Atrazine was the top-selling active ingredient in the Sinking Creek Basin (Breckinridge, Hardin, and Meade Counties) of the pesticides studied. Other top-selling active ingredients within the counties that were studied included acetochlor, metolachlor, and simazine, (table 3). Hardin, Breckinridge, and Meade Counties generally ranked within the top 30 of 98 counties reporting pounds of active ingredient for atrazine from 2004-06. Hardin County consistently ranked higher for pounds of active ingredient for atrazine than Breckinridge and Meade Counties. It is assumed that higher sales equates to higher use of pesticides in the upper Sinking Creek Basin, because atrazine was detected at all of the sampling sites in the basin.

Table 3. Pesticide active-ingredient sales from Breckinridge, Hardin, and Meade Counties, Kentucky, and detections in collected water samples, 2004-2006.

Constituent	Amount of active ingredient in 2004 (pounds)[1]	Amount of active ingredient in 2005 (pounds)[1]	Amount of active ingredient in 2006 (pounds)[1]	Mean detection (percent)
Acetochlor	18,250	21,500	22,389	56
Atrazine	85,344	75,836	92,630	96
Metolachlor	20,777	21,230	24,564	67
Simazine	23,237	19,642	19,009	70

[1]Ernest Collins, KY Department of Agriculture, written commun., 2004-2006.

Sources of Nitrogen and Phosphorus

The sources of nutrients into the karst terrane of the Sinking Creek Basin are categorized as being point or nonpoint-source (table 4). Contaminant sources that are diffuse and do not have a single point of origin into receiving streams are called nonpoint sources. Nonpoint sources of nutrients include atmospheric deposition, fertilizer applications from agricultural and residential areas, feed-lot discharges, septic systems, and urban runoff. Point sources differ from nonpoint sources in that they discharge directly into a receiving stream at a discrete point. Point sources primarily consist of a variety of large and small wastewater-treatment facilities, but nutrient inputs also can come from storm-water runoff and sewer overflows.

Nonpoint Source Contributions

Nonpoint-source inputs of nutrients estimated in this report for the karst terrane of the Sinking Creek Basin include atmospheric deposition, commercial fertilizer application, livestock waste, and nitrogen fixation from soybeans. Nutrient inputs from urban runoff, combined sewer overflows, and failing septic systems were not included in the nonpoint source estimates of this report because of minimal or no data.

Atmospheric Deposition

Atmospheric deposition of nitrogen has been measured at a site located at Seneca Park in Jefferson County, since October 2003 (KY19).The wet deposition data from the National Atmospheric Deposition Program (NADP) include nitrate, ammonia nitrogen, and other constituents. No dry deposition data are measured; therefore, total atmospheric deposition of nitrogen cannot be obtained. Atmospheric deposition of phosphorus is not measured by NADP because concentrations generally are not significant and samples are subject to contamination (National Atmospheric Deposition Program, 2008).
Rates of wet deposition of inorganic nitrogen in 2004, 2005, and 2006 were 3,000 lb/mi^2, 2,500 lb/mi^{2}and 3,500 lb/mi^2, respectively (table 4). The 3-year mean rate (2004-06) of wet deposition of inorganic nitrogen was 3,000 lb/mi^2. The NADP provides annual-summary reports which are available online at http://nadp.sws.uiuc.edu/.

Commercial Fertilizer and Livestock Waste

Commercial fertilizers applied to agricultural lands has become a primary nonpoint source of nitrogen and phosphorus in the United States. Commercial nitrogen fertilizer is applied as either ammonia or nitrate and commercial phosphorus fertilizer is commonly applied as phosphate. Application of nitrogen and phosphorus in commercial fertilizers in the United States from 1945-1993 has increased by 20 and 3.6 percent, respectively (Ruddy and others, 2006).

Table 4. Estimated mean annual loads of total nitrogen and total phosphorus from nonpoint and point sources in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

[lb/yr, pound per year; NA, not applicable; --, data not available]

Constituent	Mean annual load of total nitrogen (lb/yr)	Mean annual load of total phosphorus (lb/yr)
Inputs to land		
Atmospheric deposition[2]	3,000	NA
Farm fertilizer[3]	1,800,000	380,000
Nonfarm fertilizer[3]	23,000	4,500
Livestock waste[1]	4,000,000	1,200,000
Nitrogen fixation[4]	16,600	NA
Septic systems[6]	293,000 to 845,000	67,600-to 140,000
Input to streams		
Municipal wastewater discharge[5]	1,500	--

[1]U.S. Department of Agriculture, 2004.
[2]Data from National Atmospheric Deposition Program, 2008. Dry deposition nitrogen not included in atmospheric deposition.
[3]Ruddy and others, 2006. Data from 2001.
[4]Kentucky Agricultural Statistics Service, 2004.
[5]U.S. Environmental Protection Agency, 2006b.
[6]U.S. Environmental Protection Agency, 2002.

County-level data for nitrogen and phosphorus from commercial fertilizer (farm and nonfarm) and livestock waste were compiled in a national data set (Ruddy and others, 2006). The methods for allocating data on State total fertilizer sales to individual counties and for estimating livestock-waste inputs from livestock populations are described in detail by Ruddy and others, 2006. The use of county-level data has some limitations in its application, because fertilizer and livestock waste sources are not evenly distributed within counties. The use of county-level data generally is more applicable to large drainage basins that encompass entire counties than smaller drainage basins that encompass only parts of one or more counties.

Farm-fertilizer inputs of nutrients in 2001 were 1,800,000 lb of nitrogen and 380,000 lb of phosphorus in the karst terrane of the Sinking Creek Basin, an average of about 14,400 $lb/mi^2/yr$ of nitrogen and about 3,000 $lb/mi^2/yr$ of phosphorus applied (table 4). The amount of cultivated-agricultural land in the karst terrane of the Sinking Creek Basin is about 12 percent, or about 15 mi^2. Nitrogen and phosphorus fertilizers generally are applied to corn in spring just before seeding. Livestock waste also can be used during this time. Nitrogen fertilizer is reapplied to corn fields 6-10 weeks after planting. Phosphorus fertilizer is applied to corn and soybeans at the time of planting. Nitrogen and phosphorus fertilizers and livestock waste are applied in late summer through early fall for cool-season pasture, hay fields, and wheat fields (University of Kentucky, 2001).

Nonfarm-fertilizer contributions of nutrients in 2001 were 23,000 lb of nitrogen and 4,500 lb of phosphorus in karst terrane of the Sinking Creek Basin resulting in an average of about 184 $lb/mi^2/yr$ of nitrogen and 36 $lb/mi^2/yr$ of phosphorus applied (table 4).

Nitrogen and phosphorus in livestock waste potentially can be a major source of nitrogen and phosphorus loads in streams draining agricultural areas. Animal-feeding operations and concentrated animal-feeding operations, which concentrate animals, feed, and waste on a small land area, have greater potential to contribute nutrients to surface runoff and ground water. Wastes produced by these operations may be applied to pasture land and crop land, becoming available for either crop uptake or losses to the environment. An animal-feeding operation in Kentucky is defined as a facility where animals are confined and fed for a total of 45 days or more in any 12-month period and where crops, vegetation forage growth, or post-harvest residues are not sustained over any portion of the facility in the normal growing season (Kentucky Environmental and Public Protection Cabinet, 2008). In order for an animal-feeding operations to be defined as a confined animal-feeding operation, the facility has more than 300 animal units confined and there is a discharge to the Waters of the Commonwealth, or if more than 1,000 head of beef cattle, 700 head of dairy cattle, 2,500 pigs, 25,000 broilers, or 82,000 laying hens or pullets are present at the facility. There are 6 animal-feeding operations and 0 confined animal-feeding operations within the karst terrane of the Sinking Creek Basin as of July 2008 (James Seay, Kentucky Energy and Environment Cabinet-Division of Water, written, commun., 2008).

In Kentucky, the average inputs of nutrients from livestock waste were 1,100,000 lb of nitrogen and 320,000 lb of phosphorus in 1997. In Breckinridge, Hardin, and Meade Counties, mean nutrient inputs were 4,000,000 lb of nitrogen and 1,200,000 lb of phosphorus. These nutrient inputs average about 2,600 $lb/mi^2/yr$ of nitrogen and 800 $lb/mi^2/yr$ of phosphorus throughout the basin. Actual nitrogen inputs to the land probably are lower because of volatilization of ammonia from the waste and nitrification and de-nitrification.

Nutrient-input estimates from livestock waste were based on county-level livestock-population data collected by the U.S. Census Bureau during the Census of Agriculture. The method and assumptions used in Ruddy and others (2006) to estimate nitrogen and phosphorus content of livestock waste produced by the various types of livestock are described by Goolsby and others, 1999). The livestock groups used to estimate nutrient inputs from livestock waste include beef cattle, dairy cows, hogs, and poultry.

Nitrogen Fixation by Soybeans

Nitrogen fixation by soybeans is an important source of nitrogen in the karst terrane of the Sinking Creek Basin because of the acreage of soybeans in the study area; however, the fixation of nitrogen from soybeans is not used in computations of nonpoint-source inputs of nitrogen because not much of this nitrogen is available to enter the surface and ground water. The amount of nitrogen produced by fixation from soybeans in the basin is based on the area of soybeans planted and an annual nitrogen fixation rate of 105 lb/acre, as used by Hoos and others (1999) for soybeans in the Southeast. This rate was multiplied by the mean harvested acres for soybeans in 2004-06 (U.S. Department of Agriculture, 2008) to estimate the amount of fixed nitrogen. The estimated nitrogen fixation for the karst terrane of the Sinking Creek Basin was 16,600 lb/mi^2/yr (table 4).

Point Source Contributions

The Irvington wastewater treatment facility is the only permitted municipal wastewater treatment facility in the karst terrane of the Sinking Creek Basin. This facility has a mean flow of 0.04 Mgal/d.

Nutrient inputs are based on information from the NPDES permitting program of the USEPA. The required sampling data for NPDES discharges are stored in the USEPA PCS data base. The Irvington wastewater-treatment facility in the karst terrane of the Sinking Creek Basin monitors effluent for ammonia, but concentrations of total nitrogen were not available. Concentrations of total phosphorus for the Irvington wastewater treatment facility are not reported. A regression equation, developed from more than 800 observations of effluent concentrations from municipal wastewater-treatment facilities in Virginia and North Carolina, was used to estimate concentrations of total nitrogen from concentrations of ammonia nitrogen (McMahon and Lloyd, 1995, p. 70-71). The regression equation is:

Total nitrogen = 11.97 + 0.55 (ammonia)

where concentrations are in milligrams per liter, as nitrogen.

Nitrogen inputs to streams from the municipal wastewater-treatment facility were estimated using the following equation:

$$L = (RQ)(C)(f)(T)$$

where:

L is nutrient load in lb/yr;

RQ is wastewater effluent flow in ft^3/s;

C is concentration of nutrient in milligrams per liter;

f is a unit conversion factor of 5.3943; and

T is time in days per year.

The estimated input from wastewater discharge was 1,500 lb/yr for nitrogen (table 4). Estimated inputs from wastewater discharge for total phosphorus were not available.

The use of septic systems is common throughout the study area. Septic systems mostly are used for individual households or small commercial establishments (churches, restaurants, convenience stores) that are located in rural areas or that are not served by a domestic wastewater facility. Water from septic systems generally is released to the ground through an absorption field after natural biological treatment. In 1990, more than 22,000 septic systems were in use within Breckinridge, Hardin, and Meade Counties (U.S. Census Bureau, 2008).

Based on an average discharge of 69 gallons per day (gal/d) per person (U.S. Environmental Protection Agency, 2002) and 2.47 people per household (U.S. Census Bureau, 2008), estimated water released from each septic tank is about 170 gal/d. Discharge from the nearly 22,000 septic tanks in Breckinridge, Hardin, and Meade Counties is about 3.7 Mgal/d. The average concentration of total nitrogen and the average concentration of total phosphorus in typical residential wastewater range from 26-75 mg/L for total nitrogen and 6-12 mg/L for total phosphorus based on literature values (U.S. Environmental Protection Agency, 2002). The majority of the effluent from septic tanks is discharged to the drainfield or absorption field where the effluent is allowed to percolate into the ground.

Materials and Methods

Sampling Methods

Representative water-quality and suspended-sediment samples from the Sinking Creek at Rosetta and Sinking Creek near Lodiburg sites were collected by means of the equal-width-increment (EWI) method, in which depth-integrated samples were collected at equal distances across the entire stream width and composited (Edwards and Glysson, 1998). Dip samples were collected from the springs for water-quality and suspended-sediment analyses. All sampling material was constructed of Teflon or fluorinated plastic to minimize contamination. Equipment used to collect and process nutrient and pesticide samples was precleaned with a 0.1-percent nonphosphate detergent, triple rinsed with tap water, acid rinsed with 5-percent hydrochloric acid for 30 minutes (nonmetal equipment only), triple rinsed with deionized water, rinsed with certified pesticide-free methanol, air dried, and stored in a dust-free environment prior to sample collection (Webb and others, 1999).

Water samples for dissolved nutrients were filtered using a 0.45-micrometer (µm) pore-size filter that was pre-rinsed with deionized water and filtered native stream water and collected in the appropriate bottle types. Whole-water (unfiltered) nutrient samples were preserved using 1 milliliter (mL) of 4.5N sulfuric acid. Samples for pesticides were pumped through Teflon tubing and filtered through a 142-millimeter (mm) diameter, 0.7-µm pore size, borosilicate glass-fiber filter placed in a stainless-steel filter unit (Sandstrom, 1995). The filtered water was collected in amber-colored glass bottles and chilled for later analysis of pesticides. Both the glass-fiber filters and the glass bottles had been baked at 450°C in a muffle furnace for a minimum of 2 hours. All nutrient and pesticide samples were chilled and shipped on ice to the USGS National Water Quality Laboratory (NWQL) in Lakewood, Colorado, for analysis. Suspended-sediment samples were analyzed by the USGS Kentucky Water Science Center Sediment Laboratory in Louisville, Kentucky.

Field measurements of stream discharge, air temperature, barometric pressure, water temperature, specific conductance, pH, concentrations of DO, and turbidity were measured at the time of sampling. Alkalinity and bicarbonate were determined by titrating filtered sample water with 0.16N sulfuric acid using a digital titrator. Discharge was measured according to standard USGS guidelines as described by Rantz and others (1982).

A continuously recording water-quality monitor with a 15-minute-record interval was installed at the USGS streamflow-gaging station on Sinking Creek near Lodiburg (station number 03303205) on May 25, 2004 and removed on April 30, 2007. Water-quality properties measured with the monitor from May 2004 through April 2007 included water temperature, specific conductance, pH, and DO. Measurements were transmitted every 4 hours via satellite to the USGS Kentucky Water Science Center in Louisville, Kentucky, and were made available in near-real time on the World Wide Web at URL http//ky.water.usgs.gov/. The water-quality monitor was inspected onsite by USGS personnel approximately every 3 to 4 weeks to maintain calibration. Guidelines and standard operating procedures for maintaining the site and reporting the data are described in Wagner and others (2006).

Analytical Methods

The USGS National Water Quality Laboratory (NWQL) analyzed the water-quality samples for nutrients and pesticides. Water-quality samples for dissolved (filtered) and suspended (unfiltered) species of nitrogen and phosphorus, listed in laboratory schedule 1682, were analyzed by colorimetric methods (Fishman, 1993; Patton and Truitt, 1992; U.S. Environmental Protection Agency, 1993). These analyses quantified sample concentrations of dissolved nitrite plus nitrate, dissolved ammonia (ammonia plus ammonium), dissolved orthophosphate, and total phosphorus (table 5). Concentrations of nutrients discussed in this report represent their concentrations expressed as either nitrogen or phosphorus. For example, a concentration of nitrate expressed as 10 milligrams per liter (mg/L) refers to a concentration of nitrate of 10 mg/L as nitrogen.

Pesticide samples (laboratory schedule 2001) were analyzed using capillary-column gas chromatography/mass spectrometry (GC/MS) with selected-ion sampling (Zaugg and others, 1995). Concentrations of pesticides were reported by the NWQL with appropriate qualifiers to indicate analytical limitations. Analytical data from the NWQL were reported as “less than” when a pesticide was not detected or not present at the method detection limit (MDL). The MDL is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99-percent confidence that the compound concentration is greater than zero (Wershaw and others, 1987). When the presence of a pesticide was detected and quantified in the sample, but the reported value was below the MDL, the concentration was identified as an estimated value and footnoted.

The USGS Kentucky Water Science Center analyzed the suspended-sediment samples by filtering samples through a pretared 0.45 µm membrane filter. The filtrate was rinsed with deionized water to remove salts, and the insoluble material and filter were dried at 103°C and weighed (Fishman and Friedman, 1989). The laboratory reporting limit for suspended sediment is 1 mg/L.

Table 5. Reporting limits for nutrients as established by the U.S. Geological Survey

National Water-Quality Laboratory.

[mg/L, milligrams per liter; N, nitrogen; P, phosphorus]

Constituent	Laboratory reporting level
Ammonia (as N), dissolved	0.04 mg/L as N
Nitrite plus nitrate (as N), dissolved	.06 mg/L as N
Phosphorus (as P), total	.004 mg/L as P
Orthophosphate (as P), dissolved	.006 mg/L as P

Quality Control

Quality-control information is needed to estimate the bias and variability that result from sample collection, sample processing, and laboratory analysis in order to ensure proper interpretation of water-quality data. About 16 percent of all samples submitted to the laboratory were quality-control samples, which included equipment blanks and field blanks to measure contamination and bias, and replicate samples to measure variability.

A blank is a water sample that consists of water that has undetectable concentrations of an analyte of interest. Blank-water samples are used to test for bias that could result from contamination during any stage of sample collection or analysis process. Field-blank samples were collected to demonstrate that: (1) equipment has been adequately cleaned to remove contamination introduced by samples obtained at previous sites; (2) sample collection and processing have not resulted in contamination; and (3) sample handling, transport, and laboratory analysis have not introduced contamination (Mueller and others, 1997). The procedure for blank samples was to place pesticide-free water through all of the sampling and filtration steps as a typical water-quality sample. Field-blank sample concentrations for pesticides or nutrients did not indicate any contamination from the equipment or sampling processing methods.

Replicate samples are a set of two or more environmental samples considered to be essentially identical in composition. Concurrent replicates are prepared by using one sampler and alternating collection of the samples into two or more compositing containers. All replicates collected in the karst terrane of the Sinking Creek Basin were concurrent replicates.

Data obtained from the 7 sets of replicate samples was used to access the variability of the overall sampling and analytical process. Replicate samples were compared by using relative percent differences. Relative percent difference (RPD) for each analyte and replicate sample pair was calculated by the equation:

$$RPD=|S1-S2|/(S1+S2)/2 \times 100$$

where:

S1 is equal to the concentration in the environmental sample, in milligrams per liter (nutrients) or micrograms per liter (pesticides); and

S2 is equal to the concentration in the replicate sample, in milligrams per liter (nutrients) or micrograms per liter (pesticides).

A large relative percent difference can indicate greater variability in those samples. Median concentration differences, as measured by RPD, within replicate sets ranged from 1.7 to 8.2 percent for pesticides, 0 to 3.5 percent for nutrients, and was 5.3 percent for suspended sediment (table 6).

Table 6. Summary of replicate sample data for commonly detected pesticides and pesticide-transformation compounds, nutrients, and suspended sediment.

[RPD, relative percent difference; <, less than]

Constituent	Number of replicate sample sets	Median RPD	Maximum RPD
	Pesticides		
Acetochlor	7	2.9	40
Atrazine	7	1.9	5.8
Deethylatrazine*	7	8.2	18
Metolachlor	7	1.7	17
Simazine	7	4.6	13
	Nutrients		
Ammonia (as N), dissolved	7	0.0	76
Nitrite plus nitrate (as N), dissolved	7	.4	6.5
Phosphorus (as P), total	7	3.5	21
Orthophosphate (as P), dissolved	7	2.2	34
	Sediment		
Suspended sediment	5	5.3	95

*Pesticide-transformation compound.

Statistical Analysis of Pesticides, Nutrients, and Suspended Sediment

The S-Plus software program (Insightful Corporation, 2005) was used to calculate summary statistics such as the mean, median, minimum, and maximum concentrations for select pesticides, nutrients and suspended sediment. The Wilcoxson rank-sum nonparametric statistical test (Helsel and Hirsch, 1992) was used to compare concentrations of select pesticides at the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site. The Wilcoxson rank-sum tests ranks the data points to determine the statistical significance of differences in concentrations between groups of data. Differences between the groups of data with a probability (p) value of 0.05 or less were considered significant in this study.

Load Estimation Methods

Select pesticide (atrazine, acetochlor, simazine, and metolachlor, and the transformation compound, deethylatrazine) loads and nutrient (nitrite plus nitrate, total phosphorus, and orthophosphate) loads, and suspended-sediment loads were estimated with the USGS software called LOADEST. This software uses time-series streamflow data and constituent concentrations to calibrate a regression model that describes constituent loads in terms of various functions of streamflow and time (Runkel and others, 2004).

The LOADEST software allows the user to choose between selecting the general form of the regression from several predefined models and letting the software automatically select the best-defined model, on the basis of the Akaike Information Criterion (AIC) (Akaike, 1981). The predefined model with the lowest value for the AIC is then selected for use in load estimation.

The output regression equations take the following general form:

$$\ln(L) = a+b(\ln Q)+c\,(\ln Q^2) +d[\sin(2\pi T)]+e[\cos(2\pi T)]+fT +gT^2$$

where

L is the constituent load, in pounds per day;

Q is the stream discharge, in cubic feet per second;

T is the time, in decimal years from the beginning of the calibration period; and

a,b,c,d,e,f,g are regression coefficients.

Runkel and others (2004) provide a complete discussion of the theory and principles behind the calibration and estimation methods.

Description of TOPMODEL

TOPMODEL (TOPography-based hydrological MODEL) (Beven and Kirkby, 1979; Wolock, 1993) is a physically based watershed model that simulates rainfall runoff through a watershed. The model specifically simulates the interaction between groundwater and surface water based on the water table and incorporates topography characteristics. TOPMODEL primarily is based on three assumptions (Wolock and others, 1990; Shoemaker and others, 2005). The first assumption is that surface water is generated when precipitation falls on the saturated portion of the watershed. The second is that the hydraulic gradient of subsurface flow at any given point in the watershed depends on the saturated hydraulic conductivity, soil depth, land-surface slope and the amount of water that must be added to the soil to bring the water table to the surface. The third assumption is that the soil profile at each point has a finite capacity to transport water with soil depth. Output of the model includes hydrographs, flow duration curves, and water budgets, as well as the ability to separate flow components, for example, overland flow components.

TOPMODEL was applied to the gaged portion (karst area) of the Sinking Creek Basin (125 mi^2) for the time period for which climate data and streamflow data were available at the streamflow gage (May 2004 through December 2006). The model was applied in calibration mode in order to confirm the accuracy of applying the model to the karst area of Sinking Creek. The basin was modeled by considering the sinkholes and the associated drainage areas as lakes, in order to apply a delay factor to this volume of flow (Tanja Williamson, written commun.,2008. Details on the model used can be found in Williamson and others, 2009.

Results and Discussion

Continuous Water-Quality Field Parameters

Annual summaries of continuously measured specific conductance, pH, water temperature, and dissolved oxygen were measured at the Sinking Creek near Lodiburg site and are presented in table 7.

Water year	Number of daily samples	Minimum	Mean	Maximum
		Specific Conductance (µS/cm)		
2004*	97	201	488	662
2005	344	176	478	705
2006	283	118	445	658
		pH (standard units)		
2004*	113	7.9	--	8.3
2005	354	6.8	--	8.0
2006	297	6.0	--	8.4
		Water Temperature (°C)		
2004*	113	14.9	17.1	25.1
2005	350	8.7	14.4	20.6
2006	342	7.9	14.0	21.9
		Dissolved Oxygen (mg/L)		
2004*	74	6.8	8.4	11.5
2005	181	4.1	9.4	14.3
2006	178	3.6	9.8	17.4

Specific conductance is a measure of the water's ability to conduct an electrical current, which usually is associated with the concentration of ionized substances in water (Hem, 1985). Specific conductance is affected by soil and rock composition; evaporation, which concentrates dissolved solids; and contaminant sources, including agricultural and urban runoff (Jordan and Stamer, 1995). Continuous specific conductance values varied from 161 µS/cm on September 23, 2006, to 820 µS/cm on January 23, 2007, during the study period (table 7). The period of May through September 2005 had the highest annual mean specific conductance value (496 µS/cm) at the Sinking Creek near Lodiburg site; the same period in 2006 had the lowest annual mean specific conductance value (432 µS/cm).

pH is a measure of the effective hydrogen ion concentration and is used as an index of the status of equilibrium reactions in water (Hem, 1985). Kentucky aquatic-life-support criteria require that pH levels in streams remain not less than 6.0 and not more than 9.0 standard units (Kentucky

Environmental and Public Protection Cabinet, 2006). During the study period, minimum continuous pH measurements remained above the lower criterion of 6.0 standard units and never exceeded the upper criterion of 9.0.

Water temperature is an important effect on the density of water, the solubility of constituents in water, specific conductance, pH, the rate of chemical reactions, and biological activity in water (Wilde, variously dated). The coldest water temperatures typically occurred from November through March, and the warmest water temperatures typically occurred from April through October.

The dissolved oxygen concentration in surface water is related primarily to photosynthetic activity of aquatic plants and atmospheric reaeration (Lewis, 2006). During May 2004 to September 2006, continuous dissolved oxygen concentrations ranged from 3.6 mg/L to 17.4 mg/L. The lowest concentration of dissolved oxygen was measured on October 12, 2005; the highest concentration of dissolved oxygen was measured on December 30, 2005.

Table 7. Summary of data for continuous (daily) measurements at the Sinking Creek near Lodiburg site, Kentucky, 2004-2006.
[μS/cm, microsiemens per centimeter at 25°C;--, not available; °C, degrees Celsius; mg/L, milligrams per liter; *, partial year (June through September)]

Concentrations of Select Pesticides

Concentrations of pesticides, and the transformation compound (deethylatrazine) were measured from April 2004 through November 2004, March 2005 through December 2005 at all sampling sites (Sinking Creek at Rosetta; Sinking Creek near Lodiburg; Big Spring; Flat Rock Spring; Boiling Spring; Ross Karst Window; and Fiddle Spring), and April 2006 through June 2006 at all sites except Boiling Spring and Ross Karst Window (Appendix D). These data provide the basis for analysis of concentrations at the selected sampling sites and the loads and yields at the Sinking Creek near Lodiburg site.

Occurrence and Distribution of Select Pesticides

Detections and concentrations of pesticides in streams are influenced by many factors, including the amount of pesticide used, the environmental persistence of the pesticide, and the analytical methods used. The most commonly detected pesticides were among the most heavily applied in the karst terrane of the Sinking Creek Basin. Samples from all seven sites had detectable concentrations of at least one pesticide; 1 sample collected at the Ross Karst Window site had 10 pesticides detected. A common method reporting limit (MRL) of 0.01 micrograms per liter (μg/L) was used to compare the detection frequencies of pesticides, because MRLs vary widely from one pesticide or related compound to another. The use of the detection threshold allows for comparisons among pesticides by censoring detections to a common reference concentration. The lowest appropriate MRL for comparing pesticides in 0.01 μg/L for most of the pesticides analyzed in this study; however, several pesticides (prometon, pendimethalin, carbaryl, and Malathion) had MRLs that were greater than or equal to 0.01 μg/L. For these pesticides, the detection frequency is preceded by the asterisk (*) symbol to indicate that the true percentage of samples with concentrations greater than the threshold probably are greater than or equal to that reported in figure 6. Of the 47 pesticides analyzed, 14 were detected above the adjusted MRL of 0.01 μg/L (table 8).

Herbicides were detected more frequently than insecticides. Twelve of the 14 pesticides detected in water were herbicides. The commonly used herbicides, atrazine, simazine, metolachlor, acetochlor, and prometon were found throughout the basin. Atrazine was detected in 97 percent of all surface-water samples. Simazine was detected in 60 percent, and metolachlor and acetochlor were detected in more than 30 percent of all surface-water samples (fig. 6). Almost 30 percent of the atrazine and 11 percent of the simazine samples were in the 0.1 to 1.0 µg/L range. The pesticide transformation compound, deethylatrazine (DEA), was detected in 93 percent of the samples. Only one nonagricultural herbicide, prometon, was detected in about 17 percent of the samples. Less frequently detected herbicides were alachlor, dieldrin, metribuzin, napropamide, pendimethalin, and propachlor.

The insecticides carbaryl and Malathion, were the only insecticides detected at any of the sites. Carbaryl, the most commonly detected insecticide, was found in about 14 percent of the samples and was detected at all sites in the late spring and early summer (May through July) during storm events. Carbaryl was most frequently detected at the Sinking Creek at Lodiburg site (5 out of 63 samples). Malathion was detected in about two percent of the samples. The lower use relative to herbicides and the application during periods of reduced runoff probably account for lower detection rates and low concentrations of insecticides in the basin.

Table 8. Pesticides and pesticide-transformation products analyzed in surface- and ground-water samples from the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

[**Bold-faced** compounds were detected; italicized compounds are pesticide-transformation products]

2,6-Diethylaniline	**Dieldrin**	Pebulate
2-Chloro-4-isopropylamino-6-amino-s-triazine (DEA)	Disulfoton	**Pendimethalin**
Acetochlor	EPTC	Phorate
Alachlor	Ethalfluralin	**Prometon**
alpha-HCH	Ethoprop	Propyzamide
Atrazine	Fonofos	**Propachlor**
Azinphos-methyl	Lindane	Propanil
Benfluralin	Linuron	Propargite
Butylate	**Malathion**	**Simazine**
Carbaryl	Methyl parathion	Tebuthiuron
Carbofuran	**Metolachlor**	Terbacil
Chlorpyrifos	**Metribuzin**	Terbufos
cis-Permethrin	Molinate	Thiobencarb
Cyanazine	**Napropamide**	Triallate
DCPA	pp'-DDE amide	Trifluralin
Diazinon	Parathion	

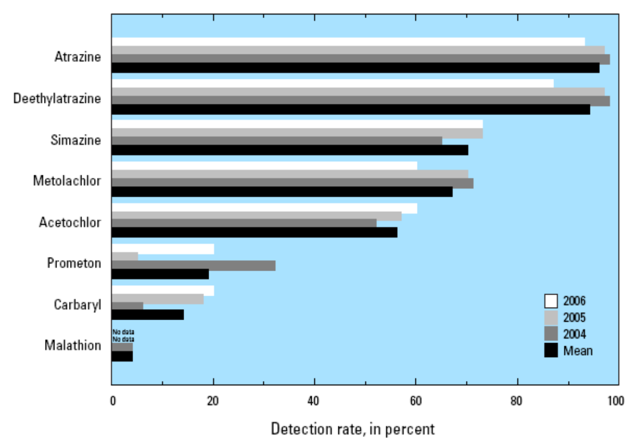


Figure 6. Occurrence of pesticide compounds from all samples at all sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

Spatial Variability of Select Pesticides

Factors such as soil type, pesticide application rates, and the use of pesticides can affect the spatial variability of pesticides concentrations. A detailed analysis of these factors among others is beyond the scope of this report. However, the Wilcoxon rank-sum nonparametric statistical test (Helsel and Hirsch, 1992) was used to compare select pesticide concentrations at all sites in the basin. The Wilcoxson rank-sum test ranks the data points to determine if one data set has higher values than another data set. Differences between the groups with probability (p) values of 0.05 or less were considered significant in this study. The number of samples collected at each site during 2004 through 2006 ranged from 11 to 27 samples. Median concentrations of atrazine were notably smaller at the Fiddle Spring site than the other sites (fig. 7). No statistical differences were found among the median concentrations of atrazine at the other sites. Differences in the median concentrations of deethylatrazine (transformation compound of atrazine) were greater at the Big Spring site than at the other sites. The median concentration of deethylatrazine at the Big Spring site was 0.14 μg/L (table 9).

Median concentrations of simazine were notably smaller at the Fiddle Spring site than at all other sites (fig. 7). A possible explanation is less cultivated land surrounding the Fiddle Spring site. The median concentration of simazine at the Fiddle Spring site was 0.005 μg/L (table 9). Median concentrations of simazine also were significantly different (smaller) at the Sinking Creek at Rosetta site than at the Big Spring site (fig. 7). A plausible explanation is the land use upstream of the Sinking Creek at Rosetta site is mainly pasture and forested land.

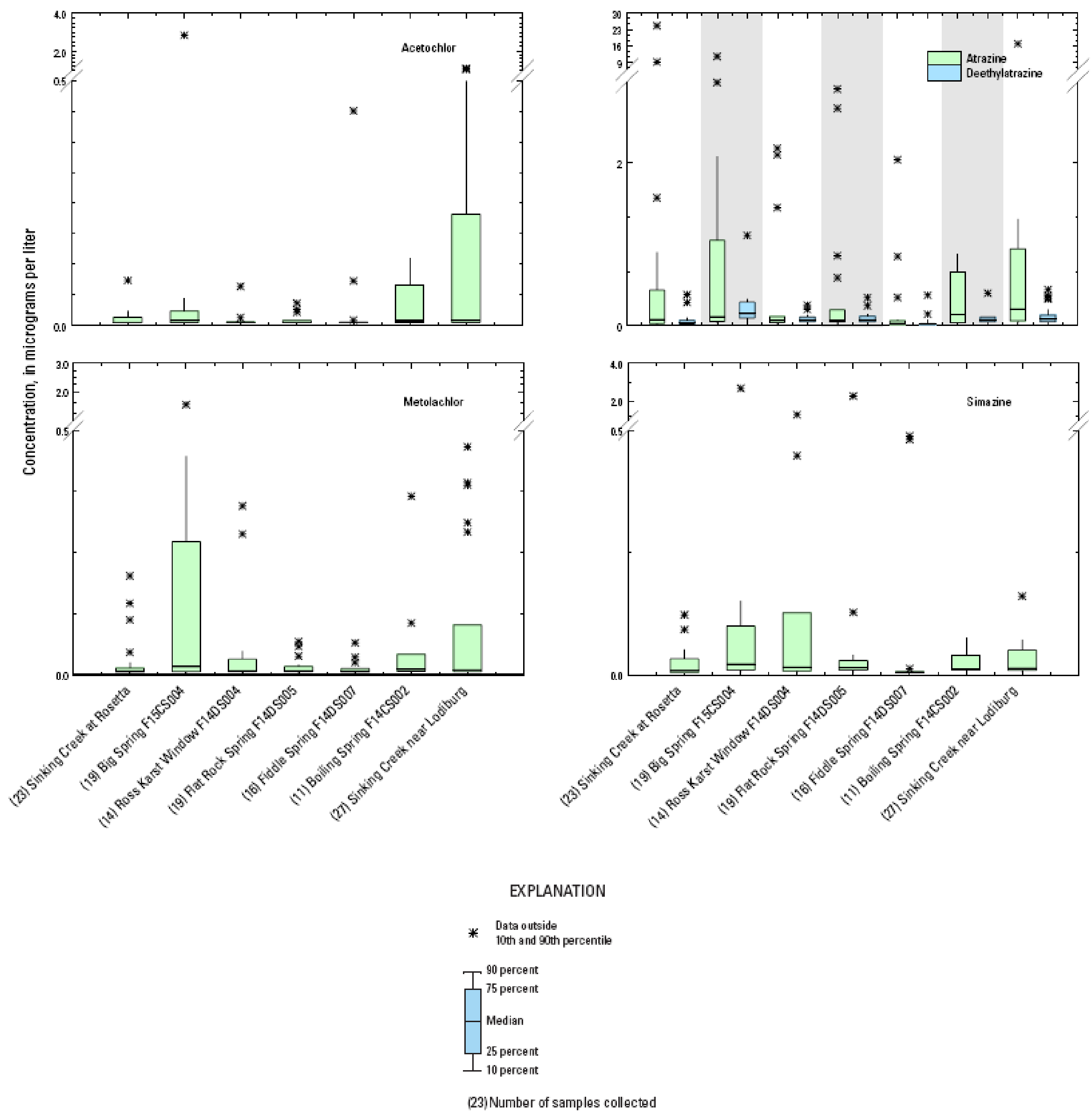


Figure 7. Concentrations of select pesticides (acetochlor, atrazine, deethylatrazine, metolachlor, and simazine) at all sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

Table 9. Summary statistics of the detected herbicides and insecticides in samples collected in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-06, laboratory reporting limits, drinking water standards, and aquatic-life criteria.

[Concentrations in micrograms per liter; DEA and CIAT, 2-chloro-4-isopropylamino-6-amino-s-triazine; E, estimated value; LD, less than laboratory reporting level; drinking water standards from USEPA (2004b), unless otherwise footnoted; HA, health advisory; --, no regulation or guideline]

Compound	Trade name(s)	Method detection limit (µg/L)	Median concentration of all samples (µg/L)	90th percentile of all samples	Maximum concentration detected (µg/L)	Site of maximum concentration	Drinking water standard or guideline (MCL or HA) (µg/L)	Aquatic Life Criterion (µg/L)
				Herbicides				
Acetochlor	Harness	0.002	0.008	0.085	0.227	Sinking Creek near Lodiburg	--	--
Alachlor	Lasso	0.002	0.005	0.010	0.186	Big Spring	2	--
Atrazine	Aatrex	0.001	0.114	1.639	4.920	Big Spring	3	[1]1.8
Deethylatrazine (DEA, CIAT)	Degradate of atrazine	0.002	0.075	0.196	0.342	Flat Rock Spring	--	--
DCPA	Dacthal	0.002	LD	LD	E0.003	Fiddle Spring	[2]70	--
Metoalchlor	Dual, Pennant	0.002	LD	0.108	0.736	Big Spring	[2]100	[1]7.8*
Metribuzin	Lexone, Sencor	0.004	LD	0.020	0.089	Big Spring	[2]200	[1]1*
Napropamide	Devrinol	0.003	LD	LD	0.013	Sinking Creek near Lodiburg	--	--
Pendimethalin	Prowl, Tillam	0.004	LD	LD	0.028	Flat Rock Spring	--	--
Prometon	Pramitol	0.018	LD	LD	0.020	Sinking Creek at Rosetta; Sinking Creek near Lodiburg	[2]100	--
Propachlor	Ramrod	0.007	LD	LD	E0.021	Boiling Spring	[2]90	--
Propanil	Stampede	0.004	LD	LD	0.011	Ross KW	--	--
Simazine	Princep, Aquazine	0.005	0.013	0.251	2.28	Flat Rock Spring	4	--
Trifluralin	Teflan and others	0.002	LD	LD	E0.005	Sinking Creek near Lodiburg	35	
				Insecticides				
Carbaryl	Sevin	0.003	LD	LD	E0.018	Ross KW; Fiddle Spring	[2]700	[1]0.20
Carbofuran	Furadan	0.003	LD	LD	E0.015	Ross KW	40	[1]1.8
Malathion	Malathion and others	0.005	LD	LD	0.211	Ross KW	[2]100	0.1

[1]Canadian water quality guidelines for the protection of freshwater aquatic life (Canadian Council of Ministers of the Environment, 2003).

[2]U.S. Environmental Protection Agency lifetime-health advisory for a 70-kilogram adult (U.S. Environmental Protection Agency, 2004a).

Seasonal Variability of Select Pesticides

Concentrations of pesticides varied throughout the year in samples collected at all the sampling sites with the highest concentrations generally occurring during in the spring (fig.8). The maximum concentrations of select herbicides detected (acetochlor, atrazine, metolachlor, and simazine) occurred in the growing season (April-May) (fig.8). The most commonly detected pesticides in the karst terrane of the Sinking Creek Basin were found in Sinking Creek and surrounding springs and karst windows year around, but at low concentrations (table 9). Atrazine (24.6 µg/L), simazine (2.68 µg/L), acetochlor (2.85 µg/L), and metolachlor (1.55 µg/L) had the highest detected concentrations in the basin of the 12 herbicides detected. These herbicides are row-crop herbicides and are the most heavily applied pesticides in the basin. Median concentrations of the herbicides---acetochlor, atrazine, metolachlor, and simazine---ranged from <0.005 µg/L for simazine to 0.079 µg/L for atrazine for all samples collected during this study (table 9). The most commonly detected insecticide, carbaryl, also was primarily present in the spring. The highest concentrations of carbaryl occurred during May 2005 (0.09 µg/L) (table 9). However, most detections of carbaryl were less than 0.041 µg/L (laboratory reporting level). Unlike carbaryl, Malathion was detected only in the summer of 2005 with the highest concentration of 0.211 µg/L. Median concentrations of these two most commonly detected insecticides in the karst terrane of the Sinking Creek Basin were less than their reporting levels.

Concentrations of atrazine and its transformation compound (deethylatrazine) in relation to daily mean streamflow at the Sinking Creek near Lodiburg site and Sinking Creek at Rosetta site are shown in figure 9. Concentrations of the parent pesticide compound, atrazine, were higher in the spring following application during periods of increased streamflow and lower later in the growing season when there is no application and streamflow is decreased. The seasonal pattern for the pesticide transformation compound, deethylatrazine, mirrored that of its parent compound, atrazine, but at lower concentrations. However, concentrations of deethylatrazine were slightly higher than atrazine during fall at the Sinking Creek near Lodiburg site and during the spring at the Sinking Creek at Rosetta site; however, the difference was less than one-tenth of a microgram per liter (fig. 9). It would be expected for pesticide transformation compounds to follow a similar seasonal pattern as the parent pesticide compounds, because most pesticides begin to degrade by chemical or biological processes following application.

Select pesticide (atrazine, metolachlor, and simazine) and transformation compound (deethylatrazine) concentrations and streamflow were plotted for the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site (figs. 10 and 11). The relations observed between pesticides and streamflow at the two mainstem sites on Sinking Creek are illustrated in LOWESS plots (figs.10 and 11). Graphs of pesticide and transformation compound concentrations and streamflow were not prepared for the other sites because of the lack of continuous streamflow data.

Streamflow can vary by season and can affect the transport and fate of pesticides. Streamflows often are higher during the spring because of runoff from increased amounts of rainfall. Generally, concentrations of the select pesticides and the transformation compound, deethylatrazine, show an increase with increasing streamflow at the Sinking Creek at Rosetta site and the Sinking Creek near

Lodiburg site (figs. 10 and 11). Concentrations of the select pesticides and deethylatrazine also show a positive correlation at lower streamflows (generally the lower streamflows (0 to 50 ft^3/s) and at the highest streamflows (generally the highest 10-percent of the total streamflow). The slope of the trend line for the lower streamflows was much less steep than at higher streamflows. The timing of a rainfall event producing runoff with respect to pesticide application can affect concentrations of pesticides in streams and springs.

Concentrations of Stream Pesticides Compared to Drinking-Water Standards and Aquatic-Life Guidelines

The U.S. Environmental Protection Agency (USEPA) has developed water-quality standards and guidelines for some compounds that can have adverse effects on human health and aquatic organisms. The standards and guidelines (also known as maximum contaminant levels (MCL)) established by the USEPA pertain to finished drinking water; however, the MCL values provide comparison with sampled concentrations (U.S. Environmental Protection Agency, 2004a). Aquatic-life criteria provide for the protection of aquatic organisms for short-term (acute) and long-term (chronic) exposures to chemical compounds. In certain instances, Canadian guidelines were used for comparisons when other criteria were unavailable (International Joint Commission Canada and United States, 1977; Canadian Council of Ministers of the Environment, 2003).

Most detections of pesticides during this study were low concentrations in relation to existing drinking-water standards and guidelines established for the protection of aquatic life (table 9). Many of the pesticides detected during this study, including the pesticide transformation standards or criteria. Only the pesticide compound—atrazine—exceeded the USEPA established MCL. Atrazine exceeded the established MCL in 8 percent of the samples. These exceedences occurred in the spring, and were observed at 4 of the 7 sampling sites.

Although most detections of pesticides were at concentrations less than the U.S. Environmental Protection Agency (2004b) drinking-water MCLs and health advisory levels (HALs), atrazine was detected in stream samples at concentrations exceeding guidelines established to protect aquatic life (Canadian Council of Ministers of the Environment, 2003; International Joint Commission Canada and United States, 1977; U.S. Environmental Protection Agency, 2007).

Concentrations of atrazine exceeded its aquatic-life criterion (1.8 µg/L) in 13 samples collected from 4 of the 7 sampling sites. The concentration of atrazine in the storm sample collected from the Sinking Creek at Rosetta site (24.6 µg/L) was more than 12 times its aquatic-life criterion. Most of the high concentrations of atrazine occurred in storm samples. Concentrations of the insecticide—Malathion— exceeded its aquatic-life criterion (0.1 µg/L) in two samples collected from the Ross Karst Window site and Flat Rock Spring site in August 2004.

Estimated Loads and Yields of Select Pesticides

Water-resource managers often need to know the amount of a contaminant transported in a stream to determine the stream’s condition and how it changes over time. Loads and yields of the contaminants are common measures for these assessments. Loads and yields were estimated for the four select pesticides and one transformation compound frequently detected in samples

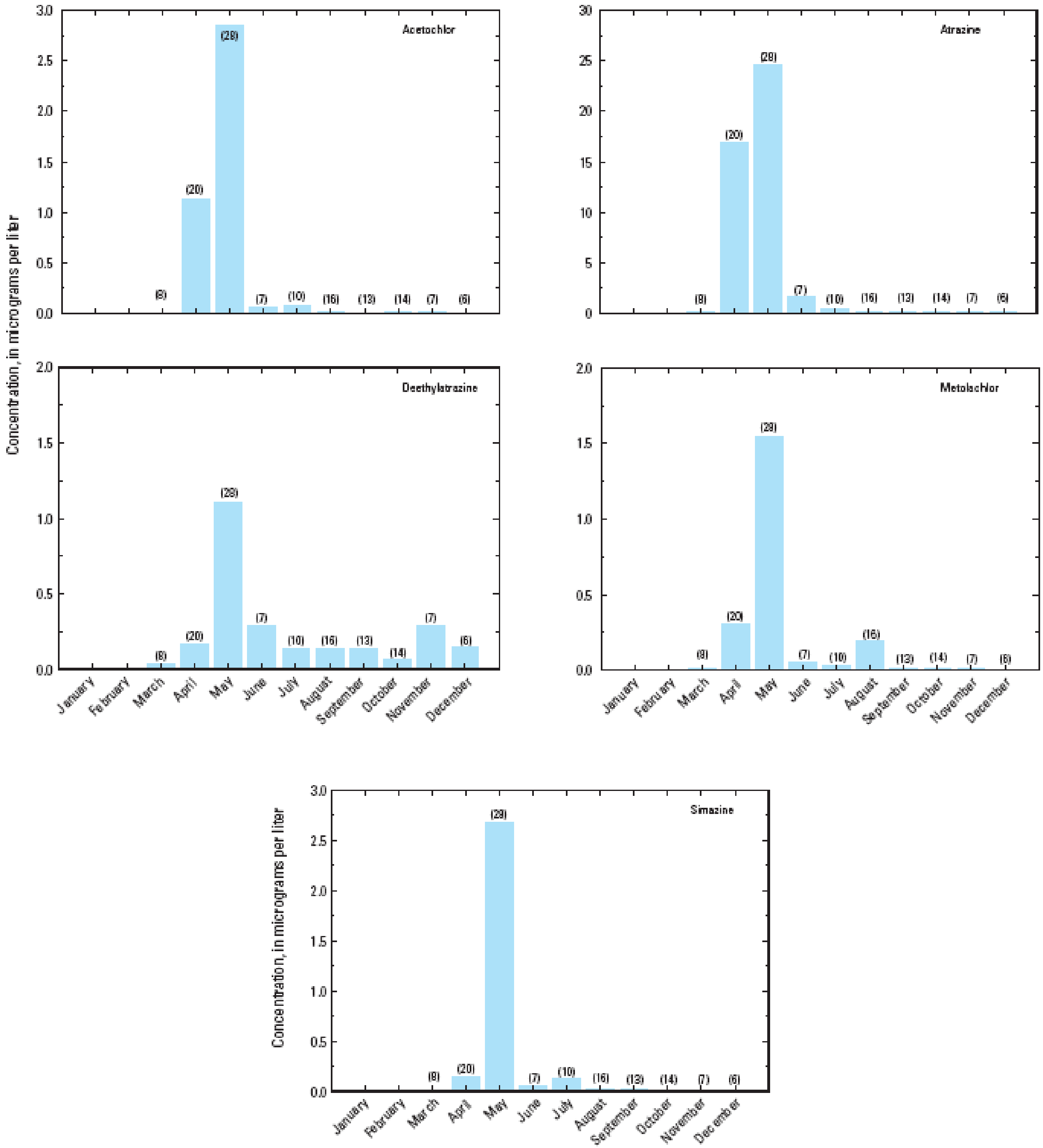


Figure 8. Monthly distribution of select pesticides at seven sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

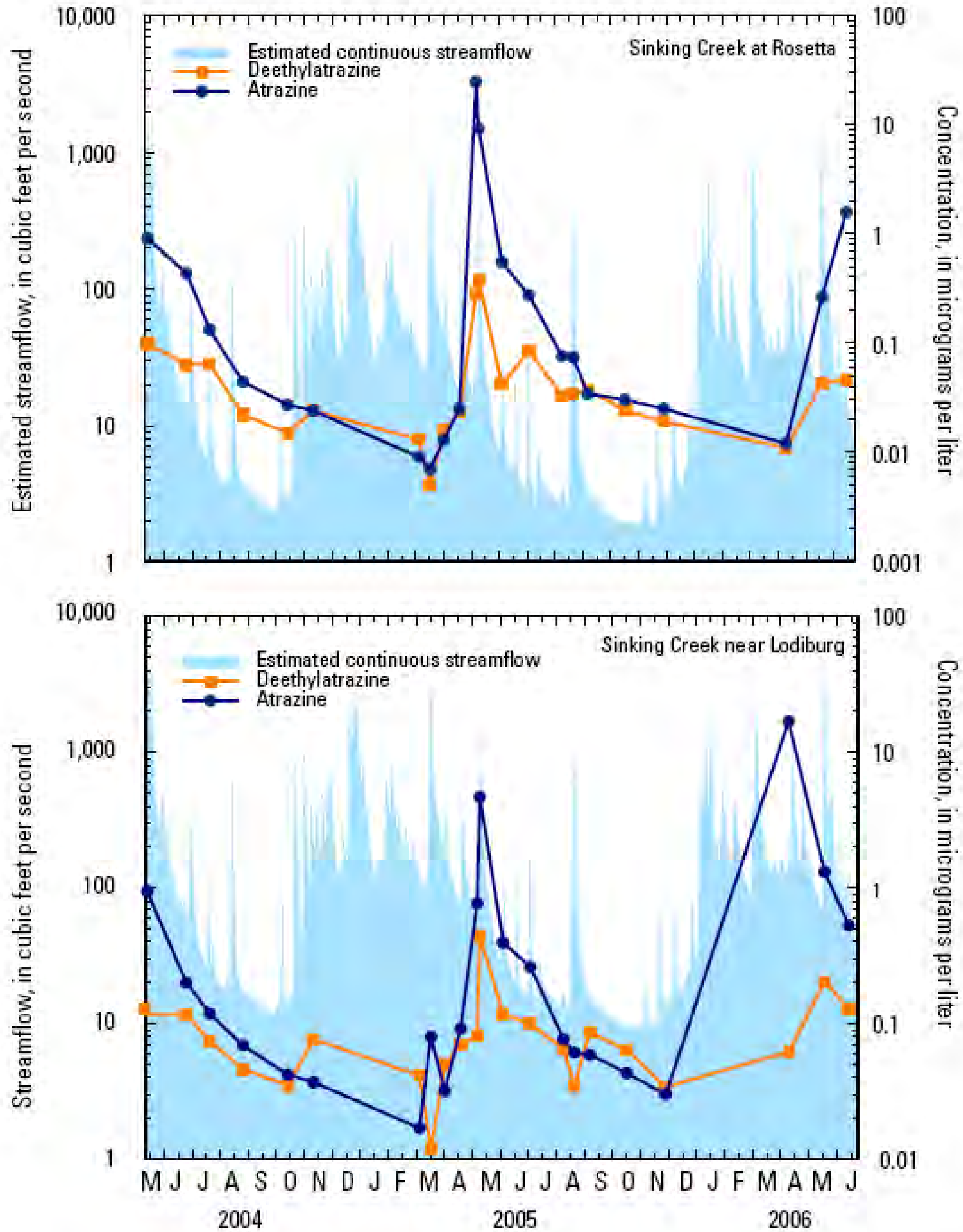


Figure 9. Seasonal variability of atrazine and its transformation product, deethylatrazine, at Sinking Creek at Rosetta and the Sinking Creek near Lodiburg sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

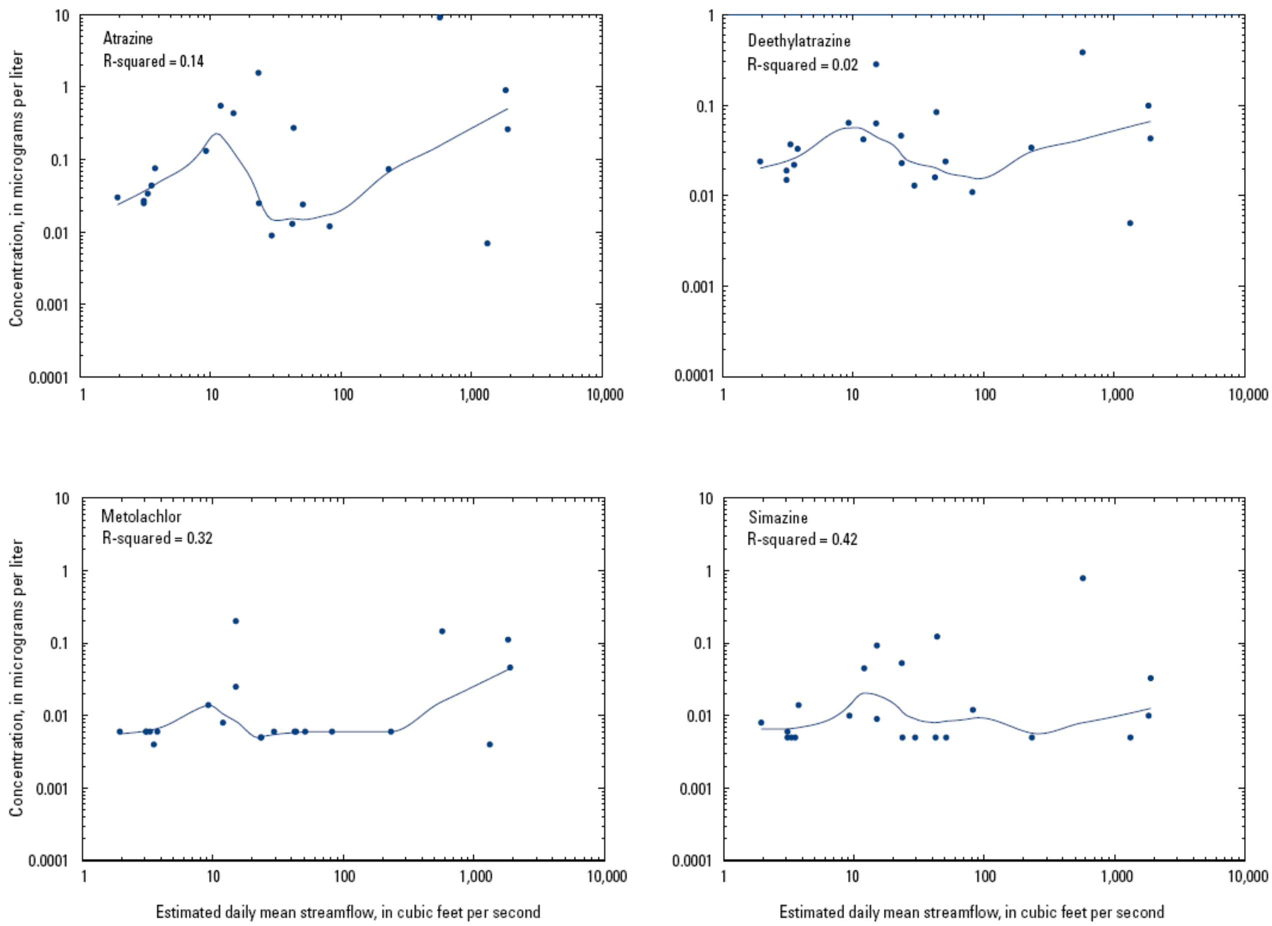


Figure 10. Relation of select pesticides (atrazine, and its transformation product, deethylatrazine, metolchlor, and simazine to streamflow at the Sinking Creek at Rosetta site in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

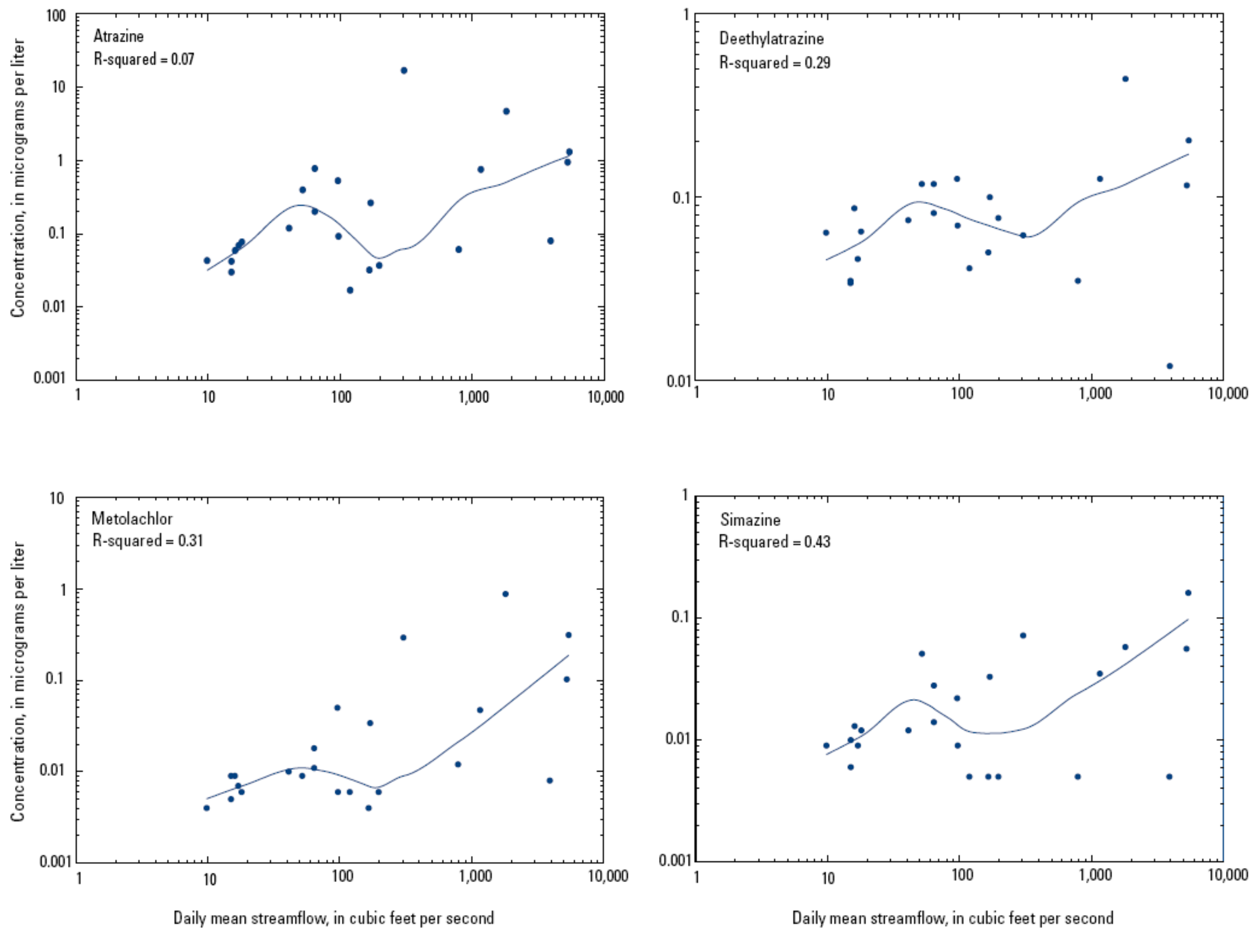


Figure 11. Relation of select pesticides (atrazine, and its transformation product, deethylatrazine, metolchlor, and simazine to streamflow at the Sinking Creek near Lodiburg site in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

for the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site from samples collected in 2004, 2005, and 2006 (table 10). Loads were not estimated at the karst window or spring sites, because a streamflow relation between these sites and the Sinking Creek near Lodiburg site could not be established.

Mean annual loads (in pounds per year) for select pesticides were estimated using the LOADEST program. Load represents the mass (usually in pounds or tons) of a given constituent moving past a given point per unit time. Load estimates based on sampling sites with long periods of record are more reliable than estimates from sites with short periods of record. Annual loads vary depending on drainage basin size, discharge conditions, and land uses.

The coefficients of determination (R^2) for the best-fit regression models for loads of the select pesticides are listed in table 11. High R^2 values indicate that the models for the select pesticides successfully simulated the variability in constituent loads at the two Sinking Creek mainstem sites. The model simulations for the select pesticides showed higher R^2 values at the Sinking Creek near Lodiburg site.

The largest mean-annual load of select pesticides among the two mainstem Sinking Creek sites was at the Sinking Creek near Lodiburg site. This site had the highest mean annual loads of acetochlor (72 lb/yr), atrazine (1,124 lb/yr), metolachlor (35 lb/yr), and simazine (12 lb/yr) from 2004 through spring of 2006 (table 10). The estimated load of atrazine at the Sinking Creek at Rosetta site was about 7 percent of the atrazine load at the Sinking Creek near Lodiburg site (1,020 lb/yr).

The estimated annual loads of acetochlor, atrazine, metolachlor, and simazine in the karst terrane of the Sinking Creek Basin during the study period were less than 0.01 to 1.2 percent of the amount assumed applied in the basin. The large variability in the values for load as a percentage of use is to be expected because of the considerable variability in physical properties and in application practices (Larson and others, 1997).

Yield is equal to the load divided by the drainage area. Yields are helpful in comparisons between basins of differing size and streamflow characteristics, because they minimize the effect of differences in streamflow. The Sinking Creek near Lodiburg site had higher yields of commonly used row-crop herbicides (acetochlor, atrazine, deethylatrazine, and metolachlor). The yield of atrazine was 8.2 lb/yr/mi^2; acetochlor and metolachlor yields were 0.58 and 0.28 lb/yr/mi^2, respectively (table 10). Simazine, another commonly used row-crop herbicide, had a higher yield at the Sinking Creek at Rosetta site (0.8 lb/yr/mi^2).

Table 10 Estimated mean annual load and yield of select pesticides at two Sinking Creek mainstem

Constituent	Estimated mean annual load (lb/yr)	Standard error of prediction	Mean annual yield (lb/yr)/mi^2
Sinking Creek at Rosetta, Ky. (DA = 36 mi^2)			
Acetochlor	11	22	0.31
Atrazine	72	110	2.0
Deethylatrazine	5.8	1.9	.16
Metolachlor	5.5	7.3	.15
Simazine	2.8	11	.08
Sinking Creek near Lodiburg, Ky. (DA = 125 mi^2			
Acetochlor	72	140	0.58
Atrazine	1,020	370	8.2
Deethylatrazine	36	7.6	.29
Metolachlor	35	30	.28
Simazine	12	6.1	.03

sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

[lb/yr, pound per year; [(lb/yr)/mi^2], pound per year per square mile; DA, drainage area; mi^2, square mile; <, less than]

Table 11. Regression coefficients and coefficients for determination (R^2) for load models used to estimate select pesticides at two sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

[Site locations are shown in figure 1. The regression equation is $ln(L)=a + b(lnQ) + c(lnQ^2) + d[\sin(2\pi T)] + e[\cos(2\pi T)]+ fT + gT^2$: where L is the constituent load, in pounds per day; Q is stream discharge, in cubic feet per second; T is time in decimal years from the beginning of

Site name	Regression coefficient *a*	*b*	*c*	*d*	*e*	*f*	*g*	R^2 (percent)
				Acetochlor				
Sinking Creek at Rosetta, Ky	-6.466	1.403		0.649	-1.971			91.6
Sinking Creek near Lodiburg, Ky	-5.325	1.626		0.672	-2.729			88.8
				Atrazine				
Sinking Creek at Rosetta, Ky	-3.872	1.008		-0.043	-2.480			72.9
Sinking Creek near Lodiburg, Ky	-2.598	1.035		-0.067	-0.707			93.5
				Deethylatrazine				
Sinking Creek at Rosetta, Ky	-4.481	1.018		-0.183	-1.063	-0.112		89.7
Sinking Creek near Lodiburg, Ky	-3.869	1.482		-0.180	-0.874	0.724		90.3
				Metolachlor				
Sinking Creek at Rosetta, Ky	-7.706	1.287		1.005	-3.530	-0.856		94.2
Sinking Creek near Lodiburg, Ky	-3.869	1.482		-0.180	-0.874	0.724		90.3
				Simazine				
Sinking Creek at Rosetta, Ky	-6.250	0.943	0.004	0.416	-1.818	0.798	-0.094	76.9
Sinking Creek near Lodiburg, Ky	-5.589	0.905	0.140	0.470	0.741	0.676	-1.508	94.0

the calibration period; *a,b,c,d,e,f,g* are regression coefficients; R^2 represents the amount of variance explained by the model].

Concentrations of Nutrients

Although nutrients such as nitrogen and phosphorus are necessary for plant and animal life, in excessive quantities they can accelerate the growth of aquatic plants and cause algal blooms. Excessive aquatic-growth may result in unsuitable habitat conditions for aquatic animals and can interfere with recreational activities such as fishing, swimming, and boating. Decomposition of aquatic-plant growth can cause odor and taste problems in drinking water supplies and can consume dissolved oxygen, which can adversely affect aquatic life.

Summary statistics for the concentrations of nitrite plus nitrate, total phosphorus, and orthophosphate were measured from April 2004 through November 2004, March 2005 through December 2005 at all sampling sites (Sinking Creek at Rosetta; Sinking Creek near Lodiburg; Big Spring; Flat Rock

Table 12. Summary statistics of the nutrients in samples collected in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006

[N, nitrogen; P, phosphorus; LD, less than laboratory reporting level; E, estimated]

Constituent	Number of samples	Laboratory reporting level (mg/L)	Concentrations, in mg/L		
			Minimum	Median	Maximum
Ammonia, as N	131	0.04	LD	LD	0.61
Nitrite plus nitrate, as N	131	.06	0.21	1.6	4.9
Total phosphorus, as P	130	.004	<.006	0.09	.89
Orthophosphate, as P	131	.006	E.003	.043	.46

Spring; Boiling Spring; Ross Karst Window; and Fiddle Spring), and April 2006 through June 2006 at all sites except Boiling Spring and Ross Karst Window. 5 selected sites (Sinking Creek at Rosetta; Sinking Creek near Lodiburg; Big Spring; Flat Rock Spring; and Fiddle Spring) are shown in table 12. These data provide the basis for analysis of concentrations at the selected sampling sites and the loads and yields at the Sinking Creek near Lodiburg site.

Spatial Variability of Nutrients

Concentrations of nitrate greater than 10 milligrams per liter (mg/L) in drinking water can have adverse human-health effects. Concentrations of nitrite plus nitrate ranged from 0.36 to 5.7 mg/L at the seven sites (fig.12). The highest concentration of nitrite plus nitrate of 4.95 mg/L was observed at the Big Spring site. The lowest concentration of nitrite plus nitrate of 0.21 mg/L was observed at the Sinking Creek at Rosetta site. The median concentration of nitrite plus nitrate for all sites sampled was 1.62 mg/L. The Big Spring site had the highest median nitrite plus nitrate concentration (2.3 mg/L). The median concentration of nitrite plus nitrate between the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site increased by 0.82 mg/L.

Phosphorus is a common element in rocks; other sources of phosphorus include sewage effluent, detergents, and leachates from septic tanks. Although no established aquatic-life criterion exists for total phosphorus, the USEPA recommends a maximum concentration of total phosphorus of 0.1 mg/L to discourage excessive growth of aquatic plants and algae. Total phosphorus concentrations in 46 percent of the samples were greater than 0.1 mg/L (fig.12). The median concentration of total phosphorus for all sites sampled was 0.09 mg/L. Concentrations of orthophosphates ranged from <0.006 to 0.46 mg/L. The highest concentration of orthophosphate was measured at the Big Spring site: 0.46 mg/L (fig. 12). A comparison of the median concentrations of total phosphorus and orthophosphate between the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site shows the Sinking Creek near Lodiburg site has higher median concentrations of total phosphorus (0.05 mg/L) and orthophosphate (0.03 mg/L) than the Sinking Creek at Rosetta site.

Seasonal Variability of Nutrients

Concentrations of nutrients can vary seasonally. Concentrations of nitrite plus nitrate tend to be higher in the spring (May and June) and early winter (November and December) and lower in the summer (July, August) and fall (September and October) in the karst terrane of the Sinking Creek Basin (fig.13). An increase in precipitation in the spring and early winter allows for the runoff of nutrients, such as nitrite plus nitrate, into the streams. Nitrogen fertilizers are applied in the spring to row crops such as corn, adding more available nutrients to the soil that potentially can runoff into the streams. Precipitation decreases in fall allowing plants to uptake much of the available nutrients in the soil, thus, concentrations of nitrite plus nitrate decrease in streams. Concentrations of nitrite plus nitrate, total phosphorus, and orthophosphate in relation to daily mean streamflow at the Sinking Creek near Lodiburg site and Sinking Creek at Rosetta site are shown in figure 14.

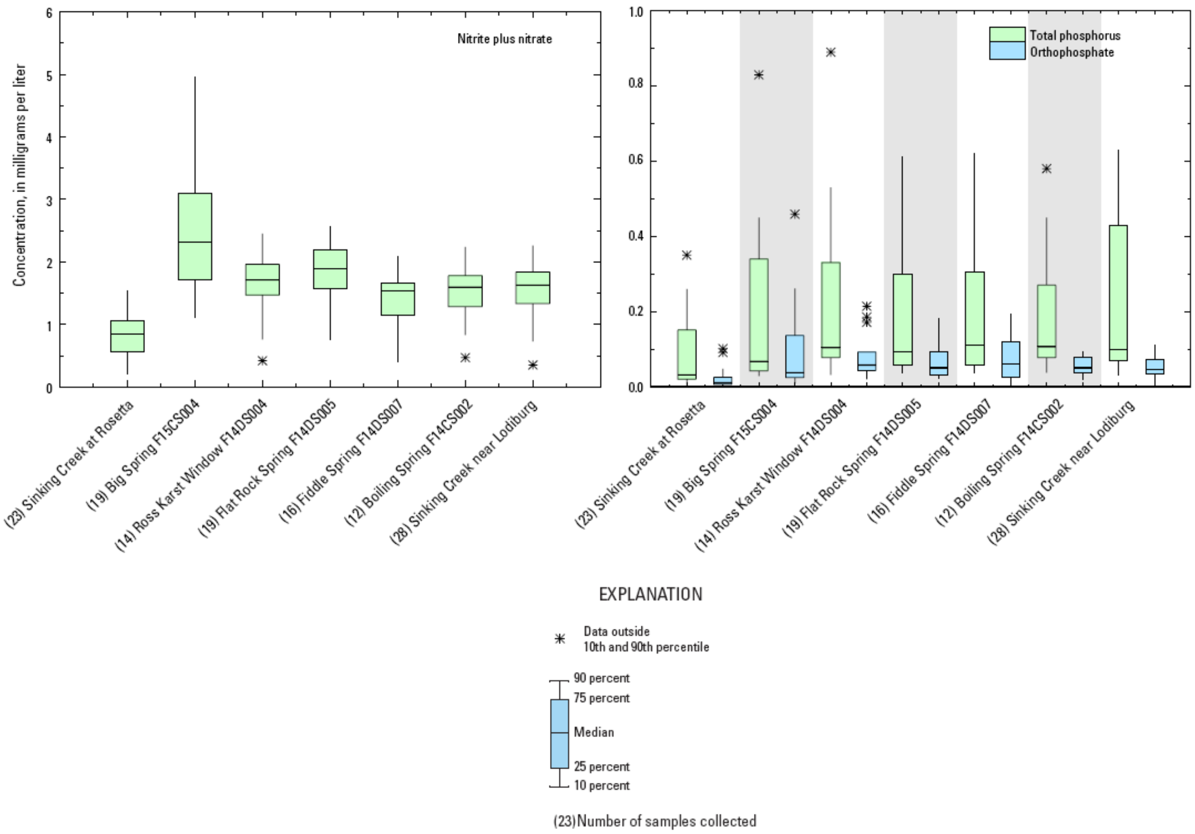


Figure 12. Concentrations of nitrite plus nitrate, total phosphorus, and orthophospate at all sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

Concentrations of nitrite plus nitrate were slightly higher in late spring and early summer and lower in late summer and fall at the Sinking Creek at Rosetta site. A possible cause of lower concentrations of nitrite plus nitrate in late summer and fall is increased nutrient uptake resulting from longer days and warmer temperatures. Concentrations of nitrite plus nitrate remained constant throughout the sampling period at the Sinking Creek near Lodiburg site.

Concentrations of total phosphorus and orthophosphate were higher during periods of increased streamflow, mainly in the spring, and lower when streamflow is decreased at the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site (fig.14). The seasonal pattern for orthophosphate mirrored that of total phosphorus, but at lower concentrations. However, the concentration of orthophosphate was slightly higher than total phosphorus in a March 2005 sample at the Sinking Creek at Rosetta site; however, the difference was less than one-hundredth of a milligram per liter.

Nutrient concentrations (nitrite plus nitrate, total phosphorus, and orthophosphate) and streamflow were plotted for the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site. The relations observed between nutrients and streamflow at the two mainstem sites on Sinking Creek are illustrated in LOWESS plots (fig.15). Graphs of nutrient concentrations and streamflow were not prepared for the other sites because of the lack of continuous streamflow data. Generally, no linear relation existed between concentrations of nutrients and streamflow. There was not always a corresponding increase in nutrient concentrations as streamflow increased. A possible explanation may be a "dilution effect" of concentrations of nutrients at the highest flows.

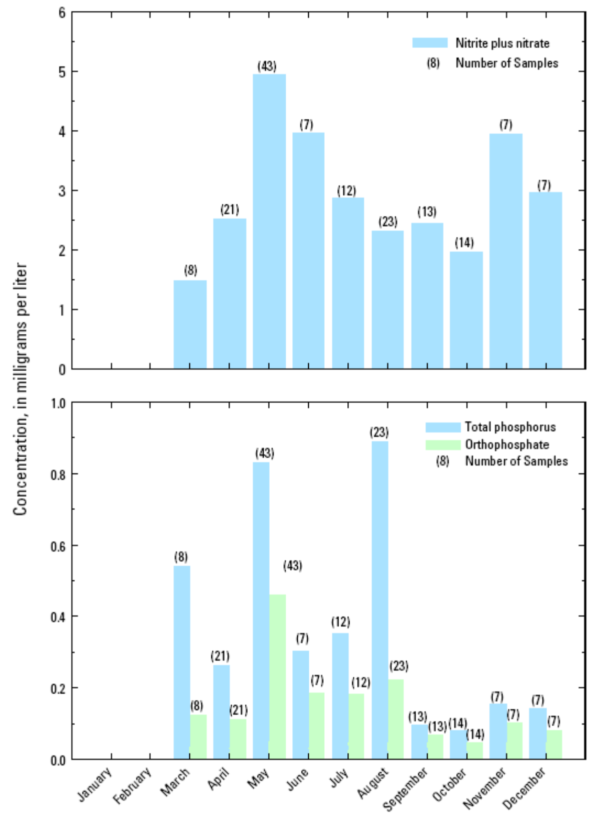


Figure 13. Monthly distribution of nitrite plus nitrate, total phosphorus, and orthophosphate at seven sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

A slight positive correlation of concentrations of nitrite plus nitrate with streamflow was observed at the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site (fig.15). The LOWESS graph of nitrite plus nitrate concentrations plotted with streamflow show the nitrite plus nitrate concentrations increasing with higher streamflow until extreme streamflows where concentrations of nitrite plus nitrate tend to decrease. The decrease in concentrations of nitrite plus nitrate at the higher streamflows indicate that after extended periods of runoff, the available nitrite plus nitrate for transport to streams declines, and additional precipitation and runoff dilute the concentrations of nitrite plus nitrate in the stream.

Total phosphorus and orthophosphate show a positive correlation with increasing streamflow (fig.15). The positive correlation is much stronger than the positive correlation of concentrations of nitrite plus nitrate with increasing streamflow. The different trends in correlation between concentrations of phosphorus and nitrite plus nitrate and streamflow may reflect differences in hydrologic transport processes for these constituents. One possibility is the uptake of nitrate by plants and algae in the streams during low-flow conditions. Another possibility is that increasing concentrations of total phosphorus with increasing streamflow may be related to the increased transport of sediment. Phosphate adsorbs to soils, sediments, and iron hydroxides and can be transported by erosion (Hem, 1985, p. 126). Concentrations of total phosphorus often follow the concentration pattern for suspended sediment (Baker, 1988).

Estimated Loads and Yields of Nutrients

Load represents the mass (usually pounds or tons) of a given water-borne constituent moving past a given point per unit of time. Annual loads can vary depending upon drainage basin size, hydrologic conditions, and land uses within a basin. Mean annual loads (in lb/yr) for nutrients were estimated using the LOADEST program at the two Sinking Creek mainstem sampling sites from samples collected from 2004 through spring 2006 (table 13). Loads were not estimated at the springs or karst window site, because of no continuous streamflow data.

The coefficients of determination (R^2) for the best-fit regression models for loads of nitrite plus nitrate, total phosphorus, and orthophosphate are listed in table 14.

High R^2 values indicate that the models for all four constituents successfully simulated the variability in constituent loads at the two Sinking Creek mainstem sites. The model simulations for nitrite plus nitrate, total phosphorus, and orthophosphate showed similar R^2 values among the constituents at the two sites.

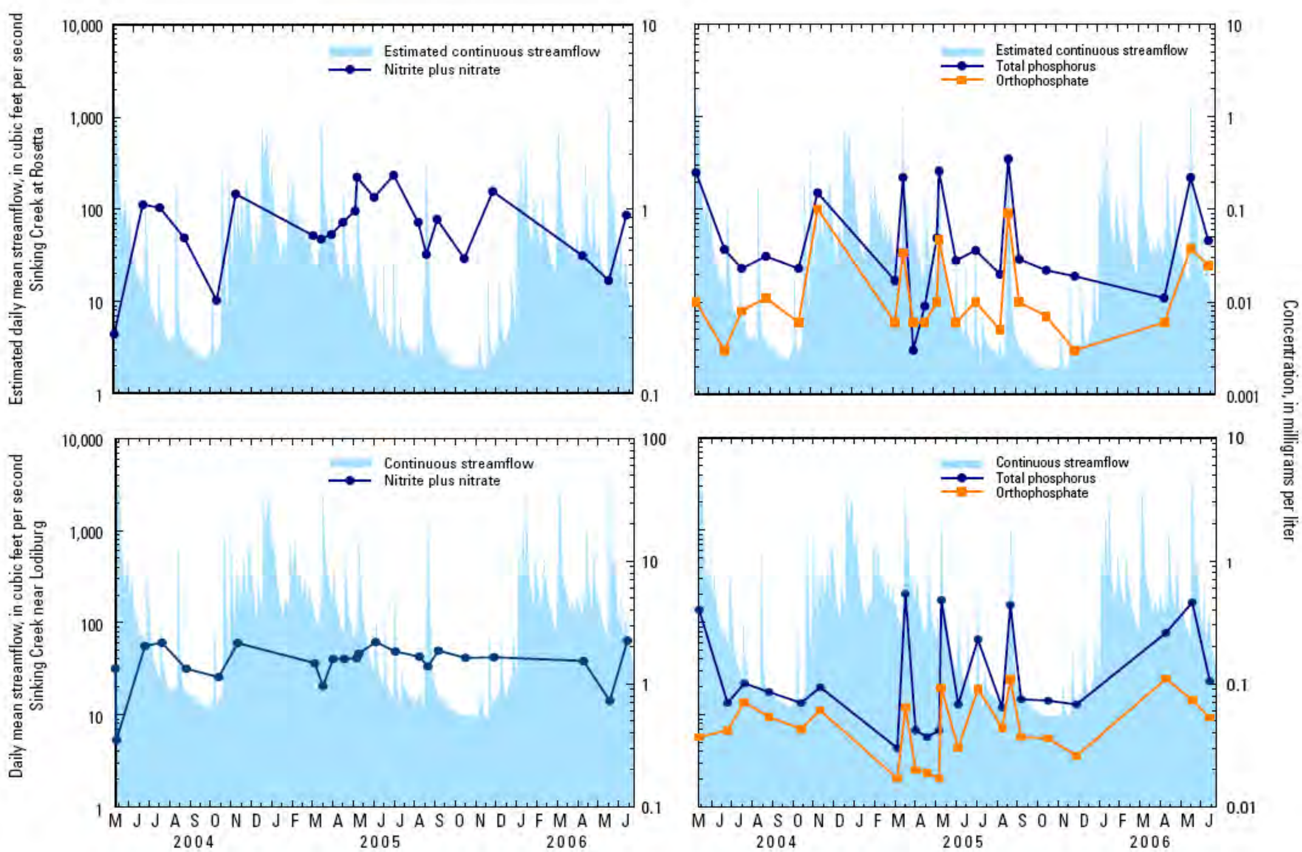


Figure 14. Seasonal variability of nitrite plus nitrate, total phosphorus, and orthophosphate at the Sinking Creek at Rosetta and the Sinking Creek near Lodiburg sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

The estimated mean annual load of nitrite plus nitrate at the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site was 103,000 lb/yr and 665,000 lb/yr, respectively (table 14). The mean annual total load of nitrogen from the estimate reported by Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006) is similar to the estimate for mean annual load of nitrite plus nitrate in this report. Estimated mean annual loads for total nitrogen was 809,000 lb/yr as reported by Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006). Although Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006) reported mean annual loads for total nitrogen and not nitrite plus nitrate, the major form of nitrogen in the karst terrane of the Sinking Creek Basin is nitrite plus nitrate (about 84 percent of total nitrogen). This percent is based on water-quality samples collected by the Kentucky Division of Water. Load estimates with long periods of record are more reliable than estimates from sites with short periods of record.

The Sinking Creek at Rosetta site contributes an estimated mean annual load of total phosphorus of 24,000 lb/yr which is about 14 percent of the total estimated mean annual load at the Sinking Creek near

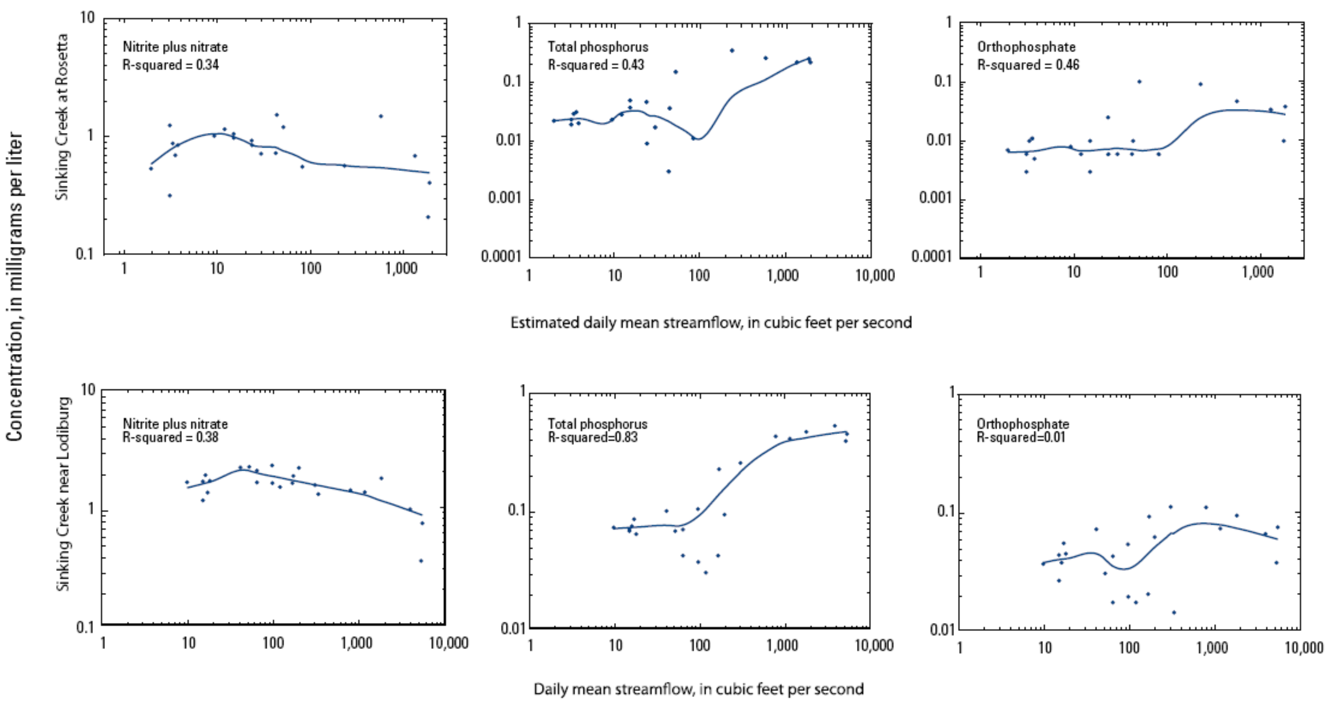


Figure 15. Relation of nitrite plus nitrate, total phosphorus, and orthophsphate to streamflow at the Sinking Creek at Rosetta and Sinking Creek near Lodiburg sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

Lodiburg site, from about 29 percent of the overall drainage area. The mean annual total load of phosphorus from the estimate reported by Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006) is much lower than the estimate for mean annual load of total phosphorus in this report. Estimated mean annual loads for total phosphorus was 63,900 lb/yr as reported by Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006). There is about a 94 relative percent difference between the estimated total phosphorus load in this report and the estimate reported by Michael C. Ierardi.

The estimated mean annual loads for orthophosphate for the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site are 8,100 lb/yr and 37,400 lb/yr, respectively. The mean annual load of orthophosphate represented a larger percentage of the mean annual load of total phosphorus at the Sinking Creek at Rosetta site (33 percent) than at the Sinking Creek near Lodiburg site (21 percent). A possible reason for the larger percentage of orthophosphate to total phosphorus at the Sinking Creek at Rosetta site is a hog farm located upstream from the sampling site.

Yields are defined as the amount of load per unit area and are useful for comparing basins with varying size, land use and physiography. Yields for ammonia, nitrite plus nitrate, total phosphorus, and orthophosphate were computed for each of the three fixed-sampling sites (table 14).

Estimated historical mean-annual yields (Michael C. Ierardi, U.S. Geological Survey, unpub. data, 2006) of nitrite plus nitrate and total phosphorus for the Sinking Creek near Lodiburg site were somewhat similar to those computed from samples collected in 2004 to 2006. Estimated mean annual yields of total nitrogen and total phosphorus from Michael C. Ierardi (U.S. Geological Survey, unpub. data, 2006) were 4,700 lb/yr/mi^2 and 370 lb/yr/mi^2, respectively; whereas, the mean annual yield of nitrite plus nitrate was 5,300 lb/yr/mi^2 and the mean annual yield for total phosphorus was 1,400 lb/yr/mi^2 for the years 2004 to 2006 at the Sinking Creek near Lodiburg site. Mean annual streamflow for the Sinking Creek near Lodiburg site was 245 ft^3/s for water years 2004 to 2006, compared to 259 ft^3/s for the period reported (1970-1992) by Michael C. Ierardi (U.S. Geological Survey, unpub.data, 2006).

Concentrations of Suspended Sediment

Suspended sediment is all particulate matter suspended in the water column resulting from streambed resuspension, rock weathering, and soil erosion. Suspended-sediment concentrations are influenced by natural conditions (streambank erosion, steep slopes, and forest fires) and anthropogenic activities (construction, timber harvesting, and certain agricultural practices).

High concentrations of suspended-sediment can cause habitat destruction and limit light penetration throughout the water column. In addition, suspended sediment plays a major role in the transport and fate of contaminants. Contaminants may sorb onto the surface of the suspended sediments and be transported and deposited in other areas downstream.

Spatial Variability of Suspended Sediment

Concentrations of suspended-sediment generally were low in karst terrane of the Sinking Creek Basin (fig.16). The median concentration of suspended sediment (excluding storm-event samples collected by the automatic sampler) for all sites sampled was 148 mg/L. The median concentration of suspended sediment including storm-event samples collected by the automatic sampler was 270 mg/L. The highest concentration of suspended sediment was measured at the Sinking Creek near Lodiburg site (1,490 mg/L) during an early summer runoff event (fig.16).

Seasonal Variability of Suspended Sediment

Concentrations of suspended sediment during routine sampling were higher in the spring (March and May) and in August than in fall (September and October) (fig.17). No routine samples were collected in the late winter. Concentrations of suspended sediment during storm events were higher in late winter, spring, and summer and lower in the fall (fig.17). An increase in precipitation in the spring and early winter allows for the runoff of sediment into the streams.

The relations observed between concentrations of suspended sediment and streamflow at the two mainstem sites on Sinking Creek are illustrated in LOWESS plots (fig.18). Concentrations of suspended sediment show a positive correlation with increasing streamflow. Increased streamflow results in increased concentrations of suspended sediment. Graphs of suspended sediment

Table 13. Estimated mean annual load and yield of nutrients and suspended sediment at two Sinking Creek mainstem sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

[N, nitrogen; P, phosphorus; lb/yr, pound per year; [(lb/yr)/mi^2], pound per year per square mile; DA, drainage area; mi^2, square mile; --, not available]

Constituent	Estimated mean annual load (lb/yr)	Standard error of prediction	Estimated mean annual yield (lb/yr)/mi^2
Sinking Creek at Rosetta, Ky. (DA = 36 mi^2)			
Ammonia (as N), dissolved	---	---	---
Nitrite plus nitrate (as N), dissolved	103,000	17,400	2,800
Phosphorus (as P), total	24,000	14,500	670
Orthophosphate (as P), dissolved	8,100	5,400	220
Suspended sediment	17,500,000	11,800,000	486,000
Sinking Creek near Lodiburg, Ky. (DA = 125 mi^2			
Ammonia (as N), dissolved	---	---	---
Nitrite plus nitrate (as N), dissolved	665,000	65,700	5,300
Phosphorus (as P), total	177,000	54,000	1,400
Orthophosphate (as P), dissolved	37,400	10,400	300
Suspended sediment	142,600,000	61,600,000	1,140,000

Table 14. Regression coefficients and coefficients for determination (R^2) for load models used to estimate nitrite plus nitrate, total phosphorus, orthophosphate, and suspended sediment at two sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-06.

Site name	Regression coefficient *a*	*b*	*c*	*d*	*e*	*f*	*g*	R^2 (percent)
				Nitrite plus nitrate				
Sinking Creek at Rosetta, Ky	6.286	0.942	-0.078	0.153	-0.341	-0.130	-0.204	97
Sinking Creek near Lodiburg, Ky	0.219	0.910	-0.069	0.156	-0.136	-0.109	-0.061	99
				Total phosphorus				
Sinking Creek at Rosetta, Ky	3.388	1.536	0.003	-0.036	0.081	-0.711	-0.180	96
Sinking Creek near Lodiburg, Ky	-2.503	1.486	0.025	0.152	0.146	-0.601	-0.170	98
				Orthophosphate				
Sinking Creek at Rosetta, Ky	2.844	1.513	-0.147	0.485	0.065	-1.05	0.016	97
Sinking Creek near Lodiburg, Ky	-3.327	1.271	-0.033	0.277	0.042	-0.746	-0.180	97
				Suspended sediment				
Sinking Creek at Rosetta, Ky	9.098	1.75	0.097	-0.274	-1.300	-0.113	-0.881	96
Sinking Creek near Lodiburg, Ky	11.23	1.970	-0.005	-0.576	-0.773	-0.162	-0.275	99

concentrations and streamflow were not prepared for the other sites because of the lack of continuous streamflow data.

Estimated Loads and Yields of Suspended Sediment

Annual loads can vary depending upon drainage basin size, hydrologic conditions, and land uses within a basin. Mean annual loads (in lb/yr) for nutrients were estimated using the LOADEST program at the two Sinking Creek mainstem sampling sites from samples collected from 2004 through spring 2006 (table 13). Loads were not estimated at the springs or karst window site, because of no continuous streamflow data.

The coefficients of determination (R^2) for the best-fit regression models for loads of suspended sediment are listed in table 14. High R^2 values indicate that the models for all four constituents successfully simulated the variability in constituent loads at the two Sinking Creek mainstem sites. The model simulations for concentrations of suspended sediment showed similar R^2 values at the two sites.

The estimated mean annual load of suspended sediment at the Sinking Creek at Rosetta site and the Sinking Creek near Lodiburg site was 17,500,000 lb/yr and 142,600,000 lb/yr, respectively (table 14). The estimated mean annual load of suspended sediment is about 12-percent larger at the Sinking Creek near Lodiburg site than at the Sinking Creek near Rosetta site. The Sinking Creek near Lodiburg site had about a 43-percent higher yield of suspended sediment than the Sinking Creek at Rosetta site.

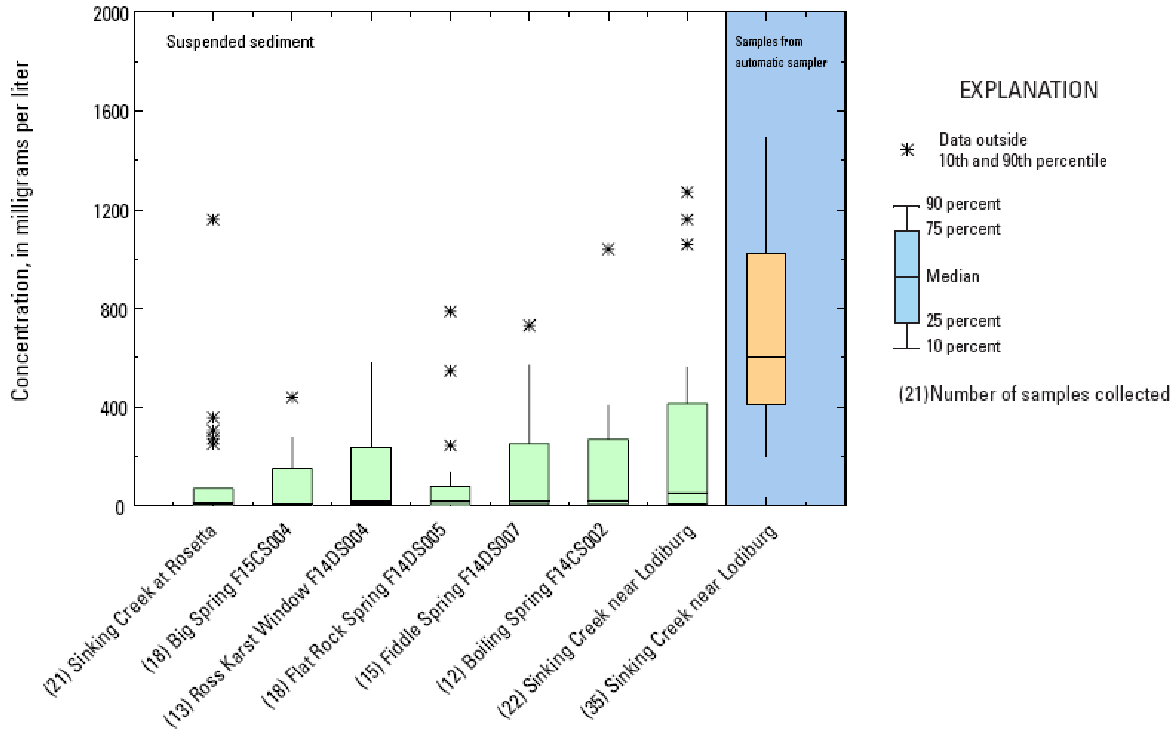


Figure 16. Concentrations of suspended sediment at all sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004- 2006.

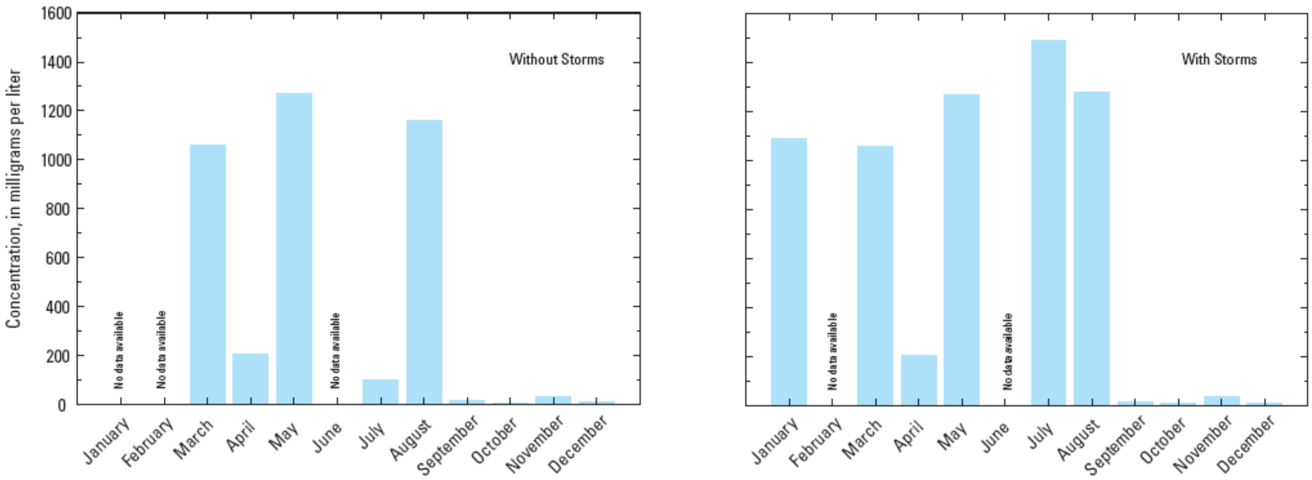


Figure 17. Monthly distribution of suspended sediment concentrations at seven sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

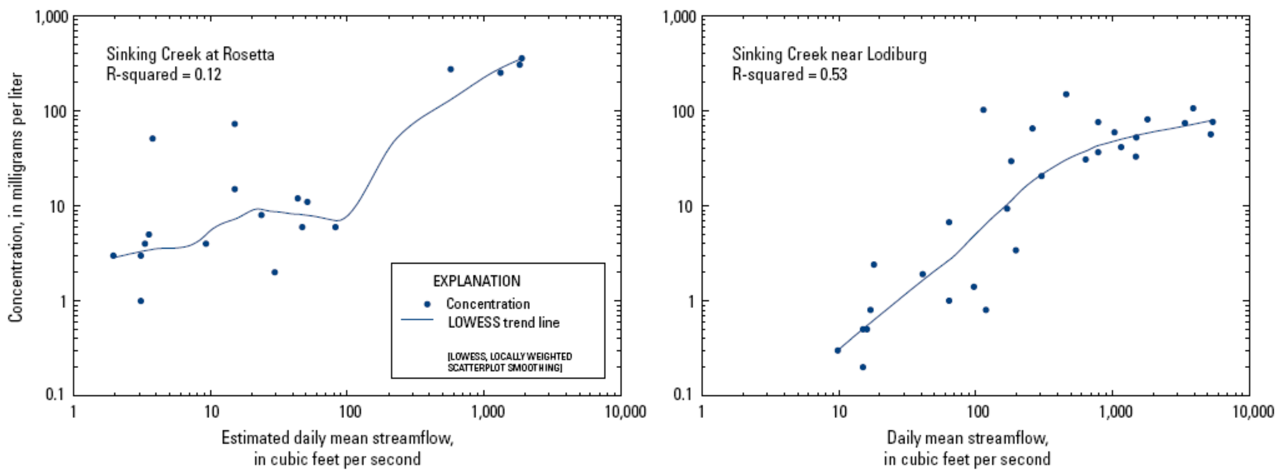


Figure 18. Relation of suspended sediment to streamflow at the Sinking Creek at Rosetta and Sinking Creek near Lodiburg sampling sites in the karst terrane of the Sinking Creek Basin, Kentucky, 2004-2006.

TOPMODEL Simulation and Approach

TOPMODEL was applied to the entire gaged watershed (karst portion only) of Sinking Creek (125 mi^2 – Sinking Creek near Lodiburg site --- 03303205). The model was applied in calibration mode in order to confirm the accuracy of applying TOPMODEL to the karst portion of the Sinking Creek Basin for the time period for which climate data and streamflow data were available at the Sinking Creek near Lodiburg site (May 2004 to December 2006). The karst basin was modeled by considering the sinkholes and the associated drainage areas as lakes, in order to apply a delay factor to the volume of streamflow. Sinking Creek Basin is the first karst basin in Kentucky to be modeled using the water budget program (Williamson and others, 2009), and the method of treating karst drainage as lakes. This is a first step in the development of a more sophisticated routing and delay algorithms for karstic areas in Kentucky. Consequently, the model output for the Sinking Creek Basin is preliminary. Comparisons between the predicted hydrograph to the observed hydrograph (fig. 19) resulted in a Nash-Sutcliffe statistic of E_f = 0.22; the flow-duration and water budget comparisons are well matched (fig. 20 and 21). Historic climatic and physiographic data were used to evaluate hydrologic conditions within the basin. Source data include topography and the topographic wetness index, hydrologic soil variables (saturated hydraulic conductivity, field-capacity water-content, available water-holding capacity, porosity, and depth), variables specific to TOPMODEL (conductivity multiplier and scaling parameter), and other controls on water flow (lakes and impervious areas).

Potential TOPMODEL Applications and Limitations

Potential applications of TOPMODEL include modeling the effect of changes in withdrawal and discharge, using historic events to understand the ramifications of forecasted flooding or drought, and understanding how water moves through the watershed as surface and sub-surface flow, and understanding water-quality dynamics within a watershed.

Use of TOPMODEL in general and specifically to the karst portion of the

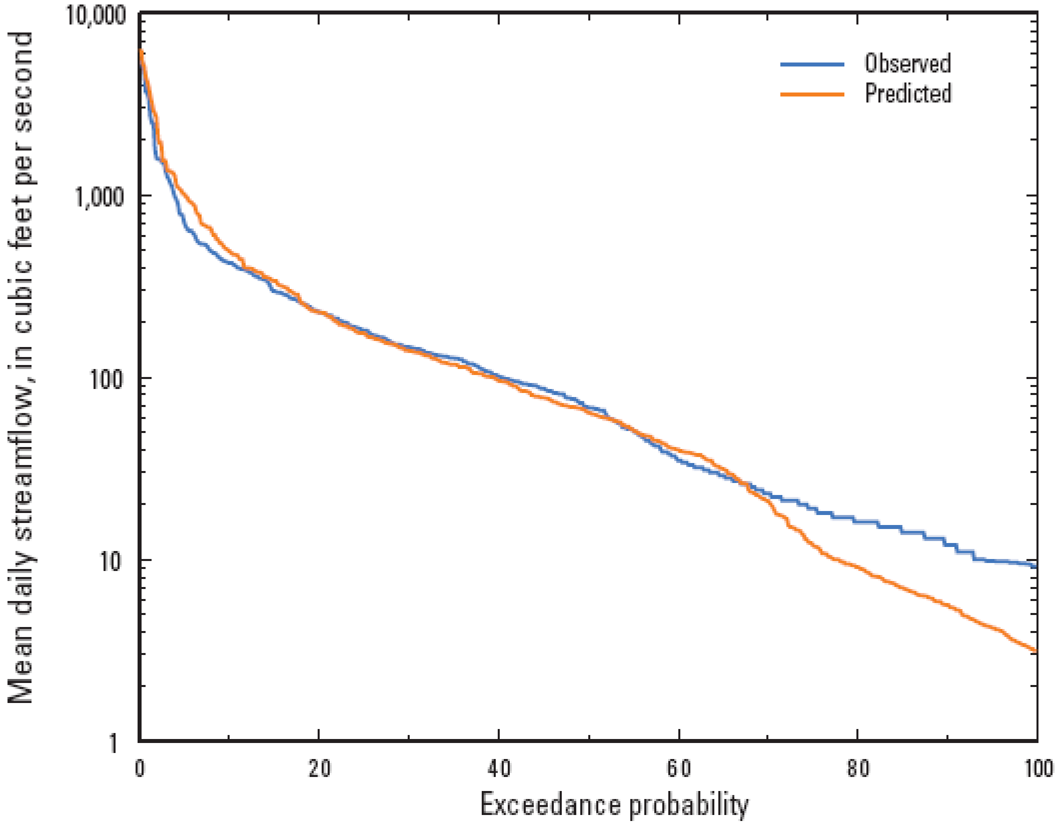


Figure 19. Comparison of predicted flow-duration curve with observed flow-duration curve for the Sinking Creek near Lodiburg site, 2005-2006.

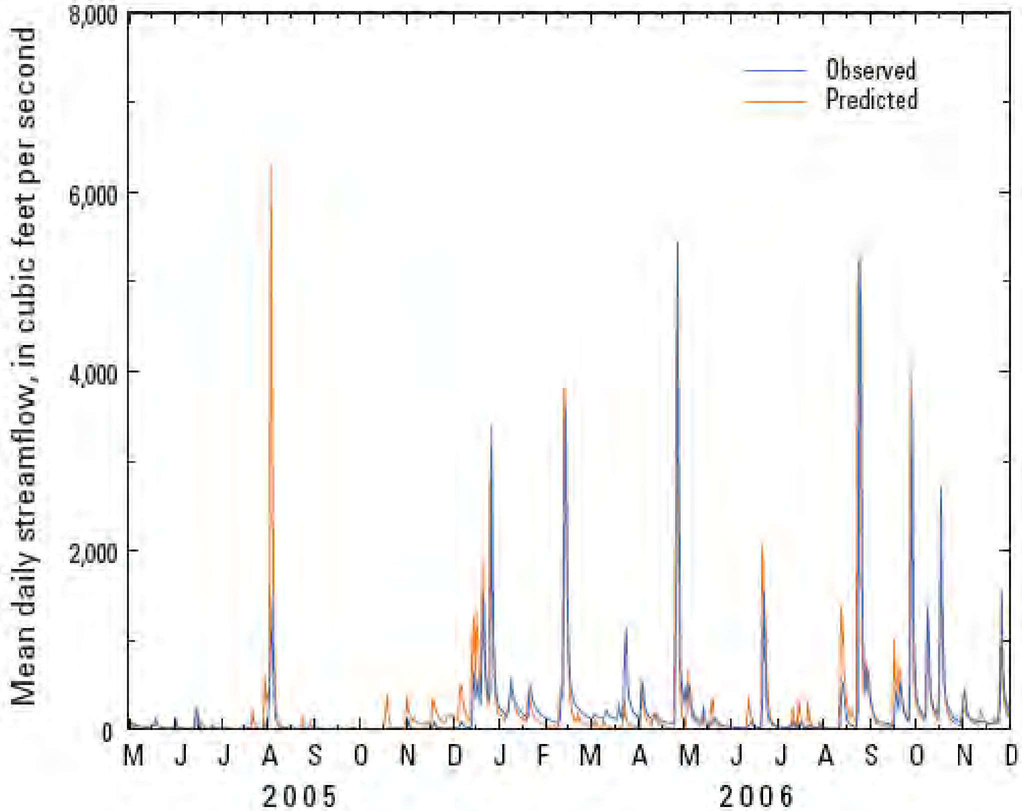


Figure 20. Mean daily streamflow from the Sinking Creek near Lodiburg site and predicted mean daily streamflow from TOPMODEL.

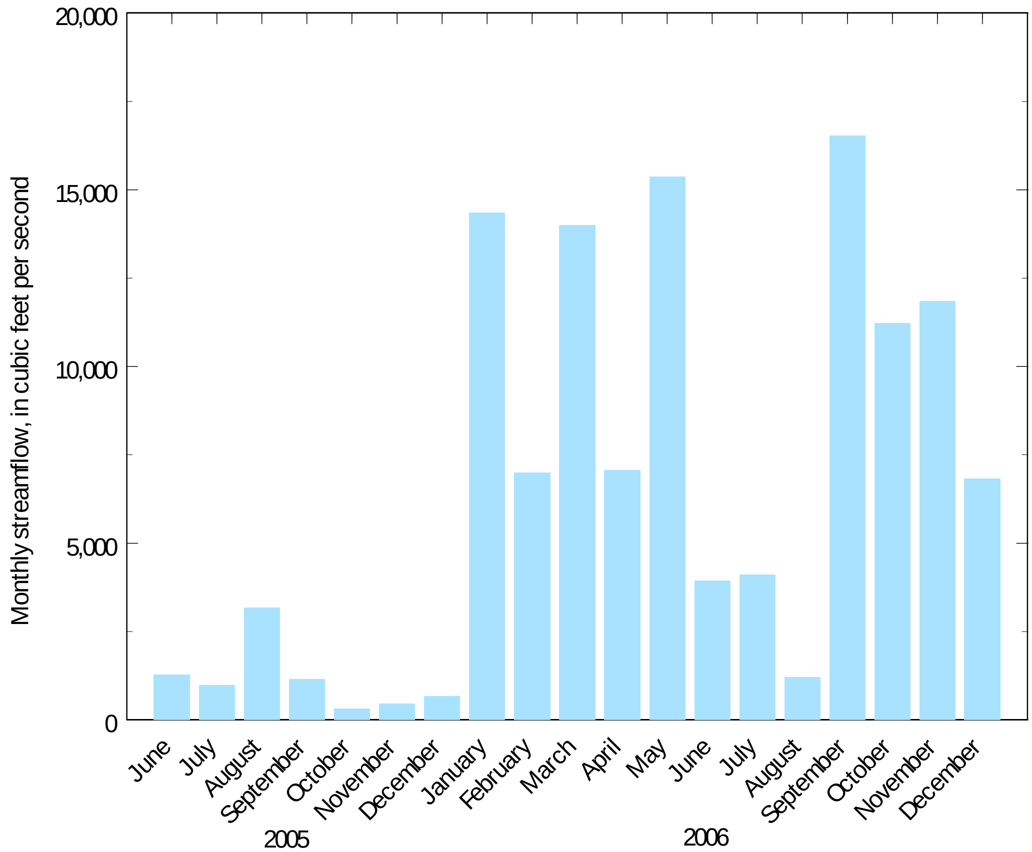


Figure 21. Monthly sum of streamflow at the Sinking Creek near Lodiburg site, 2005-2006.

Sinking Creek Basin is subject to limitations:

In general, TOPMODEL only simulates watershed hydrology, although studies have been conducted to modify the model to simulate water-quality dynamics (Wolock and others, 1990, 1995, and 2002).

The model most accurately can be applied to watersheds that do not suffer from excessively long droughts and have shallow homogeneous soils, and moderate topography. In the case of the model application for the Sinking Creek Basin, the time period for daily precipitation collected at the Sinking Creek near Lodiburg site did not include summer drought conditions, so mean daily NexRad values were input into the calibration model from January 2005 to February 2008. The summer of 2007 was considered a drought in Kentucky (Energy and Environment Cabinet, 2008). The driest months during 2007 were June, August, and September

Results of TOPMODEL are sensitive to the digital elevation model (DEM) grid size which represents the effect of topography on the watershed hydrology. It is recommended the grid size be less than or equal to 50 meters.

Specific limitations to the calibration model for Sinking Creek were the resolution of the input data. The physiographic data used in the calibration model were sampled from 10-meter rasters, as was the digital elevation model (DEM). The mean daily NexRad values are on a resolution of an approximately 4-kilometer grid. A comprehensive discussion of TOPMODEL applications and limitations can be found at Beven and others, 1994.

Education and Outreach

The Sinking Creek project developed two field days to emphasize the importance of reading and following the pesticide label on the atrazine label and properly establishing setbacks and buffers to reduce pesticide and/or nutrient runoff in a karst watershed. An additional field day was held in 2007 as the result of additional grant awarded to the Sinking Creek Council, and was not officially part of this project. However, the Kentucky Department of Agriculture and the U.S. Geological Survey participated in the 2007 field day. The field days were setup through the Sinking Creek Council working with the local district conservationist and local stakeholders. Six agencies (Kentucky Department of Agriculture, Kentucky Division of Water, Kentucky Fish and Wildlife, Kentucky Division of Forestry, Natural Resources Conservation Service, University of Kentucky, and the U.S. Geological Survey) along with local members of the community planned and organized the field days.

Each agency selected land demonstration projects and educational materials to focus on the importance of their management and conservation activities such as pesticide labels, setback/buffer requirements, forestry, wildlife, septic systems to be displayed or discussed at the field days. Results of the water-quality data collected by the U.S. Geological Survey was presented to the local community for educational outreach purposes.

Activities for the field days included: (1) meeting with project partners to discuss participation and planning for the two field day events and select dates and locations, (2) having formal presentations and discussions of the 319 Project-Land Use Practices and their impact on water quality in the Upper Sinking Creek-Watershed-A Priority Targeted Watershed, (3) providing a field trip to visit sites in the watershed to view demonstrations of data collection as well as pesticide application, grazing management, forestry management, septic system operation, selection and use of proper best management practices, (4) enjoy a field-day lunch provided by partners, (5) close-out event with a question/answer session.

Educational Materials

The pesticide label presentations presented at the field days were the result of another program specifically designed for education outreach programs which involved pesticide labels and management documents being studied and discussed among present and previous partners. The goal of the presentations was to make producers aware of label requirement in the Precautionary State, Environmental Hazard section. These discussions addressed required setbacks and buffers designs and their direct association to sinkholes, wells, streams, rivers, etc. The educational documents “Guidelines for Atrazine Use and Application for Groundwater and Surface Water Production” were displayed as a supplement to the presentation. In addition there were other brochures and pamphlets describing other water quality related program efforts such as the ‘Farm (Chemical) Pesticide Collection’, (Pesticide Container Recycling) ‘Rinse & Return’ and Crop Protectant Mini-Bulk Recycling. Also, there was the groundwater protection brochure which addressed pesticide handling and best management practices. These materials and programs were originally designed under the Water Quality program in the Technical Support Branch of the Kentucky Department of Agriculture.

Other pre-published educational materials that were made available at the display areas located on VanLahr Farm (2005 field day) and the Irvington Elementary School (2006 field day) were:

a) Sinking Creek Watershed of the Salt River Basin – Breckinridge Cooperative Extension and Breckinridge Conservation District.

b) 15 Fun Facts About Recycling – University of Kentucky Cooperative Extension Service (CES)

c) Your Septic System Isn’t Working Right – University of Kentucky CES

d) Septic Systems for Homeowners – University of Kentucky CES

e) Household Wastewater: Septic Systems & Other Treatment Methods – University of Kentucky CES

Field Day Demonstration in 2005

The first field day demonstration for the project was held at the VanLahr Farm in Breckinridge County, Kentucky, on July 25, 2005. This farm was selected to demonstrate pesticide, forestry, wildlife, and other agriculture management and conservation practices in one location (appendix F). The field day consisted of a walking tour and wagon tours.

The walking tour included demonstrations of cattle handling and electronic identification, and a mobile hay testing laboratory. It also included displays of the pesticide collection and rinse and return program and the U.S. Geological Survey Sinking Creek sampling data at the sampling sites. The management of forestry and wildlife, rotational grazing, alternate water systems, fencing, and equipment, and pesticide label setbacks and buffers were demonstrated on the wagon tour. Ninety-nine people attended the 2005 field day.

Figure 22. Photograph on the top shows a sinkhole without setback and waterway located in a future corn field. Photograph on the bottom shows the finished setback and waterway construction in the same corn field later in the season.

Field Day Demonstration in 2006

The 2006 field day consisted of six farms each demonstrating specific areas of management and conservation involving pesticides use, setbacks/buffers/field borders, agricultural livestock activities, forestry management, bobwhite quail initiatives, and sinkhole management (appendix G). The six farms were located in East Breckinridge County and West Meade County. Transportation (4 rented vans) was provided to participants.

The field day tour began and ended at the Irvington Elementary School in Irvington, Kentucky, in Breckinridge County located near the Meade County line. Three presentations were given at the school by the Department of Agriculture, and the Kentucky Division of Water following the tour. The presentations included the watershed watch program presented by the Division of Water, pesticide label setbacks and buffers and rinse and return (farm pesticide collection and mini bulk) program presented by the Department of Agriculture, Technical Support Branch.

Overall seventy-two people attended the 2006 field day. The Herald News (a local newspaper) quoted approximately 40 people took the tour (appendix G).

Figure 23. Photograph of U.S. Geological Survey personnel presenting sinkhole protection and the sampling data.

Figure 24. Photograph of Kentucky Department of Agriculture personnel presenting proper pesticide label setbacks and buffers between row crops and streams.

Field Day Demonstration in 2007

The Sinking Creek Council Management and Conservation Tour (2007 field day) was held on July 24, 2007, as the result of additional grant awarded to the Sinking Creek Council in late 2006 from a U.S. Environmental Protection Environmental Education grant and was not officially part of this project. However, the Kentucky Department of Agriculture --Technical Support Branch and the U.S. Geological Survey participated in the 2007 field day to continue to contribute educational materials to the local community. The Kentucky Department of Agriculture--Technical Support Branch manager organized the 2007 Field Day event; however, the local district conservationist selected the demonstration sites in and around the Sinking Creek Basin.

The 2007 field day was patterned after the 2006 field day. The tour had five demonstration sites including the management of native grass borders and wildlife, heavy use areas and feed pads for cattle, sinkhole and grass waterways, fence, riparian buffers and field borders, and the management of forest woodland. There were about 50 people in attendance. Additional information about the 2007 field day tour can be found in appendix H.

Summary of Field Days

The field day activities developed and implemented under this project illustrated the importance of field demonstrations in educating the local community on the management and conservation practices that exist in their watershed. One example of a management and conservation practice, illustrated to the local community, was the importance of buffers and setbacks in reducing pesticide, nutrient, and sediment runoff in karst terrane.

The coordination and cooperation of interagency personnel and resources was essential in the development of educational materials, presentations, and selection of good demonstration sites which contributed to successful field day events. A challenge for the field days was establishing good demonstration sites in the watershed. Better demonstration sites in the watershed possibly could have been selected with more time and field personnel. Additional information about the field days can be found in appendixes E through I.

Summary and Conclusions

A water-quality assessment of springs, karst windows, and streams in the karst terrane of the Sinking Creek Basin (also known as the Boiling Spring Basin) was conducted from April 2004 through November 2004, March 2005 through December 2005, and April 2006 through June 2006, in cooperation, with the Kentucky Department of Agriculture. Pesticide, nutrient, and suspended-sediment samples were collected at 7 selected sites in the karst terrane of the Sinking Creek Basin, an area that encompasses 125 square miles. Select pesticide, nutrient, and suspended sediment data were used to estimate loads and yields from the two mainstem Sinking Creek monitoring sites. Loads were estimated using the USGS LOADEST program. Loads were not estimated at the karst window or spring sites, because a streamflow relation between these sites and the mainstem sites could not be established.

Herbicides were detected more frequently than insecticides. Twelve of the 14 pesticides detected in water were herbicides. The commonly used herbicides, atrazine, simazine, metolachlor, acetochlor, and prometon were found throughout the basin. Atrazine was detected in 97 percent of all surface-water samples. The pesticide transformation compound, deethylatrazine

(DEA), was detected in 93 percent of the surface-water samples. Prometon was the only nonagricultural herbicide detected. The insecticides, carbaryl and Malathion, were the only insecticides detected.

Most pesticides were present in low concentrations. Atrazine and simazine (row-crop herbicides) had the highest measured concentrations (24.6 µg/L and 2.68 µg/L, respectively) and were the most heavily applied herbicides in the basin. Atrazine was the only pesticide compound to exceed the U.S. Environmental Protection Agency's (USEPA) standard for drinking water (3 µg/L). Concentrations of select pesticides generally indicated a positive correlation with streamflow. Seasonal variations and the relations of pesticides to streamflow generally corresponded with nonpoint-source loadings.

The estimated annual loads of acetochlor, atrazine, metolachlor, and simazine for the study period were less than 0.01 to 1.2 percent of the amount assumed applied in the basin. The largest mean-annual load of atrazine was at the Sinking Creek near Lodiburg site (1,020 lb/yr). The estimated load of atrazine at the Sinking Creek at Rosetta site was about 7 percent of the atrazine load at the Sinking Creek near Lodiburg site.

Concentrations of nitrite plus nitrate ranged from 0.21 mg/L to 4.9 mg/L at the 7 sites. The highest concentration of nitrite plus nitrate of 4.9 mg/L was observed at the Big Spring site. The lowest concentration of nitrite plus nitrate of 0.21 mg/L was observed at the Sinking Creek at Rosetta site. The median concentration of nitrite plus nitrate for all sites sampled was 1.61 mg/L. Total phosphorus concentrations in 46 percent of the samples were greater than 0.1 mg/L (USEPA's recommended maximum concentration). The median concentration of total phosphorus for all sites sampled was 0.09 mg/L. Concentrations of orthophosphates ranged from <0.006 to 0.46 mg/L. The highest concentration of orthophosphate was measured at the Big Spring site: 0.46 mg/L.

An analysis of the nutrient data typically indicated a positive correlation of nitrite plus nitrate with streamflow. Concentrations of total phosphorus and orthophosphate with streamflow showed greater variability than nitrite plus nitrate, perhaps reflecting the greater potential of transport of phosphorus on sediment. Seasonal variations and the relations of nutrients to streamflow generally corresponded with nonpoint-source loadings. Estimated mean annual loads of nutrients at the downstream monitoring site (Sinking Creek near Lodiburg) were larger than loads at the upstream monitoring site (Sinking Creek at Rosetta).

Concentrations of suspended sediment generally were low in karst terrane of the Sinking Creek Basin. The concentrations of suspended sediment ranged from 1.0 mg/L to 1,490 mg/L at the 7 sites. The median concentration of suspended sediment (excluding storm-event samples collected by the automatic sampler) for the 7 sites sampled was 148 mg/L. The median concentration of suspended sediment including storm-event samples collected by the automatic sampler was 270 mg/L. The highest concentration of suspended sediment was measured at the Sinking Creek near Lodiburg site (1,490 mg/L) during an early summer runoff event. Estimated mean annual loads of suspended sediment at the downstream monitoring site (Sinking Creek near Lodiburg) were larger than loads at the upstream monitoring site (Sinking Creek at Rosetta).

TOPMODEL (TOPography-based hydrological MODEL), a physically based watershed model, was used to simulate rainfall runoff through the karst terrane of the Sinking Creek Basin. The model specifically simulates the interaction between groundwater and surface water based on the water table and incorporates topography characteristics. The model was applied in calibration mode in order to confirm the accuracy of applying the model to the karst terrane of the Sinking Creek Basin.

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Appendixes

Appendix B. QAPP for water-quality monitoring.

Quality Assurance Management Plan

for the Land Use Practices and Their Impact on Water Quality in Upper Sinking Creek Watershed—A Priority Targeted Watershed

Prepared by U.S. Geological Survey
February 2003

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U.S. Geological Survey, Project Chief — Date

____________________________________ _________________

U.S Geological Survey, Lead Hydrologic Technician — Date

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GROUP A. Project Management

A3. Distribution List

A copy of this QAPP, in hardcopy or in electronic format (preferably), is to be received and retained by the names of each participating agency shown below.

Table 1. Contact information.

Name	Agency	Title	Phone	Email
Angie Crain	U.S. Geological Survey	Project Manager/QW Specialist	502/493-1943	ascrain@usgs.gov
Greg McCombs	U.S. Geological Survey	Lead Hydrologic Technician	502/493-1921	gmccombs@usgs.gov
Ernest Collins	Kentucky Department of Agriculture-Division of Pesticide Regulation	Branch Manager	502/564-7274	Ernest.Collins@kyagr.com

A4. Project/Task Organization

The individuals directly involved with the sampling of water quality for the Upper Sinking Creek project and their specific responsibilities are outlined below.

Angie Crain, U.S. Geological Survey Project Manager and District Water-Quality Specialist: Overall coordination of the project and decision maker. Review and approve QAPP and subsequent revisions in terms of project scope and objectives and quality assurance. Ensure QAPP implementation and conduct assessments of field activities. Coordination and scheduling of lab analyses, data review, and validation.

Greg McCombs, U.S. Geological Survey Lead Hydrologic Technician: Overall coordination of field work. Direct the sampling operations according to the QAPP.

A5. Problem Definition/Background

Despite advances in our knowledge and understanding of the sources of agriculturally-derived nonpoint-source pollution (NPS) and the development of best management practices intended to reduce NPS pollution, both surface water and ground water continue to receive increased loadings of pesticides, nutrients, and sediment (Becher and others, 2000; Goolsby and Battaglin, 1997; and Schilling and Thompson, 2000). The impact on water quality by agricultural activities, habitat modification, and urbanization in areas of karst terrain are important considerations for resource management within Kentucky.

Pesticides, nutrients, and sediment are frequently detected in shallow ground water and are a threat to the degradation of drinking water because of erosion and leaching, respectively. Resource managers are often faced with difficult decisions concerning development of land and the protection of ground water from these contaminants. Fundamental to developing sound land-policies is understanding what role best management practices play in protecting shallow ground water from contamination due to human-induced activities (agriculture, silviculture, residential). This is the case faced by resource managers in the ground-water recharge area of the upper Sinking Creek Basin and other regions of Kentucky underlain by karst. Evaluating alternative management strategies through experiments and a limited amount of field measurements is often not feasible; a watershed modeling study is often the only viable means of providing input to management decisions.

The ground-water recharge are of the upper Sinking Creek Basin located in the Salt River Basin (Sinking Creek-Hardinsburg (Hydrologic Unit Code 05140104250)) drains about 120 square miles in parts of Breckenridge, Hardin, and Meade Counties in Kentucky. The ground-water recharge area of the upper Sinking Creek Basin consists of an area of mixed agricultural (slightly less than 50 percent) and forested (about 50 percent) land use and can be described as rural forested with streams impacted by human-induced activities. Because much of the upper portion of the Sinking Creek Basin is underlain by karst, the area has a high hydrogeologic sensitivity rating indicating it is highly vulnerable to impacts from runoff of pesticides, nutrients, and sediment. The Sinking Creek Basin is listed as a targeted priority watershed within the Salt River-Minor Ohio River Tributary Basin Unit. The Sinking Creek Basin is located in the Mississippian Plateau which is characterized by flat-lying Mississippian-age carbonate rocks, primarily limestone with some dolostone. Well-developed karst topography occurs in this province, with an abundance of sinkholes, caves, and sinking streams.

As is typical of karst terrain, almost all runoff is diverted to subsurface channels. Within the upper portion of the Sinking Creek Basin, ground water from the subsurface channels comes out at several natural springs and karst windows and flows directly into Sinking Creek. The lower portion of Sinking Creek (Sinking Creek of the Ohio River in Breckenridge County) is listed as a 1st Priority Stream in the State's 2002 Draft 303(d) List of Waters for Kentucky. The pollutants of concern include siltation, nutrients, and organic enrichment/low dissolved oxygen.

A6. Project/Task Description

Extensive land-use activities related to agriculture, forest management, and urbanization and dynamic hydraulic connections between the land surface and ground-water resources render many of Kentucky's aquifers vulnerable to chemical contamination. In these areas, there is a need to monitor shallow ground water for pesticides, nutrients, and suspended sediment to evaluate potential migration of these constituents to the subsurface, and to assess the effects of land use on surface-water and ground-water interactions. This proposed project will serve regulatory agencies, water users, and other stakeholders as a tool to identify a variety of resource management objectives and alternatives in the Sinking Creek Basin and possibly other karst regions of the State. Although, recommendations for water management are specifically not part of this study, the watershed model developed will be useful for determining optimal management alternatives for a given set of objectives and constraints.

The overall purpose of this study is to describe the spatial extent and pattern of pesticides in storm runoff from both agricultural and mixed land-use (agriculture and forest) areas underlain by karst in the ground-water recharge area of the upper Sinking Creek Basin, and to relate occurrence, concentrations, and loads to land use, basin characteristics, and land-use practices within the selected study area. The specific objective of this study is to develop and apply a rainfall-runoff watershed model in the selected study area. The result will be a model that predicts saturation excess and infiltration excess of surface runoff and subsurface stormflow based on an analysis of catchment topography. A map of the sampling-site locations can be found in Appendix A.

A7. Quality Objectives and Criteria for Measurement Data

The purpose of storm event water-quality monitoring is to collect ground water quality data needed for developing and applying a rainfall-runoff watershed model to relate occurrence, concentrations, basin characteristics, and land-use practices in the selected area. The systematic monitoring program is designed such that sufficient data will be collected to increase our understanding of spatial variability of runoff of nutrients (ammonia (NH_4), nitrite plus nitrate (NO_2+NO_3), total phosphorus (TP), and orthophosphate (orthoP), suspended sediment, chlorides, and pesticides in agricultural (crop and pasture) and forested areas underlain by karst and to permit analysis for predicting runoff of these constituents over time.

These water quality data, and data collected by other organizations (e.g., KDOW, SRWW.), will be subsequently reconciled for use and assessed by the USGS. No decisions will be made by the project team based on the data collected. The measurement performance criteria to support the project objectives for a minimum data set are specified in appendix C.

Laboratory Reporting Limits

Laboratory reporting limits, lrl’s, are the specifications at or below which data will be reported. Ongoing ability to recover an analyte at the lrl is demonstrated through analysis of a calibration or check standard at the lrl. The lrls for target analytes and performance limits at lrls for this project are set forth in appendix C. Quality control requirements are defined in Section B5 (also see Accuracy).

Precision

The precision of data is a measure of the reproducibility of a measurement when a collection or an analysis is repeated. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the same process under similar conditions. Performance limits for laboratory duplicates are defined in the table above. Performance limits for field duplicates are defined in Section B5.

Accuracy

Accuracy is a statistical measurement of correctness and includes components of systemic error. A measurement is considered accurate when the value reported does not differ from the true value. Accuracy is verified through the analysis of laboratory spikes and calibration control standards. Performance limits for laboratory spikes and calibration control standards for lrls are specified in appendix C.

Representativeness

Site selection, the appropriate sampling regime, the sampling of all pertinent media according to USGS protocols, and use of only approved analytical methods will assure that the measurement data represents the conditions at the site. Fixed/routine data collected are considered to be spatially and temporally representative of fixed/routine water quality conditions. At a minimum, samples are collected over at least two seasons (to include inter-seasonal variation) and over two years (to include inter-year variation) and include some data collected during an index period (March 15- October 15). Although data may be collected during varying regimes of weather and flow, the data sets will not be biased toward unusual conditions of flow, runoff, or season. The goal for meeting total representation of the water body will be tempered by the potential funding for complete representativeness.

Comparability
Confidence in the comparability of fixed/routine data sets for this project and for water quality assessments is based on the commitment of project staff to use only approved sampling and analysis methods and QA/QC protocols in accordance with quality system requirements and as described in this QAPP and in USGSs' protocols. Comparability is also guaranteed by reporting data in standard units, by using accepted rules for rounding figures, and by reporting data in a standard format.

Completeness
The completeness of the data is basically a relationship of how much of the data is available for use compared to the total potential data. Ideally, 100% of the data should be available. However, the possibility of unavailable data due to accidents, insufficient sample volume, broken or lost samples, etc. is to be expected. Therefore, it will be a general goal of the project(s) that 90% data completion is achieved.

A8. Special Training Requirements/Certification

Safety Guidelines for Field Activities
Personnel conducting any field activities for this project will be well-versed in standard safety procedures for such activities. It is the responsibility of the safety officer, or supervisor, or designee, to ensure all field personnel have participated in safety training and that such training is documented in training certifications/records maintained and updated for all participating U.S. Geological field personnel. All appropriate Material Safety Data Sheets (MSDS) information for chemicals that may need to be used in the field will be readily available to field personnel. Proper procedures for safe storage, handling, shipping, transport, and disposal of chemicals and other materials will be followed at all times in the field and good field safety practices will be implemented accordingly.

A9. Documentation and Records

Many documents will be critical to the implementation and monitoring of this program. Documents will include but not be limited to:

- Quality Assurance Project Plan and any revisions thereof,
- Legal contracts between the Kentucky Division of Water and the Kentucky Department of Agriculture and the U.S. Geological Survey.

Other important Project records include:

- Annual Technical Progress Reports, and
- Other documentation submitted by the U.S. Geological Survey to the Kentucky Department of Agriculture-Division of Pesticide Regulation management.

Technical Progress Reports as submitted by the U.S. Geological Survey to

the Kentucky Department of Agriculture-Division of Pesticide Regulation will follow a uniform format presenting the Project number (assigned at the time of contract issuance); dates for the period discussed; name of cooperator and address; dated signature of cooperator; objective(s) of the research for the period of the report; data indicating that objective has been met or if it has not been met, why; and objective(s) for the next study period. Progress reports will be submitted on a schedule specified in the contract. The Kentucky Department of Agriculture-Division of Pesticide Regulation staff will be responsible for ensuring the technical progress reports are submitted to the Kentucky Division of Water.
The project records of the U.S. Geological Survey will be stored in a controlled area until no longer relevant to the project at which time they will be moved into the permanent archive within the U.S. Geological Survey.

The information and data records produced from the project will be kept by the U.S. Geological Survey Project Manager. Each person on the distribution list will have;

- Data logbooks or forms.
- Copies of the chain-of-custody forms
- Copies of the Analytical Request Sheets from the laboratory.

The U.S. Geological Survey will store their records securely until completion of the project. At that point, they will be required to make all data available to the Kentucky Division of Water and other agencies either in hard copy or electronic format as requested. Field observations, measurements, and sample results will be stored in the U.S. Geological Survey's National Water Information System (NWIS).

Upon completion of all project tasks and compilation of a final report(s), original records will be stored at and for a period of time as designated by the U.S. Geological Survey.

GROUP B: DATA GENERATION AND ACQUISITION

The U.S. Geological Survey will have overall responsibility for management and implementation of the Upper Sinking Creek Watershed project and will ensure that the project objectives are attained.

B1. Sampling Process Design (Experimental Design)

This study is designed such that sufficient data will be collected to increase our understanding of spatial variability of runoff of nutrients (ammonia (NH_4), nitrite plus nitrate (NO_2+NO_3), total phosphorus (TP), and orthophosphate (orthoP), suspended sediment, chlorides, and pesticides in agricultural (crop and pasture) and forested areas underlain by karst and to permit analysis for predicting runoff of these constituents over time. Optical brighteners also will be collected and used qualitatively (presence/absence) for identifying seepage from septic tanks into receiving waters. Two types of sampling programs---the fixed-station network and the synoptic network---will be designed to accomplish these goals. A map of the project area sampling-location sites is shown in appendix A. The upper Sinking Creek watershed is located in Breckinridge, Hardin, and Meade Countys. The project area is located in 6-24K U.S. 7.5 minute topographic quadrangles. These quadrangles include: Guston F15A; Garfield F14D; Big Spring F15C; Flaherty F15D; Custer G14B; and Constantine G15A.

The fixed-network includes 2 sites distributed within the ground-water recharge area of the upper Sinking Creek Basin; these sites will be sampled for 2 years (March 2004 to November 2005) to monitor seasonal changes in water quality resulting from a variety of land-use activities, including agricultural, forest, residential, and mixtures of these. Water-quality samples will be collected for four to six spring storms in late March to late June following application of pesticides and fertilizers with 7 additional samples collected throughout each year.

The synoptic-monitoring network will include 5 additional sites located in selected agricultural, forest, residential, and mixed land-use activities. Five sites will be located in the ground-water recharge area of the upper Sinking Creek Basin, These sites will be sampled four to six times during spring runoff following application of pesticides and fertilizers in late March to late June of 2004 and 2005.

A discharge gaging station with an in-situ water-quality monitor, a near real-time precipitation gage, and an automatic sampler will be installed within the selected study area. Streamflow measurements will be made in accordance with standard USGS procedures (Rantz and others, 1982). An in-situ continuous water-quality monitoring system will be installed for 20 months. The system configuration for data collection will be a four-parameter water-quality monitoring system, which collects temperature, specific conductance, dissolved oxygen, and pH. USGS personnel from the Louisville District Office will visit the site every 2-4 weeks and the data will be viewable through the USGS Kentucky District homepage (http://ky.water.usgs.gov) and published in the USGS Annual Water Resources Data Report.

B2. Sampling Methods

Water-quality samples will be collected using both manual field-sampling methods and a modified automatic sampler (for purposes of collecting pesticides). An automatic sampler will be used to collect stormflow samples at the fixed-network site near the outflow of the karst subbasin. Sample collection by the automatic sampler will be initiated by precipitation and will proceed at intervals of time based on site-specific hydrograph analysis. The sampler intake will be positioned using methods described by Edwards and Glysson (1988) to maximize intake efficiency. All manual-field samples will be discrete grab samples. Complete sample collection and processing methods are described by Shelton (1994). If a failure in the sampling or measurement system occurs in the field, the lead hydrologic technician must determine if the problem resides in the equipment being used or if the problem resides in improper field techniques. The lead hydrologic technician should carry extra equipment and spare parts and be consciously aware of sample handling and preservation, so that troubleshooting, if necessary, can be accomplished at the time of the sampling visit. Troubleshooting in the field can prevent the need for extra trips and greatly reduce lost samples. All problems experienced in the field are documented on field sheets.

Cleaning of equipment used to collect and process water for analysis of inorganic and/or organic constituents involves a several-step office-laboratory procedure. Figure 1 summarizes the general sequence of cleaning procedures for equipment used to collect samples for inorganic and (or) organic analytes. (Wilde and others, 1999a, 1999b, chap A4 and A5).

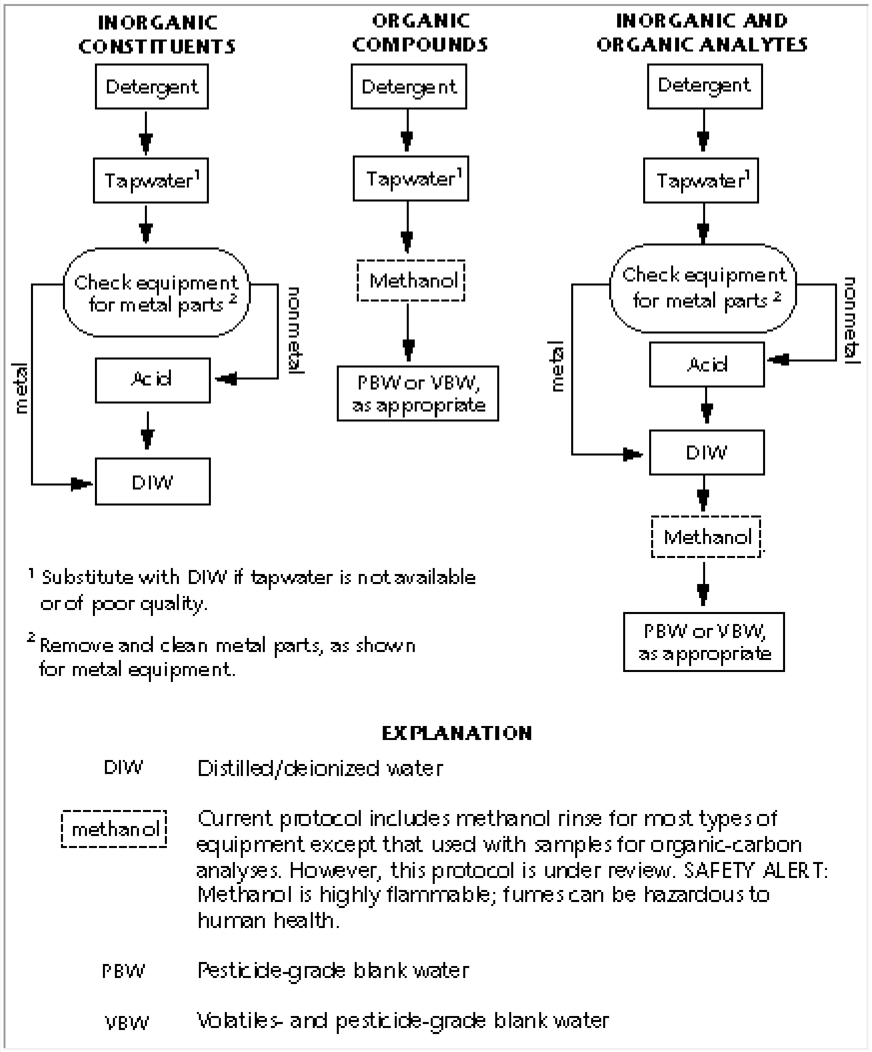

Figure 1. General sequence for cleaning equipment before sampling for inorganic and (or) organic analytes.

Sample Processing

The sequence of sample processing is dependent on the type of constituents being sampled and analyzed. The most current guidelines (1999) for processing samples are listed in table 2.

Table 2. Recommended sequence for processing samples.
[From Wilde and others, 1999b, chap. A5, table 5-1, p. 20]

Sequence of processing
Organic compounds—Raw (wholewater or unfiltered) samples first, followed by filtered samples. Do not field rinse bottles. Chill immediately. Pesticides, herbicides, polychlorinated biphenyls (PCBs) and other agricultural and industrial organic compounds.
Inorganic constituents, nutrients: For surface water, raw samples first, followed by filtered samples. (Field rinse each sample bottle, as required). Major anions, alkalinity, and nutrients. Chill nutrients immediately.

Selection of bottles, sample volumes, preservation methods, and maximum holding times for sample analysis are determined by the U.S. Geological Survey's National Water-Quality Laboratory.

B3. Sample Handling and Custody

All water-quality samples must be uniquely identified, documented, handled, shipped, and tracked appropriately. Following proper protocols for sample handling, shipping, and tracking ensures that samples are processed correctly and expeditiously to preserve sample integrity between the time of collection and the time of analysis. This section describes the procedures used by the Kentucky District for handling, shipping, and tracking samples from collection through transfer of the samples to an analytical facility.

Preparation for Sampling

Ensuring that field personnel have the correct equipment and supplies on hand to perform the necessary sampling activities saves time and labor costs associated with repeated sampling trips that result from inadequate planning. Therefore, before commencing field activities, the project chief is responsible for ensuring that the following preparations have been completed:

- Review the sampling instructions for each site and the list of sample types required.
- Ensure that the station site file is current.
- Prepare bottle labels for samples (figure 2).
- Obtain field sheets or notebooks and analytical services request forms (ASR's) (appendixes D and E).
- Ensure that necessary supplies are available, such as bottles, standards, filters, preservatives, meter batteries, waterproof markers, shipping containers, etc.
- Ensure that all sampling equipment is thoroughly cleaned and field rinsed, if necessary (table 3).
- Check meters and sensors for proper performance.

Table 3. Directions for field rinse of bottles used to contain samples for inorganic constituents. [From Wilde and others, 1999b, chap. A5, table 5.2]

Bottle Preparation
If bottles were previously rinsed and half-filled with DIW[1], discard DIW and rinse only once with the water to be sampled.
If bottles were not previously rinsed with DIW, rinse twice with DIW onsite, followed by one field rinse with the water to be sampled (use only 25-mL filtrate for bottle rinse for the filtered sample[1]).
Field-Rinse Technique
1. Put on disposable, nitrile, powderless gloves.
2. Fill sample bottle about 1/10 full of rinse water. Cap bottle.
3. Shake the bottle vigorously to rinse all interior surfaces.
4. Discard rinse water by swirling the solution out of the bottle.
5. Shake off adhering water droplets.
[1] Refer to Wilde and others (1999b) for detailed guidance for surface-water and ground water samples.

Onsite Sample Handling and Documentation

During a sampling trip, it is imperative that accurate notes be taken and that sample bottles be labeled and handled appropriately for the intended analysis. Otherwise, bottle mix-ups or other errors may occur, and the samples may be wasted. The project chief is responsible for ensuring that all of the following sampling requirements are implemented:

- Station identification
- Station name
- Date and time of sample collection
- Bottle code (table 4). [For more complete bottle codes, see Wilde and others, 1999b, app. A5-C, and the NWQL web page at: http://wwwnwql.cr.usgs.gov/servlets_u/SampleContainersTreatments?srchCntrType=All.]

Station ID:_________________________
Site name: _________________________
Date/Time: ____/_____/_____ @ ____
Collectors Initials: _______________
Lab Schedule(s): __________________
Additional info: ___________________

Figure 2. Sample bottle label.

Table 4. Organic-compound and inorganic-constituent sample designation codes for the National Water-Quality Laboratory of the U.S. Geological Survey specific to this project. [Modified from Wilde and others, 1999b, chap A5, p. 17]

ORGANIC-COMPOUND SAMPLES	
GCC	1-L amber, glass bottle, laboratory cleaned and baked, for various types of pesticides and organic compound samples other than VOCs; sample chilled to or below 4°C without freezing.
INORGANIC-CONSTITUENT SAMPLES	
RU, FU	250-, 500-, 1000-mL polyethylene bottles, acid-rinsed, uncapped, to be filled with untreated raw (RU), or filtered (FU) samples (through 0.45 micron filter)
FCC	125-mL brown polyethylene bottles, uncapped, to be filled with filtered sample for nutrient analysis, and chilled to or below 4°C without freezing.
WCA, FCA	125-mL polyethylene bottles, uncapped, to be filled with raw (WCA, uncolored bottle) or filtered (FCA, brown bottle) sample for nutrient analysis, treated with sulfuric acid, and chilled to or below 4°C without freezing.

Sample Shipment and Documentation

Upon completion of a sampling trip, samples should be packaged and shipped to the laboratory for analysis as soon as possible. Generally, the shorter the time between sample collection and processing and sample analysis, the more reliable the analytical results will be. Before shipping samples to the laboratory, the field personnel should complete the following:

- Check that sample sets are complete and that sample bottles are labeled correctly, with all required information.
- Complete the Analytical Service Request (ASR) forms (appendix E) for all samples being sent to the NWQL. If samples are being sent to a different, approved laboratory, information similar to that required on the ASR's should be provided to the laboratory.
- Pack samples carefully in shipping containers to avoid bottle breakage, shipping container leakage, and sample degradation. Check that bottle caps are securely sealed. Follow the packing and shipping protocols established by the USGS and the receiving laboratory (Wilde and others, 1999b).
- Ship samples after sample collection and the same day whenever possible.

Sample Tracking Procedures

The projects maintain(s) a record of all samples collected and shipped to a laboratory for analysis to ensure the complete and timely receipt of analytical results. The data base manager has responsibility for recording the required information. The data base manager has responsibility for reviewing the tracking log to determine if analyses are missing and for taking corrective action(s) if necessary.

Chain-of-Custody Procedures for Samples

When chain-of-custody procedures are appropriate or required (for example, when data may be used in legal proceedings), the project chief should establish, maintain, and document a chain-of-custody system for field samples that is commensurate with the intended use of the data. A sample is in custody if it is in actual physical possession or in a secured area that is restricted to authorized personnel. Every exchange of a sample between people or places that involves a transfer of custody should be recorded on appropriate forms that document the release and acceptance of the sample. Each person involved in the release or acceptance of a sample should keep a copy of the transfer paperwork. The project chief, or designee, is responsible for ensuring that custody transfers of samples are performed and documented according to the requirements listed below. An example of a chain-of-custody form can be found in appendix F.

B4. Analytical Methods

National Water-Quality Laboratory

Methods used---The NWQL uses approved methods for determination of organic and inorganic in water and other media. The methods used include methods approved by the USGS, USEPA, the American Public Health Association, the American Water Works Association, the Water Environmental Federation, and the ASTM. A list of some published reports on analytical methods currently used at the NWQL can be found on the World Wide Web at http://wwwnwql.cr.usgs.gov/Public/ref_list.html.

● Analytical methods from the USEPA that are currently used at the NWQL can be found on the World Wide Webb at http://www.epa.gov./epahome/publications.htm.

● Analytical methods from the ASTM that are currently used at the NWQL can be found on the World Wide Web at http://www.astm.org.

● QA plan—The NWQL quality-assurance plan is contained in Pritt and Raese (1995). A copy of this report can be obtained by sending an email request to nwqlqc@usgs.gov .

● QC program—Quality control at the NWQL is monitored by three programs: (1) the internal blind sample program, (2) the external blind sample program, and (3) bench level QC samples. Information about the internal blind sample program and bench level QC samples can be obtained by sending an Email request to nwqlqc@usgs.gov . Information about the external blind sample program can be found at the following World Wide Web location: http://btdqs.usgs.gov/bsp/Fact.Sheet.html

● Performance evaluation studies and certification programs—The NWQL participates in performance evaluation studies and laboratory certification programs. Information on NWQL evaluation studies can be obtained at http://wwwnwql.cr.usgs.gov/USGS/Performance/perf_eval.html.

● Laboratory reviews—External agencies and customer organizations audit the NWQL to assess analytical methods and QA/QC programs. Information on NWQL audits can be obtained on the World Wide Web at http://wwwnwql.cr.usgs.gov/USGS/Performance/perf_eval.html.

● Miscellaneous services—Information about and access to other services offered by the NWQL can be found on the World Wide Web home page at http://wwwnwql.cr.usgs.gov/USGS/USGS_srv.html. The services offered include but are not limited to the following:

Chain-of-custody procedures
External performance evaluations
Laboratory services catalogue
Methods Research and Development Program
Organic spike kits
Publications
Quality assurance of selected field supplies
LIMS (schedules, parameters, and network record)
Technical memoranda

Samples will be analyzed for nutrients, chlorides, and pesticides at the USGS National Water-Quality Laboratory (NWQL) in Arvada, Colorado. Nutrient and chloride samples will be analyzed using methods described in Fishman and Friedman (1989). These methods include:

Nitrogen, ammonia Method: Colorimetry, ASF, Salicylate-hypochlorite, filtered sample
Nitrogen, nitrite+nitrate Method: Colorimetry, ASF, Cadmium reduction—diazotization, filtered sample
Phosphorus Method: Colorimetry, ASF, Microkjeldahl Digestion, whole-water sample

Phosphorus, orthophosphate Method: Colorimetry, ASF, Phosphomolybdate, filtered water
Chloride Method: IC, filtered sample

Pesticide samples will be analyzed using the method described by Zaugg and other, (1995) and Sandstrom and others, (2001), respectively. The method is solid phase extraction followed by gas chromatography/mass spectrophotometry.

Suspended-sediment samples will be analyzed using the filtration method at the USGS Kentucky District Sediment Laboratory (Sholar and Shreve, 1998). Optical brighteners will be tested at the USGS-Kentucky District Water-Quality Laboratory using UV analysis via a black light (Sargent and Castonguay, 1998).

Suspended-Sediment
This projects water-quality activities include the collection of suspended-sediment. Guidelines for the collection of sediment samples are described in selected Water Resources Division (WRD) publications and in WRD Office of Surface Water (OSW) memoranda, which are referenced below. Suspended-sediment samples will be analyzed by the Kentucky sediment laboratory for concentrations.

Field personnel must be familiar with the factors involved in the selection of sediment-sampling equipment that are based on the type of analyses to be performed and hydraulic conditions. The project workplan will be consulted for specific guidelines for sediment sampling, depending on project objectives.

Individuals who have questions regarding the collection and handling of sediment samples should contact the project chief and the sediment laboratory manager.

Table 5. Summary of references for collecting suspended-sediment samples

Reference	**Subject**
District sediment laboratory QA plan	Laboratory procedures used in processing and analyzing sediment samples.
Edwards and Glysson, 1999	Field methods for measurement of fluvial sediment.
Knott and others, 1992	Quality-assurance plan for collecting and processing sediment data.
OSW Memorandum 93.01 (USGS)	Instrumentation and field methods for collecting suspended-sediment data.

Physical parameters [water temperature, turbidity, pH, specific conductance, & dissolved oxygen] are measured using standard U.S. Geological procedures (Wagner and others, 2000). Table 6 lists the range, resolution, and accuracy of a YSI multi-parameter for the selected physical parameters.

Table 6. Criteria and analytical methods for selected physical parameters.

Parameter		Method Performance	Method
DO % Saturation	range	0 to 500%	Air calibration
	resolution	0.1%	
	accuracy	0 to 200%: ±2% air sat; 200 to 500%: ±6% air sat	
DO mg/L	Range	0 to 50 mg/L	Amperometric method
	resolution	0.01 mg/L	
	accuracy	0 to 20 mg/L: ±0.2 mg/L; 20 to 50 mg/L: ±0.6 mg/L	
Conductivity	Range	0 to 100mS/cm	Contact sensor with electrodes; temperature compensated
	Resolution	0.001 to 0.1 mS/cm (range-dependent)	
	Accuracy	±0.5% of reading +0.001 mS/cm	
Temperature	Range	-5 to +45°C	Thermistor
	Resolution	0.01°C	
	Accuracy	±0.15°C	
PH	Range	0 to 14 units	Electrometric pH measurement method using a hydrogen-ion electrode.
	Resolution	0.01 unit	
	Accuracy	±0.2 unit	
Turbidity	Range	0 to 1,000 NTU	Directs light beam from a light-emitting diode into the water sample and measures the scattering light from suspended particles
	Resolution	0.1 NTU	
	Accuracy	±5% of reading or 2 NTU, whichever is greater	

B5. Quality Control

QC activity for sampling

Quality-control (QC) samples will be collected and used to quantify accuracy, precision, presence of laboratory contamination, and analytical bias (Fuhrer and others, 1995). A series of field-equipment blanks, replicates, and field-matrix spike samples will be used to check the validity of the data for nutrients, suspended sediment, and pesticides. Complete descriptions of the different QC samples are described by Shelton (1994). The project chief is responsible for reviewing QC data in a timely manner and implementing necessary modifications, when appropriate, to sampling and processing techniques. The Kentucky District Water-Quality Specialist has the responsibility for advising Kentucky District personnel regarding the collection and interpretation of QC samples.

Field-equipment blank samples will be prepared using solutions of inorganic- or organic-free water that did not contain detectable concentrations of the analytes of interest. Preparation of the field-equipment blank sample requires that a volume of blank water be poured through all sampling equipment prior to collecting the environmental sample. The field blank is processed in the same manner as the environmental sample. Acceptable concentrations for the field-equipment blank for inorganic constituents and pesticides are either less than or no higher than ten-percent of the ambient data. Field blanks will represent 50% of the quality-assurance samples.

Concurrent replicates are simultaneously collected with the environmental samples and are processed in the same manner as the environmental sample. Acceptable concentrations for concurrent replicates for inorganic constituents and pesticides are either less than or no higher than ten-percent of the environmental sample data. Concurrent replicates will represent 40% of the quality-assurance samples.

A field-matrix spike will be added to an environmental split sample and processed and analyzed in tandem with the environmental split sample. The field-matrix spike samples will be used to assess extraction and elution recoveries from filtered-water matrices. Field-matrix spikes will represent 10% of the quality-assurance samples. A matrix spike recovery will be calculated as follows:

$$\text{Recovery \%} = \frac{(\text{Cspike} - \text{Cunspiked})}{\text{Cexpd}} * 100$$

Where

Cspike is measured result of spiked sample
Cunspike is measured result of unspiked sample, and
Cexpd is expected or theoretical concentration of spiked sample

Calculation of Cexpd:

$$\text{Cexpd} = \frac{\text{Csoln} * \text{Amt}}{\text{SmplVol}}$$

Where

Csoln is concentration of spiked solution
Amt is amount of spiked solution
SmpVol is spiked sample volume

Review of the quality of data will be done routinely, and reruns will be requested for results that appear to be unreasonable. The decision to request a rerun will be based on comparisons with previous data, and statistical and graphical approaches. All monitoring activities conducted as part of this project will be consistent with the approved QAPP.

B6. Instrument/Equipment Testing, Inspection, and Maintenance

The USGS-Kentucky District complies with the WRD policy of providing personnel with high-quality field instruments that are safe, precise, accurate, durable, reliable, and capable of performing required tasks. The Hydrologic Instrumentation Facility (HIF), which provides analyses of precision and bias for water-quality instruments, also should be consulted for recommendations when appropriate.

To minimize downtime of measurement systems, all field-sampling equipment must be maintained in working condition. Backup equipment and common spare parts will be available so that if any piece of equipment fails during use, repairs or replacement can be made as quickly as possible and the measurement tasks resumed. All rented equipment that fails will be returned to HIF for a replacement.

Field Equipment

All non-rented field equipment that have manufacturer-recommended schedules of maintenance will receive preventative maintenance according to that schedule. Common spare parts that should be available include, but are not limited to: batteries, C-flex or PFA tubing, cables, and replacement probes. After use in the field, all equipment will be re-checked for needed maintenance.

All rented field equipment for this project will be rented from HIF. The mission of HIF is to provide quality equipment and instrumentation through testing and evaluation, specialized field applications, repair and calibration, quality control and assurance, and storage and distribution of hydrologic instrumentation.

Guidelines and procedures outlined by the U.S. Geological Survey will be followed for the operation of continuous water-quality monitors, field data evaluation, and subsequent record computations (Wagner and others, 2000). USGS personnel from the Louisville District Office will visit the site every 2-4 weeks for any required maintenance to the continuous monitor.

A separate log book will be maintained for each type of equipment. All preventative or corrective maintenance will be recorded. The total history of maintenance performed will be available for inspection.

B7. Instrument/Equipment Calibration and Frequency

A calibration check using known standards is performed on cleaned monitoring sensors; if the monitor sensors are outside of range of acceptable differences, the sensor will be recalibrated. If the calibration-check sensor readings are within the calibration criteria (Table 7), the monitoring sensors are considered checked and no further adjustments are required. The calibration of field meters will follow the criteria set-forth by the manufacturers. Field meters are calibrated before use in the field.
Each field meter and water-quality monitor has an instrument log book, and all pertinent information regarding the monitor is recorded in the instrument log book. The instrument log book contains a complete record of all maintenance in the field, the laboratory, or by the manufacturer.

The guidelines and procedures outlined by the U.S. Geological Survey will be followed for the operation of continuous water-quality monitors, field data evaluation, and subsequent record computations (Wagner and others, 2000). USGS personnel from the Louisville District Office will visit the site every 2-4 weeks for any required maintenance to the continuous monitor and for a calibration check.

Table 7. Calibration criteria for continuous water-quality monitors

Measured physical parameter	Calibration criteria for measurements
Temperature	±2°C
Specific conductance	The greater of ±5 uS/cm or ±3 % of measured value
Turbidity	The greater of ±2 NTU or ±5% of measured value
Dissolved oxygen	±3 mg/L
pH	±0.2 pH unit

Table 8 provides summary information regarding the calibration methods, acceptance criteria, calibration frequency and location, responsible persons, and references for specific instructions for the calibration and use of water-quality instruments to measure selected parameters for this project.

Table 8. Summary of calibration information for water-quality instruments used to measure selected parameters in the Kentucky District.
[NIST, National Institute of Standards and Technology; RP, responsible party; TWRI, Techniques for Water-Resources Investigations]

Parameter	Calibration method used	Acceptance criteria and response if not acceptable	Calibration frequency and location	Responsible person	Reference for calibration and use
Temperature	NIST-certified thermometer	Thermometers must be within 0.2 degrees Celsius of calibration at 3 points from 0 to 40 degrees Celsius, thermistors must be 5 points; if not replaced	.Semi-annually in laboratory	Field personnel	Wilde and Radtke, eds., 1998 (TWRI book 9, chap. A6.1); see manufacturer's instructions.
Specific conductance	At least two standards, bracketing expected values	Acceptable range is within 5 percent; if not then clean or replace probe	Daily in field, if appropriate, prior to taking measurements.	Field personnel	Wilde and Radtke, eds., 1998 (TWRI book 9, chap. A6.3); see manufacturer's instructions.
PH	Two-point calibration, bracketing expected values	Acceptable range, calculated slope must be within 5 percent of theoretical slope; if not clean or replace probe.	Daily in field, if appropriate, prior to taking measurements.	Field personnel	Wilde and Radtke, eds., 1998 (TWRI book 9, chap. A6.4); see manufacturer's instructions.
Dissolved oxygen	Air calibration in water for zero dissolved oxygen check	Acceptable range; zero should be <0.2 mg/L; +/- 0.3 mg/L is the stabilization criteria; if not change membrane, batteries, or probe.	Prior to taking measurements at each sampling site in field or laboratory, as appropriate.	Field personnel	Wilde and Radtke, eds., 1998 (TWRI book 9, chap. A6.2); see manufacturer's instructions.
Barometric pressure	Mercury barometer	Acceptable range is within 5 millimeters Hg; if not replaced	Quarterly.	Field personnel	See manufacturer's instructions.
Turbidity	Formazin calibration or other approved primary standard calibration	Acceptable range is within 5 percent or 2 NTUs; if not clean or replace probe	Daily in field, if appropriate, prior to taking measurements.	Field personnel	See manufacturer's instructions

B8. Inspection/Acceptance of Supplies and Consumables

Equipment and Supplies

It is the responsibility of project chiefs (or their designees) to order, store, and quality assure the following field equipment and supplies as needed by field personnel.

Table 9. Summary of information on supplies, equipment, and instruments in the Kentucky District. [QWSU, Quality of Water Service Unit (USGS); NIST, National Institute of Standards and Technology; NWQL, National Water-Quality Laboratory]

Supplies, equipment, and instruments	Source and guidelines for QA	Responsible party
Sample bottles	Purchased from QWSU.	Water-Quality Specialist or project chief
Coolers/shipping containers	Purchased from QWSU and/or commercial suppliers. [USGS OWQ Tech. Memo 92.06].	Water-Quality Specialist or project chief
Sample preservatives	Purchased from QWSU.	Water-Quality Specialist or project chief
pH calibration standards	Commercially prepared buffers, traceable to NIST Standard Reference Material. Purchased from QWSU.	Water-Quality Specialist or project chief
Specific conductance calibration standards	Purchased from QWSU.	Water-Quality Specialist or project chief
Blank water for QA	Purchased from QWSU or NWQL.	Water-Quality Specialist or project chief
Deionized water	Made using deionizing columns as per OWQ Tech. Memo 92.01.	Water-Quality Specialist or project chief
Sample filters	Purchased from QWSU.	
Isokinetic water-quality samplers	Purchased from FISP.	Water-Quality Specialist or project chief
Point samplers	Purchased from FISP.	Project chief
Pumps	Purchased from commercial supplier using guidelines outlined in Koterba and others (1995).	Project chief
Specific conductance meters	Purchased from commercial supplier.	Water-Quality Specialist or project chief
Dissolved oxygen meters	Purchased from commercial supplier.	Water-Quality Specialist or project chief
pH meters	Purchased from commercial supplier	Water-Quality Specialist or project chief
Thermometers	Purchased from commercial supplier	Water-Quality Specialist or project chief

B9. Non-direct Measurements

Water-quality sampling data from sources other than directly from U.S. Geological Survey sampling activities will not be entered into the NWIS-QWDATA data base. It is the policy of the U.S. Geological Survey (USGS) that all laboratories providing analytical services to USGS-Water Resources Discipline (WRD) meet the requirements set forth by the USGS-WRD before any analytical data can be stored in NWIS or published by the USGS-WRD.

However, the use of data obtained from other sources (non-direct measurements) is highly encouraged in the project planning efforts for data assessment/data interpretation activities, provided that these data were collected in projects which were supported by an approved QAPP, or at a minimum utilized approved and documented standard methods. These data are usually obtained in electronic format and should be inspected by USGS water-quality personnel before data reduction and interpretation is undertaken for the uses described or other uses, as applicable. Data collected from citizen monitoring efforts in the Sinking Creek Basin at this time must be deemed non-direct measurements, and not allowed for entry into NWIS.

B10. Data Management

Water-quality data that are collected for this project will be recorded on paper and electronically. Data that are recorded on paper include chemical, physical, and ancillary data measured in the field. This information is documented on standard USGS field forms (appendix D) and stored in site files. Data that are recorded electronically include analytical results and continuous monitoring data transmitted over the computer network or stored by electronic data logger. Data that are recorded on paper and electronically typically are stored either in the NWIS QWDATA data base (Hoopes, 2001) or in NWIS-ADAPS data base (Bartholoma, 1997). Both of the proceeding references also are available online at http://wwwnwis.er.usgs.gov/conversion/nwisdocs4_1/index.html. The NWIS is the storage medium for water-quality and streamflow data collected by the USGS. Data that cannot be stored in these national data bases may be stored in other data bases, such as project data bases.

Processing Data

Sampling information, field determinations, and ancillary information are recorded on a set of water-quality field notes that are considered original record. These data are combined with analytical data from the laboratory in computer data files and paper files.

Continuous Monitoring Data

Continuous monitoring data are water-quality records collected onsite by electronic sensors and data loggers. Two methods for electronically recording data are by (1) transmitting data from a remote location by land line or radio telemetry to a central location where they are recorded on disk or solid-state memory device, and (2) recording data at a remote location on disk or solid-state memory device. Initial data processing in the office is for the purpose of obtaining a copy of the original data for archiving. Data are not manipulated by the field instrument or a computer except to convert recorded signals into data in commonly used units or to display data in a convenient format. The transfer of data from the electronic storage medium to NWIS requires thorough checking to ensure that the data have transferred successfully or that as much data as possible have been recovered and errors identified. Water-quality data recorded at the field site are automatically transmitted, real time via Geo-Operational

Environmental Satellite (GOES) to a down link site located at the Kentucky District Office. The site is visited by a hydrologic technician, data are down-loaded to a computer hard drive or hand-held computer.

Analytical Data

Analytical data are results of field and laboratory chemical or physical determinations. Most water-quality samples are analyzed either in the field or at the NWQL.

To enter analytical data into the NWIS data base, a site identification number must first be assigned and entered into the District site file. Field measurements are entered into the NWIS data base by the data base manager as soon as possible after returning from the sampling field trip. A record number is assigned by the system and is recorded on the field forms and on the analytical services request form. Sample logging is required for data from the NWQL to successfully transfer the data into the data base. Environmental sample data are entered into the District NWIS QWDATA data base number 01; QA data are entered into the District NWIS QWDATA data base number 11.

Station number	**Date/time**	**Schedules requested**	**NWIS record number**	**Lab ID number**
0208500	Sept. 21, 1993	1043	993000025	
"	"	542	"	
0209754	Oct. 4, 1993			

Figure 3. Example page from a District sample-collection log book.

All data from the NWQL are electronically transferred to the appropriate Kentucky District data base by the Kentucky District Water-Quality Specialist at least once per week. Hard copies of the analytical reports (WATLIST’s) are forwarded to the project chief for storage in project files. The NWIS QWDATA data base receives daily incremental backup and weekly full backup.

Data analyzed by laboratories other than the NWQL or OWSU must be entered into NWIS, if possible (Hubbard, 1992), and identified according to the analyzing laboratory. Data entry is the responsibility of Water-Quality Specialist. Data are entered and stored according to procedures already described for processing NWIS analytical data. Appropriate codes are used to identify the data as originating from non-USGS sources.

GROUP C: ASSESSMENTS AND OVERSIGHT

C1. Assessments and Response Actions

Project Reviews

A review schedule will be implemented for evaluating the technical development and progress of this project using the 10-, 40-, 70-percent (10/40/70) project-completion milestones. Regularly planned reviews ensure that water-quality programs or projects will be conducted efficiently to produce quality products on time. Informal reviews will be part of ongoing quality assurance, whereby problems and related issues are addressed as they arise. The Kentucky District archives all review comments that address the presence or absence of project deficiencies, all actions or recommendations for fixing deficiencies, or documentation explaining why a correction cannot be made. The files relating to review documentation are maintained by the District Chief's Secretary and are stored in the filing cabinet in the Secretary's office.

Technical Reviews

Technical reviews of water-quality data-collection activities will be conducted biannually for each individual who is actively involved in water-quality data collection of the project. Technical reviews will be conducted in the field and/or laboratory by the Water-Quality Specialist.

Technical reviews will be completed in a timely manner, and comments will be documented by the reviewer in a memorandum to the immediate supervisor with a copy to the project chief and the Kentucky District Chief. Reviews will address sample collection and processing techniques, compliance with USGS-Water Resources Discipline, USGS-Office of Water Quality, and District policies, the condition of the work environment (for example, the field vehicle), and any other activities pertaining to the collection of good quality data. When deficiencies are noted, the reviewer, in consultation with the Water-Quality Specialist, is responsible for identifying corrective actions. The immediate supervisor is responsible for ensuring that, once identified, corrective actions are implemented and completed in a timely manner.

C2. Reports to Management

A formal QA report should be issued to inform appropriate management on the performance and progress of the project workplan (written or orally). The purpose of this report will be to identify the individuals responsible for reporting QC results, and to present the QC data so that management can monitor the data quality effectively.

The following items should be described in the QA report:

- Individuals preparing and receiving reports
- Contents
    - Status of project
    - Results of performance evaluation audits
    - Significant QA/QC problems, recommended solutions, and results of corrective actions
    - Changes in QAPP
    - Summary of QA/QC program and accomplishments
    - Data quality assessment in terms of completeness (missing data identified and practical reasons presented that caused their deletion from the dataset)

GROUP D: DATA VALIDATION AND USABILITY

D1. Data Review, Validation, and Verification Requirements

Data verification and data validation are commonly-used terms; however, they are defined and applied differently in various organizations and quality systems. This project will use the following definitions as defined by EPA's informal guidance on this topic (EPA, 2001):

Data Verification is confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. Data verification is the process of evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements.

Data Validation is confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. Data validation is an analyte- and sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e. data verification) to determine the analytical quality of a specific data set.

Continuous Monitoring Data
Following the entry of continuous monitoring data into NWIS, raw data and(or) graphs of raw data will be reviewed by the project chief for anomalous values, dates, and times, and preliminary updating is done. Once the data are edited, the record is submitted to the supervisor for final review and approval.

Analytical Data
All field notes and field measurements will be reviewed for completeness and accuracy within 14 days or as soon as possible after returning from the field trip by the project chief. All chemical analyses are reviewed for completeness, and questionable values are noted. Prompt review is necessary to allow analytical re-analysis to be performed before sample holding times have been exceeded for accuracy and precision. Every data analysis entered into NWIS QWDATA results in output (WATLIST) that includes a copy of the analysis and a report of general validation checks (Hoopes, 2001), including but not limited to the following:

- Comparison of determined and calculated values for dissolved solids,
- Comparison of dissolved constituents and total constituents,
- Comparison of specific conductance with dissolved solids,
- Comparison of constituents with relevant Federal drinking-water standards, and
- Comparison of sum of cations with sum of anions (ion balance).

Field and laboratory analyses, such as pH, specific conductance, and alkalinity, will be compared to confirm agreement of independent measurements. If data from more than one sample are available for a site, the analysis also is compared with previous analyses within a hydrologic context to identify obvious errors, such as decimal errors, and possible sample mix-ups or anomalies warranting analytical re-analysis. These reports and comparisons will be reviewed and noted on the analytical report (WATLIST). If necessary, corrections or re-analysis may be requested by the project chief.

Requests to the NWQL for re-analysis of inorganic constituents and organic constituents are made using the form at http://nwql.cr.usgs.gov/usgs/sampstatus/index Re-analysis requests are logged and tracked by the data base manager (fig. 4). Corrections to NWIS resulting from reruns by the NWQL must be made to the laboratory data base as well as to the Kentucky District data base and are made by the data base manager by email request to labhelp@usgs.gov.

Date requested	Lab ID number	Station number	Date	Time	Parameter number	Parameter name	Old value	New value	Update No update/Delete

Figure 4. Example of re-analysis request form.

Project QA data, such as blanks, replicates, blind standards, and matrix spikes, periodically will be tabulated or graphed by the project chief to facilitate identification of inaccuracies or systematic bias that may not be discernible when reviewing an individual analysis. Questionable values or values in error will be deleted from the data base upon approval by the responsible party (usually the project chief). All personnel responsible for sample collection and field analysis participate in the NFQA Program and process an equipment blank once per year. Kentucky District QA data, including NFQA sample results and annual equipment blanks, are reviewed by the Water-Quality Specialist.

D2. Validation and Verification Methods

All data reported for this project will be subject to checks for errors in transcription, calculation, and computer input. For laboratory data, when the data are reported to the project chief, if an outlier or other question arises with the data, the project chief request a rerun or verification of the analysis to the NWQL. Prompt review is necessary to allow analytical re-analysis to be performed before sample holding times have been exceeded for accuracy and precision.

All laboratory data forms must be accurate and complete. Any changes to the data forms will be notes, initialed and dated on the form. Any actions taken as a result of the data review will also be noted on the data sheet.

Refer to Section B10 of this document for additional discussion of data problem resolutions

D3. Reconciliation with User Requirements

There is not a specific decision that is made as a result of the data collected under this project. These data will be subsequently analyzed and used by Federal, State, and local agencies and by universities and volunteer groups for evaluating water quality. It is the intent of this project to develop and evaluate a watershed model as a tool to identify a variety of resource management objectives and alternatives in the selected basin. Although, recommendations for water management are specifically not part of this study, the watershed model developed will be useful for determining optimal management alternatives for a given set of objectives and constraints.

Relative percent differences and completeness should be calculated as soon as possible after each sampling event in order to implement corrective actions prior to subsequent data-gathering efforts. Further statistical approaches that could be calculated and reported are:

- Data distribution
    - Arithmetic mean
    - Range (minimum and maximum)
    - Standard deviation
    - Geometric mean
    - Data distribution by percentiles
- Measures of variability
    - Accuracy
    - Precision
    - Bias
- Testing for outliers

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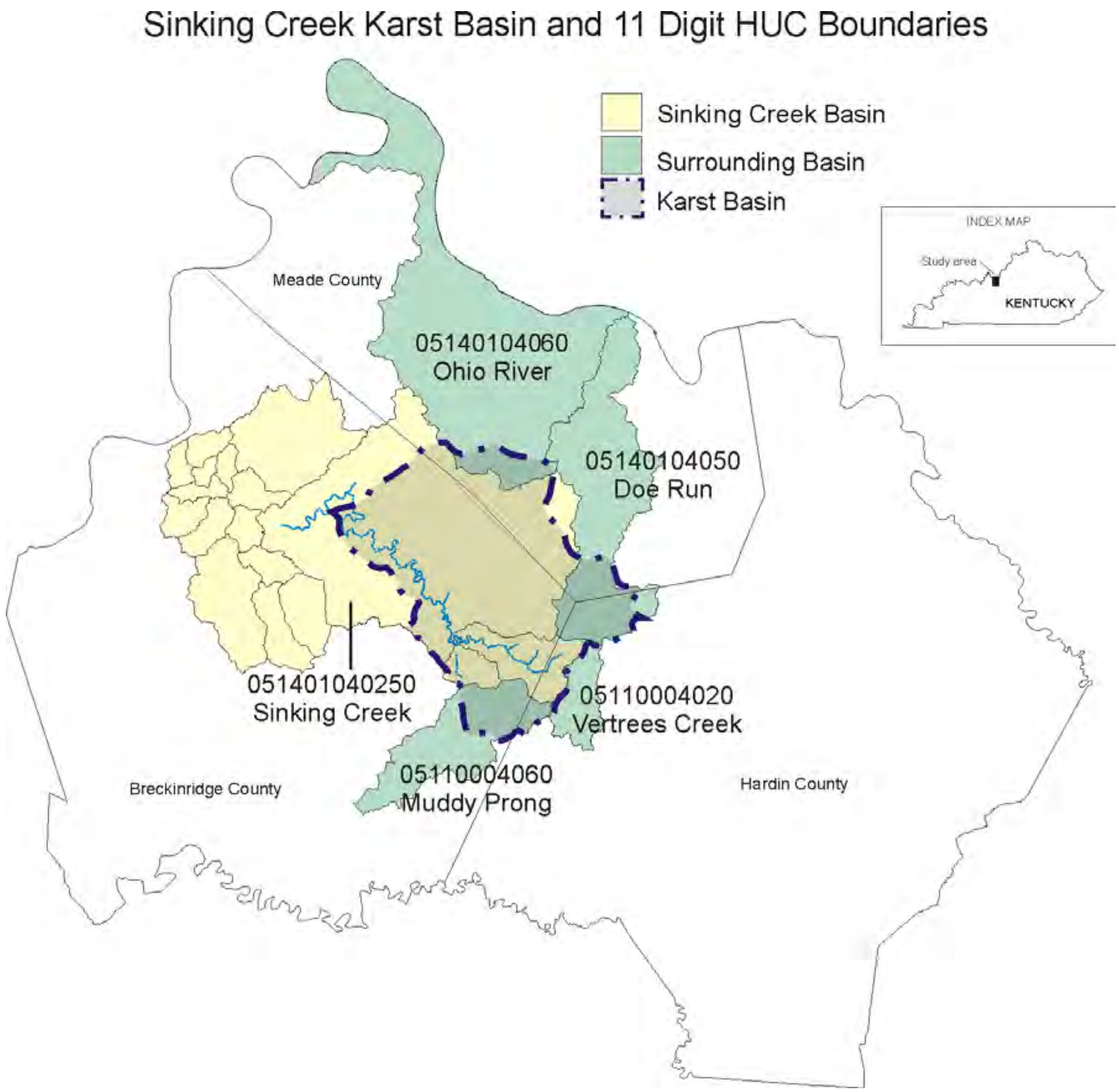
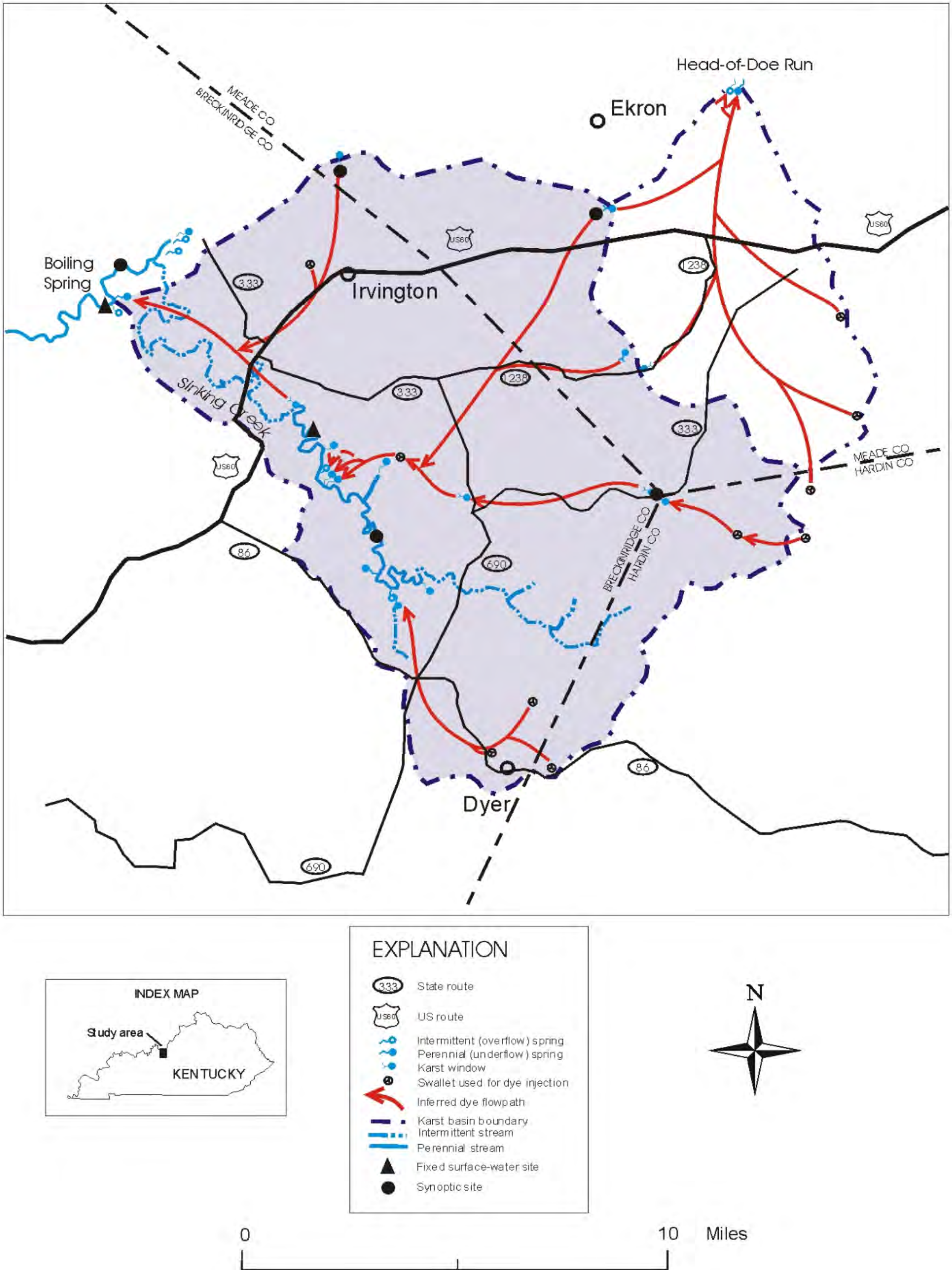
Appendix A. Study area map of the Sinking Creek Karst Basin.



Appendix B. - Sampling site locations within the Sinking Creek Karst Basin



Appendix C. Data acceptability criteria, target reporting limits, and sampling handling requirements

Sample Type	**Objective**	**Frequency of Analysis**	**Recommended Control Limits**	**Recommended Corrective Action**
External calibration				
Calibration standards	Full calibration: Establish relation between instrument response and target analyte conc.	Follow manufacturer’s procedures in specific analytical protocols. A minimum of 3-pt calibration	Linear regression, r>0.99	Determine cause and take appropriate action. Recalibrate and reanalyze all suspected samples
Calibration verification				
Calibration check standards	Verify calibration	After initial calibration or recalibration		Determine cause and take appropriate action. Recalibrate and reanalyze all suspected samples
Accuracy and Precision Assessment				
Reference materials	Assess method performance	Analyses performed by USGS Branch of Quality Systems	Refer to USGS Branch of Quality System website	Refer to USGS Branch of Quality System website
Matrix spikes	Assess matrix effects and accuracy	One per 25 samples	% recovery= 80-120%	Determine cause and take appropriate action. Zero percent recovery requires rejection of all suspect data.
Field replicates	Assess method precision routinely	20% annual rate (20% of total number of field samples per analytical procedure per year)	RPD <20% for replicates	Determine cause and take appropriate corrective action. Flag all suspect data.
Contamination assessment				
Field blanks, equipment blanks	Assess contamination from equipment, from air, from surrounding environment, etc.	20% of annual rate (20% of total number of field blanks per analytical procedure per year)	Blanks <lrl for target analyte	Determine cause of problem (i.e., equipment contamination, improper cleaning, exposure to airborne contaminants, etc) Flag all suspect data.

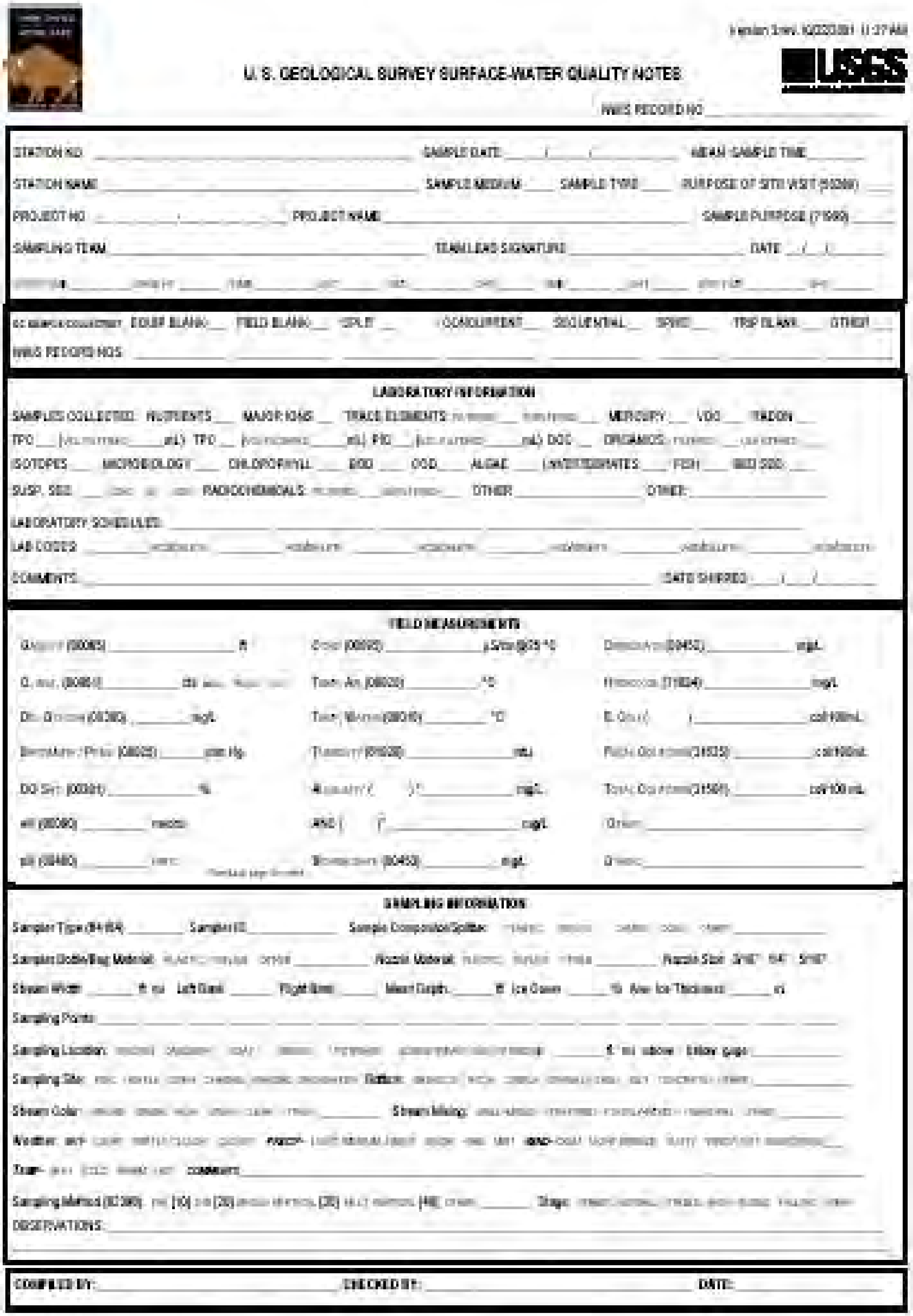
Appendix C. Data acceptability criteria and target reporting limit, and sampling handling requirements

Parameter Name	Parameter Code	RL	Unit	Reporting Limit Type	Volume Required for Analysis	Container	Sample Holding Time	Transport to Lab
2,6-Diethylaniline	82660	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Acetochlor	49260	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Alachlor	46342	0.0045	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
alpha-HCH	34253	0.0046	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
alpha-HCH-d6 (surrogate)	91065	0.1	pct	mrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Atrazine	39632	0.007	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Azinphos-methyl	82686	0.05	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Benfluralin	82673	0.010	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Butylate	04028	0.002	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Carbaryl	82680	0.041	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Carbofuran	82674	0.020	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Chlorpyrifos	38933	0.005	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
cis-Permethrin	82687	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Cyanazine	04041	0.018	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Dacthal	82682	0.0030	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Deethylatrazine	04040	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Diazinon	39572	0.005	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Diazinon-d10 (surrogate)	91063	0.1	pct	mrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Dieldrin	39381	0.0048	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Disulfoton	82677	0.021	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
EPTC	82668	0.0020	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Ethalfluralin	82663	0.009	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Ethoprophos	82672	0.005	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Fonofos	04095	0.0027	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Lindane	39341	0.0040	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Linuron	82666	0.035	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Malathion	39532	0.027	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Metolachlor	39415	0.013	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Metribuzin	82630	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Molinate	82671	0.0016	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)

Napropamide	82684	0.007	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
p,p'-DDE	34653	0.0025	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Parathion	39542	0.010	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Parathion-methyl	82667	0.006	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Pebulate	82669	0.0041	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Pendimethalin	82683	0.022	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Phorate	82664	0.011	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Prometon	04037	0.015	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Propachlor	04024	0.010	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Propanil	82679	0.011	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Propargite	82685	0.023	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Propyzamide	82676	0.0041	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Simazine	04035	0.005	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Terbacil	82665	0.034	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Terbufos	82675	0.017	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Thiobencarb	82681	0.0048	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Tri-allate	82678	0.0023	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)
Trifluralin	82661	0.009	µg/L	lrl	1-Liter	Glass, amber bottle	4 days	FEDEX overnight on ice (4°C)

Parameter Name	Parameter Code	RL	Unit	RL Type	Volume Required for Analysis	Preserv-ative	Container	Sample Holding Time	Transport to Lab
nitrogen, ammonia	00608	0.041	mg/L	lrl	125 mL	None.	Brown polyethylene bottle	28 days	FEDEX overnight on ice (4°C)
nitrogen, nitrite + nitrate	00631	0.047	mg/L	lrl	125 mL	None.	Brown polyethylene bottle	28 days	FEDEX overnight on ice (4°C)
phosphorus	00665	0.0037	mg/L	lrl	125 mL	1 mL of 4.5 normal H_2SO_4	Translucent polyethylene bottle	28 days	FEDEX overnight on ice (4°C)
phosphorus, phosphate, ortho	00671	0.007	mg/L	lrl	125 mL	None.	Brown polyethylene bottle	28 days	FEDEX overnight on ice (4°C)
Suspended sediment	80154	--	mg/L	--	1 pint	None.	Translucent polyethylene bottle	60 days	FEDEX ground

Appendix D. U.S. Geological Survey standard field form (first page)



U. S. GEOLOGICAL SURVEY SURFACE-WATER QUALITY NOTES

NWIS RECORD NO ___

STATION NO ___ SAMPLE DATE ___/___/___ MEAN SAMPLE TIME ___

STATION NAME ___ SAMPLE MEDIUM ___ SAMPLE TYPE ___ PURPOSE OF SITE VISIT (50280) ___

PROJECT NO ___ PROJECT NAME ___ SAMPLE PURPOSE (71999) ___

SAMPLING TEAM ___ TEAM LEAD SIGNATURE ___ DATE ___/___/___

QC SAMPLES COLLECTED: EQUIP BLANK ___ FIELD BLANK ___ SPLIT ___ CONCURRENT ___ SEQUENTIAL ___ SPIKE ___ TRIP BLANK ___ OTHER ___

NWIS RECORD NOS ___

LABORATORY INFORMATION

SAMPLES COLLECTED: NUTRIENTS ___ MAJOR IONS ___ TRACE ELEMENTS ___ MERCURY ___ VOC ___ RADON ___

TPC ___ mL) TPC ___ mL) PIC ___ mL) DOC ___ ORGANICS ___

ISOTOPES ___ MICROBIOLOGY ___ CHLOROPHYLL ___ BOD ___ COD ___ ALGAE ___ INVERTEBRATES ___ FISH ___ BED SED. ___

SUSP. SED. ___ RADIOCHEMICALS ___ OTHER ___ OTHER ___

LABORATORY SCHEDULES: ___

LAB CODES ___

COMMENTS ___ DATE SHIPPED ___/___/___

FIELD MEASUREMENTS

Gage (00065) ___ ft | (00095) ___ µS/cm @25 °C | (00452) ___ mg/L

Q (00061) ___ | Temp, Air (00020) ___ °C | ___ mg/L

Dis. Oxygen (00300) ___ mg/L | Temp, Water (00010) ___ °C | E. Coli ___ col/100 mL

Barometric Press. (00025) ___ mm Hg | Turbidity (61028) ___ ntu | Fecal Coliform (31625) ___ col/100 mL

DO Sat. (00301) ___ % | Alkalinity ___ mg/L | Total Coliform (31501) ___ col/100 mL

pH (00400) ___ units | ANC ___ mg/L | Other ___

pH (00400) ___ units | Bicarbonate (00453) ___ mg/L | Other ___

SAMPLING INFORMATION

Sampler Type (84164) ___ Sampler ID ___ Sample Compositor/Splitter ___

Sampler Bottle/Bag Material ___ Nozzle Material ___ Nozzle Size 3/16" 1/4" 5/16"

Stream Width ___ ft mi Left Bank ___ Right Bank ___ Mean Depth ___ ft Ice Cover ___ % Avg. Ice Thickness ___ in

Sampling Points ___

Sampling Location: ___ ft mi above below gage ___

Sampling Site: ___ Bottom: ___

Stream Color: ___ Stream Mixing: ___

Weather: ___

Temp ___ COMMENTS ___

Sampling Method (82398): ___ Stage: ___

OBSERVATIONS ___

COMPILED BY: ___ CHECKED BY: ___ DATE: ___

1

Appendix E. National Water-Quality Laboratory Analytical Services Request Form

U.S. GEOLOGICAL SURVEY – NATIONAL WATER QUALITY LABORATORY
ANALYTICAL SERVICES REQUEST

THIS SECTION MANDATORY FOR SAMPLE LOGIN

NWIS RECORD NUMBER / SAMPLE TRACKING ID	User Code	Project Account	LAB USE ONLY / NWQL LABORATORY ID

STATION ID | 2 0 Begin Date (YYYYMMDD) | Begin Time | Medium Code | Sample Type

District Contact Phone Number | End Date (YYYYMMDD) | End Time | **District Contact Email**

SITE / SAMPLE / SPECIAL PROJECT INFORMATION (Optional)

State | County | Geologic Unit Code | Analysis Status* | Analysis Source* | Hydrologic Condition* | Hydrologic Event* | Chain of Custody | Sample Set

NWQL Proposal Number | NWQL Contact Name | NWQL Contact Email | Program/Project

Station Name: ______________________ Field ID: ______________

Comments to NWQL: ______________________

Hazard (please explain): ______________________

ANALYTICAL WORK REQUESTS: SCHEDULES AND LAB CODES (CIRCLE A=add D=delete)

SCHED 1: ______ SCHED 2: ______ SCHED 3: ______ SCHED 4: ______ SCHED 5: ______ SCHED 6: ______

Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D
Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D
Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D	Lab Code: ______ A D

SHIPPING INFORMATION (Please fill in number of containers sent)

____ ALF	____ COD	____ FA	____ FCN	____ IQE	____ IRM	____ RA	____ RU	____ SUR	____ TPCN
____ BGC	____ CRB	____ FAM	____ FU	____ IQL	____ MBAS	____ RAM	____ RUR	____ SUSO	____ UAS
____ C18	____ CU	____ FAR	____ FUS	____ IQM	____ OAG	____ RAR	____ RURCT	____ TBI	____ WCA
____ CC	____ CUR	____ FCA	____ GCC	____ IRE	____ PHE	____ RCB	____ RURCV	____ TBY	____ ______
____ CHY	____ DOC	____ FCC	____ GCV	____ IRL	____ PIC	____ RCN	____ RUS	____ TOC	____ ______

NWQL Login Comments: ______________________

Collected by: ______________ Phone No. ______________ Date Shipped: ______________

FIELD VALUES

Lab/P Code	**Value**	**Remark**	**Lab/P Code**	**Value**	**Remark**	**Lab/P Code**	**Value**	**Remark**
21/00095 Specific Conductance uS/cm @ 25 deg C			51/00400 pH Standard Units			2/39086 Alkalinity – IT mg/L as CaCO3		
___/______			___/______			___/______		

Field Comments: ______________________

*MANDATORY FOR NWIS Form 9-3094

Appendix F. Chain-of-custody form.

CHAIN-OF-CUSTODY RECORD

Contact: ________________________ Phone:__________________

NOTE: USE BLANK INK ONLY TO FILL IN THIS FORM	Analytical schedules:
Project name:	
Sample Identification number:	
Sampler’s name:	

Sample number (Field ID)	Date sampled (DDMMYY)	Time sampled (DDMMYY)	Lab ID (lab use only)	Sample matrix (W, water; S, soil)	Number of containers	ASR Form Enclosed

<table>
<tr><td colspan="4">CHAIN-OF-CUSTODY RECORD</td><td colspan="2">SHIPPING DETAILS</td></tr>
<tr><td>Relinquished by (signature)</td><td>Date (DDMMYY)</td><td>Time (DDMMYY)</td><td>Received by (signature)</td><td>Seal number</td><td>Delivered to shipper by:</td></tr>
<tr><td></td><td></td><td></td><td></td><td rowspan="2">Method of shipment:</td><td rowspan="2">Airbill number:</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td colspan="2">LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER</td></tr>
<tr><td colspan="4" rowspan="2">Additional comments:</td><td>Lab:</td><td>Cooler seal intact upon receipt
Yes ____ No _____
Conditions of contents:</td></tr>
<tr><td>Received for laboratory by:

Print:

Sign:

Date:_________
Time:_________</td><td>Contents temp (°C) on delivery:</td></tr>
</table>

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. At a few of these stations crest stages are determined from continuous water-stage recorder graphs. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 2004.

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft^3/s)
		BEARGRASS CREEK BASIN					
03293200	Middle Fork Beargrass Creek at Beals Branch Road at Louisville, Ky.	Lat 38°14’32”, long 85°41’57”, Jefferson County, Hydrologic Unit 05140101, at bridge on Beals Branch Road at Louisville, Ky., and at mile 1.5	22.7	†2004	07-10-04	10.12	2400
		SALT RIVER BASIN					
03297980	Long Run near Fisherville, Ky.	Lat 38°13’10”, long 85°26’56”, Jefferson County, Hydrologic Unit 05140101, at bridge on State Highway 1531 near Fisherville, Ky., 0.7 mi below South Long Run and at mile 2.4.	22.5	†2004	05-28-04	8.73	3570
03298100	Pope Lick at Pope Lick Road near Middletown, Ky.	Lat 38°13’09”, long 85°31’07”, Jefferson County, Hydrologic Unit 05140102, at culvert on Pope Lick Road near Middletown, Ky. and at mile 3.2.	2.9	†2004	05-28-04	7.82	343

Annual maximum discharge at crest-stage partial-record stations during water year 2004.--*Continued*

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
03301880	Southern Ditch at Minors Lane near Okolona, Ky.	Lat 38°08'04", long 85°42'34", Jefferson County, Hydrologic Unit 05140102, at bridge on Minors Lane nr Okolona, Ky., 0.2 mi below Mud Creek, and at mile 4.2.	12.8	†2004	05-28-04	6.73	2,800
03301950	Spring Ditch at Private Drive near Okolona, Ky.	Lat 38°09'27", long 85°40'57", Jefferson County, Hydrologic Unit 05140102, at at culvert on Private Drive nr Okolona, Ky., and at mile 4.2	1.6	†2004	05-28-04	6.17	368

Discharge measurements made at miscellaneous sites during water year 2004.

Station no.	Station name	Location	Period of record	Date	Discharge (ft^3/s)
		GREEN RIVER BASIN			
03316000	Mud River near Lewisburg, Ky.	Lat 37°00'15", Long 86°54'26", Logan County, Hydrologic Unit 05110003, at upstream side of bridge on State Highway 106, 2.5 mi northeast of Lewisburg, 7.5 mi downstream from Motts Lick Creek, and 14.0 mi upstream from Wolf Lick Creek.	2001-04	10-06-03	54.6

03303195 SINKING CREEK AT ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°47'47", long 86°16'25", Breckinridge County, Hydrologic Unit 05140104.

DRAINAGE AREA.--36 mi^2.

PERIOD OF RECORD.--April to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Turb- idity, IR LED light, det ang 90 deg, FNU (63680)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor- ide, water, fltrd, mg/L (00940)
APR												
22...	1205	Environmental	125	16.0	743	9.5	7.3	308	12.3	115	139	13.1
MAY												
27...	1230	Environmental	2,080	432	738	8.3	7.0	142	16.1	58	71	1.74
JUL												
08...	1400	Environmental	7.4	4.30	749	9.4	7.6	546	19.9	136	166	5.67
08...	1408	Field Blank	--	--	--	--	--	--	--	--	--	0.24
AUG												
02...	1145	Environmental	7.0	9.61	758	9.6	7.3	597	20.2	154	186	5.96
SEP												
07...	1120	Environmental	17	5.90	750	6.1	7.6	641	20.9	161	195	6.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)
APR													
22...	<0.04	0.81	0.015	0.066	<0.006	E0.025	0.027	<0.005	<0.005	0.139	<0.050	<0.010	<0.004
MAY													
27...	<.04	.21	.010	.25	<.006	E.099	.092	<.005	<.005	.905	<.050	<.010	<.004
JUL													
08...	<.04	1.06	E.003	.037	<.006	E.063	.008	<.005	<.005	.436	<.050	<.010	<.004
08...	<.04	<.06	<.006	<.004	--	--	--	--	--	--	--	--	--
AUG													
02...	<.04	1.02	.008	.023	<.006	E.064	.006	<.005	<.005	.132	<.050	<.010	<.004
SEP													
07...	<.04	.70	.011	.031	<.006	E.022	E.003	<.005	<.005	.044	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR													
22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY													
27...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
08...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
SEP													
07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

03303195 SINKING CREEK AT ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	E0.010	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
27...	<.004	<.035	<.027	<.015	.112	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
08...	<.004	<.035	<.027	<.015	.025	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	<.004	<.035	<.027	<.015	.014	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
07...	<.004	<.035	<.027	<.015	E.004	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.013	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	26
MAY													
27...	<.01	<.004	<.025	<.011	<.02	.010	<.02	<.034	<.02	<.010	<.002	<.009	306
JUL													
08...	.02	<.004	<.025	<.011	<.02	.009	<.02	<.034	<.02	<.010	<.002	<.009	73
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	.01	<.004	<.025	<.011	<.02	<.010	<.02	<.034	<.02	<.010	<.002	<.009	4
SEP													
07...	.01	<.004	<.025	<.011	<.02	E.005	<.02	<.034	<.02	<.010	<.002	<.009	5

E--Laboratory estimated value.
<--Numeric result is less than the value shown.

03303205 SINKING CREEK NEAR LODIBURG, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°52'06", long 86°23'16", Breckinridge County, Hydrologic Unit 05140104.

DRAINAGE AREA.--125 mi^2.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
APR												
22...	1445	Environmental	333	46.0	743	9.9	7.4	432	13.4	181	218	4.95
MAY												
25...	1445	Environmental	1,160	227	743	8.5	7.0	360	15.8	126	153	3.63
27...	1500	Environmental	5,260	445	738	8.6	7.1	175	16.2	82	100	1.89
JUL												
08...	1550	Environmental	44	14.1	749	9.4	7.1	533	17.8	120	147	5.31
12...	1229	Environmental	--	--	--	--	--	--	--	--	--	--
12...	1416	Environmental	--	--	--	--	--	--	--	--	--	--
AUG												
02...	1445	Environmental	38	9.96	758	11.1	7.1	588	18.4	222	269	6.43
SEP												
07...	1520	Environmental	20	11.6	750	8.3	7.3	511	17.8	187	227	5.11

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
APR													
22...	<0.04	1.29	0.014	0.096	<0.006	E0.047	0.010	<0.020	<0.005	0.409	<0.050	<0.010	<0.004
MAY													
25...	<.04	1.34	.072	.42	<.006	E.126	.227	<.010	<.005	.753	<.050	<.010	<.004
27...	<.04	0.35	.037	.40	<.006	E.116	.091	.011	<.005	.942	<.050	<.010	<.004
JUL													
08...	<.04	2.04	.042	.070	<.006	E.118	E.006	<.005	<.005	.200	<.050	<.010	<.004
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	<.04	2.17	.071	.101	<.006	E.075	.008	<.005	<.005	.119	<.050	<.010	<.004
SEP													
07...	<.04	1.33	.054	.086	<.006	E.046	E.004	<.005	<.005	.069	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR													
22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
27...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
08...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	<.041	<.075	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.150	<.009	<.005	<.003
SEP													
07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	E0.008	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
25...	<.004	<.035	<.027	<.015	.047	<.006	<.003	.013	<.003	<.010	<.004	<.022	<.011
27...	<.004	<.035	<.027	<.015	.102	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
08...	<.004	<.035	<.027	<.015	E.011	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	<.004	<.035	<.027	<.015	E.010	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
07...	<.004	<.035	<.027	<.015	E.007	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.017	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	106
MAY													
25...	.02	<.004	<.025	<.011	<.02	.035	<.02	<.034	<.02	<.010	<.002	<.009	414
27...	<.01	<.004	<.025	<.011	<.02	.056	<.02	<.034	<.02	<.010	<.002	<.009	563
JUL													
08...	.01	<.004	<.025	<.011	<.02	.014	<.02	<.034	<.02	<.010	<.002	<.009	67
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	.01	<.004	<.025	<.011	<.02	.012	<.02	<.034	<.02	<.010	<.002	E.005	19
SEP													
07...	.01	<.004	<.025	<.011	<.02	.009	<.02	<.034	<.02	<.010	<.002	<.009	8

E--Laboratory estimated value.

<--Numeric result is less than the value shown.

3747550860904 F15CS004--BIG SPRING AT BIG SPRING, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°47'55", long 86°09'04", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
APR												
22...	1500	Environmental	46	39.5	743	13.4	7.7	318	12.3	132	161	6.52
MAY												
25...	1545	Environmental	--	134	751	8.8	7.3	306	13.6	117	142	7.08
27...	1030	Environmental	--	114	738	7.5	7.0	201	15.3	65	79	2.40
AUG												
02...	1130	Environmental	2.4	5.30	745	--	7.4	375	13.9	182	209	5.99
SEP												
07...	1120	Environmental	1.6	--	750	10.2	7.0	383	13.7	174	211	4.31

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
APR													
22...	0.14	2.01	0.052	0.119	<0.006	E0.172	<0.010	<0.005	<0.005	4.92	<0.050	<0.010	<0.004
MAY													
25...	<.04	3.09	.136	.30	<.006	E.300	.014	<.005	<.005	2.08	<.050	<.010	<.004
27...	<.04	1.24	.152	.34	<.006	E.330	.009	.186	<.005	2.99	<.050	<.010	<.004
AUG													
02...	<.04	2.32	.037	.052	<.006	E.133	.018	<.005	<.005	0.097	<.100	<.010	<.004
SEP													
07...	<.04	1.68	.030	--	<.006	E.093	.007	<.005	<.005	.065	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR													
22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
27...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
02...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
SEP													
07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

3747550860904 F15CS004--BIG SPRING AT BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	0.309	0.029	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
25...	<.004	<.035	<.027	<.015	.447	.023	<.003	<.007	<.003	<.010	<.004	<.022	<.011
27...	<.004	<.035	<.027	<.015	.736	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
AUG													
02...	<.004	<.035	<.027	<.015	.017	.089	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
07...	<.004	<.035	<.027	<.015	E.006	.026	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.152	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	62
MAY													
25...	<.01	<.004	<.025	<.011	<.02	.043	<.02	<.034	<.02	<.010	<.002	<.009	82
27...	<.01	<.004	<.025	<.011	<.02	.548	<.02	<.034	<.02	<.010	<.002	<.009	153
AUG													
02...	<.01	<.004	<.025	<.011	<.02	.018	<.02	<.034	<.02	<.010	<.002	<.009	6
SEP													
07...	.01	<.004	<.025	<.011	<.02	.010	<.02	<.034	<.02	<.010	<.002	<.009	2

E--Laboratory estimated value.

<--Numeric result is less than the value shown.

374813086171501 F14DS005--FLAT ROCK SPRING NEAR ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'13", long 86°17'15", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
APR 22...	1215	Environmental	50	--	743	--	7.2	325	12.5	--	--	5.85
MAY 25...	1440	Environmental	--	164	751	9.2	7.3	293	14.2	126	154	3.90
JUL 08...	1330	Environmental	12	7.40	749	10.3	7.3	417	14.1	312	381	4.82
AUG 02...	1300	Environmental	8.6	20.3	750	--	7.3	390	14.3	188	229	5.22
SEP 07...	1255	Environmental	4.8	--	750	9.8	7.0	423	14.1	193	235	4.95

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
APR 22...	<0.04	1.61	0.030	0.077	<0.006	E0.062	0.011	0.011	<0.005	0.588	<0.050	<0.010	<0.004
MAY 25...	<.04	0.76	.115	.30	<.006	E.342	.033	<.005	<.005	2.91	<.050	<.010	<.004
JUL 08...	<.04	2.03	.043	.079	<.006	E.138	E.004	<.005	<.005	.195	<.050	<.010	<.004
AUG 02...	<.04	1.90	.092	.148	<.006	E.066	.007	<.005	<.005	.103	<.050	<.010	<.004
SEP 07...	<.04	1.57	.066	.094	<.006	E.075	<.006	<.005	<.005	.063	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR 22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY 25...	E.009	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL 08...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG 02...	<.041	<.030	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.015	<.009	<.005	<.003
SEP 07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

374813086171501 F14DS005--FLAT ROCK SPRING NEAR ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	E0.009	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
25...	<.004	<.035	<.027	<.015	.058	<.010	<.003	<.007	<.003	<.010	<.004	.028	<.011
JUL													
08...	<.004	<.035	<.027	<.015	E.010	E.004	<.003	<.007	<.003	<.010	<.004	.023	<.011
AUG													
02...	<.004	<.035	.181	<.015	E.007	.006	<.003	<.007	<.003	<.010	<.004	E.010	<.011
SEP													
07...	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.027	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	25
MAY													
25...	<.01	<.004	<.025	E.010	<.02	2.28	<.02	<.034	<.02	<.010	<.002	<.009	138
JUL													
08...	<.01	<.004	<.025	<.011	<.02	.020	<.02	<.034	<.02	<.010	<.002	<.009	28
AUG													
02...	M	<.004	<.025	<.011	<.02	.014	<.02	<.034	<.02	<.010	<.002	<.009	20
SEP													
07...	<.01	<.004	<.025	<.011	<.02	.019	<.02	<.034	<.02	<.010	<.002	<.009	5

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

374846086154101 F14DS003--ROSS KARST WINDOW NEAR BIG SPRING, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'46", long 86°15'41", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--May to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Turb-idity, IR LED light, det ang 90 deg, FNU (63680)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor-ide, water, fltrd, mg/L (00940)	Ammonia water, fltrd, mg/L as N (00608)
MAY												
25...	1510	Environmental	152	751	9.2	7.3	280	14.0	88	108	4.32	<0.04
27...	1120	Environmental	264	738	7.7	7.1	125	15.7	66	80	1.61	<.04
AUG												
02...	1230	Environmental	21.8	748	--	7.2	389	14.3	186	227	5.11	<.04
SEP												
07...	1200	Environmental	--	750	8.9	6.9	445	14.1	208	254	5.08	<.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)
MAY													
25...	0.82	0.092	0.24	<0.006	E0.252	0.080	<0.005	<0.005	2.10	<0.050	<0.010	<0.004	E0.018
27...	.42	.043	.41	<.006	E.133	.016	.113	<.005	1.45	<.050	<.010	<.004	<.041
AUG													
02...	1.95	.081	.140	<.006	E.083	.008	<.005	<.005	0.109	<.100	<.010	<.004	<.041
SEP													
07...	1.59	.060	.089	<.006	E.070	E.003	<.005	<.005	.080	<.050	<.010	<.004	<.041

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)
MAY													
25...	E0.015	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.015	<0.009	<0.005	<0.003	<0.004
27...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
AUG													
02...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
SEP													
07...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.020	<.009	<.005	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prome-ton, water, fltrd, ug/L (04037)
MAY													
25...	<0.035	<0.027	<0.015	0.048	<0.010	<0.003	<0.007	<0.003	<0.010	<0.004	E0.015	<0.011	0.01
27...	<.035	<.027	<.015	.345	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
AUG													
02...	<.035	.211	<.015	E.009	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
SEP													
07...	<.035	<.027	<.015	E.005	.007	<.003	<.007	<.003	<.010	<.004	<.022	<.011	.01

374846086154101 F14DS003--ROSS KARST WINDOW NEAR BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
MAY												
25...	<0.004	<0.025	0.011	<0.02	1.31	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	106
27...	<.004	<.025	<.011	<.02	0.507	<.02	<.034	<.02	<.010	<.002	<.009	581
AUG												
02...	<.004	<.025	<.011	<.02	.019	<.02	<.034	<.02	<.010	<.002	<.009	25
SEP												
07...	<.004	<.025	<.011	<.02	.012	M	<.034	<.02	<.010	<.002	<.009	6

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

374847086172901 F14DS007--FIDDLE SPRING NEAR ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'47", long 86°17'29", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
APR												
22...	1320	Environmental	23	9.90	743	12.8	7.2	545	13.1	188	229	5.38
MAY												
25...	1340	Environmental	--	211	751	7.2	7.0	280	14.7	111	135	3.35
25...	1350	Replicate	--	--	--	--	--	--	--	112	136	3.67
AUG												
02...	1400	Environmental	4.4	28.2	749	--	7.0	531	14.5	210	256	5.87
SEP												
07...	1345	Environmental	2.7	--	750	9.2	6.9	1,000	14.3	244	297	6.92

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
APR													
22...	<0.04	1.12	0.025	0.065	<0.006	E0.031	<0.008	<0.005	<0.005	0.345	<0.050	<0.010	<0.004
MAY													
25...	<.04	0.40	.090	.31	<.006	E.141	.091	<.005	<.005	.850	<.050	<.010	<.004
25...	<.04	.37	.092	.38	<.006	E.157	.088	<.005	<.005	.828	<.050	<.010	<.004
AUG													
02...	<.04	2.08	.192	.25	<.006	E.026	.011	<.005	<.005	.075	<.100	<.010	<.004
SEP													
07...	<.04	1.44	.042	.070	<.006	E.020	<.006	<.005	<.005	.047	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR													
22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY													
25...	E.012	<.020	<.005	<.006	<.018	E.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
25...	E.012	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
02...	E.018	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
SEP													
07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

374847086172901 F14DS007--FIDDLE SPRING NEAR ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	<0.013	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
25...	<.004	<.035	<.027	<.015	.036	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
25...	<.004	<.035	<.027	<.015	.035	<.006	<.003	<.007	<.005	<.010	<.004	<.022	<.011
AUG													
02...	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
07...	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.013	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	11
MAY													
25...	.01	<.004	<.025	<.011	<.02	.481	<.02	<.034	<.02	<.010	<.002	<.009	253
25...	<.01	<.004	<.025	<.011	<.02	.461	<.02	<.034	<.02	<.010	<.002	<.009	--
AUG													
02...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.002	<.009	28
SEP													
07...	.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.002	<.009	6

E--Laboratory estimated value.

<--Numeric result is less than the value shown.

375209086224001 F14CS002--BOILING SPRING NEAR LODIBURG, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°52'09", long 86°22'40", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	Turb-idity, IR LED light, det ang 90 deg, FNU (63680)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor-ide, water, fltrd, mg/L (00940)
APR												
22...	1340	Environmental	--	45.0	743	9.2	7.4	430	13.4	181	220	5.73
MAY												
25...	1235	Environmental	--	--	743	--	7.2	300	--	132	161	4.00
27...	1610	Environmental	--	677	738	6.5	7.0	188	16.4	80	97	1.75
AUG												
02...	1415	Environmental	37	15.2	758	10.2	6.9	581	17.2	220	268	6.29
SEP												
07...	1320	Environmental	3.5	10.5	750	7.2	7.3	520	17.0	196	239	5.15

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)
APR													
22...	<0.04	1.31	0.019	0.106	<0.006	E0.047	0.010	<0.005	<0.005	0.424	<0.050	<0.010	<0.004
MAY													
25...	<.04	0.83	.075	.45	<.006	E.104	.137	<.005	<.005	.658	<.050	<.010	<.004
27...	<.04	.47	.038	.31	<.006	E.109	.082	<.005	<.005	.866	<.050	<.010	<.004
AUG													
02...	<.04	2.23	.078	.106	<.006	E.075	.007	<.005	<.005	.129	<.050	<.010	<.004
SEP													
07...	<.04	1.52	.057	.087	<.006	E.046	E.004	<.005	<.005	.073	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
APR													
22...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
MAY													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
27...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
02...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.075	<.009	<.005	<.003
SEP													
07...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

375209086224001 F14CS002--BOILING SPRING NEAR LODIBURG, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
APR													
22...	<0.004	<0.035	<0.027	<0.015	E0.008	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
MAY													
25...	<.004	<.035	<.027	<.015	.042	<.006	<.003	.011	<.003	<.010	<.004	<.022	<.011
27...	<.004	<.035	<.027	<.015	.106	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
AUG													
02...	<.004	<.035	<.027	<.015	E.011	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
07...	<.004	<.035	<.027	<.015	E.007	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR													
22...	<0.01	<0.004	<0.025	<0.011	<0.02	0.018	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	135
MAY													
25...	.01	<.004	<.025	<.011	<.02	.039	<.02	<.034	<.02	<.010	<.002	<.009	409
27...	<.01	<.004	<.025	<.011	<.02	.050	<.02	<.034	<.02	<.010	<.002	<.009	408
AUG													
02...	.01	<.004	<.025	<.011	<.02	.013	<.02	<.034	<.02	<.010	<.002	<.009	11
SEP													
07...	.01	<.004	<.025	<.011	<.02	.010	<.02	<.034	<.02	<.010	<.002	<.009	7

E--Laboratory estimated value.

<--Numeric result is less than the value shown.

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°48'07", long 87°30'49", Christian County, Hydrologic Unit 05130205.

DRAINAGE AREA.--67 mi^2.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT												
15...	1500	Environmental	19	762	8.4	7.4	620	18.8	149	182	<0.04	3.43
NOV												
12...	1410	Environmental	22	762	6.3	7.5	500	16.0	146	178	.08	1.95
FEB												
17...	1410	Environmental	49	770	13.6	7.7	479	8.2	162	198	<.04	3.31
MAR												
16...	1410	Environmental	44	759	12.9	7.8	497	11.9	164	201	.06	2.90
16...	1418	Field Blank	--	--	--	--	--	--	--	--	<.010	<0.016
APR												
14...	0930	Environmental	372	748	12.7	6.1	226	7.8	68	83	.48	1.34
30...	1210	Environmental	E75	764	8.2	7.3	363	17.1	132	161	E.02	2.73
MAY												
06...	1240	Environmental	E125	765	8.2	7.4	366	17.3	132	161	.06	2.95
JUN												
15...	1410	Environmental	E32	764	4.7	7.6	501	22.3	155	189	E.04	3.86
JUL												
14...	1020	Environmental	110	745	6.7	7.3	344	23.1	120	146	<.04	2.09
27...	1230	Environmental	E50	766	8.5	7.6	521	20.9	155	190	E.03	3.95
27...	1240	Replicate	--	--	--	--	--	--	155	189	E.02	3.95
AUG												
10...	1230	Environmental	E80	764	7.2	7.7	576	21.6	198	242	E.03	4.86
SEP												
14...	1210	Environmental	E100	767	6.5	7.4	626	21.9	149	182	E.04	5.33

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	1,4-Naphth-oquin-one, water, fltrd, ug/L (61611)	1-Naph-thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t-Butyl-phenoxy)cyclo-hexanol wat flt ug/L (61637)	2,5-Di-chloro-aniline water, fltrd, ug/L (61614)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	2-[(2-Et-6-Me -Ph)- -amino] propan-1-ol, ug/L (61615)	2Amino-N-iso-propyl-benz-amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6-methyl-aniline water, fltrd, ug/L (61620)	3-(Tri-fluoro-methyl) aniline water, fltrd, ug/L (61630)	3,4-Di-chloro-aniline water fltrd, ug/L (61625)
OCT													
15...	1.55	1.62	<0.05	--	<0.01	<0.03	<0.006	<0.1	<0.005	E0.117	<0.004	<0.01	0.093
NOV													
12...	0.397	0.51	<.05	<0.09	E.01	<.03	<.006	<.1	<.005	E.138	<.004	<.01	.044
FEB													
17...	.461	.60	<.05	<.09	<.01	M	<.006	--	<.005	E.089	<.004	<.01	.016
MAR													
16...	.497	.62	<.05	<.09	<.01	E.01	<.006	--	<.005	E.084	<.004	<.01	.021
16...	<.006	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	.262	.57	<.05	<.09	<.01	<.03	<.006	--	<.005	E.227	<.004	<.01	<.004
30...	.228	.35	<.05	<.09	<.01	E.01	<.006	--	<.005	E.176	<.004	<.01	.013
MAY													
06...	.258	.31	<.05	<.09	<.01	<.03	<.006	--	<.005	E.236	<.004	<.01	.016
JUN													
15...	.842	.89	<.05	<.09	--	E.01	<.006	--	<.005	E.244	<.004	<.01	.094
JUL													
14...	.413	.55	<.04	<.09	<.01	<.01	<.006	--	<.005	E.174	<.004	<.01	.033
27...	1.52	1.58	<.04	--	<.01	E.01	<.006	--	<.005	E.206	<.004	<.01	E.054
27...	1.47	1.66	<.04	--	<.01	<.01	<.006	--	<.005	E.159	<.004	<.01	<.004
AUG													
10...	1.03	1.07	<.04	--	<.01	.01	<.006	--	<.005	E.095	<.004	<.01	.068
SEP													
14...	2.00	2.12	<.04	<.09	<.01	.01	<.006	--	<.005	E.095	<.004	<.01	.064

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)	4,4-Di' chloro- benzo- phen- one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl- methyl sulfone water, fltrd, ug/L (61634)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH, water, fltrd, ug/L (34253)	alpha- HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha- HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)
OCT													
15...	<0.005	<0.003	<0.006	<0.03	<0.006	0.006	<0.005	<0.005	88.9	110	0.874	<0.02	<0.200
NOV													
12...	<.005	<.003	<.006	<.03	<.010	<.010	<.005	<.005	93.8	107	.602	<.02	<.050
FEB													
17...	<.005	<.003	<.006	<.03	<.006	<.005	<.005	<.005	172	E106	.222	<.02	<.050
MAR													
16...	<.005	<.003	<.006	<.03	<.006	<.005	<.005	<.005	85.3	98.1	.637	<.02	<.050
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.005	<.003	<.006	<.03	.199	<.005	<.005	<.005	81.2	94.7	E21.9	<.02	<.050
30...	<.005	<.003	<.006	<.03	.035	<.005	<.005	<.005	79.6	91.1	1.84	<.02	<.050
MAY													
06...	<.005	<.003	<.006	<.03	.035	<.005	<.005	<.005	84.0	96.6	2.83	<.02	<.050
JUN													
15...	<.005	<.003	--	<.01	.009	<.005	<.005	<.005	90.1	108	1.95	<.02	<.050
JUL													
14...	<.004	<.007	<.006	<.01	.010	<.005	<.005	<.005	81.6	92.2	1.47	<.07	<.050
27...	<.004	<.007	<.006	<.01	<.015	<.005	<.005	<.005	74.7	89.0	2.14	<.07	<.050
27...	<.004	<.007	<.006	<.01	.011	<.005	<.005	<.005	89.1	98.8	.352	<.07	<.050
AUG													
10...	<.004	<.007	<.006	<.01	.012	<.005	<.005	<.005	76.6	85.9	.245	<.07	<.050
SEP													
14...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	75.3	90.9	.534	<.07	<.100

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	beta- Endo- sulfan, water, fltrd, ug/L (34357)	Bifen- thrin, water, fltrd, ug/L (61580)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	lambda- Cyhalo- thrin, water, fltrd, ug/L (61595)
OCT													
15...	<0.010	<0.01	<0.005	0.005	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009
NOV													
12...	<.010	<.01	<.005	<.010	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
FEB													
17...	<.010	<.01	<.005	E.018	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAR													
16...	<.010	<.01	<.005	.013	<.041	E.025	<.06	<.005	<.006	<.008	<.018	<.005	<.009
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.010	<.01	<.005	<.010	E.054	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
30...	<.010	<.01	<.005	.011	E.021	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAY													
06...	<.010	<.01	<.005	.008	E.036	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
JUN													
15...	<.010	<.01	<.005	<.018	<.073	<.047	<.06	<.005	<.006	<.008	<.018	<.005	<.009
JUL													
14...	<.010	<.01	<.005	<.004	E.160	<.035	<.06	E.004	<.006	<.008	<.018	<.005	<.009
27...	<.010	<.01	<.005	.009	E.013	<.050	<.06	<.005	<.006	<.008	<.018	<.005	<.009
27...	<.010	<.01	<.005	<.004	E.033	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
AUG													
10...	<.010	<.01	<.005	.008	E.009	<.030	<.06	<.005	<.006	<.008	<.018	<.005	<.009
SEP													
14...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Cypermethrin water, fltrd, ug/L (61586)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)
OCT													
15...	<0.009	<0.003	0.017	<0.08	<0.005	<0.006	<0.02	<0.050	<0.02	<0.02	<0.004	0.003	<0.009
NOV													
12...	<.009	<.003	.006	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	E.003	<.009
FEB													
17...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	.006	<.009
MAR													
16...	<.009	<.003	<.005	<.08	<.010	<.006	.02	<.002	<.02	<.02	<.004	.007	<.009
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.009	<.003	.006	<.08	E.007	<.006	<.02	<.002	<.02	<.02	<.004	<.010	<.009
30...	<.009	<.003	.007	<.08	E.007	<.006	E.01	<.002	<.02	<.02	<.004	.004	<.009
MAY													
06...	<.009	<.003	.010	<.08	<.009	<.006	.02	<.002	<.02	<.02	<.004	.004	<.009
JUN													
15...	<.009	<.003	<.006	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	.006	<.009
JUL													
14...	<.009	<.003	.180	<.08	.012	<.006	<.01	<.036	<.02	<.02	<.007	<.035	<.009
27...	<.009	<.003	.027	<.08	.021	<.006	<.01	<.036	<.02	<.02	<.007	.004	<.009
27...	<.009	<.003	.006	<.08	.015	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
AUG													
10...	<.009	<.003	<.010	<.08	.012	<.006	<.01	<.036	<.02	<.02	<.007	E.004	<.009
SEP													
14...	<.009	<.003	<.010	<.08	<.010	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion monoxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)
OCT													
15...	<0.03	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003
NOV													
12...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
FEB													
17...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAR													
16...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
30...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAY													
06...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUN													
15...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUL													
14...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003
27...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
27...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
AUG													
10...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
SEP													
14...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-oxon, water, fltrd, ug/L (61652)	Mala-thion, water, fltrd, ug/L (39532)	Meta-laxyl, water, fltrd, ug/L (61596)	Methi-althion water, fltrd, ug/L (61598)	c-Per-methric acid methyl ester, wat flt ug/L (79842)	Methyl para-oxon, water, fltrd, ug/L (61664)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	t-Per-methric acid methyl ester, wat flt ug/L (79843)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)
OCT													
15...	<0.004	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.006	<0.03	0.017	<0.006	<0.002
NOV													
12...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.014	<.006	<.003
FEB													
17...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	E.012	<.006	<.003
MAR													
16...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.015	<.006	<.003
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.028	<.006	<.003
30...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.027	<.006	<.003
MAY													
06...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.022	<.006	<.003
JUN													
15...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.027	<.006	<.003
JUL													
14...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.027	<.006	<.003
27...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.043	<.006	<.003
27...	<.004	<.035	<.030	<.027	.018	<.006	<.02	<.03	<.015	<.01	.019	.008	<.003
AUG													
10...	<.004	<.035	<.030	<.027	<.200	<.006	<.02	<.03	<.015	<.01	.062	<.006	<.003
SEP													
14...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.030	<.006	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Myclo-butanil water, fltrd, ug/L (61599)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phos-phoro-thioate wat flt ug/L (61660)	Oxy-fluor-fen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-oxon, water, fltrd, ug/L (61663)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)
OCT													
15...	<0.008	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008
NOV													
12...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
FEB													
17...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
MAR													
16...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
30...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	.076	<.10	<.011	<.06	<.008
MAY													
06...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
JUN													
15...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
JUL													
14...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008
27...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
27...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
AUG													
10...	<.008	<.007	<.005	<.007	<.003	<.070	<.010	<.004	<.022	<.10	<.011	--	<.008
SEP													
14...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	--

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phoste-bupirim water, fltrd, ug/L (61602)	Pro-fenofos water, fltrd, ug/L (61603)	Prome-ton, water, fltrd, ug/L (04037)	Prome-tryn, water, fltrd, ug/L (04036)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propet-amphos, water, fltrd, ug/L (61604)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-tepp, water, fltrd, ug/L (61605)	Sulpro-fos, water, fltrd, ug/L (38716)	Tebu-pirim-phos oxon, water, fltrd, ug/L (61669)
OCT													
15...	<0.005	<0.006	0.04	<0.005	<0.004	<0.010	<0.011	<0.02	<0.004	0.084	<0.003	<0.02	<0.006
NOV													
12...	<.005	<.006	.02	<.005	<.010	<.025	<.011	<.02	<.004	.061	<.003	<.02	<.006
FEB													
17...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.156	<.003	<.02	<.006
MAR													
16...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.143	<.003	<.02	<.006
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.005	<.006	.08	<.005	.011	<.025	<.011	<.02	<.004	4.90	<.003	<.02	<.006
30...	<.005	<.006	.06	<.005	<.004	<.025	<.011	<.02	<.004	.415	<.003	<.02	<.006
MAY													
06...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.502	<.003	<.02	<.006
JUN													
15...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.208	<.003	<.02	<.006
JUL													
14...	<.005	<.006	.03	<.005	<.007	<.025	<.011	<.02	<.004	.128	<.003	<.02	<.006
27...	<.005	<.006	.03	<.005	<.015	<.025	<.030	<.02	<.004	.157	<.003	<.02	<.006
27...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.032	<.003	<.02	<.006
AUG													
10...	<.005	<.006	.03	<.005	<.010	<.025	<.015	<.02	<.004	.038	<.003	<.02	<.006
SEP													
14...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.047	<.003	<.02	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)
OCT													
15...	<0.02	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.005	<0.01	<0.002	<0.004	<0.009	<0.05
NOV													
12...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
FEB													
17...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
MAR													
16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
30...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
MAY													
06...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
JUN													
15...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
JUL													
14...	.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
27...	.03	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
27...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
AUG													
10...	.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
SEP													
14...	.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05

03437400 NORTH FORK LITTLE RIVER AT GARY LANE BRIDGE NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Di- chlor- vos, water fltrd, ug/L (38775)	Sus- pended sedi- ment concen- tration mg/L (80154)
OCT		
15...	<0.01	3
NOV		
12...	<.01	2
FEB		
17...	<.01	4
MAR		
16...	<.01	4
16...	--	--
APR		
14...	<.01	201
30...	<.01	56
MAY		
06...	<.01	20
JUN		
15...	<.01	6
JUL		
14...	<.01	81
27...	<.01	6
27...	<.01	7
AUG		
10...	<.01	6
SEP		
14...	<.01	5

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°47'52", long 87°30'52", Christian County, Hydrologic Unit 05130205. "

DRAINAGE AREA.--68 mi^2.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT												
15...	1210	Environmental	9.8	761	9.0	7.6	523	18.9	216	263	<0.04	2.28
NOV												
12...	1210	Environmental	19	762	9.0	7.7	520	16.1	220	268	<.04	1.40
FEB												
17...	1210	Environmental	83	772	14.5	--	467	8.0	187	228	<.04	4.75
MAR												
16...	1210	Environmental	56	769	15.9	8.1	451	11.3	181	216	<.04	3.97
APR												
14...	1530	Environmental	242	748	12.4	6.8	296	9.5	102	124	.66	4.41
30...	1310	Environmental	200	764	9.3	7.6	372	16.2	154	187	E.03	4.51
30...	1318	Field Blank	--	--	--	--	--	--	--	--	--	--
MAY												
06...	1420	Environmental	226	765	10.1	7.6	426	16.2	174	213	<.04	5.73
JUN												
15...	1230	Environmental	50	762	5.4	7.7	464	20.7	188	230	<.04	4.89
15...	1238	Field Blank	--	--	--	--	--	--	--	--	<.010	<0.016
JUL												
14...	0840	Environmental	85	745	7.1	7.3	375	22.1	145	176	<.04	2.93
27...	1130	Environmental	80	766	8.5	7.6	479	19.8	188	230	<.04	3.56
AUG												
10...	1110	Environmental	90	764	8.1	7.6	485	19.9	214	261	<.04	4.25
SEP												
14...	1100	Environmental	80	767	6.9	7.5	466	19.9	189	227	<.04	2.33

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	1,4-Naphth-oquin-one, water, fltrd, ug/L (61611)	1-Naph-thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t-Butyl-phenoxy)cyclo-hexanol wat flt ug/L (61637)	2,5-Di-chloro-aniline water, fltrd, ug/L (61614)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	2-[(2-Et-6-Me -Ph)- -amino] propan-1-ol, ug/L (61615)	2Amino-N-iso-propyl-benz-amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6-methyl-aniline water, fltrd, ug/L (61620)	3-(Tri-fluoro-methyl) aniline water, fltrd, ug/L (61630)	3,4-Di-chloro-aniline water fltrd, ug/L (61625)
OCT													
15...	0.049	0.073	M	--	<0.01	<0.03	<0.006	<0.1	<0.005	E0.186	<0.004	<0.01	<0.004
NOV													
12...	.031	.059	<0.05	<0.09	<.01	<.03	<.006	<.1	<.005	E.216	<.004	<.01	<.004
FEB													
17...	.007	.021	<.05	<.09	<.01	<.03	<.006	--	<.005	E.196	<.004	<.01	<.004
MAR													
16...	<.006	.019	<.05	<.09	<.01	<.03	<.006	--	<.005	E.156	<.004	<.01	<.004
APR													
14...	.111	.23	<.05	<.09	<.01	<.03	<.006	--	<.005	E.997	<.004	<.01	<.004
30...	.042	.20	<.05	<.09	<.01	<.03	<.006	--	<.005	E.336	<.004	<.01	<.004
30...	--	--	<.05	<.09	<.01	<.03	<.006	--	<.005	<.006	<.004	<.01	<.004
MAY													
06...	.019	.043	<.05	<.09	<.01	<.03	<.006	--	<.005	E.346	<.004	<.01	<.004
JUN													
15...	.028	.051	<.05	<.09	--	<.03	<.006	--	<.005	E.284	<.004	<.01	<.004
15...	E.003	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	.093	.165	<.04	<.09	<.01	<.01	<.006	--	<.005	E.178	<.004	<.01	<.004
27...	.030	.050	<.04	--	<.01	.01	<.006	--	<.005	E.218	<.004	<.01	.092
AUG													
10...	.039	.058	<.04	--	<.01	<.01	<.006	--	<.005	E.187	<.004	<.01	E.003
SEP													
14...	.048	.073	<.04	<.09	<.01	<.01	<.006	--	<.005	E.158	<.004	<.01	<.004

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,5-Di-chloro-aniline water, fltrd, ug/L (61627)	4,4-Di' chloro-benzo-phen-one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl-methyl sulfone water, fltrd, ug/L (61634)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-Endo-sulfan, water, fltrd, ug/L (34362)	alpha-HCH, water, fltrd, ug/L (34253)	alpha-HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl oxon, water, fltrd, ug/L (61635)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)
OCT													
15...	<0.005	<0.003	<0.006	<0.03	0.008	0.005	<0.005	<0.005	91.3	96.5	0.187	<0.02	<0.050
NOV													
12...	<.005	<.003	<.006	<.03	.010	<.005	<.005	<.005	87.7	97.4	.125	<.02	<.050
FEB													
17...	<.005	<.003	<.006	<.03	.008	<.005	<.005	<.005	167	E102	.109	<.02	<.050
MAR													
16...	<.005	<.003	<.006	<.03	.007	<.005	<.005	<.005	88.3	87.2	.679	<.02	<.050
APR													
14...	<.005	<.003	<.006	<.03	2.21	<.005	<.005	<.005	86.2	103	E22.4	<.02	<.050
30...	<.005	<.003	<.006	<.03	.254	.006	<.005	<.005	89.3	96.7	2.90	<.02	<.050
30...	<.005	<.003	<.006	<.03	<.006	<.005	<.005	<.005	83.5	89.9	<.007	<.02	<.050
MAY													
06...	<.005	<.003	<.006	<.03	.075	<.005	<.005	<.005	85.3	98.1	1.34	<.02	<.050
JUN													
15...	<.005	<.003	--	<.01	.016	<.005	<.005	<.005	88.4	107	.726	<.02	<.050
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	88.0	98.1	.233	<.07	<.050
27...	<.004	<.007	<.006	<.01	.014	<.005	<.005	<.005	88.2	97.9	2.22	<.07	<.050
AUG													
10...	<.004	<.007	<.006	<.01	E.005	E.004	<.005	<.005	76.1	79.1	.175	<.07	<.050
SEP													
14...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	86.4	92.6	.161	<.07	<.050

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	beta-Endo-sulfan, water, fltrd, ug/L (34357)	Bifen-thrin, water, fltrd, ug/L (61580)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos oxon, water, fltrd, ug/L (61636)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	cis-Propi-cona-zole, water, fltrd, ug/L (79846)	Cyana-zine, water, fltrd, ug/L (04041)	Cyclo-ate, water, fltrd, ug/L (04031)	lambda-Cyhalo-thrin, water, fltrd, ug/L (61595)
OCT													
15...	<0.010	<0.01	<0.005	<0.002	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009
NOV													
12...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
FEB													
17...	<.010	<.01	<.005	<.005	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAR													
16...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
APR													
14...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
30...	<.010	<.01	<.005	<.004	E.012	<.020	<.06	<.005	<.006	.012	<.018	<.005	<.009
30...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAY													
06...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
JUN													
15...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.010	<.01	<.005	<.004	E.049	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
27...	<.010	<.01	<.005	<.010	E.013	<.050	<.06	<.005	<.006	<.008	<.018	<.005	<.009
AUG													
10...	<.010	<.01	<.005	E.004	E.011	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
SEP													
14...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Cypermethrin water, fltrd, ug/L (61586)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)
OCT													
15...	<0.009	<0.003	0.007	<0.08	<0.005	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.002	<0.009
NOV													
12...	<.009	<.003	<.005	<.08	E.005	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
FEB													
17...	<.009	<.003	<.005	<.08	<.009	<.006	E.01	E.009	E.01	<.02	<.004	E.003	<.009
MAR													
16...	<.009	<.003	<.005	<.08	<.010	<.006	E.01	<.002	<.02	<.02	<.004	<.004	<.009
APR													
14...	<.009	<.003	.006	<.08	<.009	<.006	.02	E.019	<.02	<.02	<.004	<.004	<.009
30...	<.009	.003	<.005	<.08	E.006	<.006	E.01	<.002	<.02	<.02	<.004	<.010	<.009
30...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
MAY													
06...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
JUN													
15...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.009	<.003	.086	<.08	E.007	<.006	<.01	<.036	<.02	<.02	<.007	.026	<.009
27...	<.009	<.003	.022	<.08	.021	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
AUG													
10...	<.009	<.003	<.005	<.08	.009	<.006	<.01	<.036	<.02	<.02	<.007	E.003	<.009
SEP													
14...	<.009	<.003	<.005	<.08	<.010	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion monoxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)
OCT													
15...	<0.03	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003
NOV													
12...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
FEB													
17...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAR													
16...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
APR													
14...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
30...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
30...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAY													
06...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUN													
15...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003
27...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
AUG													
10...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
SEP													
14...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-oxon, water, fltrd, ug/L (61652)	Mala-thion, water, fltrd, ug/L (39532)	Meta-laxyl, water, fltrd, ug/L (61596)	Methi-althion water, fltrd, ug/L (61598)	c-Per-methric acid methyl ester, wat flt ug/L (79842)	Methyl para-oxon, water, fltrd, ug/L (61664)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	t-Per-methric acid methyl ester, wat flt ug/L (79843)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)
OCT													
15...	<0.004	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.006	<0.03	0.025	<0.006	<0.002
NOV													
12...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.024	<.006	<.003
FEB													
17...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	E.010	<.006	<.003
MAR													
16...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	E.011	<.006	<.003
APR													
14...	<.004	<.035	<.008	.038	<.005	<.006	<.04	<.03	<.015	<.03	.098	<.006	<.003
30...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.047	<.006	<.003
30...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	<.013	<.006	<.003
MAY													
06...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.032	<.006	<.003
JUN													
15...	<.004	<.035	<.008	<.027	.022	<.006	<.04	<.03	<.015	<.03	.016	<.006	<.003
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.004	<.035	<.030	<.027	.016	<.006	<.02	<.03	<.015	<.01	.015	<.006	<.003
27...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.045	<.006	<.003
AUG													
10...	<.004	<.035	<.030	<.027	.011	<.006	<.02	<.03	<.015	<.01	.013	.006	<.003
SEP													
14...	<.004	<.035	<.030	E.010	<.005	<.006	<.02	<.03	<.015	<.01	E.012	<.006	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Myclo-butanil water, fltrd, ug/L (61599)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phos-phoro-thioate wat flt ug/L (61660)	Oxy-fluor-fen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-oxon, water, fltrd, ug/L (61663)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)
OCT													
15...	<0.008	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008
NOV													
12...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
FEB													
17...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
MAR													
16...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
APR													
14...	<.008	.022	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
30...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	E.010	<.10	<.011	<.06	<.008
30...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
MAY													
06...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
JUN													
15...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008
27...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
AUG													
10...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
SEP													
14...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	--

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phoste-bupirim water, fltrd, ug/L (61602)	Pro-fenofos water, fltrd, ug/L (61603)	Prome-ton, water, fltrd, ug/L (04037)	Prome-tryn, water, fltrd, ug/L (04036)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propet-amphos, water, fltrd, ug/L (61604)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-tepp, water, fltrd, ug/L (61605)	Sulpro-fos, water, fltrd, ug/L (38716)	Tebu-pirim-phos oxon, water, fltrd, ug/L (61669)
OCT 15...	<0.005	<0.006	E0.01	<0.005	<0.004	<0.010	<0.011	<0.02	<0.004	0.023	<0.003	<0.02	<0.006
NOV 12...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.024	<.003	<.02	<.006
FEB 17...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.082	<.003	<.02	<.006
MAR 16...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.073	<.003	<.02	<.006
APR 14...	<.005	<.006	.05	<.005	.012	<.025	<.011	<.02	<.004	.771	<.003	<.02	<.006
30...	<.005	<.006	.05	<.005	.008	<.025	<.011	<.02	<.004	.296	<.003	<.02	<.006
30...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	<.005	<.003	<.02	<.006
MAY 06...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.139	<.003	<.02	<.006
JUN 15...	<.005	<.006	.04	<.005	<.004	<.025	<.011	<.03	<.004	.094	<.003	<.02	<.006
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 14...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.024	<.003	<.02	<.006
27...	<.005	<.006	.03	<.005	<.015	<.025	<.025	<.02	<.004	.168	<.003	<.02	<.006
AUG 10...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.018	<.003	<.02	<.006
SEP 14...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.021	<.003	<.02	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)
OCT 15...	<0.02	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.005	<0.01	<0.002	<0.004	<0.009	<0.05
NOV 12...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
FEB 17...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
MAR 16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
APR 14...	<.02	<.008	<.3	<.034	<.07	<.02	E.01	<.010	<.01	<.002	<.004	<.009	<.05
30...	E.02	<.008	<.3	<.034	<.07	<.02	E.01	<.010	.02	<.002	<.004	<.009	<.05
30...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
MAY 06...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
JUN 15...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 14...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
27...	.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
AUG 10...	.04	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
SEP 14...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05

03437600 SOUTH FORK LITTLE RIVER AT KY 107 NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Di-chlor-vos, water fltrd, ug/L (38775)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT		
15...	<0.01	2
NOV		
12...	<.01	1
FEB		
17...	<.01	6
MAR		
16...	<.01	2
APR		
14...	<.01	63
30...	<.01	182
30...	<.01	--
MAY		
06...	<.01	17
JUN		
15...	<.01	3
15...	--	--
JUL		
14...	<.01	59
27...	<.01	3
AUG		
10...	<.01	5
SEP		
14...	<.01	4

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03437680 LITTLE RIVER AT KY 345 NEAR CADIZ, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°47'02", long 87°32'50", Christian County, Hydrologic Unit 05130205.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
APR												
14...	1140	Environmental	688	748	12.9	6.1	302	8.1	108	131	00.22	2.03
JUL												
14...	1410	Environmental	187	745	7.9	7.3	388	23.5	144	175	<.04	2.87
14...	1418	Field Blank	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	1,4-Naphth-oquin-one, water, fltrd, ug/L (61611)	1-Naph-thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t-Butyl-phenoxy)cyclo-hexanol wat flt ug/L (61637)	2,5-Di-chloro-aniline water, fltrd, ug/L (61614)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	2Amino-N-iso-propyl-benz-amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6-methyl-aniline water, fltrd, ug/L (61620)	3-(Tri-fluoro-methyl) aniline water, fltrd, ug/L (61630)	3,4-Di-chloro-aniline water fltrd, ug/L (61625)	3,5-Di-chloro-aniline water, fltrd, ug/L (61627)
APR													
14...	0.116	0.36	<0.05	<0.09	<0.01	<0.03	<0.006	<0.005	E0.209	<0.004	<0.01	<0.004	<0.005
JUL													
14...	.191	.33	<.04	<.09	<.01	<.01	<.006	<.005	E.194	<.004	<.01	.017	<.004
14...	--	--	--	--	--	--	<.006	--	<.006	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	4,4-Di' chloro-benzo-phen-one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl-methyl sulfone water, fltrd, ug/L (61634)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-Endo-sulfan, water, fltrd, ug/L (34362)	alpha-HCH, water, fltrd, ug/L (34253)	alpha-HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl oxon, water, fltrd, ug/L (61635)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)
APR													
14...	<0.003	<0.006	<0.03	0.718	<0.005	<0.005	<0.005	80.0	97.3	12.4	<0.02	<0.050	<0.010
JUL													
14...	<.007	<.006	<.01	<.007	<.005	<.005	<.005	80.8	90.5	0.716	<.07	<.050	<.010
14...	--	--	--	<.006	<.005	--	<.005	--	94.8	<.007	--	<.050	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	beta-Endo-sulfan, water, fltrd, ug/L (34357)	Bifen-thrin, water, fltrd, ug/L (61580)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos oxon, water, fltrd, ug/L (61636)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	cis-Propi-cona-zole, water, fltrd, ug/L (79846)	Cyana-zine, water, fltrd, ug/L (04041)	Cyclo-ate, water, fltrd, ug/L (04031)	lambda-Cyhalo-thrin, water, fltrd, ug/L (61595)	Cyper-methrin water, fltrd, ug/L (61586)
APR													
14...	<0.01	<0.005	<0.004	E0.044	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009	<0.009
JUL													
14...	<.01	<.005	<.004	E.016	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009	<.009
14...	--	--	<.004	<.041	<.020	--	<.005	<.006	--	<.018	--	--	--

03437680 LITTLE RIVER AT KY 345 NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethion monoxon water, fltrd, ug/L (61644)
APR													
14...	<0.003	0.006	<0.08	<0.009	<0.006	E0.01	<0.002	<0.02	<0.02	<0.004	<0.004	<0.009	<0.03
JUL													
14...	<.003	.048	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009	<.0020
14...	<.003	<.005	--	<.009	--	--	--	<.02	--	--	<.004	<.009	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)	Lindane water, fltrd, ug/L (39341)
APR													
14...	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003	<0.004
JUL													
14...	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003	<.004
14...	--	<.005	--	--	--	--	--	--	<.003	--	--	--	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Malaoxon, water, fltrd, ug/L (61652)	Malathion, water, fltrd, ug/L (39532)	Metalaxyl, water, fltrd, ug/L (61596)	Methialthion water, fltrd, ug/L (61598)	c-Permethric acid methyl ester, wat flt ug/L (79842)	Methyl paraoxon, water, fltrd, ug/L (61664)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	t-Permethric acid methyl ester, wat flt ug/L (79843)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Myclobutanil water, fltrd, ug/L (61599)
APR													
14...	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.015	<0.03	0.030	<0.006	<0.003	<0.008
JUL													
14...	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.018	<.006	<.003	<.008
14...	<.035	--	<.027	--	--	--	--	<.015	--	<.013	<.006	<.003	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Napropamide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phosphorothioate wat flt ug/L (61660)	Oxyfluorfen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Paraoxon, water, fltrd, ug/L (61663)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Phostebupirim water, fltrd, ug/L (61602)
APR													
14...	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008	<0.005
JUL													
14...	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008	<.005
14...	<.007	--	--	<.003	--	<.010	<.004	<.022	--	<.011	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Profenofos water, fltrd, ug/L (61603)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propetamphos, water, fltrd, ug/L (61604)	Simazine, water, fltrd, ug/L (04035)	Sulfotepp, water, fltrd, ug/L (61605)	Sulprofos, water, fltrd, ug/L (38716)	Tebupirimphos oxon, water, fltrd, ug/L (61669)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)
APR													
14...	<0.006	0.06	<0.005	0.012	<0.025	<0.011	<0.02	<0.004	2.40	<0.003	<0.02	<0.006	<0.02
JUL													
14...	<.006	.01	<.005	<.007	<.025	<.011	<.03	<.004	0.066	<.003	<.02	<.006	E.01
14...	--	<.01	--	<.004	<.025	<.011	<.02	--	<.005	--	--	--	<.02

03437680 LITTLE RIVER AT KY 345 NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)	Di-chlor-vos, water fltrd, ug/L (38775)
APR													
14...	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.010	<0.01	<0.002	<0.004	<0.009	<0.05	<0.01
JUL													
14...	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05	<.01
14...	--	--	<.034	--	<.02	--	<.010	--	<.002	--	<.009	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Sus-pended sedi-ment concen-tration mg/L (80154)
APR	
14...	173
JUL	
14...	67
14...	--

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03437990 CASEY CREEK AT KY 525 NEAR CADIZ, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°45'21", long 87°43'31", Trigg County, Hydrologic Unit 05130205.

DRAINAGE AREA.--306 mi^2.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
APR												
14...	1130	Environmental	84	769	11.8	7.3	209	11.8	85	104	<0.04	0.36
JUL												
14...	1500	Environmental	13	762	11.3	7.6	313	19.4	140	171	<.04	2.34

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	1,4- Naphth- oquin- one, water, fltrd, ug/L (61611)	1-Naph- thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t- Butyl- phenoxy)cyclo- hexanol wat flt ug/L (61637)	2,5-Di- chloro- aniline water, fltrd, ug/L (61614)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	2Amino- N-iso- propyl- benz- amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6- methyl- aniline water, fltrd, ug/L (61620)	3-(Tri- fluoro- methyl) aniline water, fltrd, ug/L (61630)	3,4-Di- chloro- aniline water fltrd, ug/L (61625)	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)
APR													
14...	<0.006	0.051	<0.05	<0.09	<0.01	<0.03	<0.006	<0.005	E0.406	<0.004	<0.01	<0.004	<0.005
JUL													
14...	.021	.035	<.04	<.09	<.01	<.01	<.006	<.005	E.169	<.004	<.01	<.004	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	4,4-Di' chloro- benzo- phen- one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl- methyl sulfone water, fltrd, ug/L (61634)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH, water, fltrd, ug/L (34253)	alpha- HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha- HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)
APR													
14...	<0.003	<0.006	<0.03	0.016	<0.005	<0.005	<0.005	80.8	93.4	8.19	<0.02	<0.050	<0.010
JUL													
14...	<.007	<.006	<.01	<.006	<.005	<.005	<.005	82.6	97.9	0.126	<.07	<.050	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	beta- Endo- sulfan, water, fltrd, ug/L (34357)	Bifen- thrin, water, fltrd, ug/L (61580)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	lambda- Cyhalo- thrin, water, fltrd, ug/L (61595)	Cyper- methrin water, fltrd, ug/L (61586)
APR													
14...	<0.01	<0.005	<0.004	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009	<0.009
JUL													
14...	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009	<.009

03437990 CASEY CREEK AT KY 525 NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethion monoxon water, fltrd, ug/L (61644)
APR													
14...	<0.003	E0.004	<0.08	<0.009	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.004	<0.009	<0.03
JUL													
14...	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009	<.0020

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)	Lindane water, fltrd, ug/L (39341)
APR													
14...	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003	<0.004
JUL													
14...	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Malaoxon, water, fltrd, ug/L (61652)	Malathion, water, fltrd, ug/L (39532)	Metalaxyl, water, fltrd, ug/L (61596)	Methialthion water, fltrd, ug/L (61598)	c-Permethric acid methyl ester, wat flt ug/L (79842)	Methyl paraoxon, water, fltrd, ug/L (61664)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	t-Permethric acid methyl ester, wat flt ug/L (79843)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Myclobutanil water, fltrd, ug/L (61599)
APR													
14...	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.015	<0.03	E0.011	<0.006	<0.003	<0.008
JUL													
14...	<.035	<.030	<.027	.006	<.006	<.02	<.03	<.015	<.01	<.013	<.006	<.003	<.008

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Napropamide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr-phosphorothioate wat flt ug/L (61660)	Oxyfluorfen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Paraoxon, water, fltrd, ug/L (61663)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Phostebupirim water, fltrd, ug/L (61602)
APR													
14...	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008	<0.005
JUL													
14...	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008	<.005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Profenofos water, fltrd, ug/L (61603)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propetamphos, water, fltrd, ug/L (61604)	Simazine, water, fltrd, ug/L (04035)	Sulfotepp, water, fltrd, ug/L (61605)	Sulprofos, water, fltrd, ug/L (38716)	Tebupirimphos oxon, water, fltrd, ug/L (61669)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)
APR													
14...	<0.006	<0.01	<0.005	<0.004	<0.025	<0.011	<0.02	<0.004	0.845	<0.003	<0.02	<0.006	<0.02
JUL													
14...	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.024	<.003	<.02	<.006	<.02

03437990 CASEY CREEK AT KY 525 NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)	Di-chlor-vos, water fltrd, ug/L (38775)
APR													
14...	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.010	<0.01	<0.002	<0.004	<0.009	<0.05	<0.01
JUL													
14...	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05	<.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Sus-pended sedi-ment concen-tration mg/L (80154)
APR	
14...	53
JUL	
14...	2

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current water year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT												
16...	1420	Environmental	E76	763	9.4	7.7	475	18.4	196	239	<0.04	3.50
NOV												
13...	1250	Environmental	E47	777	9.7	7.8	504	13.5	--	243	<.04	2.54
13...	1258	Field Blank	--	--	--	--	--	--	--	--	--	--
FEB												
18...	1400	Environmental	296	771	14.2	8.0	385	9.1	166	202	<.04	4.48
MAR												
17...	1300	Environmental	195	768	13.5	8.5	431	12.2	174	203	<.04	3.67
17...	1310	Replicate	--	--	--	--	--	--	173	208	<.04	3.66
APR												
14...	1330	Environmental	E986	768	10.9	7.7	439	11.1	165	201	.04	3.83
28...	1150	Environmental	704	769	9.8	7.3	370	14.6	139	170	<.04	4.23
MAY												
05...	1440	Environmental	773	765	10.6	7.5	328	15.8	134	163	<.04	4.16
05...	1448	Field Blank	--	--	--	--	--	--	--	--	<.010	E0.009
JUN												
16...	1400	Environmental	E441	766	9.0	7.7	403	20.9	161	196	<.04	4.71
JUL												
14...	1240	Environmental	E165	765	8.3	7.7	372	23.5	152	185	<.04	3.45
28...	1050	Environmental	76	770	8.3	7.8	431	20.4	175	214	<.04	3.81
AUG												
11...	1250	Environmental	E160	766	8.4	7.8	416	20.2	178	218	<.04	3.81
SEP												
16...	1230	Environmental	65	763	7.2	7.4	390	20.3	154	188	<.04	3.29

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)	4,4-Di' chloro- benzo- phen- one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl- methyl sulfone water, fltrd, ug/L (61634)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH, water, fltrd, ug/L (34253)	alpha- HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha- HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)
OCT													
16...	<0.005	<0.003	<0.006	<0.03	<0.006	E0.003	<0.005	<0.005	85.3	103	0.249	<0.02	<0.200
NOV													
13...	<.005	<.003	<.006	<.03	<.006	<.005	<.005	<.005	90.4	88.7	.210	<.02	<.050
13...	<.005	<.003	<.006	<.03	<.006	<.005	<.005	<.005	94.6	94.6	<.007	<.02	<.050
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.005	<.003	<.006	<.03	.011	<.005	<.005	<.005	93.7	90.3	.465	<.02	<.050
17...	<.005	<.003	<.006	<.03	.011	<.005	<.005	<.005	90.5	86.9	.503	<.02	<.050
APR													
14...	<.005	<.003	<.006	<.03	.026	<.005	<.005	<.005	84.0	97.8	7.25	<.02	<.050
28...	<.005	<.003	<.006	<.03	.117	<.005	<.005	<.005	84.1	92.9	3.39	<.02	<.050
MAY													
05...	<.005	<.003	<.006	<.03	.054	<.005	<.005	<.005	85.6	99.4	2.87	<.02	<.050
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.005	<.003	--	<.01	.022	<.005	<.005	<.005	88.1	110	.602	<.02	<.050
JUL													
14...	<.004	<.007	<.006	<.01	.008	<.005	<.005	<.005	83.5	92.3	1.06	<.07	<.050
28...	<.004	<.007	<.006	<.01	.011	<.005	<.005	<.005	80.6	91.0	.817	<.07	<.050
AUG													
11...	<.004	<.007	<.006	<.01	E.005	<.005	<.005	<.005	79.3	88.8	.164	<.07	<.050
SEP													
16...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	85.7	98.3	.174	<.07	<.050

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	beta- Endo- sulfan, water, fltrd, ug/L (34357)	Bifen- thrin, water, fltrd, ug/L (61580)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	lambda- Cyhalo- thrin, water, fltrd, ug/L (61595)
OCT													
16...	<0.010	<0.01	<0.005	<0.002	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009
NOV													
13...	<.010	<.01	<.005	<.004	E.013	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
13...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
17...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
APR													
14...	<.010	<.01	<.005	<.007	E.005	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
28...	<.010	<.01	<.005	<.004	E.007	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAY													
05...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
JUL													
14...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
28...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
AUG													
11...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
SEP													
16...	<.010	<.01	<.041	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Cyper- methrin water, fltrd, ug/L (61586)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Dicro- tophos, water fltrd, ug/L (38454)	Diel- drin, water, fltrd, ug/L (39381)	Dimeth- oate, water, fltrd 0.7u GF ug/L (82662)	Disulf- oton sulfone water, fltrd, ug/L (61640)	Disulf- oton sulf- oxide, water, fltrd, ug/L (61641)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	(E)-Di- metho- morph, water, fltrd, ug/L (79844)	Endo- sulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)
OCT													
16...	<0.009	<0.003	E0.004	<0.08	<0.005	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.002	<0.009
NOV													
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
17...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
APR													
14...	<.009	<.003	E.004	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	E.002	<.009
28...	<.009	<.003	<.005	<.08	<.009	<.006	E.01	<.002	<.02	<.02	<.004	E.002	<.009
MAY													
05...	<.009	<.003	<.005	<.08	<.009	<.006	E.01	<.002	<.02	<.02	<.004	<.004	<.009
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
JUL													
14...	<.009	<.003	.010	<.08	E.003	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
28...	<.009	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
AUG													
11...	<.009	<.003	<.005	<.08	E.004	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
SEP													
16...	<.009	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion monoxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fenami-phos sulfone water, fltrd, ug/L (61645)	Fenami-phos sulf-oxide, water, fltrd, ug/L (61646)	Fenami-phos, water, fltrd, ug/L (61591)	Fen-thion sulf-oxide, water, fltrd, ug/L (61647)	Flume-tralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexa-zinone, water, fltrd, ug/L (04025)	Ipro-dione, water, fltrd, ug/L (61593)	Isofen-phos, water, fltrd, ug/L (61594)
OCT													
16...	<0.03	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003
NOV													
13...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
13...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
17...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
APR													
14...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
28...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAY													
05...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUL													
14...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003
28...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
AUG													
11...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
SEP													
16...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-oxon, water, fltrd, ug/L (61652)	Mala-thion, water, fltrd, ug/L (39532)	Meta-laxyl, water, fltrd, ug/L (61596)	Methi-althion water, fltrd, ug/L (61598)	c-Per-methric acid methyl ester, wat flt ug/L (79842)	Methyl para-oxon, water, fltrd, ug/L (61664)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	t-Per-methric acid methyl ester, wat flt ug/L (79843)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)
OCT													
16...	<0.004	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.006	<0.03	E0.013	<0.006	<0.002
NOV													
13...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.014	<.006	<.003
13...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	<.013	<.006	<.003
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	E.010	<.006	<.003
17...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	E.010	<.006	<.003
APR													
14...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.025	<.006	<.003
28...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.031	<.006	<.003
MAY													
05...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.052	<.006	<.003
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.004	<.035	<.008	<.027	.052	<.006	<.04	<.03	<.015	<.03	.053	.029	<.003
JUL													
14...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.014	<.006	<.003
28...	<.004	<.035	<.030	<.027	.013	<.006	<.02	<.03	<.015	<.01	.156	<.006	<.003
AUG													
11...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.018	<.006	<.003
SEP													
16...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.013	<.006	<.003

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Myclo-butanil water, fltrd, ug/L (61599)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phos-phoro-thioate wat flt ug/L (61660)	Oxy-fluor-fen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-oxon, water, fltrd, ug/L (61663)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)
OCT													
16...	<0.008	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008
NOV													
13...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
13...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
17...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
APR													
14...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
28...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
MAY													
05...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.008	E.005	<.008	<.007	<.003	<.008	<.010	E.002	<.022	<.10	<.011	<.06	<.008
JUL													
14...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008
28...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008
AUG													
11...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
SEP													
16...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phoste-bupirim water, fltrd, ug/L (61602)	Pro-fenofos water, fltrd, ug/L (61603)	Prome-ton, water, fltrd, ug/L (04037)	Prome-tryn, water, fltrd, ug/L (04036)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propet-amphos, water, fltrd, ug/L (61604)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-tepp, water, fltrd, ug/L (61605)	Sulpro-fos, water, fltrd, ug/L (38716)	Tebu-pirim-phos oxon, water, fltrd, ug/L (61669)
OCT													
16...	<0.005	<0.006	E0.01	<0.005	<0.004	<0.010	<0.011	<0.02	<0.004	0.026	<0.003	<0.02	<0.006
NOV													
13...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.030	<.003	<.02	<.006
13...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	<.005	<.003	<.02	<.006
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.074	<.003	<.02	<.006
17...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.076	<.003	<.02	<.006
APR													
14...	<.005	<.006	.01	<.005	.007	<.025	<.011	<.02	<.004	1.75	<.003	<.02	<.006
28...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.429	<.003	<.02	<.006
MAY													
05...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.494	<.003	<.02	<.006
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.005	<.006	.06	<.005	<.004	<.025	<.011	<.02	<.004	.069	<.003	<.02	<.006
JUL													
14...	<.005	<.006	.02	<.005	<.004	<.025	<.011	<.02	<.004	.091	<.003	<.02	<.006
28...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.048	<.003	<.02	--
AUG													
11...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.028	<.003	<.02	<.006
SEP													
16...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.029	<.003	<.02	<.006

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)
OCT													
16...	<0.02	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.005	<0.01	<0.002	<0.004	<0.009	<0.05
NOV													
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
17...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
APR													
14...	M	<.008	<.3	<.034	<.07	<.02	M	<.010	<.01	<.002	<.004	<.009	<.05
28...	<.02	<.008	<.3	<.034	<.07	<.02	E.01	<.010	<.01	<.002	<.004	<.009	<.05
MAY													
05...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
JUL													
14...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
28...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
AUG													
11...	.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
SEP													
16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Di-chlor-vos, water fltrd, ug/L (38775)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT		
16...	<0.01	2
NOV		
13...	<.01	2
13...	<.01	--
FEB		
18...	--	3
MAR		
17...	<.01	3
17...	<.01	3
APR		
14...	<.01	152
28...	<.01	30
MAY		
05...	<.01	39
05...	--	--
JUN		
16...	<.01	27
JUL		
14...	<.01	16
28...	<.01	11
AUG		
11...	<.01	27
SEP		
16...	<.01	14

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03438024 MUDDY FORK NEAR HOPKINSVILLE, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°53'12", long 87°35'02", Christian County, Hydrologic Unit 05130205.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
APR												
13...	1540	Environmental	24	741	10.7	7.2	442	10.3	154	188	0.05	2.31
13...	1548	Field Blank	--	--	--	--	--	--	--	--	<.04	<0.06
JUL												
13...	1200	Environmental	3.1	750	5.8	6.9	470	17.6	207	252	<.04	4.97

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	1,4- Naphth- oquin- one, water, fltrd, ug/L (61611)	1-Naph- thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t- Butyl- phenoxy)cyclo- hexanol wat flt ug/L (61637)	2,5-Di- chloro- aniline water, fltrd, ug/L (61614)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	2Amino- N-iso- propyl- benz- amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6- methyl- aniline water, fltrd, ug/L (61620)	3-(Tri- fluoro- methyl) aniline water, fltrd, ug/L (61630)	3,4-Di- chloro- aniline water fltrd, ug/L (61625)	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)
APR													
13...	0.043	0.111	<0.05	<0.09	<0.01	<0.03	<0.006	<0.005	E0.230	<0.004	<0.01	<0.004	<0.005
13...	<.006	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	.027	.050	<.04	<.09	<.01	<.01	<.006	<.005	E.254	<.004	<.01	<.004	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	4,4-Di' chloro- benzo- phen- one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl- methyl sulfone water, fltrd, ug/L (61634)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH, water, fltrd, ug/L (34253)	alpha- HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha- HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)
APR													
13...	<0.003	<0.006	<0.03	0.073	0.010	<0.005	<0.005	82.0	94.1	0.806	<0.02	<0.050	<0.010
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.007	<.006	<.01	.009	<.005	<.005	<.005	80.3	91.3	.188	<.07	<.050	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	beta- Endo- sulfan, water, fltrd, ug/L (34357)	Bifen- thrin, water, fltrd, ug/L (61580)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	lambda- Cyhalo- thrin, water, fltrd, ug/L (61595)	Cyper- methrin water, fltrd, ug/L (61586)
APR													
13...	<0.01	<0.005	<0.004	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009	<0.009
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	E.004	<.018	<.005	<.009	<.009

03438024 MUDDY FORK NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethion monoxon water, fltrd, ug/L (61644)
APR													
13...	<0.003	<0.005	<0.08	<0.009	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.004	<0.009	<0.03
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.003	.019	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.020	<.009	<.0020

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)	Lindane water, fltrd, ug/L (39341)
APR													
13...	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003	0.016
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Malaoxon, water, fltrd, ug/L (61652)	Malathion, water, fltrd, ug/L (39532)	Metalaxyl, water, fltrd, ug/L (61596)	Methialthion water, fltrd, ug/L (61598)	c-Permethric acid methyl ester, wat flt ug/L (79842)	Methyl paraoxon, water, fltrd, ug/L (61664)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	t-Permethric acid methyl ester, wat flt ug/L (79843)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Myclobutanil water, fltrd, ug/L (61599)
APR													
13...	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.015	<0.03	0.019	<0.006	<0.003	<0.008
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	E.009	<.006	<.003	<.008

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Napropamide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr-phosphorothioate wat flt ug/L (61660)	Oxyfluorfen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Paraoxon, water, fltrd, ug/L (61663)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Phostebupirim water, fltrd, ug/L (61602)
APR													
13...	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008	<0.005
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008	<.005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Profenofos water, fltrd, ug/L (61603)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propetamphos, water, fltrd, ug/L (61604)	Simazine, water, fltrd, ug/L (04035)	Sulfotepp, water, fltrd, ug/L (61605)	Sulprofos, water, fltrd, ug/L (38716)	Tebupirimphos oxon, water, fltrd, ug/L (61669)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)
APR													
13...	<0.006	0.03	<0.005	<0.004	<0.025	<0.011	<0.02	<0.004	0.676	<0.003	<0.02	<0.006	<0.02
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.051	<.003	<.02	<.006	<.02

03438024 MUDDY FORK NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)	Di-chlor-vos, water fltrd, ug/L (38775)
APR													
13...	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.010	<0.01	<0.002	<0.004	<0.009	<0.05	<0.01
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	<.008	<.3	<.034	<.07	<.02	<.01	<.010	E.01	<.002	<.004	<.009	<.05	<.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Sus-pended sedi-ment concen-tration mg/L (80154)
APR	
13...	42
13...	--
JUL	
13...	50

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03438028 SINKING FORK NEAR HOPKINSVILLE, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°52'01", long 87°36'28", Christian County, Hydrologic Unit 05130205.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
APR												
13...	1720	Environmental	593	740	12.4	7.2	207	7.0	71	86	<0.04	1.30
JUL												
13...	1320	Environmental	6.5	750	5.9	7.2	338	22.7	141	172	<.04	2.79

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	1,4-Naphthoquinone, water, fltrd, ug/L (61611)	1-Naphthol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t-Butylphenoxy)cyclohexanol wat flt ug/L (61637)	2,5-Dichloroaniline water, fltrd, ug/L (61614)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	2Amino-N-isopropylbenzamide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl-6-methylaniline water, fltrd, ug/L (61620)	3-(Trifluoromethyl)aniline water, fltrd, ug/L (61630)	3,4-Dichloroaniline water fltrd, ug/L (61625)	3,5-Dichloroaniline water, fltrd, ug/L (61627)
APR													
13...	0.029	0.27	<0.05	<0.09	<0.01	<0.03	<0.006	<0.005	E0.456	<0.004	<0.01	<0.004	<0.005
JUL													
13...	.044	.119	<.04	E.01	<.01	<.01	<.006	<.005	E.170	<.004	<.01	<.004	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	4,4-Di' chlorobenzophenone, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenylmethyl sulfone water, fltrd, ug/L (61634)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-Endosulfan, water, fltrd, ug/L (34362)	alpha-HCH, water, fltrd, ug/L (34253)	alpha-HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl oxon, water, fltrd, ug/L (61635)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)
APR													
13...	<0.003	<0.006	<0.03	0.832	<0.005	<0.005	<0.005	85.9	98.1	18.1	<0.02	<0.050	<0.010
JUL													
13...	<.007	<.006	<.01	<.006	<.005	<.005	<.005	84.1	96.4	0.136	<.07	<.050	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	beta-Endosulfan, water, fltrd, ug/L (34357)	Bifenthrin, water, fltrd, ug/L (61580)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos oxon, water, fltrd, ug/L (61636)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	cis-Propiconazole, water, fltrd, ug/L (79846)	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	lambda-Cyhalothrin, water, fltrd, ug/L (61595)	Cypermethrin water, fltrd, ug/L (61586)
APR													
13...	<0.01	<0.005	<0.004	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009	<0.009
JUL													
13...	<.01	<.005	<.004	E.052	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009	<.009

03438028 SINKING FORK NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Dicro-tophos, water fltrd, ug/L (38454)	Diel-drin, water, fltrd, ug/L (39381)	Dimeth-oate, water, fltrd 0.7u GF ug/L (82662)	Disulf-oton sulfone water, fltrd, ug/L (61640)	Disulf-oton sulf-oxide, water, fltrd, ug/L (61641)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	(E)-Di-metho-morph, water, fltrd, ug/L (79844)	Endo-sulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Ethion monoxon water, fltrd, ug/L (61644)
APR													
13...	<0.003	<0.005	<0.08	<0.009	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.004	<0.009	<0.03
JUL													
13...	<.003	E.004	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.000	<.009	<.0020

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion, water, fltrd, ug/L (82346)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fenami-phos sulfone water, fltrd, ug/L (61645)	Fenami-phos sulf-oxide, water, fltrd, ug/L (61646)	Fenami-phos, water, fltrd, ug/L (61591)	Fen-thion sulf-oxide, water, fltrd, ug/L (61647)	Flume-tralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexa-zinone, water, fltrd, ug/L (04025)	Ipro-dione, water, fltrd, ug/L (61593)	Isofen-phos, water, fltrd, ug/L (61594)	Lindane water, fltrd, ug/L (39341)
APR													
13...	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003	<0.004
JUL													
13...	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-oxon, water, fltrd, ug/L (61652)	Mala-thion, water, fltrd, ug/L (39532)	Meta-laxyl, water, fltrd, ug/L (61596)	Methi-althion water, fltrd, ug/L (61598)	c-Per-methric acid methyl ester, wat flt ug/L (79842)	Methyl para-oxon, water, fltrd, ug/L (61664)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	t-Per-methric acid methyl ester, wat flt ug/L (79843)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Myclo-butanil water, fltrd, ug/L (61599)
APR													
13...	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.015	<0.03	0.031	<0.010	<0.003	<0.008
JUL													
13...	<.035	<.030	<.027	.025	<.006	<.02	<.03	<.015	<.01	E.008	<.006	<.003	<.008

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phos-phoro-thioate wat flt ug/L (61660)	Oxy-fluor-fen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-oxon, water, fltrd, ug/L (61663)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Phoste-bupirim water, fltrd, ug/L (61602)
APR													
13...	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	0.121	<0.10	<0.011	<0.06	<0.008	<0.005
JUL													
13...	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008	<.005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Pro-fenofos water, fltrd, ug/L (61603)	Prome-ton, water, fltrd, ug/L (04037)	Prome-tryn, water, fltrd, ug/L (04036)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propet-amphos, water, fltrd, ug/L (61604)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-tepp, water, fltrd, ug/L (61605)	Sulpro-fos, water, fltrd, ug/L (38716)	Tebu-pirim-phos oxon, water, fltrd, ug/L (61669)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)
APR													
13...	<0.006	0.03	<0.005	<0.004	<0.025	<0.011	<0.02	<0.004	2.44	<0.003	<0.02	<0.006	<0.02
JUL													
13...	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	0.031	<.003	<.02	<.006	<.02

03438028 SINKING FORK NEAR HOPKINSVILLE, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)	Di-chlor-vos, water fltrd, ug/L (38775)
APR													
13...	.008	.3	.034	.07	.02	<0.01	<0.010	<0.01	<0.002	<0.004	<0.009	<0.05	<0.01
JUL													
13...	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	.010	<.05	<.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Sus-pended sedi-ment concen-tration mg/L (80154)
APR	
13...	271
JUL	
13...	40

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°50'26", long 87°44'27", Christian County, Hydrologic Unit 05130205.

DRAINAGE AREA.--107 mi^2.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT												
16...	1620	Environmental	7.7	763	8.3	7.6	467	19.0	208	254	<0.04	4.21
NOV												
13...	1440	Environmental	E8.7	777	8.4	7.6	458	13.0	210	256	<.04	3.58
13...	1450	Replicate	--	--	--	--	--	--	207	253	<.04	3.64
FEB												
18...	1600	Environmental	E125	769	12.9	7.8	403	10.3	164	201	<.04	5.62
MAR												
17...	1440	Environmental	90	768	13.2	8.4	411	12.5	174	212	<.04	4.91
APR												
13...	1300	Environmental	E90	761	10.3	7.7	408	12.1	171	209	<.04	4.77
28...	1330	Environmental	125	769	10.1	7.3	360	14.4	149	182	<.04	5.51
MAY												
05...	1210	Environmental	E358	768	9.9	7.3	355	14.5	146	179	<.04	5.16
JUN												
16...	1220	Environmental	E795	767	7.9	7.4	368	19.3	150	183	<.04	4.63
JUL												
13...	1220	Environmental	E175	767	8.0	7.5	383	21.6	136	166	<.04	4.26
28...	1210	Environmental	50	769	--	7.7	423	18.1	176	215	<.04	5.24
AUG												
11...	1130	Environmental	E100	767	8.2	7.5	410	18.5	--	--	<.04	4.23
SEP												
16...	1400	Environmental	E50	764	7.6	7.5	469	19.9	200	244	<.04	3.74

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	1,4-Naphth-oquin-one, water, fltrd, ug/L (61611)	1-Naph-thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t-Butyl-phenoxy)cyclo-hexanol wat flt ug/L (61637)	2,5-Di-chloro-aniline water, fltrd, ug/L (61614)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	2-[(2-Et-6-Me -Ph)- -amino] propan-1-ol, ug/L (61615)	2Amino-N-iso-propyl-benz-amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6-methyl-aniline water, fltrd, ug/L (61620)	3-(Tri-fluoro-methyl) aniline water, fltrd, ug/L (61630)	3,4-Di-chloro-aniline water fltrd, ug/L (61625)
OCT													
16...	0.047	0.066	<0.05	--	<0.01	<0.03	<0.006	<0.1	<0.005	E0.246	<0.004	<0.01	<0.004
NOV													
13...	.040	.062	<.05	<0.09	<.01	<.03	<.006	<.1	<.005	E.110	<.004	<.01	<.004
13...	.040	.066	<.05	<.09	<.01	<.03	<.006	<.1	<.005	E.309	<.004	<.01	<.004
FEB													
18...	.019	.036	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	.008	.027	<.05	<.09	<.01	<.03	<.006	--	<.005	E.200	<.004	<.01	<.004
APR													
13...	.014	.040	<.05	<.09	<.01	<.03	<.006	--	<.005	E.158	<.004	<.01	<.004
28...	.031	.079	<.05	<.09	<.01	<.03	<.006	--	<.005	E.431	<.004	<.01	<.004
MAY													
05...	.027	.062	<.05	<.09	<.01	<.03	<.006	--	<.005	E.458	<.004	<.01	<.004
JUN													
16...	.054	.58	<.05	<.09	--	<.03	<.006	--	<.005	E.290	<.004	<.01	<.004
JUL													
13...	.060	.108	<.04	<.09	<.01	<.01	<.006	--	<.005	E.211	<.004	<.01	<.004
28...	.035	.057	<.04	--	<.01	<.01	<.006	--	<.005	E.188	<.004	<.01	.010
AUG													
11...	.054	.085	<.04	--	<.01	<.01	<.006	--	<.005	E.199	<.004	<.01	<.004
SEP													
16...	.036	.053	<.04	<.09	<.01	<.01	<.006	--	<.005	E.182	<.004	<.01	<.004

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,5-Di-chloro-aniline water, fltrd, ug/L (61627)	4,4-Di' chloro-benzo-phen-one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl-methyl sulfone water, fltrd, ug/L (61634)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-Endo-sulfan, water, fltrd, ug/L (34362)	alpha-HCH, water, fltrd, ug/L (34253)	alpha-HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl oxon, water, fltrd, ug/L (61635)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)
OCT													
16...	<0.005	<0.003	<0.006	<0.03	<0.006	<0.004	<0.005	<0.005	90.5	98.2	0.089	<0.02	<0.050
NOV													
13...	<.005	<.003	<.006	<.03	E.005	<.005	<.005	<.005	85.8	91.2	.092	<.02	<.050
13...	<.005	<.003	<.006	<.03	<.007	<.005	<.005	<.005	92.9	103	.093	<.02	<.050
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.005	<.003	<.006	<.03	E.005	<.005	<.005	<.005	85.2	75.7	.885	<.02	<.050
APR													
13...	<.005	<.003	<.006	<.03	.018	<.005	<.005	<.005	80.0	94.2	.424	<.02	<.050
28...	<.005	<.003	<.006	<.03	.177	.006	<.005	<.005	82.4	93.1	3.98	<.02	<.050
MAY													
05...	<.005	<.003	<.006	<.03	.067	<.006	<.005	<.005	86.0	99.1	1.52	<.02	<.050
JUN													
16...	<.005	<.003	--	<.01	<.009	<.005	<.005	<.005	93.3	114	.887	<.02	<.050
JUL													
13...	<.004	<.007	<.006	<.01	.008	<.005	<.005	<.005	71.5	85.2	.218	<.07	<.050
28...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	88.4	99.1	.516	<.07	<.050
AUG													
11...	<.004	<.007	<.006	<.01	E.006	<.005	<.005	<.005	79.9	88.0	.156	<.07	<.050
SEP													
16...	<.004	<.007	<.006	<.01	<.006	<.005	<.005	<.005	81.5	92.2	.088	<.07	<.050

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	beta-Endo-sulfan, water, fltrd, ug/L (34357)	Bifen-thrin, water, fltrd, ug/L (61580)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos oxon, water, fltrd, ug/L (61636)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	cis-Propi-cona-zole, water, fltrd, ug/L (79846)	Cyana-zine, water, fltrd, ug/L (04041)	Cyclo-ate, water, fltrd, ug/L (04031)	lambda-Cyhalo-thrin, water, fltrd, ug/L (61595)
OCT													
16...	<0.010	<0.01	<0.005	<0.002	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009
NOV													
13...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
13...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
APR													
13...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
28...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
MAY													
05...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	E.002	<.018	<.005	<.009
JUN													
16...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
JUL													
13...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
28...	<.010	<.01	<.005	<.004	E.030	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
AUG													
11...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009
SEP													
16...	<.010	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Cypermethrin water, fltrd, ug/L (61586)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)
OCT													
16...	<0.009	<0.003	<0.005	<0.08	<0.005	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.002	<0.009
NOV													
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
APR													
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
28...	<.009	<.003	<.005	<.08	<.009	<.006	E.01	<.002	<.02	<.02	<.004	<.004	<.009
MAY													
05...	<.009	<.003	<.005	<.08	<.009	<.006	E.01	<.002	<.02	<.02	<.004	<.004	<.009
JUN													
16...	<.009	<.003	<.005	<.08	<.009	<.006	<.02	<.002	<.02	<.02	<.004	<.004	<.009
JUL													
13...	<.009	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
28...	<.009	<.003	.056	<.08	E.007	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
AUG													
11...	<.009	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009
SEP													
16...	<.009	<.003	<.005	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion monoxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)
OCT													
16...	<0.03	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003
NOV													
13...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
13...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
APR													
13...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
28...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
MAY													
05...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUN													
16...	<.03	<.004	<.005	<.008	<.03	<.03	<.008	<.004	<.002	<.003	<.013	<1	<.003
JUL													
13...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003
28...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
AUG													
11...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003
SEP													
16...	<.0020	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<.387	<.003

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-oxon, water, fltrd, ug/L (61652)	Mala-thion, water, fltrd, ug/L (39532)	Meta-laxyl, water, fltrd, ug/L (61596)	Methi-althion water, fltrd, ug/L (61598)	c-Per-methric acid methyl ester, wat flt ug/L (79842)	Methyl para-oxon, water, fltrd, ug/L (61664)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	t-Per-methric acid methyl ester, wat flt ug/L (79843)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)
OCT													
16...	<0.004	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.006	<0.03	0.074	<0.006	<0.002
NOV													
13...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.062	<.006	<.003
13...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.068	<.006	<.003
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.018	<.006	<.003
APR													
13...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.032	<.006	<.003
28...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.062	<.006	<.003
MAY													
05...	<.004	<.035	<.008	<.027	<.005	<.006	<.04	<.03	<.015	<.03	.057	<.006	<.003
JUN													
16...	<.004	<.035	<.008	<.027	.010	<.006	<.04	<.03	<.015	<.03	.019	<.006	<.003
JUL													
13...	<.004	<.035	<.030	<.027	.009	<.006	<.02	<.03	<.015	<.01	.255	<.006	<.003
28...	<.004	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.019	<.006	<.003
AUG													
11...	<.004	<.035	<.030	<.027	.010	<.006	<.02	<.03	<.015	<.01	.097	<.006	<.003
SEP													
16...	<.004	<.035	<.030	<.027	.025	<.006	<.02	<.03	<.015	<.01	.094	<.006	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Myclo-butanil water, fltrd, ug/L (61599)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr -phos-phoro-thioate wat flt ug/L (61660)	Oxy-fluor-fen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-oxon, water, fltrd, ug/L (61663)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)
OCT													
16...	<0.008	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008
NOV													
13...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
13...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	--	--
APR													
13...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
28...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	E.008	<.10	<.011	<.06	<.008
MAY													
05...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	E.008	<.10	<.011	<.06	<.008
JUN													
16...	<.008	<.007	<.008	<.007	<.003	<.008	<.010	<.004	<.022	<.10	<.011	<.06	<.008
JUL													
13...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008
28...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
AUG													
11...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	<.008
SEP													
16...	<.008	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	--	--

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phostebupirim water, fltrd, ug/L (61602)	Profenofos water, fltrd, ug/L (61603)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propetamphos, water, fltrd, ug/L (61604)	Simazine, water, fltrd, ug/L (04035)	Sulfotepp, water, fltrd, ug/L (61605)	Sulprofos, water, fltrd, ug/L (38716)	Tebupirimphos oxon, water, fltrd, ug/L (61669)
OCT													
16...	<0.005	<0.006	<0.01	<0.005	<0.004	<0.010	<0.011	<0.02	<0.004	0.034	<0.003	<0.02	<0.006
NOV													
13...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.041	<.003	<.02	<.006
13...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.046	<.003	<.02	<.006
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.323	<.003	<.02	<.006
APR													
13...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.104	<.003	<.02	<.006
28...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	1.26	<.003	<.02	<.006
MAY													
05...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.477	<.003	<.02	<.006
JUN													
16...	<.005	<.006	M	<.005	<.004	<.025	<.011	<.02	<.004	.085	<.003	<.02	<.006
JUL													
13...	<.005	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.047	<.003	<.02	<.006
28...	<.005	<.006	.02	<.005	<.010	<.025	<.011	<.02	<.004	.057	<.003	<.02	<.006
AUG													
11...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.035	<.003	<.02	<.006
SEP													
16...	<.005	<.006	<.01	<.005	<.004	<.025	<.011	<.02	<.004	.028	<.003	<.02	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Tefluthrin, water, fltrd, ug/L (61606)	Temephos, water, fltrd, ug/L (61607)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos oxon sulfone water, fltrd, ug/L (61674)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Terbuthylazine, water, fltrd, ug/L (04022)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	trans-Propiconazole, water, fltrd, ug/L (79847)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Tributhos, water, fltrd, ug/L (61610)	Triflur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Dimethomorph, water, fltrd, ug/L (79845)
OCT													
16...	<0.02	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.005	<0.01	<0.002	<0.004	<0.009	<0.05
NOV													
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
APR													
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
28...	<.02	<.008	<.3	<.034	<.07	<.02	E.01	<.010	<.01	<.002	<.004	<.009	<.05
MAY													
05...	<.02	<.008	<.3	<.034	<.07	<.02	E.01	<.010	M	<.002	<.004	<.009	<.05
JUN													
16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
JUL													
13...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
28...	E.01	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
AUG													
11...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05
SEP													
16...	<.02	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05

03438040 SINKING CREEK AT KINGS CHAPEL ROAD NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Di- chlor- vos, water fltrd, ug/L (38775)	Sus- pended sedi- ment concen- tration mg/L (80154)
OCT		
16...	<0.01	2
NOV		
13...	<.01	1
13...	<.01	1
FEB		
18...	--	7
MAR		
17...	<.01	5
APR		
13...	<.01	11
28...	<.01	50
MAY		
05...	<.01	29
JUN		
16...	<.01	673
JUL		
13...	<.01	18
28...	<.01	10
AUG		
11...	<.01	14
SEP		
16...	<.01	2

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03438080 LITTLE RIVER AT CRUTE ROAD BRIDGE NEAR CADIZ, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 36°50'35", long 87°47'07", Trigg County, Hydrologic Unit 05130205.

DRAINAGE AREA.--400 mi^2.

PERIOD OF RECORD.--March 2003 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
APR												
13...	1150	Environmental	E99	761	9.8	7.6	408	11.3	164	200	0.06	3.26
JUL												
13...	1050	Environmental	E125	767	8.6	7.3	350	19.9	154	188	E.02	3.73

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	1,4- Naphth- oquin- one, water, fltrd, ug/L (61611)	1-Naph- thol, water, fltrd 0.7u GF ug/L (49295)	2-(4-t- Butyl- phenoxy)cyclo- hexanol wat flt ug/L (61637)	2,5-Di- chloro- aniline water, fltrd, ug/L (61614)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	2Amino- N-iso- propyl- benz- amide, wat flt ug/L (61617)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6- methyl- aniline water, fltrd, ug/L (61620)	3-(Tri- fluoro- methyl) aniline water, fltrd, ug/L (61630)	3,4-Di- chloro- aniline water fltrd, ug/L (61625)	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)
APR													
13...	0.047	0.083	<0.05	<0.09	<0.01	<0.03	<0.006	<0.005	E0.205	<0.004	<0.01	<0.004	<0.005
JUL													
13...	.106	.165	<.04	<.09	<.01	<.01	<.006	<.005	E.231	<.004	<.01	.005	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	4,4-Di' chloro- benzo- phen- one, wat flt ug/L (61631)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	4Chloro phenyl- methyl sulfone water, fltrd, ug/L (61634)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH, water, fltrd, ug/L (34253)	alpha- HCH-d6, sur2002 /9002, wat unf percent recovry (99224)	alpha- HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)
APR													
13...	<0.003	<0.006	<0.03	0.019	<0.005	<0.005	<0.005	82.3	98.5	0.485	<0.02	<0.050	<0.010
JUL													
13...	<.007	<.006	<.01	<.006	<.005	<.005	<.005	84.0	91.6	.480	<.07	<.050	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	beta- Endo- sulfan, water, fltrd, ug/L (34357)	Bifen- thrin, water, fltrd, ug/L (61580)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	lambda- Cyhalo- thrin, water, fltrd, ug/L (61595)	Cyper- methrin water, fltrd, ug/L (61586)
APR													
13...	<0.01	<0.005	<0.004	<0.041	<0.020	<0.06	<0.005	<0.006	<0.008	<0.018	<0.005	<0.009	<0.009
JUL													
13...	<.01	<.005	<.004	<.041	<.020	<.06	<.005	<.006	<.008	<.018	<.005	<.009	<.009

03438080 LITTLE RIVER AT CRUTE ROAD BRIDGE NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicrotophos, water fltrd, ug/L (38454)	Dieldrin, water, fltrd, ug/L (39381)	Dimethoate, water, fltrd 0.7u GF ug/L (82662)	Disulfoton sulfone water, fltrd, ug/L (61640)	Disulfoton sulfoxide, water, fltrd, ug/L (61641)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	(E)-Dimethomorph, water, fltrd, ug/L (79844)	Endosulfan ether, water, fltrd, ug/L (61642)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethion monoxon water, fltrd, ug/L (61644)
APR													
13...	<0.003	E0.004	<0.08	<0.009	<0.006	<0.02	<0.002	<0.02	<0.02	<0.004	<0.004	<0.009	<0.03
JUL													
13...	<.003	E.004	<.08	<.009	<.006	<.01	<.036	<.02	<.02	<.007	<.004	<.009	<.0020

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethion, water, fltrd, ug/L (82346)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenamiphos sulfone water, fltrd, ug/L (61645)	Fenamiphos sulfoxide, water, fltrd, ug/L (61646)	Fenamiphos, water, fltrd, ug/L (61591)	Fenthion sulfoxide, water, fltrd, ug/L (61647)	Flumetralin, water, fltrd, ug/L (61592)	Fonofos oxon, water, fltrd, ug/L (61649)	Fonofos water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)	Lindane water, fltrd, ug/L (39341)
APR													
13...	<0.004	<0.005	<0.008	<0.03	<0.03	<0.008	<0.004	<0.002	<0.003	<0.013	<1	<0.003	<0.004
JUL													
13...	<.004	<.005	<.049	<.04	<.03	<.008	<.004	<.003	<.003	<.013	<0.387	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Malaoxon, water, fltrd, ug/L (61652)	Malathion, water, fltrd, ug/L (39532)	Metalaxyl, water, fltrd, ug/L (61596)	Methialthion water, fltrd, ug/L (61598)	c-Permethric acid methyl ester, wat flt ug/L (79842)	Methyl paraoxon, water, fltrd, ug/L (61664)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	t-Permethric acid methyl ester, wat flt ug/L (79843)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Myclobutanil water, fltrd, ug/L (61599)
APR													
13...	<0.035	<0.008	<0.027	<0.005	<0.006	<0.04	<0.03	<0.015	<0.03	0.015	<0.006	<0.003	<0.008
JUL													
13...	<.035	<.030	<.027	<.005	<.006	<.02	<.03	<.015	<.01	.014	<.006	<.003	<.008

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Napropamide, water, fltrd 0.7u GF ug/L (82684)	O-Et-O-Me-S-Pr-phosphorothioate wat flt ug/L (61660)	Oxyfluorfen, water, fltrd, ug/L (61600)	p,p'-DDE, water, fltrd, ug/L (34653)	Paraoxon, water, fltrd, ug/L (61663)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Phostebupirim water, fltrd, ug/L (61602)
APR													
13...	<0.007	<0.008	<0.007	<0.003	<0.008	<0.010	<0.004	<0.022	<0.10	<0.011	<0.06	<0.008	<0.005
JUL													
13...	<.007	<.005	<.007	<.003	<.016	<.010	<.004	<.022	<.10	<.011	<.05	<.008	<.005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Profenofos water, fltrd, ug/L (61603)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propetamphos, water, fltrd, ug/L (61604)	Simazine, water, fltrd, ug/L (04035)	Sulfotepp, water, fltrd, ug/L (61605)	Sulprofos, water, fltrd, ug/L (38716)	Tebupirimphos oxon, water, fltrd, ug/L (61669)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)
APR													
13...	<0.006	0.01	<0.005	<0.004	<0.025	<0.011	<0.02	<0.004	0.279	<0.003	<0.02	<0.006	<0.02
JUL													
13...	<.006	.01	<.005	<.004	<.025	<.011	<.02	<.004	.056	<.003	<.02	<.006	<.02

03438080 LITTLE RIVER AT CRUTE ROAD BRIDGE NEAR CADIZ, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Teflu-thrin, water, fltrd, ug/L (61606)	Teme-phos, water, fltrd, ug/L (61607)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Ter-bufos oxon sulfone water, fltrd, ug/L (61674)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Ter-buthyl-azine, water, fltrd, ug/L (04022)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	trans-Propi-cona-zole, water, fltrd, ug/L (79847)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	(Z)-Di-metho-morph, water, fltrd, ug/L (79845)	Di-chlor-vos, water fltrd, ug/L (38775)
APR													
13...	<0.008	<0.3	<0.034	<0.07	<0.02	<0.01	<0.010	<0.01	<0.002	<0.004	<0.009	<0.05	<0.01
JUL													
13...	<.008	<.3	<.034	<.07	<.02	<.01	<.010	<.01	<.002	<.004	<.009	<.05	<.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Sus-pended sedi-ment concen-tration mg/L (80154)
APR	
13...	5
JUL	
13...	33

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03401000 CUMBERLAND RIVER NEAR HARLAN, KY

LOCATION.--Lat 36°50'48", long 83°21'21", Harlan County, Hydrologic Unit 05130101, on right downstream side of bridge on State Highway 840 at Loyall, 1.6 mi upstream from Fourmile Branch, 1.8 mi west of Harlan, 2.3 mi downstream from confluence of Poor and Clover Forks, and at mile 691.9.

DRAINAGE AREA.--374 mi^2.

PERIOD OF RECORD.--March 1940 to current year.

REVISED RECORDS.--WSP 953: 1940(M). WSP 1173: 1947(M).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 1,139.10 ft above NGVD of 1929. Prior to Aug. 28, 1984, datum of gage 1.00 ft higher. Prior to Nov. 4, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except fot those estimatted, which are poor. Flow slightly regulated by Martins Fork Dam (station 03400798) beginning January 1979.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	318	7,360	490	1,030	1,360	1,240	2,940	218	143	226	104
2	214	317	2,900	460	921	1,120	3,600	1,850	254	160	178	85
3	211	292	1,760	443	909	1,000	4,090	1,640	237	140	163	79
4	189	2,480	1,370	508	826	908	2,280	1,330	212	129	155	74
5	178	2,120	1,160	512	703	995	1,820	962	191	139	151	71
6	166	1,270	1,440	548	667	1,080	1,500	867	182	174	183	68
7	219	998	2,990	510	633	1,040	1,320	691	205	753	176	65
8	222	843	2,500	1,190	638	1,350	1,160	632	218	1,170	170	69
9	216	703	2,880	1,360	682	1,370	905	577	391	458	160	68
10	235	508	4,090	1,040	730	1,250	820	538	304	283	144	69
11	221	472	3,390	1,150	675	1,120	763	546	340	214	123	69
12	211	1,130	2,740	1,700	571	922	765	517	251	181	113	66
13	231	1,200	2,010	1,640	656	872	1,280	478	208	199	131	64
14	240	943	1,600	2,080	1,320	863	2,160	455	192	341	155	64
15	206	786	1,260	1,790	1,600	889	1,360	448	244	653	123	66
16	205	744	1,130	1,410	1,380	902	1,180	407	184	492	119	64
17	190	806	1,150	1,160	1,170	896	1,020	322	163	435	153	77
18	186	746	1,060	985	1,030	874	929	301	155	707	189	83
19	327	711	1,010	910	934	824	847	292	150	881	165	69
20	299	538	910	863	895	809	712	692	149	981	143	75
21	220	508	835	786	946	765	663	635	149	1,120	131	63
22	259	468	703	622	912	723	587	535	142	844	112	60
23	258	517	1,130	586	856	835	610	513	138	305	158	61
24	302	1,070	1,140	e530	767	824	671	424	132	231	155	60
25	292	1,530	942	e520	721	796	658	368	127	194	147	56
26	264	1,250	808	e488	672	713	662	333	124	173	151	73
27	208	1,120	715	e465	639	697	877	305	123	164	151	98
28	386	1,040	779	e434	960	1,840	815	283	134	176	153	76
29	420	883	743	629	---	2,320	1,110	264	157	257	155	83
30	430	1,070	706	1,170	---	1,840	3,060	248	167	164	110	92
31	371	---	534	1,110	---	1,460	---	230	---	160	106	---
TOTAL	7,799	27,381	53,745	28,089	24,443	33,257	39,464	20,623	5,841	12,421	4,649	2,171
MEAN	252	913	1,734	906	873	1,073	1,315	665	195	401	150	72.4
MAX	430	2,480	7,360	2,080	1,600	2,320	4,090	2,940	391	1,170	226	104
MIN	166	292	534	434	571	697	587	230	123	129	106	56
CFSM	0.67	2.44	4.64	2.42	2.33	2.87	3.52	1.78	0.52	1.07	0.40	0.19
IN.	0.78	2.72	5.35	2.79	2.43	3.31	3.93	2.05	0.58	1.24	0.46	0.22

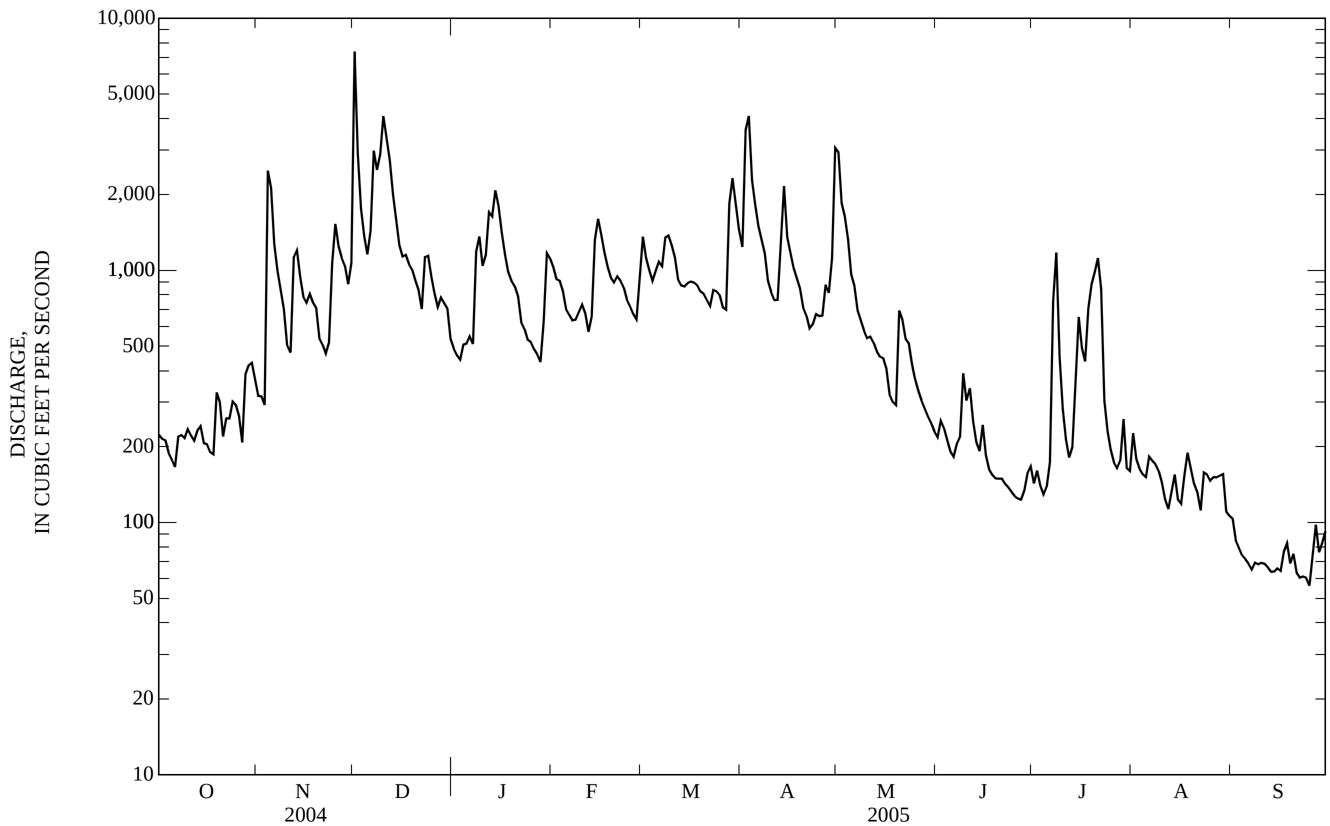
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	187	499	864	996	1,281	1,278	1,067	833	491	250	212	191
MAX	1,129	1,532	2,704	1,783	3,259	2,684	2,986	2,003	1,789	453	534	1,018
(WY)	(1990)	(1997)	(1992)	(1994)	(1994)	(1994)	(1998)	(1984)	(1989)	(1991)	(1996)	(2004)
MIN	30.0	51.1	88.9	63.5	554	334	211	330	96.1	57.3	52.7	38.3
(WY)	(1998)	(1999)	(1981)	(1981)	(1988)	(1988)	(1986)	(1982)	(1988)	(1988)	(1988)	(1999)

03401000 CUMBERLAND RIVER NEAR HARLAN, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	333,558		259,883			
ANNUAL MEAN	911		712		676	
HIGHEST ANNUAL MEAN					1,130	1994
LOWEST ANNUAL MEAN					333	1988
HIGHEST DAILY MEAN	9,380	Mar 6	7,360	Dec 1	21,300	Mar 18, 2002
LOWEST DAILY MEAN	80	Sep 6	56	Sep 25	16	Oct 9, 1997
ANNUAL SEVEN-DAY MINIMUM	93	Sep 1	63	Sep 19	17	Oct 4, 1997
MAXIMUM PEAK FLOW			11,000	Dec 1	64,500	Apr 5, 1977
MAXIMUM PEAK STAGE			11.76	Dec 1	30.20	Apr 5, 1977
ANNUAL RUNOFF (CFSM)	2.44		1.90		1.81	
ANNUAL RUNOFF (INCHES)	33.18		25.85		24.55	
10 PERCENT EXCEEDS	1,880		1,370		1,490	
50 PERCENT EXCEEDS	606		535		373	
90 PERCENT EXCEEDS	174		123		70	

e Estimated



03402000 YELLOW CREEK NEAR MIDDLESBORO, KY

LOCATION.--Lat 36°40'05", long 83°41'19", Bell County, Hydrologic Unit 05130101, on left bank 35 ft downstream from bridge on U.S. Highway 25E, 1.2 mi downstream from Browne Branch, 4.6 mi north of Middlesboro, and at mile 11.4.

DRAINAGE AREA.--60.6 mi^2. See WRD-KY-98-1 for history of changes.

PERIOD OF RECORD.--August 1940 to current year.

REVISED RECORDS.--WSP 953: 1941(M). WSP 973: 1942(M). WSP 1436: Drainage area. WRD KY 1969: 1965(M), 1967(M).

GAGE.--Water-stage recorder with telemetry and crest-stage gages. Datum of gage is 1,097.99 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to Sept. 30, 1973.

REMARKS.--Records good except for those estimated, which are fair. Occasional regulation from Fern Lake.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District and Kentucky Natural Resources and Enviromental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	0600	*2,870	*12.28	No other peak above base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	56	1,830	65	113	251	222	408	32	30	28	15
2	39	53	512	69	107	193	1,110	234	41	23	18	12
3	38	48	280	66	265	160	657	162	35	16	17	11
4	36	367	197	62	210	138	348	121	31	16	15	9.9
5	34	229	149	61	169	191	239	e96	29	24	17	9.6
6	33	132	187	79	136	150	181	e90	28	17	14	9.0
7	32	94	787	75	114	140	154	78	29	36	15	9.2
8	32	74	494	240	107	212	189	70	28	26	21	8.9
9	31	62	984	203	95	165	137	63	29	17	22	8.5
10	31	57	896	162	104	147	116	59	26	15	17	8.1
11	31	54	804	390	87	137	101	55	25	16	16	7.8
12	36	836	502	577	82	124	145	51	25	17	16	7.9
13	80	384	318	366	193	106	248	47	27	57	14	7.4
14	48	211	226	615	570	97	483	46	24	288	15	8.7
15	46	144	175	334	435	86	277	50	24	115	27	8.3
16	40	109	145	e248	277	99	193	42	22	48	20	9.0
17	37	92	123	e170	194	101	149	40	20	40	26	10
18	57	80	109	e140	149	92	122	39	19	98	56	9.1
19	141	72	99	117	125	91	104	43	19	88	33	8.4
20	70	73	84	107	177	88	89	237	18	73	20	6.9
21	55	66	81	97	273	85	79	90	18	46	17	8.2
22	47	58	76	88	257	82	77	62	18	e125	15	8.6
23	44	71	196	77	205	87	91	56	17	46	14	8.7
24	53	909	129	68	173	79	80	48	16	33	14	8.5
25	44	711	109	69	140	80	68	43	16	28	13	8.6
26	42	300	101	71	118	72	64	40	16	24	13	32
27	52	207	88	63	105	86	77	37	25	22	13	20
28	52	173	80	57	232	1,370	63	36	28	21	13	11
29	111	124	77	129	---	515	425	33	17	21	21	20
30	86	366	74	152	---	284	610	33	17	19	19	15
31	66	---	71	126	---	219	---	32	---	31	27	---
TOTAL	1,583	6,212	9,983	5,143	5,212	5,727	6,898	2,541	719	1,476	606	325.3
MEAN	51.1	207	322	166	186	185	230	82.0	24.0	47.6	19.5	10.8
MAX	141	909	1,830	615	570	1,370	1,110	408	41	288	56	32
MIN	31	48	71	57	82	72	63	32	16	15	13	6.9
CFSM	0.84	3.42	5.31	2.74	3.07	3.05	3.79	1.35	0.40	0.79	0.32	0.18
IN.	0.97	3.81	6.13	3.16	3.20	3.52	4.23	1.56	0.44	0.91	0.37	0.20

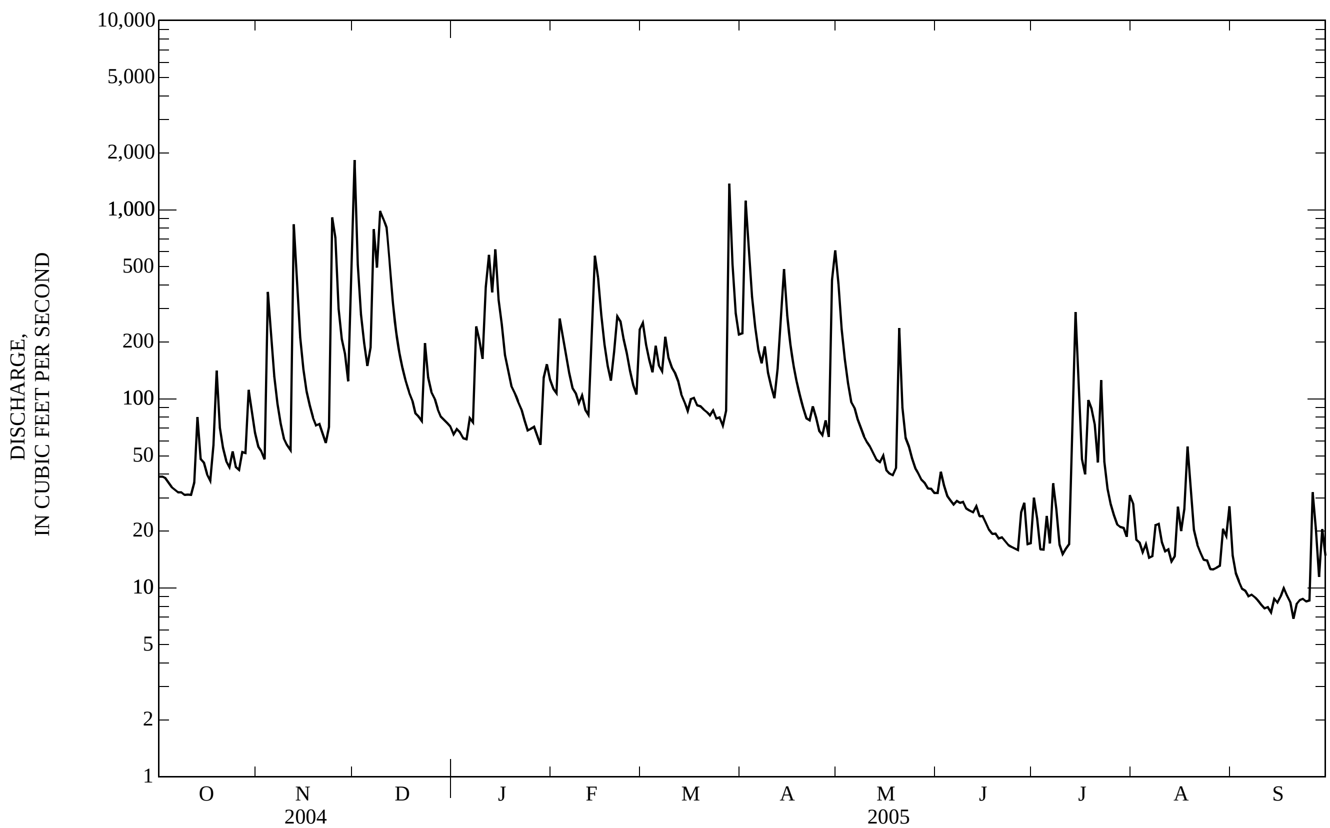
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.5	79.3	162	205	232	249	183	115	65.7	51.2	35.9	24.4
MAX	155	416	609	551	677	610	569	539	298	345	197	324
(WY)	(1978)	(1974)	(1991)	(1974)	(1991)	(1975)	(1998)	(1984)	(1989)	(1967)	(1942)	(2004)
MIN	3.05	5.35	7.34	14.4	14.9	47.6	34.9	17.2	13.8	4.26	6.00	3.02
(WY)	(1954)	(1941)	(1966)	(1981)	(1941)	(1988)	(1986)	(1941)	(1988)	(1944)	(1951)	(1954)

03402000 YELLOW CREEK NEAR MIDDLESBORO, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	57,849		46,425.3			
ANNUAL MEAN	158		127		118	
HIGHEST ANNUAL MEAN					219	1991
LOWEST ANNUAL MEAN					49.5	1941
HIGHEST DAILY MEAN	3,400	Sep 8	1,830	Dec 1	7,000	Apr 4, 1977
LOWEST DAILY MEAN	19	Jul 24	6.9	Sep 20	1.2	Oct 7, 1952
ANNUAL SEVEN-DAY MINIMUM	23	Jul 19	8.1	Sep 9	1.6	Sep 17, 1955
MAXIMUM PEAK FLOW			2,870	Dec 1	11,700	Apr 4, 1977
MAXIMUM PEAK STAGE			12.28	Dec 1	23.35	Apr 4, 1977
INSTANTANEOUS LOW FLOW					0.00	Sep 26, 1952
ANNUAL RUNOFF (CFSM)	2.61		2.10		1.95	
ANNUAL RUNOFF (INCHES)	35.51		28.50		26.54	
10 PERCENT EXCEEDS	277		277		250	
50 PERCENT EXCEEDS	73		69		46	
90 PERCENT EXCEEDS	30		15		7.8	

e Estimated



03402900 CUMBERLAND RIVER AT PINE STREET BRIDGE AT PINEVILLE, KY

LOCATION.--Lat 36°45'47", long 83°41'31", Bell County, Hydrologic Unit 05130101, on pier near right bank on Pine St. bridge at Pineville, 0.2 mi downstream from Straight Creek, and at mile 654.4.

DRAINAGE AREA.--770 mi^2.

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 970.00 ft above sea level, Sandy Hook datum.

REMARKS.--Records good. Flow slightly regulated by Martins Fork Dam (station 03400798) beginning January 1979.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

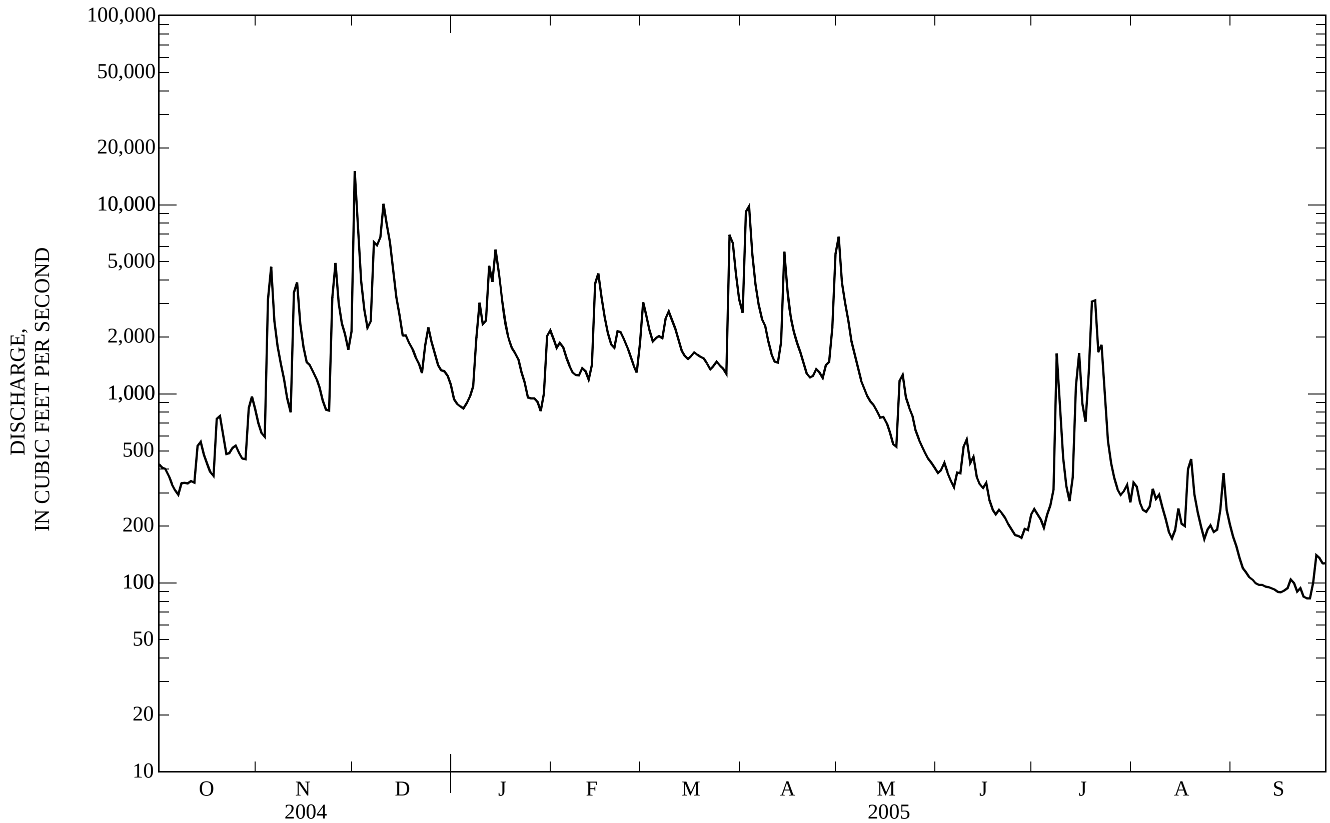
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	424	698	15,000	937	1,950	3,040	2,680	6,760	382	245	339	175
2	407	617	8,260	885	1,740	2,580	9,150	3,880	395	230	323	156
3	399	590	3,960	857	1,860	2,160	9,780	3,020	430	217	267	135
4	370	3,150	2,780	836	1,760	1,900	5,480	2,440	383	196	242	120
5	333	4,690	2,230	889	1,560	1,960	3,780	1,880	348	229	237	114
6	309	2,430	2,410	964	1,400	2,010	2,950	1,620	321	256	251	107
7	292	1,780	6,330	1,090	1,300	1,970	2,490	1,380	383	311	314	104
8	336	1,450	6,090	1,980	1,260	2,480	2,300	1,180	379	1,630	277	99
9	338	1,200	6,690	3,030	1,250	2,720	1,890	1,070	524	817	292	97
10	335	947	10,100	2,340	1,360	2,460	1,620	968	572	460	251	97
11	345	796	7,870	2,440	1,320	2,220	1,480	905	429	325	218	96
12	338	3,430	6,340	4,740	1,190	1,940	1,460	869	463	270	187	95
13	526	3,870	4,420	3,910	1,420	1,700	1,880	810	366	361	172	94
14	555	2,340	3,230	5,780	3,810	1,590	5,630	749	332	1,100	190	92
15	474	1,760	2,600	4,380	4,320	1,530	3,500	755	317	1,640	248	90
16	426	1,470	2,030	3,150	3,240	1,580	2,560	702	336	887	205	89
17	384	1,420	2,040	2,430	2,540	1,650	2,120	622	273	712	200	91
18	367	1,310	1,860	1,970	2,090	1,600	1,850	543	243	1,290	398	93
19	737	1,210	1,740	1,750	1,830	1,560	1,660	526	229	3,070	451	104
20	764	1,080	1,570	1,640	1,750	1,530	1,450	1,170	243	3,120	294	100
21	603	922	1,450	1,530	2,140	1,440	1,270	1,260	232	1,660	233	90
22	480	825	1,290	1,290	2,120	1,350	1,220	952	220	1,810	198	94
23	486	815	1,800	1,150	1,950	1,400	1,240	848	203	995	170	84
24	516	3,230	2,250	957	1,780	1,480	1,350	768	191	562	191	83
25	532	4,920	1,880	944	1,590	1,410	1,290	640	179	429	201	83
26	488	3,010	1,640	945	1,420	1,360	1,210	577	177	358	185	100
27	455	2,340	1,420	906	1,300	1,280	1,420	529	173	313	190	140
28	450	2,060	1,330	810	1,840	6,930	1,470	487	193	292	243	135
29	838	1,710	1,320	1,000	---	6,300	2,240	453	190	305	380	126
30	965	2,140	1,250	2,010	---	4,290	5,510	430	229	329	241	127
31	827	---	1,120	2,160	---	3,150	---	406	---	267	203	---
TOTAL	15,099	58,210	114,300	59,700	53,090	70,570	83,930	39,199	9,335	24,686	7,791	3,210
MEAN	487	1,940	3,687	1,926	1,896	2,276	2,798	1,264	311	796	251	107
MAX	965	4,920	15,000	5,780	4,320	6,930	9,780	6,760	572	3,120	451	175
MIN	292	590	1,120	810	1,190	1,280	1,210	406	173	196	170	83
CFSM	0.63	2.52	4.79	2.50	2.46	2.96	3.63	1.64	0.40	1.03	0.33	0.14
IN.	0.73	2.81	5.52	2.88	2.56	3.41	4.05	1.89	0.45	1.19	0.38	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	237	885	1,910	2,177	2,543	2,931	2,454	1,500	913	441	426	363
MAX	670	3,009	5,204	4,201	6,720	5,367	5,977	3,091	2,369	796	923	2,189
(WY)	(1997)	(1997)	(1992)	(1994)	(1994)	(1994)	(1998)	(1995)	(2003)	(2005)	(1996)	(2004)
MIN	87.4	104	342	640	964	1,285	817	796	245	176	107	59.7
(WY)	(1999)	(1999)	(2000)	(2000)	(2002)	(2003)	(1995)	(1993)	(2002)	(1993)	(1995)	(1999)

03402900 CUMBERLAND RIVER AT PINE STREET BRIDGE AT PINEVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1992 - 2005	
ANNUAL TOTAL	661,314		539,120			
ANNUAL MEAN	1,807		1,477		1,393	
HIGHEST ANNUAL MEAN					2,241	1994
LOWEST ANNUAL MEAN					792	2000
HIGHEST DAILY MEAN	19,700	Mar 6	15,000	Dec 1	41,500	Mar 18, 2002
LOWEST DAILY MEAN	172	Sep 5	83	Sep 24	48	Sep 20, 1999
ANNUAL SEVEN-DAY MINIMUM	187	Sep 1	91	Sep 20	49	Sep 16, 1999
MAXIMUM PEAK FLOW			18,500	Dec 1	46,700	Mar 18, 2002
MAXIMUM PEAK STAGE			27.00	Dec 1	47.32	Mar 18, 2002
INSTANTANEOUS LOW FLOW			82	Sep 23	47	Sep 20, 1999
ANNUAL RUNOFF (CFSM)	2.35		1.92		1.81	
ANNUAL RUNOFF (INCHES)	31.95		26.05		24.57	
10 PERCENT EXCEEDS	3,900		3,150		3,000	
50 PERCENT EXCEEDS	1,120		968		698	
90 PERCENT EXCEEDS	326		186		124	



03403500 CUMBERLAND RIVER AT BARBOURVILLE, KY

LOCATION.--Lat 36°51'45", long 83°53'31", Knox County, Hydrologic Unit 05130101, on right bank 100 ft upstream from bridge on State Highway 11, at Barbourville, 0.4 mi upstream from Richland Creek, and at mile 635.2.

DRAINAGE AREA.-960 mi^2.

PERIOD OF RECORD.--October 1922 to September 1931, April 1948 to July 2, 1993, October 1995 to current year. (discontinued). Monthly discharge only April to June 1948, published in WSP 1306.

REVISED RECORDS.--WSP 603: 1923-24. WSP 1336: 1923(M). 1927, 1929, 1950-51. WSP 1436: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 942.97 ft above NGVD of 1929. See WRD KY-90-1 for history of changes prior to Oct. 17, 1975.

REMARKS.--Records good. Flow slightly regulated by Martins Fork Dam (station 03400798) beginning January 1979. Diversions by City of Barbourville for municipal water supply.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

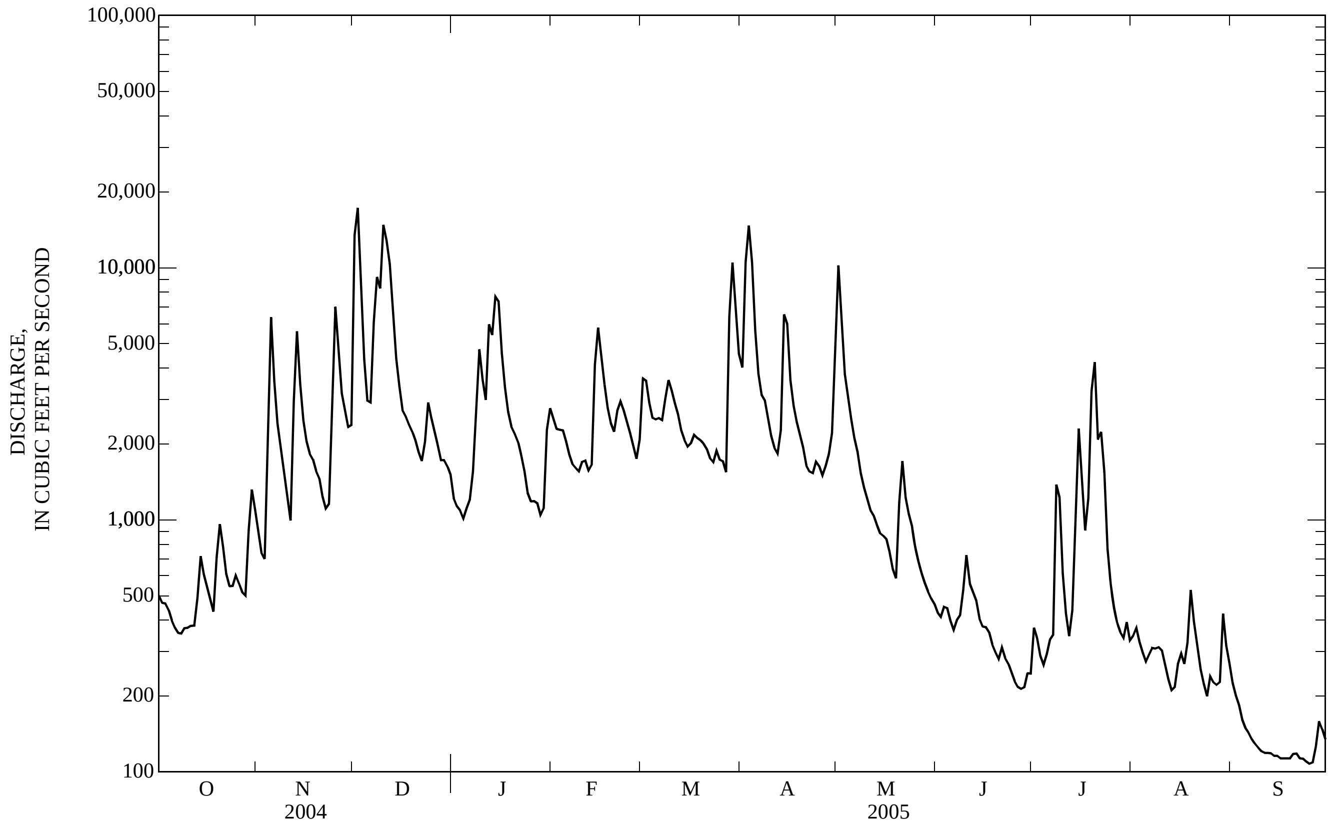
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	501	894	13,500	1,220	2,520	3,630	4,010	10,200	430	373	346	225
2	468	742	17,300	1,130	2,300	3,570	10,500	6,340	412	338	372	201
3	466	700	9,410	1,090	2,280	2,910	14,700	3,780	451	288	327	184
4	440	2,320	4,360	1,010	2,270	2,540	10,500	3,060	446	265	297	161
5	399	6,350	2,970	1,110	2,040	2,500	5,650	2,510	398	293	273	149
6	373	3,570	2,920	1,200	1,810	2,530	3,800	2,100	365	334	291	143
7	356	2,410	6,080	1,560	1,660	2,480	3,130	1,850	399	348	311	135
8	354	1,950	9,170	2,850	1,600	3,020	2,980	1,520	417	1,380	308	129
9	372	1,590	8,250	4,740	1,560	3,580	2,540	1,340	526	1,220	312	125
10	373	1,290	14,800	3,600	1,690	3,260	2,150	1,210	725	615	303	121
11	379	993	12,800	2,990	1,710	2,890	1,930	1,090	557	426	265	119
12	381	2,940	10,400	5,960	1,570	2,610	1,840	1,040	517	345	233	119
13	490	5,580	6,820	5,400	1,650	2,260	2,270	956	476	437	211	119
14	717	3,470	4,390	7,670	4,140	2,080	6,530	886	406	1,150	217	116
15	606	2,480	3,390	7,350	5,780	1,960	5,970	867	377	2,300	268	116
16	541	2,040	2,720	4,610	4,540	2,010	3,590	838	375	1,370	295	113
17	483	1,830	2,570	3,350	3,450	2,170	2,840	744	358	907	268	113
18	432	1,730	2,390	2,680	2,780	2,110	2,440	636	320	1,220	327	113
19	711	1,560	2,240	2,340	2,420	2,070	2,170	585	299	3,240	527	113
20	961	1,460	2,070	2,190	2,240	2,000	1,930	1,170	281	4,220	394	118
21	782	1,230	1,850	2,040	2,710	1,900	1,640	1,710	311	2,080	310	118
22	610	1,110	1,710	1,800	2,950	1,750	1,550	1,230	284	2,230	255	113
23	546	1,150	2,040	1,560	2,720	1,690	1,530	1,050	269	1,550	223	113
24	546	2,980	2,920	1,270	2,450	1,880	1,700	942	247	764	199	110
25	603	7,010	2,530	1,180	2,210	1,730	1,630	780	229	554	240	108
26	560	4,750	2,230	1,190	1,960	1,710	1,500	683	217	453	227	109
27	517	3,180	1,970	1,160	1,750	1,540	1,630	613	213	389	222	126
28	501	2,730	1,720	1,040	2,080	6,390	1,820	561	217	359	227	159
29	906	2,330	1,730	1,110	---	10,500	2,210	520	246	340	424	148
30	1,320	2,380	1,630	2,280	---	6,670	5,470	488	246	394	317	135
31	1,100	---	1,510	2,770	---	4,560	---	464	---	332	269	---
TOTAL	17,794	74,749	160,390	81,450	68,840	92,500	112,150	51,763	11,014	30,514	9,058	3,971
MEAN	574	2,492	5,174	2,627	2,459	2,984	3,738	1,670	367	984	292	132
MAX	1,320	7,010	17,300	7,670	5,780	10,500	14,700	10,200	725	4,220	527	225
MIN	354	700	1,510	1,010	1,560	1,540	1,500	464	213	265	199	108
CFSM	0.60	2.60	5.39	2.74	2.56	3.11	3.89	1.74	0.38	1.03	0.30	0.14
IN.	0.69	2.90	6.22	3.16	2.67	3.58	4.35	2.01	0.43	1.18	0.35	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	432	1,277	2,236	2,557	3,180	3,265	2,812	1,996	1,248	566	462	501
MAX	3,058	3,816	5,837	5,582	7,612	6,208	8,578	6,782	5,524	1,071	1,089	2,884
(WY)	(1990)	(1997)	(1992)	(1982)	(2003)	(1997)	(1998)	(1984)	(1989)	(1989)	(2003)	(2004)
MIN	87.9	117	193	135	1,220	791	549	635	201	141	124	60.5
(WY)	(1981)	(1999)	(1981)	(1981)	(1999)	(1988)	(1986)	(1986)	(1988)	(1988)	(1999)	(1999)

03403500 CUMBERLAND RIVER AT BARBOURVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	882,096		714,193			
ANNUAL MEAN	2,410		1,957		1,703	
HIGHEST ANNUAL MEAN					2,417	1989
LOWEST ANNUAL MEAN					824	1988
HIGHEST DAILY MEAN	23,400	Feb 7	17,300	Dec 2	41,600	May 8, 1984
LOWEST DAILY MEAN	213	Sep 7	108	Sep 25	50	Sep 19, 1999
ANNUAL SEVEN-DAY MINIMUM	244	Sep 1	113	Sep 20	53	Sep 16, 1999
MAXIMUM PEAK FLOW			19,700	Dec 2	56,100	Apr 6, 1977
MAXIMUM PEAK STAGE			26.46	Dec 2	45.91	Apr 6, 1977
INSTANTANEOUS LOW FLOW			108	Sep 24	0.20	Oct 5, 1930
ANNUAL RUNOFF (CFSM)	2.51		2.04		1.77	
ANNUAL RUNOFF (INCHES)	34.18		27.67		24.10	
10 PERCENT EXCEEDS	5,160		4,370		3,700	
50 PERCENT EXCEEDS	1,480		1,230		855	
90 PERCENT EXCEEDS	380		223		130	



03404000 CUMBERLAND RIVER AT WILLIAMSBURG, KY

LOCATION.--Lat 36°44'36", long 84°09'22", Whitley County, Hydrologic Unit 05130101, on right bank 100 ft upstream from bridge on State Highway 296E at Williamsburg, 2.0 mi downstream from Clear Fork, and at mile 590.4.

DRAINAGE AREA.--1,607 mi^2.

PERIOD OF RECORD.--October 1950 to current year. Gage-height records collected in this vicinity since 1908 are published in reports of National Weather Service.

REVISED RECORDS.--WSP 1436: Drainage area.

GAGE.--Water-stage recorder with telemetry and crest-stage gages. Datum of gage is 891.52 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to June 26, 1990.

REMARKS.--Records good except for those estimated, which are fair. Flow slightly regulated by Martins Fork Dam (station 03400798) beginning January 1979.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District and Kentucky Natural Resources and Environmental Protection Cabinet.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	856	1,490	15,000	1,920	3,550	4,290	6,880	12,600	602	299	437	366
2	754	1,260	21,200	1,700	3,260	5,370	14,700	11,600	579	405	415	313
3	712	1,090	17,800	1,660	3,480	4,660	18,500	7,000	595	428	444	271
4	697	1,930	11,500	1,590	3,780	3,900	17,000	4,810	615	371	401	239
5	658	6,910	5,410	1,560	3,290	3,640	12,600	3,820	595	357	358	211
6	609	6,720	4,430	1,800	2,860	3,580	6,970	3,070	539	407	330	190
7	563	4,000	7,260	2,210	2,540	3,410	5,080	2,610	552	445	339	176
8	533	2,860	12,100	4,160	2,380	3,990	5,080	2,260	591	467	367	165
9	515	2,260	14,600	6,580	2,280	5,200	4,440	1,930	592	1,350	395	159
10	538	1,840	20,800	6,460	2,290	5,060	3,570	1,730	1,220	1,070	409	152
11	536	1,550	19,900	5,330	2,380	4,460	3,050	1,570	1,260	639	371	146
12	535	3,900	17,200	8,900	2,250	3,970	2,780	1,440	999	480	320	143
13	578	9,350	12,900	9,550	2,280	3,440	3,490	1,350	848	499	338	142
14	819	7,010	8,120	11,800	4,610	2,970	9,330	1,250	751	918	264	136
15	956	4,400	5,620	12,200	8,370	2,680	10,900	1,200	614	2,930	252	133
16	855	3,220	4,460	8,970	7,900	2,620	7,260	1,170	539	2,500	275	133
17	753	2,630	3,640	6,050	5,960	2,920	4,930	1,070	499	1,470	367	136
18	668	2,370	3,400	4,490	4,550	2,930	3,920	956	464	1,190	402	135
19	904	2,160	3,110	3,620	3,690	2,820	3,340	849	409	2,420	e600	134
20	1,590	2,000	2,860	3,250	3,310	2,730	2,920	1,920	372	4,210	e760	128
21	1,500	1,900	2,550	2,990	3,890	2,620	2,530	3,290	350	3,820	e500	132
22	1,190	1,650	2,370	2,730	5,080	2,450	2,230	2,390	363	3,580	e400	137
23	943	1,560	2,560	2,390	4,820	2,300	2,190	1,720	345	3,920	340	126
24	853	3,300	3,540	2,030	4,130	2,310	2,170	1,450	329	1,780	301	119
25	851	9,470	3,670	1,790	3,590	2,330	2,170	1,230	307	1,030	269	116
26	858	8,790	3,200	1,750	3,070	2,230	2,020	1,030	286	762	290	115
27	809	5,750	2,830	1,720	2,710	2,120	1,990	899	287	631	305	116
28	1,010	4,400	2,460	1,600	2,700	6,350	2,120	809	276	573	280	136
29	1,190	3,660	2,260	1,610	---	14,100	3,260	735	285	521	328	185
30	1,670	3,660	2,220	2,360	---	12,000	8,220	680	297	473	540	187
31	1,770	---	2,100	3,430	---	8,270	---	644	---	486	433	---
TOTAL	27,273	113,090	241,070	128,200	105,000	131,720	175,640	79,082	16,360	40,431	11,830	4,977
MEAN	880	3,770	7,776	4,135	3,750	4,249	5,855	2,551	545	1,304	382	166
MAX	1,770	9,470	21,200	12,200	8,370	14,100	18,500	12,600	1,260	4,210	760	366
MIN	515	1,090	2,100	1,560	2,250	2,120	1,990	644	276	299	252	115

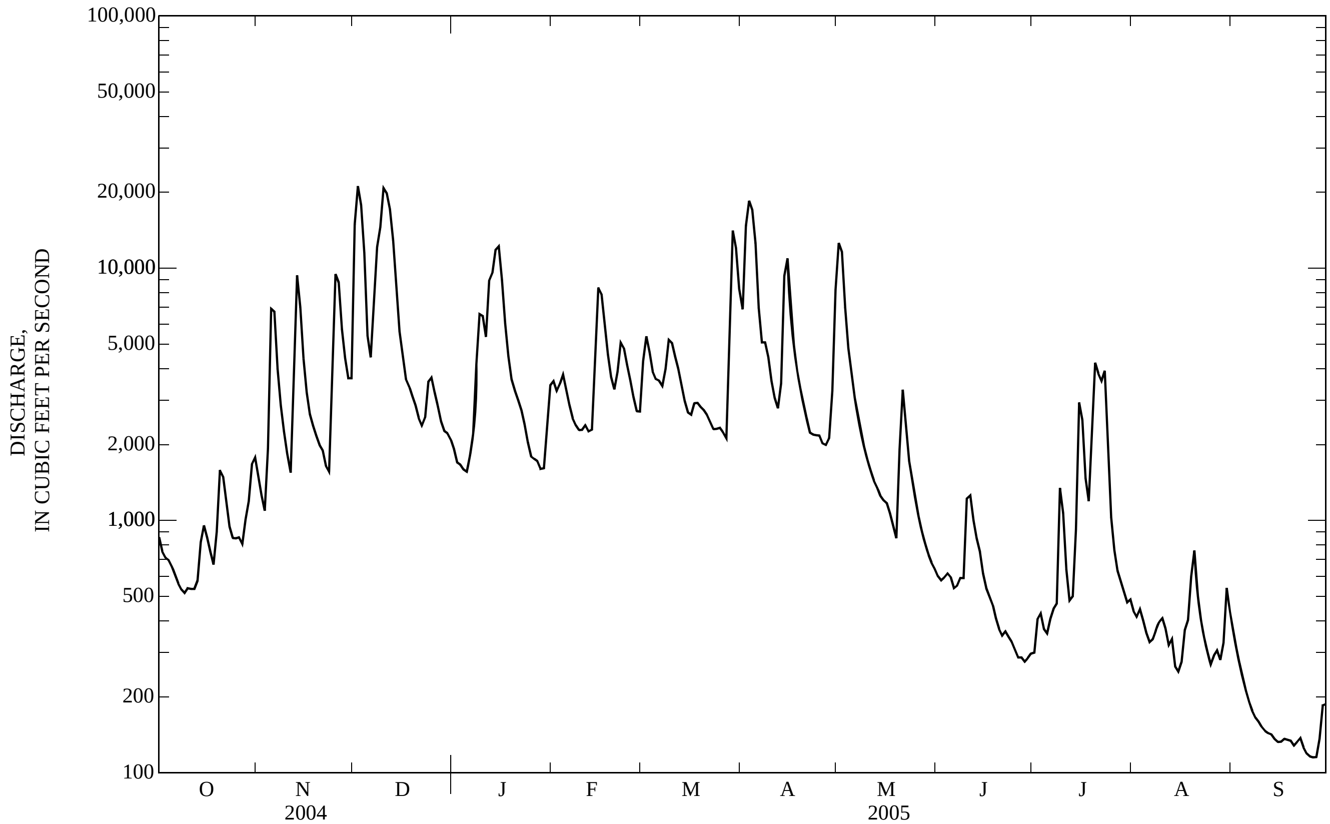
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	605	1,756	3,397	4,028	5,060	5,117	4,190	3,009	1,869	820	730	757
MAX	4,413	4,923	9,751	8,015	12,920	10,400	11,520	9,572	8,305	1,684	1,882	4,544
(WY)	(1990)	(1997)	(1992)	(1994)	(1994)	(1994)	(1998)	(1984)	(1989)	(1989)	(2003)	(2004)
MIN	107	141	300	203	1,803	1,193	730	943	277	211	191	86.2
(WY)	(1981)	(1999)	(1981)	(1981)	(1988)	(1988)	(1986)	(1986)	(1988)	(1988)	(2002)	(1999)

03404000 CUMBERLAND RIVER AT WILLIAMSBURG, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	1,301,888		1,074,673			
ANNUAL MEAN	3,557		2,944		2,598	
HIGHEST ANNUAL MEAN					4,390	1994
LOWEST ANNUAL MEAN					1,159	1988
HIGHEST DAILY MEAN	26,600	Feb 7	21,200	Dec 2	38,500	Feb 13, 1994
LOWEST DAILY MEAN	326	Sep 7	115	Sep 26	62	Oct 18, 1980
ANNUAL SEVEN-DAY MINIMUM	384	Sep 1	123	Sep 21	63	Oct 17, 1980
MAXIMUM PEAK FLOW			22,100	Dec 2	49,700	Jan 31, 1957
MAXIMUM PEAK STAGE			21.63	Dec 2	35.03	Apr 7, 1977
INSTANTANEOUS LOW FLOW					6.1	Oct 23, 1953
10 PERCENT EXCEEDS	8,870		7,000		5,910	
50 PERCENT EXCEEDS	2,140		1,900		1,270	
90 PERCENT EXCEEDS	629		287		198	

e Estimated



03404500 CUMBERLAND RIVER AT CUMBERLAND FALLS, KY

LOCATION.--Lat 36°50'14", long 84°26'36", McCreary County, Hydrologic Unit 05130101, on left bank 0.1 mi downstream from bridge on State Highway 90, 0.2 upstream from Cumberland Falls, and at mile 562.4.

DRAINAGE AREA.--1,977 mi^2.

PERIOD OF RECORD.--August 1907 to December 1911, October 1914 to September 1994, October 2002 to current year. Monthly discharges only for October 1914 to March 1915 and October 1931 to July 1932, published in WSP 1306. Discontinued operation by USGS Sept. 30, 2005.

REVISED RECORDS.--WSP 1436: 1919. WSP 1436: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 825.28 ft above NGVD of 1929. Aug. 15, 1907 to Dec. 10, 1911, nonrecording gage at site 300 ft downstream at different datum. Apr. 3, 1915 to Sept. 1, 1933, nonreecording gage at site 500 ft downstream at same datum.

REMARKS.--Records good except for those estimated, which are poor. Flow slightly regulated by Martins Fork Dam (station 03400798) beginning January 1979.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 12	1800	24,500	9.23	Apr 4	0600	22,800	8.82
Dec 9	1900	27,700	9.34				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	981	1,720	22,400	2,010	3,910	4,720	9,360	15,100	774	353	506	383
2	911	1,460	23,300	1,810	3,620	6,260	19,000	13,900	752	404	429	326
3	836	1,280	19,600	1,770	3,430	5,760	21,900	9,850	745	557	440	274
4	803	2,290	14,000	1,710	4,090	4,670	19,500	6,200	768	497	448	235
5	758	6,680	6,970	1,680	3,570	4,270	15,600	4,760	772	453	385	209
6	701	8,100	5,330	1,910	3,110	4,110	9,400	3,740	715	439	348	186
7	635	5,160	9,320	2,380	2,730	3,900	6,660	3,090	669	513	329	165
8	589	3,230	13,900	8,140	2,570	4,530	6,180	2,700	728	530	353	154
9	558	2,480	20,000	8,550	2,470	6,280	5,710	2,310	751	821	386	146
10	559	1,990	25,600	8,130	2,380	6,350	4,450	2,060	961	1,580	406	139
11	569	1,700	22,800	6,680	2,460	5,560	3,620	1,880	1,570	962	412	133
12	572	4,350	19,300	11,200	2,400	4,800	3,250	1,710	1,390	676	370	128
13	599	10,600	14,900	11,400	2,400	4,090	3,670	1,590	1,100	636	352	125
14	807	8,780	9,880	14,000	5,070	e3,750	10,800	1,480	1,040	823	581	123
15	1,080	5,510	6,740	14,300	9,360	e3,300	13,200	1,410	844	2,350	282	121
16	1,040	3,740	5,140	11,000	9,490	e3,100	9,670	1,370	718	2,900	274	118
17	922	2,920	4,020	7,560	7,630	e3,350	6,500	1,280	628	1,970	353	126
18	794	2,490	3,540	5,470	5,600	e3,350	4,970	1,160	584	1,350	441	122
19	806	2,280	3,230	4,150	4,310	e3,200	4,040	1,050	516	1,880	597	117
20	1,570	2,090	2,920	3,550	3,710	e3,100	3,450	1,610	448	4,000	789	118
21	1,780	2,020	2,610	3,230	4,970	3,000	3,020	4,070	443	4,980	711	118
22	1,490	1,800	2,390	2,930	6,700	2,870	2,650	3,110	395	4,920	508	121
23	1,200	1,720	2,550	2,590	6,360	2,730	2,550	2,230	422	5,600	386	126
24	1,020	3,260	3,300	2,180	5,270	2,630	2,480	1,810	e400	2,460	318	121
25	981	10,200	3,800	1,920	4,340	2,700	2,470	1,550	e385	1,420	284	114
26	958	10,400	3,330	1,830	3,600	2,600	2,340	1,330	e370	980	250	119
27	927	7,170	2,930	1,800	3,120	2,530	2,280	1,150	e360	776	274	115
28	925	5,300	2,560	1,680	3,250	6,000	2,330	1,040	382	684	282	111
29	1,530	4,290	2,270	1,680	---	15,700	3,120	940	340	610	252	125
30	1,660	5,930	2,240	2,490	---	14,500	12,600	869	331	539	e600	166
31	1,980	---	2,130	3,460	---	11,700	---	813	---	489	e550	---
TOTAL	30,541	130,940	283,000	153,190	121,920	155,410	216,770	97,162	20,301	47,152	12,896	4,684
MEAN	985	4,365	9,129	4,942	4,354	5,013	7,226	3,134	677	1,521	416	156
MAX	1,980	10,600	25,600	14,300	9,490	15,700	21,900	15,100	1,570	5,600	789	383
MIN	558	1,280	2,130	1,680	2,380	2,530	2,280	813	331	353	250	111

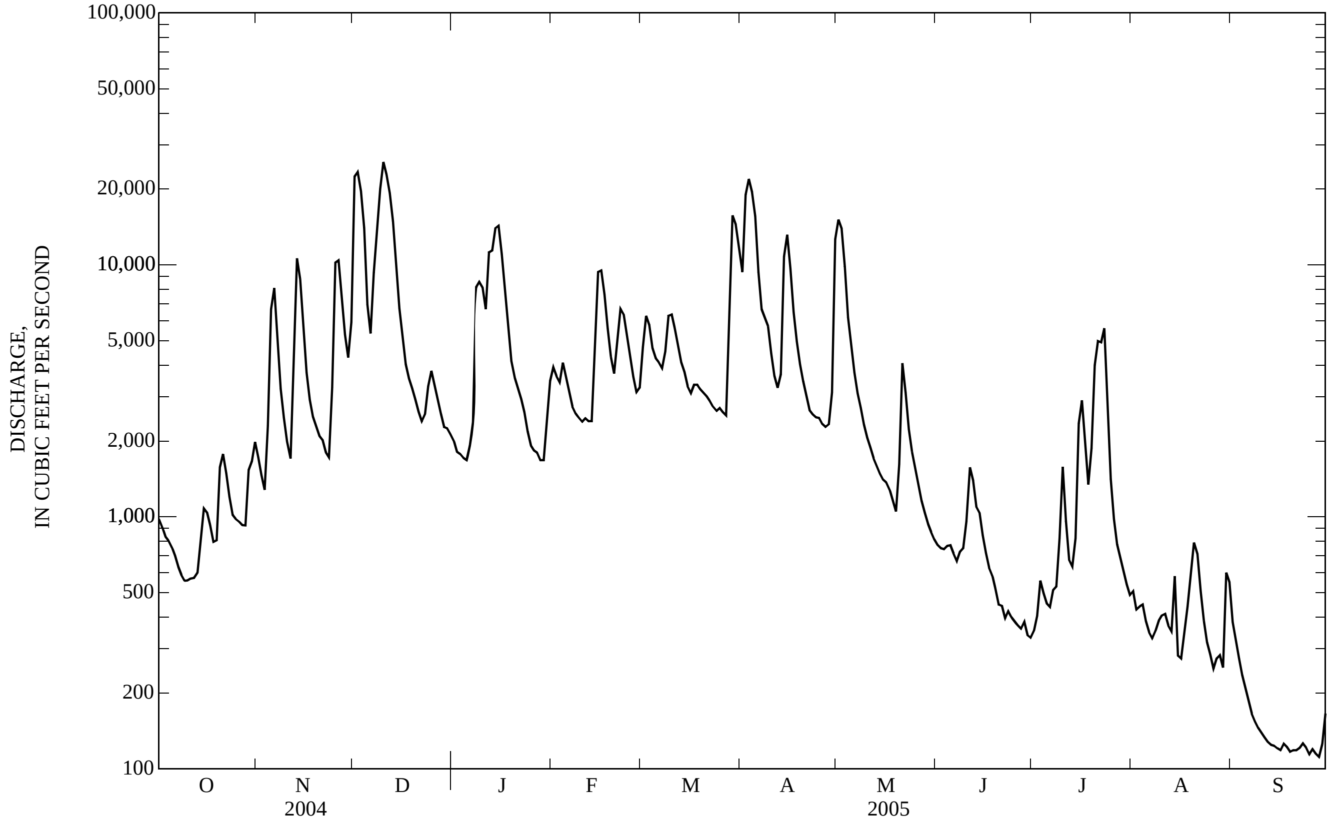
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	688	1,906	3,946	5,763	6,387	6,984	5,117	3,272	1,796	1,346	940	626
MAX	5,330	7,963	17,620	17,570	15,740	18,510	11,390	11,230	8,954	6,379	4,171	5,625
(WY)	(1990)	(1978)	(1927)	(1937)	(1939)	(1917)	(1977)	(1984)	(1989)	(1941)	(1942)	(2004)
MIN	10.5	44.2	141	227	462	1,572	987	417	103	47.5	37.3	23.0
(WY)	(1954)	(1940)	(1940)	(1981)	(1941)	(1988)	(1963)	(1936)	(1936)	(1944)	(1925)	(1925)

03404500 CUMBERLAND RIVER AT CUMBERLAND FALLS, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1908 - 2005	
ANNUAL TOTAL	1,593,694		1,273,966			
ANNUAL MEAN	4,354		3,490		3,217	
HIGHEST ANNUAL MEAN					5,196	1927
LOWEST ANNUAL MEAN					1,324	1988
HIGHEST DAILY MEAN	31,700	Feb 6	25,600	Dec 10	57,500	Jan 28, 1918
LOWEST DAILY MEAN	406	Sep 7	111	Sep 28	4.0	Sep 19, 1954
ANNUAL SEVEN-DAY MINIMUM	498	Sep 1	118	Sep 22	7.1	Oct 23, 1953
MAXIMUM PEAK FLOW			27,900	Dec 9	59,600	Jan 28, 1918
MAXIMUM PEAK STAGE			9.84	Dec 9	15.50	Jan 28, 1918
INSTANTANEOUS LOW FLOW					4.0	Sep 19, 1954
10 PERCENT EXCEEDS	9,980		9,360		7,960	
50 PERCENT EXCEEDS	2,680		2,020		1,450	
90 PERCENT EXCEEDS	791		323		161	

e Estimated



03404900 LYNN CAMP CREEK AT CORBIN, KY

LOCATION.--Lat 36°57'05", long 84°05'37", Whitley County, Hydrologic Unit 05130101, on left bank 40 ft downstream from bridge on State Highway 312, (East Masters Street) at Corbin, 0.8 mi downstream from East Fork Lynn Camp Creek, and at mile 3.9.

DRAINAGE AREA.--53.8 mi^2.

PERIOD OF RECORD.--Annual maximums, water years 1957-73, October 1973 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 1,049.00 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except for discharges below 2.0 ft^3/s, which are fair and for those estimated, which are poor.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	0730	*1,890	8.07	Dec 9	2330	1,890	*8.08

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	39	1,600	e35	88	208	286	363	7.6	21	8.0	4.2
2	22	34	366	46	73	138	1,070	140	7.9	15	6.9	2.9
3	23	30	173	48	73	108	432	90	9.2	12	4.7	2.0
4	17	237	118	84	63	91	219	66	10	8.5	4.8	1.5
5	15	119	89	182	54	121	155	54	9.3	36	3.9	1.2
6	13	67	204	198	49	86	120	47	9.0	31	7.0	0.90
7	12	51	556	192	46	79	114	41	8.2	20	20	0.65
8	11	41	295	772	55	222	465	36	11	14	7.5	0.64
9	9.7	33	1,090	270	50	140	189	32	13	8.7	3.4	0.55
10	9.2	29	1,060	160	57	111	135	29	24	4.8	2.3	0.54
11	9.3	27	404	288	50	96	108	26	28	2.5	2.2	0.61
12	11	228	234	406	45	89	118	23	14	2.0	1.4	0.52
13	33	115	162	333	156	70	188	19	24	17	1.2	0.47
14	30	73	117	665	377	60	361	18	13	16	1.1	0.40
15	38	57	93	250	216	54	180	18	9.8	18	24	0.35
16	24	48	80	169	152	86	131	17	8.2	9.2	23	0.80
17	16	42	e68	125	111	91	103	15	8.4	7.7	8.6	0.85
18	24	e40	e60	95	85	65	85	13	7.3	241	27	0.65
19	82	e41	e52	e80	73	61	72	14	6.6	282	9.2	0.45
20	43	e50	46	e68	110	58	63	97	7.4	46	5.5	0.35
21	30	e45	e40	e60	298	53	55	34	12	23	3.9	0.40
22	26	e40	e37	e54	235	50	51	22	6.9	19	2.4	0.59
23	22	e91	142	e51	138	53	61	34	5.6	14	1.8	0.58
24	26	368	80	e48	108	54	56	19	4.7	11	1.4	0.28
25	22	225	60	e46	88	52	45	14	4.3	11	7.8	0.26
26	18	114	e50	e42	75	47	49	13	3.8	11	3.6	1.3
27	17	86	e45	e40	67	44	78	11	3.2	16	1.8	1.1
28	41	110	42	37	244	685	53	10	3.0	18	33	0.62
29	167	70	e39	148	---	276	172	9.3	2.6	11	81	0.98
30	76	398	e37	176	---	152	1,040	9.2	8.3	8.1	11	0.49
31	50	---	e36	111	---	349	---	11	---	7.9	5.7	---
TOTAL	953.2	2,948	7,475	5,279	3,236	3,849	6,254	1,344.5	290.3	962.4	325.1	27.13
MEAN	30.7	98.3	241	170	116	124	208	43.4	9.68	31.0	10.5	0.90
MAX	167	398	1,600	772	377	685	1,070	363	28	282	81	4.2
MIN	9.2	27	36	35	45	44	45	9.2	2.6	2.0	1.1	0.26
CFSM	0.57	1.83	4.48	3.17	2.15	2.31	3.87	0.81	0.18	0.58	0.19	0.02
IN.	0.66	2.04	5.17	3.65	2.24	2.66	4.32	0.93	0.20	0.67	0.22	0.02

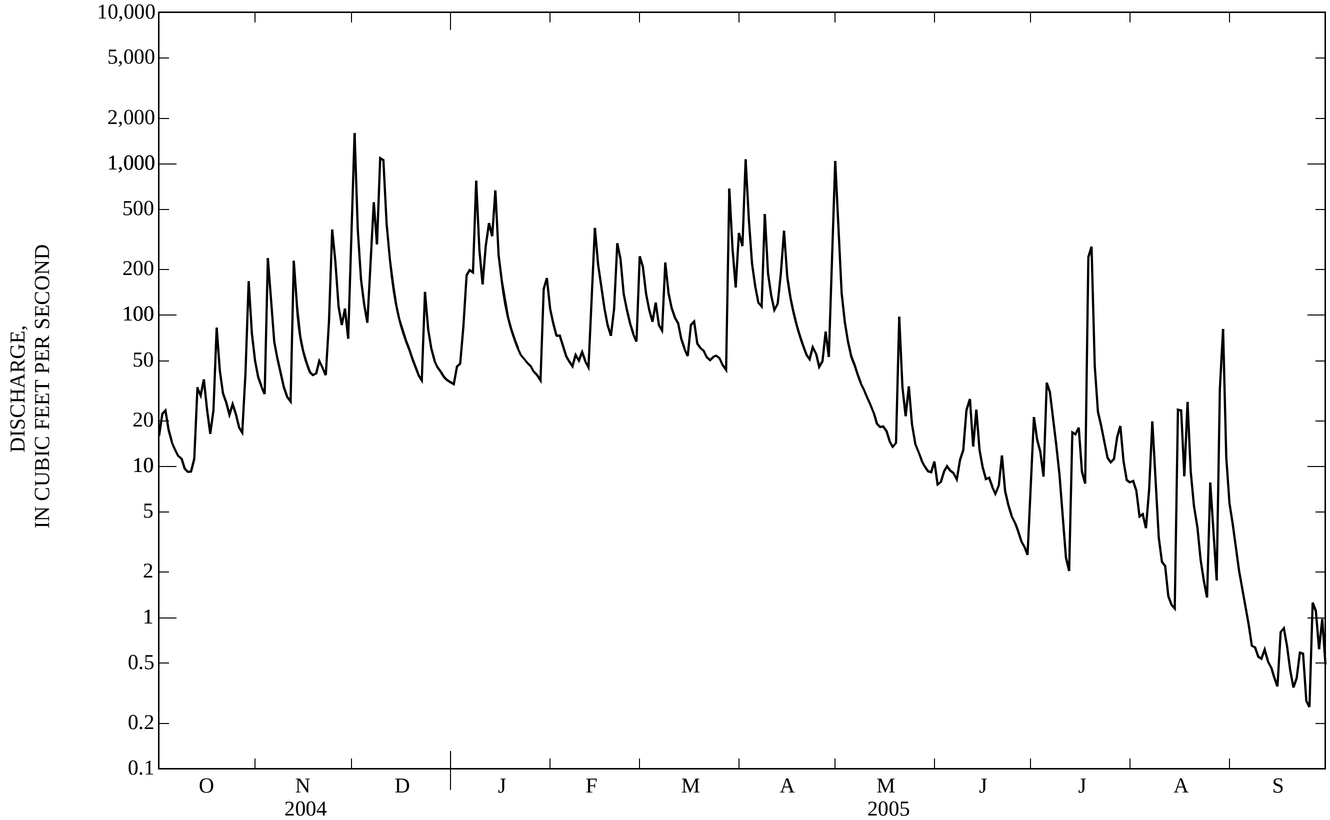
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.1	79.2	119	150	157	155	117	85.9	56.0	38.9	28.9	32.5
MAX	133	267	378	372	365	458	413	387	203	110	90.9	186
(WY)	(1990)	(1974)	(1991)	(1974)	(2003)	(1975)	(1998)	(1983)	(1997)	(1978)	(2003)	(2004)
MIN	1.35	5.15	10.4	5.13	56.9	41.9	16.5	9.47	2.39	2.11	2.50	0.32
(WY)	(1981)	(1999)	(1981)	(1981)	(1977)	(1988)	(1986)	(1986)	(1988)	(1975)	(1976)	(1999)

03404900 LYNN CAMP CREEK AT CORBIN, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005	
ANNUAL TOTAL	41,831.8		32,943.63			
ANNUAL MEAN	114		90.3		87.0	
HIGHEST ANNUAL MEAN					141	1994
LOWEST ANNUAL MEAN					36.5	1988
HIGHEST DAILY MEAN	2,620	Sep 17	1,600	Dec 1	4,530	Apr 17, 1998
LOWEST DAILY MEAN	5.6	Sep 2	0.26	Sep 25	0.02	Jun 24, 1988
ANNUAL SEVEN-DAY MINIMUM	8.8	Aug 27	0.42	Sep 19	0.02	Jun 24, 1988
MAXIMUM PEAK FLOW			1,890	Dec 9	9,000	Jan 29, 1957
MAXIMUM PEAK STAGE			8.08	Dec 9	22.50	Jan 29, 1957
INSTANTANEOUS LOW FLOW					0.02	Jun 24, 1988
ANNUAL RUNOFF (CFSM)	2.12		1.68		1.62	
ANNUAL RUNOFF (INCHES)	28.92		22.78		21.97	
10 PERCENT EXCEEDS	226		223		193	
50 PERCENT EXCEEDS	47		41		36	
90 PERCENT EXCEEDS	13		2.3		3.2	

e Estimated



03406500 ROCKCASTLE RIVER AT BILLOWS, KY

LOCATION.--Lat 37°10'16", long 84°17'46", Laurel County, Hydrologic Unit 05130102, on left bank 200 ft upstream from bridge on State Highway 80 at Billows, 0.9 mi upstream from Pine Creek, 1.1 mi downstream from Hawk Creek, 13 mi west of London, and at mile 24.4.

DRAINAGE AREA.--604 mi^2.

PERIOD OF RECORD.--July 1936 to current year.

REVISED RECORDS.--WSP 1436: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 802.90 ft above NGVD of 1929. Prior to Nov. 19, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--U.S. Army Corps of Engineers, Nashville District and Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	unknown	unknown	unknown	Jan 8	unknown	unknown	unknown
Dec 7	2330	11,500	20.06	Apr 30	unknown	24,400	31.04

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	1,000	e14,600	570	1,270	1,750	1,410	e16,100	108	90	59	77
2	204	836	8,310	547	1,110	1,520	6,040	3,320	100	81	47	64
3	233	714	3,200	669	1,010	1,320	5,800	1,830	97	65	39	52
4	247	1,160	2,080	706	923	1,180	3,220	1,350	123	59	35	37
5	208	3,920	1,530	1,960	803	1,340	2,130	1,120	121	59	32	31
6	180	1,520	2,150	2,550	722	1,660	1,580	935	110	56	e30	e26
7	162	1,130	6,490	3,490	664	1,400	1,270	783	96	57	e28	e23
8	148	898	7,790	e14,000	641	2,040	1,110	663	229	45	e26	e21
9	140	709	4,200	9,320	643	2,500	941	566	201	40	e24	e19
10	132	586	7,260	3,450	634	1,790	773	484	168	37	34	e18
11	127	519	5,290	2,270	672	1,510	694	418	138	e32	e31	e17
12	119	802	3,520	2,040	623	1,350	628	365	113	e28	e24	e16
13	191	1,160	2,540	1,740	640	1,180	700	335	102	96	e25	e15
14	419	876	1,830	3,820	2,710	991	1,930	350	96	269	e23	e13
15	310	765	1,430	3,360	4,600	847	1,550	330	160	245	e22	e12
16	299	694	1,150	2,280	2,880	752	1,200	308	120	245	e33	e12
17	272	637	991	1,730	2,110	701	985	271	108	302	68	e14
18	235	579	876	1,330	1,590	635	839	235	83	303	57	e13
19	3,420	556	756	1,100	1,270	560	731	209	70	289	60	e12
20	3,020	605	645	1,000	1,080	505	637	430	60	483	51	e11
21	1,400	563	547	906	1,970	462	560	813	53	336	41	e12
22	950	506	528	791	2,660	414	507	449	48	221	35	e14
23	721	489	821	696	2,090	390	543	335	44	187	e32	e12
24	806	652	1,550	567	1,680	445	556	285	40	152	e30	e10
25	964	1,430	1,050	515	1,400	479	500	247	39	113	e29	e9.5
26	757	1,340	941	511	1,150	422	451	208	e37	87	e28	e9.4
27	2,450	1,160	840	495	977	403	621	181	e35	70	44	e9.2
28	4,680	1,420	725	431	933	1,890	722	162	e32	67	37	e10
29	2,210	1,450	676	419	---	3,900	986	144	e28	79	e30	e14
30	1,650	2,000	652	1,260	---	2,260	e13,800	132	e24	97	e28	e12
31	1,290	---	610	1,450	---	1,670	---	118	---	79	66	---
TOTAL	28,154	30,676	85,578	65,973	39,455	38,266	53,414	33,476	2,783	4,369	1,148	615.1
MEAN	908	1,023	2,761	2,128	1,409	1,234	1,780	1,080	92.8	141	37.0	20.5
MAX	4,680	3,920	14,600	14,000	4,600	3,900	13,800	16,100	229	483	68	77
MIN	119	489	528	419	623	390	451	118	24	28	22	9.2
CFSM	1.50	1.69	4.57	3.52	2.33	2.04	2.95	1.79	0.15	0.23	0.06	0.03
IN.	1.73	1.89	5.27	4.06	2.43	2.36	3.29	2.06	0.17	0.27	0.07	0.04

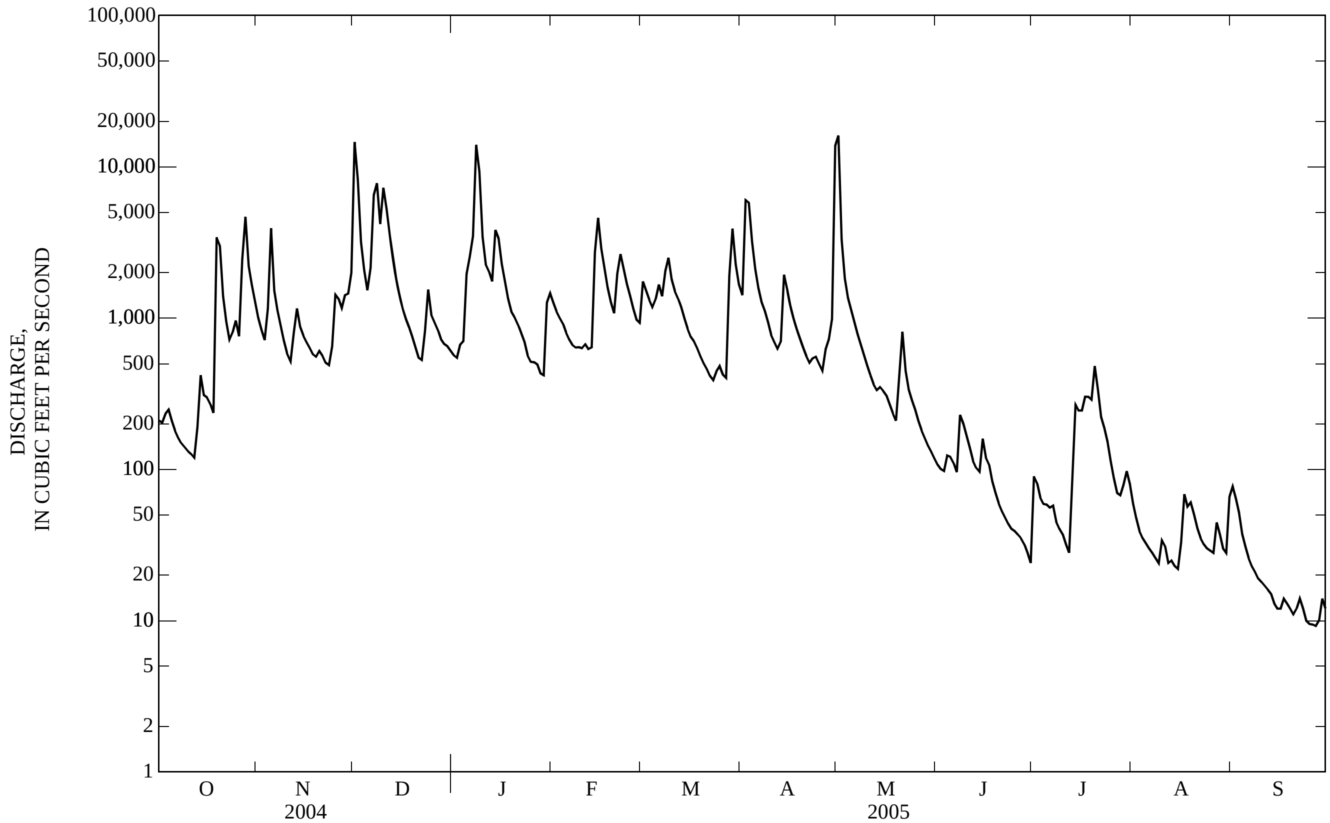
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	208	584	1,265	1,672	1,916	1,952	1,480	992	586	358	209	178
MAX	2,887	2,374	5,279	5,990	5,236	5,860	4,051	4,207	2,862	1,830	1,263	1,769
(WY)	(1990)	(1987)	(1991)	(1937)	(1956)	(1975)	(1972)	(1983)	(1947)	(1941)	(1977)	(2004)
MIN	3.18	11.5	16.5	56.9	208	507	188	115	37.9	10.8	10.1	4.95
(WY)	(1954)	(1954)	(1954)	(1981)	(1941)	(1983)	(1986)	(1941)	(1988)	(1944)	(1957)	(1936)

03406500 ROCKCASTLE RIVER AT BILLOWS, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1936 - 2005	
ANNUAL TOTAL	585,996		383,907.1			
ANNUAL MEAN	1,601		1,052		946	
HIGHEST ANNUAL MEAN					1,575	1979
LOWEST ANNUAL MEAN					345	1954
HIGHEST DAILY MEAN	26,100	Feb 6	16,100	May 1	46,200	Dec 9, 1978
LOWEST DAILY MEAN	86	Sep 1	9.2	Sep 27	0.90	Sep 9, 1957
ANNUAL SEVEN-DAY MINIMUM	122	Aug 27	11	Sep 22	1.4	Sep 11, 1964
MAXIMUM PEAK FLOW			24,400	Apr 30	50,000	Dec 9, 1978
MAXIMUM PEAK STAGE			31.04	Apr 30	47.17	Dec 9, 1978
INSTANTANEOUS LOW FLOW					0.80	Sep 9, 1957
ANNUAL RUNOFF (CFSM)	2.65		1.74		1.57	
ANNUAL RUNOFF (INCHES)	36.09		23.64		21.28	
10 PERCENT EXCEEDS	3,290		2,260		2,150	
50 PERCENT EXCEEDS	764		547		338	
90 PERCENT EXCEEDS	237		28		25	

e Estimated



03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY

LOCATION.--Lat 36°37'47", long 84°31'55", McCreary County, Hydrologic Unit 05130104, on right bank, 400 ft upstream from Salt Branch, 1,000 ft downstream from Bear Creek, 5.3 mi southwest of Stearns, and at mile 49.4.

DRAINAGE AREA.--954 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--September 1942 to September 30, 2005. Gage discontinued September 30, 2005

REVISED RECORDS.--WSP 1113: 1946(M). WSP 1436: Drainage area, WDR KY-96-1 latitude and longitude.

GAGE--Water-stage recorder with telemetry. Datum of gage is 763.83 ft above NGVD of 1929; prior to Oct. 1, 1980 at site 1,000 ft upstream at datum 0.98 ft higher.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet, National Park Service, and U.S. Army Corps of Engineers, Nashville District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1929 reached a stage of 52.9 ft from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 22,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	1400	*44,300	*30.34	Dec 10	0400	36,700	27.41

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	1,400	35,700	1,000	1,900	2,300	3,230	9,840	329	146	186	637
2	327	1,140	12,100	987	1,680	2,130	11,900	5,010	314	160	171	435
3	309	980	5,530	1,140	2,720	1,890	11,100	3,240	296	211	156	305
4	278	3,850	3,650	1,160	3,490	1,740	6,030	2,390	314	201	145	235
5	254	7,780	2,730	1,100	2,640	1,630	3,880	1,870	336	218	148	190
6	232	3,700	2,540	1,200	2,180	1,450	2,840	1,570	294	233	160	160
7	212	2,530	6,840	1,690	1,840	1,290	2,370	1,360	740	177	148	136
8	198	1,930	10,400	6,320	1,710	1,460	2,730	1,160	e800	156	160	124
9	186	1,470	15,600	7,450	1,640	1,800	2,830	1,010	e600	134	196	108
10	181	1,190	25,200	4,350	1,500	1,630	2,320	915	669	130	415	99
11	179	1,030	17,300	3,550	1,400	1,540	1,970	863	810	131	304	91
12	180	7,230	9,620	11,300	1,250	1,460	1,740	785	614	142	223	85
13	217	9,740	5,510	7,120	1,290	1,330	1,750	689	494	182	181	79
14	327	4,570	3,710	10,700	3,080	1,180	3,050	657	415	414	161	74
15	590	2,960	2,780	7,080	5,500	1,060	3,550	654	449	4,300	215	71
16	439	2,270	2,280	4,400	4,000	1,010	2,600	681	348	1,760	311	70
17	370	1,850	1,940	3,150	2,980	1,120	2,070	555	288	1,120	268	70
18	318	1,560	1,700	2,400	2,330	1,170	1,720	467	241	986	385	86
19	1,730	1,370	1,520	1,980	1,920	1,150	1,480	414	204	1,340	1,150	152
20	6,250	1,290	1,350	1,790	1,830	1,120	1,280	1,640	180	1,450	968	147
21	2,900	1,290	1,170	1,620	4,860	1,080	1,110	5,860	167	1,090	563	124
22	1,870	1,150	1,110	1,450	9,340	1,030	1,010	2,660	154	2,360	382	102
23	1,350	1,080	1,280	1,260	5,160	1,020	1,190	1,700	141	1,850	288	87
24	1,130	2,850	2,040	1,040	3,520	1,010	1,330	1,230	145	839	232	77
25	1,080	9,730	1,710	959	2,700	941	1,090	940	130	551	194	69
26	913	4,810	1,540	977	2,160	952	965	766	117	413	168	68
27	776	3,210	1,410	940	1,820	898	1,070	646	118	331	152	74
28	772	2,840	1,240	835	1,780	3,740	1,300	544	151	279	142	70
29	2,480	2,610	1,150	949	---	5,790	5,440	463	129	245	136	126
30	2,530	4,150	1,120	1,860	---	3,510	14,400	409	115	233	604	155
31	1,810	---	1,070	2,230	---	3,180	---	365	---	206	407	---
TOTAL	30,733	93,560	182,840	93,987	78,220	52,611	99,345	51,353	10,102	21,988	9,319	4,306
MEAN	991	3,119	5,898	3,032	2,794	1,697	3,312	1,657	337	709	301	144
MAX	6,250	9,740	35,700	11,300	9,340	5,790	14,400	9,840	810	4,300	1,150	637
MIN	179	980	1,070	835	1,250	898	965	365	115	130	136	68
CFSM	1.04	3.27	6.18	3.18	2.93	1.78	3.47	1.74	0.35	0.74	0.32	0.15
IN.	1.20	3.65	7.13	3.66	3.05	2.05	3.87	2.00	0.39	0.86	0.36	0.17

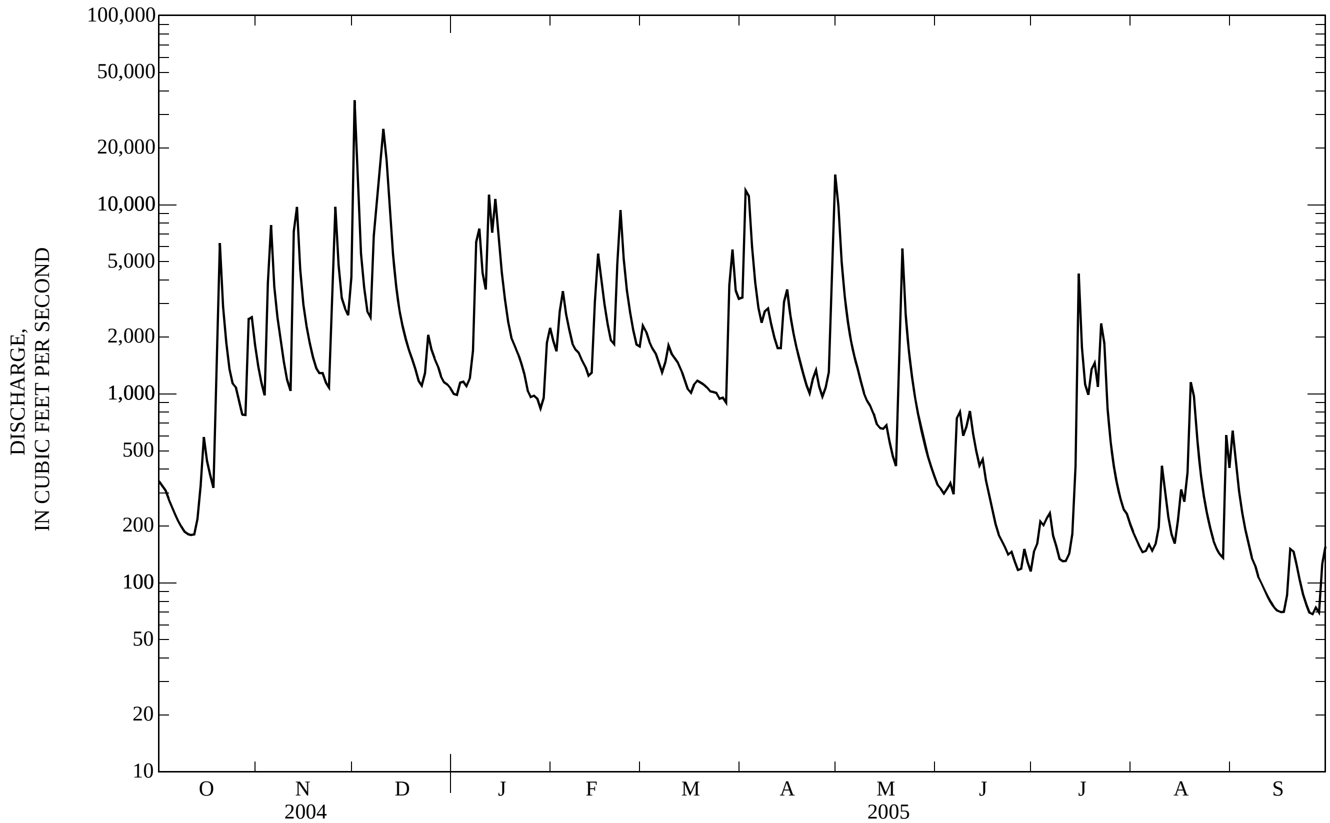
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	383	1,255	2,630	3,272	3,533	3,578	2,598	1,737	991	608	407	424
MAX	2,553	4,556	7,388	9,615	8,747	10,580	6,038	6,555	5,152	3,772	2,997	3,486
(WY)	(1990)	(1958)	(1991)	(1950)	(1956)	(1975)	(1977)	(1984)	(1989)	(1967)	(1971)	(2004)
MIN	20.8	30.6	150	145	725	1,200	568	224	72.8	34.5	65.4	29.6
(WY)	(1954)	(1954)	(1964)	(1981)	(1968)	(2003)	(1986)	(1948)	(1988)	(1944)	(1951)	(1953)

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1943 - 2005	
ANNUAL TOTAL	932,949		728,364			
ANNUAL MEAN	2,549		1,996		1,777	
HIGHEST ANNUAL MEAN					3,023	1973
LOWEST ANNUAL MEAN					810	1988
HIGHEST DAILY MEAN	38,200	Feb 6	35,700	Dec 1	80,200	Mar 13, 1975
LOWEST DAILY MEAN	148	Aug 20	68	Sep 26	11	Sep 18, 1954
ANNUAL SEVEN-DAY MINIMUM	192	Aug 17	76	Sep 12	12	Sep 13, 1954
MAXIMUM PEAK FLOW			44,300	Dec 1	93,200	May 28, 1973
MAXIMUM PEAK STAGE			30.34	Dec 1	46.29	May 28, 1973
INSTANTANEOUS LOW FLOW			66	Sep 25	11	Oct 4, 1948
ANNUAL RUNOFF (CFSM)	2.67		2.09		1.86	
ANNUAL RUNOFF (INCHES)	36.38		28.40		25.30	
10 PERCENT EXCEEDS	4,450		4,470		4,030	
50 PERCENT EXCEEDS	1,380		1,120		725	
90 PERCENT EXCEEDS	295		147		82	

e Estimated



03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-72, 1979 to 1990; July 1999 to Aug. 2000. Oct. 10, 2001 to current year. (Discontinued)

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--May 1980 to Sept. 1990, July 1999 to Aug. 22, 2000, Oct. 10, 2001 to current year.
pH.--May 1980 to Sept. 1990, July 1999 to Aug. 22, 2000, Oct. 10, 2001 to current year.
WATER TEMPERATURES.--May 1980 to Sept. 1990, July 1999 to Aug. 22, 2000. Oct. 10, 2001 to current year.
DISSOLVED OXYGEN.--May 1980 to Sept. 1990, Oct. 10, 2001 to current year.
TURBIDITY.--May 1980 to Sept. 1987 (discontinued).
SUSPENDED SEDIMENT DISCHARGE.--May 1980 to Sept. 1990 (discontinued).

INSTRUMENTATION.--Five parameter water-quality monitor and sediment pumping sampler May 1980 to Sept. 1990. Three parameter water-quality monitor from July 1999 to Aug. 22, 2000. Four parameter water-quality monitor with telemetry since Oct. 10, 2001.

REMARKS.--Miscellaneous samples prior to 1979. Miscellaneous measurements values may fall outside the range observed for that day by the water-quality monitor due to minor differences in sampling location.
SPECIFIC CONDUCTANCE.--Records rated poor.
pH.--Records rated poor.
WATER TEMPERATURES.--Records rated poor.
DISSOLVED OXYGEN.--Records rated poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--Maximum recorded, 434 microsiemens, July 17, 1985; minimum recorded, 37 microsiemens, Sept. 17, 2004.
pH.--Maximum recorded, 8.6 units, Aug. 10, 1989; minimum recorded, 5.2 units, May 19, 1980 and Nov. 24, 1980.
WATER TEMPERATURES.--Maximum recorded, 34.6°C, Aug. 31, Sept. 1, 1989; minimum recorded, 0.0 °C, Jan. 29, 2002 and Jan. 24-27, 2003.
DISSOLVED OXYGEN.--Maximum recorded, 15.6 mg/L, Jan. 31 and Feb. 1, 2003; minimum recorded, 4.5 mg/L, May 22, 1980.
SEDIMENT CONCENTRATIONS.--Maximum daily mean, 1980 mg/L, Aug. 9,1981; minimum daily mean, 0.0 mg/L, on several days in 1983-84, 1987-88.
SEDIMENT LOADS.--Maximum daily, 200,000 tons, Sept. 2, 1982; minimum daily, 0.04 tons, Nov. 25, 1987.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE.--Maximum recorded, 239 microsiemens, Aug. 19, 2005; minimum recorded 81 microsiemens, June 14, 2005.
pH.--Maximum recorded, 8.1 units, Aug. 1-3, 2005; minimum recorded, 7.1 units, May 23, and June 10-11, 2005.
WATER TEMPERATURES.--Maximum recorded, 30.1°C, Aug. 3, 2005; minimum recorded, 15.0°C, Oct. 18, 2004.
DISSOLVED OXYGEN.--Maximum recorded, 10.6 mg/L, May 21, 2005; minimum recorded, 6.1 mg/L, Aug. 14, 2005.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	123	120	121	112	109	110	---	---	---	---	---	---
2	124	123	123	110	109	110	---	---	---	---	---	---
3	128	124	126	110	109	109	---	---	---	105	103	104
4	130	128	129	110	77	98	---	---	---	107	106	106
5	132	130	131	129	74	102	---	---	---	106	104	105
6	134	132	132	89	87	87	---	---	---	104	102	103
7	136	134	135	89	87	88	93	74	80	103	100	102
8	137	136	137	91	89	90	106	78	89	100	79	85
9	137	137	137	94	91	93	---	---	---	95	80	90
10	138	137	137	96	94	95	---	---	---	80	75	76
11	140	138	138	99	96	98	---	---	---	77	72	76
12	141	140	140	99	71	89	---	---	---	83	70	77
13	141	140	141	88	72	76	---	---	---	80	75	77
14	141	140	141	77	73	75	---	---	---	77	74	75
15	142	140	140	80	77	78	---	---	---	---	---	---
16	150	142	147	83	80	81	---	---	---	---	---	---
17	150	145	147	86	83	84	---	---	---	---	---	---
18	160	146	153	89	85	86	---	---	---	---	---	---
19	169	156	164	91	89	89	---	---	---	---	---	---
20	166	112	135	91	90	91	---	---	---	---	---	---
21	112	95	98	93	91	92	---	---	---	---	---	---
22	99	95	96	95	93	94	---	---	---	---	---	---
23	103	99	101	96	95	96	---	---	---	---	---	---
24	105	103	104	96	88	93	---	---	---	---	---	---
25	106	105	105	123	81	98	---	---	---	---	---	---
26	106	105	106	---	---	---	---	---	---	---	---	---
27	111	106	108	---	---	---	---	---	---	---	---	---
28	112	111	111	80	78	79	---	---	---	---	---	---
29	156	112	121	---	---	---	---	---	---	---	---	---
30	162	108	130	86	78	85	---	---	---	---	---	---
31	112	107	110	---	---	---	---	---	---	---	---	---
MONTH	169	95	127	129	71	91	106	74	84	107	70	90

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	90	86	87	---	---	---
2	---	---	---	---	---	---	95	79	86	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	94	92	93	---	---	---
8	---	---	---	---	---	---	99	94	96	---	---	---
9	---	---	---	---	---	---	100	96	98	106	104	105
10	---	---	---	---	---	---	103	98	101	107	106	107
11	---	---	---	---	---	---	104	103	104	110	107	108
12	---	---	---	---	---	---	103	102	102	110	109	109
13	---	---	---	---	---	---	104	102	103	111	107	109
14	---	---	---	---	---	---	116	104	107	107	105	106
15	---	---	---	---	---	---	135	116	128	105	103	104
16	---	---	---	---	---	---	---	---	---	105	104	105
17	---	---	---	---	---	---	---	---	---	106	105	106
18	---	---	---	---	---	---	---	---	---	108	106	107
19	---	---	---	---	---	---	---	---	---	115	108	111
20	---	---	---	---	---	---	---	---	---	115	100	106
21	---	---	---	---	---	---	108	107	107	111	82	98
22	---	---	---	---	---	---	109	108	108	104	90	96
23	---	---	---	---	---	---	110	109	109	90	83	86
24	---	---	---	---	---	---	---	---	---	85	83	83
25	---	---	---	---	---	---	---	---	---	87	85	86
26	---	---	---	---	---	---	---	---	---	90	87	88
27	---	---	---	113	112	112	---	---	---	93	90	91
28	---	---	---	121	98	108	---	---	---	94	93	93
29	---	---	---	114	101	107	---	---	---	97	96	96
30	---	---	---	---	---	---	---	---	---	100	97	98
31	---	---	---	91	87	88	---	---	---	102	100	101
MONTH	---	---	---									

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	105	102	103	135	131	133	130	127	128	161	137	143
2	107	105	105	133	131	133	134	129	130	195	161	183
3	108	107	108	136	131	133	138	130	133	196	187	193
4	110	108	109	144	135	139	141	134	135	187	174	180
5	112	110	111	152	144	148	135	130	134	175	173	174
6	115	112	113	154	152	154	135	132	134	180	175	177
7	119	115	116	156	153	154	135	133	134	181	180	180
8	130	113	119	163	156	160	157	134	136	181	179	180
9	139	125	130	171	163	166	140	136	138	175	169	172
10	133	92	109	179	170	174	143	140	141	169	161	166
11	107	90	98	---	---	---	149	141	145	161	144	156
12	112	107	110	---	---	---	152	149	151	153	147	149
13	111	86	97	---	---	---	155	152	154	147	143	145
14	86	81	82	---	---	---	156	154	155	144	140	141
15	97	83	90	219	145	192	158	156	157	141	139	140
16	102	97	99	145	114	125	174	158	164	140	139	140
17	104	101	102	---	---	---	178	170	175	141	139	140
18	107	104	105	---	---	---	203	177	190	141	140	140
19	110	107	108	---	---	---	239	203	218	144	140	142
20	120	110	115	---	---	---	209	135	156	146	144	145
21	130	120	126	---	---	---	187	140	168	149	146	147
22	135	130	133	---	---	---	191	187	189	151	149	150
23	136	134	134	---	---	---	187	172	179	154	151	153
24	134	133	133	---	---	---	172	164	167	155	154	155
25	137	134	135	---	---	---	164	160	161	156	155	156
26	139	137	138	---	---	---	161	159	160	156	155	156
27	141	139	140	---	---	---	160	158	159	157	157	157
28	148	141	144	---	---	---	159	157	158	159	157	158
29	142	141	141	122	121	122	157	154	155	159	158	158
30	142	135	139	125	122	123	155	150	153	158	157	157
31	---	---	---	142	124	126	150	140	144	---	---	---
MONTH	148	81	116				239	127	155	196	137	158
YEAR	239	70	123									

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.6	7.4	7.5	7.5	---	---	---	---	---	---	---	---
2	7.6	7.4	7.6	7.5	---	---	---	---	---	---	---	---
3	7.6	7.4	7.6	7.5	---	---	7.5	7.4	---	---	---	---
4	7.7	7.5	7.6	7.3	---	---	7.5	7.4	---	---	---	---
5	7.7	7.5	7.6	7.3	---	---	7.5	7.4	---	---	---	---
6	7.7	7.5	7.5	7.4	---	---	7.5	7.4	---	---	---	---
7	7.7	7.5	7.5	7.4	7.3	7.2	7.5	7.4	---	---	---	---
8	7.7	7.5	7.5	7.5	7.4	7.3	7.5	7.3	---	---	---	---
9	7.7	7.5	7.6	7.5	7.3	7.0	7.4	7.3	---	---	---	---
10	7.7	7.5	7.6	7.6	7.0	7.0	7.3	7.2	---	---	---	---
11	7.8	7.6	7.6	7.5	7.2	7.0	7.2	7.1	---	---	---	---
12	7.7	7.6	7.5	7.3	---	---	7.2	7.1	---	---	---	---
13	7.7	7.6	7.3	7.2	---	---	7.2	7.1	---	---	---	---
14	7.7	7.6	7.3	7.2	---	---	7.2	7.1	---	---	---	---
15	7.7	7.6	7.4	7.3	---	---	---	---	---	---	---	---
16	7.8	7.6	7.4	7.4	---	---	---	---	---	---	---	---
17	7.8	7.7	7.5	7.4	---	---	---	---	---	---	---	---
18	7.7	7.6	7.5	7.4	---	---	---	---	---	---	---	---
19	7.7	7.6	7.5	7.4	---	---	---	---	---	---	---	---
20	7.6	7.4	7.5	7.5	---	---	---	---	---	---	---	---
21	7.4	7.3	7.6	7.5	---	---	---	---	---	---	---	---
22	7.4	7.3	7.6	7.5	---	---	---	---	---	---	---	---
23	7.5	7.4	7.6	7.5	---	---	---	---	---	---	---	---
24	7.5	7.4	7.5	7.4	---	---	---	---	---	---	---	---
25	7.6	7.5	7.6	7.4	---	---	---	---	---	---	---	---
26	7.6	7.5	---	---	---	---	---	---	---	---	---	---
27	7.6	7.5	---	---	---	---	---	---	---	---	7.3	7.3
28	7.6	7.5	7.5	7.4	---	---	---	---	---	---	7.3	7.1
29	7.7	7.5	---	---	---	---	---	---	---	---	7.3	7.1
30	7.7	7.4	7.5	7.2	---	---	---	---	---	---	---	---
31	7.5	7.4	---	---	---	---	---	---	---	---	7.1	7.1
MONTH	7.8	7.3										

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.1	7.1	---	---	7.6	7.4	7.5	7.4	8.1	7.6	7.8	7.6
2	7.1	7.0	---	---	7.6	7.4	7.6	7.3	8.1	7.6	8.0	7.7
3	---	---	---	---	7.5	7.4	7.6	7.3	8.1	7.6	8.0	7.8
4	---	---	---	---	7.5	7.4	7.7	7.4	7.9	7.6	7.9	7.7
5	---	---	---	---	7.5	7.4	7.6	7.4	7.9	7.6	7.9	7.7
6	---	---	---	---	7.5	7.4	7.6	7.4	7.9	7.6	8.0	7.7
7	7.0	7.0	---	---	7.6	7.4	7.7	7.4	7.8	7.6	8.0	7.7
8	7.1	7.0	---	---	7.5	7.4	7.8	7.5	7.7	7.5	7.8	7.7
9	7.1	7.1	7.3	7.2	7.5	7.2	7.9	7.5	7.8	7.5	8.0	7.7
10	7.2	7.1	7.3	7.2	7.3	7.1	7.9	7.5	7.7	7.5	8.0	7.7
11	7.2	7.1	7.3	7.1	7.2	7.1	---	---	7.8	7.5	7.9	7.6
12	7.2	7.1	7.3	7.1	7.5	7.2	---	---	7.9	7.6	7.9	7.6
13	7.2	7.1	7.3	7.1	7.4	7.3	---	---	7.8	7.6	7.9	7.6
14	7.3	7.2	7.3	7.1	7.3	7.2	---	---	7.9	7.6	7.9	7.6
15	7.4	7.3	7.3	7.1	7.4	7.2	7.7	7.6	7.8	7.6	7.8	7.6
16	---	---	7.4	7.2	7.4	7.2	7.6	7.5	7.8	7.6	7.7	7.5
17	---	---	7.6	7.4	7.5	7.4	---	---	7.8	7.6	7.8	7.5
18	---	---	7.6	7.3	7.5	7.4	---	---	7.7	7.6	7.8	7.6
19	---	---	7.6	7.4	7.5	7.4	---	---	7.7	7.6	7.9	7.6
20	---	---	7.5	7.3	7.5	7.4	---	---	7.6	7.4	7.9	7.7
21	7.3	7.2	7.3	7.2	7.5	7.3	---	---	7.7	7.4	8.0	7.7
22	7.2	7.2	7.2	7.2	7.6	7.4	---	---	7.8	7.5	8.0	7.7
23	7.2	7.2	7.2	7.1	7.6	7.5	---	---	7.9	7.5	8.0	7.7
24	---	---	7.3	7.2	7.9	7.6	---	---	7.9	7.5	8.0	7.7
25	---	---	7.3	7.2	7.9	7.6	---	---	7.9	7.5	8.0	7.7
26	---	---	7.4	7.3	7.9	7.6	---	---	7.8	7.5	7.9	7.7
27	---	---	7.5	7.3	7.8	7.6	---	---	7.7	7.5	7.9	7.7
28	---	---	7.4	7.3	7.8	7.5	---	---	7.7	7.4	7.9	7.7
29	---	---	7.5	7.4	7.9	7.5	7.7	7.5	7.7	7.5	7.9	7.7
30	---	---	7.6	7.4	7.7	7.5	8.0	7.5	7.6	7.5	7.8	7.7
31	---	---	7.6	7.4	---	---	8.1	7.6	7.7	7.5	---	---
MONTH					7.9	7.1			8.1	7.4	8.0	7.5
YEAR	8.1	7.0										

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.1	18.9	19.4	18.1	17.7	17.9	---	---	---	---	---	---
2	19.9	19.2	19.5	18.3	17.8	18.0	---	---	---	---	---	---
3	20.1	19.2	19.6	18.1	17.7	17.9	---	---	---	---	---	---
4	20.0	18.7	19.3	17.7	16.7	17.3	---	---	---	8.1	7.4	7.8
5	19.8	18.6	19.1	16.7	15.0	16.1	---	---	---	9.1	8.1	8.6
6	19.2	17.8	18.5	15.0	13.4	14.1	---	---	---	9.7	9.1	9.4
7	19.2	17.6	18.4	13.4	12.5	12.8	10.9	8.5	9.8	9.6	9.3	9.4
8	19.0	17.9	18.5	12.7	11.8	12.1	11.8	10.9	11.5	9.5	9.2	9.3
9	18.6	18.0	18.2	11.8	11.1	11.5	11.5	10.7	10.9	9.3	9.1	9.2
10	19.1	18.0	18.4	11.1	10.7	10.9	11.2	10.8	11.1	9.2	9.1	9.2
11	19.1	18.0	18.5	10.8	10.4	10.6	11.2	10.2	10.7	9.6	9.0	9.2
12	18.9	18.4	18.7	12.7	10.8	11.5	---	---	---	11.2	9.6	10.3
13	18.8	18.1	18.5	12.9	12.5	12.8	---	---	---	11.7	11.2	11.5
14	18.3	17.8	18.0	12.5	11.4	12.0	---	---	---	11.6	10.4	11.2
15	17.8	16.6	17.1	11.4	10.7	11.0	---	---	---	---	---	---
16	16.6	15.8	16.3	10.7	10.1	10.2	---	---	---	---	---	---
17	15.9	15.1	15.5	10.3	10.0	10.2	---	---	---	---	---	---
18	15.5	15.0	15.3	10.8	10.3	10.6	---	---	---	---	---	---
19	15.7	14.8	15.3	11.7	10.8	11.3	---	---	---	---	---	---
20	16.0	14.8	15.5	12.2	11.7	11.9	---	---	---	---	---	---
21	16.8	16.0	16.4	12.6	12.2	12.4	---	---	---	---	---	---
22	17.0	16.6	16.8	12.9	12.5	12.7	---	---	---	---	---	---
23	16.9	16.7	16.8	13.2	12.9	13.1	---	---	---	---	---	---
24	17.4	16.6	16.9	13.6	13.2	13.3	---	---	---	---	---	---
25	17.2	16.7	16.9	13.7	12.5	13.3	---	---	---	---	---	---
26	17.2	16.5	16.9	---	---	---	---	---	---	---	---	---
27	17.4	16.9	17.1	---	---	---	---	---	---	---	---	---
28	17.4	17.0	17.2	8.9	8.6	8.7	---	---	---	---	---	---
29	18.1	17.1	17.5	---	---	---	---	---	---	---	---	---
30	18.2	17.9	18.1	10.6	8.7	9.1	---	---	---	---	---	---
31	18.1	17.6	17.8	---	---	---	---	---	---	---	---	---
MONTH	20.1	14.8	17.6									
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	12.2	11.6	12.0	---	---	---
2	---	---	---	---	---	---	11.4	9.6	10.5	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	13.4	12.5	12.8	---	---	---
8	---	---	---	---	---	---	14.5	13.3	13.7	---	---	---
9	---	---	---	---	---	---	15.2	13.9	14.5	16.4	15.3	16.0
10	---	---	---	---	---	---	15.8	14.4	15.0	17.4	16.2	16.7
11	---	---	---	---	---	---	16.0	15.3	15.6	18.8	16.9	17.8
12	---	---	---	---	---	---	16.1	15.6	15.9	19.9	18.0	18.9
13	---	---	---	---	---	---	15.6	15.1	15.5	20.3	18.9	19.6
14	---	---	---	---	---	---	15.2	14.5	14.8	20.5	19.4	19.9
15	---	---	---	---	---	---	14.6	13.7	14.0	20.6	19.5	20.0
16	---	---	---	---	---	---	---	---	---	20.4	18.9	19.6
17	---	---	---	---	---	---	---	---	---	20.4	18.5	19.5
18	---	---	---	---	---	---	---	---	---	20.5	18.6	19.6
19	---	---	---	---	---	---	---	---	---	20.7	19.3	20.0
20	---	---	---	---	---	---	---	---	---	20.2	18.2	18.9
21	---	---	---	---	---	---	17.5	16.0	17.0	18.6	16.8	17.3
22	---	---	---	---	---	---	17.5	16.9	17.1	17.6	16.6	17.1
23	---	---	---	---	---	---	17.3	16.5	16.8	18.2	17.1	17.6
24	---	---	---	---	---	---	---	---	---	18.7	17.8	18.2
25	---	---	---	---	---	---	---	---	---	18.4	17.6	18.0
26	---	---	---	---	---	---	---	---	---	19.2	17.5	18.3
27	---	---	---	11.6	11.2	11.4	---	---	---	20.0	18.1	18.9
28	---	---	---	11.8	11.4	11.6	---	---	---	19.9	18.5	19.0
29	---	---	---	11.7	10.9	11.3	---	---	---	19.5	19.0	19.3
30	---	---	---	---	---	---	---	---	---	20.6	18.8	19.6
31	---	---	---	12.4	11.3	11.8	---	---	---	21.1	19.3	20.2
MONTH	---	---	---									

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.7	20.1	20.4	28.4	27.2	27.7	28.7	27.0	27.9	26.3	25.2	25.7
2	21.0	19.9	20.4	28.4	26.6	27.3	29.8	27.2	28.3	26.5	24.9	25.6
3	21.3	20.3	20.7	28.0	26.9	27.4	30.1	27.6	28.7	26.3	24.5	25.3
4	22.6	20.5	21.4	28.4	26.7	27.5	29.6	27.9	28.6	25.8	23.8	24.9
5	23.5	21.3	22.3	28.2	26.8	27.5	29.8	27.4	28.3	25.8	23.7	24.8
6	24.5	22.6	23.4	27.9	26.8	27.4	29.1	27.3	28.1	25.8	24.0	24.9
7	24.1	23.1	23.6	27.7	26.4	27.0	28.0	27.2	27.6	26.0	23.6	24.9
8	23.8	22.8	23.1	28.2	26.0	27.0	27.2	26.5	26.9	24.9	23.7	24.2
9	24.4	23.2	23.9	28.9	26.4	27.5	28.5	26.2	27.1	25.6	23.7	24.6
10	24.5	23.3	23.9	28.7	27.0	27.8	28.2	26.7	27.5	26.2	23.7	24.8
11	24.0	23.5	23.8	---	---	---	28.6	26.7	27.6	26.4	23.7	24.9
12	24.7	23.2	23.8	---	---	---	29.1	27.0	28.0	26.4	24.0	25.1
13	25.0	23.7	24.3	---	---	---	28.3	27.4	27.8	26.0	23.7	24.8
14	25.7	23.9	24.7	---	---	---	29.5	27.0	28.1	25.8	23.7	24.7
15	26.0	24.2	25.0	25.7	21.7	23.7	29.3	27.6	28.3	26.4	23.9	25.1
16	25.7	24.3	25.0	22.0	21.3	21.5	28.4	27.0	27.7	26.2	24.7	25.4
17	26.0	23.8	24.9	---	---	---	27.9	26.7	27.3	26.2	24.5	25.2
18	25.3	24.0	24.7	---	---	---	27.6	26.8	27.1	26.0	23.6	24.8
19	25.8	23.5	24.6	---	---	---	27.7	26.8	27.2	25.9	23.9	24.8
20	26.1	23.9	25.0	---	---	---	27.8	26.8	27.3	25.7	24.2	24.9
21	26.1	24.3	25.2	---	---	---	28.5	26.9	27.6	26.0	23.9	24.9
22	26.8	24.5	25.5	---	---	---	28.1	27.1	27.6	26.0	24.2	25.0
23	28.0	25.1	26.3	---	---	---	28.6	26.8	27.6	26.2	24.1	25.1
24	27.8	25.5	26.6	---	---	---	28.8	26.8	27.7	26.2	24.4	25.3
25	28.1	25.6	26.8	---	---	---	28.2	26.6	27.4	25.5	24.4	24.9
26	28.5	26.3	27.2	---	---	---	27.7	27.0	27.4	25.1	24.2	24.6
27	28.1	26.4	27.2	---	---	---	27.5	26.7	27.0	25.5	23.8	24.4
28	28.1	26.1	27.0	---	---	---	27.4	26.3	26.8	24.5	22.9	23.9
29	29.3	26.7	27.7	28.0	26.6	27.5	26.8	26.3	26.6	24.3	23.2	23.6
30	29.2	27.2	28.2	28.2	26.5	27.3	26.4	25.8	26.2	23.2	21.8	22.4
31	---	---	---	28.7	26.6	27.6	26.4	25.2	25.8	---	---	---
MONTH	29.3	19.9	24.6				30.1	25.2	27.5	26.5	21.8	24.8
YEAR	30.1	7.4	20.2									

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.5	8.1	8.3	9.3	9.1	9.2	12.6	12.3	12.5	---	---	---
2	8.5	8.0	8.2	9.3	9.0	9.1	---	---	---	---	---	---
3	8.4	8.0	8.2	9.3	9.0	9.1	---	---	---	---	---	---
4	8.6	8.1	8.3	9.6	9.0	9.2	---	---	---	14.7	14.1	14.4
5	8.9	8.4	8.7	10.2	9.5	9.9	---	---	---	14.0	13.3	13.7
6	9.1	8.6	8.8	10.9	10.2	10.5	---	---	---	13.3	12.9	13.0
7	9.1	8.7	8.9	11.2	10.9	11.1	13.8	12.5	13.0	13.1	12.9	13.0
8	9.1	8.6	8.9	11.7	11.2	11.5	12.4	12.0	12.2	13.6	13.0	13.3
9	9.0	8.6	8.8	12.2	11.6	12.0	12.8	12.1	12.4	13.7	13.5	13.6
10	9.0	8.5	8.8	12.4	12.2	12.3	12.8	12.2	12.5	13.6	13.5	13.6
11	9.0	8.6	8.7	12.6	12.2	12.4	13.0	12.2	12.6	13.7	13.2	13.4
12	8.9	8.3	8.7	12.3	11.5	11.9	---	---	---	13.2	12.4	12.9
13	8.8	8.4	8.6	11.6	11.4	11.5	---	---	---	12.4	11.8	12.1
14	9.0	8.6	8.8	12.0	11.6	11.8	---	---	---	13.0	11.9	12.3
15	9.1	8.7	8.9	12.4	12.0	12.3	---	---	---	---	---	---
16	9.5	9.0	9.2	12.8	12.4	12.6	---	---	---	---	---	---
17	9.8	9.4	9.6	12.8	12.6	12.7	---	---	---	---	---	---
18	9.8	9.6	9.7	12.7	12.3	12.5	---	---	---	---	---	---
19	10.3	9.6	9.8	12.3	11.7	12.0	---	---	---	---	---	---
20	10.3	9.7	10.0	11.8	11.4	11.6	---	---	---	---	---	---
21	9.8	9.3	9.5	11.4	11.1	11.3	---	---	---	---	---	---
22	9.6	9.3	9.4	11.3	10.9	11.1	---	---	---	---	---	---
23	9.5	9.3	9.4	11.0	10.7	10.9	---	---	---	---	---	---
24	9.6	9.3	9.4	10.8	10.5	10.6	---	---	---	---	---	---
25	9.5	9.2	9.4	11.3	10.6	10.9	---	---	---	---	---	---
26	9.5	9.2	9.4	---	---	---	---	---	---	---	---	---
27	9.5	9.2	9.3	---	---	---	---	---	---	---	---	---
28	9.5	9.2	9.3	13.5	13.3	13.4	---	---	---	---	---	---
29	9.4	8.9	9.2	---	---	---	---	---	---	---	---	---
30	9.0	8.8	8.9	13.5	12.4	13.2	---	---	---	---	---	---
31	9.2	8.8	9.1	---	---	---	---	---	---	---	---	---
MONTH	10.3	8.0	9.0									
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	12.5	12.1	12.2	---	---	---
2	---	---	---	---	---	---	14.0	12.5	13.2	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	12.2	11.6	11.9	---	---	---
8	---	---	---	---	---	---	11.6	11.1	11.4	---	---	---
9	---	---	---	---	---	---	11.3	10.9	11.1	11.5	10.9	11.2
10	---	---	---	---	---	---	11.1	10.7	11.0	10.9	10.4	10.7
11	---	---	---	---	---	---	10.8	10.5	10.7	10.4	10.0	10.3
12	---	---	---	---	---	---	10.6	10.2	10.4	10.0	9.6	9.8
13	---	---	---	---	---	---	10.7	10.4	10.5	9.7	9.5	9.6
14	---	---	---	---	---	---	11.2	10.7	11.0	9.6	9.3	9.5
15	---	---	---	---	---	---	11.6	11.2	11.4	9.5	9.2	9.4
16	---	---	---	---	---	---	---	---	---	9.6	9.3	9.5
17	---	---	---	---	---	---	---	---	---	9.6	8.2	9.0
18	---	---	---	---	---	---	---	---	---	9.1	8.5	8.7
19	---	---	---	---	---	---	---	---	---	9.0	7.9	8.5
20	---	---	---	---	---	---	---	---	---	9.6	7.8	9.1
21	---	---	---	---	---	---	10.8	10.2	10.5	10.6	9.0	10.1
22	---	---	---	---	---	---	10.3	10.0	10.2	10.1	9.0	9.7
23	---	---	---	---	---	---	10.2	9.9	10.0	9.1	8.7	8.9
24	---	---	---	---	---	---	---	---	---	9.1	8.5	8.8
25	---	---	---	---	---	---	---	---	---	9.4	8.8	9.1
26	---	---	---	---	---	---	---	---	---	9.1	8.2	8.8
27	---	---	---	13.4	12.5	12.8	---	---	---	8.2	7.8	8.0
28	---	---	---	12.4	12.1	12.3	---	---	---	8.1	7.6	7.9
29	---	---	---	12.9	12.2	12.6	---	---	---	8.3	7.9	8.2
30	---	---	---	---	---	---	---	---	---	8.5	7.8	8.1
31	---	---	---	12.8	12.1	12.4	---	---	---	8.3	7.6	8.0
MONTH	---	---	---									

03410500 SOUTH FORK CUMBERLAND RIVER NEAR STEARNS, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.3	7.4	7.8	7.3	6.7	7.0	7.6	6.8	7.2	7.5	7.0	7.2
2	8.2	7.6	7.9	7.6	6.7	7.1	7.6	6.7	7.1	7.6	7.0	7.3
3	8.2	7.6	7.9	7.5	6.8	7.1	7.5	6.5	7.0	7.6	7.1	7.3
4	7.9	7.3	7.6	7.6	6.8	7.2	7.3	6.4	6.8	7.8	7.2	7.4
5	7.6	7.0	7.5	7.6	6.8	7.1	7.4	6.4	6.8	7.8	7.2	7.4
6	7.3	6.8	7.1	7.4	6.8	7.1	7.3	6.3	6.7	8.1	7.2	7.6
7	8.2	6.8	7.3	7.5	6.7	7.0	7.2	6.3	6.7	8.1	7.4	7.7
8	8.9	8.1	8.6	7.6	6.7	7.1	7.3	6.4	6.8	7.7	7.3	7.4
9	9.0	7.8	8.6	7.5	6.6	7.0	7.4	6.6	6.9	8.1	7.3	7.6
10	8.7	7.4	8.2	7.5	6.5	7.0	7.2	6.5	6.8	8.0	7.3	7.6
11	9.1	7.7	8.6	---	---	---	7.2	6.4	6.7	8.0	7.2	7.5
12	8.6	8.3	8.5	---	---	---	7.0	6.3	6.6	8.0	7.2	7.5
13	8.5	8.0	8.3	---	---	---	6.7	6.2	6.4	8.0	7.1	7.5
14	8.5	7.9	8.2	7.4	7.2	7.3	7.1	6.1	6.5	7.9	7.2	7.5
15	8.2	7.8	8.0	7.8	6.9	7.4	7.0	6.2	6.6	8.0	7.2	7.5
16	8.1	7.7	7.9	7.8	7.7	7.8	7.1	6.4	6.7	7.7	7.1	7.4
17	8.1	7.7	7.9	---	---	---	7.0	6.5	6.7	7.9	7.0	7.4
18	8.1	7.6	7.9	---	---	---	6.9	6.4	6.6	7.9	6.8	7.4
19	7.8	7.2	7.5	---	---	---	6.7	6.4	6.6	8.0	7.3	7.6
20	7.2	6.8	7.0	---	---	---	6.8	6.5	6.6	8.0	7.3	7.6
21	7.2	6.8	7.0	---	---	---	7.1	6.5	6.7	8.2	7.4	7.7
22	7.2	6.9	7.0	---	---	---	7.2	6.4	6.8	8.2	7.1	7.6
23	7.3	7.0	7.1	---	---	---	7.4	6.5	6.9	8.2	7.4	7.7
24	7.8	7.0	7.3	---	---	---	7.4	6.5	6.9	8.3	7.4	7.8
25	7.5	6.7	7.1	---	---	---	7.6	6.6	7.1	8.1	7.3	7.7
26	7.3	6.4	6.9	---	---	---	7.3	6.6	7.0	8.0	7.2	7.6
27	7.4	6.5	7.0	---	---	---	7.2	6.5	6.8	8.2	7.3	7.7
28	7.6	7.0	7.2	---	---	---	7.3	6.6	6.9	8.2	7.5	7.8
29	7.3	6.5	7.0	7.3	6.6	7.1	7.2	6.6	6.8	8.0	7.5	7.7
30	7.6	6.5	7.1	7.5	6.6	7.1	7.0	6.6	6.8	7.8	7.6	7.6
31	---	---	---	7.7	6.7	7.2	7.4	6.8	7.1	---	---	---
MONTH	9.1	6.4	7.6				7.6	6.1	6.8	8.3	6.8	7.5
YEAR	14.7	6.1	9.0									

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03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY

LOCATION.--Lat 36°43'32", long 84°32'38", McCreary County, Hydrologic Unit 05130104, on left bank 200 ft upstream of bridge on State Highway 92 at Yamacraw, 700 feet upstream from Wolf Creek, 0.6 mile downstream from Rock Creek, and at mile 40.3.

DRAINAGE AREA.--1,083 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1999 to September 30, 2000, October 1, 2002 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 711.166 ft above NGVD of 1929.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	395	1,530	36,600	e1,100	e2,200	e2,800	e3,700	e11,000	e380	e170	263	601
2	376	1,270	16,700	e1,050	e1,900	e2,500	e12,000	e6,000	e350	e190	245	473
3	362	1,070	7,620	e1,300	e3,200	e2,100	e14,000	e4,000	e340	e240	230	324
4	333	3,890	4,810	e1,350	e4,100	e1,900	e7,200	e2,800	e360	e230	212	251
5	309	9,570	3,490	e1,250	e3,100	e1,800	e4,500	e2,200	e400	e260	206	205
6	283	4,450	3,170	e1,350	e2,500	e1,650	e3,400	e1,800	e350	e300	232	171
7	260	2,900	9,300	e2,000	e2,100	e1,500	e2,700	e1,500	e820	e230	218	150
8	245	2,130	14,500	e7,400	e1,900	e1,700	e3,200	e1,300	e950	e180	212	138
9	233	1,620	18,200	e9,200	e1,800	e2,200	e3,400	e1,150	e700	e160	259	128
10	226	1,310	29,000	e5,600	e1,700	e1,900	e2,700	e1,050	e780	e150	431	119
11	223	1,140	e16,000	e4,000	e1,550	e1,800	e2,200	e950	e960	e160	394	109
12	225	6,840	e9,000	e13,000	e1,400	e1,700	e2,000	e880	e700	e180	302	104
13	254	13,200	e6,000	e8,200	e1,500	e1,500	e2,050	e820	e550	e210	252	99
14	314	5,660	e4,000	e12,500	e3,700	e1,350	e3,500	e740	e480	e420	229	95
15	594	3,530	e3,000	e8,000	e6,600	e1,250	e4,100	e780	e520	4,680	232	93
16	474	2,580	e2,500	e5,000	e4,400	e1,150	e2,900	e800	e400	2,230	403	90
17	404	2,060	e2,100	e3,600	e3,200	e1,250	e2,300	e640	e330	1,380	370	90
18	359	1,730	e1,900	e2,700	e2,500	e1,350	e2,000	e540	e270	1,230	380	96
19	1,130	1,520	e1,700	e2,200	e2,200	e1,300	e1,700	e490	e230	1,400	1,170	138
20	7,550	1,420	e1,500	e1,900	e2,100	e1,250	e1,500	e2,300	e210	1,740	1,120	153
21	3,370	1,430	e1,300	e1,650	e5,800	e1,200	e1,300	e6,800	e190	1,370	593	141
22	2,070	1,310	e1,200	e1,450	e11,000	e1,180	e1,200	e3,100	e180	2,330	378	122
23	1,480	1,210	e1,500	e1,300	e6,200	e1,170	e1,400	e1,900	e160	2,740	285	108
24	1,230	2,880	e2,400	e1,150	e3,800	e1,160	e1,450	e1,400	e170	1,120	232	100
25	1,170	11,900	e1,900	e1,050	e3,100	e1,050	e1,200	e1,100	e150	731	202	93
26	1,020	6,160	e1,700	e1,000	e2,600	e1,100	e1,150	e880	e135	542	180	91
27	864	3,880	e1,500	e950	e2,100	e1,000	e1,300	e720	e140	444	166	93
28	831	3,420	e1,400	e920	e1,900	4,590	e1,500	e620	e170	382	158	96
29	2,470	3,140	e1,300	e1,100	---	8,320	e6,000	e520	e150	331	154	108
30	2,890	5,020	e1,200	e2,200	---	e4,000	e17,000	e460	e135	314	523	171
31	1,990	---	e1,150	e2,700	---	e3,600	---	e410	---	288	415	---
TOTAL	33,934	109,770	207,640	108,170	90,150	62,320	114,550	59,650	11,660	26,332	10,646	4,750
MEAN	1,095	3,659	6,698	3,489	3,220	2,010	3,818	1,924	389	849	343	158
MAX	7,550	13,200	36,600	13,000	11,000	8,320	17,000	11,000	960	4,680	1,170	601
MIN	223	1,070	1,150	920	1,400	1,000	1,150	410	135	150	154	90
CFSM	1.01	3.38	6.18	3.22	2.97	1.86	3.53	1.78	0.36	0.78	0.32	0.15
IN.	1.17	3.77	7.13	3.72	3.10	2.14	3.93	2.05	0.40	0.90	0.37	0.16

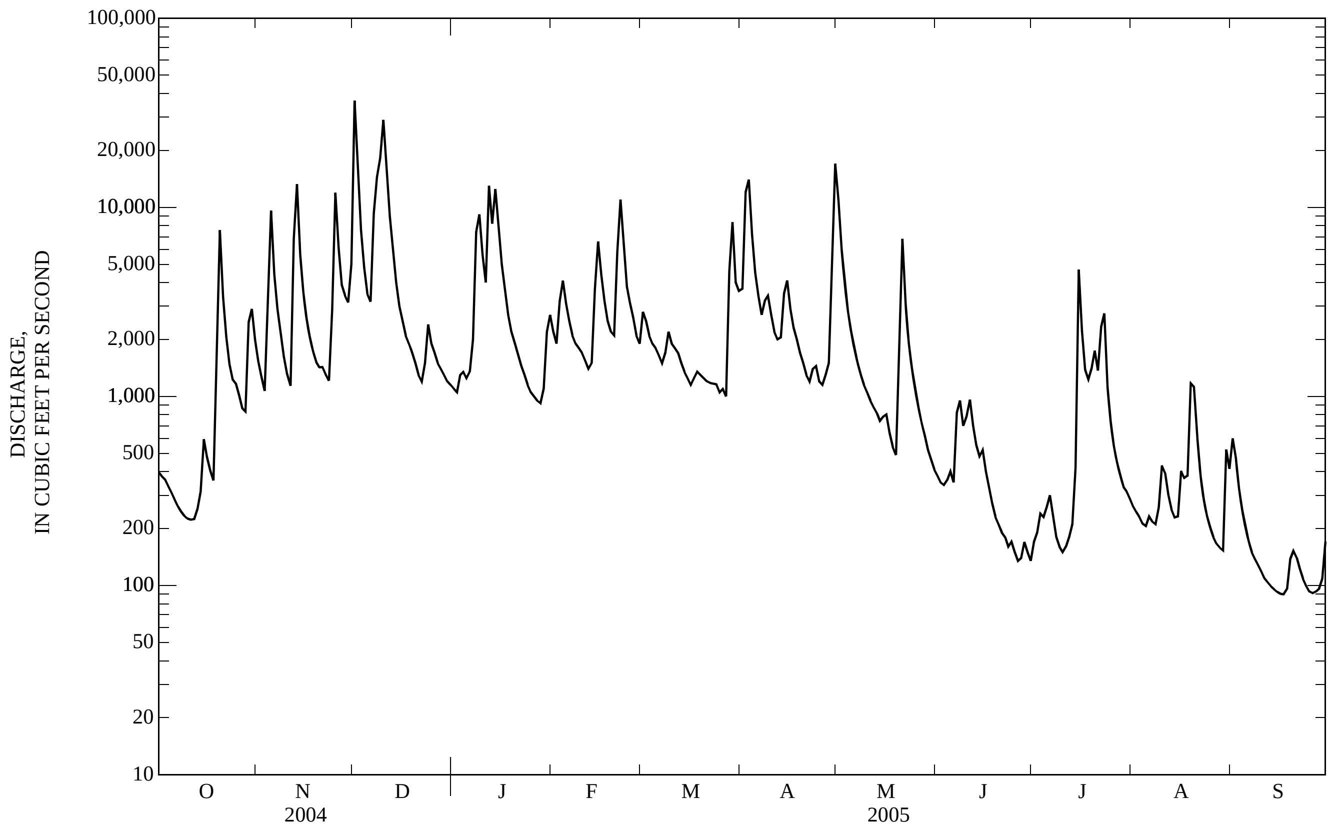
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	507	2,055	3,684	2,125	4,507	2,612	4,547	2,492	1,575	988	477	1,517
MAX	1,095	3,659	6,698	3,489	7,876	4,539	6,502	4,448	2,696	2,092	843	3,996
(WY)	(2005)	(2005)	(2005)	(2005)	(2003)	(2004)	(2003)	(2003)	(2003)	(1999)	(2004)	(2004)
MIN	75.6	137	305	959	2,131	1,394	3,344	1,720	389	255	180	40.3
(WY)	(2000)	(2000)	(2000)	(2003)	(2000)	(2003)	(2004)	(2004)	(2005)	(2000)	(1999)	(1999)

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	1,127,717		839,572			
ANNUAL MEAN	3,081		2,300		2,247	
HIGHEST ANNUAL MEAN					2,930	2003
LOWEST ANNUAL MEAN					1,143	2000
HIGHEST DAILY MEAN	43,800	Feb 6	36,600	Dec 1	43,800	Feb 6, 2004
LOWEST DAILY MEAN	222	Aug 20	90	Sep 16	25	Sep 27, 1999
ANNUAL SEVEN-DAY MINIMUM	238	Oct 7	95	Sep 12	25	Sep 26, 1999
MAXIMUM PEAK FLOW			45,100	Dec 1	74,800	Sep 17, 2004
MAXIMUM PEAK STAGE			27.28	Dec 1	33.46	Sep 17, 2004
ANNUAL RUNOFF (CFSM)	2.85		2.12		2.07	
ANNUAL RUNOFF (INCHES)	38.74		28.84		28.19	
10 PERCENT EXCEEDS	5,790		5,620		4,700	
50 PERCENT EXCEEDS	1,680		1,250		1,100	
90 PERCENT EXCEEDS	363		170		159	

e Estimated



03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct. 1, 2002 to current year. (Discontinued)

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

INSTRUMENTATION.-- Water-quality monitor with telemetry.

REMARKS.--

SPECIFIC CONDUCTANCE.--Records rated fair. Missing record Oct. 19 to Nov. 16, Dec. 25-31, 2004, Jan. 1-6, and July 2-11, 2005.

pH.--Records rated good. Missing record July 4-11, 2005.

WATER TEMPERATURES.--Records rated excellent. Missing record July 4-11, 2005.

DISSOLVED OXYGEN.--Records rated poor. Missing record Oct. 19 to Nov. 16, Dec. 7-31, 2004, Jan. 1 to Apr 14, June 8-24, and July 2-12, 2005.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE.--Maximum recorded, 322 microsiemens, Feb. 14, 2005; minimum recorded, 45 microsiemens, Dec. 9-10, 2004.

pH.--Maximum 8.2 units, July 2-3, 2005; minimum recorded, 6.2 units, Nov. 4, 2004.

WATER TEMPERATURES.--Maximum recorded, 30.0°C, June 30, 2005; minimum recorded, 1.4°C, Dec. 28, 2004.

DISSOLVED OXYGEN.--Maximum recorded, 11.1 mg/L, Nov. 17, 2004; minimum recorded, 3.9 mg/L, Oct. 2, 2004.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	125	123	124	---	---	---	60	48	54	---	---	---
2	127	125	126	---	---	---	60	54	57	---	---	---
3	131	127	128	---	---	---	68	60	64	---	---	---
4	131	128	130	---	---	---	74	68	71	---	---	---
5	134	131	132	---	---	---	77	73	75	---	---	---
6	135	133	134	---	---	---	80	77	78	---	---	---
7	137	135	136	---	---	---	78	60	69	106	104	105
8	139	137	138	---	---	---	90	66	77	141	106	125
9	143	139	140	---	---	---	69	45	59	120	80	100
10	144	142	143	---	---	---	62	45	55	80	71	74
11	145	143	144	---	---	---	60	57	58	99	71	91
12	146	144	145	---	---	---	64	60	61	116	70	96
13	147	145	146	---	---	---	72	64	68	77	68	71
14	146	144	146	---	---	---	78	71	74	100	70	91
15	146	140	142	---	---	---	87	77	82	78	70	73
16	141	140	140	---	---	---	94	85	89	99	78	89
17	145	141	143	83	79	81	100	93	96	116	99	106
18	150	145	148	87	83	85	107	96	100	136	116	127
19	---	---	---	90	87	88	111	99	103	147	136	142
20	---	---	---	92	89	91	118	106	113	153	147	150
21	---	---	---	94	92	93	121	112	115	160	153	157
22	---	---	---	97	94	95	126	115	119	165	160	163
23	---	---	---	100	97	99	127	116	121	169	165	167
24	---	---	---	104	88	98	124	108	114	171	169	171
25	---	---	---	118	79	96	---	---	---	173	171	172
26	---	---	---	79	75	76	---	---	---	174	173	173
27	---	---	---	77	75	76	---	---	---	174	173	173
28	---	---	---	79	77	78	---	---	---	176	173	174
29	---	---	---	84	79	81	---	---	---	174	172	173
30	---	---	---	89	60	82	---	---	---	172	170	172
31	---	---	---	---	---	---	---	---	---	170	160	165
MONTH												

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	160	156	158	278	269	274	138	125	132	73	65	70
2	175	158	165	278	276	277	138	71	110	75	73	73
3	203	175	188	279	276	278	73	68	71	79	75	77
4	219	200	204	283	279	281	74	70	71	82	79	80
5	236	219	231	288	283	285	76	72	74	85	82	83
6	240	236	238	291	288	289	80	76	77	88	85	87
7	246	239	242	292	290	291	84	79	81	92	88	90
8	255	246	250	294	291	293	89	84	86	95	91	93
9	265	255	260	295	293	294	96	89	94	99	95	97
10	272	265	268	294	291	293	97	86	89	102	99	101
11	276	271	273	292	287	289	94	91	92	105	102	103
12	281	276	278	288	279	284	94	92	94	107	104	105
13	284	280	282	279	270	275	93	91	92	111	107	109
14	322	283	295	270	258	264	97	92	93	113	109	111
15	321	296	308	258	247	254	122	97	114	111	109	110
16	296	270	282	248	240	244	116	94	102	110	107	109
17	270	258	263	240	231	237	94	92	93	112	109	111
18	258	255	256	231	221	227	94	92	92	116	112	114
19	257	254	256	221	212	216	95	94	94	118	116	116
20	264	257	260	212	199	207	96	95	95	119	99	111
21	271	264	269	199	186	194	99	96	97	109	88	99
22	272	263	266	187	154	175	100	98	99	104	96	101
23	268	265	266	154	140	146	102	100	101	96	93	94
24	266	257	262	140	138	139	102	101	101	94	92	92
25	258	253	255	138	129	134	103	102	102	95	92	93
26	255	252	254	129	122	126	105	103	104	97	95	96
27	260	254	256	122	113	118	104	103	104	100	97	99
28	269	260	263	199	97	131	105	103	104	103	100	102
29	---	---	---	190	90	119	108	87	104	106	103	104
30	---	---	---	105	90	97	96	62	74	110	105	107
31	---	---	---	125	105	116	---	---	---	112	110	111
MONTH	322	156	252	295	90	221	138	62	95	119	65	98
		JUNE			JULY			AUGUST			SEPTEMBER	
1	115	112	113	147	145	146	140	136	138	157	145	152
2	118	115	116	---	---	---	143	139	140	145	141	143
3	119	117	118	---	---	---	144	140	142	172	144	162
4	121	119	120	---	---	---	147	143	144	195	172	188
5	122	121	121	---	---	---	149	145	147	199	195	197
6	124	121	122	---	---	---	151	146	149	199	193	195
7	127	124	125	---	---	---	151	147	149	193	186	188
8	127	124	125	---	---	---	152	147	149	187	183	185
9	133	126	129	---	---	---	151	147	149	186	185	185
10	137	133	136	---	---	---	150	144	147	190	186	188
11	137	115	127	---	---	---	149	145	147	193	190	192
12	115	112	113	---	170	172	152	148	150	195	192	194
13	121	114	117	178	174	176	155	150	153	195	194	194
14	122	117	121	182	178	180	160	155	157	195	192	193
15	119	105	111	212	177	196	164	160	162	192	189	190
16	106	104	105	196	125	149	165	161	163	189	185	187
17	111	106	109	125	117	120	165	160	163	186	181	183
18	117	111	114	120	111	114	168	165	166	181	177	178
19	120	117	119	118	111	114	214	168	187	177	170	174
20	124	119	122	146	118	132	234	184	214	170	156	161
21	126	123	125	170	146	164	184	142	158	156	152	154
22	130	126	128	166	132	159	165	145	155	154	152	153
23	135	128	133	157	116	142	189	165	181	156	153	155
24	138	131	135	116	104	107	193	189	191	159	156	158
25	141	133	138	112	104	108	192	186	188	162	159	161
26	145	140	143	119	112	115	187	180	183	164	162	163
27	146	142	144	128	118	124	180	174	177	168	163	166
28	147	144	145	134	128	132	175	172	173	172	168	170
29	148	143	146	136	133	134	172	169	171	175	172	174
30	147	142	145	137	134	135	172	161	167	175	172	173
31	---	---	---	138	135	136	161	156	157	---	---	---
MONTH	148	104	126				234	136	162	199	141	175
YEAR	322	45	146									

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.2	7.1	6.9	6.5	7.0	6.8	7.2	7.2	7.4	7.3	7.4	7.3
2	7.2	7.1	7.1	6.3	6.9	6.8	7.2	7.1	7.5	7.4	7.4	7.3
3	7.2	7.1	6.9	6.6	6.9	6.9	7.1	7.1	7.6	7.5	7.4	7.4
4	7.3	7.1	6.8	6.2	6.9	6.9	7.1	7.1	7.6	7.6	7.4	7.4
5	7.3	7.1	6.7	6.3	7.0	6.9	7.2	7.1	7.6	7.5	7.4	7.4
6	7.2	7.1	6.8	6.7	7.0	6.9	7.2	7.2	7.5	7.5	7.4	7.4
7	7.2	7.1	6.8	6.7	7.0	7.0	7.1	7.0	7.5	7.5	7.4	7.4
8	7.2	7.1	7.0	6.8	7.0	6.8	7.1	7.0	7.6	7.5	7.4	7.4
9	7.1	7.1	7.1	7.0	6.9	6.7	7.5	7.0	7.6	7.5	7.4	7.4
10	7.2	7.0	7.1	7.1	6.9	6.6	7.4	7.2	7.6	7.5	7.4	7.4
11	7.2	7.1	7.1	7.0	6.8	6.7	7.4	6.9	7.6	7.6	7.4	7.4
12	7.2	7.1	7.0	6.3	6.8	6.8	7.3	6.9	7.6	7.6	7.5	7.4
13	7.1	7.1	6.8	6.3	6.9	6.8	7.3	7.1	7.7	7.6	7.4	7.4
14	7.2	7.1	7.1	6.8	6.9	6.9	7.1	6.9	7.7	7.5	7.4	7.4
15	7.2	7.1	7.1	7.1	6.9	6.9	7.2	7.1	7.5	7.5	7.4	7.4
16	7.2	7.1	7.1	7.0	6.9	6.9	7.1	7.0	7.5	7.5	7.4	7.4
17	7.2	7.1	7.0	7.0	6.9	6.9	7.3	7.0	7.5	7.5	7.4	7.4
18	7.2	7.1	7.0	7.0	6.9	6.8	7.5	7.3	7.5	7.5	7.4	7.4
19	7.2	7.1	7.0	7.0	6.8	6.8	7.5	7.5	7.5	7.5	7.4	7.4
20	7.2	7.0	7.0	7.0	6.9	6.8	7.5	7.5	7.5	7.5	7.4	7.3
21	7.1	6.8	7.1	7.0	6.9	6.8	7.6	7.5	7.5	7.4	7.3	7.2
22	6.8	6.7	7.1	7.1	6.8	6.8	7.7	7.6	7.4	7.4	7.2	7.0
23	6.8	6.7	7.1	7.1	6.8	6.8	7.8	7.7	7.4	7.4	7.0	6.8
24	6.7	6.6	7.2	7.0	6.8	6.8	7.8	7.8	7.4	7.4	6.8	6.8
25	6.6	6.5	7.3	7.2	6.9	6.8	7.8	7.8	7.4	7.4	6.9	6.8
26	6.7	6.5	7.2	7.1	6.9	6.9	7.8	7.8	7.4	7.4	6.8	6.7
27	6.7	6.5	7.1	7.1	6.9	6.9	7.8	7.8	7.4	7.4	6.7	6.7
28	6.7	6.5	7.1	7.1	7.0	6.9	7.8	7.8	7.4	7.4	7.2	6.7
29	6.9	6.5	7.1	7.1	7.1	7.0	7.8	7.8	---	---	7.2	6.8
30	6.7	6.6	7.1	6.9	7.1	7.1	7.8	7.7	---	---	7.3	6.7
31	6.7	6.6	---	---	7.2	7.1	7.7	7.4	---	---	6.7	6.7
MONTH	7.3	6.5	7.3	6.2	7.2	6.6	7.8	6.9	7.7	7.3	7.5	6.7
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.9	6.7	7.2	7.1	7.6	7.5	7.7	7.6	7.4	7.2	7.5	7.3
2	7.1	6.7	7.2	7.1	7.6	7.4	8.2	7.6	7.4	7.2	7.5	7.4
3	7.2	6.7	7.2	7.1	7.6	7.5	8.2	7.4	7.3	7.2	7.6	7.4
4	7.2	6.9	7.2	7.2	7.6	7.5	---	---	7.3	7.2	7.7	7.4
5	7.2	6.9	7.2	7.2	7.7	7.5	---	---	7.4	7.2	7.8	7.4
6	7.2	6.9	7.3	7.2	7.7	7.5	---	---	7.3	7.2	7.6	7.4
7	7.0	6.8	7.3	7.2	7.6	7.4	---	---	7.3	7.2	7.6	7.4
8	6.8	6.7	7.3	7.2	7.6	7.3	---	---	7.3	7.2	7.6	7.4
9	6.7	6.6	7.3	7.3	7.3	7.2	---	---	7.5	7.2	7.7	7.4
10	7.2	6.6	7.3	7.3	7.4	7.2	---	---	7.5	7.3	7.6	7.5
11	7.3	7.0	7.4	7.3	7.2	7.2	---	---	7.6	7.3	7.6	7.4
12	7.3	7.0	7.5	7.4	7.3	7.2	7.2	7.2	7.6	7.4	7.5	7.4
13	7.3	7.1	7.5	7.3	7.4	7.2	7.2	7.2	7.5	7.3	7.6	7.5
14	7.4	7.1	7.3	7.2	7.4	7.2	7.3	7.2	7.5	7.3	7.5	7.4
15	7.6	7.4	7.3	7.2	7.4	7.2	7.5	7.3	7.5	7.3	7.5	7.4
16	7.5	7.3	7.4	7.2	7.3	7.2	7.4	7.1	7.5	7.3	7.4	7.4
17	7.3	7.3	7.4	7.2	7.4	7.2	7.2	7.1	7.5	7.3	7.5	7.4
18	7.3	7.2	7.3	7.2	7.4	7.2	7.2	7.0	7.3	7.2	7.5	7.4
19	7.2	7.1	7.3	7.2	7.5	7.2	7.2	7.0	7.5	7.1	7.5	7.4
20	7.2	7.1	7.5	7.2	7.5	7.2	7.4	7.2	7.5	7.4	7.6	7.3
21	7.2	7.1	7.6	7.4	7.5	7.2	7.5	7.3	7.4	7.2	7.6	7.4
22	7.1	7.1	7.5	7.5	7.6	7.3	7.5	7.4	7.4	7.1	7.6	7.4
23	7.2	7.1	7.5	7.4	7.5	7.3	7.5	7.2	7.5	7.2	7.6	7.4
24	7.3	7.2	7.4	7.4	7.6	7.3	7.2	7.0	7.5	7.3	7.5	7.4
25	7.4	7.3	7.4	7.4	7.6	7.5	7.0	6.9	7.6	7.3	7.5	7.4
26	7.3	7.2	7.5	7.4	7.7	7.5	7.1	6.9	7.4	7.3	7.7	7.4
27	7.3	7.2	7.5	7.4	7.7	7.5	7.2	7.0	7.4	7.3	7.6	7.5
28	7.3	7.3	7.5	7.4	7.7	7.5	7.2	7.1	7.5	7.3	7.6	7.5
29	7.5	7.3	7.6	7.4	7.7	7.5	7.3	7.2	7.4	7.3	7.5	7.5
30	7.4	7.1	7.6	7.4	7.7	7.5	7.3	7.2	7.3	7.2	7.6	7.5
31	---	---	7.6	7.5	---	---	7.4	7.2	7.5	7.3	---	---
MONTH	7.6	6.6	7.6	7.1	7.7	7.2			7.6	7.1	7.8	7.3
YEAR	8.2	6.2										

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.0	18.8	19.4	18.4	17.6	18.0	11.5	10.8	11.3	4.8	3.8	4.1
2	19.8	19.3	19.5	18.4	17.8	18.1	11.2	9.3	10.1	5.9	4.8	5.1
3	20.1	19.2	19.6	18.4	17.7	18.0	9.3	8.2	8.7	7.1	5.9	6.4
4	20.0	18.8	19.4	17.7	16.9	17.4	8.2	7.4	7.7	8.2	7.1	7.6
5	19.9	18.6	19.2	16.9	15.4	16.2	7.4	7.0	7.2	9.2	8.2	8.6
6	19.4	17.9	18.6	15.4	13.7	14.4	8.2	7.2	7.7	9.5	9.2	9.3
7	19.2	17.7	18.5	13.7	12.8	13.1	10.9	8.2	9.8	9.3	9.3	9.3
8	19.2	18.0	18.6	12.8	11.9	12.4	11.8	10.9	11.5	9.5	9.2	9.4
9	18.6	18.0	18.3	11.9	11.2	11.5	11.6	10.9	11.2	9.4	9.2	9.3
10	19.2	18.0	18.5	11.5	10.6	11.0	11.4	11.0	11.2	9.4	9.2	9.3
11	19.0	18.0	18.5	11.0	10.6	10.8	11.3	10.3	10.8	9.8	9.2	9.3
12	19.0	18.2	18.7	12.1	11.0	11.3	10.3	9.5	9.9	11.1	9.8	10.3
13	18.8	18.2	18.5	12.9	12.1	12.7	9.5	8.6	9.1	11.7	11.1	11.5
14	18.2	17.7	18.0	12.6	11.6	12.1	8.6	7.3	7.9	11.7	10.2	11.1
15	17.7	16.5	17.1	11.6	10.8	11.1	7.3	6.0	6.5	10.2	8.3	9.1
16	16.6	15.7	16.2	10.8	10.3	10.5	6.0	5.1	5.4	8.3	6.8	7.6
17	16.0	14.9	15.5	10.6	10.2	10.4	5.1	4.7	4.9	6.8	5.0	5.8
18	15.3	15.0	15.1	11.0	10.3	10.6	4.8	4.1	4.4	5.0	3.4	4.0
19	15.9	15.3	15.6	11.6	11.0	11.2	4.5	4.0	4.3	3.4	2.8	2.9
20	15.8	14.8	15.4	12.2	11.6	11.9	4.0	2.8	3.2	3.0	2.6	2.7
21	16.7	15.8	16.2	12.6	12.2	12.4	3.0	2.5	2.7	3.4	3.0	3.1
22	17.0	16.5	16.7	13.0	12.5	12.6	3.5	3.0	3.2	3.5	3.3	3.4
23	17.0	16.6	16.8	13.2	12.9	13.1	3.6	3.3	3.5	3.4	2.7	3.0
24	17.3	16.6	17.0	13.5	13.2	13.4	3.3	2.9	3.0	2.7	1.9	2.1
25	17.3	16.7	17.1	13.5	12.5	13.2	2.9	2.4	2.6	2.3	1.8	2.0
26	17.2	16.4	16.9	12.5	10.5	11.5	2.4	2.1	2.3	2.8	2.2	2.4
27	17.5	17.0	17.2	10.5	9.3	9.6	2.4	1.9	2.1	3.0	2.8	2.9
28	17.8	17.4	17.6	9.3	8.8	9.0	2.0	1.4	1.6	2.9	2.5	2.6
29	17.8	17.4	17.6	8.9	8.6	8.8	2.0	1.6	1.7	3.0	2.6	2.8
30	18.3	17.8	18.0	10.8	8.9	9.3	2.8	2.0	2.3	3.6	3.0	3.3
31	18.1	17.8	17.9	---	---	---	3.8	2.7	3.1	4.2	3.6	3.8
MONTH	20.1	14.8	17.7	18.4	8.6	12.5	11.8	1.4	6.2	11.7	1.8	5.9
	FEBRUARY			MARCH			APRIL			MAY		
1	4.8	4.2	4.5	7.0	6.0	6.4	12.3	11.5	12.0	12.6	12.0	12.3
2	5.0	4.7	4.8	6.0	5.4	5.7	11.5	9.8	10.7	12.6	12.0	12.3
3	5.4	5.0	5.2	5.6	4.9	5.3	9.8	9.2	9.5	12.4	11.5	12.0
4	5.9	5.3	5.5	5.4	4.6	5.0	10.4	9.3	9.7	12.6	11.7	12.1
5	6.0	5.6	5.8	5.8	5.1	5.3	11.8	10.2	10.7	12.6	12.2	12.4
6	6.0	5.6	5.8	6.6	5.4	5.9	12.7	11.5	11.9	13.7	12.2	12.8
7	6.1	5.6	5.8	7.0	6.2	6.5	13.3	12.7	12.9	14.2	13.0	13.5
8	6.8	6.0	6.3	7.0	6.7	6.9	14.4	13.3	13.6	15.3	14.0	14.4
9	7.3	6.8	7.0	6.7	6.1	6.5	15.4	14.3	14.7	16.4	15.2	15.7
10	7.3	6.8	7.1	6.6	6.0	6.3	15.8	14.9	15.3	17.2	16.4	16.7
11	6.8	6.3	6.5	6.5	6.0	6.1	16.3	15.5	15.8	18.6	17.0	17.7
12	6.5	5.9	6.2	6.8	5.6	6.1	16.2	15.9	16.0	19.7	18.4	18.9
13	6.4	5.8	5.9	7.2	6.5	6.9	16.0	15.4	15.6	20.2	19.4	19.8
14	6.3	5.8	6.0	7.5	6.7	7.1	15.6	14.8	15.2	20.1	19.4	19.8
15	7.7	6.2	6.7	7.5	6.8	7.2	15.2	14.1	14.6	20.3	19.7	20.0
16	8.3	7.7	8.1	7.3	6.7	6.9	14.6	13.5	14.1	20.1	19.2	19.6
17	8.2	7.8	8.0	7.2	6.4	6.8	15.1	13.7	14.5	19.8	19.0	19.5
18	7.9	7.1	7.4	7.4	6.5	7.0	15.6	14.4	14.9	20.2	19.4	19.7
19	7.1	6.5	6.7	7.3	6.7	7.0	16.2	14.7	15.4	20.6	20.0	20.3
20	6.5	6.2	6.2	8.1	7.0	7.5	16.9	15.5	16.2	20.6	18.5	19.6
21	6.9	6.2	6.4	8.6	7.4	8.1	17.7	16.4	16.9	18.8	17.1	17.9
22	9.1	6.9	8.0	8.8	8.1	8.4	17.6	17.2	17.4	17.9	16.7	17.3
23	9.4	9.1	9.2	9.5	8.8	9.1	17.6	16.1	16.8	18.6	17.6	18.0
24	9.3	9.0	9.1	9.5	9.3	9.4	16.1	15.0	15.3	18.6	17.9	18.2
25	9.0	8.2	8.6	10.6	9.2	9.9	15.0	14.2	14.7	18.6	18.1	18.3
26	8.2	7.5	7.8	11.6	10.3	10.9	14.9	13.7	14.2	18.9	17.8	18.3
27	7.9	7.3	7.5	12.0	11.2	11.6	13.7	13.1	13.3	19.7	18.8	19.2
28	7.4	7.0	7.1	12.0	11.5	11.7	13.3	12.5	12.7	20.4	19.4	19.8
29	---	---	---	11.8	11.3	11.6	12.5	11.4	12.1	20.2	19.7	19.9
30	---	---	---	11.9	10.7	11.3	12.2	11.4	11.9	20.1	19.4	19.7
31	---	---	---	12.4	11.7	12.0	---	---	---	21.0	19.8	20.3
MONTH	9.4	4.2	6.8	12.4	4.6	7.8	17.7	9.2	14.0	21.0	11.5	17.3

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.8	20.5	20.6	29.5	27.5	28.1	28.5	26.8	27.6	26.4	25.5	26.0
2	20.9	20.2	20.5	28.8	24.7	26.8	29.1	27.0	28.0	26.7	25.5	26.1
3	21.4	20.5	20.9	27.9	22.6	25.2	29.3	27.2	28.3	26.4	25.1	25.7
4	22.1	21.0	21.4	---	---	---	29.2	27.5	28.4	26.3	24.5	25.4
5	22.9	21.9	22.4	---	---	---	29.4	27.6	28.5	26.4	24.1	25.3
6	24.0	22.7	23.3	---	---	---	29.0	27.4	28.4	26.3	24.5	25.4
7	24.1	23.4	23.8	---	---	---	28.2	27.1	27.7	25.9	23.9	25.2
8	24.2	23.6	23.9	---	---	---	27.6	26.6	26.9	26.3	24.2	25.2
9	24.2	23.7	24.0	---	---	---	28.1	26.1	27.0	26.0	24.1	25.1
10	24.8	24.1	24.4	---	---	---	28.2	26.5	27.4	26.5	24.3	25.4
11	24.7	24.2	24.4	---	---	---	28.6	27.2	27.9	26.8	24.4	25.6
12	24.8	23.9	24.3	27.4	26.8	27.2	29.3	27.5	28.4	26.7	24.5	25.6
13	25.2	24.5	24.8	27.2	25.7	26.3	28.8	27.6	28.3	26.3	24.4	25.4
14	25.6	25.1	25.3	25.9	25.2	25.5	29.4	27.4	28.4	26.1	24.3	25.3
15	25.9	25.4	25.6	25.8	22.9	24.7	29.0	27.5	28.3	27.2	24.7	25.9
16	25.6	25.0	25.3	22.9	21.8	22.3	28.8	27.6	28.2	26.6	25.4	26.0
17	25.4	24.5	24.9	23.9	22.3	23.0	28.5	27.6	28.0	26.4	24.9	25.6
18	25.3	24.3	24.8	24.5	23.5	24.0	28.0	27.3	27.5	26.6	24.3	25.4
19	25.6	23.9	24.6	25.0	24.0	24.5	27.7	26.7	27.2	26.6	24.4	25.5
20	25.8	24.2	24.9	25.6	24.6	25.1	28.2	27.1	27.7	26.5	24.7	25.6
21	25.5	24.4	24.9	25.8	24.9	25.4	28.3	27.4	27.9	26.9	24.8	25.8
22	26.3	24.5	25.3	26.0	25.2	25.6	28.4	27.4	27.9	26.8	24.8	25.9
23	27.3	25.1	26.1	25.2	24.4	24.8	28.5	27.3	27.9	27.0	25.0	26.1
24	27.6	25.4	26.5	25.4	24.2	24.8	28.6	26.8	27.7	26.9	25.3	26.2
25	28.3	26.0	27.0	26.2	25.0	25.5	28.2	26.6	27.5	26.3	25.2	25.6
26	29.1	26.6	27.6	27.3	25.8	26.5	27.7	27.0	27.4	25.6	24.8	25.1
27	28.0	27.0	27.6	27.7	26.9	27.3	27.3	26.7	27.0	25.9	24.5	25.1
28	28.2	26.9	27.5	27.3	26.8	27.0	27.3	26.3	26.8	25.0	23.8	24.5
29	29.0	27.1	28.0	27.6	26.3	26.9	26.8	26.2	26.5	25.2	23.6	24.4
30	30.0	27.5	28.6	27.8	26.4	27.1	26.5	25.9	26.2	23.0	22.3	22.3
31	---	---	---	28.2	26.5	27.4	26.6	25.4	26.0	---	---	---
MONTH	30.0	20.2	24.8				29.4	25.4	27.6	27.2	22.3	25.4
YEAR	30.0	1.4	15.8									

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.5	4.2	5.5	---	---	---	10.9	9.5	10.5	---	---	---
2	6.4	3.9	5.2	---	---	---	10.9	8.8	9.9	---	---	---
3	6.4	4.1	5.1	---	---	---	9.6	8.7	9.2	---	---	---
4	6.6	4.5	5.7	---	---	---	9.6	8.9	9.3	---	---	---
5	6.7	4.5	5.7	---	---	---	9.8	8.8	9.3	---	---	---
6	7.0	4.6	6.0	---	---	---	9.4	8.6	9.1	---	---	---
7	7.0	5.1	6.3	---	---	---	---	---	---	---	---	---
8	7.0	4.7	5.9	---	---	---	---	---	---	---	---	---
9	6.6	4.8	5.8	---	---	---	---	---	---	---	---	---
10	6.8	4.7	5.7	---	---	---	---	---	---	---	---	---
11	6.8	4.9	6.1	---	---	---	---	---	---	---	---	---
12	6.7	4.7	5.8	---	---	---	---	---	---	---	---	---
13	6.1	4.6	5.4	---	---	---	---	---	---	---	---	---
14	6.5	4.4	5.8	---	---	---	---	---	---	---	---	---
15	6.5	5.4	6.0	---	---	---	---	---	---	---	---	---
16	7.8	5.7	6.6	---	---	---	---	---	---	---	---	---
17	7.5	5.4	6.7	11.1	10.9	11.0	---	---	---	---	---	---
18	8.7	5.9	7.0	11.0	10.7	10.9	---	---	---	---	---	---
19	---	---	---	10.8	10.4	10.6	---	---	---	---	---	---
20	---	---	---	10.4	10.2	10.3	---	---	---	---	---	---
21	---	---	---	10.2	10.1	10.2	---	---	---	---	---	---
22	---	---	---	10.2	10.0	10.1	---	---	---	---	---	---
23	---	---	---	10.0	9.7	9.8	---	---	---	---	---	---
24	---	---	---	9.8	9.6	9.7	---	---	---	---	---	---
25	---	---	---	9.9	9.6	9.8	---	---	---	---	---	---
26	---	---	---	9.8	9.4	9.6	---	---	---	---	---	---
27	---	---	---	9.9	9.6	9.8	---	---	---	---	---	---
28	---	---	---	10.0	9.8	9.9	---	---	---	---	---	---
29	---	---	---	10.1	9.7	9.9	---	---	---	---	---	---
30	---	---	---	10.4	9.0	9.6	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH										---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	10.6	10.3	10.4
2	---	---	---	---	---	---	---	---	---	10.5	10.2	10.4
3	---	---	---	---	---	---	---	---	---	10.5	10.2	10.4
4	---	---	---	---	---	---	---	---	---	10.4	10.1	10.3
5	---	---	---	---	---	---	---	---	---	10.2	10.0	10.2
6	---	---	---	---	---	---	---	---	---	10.2	9.8	10.1
7	---	---	---	---	---	---	---	---	---	9.8	9.6	9.7
8	---	---	---	---	---	---	---	---	---	9.7	9.4	9.5
9	---	---	---	---	---	---	---	---	---	9.5	9.1	9.2
10	---	---	---	---	---	---	---	---	---	9.1	8.8	8.9
11	---	---	---	---	---	---	---	---	---	8.9	8.6	8.8
12	---	---	---	---	---	---	---	---	---	8.7	8.0	8.4
13	---	---	---	---	---	---	---	---	---	8.4	6.8	7.7
14	---	---	---	---	---	---	---	---	---	7.3	6.2	6.8
15	---	---	---	---	---	---	10.6	8.9	10.1	7.3	6.4	6.8
16	---	---	---	---	---	---	10.7	10.4	10.5	8.0	6.8	7.2
17	---	---	---	---	---	---	10.5	10.3	10.4	8.5	6.7	7.8
18	---	---	---	---	---	---	10.3	9.5	10.0	7.5	6.6	7.1
19	---	---	---	---	---	---	9.8	9.4	9.6	7.3	6.2	6.9
20	---	---	---	---	---	---	9.6	9.1	9.3	8.9	6.2	8.0
21	---	---	---	---	---	---	9.3	8.9	9.1	9.2	8.8	9.0
22	---	---	---	---	---	---	8.9	8.4	8.7	9.2	8.7	9.0
23	---	---	---	---	---	---	8.9	8.4	8.6	8.8	8.4	8.6
24	---	---	---	---	---	---	9.3	8.8	9.1	8.5	8.4	8.4
25	---	---	---	---	---	---	9.5	9.2	9.3	8.6	8.3	8.5
26	---	---	---	---	---	---	9.4	9.0	9.2	8.8	8.3	8.5
27	---	---	---	---	---	---	9.8	9.1	9.4	8.8	8.1	8.4
28	---	---	---	---	---	---	10.0	9.5	9.7	8.6	7.7	8.2
29	---	---	---	---	---	---	10.8	9.6	10.2	8.4	7.0	7.9
30	---	---	---	---	---	---	10.8	10.4	10.5	8.3	7.2	7.9
31	---	---	---	---	---	---	---	---	---	8.3	7.6	8.0
MONTH	---	---	---	---	---	---				10.6	6.2	8.6

03410600 SOUTH FORK CUMBERLAND RIVER AT YAMACRAW, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.1	7.5	7.8	6.5	5.7	6.0	8.2	6.5	7.1	7.8	6.9	7.4
2	8.3	7.2	7.7	---	---	---	8.1	6.5	7.1	8.0	7.0	7.4
3	8.2	7.3	7.8	---	---	---	8.0	6.3	7.1	7.9	7.0	7.5
4	8.3	7.3	7.7	---	---	---	7.9	6.2	6.8	8.3	7.0	7.6
5	8.1	6.9	7.7	---	---	---	7.9	6.1	7.0	8.8	7.0	7.8
6	8.0	6.8	7.4	---	---	---	8.0	6.2	6.8	8.4	7.2	7.7
7	7.7	6.5	7.1	---	---	---	7.8	6.3	7.0	8.6	7.2	7.8
8	---	---	---	---	---	---	7.9	6.3	7.1	8.3	7.1	7.6
9	---	---	---	---	---	---	8.2	6.7	7.3	8.5	7.1	7.6
10	---	---	---	---	---	---	8.0	6.5	7.2	8.2	7.0	7.4
11	---	---	---	---	---	---	8.1	6.7	7.4	8.2	6.8	7.4
12	---	---	---	---	---	---	8.3	6.5	7.3	7.8	6.8	7.2
13	---	---	---	7.1	7.0	7.0	8.0	6.2	7.0	8.2	7.0	7.4
14	---	---	---	7.7	7.0	7.3	8.1	6.2	6.9	7.5	6.9	7.1
15	---	---	---	8.2	7.5	7.8	7.8	6.2	6.9	7.5	6.6	7.0
16	---	---	---	8.3	7.6	8.1	7.8	6.4	7.0	6.8	6.4	6.6
17	---	---	---	7.8	7.3	7.7	7.8	6.5	7.0	7.8	6.5	7.0
18	---	---	---	7.5	7.0	7.3	7.5	6.4	6.9	7.8	6.8	7.2
19	---	---	---	7.5	6.9	7.2	7.6	6.3	7.1	8.1	6.7	7.3
20	---	---	---	7.7	7.3	7.5	7.6	7.2	7.5	8.4	6.7	7.4
21	---	---	---	7.6	7.2	7.4	7.6	6.6	7.1	8.3	6.9	7.5
22	---	---	---	7.7	6.9	7.2	7.7	6.2	6.9	8.3	6.7	7.3
23	---	---	---	7.8	7.3	7.6	7.9	6.4	7.1	7.9	6.5	7.0
24	---	---	---	7.4	6.6	7.1	8.1	6.4	7.2	7.2	6.3	6.7
25	7.1	6.0	6.5	6.9	5.0	5.9	8.0	6.6	7.3	6.8	6.4	6.6
26	7.0	5.5	6.2	7.0	4.1	5.5	7.5	6.3	6.8	8.1	6.6	7.1
27	6.7	5.7	6.2	7.0	5.0	5.7	7.7	6.3	6.8	7.7	7.0	7.3
28	6.7	5.5	6.0	7.0	5.3	5.9	7.7	6.3	6.9	7.6	6.9	7.2
29	6.6	5.2	5.8	7.4	5.8	6.5	7.9	6.2	7.0	7.5	6.7	7.0
30	6.6	5.2	5.9	7.7	6.2	6.9	7.2	6.3	6.8	7.9	7.1	7.6
31	---	---	---	8.0	6.3	7.1	7.9	6.6	7.2	---	---	---
MONTH							8.3	6.1	7.1	8.8	6.3	7.3
YEAR	11.1	3.9	7.8									

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03413200 BEAVER CREEK NEAR MONTICELLO, KY

LOCATION.--Lat 36°47'51", long 84°53'46", Wayne County, Hydrologic Unit 05130103, on left bank upstream of bridge on State Highway 200, 0.6 mi downstream from unnamed tributary, 0.8 mi northeast of Bethesda, 0.9 mi upstream from unnamed tributary, 3.8 mi southwest of Monticello, and at mile 24.0.

DRAINAGE AREA.--43.4 mi^2.

PERIOD OF RECORD.--October 1968 to September 1983, October 1989 to current year.

REVISED RECORDS.--WDR-98-1: Peak discharges and annual maximum.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 804.72 ft above NGVD of 1929.

REMARKS.--Records good.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1946 reached a stage of 10.8 ft from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 30	2330	2,010	6.67	Apr 30	0700	*2,290	*7.21

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

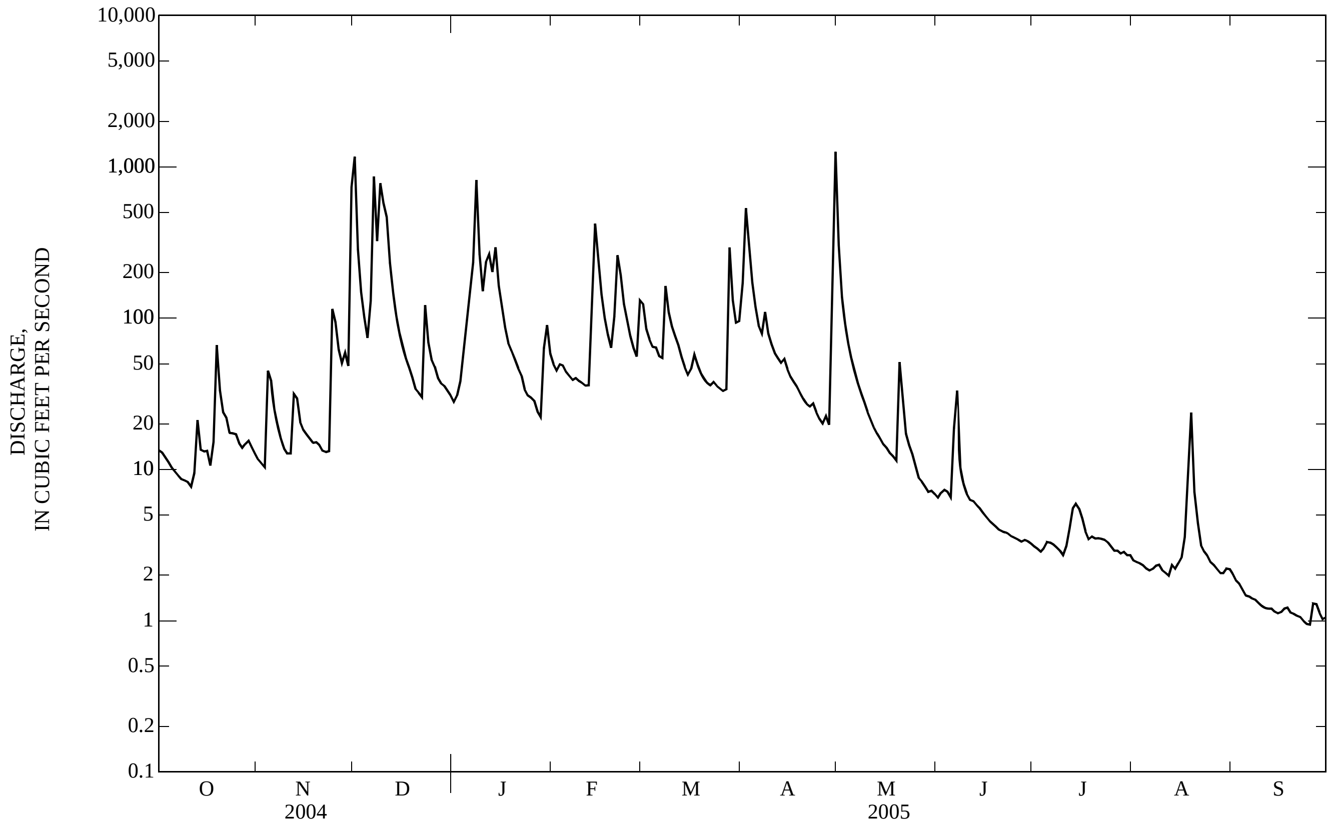
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	1,170	28	50	124	171	302	6.5	3.1	2.5	2.0
2	13	11	286	31	45	84	533	139	7.0	3.0	2.4	1.8
3	12	10	149	38	49	72	313	92	7.3	2.9	2.4	1.7
4	11	45	101	58	49	64	172	67	7.1	3.0	2.3	1.6
5	10	38	74	92	44	64	119	53	6.5	3.3	2.2	1.5
6	9.6	25	130	141	41	56	90	44	19	3.3	2.1	1.4
7	9.1	20	864	233	39	55	79	37	33	3.2	2.2	1.4
8	8.6	16	322	818	40	163	110	32	10	3.0	2.3	1.4
9	8.4	14	780	266	38	109	79	28	8.0	2.9	2.3	1.3
10	8.2	13	574	151	37	88	67	24	6.9	2.7	2.2	1.2
11	7.7	13	465	234	36	76	59	21	6.3	3.1	2.1	1.2
12	9.4	32	233	264	36	66	54	19	6.1	4.1	2.0	1.2
13	21	29	148	201	151	55	51	17	5.8	5.5	2.3	1.2
14	13	21	103	294	421	47	54	16	5.5	5.9	2.2	1.1
15	13	18	79	163	236	42	46	15	5.2	5.5	2.4	1.1
16	13	17	65	118	144	46	41	14	4.8	4.7	2.6	1.1
17	11	16	54	87	100	57	38	13	4.6	3.9	3.6	1.2
18	15	15	47	69	77	49	35	12	4.4	3.5	9.3	1.2
19	66	15	41	61	64	43	32	11	4.2	3.6	24	1.1
20	33	14	34	53	103	40	29	51	4.0	3.5	7.1	1.1
21	24	13	32	47	260	37	27	29	3.9	3.5	4.4	1.1
22	22	13	30	42	192	36	26	17	3.8	3.5	3.2	1.1
23	17	13	122	34	124	38	27	14	3.7	3.4	2.9	1.00
24	17	115	69	31	97	36	24	13	3.6	3.3	2.7	0.95
25	17	93	53	30	76	34	22	10	3.5	3.1	2.4	0.94
26	15	62	48	28	63	33	20	8.8	3.4	2.9	2.3	1.3
27	14	50	40	24	56	34	22	8.3	3.3	2.9	2.2	1.3
28	15	59	37	22	131	292	20	7.7	3.4	2.8	2.1	1.1
29	15	48	36	63	---	132	89	7.1	3.3	2.8	2.1	1.0
30	14	736	33	90	---	93	1,260	7.2	3.2	2.7	2.2	1.0
31	13	---	31	58	---	95	---	6.9	---	2.7	2.2	---
TOTAL	488.0	1,596	6,250	3,869	2,799	2,260	3,709	1,136.0	197.3	107.3	109.2	37.59
MEAN	15.7	53.2	202	125	100	72.9	124	36.6	6.58	3.46	3.52	1.25
MAX	66	736	1,170	818	421	292	1,260	302	33	5.9	24	2.0
MIN	7.7	10	30	22	36	33	20	6.9	3.2	2.7	2.0	0.94
CFSM	0.36	1.23	4.65	2.88	2.30	1.68	2.85	0.84	0.15	0.08	0.08	0.03
IN.	0.42	1.37	5.36	3.32	2.40	1.94	3.18	0.97	0.17	0.09	0.09	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.6	30.2	85.4	94.7	120	118	87.7	44.3	36.2	13.3	13.6	18.1
MAX	164	99.3	306	155	281	299	242	114	151	37.5	82.2	117
(WY)	(1990)	(2004)	(1991)	(1994)	(2003)	(1997)	(1998)	(1995)	(1998)	(2001)	(2003)	(2004)
MIN	1.49	2.08	8.31	26.7	42.4	35.0	21.4	11.0	6.58	3.46	1.91	1.25
(WY)	(2000)	(2001)	(1998)	(2000)	(2002)	(2003)	(1995)	(2001)	(2005)	(2005)	(1990)	(2005)

03413200 BEAVER CREEK NEAR MONTICELLO, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1990 - 2005	
ANNUAL TOTAL	32,465.8		22,558.39			
ANNUAL MEAN	88.7		61.8		56.2	
HIGHEST ANNUAL MEAN					82.7	2004
LOWEST ANNUAL MEAN					24.7	2000
HIGHEST DAILY MEAN	2,140	Feb 6	1,260	Apr 30	2,200	Feb 16, 2003
LOWEST DAILY MEAN	5.3	Jul 30	0.94	Sep 25	0.94	Sep 25, 2005
ANNUAL SEVEN-DAY MINIMUM	6.0	Jul 19	1.0	Sep 19	1.0	Sep 19, 2005
MAXIMUM PEAK FLOW			2,290	Apr 30	3,880	Sep 17, 2004
MAXIMUM PEAK STAGE			7.21	Apr 30	10.05	Sep 17, 2004
INSTANTANEOUS LOW FLOW					0.50	Oct 2, 1968
ANNUAL RUNOFF (CFSM)	2.04		1.42		1.30	
ANNUAL RUNOFF (INCHES)	27.83		19.34		17.61	
10 PERCENT EXCEEDS	174		135		122	
50 PERCENT EXCEEDS	32		20		18	
90 PERCENT EXCEEDS	9.6		2.2		2.4	



03438000 LITTLE RIVER NEAR CADIZ, KY

LOCATION.--Lat 36°46'40", long 87°43'18", Trigg County, Hydrologic Unit 05130205, on right bank at upstream side of bridge on State Highway 1253, 50 ft downstream from Casey Creek, 8.8 mi southeast of Cadiz, and at mile 34.3.

DRAINAGE AREA.--244 mi^2, of which about 94 mi^2 does not contribute directly to surface runoff.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--February 1940 to current year.

REVISED RECORDS.--WSP 1173: 1942-43, 1946(M), 1949. WSP 1306: 1940(M). WSP 1626: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 391.45 ft above NGVD of 1929. Prior to July 31, 1945, non-recording gage at same site and datum.

REMARKS.--Records good except for those estimated, which are fair.

COOPERATION.--U.S. Army Corps of Engineer, Nashville District and Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 3	0030	3,880	11.36	Aug 7	0700	6,060	14.57
Mar 28	1130	4,220	11.88	Aug 30	2030	*11,600	*19.70

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

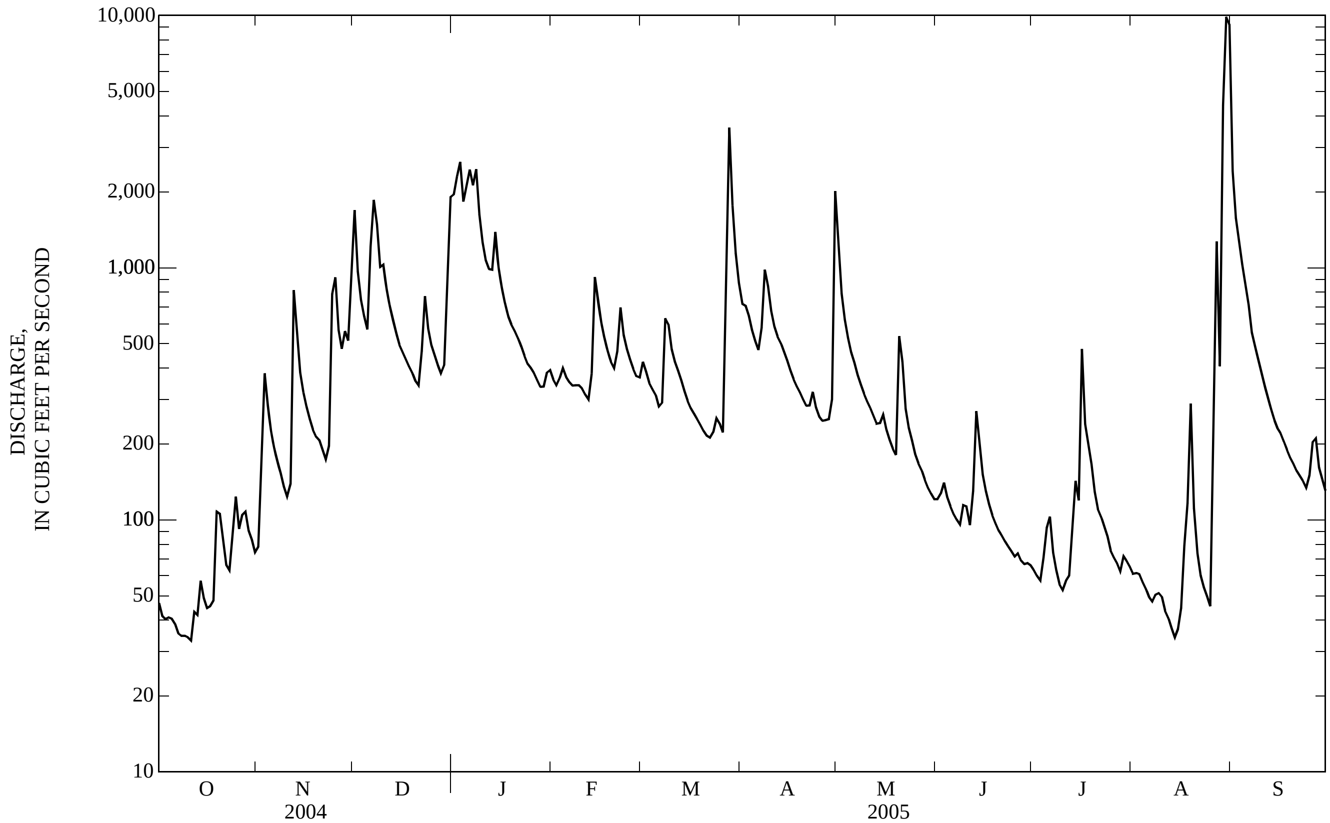
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	78	1,690	1,950	361	423	719	1,220	121	63	61	2,410
2	42	174	968	2,300	342	387	705	791	127	60	62	1,580
3	40	381	746	2,630	365	349	644	623	140	57	61	1,280
4	41	285	641	1,830	399	330	566	526	123	71	57	1,030
5	40	224	568	2,110	369	313	512	461	113	93	53	854
6	39	192	1,210	2,450	352	281	472	419	106	103	49	712
7	35	171	1,850	2,130	341	291	578	376	100	74	47	552
8	35	153	1,490	2,460	342	630	983	344	96	63	50	488
9	35	135	1,000	1,630	342	595	846	317	114	56	51	434
10	34	124	1,030	1,260	332	474	674	295	113	53	49	385
11	33	139	827	1,070	314	423	583	278	95	57	43	340
12	43	814	705	988	301	390	533	259	130	60	41	305
13	42	549	624	982	381	357	503	241	270	93	37	275
14	57	384	552	1,390	919	324	465	242	202	143	34	250
15	49	320	495	1,000	745	296	428	262	151	119	37	231
16	45	280	463	837	606	277	391	228	129	475	45	220
17	45	251	435	723	526	264	361	207	115	240	79	205
18	48	227	408	642	466	251	339	192	104	200	117	189
19	108	214	384	596	424	238	320	181	97	166	289	177
20	105	207	356	560	401	225	301	534	91	129	111	167
21	84	189	342	526	467	215	284	424	86	110	74	157
22	66	173	469	487	695	212	284	276	82	103	60	149
23	63	196	771	447	539	222	322	231	78	94	54	143
24	85	786	574	416	475	253	279	206	75	86	50	134
25	124	916	492	400	432	241	256	182	72	75	45	150
26	92	566	450	382	397	222	247	168	74	71	208	203
27	105	477	411	358	371	757	248	157	69	67	1,270	210
28	108	560	381	337	367	3,600	250	144	67	63	407	161
29	91	514	410	338	---	1,760	300	134	67	72	4,420	145
30	83	918	853	383	---	1,140	2,010	127	66	69	9,890	130
31	74	---	1,910	392	---	870	---	121	---	65	9,230	---
TOTAL	1,938	10,597	23,505	34,004	12,371	16,610	15,403	10,166	3,273	3,250	27,081	13,666
MEAN	62.5	353	758	1,097	442	536	513	328	109	105	874	456
MAX	124	918	1,910	2,630	919	3,600	2,010	1,220	270	475	9,890	2,410
MIN	33	78	342	337	301	212	247	121	66	53	34	130
CFSM	0.26	1.45	3.11	4.50	1.81	2.20	2.10	1.34	0.45	0.43	3.58	1.87
IN.	0.30	1.62	3.58	5.18	1.89	2.53	2.35	1.55	0.50	0.50	4.13	2.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	75.6	216	471	559	683	748	550	441	226	145	109	108
MAX	609	1,677	1,985	2,168	2,130	3,653	1,924	1,875	1,498	790	874	925
(WY)	(2003)	(1958)	(1979)	(1950)	(1989)	(1997)	(1979)	(1984)	(1998)	(1989)	(2005)	(1950)
MIN	12.3	14.1	14.2	27.3	39.6	28.1	37.5	21.4	34.0	29.6	23.9	15.7
(WY)	(1944)	(1941)	(1964)	(1963)	(1963)	(1941)	(1941)	(1941)	(1963)	(1988)	(1952)	(1941)

03438000 LITTLE RIVER NEAR CADIZ, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1940 - 2005	
ANNUAL TOTAL	127,067		171,864			
ANNUAL MEAN	347		471		360	
HIGHEST ANNUAL MEAN					757	1997
LOWEST ANNUAL MEAN					58.9	1941
HIGHEST DAILY MEAN	2,670	Apr 24	9,890	Aug 30	24,300	Mar 2, 1997
LOWEST DAILY MEAN	33	Oct 11	33	Oct 11	3.6	Oct 3, 1941
ANNUAL SEVEN-DAY MINIMUM	36	Oct 5	36	Oct 5	7.0	Oct 24, 1940
MAXIMUM PEAK FLOW			11,600	Aug 30	37,600	Mar 1, 1997
MAXIMUM PEAK STAGE			19.54	Aug 30	26.44	Mar 1, 1997
INSTANTANEOUS LOW FLOW					1.0	Oct 3, 1941
ANNUAL RUNOFF (CFSM)	1.42		1.93		1.47	
ANNUAL RUNOFF (INCHES)	19.37		26.20		20.03	
10 PERCENT EXCEEDS	756		974		836	
50 PERCENT EXCEEDS	226		277		145	
90 PERCENT EXCEEDS	67		57		28	



03438500 CUMBERLAND RIVER AT SMITHLAND, KY

(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°08' 55", long 88°23' 57", Livingston County, Hydrologic Unit 05130205, 1.0 mi (1.6 km) downstream from McCormick Creek, 27.8 mi (44.7 km) downstream from gaging station near Grand Rivers, and at mile 2.8 (4.5 km).

PERIOD OF RECORD.--Water years 1950-65, 1968-1980, 2002 to current water year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES.--October 1949 to July 1966, July 1967 to August 1980.

REMARKS.--Records of daily discharge are published for gaging station near Grand Rivers (station 03438220). Flow is completely regulated. Barkley-Kentucky Canal (station 03438190) diverts waters from or to Kentucky Lake in the Tennessee River Basin.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
DEC												
15...	1210	Environmental	93,800	.079	0.060	784	12.2	7.5	201	10.0	95	30.9
MAR												
08...	1430	Environmental	53,900	.053	.041	768	12.9	8.2	233	10.0	62	20.1
APR												
20...	1140	Environmental	31,000	.054	.041	770	12.5	8.3	249	18.5	120	40.9
20...	1150	Replicate	--	.054	.041	--	--	--	--	--	120	40.8
JUN												
13...	1230	Environmental	30,500	.068	.051	765	6.5	7.3	202	26.0	85	26.2
13...	1238	Field Blank	--	--	--	--	--	--	--	--	--	E0.01
AUG												
11...	1120	Environmental	12,900	.055	.041	771	6.9	7.9	204	30.5	85	25.5
11...	1128	Field Blank	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
DEC													
15...	4.25	1.96	2.99	77	94	3.47	E0.1	5.95	12.7	118	0.17	0.35	E0.02
MAR													
08...	2.80	0.81	2.00	79	96	4.21	E.1	1.99	17.2	139	.12	.45	<.04
APR													
20...	5.36	1.37	3.44	94	115	4.08	E.1	2.07	16.2	135	.16	.51	<.04
20...	5.34	1.32	3.41	98	120	4.10	.1	2.06	16.3	144	.21	.51	<.04
JUN													
13...	4.75	1.70	4.47	65	80	5.60	E.1	2.89	16.2	113	.35	.57	.10
13...	0.020	--	E0.13	--	--	--	--	0.42	--	--	--	--	--
AUG													
11...	5.21	1.75	6.71	66	79	7.30	.1	3.46	17.7	107	.26	.54	<.04
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

03438500 CUMBERLAND RIVER AT SMITHLAND, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Aluminum, water, fltrd, ug/L (01106)
DEC													
15...	0.71	E0.006	0.13	0.077	0.094	0.17	0.9	<0.1	0.9	2.9	--	--	5
MAR													
08...	.61	<.008	.27	.012	.025	.11	2.2	<.1	2.2	1.6	5.1	13.6	8
APR													
20...	.44	E.006	.33	<.006	.010	E.09	1.9	<.1	1.9	2.2	14.2	23.4	--
20...	.44	E.005	.38	E.004	.010	.09	1.9	<.1	1.9	2.1	19.7	26.5	--
JUN													
13...	.14	E.004	.20	.020	.036	.13	1.6	<.1	1.6	2.3	8.8	6.2	7
13...	--	--	--	--	--	--	--	--	--	--	--	--	<2
AUG													
11...	<.06	<.008	.33	.021	.032	.07	1.9	<.1	1.9	2.4	E9.3	E22.0	9
11...	--	--	--	--	--	--	--	--	--	--	<0.2	<0.2	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Antimony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)	Cadmium water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
DEC													
15...	<0.20	0.6	22	<0.06	14	<0.04	E0.4	0.099	0.7	8	<0.08	0.6	0.9
MAR													
08...	<.20	.2	11	<.06	19	<.04	<.8	.107	.4	<6	.08	E.5	.9
APR													
20...	--	.4	--	--	14	--	--	--	--	<6	--	.9	--
20...	--	.4	--	--	14	--	--	--	--	E5	--	.9	--
JUN													
13...	<.20	.7	23	<.06	32	<.04	<.8	.100	1.0	E3	<.08	1.0	.7
13...	<.20	<.2	M	<.06	<8	<.04	<.8	<.014	<.4	<6	<.08	<.6	<.2
AUG													
11...	E.12	1.5	20	<.06	45	<.04	<.8	.091	.8	E4	<.08	1.1	.3
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Molybdenum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Strontium, water, fltrd, ug/L (01080)	Vanadium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)
DEC													
15...	0.4	0.78	E0.3	<0.2	84.0	0.6	E0.5	<0.006	E0.013	<0.006	<0.005	<0.005	0.026
MAR													
08...	E.3	1.21	<.4	<.2	58.3	.4	3.1	<.006	E.019	<.006	<.005	<.005	.025
APR													
20...	--	--	<.4	--	121	.9	--	<.006	E.029	<.006	<.005	<.005	.273
20...	--	--	E.2	--	121	.8	--	<.006	E.026	<.006	<.005	<.005	.251
JUN													
13...	.8	1.45	.4	<.2	103	1.0	E.5	<.006	E.057	.010	<.005	<.005	.623
13...	<.4	E.04	E.2	<.2	<0.40	<.1	.9	--	--	--	--	--	--
AUG													
11...	1.3	1.45	.4	<.2	101	1.3	E.4	<.006	E.013	<.006	<.005	<.005	.081
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

03438500 CUMBERLAND RIVER AT SMITHLAND, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)
DEC													
15...	<0.050	<0.010	<0.004	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004
MAR													
08...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
APR													
20...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
20...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
JUN													
13...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)
DEC													
15...	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.015	<0.006	<0.006	<0.003	<0.007	<0.003	<0.010
MAR													
08...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.007	<.006	<.003	<.007	<.003	<.010
APR													
20...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.009	<.006	<.003	<.007	<.003	<.010
20...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.009	<.006	<.003	<.007	<.003	<.010
JUN													
13...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.102	<.006	<.003	<.007	<.003	<.010
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.008	<.006	<.003	<.007	<.003	<.010
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)
DEC													
15...	<0.004	<0.022	<0.011	<0.01	<0.004	<0.025	<0.011	<0.02	0.031	<0.02	<0.034	<0.02	<0.010
MAR													
08...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.016	<.02	<.034	<.02	<.010
APR													
20...	<.004	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.074	E.01	<.034	<.02	<.010
20...	<.004	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.066	<.02	<.034	<.02	<.010
JUN													
13...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.092	<.02	<.034	<.02	<.010
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	<.004	<.022	<.011	.02	<.004	<.025	<.011	<.02	.010	<.02	<.034	<.02	<.010
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

03438500 CUMBERLAND RIVER AT SMITHLAND, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)	Uranium natural water, fltrd, ug/L (22703)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
DEC					
15...	<0.006	<0.009	0.19	96	25
MAR					
08...	<.006	<.009	.12	99	27
APR					
20...	<.006	<.009	--	94	20
20...	<.006	<.009	--	94	20
JUN					
13...	<.006	<.009	.19	96	62
13...	--	--	<.04	--	--
AUG					
11...	<.006	<.009	.16	97	18
11...	--	--	--	--	--

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03609750 TENNESSEE RIVER AT HIGHWAY 60 NEAR PADUCAH, KY

(National stream-quality accounting network)

LOCATION.--Lat 37°02'16", long 88°31'46", McCracken County, Hydrologic Unit 06040006, at auxiliary gaging station at bridge on U.S. Highway 60, 16.3 mi downstream from gaging station, 2.4 mi east of Paducah, and at mile 5.3.

DRAINAGE AREA.--40,330 mi^2; 40,200 mi^2 at gaging station.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950, 1952, 1967-72, 1974-86, 1997 to current water year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--November 1973 to September 1981.
WATER TEMPERATURES.--November 1973 to September 1981.

REMARKS.--Records of daily discharge are published for gaging station near Paducah (station 03609500) 16.3 mi upstream. Flow is completely regulated. Barkley-Kentucky Canal (station 03438190) diverts water from or to Lake Barkley in the Cumberland River Basin.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV												
19...	1200	Environmental	46,300	0.066	0.049	771	9.6	7.6	160	15.0	60	18.5
FEB												
03...	1150	Environmental	59,000	.056	.042	779	12.0	7.6	172	6.5	72	22.7
03...	1158	Field Blank	--	--	--	--	--	--	--	--	--	--
APR												
07...	1240	Environmental	61,800	.050	.038	766	12.5	7.7	183	14.5	71	22.0
07...	1248	Field Blank	--	<.004	<.004	--	--	--	--	--	--	--
MAY												
26...	1230	Environmental	40,800	.058	.043	769	12.0	7.3	159	22.0	59	18.1
26...	1240	Replicate	--	.055	.041	--	--	--	--	--	59	18.0
JUL												
06...	1140	Environmental	26,200	.055	.041	771	7.2	7.2	165	28.5	62	18.4
06...	1148	Field Blank	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV													
19...	3.40	2.07	6.63	50	62	6.86	E0.1	6.47	10.0	91	0.18	0.24	0.05
FEB													
03...	3.77	1.58	5.39	58	70	5.98	E.1	5.60	10.8	96	.18	.20	E.03
03...	--	--	--	--	--	--	--	--	--	--	--	--	<.010
APR													
07...	3.81	1.41	7.18	62	75	8.20	E.1	1.12	10.0	95	.16	.23	<.04
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	3.38	1.48	6.69	52	63	7.56	E.1	2.08	10.0	103	.31	.36	<.04
26...	3.38	1.44	6.59	53	64	7.59	E.1	2.06	10.2	88	.34	.33	<.04
JUL													
06...	3.89	1.51	7.02	52	64	8.31	E.1	3.32	11.5	78	.28	.29	<.04
06...	--	--	--	--	--	--	--	--	--	--	--	--	--

03609750 TENNESSEE RIVER AT HIGHWAY 60 NEAR PADUCAH, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Arsenic water, fltrd, ug/L (01000)
NOV													
19...	0.46	0.013	0.04	0.058	0.070	0.09	0.2	<0.1	0.2	2.2	E1.5	E1.1	0.7
FEB													
03...	.53	E.007	.07	.032	.041	.06	.5	<.1	.5	1.9	--	--	.4
03...	.020	<.002	--	<.006	--	--	--	--	--	--	--	--	--
APR													
07...	.34	E.004	.14	.006	.012	.04	.7	<.1	.7	1.5	3.1	8.8	.5
07...	--	--	<.02	--	--	--	<.1	<.1	<.1	E0.3	--	--	--
MAY													
26...	.09	.014	.17	<.006	.009	.05	.8	<.1	.8	2.6	4.6	7.3	.5
26...	.09	.014	.17	<.006	.009	.05	.9	<.1	.8	2.2	6.4	7.2	.5
JUL													
06...	.10	<.008	.15	.007	.021	.04	.9	<.1	.9	2.5	E3.6	E5.7	.9
06...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)	Vanadium, water, fltrd, ug/L (01085)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)
NOV													
19...	17	9	0.8	<0.4	58.2	0.8	<0.006	E0.006	<0.006	<0.005	<0.005	0.028	<0.050
FEB													
03...	17	17	1.2	<.4	58.3	1.1	<.006	E.006	<.006	<.005	<.005	.015	<.050
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	16	10	.9	E.2	75.3	.4	<.006	<.006	<.006	<.005	<.005	.013	<.050
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	18	7	1.0	E.3	43.7	.5	<.006	E.019	<.006	<.005	<.005	.280	<.050
26...	16	E6	.9	E.2	42.9	.5	<.006	E.020	<.006	<.005	<.005	.268	<.050
JUL													
06...	21	6	.6	E.2	63.4	.8	<.006	E.026	<.006	<.005	<.005	.286	<.050
06...	--	--	--	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007	<.050

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)
NOV													
19...	<0.010	<0.004	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009
FEB													
03...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
26...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
JUL													
06...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
06...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009

03609750 TENNESSEE RIVER AT HIGHWAY 60 NEAR PADUCAH, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)
NOV													
19...	<0.005	<0.003	<0.004	<0.035	<0.027	<0.015	0.008	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004
FEB													
03...	<.005	<.003	<.004	<.035	<.027	<.015	E.003	<.006	<.003	<.007	<.003	<.010	<.004
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	<.005	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<.005	<.003	<.004	<.035	<.027	<.015	.038	<.006	<.003	<.007	<.003	<.010	<.004
26...	<.005	<.003	<.004	<.035	<.027	<.015	.037	<.006	<.003	<.007	<.003	<.010	<.004
JUL													
06...	<.005	<.003	<.004	<.035	<.027	<.015	.058	<.006	<.003	<.007	<.003	<.010	<.004
06...	<.005	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
NOV													
19...	<0.022	<0.011	<0.01	<0.004	<0.025	<0.011	<0.02	0.020	<0.02	<0.034	<0.02	<0.010	<0.006
FEB													
03...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.012	<.02	<.034	<.02	<.010	<.006
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.022	<.02	<.034	<.02	<.010	<.006
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<.022	<.011	M	<.004	<.025	<.011	<.02	.048	E.01	<.034	<.02	<.010	<.006
26...	<.022	<.011	M	<.004	<.025	<.011	<.02	.046	E.01	<.034	<.02	<.010	<.006
JUL													
06...	<.022	<.011	M	<.004	<.025	<.011	<.02	.025	.02	<.034	<.02	<.010	<.006
06...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
NOV			
19...	<0.009	99	5
FEB			
03...	<.009	100	5
03...	--	--	--
APR			
07...	<.009	99	17
07...	--	--	--
MAY			
26...	<.009	98	7
26...	<.009	99	8
JUL			
06...	<.009	96	5
06...	<.009	--	--

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

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03610200 CLARKS RIVER AT ALMO, KY

LOCATION.--Lat 36°41'30", long 88°16'25", Calloway County, Hydrologic Unit 06040006, on left bank at downstream side of bridge on State Highway 464, 0.3 mi southeast of Almo, 5.1 mi upstream from Rockhouse Creek, and at mile 53.5.

DRAINAGE AREA.--134 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 413.46 ft above NGVD of 1929.

REMARKS.--Records fair except those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 2	1715	6,780	14.99	Jun 12	2030	5,870	14.58
Dec 7	1200	4,180	13.64	Aug 30	2300	*8,620	*15.64
Mar 28	0615	5,850	14.57				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	291	739	377	58	60	109	209	28	31	24	149
2	7.0	5,040	201	1,160	70	54	104	113	70	30	23	96
3	6.6	887	137	402	128	52	81	78	38	29	23	67
4	e7.6	156	112	502	87	51	69	62	30	28	23	52
5	e6.4	94	145	351	70	50	61	53	26	31	23	43
6	e6.2	67	1,540	1,850	62	46	102	48	24	28	87	38
7	e6.1	52	2,420	739	66	62	802	43	23	28	37	34
8	8.2	42	329	1,010	94	192	269	39	23	27	17	30
9	e8.8	34	192	248	81	90	142	35	30	28	14	27
10	8.7	30	161	172	68	67	102	37	23	27	14	24
11	13	70	126	143	59	60	87	33	22	55	12	22
12	39	182	106	128	55	55	127	31	3,210	74	11	20
13	15	60	90	772	353	53	126	30	833	79	9.9	19
14	e13	38	76	332	309	50	180	300	133	76	13	18
15	e14	31	69	149	147	46	84	110	94	186	32	23
16	e14	28	65	116	103	46	63	46	74	166	22	22
17	e15	26	61	93	79	45	54	37	64	407	63	17
18	42	25	59	80	68	43	50	33	57	108	36	15
19	354	47	56	76	62	41	45	32	51	56	19	15
20	e37	40	53	74	67	40	42	46	47	49	13	15
21	e17	31	52	71	199	39	47	34	44	41	11	14
22	e16	27	759	66	164	55	224	29	42	37	11	13
23	197	291	274	58	94	107	107	28	40	33	10	13
24	175	882	142	55	77	67	52	28	37	31	10	12
25	30	184	104	56	67	53	43	26	35	29	10	20
26	27	73	86	57	61	48	52	25	35	28	41	28
27	35	135	75	53	57	1,140	48	24	40	27	114	15
28	32	361	74	51	62	3,220	49	23	35	26	95	13
29	25	97	486	67	---	298	201	22	34	25	1,130	13
30	21	1,690	1,770	75	---	167	1,980	22	32	24	4,960	11
31	18	---	1,230	63	---	131	---	22	---	23	1,890	---
TOTAL	1,221.4	11,011	11,789	9,446	2,867	6,528	5,502	1,698	5,274	1,867	8,797.9	898
MEAN	39.4	367	380	305	102	211	183	54.8	176	60.2	284	29.9
MAX	354	5,040	2,420	1,850	353	3,220	1,980	300	3,210	407	4,960	149
MIN	6.1	25	52	51	55	39	42	22	22	23	9.9	11
CFSM	0.29	2.74	2.84	2.27	0.76	1.57	1.37	0.41	1.31	0.45	2.12	0.22
IN.	0.34	3.06	3.27	2.62	0.80	1.81	1.53	0.47	1.46	0.52	2.44	0.25

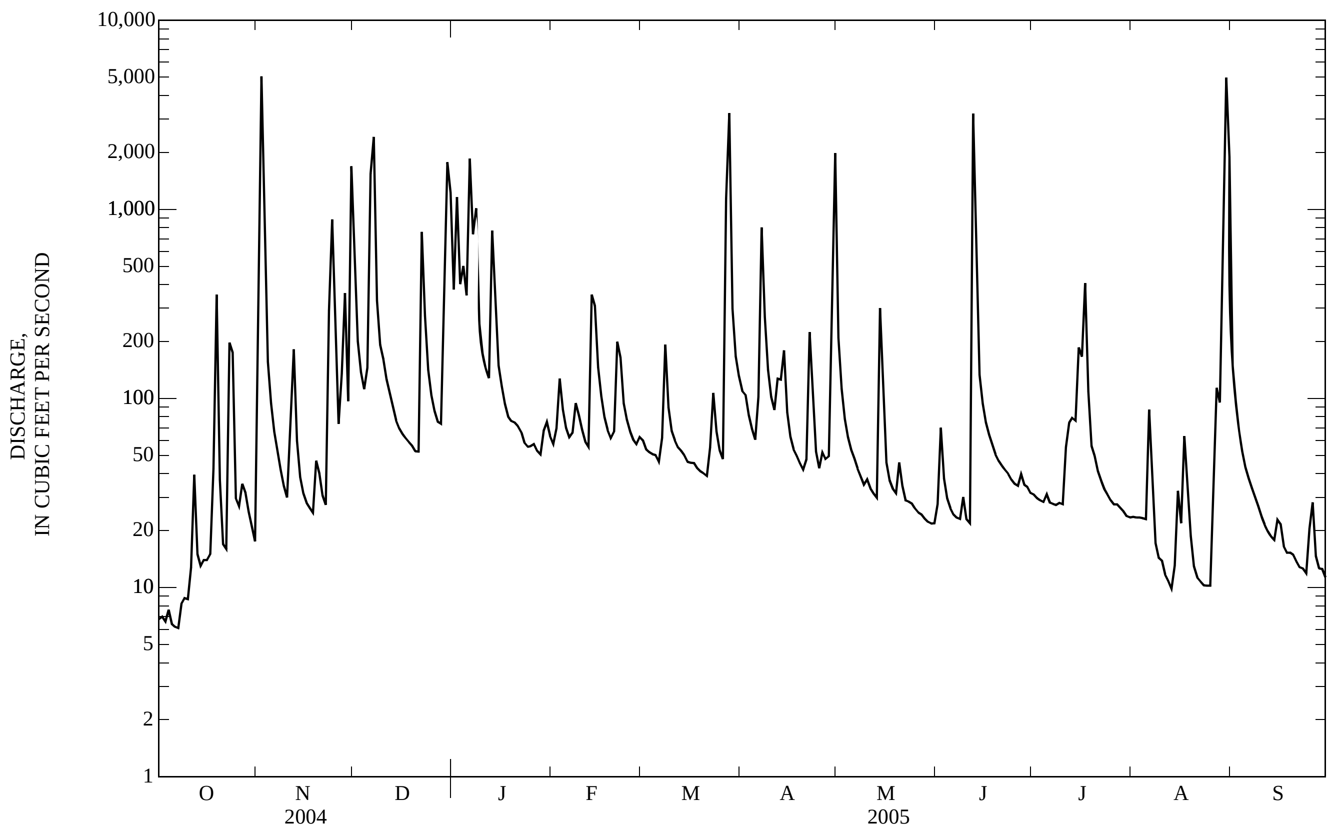
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	57.2	190	338	220	391	267	232	245	130	65.8	53.2	40.9
MAX	258	1,039	1,097	583	1,693	1,336	623	925	667	264	377	357
(WY)	(2003)	(2002)	(2002)	(1999)	(1989)	(1997)	(1983)	(1983)	(1998)	(1989)	(1995)	(2002)
MIN	2.96	7.43	24.4	27.1	65.5	61.7	21.6	12.4	3.88	4.95	2.40	2.36
(WY)	(1988)	(2000)	(1996)	(2001)	(1996)	(1995)	(1986)	(1988)	(1988)	(1986)	(1983)	(1983)

03610200 CLARKS RIVER AT ALMO, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1983 - 2005	
ANNUAL TOTAL	58,338.3		66,899.3			
ANNUAL MEAN	159		183		185	
HIGHEST ANNUAL MEAN					405	2002
LOWEST ANNUAL MEAN					69.8	1987
HIGHEST DAILY MEAN	5,040	Nov 2	5,040	Nov 2	14,000	Mar 2, 1997
LOWEST DAILY MEAN	5.9	Aug 17	6.1	Oct 7	1.6	Aug 29, 1983
ANNUAL SEVEN-DAY MINIMUM	6.3	Aug 12	6.7	Oct 1	1.7	Aug 31, 1983
MAXIMUM PEAK FLOW			8,620	Aug 30	23,300	Mar 2, 1997
MAXIMUM PEAK STAGE			15.64	Aug 30	18.35	Mar 2, 1997
ANNUAL RUNOFF (CFSM)	1.19		1.37		1.38	
ANNUAL RUNOFF (INCHES)	16.20		18.57		18.72	
10 PERCENT EXCEEDS	279		304		307	
50 PERCENT EXCEEDS	46		52		34	
90 PERCENT EXCEEDS	8.9		15		6.0	

e Estimated



03611260 MASSAC CREEK NEAR PADUCAH, KY

LOCATION.--Lat 37°02'29", long 88°42'39", McCracken County, Hydrologic Unit 05140206, on left upstream wingwall of bridge on U.S. Highway 62, 1.2 mi upstream from Middle Fork, 6.9 mi west of post office in Paducah, and at mile 8.3.

DRAINAGE AREA.--14.6 mi^2.

PERIOD OF RECORD.--October 1971 to current year.

REVISED RECORDS.--1983 (M), 1984 (M).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 345.53 ft above NGVD of 1929.

REMARKS.--Records good.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 30	0915	*1,270	*9.95				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.52	15	30	25	0.32	1.1	11	15	0.99	e1.3	0.67	6.0
2	0.60	190	13	183	0.39	0.56	11	7.9	0.99	e1.1	0.66	2.7
3	0.61	11	8.3	139	0.98	0.42	7.6	5.0	0.99	e1.0	0.68	1.5
4	0.56	5.8	5.6	168	0.39	0.35	5.9	3.7	0.92	e1.3	0.65	1.2
5	0.56	3.6	33	127	0.35	0.33	4.6	3.2	0.88	e1.5	0.60	1.0
6	0.55	3.0	43	228	0.34	0.29	11	2.9	0.84	e1.3	0.61	0.86
7	0.50	2.6	222	66	116	4.3	24	2.5	0.78	e1.2	10	0.73
8	0.53	2.2	28	49	20	5.8	23	2.1	4.0	1.2	5.3	0.66
9	0.53	2.0	20	18	8.4	0.95	11	2.1	23	1.1	0.71	0.62
10	0.53	1.9	17	12	3.2	0.56	7.3	2.0	41	1.1	0.59	0.94
11	3.1	31	14	9.5	1.2	0.43	11	2.0	21	19	0.56	0.44
12	13	34	13	7.9	0.78	0.35	23	1.9	222	51	0.55	0.19
13	2.3	6.7	12	242	37	0.32	125	1.8	40	25	0.54	0.15
14	1.7	3.8	10	24	14	0.28	25	3.5	e6.4	6.9	0.86	0.15
15	2.5	2.8	9.5	11	5.1	0.26	14	2.3	e2.0	33	2.0	0.40
16	2.3	2.6	9.2	6.4	2.0	0.24	10	2.0	e1.1	9.0	19	0.19
17	1.8	2.3	8.7	2.8	0.97	0.23	8.3	2.0	e1.0	3.8	1.7	0.16
18	15	2.7	8.2	1.8	0.46	0.22	6.5	1.7	e0.90	2.6	5.5	0.17
19	5.5	13	7.6	2.0	0.39	0.21	5.1	1.5	e0.90	3.3	3.6	0.14
20	1.9	4.9	6.9	1.5	0.38	0.20	4.4	2.3	e0.87	1.5	0.78	1.0
21	1.6	3.1	7.5	1.1	121	0.18	4.1	2.1	e0.87	2.0	0.65	0.20
22	1.5	2.6	51	0.72	16	11	115	1.8	e0.85	1.4	1.2	0.16
23	2.1	13	e8.6	0.42	7.7	13	14	1.7	e0.85	4.0	1.0	0.12
24	2.8	19	e3.9	0.40	4.2	1.6	8.1	1.5	e0.85	1.1	0.62	0.12
25	2.1	7.1	e2.8	0.42	1.9	1.3	5.3	1.5	e0.85	0.95	0.60	14
26	1.9	4.0	e2.6	0.37	1.2	0.83	5.9	1.3	e0.85	0.91	0.65	4.6
27	2.3	44	e3.4	0.28	0.81	229	3.7	1.2	e0.85	0.88	0.71	0.25
28	1.2	19	e17	0.25	1.7	273	3.9	1.1	e0.89	0.82	0.71	0.19
29	1.2	36	146	0.74	---	33	71	1.1	e1.1	0.73	2.1	4.7
30	1.4	135	74	0.52	---	18	77	1.0	e1.3	0.71	379	0.23
31	1.6	---	27	0.36	---	13	---	0.99	---	0.68	19	---
TOTAL	74.29	623.7	862.8	1,329.48	367.16	611.31	656.7	82.69	379.82	181.38	461.80	43.77
MEAN	2.40	20.8	27.8	42.9	13.1	19.7	21.9	2.67	12.7	5.85	14.9	1.46
MAX	15	190	222	242	121	273	125	15	222	51	379	14
MIN	0.50	1.9	2.6	0.25	0.32	0.18	3.7	0.99	0.78	0.68	0.54	0.12

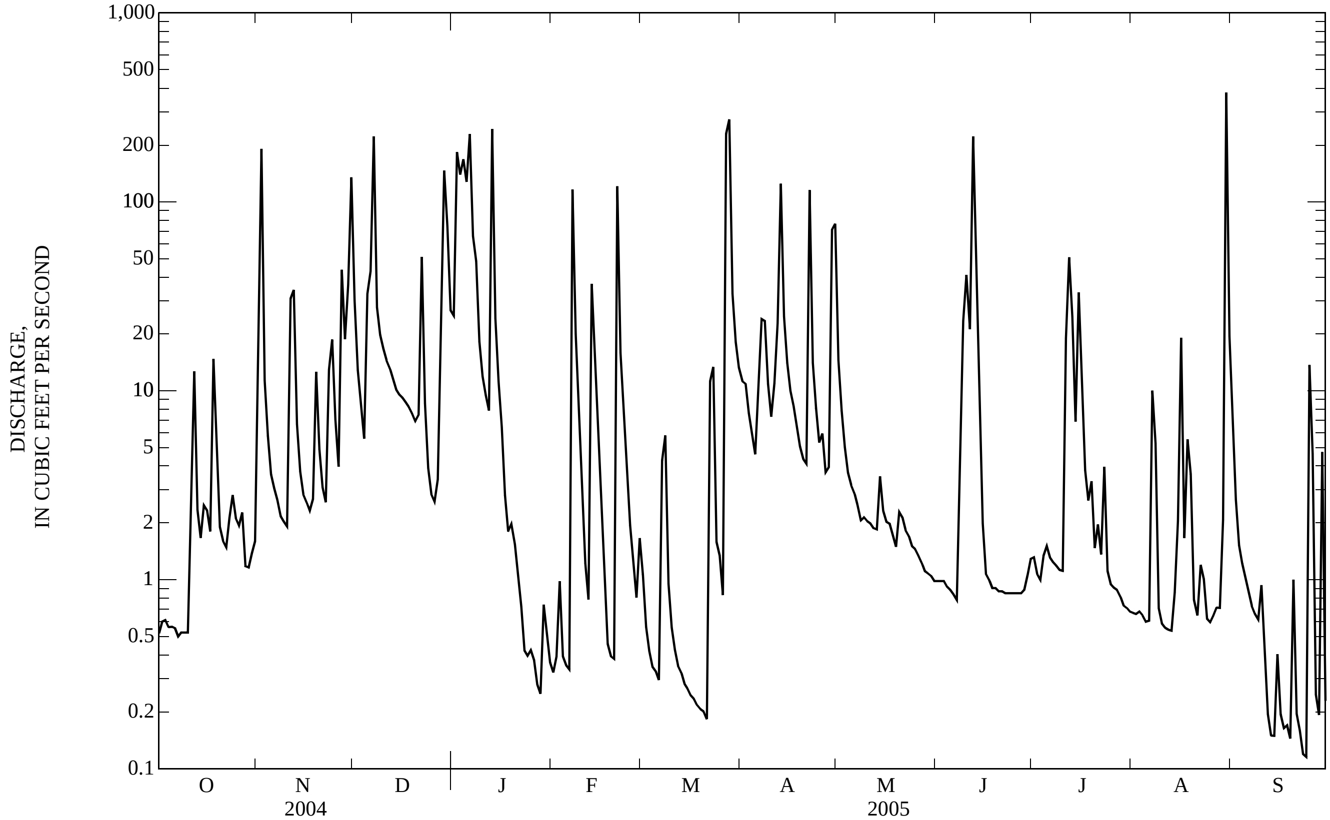
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.47	15.3	28.1	23.8	34.8	30.0	29.6	19.9	10.5	8.00	3.14	4.05
MAX	19.4	70.8	105	65.8	160	109	121	102	53.8	37.3	14.9	50.1
(WY)	(1986)	(1997)	(1983)	(2000)	(1989)	(1997)	(1973)	(2002)	(1998)	(1983)	(2005)	(1985)
MIN	0.25	0.37	0.71	0.58	4.19	8.37	2.14	1.17	0.32	0.37	0.30	0.23
(WY)	(1982)	(1972)	(1977)	(1977)	(1996)	(1987)	(1986)	(1992)	(1972)	(1974)	(1980)	(1976)

03611260 MASSAC CREEK NEAR PADUCAH, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1972 - 2005	
ANNUAL TOTAL	4,642.21		5,674.90			
ANNUAL MEAN	12.7		15.5		17.5	
HIGHEST ANNUAL MEAN					37.9	1979
LOWEST ANNUAL MEAN					6.54	1987
HIGHEST DAILY MEAN	352	Jun 16	379	Aug 30	1,910	Jan 3, 2000
LOWEST DAILY MEAN	0.38	Jul 29	0.12	Sep 23	0.09	Nov 13, 1971
ANNUAL SEVEN-DAY MINIMUM	0.43	Aug 13	0.19	Sep 13	0.10	Nov 10, 1971
MAXIMUM PEAK FLOW			1,270	Aug 30	5,990	Sep 5, 1985
MAXIMUM PEAK STAGE			9.95	Aug 30	15.86	Sep 5, 1985
INSTANTANEOUS LOW FLOW			0.50	Oct 7	0.06	Nov 14, 1971
10 PERCENT EXCEEDS	30		30		28	
50 PERCENT EXCEEDS	2.6		2.0		2.2	
90 PERCENT EXCEEDS	0.53		0.39		0.45	

e Estimated



03611500 OHIO RIVER AT METROPOLIS, IL

LOCATION.--Lat 37°08'51", long 88°44'27", Massac County IL., Hydrologic Unit 05140206, near center of span on downstream side of pier of Paducah & Illinois Railroad bridge at Metropolis, 9.5 mi downstream from Tennessee River, 37 mi upstream from mouth, and at mile 944.1.

DRAINAGE AREA.--203,000 mi^2, approximately.

PERIOD OF RECORD.--January 1928 to current year. Prior to April 1928 monthly discharge only, published in WSP 1305. Gage-height records collected 9.6 mi upstream at Paducah since 1890 are contained in reports of National Weather Service. Occasional discharge measurements 1881 to 1924 in reports of Mississippi River Commission.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 276.27 ft above NGVD of 1929. Prior to Dec. 22, 1936, water-stage recorders (temporary installations) at Paducah, Ky., Metropolis and Joppa, Il., and Dam 52. Auxiliary water-stage recorder near Grand Chain, 0.5 mi upstream from Dam 53, and 18 mi downstream from base gage. Prior to May 29, 1936, auxiliary nonrecording gage at Dam 53.

REMARKS.--Records fair except those below 100,000 ft^3/s and those estimated , which are poor. Flow regulated by many dams and reservoirs. Maximum daily discharge includes overflow through Bay Creek and Cache River Valleys.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet and U.S. Army Corps of Engineers, Louisville District and National Stream Quality Accounting Network.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132,000	e179,000	546,000	457,000	495,000	553,000	567,000	419,000	92,200	e83,600	e75,000	e276,000
2	208,000	e194,000	606,000	507,000	e447,000	518,000	e569,000	445,000	67,700	e103,000	e90,000	296,000
3	223,000	e219,000	645,000	529,000	412,000	e499,000	572,000	e457,000	109,000	e58,900	e110,000	e250,000
4	217,000	e261,000	687,000	e537,000	393,000	481,000	592,000	470,000	e116,000	e110,000	115,000	e190,000
5	212,000	e312,000	711,000	547,000	349,000	442,000	605,000	462,000	e70,000	e49,200	e95,000	e155,000
6	173,000	e388,000	734,000	598,000	335,000	441,000	e617,000	459,000	e112,000	e85,000	e75,000	e139,000
7	e130,000	e403,000	768,000	652,000	352,000	405,000	629,000	e410,000	e119,000	e105,000	e52,000	e115,000
8	e109,000	e428,000	817,000	711,000	371,000	337,000	667,000	362,000	e113,000	e90,000	e65,000	127,000
9	e116,000	e440,000	855,000	776,000	380,000	e323,000	710,000	263,000	e127,000	e130,000	e86,100	e103,000
10	e130,000	e415,000	879,000	822,000	399,000	358,000	721,000	e196,000	e131,000	e150,000	e89,900	e85,000
11	e140,000	e312,000	862,000	850,000	408,000	397,000	715,000	e174,000	e170,000	e230,000	e75,000	e73,000
12	e141,000	e267,000	846,000	890,000	386,000	416,000	694,000	154,000	e137,000	e249,000	e75,000	e90,000
13	e140,000	317,000	842,000	946,000	382,000	438,000	656,000	139,000	e181,000	e160,000	e85,000	e120,000
14	e145,000	399,000	862,000	990,000	438,000	457,000	578,000	134,000	e208,000	e89,400	e70,000	e90,000
15	e148,000	408,000	872,000	1,020,000	463,000	446,000	491,000	155,000	e212,000	e115,000	e77,500	e95,000
16	e149,000	378,000	858,000	1,030,000	484,000	406,000	370,000	187,000	e198,000	e86,000	e69,500	e95,000
17	e141,000	326,000	850,000	1,000,000	509,000	336,000	288,000	206,000	e170,000	e75,000	e77,400	e80,000
18	e140,000	261,000	833,000	1,000,000	520,000	294,000	224,000	229,000	e150,000	e120,000	e65,100	e75,000
19	e170,000	230,000	800,000	1,000,000	527,000	230,000	183,000	241,000	e120,000	e135,000	e62,500	e102,000
20	e210,000	227,000	714,000	1,010,000	533,000	197,000	168,000	229,000	e99,000	e140,000	e71,200	e96,000
21	e363,000	280,000	573,000	1,020,000	544,000	241,000	143,000	213,000	e90,000	e150,000	e82,300	e79,000
22	390,000	331,000	499,000	1,030,000	538,000	243,000	137,000	232,000	e110,000	e145,000	e89,700	e102,000
23	414,000	349,000	415,000	1,030,000	568,000	221,000	159,000	263,000	e95,800	e150,000	e89,800	e95,000
24	403,000	358,000	395,000	1,020,000	593,000	219,000	163,000	287,000	e83,100	e140,000	e84,300	e95,000
25	340,000	379,000	425,000	1,010,000	601,000	216,000	184,000	e289,000	e70,000	e128,000	e75,100	e96,000
26	277,000	384,000	465,000	969,000	598,000	218,000	221,000	253,000	e60,000	e116,000	e76,400	101,000
27	e245,000	437,000	488,000	920,000	590,000	e242,000	255,000	175,000	e48,000	e105,000	e116,000	e118,000
28	e210,000	457,000	499,000	849,000	580,000	334,000	282,000	135,000	e75,400	e121,000	e140,000	e140,000
29	e202,000	471,000	477,000	740,000	---	421,000	e321,000	e100,000	e60,300	e117,000	e150,000	e116,000
30	e192,000	504,000	418,000	657,000	---	520,000	362,000	e99,000	e50,600	e85,000	e200,000	e121,000
31	e183,000	---	417,000	574,000	---	551,000	---	100,000	---	e80,000	e250,000	---
TOTAL	6,393,000	10,314,000	20,658,000	25,691,000	13,195,000	11,400,000	12,843,000	7,937,000	3,445,100	3,701,100	2,934,800	3,715,000
MEAN	206,200	343,800	666,400	828,700	471,200	367,700	428,100	256,000	114,800	119,400	94,670	123,800
MAX	414,000	504,000	879,000	1,030,000	601,000	553,000	721,000	470,000	212,000	249,000	250,000	296,000
MIN	109,000	179,000	395,000	457,000	335,000	197,000	137,000	99,000	48,000	49,200	52,000	73,000

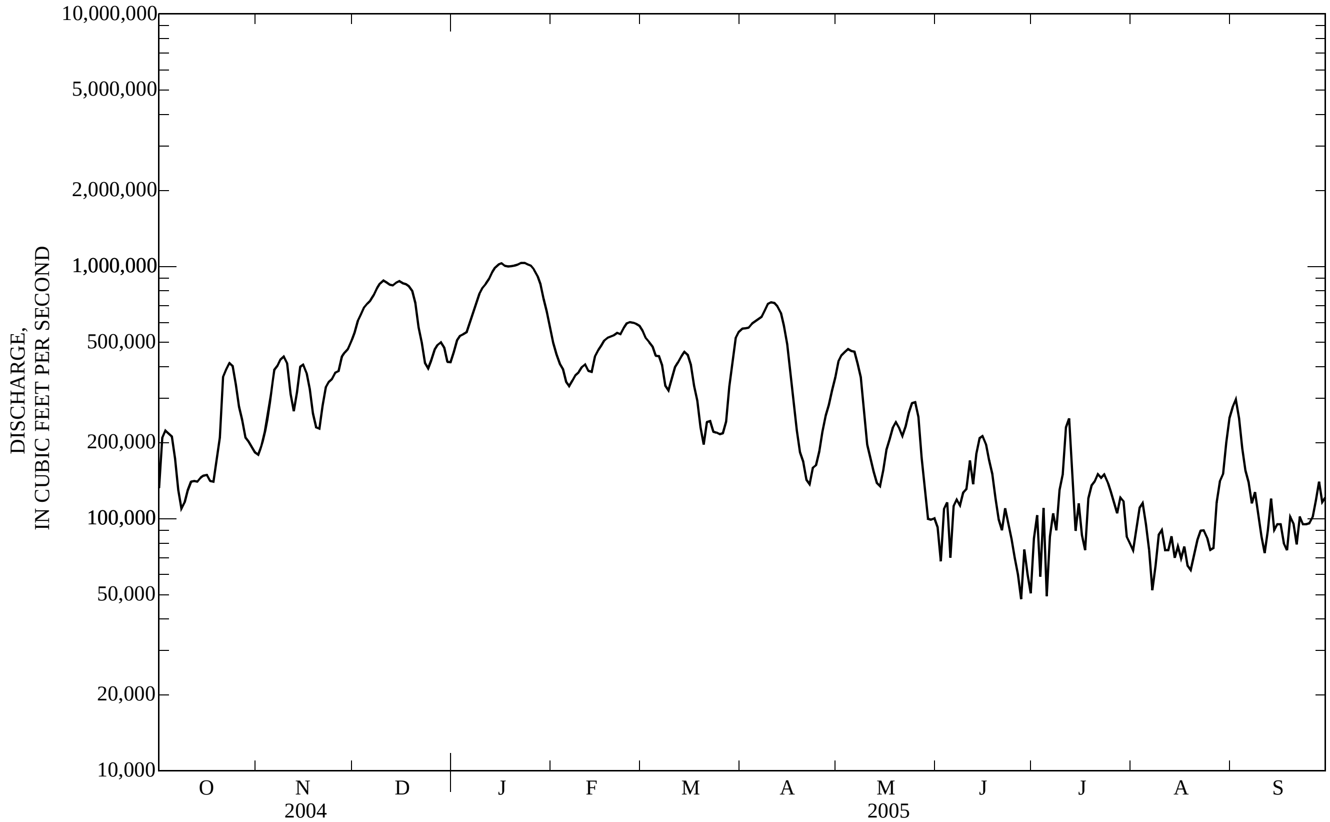
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	106,900	169,600	298,000	399,800	469,100	519,300	453,100	342,500	223,300	154,500	123,600	105,300
MAX	335,600	450,300	717,500	1,022,000	1,217,000	1,039,000	896,400	917,800	596,400	441,200	331,100	383,500
(WY)	(1980)	(1986)	(1973)	(1937)	(1937)	(1997)	(1994)	(1983)	(1997)	(1928)	(1958)	(1979)
MIN	22,710	33,400	48,610	71,650	77,380	154,700	129,900	75,180	53,840	23,350	25,390	29,330
(WY)	(1931)	(1931)	(1931)	(1940)	(1934)	(1941)	(1986)	(1941)	(1936)	(1930)	(1930)	(1930)

03611500 OHIO RIVER AT METROPOLIS, IL—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1928 - 2005	
ANNUAL TOTAL	137,390,800		122,227,000			
ANNUAL MEAN	375,400		334,900		278,800	
HIGHEST ANNUAL MEAN					436,600	1979
LOWEST ANNUAL MEAN					120,300	1931
HIGHEST DAILY MEAN	879,000	Dec 10	1,030,000	Jan 16	1,850,000	Feb 1, 1937
LOWEST DAILY MEAN	82,000	Aug 20	48,000	Jun 27	15,000	Jul 20, 1930
ANNUAL SEVEN-DAY MINIMUM	93,900	Aug 15	63,900	Jun 24	16,600	Jul 20, 1930
MAXIMUM PEAK FLOW			1,050,000	Jan 16	1,850,000	Feb 1, 1937
MAXIMUM PEAK STAGE			55.02	Jan 16	66.60	Feb 2, 1937
10 PERCENT EXCEEDS	709,000		717,000		639,000	
50 PERCENT EXCEEDS	334,000		245,000		193,000	
90 PERCENT EXCEEDS	143,000		85,000		69,300	

e Estimated



03611800 BAYOU CREEK NEAR HEATH, KY

LOCATION.--Lat 37°05'58", long 88°49'27", McCracken County, Hydrologic Unit 05140206, on left downstream wingwall of bridge on Dyke Road, 1.0 mi southwest of Paducah Gaseous Diffusion Plant, 2.0 mi northwest of Heath, 3.0 mi upstream from Brushy Creek, and at mile 7.3.

DRAINAGE AREA.--6.55 mi^2.

PERIOD OF RECORD.--October 1990 to November 1991, June 1993 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 366.06 ft above NGVD of 1929 (levels by U.S. Department of Energy).

REMARKS.--Records fair except those estimated, which are poor.

COOPERATION.--Kentucky Cabinet for Health Services.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.16	18	4.8	4.0	2.1	2.2	4.4	1.8	0.12	e0.43	0.16	0.55
2	0.18	63	0.88	58	2.3	1.8	4.5	0.92	0.13	e0.43	0.18	0.41
3	0.18	0.35	0.35	20	2.9	1.8	3.4	0.63	0.05	e0.36	0.18	0.33
4	0.18	0.05	0.17	37	2.5	1.7	3.1	0.47	0.05	e0.45	0.15	0.33
5	0.15	0.02	17	64	2.3	1.6	2.9	0.38	0.03	e0.23	0.14	0.37
6	0.16	0.02	8.8	66	2.2	1.6	6.6	0.32	0.02	0.11	0.15	0.39
7	0.16	0.02	71	14	23	2.7	29	0.30	0.02	0.08	0.57	0.39
8	0.17	0.02	1.8	13	9.2	3.5	16	0.27	0.14	0.07	0.36	0.37
9	0.20	0.02	0.68	4.3	4.3	2.3	5.8	0.34	0.23	0.06	0.22	0.35
10	0.26	0.02	0.31	3.1	2.9	2.0	3.6	0.34	0.65	0.06	0.21	0.34
11	0.55	3.0	0.14	2.6	2.3	1.8	4.2	0.26	0.60	5.3	0.22	0.32
12	2.5	2.3	0.08	2.3	2.1	1.7	41	0.21	21	49	0.26	0.30
13	0.43	0.10	0.04	91	20	1.6	80	0.33	2.0	7.8	0.24	0.30
14	0.64	0.03	0.02	8.0	10	1.5	9.7	3.0	0.61	1.3	0.36	0.32
15	1.2	0.02	0.02	3.8	4.1	1.4	4.8	0.54	0.40	0.65	0.37	0.46
16	0.48	0.02	0.03	e3.2	2.8	1.4	3.5	e0.31	0.29	0.69	0.47	0.24
17	0.44	0.02	0.04	e2.3	2.3	1.4	2.7	0.21	0.19	0.43	0.29	0.30
18	2.9	0.04	0.05	e2.1	2.0	1.4	2.4	0.17	e0.32	0.33	0.38	0.31
19	1.4	0.74	0.04	e2.2	1.8	1.4	2.0	0.17	e0.32	1.4	0.25	0.30
20	0.53	0.11	0.03	1.9	1.9	1.3	e1.8	0.32	e0.32	0.42	0.27	0.45
21	0.47	0.03	0.06	1.8	56	1.3	1.6	0.26	e0.32	0.22	0.24	0.34
22	0.47	0.03	e0.22	1.7	6.8	3.9	56	0.24	e0.32	0.15	0.31	0.32
23	2.0	1.1	e0.57	1.6	4.0	3.2	2.6	0.21	e0.32	0.12	0.18	0.32
24	1.4	0.88	e0.56	1.5	3.2	2.2	1.4	0.18	e0.33	0.12	0.21	0.30
25	0.79	0.25	e0.59	1.6	2.7	2.6	0.89	0.14	e0.34	0.12	0.22	4.1
26	3.7	0.08	e0.52	1.6	2.3	2.2	1.1	0.13	e0.34	0.11	0.33	1.5
27	1.7	11	e0.56	1.4	2.1	124	0.75	0.09	e0.34	0.13	0.28	0.27
28	1.2	1.7	e0.51	1.3	2.4	153	0.65	0.10	e0.36	0.14	0.19	0.59
29	1.2	6.2	e4.1	1.7	---	8.0	4.4	0.08	e0.39	0.13	0.29	5.3
30	1.5	33	e19	1.8	---	4.3	11	0.05	e0.44	0.13	e180	0.32
31	1.6	---	4.6	1.9	---	4.0	---	0.03	---	0.14	e8.3	---
TOTAL	28.90	142.17	137.57	420.7	182.5	344.8	311.79	12.80	30.99	71.11	195.98	20.49
MEAN	0.93	4.74	4.44	13.6	6.52	11.1	10.4	0.41	1.03	2.29	6.32	0.68
MAX	3.7	63	71	91	56	153	80	3.0	21	49	180	5.3
MIN	0.15	0.02	0.02	1.3	1.8	1.3	0.65	0.03	0.02	0.06	0.14	0.24
CFSM	0.14	0.72	0.68	2.07	1.00	1.70	1.59	0.06	0.16	0.35	0.97	0.10
IN.	0.16	0.81	0.78	2.39	1.04	1.96	1.77	0.07	0.18	0.40	1.11	0.12

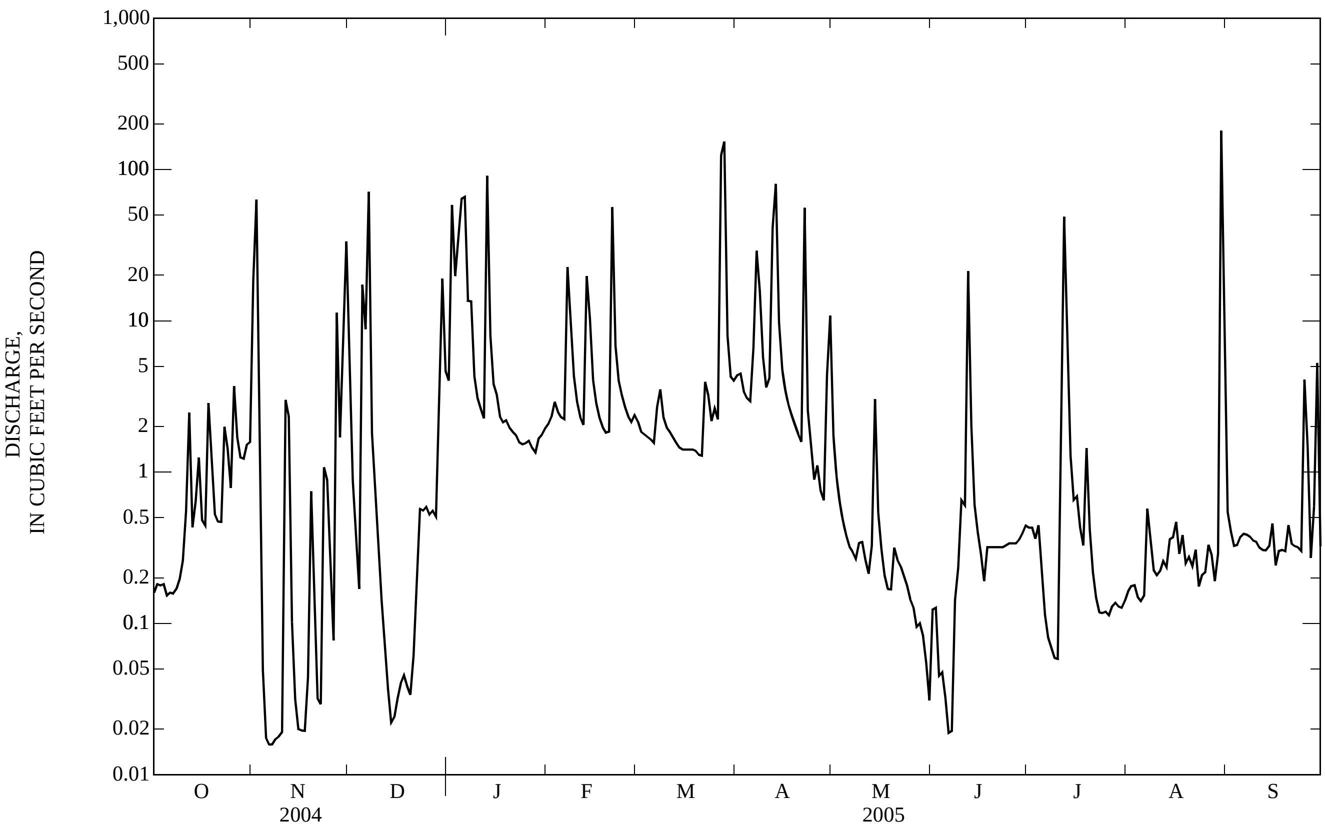
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.66	5.26	10.4	9.88	10.9	10.1	8.44	8.58	4.00	2.44	1.70	0.84
MAX	9.97	22.8	37.2	24.4	29.2	34.9	16.6	31.2	16.6	7.59	8.31	2.73
(WY)	(2002)	(1997)	(1991)	(1999)	(2003)	(1997)	(1994)	(2002)	(1998)	(1998)	(1998)	(2002)
MIN	0.21	0.21	0.50	0.89	0.60	3.26	2.40	0.41	0.17	0.09	0.12	0.15
(WY)	(1998)	(2000)	(1998)	(2001)	(1996)	(1995)	(2004)	(2005)	(1994)	(1993)	(1993)	(1998)

03611800 BAYOU CREEK NEAR HEATH, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1991 - 2005	
ANNUAL TOTAL	958.13		1,899.80			
ANNUAL MEAN	2.62		5.20		6.21	
HIGHEST ANNUAL MEAN					13.2	2002
LOWEST ANNUAL MEAN					2.23	2004
HIGHEST DAILY MEAN	109	May 30	180	Aug 30	710	Mar 1, 1997
LOWEST DAILY MEAN	0.02	Nov 5	0.02	Nov 5	0.02	Oct 13, 2002
ANNUAL SEVEN-DAY MINIMUM	0.02	Nov 4	0.02	Nov 4	0.02	Nov 4, 2004
MAXIMUM PEAK FLOW			761	Mar 27	1,870	Mar 1, 1997
MAXIMUM PEAK STAGE			5.26	Mar 27	9.90	Mar 1, 1997
ANNUAL RUNOFF (CFSM)	0.400		0.795		0.949	
ANNUAL RUNOFF (INCHES)	5.44		10.79		12.89	
10 PERCENT EXCEEDS	4.6		7.9		6.4	
50 PERCENT EXCEEDS	0.62		0.55		0.50	
90 PERCENT EXCEEDS	0.15		0.08		0.15	

e Estimated



03611850 BAYOU CREEK NEAR GRAHAMVILLE, KY

LOCATION.--Lat 37°08'41", long 88°49'38", McCracken County, Hydrologic Unit 05140206, near right bank on downstream side of bridge on State Highway 358, 750 ft downstream of Brushy Creek, 1.4 mi north of Paducah Gaseous Diffusion Plant, 3.6 mi northwest of Grahamville, and at mile 4.1.

DRAINAGE AREA.--14.9 mi^2.

PERIOD OF RECORD.--October 1990 to November 1991, June 1993 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 330 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Kentucky Cabinet for Health Services.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 2	0145	1,050	9.71	Mar 28	0515	1,040	9.67
Mar 27	2230	*1,200	*10.39				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	33	106	76	12	11	19	e14	7.8	8.1	9.3	12
2	6.4	302	26	273	14	10	18	e18	8.6	7.7	9.2	11
3	6.4	25	13	178	16	9.6	16	e16	7.7	7.5	9.5	10
4	6.3	16	9.8	210	13	9.3	15	e14	7.2	14	9.5	10
5	6.3	9.9	69	234	12	9.4	14	e14	6.8	10	9.5	9.8
6	6.3	9.7	164	314	11	9.3	19	e14	6.6	7.8	9.5	11
7	6.2	9.5	307	99	121	15	71	e12	6.6	8.5	15	11
8	6.5	9.3	81	e64	62	16	50	e12	18	9.2	11	9.3
9	6.9	9.4	58	48	28	10	20	e12	16	9.1	9.9	9.1
10	6.7	10	47	36	18	9.5	15	e11	20	9.2	9.8	9.1
11	17	50	39	31	15	9.3	17	e12	18	54	9.8	8.7
12	31	50	36	24	13	9.1	94	e11	89	179	9.9	8.6
13	8.1	10	39	269	89	9.2	230	e11	13	40	9.6	8.5
14	12	8.3	34	61	50	9.0	36	e65	8.8	15	10	8.1
15	12	8.8	23	33	22	8.9	e20	e12	8.7	13	11	14
16	7.1	8.9	22	e21	18	9.2	e18	e11	7.5	11	17	8.2
17	6.7	9.2	23	e18	15	9.2	e16	11	7.3	10	11	7.8
18	16	13	21	e16	13	8.8	e15	9.8	7.2	9.8	15	7.9
19	21	28	19	16	12	8.8	e14	9.3	6.9	13	11	8.0
20	8.3	12	18	17	12	8.8	e13	13	6.8	10	11	13
21	8.0	10	17	17	150	8.7	e31	9.7	6.8	9.6	10	8.1
22	6.8	14	99	16	36	25	179	9.1	6.8	9.5	13	7.7
23	18	33	e40	14	18	15	e20	9.7	6.8	9.5	12	7.5
24	7.8	28	e28	14	14	10	e18	9.6	6.8	9.6	17	7.6
25	6.9	14	e21	17	12	14	e15	9.5	7.0	9.5	12	34
26	12	9.8	e19	17	11	11	e17	8.9	7.5	9.8	14	15
27	7.8	113	e18	13	10	265	e14	7.9	7.5	9.8	12	8.3
28	6.6	41	e17	12	11	425	e14	7.4	7.5	9.6	11	11
29	6.3	44	208	15	---	50	e61	7.2	7.5	9.7	12	43
30	8.3	272	173	13	---	28	70	7.1	8.7	9.7	285	8.2
31	6.8	---	85	13	---	33	---	7.1	---	9.4	16	---
TOTAL	299.0	1,210.8	1,879.8	2,199	828	1,084.1	1,169	395.3	351.4	551.6	631.5	345.5
MEAN	9.65	40.4	60.6	70.9	29.6	35.0	39.0	12.8	11.7	17.8	20.4	11.5
MAX	31	302	307	314	150	425	230	65	89	179	285	43
MIN	6.2	8.3	9.8	12	10	8.7	13	7.1	6.6	7.5	9.2	7.5
CFSM	0.65	2.71	4.07	4.76	1.98	2.35	2.62	0.86	0.79	1.19	1.37	0.77
IN.	0.75	3.02	4.69	5.49	2.07	2.71	2.92	0.99	0.88	1.38	1.58	0.86

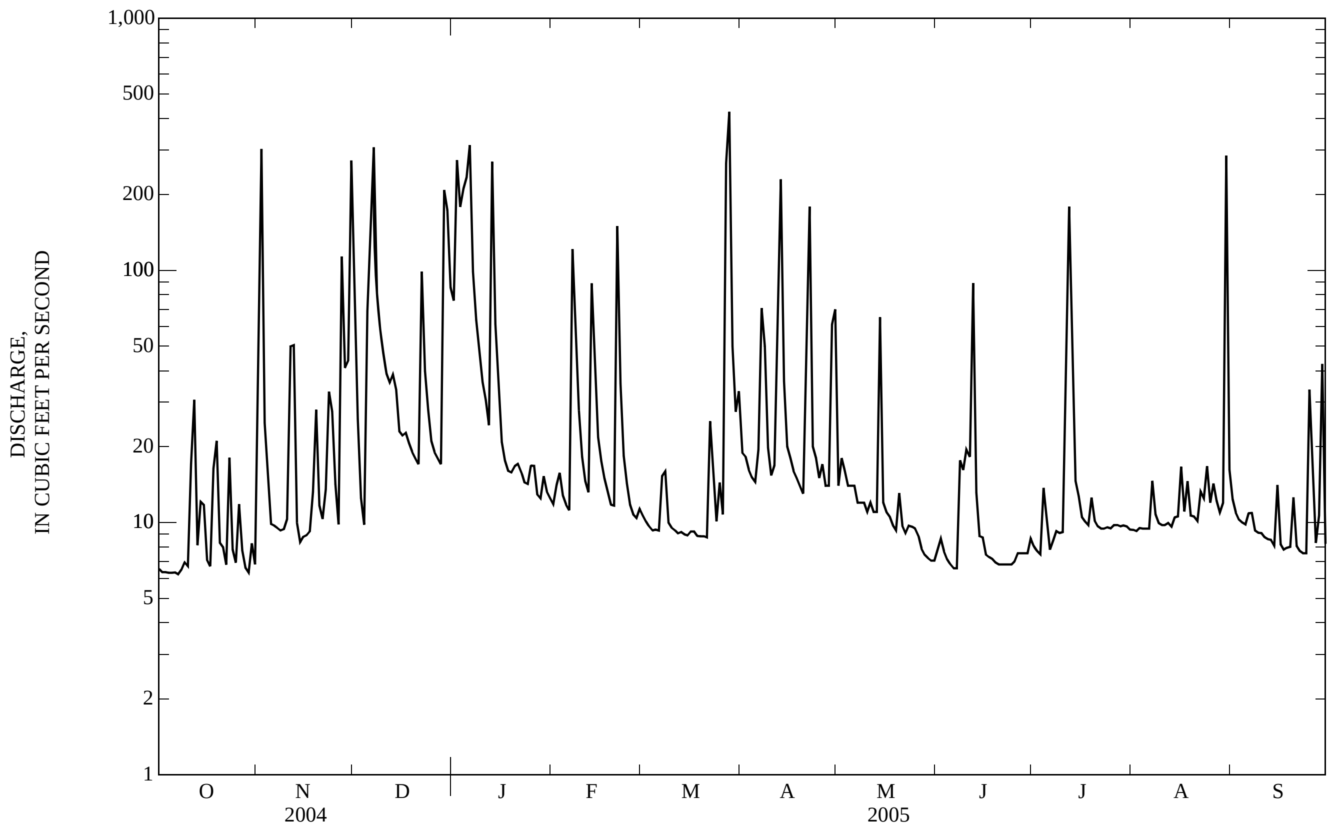
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.4	21.1	33.0	31.7	33.3	30.2	29.1	27.0	17.4	13.4	12.1	9.60
MAX	29.0	56.7	85.9	70.9	79.4	77.5	50.7	69.6	32.4	27.4	21.4	16.4
(WY)	(2002)	(1997)	(2002)	(2005)	(2003)	(1997)	(2003)	(2002)	(1998)	(2001)	(1998)	(2002)
MIN	4.87	4.32	6.66	7.02	6.13	15.0	11.9	8.86	7.56	6.37	5.64	5.11
(WY)	(2001)	(2000)	(1996)	(2001)	(1996)	(1995)	(2004)	(2001)	(1991)	(1994)	(2004)	(1997)

03611850 BAYOU CREEK NEAR GRAHAMVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1991 - 2005	
ANNUAL TOTAL	8,072.5		10,945.0			
ANNUAL MEAN	22.1		30.0		22.5	
HIGHEST ANNUAL MEAN					36.8	2002
LOWEST ANNUAL MEAN					14.7	2001
HIGHEST DAILY MEAN	307	Dec 7	425	Mar 28	923	Mar 1, 1997
LOWEST DAILY MEAN	4.2	Aug 8	6.2	Oct 7	1.9	Oct 9, 1996
ANNUAL SEVEN-DAY MINIMUM	4.4	Aug 6	6.3	Oct 1	2.7	Oct 2, 1997
MAXIMUM PEAK FLOW			1,200	Mar 27	1,750	Mar 1, 1997
MAXIMUM PEAK STAGE			10.39	Mar 27	12.60	Mar 1, 1997
ANNUAL RUNOFF (CFSM)	1.48		2.01		1.51	
ANNUAL RUNOFF (INCHES)	20.15		27.33		20.49	
10 PERCENT EXCEEDS	52		61		31	
50 PERCENT EXCEEDS	6.8		12		9.0	
90 PERCENT EXCEEDS	4.8		7.5		5.1	

e Estimated



03611900 LITTLE BAYOU CREEK NEAR GRAHAMVILLE, KY

LOCATION.--Lat 37°08'22", long 88°47'26", McCracken County, Hydrologic Unit 05140206, on left bank on reservation of Tennessee Valley Authority Shawnee Steam Plant, 30 ft upstream of bridge on unnamed county road, 1.1 mi southwest of Shawnee Steam Plant, 2.2 mi upstream from Bayou Creek, and 2.3 mi north of Grahamville.

DRAINAGE AREA.--5.78 mi^2.

PERIOD OF RECORD.--October 1990 to November 1991, June 1993 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 324.80 ft above NGVD of 1929 (levels by U.S. Department of Energy).

REMARKS.--Records fair except for those estimated, which are poor. Some regulation from Paducah Gaseous Diffusion Plant, 0.4 mi upstream.

COOPERATION.--Kentucky Cabinet for Health Services.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 27	2200	472	6.77	Mar 28	0500	*479	*6.82

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	9.3	14	11	1.3	1.7	2.7	4.3	1.1	1.0	1.2	1.1
2	1.9	50	3.9	64	1.9	1.4	2.6	2.2	1.9	0.92	1.2	0.95
3	1.4	2.7	2.1	29	3.2	1.3	1.9	2.2	1.0	0.79	1.2	0.85
4	1.2	1.3	1.4	44	1.4	1.3	1.6	2.9	0.84	2.2	1.2	0.85
5	1.1	1.0	7.7	55	1.4	1.1	1.4	2.4	0.82	2.8	1.1	0.82
6	1.0	1.00	20	90	1.2	1.2	2.7	1.2	0.85	1.1	1.1	0.80
7	0.83	0.98	63	15	25	2.8	12	1.2	0.93	1.1	1.2	0.77
8	0.79	1.1	7.7	18	14	3.9	12	1.2	1.6	1.2	1.2	0.74
9	0.99	1.3	3.6	6.9	6.0	1.9	4.0	2.2	4.6	1.1	1.1	0.73
10	1.0	1.1	2.3	4.2	3.2	1.6	2.2	1.7	1.5	1.0	1.1	0.74
11	2.6	6.2	1.6	3.1	2.2	1.4	2.7	1.1	3.4	10	1.1	0.68
12	6.3	6.2	1.3	2.8	1.8	1.4	35	1.1	20	32	1.1	0.68
13	1.5	1.4	2.3	78	18	1.3	105	1.6	e4.1	7.6	1.2	0.67
14	2.3	0.95	2.8	e11	13	1.2	10	5.1	0.87	1.9	1.3	0.75
15	3.9	0.80	2.8	e5.1	5.4	1.2	4.3	1.4	0.81	1.4	1.9	3.1
16	1.6	0.73	2.1	e3.8	3.0	1.2	2.5	1.2	0.76	1.3	3.7	0.74
17	1.6	0.91	1.0	e2.5	2.0	1.2	1.9	1.1	0.68	1.3	1.2	0.58
18	3.9	1.4	1.0	e2.0	1.6	1.1	1.7	1.1	0.67	1.4	2.6	0.59
19	5.2	3.3	1.0	e2.2	1.4	1.1	1.6	1.0	0.66	2.3	1.1	0.53
20	1.8	1.3	1.1	e1.9	1.6	1.1	1.5	2.7	0.67	1.4	1.2	1.3
21	1.4	1.3	1.2	e2.0	32	1.0	1.4	1.1	0.68	1.2	1.3	0.54
22	1.6	1.3	11	e1.7	9.5	5.0	41	1.0	0.65	1.3	1.3	0.46
23	5.2	2.8	e2.7	e1.7	4.1	3.9	5.5	0.99	0.67	1.2	1.1	0.47
24	1.9	3.2	e1.5	e1.5	2.8	2.1	2.8	0.92	0.69	1.2	1.1	0.45
25	1.5	2.0	e1.1	e1.5	2.1	3.8	1.9	0.93	0.66	1.2	1.1	5.6
26	1.8	1.3	e1.0	e1.6	1.6	2.6	2.7	1.2	0.66	1.3	2.0	2.0
27	e1.6	9.7	e1.1	e1.6	1.4	93	1.9	1.1	0.66	1.3	1.7	0.45
28	1.5	6.1	e1.9	1.2	1.9	169	2.1	1.0	0.71	1.2	1.1	0.35
29	1.7	4.9	45	1.9	---	11	9.1	1.0	0.80	1.2	1.5	7.3
30	2.9	37	29	1.5	---	5.1	22	0.98	1.0	1.2	49	0.35
31	1.7	---	12	1.4	---	3.8	---	0.92	---	1.2	2.4	---
TOTAL	65.51	162.57	250.2	467.1	164.0	330.7	299.7	50.04	54.94	87.31	91.6	35.94
MEAN	2.11	5.42	8.07	15.1	5.86	10.7	9.99	1.61	1.83	2.82	2.95	1.20
MAX	6.3	50	63	90	32	169	105	5.1	20	32	49	7.3
MIN	0.79	0.73	1.0	1.2	1.2	1.0	1.4	0.92	0.65	0.79	1.1	0.35
CFSM	0.37	0.94	1.40	2.61	1.01	1.85	1.73	0.28	0.32	0.49	0.51	0.21
IN.	0.42	1.05	1.61	3.01	1.06	2.13	1.93	0.32	0.35	0.56	0.59	0.23

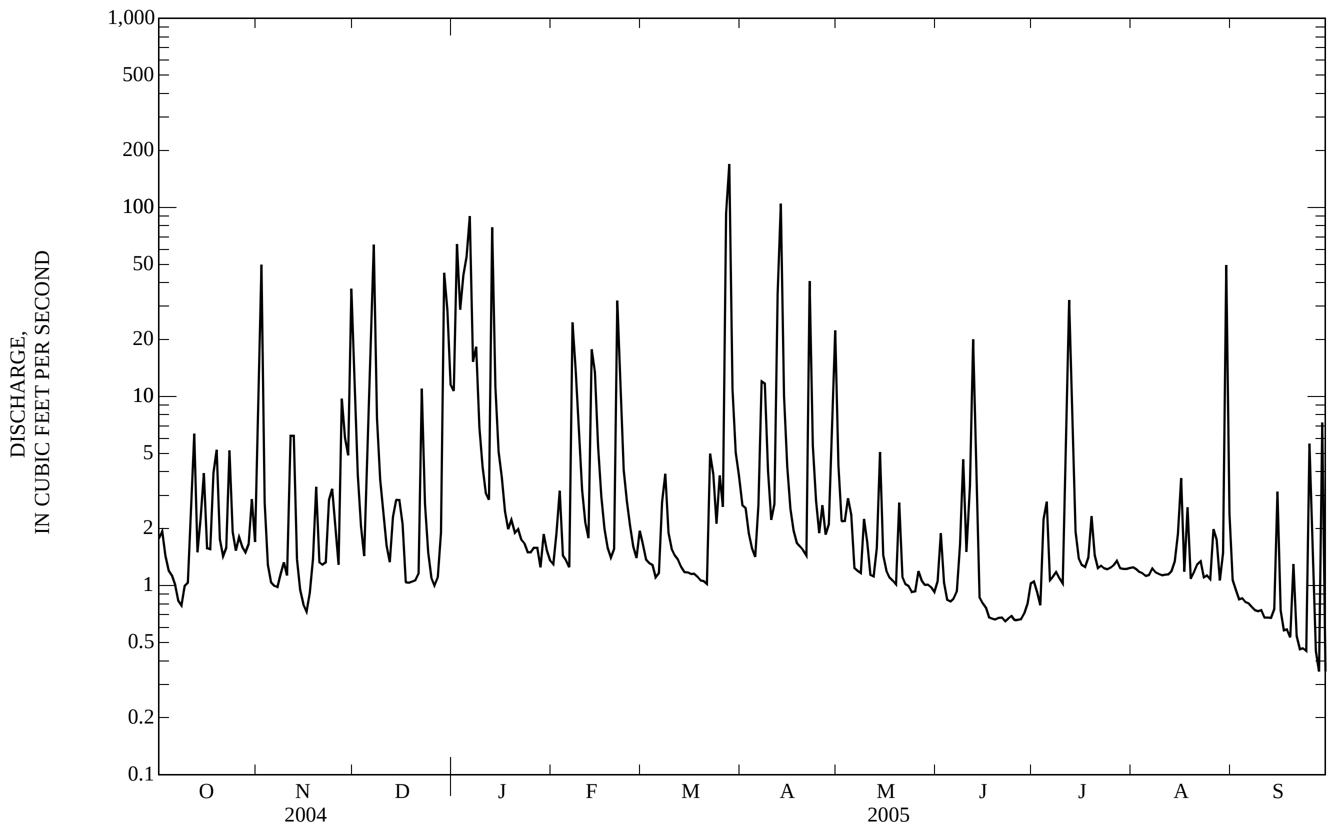
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.51	5.84	9.76	9.95	9.87	10.6	9.13	9.06	3.93	2.80	2.02	1.58
MAX	7.45	18.3	33.5	20.4	20.2	32.5	19.2	31.3	12.4	8.74	8.11	3.13
(WY)	(2002)	(1997)	(1991)	(1999)	(2003)	(1997)	(1994)	(2002)	(1998)	(2001)	(1998)	(2003)
MIN	1.16	0.71	1.26	1.17	1.02	3.79	2.25	1.48	0.91	0.82	0.72	0.78
(WY)	(2001)	(2000)	(1996)	(2001)	(1996)	(1995)	(2001)	(1994)	(2002)	(1991)	(1996)	(1998)

03611900 LITTLE BAYOU CREEK NEAR GRAHAMVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1991 - 2005	
ANNUAL TOTAL	1,587.32		2,059.61			
ANNUAL MEAN	4.34		5.64		6.45	
HIGHEST ANNUAL MEAN					12.4	2002
LOWEST ANNUAL MEAN					3.75	2001
HIGHEST DAILY MEAN	63	Dec 7	169	Mar 28	506	Mar 1, 1997
LOWEST DAILY MEAN	0.46	May 25	0.35	Sep 28	0.02	May 25, 1995
ANNUAL SEVEN-DAY MINIMUM	0.52	May 19	0.62	Sep 18	0.35	Aug 2, 2001
MAXIMUM PEAK FLOW			479	Mar 28	1,300	Mar 1, 1997
MAXIMUM PEAK STAGE			6.82	Mar 28	11.26	Mar 1, 1997
ANNUAL RUNOFF (CFSM)	0.750		0.976		1.12	
ANNUAL RUNOFF (INCHES)	10.22		13.26		15.16	
10 PERCENT EXCEEDS	9.4		10		9.5	
50 PERCENT EXCEEDS	1.6		1.5		1.3	
90 PERCENT EXCEEDS	0.77		0.80		0.70	

e Estimated



03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL

(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°12°11, long 89°02°30, Pulaski County, Hydrologic Unit 05140206, at auxilliary gaging station, 0.5 mi upstream from Gar Creek, 3.0 mi southwest of Grand Chain, IL, 18.1 mi downstream from gaging station at Metropolis, and at mile 962.2.

DRAINAGE AREA.--203,100 mi^2, approximately

PERIOD OF RECORD.--Water years 1955 to current water year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--October 1954 to September 1970, January 1973 to September 1990.
WATER TEMPERATURES.--October 1954 to September 1970, January 1973 to September 1990.

REMARKS.--Records of daily discharge are published for gaging station at Metropolis, IL (station 03611500). Flow regulated by many dams and reservoirs.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--Maximum daily recorded, 693 microsiemens, Nov. 25, 1968; minimum daily recorded, 170 microsiemens, Feb. 9, 1957
WATER TEMPERATURES.--Maximum daily recorded, 30.0°C, July 15, 1964, July 17-21, 25, 1977; minimum daily recorded, 0.0°C, on several days during most winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	UV absorb-ance, 254 nm, wat flt units /cm (50624)	UV absorb-ance, 280 nm, wat flt units /cm (61726)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV												
16...	1330	Environmental	374,000	.104	.078	772	9.7	7.5	306	13.5	130	34.9
DEC												
14...	1420	Environmental	792,000	.090	.068	783	12.4	7.6	233	9.0	100	29.2
14...	1428	Field Blank	--	<.004	<.004	--	--	--	--	--	--	--
JAN												
19...	1310	Environmental	957,000	.102	.077	773	11.5	7.6	262	4.5	83	23.8
25...	1130	Environmental	958,000	.098	.074	767	13.0	7.4	237	4.5	110	30.9
MAR												
23...	1400	Environmental	217,000	.051	.037	767	12.7	7.9	338	8.5	140	39.7
23...	1410	Replicate	--	.052	.039	--	--	--	--	--	140	38.9
APR												
06...	1400	Environmental	570,000	.072	.056	765	11.0	7.4	338	12.0	120	34.6
06...	1408	Field Blank	--	--	--	--	--	--	--	--	--	--
12...	1340	Environmental	649,000	.067	.050	759	10.6	7.5	263	14.0	110	30.0
19...	1350	Environmental	239,000	.068	.050	771	10.6	7.6	301	17.0	130	35.3
19...	1358	Field Blank	--	--	--	--	--	--	--	--	--	--
MAY												
12...	1450	Environmental	175,000	.107	.079	771	10.6	7.7	291	19.0	130	35.3
12...	1458	Field Blank	--	--	--	--	--	--	--	--	--	E.02
25...	1300	Environmental	274,000	.070	.053	769	13.1	7.5	312	21.5	140	35.6
JUN												
08...	1230	Environmental	110,000	.063	.047	767	9.1	8.0	300	25.0	120	34.6
08...	1238	Field Blank	--	--	--	--	--	--	--	--	--	--
22...	1250	Environmental	125,000	.081	.060	773	9.0	7.8	343	27.0	140	37.9
22...	1300	Replicate	--	.080	.058	--	--	--	--	--	140	37.3
AUG												
12...	1300	Environmental	67,900	.060	.044	770	8.1	7.7	258	31.0	96	25.5
SEP												
08...	1300	Environmental	122,000	.070	.052	784	8.1	7.4	272	27.5	--	--

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV													
16...	9.41	3.43	12.4	78	95	14.2	.1	6.57	46.3	190	.24	.64	E.03
DEC													
14...	6.72	2.45	6.50	70	85	7.93	.1	6.67	27.6	135	.21	.48	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	5.70	2.26	6.04	69	84	10.7	.1	5.13	29.6	151	.27	.60	E.02
25...	7.24	2.59	7.21	71	87	9.87	.1	6.88	29.3	145	.26	.48	<.04
MAR													
23...	10.9	1.87	14.5	83	101	20.1	.1	4.59	42.9	205	.17	.42	<.04
23...	10.7	1.88	14.3	83	101	19.5	.1	4.59	41.7	200	.16	.42	<.04
APR													
06...	9.05	2.03	13.8	72	87	18.1	.1	4.76	47.1	185	.23	.61	<.04
06...	--	--	--	--	--	--	--	--	--	--	--	--	E.005
12...	7.64	1.79	9.45	64	79	11.6	.1	4.88	34.4	149	.18	.52	<.04
19...	9.18	2.03	10.9	77	94	13.8	.1	4.36	37.8	177	.24	.45	<.04
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	9.24	1.97	9.87	89	109	11.7	.1	4.33	39.0	182	.22	.46	<.04
12...	.019	--	E.11	--	--	--	--	.06	--	--	--	--	--
25...	11.6	2.45	13.4	83	101	16.5	.1	3.81	47.0	220	.30	.56	<.04
JUN													
08...	8.85	1.97	11.4	86	97	14.7	.1	1.41	35.7	166	.23	.43	<.04
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	11.8	2.84	13.0	92	112	16.5	.2	2.86	43.5	207	.27	.52	<.04
22...	11.8	2.87	12.8	87	106	16.4	.2	2.83	42.7	198	.28	.51	<.04
AUG													
12...	7.90	2.25	13.0	67	80	14.7	.1	2.50	29.7	144	.39	.48	<.04
SEP													
08...	--	--	--	60	73	--	--	--	--	--	.23	.37	<.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Aluminum, water, fltrd, ug/L (01106)
NOV													
16...	.94	E.005	.24	.063	.078	.24	2.0	<.1	2.0	3.5	E5.5	E3.9	5
DEC													
14...	.98	.008	.29	.044	.062	.22	3.0	<.1	2.9	2.7	--	--	--
14...	--	--	<.02	--	--	--	<.1	<.1	<.1	.3	--	--	--
JAN													
19...	1.29	.012	.25	.044	.053	.23	2.9	<.1	2.9	3.3	--	--	--
25...	1.19	.008	.38	.046	.057	.20	3.9	<.1	3.9	2.4	--	--	--
MAR													
23...	.93	E.007	.25	.007	.013	.09	1.7	<.1	1.7	1.7	4.2	14.3	--
23...	.91	E.007	.21	.006	.013	.09	1.6	.2	1.4	1.7	3.1	9.0	--
APR													
06...	1.00	.009	.34	.020	.026	.20	3.4	<.1	3.4	2.1	3.9	5.4	--
06...	E.008	<.002	--	<.006	--	--	--	--	--	--	--	--	--
12...	.87	.011	.28	.017	.044	.16	3.0	<.1	2.9	2.3	2.3	3.9	--
19...	.94	.013	.24	.011	.024	E.11	1.7	<.1	1.7	2.6	9.5	11.9	--
19...	--	--	--	--	--	--	--	--	--	--	<.3	<.3	--
MAY													
12...	1.07	.010	.23	.013	.023	.09	1.7	<.1	1.6	2.4	15.1	1.4	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	<2
25...	1.32	.016	.30	.013	.026	.14	2.2	<.1	2.2	2.7	13.1	15.8	6
JUN													
08...	.59	.008	.19	<.006	.010	.05	1.2	<.1	1.2	2.4	11.7	8.0	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	1.70	.061	.25	.018	.030	.07	1.4	<.1	1.4	2.9	13.3	12.1	6
22...	1.66	.059	.23	.017	.030	.08	1.4	<.1	1.4	3.0	11.7	10.9	6
AUG													
12...	.18	.017	.27	<.006	.011	.06	1.6	<.1	1.6	3.0	--	--	7
SEP													
08...	.34	.010	.21	.022	.036	.08	1.3	<.1	1.3	2.4	10.2	15.4	--

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Anti-mony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryll-ium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)	Cadmium water, fltrd, ug/L (01025)	Chrom-ium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)
NOV													
16...	<.20	.7	33	<.06	41	<.04	<.8	.147	1.7	10	E.06	3.2	.8
DEC													
14...	--	.9	--	--	41	--	--	--	--	14	--	5.1	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	--	.5	--	--	15	--	--	--	--	23	--	1.2	--
25...	--	.5	--	--	27	--	--	--	--	16	--	2.3	--
MAR													
23...	--	.4	--	--	39	--	--	--	--	8	--	3.6	--
23...	--	.4	--	--	38	--	--	--	--	8	--	3.9	--
APR													
06...	--	.5	--	--	30	--	--	--	--	7	--	3.8	--
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	.4	--	--	24	--	--	--	--	9	--	2.2	--
19...	--	.5	--	--	25	--	--	--	--	E6	--	2.5	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	--	.5	--	--	33	--	--	--	--	13	--	2.7	--
12...	<.20	<.2	M	<.06	<8	<.04	<.8	.030	<.4	<6	<.08	<.6	<.2
25...	E.12	.6	31	<.06	39	E.02	<.8	.133	1.4	E4	<.08	3.5	.3
JUN													
08...	--	.6	--	--	38	--	--	--	--	E5	--	3.1	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	E.15	.9	37	<.06	53	E.02	<.8	.138	1.7	<6	<.08	2.9	1.1
22...	E.15	.9	37	<.06	52	E.02	<.8	.139	1.6	<6	<.08	2.9	.9
AUG													
12...	.21	1.2	27	<.06	55	<.04	<.8	.085	1.4	<6	<.08	2.5	.3
SEP													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Molyb-denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selen-ium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Stront-ium, water, fltrd, ug/L (01080)	Vanad-ium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)
NOV													
16...	1.6	1.01	E.2	<.2	165	.8	.8	<.006	E.014	<.010	<.005	<.005	.077
DEC													
14...	--	--	.5	--	112	.7	--	<.006	E.011	<.006	<.005	<.005	.035
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	--	--	E.3	--	92.6	.4	--	<.006	E.014	.008	<.005	<.005	.039
25...	--	--	E.2	--	117	1.1	--	<.006	E.012	.020	<.005	<.005	.046
MAR													
23...	--	--	E.4	--	175	.3	--	<.006	E.006	.031	<.005	<.005	.038
23...	--	--	E.4	--	177	.4	--	<.006	E.005	.035	<.005	<.005	.040
APR													
06...	--	--	.5	--	195	.3	--	<.006	E.008	<.006	<.005	<.005	.168
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	E.3	--	151	.4	--	<.006	E.012	.007	<.005	<.005	.134
19...	--	--	E.2	--	156	.7	--	<.006	E.020	.025	<.005	<.005	.688
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	--	--	E.3	--	170	.7	--	<.006	E.045	.127	<.005	<.005	1.40
12...	<.4	E.03	<.4	<.2	<.40	E.1	.7	--	--	--	--	--	--
25...	1.6	2.35	.5	<.2	183	.6	.7	<.006	E.196	.517	E.014	<.005	3.32
JUN													
08...	--	--	.4	--	156	.9	--	<.006	E.073	.067	<.005	<.005	1.08
08...	--	--	--	--	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007
22...	2.2	2.68	.5	<.2	160	1.0	1.4	<.006	E.126	.169	<.005	<.005	1.54
22...	2.1	2.57	.5	<.2	158	1.0	.9	<.006	E.154	.170	E.004	<.005	1.56
AUG													
12...	2.4	1.64	E.4	<.2	132	1.0	.6	<.006	E.034	.012	<.005	<.005	.273
SEP													
08...	--	--	--	--	--	--	--	<.006	E.007	<.006	<.005	<.005	.086

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)
NOV													
16...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
DEC													
14...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
25...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	.005
MAR													
23...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
23...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
APR													
06...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
19...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.050	<.010	<.004	<.041	<.020	<.010	<.006	<.018	<.003	<.005	<.009	<.02	<.004
JUN													
08...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
08...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
22...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
22...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
AUG													
12...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
SEP													
08...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)
NOV													
16...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.016	<.006	<.003	<.007	<.003	<.010
DEC													
14...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.011	<.006	<.003	<.007	<.003	<.010
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.027	E.004	<.003	<.007	<.003	<.010
25...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.029	<.006	<.003	<.007	<.003	<.010
MAR													
23...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.006	<.006	<.003	<.007	<.003	<.010
23...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.008	<.006	<.003	<.007	<.003	<.010
APR													
06...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.012	<.006	<.003	<.007	<.003	<.010
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.017	<.006	<.003	<.007	<.003	<.010
19...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.065	<.006	<.003	<.007	<.003	<.010
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.203	<.006	<.003	<.007	<.003	<.010
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.963	.007	<.003	<.007	<.003	<.010
JUN													
08...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.226	<.006	<.003	<.007	<.003	<.010
08...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010
22...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.458	<.006	<.003	<.007	<.003	<.010
22...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.461	<.006	<.003	<.007	<.003	<.010
AUG													
12...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.055	<.006	<.003	<.007	<.003	<.010
SEP													
08...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.021	<.006	<.003	<.007	<.003	<.010

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)
NOV													
16...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.225	<.02	<.034	<.02	<.010
DEC													
14...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.136	<.02	<.034	<.02	<.010
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	<.004	<.022	<.011	M	<.004	<.025	<.011	<.02	.209	<.02	<.034	<.02	<.010
25...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.196	<.02	<.034	<.02	<.010
MAR													
23...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.020	<.02	<.034	<.02	<.010
23...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.022	<.02	<.034	<.02	<.010
APR													
06...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.075	<.02	<.034	<.02	<.010
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.066	<.02	<.034	<.02	<.010
19...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.265	<.02	<.034	<.02	<.010
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.154	<.02	<.034	<.02	<.010
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.004	<.022	<.011	.01	<.004	<.025	<.020	<.02	.422	<.02	<.034	<.02	<.010
JUN													
08...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.146	<.02	<.034	<.02	<.010
08...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010
22...	<.004	<.022	<.011	.02	<.004	<.025	<.011	<.02	.166	<.02	<.034	<.02	<.010
22...	<.004	<.022	<.011	.02	<.004	<.025	<.011	<.02	.178	<.02	<.034	<.02	<.010
AUG													
12...	<.004	<.022	<.011	.02	<.004	<.025	<.011	<.02	.025	<.02	<.034	<.02	<.010
SEP													
08...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.011	<.02	<.034	<.02	<.010

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Uranium natural water, fltrd, ug/L (22703)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
NOV					
16...	<.006	<.009	.34	93	133
DEC					
14...	<.006	<.009	--	85	116
14...	--	--	--	--	--
JAN					
19...	<.006	<.009	--	92	336
25...	<.006	<.009	--	74	103
MAR					
23...	<.006	<.009	--	98	41
23...	<.006	<.009	--	98	41
APR					
06...	<.006	<.009	--	88	147
06...	--	--	--	--	--
12...	<.006	<.009	--	88	102
19...	<.006	<.009	--	99	47
19...	--	--	--	--	--
MAY					
12...	<.006	<.009	--	97	39
12...	--	--	<.04	--	--
25...	<.006	<.009	.33	98	84
JUN					
08...	<.006	<.009	--	98	12
08...	<.006	<.009	--	--	--
22...	<.006	<.009	.38	--	--
22...	<.006	<.009	.37	--	--
AUG					
12...	<.006	<.009	.24	--	--
SEP					
08...	<.006	<.009	--	--	--

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

07024000 BAYOU DE CHIEN NEAR CLINTON, KY

LOCATION.--Lat 36°37'43", long 88°57'50", Hickman County, Hydrologic Unit 08010201, on right bank at downstream side of bridge on U.S. Highway 51, 1.1 mi upstream from Cane Creek, 3.2 mi southeast of Clinton, and at mile 15.1.

DRAINAGE AREA.--68.7 mi^2.

PERIOD OF RECORD.--October 1939 to September 1950 (monthly discharge only for some periods, published in WSP 1311), October 1950 to September 1978, September 1984 to current year. Published as "Bayou de Chien near Clinton" , October 1954 to September 1968.

REVISED RECORDS.--WSP 1311: 1940 (M), 1942-44 (M). WSP 1711: Drainage area. WDR-KY-89: 1985-89 (m).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 307.71 ft above NGVD of 1929. Prior to Aug. 2, 1951, nonrecording gage at same site and datum.

REMARKS.-- Records fair except for those estimated, which are poor. Minimum flow affected by backwater from the Mississippi River.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 3	0945	*1,820	*15.12				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	740	508	287	64	e58	96	126	19	22	20	60
2	21	1,260	107	619	69	e55	92	85	27	21	23	41
3	21	1,500	70	397	80	e56	79	73	23	21	21	35
4	20	277	55	618	68	e54	75	68	19	20	19	31
5	19	67	89	364	64	e51	73	66	19	24	19	27
6	19	48	452	1,050	63	e51	121	66	18	19	20	26
7	20	43	995	501	155	271	591	59	17	19	58	26
8	20	38	350	590	120	272	249	58	32	18	45	28
9	20	36	101	179	81	e78	113	61	86	18	e23	30
10	21	36	74	127	70	e66	86	60	33	19	e22	32
11	38	51	64	113	e63	e60	111	57	111	38	e21	32
12	110	59	56	102	e60	e57	257	55	462	63	e22	31
13	28	41	49	853	337	e55	121	54	216	70	e20	31
14	25	38	44	398	169	e54	88	398	52	42	e21	29
15	25	38	43	128	100	e53	74	78	40	170	e20	41
16	22	37	43	99	e86	54	65	40	36	47	20	28
17	21	40	42	83	e75	54	60	34	34	77	20	22
18	26	41	42	81	e72	55	57	30	33	36	33	22
19	313	74	40	83	e62	54	53	27	30	32	27	23
20	33	49	38	80	e64	52	51	28	30	29	20	23
21	26	44	47	77	e85	51	54	23	28	28	19	24
22	25	42	837	73	e71	154	556	22	26	25	30	23
23	26	69	217	66	e69	555	111	22	26	23	24	21
24	26	189	130	67	e66	107	74	21	25	22	20	20
25	25	69	193	68	e68	82	65	20	25	21	20	181
26	26	52	e66	69	e62	73	68	19	28	21	29	186
27	167	206	e55	63	e61	794	62	19	31	21	64	36
28	57	155	67	61	e62	1,510	69	19	25	21	29	27
29	37	120	427	78	---	926	388	18	24	20	51	32
30	33	760	782	76	---	144	578	18	23	20	927	24
31	31	---	315	67	---	124	---	18	---	20	374	---
TOTAL	1,321	6,219	6,398	7,517	2,466	6,080	4,537	1,742	1,598	1,047	2,081	1,192
MEAN	42.6	207	206	242	88.1	196	151	56.2	53.3	33.8	67.1	39.7
MAX	313	1,500	995	1,050	337	1,510	591	398	462	170	927	186
MIN	19	36	38	61	60	51	51	18	17	18	19	20
CFSM	0.62	3.02	3.00	3.53	1.28	2.85	2.20	0.82	0.78	0.49	0.98	0.58
IN.	0.72	3.37	3.46	4.07	1.34	3.29	2.46	0.94	0.87	0.57	1.13	0.65

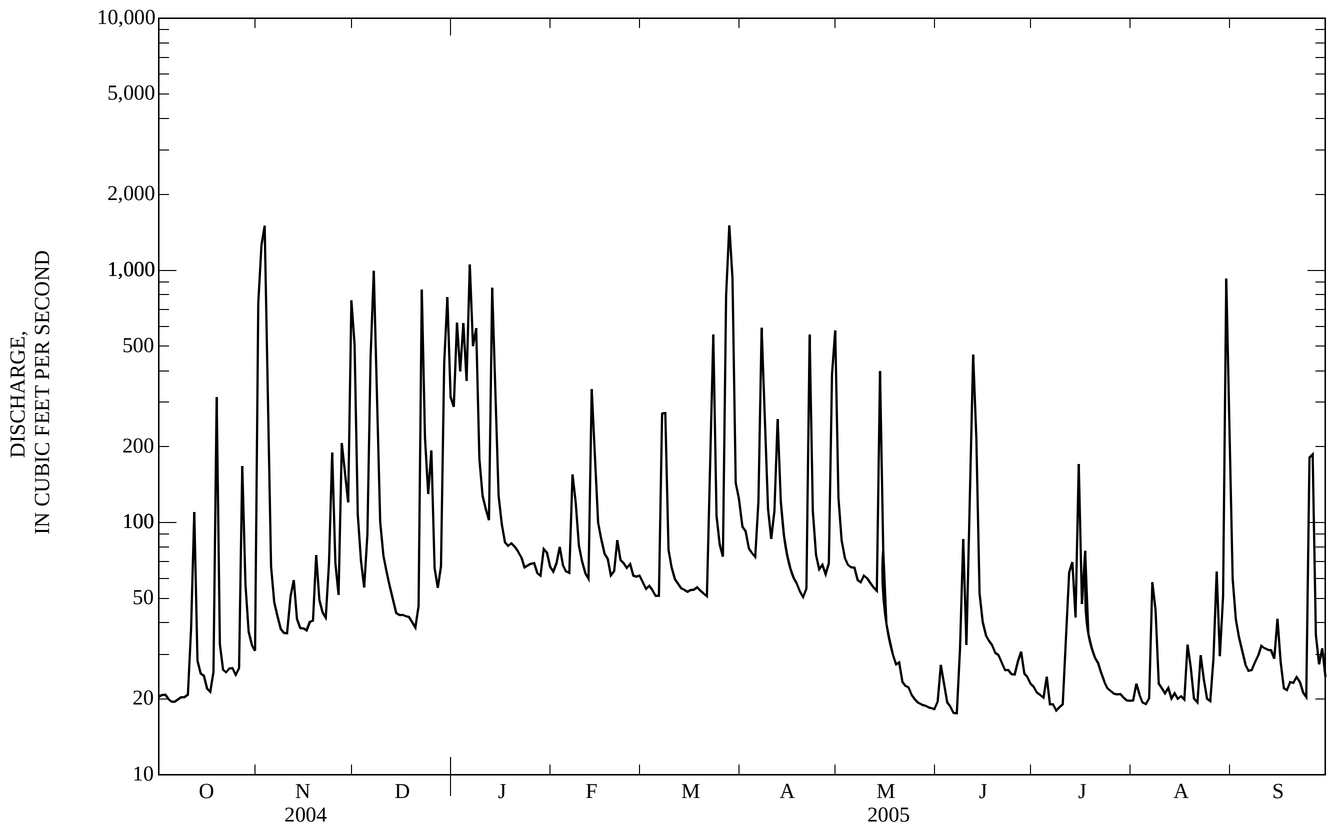
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.9	83.8	132	150	184	204	135	108	76.4	56.1	39.8	35.0
MAX	165	520	557	586	672	1,138	335	470	419	397	206	268
(WY)	(1985)	(1958)	(1991)	(1950)	(1989)	(1975)	(1970)	(1978)	(1976)	(1976)	(1977)	(1977)
MIN	7.27	9.41	12.1	12.7	16.2	14.2	18.6	12.1	11.7	10.7	9.43	8.74
(WY)	(1944)	(1944)	(1944)	(1944)	(1941)	(1941)	(1986)	(1969)	(1952)	(1943)	(1953)	(1941)

07024000 BAYOU DE CHIEN NEAR CLINTON, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1940 - 2005	
ANNUAL TOTAL	32,871		42,198			
ANNUAL MEAN	89.8		116		103	
HIGHEST ANNUAL MEAN					268	1976
LOWEST ANNUAL MEAN					18.7	1941
HIGHEST DAILY MEAN	1,500	Nov 3	1,510	Mar 28	7,150	Jan 2, 1966
LOWEST DAILY MEAN	17	Jan 15	17	Jun 7	4.0	May 29, 1943
ANNUAL SEVEN-DAY MINIMUM	19	Jan 11	19	May 26	4.7	Jun 20, 1942
MAXIMUM PEAK FLOW			1,820	Nov 3	9,460	Jan 2, 1966
MAXIMUM PEAK STAGE			15.12	Nov 3	16.79	May 17, 2003
ANNUAL RUNOFF (CFSM)	1.31		1.68		1.50	
ANNUAL RUNOFF (INCHES)	17.80		22.85		20.34	
10 PERCENT EXCEEDS	178		281		187	
50 PERCENT EXCEEDS	30		54		25	
90 PERCENT EXCEEDS	21		20		11	

e Estimated



DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. At a few of these stations crest stages are determined from continuous water-stage recorder graphs. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 2005.

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum: Date	Annual maximum: Gage height (feet)	Annual maximum: Discharge (ft^3/s)
		BEARGRASS CREEK BASIN					
03293200	Middle Fork Beargrass Creek at Beals Branch Road at Louisville, Ky.	Lat 38°14’32”, long 85°41’57”, Jefferson County, Hydrologic Unit 05140101, at bridge on Beals Branch Road at Louisville, Ky., and at mile 1.5	22.7	†2005	05-20-05	9.85	2,230
		SALT RIVER BASIN					
03297980	Long Run near Fisherville, Ky.	Lat 38°13’10”, long 85°26’56”, Jefferson County, Hydrologic Unit 05140101, at bridge on State Highway 1531 near Fisherville, Ky., 0.7 mi below South Long Run and at mile 2.4.	22.5	†2005	05-20-05	11.16	6,400
03298100	Pope Lick at Pope Lick Road near Middletown, Ky.	Lat 38°13’09”, long 85°31’07”, Jefferson County, Hydrologic Unit 05140102, at culvert on Pope Lick Road near Middletown, Ky., and at mile 3.2.	2.9	†2005	01-13-05	8.07	378

Annual maximum discharge at crest-stage partial-record stations during water year 2005.--*Continued*

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum: Date	Annual maximum: Gage height (feet)	Annual maximum: Discharge (ft^3/s)
03301880	Southern Ditch at Minors Lane near Okolona, Ky.	Lat 38°08'04", long 85°42'34", Jefferson County, Hydrologic Unit 05140102, at bridge on Minors Lane nr Okolona, Ky., 0.2 mi below Mud Creek, and at mile 4.2.	12.8	†2004-05	05-20-05	6.47	2,540
03301950	Spring Ditch at Private Drive near Okolona, Ky.	Lat 38°09'27", long 85°40'57", Jefferson County, Hydrologic Unit 05140102, at culvert on Private Drive nr Okolona, Ky., and at mile 4.2.	1.6	†2004-05	05-20-05	7.44	507

Discharge measurements made at miscellaneous sites during water year 2005.

Station no.	Station name	Location	Period of record	Date	Discharge (ft^3/s)
		GREEN RIVER BASIN			
03316000	Mud River near Lewisburg, Ky.	Lat 37°00'15", Long 86°54'26", Logan County, Hydrologic Unit 05110003, at upstream side of bridge on State Highway 106, 2.5 mi northeast of Lewisburg, 7.5 mi downstream from Motts Lick Creek, and 14.0 mi upstream from Wolf Lick Creek.	2001-05	10-05-04 10-05-04 08-03-05	10.7 11.0 6.95
		ROUGH RIVER BASIN			
03319000	Rough River near Dundee, Ky.	Lat 37°32'51", Long 86°43'18", Ohio County, Hydrologic Unit 05110004, on right bank, 150 ft downstream from bridge on State Highway 919, 1.5 mi downstream from Caney Creek, 3 mi southeast of Dundee, and at mi 62.5.	1939-92, 2002-05	10-06-04 12-01-04 08-16-05	112 3,610 45.7

03303195 SINKING CREEK AT ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°47'47", long 86°16'25", Breckinridge County, Hydrologic Unit 05140104.

DRAINAGE AREA.--36 mi^2.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Turb- idity, IR LED light, det ang 90 deg, FNU (63680)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor- ide, water, fltrd, mg/L (00940)
OCT												
25...	1040	Environmental	--	3.7	758	--	7.3	702	15.0	210	255	6.94
NOV												
22...	1100	Environmental	--	11	744	10.1	7.4	379	12.0	136	165	5.24
MAR												
16...	1155	Environmental	29	2.4	753	12.3	8.1	402	9.0	138	169	4.38
28...	1800	Environmental	1,000	150	728	10.6	7.4	173	10.0	67	81	2.05
APR												
12...	1240	Environmental	35	1.8	743	13.8	8.1	340	13.0	144	176	4.00
29...	1120	Environmental	17	1.9	740	9.5	7.4	461	11.5	157	192	4.31
MAY												
17...	1020	Environmental	15	--	746	8.8	7.3	434	12.5	137	167	4.05
20...	1300	Environmental	428	--	738	9.8	7.0	249	13.0	85	104	3.96
JUN												
14...	0950	Environmental	8.7	--	747	8.3	7.7	565	19.5	157	192	5.42
JUL												
13...	1100	Environmental	14	2.4	743	8.4	7.7	480	15.5	142	172	5.51
AUG												
18...	0950	Environmental	3.9	--	748	6.8	7.6	664	22.0	129	158	6.88
30...	1100	Environmental	1,250	420	733	8.0	7.6	187	17.5	44	63	1.56
SEP												
15...	0945	Environmental	6.1	2.6	750	7.6	7.8	534	19.5	148	180	5.74

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)
OCT													
25...	<0.04	0.32	<0.006	0.02	<0.006	E0.015	<0.006	<0.005	<0.005	0.027	<0.050	<0.010	<0.004
NOV													
22...	<.04	1.21	.101	.15	<.006	E.024	<.010	<.005	<.005	.024	<.050	<.010	<.004
MAR													
16...	<.04	.72	<.006	.02	<.006	E.013	E.005	<.005	<.005	.009	<.050	<.010	<.004
28...	.05	.69	.034	.22	<.006	E.005	.007	<.005	<.005	<.007	<.050	<.010	<.004
APR													
12...	<.04	.73	<.006	E.003	<.006	E.016	<.006	<.005	<.005	.013	<.050	<.010	<.004
29...	<.04	.85	<.006	.009	<.006	E.023	E.004	<.005	<.005	.025	<.050	<.010	<.004
MAY													
17...	E.03	.98	.010	.05	<.006	E.283	.031	<.005	<.005	E24.6	<.050	<.010	<.004
20...	.08	1.49	.047	.26	<.006	E.382	.827	<.005	<.005	9.12	<.050	<.010	<.004
JUN													
14...	E.03	1.16	<.006	.03	<.006	E.042	.008	<.005	<.005	.550	<.050	<.010	<.004
JUL													
13...	E.02	1.53	.010	.04	<.006	E.084	.017	<.005	<.005	.273	<.050	<.010	<.004
AUG													
18...	<.04	.85	E.005	.02	<.006	E.033	<.006	<.005	<.005	.076	<.050	<.010	<.004
30...	.04	.57	.091	.35	<.006	E.034	.011	<.005	<.005	.074	<.050	<.010	<.004
SEP													
15...	<.04	.88	E.010	.03	<.006	E.037	<.006	<.005	<.005	.034	<.050	<.010	<.004

03303195 SINKING CREEK AT ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
OCT													
25...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
NOV													
22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAR													
16...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
28...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
12...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAY													
17...	E.003	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
20...	E.079	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUN													
14...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
13...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
18...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
30...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.076	<.009	<.005	<.003
SEP													
15...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
OCT													
25...	<0.004	<0.035	<0.027	<0.015	<0.006	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
NOV													
22...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAR													
16...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
28...	<.004	<.035	<.027	<.015	E.004	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
12...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
29...	<.004	<.035	<.027	<.015	E.005	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAY													
17...	<.004	<.035	<.027	<.015	.202	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
20...	<.004	<.035	<.027	<.015	.146	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUN													
14...	<.004	<.035	<.027	<.015	.008	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
13...	<.004	<.035	<.027	<.015	.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
AUG													
18...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
30...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
15...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

03303195 SINKING CREEK AT ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Prome-ton, water, fltrd, ug/L (04037)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT													
25...	<0.01	<0.004	E0.006	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	3
NOV													
22...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	11
MAR													
16...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2
28...	<.01	<.004	.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	251
APR													
12...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	--
29...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	8
MAY													
17...	<.01	<.004	<.025	<.011	<.02	.093	<.02	<.034	<.02	<.010	<.006	<.009	15
20...	.01	<.004	E.006	<.011	<.02	.789	<.02	<.034	<.02	<.010	<.006	<.009	274
JUN													
14...	<.01	<.004	<.025	<.011	<.02	.045	<.02	<.034	<.02	<.010	<.006	<.009	--
JUL													
13...	<.01	<.004	<.010	<.011	<.02	.123	<.02	<.034	<.02	<.010	<.006	<.009	12
AUG													
18...	<.01	<.004	<.025	<.011	<.02	.014	<.02	<.034	<.02	<.010	<.006	<.009	51
30...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	1,160
SEP													
15...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	4

E--Laboratory estimated value.

M--Presence of material verified but not quantified.

<--Numeric result is less than the value shown.

3747550860904 F15CS004--BIG SPRING AT BIG SPRING, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°47'55", long 86°09'04", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
OCT												
25...	0940	Environmental	1.1	53	748	9.7	7.8	386	13.5	173	210	5.37
NOV												
22...	1030	Environmental	7.5	7.7	746	9.8	7.3	411	14.0	180	219	7.31
MAR												
28...	1200	Environmental	--	130	733	10.1	6.0	179	10.0	72	88	2.44
APR												
29...	1430	Environmental	6.8	--	743	10.7	8.1	376	12.5	166	203	4.97
29...	1440	Replicate	--	--	--	--	--	--	--	--	--	4.94
MAY												
20...	1040	Environmental	--	--	738	8.7	7.1	231	14.0	77	94	5.49
JUL												
13...	1055	Environmental	2.5	4.8	743	9.9	7.5	268	13.0	180	219	6.12
13...	1105	Replicate	--	--	--	--	--	--	--	176	214	5.76
AUG												
30...	1130	Environmental	--	150	729	8.5	7.9	259	15.5	91	111	4.21
SEP												
15...	0830	Environmental	1.5	2.4	744	10.1	7.5	345	14.9	167	--	5.21

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
OCT													
25...	<0.04	1.87	0.031	0.04	<0.006	E0.042	0.010	<0.005	<0.005	0.034	<0.050	<0.010	<0.004
NOV													
22...	<.04	3.95	.037	.05	<.006	E.289	<.006	<.005	<.005	.118	<.050	<.010	<.004
MAR													
28...	.04	1.25	.122	.34	<.006	E.038	<.006	<.005	<.005	.030	<.050	<.010	<.004
APR													
29...	<.04	2.30	.017	.03	<.006	E.121	E.006	<.005	<.005	.212	<.050	<.010	<.004
29...	<.04	2.30	.016	.03	<.006	E.130	E.004	<.005	<.005	.211	<.050	<.010	<.004
MAY													
20...	.61	4.95	.459	.83	<.006	E1.11	2.85	<.005	<.005	11.5	<.050	<.010	<.004
JUL													
13...	<.04	2.87	.024	.07	<.006	E.135	.044	<.005	<.005	.106	<.050	<.010	<.004
13...	<.04	2.79	.027	.07	<.006	E.122	.042	<.005	<.005	.104	<.050	<.010	<.004
AUG													
30...	E.03	2.11	.219	.36	<.006	E.082	<.020	<.005	<.005	.090	<.050	<.010	<.004
SEP													
15...	<.04	2.32	.033	.05	<.006	E.142	E.003	<.005	<.005	.058	<.050	<.010	<.004

3747550860904 F15CS004--BIG SPRING AT BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
OCT													
25...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
NOV													
22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAR													
28...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAY													
20...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
13...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
13...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
30...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.011	<.009	<.005	<.003
SEP													
15...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.024	<.009	<.005	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
OCT													
25...	<0.004	<0.035	<0.027	<0.015	<0.006	0.035	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
NOV													
22...	<.004	<.035	<.027	<.015	<.006	.018	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAR													
28...	<.004	<.035	<.027	<.015	E.003	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
29...	<.004	<.035	<.027	<.015	.017	.009	<.003	<.007	<.003	<.010	<.004	<.022	<.011
29...	<.004	<.035	<.027	<.015	.015	.008	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAY													
20...	.005	<.035	<.027	<.015	1.55	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
13...	<.004	<.035	<.027	<.015	.035	.023	<.003	<.007	<.003	<.010	<.004	<.022	<.011
13...	<.004	<.035	<.027	<.015	.033	.021	<.003	<.007	<.003	<.010	<.004	<.022	<.011
AUG													
30...	<.004	<.035	<.027	<.015	.193	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
15...	<.004	<.035	<.027	<.015	<.006	.008	<.003	<.007	<.003	<.010	<.004	<.022	<.011

3747550860904 F15CS004--BIG SPRING AT BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspended sediment concentration mg/L (80154)
OCT													
25...	<0.01	<0.004	E0.004	<0.011	<0.02	0.010	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	1
NOV													
22...	<.01	<.004	<.025	<.011	<.02	<.010	<.02	<.034	<.02	<.010	<.006	<.009	7
MAR													
28...	<.01	<.004	E.016	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	194
APR													
29...	<.01	<.004	E.004	<.011	<.02	.100	<.02	<.034	<.02	<.010	<.006	<.009	7
29...	<.01	<.004	<.025	<.011	<.02	.093	<.02	<.034	<.02	<.010	<.006	<.009	8
MAY													
20...	<.01	<.004	E.006	<.011	<.02	2.68	<.02	<.034	<.02	<.010	<.006	<.009	440
JUL													
13...	<.01	<.004	<.016	<.011	<.02	.031	<.02	<.034	<.02	<.010	<.006	<.009	6
13...	<.01	<.004	<.025	<.011	<.02	.029	<.02	<.034	<.02	<.010	<.006	<.009	--
AUG													
30...	<.01	<.004	<.025	<.011	<.02	.013	<.02	<.034	<.02	<.010	<.006	<.009	239
SEP													
15...	<.01	<.004	<.025	<.011	<.02	.029	<.02	<.034	<.02	<.010	<.006	<.009	2

E--Laboratory estimated value.

M--Presence of material verified but not quantified.

<--Numeric result is less than the value shown.

374813086171501 F14DS005--FLAT ROCK SPRING NEAR ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'13", long 86°17'15", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
OCT												
25...	1150	Environmental	3.1	55	748	9.9	7.7	476	13.5	222	269	5.27
25...	1158	Field Blank	--	--	--	--	--	--	--	--	--	<0.20
NOV												
22...	1215	Environmental	23	16	748	10.1	7.4	407	13.5	184	223	5.27
MAR												
28...	1320	Environmental	--	340	733	10.6	7.2	175	10.5	71	86	2.08
APR												
29...	1200	Environmental	16	--	742	10.7	8.1	452	13.0	207	253	4.86
MAY												
20...	1200	Environmental	--	--	738	9.1	7.2	205	14.0	85	104	2.96
JUL												
13...	1330	Environmental	16	98	745	8.5	7.3	174	15.5	99	120	3.70
AUG												
18...	1100	Environmental	3.7	--	748	10.4	7.5	465	13.5	176	215	5.72
30...	1315	Environmental	--	140	727	7.3	7.6	353	14.5	120	146	5.25
SEP												
15...	0940	Environmental	4.5	2.9	749	9.8	7.6	433	14.0	195	238	5.70

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
OCT													
25...	<0.04	1.57	0.045	0.06	<0.006	E0.044	<0.006	<0.005	<0.005	0.046	<0.050	<0.010	<0.004
25...	<.04	<0.06	<.006	<.004	--	--	--	--	--	--	--	--	--
NOV													
22...	<.04	2.54	.050	.09	<.006	E.106	<.006	<.005	<.005	.059	<.050	<.010	<.004
MAR													
28...	.07	.84	.057	.45	<.006	E.009	<.006	<.005	<.005	.010	<.050	<.010	<.004
APR													
29...	<.04	1.99	.022	.04	<.006	E.072	E.005	<.005	<.005	.069	<.050	<.010	<.004
MAY													
20...	.11	1.38	.134	.61	<.006	E.244	.577	<.005	<.005	2.67	<.050	<.010	<.004
JUL													
13...	<.04	2.19	.181	.35	<.006	E.042	<.006	<.005	<.005	.121	<.050	<.010	<.004
AUG													
18...	<.04	2.31	.043	.06	<.006	E.074	<.006	<.005	<.005	.050	<.050	<.010	<.004
30...	<.04	1.73	.164	.30	<.006	E.043	<.006	<.005	<.005	.052	<.050	<.010	<.004
SEP													
15...	<.04	2.35	.050	.08	<.006	E.107	<.006	<.005	<.005	.056	<.050	<.010	<.004

374813086171501 F14DS005--FLAT ROCK SPRING NEAR ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
OCT													
25...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAR													
28...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAY													
20...	E.031	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
13...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
18...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
30...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.113	<.009	<.005	<.003
SEP													
15...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.029	<.009	<.005	<.003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
OCT													
25...	<0.004	<0.035	<0.027	<0.015	<0.006	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAR													
28...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
29...	<.004	<.035	<.027	<.015	E.002	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAY													
20...	<.004	<.035	<.027	<.015	.068	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
13...	<.004	<.035	<.027	<.015	.021	<.006	<.003	<.007	<.003	<.010	<.004	.024	<.011
AUG													
18...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
30...	<.004	<.035	<.027	<.015	.038	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
15...	<.004	<.035	<.027	<.015	<.008	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

374813086171501 F14DS005--FLAT ROCK SPRING NEAR ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspended sediment concentration mg/L (80154)
OCT													
25...	<0.01	<0.004	<0.025	<0.011	<0.02	<0.010	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	3
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	15
MAR													
28...	<.01	<.004	E.006	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	547
APR													
29...	<.01	<.004	E.013	<.011	<.02	.020	<.02	<.034	<.02	<.010	<.006	<.009	6
MAY													
20...	<.01	<.004	<.025	<.011	<.02	.665	<.02	<.034	<.02	<.010	<.006	<.009	788
JUL													
13...	<.01	<.004	<.020	<.011	<.02	.128	<.02	<.034	<.02	<.010	<.006	<.009	81
AUG													
18...	<.01	<.004	<.025	<.011	<.02	.015	<.02	<.034	<.02	<.010	<.006	<.009	25
30...	<.01	<.004	<.025	<.011	<.02	.014	<.02	<.034	<.02	<.010	<.006	<.009	246
SEP													
15...	<.01	<.004	<.025	<.011	<.02	.029	<.02	<.034	<.02	<.010	<.006	<.009	4

E--Laboratory estimated value.

M--Presence of material verified but not quantified.

<--Numeric result is less than the value shown.

374846086154101 F14DS003--ROSS KARST WINDOW NEAR BIG SPRING, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'46", long 86°15'41", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--May 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Turb-idity, IR LED light, det ang 90 deg, FNU (63680)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor-ide, water, fltrd, mg/L (00940)	Ammonia water, fltrd, mg/L as N (00608)
OCT												
25...	1130	Environmental	58	748	9.3	7.4	468	13.5	217	264	5.87	<0.04
NOV												
22...	1130	Environmental	14	748	9.7	7.3	422	13.5	186	227	5.41	<.04
MAR												
28...	1240	Environmental	240	733	10.8	7.0	159	10.0	63	77	1.73	.07
APR												
29...	1135	Environmental	--	741	10.5	8.0	448	13.0	207	253	4.78	<.04
MAY												
20...	1125	Environmental	--	738	9.5	7.3	213	14.0	87	106	3.38	.10
JUL												
13...	1140	Environmental	91	743	8.0	7.2	272	15.5	116	141	3.82	<.04
13...	1148	Field Blank	--	--	--	--	--	--	--	--	--	--
AUG												
30...	1215	Environmental	180	728	8.5	7.7	306	14.5	124	150	4.20	E.03
SEP												
15...	0915	Environmental	3.3	746	9.8	7.4	450	14.0	205	250	5.77	<.04
15...	0925	Replicate	--	--	--	--	--	--	--	--	5.73	<.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)
OCT													
25...	1.47	0.041	0.06	<0.006	E0.042	<0.006	<0.005	<0.005	0.041	<0.050	<0.010	<0.004	<0.041
NOV													
22...	2.40	.045	.08	<.006	E.107	<.006	<.005	<.005	.057	<.050	<.010	<.004	<.041
MAR													
28...	0.76	.054	.33	<.006	E.008	<.006	<.005	<.005	.011	<.050	<.010	<.004	<.041
APR													
29...	1.96	.019	.03	<.006	E.072	E.005	<.005	<.005	.069	<.050	<.010	<.004	<.041
MAY													
20...	1.54	.185	.53	<.006	E.198	.806	<.005	<.005	2.18	<.050	<.010	<.004	E.039
JUL													
13...	1.83	.171	.32	<.006	E.048	.007	<.005	<.005	.111	<.050	<.010	<.004	<.041
13...	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004	<.041
AUG													
30...	1.67	.214	.89	<.006	E.033	<.006	<.005	<.005	.030	<.050	<.010	<.004	<.041
SEP													
15...	2.45	.044	.08	<.006	E.094	<.006	<.005	<.005	.052	<.050	<.010	<.004	<.041
15...	2.44	.031	.08	<.006	E.096	<.006	<.005	<.005	.053	<.050	<.010	<.004	<.041

374846086154101 F14DS003--ROSS KARST WINDOW NEAR BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)
OCT													
25...	<0.070	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
NOV													
22...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
MAR													
28...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
APR													
29...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
MAY													
20...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
JUL													
13...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
13...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
AUG													
30...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.064	<.009	<.005	<.003	<.004
SEP													
15...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004
15...	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prome-ton, water, fltrd, ug/L (04037)
OCT													
25...	<0.035	<0.027	<0.015	<0.010	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01
NOV													
22...	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
MAR													
28...	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
APR													
29...	<.035	<.027	<.015	E.002	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
MAY													
20...	<.035	<.027	<.015	.288	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
JUL													
13...	<.035	<.027	<.015	.032	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
13...	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
AUG													
30...	<.035	<.027	<.015	.021	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
SEP													
15...	<.035	<.027	<.015	.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01
15...	<.035	<.027	<.015	.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01

374846086154101 F14DS003--ROSS KARST WINDOW NEAR BIG SPRING, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Sima-zine, water, fltrd, ug/L (04035)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT												
25...	<0.004	E0.011	<0.011	<0.02	0.015	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	6
NOV												
22...	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	14
MAR												
28...	<.004	E.007	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	489
APR												
29...	<.004	.029	<.011	<.02	.016	<.02	<.034	<.02	<.010	<.006	<.009	12
MAY												
20...	<.004	<.025	<.011	<.02	.448	<.02	<.034	<.02	<.010	<.006	<.009	489
JUL												
13...	<.004	<.020	<.011	<.02	.127	<.02	<.034	<.02	<.010	<.006	<.009	--
13...	<.004	<.006	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	--
AUG												
30...	<.004	<.025	<.011	<.02	.008	<.02	<.034	<.02	<.010	<.006	<.009	238
SEP												
15...	<.004	<.025	<.011	<.02	.021	<.02	<.034	<.02	<.010	<.006	<.009	17
15...	<.004	<.025	<.011	<.02	.022	<.02	<.034	<.02	<.010	<.006	<.009	6

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

374847086172901 F14DS007--FIDDLE SPRING NEAR ROSETTA, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'47", long 86°17'29", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Turb- idity, IR LED light, det ang 90 deg, FNU (63680)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor- ide, water, fltrd, mg/L (00940)
OCT												
25...	1300	Environmental	1.4	57	748	9.2	7.4	1,100	14.0	261	317	7.87
NOV												
22...	1315	Environmental	7.4	21	747	9.4	7.1	667	14.0	247	300	5.79
MAR												
28...	1345	Environmental	--	320	733	10.7	7.3	180	10.5	73	89	2.12
APR												
29...	1300	Environmental	6.6	--	743	10.6	7.9	783	13.5	262	319	6.26
MAY												
20...	1235	Environmental	364	--	738	8.7	7.2	201	14.5	85	--	2.94
JUL												
13...	1405	Environmental	8.7	120	747	7.7	7.1	381	15.0	130	158	3.96
AUG												
30...	1345	Environmental	--	180	729	8.3	7.5	579	14.0	164	199	6.31
SEP												
15...	1025	Environmental	1.5	2.8	749	9.6	7.4	1,130	14.0	245	298	8.72
15...	1033	Field Blank	--	--	--	--	--	--	--	--	--	E0.15

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)
OCT													
25...	<0.04	1.13	0.038	0.05	<0.006	E0.006	<0.006	<0.005	<0.005	0.013	<0.050	<0.010	<0.004
NOV													
22...	<.04	2.08	.051	.08	<.006	E.019	<.006	<.005	<.005	.026	<.050	<.010	<.004
MAR													
28...	.09	0.91	.070	.47	<.006	<.010	<.006	<.005	<.005	<.010	<.050	<.010	<.004
APR													
29...	<.04	1.69	.022	.037	<.006	E.014	<.006	<.005	<.005	.009	<.050	<.010	<.004
MAY													
20...	.10	1.32	.140	.62	<.006	E.375	.438	<.005	<.005	2.04	<.050	<.010	<.004
JUL													
13...	E.03	1.64	.145	.35	<.006	E.010	<.006	<.005	<.005	.026	<.050	<.010	<.004
AUG													
30...	E.02	1.65	.101	.21	<.006	E.024	<.006	<.005	<.005	.028	<.050	<.010	<.004
SEP													
15...	<.04	1.57	.025	.06	<.006	E.015	<.006	<.005	<.005	.012	<.050	<.010	<.004
15...	<.04	<.06	<.012	<.004	--	--	--	--	--	--	--	--	--

374847086172901 F14DS007--FIDDLE SPRING NEAR ROSETTA, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
OCT													
25...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
NOV													
22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAR													
28...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAY													
20...	E.093	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL													
13...	E.022	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
AUG													
30...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.059	<.009	<.005	<.003
SEP													
15...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.085	<.009	<.005	<.003
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
OCT													
25...	<0.004	<0.035	<0.027	<0.015	<0.006	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
NOV													
22...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAR													
28...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
29...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAY													
20...	<.004	<.035	<.027	<.015	.065	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
13...	<.004	<.035	<.027	<.015	E.003	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
AUG													
30...	<.004	<.035	<.027	<.015	.025	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
SEP													
15...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspended sediment concentration mg/L (80154)
OCT													
25...	<0.01	<0.004	E0.017	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	6
NOV													
22...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	18
MAR													
28...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	572
APR													
29...	<.01	<.004	E.015	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	9
MAY													
20...	<.01	<.004	<.025	<.011	<.02	.488	<.02	<.034	<.02	<.010	<.006	<.009	731
JUL													
13...	<.01	<.004	<.040	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	99
AUG													
30...	<.01	<.004	<.025	<.011	<.02	<.008	<.02	<.034	<.02	<.010	<.006	<.009	319
SEP													
15...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	4
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

375209086224001 F14CS002--BOILING SPRING NEAR LODIBURG, KY

WATER-QUALITY RECORDS

LOCATION.--Lat 37°52'09", long 86°22'40", Breckinridge County, Hydrologic Unit 05140104.

PERIOD OF RECORD.--April 2004 to current water year.

COOPERATION.--Kentucky Department of Agriculture.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
OCT 25...	1200	Environmental	16	3.7	748	--	7.2	640	15.0	220	268	6.40
NOV 22...	1300	Environmental	153	27	744	9.7	7.3	439	13.5	192	232	5.25
APR 29...	1500	Environmental	78	6.4	740	9.8	7.5	493	13.0	207	253	5.12
MAY 20...	0900	Environmental	--	400	738	9.1	7.1	265	14.5	100	--	3.18
JUL 13...	1255	Environmental	--	120	743	7.6	7.2	372	16.5	138	169	4.57

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
OCT 25...	<0.04	1.26	0.041	0.07	<0.006	E0.035	<0.010	<0.005	<0.005	0.040	<0.050	<0.010	<0.004
NOV 22...	<.04	2.24	.066	.14	<.006	E.074	<.006	<.005	<.005	.042	<.050	<.010	<.004
APR 29...	<.04	1.67	.022	.04	<.006	E.063	.014	<.005	<.005	.105	<.050	<.010	<.004
MAY 20...	.07	1.39	.093	.58	<.006	E.398	.652	<.005	<.005	4.35	<.050	<.010	<.004
JUL 13...	<.04	1.81	.086	.23	<.006	E.073	.076	<.005	<.005	.269	<.050	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
OCT 25...	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003
NOV 22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR 29...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
MAY 20...	E.021	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
JUL 13...	E.045	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003

375209086224001 F14CS002--BOILING SPRING NEAR LODIBURG, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)
OCT													
25...	<0.004	<0.035	<0.027	<0.015	0.011	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011
NOV													
22...	<.004	<.035	<.027	<.015	.008	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
29...	<.004	<.035	<.027	<.015	.007	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
MAY													
20...	<.004	<.035	<.027	<.015	.365	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
JUL													
13...	<.004	<.035	<.027	<.015	.033	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Prome- ton, water, fltrd, ug/L (04037)	Propy- zamide, water, fltrd 0.7u GF ug/L (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water fltrd 0.7u GF ug/L (82670)	Terba- cil, water, fltrd 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd 0.7u GF ug/L (82675)	Thio- bencarb water fltrd 0.7u GF ug/L (82681)	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)	Sus- pended sedi- ment concen- tration mg/L (80154)
OCT													
25...	<0.01	<0.004	E0.021	<0.011	<0.02	<0.010	<0.02	<0.034	<0.02	<0.010	<0.006	<0.009	7
NOV													
22...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	31
APR													
29...	<.01	<.004	E.007	<.011	<.02	.010	<.02	<.034	<.02	<.010	<.006	<.009	8
MAY													
20...	<.01	<.004	<.025	<.011	<.02	.076	<.02	<.034	<.02	<.010	<.006	<.009	1,040
JUL													
13...	E.01	<.004	<.031	<.011	<.02	.030	<.02	<.034	<.02	<.010	<.006	<.009	81

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303195---SINKING CREEK AT ROSETTA, KY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instan-taneous dis-charge, cfs -61	Turb-idity, IR LED light, det ang 90 deg, FNU -63680	Baro-metric pres-sure, mm Hg -25	Dis-solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif-ic conduc-tance, wat unf uS/cm 25 degC -95	Temper-ature, water, deg C -10	Alka-linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar-bonate, wat flt infl pt titr., field, mg/L -453	Chlor-ide, water, fltrd, mg/L -940
OCT													
25...	1040	9	WS	2.5	0.5	761	7.2	7.5	680	10.5	150	E182	7
DEC													
06...	1000	9	WS	4.7	--	754	11.8	7.6	592	3	155	190	7.19
APR													
17...	1050	9	WS	22	--	741	10.6	6.7	428	12.8	149	180	4.72
MAY													
11...	1130	9	WS	36	--	738	9.6	7.8	317	12.9	--	--	5.26
26...	1300	9	WS	2140	--	--	9.1	7.3	151	15.7	53	64	--
JUN													
21...	1215	9	WS	14	--	--	--	7.8	439	--	148	179	4.61
21...	1223	2	OAQ	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303195---SINKING CREEK AT ROSETTA, KY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	0.54	E.007	0.022	<.006	E.024	<.006	<.005	<.005	0.03	<.050	<.010	<.004
DEC													
06...	<.04	1.25	E.003	0.019	<.006	E.019	<.006	<.005	<.005	0.025	<.050	<.010	<.004
APR													
17...	<.04	0.56	<.006	0.011	<.006	E.011	<.006	<.005	<.005	0.012	<.050	<.010	<.004
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	<.010	0.41	0.038	0.22	<.006	E.043	0.022	<.005	<.005	0.263	<.050	<.010	<.004
JUN													
21...	0.018	0.93	0.025	0.046	<.006	E.046	<.006	<.005	<.005	1.57	<.050	<.010	<.004
21...	<.010	<.06	<.006	<.004	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303195---SINKING CREEK AT ROSETTA, KY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.036	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.049	<.009	<.005	<.003
DEC													
06...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
17...	<.041	<.026	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	E.025	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
JUN													
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303195---SINKING CREEK AT ROSETTA, KY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
DEC													
06...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
17...	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	<.004	<.035	<.027	<.015	0.046	<.028	<.003	<.007	<.003	<.010	<.004	0.038	<.055
JUN													
21...	<.004	<.035	<.027	<.015	E.005	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303195---SINKING CREEK AT ROSETTA, KY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	<.01	<.004	<.025	<.011	<.02	0.008	<.02	<.034	<.02	<.010	<.006	<.009	3
DEC													
06...	<.01	<.004	<.025	<.011	<.02	0.006	<.02	<.034	<.02	<.010	<.006	<.009	1
APR													
17...	<.01	<.004	<.010	<.011	<.02	0.012	<.02	<.034	<.02	<.010	<.006	<.009	6
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	6
26...	E.01	<.004	<.010	E.005	<.02	0.033	<.02	<.034	<.02	<.010	<.006	<.009	358
JUN													
21...	<.01	<.004	E.006	<.011	<.02	0.053	<.02	<.034	<.02	<.010	<.006	<.009	9
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Sample type	Medium	Instan- taneous dis- charge, cfs -61	Turb- idity, IR LED light, det ang 90 deg, FNU -63680	Baro- metric pres- sure, mm Hg -25	Dis- solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif- ic conduc- tance, wat unf uS/cm 25 degC -95	Temper- ature, water, deg C -10	Alka- linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar- bonate, wat flt infl pt titr., field, mg/L -453	Chlor- ide, water, fltrd, mg/L -940
OCT													
25...	1145	9	WS	9.6	4.4	761	8.3	7.5	671	14.2	214	E261	7.39
DEC													
06...	1230	7	WS	15	0.8	754	11.4	7.8	604	10.3	204	248	7.38
06...	1233	1	WSQ	--	--	--	--	--	--	--	--	--	--
JAN													
11...	1620	7	WS	--	--	--	--	--	--	--	--	--	--
11...	2020	5	WS	--	--	--	--	--	--	--	--	--	--
17...	1220	8	WS	--	--	--	--	--	--	--	--	--	--
17...	1620	8	WS	--	--	--	--	--	--	--	--	--	--
17...	2020	8	WS	--	--	--	--	--	--	--	--	--	--
18...	20	7	WS	--	--	--	--	--	--	--	--	--	--
18...	30	7	SSQ	--	--	--	--	--	--	--	--	--	--
23...	145	8	WS	--	--	--	--	--	--	--	--	--	--
23...	545	8	WS	--	--	--	--	--	--	--	--	--	--
23...	945	7	WS	--	--	--	--	--	--	--	--	--	--
23...	1345	5	WS	--	--	--	--	--	--	--	--	--	--
23...	1745	5	WS	--	--	--	--	--	--	--	--	--	--
23...	2155	5	WS	--	--	--	--	--	--	--	--	--	--
APR													
17...	1400	9	WS	368	--	744	7.8	7.4	360	12.8	145	176	5.13
MAY													
11...	1330	9	WS	194	--	740	9.9	7.6	450	14.6	--	--	5.67
26...	206	9	WS	--	--	--	--	--	--	--	--	--	--
26...	606	9	WS	--	--	--	--	--	--	--	--	--	--
26...	1006	9	WS	--	--	--	--	--	--	--	--	--	--
26...	1120	9	WS	5660	--	751	8.6	7.2	150	16	65	79	--
26...	1128	2	OAQ	--	--	--	--	--	--	--	--	--	--
26...	1406	9	WS	--	--	--	--	--	--	--	--	--	--
26...	1806	9	WS	--	--	--	--	--	--	--	--	--	--
26...	2206	9	WS	--	--	--	--	--	--	--	--	--	--
JUN													
21...	1000	9	WS	97	--	--	--	--	--	--	183	222	5.92

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303205---SINKING CREEK NEAR LODIBURG, KY
WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	1.63	0.036	0.073	<.006	E.064	<.006	<.005	<.005	0.043	<.050	<.010	<.004
DEC													
06...	<.04	1.65	E.026	0.068	<.006	E.034	<.006	<.005	<.005	0.03	<.050	<.010	<.004
06...	--	--	--	--	0.073	E.049	0.085	0.083	0.074	0.1	E.107	0.052	0.08
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	0.11	1.54	0.11	0.26	<.006	E.062	1.13	<.005	<.005	16.9	<.050	<.010	<.004
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	0.024	0.73	0.074	0.46	<.006	E.204	0.33	<.005	<.005	1.31	<.050	<.010	<.004
26...	<.010	<.06	E.003	<.004	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	E.009	2.26	0.053	0.105	<.006	E.126	0.043	<.005	<.005	0.528	<.050	<.010	<.004

Date	Car- baryl, water, fltrd 0.7u GF ug/L -82680	Carbo- furan, water, fltrd 0.7u GF ug/L -82674	Chlor- pyrifos water, fltrd, ug/L -38933	cis- Per- methrin water fltrd 0.7u GF ug/L -82687	Cyana- zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi- non, water, fltrd, ug/L -39572	Diel- drin, water, fltrd, ug/L -39381	Disul- foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal- flur- alin, water, fltrd 0.7u GF ug/L -82663	Etho- prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.060	<.009	<.005	<.003
DEC													
06...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
06...	E.083	E.070	0.071	0.065	0.06	0.067	0.078	0.08	E.05	0.073	0.065	0.066	0.075
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	E.039	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303205---SINKING CREEK NEAR LODIBURG, KY
WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	E.004	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
DEC													
06...	<.004	<.035	<.027	<.015	E.005	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
06...	0.081	0.087	0.078	0.069	0.087	0.056	0.076	0.083	0.053	0.073	0.076	0.06	0.05
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	<.004	<.035	<.027	<.015	0.292	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	<.004	<.035	<.027	<.015	0.311	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	<.004	<.035	<.027	<.015	0.05	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
03303205---SINKING CREEK NEAR LODIBURG, KY
WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	M	<.004	<.025	<.011	<.02	0.009	<.02	<.034	<.02	<.010	<.006	<.009	3
DEC													
06...	<.01	<.004	<.025	<.011	<.02	0.006	<.02	<.034	<.02	<.010	<.006	<.009	2
06...	0.07	0.076	0.087	0.084	0.09	0.071	0.09	E.046	0.06	0.078	0.069	0.051	--
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	408
11...	--	--	--	--	--	--	--	--	--	--	--	--	203
17...	--	--	--	--	--	--	--	--	--	--	--	--	325
17...	--	--	--	--	--	--	--	--	--	--	--	--	572
17...	--	--	--	--	--	--	--	--	--	--	--	--	877
18...	--	--	--	--	--	--	--	--	--	--	--	--	521
18...	--	--	--	--	--	--	--	--	--	--	--	--	504
23...	--	--	--	--	--	--	--	--	--	--	--	--	822
23...	--	--	--	--	--	--	--	--	--	--	--	--	1090
23...	--	--	--	--	--	--	--	--	--	--	--	--	1050
23...	--	--	--	--	--	--	--	--	--	--	--	--	636
23...	--	--	--	--	--	--	--	--	--	--	--	--	483
23...	--	--	--	--	--	--	--	--	--	--	--	--	359
APR													
17...	<.01	<.004	<.010	<.011	<.02	0.072	<.02	<.034	<.02	<.010	<.006	<.009	205
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	294
26...	--	--	--	--	--	--	--	--	--	--	--	--	1160
26...	--	--	--	--	--	--	--	--	--	--	--	--	1140
26...	--	--	--	--	--	--	--	--	--	--	--	--	728
26...	0.01	<.004	<.010	E.009	<.02	0.161	<.02	<.034	<.02	<.010	<.006	<.009	761
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	514
26...	--	--	--	--	--	--	--	--	--	--	--	--	413
26...	--	--	--	--	--	--	--	--	--	--	--	--	331
JUN													
21...	E.01	<.004	<.010	<.011	<.02	0.022	<.02	<.034	<.02	<.010	<.006	<.009	25

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374755086090401---BIG SPRING -F15CS004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instan-taneous dis-charge, cfs -61	Turb-idity, IR LED light, det ang 90 deg, FNU -63680	Baro-metric pres-sure, mm Hg -25	Dis-solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif-ic conduc-tance, wat unf uS/cm 25 degC -95	Temper-ature, water, deg C -10	Alka-linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar-bonate, wat flt infl pt titr., field, mg/L -453	Chlor-ide, water, fltrd, mg/L -940
OCT													
25...	1015	9	WS	0.89	--	761	10.7	7.7	380	13.1	175	E213	4.29
DEC													
06...	1030	9	WS	3	--	744	11.2	7.7	396	11.4	147	179	6.73
APR													
17...	1140	9	WS	5.9	4.9	744	9.9	7.5	380	12.5	173	210	5.58
MAY													
11...	1030	9	WS	9.1	--	738	10.5	7.5	387	12.7	156	190	5.98
11...	1040	7	WSQ	--	--	--	--	--	--	--	153	187	5.94
26...	900	9	WS	--	--	732	1.2	7	152	15.4	60	74	2.68
JUN													
21...	1110	9	WS	5.7	20	747	9.9	7.2	378	13.3	158	192	6.72

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374755086090401---BIG SPRING -F15CS004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	1.72	0.02	0.038	<.006	E.058	<.006	<.005	<.005	0.027	<.050	<.010	<.004
DEC													
06...	<.04	2.96	0.035	0.062	<.006	E.143	0.008	<.005	<.005	0.053	<.050	<.010	<.004
APR													
17...	<.04	2.52	0.009	0.028	<.006	E.096	<.006	<.005	<.005	0.035	<.050	<.010	<.004
MAY													
11...	<.04	3.47	0.022	0.04	<.006	E.289	0.03	<.005	<.005	1.02	<.050	<.010	<.004
11...	<.04	3.48	0.018	0.037	<.006	E.242	0.025	<.005	<.005	0.962	<.050	<.010	<.004
26...	0.057	1.12	0.261	0.45	<.006	E.250	0.52	<.005	<.005	1.05	<.050	<.010	<.004
JUN													
21...	E.009	3.96	0.079	0.13	<.006	E.293	0.056	<.005	<.005	0.352	<.050	<.010	<.004

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374755086090401---BIG SPRING -F15CS004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.007	<.009	<.005	<.003
DEC													
06...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
APR													
17...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
MAY													
11...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
11...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
26...	E.021	<.020	<.005	<.006	<.018	<.003	<.016	<.009	<.02	<.011	<.009	<.012	<.005
JUN													
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374755086090401---BIG SPRING -F15CS004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
DEC													
06...	<.004	<.035	<.027	<.015	E.004	0.016	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
17...	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
MAY													
11...	<.004	<.035	<.027	<.015	0.026	E.004	<.003	<.007	<.003	<.010	<.004	<.022	<.055
11...	<.004	<.035	<.027	<.015	0.022	E.003	<.003	<.007	<.003	<.010	<.004	<.022	<.055
26...	<.004	<.035	<.027	<.015	0.272	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
JUN													
21...	<.004	<.035	<.027	<.015	0.037	E.009	<.003	<.007	<.003	<.010	<.004	<.022	<.055

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374755086090401---BIG SPRING -F15CS004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	<.01	<.004	<.025	<.011	<.02	0.011	<.02	<.034	<.02	<.010	<.006	<.009	1
DEC													
06...	M	<.004	<.025	<.011	<.02	0.009	<.02	<.034	<.02	<.010	<.006	<.009	2
APR													
17...	<.01	<.004	<.010	<.011	<.02	0.006	<.02	<.034	<.02	<.010	<.006	<.009	3
MAY													
11...	<.01	<.004	<.010	<.011	<.02	0.1	<.02	<.034	<.02	<.010	<.006	<.009	4
11...	<.01	<.004	<.010	<.011	<.02	0.088	<.02	<.034	<.02	<.010	<.006	<.009	4
26...	<.01	<.004	<.010	E.007	<.02	0.141	<.02	<.034	<.02	<.010	<.006	<.009	281
JUN													
21...	<.01	<.004	<.010	<.011	<.02	0.022	<.02	<.034	<.02	<.010	<.006	<.009	18

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374855086090401---FLAT ROCK SPRING - F14DS005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instantaneous discharge, cfs (-61)	Turbidity, IR LED light, det ang 90 deg, FNU (-63680)	Barometric pressure, mm Hg (-25)	Dissolved oxygen, mg/L (-300)	pH, water, unfltrd field, std units (-400)	Specific conductance, wat unf uS/cm 25 degC (-95)	Temperature, water, deg C (-10)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (-39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (-453)	Chloride, water, fltrd, mg/L (-940)
OCT													
25...	1145	9	WS	2.1	--	761	10.3	7.7	470	13.6	205	E250	6
DEC													
06...	1325	9	WS	3.5	7.6	748	11.1	7.9	403	11.4	153	186	6.36
APR													
17...	1300	9	WS	19	11	744	9.9	7.8	431	12.8	193	235	4.82
MAY													
11...	1210	9	WS	20	--	738	10.3	7.7	435	13.1	181	--	5.27
JUN													
21...	1225	9	WS	21	43	752	9.6	7.2	323	14.3	132	161	5.04
21...	1233	2	OAQ	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374855086090401---FLAT ROCK SPRING - F14DS005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	1.97	0.027	0.057	<.006	E.060	<.006	<.005	<.005	0.032	<.050	<.010	<.004
DEC													
06...	<.04	1.89	0.064	0.105	<.006	E.048	<.006	<.005	<.005	0.029	<.050	<.010	<.004
APR													
17...	<.04	1.68	0.023	0.037	<.006	E.052	<.006	<.005	<.005	0.024	<.050	<.010	<.004
MAY													
11...	<.04	2.57	0.028	0.049	<.006	E.143	0.027	<.005	<.005	0.858	<.050	<.010	<.004
JUN													
21...	0.018	1.87	0.091	0.168	<.006	E.114	0.046	<.005	<.005	0.138	<.050	<.010	<.004
21...	--	--	--	--	<.006	<.014	<.006	<.005	<.005	<.007	<.050	<.010	<.004

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374855086090401---FLAT ROCK SPRING - F14DS005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.005	<.009	<.005	<.003
DEC													
06...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.005	<.009	<.005	<.003
APR													
17...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.013	<.009	<.012	<.005
MAY													
11...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
JUN													
21...	E.011	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374855086090401---FLAT ROCK SPRING - F14DS005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
DEC													
06...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
17...	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
MAY													
11...	<.004	<.035	<.027	<.015	0.017	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
JUN													
21...	<.004	<.035	<.027	<.015	0.014	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
21...	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374855086090401---FLAT ROCK SPRING - F14DS005

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	<.01	<.004	<.025	<.011	<.02	0.012	<.02	<.034	<.02	<.010	<.006	<.009	1
DEC													
06...	<.01	<.004	<.025	<.011	<.02	0.008	<.02	<.034	<.02	<.010	<.006	<.009	12
APR													
17...	<.01	<.004	<.010	<.011	<.02	E.004	<.02	<.034	<.02	<.010	<.006	<.009	10
MAY													
11...	<.01	<.004	<.010	<.011	<.02	0.041	<.02	<.034	<.02	<.010	<.006	<.009	5
JUN													
21...	<.01	<.004	<.010	<.011	<.02	0.011	<.02	<.034	<.02	<.010	<.006	<.009	38
21...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374846086154101---ROSS KARST SPRING - F14DS003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Baro- metric pres- sure, mm Hg -25	Dis- solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif- ic conduc- tance, wat unf uS/cm 25 degC -95	Temper- ature, water, deg C -10	Alka- linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar- bonate, wat flt infl pt titr., field, mg/L -453	Chlor- ide, water, fltrd, mg/L -940	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631
OCT													
25...	1115	9	WS	761	10	7.6	472	13.6	200	E243	6.03	<.04	1.75
DEC													
06...	1135	9	WS	747	10.8	7.8	421	11.2	195	238	6.46	<.04	2.06

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374846086154101---ROSS KARST SPRING - F14DS003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674
OCT													
25...	0.028	0.055	<.006	E.058	<.006	<.005	<.005	0.034	<.050	<.010	<.004	<.041	<.020
DEC													
06...	0.06	0.103	<.006	E.062	<.006	<.005	<.005	0.037	<.050	<.010	<.004	<.041	<.020

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374846086154101---ROSS KARST SPRING - F14DS003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666
OCT													
25...	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004	<.035
DEC													
06...	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003	<.004	<.035

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374846086154101---ROSS KARST SPRING - F14DS003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Mala- thion, water, fltrd, ug/L -39532	Methyl para- thion, water, fltrd 0.7u GF ug/L -82667	Metola- chlor, water, fltrd, ug/L -39415	Metri- buzin, water, fltrd, ug/L -82630	Moli- nate, water, fltrd 0.7u GF ug/L -82671	Naprop- amide, water, fltrd 0.7u GF ug/L -82684	p,p'- DDE, water, fltrd, ug/L -34653	Para- thion, water, fltrd, ug/L -39542	Peb- ulate, water, fltrd 0.7u GF ug/L -82669	Pendi- meth- alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664	Prome- ton, water, fltrd, ug/L -4037	Propy- zamide, water, fltrd 0.7u GF ug/L -82676
OCT													
25...	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01	<.004
DEC													
06...	<.027	<.015	0.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	<.01	<.004

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374846086154101---ROSS KARST SPRING - F14DS003

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154	Data base number
OCT												
25...	<.025	<.011	<.02	0.011	<.02	<.034	<.02	<.010	<.006	<.009	7	1
DEC												
06...	<.025	<.011	<.02	0.008	<.02	<.034	<.02	<.010	<.006	<.009	5	1

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instan- taneous dis- charge, cfs	Turb- idity, IR LED light, det ang 90 deg, FNU	Baro- metric pres- sure, mm Hg	Dis- solved oxygen, mg/L	pH, water, unfltrd field, std units	Specif- ic conduc- tance, wat unf uS/cm 25 degC	Temper- ature, water, deg C	Alka- linity, wat flt inf tit field, mg/L as CaCO3	Bicar- bonate, wat flt infl pt titr., field, mg/L	Chlor- ide, water, fltrd, mg/L
				-61	-63680	-25	-300	-400	-95	-10	-39086	-453	-940
APR													
22...	1320	9	WS	23	9.9	743	12.8	7.2	545	13.1	188	229	5.38
MAY													
25...	1340	9	WS	--	210	751	7.2	7	280	14.7	111	135	3.35
25...	1350	7	WSQ	--	--	--	--	--	--	--	112	136	3.67
AUG													
02...	1400	9	WS	4.4	28	749	--	7	531	14.5	210	256	5.87
SEP													
07...	1345	9	WS	2.7	--	750	9.2	6.9	1000	14.3	244	297	6.92

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instan-taneous dis-charge, cfs -61	Turb-idity, IR LED light, det ang 90 deg, FNU -63680	Baro-metric pres-sure, mm Hg -25	Dis-solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif-ic conduc-tance, wat unf uS/cm 25 degC -95	Temper-ature, water, deg C -10	Alka-linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar-bonate, wat flt infl pt titr., field, mg/L -453	Chlor-ide, water, fltrd, mg/L -940
OCT													
25...	1240	9	WS	1.2	--	761	10.6	7.7	1320	13.6	258	E314	9.84
DEC													
06...	1415	9	WS	1.2	5.3	748	10.7	7.6	985	11.7	185	226	9.2
APR													
17...	1340	9	WS	12	18	744	9	7.3	779	13.5	246	300	6.18
JUN													
21...	1410	7	WS	4.4	45	752	9.1	7.3	538	14.3	204	249	6.19
21...	1420	7	WSQ	--	--	--	--	--	--	--	194	236	6.09

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	1.18	0.014	0.036	<.006	E.009	<.006	<.005	<.005	E.006	<.050	<.010	<.004
DEC													
06...	<.04	1.65	0.079	0.141	<.006	E.006	<.006	<.005	<.005	0.01	<.050	<.010	<.004
APR													
17...	<.04	1.49	0.026	0.047	<.006	E.008	<.006	<.005	<.005	E.005	<.050	<.010	<.004
JUN													
21...	0.022	1.88	0.184	0.3	<.006	E.018	<.006	<.005	<.005	0.034	<.050	<.010	<.004
21...	0.02	1.88	0.193	0.29	<.006	E.018	<.006	<.005	<.005	0.035	<.050	<.010	<.004

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
DEC													
06...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.008	<.009	<.005	<.003
APR													
17...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
JUN													
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.012	<.005

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
DEC													
06...	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
APR													
17...	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
JUN													
21...	<.004	<.035	<.027	<.015	E.005	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055
21...	<.004	<.035	<.027	<.015	E.005	<.028	<.003	<.007	<.003	<.010	<.004	<.022	<.055

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
374847086172901---FIDDLE SPRING - F14DS007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	3
DEC													
06...	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	8
APR													
17...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	18
JUN													
21...	M	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	39
21...	M	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	37

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY

375209086224001---BOILING SPRING - F14CS002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Sample type	Medium	Instan-taneous dis-charge, cfs -61	Turb-idity, IR LED light, det ang 90 deg, FNU -63680	Baro-metric pres-sure, mm Hg -25	Dis-solved oxygen, mg/L -300	pH, water, unfltrd field, std units -400	Specif-ic conduc-tance, wat unf uS/cm 25 degC -95	Temper-ature, water, deg C -10	Alka-linity, wat flt inf tit field, mg/L as CaCO3 -39086	Bicar-bonate, wat flt infl pt titr., field, mg/L -453	Chlor-ide, water, fltrd, mg/L -940
OCT													
25...	1250	9	WS	9.9	1	761	8.3	7.3	678	16	219	E266	7.52
25...	1258	2	OAQ	--	--	--	--	--	--	--	--	--	<.20
DEC													
06...	1440	9	WS	15	0.6	754	9.5	7.5	610	12.3	201	245	7.42

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
375209086224001---BOILING SPRING - F14CS002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Ammonia water, fltrd, mg/L as N -608	Nitrate + nitrite water fltrd, mg/L as N -631	Ortho-phos-phate, water, fltrd, mg/L as P -671	Phos-phorus, water, unfltrd mg/L -665	2,6-Di-ethyl-aniline water, fltrd 0.7u GF ug/L -82660	CIAT, water, fltrd, ug/L -4040	Aceto-chlor, water, fltrd, ug/L -49260	Ala-chlor, water, fltrd, ug/L -46342	alpha-HCH, water, fltrd, ug/L -34253	Atra-zine, water, fltrd, ug/L -39632	Azin-phos-methyl, water, fltrd 0.7u GF ug/L -82686	Ben-flur-alin, water, fltrd 0.7u GF ug/L -82673	Butyl-ate, water, fltrd, ug/L -4028
OCT													
25...	<.04	1.67	0.036	0.079	<.006	E.042	<.006	<.005	<.005	0.031	<.050	<.010	<.004
25...	<.04	<.06	<.012	<.004	--	--	--	--	--	--	--	--	--
DEC													
06...	<.04	1.75	0.043	0.075	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
375209086224001---BOILING SPRING - F14CS002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Car-baryl, water, fltrd 0.7u GF ug/L -82680	Carbo-furan, water, fltrd 0.7u GF ug/L -82674	Chlor-pyrifos water, fltrd, ug/L -38933	cis-Per-methrin water fltrd 0.7u GF ug/L -82687	Cyana-zine, water, fltrd, ug/L -4041	DCPA, water, fltrd 0.7u GF ug/L -82682	Diazi-non, water, fltrd, ug/L -39572	Diel-drin, water, fltrd, ug/L -39381	Disul-foton, water, fltrd 0.7u GF ug/L -82677	EPTC, water, fltrd 0.7u GF ug/L -82668	Ethal-flur-alin, water, fltrd 0.7u GF ug/L -82663	Etho-prop, water, fltrd 0.7u GF ug/L -82672	Fonofos water, fltrd, ug/L -4095
OCT													
25...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009	<.005	<.003
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Lindane water, fltrd, ug/L -39341	Linuron water, fltrd 0.7u GF ug/L -82666	Mala-thion, water, fltrd, ug/L -39532	Methyl para-thion, water, fltrd 0.7u GF ug/L -82667	Metola-chlor, water, fltrd, ug/L -39415	Metri-buzin, water, fltrd, ug/L -82630	Moli-nate, water, fltrd 0.7u GF ug/L -82671	Naprop-amide, water, fltrd 0.7u GF ug/L -82684	p,p'-DDE, water, fltrd, ug/L -34653	Para-thion, water, fltrd, ug/L -39542	Peb-ulate, water, fltrd 0.7u GF ug/L -82669	Pendi-meth-alin, water, fltrd 0.7u GF ug/L -82683	Phorate water, fltrd 0.7u GF ug/L -82664
OCT													
25...	<.004	<.035	<.027	<.015	E.003	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY

375209086224001---BOILING SPRING - F14CS002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Prome-ton, water, fltrd, ug/L -4037	Propy-zamide, water, fltrd 0.7u GF ug/L -82676	Propa-chlor, water, fltrd, ug/L -4024	Pro-panil, water, fltrd 0.7u GF ug/L -82679	Propar-gite, water, fltrd 0.7u GF ug/L -82685	Sima-zine, water, fltrd, ug/L -4035	Tebu-thiuron water, fltrd 0.7u GF ug/L -82670	Terba-cil, water, fltrd 0.7u GF ug/L -82665	Terbu-fos, water, fltrd 0.7u GF ug/L -82675	Thio-bencarb water, fltrd 0.7u GF ug/L -82681	Tri-allate, water, fltrd 0.7u GF ug/L -82678	Tri-flur-alin, water, fltrd 0.7u GF ug/L -82661	Sus-pended sedi-ment concen-tration mg/L -80154
OCT													
25...	<.01	<.004	<.025	<.011	<.02	<.007	<.02	<.034	<.02	<.010	<.006	<.009	2
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	3

03292500 SOUTH FORK BEARGRASS CREEK AT LOUISVILLE, KY

LOCATION.--Lat 38°12'41", long 85°42'09", Jefferson County, Hydrologic Unit 05140101, on right bank, 10 ft downstream of Trevilian Way Bridge at Louisville, 4.9 mi upstream from Middle Fork Beargrass, and at mile 6.5.

DRAINAGE AREA.--17.2 mi^2.

PERIOD OF RECORD.--October 1939 to September 1940, August 1944 to September 1953, October 1954 to September 1983 (High water records only, October 1962 to June 1970), and June 1988 to current year. Monthly discharge only for October to December 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry and crest_stage gage. Datum of gage is 445.60 ft, Louisville city datum. Prior to Oct. 29, 1953, at datum 5.00 ft higher. Oct. 29, 1953, to June 24, 1970, at datum 3.00 ft higher. Prior to April 8, 1994, gage located 125 ft upstream at same datum.

REMARKS.--Records good except for those estimated which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1943 reached a stage of 18.1 ft, present datum, from information furnished by U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	2240	*1140	10.79	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	7.2	16	19	12	15	11	109	e89	e4.6	14	5.4
2	5.9	7.1	13	229	70	8.5	8.5	142	75	4.4	9.6	4.4
3	4.9	7.7	11	51	119	40	7.4	41	31	5.1	7.3	4.7
4	5.1	8.5	12	122	36	264	8.7	26	21	5.8	23	4.2
5	4.6	11	15	184	88	77	9.2	19	17	25	87	3.4
6	4.5	13	11	48	97	66	8.1	16	14	50	9.6	3.1
7	3.8	9.2	8.4	30	41	29	8.6	14	12	27	6.7	4.1
8	4.0	6.8	8.1	22	27	21	8.8	13	11	8.4	5.6	4.2
9	4.0	6.8	7.3	21	23	17	9.1	12	141	18	4.8	4.2
10	7.5	6.8	75	17	19	13	9.3	12	53	128	5.0	4.9
11	3.8	6.6	25	15	17	11	10	13	15	59	7.2	4.2
12	3.7	161	15	14	13	9.3	41	15	44	16	6.5	4.1
13	3.9	24	12	13	12	8.0	156	18	20	41	6.4	4.1
14	65	11	14	11	11	7.6	75	28	13	134	6.5	3.8
15	12	22	13	9.5	9.7	6.9	26	113	15	16	7.5	e3.4
16	6.1	12	27	8.8	9.0	37	18	22	27	11	8.1	e3.3
17	5.8	8.7	18	23	8.5	15	14	14	15	244	8.3	e3.1
18	5.1	99	16	66	8.4	11	11	18	11	29	9.3	e3.2
19	4.6	52	16	22	7.9	8.2	9.7	21	11	17	13	e3.0
20	4.4	19	12	15	8.4	10	8.4	12	7.5	13	23	e3.4
21	5.2	13	11	12	8.8	9.7	32	9.8	6.7	10	9.7	e3.0
22	7.7	10	9.6	10	7.8	7.2	23	11	6.7	e9.0	5.6	e2.8
23	7.0	8.3	95	8.8	6.8	6.5	70	11	6.2	e22	5.7	e3.0
24	7.0	68	43	8.5	6.9	6.6	21	13	5.4	7.8	6.7	e2.3
25	6.7	16	22	9.4	6.2	6.1	71	132	5.2	5.1	11	e2.6
26	55	12	17	47	6.1	6.6	25	e280	5.1	e251	49	e2.6
27	8.5	100	14	44	5.7	8.0	22	e310	4.6	16	9.3	e2.7
28	5.9	114	12	20	5.3	7.7	29	e517	5.0	9.3	6.3	e2.7
29	5.7	35	63	17	5.3	26	28	e96	4.9	7.1	39	e2.7
30	4.3	22	59	14	---	39	61	e158	5.0	28	44	e2.7
31	6.8	---	21	13	---	17	---	e253	---	100	8.1	---
TOTAL	292.5	897.7	711.4	1,144.0	695.8	814.9	839.8	2,468.8	697.3	1,321.6	462.8	105.3
MEAN	9.44	29.9	22.9	36.9	24.0	26.3	28.0	79.6	23.2	42.6	14.9	3.51
MAX	65	161	95	229	119	264	156	517	141	251	87	5.4
MIN	3.7	6.6	7.3	8.5	5.3	6.1	7.4	9.8	4.6	4.4	4.8	2.3
CFSM	0.55	1.74	1.33	2.15	1.39	1.53	1.63	4.63	1.35	2.48	0.87	0.20
IN.	0.63	1.94	1.54	2.47	1.50	1.76	1.82	5.34	1.51	2.86	1.00	0.23

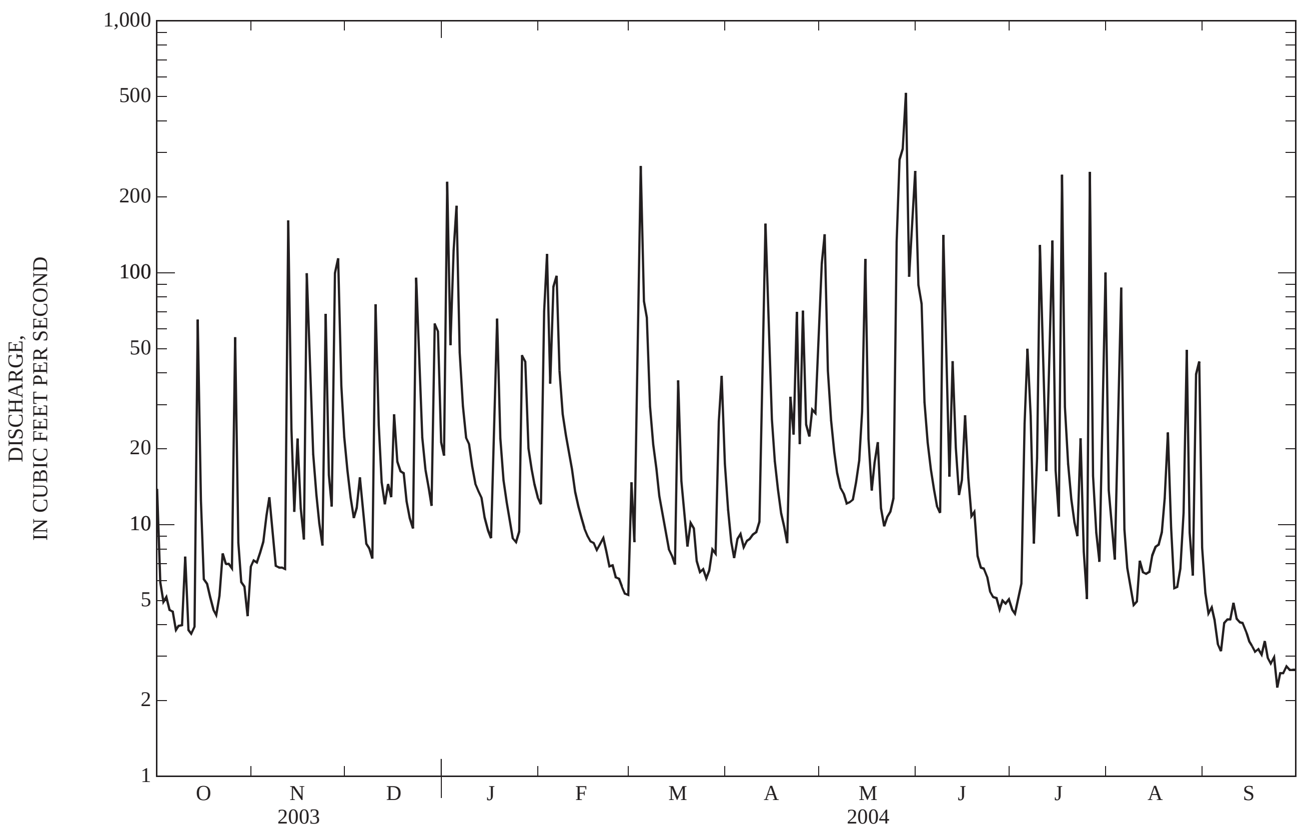
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.53	14.4	24.4	31.8	39.1	43.3	32.1	30.2	20.0	16.0	10.4	9.01
MAX	46.7	53.9	73.6	125	107	201	95.2	103	78.3	126	54.7	86.3
(WY)	(1978)	(1974)	(1979)	(1950)	(1989)	(1997)	(1948)	(1961)	(1950)	(1973)	(1974)	(1979)
MIN	0.30	0.84	1.32	0.71	8.52	6.41	3.13	5.51	1.11	0.89	0.23	0.00
(WY)	(1953)	(1953)	(1977)	(1940)	(1953)	(1983)	(1976)	(1962)	(1959)	(1956)	(1952)	(1953)

03292500 SOUTH FORK BEARGRASS CREEK AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	10,607.6		10,451.9			
ANNUAL MEAN	29.1		28.6		23.4	
HIGHEST ANNUAL MEAN					41.6	1997
LOWEST ANNUAL MEAN					9.35	1959
HIGHEST DAILY MEAN	440	Sep 2	517	May 28	1,960	Mar 2, 1997
LOWEST DAILY MEAN	1.9	Jul 27	2.3	Sep 24	0.00	Sep 4, 1940
ANNUAL SEVEN-DAY MINIMUM	3.4	Jul 24	2.6	Sep 24	0.00	Sep 4, 1940
MAXIMUM PEAK FLOW			1,140	May 25	5,290	Mar 2, 1997
MAXIMUM PEAK STAGE			10.79	May 25	17.81	Mar 2, 1997
INSTANTANEOUS LOW FLOW			3.2	Oct 11	0.00	Sep 4, 1940
ANNUAL RUNOFF (CFSM)	1.69		1.66		1.36	
ANNUAL RUNOFF (INCHES)	22.94		22.61		18.49	
10 PERCENT EXCEEDS	78		70		50	
50 PERCENT EXCEEDS	12		11		8.0	
90 PERCENT EXCEEDS	4.5		4.5		1.2	

e Estimated



03292550 SOUTH FORK BEARGRASS CREEK AT WINTER AVENUE AT LOUISVILLE, KY

LOCATION.--Lat 38°14'04", long 85°45'50", Jefferson County, Hydrologic Unit 05140101, on left bank of floodwall, 150 ft. upstream of Winter Avenue, at Louisville, 1.4 mi above Middle Fork Beargrass Creek, and at mile 3.3

DRAINAGE AREA.--22.6 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	2335	1,690	7.32	May 28	0055	*2,350	*7.91

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	e8.5	20	24	15	16	16	144	79	4.2	22	10
2	9.6	e8.4	16	279	74	12	12	181	85	3.3	16	9.0
3	7.8	e8.9	14	58	135	40	10	58	38	3.5	12	8.5
4	7.4	e10	14	137	41	337	8.2	37	27	3.3	32	7.8
5	6.9	e13	18	252	97	69	8.1	28	21	21	103	7.1
6	6.0	e15	15	56	107	71	6.8	22	17	52	18	6.7
7	e5.0	e14	11	36	46	33	6.8	18	16	43	12	5.3
8	e4.9	e10	10	28	33	25	6.3	15	14	7.3	9.6	4.0
9	e4.9	e9.0	8.7	24	28	20	5.8	14	154	12	8.0	3.7
10	e10	e8.4	74	20	24	16	5.3	12	64	122	7.5	4.0
11	e5.6	e8.5	29	17	20	15	5.4	10	19	82	6.6	3.7
12	e5.4	205	18	16	17	13	45	9.3	54	21	5.9	3.6
13	e5.5	e26	15	16	15	12	201	9.3	26	31	5.7	3.7
14	103	e16	17	14	14	11	90	21	17	135	5.5	3.5
15	31	e32	16	12	13	11	33	143	16	25	5.4	3.4
16	e9.5	e15	31	11	12	41	24	29	36	14	5.5	3.5
17	e8.3	e12	22	23	11	17	20	17	21	250	5.5	3.2
18	e7.1	111	19	69	10	14	17	15	14	31	6.0	3.3
19	e6.4	e73	20	27	9.7	11	16	27	16	18	5.9	3.3
20	e6.4	e29	16	19	9.6	12	14	16	10	13	25	3.7
21	e6.5	17	14	17	9.7	13	45	12	9.0	10	16	3.2
22	e9.6	14	13	15	8.5	9.0	36	10	8.6	11	6.2	3.2
23	e8.5	11	100	13	6.9	7.7	90	8.1	7.9	26	5.3	3.2
24	e8.1	72	49	12	6.8	7.6	30	7.7	7.0	9.4	5.0	2.6
25	e7.8	19	27	12	5.9	6.7	94	175	6.8	5.5	9.2	2.8
26	e60	15	20	44	5.6	6.5	34	315	6.6	255	65	2.8
27	e12	106	17	47	5.1	6.7	23	375	6.0	24	18	3.1
28	e9.1	112	15	24	4.8	6.3	19	631	5.9	15	8.0	2.9
29	e7.8	40	65	20	4.6	24	16	84	5.1	11	21	2.9
30	e5.9	27	70	18	---	40	56	158	4.7	34	70	2.9
31	e7.3	---	27	16	---	21	---	301	---	120	15	---
TOTAL	412.3	1,065.7	820.7	1,376	789.2	944.5	993.7	2,902.4	811.6	1,412.5	555.8	130.6
MEAN	13.3	35.5	26.5	44.4	27.2	30.5	33.1	93.6	27.1	45.6	17.9	4.35
MAX	103	205	100	279	135	337	201	631	154	255	103	10
MIN	4.9	8.4	8.7	11	4.6	6.3	5.3	7.7	4.7	3.3	5.0	2.6

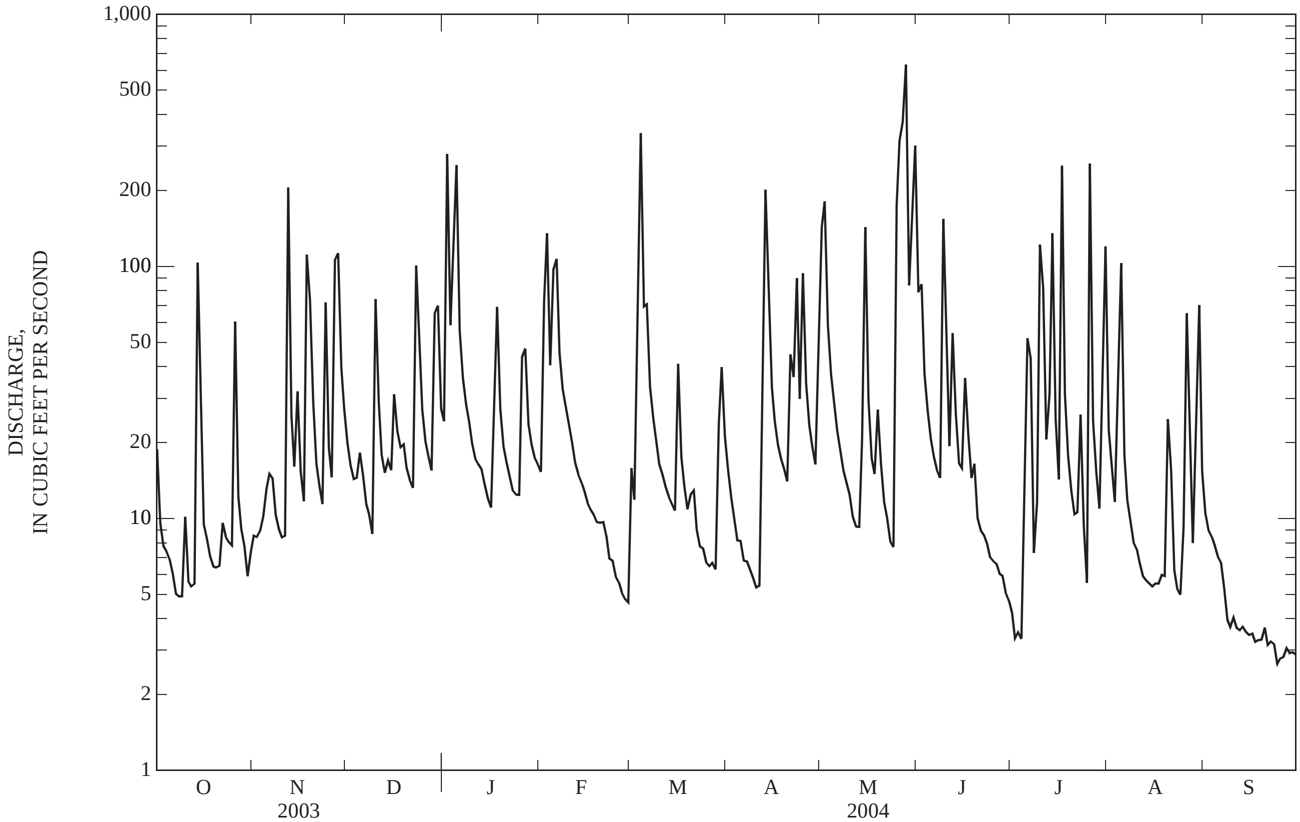
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.7	21.7	41.2	46.3	48.8	39.1	38.4	55.5	27.2	20.1	14.5	26.2
MAX	51.6	50.2	79.1	73.5	125	103	83.0	101	41.6	45.6	30.3	65.4
(WY)	(2002)	(2002)	(2003)	(2000)	(2000)	(2002)	(2002)	(2002)	(1999)	(2004)	(2003)	(2002)
MIN	4.80	4.05	17.1	9.40	22.9	19.1	10.1	16.1	13.8	4.55	2.78	3.29
(WY)	(2001)	(2000)	(1999)	(2001)	(1999)	(2003)	(2001)	(1999)	(2001)	(1999)	(1999)	(1999)

03292550 SOUTH FORK BEARGRASS CREEK AT WINTER AVENUE AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	12,820.6		12,215.0			
ANNUAL MEAN	35.1		33.4		33.2	
HIGHEST ANNUAL MEAN					52.5	2002
LOWEST ANNUAL MEAN					20.2	1999
HIGHEST DAILY MEAN	465	Jan 1	631	May 28	2,230	Feb 18, 2000
LOWEST DAILY MEAN	1.5	Aug 26	2.6	Sep 24	0.47	Jul 23, 2002
ANNUAL SEVEN-DAY MINIMUM	3.3	Aug 15	2.9	Sep 24	1.3	Nov 6, 1999
MAXIMUM PEAK FLOW			2,350	May 28	8,470	Feb 18, 2000
MAXIMUM PEAK STAGE			7.91	May 28	10.89	Feb 18, 2000
10 PERCENT EXCEEDS	86		80		70	
50 PERCENT EXCEEDS	15		15		10	
90 PERCENT EXCEEDS	5.4		5.2		2.8	

e Estimated



03293000 MIDDLE FORK BEARGRASS CREEK AT LOUISVILLE, KY

LOCATION.--Lat 38°14'14", long 85°39'53", Jefferson County, Hydrologic Unit 05140101, on right bank 75 ft downstream from bridge on Old Cannons Lane at Louisville, 1.7 mi downstream from Weicher Creek, and 5.4 mi upstream from mouth.

DRAINAGE AREA.--18.9 mi^2, of which about 0.5 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--August 1944 to current year.

REVISED RECORDS.--WSP 1625: 1945(M), 1948(M), 1950(P), 1951-52(M), 1954-55(M), 1957(M), drainage area. WRD KY 72-1: 1950(M).

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 476.70 ft, Louisville city datum. See WDR KY-90-1 for history of changes prior to July 26, 1971.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1943 reached a stage of 9.1 ft, present site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	5.1	26	30	14	12	14	83	79	7.6	25	1.9
2	11	5.4	19	278	56	11	10	135	53	9.0	15	0.97
3	8.5	5.8	15	79	133	28	7.9	57	32	3.4	10	1.6
4	7.8	6.1	15	135	55	216	7.3	e33	23	2.5	32	1.0
5	6.3	6.0	19	225	93	68	7.0	e25	16	29	18	0.71
6	5.1	8.6	15	73	112	67	6.3	e20	13	39	7.9	0.62
7	4.4	7.5	12	49	62	37	5.8	e17	9.7	32	5.6	0.53
8	3.9	6.0	10	38	45	28	5.7	e15	8.0	9.0	4.5	0.62
9	5.8	5.1	9.1	32	35	21	4.8	e12	112	27	3.1	0.34
10	16	4.1	67	24	29	16	4.6	e16	31	314	2.3	0.40
11	5.0	3.5	35	19	24	14	4.5	e16	16	168	2.0	0.36
12	4.1	160	22	17	20	12	31	e12	36	36	1.6	0.33
13	3.8	45	17	15	16	9.9	127	e12	22	40	1.2	0.38
14	79	23	18	14	14	9.0	87	e11	13	71	1.1	0.35
15	23	30	16	12	13	8.2	39	e32	14	19	0.99	0.47
16	12	19	31	9.7	11	36	27	e31	16	12	0.65	0.59
17	9.0	14	27	20	10	18	20	e20	11	507	0.74	0.58
18	7.4	77	24	78	9.6	13	15	e21	8.6	63	0.59	0.64
19	6.1	61	24	35	9.1	10	12	e38	15	32	0.55	0.55
20	5.2	31	18	24	8.9	13	11	e62	8.0	20	9.6	0.59
21	4.6	22	15	18	8.2	14	34	e29	5.6	14	5.9	0.33
22	4.2	18	14	15	7.4	8.2	28	15	4.7	10	1.8	0.36
23	3.9	13	85	12	6.9	7.0	65	10	3.8	10	1.0	0.14
24	3.4	63	62	11	6.6	6.5	29	7.9	3.2	7.7	4.2	0.16
25	3.5	23	36	12	5.2	7.8	69	87	3.1	4.2	1.8	0.11
26	43	16	27	38	5.6	6.1	32	237	2.5	246	32	0.38
27	13	84	21	53	8.2	4.4	22	327	2.5	32	9.6	0.44
28	8.4	109	17	30	8.7	5.2	16	419	2.0	17	3.4	0.39
29	7.7	53	62	23	4.6	20	13	86	2.0	11	5.2	0.23
30	5.6	36	76	20	---	31	39	90	1.5	18	14	0.10
31	5.7	---	35	16	---	21	---	272	---	106	3.8	---
TOTAL	347.4	960.2	889.1	1,454.7	831.0	778.3	793.9	2,247.9	567.2	1,916.4	225.12	16.17
MEAN	11.2	32.0	28.7	46.9	28.7	25.1	26.5	72.5	18.9	61.8	7.26	0.54
MAX	79	160	85	278	133	216	127	419	112	507	32	1.9
MIN	3.4	3.5	9.1	9.7	4.6	4.4	4.5	7.9	1.5	2.5	0.55	0.10
CFSM	0.61	1.74	1.56	2.55	1.56	1.36	1.44	3.94	1.03	3.36	0.39	0.03
IN.	0.70	1.94	1.80	2.94	1.68	1.57	1.61	4.54	1.15	3.87	0.46	0.03

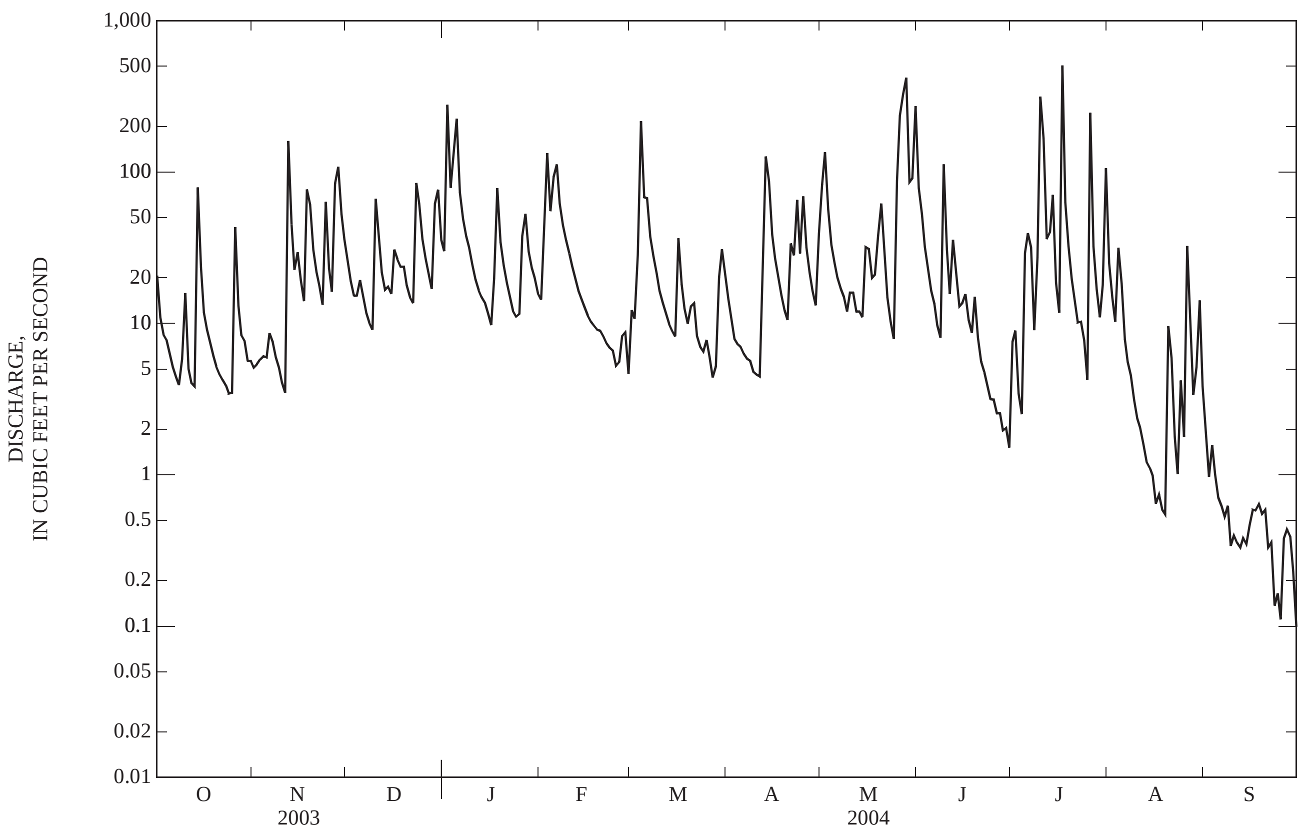
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.16	16.7	27.9	34.1	42.5	49.5	37.6	31.9	20.6	18.2	11.2	10.3
MAX	40.7	54.7	88.9	148	119	195	143	114	83.5	109	42.1	105
(WY)	(1978)	(1974)	(1979)	(1950)	(1956)	(1964)	(1970)	(1961)	(1950)	(1973)	(1978)	(1979)
MIN	0.15	0.71	1.90	3.31	3.44	4.20	5.27	3.04	0.93	0.37	0.52	0.03
(WY)	(1954)	(1954)	(1954)	(1981)	(1954)	(1954)	(1954)	(1954)	(1954)	(1954)	(1999)	(1953)

03293000 MIDDLE FORK BEARGRASS CREEK AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1944 - 2004	
ANNUAL TOTAL	12,166.55		11,027.39			
ANNUAL MEAN	33.3		30.1		25.7	
HIGHEST ANNUAL MEAN					49.2	1979
LOWEST ANNUAL MEAN					3.76	1954
HIGHEST DAILY MEAN	517	Sep 2	507	Jul 17	2,000	Mar 9, 1964
LOWEST DAILY MEAN	0.89	Aug 26	0.10	Sep 30	0.00	Aug 27, 1952
ANNUAL SEVEN-DAY MINIMUM	1.6	Aug 15	0.26	Sep 24	0.00	Sep 28, 1952
MAXIMUM PEAK FLOW			1,680	Jul 10	5,900	Mar 2, 1997
MAXIMUM PEAK STAGE			6.60	Jul 10	8.70	Mar 2, 1997
INSTANTANEOUS LOW FLOW			0.09	Sep 25	0.00	Aug 27, 1952
ANNUAL RUNOFF (CFSM)	1.81		1.64		1.40	
ANNUAL RUNOFF (INCHES)	24.60		22.29		19.00	
10 PERCENT EXCEEDS	84		70		54	
50 PERCENT EXCEEDS	14		14		10	
90 PERCENT EXCEEDS	4.0		1.4		1.9	

e Estimated



03293500 MIDDLE FORK BEARGRASS CREEK AT LEXINGTON ROAD AT LOUISVILLE, KY

LOCATION.--Lat 38°15'01", long 85°43'00", Jefferson County, Hydrologic Unit 05140101, on right bank 7at bridge on Lexington Road at Louisville, 0.86 miles upstream from South Fork Beagrass Creek.

DRAINAGE AREA.--24.8 mi^2.

PERIOD OF RECORD.--July 2003 to current year.

GAGE.--Water-stage recorder with telemetry.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	2.7	6.3	266
2	---	---	---	---	---	---	---	---	---	2.5	398	890
3	---	---	---	---	---	---	---	---	---	2.2	303	402
4	---	---	---	---	---	---	---	---	---	2.1	346	254
5	---	---	---	---	---	---	---	---	---	2.2	124	e183
6	---	---	---	---	---	---	---	---	---	2.0	49	e145
7	---	---	---	---	---	---	---	---	---	4.0	25	e104
8	---	---	---	---	---	---	---	---	---	2.2	29	e74
9	---	---	---	---	---	---	---	---	---	51	10	48
10	---	---	---	---	---	---	---	---	---	209	8.0	25
11	---	---	---	---	---	---	---	---	---	112	8.5	14
12	---	---	---	---	---	---	---	---	---	17	13	8.4
13	---	---	---	---	---	---	---	---	---	7.5	6.1	6.8
14	---	---	---	---	---	---	---	---	---	5.0	5.1	43
15	---	---	---	---	---	---	---	---	---	e4.2	4.7	155
16	---	---	---	---	---	---	---	---	---	e4.1	4.5	34
17	---	---	---	---	---	---	---	---	---	e4.1	9.6	11
18	---	---	---	---	---	---	---	---	---	3.0	5.5	7.7
19	---	---	---	---	---	---	---	---	---	2.6	4.2	6.8
20	---	---	---	---	---	---	---	---	---	2.2	4.2	6.6
21	---	---	---	---	---	---	---	---	---	6.2	3.9	6.3
22	---	---	---	---	---	---	---	---	---	5.3	30	241
23	---	---	---	---	---	---	---	---	---	4.5	48	109
24	---	---	---	---	---	---	---	---	---	8.6	6.6	43
25	---	---	---	---	---	---	---	---	---	3.6	4.6	17
26	---	---	---	---	---	---	---	---	---	2.5	3.9	11
27	---	---	---	---	---	---	---	---	---	2.0	18	475
28	---	---	---	---	---	---	---	---	---	2.8	44	145
29	---	---	---	---	---	---	---	---	---	6.9	35	78
30	---	---	---	---	---	---	---	---	---	2.5	423	48
31	---	---	---	---	---	---	---	---	---	11	204	---
TOTAL	---	---	---	---	---	---	---	---	---	497.5	2,184.7	3,857.6
MEAN	---	---	---	---	---	---	---	---	---	16.0	70.5	129
MAX	---	---	---	---	---	---	---	---	---	209	423	890
MIN	---	---	---	---	---	---	---	---	---	2.0	3.9	6.3

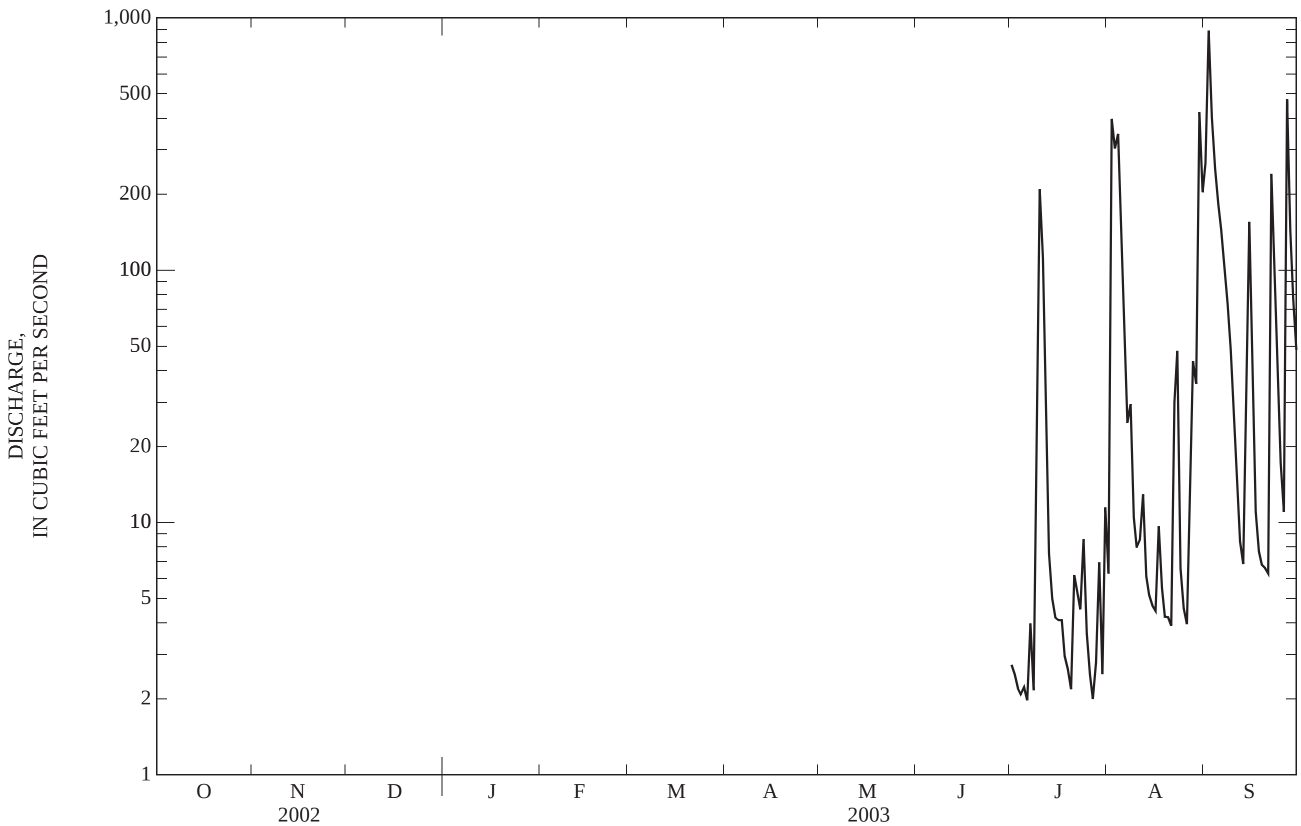
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	---	16.0	37.4	129
MAX	---	---	---	---	---	---	---	---	---	16.0	70.5	129
(WY)	---	---	---	---	---	---	---	---	---	(2003)	(2003)	(2003)
MIN	---	---	---	---	---	---	---	---	---	16.0	4.27	129
(WY)	---	---	---	---	---	---	---	---	---	(2003)	(1996)	(2003)

03293500 MIDDLE FORK BEARGRASS CREEK AT LEXINGTON ROAD AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	WATER YEARS 1996 - 2003	
HIGHEST DAILY MEAN	890	Sep 2, 2003
LOWEST DAILY MEAN	0.36	Sep 3, 1996
ANNUAL SEVEN-DAY MINIMUM	0.76	Aug 30, 1996
MAXIMUM PEAK FLOW	1,020	Sep 2, 2003
MAXIMUM PEAK STAGE	10.51	Sep 2, 2003

e Estimated



03293500 MIDDLE FORK BEARGRASS CREEK AT LEXINGTON ROAD AT LOUISVILLE, KY—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	15	44	51	e19	e34	30	118	115	7.5	33	6.4
2	40	15	27	396	87	e17	18	166	84	9.9	20	5.4
3	18	16	19	146	261	53	14	74	54	4.5	15	5.4
4	12	16	16	192	109	332	12	48	38	3.3	48	5.4
5	9.1	18	23	424	141	89	12	34	26	30	33	4.7
6	7.3	23	22	125	e175	109	11	25	20	33	13	4.3
7	7.1	22	15	82	e103	72	10	19	15	43	10	4.1
8	6.6	17	11	e59	e72	e51	9.3	15	12	8.2	9.5	4.3
9	6.3	15	9.8	e46	e59	e39	8.2	12	120	18	8.4	4.3
10	32	15	69	e40	e45	e32	7.3	11	34	154	7.4	3.8
11	7.2	14	58	e32	e38	e26	7.7	9.5	13	319	6.9	3.8
12	6.5	436	29	e26	e34	21	40	8.3	35	38	6.3	3.6
13	6.1	190	18	e23	e27	17	156	7.9	20	29	5.8	3.6
14	219	34	17	e21	e24	15	111	14	11	99	5.6	3.7
15	120	23	17	e18	e20	14	54	97	9.4	23	5.3	3.4
16	29	19	28	e17	e19	65	35	34	14	16	4.9	3.2
17	15	12	48	24	e17	38	25	19	9.4	551	4.6	3.2
18	13	75	32	116	e16	23	18	14	7.5	74	4.7	3.3
19	12	121	40	e66	e14	17	15	39	11	38	4.5	3.2
20	9.9	49	30	e39	e14	18	13	112	7.5	23	11	3.3
21	8.8	29	23	e27	e12	31	38	27	5.6	e18	12	3.3
22	8.5	19	19	e22	e12	15	38	17	5.0	e14	7.1	3.6
23	9.1	14	93	e18	e11	13	71	13	4.5	16	5.7	3.5
24	9.0	76	121	e16	e9.6	13	35	11	3.9	13	6.1	3.6
25	9.0	37	64	e17	e8.4	15	81	82	3.8	9.4	7.2	4.3
26	139	19	48	e54	e11	12	41	301	3.6	277	59	4.0
27	60	111	35	e75	e16	11	26	352	3.5	37	18	3.7
28	21	195	26	e43	e22	9.6	20	498	3.3	20	8.5	3.4
29	20	85	52	e31	e13	31	16	101	3.0	15	6.6	4.2
30	15	60	142	e26	---	61	42	94	3.0	27	21	4.7
31	13	---	64	e20	---	45	---	357	---	166	e11	---
TOTAL	965.5	1,790	1,259.8	2,292	1,409.0	1,338.6	1,014.5	2,729.7	695.0	2,133.8	419.1	120.7
MEAN	31.1	59.7	40.6	73.9	48.6	43.2	33.8	88.1	23.2	68.8	13.5	4.02
MAX	219	436	142	424	261	332	156	498	120	551	59	6.4
MIN	6.1	12	9.8	16	8.4	9.6	7.3	7.9	3.0	3.3	4.5	3.2

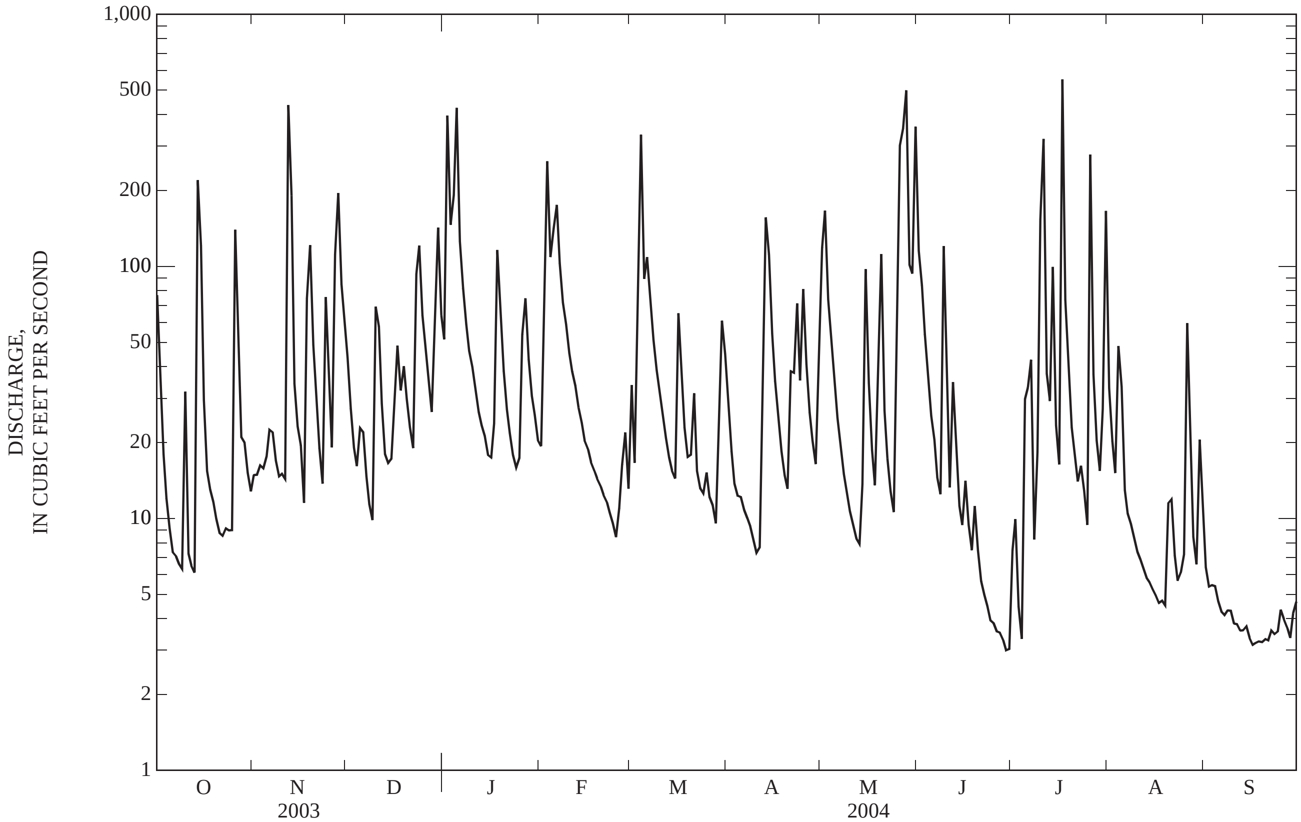
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.1	59.7	40.6	73.9	48.6	43.2	33.8	88.1	23.2	42.4	29.4	66.3
MAX	31.1	59.7	40.6	73.9	48.6	43.2	33.8	88.1	23.2	68.8	70.5	129
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)
MIN	31.1	59.7	40.6	73.9	48.6	43.2	33.8	88.1	23.2	16.0	4.27	4.02
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(1996)	(2004)

03293500 MIDDLE FORK BEARGRASS CREEK AT LEXINGTON ROAD AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 1996 - 2004	
ANNUAL TOTAL	16,167.7			
ANNUAL MEAN	44.2		44.2	
HIGHEST ANNUAL MEAN			44.2	2004
LOWEST ANNUAL MEAN			44.2	2004
HIGHEST DAILY MEAN	551	Jul 17	890	Sep 2, 2003
LOWEST DAILY MEAN	3.0	Jun 29	0.36	Sep 3, 1996
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 15	0.76	Aug 30, 1996
MAXIMUM PEAK FLOW	1,120	Jul 11	1,120	Jul 11, 2004
MAXIMUM PEAK STAGE	10.96	Jul 11	10.96	Jul 11, 2004
10 PERCENT EXCEEDS	110		110	
50 PERCENT EXCEEDS	19		19	
90 PERCENT EXCEEDS	4.7		4.7	

e Estimated



03294500 OHIO RIVER AT LOUISVILLE, KY

LOCATION.--Lat 38°16'49", long 85°47'57", Jefferson County, Hydrologic Unit 05140101, on left bank at downstream end of lock guide wall in lower pool at McAlpine Locks, at Louisville, 5.3 mi downstream from Beargrass Creek , and at mile 607.3.

DRAINAGE AREA.--91,170 mi^2, approximately.

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1935 monthly discharge only, published in WSP 1305. Gage-height records collected in this vicinity since 1871 are published in reports of National Weather Service.

REVISED RECORDS.--WSP 893: 1939, KY-92-1 peak.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 373.18 ft above NGVD of 1929 or 374.00 ft Ohio River datum. Prior to Oct. 1, 1939, and Oct. 1, 1943 to Sept. 30, 1946, various combinations of gages near Louisville were used. Oct. 1, 1939 to Sept. 30, 1943, water-stage recorders at Louisville and Kosmosdale, downstream from McAlpine Dam (4 mi and 20.1 mi, respectively), were used to determine discharge. Oct. 1, 1946 to Sept. 30, 1961, nonrecording gage at site 0.3 mi upstream at same datum. Oct. 1, 1952 to Sept. 30, 1970, upper nonrecording gage at dam 43, 25.9 mi downstream used as an auxiliary gage. Since Oct. 1, 1970, auxiliary water-stage recorder at Kosmosdale, 19.8 mi downstream. Datum of auxiliary gage is 372.75 ft above NGVD of 1929 or 373.67 ft above Ohio River Datum.

REMARKS.--Records good except for estimated periods and those below 20,000 ft^3/s, which are poor. Flow regulated by Ohio River system of locks, dams, and reserviors.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144,000	117,000	306,000	202,000	67,900	87,800	210,000	194,000	468,000	48,100	137,000	e51,500
2	136,000	107,000	296,000	238,000	69,600	97,700	232,000	213,000	457,000	51,900	110,000	e45,000
3	112,000	94,800	273,000	285,000	100,000	97,600	262,000	226,000	444,000	46,700	119,000	e42,300
4	91,500	70,900	241,000	393,000	155,000	153,000	311,000	186,000	393,000	32,700	117,000	e31,400
5	81,700	67,600	203,000	516,000	211,000	203,000	341,000	157,000	308,000	44,300	113,000	e30,700
6	68,300	76,100	178,000	524,000	275,000	242,000	331,000	173,000	235,000	43,700	93,900	e33,600
7	70,400	124,000	164,000	521,000	375,000	330,000	291,000	155,000	216,000	38,000	91,600	e34,800
8	77,500	150,000	164,000	519,000	428,000	410,000	251,000	131,000	212,000	51,100	74,200	e22,700
9	70,800	160,000	169,000	517,000	474,000	447,000	205,000	107,000	167,000	31,800	61,800	e134,000
10	43,200	146,000	157,000	504,000	499,000	449,000	172,000	91,000	123,000	45,800	34,900	e272,000
11	51,500	109,000	151,000	472,000	495,000	413,000	151,000	82,600	86,500	31,000	32,900	e336,000
12	46,500	123,000	160,000	401,000	435,000	352,000	146,000	66,900	90,300	40,400	39,200	e341,000
13	34,500	203,000	203,000	315,000	340,000	291,000	141,000	80,200	151,000	33,600	37,100	e325,000
14	46,200	305,000	238,000	265,000	267,000	247,000	225,000	90,700	195,000	42,900	32,400	e260,000
15	45,200	375,000	258,000	230,000	211,000	200,000	317,000	94,000	214,000	62,500	27,500	e158,000
16	90,400	378,000	251,000	204,000	167,000	172,000	415,000	83,700	228,000	51,300	27,200	e123,000
17	110,000	313,000	243,000	177,000	140,000	143,000	462,000	78,200	229,000	56,000	27,100	e118,000
18	101,000	236,000	252,000	161,000	120,000	132,000	468,000	78,100	240,000	50,800	26,900	e264,000
19	107,000	192,000	254,000	158,000	106,000	133,000	439,000	95,100	233,000	49,800	25,200	e390,000
20	104,000	215,000	251,000	178,000	97,900	149,000	376,000	143,000	213,000	39,900	23,900	e475,000
21	88,700	313,000	230,000	198,000	92,700	152,000	267,000	186,000	215,000	48,700	47,300	e492,000
22	77,300	422,000	198,000	191,000	103,000	164,000	234,000	213,000	198,000	55,400	83,400	e480,000
23	65,900	464,000	172,000	156,000	121,000	195,000	215,000	221,000	162,000	59,200	124,000	e465,000
24	62,400	466,000	174,000	134,000	138,000	223,000	225,000	244,000	114,000	51,400	143,000	e423,000
25	58,200	436,000	184,000	116,000	139,000	229,000	218,000	280,000	103,000	45,400	104,000	e250,000
26	53,800	371,000	212,000	97,500	135,000	216,000	223,000	313,000	95,500	35,900	e48,800	e175,000
27	47,600	301,000	238,000	75,300	131,000	184,000	199,000	337,000	97,800	41,300	e44,200	e130,000
28	77,200	278,000	254,000	86,200	118,000	158,000	179,000	370,000	93,600	79,000	e47,900	e108,000
29	91,100	302,000	247,000	105,000	100,000	151,000	204,000	380,000	92,500	121,000	e38,900	e92,000
30	104,000	314,000	229,000	94,600	---	154,000	218,000	422,000	72,400	116,000	e82,800	e107,000
31	118,000	---	222,000	90,000	---	193,000	---	467,000	---	140,000	e64,800	---
TOTAL	2,475,900	7,229,400	6,772,000	8,123,600	6,111,100	6,768,100	7,928,000	5,958,500	6,146,600	1,685,600	2,080,900	6,210,000
MEAN	79,870	241,000	218,500	262,100	210,700	218,300	264,300	192,200	204,900	54,370	67,130	207,000
MAX	144,000	466,000	306,000	524,000	499,000	449,000	468,000	467,000	468,000	140,000	143,000	492,000
MIN	34,500	67,600	151,000	75,300	67,900	87,800	141,000	66,900	72,400	31,000	23,900	22,700

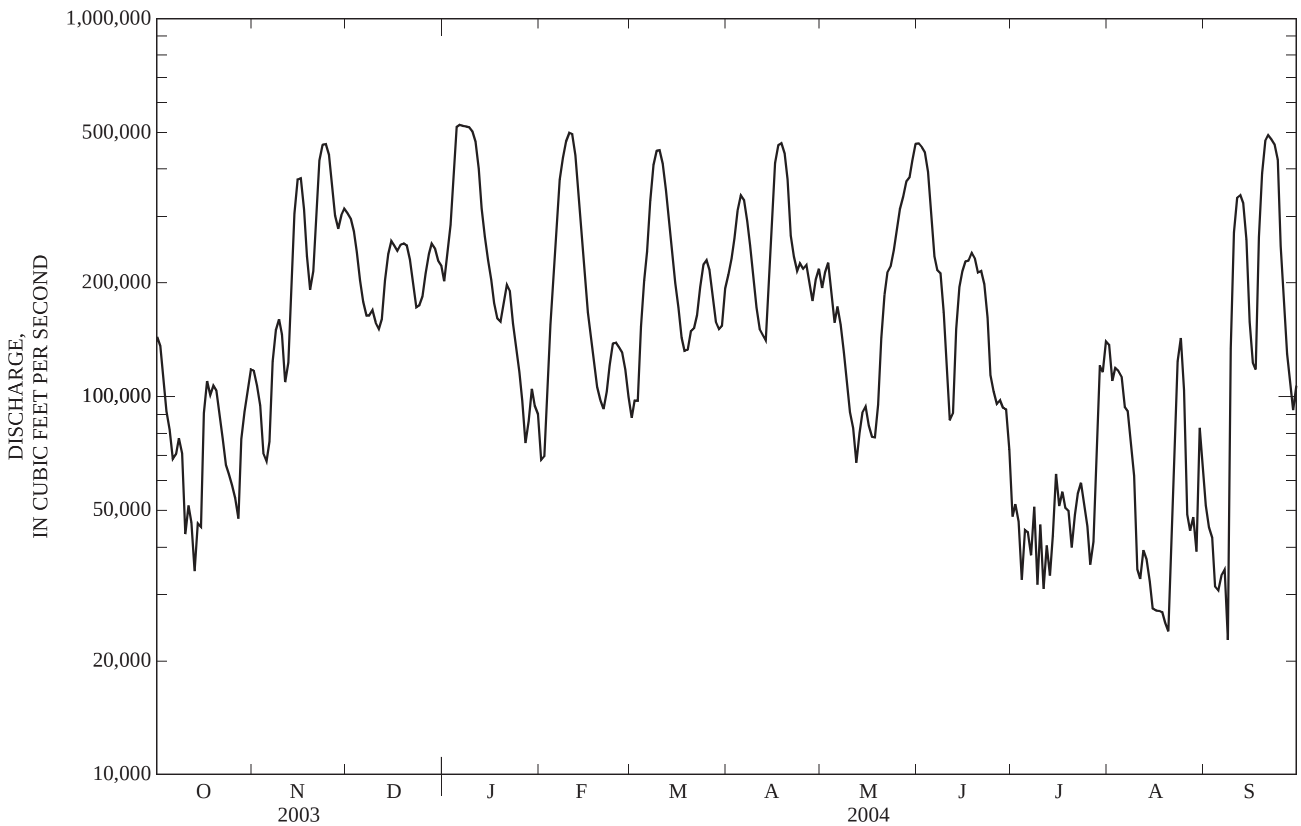
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37,780	70,530	122,600	164,800	193,800	241,000	204,400	147,000	89,120	56,390	44,700	36,250
MAX	153,500	245,900	321,300	595,800	430,400	524,300	403,300	392,900	234,400	163,400	151,300	207,000
(WY)	(1980)	(1986)	(1973)	(1937)	(1939)	(1945)	(1948)	(1996)	(1981)	(1958)	(1958)	(2004)
MIN	4,377	6,660	14,090	21,630	38,010	69,390	66,480	29,350	16,400	8,035	4,924	6,005
(WY)	(1931)	(1931)	(1931)	(1931)	(1934)	(1969)	(1986)	(1941)	(1988)	(1930)	(1930)	(1930)

03294500 OHIO RIVER AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	62,761,100		67,489,700			
ANNUAL MEAN	171,900		184,400		117,000	
HIGHEST ANNUAL MEAN					184,400	2004
LOWEST ANNUAL MEAN					57,390	1954
HIGHEST DAILY MEAN	471,000	Feb 27	524,000	Jan 6	1,110,000	Jan 27, 1937
LOWEST DAILY MEAN	14,200	Jan 29	22,700	Sep 8	949	Sep 4, 2002
ANNUAL SEVEN-DAY MINIMUM	19,600	Jan 24	27,200	Aug 14	3,530	Oct 15, 1930
MAXIMUM PEAK FLOW			527,000	Jan 7	1,110,000	Jan 27, 1937
MAXIMUM PEAK STAGE			55.07	Jan 8	85.44	Jan 27, 1937
10 PERCENT EXCEEDS	313,000		393,000		281,000	
50 PERCENT EXCEEDS	151,000		155,000		73,400	
90 PERCENT EXCEEDS	51,500		45,700		16,800	

e Estimated



03294550 MILL CREEK CUTOFF NEAR LOUISVILLE, KY

LOCATION.--Lat 38°10'39", long 85°52'01", Jefferson County, Hydrologic Unit 05140101, on left bank at bridge on Highway 1230, 0.8 mi downstream from Big Run Creek, 1.5 mi upstream from Ohio River, and 6.0 mi southwest of Louisville.

DRAINAGE AREA.--24.4 mi^2.

PERIOD OF RECORD.--May 1988 to January 1995, August 1999 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 414.276 ft above NGVD of 1929.

REMARKS.--Records fair except those for estimated periods, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	2245	1,750	10.00	Aug 5	0210	1,890	10.38
May 27	2355	*2,080	*10.86				

Minimum discharge, 0.34 ft^3/s, Mar. 1, gage height, 2.50 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.8	3.1	3.6	2.6	3.4	3.3	95	e40	1.2	3.0	1.1
2	1.1	2.8	2.0	157	83	3.3	1.8	120	e250	1.6	1.4	8.9
3	1.1	2.6	1.8	12	97	25	2.6	11	e37	1.5	1.2	11
4	1.2	2.4	2.2	114	10	242	2.6	4.9	e6.5	1.5	1.7	1.9
5	1.1	2.5	4.1	514	88	23	2.1	2.8	2.4	17	280	1.3
6	1.2	3.2	3.1	e107	66	18	0.85	1.6	1.7	10	4.9	1.2
7	1.1	2.8	2.1	e26	12	7.1	1.5	1.2	1.7	11	2.0	1.2
8	2.1	2.5	1.9	e11	6.2	5.1	2.1	1.2	1.6	1.6	1.6	1.5
9	2.1	2.5	1.7	e7.0	e5.4	e3.7	2.2	1.1	1.7	18	1.4	1.2
10	2.3	2.5	32	e5.1	e3.7	e3.1	1.9	1.1	1.8	19	1.9	1.1
11	2.2	2.6	6.6	e4.2	e3.9	e2.6	1.2	0.79	1.8	2.0	1.6	1.4
12	2.1	92	2.9	e3.0	e3.7	2.8	17	0.56	52	20	1.9	1.5
13	2.0	11	2.2	2.5	e3.3	2.4	131	0.56	6.6	3.8	2.7	1.4
14	49	3.6	3.4	2.2	3.2	2.4	39	12	1.7	12	2.0	1.1
15	6.1	10	3.4	2.1	3.1	2.4	7.6	119	1.3	2.2	1.7	1.0
16	2.5	4.4	29	1.9	2.7	21	4.4	9.5	43	1.8	1.4	1.0
17	2.1	2.5	9.9	9.8	2.6	6.5	e2.9	4.7	6.2	8.5	1.6	1.1
18	2.7	62	4.5	50	2.5	3.9	e2.3	3.7	1.6	2.2	1.8	1.0
19	2.8	25	3.8	7.6	2.8	3.0	e1.9	26	1.9	1.8	3.6	1.0
20	2.9	4.7	2.5	4.3	3.1	2.9	2.1	15	1.5	1.6	4.9	0.99
21	3.1	2.7	2.2	3.6	3.0	3.6	13	2.2	1.2	1.5	4.5	e1.1
22	2.6	2.1	2.1	3.4	2.7	2.6	17	1.1	1.1	1.7	1.3	e1.1
23	3.2	14	59	2.9	2.6	1.7	46	0.76	1.1	106	1.1	e1.1
24	3.2	e36	18	2.9	2.6	1.5	8.3	0.67	1.2	15	1.3	e1.1
25	3.2	e13	4.5	3.3	2.0	0.85	82	148	1.5	2.4	5.9	1.2
26	33	2.7	3.0	19	1.9	0.64	8.7	172	1.6	1.9	79	1.1
27	5.1	66	2.5	24	1.8	0.60	3.1	334	1.3	1.4	8.3	1.1
28	3.3	48	2.2	6.1	1.8	0.61	1.8	357	1.1	1.3	2.1	1.0
29	3.0	6.9	44	4.4	0.63	5.2	1.8	10	1.1	1.4	1.3	1.0
30	2.5	3.5	29	4.3	---	12	30	82	1.0	4.9	1.2	1.1
31	2.4	---	5.3	3.0	---	5.2	---	e405	---	54	1.1	---
TOTAL	154.9	439.3	294.0	1,121.2	423.83	418.10	442.05	1,944.44	474.2	329.8	429.4	52.79
MEAN	5.00	14.6	9.48	36.2	14.6	13.5	14.7	62.7	15.8	10.6	13.9	1.76
MAX	49	92	59	514	97	242	131	405	250	106	280	11
MIN	1.1	2.1	1.7	1.9	0.63	0.60	0.85	0.56	1.0	1.2	1.1	0.99
CFSM	0.20	0.60	0.39	1.48	0.60	0.55	0.60	2.57	0.65	0.44	0.57	0.07
IN.	0.24	0.67	0.45	1.71	0.65	0.64	0.67	2.96	0.72	0.50	0.65	0.08

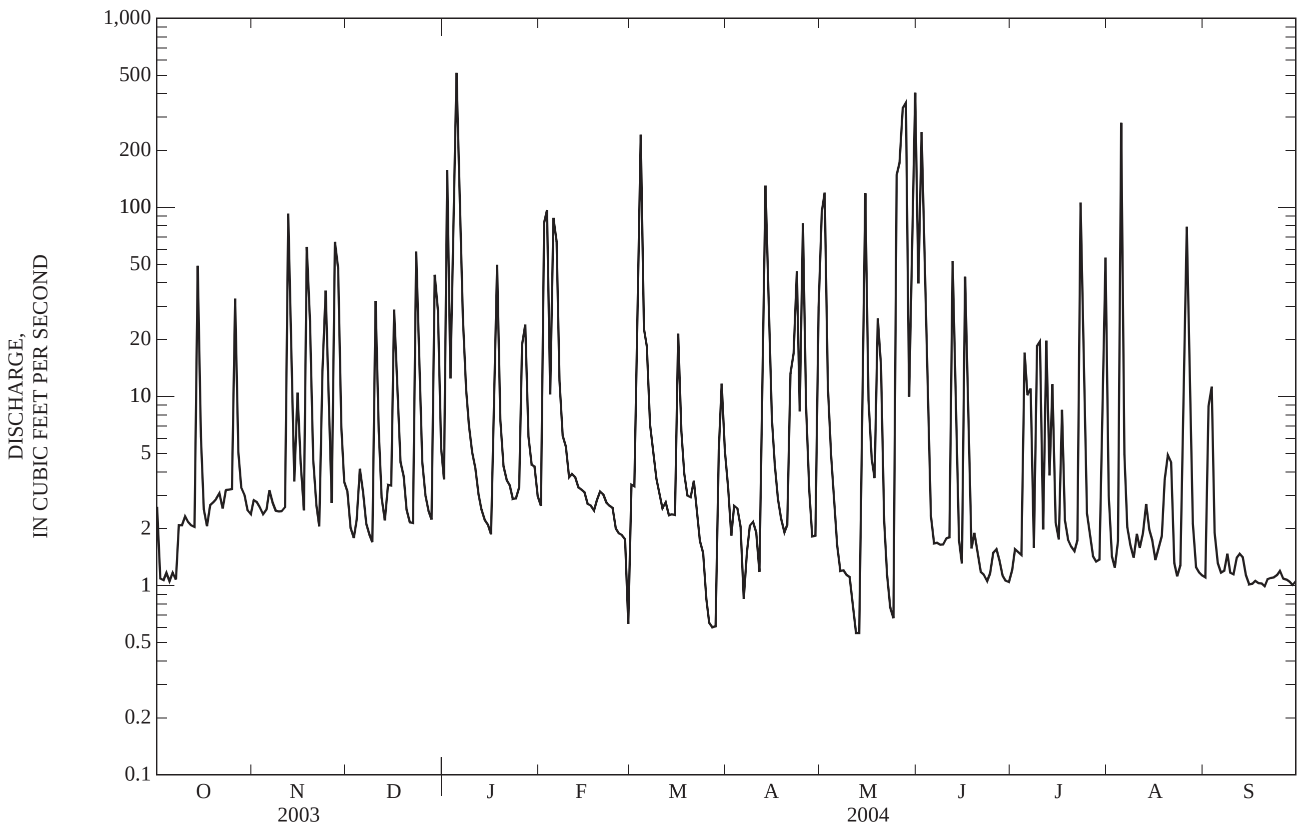
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.21	10.0	19.3	23.4	32.0	29.0	13.5	22.0	10.5	7.58	7.68	8.40
MAX	19.4	21.7	73.0	72.3	87.0	89.2	31.6	69.8	49.1	23.5	33.4	28.6
(WY)	(2002)	(2002)	(1991)	(1991)	(1989)	(2002)	(2002)	(1990)	(1990)	(1989)	(1992)	(2002)
MIN	0.18	0.31	1.35	3.26	3.97	1.78	0.93	3.21	0.04	0.18	0.83	0.07
(WY)	(1989)	(2000)	(1990)	(2001)	(1992)	(2003)	(2001)	(2000)	(1988)	(2002)	(2001)	(1988)

03294550 MILL CREEK CUTOFF NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	3,766.31		6,524.01			
ANNUAL MEAN	10.3		17.8		16.0	
HIGHEST ANNUAL MEAN					25.5	1991
LOWEST ANNUAL MEAN					7.41	2001
HIGHEST DAILY MEAN	316	Sep 2	514	Jan 5	1,070	Feb 15, 1990
LOWEST DAILY MEAN	0.00	Jan 11	0.56	May 12	0.00	May 15, 1988
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 14	0.93	May 7	0.00	May 28, 1988
MAXIMUM PEAK FLOW			2,080	May 27	4,310	Aug 8, 1992
MAXIMUM PEAK STAGE			10.86	May 27	15.83	Aug 8, 1992
ANNUAL RUNOFF (CFSM)	0.423		0.731		0.655	
ANNUAL RUNOFF (INCHES)	5.74		9.95		8.90	
10 PERCENT EXCEEDS	28		41		30	
50 PERCENT EXCEEDS	2.1		2.7		1.6	
90 PERCENT EXCEEDS	0.17		1.1		0.00	

e Estimated



03294570 MILL CREEK AT ORELL ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°04'41", long 85°53'24", Jefferson County, Hydrologic Unit 05140101, on right bank at bridge on Orell Road, 5.0 mi southwest of Louisville, and at mile 1.5

DRAINAGE AREA.--13.5 mi^2.

PERIOD OF RECORD.--August 1999 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 405.63 ft above NGVD of 1929.

REMARKS.--Records fair except for those estimated, which are rated poor.

Cooperation.--Louisville and Jefferson County Metropolitan Sewer District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	3.9	5.3	2.0	1.8	3.2	64	e78	1.6	5.5	1.8
2	0.79	1.1	2.7	194	80	3.9	1.9	145	e151	2.1	1.7	2.4
3	0.61	1.2	2.2	31	160	15	1.3	21	e23	1.8	1.3	8.8
4	0.62	1.4	2.6	e93	21	418	0.99	6.4	e8.6	1.6	1.2	4.1
5	0.48	1.7	6.1	e147	65	35	1.4	3.2	e4.8	13	386	2.2
6	0.49	2.3	5.9	e43	116	26	2.4	1.9	3.5	22	16	2.1
7	0.45	3.0	2.9	e15	e37	e19	0.87	1.3	3.1	15	5.1	2.2
8	0.66	2.2	2.0	e10	e24	e12	0.81	1.2	3.4	2.9	2.7	2.5
9	1.1	1.6	1.9	e7.7	e15	e8.1	0.73	0.87	4.1	36	2.1	2.3
10	1.5	1.5	18	e5.6	e9.1	e6.1	0.73	0.67	3.7	72	2.1	2.5
11	1.7	1.7	12	e4.9	e6.0	e4.3	0.87	0.65	3.7	6.1	2.3	2.3
12	1.6	132	4.8	e3.5	e4.6	e3.1	10	0.78	24	46	2.2	e2.4
13	1.5	38	2.9	e3.0	e3.9	e1.9	113	0.81	16	13	2.0	e3.0
14	40	11	2.9	2.3	e2.7	1.2	55	3.9	5.3	29	2.0	e3.4
15	16	e8.5	3.5	1.7	2.1	1.1	9.7	133	3.7	6.5	1.8	3.4
16	1.6	e7.3	23	1.5	1.8	11	e7.7	22	28	2.5	1.8	2.9
17	1.0	e6.3	21	3.4	1.7	6.6	e5.0	5.3	18	1.9	2.0	2.8
18	1.0	46	7.9	46	1.8	2.3	e3.4	5.5	4.2	1.2	2.3	2.7
19	0.84	45	7.5	14	1.7	1.3	e2.5	17	3.1	1.2	2.1	2.4
20	1.0	10	4.7	5.5	1.4	3.6	e2.2	36	1.9	1.2	7.3	e2.5
21	1.3	4.2	3.0	3.5	1.4	3.5	e3.7	5.5	1.7	1.2	7.9	e2.6
22	1.3	e4.2	2.5	2.6	1.3	1.6	12	2.1	1.8	6.5	2.9	e2.8
23	1.5	e3.4	44	1.8	1.1	1.6	40	1.2	1.9	11	2.4	e2.9
24	1.4	e23	33	1.8	0.97	1.4	13	1.0	1.3	6.9	1.9	e2.7
25	1.5	e17	8.8	2.0	1.1	1.2	82	9.9	1.1	1.9	8.1	e2.3
26	35	e13	4.6	8.4	1.2	1.1	17	197	1.4	1.2	75	e1.8
27	9.0	e36	3.1	24	1.1	1.1	4.7	e741	1.5	1.2	30	1.2
28	1.9	56	2.3	10	0.98	0.93	2.0	e1,170	1.6	1.2	7.0	1.3
29	1.2	15	25	7.9	0.83	3.9	1.5	e108	1.4	1.2	3.9	2.2
30	1.0	6.5	46	4.6	---	11	28	e238	1.3	1.4	3.1	2.2
31	0.99	---	10	2.1	---	6.5	---	e328	---	37	2.4	---
TOTAL	130.13	501.2	320.7	706.1	566.78	615.13	427.60	3,272.18	406.1	347.3	594.1	80.7
MEAN	4.20	16.7	10.3	22.8	19.5	19.8	14.3	106	13.5	11.2	19.2	2.69
MAX	40	132	46	194	160	418	113	1,170	151	72	386	8.8
MIN	0.45	1.1	1.9	1.5	0.83	0.93	0.73	0.65	1.1	1.2	1.2	1.2

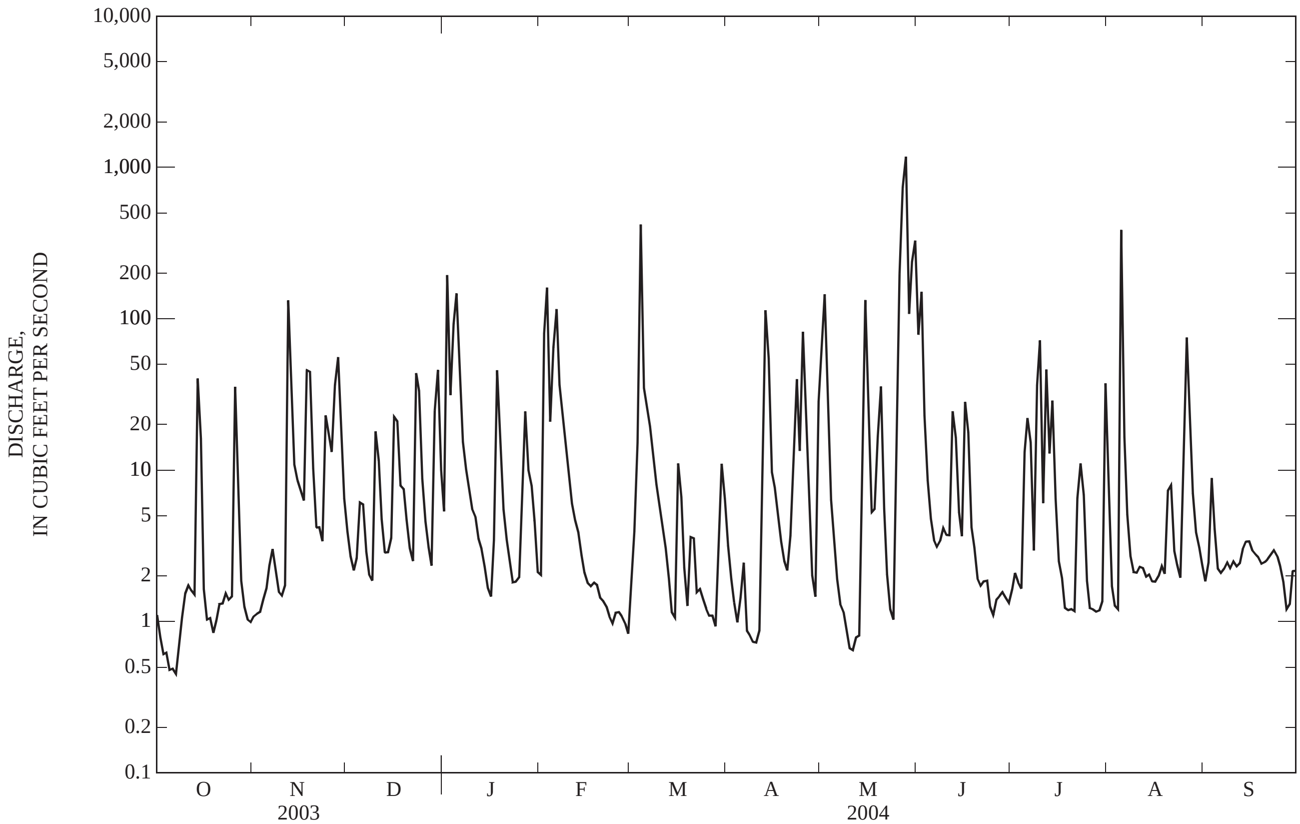
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.2	17.3	27.1	31.9	39.1	33.3	42.7	51.2	9.81	5.14	7.08	16.6
MAX	27.5	40.7	41.4	71.3	75.2	111	121	106	14.8	11.2	19.2	51.8
(WY)	(2002)	(2002)	(2002)	(2000)	(2000)	(2002)	(2000)	(2004)	(2003)	(2004)	(2004)	(2002)
MIN	2.15	8.14	10.3	3.28	12.1	5.00	2.16	4.46	4.09	1.60	1.84	2.69
(WY)	(2001)	(2001)	(2004)	(2001)	(2002)	(2003)	(2001)	(2000)	(2001)	(2002)	(2002)	(2004)

03294570 MILL CREEK AT ORELL ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	5,258.39		7,968.02			
ANNUAL MEAN	14.4		21.8		24.5	
HIGHEST ANNUAL MEAN					42.1	2002
LOWEST ANNUAL MEAN					13.8	2001
HIGHEST DAILY MEAN	359	Sep 2	1,170	May 28	1,680	Apr 9, 2000
LOWEST DAILY MEAN	0.45	Oct 7	0.45	Oct 7	0.08	Jan 1, 2000
ANNUAL SEVEN-DAY MINIMUM	0.59	Oct 2	0.59	Oct 2	0.15	Dec 26, 1999
MAXIMUM PEAK FLOW			1,170	May 28	7,430	Mar 26, 2002
MAXIMUM PEAK STAGE			b 14.84	Jun 2	16.53	Feb 19, 2000
10 PERCENT EXCEEDS	35		39		36	
50 PERCENT EXCEEDS	3.5		3.0		2.8	
90 PERCENT EXCEEDS	1.2		1.1		0.74	

e Estimated
b Backwater form Ohio River



03295400 SALT RIVER AT GLENSBORO, KY

LOCATION.--Lat 38°00'07", long 85°03'38", Anderson County, Hydrologic Unit 05140102, on left bank 5 ft downstream from bridge on Highway 53 at Glensboro, 0.9 mi upstream from Timber Creek, 2.0 mi downstream from Indian Creek, and at mile 82.5.

DRAINAGE AREA.--172 mi^2.

PERIOD OF RECORD.--May 1989 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 593.39 ft above NGVD of 1929.

REMARKS.--Records good except those estimated, which are fair.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet and U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1900	6,800	9.14	May 31	0230	*15,200	*11.53
Mar 6	0015	6,100	8.85	Jul 17	1015	9,740	10.13
May 28	0500	8,010	9.58				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	32	510	301	e181	55	136	118	1,420	22	1,170	25
2	39	28	355	2,600	218	91	106	711	987	19	224	17
3	32	26	293	1,970	1,180	87	94	914	317	17	94	13
4	29	24	305	772	772	147	83	335	208	18	62	11
5	26	25	700	1,820	780	1,020	74	217	166	29	1,260	9.4
6	24	31	722	1,230	2,370	3,190	67	166	123	97	840	8.3
7	21	75	533	542	1,110	1,060	63	132	96	136	194	7.6
8	19	83	434	328	524	417	59	108	79	41	90	7.7
9	17	59	375	254	337	252	55	91	67	26	59	8.7
10	16	46	1,140	200	264	188	50	78	62	43	45	8.1
11	14	40	1,650	168	219	154	47	69.0	58	170	35	7.1
12	14	2,000	893	154	184	130	99	61	75	46.0	28	9.5
13	13	2,430	635	156	159	112	417	57	235	30.0	24	9.1
14	14	641	563	140	142	104	1,300	54	90	368	22	7.7
15	28	387	614	130	129	97	570	867	69	78	19	6.3
16	27	385	1,470	114	113	102	262	337	67	48	16	5.5
17	23	309	e2,000	108	103	101	182	142	71	4,270	14	29
18	24	447	972	e531	95	93	142	111	167	714	12	796
19	22	1,540	630	568	91	82	116	113	174	155	10	183
20	18	1,140	407	288	89	108	101	175	88	71	9.9	77
21	15	548	296	207	84	335	117	111	59	46	10	47
22	13	332	260	173	76	238	692	78	45	36	13	34
23	12	247	361	147	71	144	1,800	61	63	37	48	27
24	11	274	1,080	130	68	118	e1,170	50	40	43	31	21
25	11	269	604	120	64	103	548	60	45	34	22	18
26	46	237	349	303	60	92	376	369	87	23	19	15
27	94	567	256	758	58	84	241	2,060	71	19	30	12
28	64	1,920	209	429	55	78	181	4,130	45	16	24	11
29	66	1,760	194	267	52	78	145	1,000	33	13	21	9.6
30	51	823	909	217	---	191	128	3,140	26	12	18	8.7
31	39	---	533	e197	---	175	---	7,310	---	2,030	29	---
TOTAL	888	16,725	20,252	15,322	9,648	9,226	9,421	23,225.0	5,133	8,707.0	4,492.9	1,449.3
MEAN	28.6	558	653	494	333	298	314	749	171	281	145	48.3
MAX	94	2,430	2,000	2,600	2,370	3,190	1,800	7,310	1,420	4,270	1,260	796
MIN	11	24	194	108	52	55	47	50	26	12	9.9	5.5
CFSM	0.17	3.24	3.80	2.87	1.93	1.73	1.83	4.36	0.99	1.63	0.84	0.28
IN.	0.19	3.62	4.38	3.31	2.09	2.00	2.04	5.02	1.11	1.88	0.97	0.31

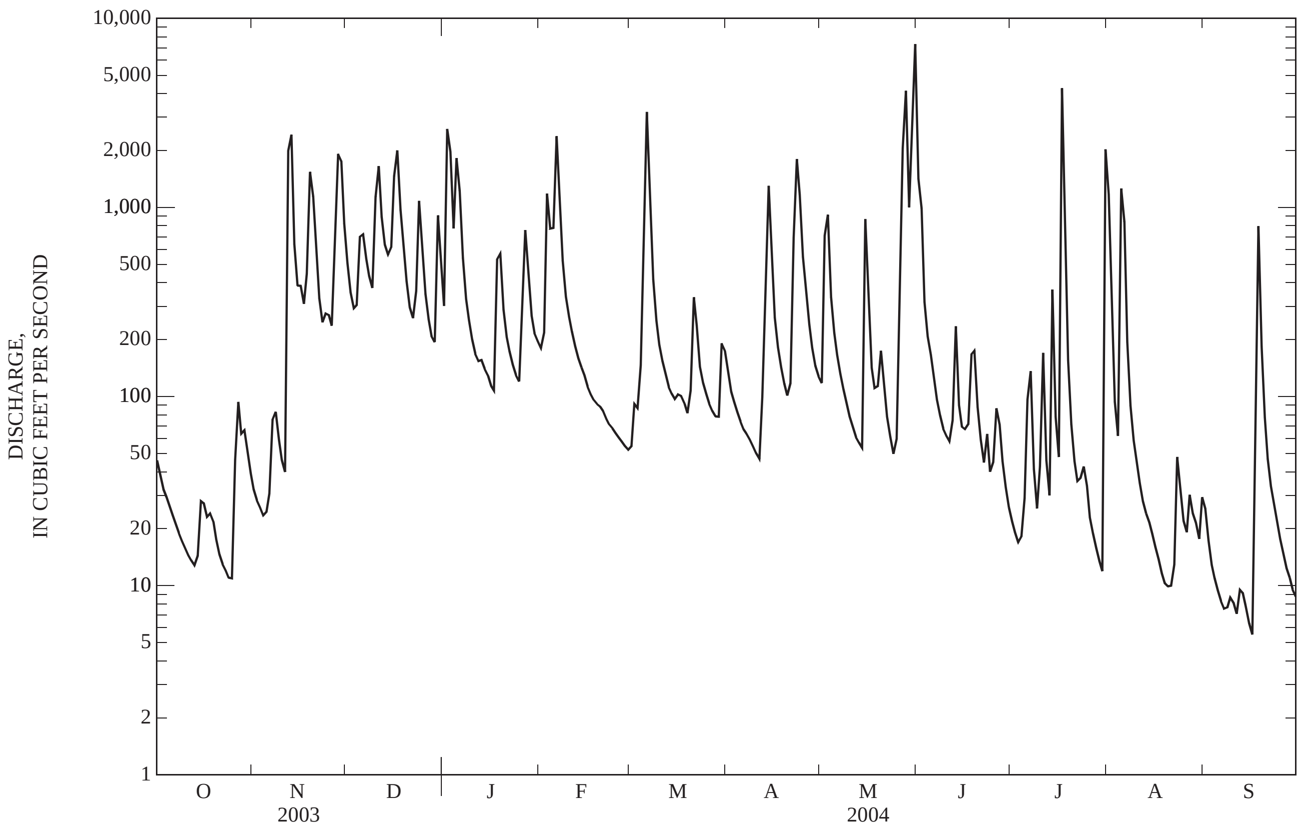
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	71.4	191	363	414	452	545	227	360	275	133	60.2	71.1
MAX	351	558	1,360	675	1,041	1,845	480	925	926	528	145	383
(WY)	(2003)	(2004)	(1991)	(1994)	(2003)	(1997)	(1998)	(1995)	(1997)	(1998)	(2004)	(2003)
MIN	6.13	7.28	29.1	111	124	99.9	71.4	18.4	13.8	4.29	0.53	0.46
(WY)	(1995)	(2000)	(2000)	(2001)	(2002)	(1990)	(1997)	(2000)	(2000)	(2000)	(1999)	(1999)

03295400 SALT RIVER AT GLENSBORO, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004	
ANNUAL TOTAL	136,838		124,489.2			
ANNUAL MEAN	375		340		262	
HIGHEST ANNUAL MEAN					403	1997
LOWEST ANNUAL MEAN					103	2000
HIGHEST DAILY MEAN	7,000	Feb 16	7,310	May 31	16,400	Mar 2, 1997
LOWEST DAILY MEAN	11	Oct 24	5.5	Sep 16	0.00	Aug 5, 1999
ANNUAL SEVEN-DAY MINIMUM	15	Oct 19	7.6	Sep 10	0.00	Sep 6, 1999
MAXIMUM PEAK FLOW			15,200	May 31	22,000	Mar 2, 1997
MAXIMUM PEAK STAGE			11.53	May 31	12.91	Mar 2, 1997
ANNUAL RUNOFF (CFSM)	2.18		1.98		1.53	
ANNUAL RUNOFF (INCHES)	29.60		26.92		20.73	
10 PERCENT EXCEEDS	949		931		593	
50 PERCENT EXCEEDS	116		100		76	
90 PERCENT EXCEEDS	24		16		5.5	

e Estimated



03295702 BULLSKIN CREEK NEAR SIMPSONVILLE, KY

LOCATION.--Lat 38°13'07", long 85°18'07", Shelby County, Hydrologic Unit 05140102, at center span on the downstream side of bridge on Highway 60, 2.6 miles east of Simpsonville, 2.6 miles below Fox Run, and at mile 21.7.

DRAINAGE AREA.--54.8 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 671.98 ft above NGVD of 1929.

REMARKS.--Records fair except for those below 2.0 ft^3/s and those estimated, which are poor.

COOPERATION.--City of Simpsonville.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	15	101	109	e99	22	45	209	317	1.9	84	3.4
2	21	14	75	1,150	e287	39	37	1,210	179	1.6	36	1.8
3	16	13	64	338	982	35	32	319	105	1.4	20	1.4
4	15	13	61	326	192	1,340	27	159	74	1.4	33	1.2
5	14	12	84	1,230	303	466	23	105	56	2.0	564	0.98
6	11	13	87	260	838	590	20	74	41	4.5	58	0.84
7	9.7	15	73	152	222	212	19	55	31	8.6	22	0.68
8	8.5	12	65	113	130	121	18	43	23	4.7	12	0.67
9	7.4	10	58	95	100	88	16	33	18	5.5	8.2	0.72
10	6.2	9.8	409	74	84	65	15	31	17	179	6.0	0.66
11	7.9	9.8	286	63	76	55	13	44	14	158	4.2	0.61
12	8.1	1,220	148	60	68	45	15	28	12	42	3.2	0.54
13	7.0	403	105	55	62	37	124	22	22	27	2.4	0.53
14	59	152	92	48	57	36	309	21	20	446	2.0	0.53
15	117	132	74	45	52	32	106	72	13	90	1.5	0.46
16	50	122	138	38	45	47	69	92	11	40	1.2	0.59
17	34	94	203	40	40	57	51	53	12	1,870	0.99	0.93
18	27	441	133	296	36	45	40	42	16	264	0.82	0.99
19	22	566	128	169	35	38	33	203	18	145	0.62	0.87
20	18	189	101	104	36	36	30	287	14	72	0.58	0.81
21	15	118	87	82	33	37	42	98	8.7	42	0.72	0.91
22	13	85	84	69	29	30	94	62	6.5	29	0.62	0.97
23	12	67	e418	56	27	28	390	41	5.2	21	0.56	0.46
24	11	112	e700	49	27	26	221	29	4.1	17	13	0.33
25	10	85	174	e32	24	24	355	33	7.5	12	4.2	0.30
26	23	68	115	e139	22	22	230	719	8.7	9.8	56	0.18
27	43	370	90	e337	20	22	120	1,550	4.6	11	28	0.08
28	26	641	75	e232	19	21	78	2,370	3.5	9.1	9.5	0.04
29	23	263	79	e127	18	24	58	271	2.7	6.8	4.9	0.00
30	19	151	350	e129	---	75	72	1,170	2.2	6.5	16	0.03
31	16	---	151	e139	---	51	---	2,500	---	240	7.4	---
TOTAL	695.8	5,415.6	4,808	6,156	3,963	3,766	2,702	11,945	1,066.7	3,768.8	1,001.61	22.51
MEAN	22.4	181	155	199	137	121	90.1	385	35.6	122	32.3	0.75
MAX	117	1,220	700	1,230	982	1,340	390	2,500	317	1,870	564	3.4
MIN	6.2	9.8	58	32	18	21	13	21	2.2	1.4	0.56	0.00

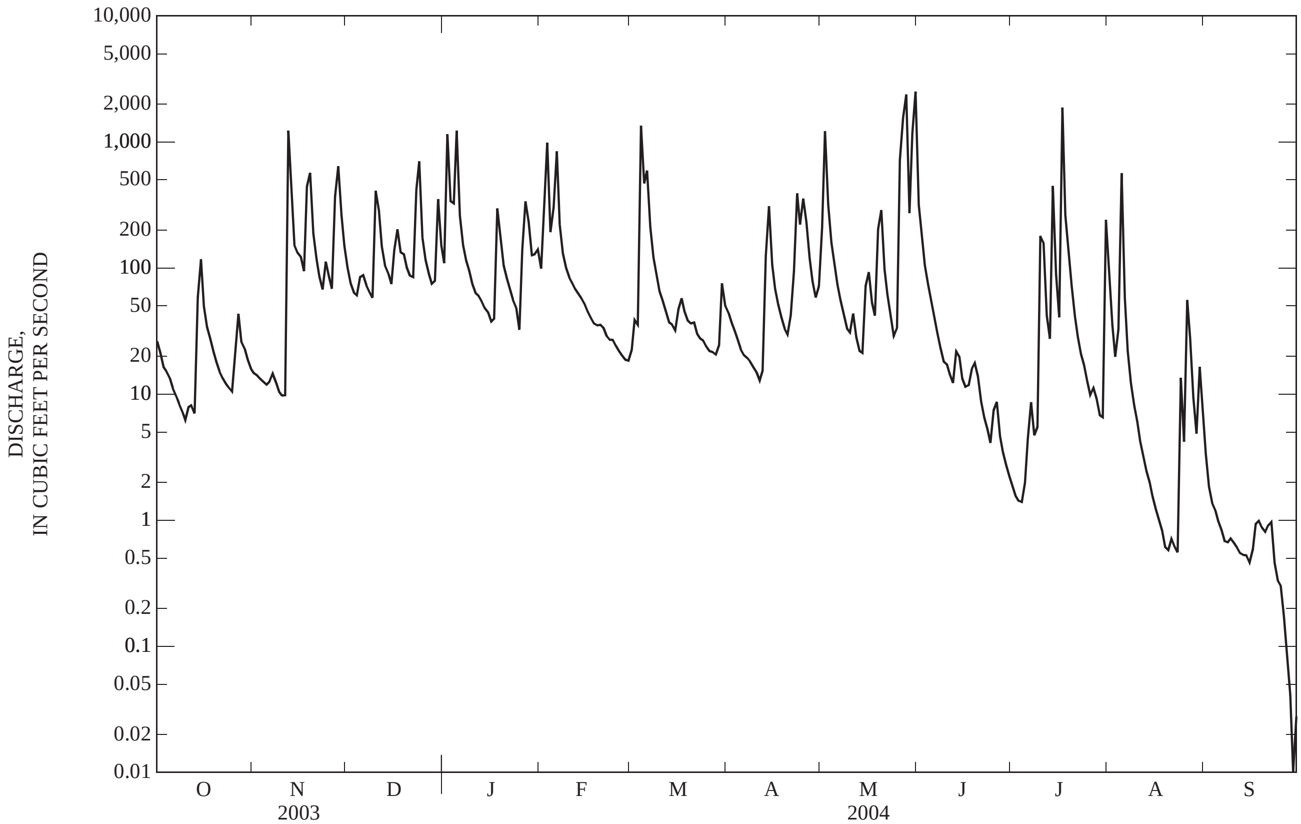
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.7	67.5	112	139	170	132	85.3	138	78.3	29.2	18.7	31.8
MAX	152	181	206	211	316	296	142	385	293	122	87.9	142
(WY)	(2003)	(2004)	(2003)	(2002)	(2000)	(2002)	(2003)	(2004)	(1998)	(2004)	(2003)	(2003)
MIN	0.00	0.18	5.20	44.3	67.4	54.2	28.4	2.61	8.99	0.25	0.00	0.00
(WY)	(2000)	(2000)	(1999)	(2001)	(1999)	(2003)	(1999)	(1999)	(2000)	(2001)	(1999)	(1999)

03295702 BULLSKIN CREEK NEAR SIMPSONVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	44,938.3		45,311.02			
ANNUAL MEAN	123		124		83.4	
HIGHEST ANNUAL MEAN					133	2003
LOWEST ANNUAL MEAN					31.9	1999
HIGHEST DAILY MEAN	2,350	Feb 22	2,500	May 31	3,830	Feb 18, 2000
LOWEST DAILY MEAN	2.7	Aug 21	0.00	Sep 29	0.00	Aug 25, 1998
ANNUAL SEVEN-DAY MINIMUM	4.3	Jul 3	0.14	Sep 24	0.00	Sep 5, 1998
MAXIMUM PEAK FLOW			5,250	May 28	8,990	Feb 18, 2000
MAXIMUM PEAK STAGE			15.24	May 28	21.05	Feb 18, 2000
10 PERCENT EXCEEDS	265		290		163	
50 PERCENT EXCEEDS	43		36		18	
90 PERCENT EXCEEDS	8.0		1.4		0.01	

e Estimated



03295890 BRASHEARS CREEK AT TAYLORSVILLE, KY

LOCATION.--Lat 38°02'13", long 85°20'27", Spencer County, Hydrologic Unit 05140102, on left bank at downstream side of bridge on State Highway 155, at the north edge of Taylorsville, 1.2 mi upstream from Salt River, and at mile 1.2.

DRAINAGE AREA.--259 mi^2

PERIOD OF RECORD.--July 1981 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 466.85 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

COOPEARTION.--Kentucky Natural Resources and Environmental Protection Cabinet and U.S. Army Corps of Engineers, Louisville, District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 28	1100	10,200	18.65	Jul 17	1900	6,770	15.49
May 31	1100	*15,100	*22.21				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	102	682	522	e211	81	220	343	2,580	20	1,230	56
2	145	91	483	2,520	e239	111	191	2,230	2,090	16	432	42
3	125	85	356	2,130	2,730	144	164	1,760	885	13	246	35
4	104	78	314	1,240	1,320	2,190	144	867	574	14	163	36
5	94	73	351	3,570	989	1,920	125	612	376	14	1,680	33
6	85	72	424	1,660	3,050	3,580	110	418	277	27	781	25
7	75	72	374	973	1,590	1,520	102	292	209	683	377	21
8	72	71	341	714	911	872	95	225	158	215	230	19
9	e67	67	307	544	690	633	85	174	121	110	150	16
10	63	61	783	430	533	470	77	139	113	151	104	13
11	61	56	1,630	338	426	349	73	124	106	808	77	14
12	57	410	910	303	359	284	82	128	101	377	59	14
13	50	2,440	685	273	313	237	286	101	85	202	47	12
14	63	792	553	240	282	205	1,180	87	85	1,080	38	11
15	205	591	422	219	257	189	767	119	87	610	31	9.2
16	264	538	422	194	222	202	536	294	76	279	26	8.1
17	176	445	939	176	190	245	396	217	156	5,190	22	13
18	138	443	743	580	177	215	298	166	198	1,850	20	15
19	118	1,670	664	867	161	184	223	190	71	803	22	28
20	102	963	554	e473	153	169	182	713	103	455	21	22
21	87	662	456	e306	146	187	196	369	71	282	19	17
22	76	450	405	e242	132	164	530	223	49	194	18	13
23	65	340	448	e200	118	141	1,350	155	39	145	20	10
24	62	343	1,550	e175	115	132	1,610	115	31	105	18	8.8
25	58	404	967	e163	109	123	1,060	98	213	79	67	7.7
26	85	302	699	e377	101	113	1,130	947	143	63	58	6.4
27	178	492	558	e977	92	107	677	3,660	92	50	123	7.5
28	191	2,280	424	556	86	101	453	7,550	49	44	106	13
29	153	1,680	349	e340	79	108	332	2,020	33	41	117	20
30	147	943	785	e254	---	248	280	1,910	25	37	119	20
31	138	---	662	217	---	274	---	12,000	---	1,170	74	---
TOTAL	3,455	17,016	19,240	21,773	15,781	15,498	12,954	38,246	9,196	15,127	6,495	565.7
MEAN	111	567	621	702	544	500	432	1,234	307	488	210	18.9
MAX	264	2,440	1,630	3,570	3,050	3,580	1,610	12,000	2,580	5,190	1,680	56
MIN	50	56	307	163	79	81	73	87	25	13	18	6.4
CFSM	0.43	2.19	2.40	2.71	2.10	1.93	1.67	4.76	1.18	1.88	0.81	0.07
IN.	0.50	2.44	2.76	3.13	2.27	2.23	1.86	5.49	1.32	2.17	0.93	0.08

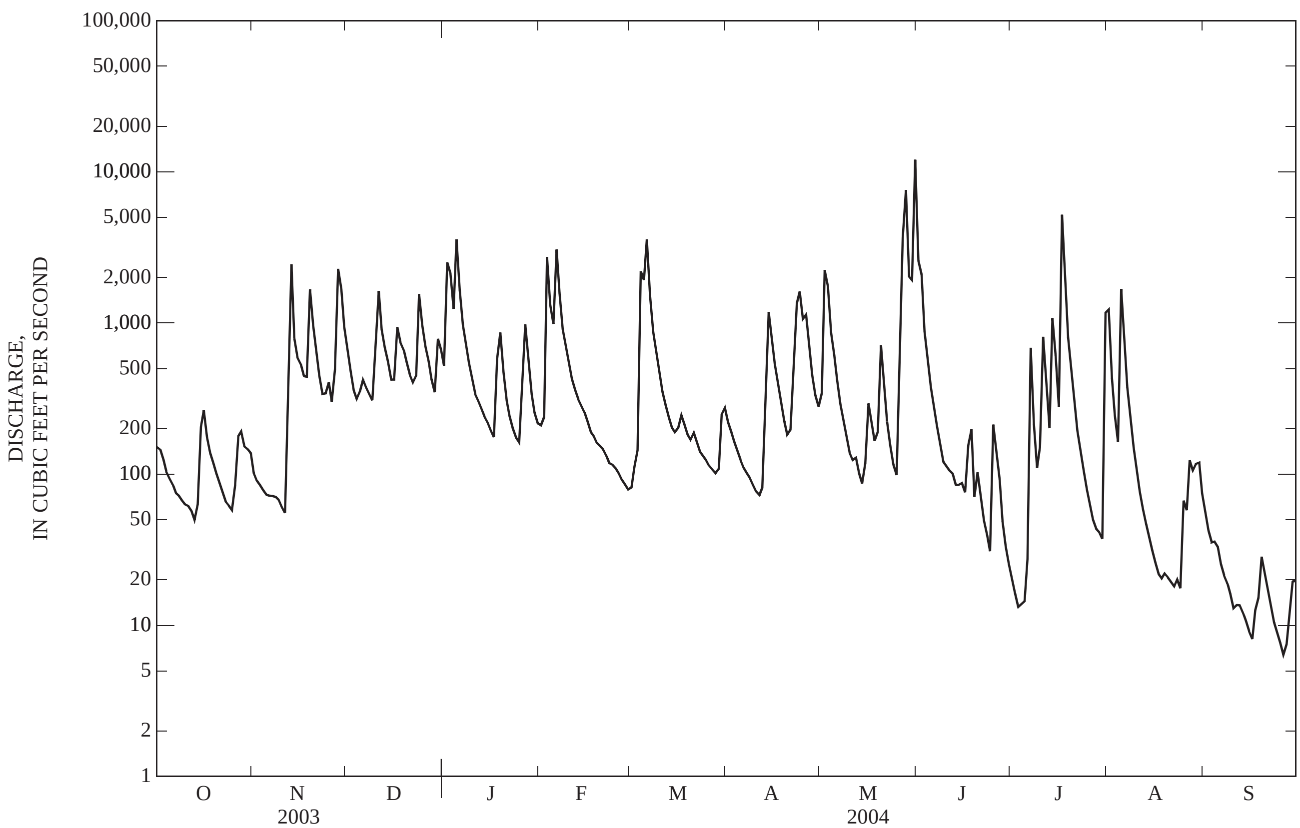
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	56.6	204	466	552	762	697	440	513	303	110	61.1	51.8
MAX	433	586	1,806	1,140	1,984	3,025	841	1,912	1,318	584	291	659
(WY)	(2003)	(1986)	(1991)	(1999)	(1989)	(1997)	(1996)	(1983)	(1997)	(1998)	(1992)	(2003)
MIN	0.01	2.76	51.1	47.0	212	80.5	48.4	37.2	1.90	4.44	0.03	0.00
(WY)	(1989)	(2000)	(2000)	(1986)	(1992)	(1983)	(1986)	(2000)	(1988)	(1994)	(1983)	(1983)

03295890 BRASHEARS CREEK AT TAYLORSVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1981 - 2004	
ANNUAL TOTAL	175,704		175,346.7			
ANNUAL MEAN	481		479		350	
HIGHEST ANNUAL MEAN					642	1997
LOWEST ANNUAL MEAN					184	2001
HIGHEST DAILY MEAN	5,760	Jan 1	12,000	May 31	39,600	Mar 2, 1997
LOWEST DAILY MEAN	22	Jul 8	6.4	Sep 26	0.00	Aug 19, 1983
ANNUAL SEVEN-DAY MINIMUM	32	Jul 3	9.5	Sep 22	0.00	Aug 19, 1983
MAXIMUM PEAK FLOW			15,100	May 31	44,800	Mar 2, 1997
MAXIMUM PEAK STAGE			22.21	May 31	31.54	Mar 2, 1997
INSTANTANEOUS LOW FLOW					0.08	Oct 1, 1994
ANNUAL RUNOFF (CFSM)	1.86		1.85		1.35	
ANNUAL RUNOFF (INCHES)	25.24		25.18		18.36	
10 PERCENT EXCEEDS	1,090		1,140		853	
50 PERCENT EXCEEDS	236		190		98	
90 PERCENT EXCEEDS	60		24		2.4	

e Estimated



03297800 CEDAR CREEK AT HIGHWAY 1442 NEAR SHEPHERDSVILLE, KY

LOCATION.--Lat 37°59'28", long 85°38'28", Bullitt County, Hydrologic Unit 05140102, on upstream side of bridge on Highway 1442, 1.1 mi upstream from Lickskillet Creek, 1.4 mi upstream from the mouth, and 4.2 mi east of Shepherdsville, Ky.

DRAINAGE AREA.--12.1 mi^2.

PERIOD OF RECORD.--April 26, 2002 to current year.

REVISIONS.--Maximum gage heights for water years 2002 and 2003 have been revised to 11.95 and 10.31 because of adjustments to the gage datum.

GAGE.--Water-stage recorder with telemetry and crest-stage. Datum of gage is 410 ft above NGVD of 1929 from topographic map. Gage datum raised 1 ft. beginning in Oct. 1, 2003 based on 2004 level findings.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.5	15	19	e13.4	4.6	12	26	e168	0.74	20	0.35
2	1.5	1.6	11	160	62	7.2	9.1	147	e110	0.93	9.9	0.24
3	1.2	1.4	9.3	51	121	5.7	7.3	40	29	0.82	6.2	0.24
4	1.2	1.2	16	97	35	17	5.7	25	19	1.6	4.2	0.24
5	1.1	1.2	24	148	90	125	4.8	19	15	15	226	0.23
6	0.93	1.4	20	42	126	78	5.1	14	12	8.5	25	0.19
7	0.83	2.8	14	27	43	30	4.4	11	9.2	3.7	14	0.18
8	0.70	1.4	11	22	28	20	4.0	9.2	7.1	1.8	9.2	0.17
9	0.61	0.96	9.7	19	23	15	3.1	7.5	58	67	6.5	0.21
10	0.67	0.85	75	15	19	11	2.9	6.0	20	34	5.0	0.15
11	0.75	0.96	33	13	16	9.7	2.7	5.0	8.8	15	3.4	0.13
12	0.82	110	20	13	13	7.6	19	4.1	54	79	2.8	0.14
13	0.73	29	15	11	e11	6.5	149	4.0	27	37	2.2	0.12
14	6.5	12	16	9.5	e9.0	6.7	63	4.2	14	63	2.0	0.12
15	6.0	17	15	8.0	e7.8	5.7	26	21	9.3	19	1.5	0.39
16	1.5	13	47	6.7	e6.6	12	17	12	14	12	1.1	0.41
17	1.0	9.2	36	8.2	e6.2	9.3	13	6.5	17	12	0.83	0.43
18	0.90	99	25	55	e5.6	6.9	9.7	5.4	21	10	0.66	0.59
19	0.85	48	23	23	e5.4	5.2	7.9	21	8.2	4.8	0.58	0.50
20	0.71	21	17	e14.5	e5.0	23	7.1	19	4.7	3.5	0.63	0.31
21	0.71	14	14	e12	e4.7	24	54	6.9	3.6	2.6	1.5	0.22
22	0.69	9.7	13	e10	4.1	11	57	4.2	3.7	2.5	0.85	0.15
23	0.68	7.4	46	e9.1	4.1	9.1	159	2.9	3.3	6.9	0.52	0.12
24	0.73	37	47	e8.1	4.0	7.3	52	2.4	2.0	3.2	0.62	0.10
25	0.79	16	25	e8.0	3.2	6.0	80	3.3	4.4	1.9	0.62	0.08
26	13	11	18	e72	3.0	5.3	39	73	3.0	1.8	2.2	0.06
27	8.0	69	15	57	2.8	5.0	25	209	1.5	1.7	2.7	0.04
28	3.4	83	13	26	2.6	4.6	18	e640	1.1	1.2	1.1	0.04
29	2.9	35	32	e17.7	2.5	15	14	e164	0.95	0.90	0.61	0.02
30	2.1	22	60	e16	---	27	21	270	0.80	1.4	0.49	0.02
31	1.6	---	25	e14	---	14	---	e400	---	130	0.44	---
TOTAL	64.80	677.57	760.0	1,011.8	677.0	534.4	891.8	2,182.6	649.65	543.49	353.35	6.19
MEAN	2.09	22.6	24.5	32.6	23.3	17.2	29.7	70.4	21.7	17.5	11.4	0.21
MAX	13	110	75	160	126	125	159	640	168	130	226	0.59
MIN	0.61	0.85	9.3	6.7	2.5	4.6	2.7	2.4	0.80	0.74	0.44	0.02

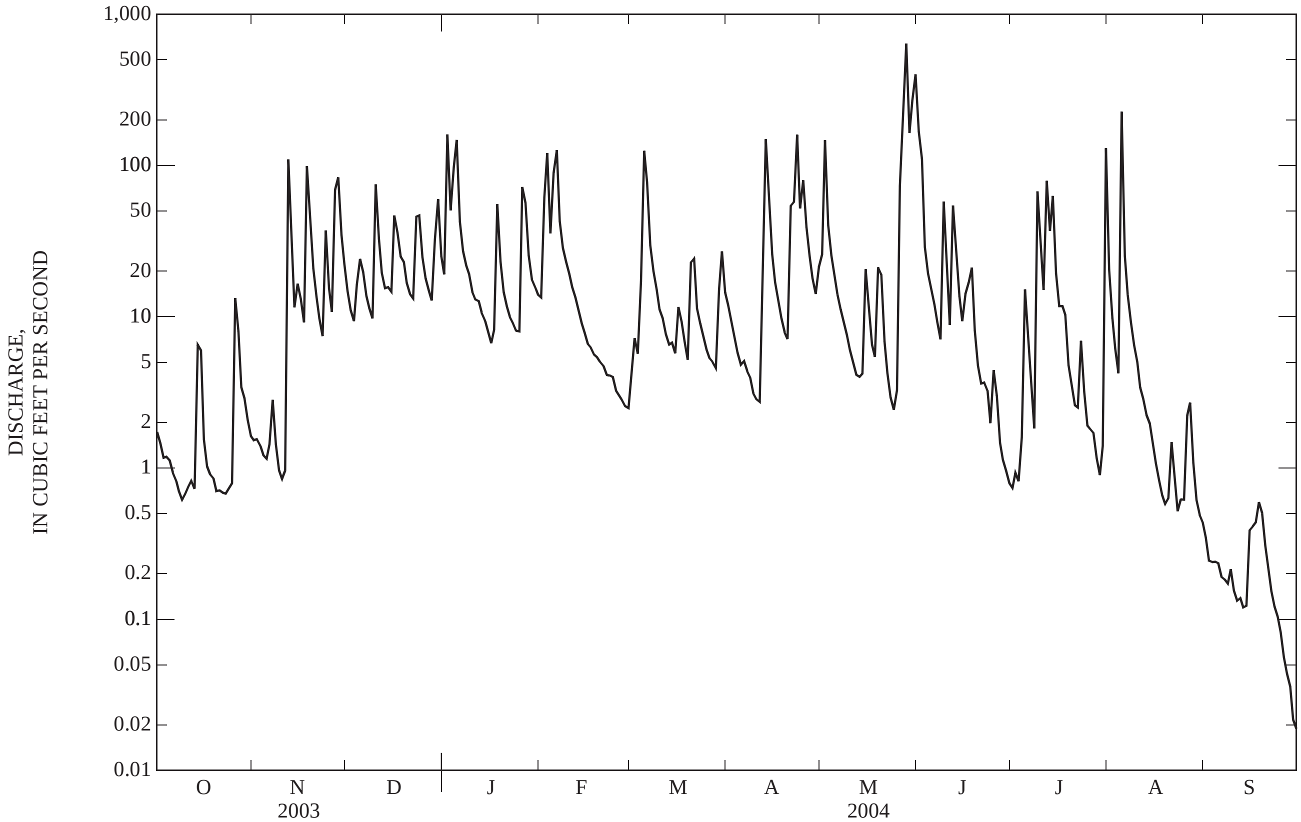
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.71	20.1	31.4	28.3	52.9	13.4	26.0	47.3	14.5	7.75	6.41	15.1
MAX	15.3	22.6	38.4	32.6	83.5	17.2	29.7	70.4	21.7	17.5	11.4	27.0
(WY)	(2003)	(2004)	(2003)	(2004)	(2003)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	2.09	17.6	24.5	23.9	23.3	9.54	22.2	28.9	1.02	0.13	0.01	0.21
(WY)	(2004)	(2003)	(2004)	(2003)	(2004)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2004)

03297800 CEDAR CREEK AT HIGHWAY 1442 NEAR SHEPHERDSVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	8,283.58		8,352.65			
ANNUAL MEAN	22.7		22.8		23.7	
HIGHEST ANNUAL MEAN					24.6	2003
LOWEST ANNUAL MEAN					22.8	2004
HIGHEST DAILY MEAN	659	Feb 23	640	May 28	758	Apr 28, 2002
LOWEST DAILY MEAN	0.13	Aug 28	0.02	Sep 29	0.00	Aug 13, 2002
ANNUAL SEVEN-DAY MINIMUM	0.29	Jul 24	0.05	Sep 24	0.00	Aug 13, 2002
MAXIMUM PEAK FLOW			2,170	May 28	2,260	May 6, 2002
MAXIMUM PEAK STAGE			12.26	Jun 1	12.26	Jun 1, 2004
10 PERCENT EXCEEDS	47		57		54	
50 PERCENT EXCEEDS	7.7		8.1		7.6	
90 PERCENT EXCEEDS	0.79		0.62		0.73	

e Estimated



03297900 FLOYDS FORK NEAR PEWEE VALLEY, KY

LOCATION.--Lat 38°17'07", long 85°28'03", Oldham County, Hydrologic Unit 05140102, on left bank at downstream side of bridge on State Highway 362, 2.0 mi south of PeWee Valley, 2.2 mi downstream from Curry's Fork, and at mile 44.3.

DRAINAGE AREA.--79.9 mi^2.

PERIOD OF RECORD.--June 1991 to current year.

REVISED RECORDS.--WRD KY-95-1: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 599.892 ft above NGVD of 1929.

REMARKS.--Records fair except for discharges below 5.0 ft^3/s and those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1800	5,210	16.77	May 31	0900	6,480	18.61
May 28	0900	*8,090	*20.52	Jul 17	1400	5,050	16.51

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	12	127	139	e80	26	78	e305	424	3.4	141	4.1
2	36	11	96	1,210	e339	61	61	e2,100	232	3.6	29	2.5
3	22	11	76	449	e1,690	49	50	e470	112	3.5	12	2.1
4	17	9.7	73	502	&229	e2,350	41	190	63	3.2	7.3	1.9
5	14	9.0	124	e1,460	e445	e742	34	122	41	3.1	516	1.7
6	11	9.2	153	e339	e1,400	e942	30	88	30	6.2	83	1.4
7	9.8	11	94	e174	&240	e306	28	64	23	10	20	1.3
8	9.5	11	79	e139	&186	136	26	48	19	5.4	9.8	1.3
9	9.3	8.8	68	e104	&143	102	21	37	17	23	6.2	1.3
10	9.0	7.9	449	&94	&117	78	19	28	19	366	4.5	1.2
11	9.2	7.3	500	e68	&111	65	18	40	12	561	3.5	1.2
12	8.9	2,060	185	73	&96	54	21	21	12	36	2.8	1.1
13	8.9	798	123	65	&92	45	e187	17	18	14	2.4	1.1
14	196	199	108	&54	&87	41	e458	15	12	944	2.1	1.1
15	e103	148	89	&50	&85	40	e152	82	9.9	147	2.0	1.1
16	e55	152	147	41	e70	61	112	112	9.3	32	1.8	1.1
17	e36	105	359	41	e50	98	76	48	8.1	2,420	1.7	1.1
18	e29	307	154	e516	e44	63	57	66	7.3	351	1.5	1.1
19	e22	1,110	189	e221	42	51	45	76	11	212	1.4	1.1
20	e17	262	136	e127	44	44	38	693	9.5	58	1.4	1.1
21	e13	138	114	&112	45	55	42	121	7.2	24	1.7	1.1
22	e11	98	110	&80	39	44	153	61	5.9	15	1.7	1.0
23	e9.3	74	391	&71	34	38	e576	34	4.9	10	1.4	1.0
24	e8.2	267	835	&66	33	37	e293	21	4.4	7.9	1.4	1.0
25	e7.2	160	252	&53	31	33	e540	40	4.1	5.9	1.4	1.0
26	e22	100	151	&58	26	30	e316	1,500	3.8	17	2.2	1.0
27	e47	373	116	e256	24	29	120	2,140	3.5	10	5.0	1.0
28	e27	1,000	95	&138	22	29	81	4,130	3.4	7.1	3.3	1.0
29	e24	403	100	e127	21	31	60	391	3.2	5.1	17	1.0
30	e18	193	774	e91	---	169	71	447	3.2	4.1	113	1.0
31	e14	---	227	e91	---	95	---	3,850	---	455	10	---
TOTAL	871.3	8,054.9	6,494	7,009	5,865	5,944	3,804	17,357	1,132.7	5,763.5	1,007.5	40.0
MEAN	28.1	268	209	226	202	192	127	560	37.8	186	32.5	1.33
MAX	196	2,060	835	1,460	1,690	2,350	576	4,130	424	2,420	516	4.1
MIN	7.2	7.3	68	41	21	26	18	15	3.2	3.1	1.4	1.0
CFSM	0.35	3.36	2.62	2.83	2.53	2.40	1.59	7.01	0.47	2.33	0.41	0.02
IN.	0.41	3.75	3.02	3.26	2.73	2.77	1.77	8.08	0.53	2.68	0.47	0.02

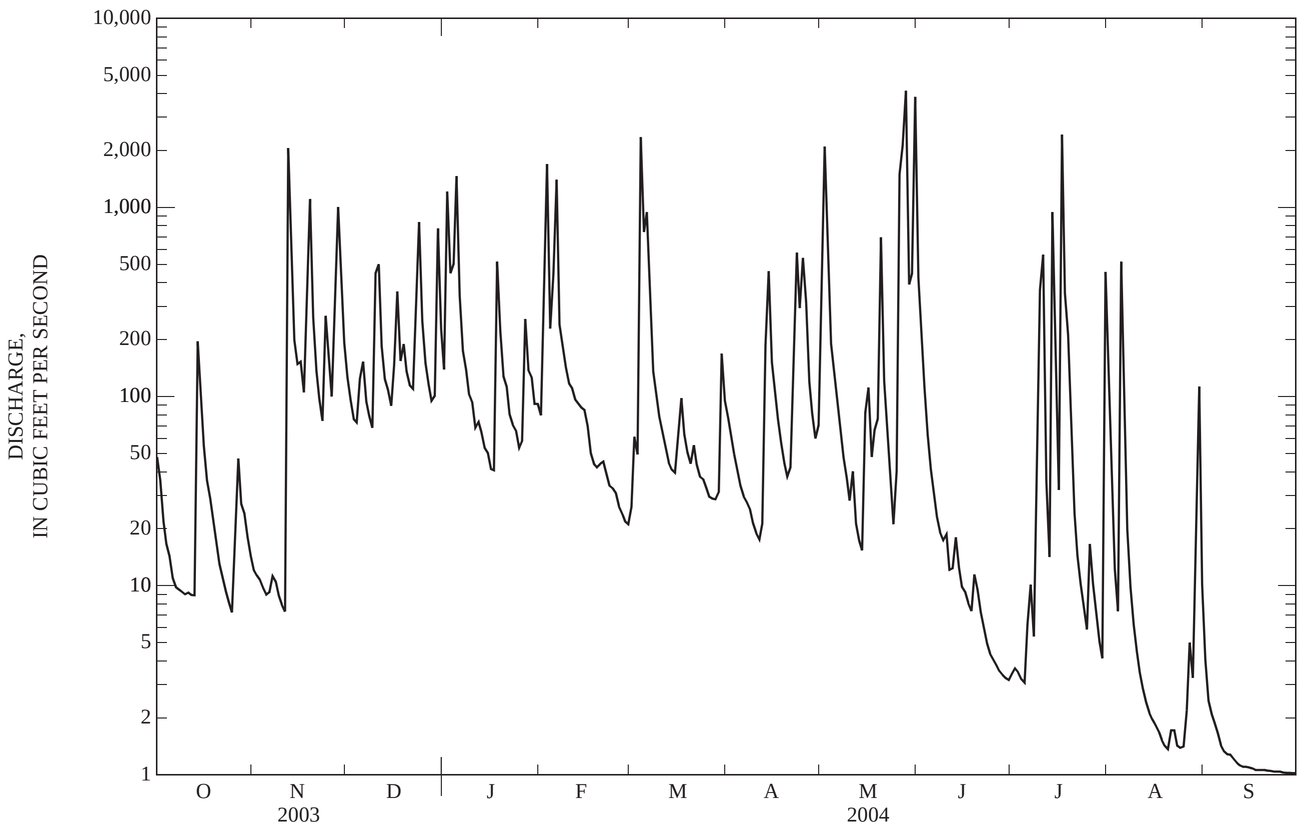
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.4	80.0	146	206	192	242	137	194	124	39.1	33.7	35.2
MAX	132	268	331	320	448	958	306	560	381	186	149	215
(WY)	(2003)	(2004)	(1997)	(1996)	(2000)	(1997)	(1996)	(2004)	(1997)	(2004)	(2003)	(2003)
MIN	1.03	3.14	35.8	46.9	43.3	79.0	27.8	12.1	4.07	1.89	0.86	0.09
(WY)	(2000)	(1992)	(1999)	(2001)	(1992)	(2001)	(2001)	(1999)	(1991)	(1991)	(1999)	(1999)

03297900 FLOYDS FORK NEAR PEWEE VALLEY, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1991 - 2004	
ANNUAL TOTAL	68,388.48		63,342.9			
ANNUAL MEAN	187		173		120	
HIGHEST ANNUAL MEAN					198	1997
LOWEST ANNUAL MEAN					57.5	2001
HIGHEST DAILY MEAN	2,890	Sep 2	4,130	May 28	10,500	Mar 2, 1997
LOWEST DAILY MEAN	0.86	Aug 21	1.0	Sep 22	0.00	Sep 2, 1999
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 16	1.0	Sep 22	0.01	Sep 23, 1999
MAXIMUM PEAK FLOW			8,090	May 28	18,800	Mar 2, 1997
MAXIMUM PEAK STAGE			20.52	May 28	28.60	Mar 2, 1997
ANNUAL RUNOFF (CFSM)	2.35		2.17		1.51	
ANNUAL RUNOFF (INCHES)	31.84		29.49		20.47	
10 PERCENT EXCEEDS	497		409		234	
50 PERCENT EXCEEDS	63		43		31	
90 PERCENT EXCEEDS	7.4		1.9		2.1	

e Estimated



03298000 FLOYDS FORK AT FISHERVILLE, KY

LOCATION.--Lat 38°11'18", long 85°27'37", Jefferson County, Hydrologic Unit 05140102, on left bank on downstream side of bridge on former State Highway 155, at Fisherville, 0.2 mi downstream from Brush Run, 1.4 mi upstream from Pope Lick, and at mile 32.7.

DRAINAGE AREA.--138 mi^2.

PERIOD OF RECORD.--August 1944 to current year. Monthly discharge only for August 1944, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1946. WSP 1909: 1945(P), 1948(P), 1960(M).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 542.60 ft above NGVD of 1929, from benchmark elevation supplied by Park Aerial Survey.

REMARKS.--Records fair except for discharges below 2.0 ft^3/s and those estimated, which are poor. Diversions by local golf course for irrigation.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1937 reached a stage of 16.8 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 28	1205	*7,750	*11.38	Jul 17	0845	6,430	10.65
May 31	0450	7,170	11.09				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	34	228	261	e159	45	138	523	634	3.1	285	13
2	87	31	169	1,960	350	97	111	2,020	407	3.7	90	3.3
3	59	29	138	732	1,670	126	95	634	264	8.5	43	1.8
4	46	27	130	827	523	2,140	83	320	184	7.9	50	1.4
5	39	26	198	2,100	569	800	71	204	135	10	646	1.2
6	33	28	253	621	1,510	942	60	144	104	18	176	1.0
7	27	32	162	376	601	444	53	105	91	122	62	0.79
8	25	33	138	262	342	266	51	87	77	39	32	0.75
9	23	29	122	214	250	195	44	64	69	81	17	0.74
10	22	27	689	168	206	152	38	99	81	948	10	0.56
11	22	25	727	136	183	124	35	101	57	872	4.5	0.34
12	21	2,130	335	135	157	108	52	65	56	e209	2.5	0.22
13	20	991	220	121	144	92	622	59	89	101	1.8	0.22
14	181	330	192	106	126	84	1,090	50	57	1,070	1.4	0.42
15	485	255	162	100	113	81	389	302	42	e316	1.2	0.77
16	153	261	279	88	97	130	207	293	100	153	0.91	0.85
17	90	177	559	94	89	174	142	140	68	4,030	0.79	0.80
18	64	742	305	e840	e85	118	109	161	40	630	0.66	0.67
19	51	1,340	351	460	e77	98	92	402	68	403	0.49	0.68
20	43	449	253	229	79	90	82	910	55	161	0.42	0.61
21	35	250	197	172	79	104	142	269	34	88	1.1	0.62
22	29	173	186	142	71	88	295	148	26	54	1.5	0.41
23	26	131	675	115	61	78	803	97	21	44	1.4	0.33
24	24	438	1,080	106	59	71	514	68	17	31	1.3	0.36
25	24	297	444	e87	52	64	558	187	e15	21	1.1	0.33
26	61	177	280	e195	45	57	455	1,800	e13	47	17	0.55
27	126	640	205	499	40	55	224	2,850	e11	50	28	0.81
28	78	1,350	169	e292	37	53	147	4,990	e7.0	25	14	1.3
29	56	635	254	e189	34	77	114	643	e3.8	15	18	2.0
30	47	351	1,040	e189	---	277	148	1,430	3.6	10	140	2.0
31	38	---	413	e201	---	175	---	4,310	---	623	46	---
TOTAL	2,137	11,438	10,553	12,017	7,808	7,405	6,964	23,475	2,829.4	10,194.2	1,695.07	38.83
MEAN	68.9	381	340	388	269	239	232	757	94.3	329	54.7	1.29
MAX	485	2,130	1,080	2,100	1,670	2,140	1,090	4,990	634	4,030	646	13
MIN	20	25	122	87	34	45	35	50	3.6	3.1	0.42	0.22
CFSM	0.50	2.76	2.47	2.81	1.95	1.73	1.68	5.49	0.68	2.38	0.40	0.01
IN.	0.58	3.08	2.84	3.24	2.10	2.00	1.88	6.33	0.76	2.75	0.46	0.01

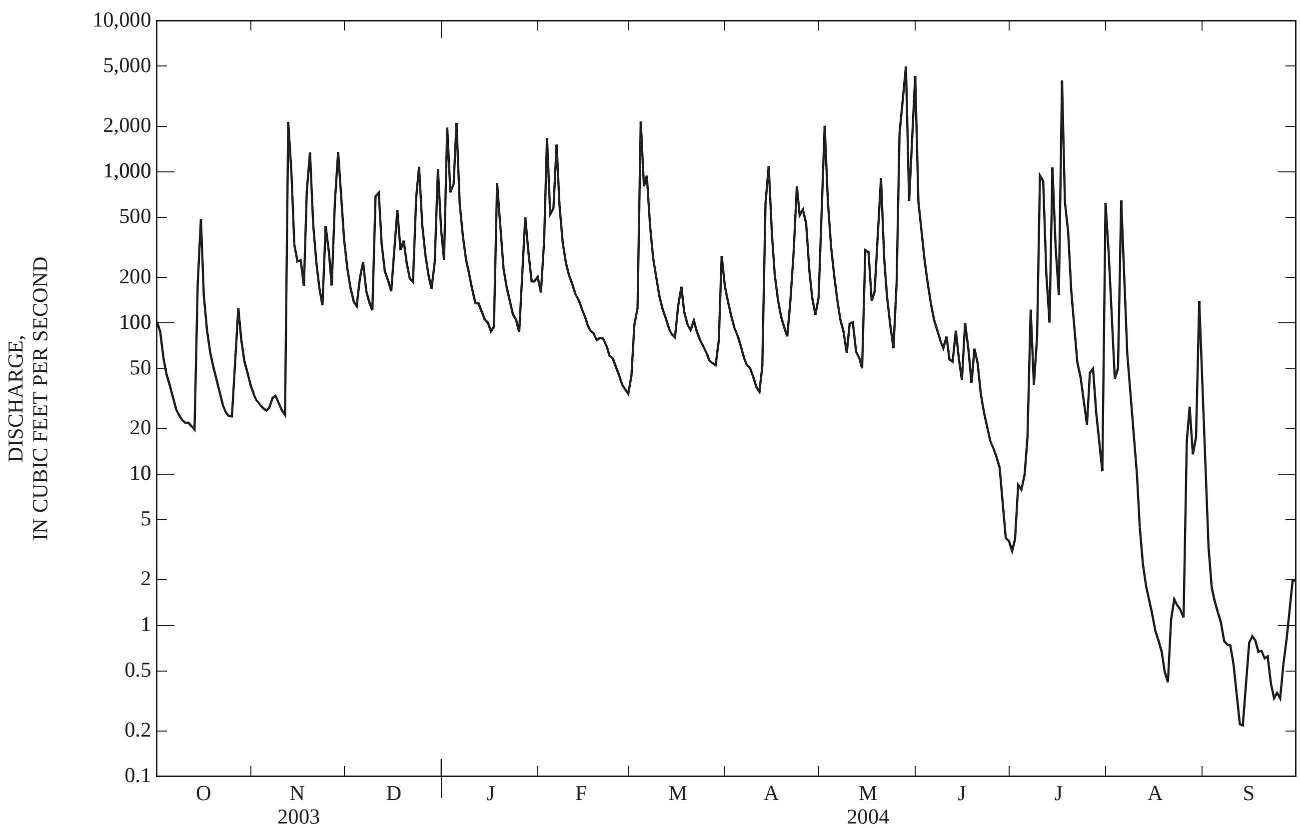
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.5	112	237	297	365	395	276	225	131	67.5	45.8	44.8
MAX	423	485	1,025	1,252	990	1,639	1,021	971	622	331	290	1,020
(WY)	(1978)	(1974)	(1991)	(1950)	(1956)	(1997)	(1970)	(1983)	(1997)	(1973)	(1979)	(1979)
MIN	0.00	0.00	0.00	3.54	12.4	40.3	34.0	12.2	0.90	1.73	0.05	0.00
(WY)	(1949)	(1954)	(1954)	(1977)	(1954)	(1954)	(1959)	(1965)	(1988)	(1954)	(1962)	(1948)

03298000 FLOYDS FORK AT FISHERVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1944 - 2004	
ANNUAL TOTAL	104,690		96,554.50			
ANNUAL MEAN	287		264		185	
HIGHEST ANNUAL MEAN					382	1979
LOWEST ANNUAL MEAN					29.0	1954
HIGHEST DAILY MEAN	3,680	Feb 22	4,990	May 28	20,000	Mar 2, 1997
LOWEST DAILY MEAN	10	Jul 6	0.22	Sep 12	0.00	Sep 7, 1945
ANNUAL SEVEN-DAY MINIMUM	11	Jul 2	0.46	Sep 20	0.00	Sep 7, 1945
MAXIMUM PEAK FLOW			7,750	May 28	42,100	Mar 2, 1997
MAXIMUM PEAK STAGE			11.38	May 28	17.39	Mar 2, 1997
INSTANTANEOUS LOW FLOW			0.20	Sep 12	0.00	Sep 7, 1945
ANNUAL RUNOFF (CFSM)	2.08		1.91		1.34	
ANNUAL RUNOFF (INCHES)	28.22		26.03		18.24	
10 PERCENT EXCEEDS	717		636		383	
50 PERCENT EXCEEDS	126		97		37	
90 PERCENT EXCEEDS	22		1.5		0.53	

e Estimated



03298135 CHENOWETH RUN AT RUCKRIEGAL PARKWAY NEAR JEFFERSONTOWN, KY

LOCATION.--Lat 38°11'41", long 85°33'26", Jefferson County, Hydrologic Unit 05140102, on right downstream bank at bridge on Ruckriegal Parkway, 500 feet south of Penion Drive, near Jeffersontown.

DRAINAGE AREA.--5.47 mi^2.

PERIOD OF RECORD.--May 5, 1993 to February 26, 1998; January 19, 1999 to current year.

GAGE.--Water-stage recorder with telemetry.

REMARKS.--Records good except for estimated records which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	2200	*1,290	*6.35	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.3	2.9	4.6	10	e2.7	8.7	4.5	21	17	0.77	4.4	2.6
2	2.4	2.9	3.7	107	e13	3.5	3.3	62	15	0.73	3.0	2.0
3	e2.2	3.2	3.1	16	e18	24	2.8	11	7.3	0.65	2.3	1.8
4	e2.0	4.9	5.8	65	e7.5	116	2.4	6.6	5.7	0.87	14	1.3
5	e1.9	48	9.0	44	e16	51	2.2	4.9	4.7	19	12	0.98
6	e1.8	12	4.7	12	e15	20	2.0	3.8	4.0	57	2.9	0.84
7	e1.6	5.9	3.5	7.6	e11	8.7	2.0	3.1	3.4	9.6	2.4	0.80
8	e1.5	4.3	3.0	5.9	e8.9	5.7	1.9	2.6	3.0	3.0	1.9	0.85
9	1.2	3.9	2.7	5.9	e7.2	4.6	1.6	2.3	23	18	1.5	0.77
10	38	51	47	4.6	e5.7	3.7	1.5	2.0	5.6	33	1.3	0.71
11	106	15	11	4.0	e5.0	3.2	1.5	2.0	3.4	8.4	0.99	0.66
12	9.9	6.7	5.6	3.8	e4.3	2.7	24	1.7	19	3.7	0.89	0.62
13	5.3	4.8	4.4	e3.3	e4.5	2.4	77	3.6	5.8	42	0.78	0.64
14	3.6	3.9	6.0	e3.1	e4.1	2.4	27	11	3.4	19	0.70	0.53
15	2.9	8.7	5.6	e3.1	e3.5	2.2	8.3	57	5.1	3.9	0.66	0.47
16	2.4	5.4	17	e3.1	e3.1	16	5.8	7.9	17	4.5	0.63	0.46
17	2.0	3.7	8.2	e6.5	e2.9	4.2	4.7	3.8	4.5	133	0.62	0.51
18	1.6	2.9	10	e13	e2.7	3.1	3.7	11	2.9	7.7	0.53	0.46
19	4.1	3.5	7.8	e7.5	e2.6	2.5	3.0	9.9	4.2	4.5	0.51	0.42
20	6.3	2.6	5.1	e5.2	2.6	5.0	2.7	5.3	2.3	3.4	4.8	0.38
21	2.1	e4.1	4.3	e3.6	2.3	3.3	23	2.6	2.0	2.7	3.4	0.42
22	1.8	3.5	3.9	e3.2	2.1	2.4	11	2.1	2.1	2.7	1.2	0.37
23	1.3	2.9	55	e3.1	2.1	2.2	44	2.0	1.4	3.2	0.79	0.37
24	1.3	32	17	e3.3	2.0	2.1	8.2	3.8	1.1	2.2	0.81	0.36
25	5.6	5.4	8.1	e3.5	1.7	1.8	36	93	0.93	1.6	0.92	0.37
26	2.3	3.8	5.6	e8.5	1.5	1.8	8.6	59	0.86	38	35	0.53
27	1.7	46	4.5	e9.5	1.5	1.8	5.2	149	0.78	3.6	4.2	0.59
28	12	46	3.9	e6.1	1.4	1.8	4.0	103	0.76	2.6	2.4	0.58
29	27	11	38	e4.6	1.4	19	3.2	13	0.72	2.2	23	0.57
30	7.2	6.4	21	e3.6	---	9.8	22	117	0.80	12	22	0.66
31	3.9	---	7.9	e3.5	---	6.2	---	110	---	27	3.8	---
TOTAL	266.2	357.3	337.0	383.1	156.3	341.8	347.1	887.0	167.75	470.52	154.33	22.62
MEAN	8.59	11.9	10.9	12.4	5.39	11.0	11.6	28.6	5.59	15.2	4.98	0.75
MAX	106	51	55	107	18	116	77	149	23	133	35	2.6
MIN	1.2	2.6	2.7	3.1	1.4	1.8	1.5	1.7	0.72	0.65	0.51	0.36

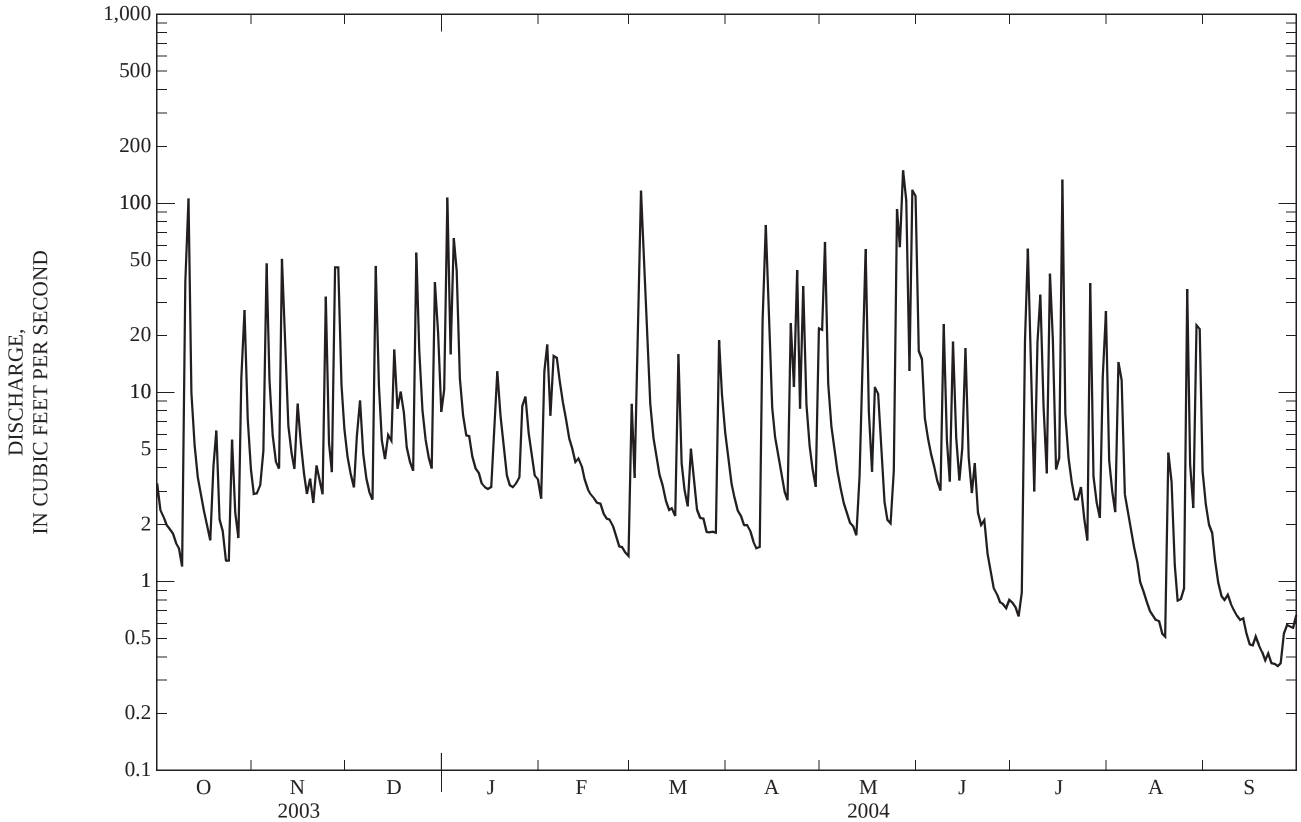
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.83	8.35	15.4	10.5	11.9	11.3	12.3	13.7	6.64	4.26	3.87	6.65
MAX	14.3	15.3	26.0	17.6	21.5	25.6	22.8	28.6	12.3	15.2	10.1	15.1
(WY)	(2002)	(2002)	(2002)	(2002)	(2000)	(2002)	(2002)	(2004)	(1999)	(2004)	(2003)	(2003)
MIN	2.36	1.80	8.57	2.94	5.39	4.56	2.45	3.40	1.44	0.80	0.47	0.31
(WY)	(2001)	(2000)	(2000)	(2001)	(2004)	(2001)	(2001)	(2000)	(2001)	(1999)	(1999)	(1999)

03298135 CHENOWETH RUN AT RUCKRIEGAL PARKWAY NEAR JEFFERSONTOWN, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	4,104.24		3,891.02			
ANNUAL MEAN	11.2		10.6		9.69	
HIGHEST ANNUAL MEAN					14.5	2002
LOWEST ANNUAL MEAN					4.37	2001
HIGHEST DAILY MEAN	137	Sep 2	149	May 27	402	Feb 18, 2000
LOWEST DAILY MEAN	0.80	Aug 25	0.36	Sep 24	0.02	Jul 17, 2000
ANNUAL SEVEN-DAY MINIMUM	1.1	Jun 29	0.38	Sep 19	0.03	Jul 21, 2000
MAXIMUM PEAK FLOW			1,290	May 25	4,680	Mar 1, 1997
MAXIMUM PEAK STAGE					6.35	May 25, 2004
10 PERCENT EXCEEDS	29		24		20	
50 PERCENT EXCEEDS	4.3		3.7		2.8	
90 PERCENT EXCEEDS	1.3		0.80		0.51	

e Estimated



03298150 CHENOWETH RUN AT GELHAUS LANE NEAR FERN CREEK, KY

LOCATION.--Lat 38°09'36", long 85°32'32", Jefferson County, Hydrologic Unit 05140102, at bridge on Gelhaus Lane, 100 ft above Razor Branch, near Fern Creek, and at mile 2.3.

DRAINAGE AREA.--11.6 mi^2.

PERIOD OF RECORD.--January 1996 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records good except for periods of estimated records which are poor. Diversions by a package treatment plant about 2.0 miles upstream.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 4	0145	*1,670	*8.93	May 25	2220	1,510	8.53

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	8.8	22	26	19	22	26	81	38	e2.1	11	6.4
2	10	8.7	18	219	87	17	20	218	47	e2.1	7.6	5.8
3	8.9	8.9	15	50	129	43	18	48	17	e2.0	6.4	5.5
4	9.1	9.2	20	138	43	352	16	24	12	e1.7	17	5.0
5	8.3	9.2	29	136	100	160	15	17	10	e23	22	4.6
6	8.2	11	21	45	97	106	14	13	8.8	e90	7.7	4.4
7	8.2	10	16	33	46	56	15	11	7.8	e10	6.3	4.6
8	7.9	9.0	15	27	34	39	14	9.6	7.0	6.9	5.6	4.6
9	7.9	8.4	14	25	30	32	13	8.2	41	25	5.4	4.6
10	9.1	8.5	87	21	26	26	13	8.3	16	29	5.3	4.3
11	8.7	8.7	39	19	23	23	13	8.2	8.6	15	5.0	4.1
12	8.7	136	26	18	21	19	52	7.5	e7.1	8.4	4.8	4.1
13	9.1	32	20	17	18	17	183	9.0	e7.0	6.8	4.7	4.0
14	63	18	23	15	17	16	107	11	e5.4	25	4.4	4.0
15	18	30	22	14	16	15	45	110	e7.3	10	4.2	3.9
16	11	20	43	13	14	46	34	23	e27	8.5	4.3	3.9
17	9.8	16	34	29	14	26	28	11	e10	192	4.4	4.1
18	9.1	143	33	80	13	19	23	49	7.3	19	4.2	3.9
19	8.6	55	32	34	13	16	20	34	7.1	11	4.3	3.7
20	8.4	29	24	24	13	20	20	17	4.7	8.2	8.0	3.7
21	8.8	21	20	20	12	19	62	9.3	4.1	6.8	7.8	3.8
22	8.5	17	19	18	12	15	51	6.9	4.0	6.2	5.1	3.7
23	8.4	14	112	15	11	14	154	5.7	3.9	6.8	4.7	3.4
24	8.2	64	55	15	11	14	56	12	3.5	5.7	4.9	3.6
25	8.1	25	33	16	11	13	121	159	3.5	5.0	5.3	3.6
26	36	18	26	53	11	13	56	144	3.2	40	41	3.7
27	14	96	21	62	10	13	39	284	2.7	7.6	9.8	3.8
28	11	105	18	33	10	13	31	233	3.3	6.3	6.4	3.8
29	11	41	72	27	10	48	26	32	3.4	5.6	29	3.9
30	9.5	29	64	23	---	44	68	269	e2.8	12	31	3.9
31	9.1	---	32	26	---	29	---	240	---	47	8.5	---
TOTAL	382.6	1,009.4	1,025	1,291	871	1,305	1,353	2,112.7	330.5	644.7	296.1	126.4
MEAN	12.3	33.6	33.1	41.6	30.0	42.1	45.1	68.2	11.0	20.8	9.55	4.21
MAX	63	143	112	219	129	352	183	284	47	192	41	6.4
MIN	7.9	8.4	14	13	10	13	13	5.7	2.7	1.7	4.2	3.4

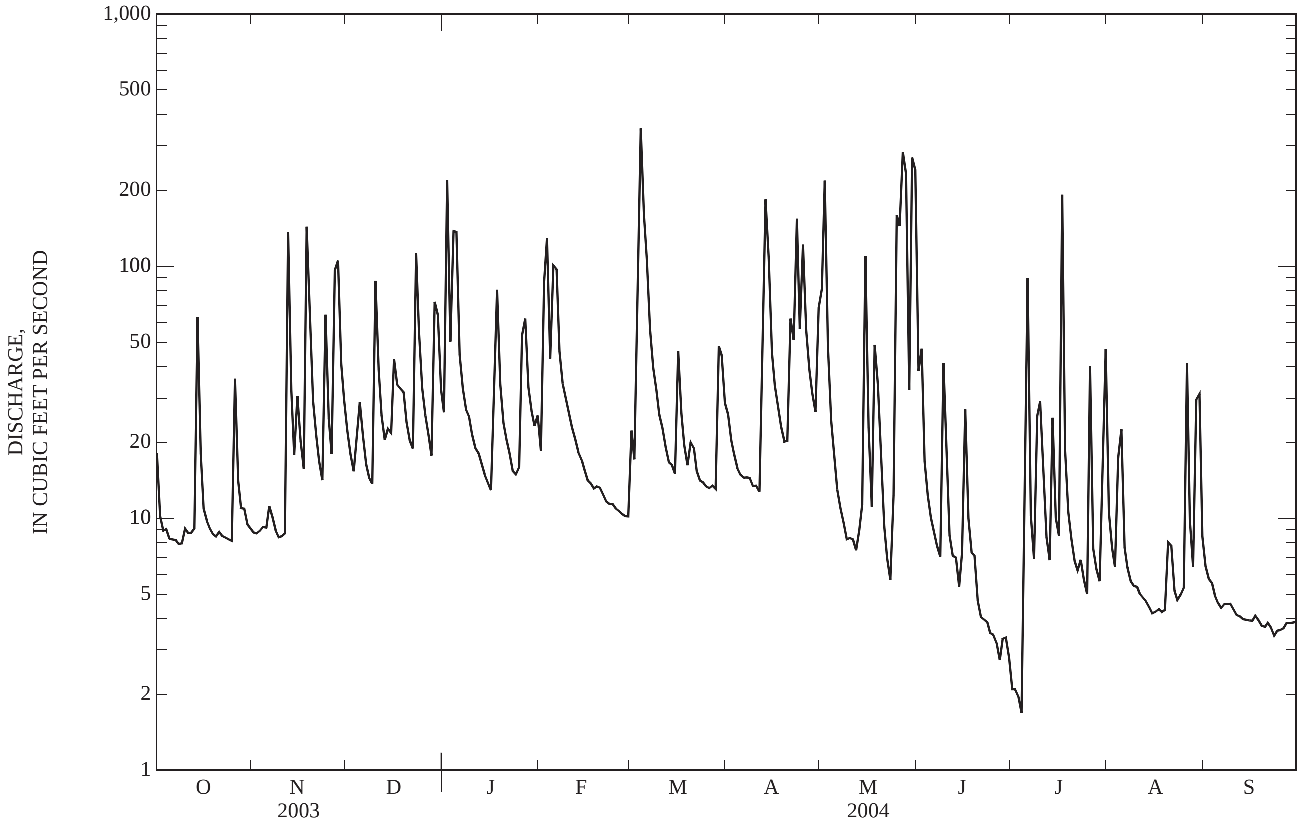
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.6	17.3	30.1	33.4	33.3	43.7	34.0	33.5	26.7	11.0	10.4	14.4
MAX	26.3	33.6	47.5	54.1	54.3	119	57.7	68.2	73.4	20.8	20.7	30.2
(WY)	(2003)	(2004)	(2003)	(1999)	(2000)	(1997)	(2002)	(2004)	(1997)	(2004)	(2003)	(2003)
MIN	3.81	7.23	15.6	9.24	17.4	15.7	9.17	11.3	9.29	5.52	4.76	3.73
(WY)	(1998)	(2000)	(1999)	(2001)	(2002)	(2001)	(2001)	(1999)	(2001)	(2002)	(1999)	(1999)

03298150 CHENOWETH RUN AT GELHAUS LANE NEAR FERN CREEK, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	10,219.2		10,747.4			
ANNUAL MEAN	28.0		29.4		25.0	
HIGHEST ANNUAL MEAN					32.3	1997
LOWEST ANNUAL MEAN					13.7	2001
HIGHEST DAILY MEAN	326	Jan 1	352	Mar 4	1,590	Mar 1, 1997
LOWEST DAILY MEAN	5.6	Jul 5	1.7	Jul 4	1.7	Jul 4, 2004
ANNUAL SEVEN-DAY MINIMUM	6.7	Jun 29	2.5	Jun 28	2.3	Mar 4, 2000
MAXIMUM PEAK FLOW			1,670	Mar 4	4,810	Mar 2, 1997
MAXIMUM PEAK STAGE					8.93	Mar 4, 2004
10 PERCENT EXCEEDS	64		63		49	
50 PERCENT EXCEEDS	13		15		10	
90 PERCENT EXCEEDS	7.6		4.3		4.3	

e Estimated



03298200 FLOYDS FORK AT BARDSTOWN ROAD NEAR MOUNT WASHINGTON, KY

LOCATION.--Lat 38°05'07", long 85°33'18", Jefferson County, Hydrologic Unit 05140102, on right downstream side of bridge on U.S. Highway 31E, 0.2 mi below Old Mans Run, 2.0 mi north of Mount Washington, and 18.7 miles above the mouth.

DRAINAGE AREA.--213 mi^2.

PERIOD OF RECORD.--November 2000 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 457.23 ft above NGVD of 1929.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	67	340	376	327	109	247	599	1,020	24	512	63
2	105	64	265	3,310	487	167	208	3,790	1,120	23	191	47
3	82	61	224	1,060	2,730	240	177	1,000	412	22	113	40
4	68	60	215	941	731	4,030	154	500	296	24	87	36
5	60	59	283	3,950	749	1,470	136	358	235	29	632	33
6	54	59	342	813	2,470	1,610	126	274	193	115	282	30
7	49	63	255	499	815	622	119	216	162	204	122	28
8	45	61	218	385	488	417	114	175	140	75	82	26
9	42	60	196	e305	391	324	107	147	597	126	66	25
10	41	57	874	e256	338	264	97	370	195	420	56	24
11	40	55	1,060	e225	e294	224	93	292	103	1,440	49	23
12	39	2,270	446	e212	e259	196	134	165	195	225	44	21
13	35	2,300	325	e194	e235	170	1,000	126	147	116	39	20
14	148	423	e258	e181	e215	159	1,750	117	104	1,260	36	18
15	539	351	e221	e167	e195	152	559	463	79	415	33	18
16	203	350	399	157	e177	228	347	451	255	156	31	19
17	126	265	678	158	e163	276	258	259	199	5,970	29	18
18	98	1,240	415	1,070	e153	211	208	249	94	1,040	27	17
19	85	2,220	445	646	e145	176	175	438	89	447	28	17
20	76	567	360	e333	e139	161	158	1,160	92	246	25	17
21	69	359	297	e244	e132	184	287	350	64	146	36	18
22	62	269	278	e202	e127	161	516	221	54	115	31	19
23	57	216	823	e177	125	147	1,540	158	46	95	31	20
24	55	543	1,750	e152	119	138	941	127	38	77	30	20
25	54	440	567	e144	e114	129	771	205	102	63	38	11
26	100	276	394	e276	e109	120	712	2,960	50	94	81	12
27	146	904	313	727	e104	117	389	5,530	35	91	89	13
28	127	2,150	266	457	98	115	283	8,730	31	68	60	11
29	96	892	355	e290	95	158	227	922	28	56	49	10
30	82	471	1,510	e219	---	412	335	2,170	25	89	182	9.2
31	72	---	540	373	---	307	---	7,840	---	2,640	121	---
TOTAL	2,975	17,172	14,912	18,499	12,524	13,194	12,168	40,362	6,200	15,911	3,232	683.2
MEAN	96.0	572	481	597	432	426	406	1,302	207	513	104	22.8
MAX	539	2,300	1,750	3,950	2,730	4,030	1,750	8,730	1,120	5,970	632	63
MIN	35	55	196	144	95	109	93	117	25	22	25	9.2

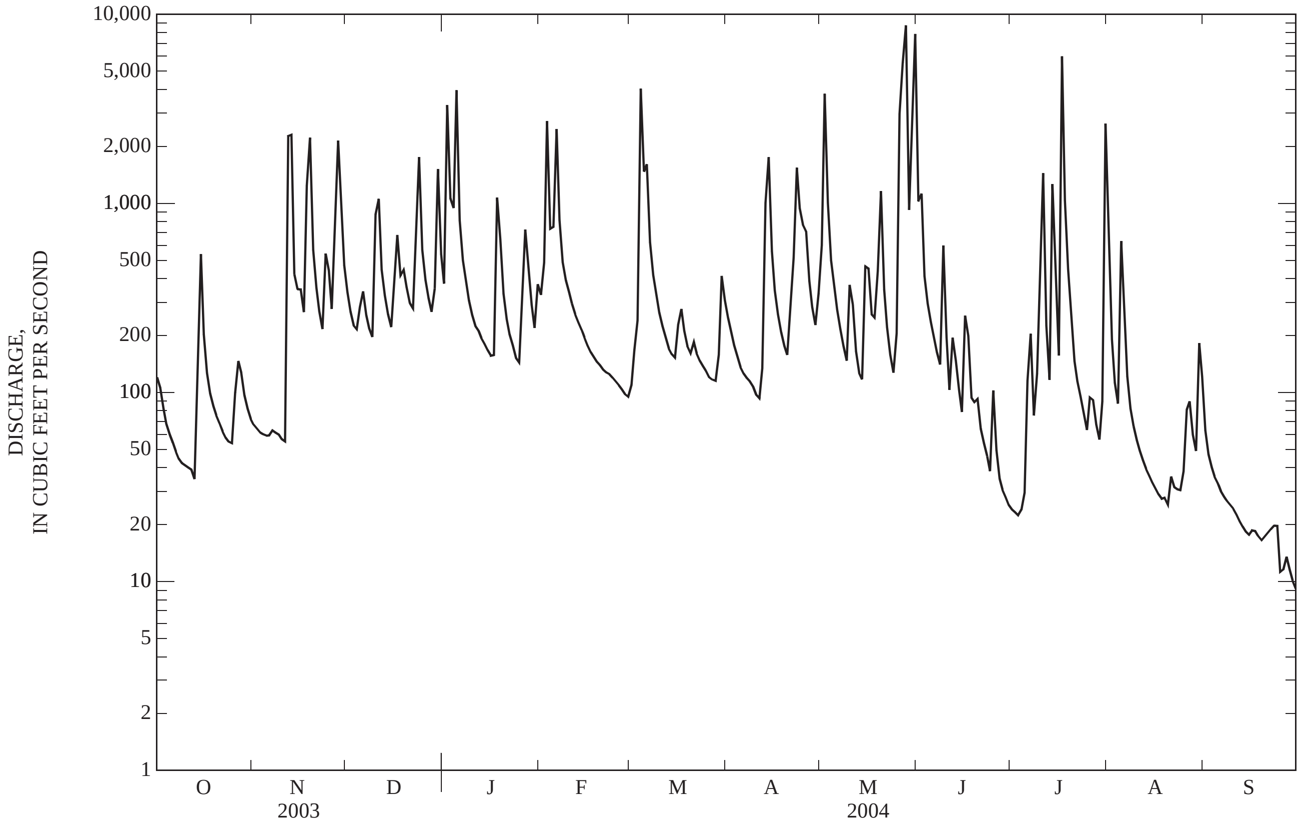
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	227	369	560	415	509	494	464	767	256	176	117	234
MAX	367	572	800	597	900	1,018	676	1,302	349	513	331	579
(WY)	(2003)	(2004)	(2003)	(2004)	(2003)	(2002)	(2002)	(2004)	(2002)	(2004)	(2003)	(2003)
MIN	96.0	94.1	402	122	186	263	116	166	137	34.8	10.7	11.0
(WY)	(2004)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)	(2001)

03298200 FLOYDS FORK AT BARDSTOWN ROAD NEAR MOUNT WASHINGTON, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2001 - 2004	
ANNUAL TOTAL	167,786		157,832.2			
ANNUAL MEAN	460		431		450	
HIGHEST ANNUAL MEAN					493	2003
LOWEST ANNUAL MEAN					425	2002
HIGHEST DAILY MEAN	7,420	Sep 2	8,730	May 28	8,730	May 28, 2004
LOWEST DAILY MEAN	20	Jul 6	9.2	Sep 30	3.0	Sep 30, 2001
ANNUAL SEVEN-DAY MINIMUM	24	Jul 2	12	Sep 24	4.1	Sep 13, 2001
MAXIMUM PEAK FLOW			9,750	May 31	13,900	Jan 24, 2002
MAXIMUM PEAK STAGE			16.89	May 31	19.65	Jan 24, 2002
10 PERCENT EXCEEDS	1,090		941		950	
50 PERCENT EXCEEDS	197		172		152	
90 PERCENT EXCEEDS	45		30		23	

e Estimated



03298300 PENNSYLVANIA RUN AT MOUNT WASHINGTON ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°05'15", long 85°38'33", Jefferson County, Hydrologic Unit 05140102, at bridge on Mt. Washington Road, near Louisville, Ky. and at mile 1.9.

DRAINAGE AREA.--6.4 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 430.38 ft above NGVD of 1929.

REMARKS.--Records good except for those estimated, which are rated poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

PEAKS ABOVE BASE.--Peak discharges above base of 400 ft^3/s and maximum*.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 27	0110	421	4.38	May 28	0115	*650	*5.15

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.0	2.1	9.4	11	5.6	3.6	5.7	19	41	0.54	15	0.78
2	e2.3	2.0	6.8	69	21	4.4	4.5	67	76	0.55	5.5	0.60
3	e1.9	1.9	5.5	29	62	12	3.4	28	23	0.56	3.2	0.46
4	e1.4	1.6	5.9	48	22	117	2.9	17	14	0.63	2.1	0.38
5	e1.1	1.6	7.9	84	34	52	2.5	12	11	2.3	49	0.34
6	e0.89	2.0	7.4	26	52	49	2.4	8.4	8.2	2.2	6.8	0.36
7	e0.76	2.1	5.5	18	24	22	2.4	8.5	6.8	2.5	3.1	0.34
8	e0.66	1.7	4.7	14	16	16	2.2	5.1	5.9	1.5	2.0	0.38
9	0.66	1.6	4.2	12	13	12	1.9	3.9	26	2.3	1.5	0.63
10	0.83	1.4	29	9.3	11	8.9	1.6	3.3	27	1.8	1.2	0.58
11	0.96	1.7	19	8.0	9.0	7.6	1.6	2.9	8.2	1.2	0.89	0.56
12	0.86	82	11	7.3	7.6	6.2	5.3	2.4	26	3.6	0.75	0.58
13	0.64	27	8.1	6.2	6.4	5.1	51	2.2	21	5.3	0.62	0.63
14	13	9.3	8.1	5.2	5.8	4.9	41	2.2	9.9	25	0.50	0.59
15	7.2	8.3	6.9	4.4	5.2	4.7	17	23	5.5	5.3	0.47	0.51
16	2.5	6.8	13	3.8	4.2	9.8	10	13	12	2.3	0.47	0.63
17	1.9	4.7	16	5.1	3.9	7.3	7.3	5.5	13	12	0.47	0.88
18	1.6	48	11	24	3.6	5.6	5.2	e4.2	6.1	4.4	0.50	0.72
19	1.4	34	10	14	3.6	4.4	4.6	e15	7.1	2.2	0.53	0.64
20	1.3	13	7.4	8.5	3.7	4.6	4.1	9.0	3.9	1.5	0.81	0.67
21	1.6	7.5	6.0	6.9	3.3	5.0	13	4.3	2.5	0.95	2.0	0.61
22	1.6	5.4	5.5	5.9	2.9	3.8	18	2.7	1.9	0.91	1.2	0.55
23	1.2	4.2	34	4.7	2.8	3.4	73	1.9	1.5	2.6	0.87	0.50
24	0.84	21	34	4.5	2.9	3.4	28	1.5	1.2	2.3	1.8	0.45
25	0.74	10	16	5.6	2.5	3.2	34	7.1	1.4	1.1	8.5	0.39
26	6.7	6.9	11	17	2.3	3.0	21	63	1.4	2.4	24	0.41
27	4.3	35	8.3	31	2.2	3.3	13	158	1.1	1.7	11	0.39
28	2.5	50	7.0	16	2.1	3.0	8.8	168	0.89	1.2	3.5	0.38
29	2.3	23	18	11	2.1	6.9	6.6	26	0.71	0.78	2.1	0.33
30	1.9	15	33	9.0	---	11	20	80	0.62	2.2	1.7	0.32
31	1.9	---	16	6.8	---	6.8	---	105	---	68	1.1	---
TOTAL	70.44	430.8	385.6	525.2	336.7	409.9	412.0	869.1	364.82	161.82	153.18	15.59
MEAN	2.27	14.4	12.4	16.9	11.6	13.2	13.7	28.0	12.2	5.22	4.94	0.52
MAX	13	82	34	84	62	117	73	168	76	68	49	0.88
MIN	0.64	1.4	4.2	3.8	2.1	3.0	1.6	1.5	0.62	0.54	0.47	0.32

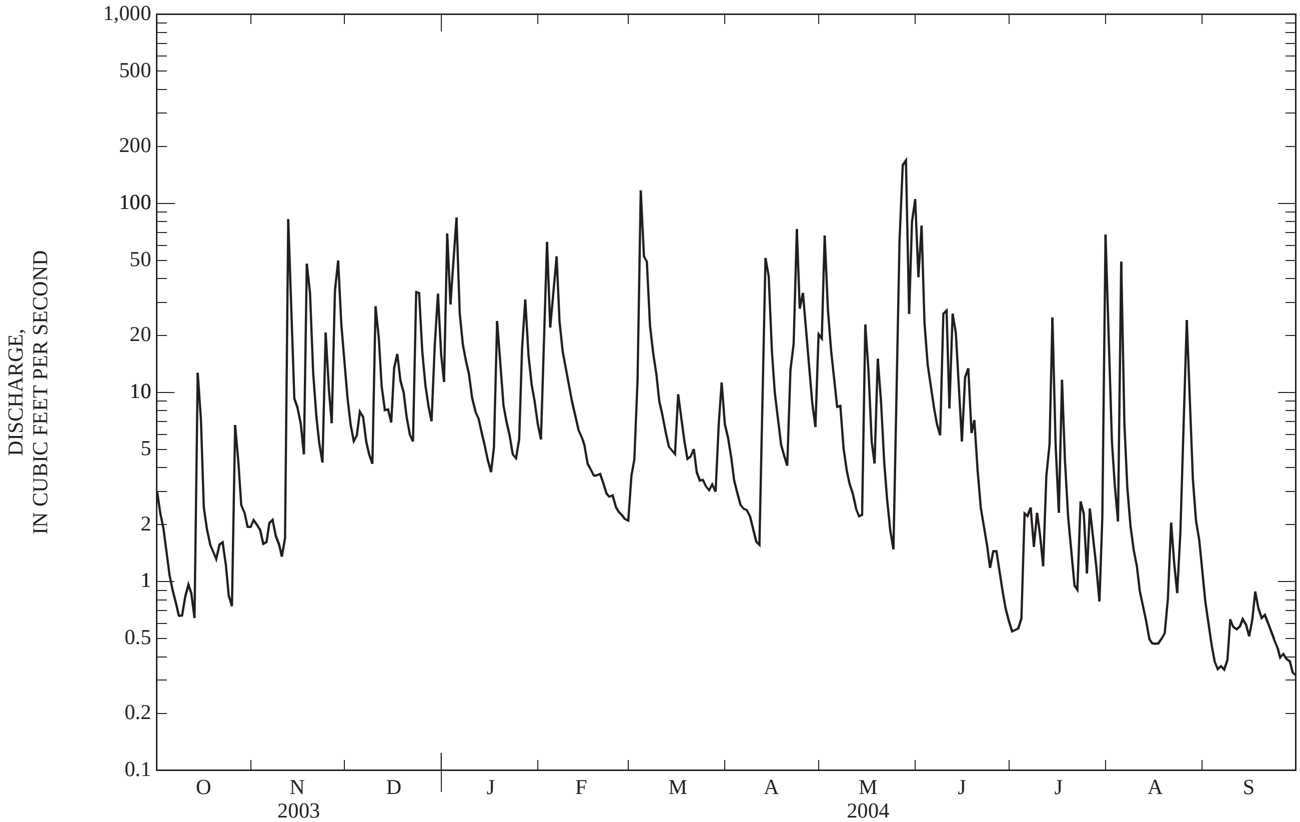
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.63	6.63	11.4	13.7	14.6	13.4	14.3	15.1	6.48	1.81	2.64	4.06
MAX	9.05	14.4	21.1	21.5	24.7	30.6	35.9	28.9	14.9	5.22	8.60	14.1
(WY)	(2002)	(2004)	(2003)	(1999)	(2000)	(2002)	(2002)	(2002)	(1999)	(2004)	(2003)	(2003)
MIN	0.66	0.45	4.34	2.85	6.92	5.80	1.58	0.94	0.92	0.30	0.34	0.52
(WY)	(2000)	(2000)	(2000)	(2001)	(2002)	(2003)	(2001)	(2000)	(2001)	(2002)	(1999)	(2004)

03298300 PENNSYLVANIA RUN AT MOUNT WASHINGTON ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	3,970.76		4,135.15			
ANNUAL MEAN	10.9		11.3		8.94	
HIGHEST ANNUAL MEAN					13.7	2002
LOWEST ANNUAL MEAN					3.69	2001
HIGHEST DAILY MEAN	147	Jan 1	168	May 28	353	Feb 18, 2000
LOWEST DAILY MEAN	0.45	Jul 15	0.32	Sep 30	0.17	Jul 31, 2002
ANNUAL SEVEN-DAY MINIMUM	0.67	Jun 29	0.38	Sep 24	0.22	Jun 20, 2002
MAXIMUM PEAK FLOW			650	May 28	1,540	Jun 28, 1999
MAXIMUM PEAK STAGE			5.15	May 28	8.22	Jun 28, 1999
10 PERCENT EXCEEDS	29		27		20	
50 PERCENT EXCEEDS	4.1		4.6		2.4	
90 PERCENT EXCEEDS	0.93		0.63		0.45	

e Estimated



03298500 SALT RIVER AT SHEPHERDSVILLE, KY

LOCATION.--Lat 37°59'06", long 85°43'03", Bullitt County, Hydrologic Unit 05140102, on downstream side of bridge on State Highway 61 at Shepherdsville, 500 ft downstream from Louisville and Nashville Railroad bridge, 2.6 mi downstream from Floyds Fork, and at mile 22.9.

DRAINAGE AREA.--1,197 mi^2.

PERIOD OF RECORD.--May 1938 to current year.

REVISED RECORDS.--WSP 893: 1937(M). WSP 1435: 1955: WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 406.58 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to Oct. 16, 1969. Auxillary gage is a water-stage recorder with telemetry, located at mouth of Floyds Fork 2.6 mi upstream.

REMARKS.--Records fair. Flow regulated since January 1983 by Taylorsville Lake (station 03295597). Diversions for water supply by Sheperdsville and other municipalities.

COOPERATION.--U.S. Army Corps of Engineers,Louisville District and Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 26, 1937, reached a stage of 47.3 ft, from floodmark (backwater from Ohio River).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572	480	2,770	2,860	1,610	529	1,740	1,850	e14,700	261	3,990	281
2	445	431	3,500	7,790	2,100	688	1,640	7,430	e9,600	245	1,450	211
3	392	403	3,260	7,330	7,530	752	1,150	6,180	e5,100	240	1,940	175
4	340	317	3,140	4,260	5,570	5,080	965	4,490	4,340	217	2,140	163
5	300	238	3,060	10,900	4,730	5,960	877	4,010	3,950	527	5,180	155
6	279	236	2,640	5,690	8,620	9,690	817	2,210	3,110	825	4,210	145
7	266	246	2,300	3,090	5,670	5,110	782	1,450	2,910	1,160	2,630	135
8	252	240	1,840	2,810	3,740	4,040	760	1,160	2,770	937	1,620	130
9	234	233	1,680	2,410	3,230	3,650	728	986	3,180	593	628	121
10	198	223	3,020	2,380	2,700	3,090	649	863	3,920	1,300	409	117
11	170	216	5,160	2,780	2,420	3,170	568	1,220	2,730	2,840	338	111
12	189	1,790	3,720	3,710	2,740	3,310	627	888	3,240	2,250	287	111
13	188	8,170	3,560	3,940	3,490	2,410	2,920	770	3,220	1,490	249	167
14	236	3,940	3,350	3,450	2,580	2,170	6,050	717	2,010	2,570	214	107
15	788	4,070	3,070	3,310	1,760	1,590	4,570	1,260	1,540	3,100	180	97
16	736	3,850	2,600	3,220	1,220	1,180	3,870	2,060	2,630	2,070	161	90
17	565	3,790	3,650	3,100	1,040	1,270	2,700	1,760	3,380	6,390	144	97
18	424	3,910	4,000	4,070	976	1,170	1,380	2,640	4,570	7,320	132	118
19	355	7,670	3,900	4,720	939	945	1,100	3,140	2,930	2,460	124	114
20	320	4,520	3,560	3,530	915	905	1,530	4,050	2,670	2,890	137	1,210
21	282	3,700	3,230	3,050	887	1,400	1,690	2,470	2,530	2,760	139	e681
22	234	3,520	3,000	2,230	839	1,050	2,880	1,610	2,400	2,560	148	e1,200
23	210	2,960	2,140	1,620	796	908	5,990	889	2,310	2,740	139	e1,500
24	198	3,420	5,530	1,120	1,150	834	5,790	664	2,240	2,430	142	e771
25	190	3,210	3,550	e990	886	862	4,760	613	1,780	2,240	201	e1,340
26	293	2,740	3,480	e1,610	634	843	5,280	4,360	1,430	1,320	287	112
27	608	2,860	3,070	3,550	557	803	4,370	e9,400	932	613	417	83
28	601	6,820	2,800	3,290	525	777	3,770	e9,900	790	370	342	79
29	553	5,730	2,570	2,970	521	809	2,660	e10,100	394	273	286	77
30	530	3,730	4,180	2,170	---	1,640	1,740	e6,800	282	287	300	77
31	524	---	3,600	1,600	---	1,610	---	e15,900	---	3,900	418	---
TOTAL	11,472	83,663	100,930	109,550	70,375	68,245	74,353	111,840	97,588	59,178	28,982	9,775
MEAN	370	2,789	3,256	3,534	2,427	2,201	2,478	3,608	3,253	1,909	935	326
MAX	788	8,170	5,530	10,900	8,620	9,690	6,050	15,900	14,700	7,320	5,180	1,500
MIN	170	216	1,680	990	521	529	568	613	282	217	124	77

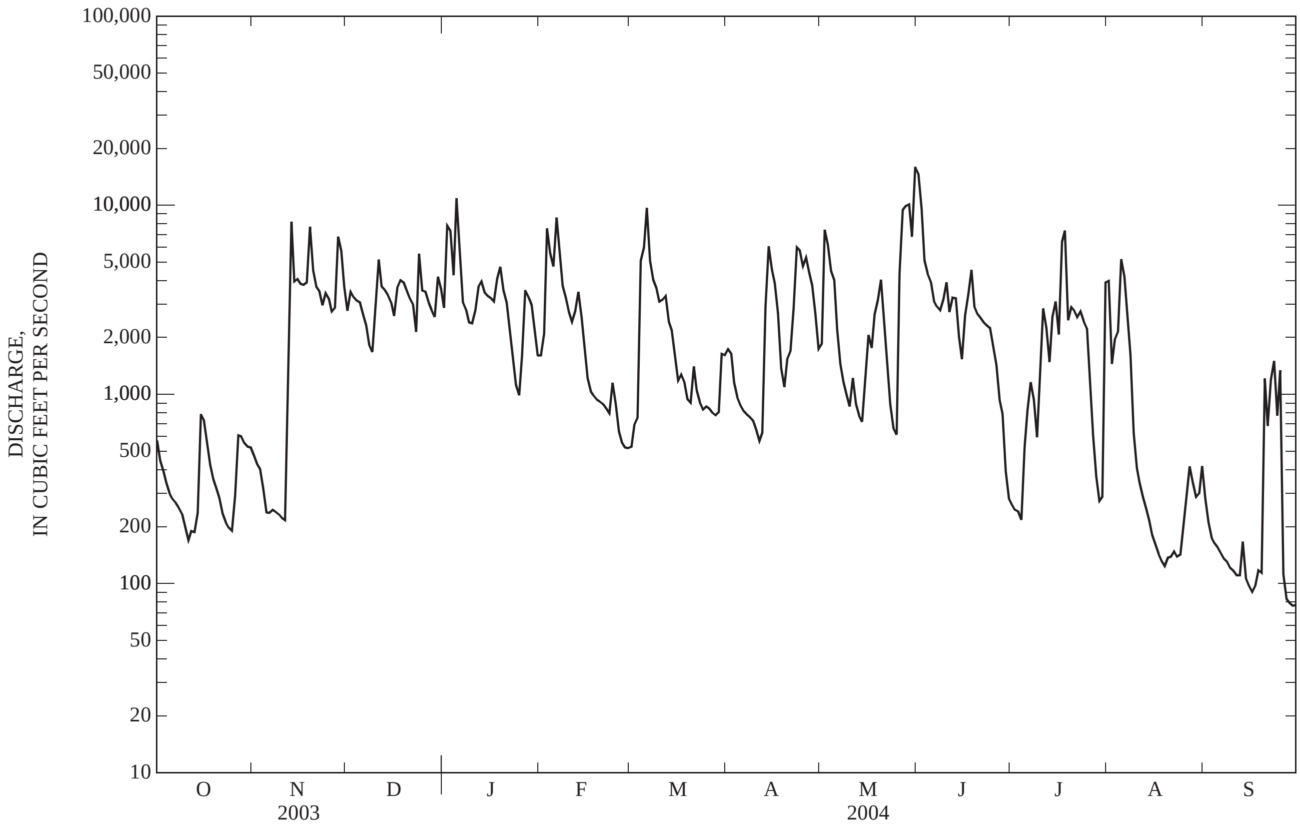
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	328	1,063	2,095	2,538	3,619	3,218	2,119	2,078	1,524	572	317	351
MAX	1,698	2,789	6,329	5,728	12,370	11,410	3,683	5,768	5,192	1,976	1,052	2,949
(WY)	(2003)	(2004)	(1991)	(1991)	(1989)	(1997)	(2002)	(1995)	(1997)	(1998)	(2003)	(2003)
MIN	25.9	48.1	258	335	996	1,113	377	201	38.9	63.6	29.9	30.6
(WY)	(1989)	(2000)	(1990)	(1986)	(1992)	(1990)	(1986)	(2000)	(1988)	(1994)	(2002)	(1999)

03298500 SALT RIVER AT SHEPHERDSVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1984 - 2004	
ANNUAL TOTAL	828,794		825,951			
ANNUAL MEAN	2,271		2,257		1,642	
HIGHEST ANNUAL MEAN					2,809	1997
LOWEST ANNUAL MEAN					772	2001
HIGHEST DAILY MEAN	17,200	Jan 1	15,900	May 31	65,600	Mar 2, 1997
LOWEST DAILY MEAN	130	Aug 21	77	Sep 29	7.7	Jul 1, 1988
ANNUAL SEVEN-DAY MINIMUM	179	Aug 16	111	Sep 11	9.3	Jun 26, 1988
MAXIMUM PEAK FLOW			18,500	May 31	78,200	Mar 10, 1964
MAXIMUM PEAK STAGE			25.23	Jun 1	41.50	Mar 11, 1964
INSTANTANEOUS LOW FLOW			73	Sep 29	73	Sep 29, 2004
10 PERCENT EXCEEDS	4,900		4,740		4,110	
50 PERCENT EXCEEDS	1,470		1,620		548	
90 PERCENT EXCEEDS	234		196		47	

e Estimated



03298550 LONG LICK AT CLERMONT, KY

LOCATION.--Lat 37°55'40", long 85°39'13", Bullitt County, Hydrologic Unit 05140102, downstream side of bridge at Jim Beam Distillery, at Clermont, and 10.8 mi upstream from mouth.

DRAINAGE AREA.-- 7.91 mi^2.

PERIOD OF RECORD.--April 1, 1992 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 450 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records fair except for those estimated, which are poor. Slight regulation from Jim Beam Distillery.

COOPERATION.--Bullitt County.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jun 17	2130	*871	*6.22	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.51	e2.2	5.3	9.4	6.4	2.3	12	16	24	1.1	7.1	1.6
2	0.77	e2.3	5.1	110	35	2.5	8.7	112	14	1.2	2.6	2.0
3	1.0	e2.1	4.5	33	85	2.6	7.5	23	9.5	1.4	1.4	2.1
4	1.1	e1.8	8.5	41	21	15	7.7	12	8.2	2.4	1.1	0.97
5	0.87	e1.7	18	85	60	104	3.3	8.4	7.0	3.0	e32	0.88
6	0.57	e2.0	11	22	92	64	3.1	5.7	7.3	3.2	e4.9	0.84
7	0.47	3.9	8.4	13	25	22	3.4	3.9	3.1	3.1	e1.8	1.6
8	0.73	e2.6	5.5	11	17	14	3.3	3.3	2.5	2.6	e1.0	1.9
9	0.73	e1.5	3.3	9.4	11	10	3.1	4.2	2.3	6.3	e0.69	1.7
10	1.1	e1.2	55	7.3	9.1	8.2	3.2	1.4	3.0	5.9	0.64	1.3
11	0.97	1.1	23	6.9	7.6	7.3	4.7	2.0	2.4	0.53	0.49	0.56
12	1.1	24	9.7	5.5	6.4	5.7	28	1.2	4.1	10	0.35	0.83
13	1.7	8.5	7.0	6.1	6.3	3.4	141	1.6	5.2	5.0	0.28	0.38
14	6.1	0.76	8.0	4.9	4.6	1.7	58	1.8	1.9	14	0.18	0.37
15	6.1	0.52	6.1	4.5	6.1	3.7	21	10	2.0	4.0	0.18	0.41
16	3.6	1.5	38	4.3	4.5	7.8	13	6.6	10	1.7	0.20	0.50
17	e1.6	0.86	26	4.2	3.6	4.9	9.6	2.1	e53	0.98	0.52	1.5
18	e1.3	55	14	42	1.4	4.7	9.3	1.2	e15	0.79	1.0	1.7
19	e1.2	33	11	17	1.3	3.8	5.9	39	e7.2	0.91	0.88	1.2
20	e1.1	10	8.9	8.7	1.8	9.3	5.6	23	e2.6	0.40	0.98	1.4
21	e0.94	5.5	7.0	6.7	2.5	21	44	4.8	e2.2	0.53	1.1	1.6
22	e0.92	4.3	5.0	6.2	2.4	8.6	53	1.9	e2.0	11	1.2	1.5
23	e0.88	5.2	23	5.8	1.4	4.9	111	2.4	e1.5	11	1.3	1.7
24	e0.90	31	33	5.3	1.5	4.8	32	0.80	e0.62	1.9	1.8	1.9
25	5.4	11	15	5.7	1.3	4.2	45	1.1	2.1	0.84	2.3	1.6
26	14	5.4	9.1	42	1.8	3.8	22	32	1.3	0.55	4.2	1.5
27	10	52	7.1	37	2.0	3.8	12	119	1.1	0.49	3.8	1.3
28	8.5	69	6.3	15	1.9	5.1	8.6	112	1.0	0.35	2.4	1.0
29	3.9	21	12	10	1.9	14	6.9	20	1.0	0.49	1.9	1.5
30	e3.0	12	44	8.3	---	31	8.0	93	0.95	1.6	1.8	1.5
31	e2.6	---	15	6.6	---	14	---	173	---	45	2.3	---
TOTAL	83.66	372.94	452.8	593.8	421.8	412.1	693.9	838.40	198.07	142.26	82.39	38.84
MEAN	2.70	12.4	14.6	19.2	14.5	13.3	23.1	27.0	6.60	4.59	2.66	1.29
MAX	14	69	55	110	92	104	141	173	53	45	32	2.1
MIN	0.47	0.52	3.3	4.2	1.3	1.7	3.1	0.80	0.62	0.35	0.18	0.37

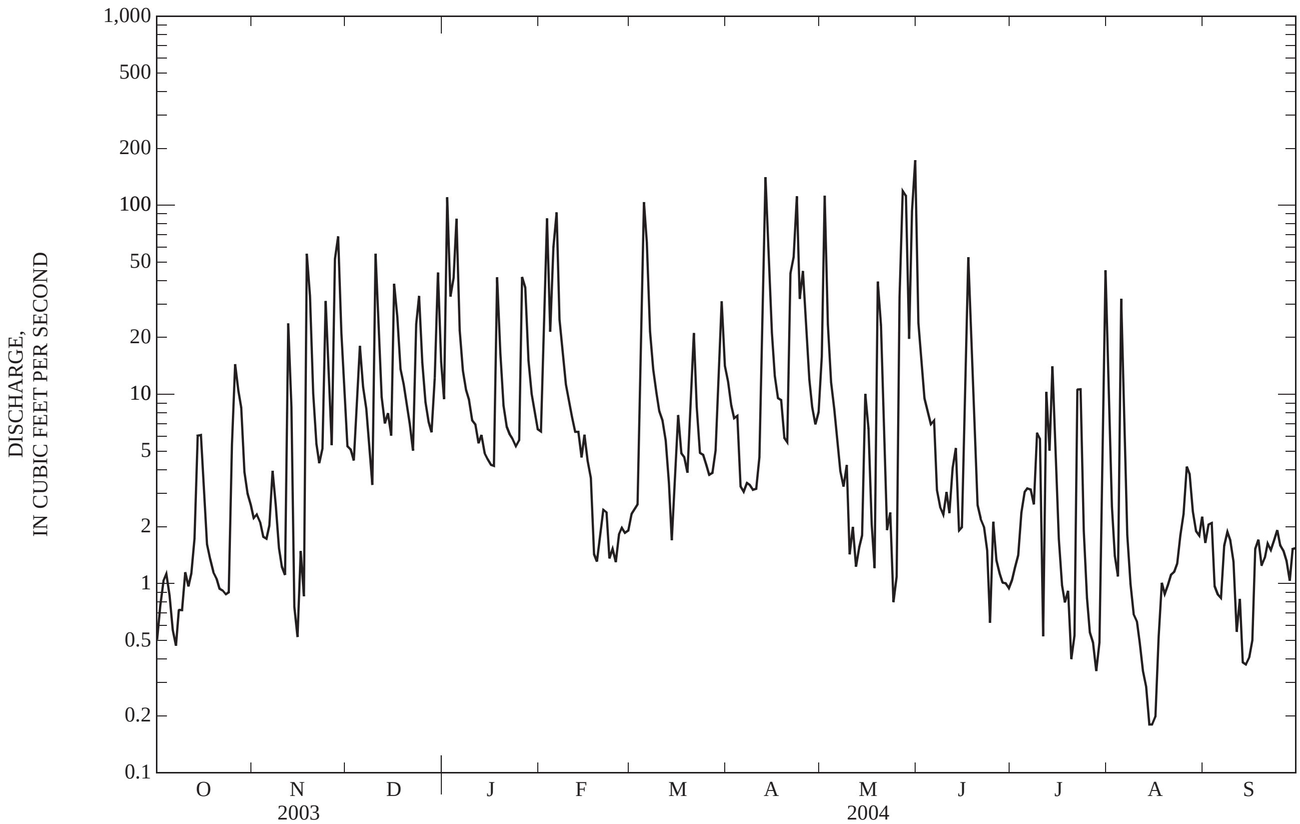
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.13	4.62	8.73	16.2	18.3	27.6	19.3	18.4	9.01	1.37	1.53	2.02
MAX	7.37	12.4	23.4	29.2	37.1	101	42.2	47.2	35.0	4.59	9.21	11.9
(WY)	(2003)	(2004)	(2003)	(1996)	(2003)	(1997)	(1998)	(1995)	(1997)	(2004)	(1995)	(2003)
MIN	0.10	0.68	0.83	1.79	6.43	10.0	2.40	1.34	0.05	0.04	0.06	0.13
(WY)	(1998)	(1995)	(1999)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2001)	(1998)	(1998)

03298550 LONG LICK AT CLERMONT, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1992 - 2004	
ANNUAL TOTAL	4,688.25		4,330.96			
ANNUAL MEAN	12.8		11.8		10.9	
HIGHEST ANNUAL MEAN					19.1	1997
LOWEST ANNUAL MEAN					3.59	2001
HIGHEST DAILY MEAN	255	Feb 15	173	May 31	680	Mar 1, 1997
LOWEST DAILY MEAN	0.04	Sep 26	0.18	Aug 14	0.00	Nov 13, 2001
ANNUAL SEVEN-DAY MINIMUM	0.31	Sep 7	0.31	Aug 11	0.01	Aug 20, 1999
MAXIMUM PEAK FLOW			871	Jun 17	2,820	May 6, 2002
MAXIMUM PEAK STAGE			6.22	Jun 17	11.44	May 6, 2002
INSTANTANEOUS LOW FLOW			0.08	Nov 14	0.01	Sep 26, 2003
10 PERCENT EXCEEDS	32		32		23	
50 PERCENT EXCEEDS	4.1		4.2		1.6	
90 PERCENT EXCEEDS	0.52		0.87		0.11	

e Estimated



03300400 BEECH FORK AT MAUD, KY

LOCATION.--Lat 37°49'58", long 85°17'46", Nelson County, Hydrologic Unit 05140103, on right bank on downstream side of bridge on State Highway 55, 100 ft upstream from Nealy Run, 0.8 mi north of Maud, 1.7 mi downstream from Chaplin River, and at mile 48.1.

DRAINAGE AREA.--436 mi^2..

PERIOD OF RECORD.--August 1972 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 530.00 ft above NGVD of 1929.

REMARKS.--Records good except those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0930	11,600	18.00	May 31	0815	*14,500	19.40
Jan 3	0100	11,200	17.81	Aug 1	0145	8110	16.27
Mar 6	1330	12,400	18.40	Aug 5	2000	9490	16.95
May 28	1815	10,800	17.62				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	107	781	813	e430	150	426	320	4,290	39	4,120	153
2	145	90	545	5,750	e400	196	315	1,550	1,140	31	514	94
3	119	77	429	7,190	2,870	275	269	2,550	689	26	266	66
4	100	68	389	1,950	2,300	245	241	912	469	28	163	49
5	86	91	797	4,410	1,630	1,050	218	551	392	68	6,170	37
6	75	258	1,200	3,360	6,340	10,200	198	423	327	119	3,590	29
7	67	432	848	1,270	2,910	3,470	184	344	267	73	773	23
8	60	305	601	836	1,180	1,040	176	288	218	72	368	22
9	52	221	491	647	806	642	168	245	180	49	233	22
10	50	176	1,620	557	670	487	156	215	153	44	162	19
11	43	149	4,130	473	571	398	146	191	133	33	121	17
12	38	3,320	1,360	410	492	344	185	171	124	62	99	21
13	34	8,920	739	382	434	305	1,330	162	318	52	81	117
14	38	1,630	626	350	390	274	3,740	164	309	113	68	51
15	92	726	833	322	358	255	1,760	2,850	232	186	55	29
16	132	801	1,870	298	325	258	752	2,230	167	109	44	18
17	121	660	5,910	275	293	262	507	569	167	2,190	37	404
18	98	691	2,330	625	272	253	397	357	362	2,040	30	2,580
19	83	3,430	1,220	1,710	257	230	330	314	431	247	25	847
20	66	2,670	949	829	249	225	290	722	232	150	21	347
21	54	1,040	726	518	241	1,090	291	429	161	101	73	213
22	48	623	618	435	226	832	1,990	256	119	79	201	146
23	42	458	664	388	207	424	5,870	194	108	74	382	104
24	36	521	2,550	343	196	328	2,980	155	111	61	186	78
25	31	765	1,610	320	186	288	1,180	138	432	63	109	61
26	69	536	877	576	177	258	983	1,300	290	52	91	48
27	383	701	648	1,910	168	237	640	8,550	132	43	95	40
28	322	4,100	535	1,180	158	223	491	9,930	105	40	241	33
29	217	4,580	478	698	150	220	394	3,380	69	30	302	27
30	167	1,420	2,180	e510	---	420	343	8,130	50	24	156	23
31	131	---	1,640	e460	---	633	---	12,500	---	2,460	276	---
TOTAL	3,183	39,566	40,194	39,795	24,886	25,512	26,950	60,090	12,177	8,758	19,052	5,718
MEAN	103	1,319	1,297	1,284	858	823	898	1,938	406	283	615	191
MAX	383	8,920	5,910	7,190	6,340	10,200	5,870	12,500	4,290	2,460	6,170	2,580
MIN	31	68	389	275	150	150	146	138	50	24	21	17
CFSM	0.24	3.02	2.97	2.94	1.97	1.89	2.06	4.45	0.93	0.65	1.41	0.44
IN.	0.27	3.38	3.43	3.40	2.12	2.18	2.30	5.13	1.04	0.75	1.63	0.49

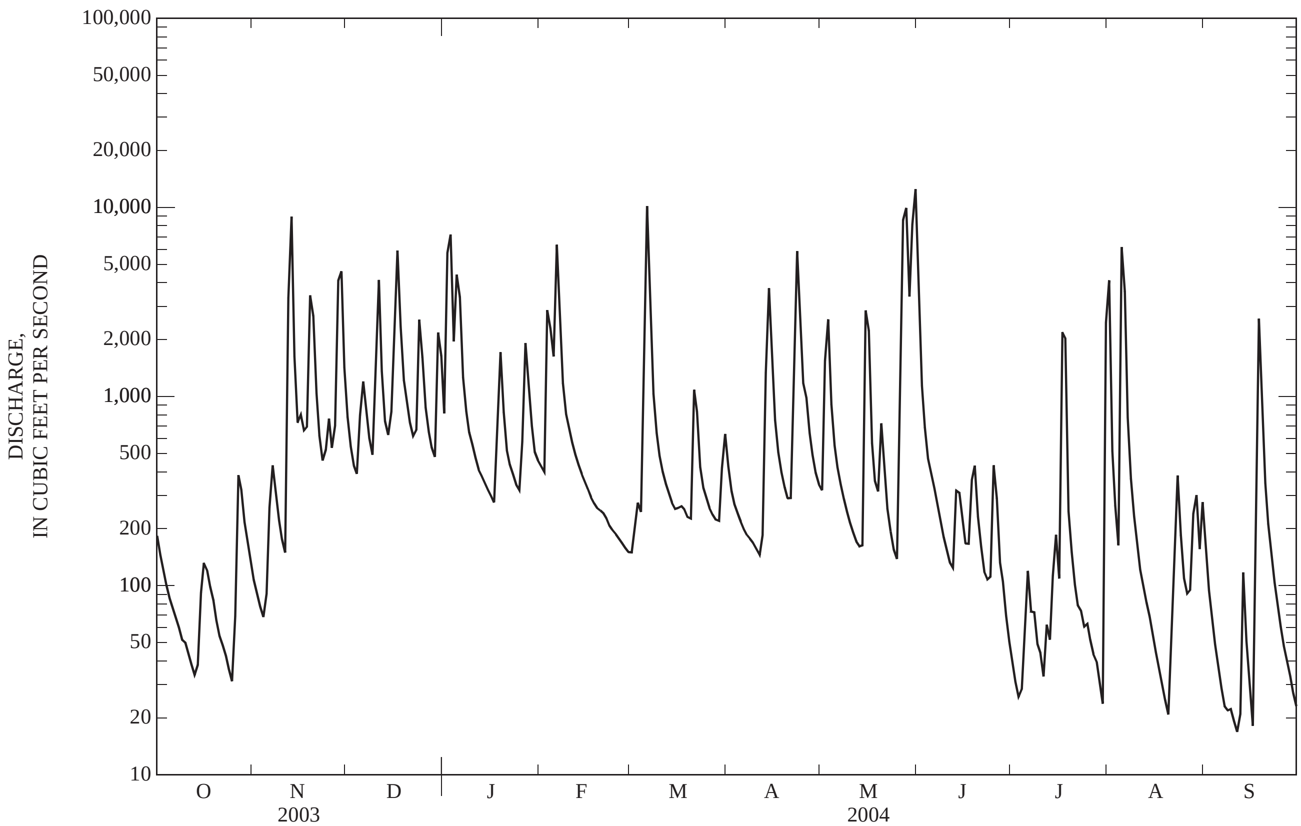
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	174	517	997	940	1,187	1,219	745	746	497	198	176	256
MAX	1,042	1,699	3,691	2,461	5,071	4,663	2,022	2,359	2,499	764	939	2,284
(WY)	(1976)	(1989)	(1979)	(1974)	(1989)	(1997)	(1979)	(1995)	(1997)	(1998)	(1978)	(1979)
MIN	0.01	0.06	37.2	16.2	203	134	103	43.6	3.32	2.45	0.87	0.02
(WY)	(1988)	(2000)	(2000)	(1981)	(1980)	(1983)	(1986)	(1976)	(1988)	(1975)	(1986)	(1999)

03300400 BEECH FORK AT MAUD, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004	
ANNUAL TOTAL	360,644		305,881			
ANNUAL MEAN	988		836		635	
HIGHEST ANNUAL MEAN					1,243	1979
LOWEST ANNUAL MEAN					256	2000
HIGHEST DAILY MEAN	18,100	Feb 16	12,500	May 31	39,800	Mar 2, 1997
LOWEST DAILY MEAN	18	Aug 21	17	Sep 11	0.00	Oct 8, 1983
ANNUAL SEVEN-DAY MINIMUM	39	Jul 17	22	Sep 6	0.00	Oct 23, 1987
MAXIMUM PEAK FLOW			14,500	May 31	41,500	Mar 2, 1997
MAXIMUM PEAK STAGE			19.40	May 31	27.60	Mar 2, 1997
ANNUAL RUNOFF (CFSM)	2.27		1.92		1.46	
ANNUAL RUNOFF (INCHES)	30.77		26.10		19.79	
10 PERCENT EXCEEDS	2,520		2,250		1,370	
50 PERCENT EXCEEDS	375		289		170	
90 PERCENT EXCEEDS	52		47		4.2	

e Estimated



03301000 BEECH FORK AT BARDSTOWN, KY

LOCATION.--Lat 37°47'49", long 85°28'51", Nelson County, Hydrologic Unit 05140103 near center of span on downstream side of bridge on U.S. Highway 31E, 0.1 mile downstream from Rowan Creek, 1 mile southwest of Bardstown, and mile 20.7.

DRAINAGE AREA.--669 mi^2.

PERIOD OF RECORD.--October 1939 to September 1974; converted to a crest-stage partial-record station. Monthly discharge only for October, November 1939, published in WSP 1305. October 1997 to September 1999 and January 2001 to current year.

REVISIONS.--WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 439.3 ft above mean sea level.

REMARKS.--Records good except for periods of estimated, record which are fair. At times during periods of low flow, City of Bardstown diverts flow above station for municipal water supply. Some of this water is returned to stream by sewer outfall 300 ft above gage.

COOPERATION.--City of Bardstown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1800	9,980	24.56	May 27	1400	13,400	29.03
Jan 3	0600	10,600	25.40	May 31	1700	*17,600	*33.00
Mar 6	2200	10,500	25.27				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	266	1,420	1,430	596	104	465	463	7,840	102	5,140	297
2	198	123	958	8,670	910	166	313	2,290	2,910	96	1,110	180
3	145	112	722	9,700	3,900	209	236	3,640	1,250	106	481	140
4	127	103	696	3,840	3,400	243	185	1,660	836	120	336	105
5	120	122	994	5,950	3,080	1,260	152	870	651	218	7,700	89
6	121	316	1,690	4,870	6,940	10,700	129	638	561	580	5,090	72
7	105	613	1,360	2,500	4,390	5,000	117	513	526	536	1,650	57
8	105	607	973	1,500	1,970	1,760	108	433	434	447	642	53
9	73	363	776	1,170	1,130	843	100	375	382	449	443	54
10	55	287	2,160	951	876	589	92	326	329	429	344	56
11	51	224	4,860	775	710	460	85	287	304	1,580	267	54
12	49	2,990	2,650	685	592	379	122	268	263	1,440	206	70
13	46	9,520	1,270	627	500	320	1,970	257	368	712	162	74
14	54	3,390	1,070	571	438	281	4,240	295	579	565	133	202
15	88	1,320	1,220	527	394	248	2,860	5,500	414	580	114	304
16	94	1,230	2,490	478	347	267	987	3,990	346	572	99	510
17	109	1,090	6,600	448	313	256	593	1,250	455	674	86	1,830
18	102	1,580	3,820	1,140	274	229	447	682	1,730	4,110	77	3,380
19	89	4,280	2,080	2,210	254	196	370	1,000	708	886	68	2,840
20	88	3,890	1,560	1,530	240	237	326	1,260	505	614	63	1,800
21	78	2,020	1,190	864	224	895	389	891	360	537	101	e970
22	71	1,140	1,000	710	198	989	2,550	507	316	476	228	e618
23	54	838	1,150	589	174	489	7,800	387	239	276	375	e397
24	46	1,020	3,480	552	157	333	4,490	313	219	224	359	e306
25	40	1,160	2,820	536	141	265	2,070	278	189	172	221	e276
26	122	962	1,510	1,260	128	219	1,460	1,510	601	178	199	e256
27	432	1,280	1,070	2,520	120	184	972	13,700	299	101	423	e226
28	530	5,540	871	2,050	113	162	707	12,600	213	67	335	e206
29	379	6,220	808	1,200	105	197	554	5,680	141	61	473	e186
30	284	2,910	2,910	869	---	413	496	12,400	120	57	449	e165
31	253	---	2,860	641	---	593	---	17,000	---	3,000	370	---
TOTAL	4,391	55,516	59,038	61,363	32,614	28,486	35,385	91,263	24,088	19,965	27,744	15,773
MEAN	142	1,851	1,904	1,979	1,125	919	1,180	2,944	803	644	895	526
MAX	530	9,520	6,600	9,700	6,940	10,700	7,800	17,000	7,840	4,110	7,700	3,380
MIN	40	103	696	448	105	104	85	257	120	57	63	53

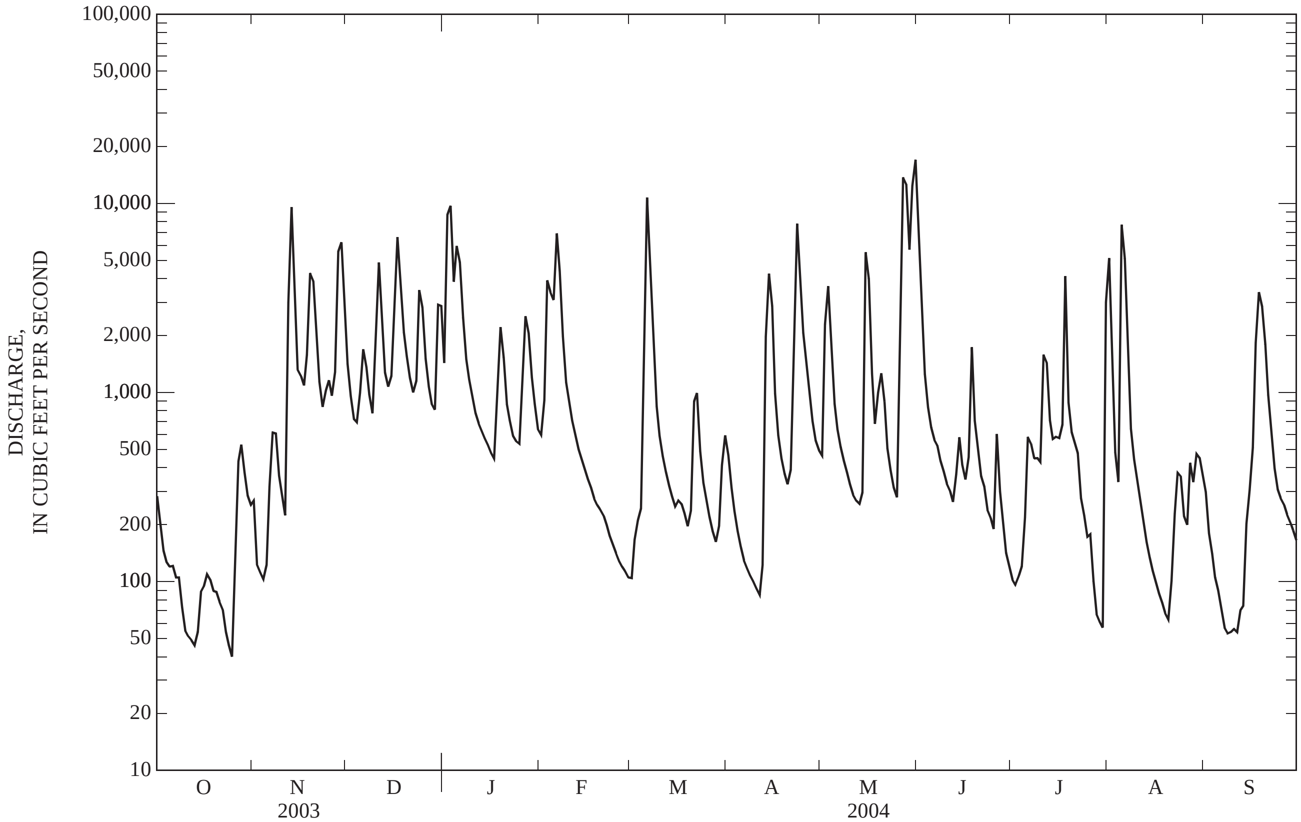
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	136	578	1,126	1,610	1,840	1,957	1,367	977	593	459	219	220
MAX	1,973	2,682	3,631	7,384	5,269	6,277	6,321	3,372	2,565	2,946	1,115	2,206
(WY)	(1963)	(1958)	(1952)	(1950)	(1956)	(1964)	(1972)	(1967)	(1998)	(1958)	(1974)	(1974)
MIN	0.27	0.70	1.40	42.7	123	153	145	46.1	22.2	1.36	3.44	0.39
(WY)	(1954)	(1964)	(1944)	(1944)	(1954)	(1941)	(1963)	(1941)	(1948)	(1954)	(1999)	(1953)

03301000 BEECH FORK AT BARDSTOWN, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	557,809		455,626			
ANNUAL MEAN	1,528		1,245		931	
HIGHEST ANNUAL MEAN					1,733	1950
LOWEST ANNUAL MEAN					245	1941
HIGHEST DAILY MEAN	22,500	Feb 16	17,000	May 31	32,200	Mar 5, 1964
LOWEST DAILY MEAN	40	Oct 25	40	Oct 25	0.00	Sep 29, 1948
ANNUAL SEVEN-DAY MINIMUM	59	Oct 9	59	Oct 9	0.03	Sep 28, 1948
MAXIMUM PEAK FLOW			17,600	May 31	33,900	Mar 5, 1964
MAXIMUM PEAK STAGE			33.00	May 31	43.50	Mar 5, 1964
10 PERCENT EXCEEDS	3,850		3,390		2,160	
50 PERCENT EXCEEDS	697		464		215	
90 PERCENT EXCEEDS	105		101		6.0	

e Estimated



03301500 ROLLING FORK NEAR BOSTON, KY

LOCATION.--Lat 37°46'02", long 85°42'14", Nelson Cty, Hydrologic Unit 05140103, on downstream side of bridge on U.S. Hwy 62 and State Hwy 61, 0.4 mi downstream from Beech Fork, 2.3 mi southwest of Boston, and at mile 19.8.

DRAINAGE AREA.--1,299 mi^2.

PERIOD OF RECORD.--May 1938 to current year.

REVISED RECORDS.--WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 400.42 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to Sept. 30, 1971. Datum of Auxilary gage (Rolling Fork at Lebanon Junction) 385.06 ft above sea level.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--U.S. Army Coprs of Engineers, Louisville District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1937 reached a stage of 55.2 ft, former site, from floodmarks (backwater from Ohio River).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 4	0600	16,000	35.31	Jun 1	1645	22,100	39.93
May 29	1345	*22,800	*40.35				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	723	438	3,470	3,250	e1,200	444	1,670	1,160	21,800	251	6,760	522
2	607	373	2,170	6,500	1,390	559	1,260	2,420	18,800	236	3,610	375
3	501	333	1,690	14,800	4,740	818	1,040	5,690	11,600	211	1,070	274
4	425	301	1,490	15,700	e6,470	1,080	918	4,240	5,290	362	673	217
5	374	280	1,670	13,000	5,030	1,460	875	2,100	2,510	330	4,410	178
6	326	376	2,290	e7,330	9,560	10,300	818	1,530	1,610	270	11,000	156
7	290	655	2,540	e4,820	12,600	14,000	682	e1,220	1,290	379	5,460	186
8	263	1,020	2,070	e3,870	9,950	10,500	604	975	1,080	393	1,450	163
9	243	774	1,690	e3,130	e4,440	e3,830	556	803	916	354	899	130
10	226	609	2,350	e2,510	e3,220	e2,410	506	672	797	440	649	111
11	219	508	6,280	e2,040	e2,340	e1,610	466	585	692	1,650	499	100
12	228	1,460	6,440	e1,900	e1,930	e1,180	523	e516	631	3,060	393	e112
13	205	9,560	2,850	e1,560	e1,660	e979	2,530	e493	706	1,410	324	e257
14	203	10,300	2,120	e1,160	e1,390	992	7,670	621	1,150	798	277	e190
15	293	3,580	2,280	1,140	1,230	890	8,600	2,270	900	570	240	155
16	327	e1,910	3,230	1,020	1,090	922	4,400	10,000	744	510	212	120
17	314	e1,540	7,300	936	979	951	e1,890	5,020	738	401	185	169
18	311	e1,820	9,730	1,420	892	897	e1,410	1,620	2,680	2,740	160	3,030
19	279	5,640	5,230	e3,210	833	802	e1,070	1,290	2,030	1,450	144	4,080
20	251	7,960	2,980	e2,360	795	790	e936	2,400	1,370	477	131	e1,290
21	233	5,070	2,350	1,920	763	1,680	e1,000	2,200	881	331	138	e911
22	214	2,610	1,960	1,540	709	2,190	2,850	1,240	660	801	573	e836
23	200	e2,170	1,840	1,320	657	1,670	9,520	864	890	2,110	821	e761
24	188	e2,110	3,770	1,190	617	1,200	12,900	659	e637	703	699	e537
25	177	e2,290	5,080	e1,120	579	1,010	8,040	550	507	422	458	e387
26	268	e1,940	3,190	e1,950	542	885	3,340	1,570	691	292	330	254
27	580	e2,160	2,220	e3,500	507	796	2,360	12,300	652	243	414	171
28	848	5,230	1,840	e3,300	474	731	1,770	21,200	405	e209	402	e146
29	790	9,360	1,650	e2,420	449	729	1,410	22,400	352	182	402	131
30	639	8,690	3,220	e1,500	---	1,450	1,230	20,500	297	163	478	115
31	525	---	5,010	e1,320	---	1,660	---	20,400	---	3,230	603	---
TOTAL	11,270	91,067	102,000	112,736	77,036	69,415	82,844	149,508	83,306	24,978	43,864	16,064
MEAN	364	3,036	3,290	3,637	2,656	2,239	2,761	4,823	2,777	806	1,415	535
MAX	848	10,300	9,730	15,700	12,600	14,000	12,900	22,400	21,800	3,230	11,000	4,080
MIN	177	280	1,490	936	449	444	466	493	297	163	131	100
CFSM	0.28	2.34	2.53	2.80	2.04	1.72	2.13	3.71	2.14	0.62	1.09	0.41
IN.	0.32	2.61	2.92	3.23	2.21	1.99	2.37	4.28	2.39	0.72	1.26	0.46

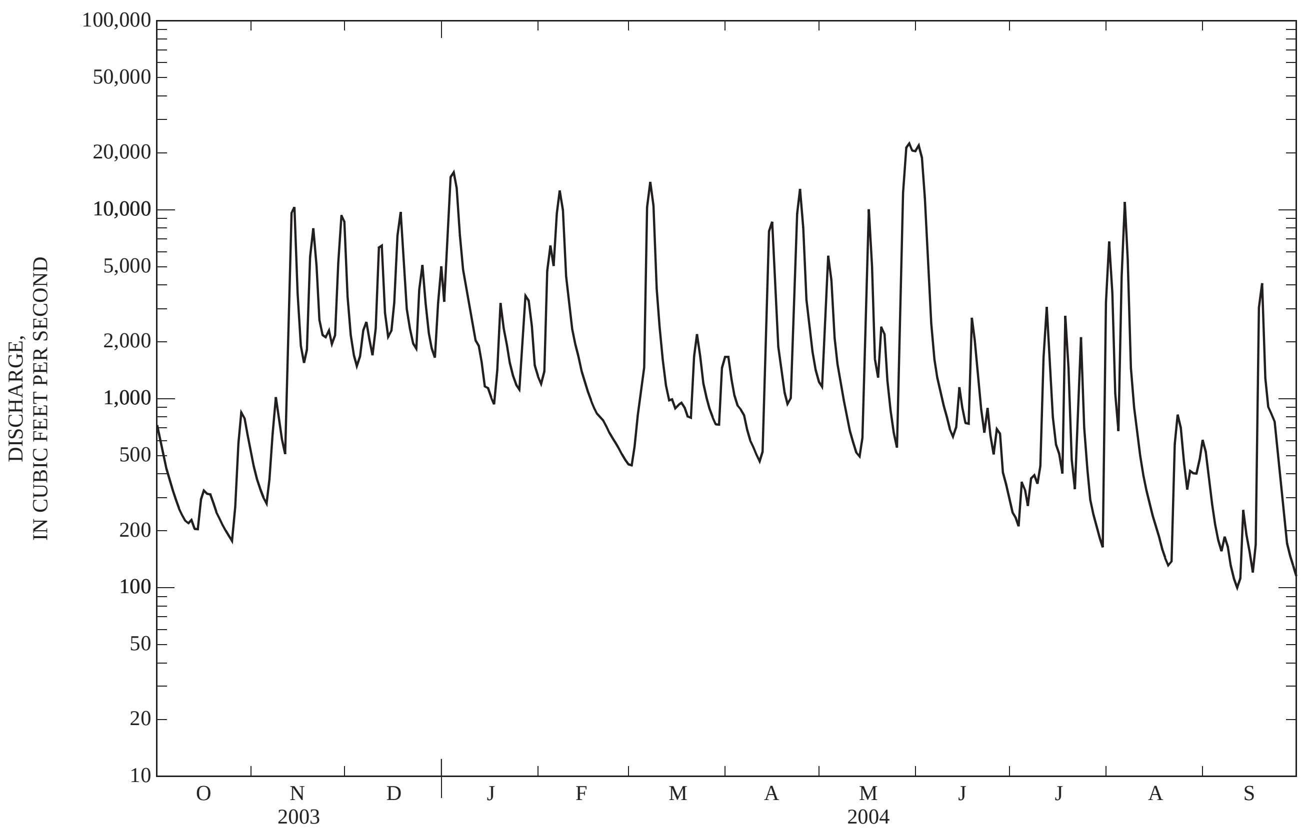
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	326	1,065	2,362	2,958	3,765	3,827	2,759	1,998	1,174	728	425	490
MAX	2,778	5,310	11,050	13,420	16,320	13,540	11,350	11,810	6,865	5,339	2,806	8,265
(WY)	(1976)	(1958)	(1979)	(1950)	(1989)	(1997)	(1972)	(1983)	(1997)	(1958)	(1977)	(1979)
MIN	0.57	4.32	5.84	77.0	288	344	353	150	24.4	6.78	12.9	1.89
(WY)	(1954)	(1944)	(1944)	(1981)	(1954)	(1941)	(1986)	(1941)	(1988)	(1954)	(1999)	(1953)

03301500 ROLLING FORK NEAR BOSTON, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	976,820		864,088			
ANNUAL MEAN	2,676		2,361		1,813	
HIGHEST ANNUAL MEAN					4,268	1979
LOWEST ANNUAL MEAN					473	1941
HIGHEST DAILY MEAN	25,000	Feb 18	22,400	May 29	68,400	Mar 4, 1997
LOWEST DAILY MEAN	131	Aug 22	100	Sep 11	0.40	Oct 20, 1939
ANNUAL SEVEN-DAY MINIMUM	209	Aug 16	137	Sep 6	0.40	Oct 3, 1953
MAXIMUM PEAK FLOW			22,800	May 29	69,800	Mar 3, 1997
MAXIMUM PEAK STAGE			40.35	May 29	53.22	Mar 3, 1997
INSTANTANEOUS LOW FLOW			98	Sep 11	0.40	Oct 20, 1939
ANNUAL RUNOFF (CFSM)	2.06		1.82		1.40	
ANNUAL RUNOFF (INCHES)	27.97		24.75		18.97	
10 PERCENT EXCEEDS	7,060		6,330		4,810	
50 PERCENT EXCEEDS	1,300		996		510	
90 PERCENT EXCEEDS	266		232		27	

e Estimated



03301700 MILL CREEK NEAR FORT KNOX, KY

LOCATION.--Lat 37°53'00", long 85°54'52", Hardin County, Hydrologic Unit 05140104, on wooden bridge on Poorman Road, 2.2 miles southeast of Fort Knox and at mile 8.0.

DRAINAGE AREA.--38.2 mi^2 .

PERIOD OF RECORD.--May 1998 to current year.

GAGE.--Water-stage recorder with telemetry. Elevation of gage is 440 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records good except for those estimated, which are fair.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	60	73	e74	18	51	88	275	5.5	71	3.5
2	11	11	45	405	140	28	43	456	159	5.2	31	3.8
3	10	11	39	203	445	24	39	196	98	5.1	20	9.2
4	9.6	10	44	138	163	44	33	117	62	5.7	14	4.8
5	9.0	10	60	319	244	259	29	88	49	5.6	16	3.4
6	e8.7	12	56	141	387	362	26	67	40	10	9.2	3.0
7	8.0	14	45	97	177	139	26	54	33	7.5	6.8	2.8
8	7.8	11	40	78	112	89	23	45	27	5.5	5.5	3.2
9	e8.0	11	35	66	89	70	21	37	73	4.5	4.8	2.8
10	e7.8	10	117	52	75	54	19	e30	120	4.3	4.4	2.6
11	11	10	91	45	62	46	18	e29	43	14	3.8	2.4
12	9.5	271	61	42	52	40	47	25	39	151	3.7	3.0
13	8.9	164	49	36	46	33	402	23	55	44	3.3	5.3
14	23	60	48	32	43	31	397	22	30	40	3.2	2.8
15	28	53	43	29	39	28	167	93	23	20	2.8	2.3
16	13	46	119	27	33	33	106	62	27	12	2.7	2.3
17	9.4	35	131	27	29	29	76	37	144	9.9	2.5	2.4
18	8.8	197	85	89	27	25	58	28	218	7.5	2.5	2.6
19	8.7	201	69	69	26	23	47	67	63	6.4	2.6	2.3
20	8.3	85	55	49	26	71	41	118	36	5.2	2.6	2.2
21	8.1	56	46	43	24	150	131	47	26	4.5	6.3	2.1
22	8.2	42	41	39	21	66	231	32	22	54	3.4	2.2
23	8.2	34	141	34	19	50	631	25	17	85	2.7	2.3
24	7.7	131	178	32	19	43	309	20	13	21	3.0	2.2
25	8.0	70	94	33	17	37	304	22	12	11	20	2.2
26	48	50	69	115	16	33	184	422	10	7.7	22	2.2
27	37	204	57	130	15	30	117	1,100	8.1	6.4	19	2.2
28	22	295	48	79	14	28	87	545	7.0	4.5	5.9	2.2
29	18	140	83	64	14	35	67	231	6.4	4.2	4.0	2.2
30	15	88	202	e55	---	67	78	934	5.8	13	22	2.1
31	12	---	97	e47	---	67	---	750	---	309	4.5	---
TOTAL	413.7	2,344	2,348	2,688	2,448	2,052	3,808	5,810	1,741.3	889.2	325.2	88.6
MEAN	13.3	78.1	75.7	86.7	84.4	66.2	127	187	58.0	28.7	10.5	2.95
MAX	48	295	202	405	445	362	631	1,100	275	309	71	9.2
MIN	7.7	10	35	27	14	18	18	20	5.8	4.2	2.5	2.1

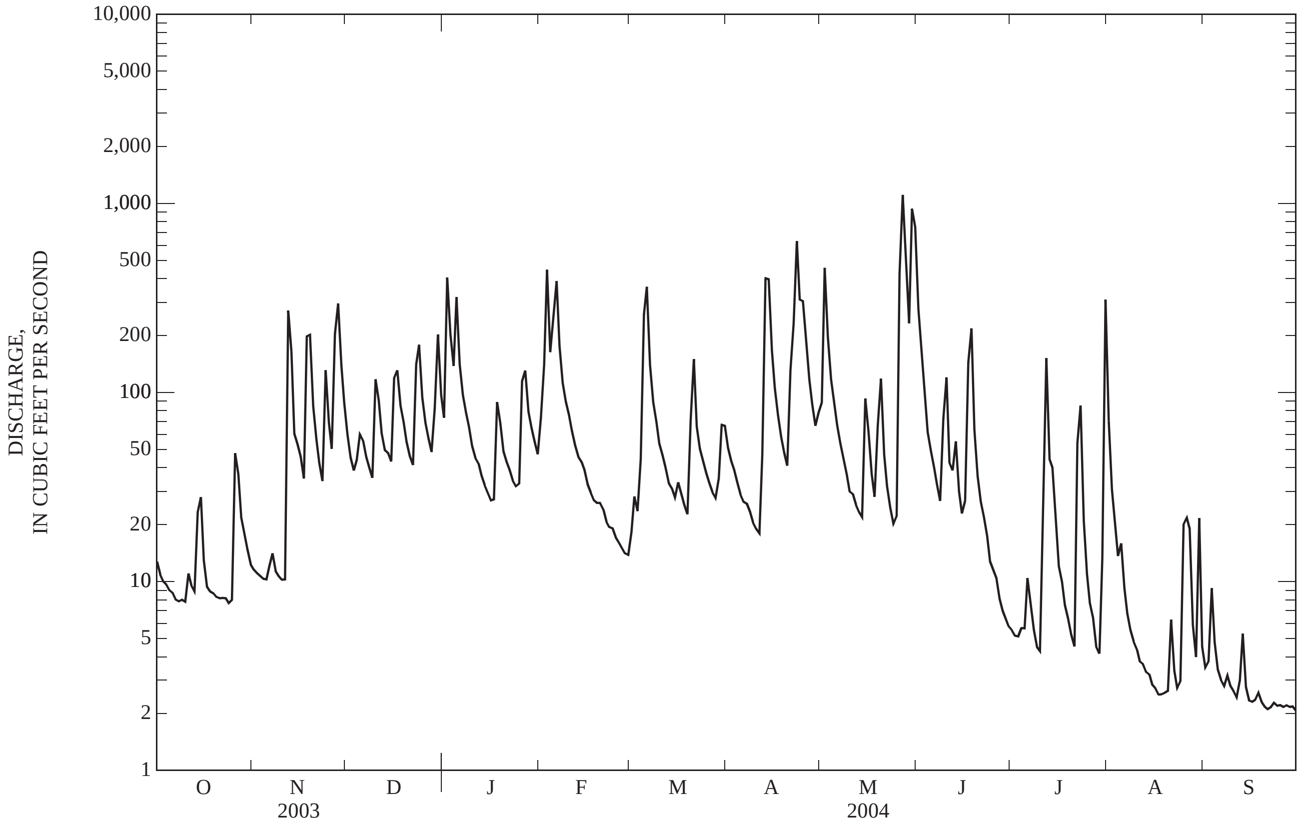
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.8	45.0	76.8	80.1	105	103	100	120	28.7	16.5	12.5	27.2
MAX	65.5	90.6	136	119	189	280	207	226	62.0	28.7	25.7	66.7
(WY)	(2003)	(2002)	(2003)	(1999)	(2003)	(2002)	(2002)	(2002)	(2003)	(2004)	(2000)	(2003)
MIN	6.50	4.67	26.4	21.1	50.2	54.6	29.4	16.2	9.16	4.56	3.28	2.95
(WY)	(2001)	(2000)	(1999)	(2001)	(2002)	(2003)	(2001)	(2001)	(2001)	(1999)	(1999)	(2004)

03301700 MILL CREEK NEAR FORT KNOX, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	28,074.3		24,956.0			
ANNUAL MEAN	76.9		68.2		61.5	
HIGHEST ANNUAL MEAN					99.9	2002
LOWEST ANNUAL MEAN					31.6	2001
HIGHEST DAILY MEAN	1,240	Feb 15	1,100	May 27	2,730	Mar 26, 2002
LOWEST DAILY MEAN	5.2	Jul 27	2.1	Sep 21	2.1	Sep 21, 2004
ANNUAL SEVEN-DAY MINIMUM	6.7	Aug 15	2.2	Sep 24	2.2	Sep 24, 2004
MAXIMUM PEAK FLOW			4,160	May 30	9,220	Mar 26, 2002
MAXIMUM PEAK STAGE			9.35	May 30	10.29	Jan 4, 2000
10 PERCENT EXCEEDS	185		163		131	
50 PERCENT EXCEEDS	32		32		20	
90 PERCENT EXCEEDS	8.4		3.5		4.4	

e Estimated



03301900 FERN CREEK AT OLD BARDSTOWN ROAD AT LOUISVILLE, KY

LOCATION.--Lat 38°10'32", long 85°36'55", Jefferson County, Hydrologic Unit 05140102, on right upstream wingwall, at bridge on Old Bardstown Road, at Louisville, and at mile 3.2.

DRAINAGE AREA.--3.5 mi^2.

PERIOD OF RECORD.--February 1991 to October 1995, (medium and high flows only), September 1997 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage 550.74 ft. above NGVD of 1929.

REMARKS.--Records good. Flow partially regulated by sewage treatment plant upstream.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 25	2200	*564	*3.43	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.9	e1.8	6.1	8.0	5.3	3.4	3.9	9.8	29	1.8	5.0	2.3
2	e2.9	e1.5	4.9	42	19	2.7	3.5	32	25	1.9	3.7	1.9
3	2.6	e2.9	4.3	16	31	8.8	3.3	14	15	1.8	3.1	1.8
4	2.7	e3.6	4.6	33	14	65	3.0	9.7	12	1.8	3.7	1.6
5	2.5	e1.4	5.4	35	26	29	2.7	7.6	9.4	5.0	12	1.5
6	2.3	e1.8	4.5	16	28	22	2.6	6.2	7.8	8.8	3.5	1.5
7	2.1	e1.8	4.0	12	16	13	2.6	5.1	6.6	3.8	3.0	1.4
8	2.0	e1.6	3.6	9.4	11	9.3	2.5	4.5	5.6	2.5	2.6	1.4
9	2.0	e1.4	3.4	8.0	9.6	7.4	2.4	4.0	26	7.4	2.3	1.4
10	2.6	e1.5	21	6.7	8.2	6.1	2.3	3.3	12	8.4	2.2	1.2
11	2.5	e1.7	8.9	6.1	6.9	5.6	2.3	2.9	7.2	4.7	2.0	1.1
12	2.7	e14	6.2	5.4	6.1	4.8	5.9	2.8	21	4.0	1.9	1.2
13	2.9	e6.7	5.2	4.7	5.4	4.3	33	3.1	12	12	1.8	1.1
14	16	e4.6	5.3	4.4	5.1	4.1	19	4.1	8.3	15	1.8	1.1
15	3.1	e5.3	4.7	3.7	4.6	3.7	9.6	19	6.8	5.4	1.7	0.99
16	2.3	e4.6	8.1	3.4	4.0	6.3	7.2	7.1	10	3.9	1.6	1.0
17	2.3	e2.5	6.6	6.9	3.7	4.4	6.0	4.9	6.3	28	1.5	1.1
18	2.1	28	6.3	17	3.6	3.7	5.1	11	5.0	7.5	1.5	0.98
19	1.9	13	5.9	8.2	3.5	3.3	4.6	8.3	5.0	5.0	1.5	0.99
20	1.8	6.8	5.1	6.2	3.4	3.6	4.7	6.1	3.9	3.9	2.2	0.98
21	1.7	5.1	4.7	5.5	3.1	3.3	9.5	4.5	3.5	3.2	2.1	0.93
22	1.6	4.2	4.3	4.9	2.9	2.9	7.3	3.8	3.2	3.0	1.6	0.95
23	1.6	3.7	24	4.2	2.7	2.9	23	3.4	2.9	3.1	1.4	0.96
24	1.4	13	14	4.0	2.6	3.2	9.5	3.1	2.6	2.7	1.3	0.98
25	1.4	5.3	9.0	4.2	2.5	3.0	21	43	2.6	2.4	1.6	0.96
26	5.4	4.5	7.0	13	2.3	3.0	11	36	2.4	11	8.4	0.98
27	2.1	20	6.0	14	2.3	3.0	8.0	71	2.2	3.5	2.7	0.88
28	1.6	25	5.2	8.1	2.2	2.8	6.4	63	2.1	2.9	2.1	0.87
29	1.5	12	16	6.8	2.2	5.8	5.4	23	1.9	2.5	10	0.89
30	1.4	8.5	14	5.9	---	5.3	11	59	1.8	7.2	6.5	0.90
31	1.3	---	8.5	5.5	---	4.3	---	62	---	13	2.9	---
TOTAL	84.2	207.8	236.8	328.2	237.2	250.0	238.3	537.3	259.1	187.1	99.2	35.84
MEAN	2.72	6.93	7.64	10.6	8.18	8.06	7.94	17.3	8.64	6.04	3.20	1.19
MAX	16	28	24	42	31	65	33	71	29	28	12	2.3
MIN	1.3	1.4	3.4	3.4	2.2	2.7	2.3	2.8	1.8	1.8	1.3	0.87
CFSM	0.78	1.98	2.18	3.02	2.34	2.30	2.27	4.95	2.47	1.72	0.91	0.34
IN.	0.89	2.21	2.52	3.49	2.52	2.66	2.53	5.71	2.75	1.99	1.05	0.38

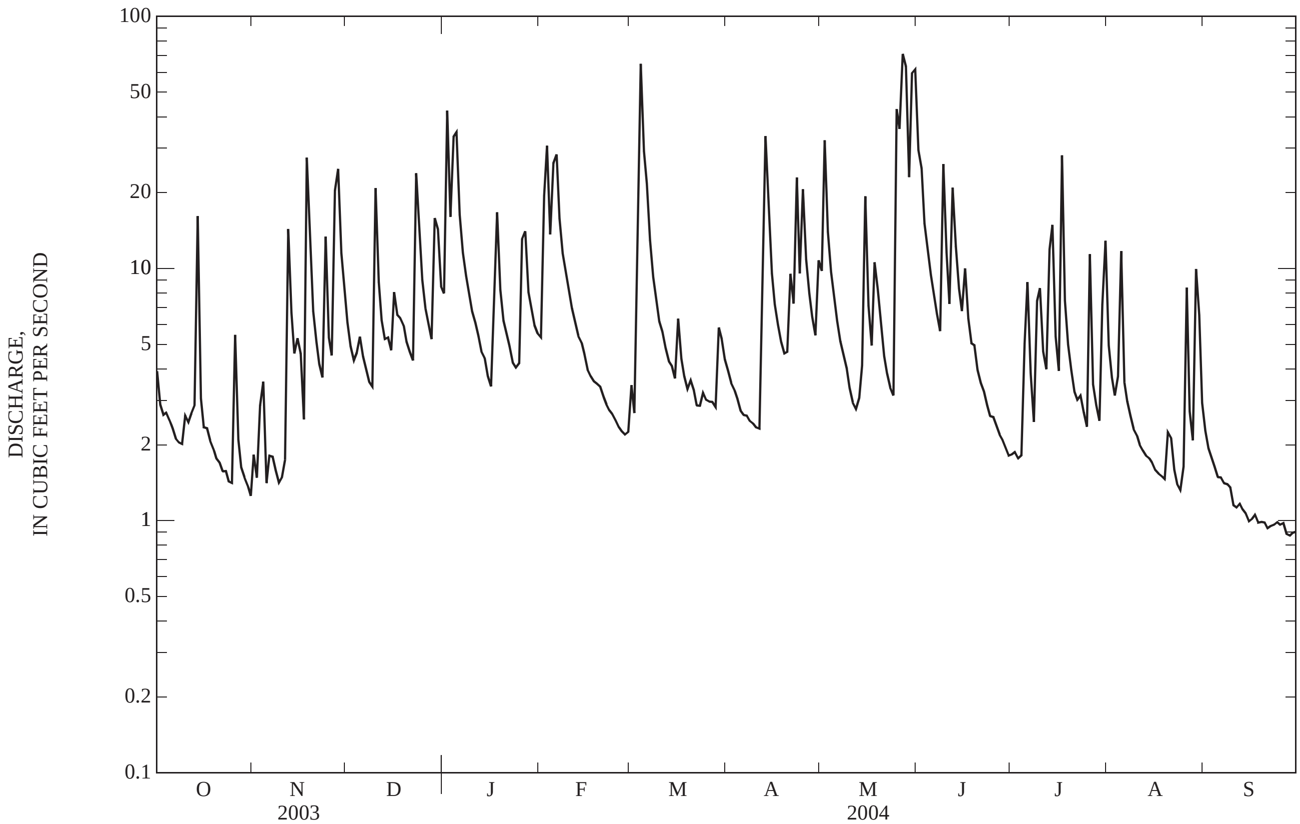
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.44	4.52	8.19	9.01	9.32	9.19	9.00	9.90	5.77	3.07	2.33	3.27
MAX	7.34	9.22	17.4	11.7	16.1	20.6	16.2	19.5	8.64	6.04	4.55	8.65
(WY)	(2002)	(2002)	(2003)	(2002)	(2003)	(2002)	(2002)	(2002)	(2004)	(2004)	(2003)	(2003)
MIN	1.18	1.74	3.37	1.48	4.92	3.26	2.32	2.31	1.77	1.32	0.75	0.80
(WY)	(1998)	(2000)	(1999)	(2001)	(2001)	(2001)	(2001)	(2000)	(2001)	(2002)	(1999)	(1999)

03301900 FERN CREEK AT OLD BARDSTOWN ROAD AT LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	2,925.1		2,701.04			
ANNUAL MEAN	8.01		7.38		6.40	
HIGHEST ANNUAL MEAN					9.92	2002
LOWEST ANNUAL MEAN					2.86	2001
HIGHEST DAILY MEAN	105	Feb 22	71	May 27	163	Feb 18, 2000
LOWEST DAILY MEAN	1.1	Aug 27	0.87	Sep 28	0.40	Oct 6, 1997
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 15	0.92	Sep 24	0.61	Oct 3, 1997
MAXIMUM PEAK FLOW			564	May 25	933	Jun 28, 2000
MAXIMUM PEAK STAGE			3.43	May 25	4.16	Jun 28, 2000
ANNUAL RUNOFF (CFSM)	2.29		2.11		1.83	
ANNUAL RUNOFF (INCHES)	31.09		28.71		24.85	
10 PERCENT EXCEEDS	16		16		14	
50 PERCENT EXCEEDS	4.5		4.2		3.0	
90 PERCENT EXCEEDS	1.7		1.5		1.1	

e Estimated



03301940 NORTHERN DITCH AT OKOLONA, KY

LOCATION.--Lat 38°09'01", long 85°41'37", Jefferson County, Hydrologic Unit 05140102, at Okolona on, bridge on Preston Highway, 0.1 mi above Spring Ditch, and at mile 5.1.

DRAINAGE AREA.--11.1 mi^2.

PERIOD OF RECORD.--June 1974 to Sept. 1976, Mar. 1988 to Feb. 1991, Oct. 1992 to Sept. 1993, Oct. 1994 to Sept. 1995, and Oct. 1997 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 447.32 ft above NGVD of 1929.

REMARKS.--Records good except for periods of estimated records, which are fair.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 28	0045	*923	*9.67	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

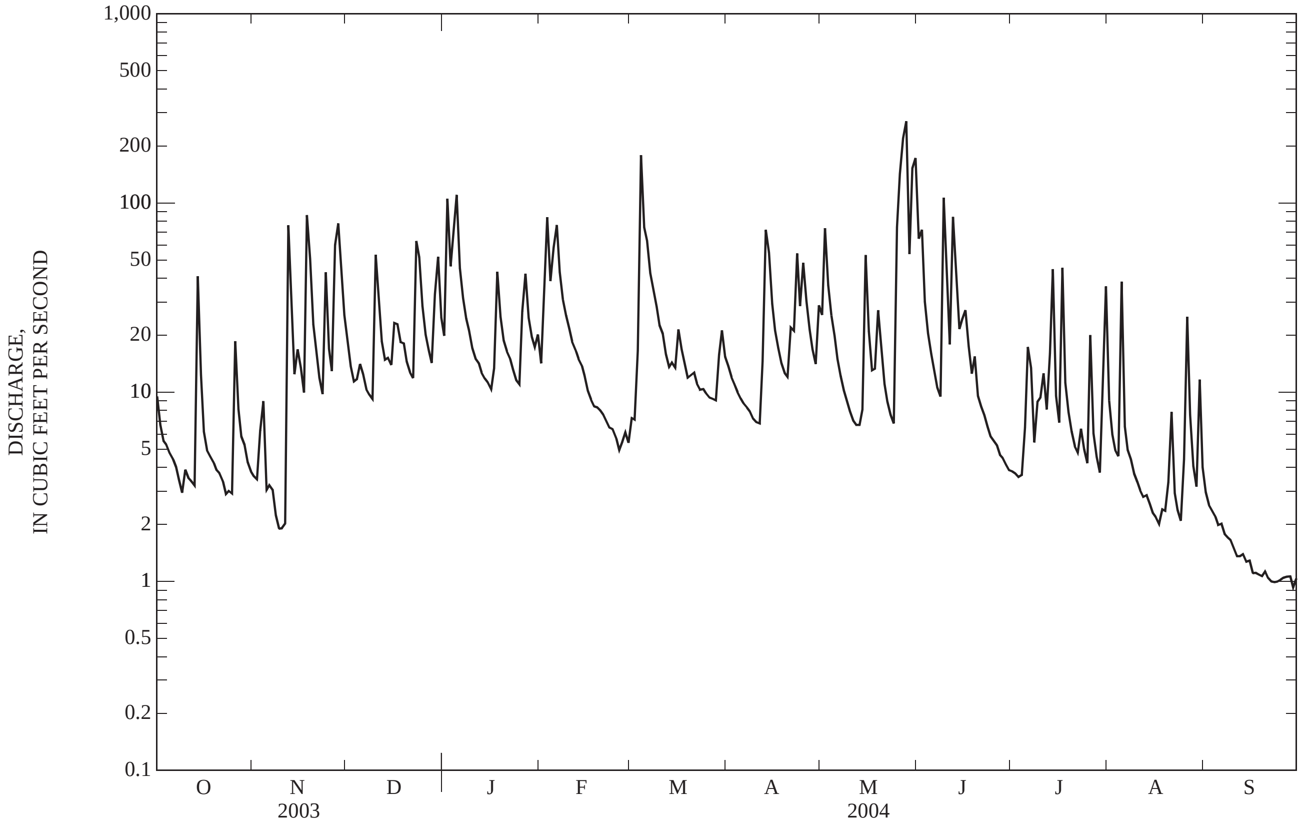
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	3.6	18	20	14	7.3	14	26	65	3.8	9.0	2.9
2	6.7	3.5	14	105	36	7.1	12	73	72	3.7	6.0	2.5
3	5.5	6.2	11	46	84	17	11	37	30	3.6	5.0	2.4
4	5.3	9.0	12	70	39	179	10	25	20	3.6	4.6	2.2
5	4.8	3.0	14	110	58	74	9.2	20	16	6.5	38	2.0
6	4.5	3.2	12	45	76	63	8.7	15	13	17	6.6	2.0
7	4.0	3.0	10	31	43	43	8.2	12	11	13	4.9	1.8
8	3.4	2.2	9.7	24	31	35	7.9	10	9.5	5.4	4.4	1.7
9	2.9	1.9	9.2	21	25	28	7.2	8.9	106	8.9	3.7	1.7
10	3.9	1.9	53	17	22	23	6.9	7.9	47	9.3	3.4	1.5
11	3.5	2.0	31	15	18	20	6.8	7.1	18	13	3.0	1.4
12	3.4	76	19	14	17	16	15	6.7	84	8.1	2.8	1.4
13	3.2	27	15	13	15	14	72	6.7	43	16	2.8	1.4
14	41	12	15	12	14	14	55	8.1	22	45	2.6	1.3
15	12	17	14	11	12	13	29	53	24	9.6	2.3	1.3
16	6.2	13	23	10	10	21	21	21	27	6.9	2.2	1.1
17	4.9	10	23	13	9.1	17	17	13	18	45	2.0	1.1
18	4.6	86	18	43	8.4	14	14	13	13	11	2.4	1.1
19	4.3	51	18	25	8.3	12	13	27	15	7.8	2.3	1.1
20	3.9	23	14	19	8.0	12	12	18	9.5	6.2	3.3	1.1
21	3.7	16	13	16	7.6	13	22	11	8.4	5.2	7.8	1.0
22	3.4	12	12	15	7.0	11	21	8.9	7.5	4.8	2.9	1.00
23	2.9	9.7	63	13	6.5	10	54	7.6	6.5	6.4	2.4	0.99
24	3.0	43	52	12	6.4	10	28	6.8	5.9	5.0	2.1	1.00
25	2.9	17	29	11	5.8	9.7	48	74	5.5	4.2	4.4	1.0
26	19	13	20	27	4.9	9.3	30	142	5.2	20	25	1.0
27	8.2	60	17	42	5.4	9.2	21	219	4.6	6.1	7.6	1.1
28	5.8	78	14	25	6.1	9.0	17	270	4.5	4.5	4.1	1.1
29	5.3	40	33	20	5.4	16	14	54	4.1	3.8	3.2	0.93
30	4.3	26	52	17	---	21	29	152	3.9	9.3	12	1.0
31	3.8	---	25	20	---	15	---	172	---	36	4.0	---
TOTAL	199.8	669.2	682.9	882	602.9	762.6	633.9	1,525.7	719.1	348.7	186.8	43.12
MEAN	6.45	22.3	22.0	28.5	20.8	24.6	21.1	49.2	24.0	11.2	6.03	1.44
MAX	41	86	63	110	84	179	72	270	106	45	38	2.9
MIN	2.9	1.9	9.2	10	4.9	7.1	6.8	6.7	3.9	3.6	2.0	0.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.94	12.4	21.9	27.8	34.2	25.8	26.5	27.3	17.6	9.88	8.27	8.56
MAX	21.6	22.3	58.7	40.5	75.1	84.5	62.7	59.7	36.9	20.7	25.3	25.9
(WY)	(1991)	(2004)	(1991)	(1976)	(1989)	(1975)	(1975)	(1990)	(1990)	(1989)	(1993)	(2003)
MIN	2.47	3.20	6.39	6.50	12.6	11.1	5.34	4.49	4.08	2.17	0.70	0.61
(WY)	(1998)	(2000)	(1999)	(2001)	(1999)	(1999)	(2001)	(2000)	(2001)	(2002)	(1999)	(1999)

03301940 NORTHERN DITCH AT OKOLONA, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1975 - 2004	
ANNUAL TOTAL	7,889.4		7,256.72			
ANNUAL MEAN	21.6		19.8		18.9	
HIGHEST ANNUAL MEAN					28.6	1975
LOWEST ANNUAL MEAN					8.31	2001
HIGHEST DAILY MEAN	248	Sep 2	270	May 28	608	May 18, 1995
LOWEST DAILY MEAN	1.9	Nov 9	0.93	Sep 29	0.18	Aug 16, 1999
ANNUAL SEVEN-DAY MINIMUM	2.5	Nov 5	1.0	Sep 20	0.24	Aug 12, 1999
MAXIMUM PEAK FLOW			923	May 28	1,590	Jun 28, 1999
MAXIMUM PEAK STAGE			9.67	May 28	13.19	Jun 28, 1999
10 PERCENT EXCEEDS	52		46		42	
50 PERCENT EXCEEDS	12		11		8.9	
90 PERCENT EXCEEDS	3.5		2.4		2.4	



03302000 POND CREEK NEAR LOUISVILLE, KY

LOCATION.--Lat 38°07'11", long 85°47'45", Jefferson County, Hydrologic Unit 05140102, on upstream side of bridge on Manslick Rd, right bank, 0.4 mi south of Third Street Rd, 0.6 mi downstream from Bee Lick Creek, 1.5 mi downstream from confluence of Northern and Southern Ditches, 2.4 mi south of Louisville city limits, and at mile 15.4.

DRAINAGE AREA.--64.0 mi^2.

PERIOD OF RECORD.--August 1944 to current year.

REVISED RECORDS.--WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 430.38 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to Nov. 16, 1962.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1937 reached a stage of about 23 ft present datum, backwater from Ohio River, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1820	1,340	11.82	May 28	0310	*3,270	*18.19
Jan 5	0150	1,650	13.12	May 31	0445	1,710	13.36
May 27	0345	1,960	14.30	Aug 5	0340	2,110	14.86

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	11	67	101	e58	e43	63	169	329	8.4	84	14
2	20	10	57	729	e169	e72	42	483	641	8.5	44	18
3	16	10	44	249	e447	e63	33	153	195	8.9	30	19
4	15	16	53	350	e151	e563	27	95	104	8.2	24	13
5	14	11	104	867	e246	e326	23	69	76	56	917	11
6	14	14	60	234	e398	e291	21	51	60	101	114	10
7	13	13	46	142	e144	e143	20	39	50	108	58	9.4
8	12	10	41	98	e110	e89	19	32	45	27	34	9.4
9	12	8.9	39	79	e88	e70	18	27	121	118	23	9.2
10	e15	8.3	289	57	e74	e57	16	23	183	108	18	9.1
11	e16	8.5	147	50	e71	e51	16	21	62	42	14	8.3
12	e10	486	84	51	e67	e45	77	19	258	80	13	11
13	e19	196	62	47	e64	e41	594	19	162	42	11	7.8
14	e107	62	69	42	e62	e38	442	27	81	187	10	7.8
15	55	89	71	40	e62	e38	134	329	60	44	9.7	7.7
16	19	59	148	37	e54	e50	85	101	104	24	9.4	8.3
17	15	41	164	76	e43	e82	56	51	76	97	9.5	8.0
18	13	324	102	329	e37	e48	42	46	38	36	12	7.9
19	11	293	96	98	e38	e43	35	92	54	22	21	7.7
20	10	93	72	e72	e39	36	32	85	27	18	28	7.7
21	9.4	55	60	e66	e39	49	93	40	20	15	49	7.7
22	9.1	42	57	e55	e38	33	118	26	19	18	16	7.9
23	8.5	34	377	e53	e34	27	340	20	17	109	12	8.0
24	8.1	207	314	e50	e36	26	148	18	16	69	11	8.3
25	8.1	77	132	e45	e32	23	320	76	13	25	48	8.5
26	114	52	95	e48	e30	22	135	611	12	217	194	8.9
27	38	333	80	e140	e28	22	77	1,170	10	48	81	9.0
28	22	430	72	e89	e28	21	53	1,920	10	28	30	8.7
29	22	151	181	e78	e29	66	41	406	10	19	20	8.2
30	14	92	335	e64	---	135	134	606	9.2	52	25	8.2
31	12	---	136	e66	---	92	---	1,090	---	373	17	---
TOTAL	710.2	3,236.7	3,654	4,502	2,716	2,705	3,254	7,914	2,862.2	2,117.0	1,986.6	287.7
MEAN	22.9	108	118	145	93.7	87.3	108	255	95.4	68.3	64.1	9.59
MAX	114	486	377	867	447	563	594	1,920	641	373	917	19
MIN	8.1	8.3	39	37	28	21	16	18	9.2	8.2	9.4	7.7
CFSM	0.36	1.69	1.84	2.27	1.46	1.36	1.69	3.99	1.49	1.07	1.00	0.15
IN.	0.41	1.88	2.12	2.62	1.58	1.57	1.89	4.60	1.66	1.23	1.15	0.17

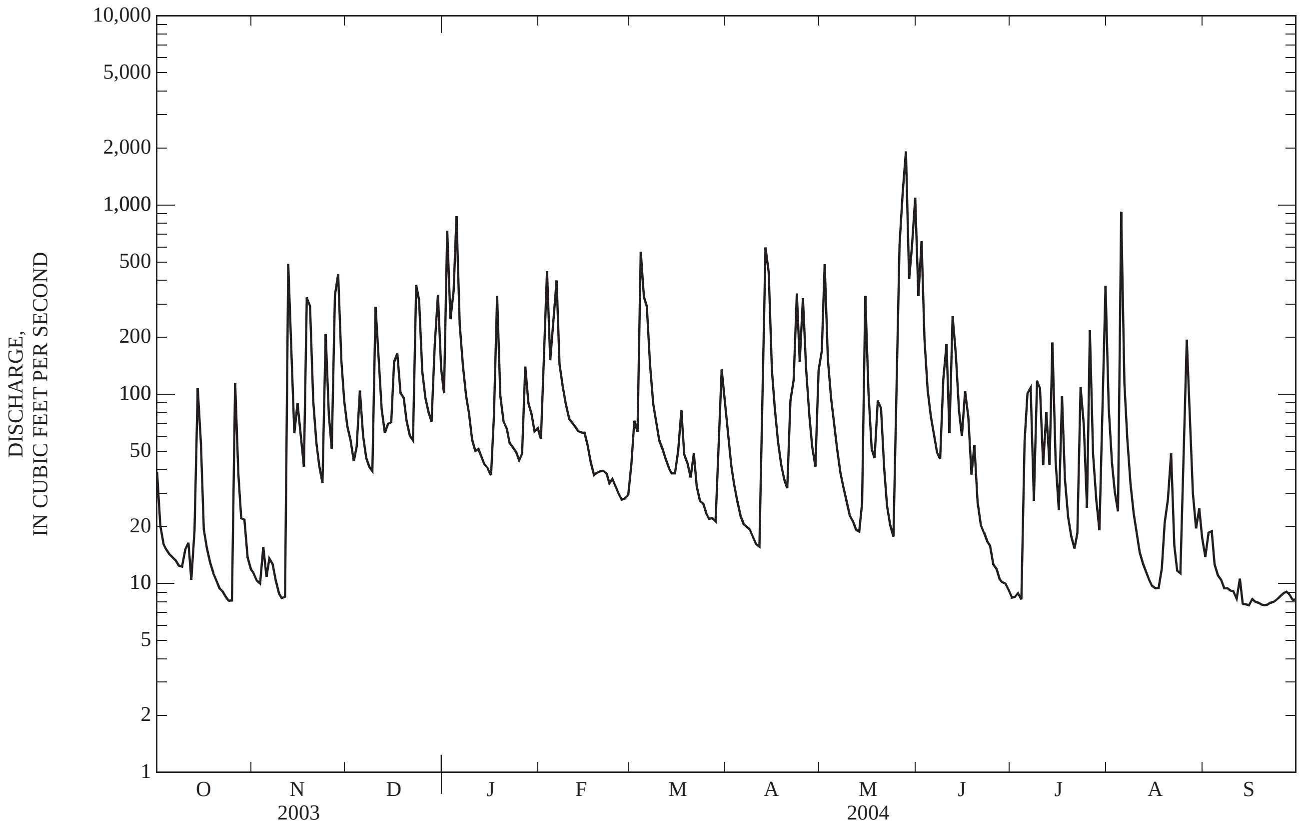
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.3	58.9	99.7	132	155	184	132	115	69.2	46.2	35.0	34.6
MAX	117	256	310	614	454	814	551	505	328	282	186	399
(WY)	(1976)	(1974)	(1979)	(1950)	(1989)	(1997)	(1970)	(1983)	(1997)	(1973)	(1992)	(1979)
MIN	1.76	2.60	4.48	8.52	10.1	11.4	21.2	10.6	4.54	2.96	0.78	1.15
(WY)	(1947)	(1945)	(1954)	(1977)	(1954)	(1954)	(2001)	(1954)	(1954)	(1952)	(1945)	(1945)

03302000 POND CREEK NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1944 - 2004	
ANNUAL TOTAL	37,702.5		35,945.4			
ANNUAL MEAN	103		98.2		90.7	
HIGHEST ANNUAL MEAN					159	1950
LOWEST ANNUAL MEAN					11.4	1954
HIGHEST DAILY MEAN	1,570	Jan 1	1,920	May 28	7,200	Mar 2, 1997
LOWEST DAILY MEAN	8.1	Oct 24	7.7	Sep 15	0.10	Sep 3, 1945
ANNUAL SEVEN-DAY MINIMUM	9.2	Oct 19	7.8	Sep 17	0.19	Sep 17, 1945
MAXIMUM PEAK FLOW			3,270	May 28	8,020	Mar 9, 1964
MAXIMUM PEAK STAGE			18.19	May 28	25.74	Mar 2, 1997
INSTANTANEOUS LOW FLOW					0.10	Sep 3, 1945
ANNUAL RUNOFF (CFSM)	1.61		1.53		1.42	
ANNUAL RUNOFF (INCHES)	21.91		20.89		19.25	
10 PERCENT EXCEEDS	220		247		190	
50 PERCENT EXCEEDS	46		45		27	
90 PERCENT EXCEEDS	13		9.4		6.0	

e Estimated



03302030 POND CREEK AT PENDELTON ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°03'15", long 85°52'18", Jefferson County, Hydrologic Unit 05140102, at bridge on Pendleton Road near Louisville, 1.3 mi above Brier Creek and at mile 7.1.

DRAINAGE AREA.--80.3 mi^2.

PERIOD OF RECORD.--December 1998 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records good except those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 28	0605	*3,880	*18.51				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	18	e80	101	71	34	98	275	e535	15	125	26
2	29	17	e66	1,150	292	63	65	886	3,110	15	58	24
3	22	15	e52	359	1,390	108	50	255	e398	15	39	42
4	20	18	e55	389	273	2,190	42	128	e153	15	31	24
5	17	20	e165	2,700	370	602	35	91	e109	39	1,550	21
6	16	15	e68	e411	1,090	859	32	68	85	117	187	18
7	15	21	e52	e203	312	252	30	52	68	204	88	17
8	15	15	e45	e129	e163	260	28	42	60	45	54	16
9	14	13	e46	e94	e121	812	26	36	79	88	38	15
10	18	11	e480	e67	e101	1,200	23	32	347	357	32	15
11	19	11	221	e62	e94	898	21	29	85	57	26	14
12	14	791	95	e64	e86	253	58	27	272	132	22	15
13	13	523	66	e59	e75	58	899	25	305	70	20	15
14	138	91	66	53	58	52	995	28	114	266	19	13
15	118	105	70	49	53	47	219	495	75	70	17	12
16	36	103	145	42	44	146	185	182	104	39	16	12
17	25	58	212	58	41	110	e72	74	136	99	16	12
18	23	336	111	472	39	e80	e53	56	57	54	15	11
19	20	677	101	185	37	54	e43	121	66	32	32	11
20	18	e117	73	95	38	55	e38	141	45	26	23	e11
21	17	e65	57	73	36	81	100	63	33	22	82	e11
22	16	e48	52	70	32	52	182	42	30	35	30	e11
23	14	e38	428	54	29	44	507	33	28	111	19	e11
24	14	e365	623	49	29	41	253	28	27	153	19	e11
25	13	e105	162	46	27	37	506	27	23	38	78	e12
26	140	e69	103	128	25	34	231	895	21	260	304	12
27	69	e469	80	411	24	33	110	1,990	19	65	180	12
28	35	e810	68	150	24	32	75	3,180	18	38	60	12
29	34	e189	139	101	23	57	57	e586	17	27	39	11
30	25	e107	556	88	---	193	149	e687	16	38	39	11
31	19	---	157	85	---	156	---	e1,790	---	658	34	---
TOTAL	1,030	5,240	4,694	7,997	4,997	8,893	5,182	12,364	6,435	3,200	3,292	458
MEAN	33.2	175	151	258	172	287	173	399	214	103	106	15.3
MAX	140	810	623	2,700	1,390	2,190	995	3,180	3,110	658	1,550	42
MIN	13	11	45	42	23	32	21	25	16	15	15	11

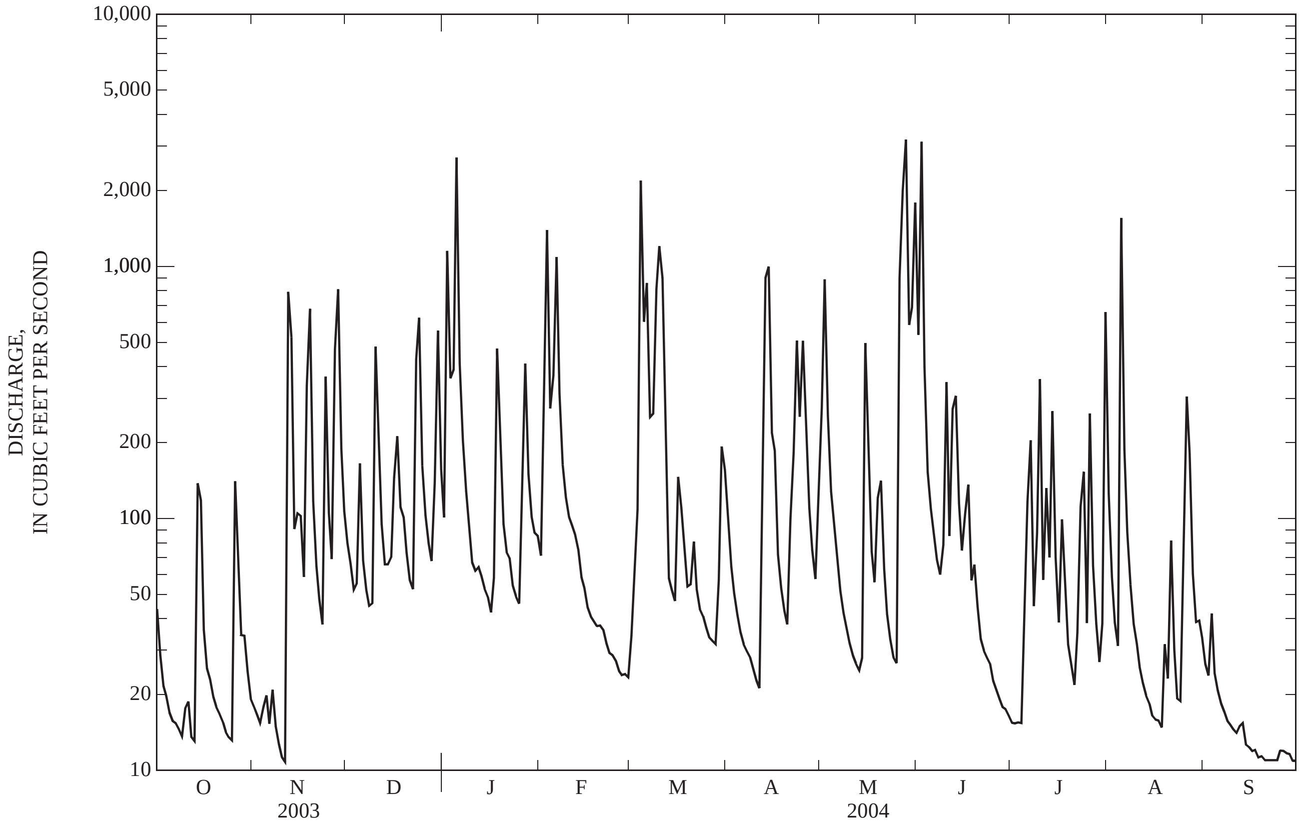
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	67.1	104	180	248	193	205	156	196	100	42.7	41.0	78.6
MAX	131	189	302	440	315	451	287	399	214	103	106	169
(WY)	(2003)	(2002)	(2003)	(1999)	(2003)	(2002)	(2002)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	26.9	21.3	100	44.0	104	84.8	33.0	23.4	22.0	12.8	11.6	15.3
(WY)	(2001)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2002)	(2002)	(2004)

03302030 POND CREEK AT PENDELTON ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	54,559		63,782			
ANNUAL MEAN	149		174		136	
HIGHEST ANNUAL MEAN					176	2002
LOWEST ANNUAL MEAN					60.9	2001
HIGHEST DAILY MEAN	2,480	Jan 1	3,180	May 28	6,220	Jan 4, 2000
LOWEST DAILY MEAN	10	Jul 28	11	Nov 10	1.7	Jul 17, 2001
ANNUAL SEVEN-DAY MINIMUM	14	Jun 30	11	Sep 18	4.1	Jul 11, 2001
MAXIMUM PEAK FLOW			3,880	May 28	10,500	Jan 4, 2000
MAXIMUM PEAK STAGE			18.51	May 28	19.82	Mar 26, 2002
10 PERCENT EXCEEDS	373		416		260	
50 PERCENT EXCEEDS	52		57		38	
90 PERCENT EXCEEDS	15		15		11	

e Estimated



03302050 BRIER CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°02'52", long 85°51'26", Jefferson County, Hydrologic Unit 05140102, at bridge on Pendleton Road, 0.4 mi below Headley Hollow, 10 miles south of Louisville, and at mile 1.64

DRAINAGE AREA.--4.01 mi^2.

PERIOD OF RECORD.--January 1999 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records fair except those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 360 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1540	424	3.98	May 28	0145	*3,330	*7.47
Mar 4	0230	720	4.66	Jun 2	0145	413	3.95
May 27	0105	933	5.04				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.7	1.2	5.3	7.1	4.4	1.5	7.7	6.9	39	0.09	2.2	0.11
2	e0.95	1.2	4.1	48	25	1.5	6.4	25	74	0.09	0.68	0.11
3	e0.70	1.1	3.4	22	52	4.3	5.5	13	10	0.08	0.37	0.11
4	e0.65	1.1	3.5	41	19	109	4.6	7.9	4.5	0.08	0.25	0.10
5	e0.55	1.2	3.9	57	27	36	4.0	5.5	2.3	1.3	28	0.09
6	e0.49	1.2	3.4	18	39	35	3.6	3.9	1.3	0.83	1.8	0.08
7	e0.42	1.2	3.0	10	19	16	3.3	2.7	0.83	0.61	0.61	0.08
8	0.36	1.0	2.8	7.6	11	9.7	3.0	1.8	0.62	0.22	0.34	0.09
9	0.38	0.96	2.6	6.3	8.3	7.2	2.5	1.2	1.9	5.1	0.23	0.09
10	0.42	0.93	11	4.9	6.7	5.5	2.1	0.91	1.5	2.2	0.18	0.06
11	0.44	0.95	8.2	4.4	5.5	4.8	1.9	0.67	0.63	0.37	0.13	0.06
12	0.47	39	5.7	4.2	4.8	4.1	4.6	0.53	12	7.8	0.11	0.05
13	0.55	9.5	4.7	3.7	4.1	3.5	53	0.49	7.0	4.3	0.09	0.05
14	3.0	4.4	4.5	3.4	3.8	3.4	43	0.57	2.6	7.0	0.07	0.05
15	1.3	4.5	4.2	3.0	3.4	3.1	17	12	1.1	0.93	0.06	0.04
16	0.84	3.8	7.9	2.6	2.8	5.3	9.9	4.5	1.5	0.46	0.05	0.04
17	0.73	3.1	8.2	3.4	2.6	4.4	6.9	2.3	1.7	0.30	0.05	0.04
18	0.67	20	7.0	13	2.3	3.7	5.2	1.4	1.9	0.21	0.05	0.03
19	0.59	16	6.2	8.0	2.3	3.2	4.2	16	1.0	0.15	0.04	0.03
20	0.52	6.9	5.0	5.9	2.2	7.7	3.6	14	0.61	0.12	0.06	0.03
21	0.50	4.8	4.4	5.2	1.8	9.6	5.8	5.1	0.45	0.10	0.09	0.03
22	0.50	3.7	4.0	4.5	1.5	6.5	7.0	3.0	0.38	0.41	0.05	0.02
23	0.51	3.0	24	3.7	1.4	5.5	26	1.7	0.33	0.47	0.04	0.02
24	0.47	13	24	3.5	1.4	4.9	16	1.1	0.24	0.31	0.04	0.02
25	0.46	6.4	11	3.4	1.2	4.3	23	0.90	0.21	0.19	3.4	0.02
26	2.6	4.7	7.3	8.1	1.1	3.9	14	17	0.17	0.82	8.1	0.02
27	1.7	22	5.7	13	1.0	3.6	8.5	173	0.13	0.30	1.4	0.02
28	1.4	33	4.8	7.7	0.94	3.4	5.8	e540	0.12	0.19	0.39	0.02
29	1.3	13	11	6.6	0.92	5.1	4.3	e17	0.11	0.13	0.23	0.02
30	1.1	7.8	17	6.0	---	8.5	8.9	e66	0.09	0.42	0.19	0.02
31	1.2	---	9.3	5.0	---	9.2	---	89	---	19	0.14	---
TOTAL	27.47	230.64	227.1	340.2	256.46	333.4	311.3	1,035.07	168.22	54.58	49.44	1.55
MEAN	0.89	7.69	7.33	11.0	8.84	10.8	10.4	33.4	5.61	1.76	1.59	0.05
MAX	3.0	39	24	57	52	109	53	540	74	19	28	0.11
MIN	0.36	0.93	2.6	2.6	0.92	1.5	1.9	0.49	0.09	0.08	0.04	0.02

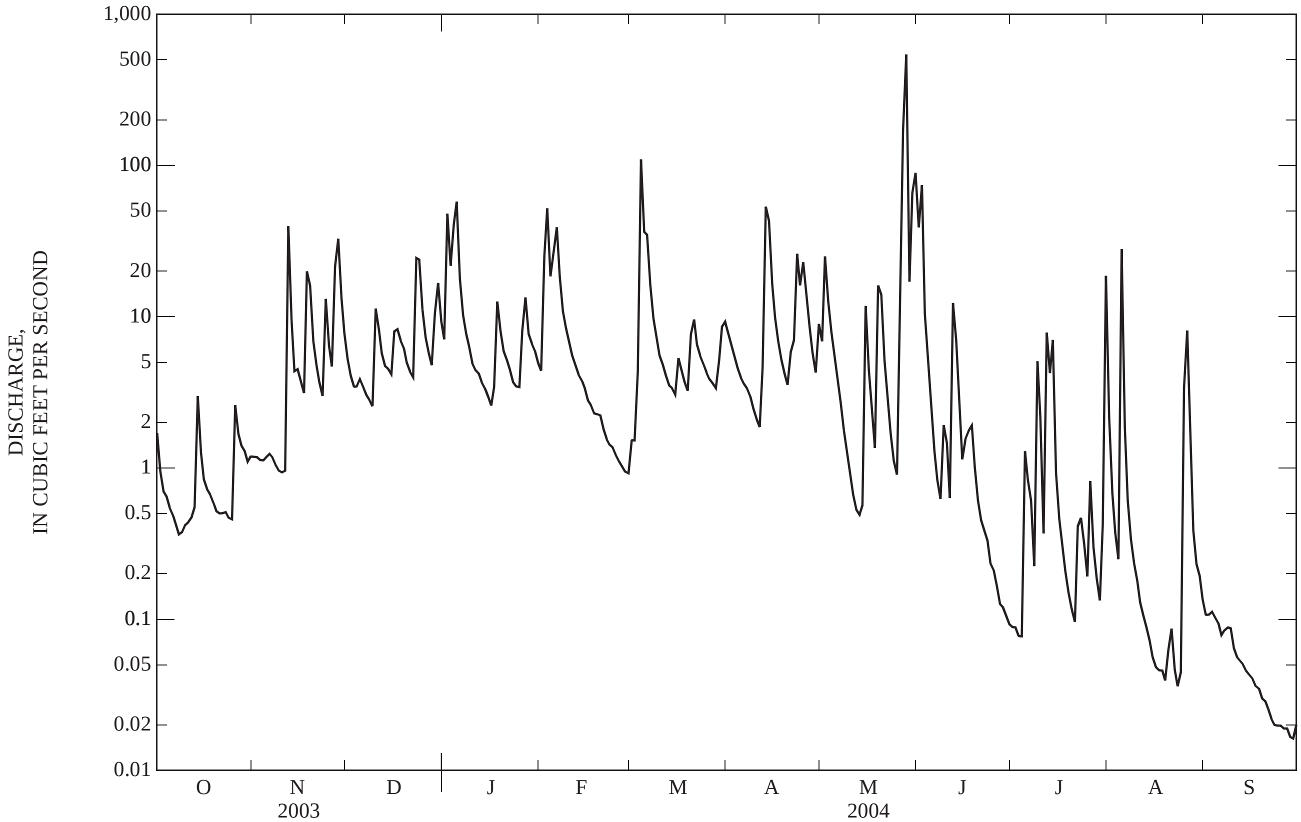
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.00	3.85	7.15	11.3	12.5	10.9	9.46	10.1	2.33	0.55	0.42	1.25
MAX	2.29	7.69	14.2	23.2	30.7	25.0	17.2	33.4	5.61	1.76	1.59	5.52
(WY)	(2003)	(2004)	(2003)	(2000)	(2000)	(2002)	(2002)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	0.00	0.00	0.68	1.32	5.27	4.19	1.91	1.42	0.26	0.03	0.02	0.00
(WY)	(2000)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2002)	(2002)	(1999)

03302050 BRIER CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	2,324.53		3,035.43			
ANNUAL MEAN	6.37		8.29		6.17	
HIGHEST ANNUAL MEAN					8.29	2004
LOWEST ANNUAL MEAN					1.76	2001
HIGHEST DAILY MEAN	104	Jan 1	540	May 28	685	Feb 18, 2000
LOWEST DAILY MEAN	0.09	Aug 21	0.02	Sep 22	0.00	Aug 21, 1999
ANNUAL SEVEN-DAY MINIMUM	0.17	Aug 15	0.02	Sep 22	0.00	Aug 21, 1999
MAXIMUM PEAK FLOW			3,330	May 28	3,330	May 28, 2004
MAXIMUM PEAK STAGE			7.47	May 28	7.61	Feb 18, 2000
10 PERCENT EXCEEDS	14		17		11	
50 PERCENT EXCEEDS	2.6		2.8		1.1	
90 PERCENT EXCEEDS	0.35		0.09		0.05	

e Estimated



03302110 OTTER CREEK AT OTTER CREEK PARK NEAR ROCK HAVEN, KY

LOCATION.--Lat 37°56'37", long 86°01'47", Meade County, Hydrologic Unit 05140104, at downstream side of bridge on Highway 1638, 1.4 mi east of Rock Haven, and at mile 3.3.

DRAINAGE AREA.--99.2 mi^2.

PERIOD OF RECORD.--January 1999 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 440.037 ft above NGVD of 1929.

REMARKS.--Records good.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 30	1117	*6,020	*8.24	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	27	164	184	107	64	110	285	932	55	119	27
2	35	26	128	887	272	73	101	1,030	576	54	71	26
3	32	25	111	550	1,050	69	93	591	391	52	54	32
4	32	25	108	382	433	96	85	357	297	52	46	27
5	30	25	119	887	480	292	79	259	244	55	76	25
6	28	25	115	411	887	754	73	199	204	59	48	24
7	27	26	101	277	476	311	72	164	174	52	42	23
8	26	25	95	222	303	203	71	141	144	49	39	22
9	25	25	90	189	246	166	65	125	374	45	37	22
10	26	24	158	158	209	136	60	111	581	45	35	22
11	27	24	157	140	179	121	59	101	185	54	34	22
12	28	359	116	131	159	110	81	91	197	484	33	22
13	26	365	105	119	140	98	566	85	203	e167	32	21
14	52	130	105	110	131	95	812	84	142	e121	31	21
15	51	102	99	103	121	90	411	277	122	84	29	21
16	36	94	184	94	107	94	245	195	141	70	29	21
17	31	80	260	92	100	89	180	125	143	59	28	21
18	29	386	178	173	94	84	148	103	357	53	27	20
19	27	527	155	153	93	77	128	116	155	50	27	19
20	26	215	126	118	94	82	116	233	120	46	29	19
21	24	147	111	109	88	204	151	122	104	43	39	18
22	25	114	107	104	79	120	289	101	93	42	29	19
23	23	94	362	95	77	102	1,150	89	87	104	26	19
24	22	269	555	93	74	94	779	101	79	54	26	19
25	22	163	277	92	68	88	821	124	76	44	25	18
26	47	122	195	255	66	84	552	653	71	43	64	18
27	52	421	160	308	62	81	345	2,310	64	42	50	18
28	40	688	140	178	60	78	246	1,370	61	40	31	18
29	36	353	181	151	59	87	193	715	58	36	29	18
30	32	223	457	135	---	120	343	2,060	56	36	40	19
31	28	---	235	118	---	131	---	1,910	---	323	28	---
TOTAL	982	5,129	5,454	7,018	6,314	4,293	8,424	14,227	6,431	2,513	1,253	641
MEAN	31.7	171	176	226	218	138	281	459	214	81.1	40.4	21.4
MAX	52	688	555	887	1,050	754	1,150	2,310	932	484	119	32
MIN	22	24	90	92	59	64	59	84	56	36	25	18

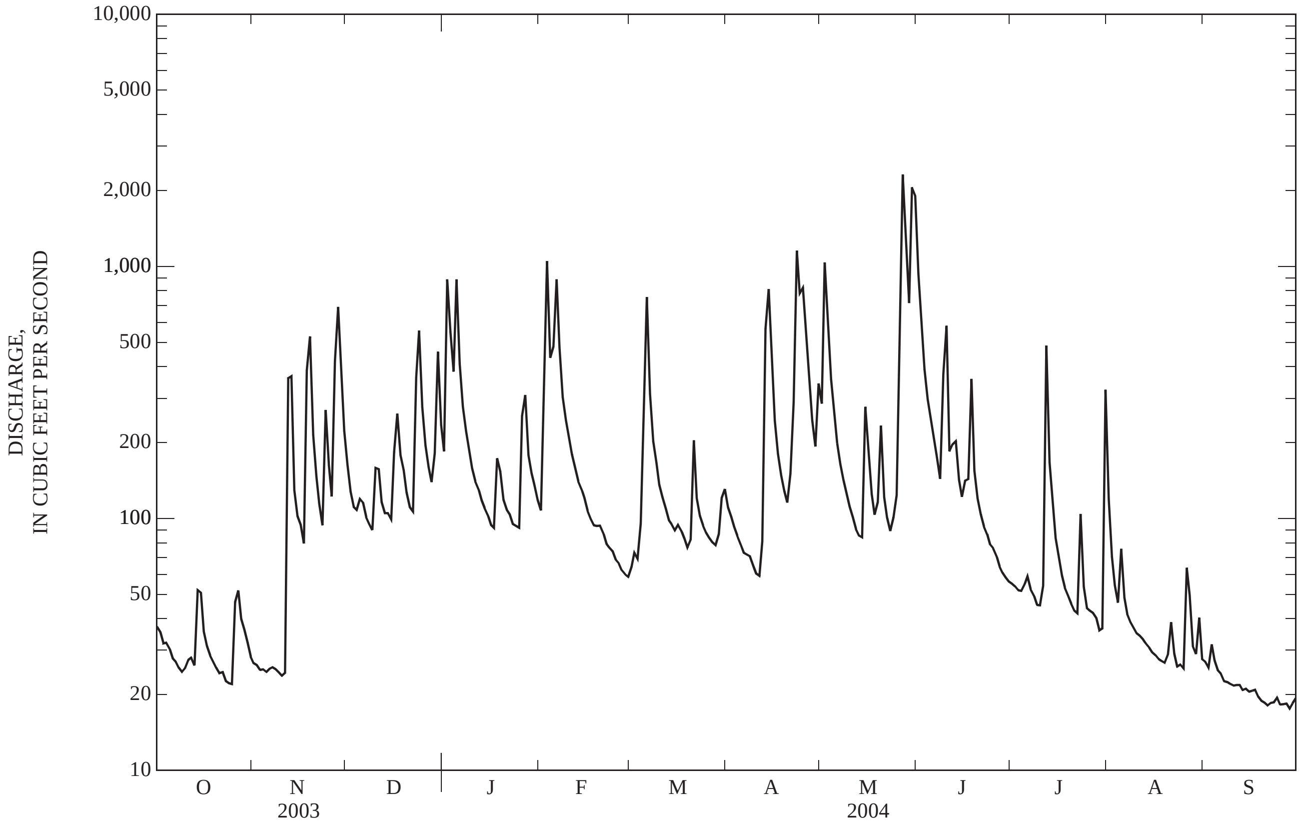
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	53.8	109	209	198	239	211	200	282	93.7	41.9	30.5	54.8
MAX	111	183	351	324	447	509	391	552	214	81.1	50.4	169
(WY)	(2003)	(2002)	(2002)	(1999)	(2003)	(2002)	(2002)	(2002)	(2004)	(2004)	(2000)	(2003)
MIN	15.5	11.9	58.6	33.4	126	130	45.6	46.7	36.1	21.5	10.9	5.82
(WY)	(2001)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(1999)	(1999)	(1999)

03302110 OTTER CREEK AT OTTER CREEK PARK NEAR ROCK HAVEN, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1999 - 2004	
ANNUAL TOTAL	64,587		62,679			
ANNUAL MEAN	177		171		148	
HIGHEST ANNUAL MEAN					216	2002
LOWEST ANNUAL MEAN					60.3	2001
HIGHEST DAILY MEAN	1,800	Jan 1	2,310	May 27	3,590	Mar 26, 2002
LOWEST DAILY MEAN	15	Aug 19	18	Sep 21	4.9	Sep 6, 1999
ANNUAL SEVEN-DAY MINIMUM	18	Aug 15	18	Sep 23	5.4	Sep 10, 1999
MAXIMUM PEAK FLOW			6,020	May 30	8,810	Jan 4, 2000
MAXIMUM PEAK STAGE			8.24	May 30	8.63	Mar 26, 2002
10 PERCENT EXCEEDS	398		383		341	
50 PERCENT EXCEEDS	89		94		56	
90 PERCENT EXCEEDS	26		25		16	

e Estimated



03303205 SINKING CREEK NEAR LODIBURG, KY

LOCATION.--Lat 37°52'06", long 86°23'16", Breckinridge County, Hydrologic Unit 05140104, on bridge located 2.3 miles south of Lodiburg on County Road #86, 0.75 mile downstream from Boiling Spring.

DRAINAGE AREA.--125 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--May 27, 2004 to current year.

GAGE.--Water-stage recorder and four parameter water-quality monitor with telemetry. Datum of gage is 410 ft above NGVD of 1929, (from topographic map).

REMARKS.--Records rated good.

COOPERATION.--Kentucky Department of Agriculture.

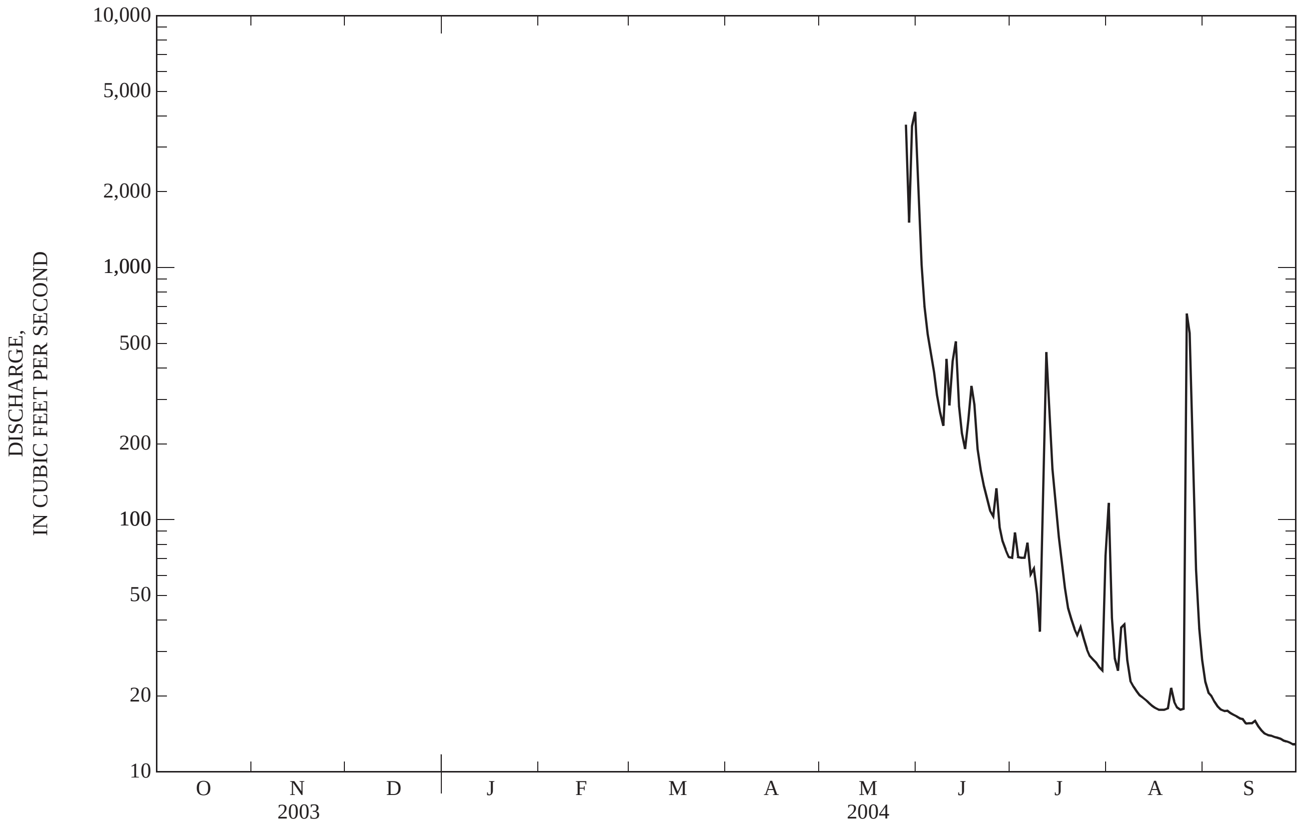
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2,010	71	116	23
2	---	---	---	---	---	---	---	---	1,030	89	41	21
3	---	---	---	---	---	---	---	---	704	71	28	20
4	---	---	---	---	---	---	---	---	546	71	25	19
5	---	---	---	---	---	---	---	---	454	71	37	18
6	---	---	---	---	---	---	---	---	385	81	38	18
7	---	---	---	---	---	---	---	---	313	61	28	17
8	---	---	---	---	---	---	---	---	266	64	23	17
9	---	---	---	---	---	---	---	---	235	51	22	17
10	---	---	---	---	---	---	---	---	434	36	21	17
11	---	---	---	---	---	---	---	---	284	185	20	17
12	---	---	---	---	---	---	---	---	425	461	20	16
13	---	---	---	---	---	---	---	---	510	261	19	16
14	---	---	---	---	---	---	---	---	283	159	19	16
15	---	---	---	---	---	---	---	---	220	119	18	16
16	---	---	---	---	---	---	---	---	191	85	18	16
17	---	---	---	---	---	---	---	---	247	68	18	16
18	---	---	---	---	---	---	---	---	340	54	18	15
19	---	---	---	---	---	---	---	---	286	45	18	15
20	---	---	---	---	---	---	---	---	191	40	18	14
21	---	---	---	---	---	---	---	---	157	37	22	14
22	---	---	---	---	---	---	---	---	136	35	19	14
23	---	---	---	---	---	---	---	---	121	37	18	14
24	---	---	---	---	---	---	---	---	109	34	18	14
25	---	---	---	---	---	---	---	---	103	31	18	14
26	---	---	---	---	---	---	---	---	133	29	657	13
27	---	---	---	---	---	---	---	---	93	28	550	13
28	---	---	---	---	---	---	---	3,680	82	27	149	13
29	---	---	---	---	---	---	---	1,510	76	26	63	13
30	---	---	---	---	---	---	---	3,630	71	25	37	13
31	---	---	---	---	---	---	---	4,140	---	72	28	---
MEAN	---	---	---	---	---	---	---	---	348	81.4	69.2	16.0
MAX	---	---	---	---	---	---	---	2,010	461	657	23	
MIN	---	---	---	---	---	---	---	71	25	18	13	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	348	81.4	69.2	16.0
MAX	---	---	---	---	---	---	---	---	348	81.4	69.2	16.0
(WY)	---	---	---	---	---	---	---	---	(2004)	(2004)	(2004)	(2004)
MIN	---	---	---	---	---	---	---	---	348	81.4	69.2	16.0
(WY)	---	---	---	---	---	---	---	---	(2004)	(2004)	(2004)	(2004)

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued



03303205 SINKING CREEK NEAR LODIBURG, KY

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 27, 2004 to currenty water year.

INSTRUMENTATION.--Four parameter water-quality monitor with telemetry.

REMARKS.--
SPECIFIC CONDUCTANCE.--Records rated good.
PH.--Records rated excellent except for the following periods: July 6, July 17-31rated good.
WATER TEMPERATURE.--Records rated excellent.
DISSOLVED OXYGEN.--Records rated good.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE.--Maximum recorded, 662 microseimens, Sep. 30; minimum recorded, 174 microseimens, May 30.
PH.--Maximum recorded, 8.3 units, July 9; minimum recorded, 6.7 units, July 31.
WATER TEMPERATURE.--Maximum recorded, 25.1°C, July 19; minimum recorded 14.9°C, June 5.
DISSOLVED OXYGEN.--Maximum recorded, 11.5 mg/L, Sep. 30; minimum recorded, 6.9 mg/L, Sep. 28.

COOPERATION.--Kentucky Department of Agriculture.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
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MONTH	---	---	---	---	---	---	---	---	---	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
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28	---	---	---	---	---	---	---	---	---	246	196	224
29	---	---	---	---	---	---	---	---	---	307	246	277
30	---	---	---	---	---	---	---	---	---	310	174	214
31	---	---	---	---	---	---	---	---	---	201	177	190
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	261	201	236	---	---	---	---	---	---	434	415	424
2	290	261	277	---	---	---	568	543	554	446	430	439
3	303	290	297	---	---	---	546	525	534	459	442	450
4	310	303	307	---	---	---	525	512	518	472	455	466
5	314	310	312	---	---	---	514	509	512	486	469	478
6	320	314	317	---	---	---	523	514	519	505	484	492
7	328	320	325	---	---	---	537	522	531	533	499	516
8	334	328	332	---	---	---	537	527	530	551	526	539
9	341	334	338	---	---	---	527	518	521	559	541	552
10	348	288	312	---	---	---	524	516	519	572	553	562
11	300	291	294	---	---	---	541	524	533	575	560	568
12	309	281	300	---	---	---	547	536	541	577	569	573
13	290	276	281	432	370	395	561	545	552	584	575	580
14	297	277	286	384	368	374	570	558	564	589	583	586
15	322	297	310	404	384	394	579	570	575	596	589	592
16	337	322	330	424	404	415	585	579	582	607	596	600
17	340	329	335	---	---	---	590	583	588	620	603	612
18	329	316	322	---	---	---	593	589	591	626	613	620
19	319	308	312	---	---	---	593	591	592	629	618	622
20	---	---	---	---	---	---	602	586	593	633	617	622
21	329	321	325	505	494	501	601	587	597	625	618	621
22	343	329	336	514	500	508	606	601	604	629	624	626
23	352	336	348	522	510	517	608	606	607	633	628	630
24	360	352	356	531	522	527	606	599	605	636	633	634
25	363	357	360	535	531	534	602	597	599	639	636	637
26	369	363	367	544	535	540	---	---	---	646	634	639
27	373	359	363	552	544	549	---	---	---	659	637	646
28	---	---	---	560	552	556	---	---	---	656	649	652
29	---	---	---	566	559	563	---	---	---	660	651	654
30	---	---	---	572	566	569	397	359	380	662	652	657
31	---	---	---	585	568	576	417	394	408	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	662	415	576
YEAR	---	---	---									

e Estimated

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
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31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	7.4	7.4	---	---	7.3	7.2	7.2	7.1
2	---	---	---	---	7.4	7.4	---	---	7.3	7.2	7.2	7.1
3	---	---	---	---	7.4	7.3	---	---	7.3	7.2	7.2	7.1
4	---	---	---	---	7.4	7.3	---	---	7.3	7.2	7.2	7.1
5	---	---	---	---	7.3	7.3	---	---	7.2	7.2	7.2	7.2
6	---	---	---	---	7.3	7.3	7.2	7.1	7.3	7.2	7.2	7.1
7	---	---	---	---	7.3	7.3	7.2	7.2	7.3	7.3	7.2	7.1
8	---	---	---	---	7.4	7.3	7.8	7.1	7.3	7.3	7.3	7.2
9	---	---	---	---	7.4	7.4	8.3	7.4	7.3	7.3	7.3	7.1
10	---	---	---	---	7.5	7.3	8.2	7.9	7.3	7.3	7.3	7.1
11	---	---	---	---	7.3	7.2	8.1	7.2	7.3	7.3	7.3	7.3
12	---	---	---	---	7.4	7.3	7.5	7.2	7.3	7.3	7.3	7.3
13	---	---	---	---	7.3	7.2	7.2	7.0	7.3	7.3	7.3	7.3
14	---	---	---	---	7.2	7.2	7.1	7.0	7.3	7.3	7.3	7.3
15	---	---	---	---	7.3	7.2	7.0	7.0	7.3	7.3	7.3	7.3
16	---	---	---	---	7.3	7.3	7.1	7.0	7.3	7.3	7.3	7.3
17	---	---	---	---	7.4	7.2	7.0	7.0	7.3	7.3	7.3	7.3
18	---	---	---	---	7.2	7.1	7.8	7.0	7.3	7.2	7.4	7.3
19	---	---	---	---	7.3	7.1	8.1	7.4	7.3	7.2	7.4	7.3
20	---	---	---	---	7.2	7.1	8.1	6.7	7.2	7.2	7.4	7.3
21	---	---	---	---	7.2	7.2	6.9	6.8	7.3	7.2	7.4	7.3
22	---	---	---	---	7.2	7.2	6.9	6.8	7.3	7.2	7.4	7.3
23	---	---	---	---	7.3	7.2	6.8	6.8	7.3	7.2	7.4	7.3
24	---	---	---	---	7.3	7.3	6.8	6.8	7.3	7.2	7.4	7.3
25	---	---	---	---	7.3	7.2	6.8	6.8	7.3	7.2	7.4	7.3
26	---	---	---	---	7.3	7.2	6.8	6.8	7.4	7.0	7.4	7.3
27	---	---	7.4	7.3	---	---	6.8	6.8	7.2	7.0	7.3	7.2
28	---	---	7.4	7.3	---	---	6.8	6.8	7.2	7.0	7.4	7.3
29	---	---	7.4	7.4	---	---	6.8	6.8	7.1	7.0	7.4	7.3
30	---	---	7.4	7.3	---	---	6.8	6.8	7.1	7.1	7.4	7.3
31	---	---	7.4	7.3	---	---	7.2	6.7	7.1	7.1	---	---
MONTH	---	---	---	---	---	---	---	---	7.4	7.0	7.4	7.1
YEAR	---	---										

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
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31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
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27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	16.1	15.6	15.9
29	---	---	---	---	---	---	---	---	---	15.7	15.2	15.4
30	---	---	---	---	---	---	---	---	---	16.9	15.4	16.4
31	---	---	---	---	---	---	---	---	---	16.6	16.1	16.4
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.1	15.5	15.7	---	---	---	18.4	16.8	17.5	18.4	16.8	17.4
2	15.7	15.2	15.4	---	---	---	18.6	16.9	17.5	18.1	16.6	17.2
3	15.4	15.1	15.2	---	---	---	18.5	16.8	17.4	17.8	16.9	17.3
4	15.2	15.0	15.1	---	---	---	18.1	16.7	17.3	18.2	16.9	17.4
5	15.1	14.9	15.0	---	---	---	18.0	16.7	17.2	18.5	16.9	17.5
6	15.3	15.0	15.2	---	---	---	18.3	16.6	17.2	18.6	16.8	17.5
7	15.6	15.1	15.3	18.0	17.0	17.3	18.8	16.6	17.5	17.8	16.9	17.3
8	15.8	15.1	15.5	19.5	16.7	17.7	19.0	16.8	17.7	17.9	17.0	17.3
9	15.9	15.3	15.5	24.0	17.3	20.0	18.7	17.2	17.8	18.1	16.6	17.3
10	16.5	15.0	15.8	24.1	17.8	20.5	19.0	17.2	17.9	18.3	16.4	17.2
11	16.2	15.6	15.9	19.6	16.5	17.7	18.2	16.7	17.3	18.4	16.4	17.3
12	16.4	15.6	16.0	19.6	16.6	17.9	17.5	16.7	17.0	18.1	16.9	17.4
13	16.6	16.0	16.3	17.2	16.6	16.8	17.7	16.5	17.0	18.7	16.9	17.7
14	16.5	15.9	16.2	17.6	16.7	17.0	18.0	16.2	16.9	18.7	16.9	17.7
15	16.3	15.9	16.1	17.7	16.8	17.2	18.3	16.1	17.1	18.5	16.7	17.5
16	16.3	15.7	15.9	17.9	17.0	17.3	18.3	16.1	17.1	18.2	16.9	17.5
17	16.5	15.6	16.1	18.2	17.1	17.4	18.4	16.1	17.2	18.1	16.8	17.5
18	16.7	16.0	16.4	22.4	16.4	18.9	18.8	16.5	17.5	17.9	15.8	16.9
19	16.9	16.1	16.5	25.1	16.0	19.5	18.7	16.7	17.5	17.8	15.8	16.8
20	16.7	15.9	16.2	22.4	16.3	17.7	17.5	16.6	17.0	18.0	15.6	16.7
21	16.8	15.8	16.2	18.6	17.0	17.5	18.0	16.4	17.1	17.9	15.5	16.7
22	16.7	15.9	16.2	18.7	17.2	17.7	18.2	16.1	17.0	18.1	15.8	16.9
23	16.9	16.0	16.3	18.3	17.1	17.5	18.4	16.4	17.2	18.2	16.1	17.1
24	17.0	15.8	16.3	18.8	17.1	17.7	18.6	16.7	17.5	18.3	16.4	17.3
25	16.6	16.1	16.3	17.9	17.1	17.4	18.7	17.0	17.7	17.8	16.8	17.3
26	16.9	16.1	16.4	17.5	17.2	17.4	20.1	17.1	17.7	17.7	15.8	16.8
27	17.1	15.7	16.3	18.6	17.1	17.6	17.9	17.3	17.7	17.8	15.7	16.8
28	---	---	---	18.9	16.8	17.6	17.7	17.2	17.4	17.6	16.1	16.9
29	---	---	---	18.3	17.0	17.5	17.7	17.1	17.3	17.0	15.9	16.5
30	---	---	---	18.4	17.1	17.6	17.6	16.9	17.2	17.1	15.1	16.1
31	---	---	---	17.6	16.8	17.2	18.3	16.8	17.4	---	---	---
MONTH	---	---	---	---	---	---	20.1	16.1	17.3	18.7	15.1	17.2
YEAR	---	---	---									

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	8.6	8.4	8.5
29	---	---	---	---	---	---	---	---	---	8.6	8.3	8.5
30	---	---	---	---	---	---	---	---	---	8.9	8.3	8.6
31	---	---	---	---	---	---	---	---	---	8.5	8.4	8.4
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.5	8.3	8.4	---	---	---	---	---	---	---	---	---
2	8.4	8.1	8.3	---	---	---	---	---	---	8.0	6.8	7.2
3	8.2	8.1	8.2	---	---	---	---	---	---	7.7	6.9	7.2
4	8.3	8.2	8.3	---	---	---	---	---	---	8.3	6.9	7.8
5	8.4	8.1	8.3	---	---	---	---	---	---	8.5	7.9	8.1
6	8.2	7.9	8.1	8.9	8.6	8.6	8.3	7.6	7.9	8.4	7.3	7.9
7	8.3	7.6	8.0	10.0	8.9	9.4	8.6	7.6	8.0	8.1	6.9	7.6
8	8.4	7.6	8.1	11.2	9.7	10.4	8.8	7.7	8.1	8.5	7.1	7.9
9	8.7	8.2	8.5	11.1	7.8	10.2	9.0	7.7	8.2	8.6	7.0	7.8
10	9.1	7.8	8.3	---	---	---	9.0	7.7	8.2	7.9	7.7	7.9
11	7.8	7.5	7.6	---	---	---	9.3	7.7	8.2	8.8	7.2	8.1
12	8.7	7.5	8.0	---	---	---	8.9	7.7	8.2	9.1	7.2	8.1
13	8.4	7.7	8.0	---	---	---	9.1	7.7	8.3	9.2	7.1	8.0
14	7.8	7.4	7.7	---	---	---	9.4	7.9	8.5	9.4	7.3	8.2
15	8.0	7.5	7.8	---	---	---	9.6	7.9	8.5	9.0	7.0	7.9
16	8.2	7.5	7.9	---	---	---	9.6	7.9	8.6	9.7	7.0	8.4
17	8.3	7.7	8.2	---	---	---	9.9	7.9	8.6	9.9	7.0	8.4
18	8.1	7.4	7.8	---	---	---	10.5	7.8	8.9	10.0	7.8	8.7
19	8.3	7.0	7.6	---	---	---	10.9	8.1	9.2	10.4	8.0	9.0
20	---	---	---	---	---	---	9.5	7.9	8.5	10.3	7.9	8.9
21	---	---	---	---	---	---	10.6	8.1	9.0	10.1	7.8	8.7
22	---	---	---	---	---	---	11.1	8.3	9.3	10.5	7.6	8.7
23	---	---	---	---	---	---	11.4	8.2	9.4	10.7	7.6	8.9
24	---	---	---	---	---	---	11.3	7.8	9.2	11.0	7.4	8.9
25	8.2	7.7	8.0	---	---	---	10.9	7.9	9.0	10.6	7.4	8.7
26	8.4	7.8	8.1	---	---	---	---	---	---	11.1	7.5	9.0
27	---	---	---	---	---	---	---	---	---	10.6	7.3	8.8
28	---	---	---	---	---	---	---	---	---	10.8	6.9	8.4
29	---	---	---	---	---	---	---	---	---	11.1	7.1	8.8
30	---	---	---	---	---	---	---	---	---	11.5	7.3	8.9
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR	---	---	---									

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03303280 OHIO RIVER AT CANNELTON DAM, KY

LOCATION.--Lat 37°53'58", long 86°42'20", Hancock County, Hydrologic Unit 05140201, at Cannelton Dam, 0.7 mi upstream from Indian Creek, 3.3 mi upstream from Lead Creek, and at mile 720.8.

DRAINAGE AREA.--97,000 mi^2, approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorders with telemetry. Datum of headwater gage 0.4 mi upstream is 374.0 ft Ohio River datum. Datum of tailwater gage 0.4 mi downstream is 26.0 ft lower.

REMARKS.--Records good except those below 20,000 ft^3/s, which are poor and extreme events, which can be affected by high flows on the Mississippi River. All extreme high flow periods should be scrutinized for this reason. Daily discharge computed from head, gate openings, and lockages furnished by U.S. Army Corps of Engineers, Louisville District. Flow regulated by Ohio River system of locks, dams, and reservoirs upstream from station.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142,000	127,000	285,000	231,000	95,200	105,000	205,000	218,000	512,000	75,500	170,000	80,900
2	144,000	121,000	285,000	230,000	83,000	111,000	220,000	241,000	520,000	69,700	142,000	68,900
3	131,000	107,000	283,000	271,000	129,000	115,000	234,000	244,000	517,000	70,600	127,000	58,900
4	106,000	94,400	272,000	e340,000	161,000	152,000	266,000	226,000	504,000	56,400	133,000	53,000
5	96,100	82,900	246,000	448,000	200,000	193,000	290,000	186,000	e451,000	54,200	131,000	37,600
6	83,800	81,800	212,000	508,000	e270,000	234,000	291,000	176,000	e353,000	71,700	126,000	36,300
7	77,500	114,000	190,000	535,000	358,000	274,000	285,000	171,000	e296,000	61,300	124,000	49,200
8	84,900	145,000	182,000	544,000	410,000	e353,000	266,000	154,000	e281,000	66,300	103,000	50,000
9	91,700	155,000	178,000	548,000	446,000	429,000	233,000	132,000	198,000	63,100	84,900	60,300
10	63,500	158,000	179,000	546,000	477,000	455,000	192,000	113,000	163,000	67,900	62,700	159,000
11	54,900	133,000	178,000	538,000	500,000	464,000	167,000	105,000	127,000	56,300	41,600	241,000
12	62,000	121,000	178,000	516,000	505,000	e440,000	157,000	90,700	113,000	72,500	58,600	290,000
13	46,000	175,000	196,000	473,000	e460,000	e353,000	157,000	90,200	151,000	67,000	54,800	291,000
14	53,300	242,000	231,000	e367,000	e369,000	273,000	197,000	104,000	182,000	61,400	44,200	282,000
15	55,200	352,000	254,000	257,000	264,000	234,000	262,000	118,000	203,000	82,200	39,900	273,000
16	79,600	389,000	266,000	225,000	208,000	195,000	e334,000	120,000	219,000	83,300	35,000	201,000
17	122,000	e366,000	262,000	197,000	167,000	169,000	412,000	109,000	227,000	67,900	38,700	139,000
18	116,000	284,000	264,000	180,000	147,000	151,000	459,000	101,000	228,000	88,100	38,800	146,000
19	109,000	239,000	271,000	171,000	127,000	144,000	470,000	102,000	240,000	85,200	39,800	239,000
20	117,000	212,000	269,000	177,000	116,000	154,000	462,000	139,000	227,000	69,000	28,800	316,000
21	103,000	242,000	261,000	193,000	113,000	163,000	e393,000	174,000	214,000	67,600	54,000	420,000
22	93,400	303,000	239,000	197,000	113,000	165,000	281,000	195,000	208,000	71,700	86,500	458,000
23	79,700	418,000	207,000	179,000	130,000	183,000	241,000	209,000	185,000	82,600	119,000	477,000
24	69,200	454,000	195,000	157,000	142,000	202,000	238,000	228,000	152,000	82,200	142,000	475,000
25	75,400	470,000	200,000	138,000	150,000	215,000	248,000	251,000	122,000	72,800	139,000	e440,000
26	72,200	e455,000	211,000	123,000	151,000	219,000	246,000	297,000	118,000	70,000	93,000	e335,000
27	59,300	e380,000	236,000	106,000	146,000	201,000	229,000	e355,000	116,000	58,800	66,100	221,000
28	74,700	279,000	250,000	99,600	137,000	176,000	196,000	e413,000	115,000	84,000	53,000	152,000
29	101,000	277,000	262,000	121,000	124,000	161,000	191,000	451,000	112,000	124,000	65,600	122,000
30	108,000	285,000	257,000	122,000	---	162,000	207,000	464,000	105,000	135,000	60,400	106,000
31	125,000	---	247,000	111,000	---	171,000	---	490,000	---	136,000	96,600	---
TOTAL	2,796,400	7,262,100	7,246,000	8,848,600	6,698,200	7,016,000	8,029,000	6,466,900	7,159,000	2,374,300	2,599,000	6,278,100
MEAN	90,210	242,100	233,700	285,400	231,000	226,300	267,600	208,600	238,600	76,590	83,840	209,300
MAX	144,000	470,000	285,000	548,000	505,000	464,000	470,000	490,000	520,000	136,000	170,000	477,000
MIN	46,000	81,800	178,000	99,600	83,000	105,000	157,000	90,200	105,000	54,200	28,800	36,300

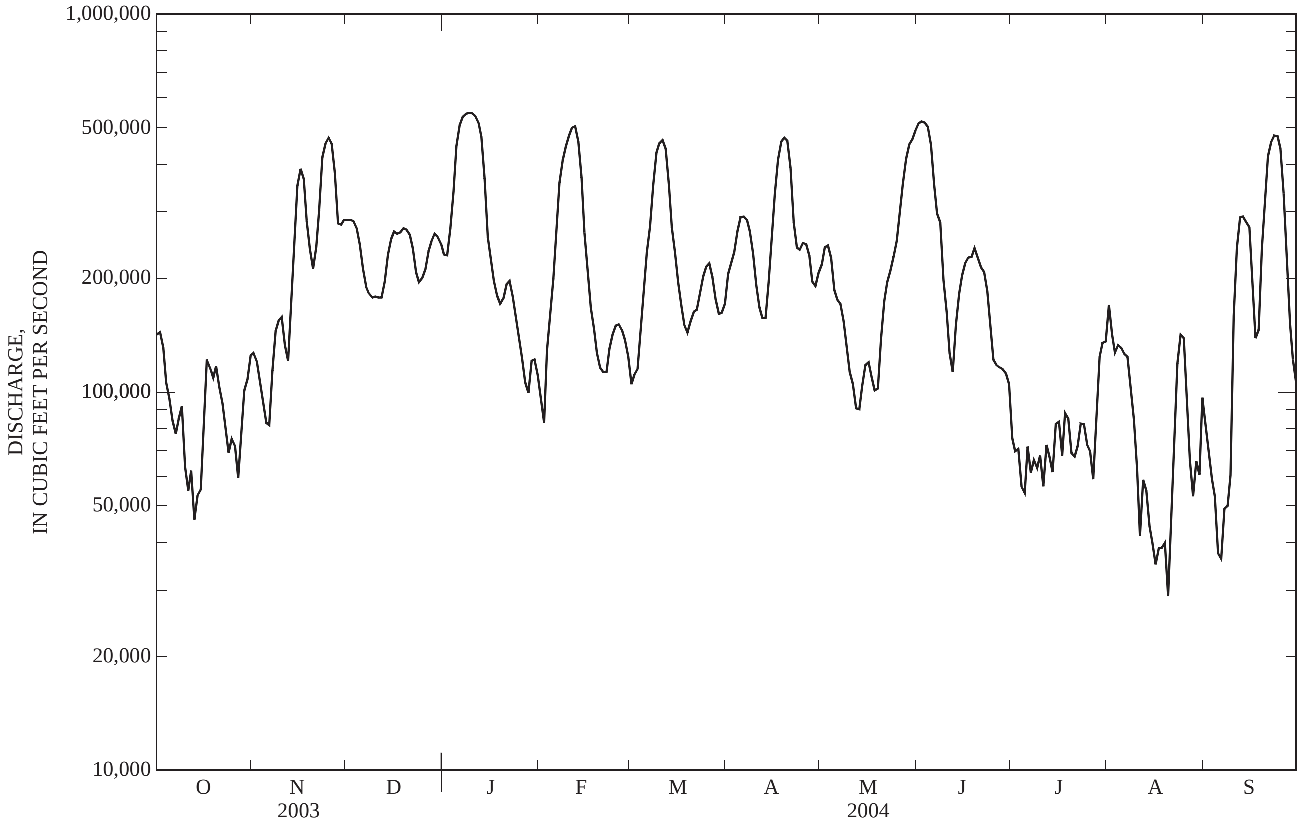
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2004, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	56,690	94,380	155,000	165,700	205,000	234,500	204,700	170,500	114,300	68,920	55,780	51,380
MAX	155,800	242,100	334,000	368,700	358,600	443,300	360,400	415,100	238,600	125,500	148,200	209,300
(WY)	(1980)	(2004)	(1979)	(1991)	(1994)	(1997)	(1994)	(1996)	(2004)	(1998)	(1980)	(2004)
MIN	13,980	24,350	47,120	36,500	94,740	125,500	72,990	46,020	16,490	18,760	13,130	11,630
(WY)	(1992)	(1999)	(1999)	(1977)	(1992)	(1983)	(1986)	(1976)	(1988)	(1988)	(1988)	(1999)

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1976 - 2004	
ANNUAL TOTAL	68,292,800		72,773,600			
ANNUAL MEAN	187,100		198,800		131,000	
HIGHEST ANNUAL MEAN					198,800	2004
LOWEST ANNUAL MEAN					72,150	1988
HIGHEST DAILY MEAN	475,000	Feb 28	548,000	Jan 9	735,000	Mar 8, 1997
LOWEST DAILY MEAN	35,700	Jan 28	28,800	Aug 20	3,180	Aug 28, 1995
ANNUAL SEVEN-DAY MINIMUM	46,100	Jan 24	37,900	Aug 14	7,650	Jul 12, 1988
MAXIMUM PEAK FLOW			549,000	Jan 9	736,000	Mar 8, 1997
MAXIMUM PEAK STAGE			43.55	Jan 9	52.42	Mar 8, 1997
10 PERCENT EXCEEDS	303,000		423,000		284,000	
50 PERCENT EXCEEDS	164,000		170,000		94,600	
90 PERCENT EXCEEDS	66,200		66,000		23,400	

e Estimated



03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to 1986 and 1996 to current water year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE.--October 1974 to September 1986 (discontinued).

WATER TEMPERATURES.--October 1974 to September 1986 (discontinued).

REMARKS.--Flow regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE.--Maximum daily recorded, 691 microsiemens, Nov. 14, 1978; minimum daily recorded, 176 microsiemens, Dec. 15, 1978.

WATER TEMPERATURES.--Maximum daily recorded, 30.0°C, July 23, 24, 1977, Aug. 5, 1982, several days in July and August; minimum daily recorded, 0.0°C, on several days during most winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Turbid- ity, wat unf lab, Hach 2100AN NTU (99872)	UV absorb- ance, 254 nm, wat flt units /cm (50624)	UV absorb- ance, 280 nm, wat flt units /cm (61726)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)
NOV												
04...	1400	Environmental	81,100	16	0.083	0.061	9.3	96	7.5	401	16.0	150
04...	1410	Replicate	--	--	--	--	--	--	--	--	--	--
DEC												
16...	1400	Environmental	267,000	65	.072	.054	12.9	105	7.7	328	5.5	130
16...	1408	Field Blank	--	--	--	--	--	--	--	--	--	--
JAN												
08...	1600	Environmental	550,000	250	.100	.077	--	--	7.7	269	5.5	110
14...	1200	Environmental	411,000	120	.085	.065	13.1	102	7.6	283	4.0	120
FEB												
12...	1420	Environmental	473,000	E210	.063	.048	13.3	99	7.3	304	3.0	110
MAR												
09...	1230	Environmental	426,000	96	.078	.059	--	--	7.6	397	8.0	140
09...	1238	Field Blank	--	--	<.004	<.004	--	--	--	--	--	--
25...	1310	Environmental	216,000	44	.051	.038	12.8	110	7.5	322	8.5	120
25...	1320	Replicate	--	49	.054	.041	--	--	--	--	--	120
APR												
16...	1255	Environmental	322,000	63	.070	.052	11.1	--	7.7	340	11.5	130
16...	1303	Field Blank	--	--	--	--	--	--	--	--	--	--
27...	1245	Environmental	219,000	86	.086	.065	9.7	97	7.6	318	15.0	130
MAY												
13...	1440	Environmental	92,500	9.9	.067	.050	9.8	109	7.6	364	20.0	150
25...	1240	Environmental	246,000	98	.084	.063	7.7	93	7.5	393	23.5	160
JUN												
03...	1030	Environmental	518,000	230	.143	.108	6.3	71	7.5	282	21.0	110
JUL												
01...	1230	Environmental	66,900	18	.095	.070	7.7	95	7.4	374	26.0	140
01...	1238	Field Blank	--	--	--	--	--	--	--	--	--	--
AUG												
26...	1230	Environmental	91,800	21	.085	.062	6.7	85	7.4	420	27.0	150
26...	1238	Field Blank	--	--	<.004	<.004	--	--	--	--	--	--
SEP												
23...	1310	Environmental	470,000	--	.149	.111	6.9	78	7.3	226	21.0	76
23...	1320	Replicate	--	340	.148	.110	--	--	--	--	--	77

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
NOV													
04...	40.3	12.7	3.00	19.5	92	112	27.1	0.2	5.28	58.3	242	0.27	0.35
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	35.6	10.4	2.51	12.6	64	78	16.6	<.2	6.68	48.5	191	.27	.50
16...	0.03	<0.008	<0.16	<0.10	--	--	1.31	<.01	<0.04	<0.01	--	--	--
JAN													
08...	30.4	7.94	2.40	9.48	70	85	14.7	<.2	5.71	35.4	162	.24	1.3
14...	33.3	8.35	2.38	9.98	66	80	14.2	<.2	6.66	39.0	169	.19	.79
FEB													
12...	29.2	8.31	2.21	17.2	46	E55	23.1	<.2	5.73	52.3	183	.32	1.1
MAR													
09...	37.9	10.9	2.38	19.7	67	82	28.2	<.2	5.90	54.8	216	.28	.88
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	31.8	9.64	2.18	16.5	55	67	24.4	<.2	5.37	50.1	190	.19	.39
25...	32.3	9.53	1.82	15.6	56	68	23.5	<.2	5.30	50.3	193	.18	.39
APR													
16...	36.2	10.1	2.11	15.3	71	86	21.3	<.2	5.93	48.8	209	.21	.60
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	36.4	8.91	2.08	12.5	84	102	15.9	<.2	5.91	41.8	190	.19	.68
MAY													
13...	40.4	11.5	2.24	14.3	82	100	19.8	<.2	5.22	52.1	218	.29	.30
25...	42.2	12.1	2.85	18.6	74	90	24.5	.2	4.05	60.2	245	.26	.77
JUN													
03...	30.9	6.86	2.83	8.29	63	77	9.61	<.2	6.26	30.7	155	.33	.97
JUL													
01...	39.2	11.2	2.93	15.1	79	97	18.4	.2	6.49	55.9	228	.20	.31
01...	<.01	<.008	<.008	<.10	--	--	.24	<.01	<.04	<.01	--	--	--
AUG													
26...	40.2	12.1	2.97	22.2	80	98	28.8	.2	5.31	71.0	243	.24	.31
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
23...	22.1	5.06	2.57	7.46	48	59	7.99	<.2	6.25	32.6	133	.25	1.2
23...	22.3	5.04	2.63	7.45	50	60	8.07	<.2	6.31	32.6	130	.26	1.2

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
NOV													
04...	<0.04	1.16	0.015	0.09	0.035	0.049	0.078	0.8	<0.1	0.8	3.0	2.9	3.2
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	E.03	1.13	.008	.18	.026	.034	.150	2.1	<.1	2.1	2.5	E1.8	E0.7
16...	<.010	E0.009	<.002	--	<.006	--	--	--	--	--	--	--	--
JAN													
08...	<.04	.93	.019	.87	.030	.041	.52	10.2	<.1	10.1	3.8	4.7	2.0
14...	<.04	1.20	.009	.15	.013	.032	.25	1.8	.2	1.7	3.2	1.6	0.8
FEB													
12...	.05	.89	E.007	.54	.006	.018	.34	6.3	.3	5.9	2.3	2.8	1.7
MAR													
09...	.05	1.23	.015	.44	.027	.040	.40	5.1	.1	4.9	2.9	3.7	3.2
09...	--	--	--	.02	--	--	--	.2	<.1	.2	0.7	--	--
25...	E.02	1.13	.015	.20	.007	.019	.111	2.1	.1	2.0	2.1	1.9	2.5
25...	E.04	1.14	.016	.12	.009	.018	.114	1.6	<.1	1.6	2.1	1.6	2.1
APR													
16...	<.04	1.05	.016	.29	.018	.032	.24	3.4	<.1	3.4	2.7	3.7	3.3
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	<.04	1.00	.024	.29	.020	.036	.20	3.4	<.1	3.3	3.3	3.9	3.6
MAY													
13...	<.04	1.33	.022	.10	.014	.034	.052	.6	<.1	.5	2.8	2.4	5.8
25...	<.04	1.38	.020	.44	.023	.040	.24	4.1	<.1	4.0	2.6	9.7	7.2
JUN													
03...	<.04	1.22	E.004	.57	.038	.055	.43	5.6	<.1	5.5	4.9	4.0	1.4
JUL													
01...	<.04	1.66	E.004	.08	.034	.044	.075	.6	<.1	.6	3.2	1.7	2.5
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	<.04	1.17	.024	.09	.037	.049	.078	.7	<.1	.7	2.8	3.0	2.6
26...	--	--	--	<.02	--	--	--	<.1	<.1	<.1	E.2	--	--
SEP													
23...	<.04	.60	<.008	.82	.018	.027	.41	9.1	.2	8.9	4.8	5.8	1.4
23...	<.04	.59	<.008	.44	.018	.029	.40	5.7	.2	5.4	4.5	6.6	2.2

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Arsenic water, fltrd, ug/L (01000)	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)	Vanad-ium, water, fltrd, ug/L (01085)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)
NOV													
04...	0.7	57	E5	5.9	<0.4	275	0.5	<0.006	E0.007	0.009	<0.005	<0.005	0.067
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	.5	29	18	3.8	E.3	208	.7	<.006	E.013	.013	<.005	<.005	.070
16...	<.2	<8	<6	<0.6	<.4	<0.40	<.1	--	--	--	--	--	--
JAN													
08...	.5	22	22	2.6	E.3	145	.5	<.006	E.014	.013	<.005	<.005	.051
14...	.5	24	19	2.3	E.3	159	.4	<.006	E.012	.015	<.005	<.005	.034
FEB													
12...	.3	23	20	3.7	E.2	156	.3	<.006	E.006	E.005	<.005	<.005	.019
MAR													
09...	.5	35	12	5.2	E.4	212	.5	<.006	E.008	.009	.008	<.005	.044
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	.3	28	10	3.8	E.4	178	1.1	<.006	E.008	.011	<.005	<.005	.035
25...	.3	28	9	3.8	.4	178	1.1	<.006	E.009	.011	<.005	<.005	.036
APR													
16...	.4	29	8	3.6	E.4	189	.5	<.006	E.009	<.010	<.005	<.005	.096
16...	--	--	--	--	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007
27...	.6	32	8	3.3	E.2	188	.5	<.006	E.015	.029	<.005	<.005	.390
MAY													
13...	.5	36	E6	4.6	E.3	228	.7	<.006	E.022	.101	.007	<.005	.673
25...	.8	42	<6	5.7	.5	240	.7	<.006	E.112	.341	.021	<.005	3.42
JUN													
03...	.6	27	12	2.6	E.2	131	.7	<.006	E.116	.164	.009	<.005	1.34
JUL													
01...	.7	44	E4	4.7	<.4	245	.8	<.006	E.086	.130	.009	<.005	.908
01...	<.2	<8	<6	<.6	<.4	<.40	<.1	--	--	--	--	--	--
AUG													
26...	.9	68	E5	7.4	.7	241	.8	<.006	E.021	.043	<.005	<.005	.203
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
23...	.5	36	19	2.7	<.4	104	.5	<.006	<.006	<.006	<.005	<.005	.034
23...	.6	35	23	2.7	E.3	104	.6	<.006	E.007	<.006	<.005	<.005	.031

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)
NOV													
04...	<0.050	<0.010	<0.004	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	E0.004	<0.009	<0.02	<0.007
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	<.050	<.010	<.004	E.006	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
14...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
FEB													
12...	<.050	<.010	<.004	E.011	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
MAR													
09...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.050	<.010	<.004	E.005	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
25...	<.050	<.010	<.004	E.005	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
APR													
16...	<.050	<.010	<.004	E.006	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
16...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
27...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
MAY													
13...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
25...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
JUN													
03...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	E.002	<.005	<.009	<.02	<.004
JUL													
01...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.011
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
23...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.044
23...	<.050	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.005

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)
NOV													
04...	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.015	0.017	<0.006	<0.003	<0.007	<0.003	<0.010
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.014	.008	<.003	<.007	<.003	<.010
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.016	<.010	<.003	<.007	<.003	<.010
14...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.017	<.006	<.003	<.007	<.003	<.010
FEB													
12...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	E.008	<.006	<.003	<.007	<.003	<.010
MAR													
09...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.015	<.006	<.003	<.007	<.005	<.010
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.018	<.006	<.003	<.007	<.003	<.010
25...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.018	<.006	<.003	<.007	<.003	<.010
APR													
16...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.018	<.006	<.003	<.007	<.003	<.010
16...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010
27...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.036	<.010	<.003	<.007	<.003	<.010
MAY													
13...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.105	<.010	<.003	<.007	<.003	<.010
25...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.486	.021	<.003	<.007	<.003	<.010
JUN													
03...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.284	.011	<.003	<.007	<.003	<.010
JUL													
01...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.268	.007	<.003	<.007	<.003	<.010
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	.044	<.006	<.003	<.007	<.003	<.010
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
23...	<.009	<.006	<.003	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010
23...	<.009	<.005	<.003	<.004	<.035	<.027	<.015	<.013	<.006	<.003	<.007	<.003	<.010

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)
NOV													
04...	<0.004	<0.022	<0.011	0.01	<0.004	<0.025	<0.011	<0.02	0.031	<0.02	<0.034	<0.02	<0.010
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	<.004	<.022	<.011	M	<.004	<.025	<.011	<.02	.020	<.02	<.034	<.02	<.010
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.044	<.02	<.034	<.02	<.010
14...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.025	<.02	<.034	<.02	<.010
FEB													
12...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.011	<.02	<.034	<.02	<.010
MAR													
09...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.014	<.02	<.034	<.02	<.010
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.008	<.02	<.034	<.02	<.010
25...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.008	<.02	<.034	<.02	<.010
APR													
16...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.024	<.02	<.034	<.02	<.010
16...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010
27...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.112	<.02	<.034	<.02	<.010
MAY													
13...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.061	<.02	<.034	<.02	<.010
25...	<.004	<.022	<.011	E.02	<.004	<.025	<.011	<.02	.381	<.02	<.034	<.02	<.010
JUN													
03...	<.004	<.022	<.011	.02	<.004	<.025	<.011	<.02	.218	E.02	<.034	<.02	<.010
JUL													
01...	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.145	<.02	<.034	<.02	<.010
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	<.004	<.022	<.011	.02	<.006	<.025	<.011	<.02	.018	<.02	<.034	<.02	<.010
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
23...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.013	<.02	<.034	<.02	<.010
23...	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.008	<.02	<.034	<.02	<.010

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
NOV				
04...	<0.002	<0.009	100	17
04...	--	--	100	18
DEC				
16...	<.002	<.009	90	93
16...	--	--	--	--
JAN				
08...	<.002	<.009	80	416
14...	<.002	<.009	87	167
FEB				
12...	<.002	<.009	87	328
MAR				
09...	<.002	<.009	97	272
09...	--	--	--	--
25...	<.002	<.009	90	81
25...	<.002	<.009	95	75
APR				
16...	<.002	<.009	74	179
16...	<.002	<.009	--	--
27...	<.002	<.009	94	67
MAY				
13...	<.002	<.009	95	12
25...	<.002	<.009	94	180
JUN				
03...	<.002	<.009	92	332
JUL				
01...	<.002	<.009	99	16
01...	--	--	--	--
AUG				
26...	<.002	<.009	98	22
26...	--	--	--	--
SEP				
23...	<.002	<.009	92	502
23...	<.002	<.009	92	495

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

03302000 POND CREEK NEAR LOUISVILLE, KY

LOCATION.--Lat 38°07'11", long 85°47'45", Jefferson County, Hydrologic Unit 05140102, on upstream side of bridge on Manslick Rd, right bank, 0.4 mi south of Third Street Rd, 0.6 mi downstream from Bee Lick Creek, 1.5 mi downstream from confluence of Northern and Southern Ditches, 2.4 mi south of Louisville city limits, and at mile 15.4.

DRAINAGE AREA.--64.0 mi^2.

PERIOD OF RECORD.--August 1944 to current year.

REVISED RECORDS.--WSP 1705: Drainage area.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 430.38 ft above NGVD of 1929. See WDR KY-90-1 for history of changes prior to Nov. 16, 1962.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1937 reached a stage of about 23 ft present datum, backwater from Ohio River, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 19	0205	*3,630	*19.07	Jan 6	0840	1,840	13.88
Nov 2	1515	2,510	16.18	Mar 28	0340	3,060	17.65
Nov 12	0000	2,010	14.50	May 20	0450	2,900	17.26
Jan 3	1310	1,650	13.13	Aug 30	1610	1,670	13.20

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	212	256	751	54	70	100	100	23	25	6.3	121
2	8.6	1,160	118	346	e63	46	121	58	38	9.9	5.8	66
3	7.6	481	88	1,030	123	40	87	46	109	7.9	5.7	38
4	7.6	230	72	546	76	35	69	33	92	7.2	5.8	25
5	7.1	125	59	524	58	33	59	27	29	6.7	17	20
6	6.5	88	83	1,090	49	28	52	23	18	6.7	11	14
7	6.7	69	510	387	144	43	57	21	16	6.6	6.3	13
8	7.1	57	177	627	312	90	47	19	13	6.1	8.2	12
9	7.0	51	383	240	145	42	36	18	12	6.3	6.8	20
10	7.1	40	276	172	123	39	32	18	43	6.3	6.0	14
11	7.7	518	169	143	88	33	29	16	37	15	6.7	10
12	20	887	122	133	73	71	59	16	64	92	6.8	9.0
13	45	186	87	274	251	52	90	14	61	91	6.3	8.2
14	17	113	65	251	238	44	45	228	21	33	16	8.2
15	39	85	53	118	134	38	32	67	16	e31	9.2	7.6
16	11	69	e45	91	95	32	26	32	19	32	77	7.2
17	9.1	60	e38	70	69	31	23	23	20	24	23	6.7
18	693	57	e33	e60	55	29	21	19	19	15	12	6.6
19	1,910	550	e30	52	47	30	20	211	18	12	13	6.5
20	299	195	e28	51	72	30	20	1,850	17	9.7	11	85
21	128	113	29	48	94	25	19	345	16	7.9	14	23
22	80	88	216	42	70	46	43	145	16	124	8.8	12
23	78	81	e156	35	53	132	82	114	16	32	14	9.5
24	119	309	116	30	52	81	29	63	15	15	7.9	8.1
25	62	225	e77	32	44	58	23	48	16	12	6.4	11
26	50	113	60	34	42	47	91	40	16	10	6.1	48
27	593	114	49	27	35	283	68	35	15	9.2	15	16
28	131	149	45	23	76	1,780	38	32	43	8.9	149	13
29	90	90	261	75	---	399	122	28	58	7.7	206	20
30	84	136	786	110	---	191	424	25	23	7.2	840	11
31	55	---	965	73	---	140	---	24	---	6.6	470	---
TOTAL	4,595.3	6,651	5,452	7,485	2,735	4,038	1,964	3,738	919	683.9	1,997.1	669.6
MEAN	148	222	176	241	97.7	130	65.5	121	30.6	22.1	64.4	22.3
MAX	1,910	1,160	965	1,090	312	1,780	424	1,850	109	124	840	121
MIN	6.5	40	28	23	35	25	19	14	12	6.1	5.7	6.5
CFSM	2.32	3.46	2.75	3.77	1.53	2.04	1.02	1.88	0.48	0.34	1.01	0.35
IN.	2.67	3.87	3.17	4.35	1.59	2.35	1.14	2.17	0.53	0.40	1.16	0.39

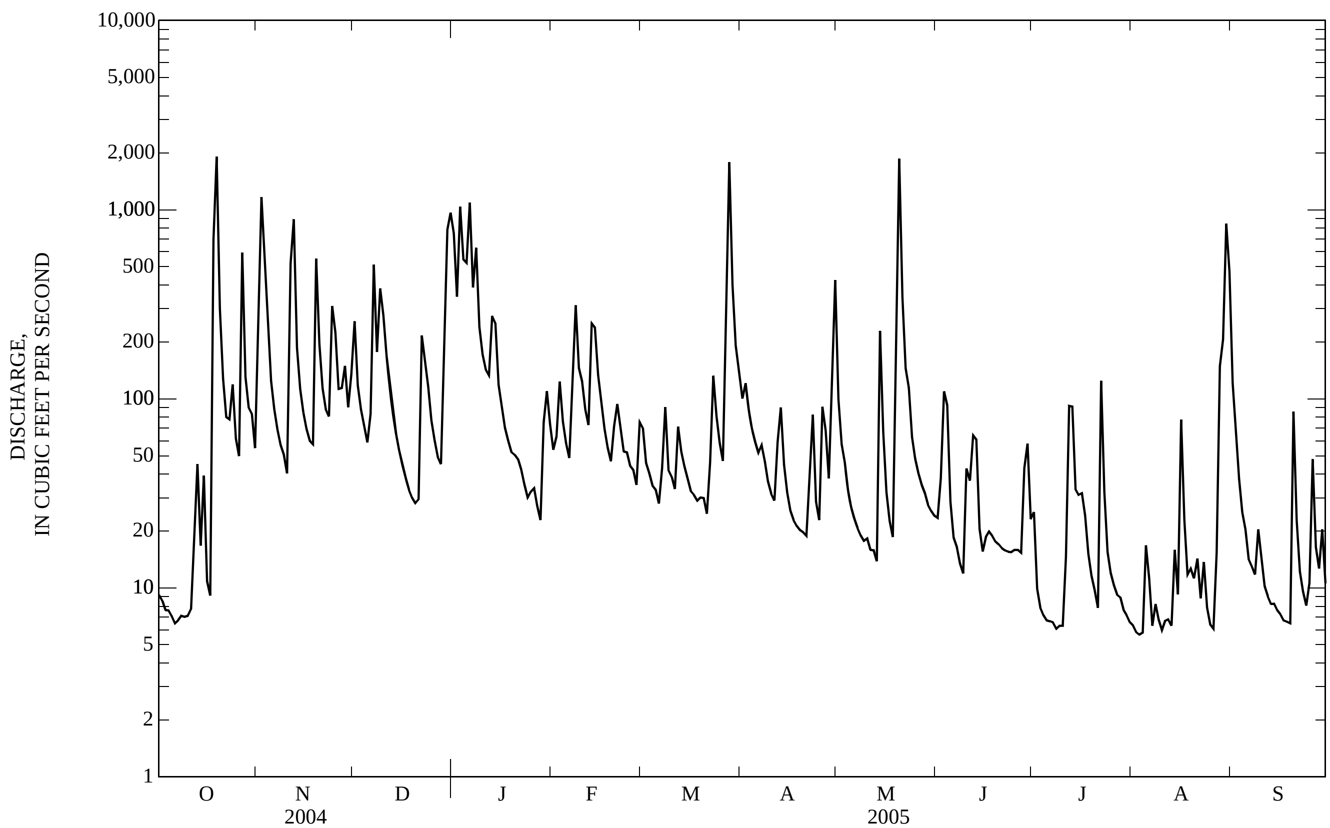
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.2	61.6	101	134	154	183	131	115	68.5	45.8	35.5	34.4
MAX	148	256	310	614	454	814	551	505	328	282	186	399
(WY)	(2005)	(1974)	(1979)	(1950)	(1989)	(1997)	(1970)	(1983)	(1997)	(1973)	(1992)	(1979)
MIN	1.76	2.60	4.48	8.52	10.1	11.4	21.2	10.6	4.54	2.96	0.78	1.15
(WY)	(1947)	(1945)	(1954)	(1977)	(1954)	(1954)	(2001)	(1954)	(1954)	(1952)	(1945)	(1945)

03302000 POND CREEK NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1944 - 2005	
ANNUAL TOTAL	45,042.8		40,927.9			
ANNUAL MEAN	123		112		91.0	
HIGHEST ANNUAL MEAN					159	1950
LOWEST ANNUAL MEAN					11.4	1954
HIGHEST DAILY MEAN	1,920	May 28	1,910	Oct 19	7,200	Mar 2, 1997
LOWEST DAILY MEAN	6.5	Oct 6	5.7	Aug 3	0.10	Sep 3, 1945
ANNUAL SEVEN-DAY MINIMUM	7.0	Oct 4	6.4	Jul 29	0.19	Sep 17, 1945
MAXIMUM PEAK FLOW			3,630	Oct 19	8,020	Mar 9, 1964
MAXIMUM PEAK STAGE			19.07	Oct 19	25.74	Mar 2, 1997
INSTANTANEOUS LOW FLOW			5.2	Aug 3	0.10	Sep 3, 1945
ANNUAL RUNOFF (CFSM)	1.92		1.75		1.42	
ANNUAL RUNOFF (INCHES)	26.18		23.79		19.32	
10 PERCENT EXCEEDS	312		251		191	
50 PERCENT EXCEEDS	51		43		27	
90 PERCENT EXCEEDS	9.2		7.8		6.0	

e Estimated



03302030 POND CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°03'15", long 85°52'18", Jefferson County, Hydrologic Unit 05140102, at bridge on Pendleton Road near Louisville, 1.3 mi above Brier Creek and at mile 7.1.

DRAINAGE AREA.--80.3 mi^2.

PERIOD OF RECORD.--December 1998 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records good except those estimated, which are poor.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 19	0645	*3,820	*18.29	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	307	430	1,290	65	109	e198	154	29	26	6.8	176
2	12	1,650	152	614	55	65	e212	79	38	16	6.4	84
3	12	1,100	105	1,660	149	55	e153	59	65	11	5.8	45
4	12	365	82	1,040	93	49	e121	43	194	9.9	5.6	29
5	12	171	68	1,030	69	46	e102	36	42	9.2	5.9	23
6	11	107	88	e1,990	57	40	e90	31	26	8.9	20	16
7	11	79	844	e583	137	42	e98	28	22	8.7	9.1	13
8	11	61	307	e1,040	618	127	e76	25	20	8.1	9.7	12
9	12	54	468	e378	222	60	e57	23	17	7.6	8.5	12
10	12	43	580	e248	183	51	46	22	18	8.2	7.2	22
11	11	552	229	e209	121	47	42	21	e62	9.1	6.2	10
12	14	1,810	162	e200	98	78	60	20	e49	87	7.4	8.8
13	71	295	105	e469	338	75	125	18	e77	107	7.0	7.7
14	43	142	75	e378	450	58	61	301	31	42	12	7.0
15	47	98	60	e189	210	e47	45	113	22	27	14	6.6
16	20	77	52	e131	134	e42	36	40	22	37	65	6.1
17	9.4	65	48	e102	95	42	32	30	22	37	41	5.7
18	784	59	43	e78	76	40	30	24	23	19	16	5.7
19	2,950	911	39	e71	65	37	28	110	21	15	12	5.5
20	546	348	31	e68	79	43	26	2,880	21	12	14	85
21	176	146	30	e65	137	35	24	662	20	11	16	31
22	94	102	288	e58	101	39	24	214	19	126	11	13
23	71	88	e227	e46	75	215	117	146	19	46	14	9.1
24	162	378	e175	e37	71	142	40	81	19	21	11	7.7
25	76	401	e118	e38	63	83	29	61	18	15	7.9	6.9
26	54	143	e91	41	58	70	71	50	18	13	7.3	42
27	1,140	105	e71	35	50	403	132	44	18	11	16	20
28	192	213	e76	28	78	3,080	43	41	22	11	31	13
29	115	105	384	62	---	1,010	124	36	56	10	446	16
30	98	122	1,310	144	---	439	770	32	44	8.6	e1,420	15
31	71	---	1,900	93	---	e237	---	30	---	7.6	1,030	---
TOTAL	6,860.4	10,097	8,638	12,415	3,947	6,906	3,012	5,454	1,074	785.9	3,289.8	753.8
MEAN	221	337	279	400	141	223	100	176	35.8	25.4	106	25.1
MAX	2,950	1,810	1,900	1,990	618	3,080	770	2,880	194	126	1,420	176
MIN	9.4	43	30	28	50	35	24	18	17	7.6	5.6	5.5

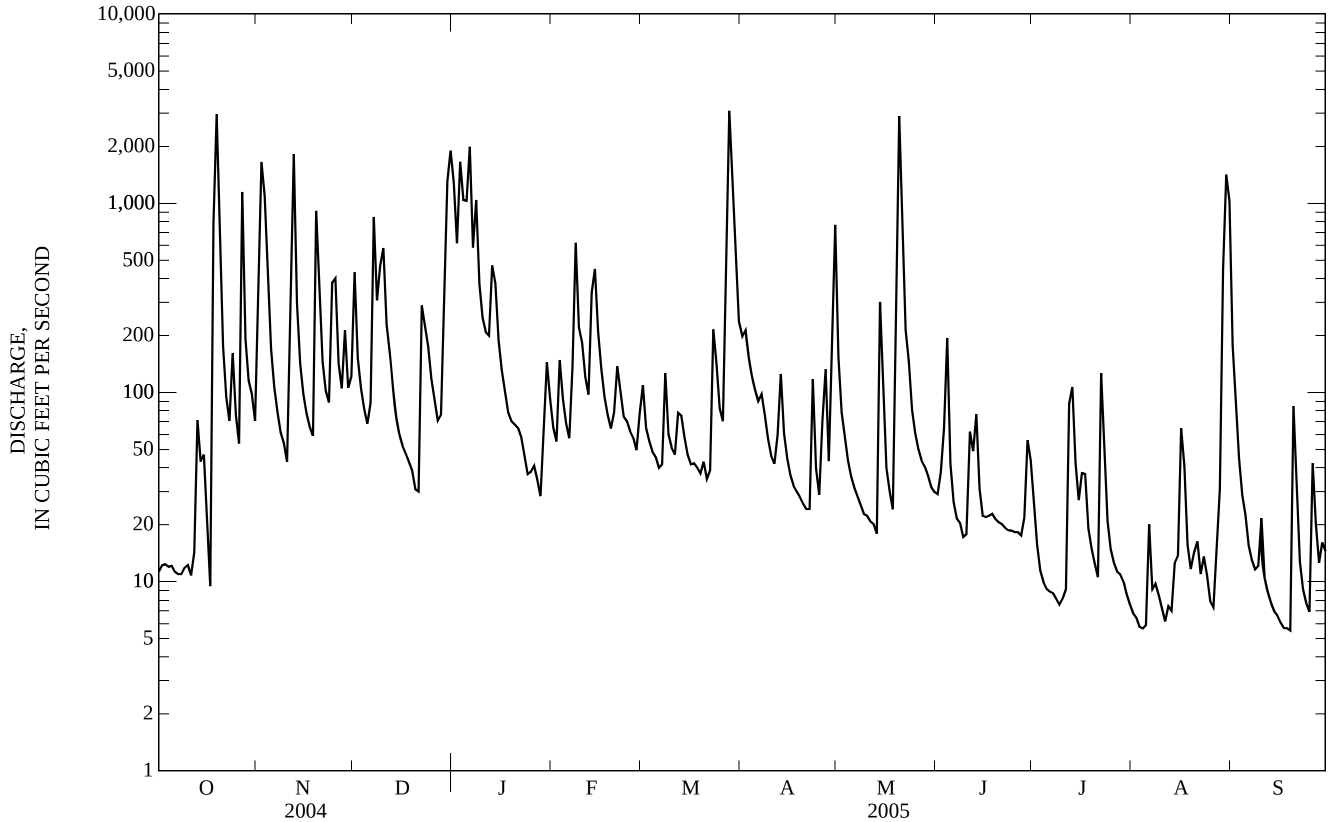
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	92.8	143	196	270	186	207	148	193	91.2	40.2	50.3	71.0
MAX	221	337	302	440	315	451	287	399	214	103	106	169
(WY)	(2005)	(2005)	(2003)	(1999)	(2003)	(2002)	(2002)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	26.9	21.3	100	44.0	104	84.8	33.0	23.4	22.0	12.8	11.6	15.3
(WY)	(2001)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2002)	(2002)	(2004)

03302030 POND CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	78,413.4		63,232.9			
ANNUAL MEAN	214		173		142	
HIGHEST ANNUAL MEAN					176	2002
LOWEST ANNUAL MEAN					60.9	2001
HIGHEST DAILY MEAN	3,180	May 28	3,080	Mar 28	6,220	Jan 4, 2000
LOWEST DAILY MEAN	9.4	Oct 17	5.5	Sep 19	1.7	Jul 17, 2001
ANNUAL SEVEN-DAY MINIMUM	11	Sep 18	6.3	Sep 13	4.1	Jul 11, 2001
MAXIMUM PEAK FLOW			3,820	Oct 19	10,500	Jan 4, 2000
MAXIMUM PEAK STAGE			18.29	Oct 19	19.82	Mar 26, 2002
10 PERCENT EXCEEDS	515		402		276	
50 PERCENT EXCEEDS	66		52		40	
90 PERCENT EXCEEDS	15		10		11	

e Estimated



03302050 BRIER CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY

LOCATION.--Lat 38°02'52", long 85°51'26", Jefferson County, Hydrologic Unit 05140102, at bridge on Pendleton Road, 0.4 mi below Headley Hollow, 10 miles south of Louisville, and at mile 1.64

DRAINAGE AREA.--4.01 mi^2.

PERIOD OF RECORD.--January 1999 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage.

REMARKS.--Records good except those estimated, which are fair.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 360 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 2	1145	1,010	5.17	May 19	2255	420	3.97
Mar 28	0245	*1,940	*6.31				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.02	16	18	52	4.6	5.4	7.4	6.5	0.18	0.05	0.02	0.76
2	0.02	164	12	28	4.8	4.7	7.7	4.6	0.26	0.03	0.01	0.41
3	0.01	25	8.8	86	7.1	4.4	6.3	3.7	1.6	0.02	0.01	0.27
4	0.01	14	7.0	44	6.2	4.4	5.6	3.1	0.86	0.02	0.01	0.20
5	0.01	9.1	5.9	40	5.7	4.1	5.1	2.7	0.50	0.02	0.01	0.16
6	0.01	7.0	6.6	94	5.3	3.8	4.6	2.4	0.38	0.01	0.01	0.13
7	0.01	5.9	34	32	12	4.8	5.2	2.1	0.33	0.01	0.02	0.10
8	0.01	4.8	16	46	28	6.8	4.7	1.9	0.29	0.01	0.01	0.09
9	0.01	4.2	29	19	15	5.3	4.1	1.7	0.30	0.01	0.01	0.08
10	0.01	3.9	24	13	11	4.9	3.9	1.5	0.29	0.01	0.01	0.06
11	0.01	64	16	9.8	8.5	4.8	3.6	1.3	0.51	0.03	0.01	0.05
12	0.01	45	12	8.1	7.3	5.8	4.1	1.3	0.88	0.06	0.01	0.04
13	0.02	13	9.0	17	17	5.2	4.3	1.0	0.66	0.15	0.00	0.03
14	0.02	8.0	7.0	16	18	4.8	3.7	2.9	0.51	0.16	0.00	0.03
15	0.02	6.1	5.9	10	13	4.5	3.3	2.2	0.42	0.12	0.00	0.03
16	0.01	5.1	5.3	8.5	9.5	4.3	3.1	1.7	0.35	0.14	0.01	0.02
17	0.01	4.5	4.7	6.7	e7.5	4.1	2.9	1.4	0.29	0.15	0.00	0.02
18	4.6	4.1	4.3	5.6	6.1	3.8	2.8	1.2	0.26	0.20	0.00	0.02
19	33	37	3.8	5.4	5.3	3.8	2.5	22	0.23	0.14	0.00	0.01
20	3.1	17	3.2	5.0	6.4	3.6	2.3	34	0.17	0.10	0.00	0.03
21	2.1	10	3.3	4.5	7.5	3.3	2.2	4.8	0.14	0.07	0.00	0.01
22	1.7	7.7	13	4.1	6.6	4.2	2.2	2.2	0.11	0.23	0.00	0.01
23	2.0	6.6	12	3.5	5.9	9.3	2.8	1.4	0.09	0.25	0.00	0.01
24	3.5	25	8.0	3.3	5.7	8.1	2.2	0.92	0.06	0.15	0.00	0.01
25	2.6	20	7.0	3.4	5.0	7.5	1.9	0.66	0.05	0.10	0.00	0.02
26	3.4	11	6.1	3.3	4.6	6.6	2.8	0.52	0.04	0.07	0.00	0.04
27	55	9.7	5.3	3.0	4.3	34	3.0	0.44	0.03	0.06	0.00	0.01
28	6.8	10	5.1	2.7	5.7	277	2.5	0.38	0.05	0.05	0.00	0.01
29	4.4	7.9	24	4.1	---	28	4.1	0.31	0.08	0.04	0.01	0.02
30	4.0	11	73	5.1	---	14	17	0.27	0.07	0.03	17	0.01
31	3.4	---	78	5.0	---	9.5	---	0.23	---	0.02	5.0	---
TOTAL	129.82	576.6	467.3	588.1	243.6	494.8	127.9	111.33	9.99	2.51	22.16	2.69
MEAN	4.19	19.2	15.1	19.0	8.70	16.0	4.26	3.59	0.33	0.08	0.71	0.09
MAX	55	164	78	94	28	277	17	34	1.6	0.25	17	0.76
MIN	0.01	3.9	3.2	2.7	4.3	3.3	1.9	0.23	0.03	0.01	0.00	0.01

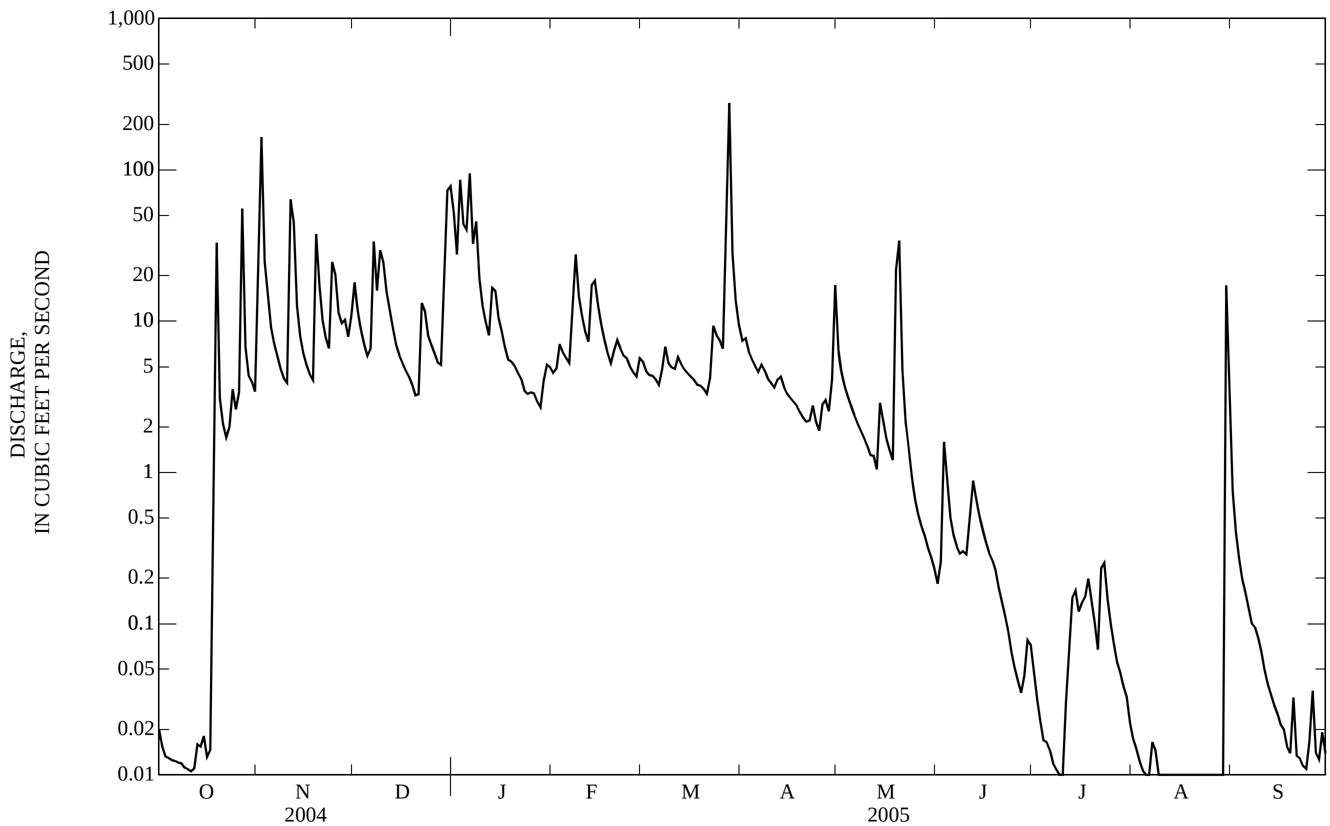
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.53	6.41	8.47	12.4	11.9	11.6	8.72	9.16	2.05	0.49	0.46	1.09
MAX	4.19	19.2	15.1	23.2	30.7	25.0	17.2	33.4	5.61	1.76	1.59	5.52
(WY)	(2005)	(2005)	(2005)	(2000)	(2000)	(2002)	(2002)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	0.00	0.00	0.68	1.32	5.27	4.19	1.91	1.42	0.26	0.03	0.02	0.00
(WY)	(2000)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2002)	(2002)	(1999)

03302050 BRIER CREEK AT PENDLETON ROAD NEAR LOUISVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	3,723.94		2,776.80			
ANNUAL MEAN	10.2		7.61		6.41	
HIGHEST ANNUAL MEAN					8.29	2004
LOWEST ANNUAL MEAN					1.76	2001
HIGHEST DAILY MEAN	540	May 28	277	Mar 28	685	Feb 18, 2000
LOWEST DAILY MEAN	0.01	Oct 3	0.00	Aug 13	0.00	Aug 21, 1999
ANNUAL SEVEN-DAY MINIMUM	0.01	Oct 3	0.00	Aug 17	0.00	Aug 21, 1999
MAXIMUM PEAK FLOW			1,940	Mar 28	3,330	May 28, 2004
MAXIMUM PEAK STAGE			6.31	Mar 28	7.61	Feb 18, 2000
10 PERCENT EXCEEDS	22		17		12	
50 PERCENT EXCEEDS	3.5		3.2		1.3	
90 PERCENT EXCEEDS	0.05		0.01		0.03	

e Estimated



03302110 OTTER CREEK AT OTTER CREEK PARK NEAR ROCK HAVEN, KY

LOCATION.--Lat 37°55'24", long 86°01'50", Meade County, Hydrologic Unit 05140104, at downstream side of bridge on Highway 1638, 1.4 mi east of Rock Haven, and at mile 3.3.

DRAINAGE AREA.--99.2 mi^2.

PERIOD OF RECORD.--January 1999 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 440.037 ft above NGVD of 1929.

REMARKS.--Records good.

COOPERATION.--Louisville and Jefferson County Metropolitan Sewer District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 28	0400	*4,420	*7.45	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	68	345	926	89	173	287	195	49	24	18	172
2	19	571	190	683	87	132	284	137	50	23	18	101
3	18	259	146	621	102	125	234	110	58	22	18	72
4	17	119	118	643	91	115	194	94	52	21	17	57
5	18	79	100	722	85	e114	171	83	45	22	e18	47
6	17	63	101	1,170	83	99	151	76	e50	21	e18	39
7	16	51	541	777	212	101	148	70	e47	20	e17	35
8	17	42	310	1,060	363	128	149	66	38	20	e17	33
9	18	36	405	596	244	107	129	62	36	21	17	31
10	20	34	451	405	195	93	116	58	36	19	16	29
11	17	212	311	311	158	96	108	54	37	34	16	27
12	18	764	232	256	148	95	111	51	62	85	17	25
13	21	203	183	305	277	87	141	48	54	49	17	24
14	22	124	139	438	420	79	115	58	48	34	17	23
15	24	93	117	272	303	72	100	71	65	42	22	23
16	21	79	105	232	241	68	91	53	45	28	22	22
17	18	68	97	189	187	67	85	48	37	31	22	22
18	45	61	90	162	158	64	83	46	34	28	23	22
19	89	225	83	154	137	64	80	70	33	23	22	21
20	36	180	73	141	140	62	74	1,280	31	23	20	23
21	27	118	72	130	215	56	72	379	32	30	24	21
22	23	96	117	119	172	71	73	195	31	55	19	20
23	25	87	145	101	145	195	76	137	29	38	18	19
24	44	168	109	91	138	151	66	106	26	24	19	18
25	31	178	98	89	126	126	61	91	25	20	19	18
26	25	123	92	87	115	111	69	81	26	18	34	23
27	70	104	81	76	108	621	81	71	24	16	33	20
28	41	107	77	67	146	2,500	63	65	34	15	26	19
29	31	91	144	79	---	1,050	118	60	27	15	41	18
30	28	104	785	115	---	618	448	55	24	17	857	17
31	25	---	1,330	104	---	399	---	51	---	20	570	---
TOTAL	860	4,507	7,187	11,121	4,885	7,839	3,978	4,021	1,185	858	2,032	1,041
MEAN	27.7	150	232	359	174	253	133	130	39.5	27.7	65.5	34.7
MAX	89	764	1,330	1,170	420	2,500	448	1,280	65	85	857	172
MIN	16	34	72	67	83	56	61	46	24	15	16	17

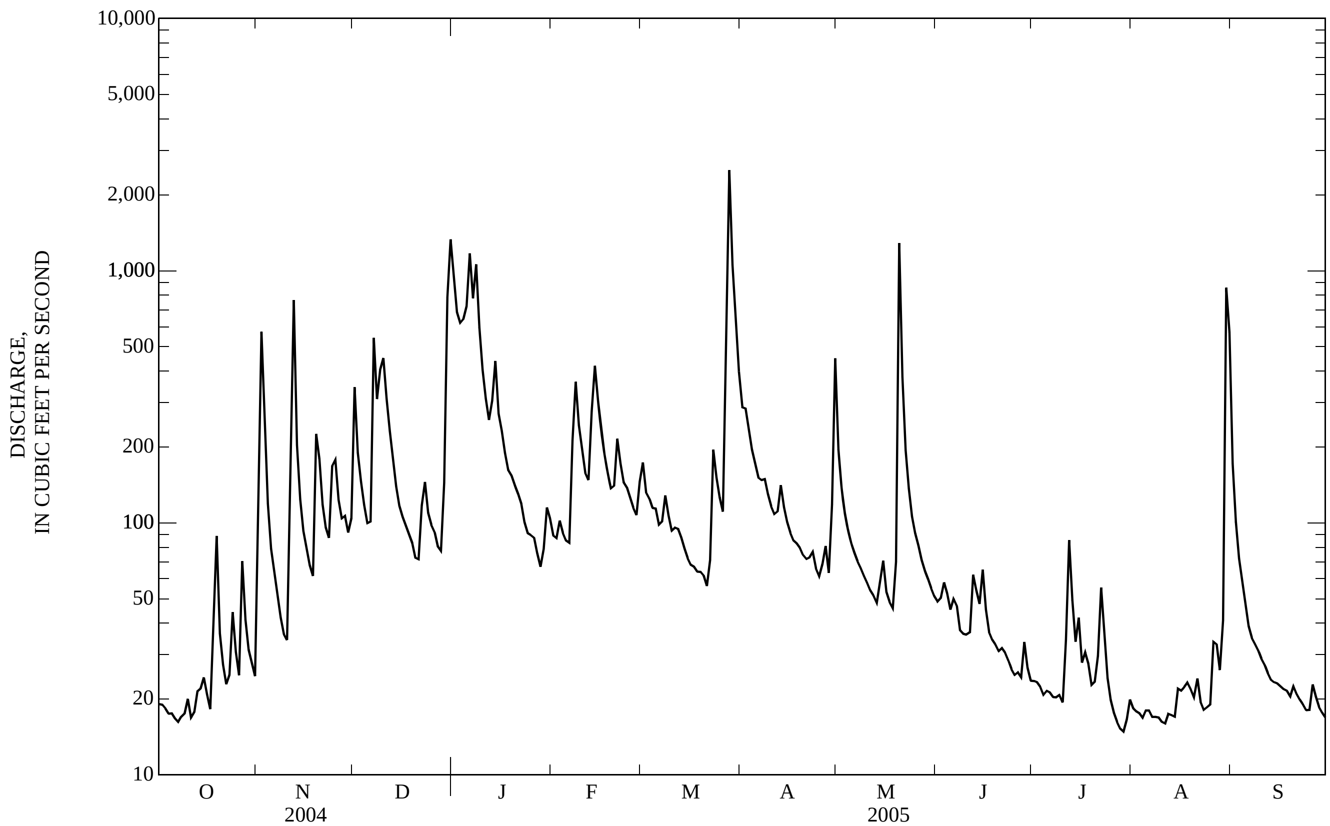
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.4	116	213	221	230	217	191	261	85.9	39.9	35.5	51.9
MAX	111	183	351	359	447	509	391	552	214	81.1	65.5	169
(WY)	(2003)	(2002)	(2002)	(2005)	(2003)	(2002)	(2002)	(2002)	(2004)	(2004)	(2005)	(2003)
MIN	15.5	11.9	58.6	33.4	126	130	45.6	46.7	36.1	21.5	10.9	5.82
(WY)	(2001)	(2000)	(2000)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(1999)	(1999)	(1999)

03302110 OTTER CREEK AT OTTER CREEK PARK NEAR ROCK HAVEN, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	63,668		49,514			
ANNUAL MEAN	174		136		146	
HIGHEST ANNUAL MEAN					216	2002
LOWEST ANNUAL MEAN					60.3	2001
HIGHEST DAILY MEAN	2,310	May 27	2,500	Mar 28	3,590	Mar 26, 2002
LOWEST DAILY MEAN	16	Oct 7	15	Jul 28	4.9	Sep 6, 1999
ANNUAL SEVEN-DAY MINIMUM	17	Oct 3	17	Aug 7	5.4	Sep 10, 1999
MAXIMUM PEAK FLOW			4,420	Mar 28	8,810	Jan 4, 2000
MAXIMUM PEAK STAGE			7.45	Mar 28	8.63	Mar 26, 2002
10 PERCENT EXCEEDS	395		293		335	
50 PERCENT EXCEEDS	93		71		59	
90 PERCENT EXCEEDS	22		19		17	

e Estimated



03303205 SINKING CREEK NEAR LODIBURG, KY

LOCATION.--Lat 37°52'06", long 86°23'16", Breckinridge County, Hydrologic Unit 05140104, on bridge located 2.3 miles south of Lodiburg on County Road #86, 0.75 mile downstream from Boiling Spring.

DRAINAGE AREA.--125 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--May 27, 2004 to current year.

GAGE.--Water-stage recorder and four parameter water-quality monitor with telemetry. Datum of gage is 410 ft above NGVD of 1929, (from topographic map).

REMARKS.--Records rated good.

COOPERATION.--Kentucky Department of Agriculture.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

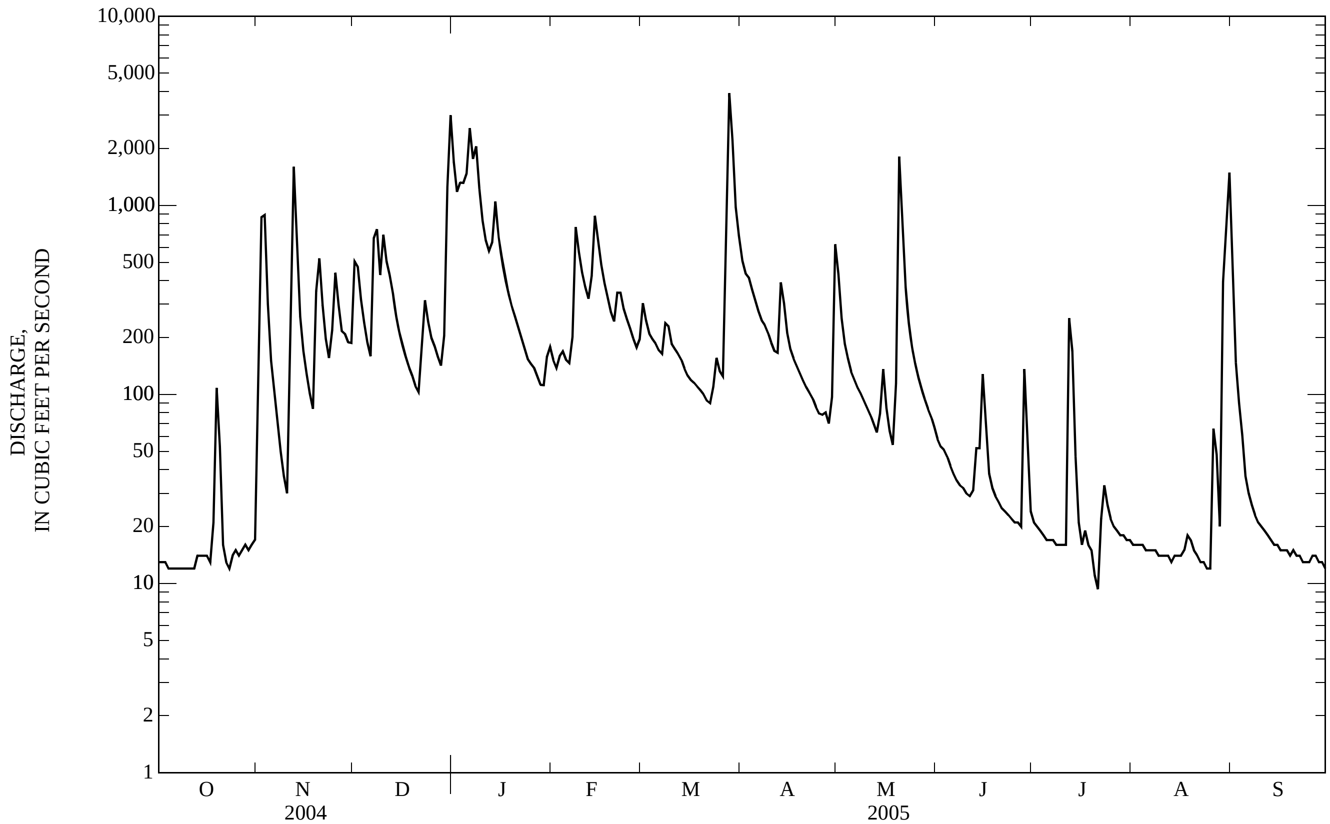
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	160	506	1,700	153	304	507	432	58	21	16	399
2	13	863	473	1,180	138	245	436	253	53	20	16	147
3	13	886	318	1,320	159	210	414	185	51	19	16	90
4	12	300	239	1,310	168	196	359	154	47	18	16	61
5	12	151	188	1,470	152	186	314	132	42	17	15	37
6	12	103	159	2,560	146	171	275	120	38	17	15	30
7	12	71	670	1,760	201	164	247	109	35	17	15	26
8	12	50	748	2,050	769	238	233	101	33	16	15	23
9	12	37	427	1,220	566	229	212	93	32	16	14	21
10	12	30	700	829	441	185	188	85	30	16	14	20
11	12	364	504	652	369	174	170	78	29	16	14	19
12	12	1,600	424	572	320	164	166	70	31	253	14	18
13	14	549	341	637	425	153	391	63	52	170	13	17
14	14	259	260	1,050	878	137	304	79	52	47	14	16
15	14	170	212	678	641	126	211	136	128	21	14	16
16	14	129	184	533	484	119	173	85	69	16	14	15
17	13	101	158	431	388	115	155	64	38	19	15	15
18	21	84	139	348	325	110	141	54	32	16	18	15
19	108	352	126	296	272	105	129	114	29	15	17	14
20	53	524	111	259	243	100	118	1,810	27	11	15	15
21	16	298	103	227	345	93	109	789	25	9.3	14	14
22	13	197	171	200	345	90	102	371	24	22	13	14
23	12	156	315	175	283	110	95	239	23	33	13	13
24	14	219	242	154	250	156	86	178	22	26	12	13
25	15	440	199	145	223	133	79	145	21	22	12	13
26	14	298	180	138	197	125	78	123	21	20	66	14
27	15	216	159	125	177	466	80	107	20	19	48	14
28	16	209	142	112	196	3,910	70	94	136	18	20	13
29	15	189	205	112	---	2,200	97	84	53	18	394	13
30	16	187	1,250	158	---	980	622	76	24	17	790	12
31	17	---	2,990	178	---	692	---	67	---	17	1,490	---
MEAN	18.1	306	414	728	330	400	219	209	42.5	31.7	102	38.2
MAX	108	1,600	2,990	2,560	878	3,910	622	1,810	136	253	1,490	399
MIN	12	30	103	112	138	90	70	54	20	9.3	12	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.1	306	414	728	330	400	219	209	195	56.6	85.7	27.1
MAX	18.1	306	414	728	330	400	219	209	348	81.4	102	38.2
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2004)	(2005)	(2005)
MIN	18.1	306	414	728	330	400	219	209	42.5	31.7	69.2	16.0
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2004)

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR		WATER YEARS 2004 - 2005	
ANNUAL MEAN	237		237	
HIGHEST ANNUAL MEAN			237	2005
LOWEST ANNUAL MEAN			237	2005
HIGHEST DAILY MEAN	3,910	Mar 28	4,140	May 31, 2004
LOWEST DAILY MEAN	9.3	Jul 21	9.3	Jul 21, 2005
ANNUAL SEVEN-DAY MINIMUM	12	Oct 4	12	Oct 4, 2004
MAXIMUM PEAK FLOW	4,370	Mar 28	4,370	Mar 28, 2005
MAXIMUM PEAK STAGE	21.75	Mar 28	21.75	Mar 28, 2005
10 PERCENT EXCEEDS	556		556	
50 PERCENT EXCEEDS	110		110	
90 PERCENT EXCEEDS	14		14	



03303205 SINKING CREEK NEAR LODIBURG, KY

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 27, 2004 to current year.

COOPERATION.--Kentucky Department of Agriculture.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 2004 to current year.
pH: May 2004 to current year.
WATER TEMPERATURES: May 2004 to current year.
DISSOLVED OXYGEN: May 2004 to current year.

INSTRUMENTATION.--Four parameter water-quality monitor with telemetry.

REMARKS.--
SPECIFIC CONDUCTANCE.--Records rated good. Missing record Feb. 2, Mar. 17, Apr. 11, 14, 19, May 20, June 1-8, July 15, 25, and Sept. 7, 17, 2005.
PH.--Records rated excellent. Missing periods Feb. 2, Mar. 17, Apr. 14, 19, June 6-8, July 15, 25, and Sept. 7, 17, 2005.
WATER TEMPERATURE.--Records rated excellent. Missing record Dec. 22, 2004, Feb. 2, Mar. 17, Apr. 4, May 19-20, June 6-7, 27-28, 2005.
DISSOLVED OXYGEN.--Records rated poor. Missing periods Oct. 19-25, Nov 3-19, Dec. 7-10, 12-17, 2004, Jan. 12 to Feb. 15, Feb. 17 to Mar. 17, Mar. 28 to Apr. 5, Apr. 14-15, 17-24, 28-29, May 4-17, 19-31, June 1-8, July 14-15, 25-26, Aug. 26 to Sept. 15, and Sept 17, 26-27, 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 705 microsiemens, Oct. 16, 2004; minimum recorded, 174 microsiemens, May 30, 2004.
pH: Maximum recorded, 8.3 units, July 9, 2004; minimum recorded, 6.7 units, July 31, 2004.
WATER TEMPERATURES: Maximum recorded, 25.1 C, July 19, 2004; minimum recorded, 8.7 C, Dec. 23, 2004.
DISSOLVED OXYGEN: Maximum recorded, 14.3 mg/L, Mar. 21, 2005; minimum recorded, 4.1 mg/L, Aug. 25, 2005.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE.--Maximum recorded, 705 microseimens, Oct. 16, 2004; minimum recorded, 176 microseimens, Dec, 31, 2005.
pH.--Maximum recorded, 8.0 units, Mar. 19-22, Apr. 20-29, 2005; minimum recorded, 6.8 units, May 8, 9, 15, and June 29, 2005.
WATER TEMPERATURE.--Maximum recorded, 20.6°C, Aug. 1, 20, 21, 2005; minimum recorded 8.7°C, Dec. 23, 2004.
DISSOLVED OXYGEN.--Maximum recorded, 14.3 mg/L, Mar. 21, 2005; minimum recorded, 4.1 mg/L, Aug. 25, 2005.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	667	655	661	621	487	577	496	417	464	345	185	255
2	672	660	667	511	326	417	417	403	407	377	345	362
3	675	665	671	360	331	347	441	409	424	384	367	373
4	679	668	675	362	340	349	468	441	456	380	359	367
5	682	670	678	397	362	378	486	468	478	385	350	362
6	685	674	681	476	397	430	499	481	492	364	269	315
7	688	676	683	484	435	464	500	339	437	350	271	311
8	689	677	685	458	440	450	364	308	327	349	296	320
9	691	681	688	479	457	467	376	342	367	377	304	341
10	692	683	689	506	471	485	364	310	330	412	377	397
11	695	685	690	489	321	450	351	330	342	429	412	421
12	696	687	693	363	244	278	395	351	373	439	429	434
13	695	686	691	308	266	286	427	395	411	443	416	437
14	698	689	694	359	308	334	453	427	441	416	348	376
15	699	688	694	399	359	383	469	453	461	379	350	362
16	705	694	699	427	399	413	482	469	477	414	376	393
17	703	688	693	455	427	444	488	482	486	429	408	420
18	699	654	676	474	454	465	494	488	491	448	429	439
19	685	604	656	478	429	458	499	494	496	460	448	456
20	605	578	592	460	388	413	503	499	501	462	458	461
21	593	575	583	415	389	400	506	502	504	465	462	464
22	607	586	597	449	415	432	504	490	497	467	465	466
23	637	601	619	477	449	464	494	444	466	471	467	469
24	673	633	658	489	476	482	444	436	438	475	470	472
25	673	633	652	491	412	439	441	437	438	481	474	477
26	633	617	626	447	412	430	450	441	446	483	475	481
27	625	609	614	467	447	457	461	450	456	485	482	483
28	611	601	606	485	467	476	472	461	467	489	484	486
29	610	600	605	494	481	486	478	461	473	488	484	486
30	611	602	607	499	488	495	461	198	376	488	482	487
31	605	600	602	---	---	---	198	176	183	482	460	471
MONTH	705	575	656	621	244	428	506	176	432	489	185	414

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	460	449	455	476	437	459	412	389	400	391	354	365
2	---	---	---	442	416	432	424	409	415	365	354	358
3	454	450	452	441	425	430	433	413	419	394	365	381
4	451	439	445	447	426	434	447	414	427	416	392	405
5	444	438	441	460	435	444	458	423	436	436	416	426
6	452	444	448	464	446	453	449	432	438	449	435	443
7	467	437	456	471	452	461	454	436	443	462	449	455
8	518	414	468	474	430	459	452	441	447	477	460	466
9	454	392	424	431	403	419	450	445	446	478	470	473
10	504	420	458	431	419	422	453	444	448	480	473	477
11	501	430	453	430	422	426	---	---	---	485	478	482
12	491	439	468	436	430	434	458	449	453	491	483	488
13	504	449	477	443	436	440	456	398	436	498	485	492
14	510	364	435	449	443	446	---	---	---	491	482	486
15	410	343	368	455	448	452	401	391	396	505	488	495
16	413	368	390	461	455	457	420	401	411	493	480	486
17	439	406	425	---	---	---	430	418	425	494	476	487
18	456	436	445	462	457	459	444	430	437	495	489	492
19	465	448	456	464	458	461	---	---	---	504	287	480
20	465	453	459	467	462	465	466	450	455	---	---	---
21	468	411	444	470	462	466	464	458	460	302	257	275
22	413	397	403	470	462	465	472	462	466	345	302	324
23	421	403	414	472	464	469	480	468	471	385	345	367
24	431	415	423	483	470	477	483	472	478	411	385	399
25	439	429	435	476	460	467	493	477	482	429	411	421
26	449	438	445	460	450	453	492	477	483	450	429	438
27	464	446	455	451	334	416	499	480	486	459	444	452
28	466	458	461	---	---	215	500	484	490	471	458	466
29	---	---	---	---	---	---	496	458	488	482	471	478
30	---	---	---	---	---	---	458	387	411	491	482	487
31	---	---	---	390	362	377	---	---	---	500	491	497
MONTH										505	257	441
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	505	464	479	550	539	544	279	228	254
2	---	---	---	526	505	520	559	550	554	314	279	298
3	---	---	---	520	515	518	567	559	562	339	314	327
4	---	---	---	519	512	516	572	566	569	362	339	352
5	---	---	---	518	511	515	577	572	574	378	362	370
6	---	---	---	515	510	512	581	577	579	393	378	386
7	---	---	---	525	515	519	587	581	585	---	---	---
8	---	---	---	533	525	529	595	587	591	426	410	418
9	524	519	522	543	533	538	600	594	597	440	426	433
10	528	522	526	550	543	546	603	599	601	453	440	447
11	531	527	529	554	523	545	606	602	604	467	453	461
12	531	517	527	571	410	517	610	604	606	480	467	474
13	539	527	534	410	357	375	612	608	610	491	479	485
14	536	517	529	393	361	380	615	589	608	501	491	496
15	534	502	517	---	---	---	615	589	610	511	501	506
16	502	439	459	389	380	384	619	599	611	519	511	515
17	441	426	434	408	389	398	622	617	619	---	---	---
18	430	420	424	428	408	420	623	536	599	535	526	531
19	447	424	436	440	427	435	613	575	602	543	534	538
20	466	447	458	454	440	446	619	612	615	547	531	541
21	482	466	474	474	454	464	622	619	621	563	546	552
22	498	482	490	488	466	480	624	619	620	562	556	559
23	512	498	505	484	480	482	627	623	625	573	558	564
24	524	512	518	495	484	491	626	621	623	570	567	569
25	533	524	529	---	---	---	629	625	627	570	563	568
26	540	533	536	534	509	525	628	542	601	574	565	570
27	543	508	541	533	527	529	618	520	546	584	574	579
28	524	394	485	535	528	531	542	521	534	589	584	586
29	452	408	427	542	535	540	587	245	407	590	583	587
30	469	433	450	541	534	538	299	235	263	594	587	591
31	---	---	---	539	533	535	247	186	205	---	---	---
MONTH							629	186	565	594	228	484
YEAR	705	176	478									

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.4	7.3	7.3	7.1	7.6	7.5	7.3	7.3	7.8	7.7	7.5	7.5
2	7.4	7.3	7.1	6.9	7.5	7.4	7.4	7.3	---	---	7.5	7.4
3	7.4	7.3	7.0	6.9	7.5	7.4	7.4	7.3	7.8	7.7	7.5	7.4
4	7.4	7.3	7.1	7.0	7.5	7.5	7.3	7.3	7.8	7.7	7.5	7.4
5	7.5	7.3	7.1	7.1	7.6	7.5	7.4	7.3	7.8	7.7	7.5	7.4
6	7.5	7.4	7.2	7.1	7.6	7.6	7.4	7.2	7.8	7.7	7.5	7.5
7	7.5	7.3	7.3	7.2	7.6	7.3	7.4	7.3	7.8	7.7	7.5	7.5
8	7.5	7.3	7.3	7.2	7.3	7.3	7.4	7.3	7.7	7.2	7.5	7.5
9	7.5	7.3	7.4	7.3	7.3	7.3	7.4	7.3	7.4	7.2	7.5	7.5
10	7.5	7.4	7.4	7.1	7.4	7.1	7.4	7.4	7.4	7.3	7.5	7.5
11	7.5	7.4	7.5	7.0	7.3	7.3	7.4	7.3	7.4	7.3	7.5	7.5
12	7.4	7.4	7.2	7.1	7.3	7.3	7.4	7.3	7.4	7.3	7.6	7.5
13	7.4	7.3	7.2	7.2	7.4	7.3	7.4	7.2	7.4	7.3	7.6	7.5
14	7.5	7.4	7.2	7.1	7.4	7.2	7.4	7.3	7.4	7.1	7.6	7.6
15	7.5	7.3	7.3	7.1	7.4	7.2	7.3	7.2	7.3	7.1	7.7	7.6
16	7.6	7.4	7.3	7.2	7.4	7.3	7.4	7.2	7.4	7.3	7.7	7.6
17	7.6	7.4	7.2	7.2	7.5	7.3	7.5	7.3	7.4	7.3	---	---
18	7.4	7.3	7.3	7.1	7.6	7.5	7.5	7.4	7.4	7.3	7.9	7.8
19	7.4	7.2	7.5	7.2	7.6	7.5	7.6	7.5	7.5	7.3	8.0	7.8
20	7.2	7.2	7.4	7.3	7.6	7.6	7.6	7.5	7.5	7.4	8.0	7.8
21	7.2	7.2	7.3	7.3	7.6	7.6	7.6	7.6	7.5	7.4	8.0	7.8
22	7.2	7.2	7.3	7.3	7.7	7.6	7.6	7.6	7.5	7.4	8.0	7.8
23	7.3	7.2	7.4	7.3	7.6	7.5	7.7	7.6	7.4	7.4	7.9	7.8
24	7.3	7.2	7.4	7.4	7.6	7.6	7.7	7.7	7.5	7.4	7.8	7.8
25	7.3	7.0	7.5	7.4	7.6	7.6	7.7	7.7	7.5	7.5	7.9	7.8
26	7.3	7.2	7.4	7.4	7.6	7.6	7.7	7.7	7.6	7.5	7.9	7.8
27	7.2	7.2	7.4	7.4	7.6	7.6	7.7	7.7	7.6	7.5	7.8	7.5
28	7.3	7.2	7.5	7.4	7.6	7.6	7.7	7.7	7.6	7.5	7.5	7.1
29	7.3	7.2	7.5	7.5	7.6	7.6	7.8	7.7	---	---	7.4	7.1
30	7.3	7.2	7.5	7.5	7.6	7.3	7.8	7.7	---	---	7.5	7.4
31	7.3	7.2	---	---	7.3	7.2	7.8	7.7	---	---	7.6	7.5
MONTH	7.6	7.0	7.5	6.9	7.7	7.1	7.8	7.2	7.8	7.1	8.0	7.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.5	7.5	7.4	7.4	7.4	7.1	6.9	7.4	7.3	7.2	7.1
2	7.7	7.5	7.5	7.3	7.4	7.4	7.2	7.0	7.4	7.3	7.3	7.1
3	7.7	7.5	7.4	7.3	7.4	7.3	7.2	7.0	7.4	7.2	7.2	7.2
4	7.8	7.7	7.4	7.3	7.4	7.3	7.2	7.1	7.4	7.2	7.3	7.2
5	7.8	7.4	7.3	7.0	7.5	7.2	7.2	7.2	7.4	7.3	7.3	7.3
6	7.8	7.8	7.1	6.9	---	---	7.3	7.1	7.4	7.3	7.3	7.2
7	7.8	7.8	7.1	6.9	---	---	7.3	7.2	7.4	7.3	---	---
8	7.8	7.8	7.0	6.8	---	---	7.3	7.1	7.4	7.3	7.3	7.2
9	7.9	7.8	7.1	6.8	7.4	7.2	7.4	7.1	7.4	7.3	7.3	7.1
10	7.9	7.8	7.0	6.9	7.4	7.1	7.4	7.3	7.5	7.3	7.3	7.1
11	7.9	7.8	7.0	6.9	7.4	7.3	7.4	7.3	7.5	7.3	7.2	7.1
12	7.9	7.8	7.0	6.9	7.4	7.3	7.3	7.1	7.5	7.3	7.2	7.1
13	7.9	7.7	7.0	6.9	7.4	7.4	7.2	7.1	7.5	7.2	7.3	7.1
14	---	---	7.0	6.9	7.4	7.3	7.2	7.1	7.5	7.3	7.3	7.1
15	7.8	7.7	7.0	6.8	7.5	7.3	---	---	7.5	7.3	7.3	7.2
16	7.9	7.8	7.0	6.9	7.5	7.4	7.1	7.0	7.5	7.3	7.4	7.2
17	7.9	7.8	7.5	6.9	7.4	7.3	7.2	7.0	7.5	7.3	---	---
18	7.9	7.8	7.5	7.5	7.4	7.2	7.2	6.9	7.4	7.3	7.4	7.3
19	---	---	7.5	7.3	7.3	7.1	7.2	6.9	7.4	7.1	7.4	7.1
20	8.0	7.9	7.3	7.1	7.3	7.1	7.3	7.1	7.3	7.0	7.3	7.1
21	8.0	7.9	7.1	7.1	7.3	7.1	7.3	7.1	7.4	7.0	7.4	7.2
22	8.0	7.9	7.1	7.1	7.4	7.1	7.3	7.1	7.4	7.0	7.4	7.1
23	8.0	7.9	7.1	7.1	7.4	7.1	7.3	7.0	7.4	7.1	7.4	7.1
24	8.0	7.9	7.2	7.1	7.4	7.2	7.3	7.1	7.4	7.1	7.4	7.2
25	8.0	7.9	7.3	7.2	7.4	7.2	---	---	7.4	7.1	7.4	7.2
26	8.0	7.9	7.3	7.2	7.4	7.2	7.3	7.2	7.3	7.1	7.4	7.3
27	8.0	7.9	7.5	7.3	7.4	7.2	7.5	7.3	7.2	7.1	7.4	7.3
28	8.0	7.9	7.4	7.2	7.4	7.0	7.5	7.4	7.1	7.0	7.4	7.2
29	8.0	7.7	7.4	7.3	7.0	6.8	7.5	7.4	7.5	6.9	7.6	7.3
30	7.8	7.5	7.4	7.3	7.0	6.9	7.4	7.3	7.6	7.2	7.6	7.4
31	---	---	7.4	7.3	---	---	7.4	7.3	7.2	7.2	---	---
MONTH			7.5	6.8					7.6	6.9		
YEAR	8.0	6.8										

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.3	15.1	16.2	15.9	14.9	15.3	12.9	12.3	12.7	11.7	10.7	11.3
2	16.9	15.8	16.5	15.8	15.0	15.3	12.5	12.2	12.3	12.4	11.7	12.1
3	16.6	14.5	15.6	15.8	14.8	15.1	12.4	12.0	12.2	12.8	12.4	12.6
4	16.7	14.5	15.7	14.9	14.6	14.8	12.3	11.8	12.1	12.9	12.8	12.8
5	16.2	14.4	15.4	14.8	14.2	14.5	12.2	11.8	12.0	13.0	12.8	12.9
6	16.4	14.0	15.2	14.7	14.0	14.3	12.6	12.1	12.4	12.9	11.6	12.2
7	17.2	14.3	15.7	14.8	13.9	14.2	13.6	12.6	13.2	11.9	11.6	11.7
8	17.0	15.5	16.3	14.2	13.3	13.7	13.2	12.6	12.8	11.9	11.4	11.6
9	16.9	15.5	16.2	14.1	13.1	13.5	12.9	12.6	12.8	12.0	11.5	11.7
10	16.4	15.0	15.8	14.3	13.2	13.6	13.0	12.6	12.9	12.3	12.0	12.1
11	16.3	14.7	15.5	13.8	13.0	13.5	12.9	12.4	12.7	12.8	12.3	12.6
12	16.0	15.4	15.7	13.4	12.9	13.1	12.4	12.3	12.3	13.2	12.8	13.0
13	16.0	15.4	15.8	13.1	12.6	12.9	12.3	11.9	12.2	13.3	12.9	13.2
14	15.8	15.1	15.4	13.0	12.5	12.7	11.9	11.3	11.7	12.9	11.9	12.2
15	15.2	14.4	14.8	13.0	12.4	12.7	11.3	10.8	11.2	12.0	11.7	11.9
16	15.2	14.2	14.7	13.0	12.6	12.8	11.1	10.8	10.9	11.8	11.3	11.7
17	15.1	13.0	14.1	13.2	12.9	13.0	11.1	10.7	10.8	11.3	10.6	10.9
18	15.7	14.0	14.9	13.5	13.0	13.2	11.1	10.6	10.9	10.6	10.3	10.5
19	15.8	15.0	15.4	13.8	13.3	13.6	10.9	10.5	10.6	10.7	10.4	10.6
20	15.0	14.8	14.9	13.8	13.7	13.8	10.6	10.3	10.5	11.2	10.7	11.0
21	15.2	14.7	14.9	13.8	13.7	13.7	10.6	10.2	10.3	11.4	11.2	11.3
22	15.5	14.6	15.0	13.7	13.6	13.7	---	---	---	11.2	10.6	11.0
23	15.3	14.5	14.9	13.7	13.6	13.6	9.9	8.7	9.2	10.6	9.9	10.4
24	15.7	14.5	15.2	13.9	13.6	13.7	9.4	8.8	9.1	10.2	9.8	10
25	15.8	13.8	14.7	13.7	12.8	13.2	9.4	9.0	9.2	10.4	9.7	10.0
26	15.6	14.2	14.9	12.9	12.6	12.8	9.7	9.1	9.4	10.5	10.1	10.4
27	16.0	15.1	15.4	12.9	12.6	12.8	9.9	9.3	9.6	10.8	10.4	10.5
28	16.0	15.0	15.4	12.8	12.6	12.7	10.0	9.4	9.7	10.6	10.2	10.3
29	16.9	15.3	15.9	12.7	12.5	12.6	10.8	9.8	10.2	10.3	9.9	10.1
30	16.7	14.9	15.8	12.8	12.5	12.7	---	---	---	10.3	10.1	10.2
31	15.6	14.4	15.0	---	---	---	10.8	10.0	10.3	10.5	10.2	10.4
MONTH	17.3	13.0	15.4	15.9	12.4	13.6	13.6	8.7	11.2	13.3	9.7	11.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.8	10.4	10.6	11.4	10.7	11.1	12.6	12.1	12.5	13.1	12.7	12.8
2	---	---	---	11.2	10.7	10.8	12.4	12.0	12.2	13.3	12.8	13.0
3	10.8	10.3	10.5	11.4	10.7	11.0	12.7	12.0	12.3	13.3	12.5	12.9
4	11.0	10.3	10.6	11.7	10.9	11.3	13.0	12.3	12.7	13.4	12.4	12.8
5	11.2	10.4	10.7	11.9	11.3	11.6	13.6	12.7	13.1	13.9	12.4	13.1
6	11.2	10.5	10.9	12.3	11.5	11.8	13.5	13.1	13.3	14.2	12.7	13.4
7	11.5	10.9	11.1	12.3	11.5	11.9	13.7	13.1	13.3	14.6	13.1	13.8
8	11.9	11.3	11.6	12.1	11.2	11.8	14.2	13.3	13.7	14.9	13.6	14.2
9	11.9	11.8	11.8	11.5	10.7	11.2	14.5	13.4	13.8	15.2	14.1	14.6
10	11.8	11.3	11.6	11.2	10.7	10.9	14.8	13.5	14.0	15.8	14.6	15.0
11	11.4	11.2	11.3	11.0	10.7	10.8	15.0	13.8	14.4	15.9	14.8	15.2
12	11.6	11.2	11.4	11.4	10.7	11.0	14.6	14.0	14.3	16.4	15.1	15.6
13	12.2	11.5	11.9	11.7	10.9	11.2	14.0	13.1	13.6	16.6	15.3	15.7
14	12.3	11.8	12.1	11.9	10.8	11.2	---	---	---	16.3	15.6	15.9
15	12.3	12.0	12.1	11.8	10.7	11.2	13.9	12.8	13.4	16.0	15.0	15.6
16	12.6	12.0	12.3	11.6	10.9	11.2	14.4	13.2	13.7	16.0	14.8	15.2
17	12.0	11.5	11.8	---	---	---	14.7	13.4	14.0	15.7	14.2	14.8
18	11.6	11.2	11.4	12.3	10.7	11.4	15.1	13.7	14.3	15.6	13.9	14.5
19	11.5	11.2	11.3	12.3	11.2	11.7	15.2	13.9	14.5	---	---	---
20	11.5	11.2	11.4	12.5	11.3	11.8	15.5	14.1	14.6	---	---	---
21	11.9	11.5	11.8	12.5	11.3	11.8	15.5	14.2	14.8	14.4	13.9	14.1
22	11.9	11.6	11.8	11.9	11.5	11.7	15.7	14.5	14.9	14.4	14.0	14.2
23	11.7	11.4	11.5	11.9	11.7	11.8	14.8	14.1	14.4	14.7	14.0	14.3
24	11.5	11.2	11.4	11.9	11.6	11.7	14.7	13.4	13.9	14.9	14.0	14.3
25	11.5	10.9	11.1	12.7	11.7	12.0	14.3	12.9	13.5	14.9	13.9	14.3
26	11.7	10.9	11.2	12.7	11.9	12.3	13.6	13.1	13.2	15.1	13.7	14.3
27	11.9	11.1	11.5	12.5	11.9	12.3	13.8	12.9	13.2	15.3	13.8	14.4
28	11.7	11.3	11.5	11.9	10.7	10.9	13.2	12.7	13.0	15.6	14.0	14.6
29	---	---	---	11.9	10.8	11.4	13.1	12.9	13.0	15.4	14.3	14.8
30	---	---	---	12.5	11.8	12.1	13.2	12.9	13.0	15.5	14.5	14.9
31	---	---	---	13.1	12.5	12.7	---	---	---	15.9	14.5	15.0
MONTH	12.6	10.3	11.4									

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.3	14.5	14.8	18.1	16.2	17.0	20.3	17.7	18.8	17.5	17.0	17.3
2	15.1	14.7	14.9	18.8	16.2	17.2	20.1	17.7	18.7	17.7	17.0	17.3
3	15.5	14.7	15.0	19.0	16.4	17.4	20.3	17.6	18.8	18.0	16.8	17.3
4	16.3	14.7	15.2	19.3	16.5	17.6	20.2	17.6	18.8	17.9	16.9	17.3
5	17.5	14.7	15.7	18.5	17.0	17.6	20.0	17.6	18.6	18.2	16.8	17.3
6	---	---	---	19.2	17.0	17.8	20.1	17.7	18.7	18.3	16.7	17.3
7	---	---	---	19.3	16.8	17.8	19.5	17.7	18.5	---	---	---
8	---	---	---	19.6	16.9	18.0	20.0	17.6	18.7	18.4	16.8	17.4
9	17.6	15.7	16.4	19.8	16.9	18.1	20.2	17.6	18.8	18.5	16.9	17.5
10	17.3	15.9	16.5	19.7	16.8	18.0	20.3	17.7	18.9	18.6	17.0	17.6
11	16.9	16.1	16.4	18.2	17.2	17.6	20.2	17.9	18.9	18.6	16.8	17.5
12	16.8	16.1	16.4	17.7	16.1	16.9	20.6	17.9	19.1	18.5	16.9	17.6
13	17.4	16.3	16.7	16.5	16.3	16.4	20.5	18.1	19.2	18.7	16.8	17.6
14	17.8	16.3	16.8	16.6	16.2	16.4	20.4	18.1	19.1	18.8	17.0	17.8
15	17.3	16.2	16.6	---	---	---	19.8	18.2	18.9	18.3	17.2	17.6
16	17.7	16.1	16.7	17.5	16.3	16.7	19.5	18.2	18.8	18.8	17.4	17.9
17	17.7	16.1	16.7	17.4	16.3	16.7	19.5	18.2	18.8	---	---	---
18	17.2	15.9	16.4	18.4	16.4	17.1	19.5	17.9	18.6	18.5	16.9	17.5
19	17.8	15.6	16.4	18.5	16.7	17.4	20.2	17.9	19.0	18.9	16.9	17.8
20	17.6	15.6	16.4	18.9	16.9	17.6	20.5	18.3	19.2	18.9	17.5	18.1
21	17.7	15.7	16.5	19.3	16.9	17.8	20.5	18.3	19.2	19.1	17.3	18.1
22	18.1	15.8	16.6	18.4	17.2	17.6	20.4	18.1	19.1	19.1	17.1	18.0
23	18.2	15.7	16.6	19.2	17.3	18.0	20.2	18.1	19.1	19.1	17.4	18.2
24	18.2	15.7	16.7	19.2	17.3	18.0	20.2	17.8	18.9	19.0	17.4	18.1
25	18.5	16.0	16.9	19.8	17.2	18.2	20.3	17.7	19.0	18.0	17.5	17.7
26	18.2	16.1	16.9	20.0	17.5	18.5	19.2	17.8	18.5	18.6	17.4	18.0
27	---	---	---	19.2	17.6	18.3	19.3	18.2	18.8	18.6	16.9	17.6
28	---	---	---	20.0	17.1	18.2	19.0	17.5	18.3	18.6	16.3	17.5
29	17.4	15.7	16.4	19.8	17.0	18.2	17.9	16.5	17.2	17.7	16.2	17.1
30	18.1	16.1	16.8	20.0	17.1	18.4	18.1	16.9	17.4	17.6	15.3	16.5
31	---	---	---	20.0	17.3	18.5	17.8	17.1	17.6	---	---	---
MONTH							20.6	16.5	18.7			
YEAR	20.6	8.7	14.4									

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.4	7.3	9.0	6.9	6.2	6.5	11.9	11.1	11.6	11.8	11.2	11.5
2	10.7	6.8	8.4	6.8	5.2	6.3	11.7	11.3	11.5	11.3	11.0	11.1
3	11.3	7.3	8.8	---	---	---	11.5	11.3	11.4	11.1	10.7	11.0
4	11.0	7.2	8.7	---	---	---	11.7	11.3	11.6	11.0	10.6	10.9
5	11.2	7.2	8.6	---	---	---	11.7	11.2	11.5	10.8	10.5	10.7
6	11.0	6.1	7.8	---	---	---	11.6	11.2	11.4	11.2	10.5	11.0
7	11.8	6.0	8.5	---	---	---	---	---	---	11.2	10.8	11.0
8	11.5	6.0	8.5	---	---	---	---	---	---	11.2	10.9	11.1
9	11.5	6.5	8.6	---	---	---	---	---	---	11.1	9.9	10.7
10	11.7	6.3	8.6	---	---	---	---	---	---	10.4	8.6	9.8
11	11.5	6.0	8.2	---	---	---	10.1	9.4	9.9	9.9	7.9	8.9
12	8.6	6.1	7.2	---	---	---	---	---	---	---	---	---
13	8.2	5.9	7.0	---	---	---	---	---	---	---	---	---
14	10.4	6.3	7.9	---	---	---	---	---	---	---	---	---
15	9.5	6.0	7.4	---	---	---	---	---	---	---	---	---
16	11.4	6.0	8.3	---	---	---	---	---	---	---	---	---
17	10.8	6.1	8.1	---	---	---	---	---	---	---	---	---
18	7.9	6.0	6.8	---	---	---	10.6	10.4	10.5	---	---	---
19	---	---	---	---	---	---	10.9	10.5	10.7	---	---	---
20	---	---	---	10.7	10.4	10.6	11.1	10.7	11.0	---	---	---
21	---	---	---	10.6	10.3	10.4	11.4	10.9	11.2	---	---	---
22	---	---	---	10.9	10.6	10.7	11.6	11.1	11.4	---	---	---
23	---	---	---	10.9	10.1	10.7	12.3	11.3	11.9	---	---	---
24	---	---	---	10.9	9.8	10.6	12.0	11.7	11.9	---	---	---
25	---	---	---	11.4	10.8	11.2	12.0	11.6	11.8	---	---	---
26	9.5	7.5	8.3	11.2	10.9	11.1	11.8	10.4	11.4	---	---	---
27	9.3	7.1	7.9	11.2	10.7	11.1	11.0	9.5	10.3	---	---	---
28	9.2	6.9	7.7	11.3	10.7	11.2	10.1	8.5	9.3	---	---	---
29	9.8	6.7	7.9	11.5	11.2	11.4	---	---	---	---	---	---
30	9.4	6.4	7.5	11.5	11.0	11.3	---	---	---	---	---	---
31	8.5	6.3	7.1	---	---	---	12.2	11.7	12.0	---	---	---
MONTH												
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	8.6	7.8	8.3
2	---	---	---	---	---	---	---	---	---	8.5	7.9	8.3
3	---	---	---	---	---	---	---	---	---	8.8	7.3	8.2
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	10.2	10.0	10.1	---	---	---
7	---	---	---	---	---	---	10.4	9.8	10.2	---	---	---
8	---	---	---	---	---	---	10.4	9.9	10.2	---	---	---
9	---	---	---	---	---	---	10.5	10.0	10.3	---	---	---
10	---	---	---	---	---	---	10.5	10.1	10.3	---	---	---
11	---	---	---	---	---	---	10.4	10.0	10.1	---	---	---
12	---	---	---	---	---	---	10.1	9.6	9.9	---	---	---
13	---	---	---	---	---	---	10.3	9.6	9.9	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	9.0	7.9	8.5	---	---	---	10.0	8.4	9.5	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	13.1	11.4	12.2	---	---	---	9.0	8.3	8.6
19	---	---	---	13.1	11.7	12.2	---	---	---	---	---	---
20	---	---	---	13.9	11.8	12.6	---	---	---	---	---	---
21	---	---	---	14.3	12.1	12.9	---	---	---	---	---	---
22	---	---	---	13.7	12.1	12.7	---	---	---	---	---	---
23	---	---	---	13.4	12.1	12.6	---	---	---	---	---	---
24	---	---	---	13.3	12.2	12.7	---	---	---	---	---	---
25	---	---	---	13.9	12.3	12.9	9.8	7.9	8.8	---	---	---
26	---	---	---	13.5	12.2	12.8	9.1	7.9	8.7	---	---	---
27	---	---	---	13.3	11.9	12.5	9.4	7.3	8.4	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	9.1	8.0	8.8	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH												

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	9.6	7.7	8.5	13.1	7.6	9.8	---	---	---
2	---	---	---	10.3	8.1	9.0	12.9	7.8	9.6	---	---	---
3	---	---	---	10.7	8.5	9.3	13.4	7.0	9.8	---	---	---
4	---	---	---	11.1	8.4	9.4	14.0	7.0	9.7	---	---	---
5	---	---	---	10.5	8.1	9.2	13.6	7.5	9.8	---	---	---
6	---	---	---	11.3	8.6	9.6	13.3	6.2	9.2	---	---	---
7	---	---	---	11.5	8.6	9.7	11.2	6.2	8.5	---	---	---
8	---	---	---	11.8	8.7	9.8	14.0	4.2	8.2	---	---	---
9	11.3	9.8	10.4	12.5	8.7	10.0	13.9	4.9	8.9	---	---	---
10	11.2	9.9	10.4	12.3	8.8	10.2	13.7	6.6	9.3	---	---	---
11	11.1	9.9	10.3	11.1	8.5	9.6	13.2	4.9	8.7	---	---	---
12	10.6	9.8	10.0	11.1	8.6	9.8	13.3	5.3	8.7	---	---	---
13	10.7	9.8	10.1	10.0	8.0	9.0	13.0	5.1	8.3	---	---	---
14	10.7	10.0	10.2	---	---	---	13.6	4.8	8.0	---	---	---
15	10.4	9.9	10.1	---	---	---	9.8	4.6	7.1	---	---	---
16	10.4	9.7	10.1	9.1	8.0	8.6	9.6	5.2	7.1	7.3	5.8	6.5
17	10.2	9.6	9.8	9.4	8.4	8.7	9.2	4.6	6.5	---	---	---
18	10.2	9.6	9.9	9.7	8.6	9.1	8.9	4.6	6.5	8.3	5.8	7.1
19	10.4	9.5	9.9	9.9	8.5	9.1	10.3	5.9	7.5	8.6	6.3	7.3
20	10.5	9.5	9.9	9.9	8.0	9.2	10.0	5.6	7.0	8.7	6.1	7.2
21	10.8	9.5	10.0	10.9	8.2	9.3	9.8	5.4	7.0	9.0	5.5	7.3
22	10.9	9.5	10.0	10.3	8.1	9.3	9.6	5.0	6.7	8.5	5.4	7.1
23	11.1	9.4	10.0	10.6	8.1	9.3	9.2	4.6	6.3	8.9	5.4	6.9
24	11.5	9.6	10.3	11.4	8.8	9.8	8.6	4.3	6.0	8.4	5.2	6.7
25	11.7	9.6	10.3	---	---	---	8.4	4.1	5.7	7.1	5.2	6.0
26	11.9	9.5	10.3	---	---	---	---	---	---	---	---	---
27	11.6	9.5	10.3	12.0	9.2	10.5	---	---	---	---	---	---
28	10.4	8.9	9.6	12.7	9.0	10.5	---	---	---	9.9	6.0	7.6
29	9.2	7.3	8.0	13.3	8.8	10.3	---	---	---	10.2	6.4	8.0
30	8.5	7.4	7.8	13.1	8.5	10.1	---	---	---	10.1	7.3	8.2
31	---	---	---	13.5	8.2	10.1	---	---	---	---	---	---
MONTH												
YEAR												

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03303280 OHIO RIVER AT CANNELTON DAM, KY

LOCATION.--Lat 37°53'58", long 86°42'20", Hancock County, Hydrologic Unit 05140201, at Cannelton Dam, 0.7 mi upstream from Indian Creek, 3.3 mi upstream from Lead Creek, and at mile 720.8.

DRAINAGE AREA.--97,000 mi^2, approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorders with telemetry. Datum of headwater gage 0.4 mi upstream is 374.0 ft Ohio River datum. Datum of tailwater gage 0.4 mi downstream is 26.0 ft lower.

REMARKS.--Records good except those below 20,000 ft^3/s, which are poor and extreme events, which can be affected by high flows on the Mississippi River. All extreme high flow periods should be scrutinized for this reason. Daily discharge computed from head, gate openings, and lockages furnished by U.S. Army Corps of Engineers, Louisville District. Flow regulated by Ohio River system of locks, dams, and reservoirs upstream from station.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131,000	104,000	186,000	270,000	186,000	156,000	432,000	248,000	65,000	62,500	24,300	117,000
2	149,000	124,000	227,000	253,000	184,000	163,000	441,000	261,000	72,200	40,700	36,100	95,300
3	145,000	157,000	327,000	231,000	173,000	194,000	445,000	291,000	47,200	69,200	36,100	63,200
4	118,000	144,000	361,000	282,000	181,000	217,000	447,000	292,000	44,800	23,400	36,100	63,400
5	91,500	145,000	384,000	e350,000	178,000	205,000	453,000	277,000	44,700	21,700	26,900	44,800
6	64,200	200,000	379,000	451,000	169,000	174,000	461,000	239,000	45,100	41,500	14,100	21,400
7	57,100	218,000	272,000	508,000	162,000	160,000	464,000	179,000	53,000	47,800	15,400	32,800
8	59,600	211,000	255,000	540,000	169,000	165,000	456,000	139,000	45,500	35,500	24,200	23,600
9	62,100	186,000	247,000	555,000	184,000	186,000	e400,000	118,000	53,700	25,500	23,600	14,500
10	46,000	157,000	247,000	566,000	192,000	227,000	e320,000	108,000	55,000	76,200	18,200	14,300
11	53,100	136,000	247,000	577,000	195,000	258,000	263,000	91,800	45,000	64,900	25,700	14,800
12	45,700	181,000	326,000	584,000	223,000	278,000	234,000	87,600	45,900	54,200	28,100	31,900
13	49,700	211,000	345,000	588,000	244,000	274,000	213,000	87,200	67,900	13,000	11,000	12,200
14	52,400	198,000	364,000	588,000	264,000	248,000	184,000	79,600	88,800	49,400	26,700	13,800
15	52,600	178,000	366,000	582,000	270,000	209,000	165,000	80,000	50,700	36,600	20,300	24,100
16	50,900	154,000	270,000	576,000	264,000	184,000	145,000	117,000	36,500	3,870	16,000	18,700
17	65,900	134,000	238,000	567,000	260,000	167,000	124,000	114,000	39,800	42,500	20,300	9,940
18	76,000	117,000	191,000	558,000	271,000	152,000	116,000	113,000	47,600	47,600	19,200	28,100
19	139,000	115,000	157,000	549,000	275,000	140,000	99,900	102,000	39,000	55,100	27,800	27,000
20	169,000	153,000	140,000	536,000	270,000	127,000	92,900	144,000	38,300	59,500	30,400	16,500
21	189,000	172,000	132,000	514,000	252,000	125,000	86,000	157,000	42,600	64,900	43,200	27,400
22	193,000	185,000	121,000	477,000	221,000	122,000	94,100	153,000	23,200	70,200	34,800	18,300
23	171,000	185,000	117,000	423,000	187,000	127,000	89,200	162,000	26,600	47,400	35,200	20,900
24	132,000	172,000	146,000	e300,000	186,000	137,000	123,000	155,000	35,900	45,200	19,400	24,300
25	111,000	160,000	177,000	241,000	195,000	156,000	161,000	127,000	27,200	38,400	14,700	11,900
26	111,000	159,000	201,000	219,000	206,000	179,000	199,000	104,000	24,400	30,000	31,300	26,400
27	111,000	160,000	213,000	202,000	195,000	200,000	217,000	94,200	30,000	38,700	30,500	38,700
28	111,000	175,000	209,000	190,000	173,000	276,000	233,000	92,300	23,000	43,900	47,300	28,600
29	111,000	186,000	189,000	191,000	---	353,000	240,000	83,300	21,300	35,800	47,200	47,400
30	103,000	188,000	180,000	187,000	---	e390,000	246,000	77,300	27,500	42,700	57,700	60,200
31	93,400	---	226,000	181,000	---	e410,000	---	72,600	---	23,800	123,000	---
TOTAL	3,114,200	4,965,000	7,440,000	12,836,000	5,929,000	6,359,000	7,644,100	4,445,900	1,307,400	1,351,670	964,800	991,440
MEAN	100,500	165,500	240,000	414,100	211,800	205,100	254,800	143,400	43,580	43,600	31,120	33,050
MAX	193,000	218,000	384,000	588,000	275,000	410,000	464,000	292,000	88,800	76,200	123,000	117,000
MIN	45,700	104,000	117,000	181,000	162,000	122,000	86,000	72,600	21,300	3,870	11,000	9,940

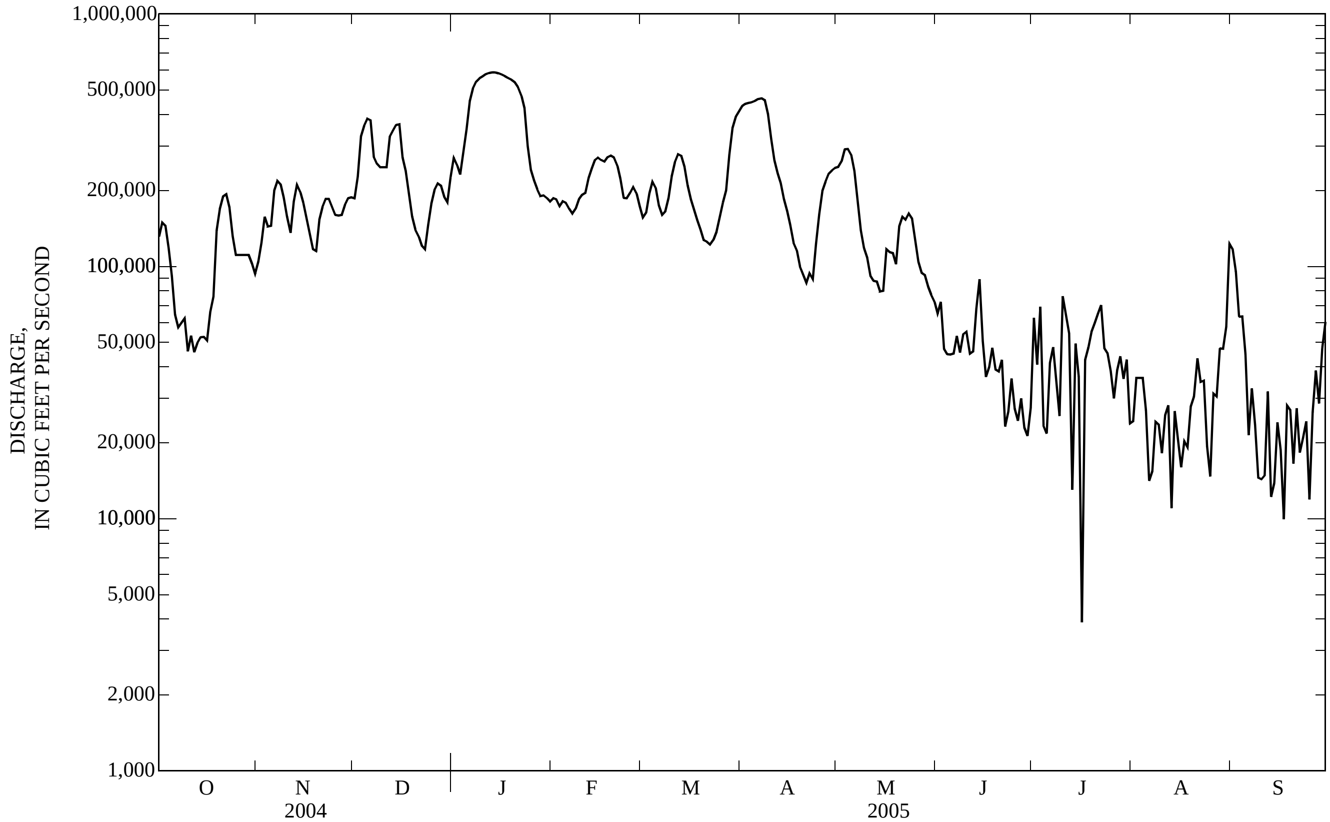
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	58,150	96,750	157,800	174,000	205,200	233,600	207,500	169,600	112,200	68,080	54,950	51,530
MAX	155,800	242,100	334,000	414,100	358,600	443,300	360,400	415,100	239,700	125,500	148,200	219,700
(WY)	(1980)	(2004)	(1979)	(2005)	(1994)	(1997)	(1994)	(1996)	(2003)	(1998)	(1980)	(2004)
MIN	13,980	24,350	47,120	36,500	94,740	125,500	72,990	46,020	16,490	18,760	13,130	11,630
(WY)	(1992)	(1999)	(1999)	(1977)	(1992)	(1983)	(1986)	(1976)	(1988)	(1988)	(1988)	(1999)

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1976 - 2005	
ANNUAL TOTAL	71,513,300		57,348,510			
ANNUAL MEAN	195,400		157,100		132,100	
HIGHEST ANNUAL MEAN					200,300	2004
LOWEST ANNUAL MEAN					72,150	1988
HIGHEST DAILY MEAN	548,000	Jan 9	588,000	Jan 13	735,000	Mar 8, 1997
LOWEST DAILY MEAN	28,800	Aug 20	3,870	Jul 16	3,180	Aug 28, 1995
ANNUAL SEVEN-DAY MINIMUM	37,900	Aug 14	17,900	Sep 8	7,650	Jul 12, 1988
MAXIMUM PEAK FLOW			590,000	Jan 13	736,000	Mar 8, 1997
MAXIMUM PEAK STAGE			46.05	Jan 13	52.42	Mar 8, 1997
10 PERCENT EXCEEDS	411,000		347,000		285,000	
50 PERCENT EXCEEDS	163,000		132,000		95,300	
90 PERCENT EXCEEDS	62,500		24,400		23,500	

e Estimated



03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to 1986 and 1996 to current water year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--October 1974 to September 1986 (discontinued).
WATER TEMPERATURES.--October 1974 to September 1986 (discontinued).

REMARKS.--Flow regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--Maximum daily recorded, 691 microsiemens, Nov. 14, 1978; minimum daily recorded, 176 microsiemens, Dec. 15, 1978.
WATER TEMPERATURES.--Maximum daily recorded, 30.0°C, July 23, 24, 1977, Aug. 5, 1982, several days in July and Auguest; minimum daily recorded, 0.0°C, on several days during most winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instan-taneous dis-charge, cfs (00061)	UV absorb-ance, 254 nm, wat flt units /cm (50624)	UV absorb-ance, 280 nm, wat flt units /cm (61726)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV												
17...	1230	Environmental	140,000	0.100	0.075	745	10.3	7.4	363	12.5	140	38.9
19...	1338	Equipment Blank	--	<.004	<.004	--	--	--	--	--	--	<0.02
DEC												
13...	1400	Environmental	292,000	.076	.057	742	12.6	7.8	319	8.5	130	36.4
JAN												
13...	1510	Environmental	608,000	.087	.065	745	9.6	7.4	256	7.5	110	30.1
13...	1518	Field Blank	--	<.004	<.004	--	--	--	--	--	--	--
25...	1310	Environmental	247,000	.071	.051	747	13.9	7.9	300	3.5	120	33.9
MAR												
08...	1340	Environmental	162,000	.045	.033	737	13.6	7.5	352	5.5	130	35.8
APR												
25...	1230	Environmental	164,000	.052	.039	--	--	--	--	--	140	36.9
25...	1240	Replicate	--	.053	.040	--	--	--	--	--	130	36.4
MAY												
09...	1330	Environmental	117,000	.080	.061	752	9.5	7.4	304	14.5	120	30.4
09...	1338	Field Blank	--	--	--	--	--	--	--	--	--	--
23...	1210	Environmental	163,000	.078	.060	746	8.2	7.4	346	18.5	130	32.9
23...	1218	Field Blank	--	--	--	--	--	--	--	--	--	.05
JUN												
07...	1320	Environmental	45,000	.063	.047	750	--	8.3	411	24.0	160	40.5
07...	1328	Field Blank	--	--	--	--	--	--	--	--	--	--
24...	1020	Environmental	36,300	.071	.052	745	9.3	8.2	393	27.0	150	38.7
24...	1030	Replicate	--	.070	.052	--	--	--	--	--	150	38.9
JUL												
13...	1100	Environmental	3,030	.058	.042	745	7.6	7.6	459	28.0	170	41.4
13...	1108	Field Blank	--	--	--	--	--	--	--	--	--	--
AUG												
09...	1240	Environmental	20,900	.064	.046	754	8.4	8.0	503	30.5	180	45.4
SEP												
22...	1120	Environmental	16,400	.069	.050	754	6.8	7.7	467	27.0	150	40.2

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV													
17...	10.3	3.04	15.5	79	96	17.3	0.1	6.37	59.5	217	0.23	0.49	E0.04
19...	<0.008	<0.010	<0.20	--	--	0.49	<.01	0.08	<0.01	--	--	--	<.010
DEC													
13...	9.22	2.38	11.2	82	100	12.8	.1	7.01	47.9	193	.18	.63	<.04
JAN													
13...	7.40	2.55	11.5	57	70	13.9	.1	6.38	39.8	158	.24	.92	E.02
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	9.00	2.41	10.9	73	89	15.2	.1	6.83	41.6	172	.24	.56	E.03
MAR													
08...	10.8	1.92	15.8	67	82	21.0	.1	6.50	57.7	206	.19	.32	E.04
APR													
25...	10.5	2.19	15.8	71	86	20.0	.2	5.29	54.0	195	.17	.34	<.04
25...	10.4	2.09	15.6	76	93	20.1	.2	5.23	54.0	204	.18	.33	<.04
MAY													
09...	9.48	2.11	12.0	64	78	14.6	.1	6.02	48.4	175	.17	.34	<.04
09...	--	--	--	--	--	--	--	--	--	--	--	--	<.010
23...	10.8	2.51	12.9	65	79	15.8	.2	3.71	45.4	189	.26	.58	E.04
23...	E.004	<.010	<.20	--	--	1.02	<.01	.05	<.01	--	--	--	--
JUN													
07...	13.9	2.48	19.0	95	116	24.3	.2	.30	70.0	247	.29	.39	<.04
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	13.0	2.42	18.9	83	101	23.9	.2	.32	60.3	227	.43	.41	E.03
24...	13.0	2.44	18.9	89	109	23.9	.2	.33	60.3	211	.44	.44	E.03
JUL													
13...	15.1	2.66	26.9	85	104	31.7	.2	.53	76.8	261	.52	.37	.08
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	17.2	3.17	31.3	83	101	37.1	.2	.43	91.3	286	.36	.37	E.04
SEP													
22...	13.2	3.28	28.3	71	87	34.6	.3	1.52	80.1	281	1.1	.31	<.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Arsenic water, fltrd, ug/L (01000)
NOV													
17...	0.84	0.016	0.10	0.043	0.061	0.15	1.5	<0.1	1.5	3.2	E2.8	E2.1	0.6
19...	<.016	<.002	<.02	<.006	--	--	<0.1	<.1	<0.1	E0.2	--	--	<.2
DEC													
13...	.97	.014	.25	.033	.046	.22	2.8	<.1	2.7	2.6	2.9	1.1	.5
JAN													
13...	1.06	.012	.48	.018	.028	.32	6.2	.1	6.0	2.8	3.3	1.8	.6
13...	--	--	.02	--	--	--	.3	<.1	.3	E.3	--	--	--
25...	1.07	.012	.30	.024	.031	.17	3.8	.4	3.4	2.7	E2.1	E0.6	.4
MAR													
08...	1.04	.010	.12	.016	.019	.09	1.4	<.1	1.3	1.6	1.2	1.6	.2
APR													
25...	.95	.008	.14	.013	.020	.07	1.0	<.1	1.0	1.9	5.7	7.8	.5
25...	.96	E.007	.15	.013	.018	.08	1.3	<.1	1.3	2.0	6.8	8.5	.4
MAY													
09...	1.06	.018	.10	.016	.022	.09	.8	<.1	.7	2.4	E1.1	<.1	.3
09...	<.016	<.002	--	<.006	--	--	--	--	--	--	--	--	--
23...	1.10	.024	.20	.032	.041	.20	2.3	<.1	2.2	2.4	5.7	6.8	.5
23...	--	--	--	--	--	--	--	--	--	--	--	--	<.2
JUN													
07...	.88	.014	.16	<.006	.009	.04	1.0	<.1	1.0	2.3	7.9	8.0	.4
07...	--	--	--	--	--	--	--	--	--	--	<0.3	<.3	--
24...	.87	.022	.20	<.006	.013	.04	1.1	<.1	1.1	2.5	7.5	10.5	.7
24...	.87	.021	.16	<.006	.013	.04	1.0	<.1	1.0	5.4	7.5	10.5	.7
JUL													
13...	.85	.032	.06	.007	.019	.03	.6	<.1	.6	3.3	2.7	1.8	.8
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	.56	.026	.12	<.006	.009	.02	.7	<.1	.7	3.1	5.3	7.3	1.0
SEP													
22...	.93	.116	.10	.011	.045	.06	.5	<.1	.5	3.5	2.6	3.9	.92

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)	Vanad-ium, water, fltrd, ug/L (01085)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)
NOV													
17...	45	8	5.0	E0.3	210	0.4	<0.006	E0.010	0.031	<0.005	<0.005	0.053	<0.050
19...	<8	<6	<0.6	<.4	<0.40	<.1	--	--	--	--	--	--	--
DEC													
13...	31	12	3.6	E.3	197	.3	--	--	--	--	--	--	--
JAN													
13...	23	25	2.6	E.3	141	.5	<.006	E.008	<.010	<.005	<.005	.028	<.050
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	28	19	2.8	E.2	171	.3	<.006	E.012	.013	<.005	<.005	.043	<.050
MAR													
08...	42	13	4.3	<.4	189	.4	<.006	E.007	<.006	<.005	<.005	.028	<.050
APR													
25...	49	E5	5.1	.5	217	.4	<.006	E.007	<.006	<.005	<.005	.031	<.050
25...	49	E6	5.0	.6	217	.4	<.006	E.008	.008	<.005	<.005	.032	<.050
MAY													
09...	30	13	4.7	E.4	193	.3	<.006	E.017	.154	<.005	<.005	.942	<.050
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	45	E4	5.8	E.3	184	1.0	<.006	E.134	.179	.016	<.005	2.12	<.050
23...	<8	<6	<.6	<.4	<.40	<.1	--	--	--	--	--	--	--
JUN													
07...	48	E3	6.4	E.2	271	.4	<.006	E.048	.086	<.005	<.005	.723	<.050
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	58	E4	5.5	.4	260	.9	<.006	E.062	.048	<.005	<.005	.497	<.050
24...	51	E3	5.4	.6	257	.6	<.006	E.041	.052	<.005	<.005	.522	<.050
JUL													
13...	63	<6	8.1	.6	310	.7	<.006	E.042	.034	<.005	<.005	.403	<.050
13...	--	--	--	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007	<.050
AUG													
09...	46	<6	7.7	.5	399	.7	<.006	E.023	.009	<.005	<.005	.236	<.050
SEP													
22...	60	<6	7.0	.51	307	.71	<.006	E.020	E.005	<.005	<.005	.117	<.050

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd 0.7u GF ug/L (82674)	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi-non, water, fltrd, ug/L (39572)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)
NOV													
17...	<0.010	<0.004	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
MAR													
08...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
APR													
25...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
25...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
MAY													
09...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.010	<.004	E.191	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
24...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
JUL													
13...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
13...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
AUG													
09...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
SEP													
22...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.008	<.009

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)
NOV													
17...	<0.005	<0.003	<0.004	<0.035	<0.027	<0.015	0.016	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	<.005	<.003	<.004	<.035	<.027	<.015	.019	<.006	<.003	<.007	<.003	<.010	<.004
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.005	<.003	<.004	<.035	<.027	<.015	.022	<.006	<.003	<.007	<.003	<.010	<.004
MAR													
08...	<.005	<.003	<.004	<.035	<.027	<.015	.028	<.006	<.003	<.007	<.003	<.010	<.004
APR													
25...	<.005	<.003	<.004	<.035	<.027	<.015	.014	<.006	<.003	<.007	<.003	<.010	<.004
25...	<.005	<.003	<.004	<.035	<.027	<.015	.014	<.006	<.003	<.007	<.003	<.010	<.004
MAY													
09...	<.005	<.003	<.004	<.035	<.027	<.015	.177	<.007	<.003	<.007	<.003	<.010	<.004
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.005	<.003	<.004	<.035	<.027	<.015	.438	.013	<.003	<.007	<.003	<.010	<.004
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	<.005	<.003	<.004	<.035	<.027	<.015	.174	<.006	<.003	<.007	<.003	<.010	<.004
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.005	<.003	<.004	<.035	<.027	<.015	.097	<.006	<.003	<.007	<.003	<.010	<.004
24...	<.005	<.003	<.004	<.035	<.027	<.015	.100	<.006	<.003	<.007	<.003	<.010	<.004
JUL													
13...	<.005	<.003	<.004	<.035	<.027	<.015	.096	<.006	<.003	<.007	<.003	<.010	<.004
13...	<.005	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004
AUG													
09...	<.005	<.003	<.004	<.035	<.027	<.015	.038	<.006	<.003	<.007	<.003	<.010	<.004
SEP													
22...	<.005	<.003	<.004	<.035	<.027	<.015	.025	<.006	<.003	<.007	<.003	<.010	<.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
NOV													
17...	<0.022	<0.011	<0.01	<0.004	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.006
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.037	<.02	<.034	<.02	<.010	<.006
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.049	<.02	<.034	<.02	<.010	<.006
MAR													
08...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.010	<.02	<.034	<.02	<.010	<.006
APR													
25...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.011	<.02	<.034	<.02	<.010	<.006
25...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.010	<.02	<.034	<.02	<.010	<.006
MAY													
09...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.087	<.02	<.034	<.02	<.010	<.006
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.022	<.011	.01	<.004	<.025	<.011	<.02	.604	<.02	<.034	<.02	<.010	<.006
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	<.022	<.011	.01	<.004	<.025	<.011	<.02	.095	<.02	<.034	<.02	<.010	<.006
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.022	<.011	.01	<.004	<.025	<.011	<.02	.100	<.02	<.034	<.02	<.010	<.006
24...	<.022	<.011	.01	<.004	<.025	<.011	<.02	.099	<.02	<.034	<.02	<.010	<.006
JUL													
13...	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.046	<.02	<.034	<.02	<.010	<.006
13...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006
AUG													
09...	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.026	<.02	<.034	<.02	<.010	<.006
SEP													
22...	<.022	<.011	.02	<.005	<.025	<.011	<.02	E.023	<.02	<.034	<.02	<.010	<.006

03303280 OHIO RIVER AT CANNELTON DAM, KY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
NOV			
17...	<0.009	99	65
19...	--	--	--
DEC			
13...	--	81	154
JAN			
13...	<.009	88	277
13...	--	--	--
25...	<.009	98	114
MAR			
08...	<.009	98	43
APR			
25...	<.009	98	34
25...	<.009	99	33
MAY			
09...	<.009	100	65
09...	--	--	--
23...	<.009	100	87
23...	--	--	--
JUN			
07...	<.009	97	7
07...	--	--	--
24...	<.009	78	10
24...	<.009	--	--
JUL			
13...	<.009	100	11
13...	<.009	--	--
AUG			
09...	<.009	97	13
SEP			
22...	<.009	100	16

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

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03306000 GREEN RIVER NEAR CAMPBELLSVILLE, KY

LOCATION.--Lat 37°14'25", long 85°20'50", Taylor County, Hydrologic Unit 05110001, on right bank on downstream side of pier of bridge on State Highway 55, 0.6 mi downstream from Green River Dam, 0.8 mi upstream from Pinch Creek, 6.9 mi south of Campbellsville, and at mile 305.1.

DRAINAGE AREA.--682 mi^2 .

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--Water-temperature: Oct. 1964 to Sept. 1989, Oct. 1994 to current year.

GAGE.--Water Temperature recorder with telemetry.

REMARKS.--Records good.

COOPERATION.--Nature Conservancy and U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.0°C, August. 3-5, 1964; minimum recorded, 0.0°C, on many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 28.6°C, Aug. 15, 23, minimum recorded, 4.6°C, Feb. 4, 12, 13.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	18.1	18.0	16.8	17.7	12.7	12.2	12.5	6.7	6.2	6.5
2	21.4	18.4	19.5	17.8	17.4	17.6	12.5	12.1	12.3	6.5	6.1	6.3
3	22.0	20.8	21.3	---	---	17.8	12.3	12.2	12.2	6.2	5.9	6.1
4	---	---	21.2	17.7	17.3	17.5	12.2	12.0	12.1	6.5	5.8	6.1
5	22.3	19.9	20.7	---	---	17.4	12.0	11.8	11.9	6.5	5.4	6.0
6	22.2	19.7	20.5	17.4	17.2	17.3	11.8	11.5	11.6	6.4	5.4	5.8
7	22.1	19.8	20.5	17.2	17.1	17.2	11.7	11.4	11.5	6.5	6.2	6.3
8	21.5	19.8	20.3	17.2	16.8	17.0	11.7	11.4	11.5	6.4	6.0	6.2
9	21.0	19.8	20.2	16.8	16.4	16.6	11.4	11.2	11.3	6.0	5.8	5.9
10	21.7	19.8	20.4	16.8	16.0	16.4	11.4	11.1	11.3	6.2	5.8	6.0
11	21.4	19.7	20.2	16.5	16.3	16.4	---	---	11.0	6.2	6.0	6.1
12	20.7	19.8	20.0	16.3	15.7	16.1	10.9	10.6	10.7	6.3	6.0	6.2
13	19.8	19.6	19.7	15.9	15.3	15.6	10.6	10.2	10.5	6.9	6.3	6.6
14	20.0	18.9	19.6	15.7	15.1	15.3	10.2	9.9	10.1	6.8	6.5	6.7
15	19.2	18.2	18.6	15.6	15.0	15.2	9.9	9.7	9.8	6.8	6.4	6.6
16	19.2	17.5	18.2	15.2	15.0	15.1	9.7	9.6	9.6	6.7	6.2	6.4
17	19.4	17.2	17.9	15.0	14.8	15.0	9.6	9.4	9.5	6.2	5.9	6.1
18	18.1	17.4	17.8	15.1	14.8	14.9	9.4	9.2	9.3	6.0	5.7	5.9
19	18.4	17.8	18.1	14.9	14.6	14.8	9.2	8.6	9.0	5.9	5.8	5.8
20	18.3	17.0	17.8	14.6	14.4	14.5	8.6	8.2	8.4	5.9	5.8	5.8
21	18.5	16.7	17.8	14.6	14.4	14.5	8.3	8.1	8.2	5.8	5.7	5.7
22	18.7	18.2	18.4	14.5	14.3	14.4	8.3	8.1	8.2	5.8	5.7	5.7
23	18.2	17.8	18.1	14.5	14.2	14.3	8.1	7.5	7.8	5.7	5.3	5.4
24	18.6	17.9	18.2	14.4	13.4	13.9	7.5	7.2	7.4	5.3	5.1	5.2
25	19.4	17.5	18.1	13.9	13.6	13.8	7.2	7.0	7.1	5.2	5.1	5.1
26	18.9	17.4	18.0	13.6	13.4	13.5	7.0	6.8	7.0	5.3	5.1	5.2
27	18.3	17.9	18.1	---	---	13.2	6.8	6.6	6.7	5.2	4.8	5.0
28	18.5	18.1	18.3	13.2	12.9	13.0	6.6	6.3	6.5	5.1	4.7	4.9
29	19.0	17.8	18.2	12.9	12.8	12.8	6.4	6.3	6.4	4.9	4.7	4.8
30	18.9	17.4	18.0	12.8	12.5	12.7	6.4	6.2	6.3	4.9	4.7	4.8
31	18.7	17.3	17.9	---	---	---	6.2	6.1	6.2	4.9	4.7	4.8
MONTH			19.0			15.4			9.5	6.9	4.7	5.8

03306000 GREEN RIVER NEAR CAMPBELLSVILLE, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.1	4.7	4.9	5.5	5.4	5.5	9.8	8.4	9.3	11.9	10.1	11.0
2	---	---	4.8	5.6	5.3	5.4	9.3	8.4	8.8	12.4	11.8	12.1
3	---	---	4.8	6.3	5.4	5.7	8.8	8.0	8.5	12.7	12.1	12.5
4	5.0	4.6	4.8	5.7	5.5	5.5	8.9	8.2	8.6	13.6	12.7	13.0
5	5.0	4.7	4.8	5.7	5.5	5.6	9.2	8.5	8.8	13.4	13.0	13.2
6	4.9	4.7	4.8	5.9	5.6	5.7	10.0	8.5	9.2	13.4	13.0	13.2
7	5.0	4.8	4.9	5.9	5.7	5.8	10.0	9.1	9.7	13.2	12.5	12.9
8	4.9	4.7	4.8	5.9	5.8	5.8	10.7	9.9	10.4	13.3	12.0	12.5
9	5.1	4.7	4.9	---	---	6.1	10.6	9.9	10.3	12.3	11.8	12.1
10	5.0	4.8	4.9	6.0	5.8	5.9	10.5	10.3	10.4	14.8	11.8	13.5
11	5.0	4.7	4.8	5.9	5.7	5.8	10.6	10.3	10.5	15.7	14.6	15.1
12	4.9	4.6	4.7	6.1	5.7	5.9	11.0	10.3	10.6	16.7	15.3	15.8
13	4.8	4.6	4.8	---	---	6.1	11.5	10.0	10.8	16.3	14.6	15.7
14	5.1	4.8	5.0	6.9	5.9	6.3	11.4	10.1	10.6	15.9	14.2	15.1
15	5.3	5.1	5.2	8.0	6.0	6.8	11.1	10.4	10.7	16.2	14.8	15.6
16	5.4	5.2	5.3	7.2	6.3	6.7	11.2	10.5	10.9	16.4	14.7	15.6
17	5.4	5.3	5.3	9.0	6.2	7.0	11.3	10.3	10.9	19.0	15.8	17.1
18	5.3	5.1	5.2	8.5	6.2	6.9	10.8	10.3	10.5	18.4	16.4	17.2
19	5.4	5.2	5.3	7.2	6.1	6.5	10.5	9.7	10.1	17.3	15.0	16.2
20	5.2	5.1	5.2	9.0	5.9	7.0	10.1	9.4	9.8	17.3	14.3	15.9
21	5.5	5.2	5.4	9.6	6.7	7.7	10.2	9.4	9.9	17.8	16.1	16.7
22	5.5	5.4	5.4	8.2	7.4	7.7	10.6	9.4	9.8	17.0	15.8	16.4
23	5.8	5.4	5.6	8.0	6.9	7.4	10.1	8.9	9.5	17.0	15.7	16.3
24	5.6	5.5	5.5	7.9	6.8	7.2	10.2	9.4	9.8	17.7	15.5	16.6
25	6.1	5.4	5.6	9.3	7.1	7.9	10.6	9.4	10	17.5	15.2	16.3
26	6.2	5.6	5.8	10.3	7.4	8.5	10.5	9.7	10.1	17.8	15.4	16.3
27	---	---	6.1	9.5	8.6	8.9	10.8	9.9	10.3	17.9	15.6	16.4
28	5.7	5.4	5.6	9.6	7.7	8.4	10.4	10.0	10.3	18.1	15.5	16.4
29	---	---	---	10.5	7.4	8.5	12.1	10.1	10.5	17.2	15.6	16.4
30	---	---	---	10.6	7.6	8.7	12.1	10.2	10.8	18.6	16.2	17.2
31	---	---	---	10.8	7.6	8.9	---	---	---	19.3	16.7	17.6
MONTH			5.2			6.8	12.1	8.0	10.0	19.3	10.1	15.1
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.2	17.2	17.6	23.1	20.8	21.8	24.6	22.0	22.9	26.0	23.4	24.3
2	18.2	17.3	17.8	23.2	20.7	21.7	24.8	22.0	23.0	24.6	22.7	23.7
3	17.4	16.9	17.1	23.6	20.9	21.9	25.0	22.1	23.1	24.1	22.3	23.0
4	19.0	16.8	17.5	22.9	21.2	21.9	24.9	22.3	23.3	24.1	22.4	23.1
5	18.8	16.9	17.6	22.5	21.0	21.5	24.7	22.4	23.2	24.2	22.7	23.1
6	19.6	16.8	18.0	22.7	20.8	21.6	24.8	22.5	23.4	23.8	22.5	23.0
7	19.1	16.9	18.1	23.6	21.2	22.1	24.7	22.5	23.2	---	---	23.2
8	19.6	17.6	18.4	23.8	21.1	22.1	24.6	22.5	23.2	25.9	22.5	23.8
9	19.6	17.3	18.3	23.8	20.9	22.1	---	---	24.8	25.9	23.5	24.3
10	19.7	17.6	18.6	23.5	21.5	22.4	28.5	25.6	26.7	26.5	23.7	24.5
11	19.6	18.1	19.1	23.8	22.0	22.7	28.5	25.7	26.6	26.5	23.8	24.6
12	20.5	17.4	19.1	22.4	21.5	21.9	28.2	25.9	26.6	26.1	23.7	24.6
13	20.1	17.4	18.9	21.6	20.6	20.9	28.2	25.7	26.6	---	---	24.3
14	19.8	18.0	18.8	22.0	20.7	21.2	28.4	25.6	26.6	25.7	23.5	24.3
15	20.2	18.0	18.9	---	---	21.0	28.6	25.1	26.6	26.0	23.6	24.4
16	20.6	17.9	18.9	21.7	20.7	21.1	27.6	25.9	26.5	25.3	23.7	24.2
17	20.3	17.8	18.9	22.4	20.8	21.2	27.3	26.0	26.5	---	---	24.2
18	20.7	18.6	19.3	22.8	20.7	21.4	26.8	25.5	26.0	25.3	23.3	23.9
19	20.9	18.2	19.4	23.2	20.7	21.7	28.2	25.4	26.3	26.1	23.2	24.1
20	21.3	18.7	19.7	23.0	21.0	21.8	28.3	25.6	26.4	---	---	24.3
21	21.6	18.8	19.9	23.4	20.8	22.0	28.4	25.6	26.7	26.4	23.5	24.4
22	21.8	19.2	20.2	23.4	21.3	22.2	26.9	25.4	26.1	26.0	23.5	24.2
23	22.2	19.2	20.3	24.2	21.6	22.5	28.6	25.6	26.6	25.8	23.7	24.4
24	22.7	19.5	20.7	24.4	21.9	22.7	28.5	25.6	26.5	25.8	23.9	24.5
25	22.5	20.0	20.9	24.2	21.9	22.7	27.1	25.4	26.0	24.9	23.4	24.2
26	22.3	20.1	21.1	24.0	22.1	22.8	26.1	25.0	25.4	24.8	23.5	23.9
27	22.3	20.4	21.3	23.7	22.1	22.8	26.6	25.1	25.6	25.7	23.0	23.9
28	23.2	19.7	21.2	23.2	22.0	22.6	26.5	25.0	25.4	25.5	23.0	23.8
29	23.2	20.8	21.6	24.1	21.9	22.7	25.3	24.6	24.9	24.7	22.4	23.2
30	23.2	20.8	21.6	24.0	21.9	22.8	24.8	23.6	24.5	24.7	21.7	22.6
31	---	---	---	24.6	21.9	22.9	25.7	23.3	24.1	---	---	---
MONTH	23.2	16.8	19.3			22.0			25.3			23.9
YEAR												

03306500 GREEN RIVER AT GREENSBURG, KY

LOCATION.--Lat 37°15'12", long 85°03'11", Green County, Hydrologic Unit 05110001, at bridge on State Highway 61 and 70, 300 ft upstream from Clover Lick Creek, 0.25 mi south of Greensburg, 2.6 mi upstream from Russell Creek, and at mile 279.7.

DRAINAGE AREA.--736 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to September 1975, October 2004 to current.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 531.81 ft above NGVD of 1929. Prior to June 20, 1941, nonrecording gage at same site and datum. Jan. 4, 1951 to September 1975, auxiliary nonrecording gage read twice daily, 1.8 miles upstream from base gage. November 1941 to Jan. 3, 1951, auxiliary nonrecording gage 1.5 miles downstream from base gage.

REMARKS.-Records fair.

COOPERATION.--Green County and U.S Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,570	265	4,750	1,040	844	2,000	323	1,640	113	83	84	100
2	1,030	2,700	966	1,280	829	1,950	540	2,810	118	83	82	76
3	572	2,730	1,600	1,230	1,030	1,940	402	4,280	128	81	83	106
4	399	3,050	4,460	1,240	1,650	1,920	1,250	6,290	119	90	82	149
5	214	3,360	6,020	1,370	1,650	1,910	2,030	7,740	114	92	83	152
6	121	5,520	5,120	1,530	1,660	1,890	2,010	5,980	110	85	82	151
7	118	5,450	e2,410	1,650	1,660	1,930	2,020	4,070	106	83	81	152
8	117	4,900	e1,580	3,640	1,690	2,100	2,140	2,740	104	83	79	151
9	116	2,500	1,760	1,930	1,730	2,160	2,520	1,360	106	82	80	114
10	114	1,340	1,930	1,310	e2,020	2,620	3,040	649	105	81	71	64
11	109	419	4,020	1,240	e1,410	2,460	3,030	377	110	89	61	58
12	163	457	4,220	1,180	e1,440	1,850	3,090	350	122	96	62	56
13	202	400	5,590	1,190	e1,470	1,400	3,280	333	113	98	61	55
14	238	374	8,210	853	e1,540	912	3,110	346	115	97	61	54
15	304	364	8,680	720	e1,640	505	3,070	332	128	92	66	55
16	138	358	8,350	755	2,840	222	3,040	336	111	88	67	58
17	115	1,270	8,510	1,160	2,960	160	2,800	334	107	93	66	63
18	135	620	8,380	e3,380	2,940	152	1,570	205	106	91	79	59
19	212	364	8,240	5,880	2,850	146	1,200	175	105	84	83	57
20	563	348	8,120	7,120	2,630	143	793	299	103	85	70	56
21	2,690	330	7,820	8,410	2,870	138	779	328	95	120	63	56
22	750	328	6,510	8,840	2,770	137	774	361	82	106	59	57
23	419	331	7,200	8,840	2,680	146	762	359	81	92	59	58
24	486	649	1,290	8,380	2,640	140	760	212	81	86	58	58
25	433	2,550	2,060	5,980	2,610	139	716	138	80	84	58	58
26	433	3,930	4,090	4,000	2,450	137	501	126	81	83	66	57
27	e209	4,810	5,610	2,300	1,930	187	503	125	92	82	63	60
28	394	3,970	5,580	1,200	2,020	1,430	482	120	96	85	61	60
29	307	2,660	5,340	843	---	433	680	116	90	83	92	59
30	149	3,100	4,180	879	---	279	3,360	116	85	84	308	58
31	133	---	2,320	879	---	227	---	115	---	83	192	---
TOTAL	13,953	59,447	154,916	90,249	56,453	31,763	50,575	42,762	3,106	2,744	2,562	2,367
MEAN	450	1,982	4,997	2,911	2,016	1,025	1,686	1,379	104	88.5	82.6	78.9
MAX	2,690	5,520	8,680	8,840	2,960	2,620	3,360	7,740	128	120	308	152
MIN	109	265	966	720	829	137	323	115	80	81	58	54

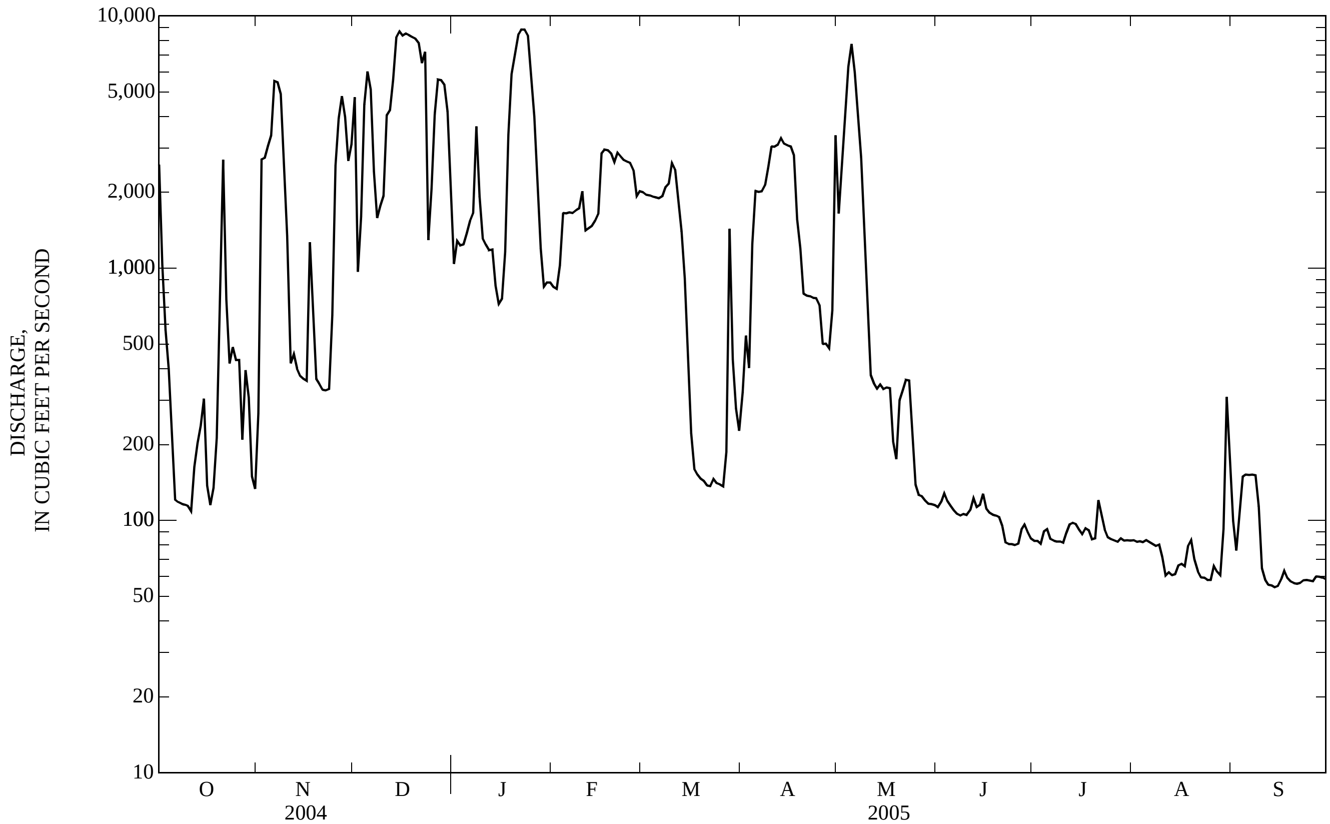
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1960, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	73.2	663	1,231	1,726	3,312	2,358	1,746	757	711	566	261	121
MAX	134	2,849	3,313	3,334	6,790	5,439	2,680	1,918	1,561	1,418	908	338
(WY)	(1956)	(1958)	(1958)	(1957)	(1956)	(1955)	(1958)	(1958)	(1960)	(1958)	(1958)	(1958)
MIN	3.76	31.4	176	662	1,600	1,158	579	342	161	156	28.9	19.5
(WY)	(1957)	(1957)	(1956)	(1955)	(1958)	(1959)	(1955)	(1959)	(1959)	(1957)	(1957)	(1955)

03306500 GREEN RIVER AT GREENSBURG, KY—Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR		WATER YEARS 1955 - 1960	
ANNUAL TOTAL	510,897			
ANNUAL MEAN	1,400		1,115	
HIGHEST ANNUAL MEAN			1,544	1958
LOWEST ANNUAL MEAN			718	1959
HIGHEST DAILY MEAN	8,840	Jan 22	25,200	Nov 20, 1957
LOWEST DAILY MEAN	54	Sep 14	2.0	Oct 3, 1956
ANNUAL SEVEN-DAY MINIMUM	57	Sep 11	3.0	Oct 2, 1956
MAXIMUM PEAK FLOW	9,310	Jan 23	60,600	Feb 28, 1962
MAXIMUM PEAK STAGE	14.11	Jan 23	37.17	Feb 28, 1962
INSTANTANEOUS LOW FLOW			0.40	Oct 26, 1953
10 PERCENT EXCEEDS	4,080		2,660	
50 PERCENT EXCEEDS	364		323	
90 PERCENT EXCEEDS	69		35	

e Estimated



03306500 GREEN RIVER AT GREENSBURG, KY

LOCATION.--Lat 37°15'12", long 85°03'11", Green County, Hydrologic Unit 05110001, at bridge on State Highway 61 and 70, 300 ft upstream from Clover Lick Creek, 0.25 mi south of Greensburg, 2.6 mi upstream from Russell Creek, and at mile 279.7.

DRAINAGE AREA.--736 mi^2.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--Water-temperature: December 22, 1999 to curent year.

GAGE.--Water-temperature recorder with telemetry.

REMARKS.-Records good.

COOPERATION.--Green County and U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded, 31.2°C , July 25, 2001; minimum recorded, 4.4° C Jan. 17, 2005.

EXTREMES FOR CURRENT YEAR.--
Maximum recorded, 28.8°C, July 21, minimum recorded, 4.4°C, Jan. 17.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.3	19.1	19.6	18.9	17.6	18.2	12.9	12.0	12.6	---	---	---
2	19.7	18.9	19.4	18.9	18.1	18.3	12.0	10.6	11.0	---	---	---
3	18.9	18.1	18.6	18.2	17.5	17.7	11.6	10.3	10.7	---	---	---
4	19.1	17.6	18.4	17.6	17.0	17.4	12.1	11.5	11.8	---	---	---
5	19.0	18.0	18.5	17.0	16.4	16.7	12.2	11.8	12.0	---	---	---
6	18.2	16.7	17.4	17.3	16.6	17.0	12.4	12.1	12.2	---	---	---
7	17.8	16.3	17.1	17.5	16.8	17.2	13.0	12.4	12.8	---	---	---
8	18.3	17.1	17.7	17.4	16.5	17.0	12.9	11.8	12.2	---	---	---
9	18.4	17.6	18.0	16.5	15.6	15.9	---	---	11.5	---	---	---
10	18.7	17.5	18.1	15.8	15.0	15.3	---	---	---	---	---	---
11	18.3	17.4	17.9	15.2	14.8	14.9	---	---	---	---	---	---
12	18.4	17.7	18.1	14.9	14.0	14.6	---	---	---	---	---	8.9
13	18.3	17.6	17.9	14.0	12.9	13.3	---	---	---	8.9	8.7	8.8
14	17.7	17.1	17.4	12.9	12.0	12.4	---	---	---	8.8	7.3	8.2
15	17.4	16.1	16.7	12.3	11.6	12.0	---	---	---	7.3	6.4	6.7
16	16.1	15.1	15.6	13.0	12.2	12.6	---	---	---	6.5	5.1	5.9
17	15.1	13.8	14.4	14.6	13.0	13.8	---	---	---	5.1	4.4	4.6
18	14.8	14.0	14.3	14.6	14.2	14.5	---	---	---	5.7	4.6	5.0
19	16.2	14.8	15.4	14.7	14.4	14.6	---	---	---	---	---	6.0
20	18.3	16.2	16.8	14.8	14.6	14.8	---	---	---	6.7	6.3	6.5
21	18.4	17.6	17.9	14.6	14.3	14.4	---	---	---	6.7	6.5	6.6
22	17.8	17.4	17.6	---	---	14.2	---	---	---	6.6	6.3	6.5
23	17.6	17.1	17.3	14.6	14.1	14.3	---	---	---	6.3	6.2	6.3
24	18.3	17.5	17.8	14.9	14.6	14.7	---	---	---	6.3	6.0	6.1
25	18.1	17.3	17.7	14.8	13.2	13.6	---	---	---	6.5	6.0	6.2
26	---	---	17.3	13.7	13.0	13.4	---	---	---	6.8	6.4	6.5
27	---	---	---	13.6	13.3	13.4	---	---	---	6.4	5.5	5.8
28	---	---	18.4	13.4	12.8	13.2	---	---	---	5.5	5.0	5.3
29	19.6	18.6	19.1	12.8	12.5	12.7	---	---	---	6.0	5.4	5.7
30	19.8	19.2	19.5	12.8	12.6	12.7	---	---	---	---	---	6.0
31	19.5	18.0	18.6	---	---	---	---	---	---	---	---	6.2
MONTH						14.8						

03306500 GREEN RIVER AT GREENSBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	6.4	6.6	5.8	6.1	14.3	12.2	13.4	12.7	11.9	12.3
2	6.7	6.4	6.5	6.2	5.4	5.8	12.2	10.6	11.1	12.9	12.0	12.4
3	6.5	6.3	6.4	---	---	6.0	11.5	10.0	10.7	13.1	12.4	12.7
4	6.3	5.8	6.0	---	---	6.4	11.6	10.9	11.3	13.7	12.7	13.2
5	6.3	5.9	6.1	---	---	6.7	11.4	10.4	10.9	14.2	13.5	13.8
6	6.4	6.1	6.3	7.2	6.3	6.7	11.4	10.4	10.9	14.5	13.7	14.1
7	6.6	6.4	6.4	7.3	6.8	7.0	11.0	10.3	10.7	14.8	13.9	14.3
8	7.2	6.6	7.0	7.2	6.5	6.9	11.4	10.8	11.0	15.0	13.9	14.4
9	7.3	6.8	7.1	6.8	6.0	6.3	11.9	10.9	11.4	15.2	14.5	14.8
10	---	---	6.4	6.8	6.2	6.4	12.1	11.1	11.6	16.7	15.2	15.8
11	---	---	5.7	6.7	6.4	6.5	12.1	11.3	11.7	18.1	16.1	16.9
12	6.2	5.5	5.8	7.2	6.2	6.6	11.8	11.2	11.4	19.9	18.1	18.9
13	---	---	6.2	7.3	6.9	7.1	11.6	11.2	11.4	21.0	19.7	20.3
14	---	---	---	7.5	6.8	7.2	11.8	11.0	11.4	21.0	20.6	20.8
15	---	---	7.1	7.7	6.9	7.3	11.9	10.9	11.4	20.8	19.7	20.1
16	7.2	6.6	6.8	7.7	7.1	7.3	12.0	11.0	11.5	19.7	18.5	18.9
17	6.6	6.1	6.3	8.3	6.7	7.4	12.4	11.1	11.7	19.2	17.9	18.5
18	6.4	5.7	6.0	9.0	7.5	8.3	12.6	11.9	12.3	20.6	18.2	19.3
19	6.3	5.7	5.9	8.9	8.4	8.7	12.7	12.3	12.5	---	---	20.2
20	6.3	6.1	6.2	9.6	8.0	8.8	13.5	12.6	13.0	---	---	21.1
21	7.2	6.3	6.7	10.1	8.5	9.2	13.9	13.0	13.4	21.9	20.6	21.3
22	7.2	6.8	6.9	9.8	9.2	9.5	13.7	13.1	13.4	21.7	20.7	21.2
23	6.9	6.5	6.7	9.8	9.6	9.7	13.1	11.3	12.2	21.8	21.0	21.4
24	6.8	6.4	6.6	9.6	9.1	9.3	11.3	10.1	10.6	21.7	20.8	21.2
25	6.5	6.0	6.3	11.0	8.9	9.8	11.7	10.4	10.9	21.1	19.9	20.4
26	6.9	6.1	6.4	12.1	10.4	11.1	12.0	11.6	11.8	21.4	19.2	20.3
27	7.2	6.5	6.8	11.8	11.2	11.3	11.8	10.9	11.3	22.4	20.5	21.5
28	7.2	6.6	7.0	11.2	10.5	10.8	11.5	11.0	11.2	22.8	21.1	22.0
29	---	---	---	11.4	9.9	10.6	11.9	10.9	11.3	22.6	21.5	22.1
30	---	---	---	13.0	11.3	12.0	12.6	11.9	12.4	23.0	21.0	22.1
31	---	---	---	14.5	13.0	13.7	---	---	---	23.1	21.8	22.5
MONTH						8.3	14.3	10.0	11.7			18.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.7	21.8	22.2	27.1	25.8	26.5	25.8	23.6	24.8	24.5	23.2	23.9
2	22.1	21.2	21.6	26.5	25.2	25.9	26.0	24.2	25.2	24.0	22.8	23.4
3	22.4	21.5	21.9	26.7	24.4	25.6	26.1	23.9	25.2	25.1	21.4	23.2
4	24.0	21.7	22.8	26.8	25.7	26.2	26.5	24.1	25.4	24.9	23.9	24.4
5	25.5	23.2	24.3	26.0	25.2	25.6	26.3	24.7	25.6	24.5	23.4	24.0
6	26.7	24.7	25.6	25.6	24.3	25.0	26.0	24.1	25.2	24.6	23.6	24.1
7	26.2	24.8	25.6	25.1	24.2	24.7	25.9	24.3	25.2	---	---	24.3
8	26.7	24.9	25.9	25.7	23.8	24.8	25.5	23.9	24.9	24.7	23.8	24.2
9	26.9	25.4	26.2	25.8	23.5	24.8	25.7	23.8	24.9	25.0	24.0	24.4
10	26.8	25.8	26.3	25.8	23.8	25.0	25.9	24.0	25.0	24.2	22.9	23.6
11	26.5	25.8	26.0	25.6	24.6	25.1	25.6	23.6	24.8	24.2	22.4	23.3
12	26.0	25.0	25.5	25.3	23.8	24.6	26.1	24.0	25.1	24.0	22.3	23.2
13	26.5	24.8	25.6	23.8	23.2	23.4	26.1	24.7	25.4	24.1	22.4	23.2
14	26.9	25.4	26.2	24.2	23.2	23.6	26.0	24.0	24.9	23.9	22.0	23.0
15	26.7	25.4	25.9	24.5	23.6	24.0	26.0	24.1	25.1	24.1	22.5	23.3
16	25.8	24.4	24.9	24.7	23.7	24.2	25.6	25.0	25.3	24.3	23.1	23.7
17	24.8	22.9	24.0	25.5	24.0	24.7	25.4	24.7	25.0	23.7	22.5	23.1
18	24.5	23.2	23.7	26.1	24.6	25.3	25.4	24.5	24.9	23.0	21.4	22.1
19	24.1	22.1	23.2	26.4	25.0	25.8	26.4	24.5	25.4	23.4	21.5	22.4
20	24.3	22.4	23.5	26.7	25.3	26.0	27.0	25.3	26.1	23.7	22.3	23.0
21	24.3	23.1	23.7	28.8	26.1	27.3	---	---	25.6	23.8	22.2	23.0
22	24.2	21.4	22.9	28.7	27.0	27.6	25.6	24.0	24.6	24.4	22.2	23.3
23	24.3	21.6	23.2	27.7	26.0	27.0	24.7	23.5	24.1	24.7	22.9	23.8
24	24.9	21.5	23.5	27.7	25.9	26.9	24.3	22.6	23.6	25.0	23.2	24.1
25	25.5	23.1	24.4	28.2	26.0	27.2	24.7	22.4	23.6	24.5	23.9	24.2
26	25.6	23.5	24.7	28.0	26.6	27.4	24.6	24.1	24.3	24.6	23.7	24.1
27	26.4	24.3	25.3	27.5	25.5	26.8	25.2	23.9	24.5	23.8	22.2	22.8
28	26.7	25.4	26.2	25.5	24.7	25.1	24.7	23.9	24.3	22.9	20.7	21.9
29	27.1	25.0	26.1	25.3	23.4	24.5	24.1	23.4	23.8	22.9	19.4	20.8
30	27.4	25.4	26.6	25.0	23.3	24.3	24.1	23.2	23.7	19.7	17.8	18.9
31	---	---	---	25.2	23.0	24.3	24.1	22.8	23.3	---	---	---
MONTH	27.4	21.2	24.6	28.8	23.0	25.5			24.8			23.2
YEAR												

03307000 RUSSELL CREEK NEAR COLUMBIA, KY

LOCATION.--Lat 37°07'09", long 85°23'38", Adair County, Hydrologic Unit 05110001, on left bank at downstream side of bridge on State Highway 61, 0.3 mi upstream from Butlers Fork, 5.0 mi west of Columbia, and at mile 26.9. Records include flow of Butlers Fork.

DRAINAGE AREA.--188 mi^2 (includes Butlers Fork), of which about 15 mi^2 does not contribute directly to surface runoff.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Prior to December 1939, monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1940. WSP 1335: 1953. WSP 1555: Drainage area. WRD KY-75-1: 1949(M), 1952(M), 1955(M), 1962(M), 1967(M), 1974(M).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 610.96 ft above NGVD of 1929. Prior to June 25, 1953, nonrecording gage at same site and datum.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet and U.S. Army Corps of Engineers, Louisville District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Jan. 1937 reached a stage of about 23 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	0330	*6,290	*15.51	Jan 8	1015	6,030	15.21
Dec 7	1900	6,160	15.36	Apr 30	1315	5,200	14.16

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	103	3,940	271	265	589	508	998	51	29	18	143
2	62	92	1,140	630	234	401	1,510	573	54	27	16	68
3	69	84	757	822	252	334	795	415	60	25	15	42
4	73	1,190	562	703	244	294	506	332	63	109	14	29
5	61	625	439	1,180	219	426	372	275	54	84	14	23
6	55	382	875	1,310	201	354	299	238	48	45	13	19
7	51	287	4,120	1,370	188	317	272	208	e47	31	12	17
8	49	225	1,420	4,180	229	783	471	181	e38	26	12	16
9	48	172	1,620	1,170	232	554	349	157	e39	23	12	15
10	47	145	1,410	728	220	423	276	140	e27	21	11	13
11	46	135	1,130	550	200	356	236	126	e36	22	10	13
12	45	355	824	574	185	311	237	113	e131	26	9.9	12
13	241	363	636	579	427	266	442	103	e62	43	9.5	12
14	145	256	500	1,120	1,030	227	306	112	e39	58	9.7	11
15	104	203	415	646	666	196	248	122	39	112	9.9	11
16	117	175	368	494	484	184	206	100	47	113	16	10
17	81	158	334	386	366	183	175	87	37	91	18	12
18	75	147	305	312	298	162	155	79	32	132	21	20
19	e612	143	288	284	256	148	138	75	30	210	23	20
20	e405	147	252	267	360	139	124	353	29	73	19	16
21	e206	136	237	247	988	126	110	278	28	102	17	13
22	e176	125	433	219	728	119	102	147	27	85	14	11
23	e144	128	2,510	189	493	136	102	111	26	65	12	9.9
24	e164	776	935	148	393	153	96	93	25	50	10	9.1
25	e194	938	629	163	323	133	85	80	24	e48	21	8.7
26	146	580	509	157	274	121	84	73	23	e36	15	8.8
27	125	441	419	141	242	118	189	69	23	e33	13	9.1
28	115	462	361	118	428	525	127	64	35	e28	41	9.6
29	120	387	339	215	---	326	196	59	49	28	181	14
30	126	2,240	316	454	---	235	3,680	57	40	23	676	12
31	108	---	293	328	---	224	---	55	---	20	366	---
TOTAL	4,072	11,600	28,316	19,955	10,425	8,863	12,396	5,873	1,263	1,818	1,649.0	627.2
MEAN	131	387	913	644	372	286	413	189	42.1	58.6	53.2	20.9
MAX	612	2,240	4,120	4,180	1,030	783	3,680	998	131	210	676	143
MIN	45	84	237	118	185	118	84	55	23	20	9.5	8.7
CFSM	0.76	2.24	5.28	3.72	2.15	1.65	2.39	1.10	0.24	0.34	0.31	0.12
IN.	0.88	2.49	6.09	4.29	2.24	1.91	2.67	1.26	0.27	0.39	0.35	0.13

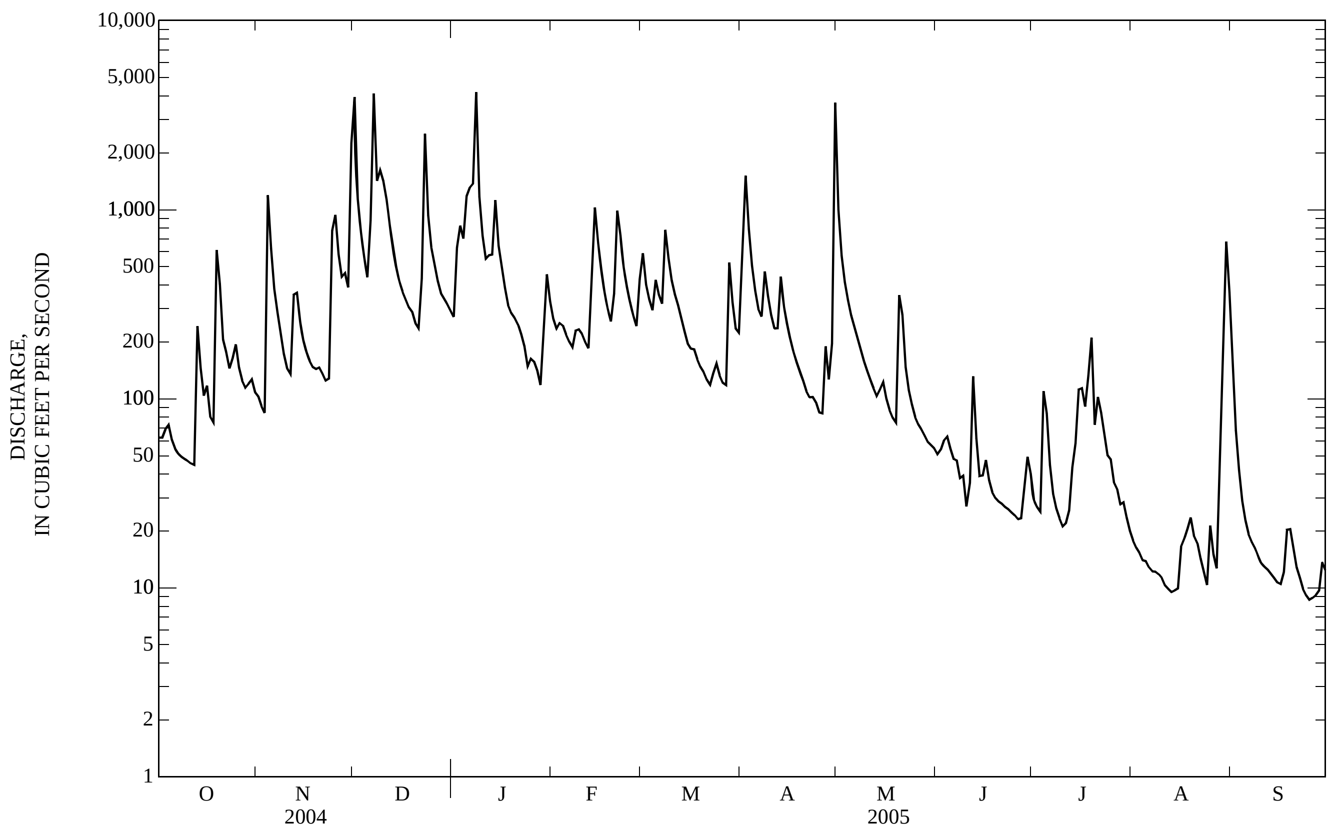
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	74.3	208	409	473	578	569	390	274	203	122	86.3	110
MAX	636	1,047	2,540	1,779	1,588	1,787	856	1,464	800	751	502	1,114
(WY)	(1976)	(1952)	(1979)	(1950)	(1989)	(1975)	(1972)	(1983)	(1950)	(1967)	(1967)	(1979)
MIN	1.38	8.92	18.6	26.5	61.1	91.0	70.1	39.8	14.6	10.0	4.25	2.09
(WY)	(1954)	(1954)	(1954)	(1981)	(1941)	(1941)	(1986)	(1941)	(1988)	(1944)	(1991)	(1953)

03307000 RUSSELL CREEK NEAR COLUMBIA, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1940 - 2005	
ANNUAL TOTAL	139,675		106,857.2			
ANNUAL MEAN	382		293		290	
HIGHEST ANNUAL MEAN					651	1979
LOWEST ANNUAL MEAN					118	1941
HIGHEST DAILY MEAN	7,830	Feb 6	4,180	Jan 8	25,000	Dec 9, 1978
LOWEST DAILY MEAN	30	Jul 30	8.7	Sep 25	0.40	Sep 25, 1952
ANNUAL SEVEN-DAY MINIMUM	37	Aug 27	9.5	Sep 22	0.47	Oct 19, 1953
MAXIMUM PEAK FLOW			6,290	Dec 1	40,600	Sep 1, 1982
MAXIMUM PEAK STAGE			15.51	Dec 1	26.12	Sep 1, 1982
INSTANTANEOUS LOW FLOW					5.7	Sep 2, 1993
ANNUAL RUNOFF (CFSM)	2.21		1.69		1.68	
ANNUAL RUNOFF (INCHES)	30.03		22.98		22.78	
10 PERCENT EXCEEDS	862		640		631	
50 PERCENT EXCEEDS	192		143		102	
90 PERCENT EXCEEDS	52		15		15	

e Estimated



03307000 RUSSELL CREEK NEAR COLUMBIA, KY—Continued

LOCATION.--Lat 37°07'09", long 85°23'38", Adair County, Hydrologic Unit 05110001, on left bank at downstream side of bridge on State Highway 61, 0.3 mi upstream from Butlers Fork, 5.0 mi west of Columbia, and at mile 26.9. Records include flow of Butlers Fork.

DRAINAGE AREA.--188 mi^2 (includes Butlers Fork), of which about 15 mi^2 does not contribute directly to surface runoff.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--December 22, 1999 to current year.

GAGE.--Water-temperature recorder with telemetry.

REMARKS.-Records good.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR CURRENT YEAR.--Maximum recorded, 31.1°C, July 25, minimum recorded, 1.4°C, Jan. 24.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded , 31.3°C, Sept. 10, 2003; minimum recorded 0.0°C, many days in Dec. and Jan.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.2	15.9	17.1	18.4	17.4	17.8	11.4	10.7	11.2	9.9	8.9	9.4
2	18.1	17.5	17.8	18.8	18.2	18.4	10.7	9.0	9.6	11.4	9.9	10.6
3	17.9	16.4	17.2	---	---	---	9.0	8.3	8.7	11.8	11.2	11.4
4	17.5	15.3	16.4	17.4	16.2	16.8	8.3	7.5	7.9	12.2	11.8	12.0
5	16.3	13.6	15.0	---	---	---	8.3	7.2	7.8	12.2	11.9	12.1
6	15.4	11.7	13.5	14.4	13.4	13.8	11.6	8.3	9.9	12.3	10.2	11.6
7	15.9	11.9	14.0	13.7	13.2	13.4	13.6	11.6	12.9	10.2	8.3	9.0
8	16.3	13.7	15.1	13.6	12.8	13.2	13.4	11.5	12.2	9.3	8.3	8.8
9	16.6	14.9	15.7	---	---	---	11.8	11.0	11.3	9.7	9.2	9.4
10	16.6	14.4	15.5	10.9	9.7	10.3	12.6	11.8	12.3	10.1	9.7	9.9
11	16.4	14.0	15.3	11.2	10.1	10.6	12.3	10.7	11.5	11.0	10.0	10.4
12	17.0	15.3	16.1	11.8	11.2	11.5	10.7	10.0	10.2	12.3	11.0	11.7
13	17.0	16.8	16.9	11.6	10.5	11.1	10.0	7.8	9.1	12.6	12.1	12.4
14	16.8	16.4	16.6	10.5	9.4	10.0	7.8	6.1	6.8	12.1	8.7	10.4
15	16.4	14.9	15.5	9.7	8.6	9.2	6.1	5.1	5.5	8.7	7.3	7.8
16	14.9	13.9	14.4	10.1	9.0	9.6	5.4	4.6	5.0	7.3	5.8	6.7
17	13.9	12.8	13.3	10.9	10.1	10.6	5.5	4.9	5.2	5.8	3.6	4.5
18	---	---	---	11.8	10.7	11.2	5.7	5.0	5.3	3.6	2.1	2.6
19	---	---	---	12.8	11.8	12.4	5.8	4.8	5.5	2.7	2.0	2.3
20	---	---	---	13.3	12.8	13.1	4.8	3.4	3.9	4.3	2.7	3.4
21	---	---	---	13.6	13.0	13.3	3.9	3.0	3.4	4.8	4.3	4.6
22	---	---	---	13.6	12.9	13.2	5.0	3.9	4.3	4.9	4.1	4.7
23	---	---	---	13.9	13.2	13.5	5.2	4.8	5.0	4.1	2.2	3.0
24	---	---	---	14.5	13.7	14.1	4.9	3.9	4.4	2.2	1.4	1.7
25	---	---	---	14.0	10.7	12.5	3.9	3.3	3.6	2.4	1.4	1.8
26	16.8	16.1	16.5	10.7	9.1	9.6	4.2	3.5	3.8	4.1	2.4	3.2
27	17.4	16.6	16.9	---	---	---	4.1	3.7	3.8	4.3	3.8	4.1
28	18.0	17.2	17.5	9.5	8.9	9.1	4.1	3.3	3.7	3.8	3.2	3.6
29	19.0	18.0	18.4	9.3	8.7	9.0	5.6	4.1	4.7	4.0	3.6	3.8
30	19.2	18.7	18.9	11.4	9.2	10.1	7.4	5.6	6.4	---	---	---
31	18.9	17.7	18.1	---	---	---	8.9	7.4	8.1	5.1	4.6	4.9
MONTH							13.6	3.0	7.2			

03307000 RUSSELL CREEK NEAR COLUMBIA, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.9	5.0	5.4	7.8	6.1	6.9	14.9	11.4	13.6	13.2	12.0	12.7
2	---	---	---	6.1	5.2	5.6	11.4	10.1	10.6	13.6	12.6	13.1
3	5.9	5.6	5.8	6.5	5.4	5.9	11.4	9.5	10.3	13.3	12.2	12.7
4	5.8	4.9	5.4	7.2	5.9	6.5	13.2	11.1	11.9	13.5	11.6	12.5
5	6.0	4.9	5.5	---	---	---	14.7	12.7	13.6	14.4	12.6	13.5
6	6.4	5.4	5.9	8.8	7.5	8.1	15.1	14.0	14.6	15.5	13.6	14.5
7	6.9	6.0	6.4	9.5	8.5	8.9	15.4	14.5	15.0	16.5	14.4	15.4
8	8.6	6.9	7.7	9.3	7.9	8.7	15.2	14.8	15.0	17.8	15.7	16.7
9	9.1	8.6	8.9	---	---	---	16.0	14.1	15.0	19.0	17.1	18.0
10	8.9	6.8	7.9	7.3	6.6	6.9	17.5	15.3	16.2	20.0	18.2	19.0
11	6.8	5.6	6.0	7.1	6.9	7.0	18.1	16.7	17.4	21.2	19.1	20.0
12	6.1	5.1	5.6	8.2	6.7	7.3	18.1	16.8	17.4	22.1	20.0	20.9
13	7.1	6.1	6.4	8.9	7.9	8.4	16.8	15.7	16.1	22.8	20.8	21.7
14	9.0	7.1	8.1	9.1	8.1	8.6	16.0	14.6	15.4	22.2	21.1	21.6
15	9.8	8.8	9.2	9.0	8.0	8.5	16.2	14.5	15.4	21.2	19.7	20.4
16	10.3	9.8	10.1	8.6	8.0	8.2	16.6	14.9	15.8	19.8	18.0	18.7
17	9.9	8.3	9.0	8.9	7.6	8.2	17.1	15.4	16.3	19.5	16.5	18.0
18	8.3	7.0	7.5	9.3	8.1	8.7	17.5	16.1	16.8	20.2	16.8	18.4
19	7.1	6.3	6.6	9.5	8.8	9.2	18.4	16.8	17.6	20.3	18.1	19.2
20	7.3	6.5	6.7	10.2	8.9	9.5	19.0	17.2	18.1	19.7	18.9	19.3
21	9.7	7.3	8.4	10.8	9.3	10.0	19.7	17.9	18.7	19.7	18.5	19.1
22	9.8	9.5	9.7	10.5	10.1	10.3	19.4	18.7	19.0	20.2	18.5	19.3
23	9.5	8.9	9.2	10.7	10.4	10.5	18.9	15.7	17.3	21.3	19.4	20.2
24	9.1	8.1	8.7	10.5	10.1	10.3	15.7	13.9	14.4	20.7	19.2	19.8
25	8.1	7.4	7.8	11.2	9.8	10.4	14.5	12.9	13.7	19.6	17.7	18.7
26	8.2	7.0	7.7	12.4	10.9	11.5	14.3	13.5	13.8	20.2	16.6	18.3
27	8.5	7.5	8.0	12.3	12.0	12.2	13.5	12.6	13.0	21.3	18.4	19.6
28	---	---	---	12.1	11.2	11.7	13.0	12.2	12.4	21.9	18.9	20.1
29	---	---	---	12.1	10.3	11.2	13.3	12.0	12.4	21.0	18.3	19.7
30	---	---	---	13.6	11.4	12.3	13.7	13.0	13.4	21.9	17.2	19.6
31	---	---	---	15.0	13.5	14.1	---	---	---	21.9	17.7	19.9
MONTH							19.7	9.5	15.0	22.8	11.6	18.1
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.7	18.8	19.7	27.5	24.6	26.2	28.6	23.6	26.3	25.1	23.1	24.0
2	20.7	18.4	19.6	27.2	23.3	25.2	28.7	23.6	26.3	25.7	23.5	24.5
3	21.5	20.1	20.7	27.6	22.8	25.4	29.4	23.0	26.2	24.6	21.3	23.0
4	23.4	20.2	21.6	27.2	24.5	25.8	29.3	22.9	26.3	23.3	19.2	21.5
5	25.0	21.1	22.9	26.3	25.2	25.7	28.9	23.7	26.0	23.3	18.0	20.8
6	25.8	22.6	23.9	26.5	24.5	25.5	27.8	23.1	25.7	23.7	18.6	21.3
7	25.2	21.7	23.4	25.8	23.1	24.6	27.6	23.0	25.4	---	---	---
8	25.6	21.7	23.8	26.8	22.1	24.6	27.1	22.5	25.0	23.3	18.2	21.0
9	26.1	22.8	24.4	27.1	22.1	24.8	---	---	---	24.1	19.2	21.8
10	26.7	23.4	25.0	27.1	22.8	25.3	27.8	22.5	25.3	23.7	20.4	22.1
11	25.2	23.9	24.7	25.9	23.9	25.0	28.0	22.6	25.6	23.8	19.4	21.8
12	25.7	23.1	24.4	25.6	23.9	24.8	28.3	23.6	26.0	23.7	19.5	21.8
13	26.9	23.7	25.1	25.1	23.2	24.4	28.5	24.5	26.3	23.5	19.5	21.6
14	26.4	23.4	24.9	25.7	24.7	25.1	28.1	23.6	25.8	23.9	18.8	21.5
15	25.9	21.2	23.6	---	---	---	28.4	23.7	26.1	24.1	19.9	22.3
16	24.9	20.7	23.0	26.5	25.2	25.7	28.0	25.4	26.6	24.2	21.7	22.9
17	23.7	18.1	21.2	27.8	25.8	26.6	27.8	25.2	26.4	---	---	---
18	22.4	19.0	20.9	28.5	26.7	27.5	27.3	24.4	25.7	23.2	18.8	20.7
19	22.4	17.3	20.2	28.6	27.4	28.0	29.3	25.0	27.1	23.1	18.8	21.1
20	23.0	17.7	20.7	29.5	27.3	28.2	29.6	25.9	27.6	---	---	---
21	23.7	19.4	21.6	29.5	27.1	28.4	28.6	24.7	26.8	23.0	19.4	21.2
22	24.5	18.3	21.7	29.9	28.1	29.0	26.4	22.7	24.7	24.0	19.3	21.7
23	24.3	19.5	21.9	30.7	27.8	29.1	25.9	21.9	23.8	24.1	20.0	22.3
24	25.4	18.2	22.3	30.9	28.0	29.3	24.6	20.1	22.5	24.3	20.7	22.7
25	25.8	21.0	23.7	---	---	---	26.0	20.3	23.1	23.3	22.2	22.7
26	25.8	22.1	24.2	---	---	---	25.2	23.9	24.4	24.3	21.4	23.1
27	26.8	22.4	24.9	---	---	---	26.2	23.9	24.9	21.4	18.0	20.2
28	27.9	23.7	25.8	---	---	---	26.0	23.4	24.4	22.5	16.4	19.8
29	28.9	25.2	27.1	28.4	23.2	25.9	24.7	23.6	24.0	22.4	14.4	18.2
30	28.6	25.6	27.1	27.9	22.7	25.5	23.7	23.1	23.4	18.1	12.1	15.1
31	---	---	---	28.3	22.5	25.6	24.0	22.7	23.3	---	---	---
MONTH	28.9	17.3	23.1									
YEAR	30.9	1.4	15.7									

03308500 GREEN RIVER AT MUNFORDVILLE, KY

LOCATION.--Lat 37°16'05", long 85°53'10", Hart County, Hydrologic Unit 05110001, on right bank at downstream side of pier of bridge on U.S. Highway 31W at Munfordville, and at mile 225.9.

DRAINAGE AREA.--1,673 mi^2, of which about 180 mi^2 does not contribute directly to surface runoff.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--February 1915 to December 1922, October to September 1931, December 1936 to February 1937 (in WSP 838), October 1937 to current year. Monthly discharge only October 1937 to March 1938, published in WSP 1305. Gage-height records collected at same site since 1924 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1555: 1916(M), drainage area, WSP 1909: 1937.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 451.70 ft above NGVD of 1929. See WRD-KY-90-1 for history of changes prior to Nov. 29, 1940.

REMARKS.--Records good. Flow regulated by Green River Lake beginning February 1969 (station 03305990).

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1913 reached a stage of 54.0 ft at former site, discharge, 67,000 ft/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

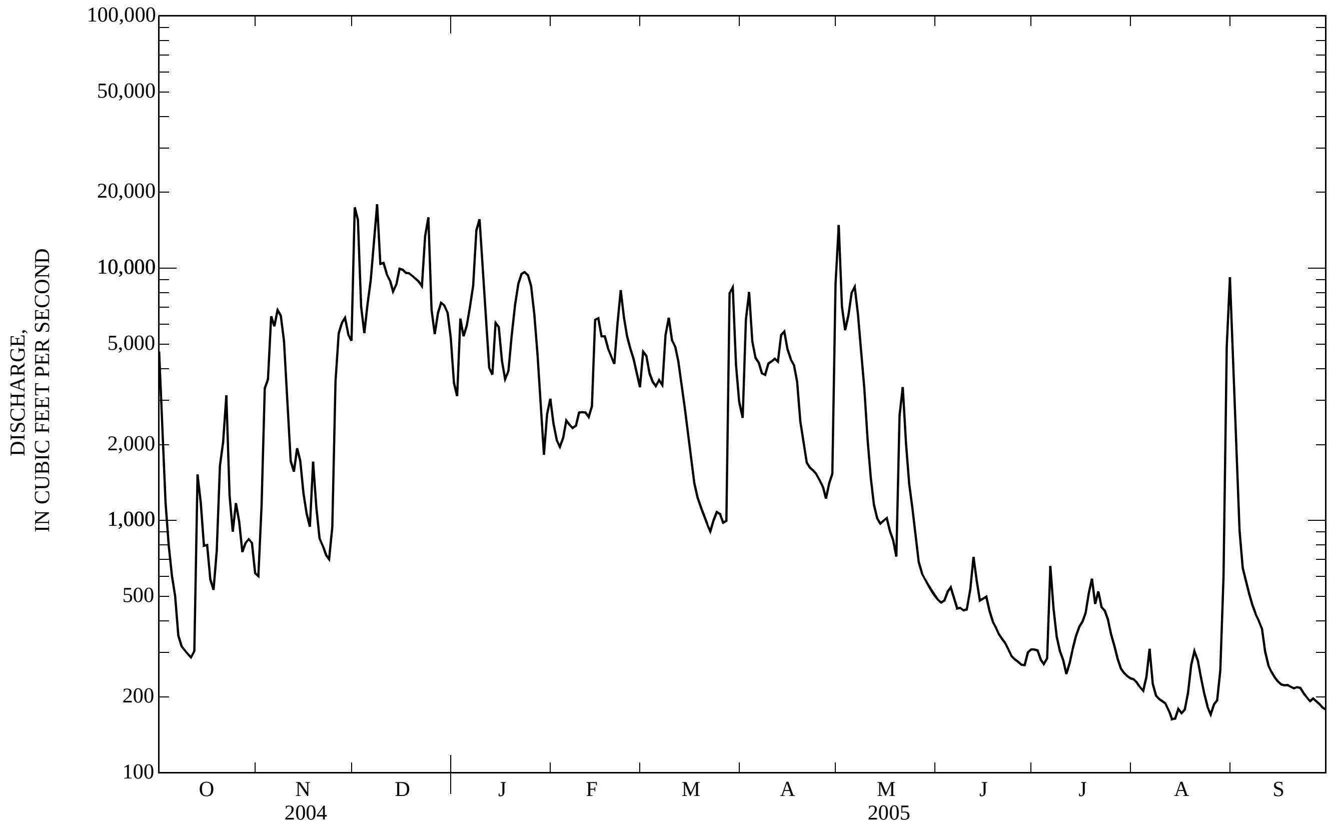
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,670	602	17,400	3,510	2,420	4,670	2,550	14,800	484	308	235	3,460
2	2,530	1,140	15,500	3,110	2,090	4,490	6,250	7,050	472	305	228	1,590
3	1,180	3,340	7,040	6,310	1,960	3,830	8,030	5,680	480	281	218	914
4	796	3,620	5,530	5,370	2,120	3,550	5,130	6,470	520	269	211	648
5	604	6,430	7,200	5,910	2,490	3,410	4,420	7,950	541	283	239	578
6	502	5,880	8,970	7,020	2,400	3,600	4,230	8,420	492	658	310	513
7	349	6,820	12,600	8,530	2,320	3,450	3,830	6,580	448	446	225	463
8	317	6,500	17,900	14,100	2,370	5,440	3,770	4,750	450	345	202	427
9	305	5,150	10,400	15,600	2,680	6,370	4,180	3,330	440	303	196	402
10	295	2,810	10,500	9,110	2,690	5,200	4,260	2,100	444	280	192	374
11	286	1,720	9,510	5,910	2,680	4,900	4,380	1,480	533	246	188	302
12	303	1,560	8,970	4,050	2,570	4,270	4,260	1,150	717	271	177	267
13	1,520	1,930	8,060	3,780	2,830	3,440	5,430	1,020	577	310	163	251
14	1,180	1,720	8,600	6,070	6,230	2,800	5,620	973	480	347	164	239
15	795	1,280	9,960	5,850	6,330	2,190	4,760	998	489	377	179	230
16	799	1,060	9,880	4,290	5,370	1,740	4,360	1,020	498	395	172	224
17	583	945	9,590	3,620	5,370	1,400	4,140	905	437	429	178	222
18	530	1,710	9,550	3,890	4,840	1,230	3,550	835	399	514	207	223
19	759	1,130	9,320	5,360	4,490	1,130	2,470	719	377	588	267	219
20	1,650	852	9,080	7,170	4,180	1,050	2,050	2,610	353	467	303	216
21	2,050	797	8,860	8,640	6,050	968	1,700	3,380	338	523	277	218
22	3,130	731	8,510	9,480	8,190	906	1,620	2,030	326	453	237	217
23	1,260	702	13,400	9,640	6,390	1,000	1,580	1,400	307	439	205	207
24	903	944	15,900	9,390	5,350	1,080	1,530	1,120	289	404	183	199
25	1,170	3,560	6,840	8,500	4,800	1,060	1,450	863	281	352	170	192
26	992	5,520	5,480	6,570	4,370	978	1,370	682	275	318	186	197
27	749	6,060	6,640	4,560	3,850	994	1,220	618	268	283	193	192
28	813	6,340	7,300	2,760	3,380	7,950	1,400	582	267	259	255	187
29	843	5,460	7,130	1,820	---	8,370	1,530	555	300	249	599	181
30	813	5,160	6,690	2,640	---	4,150	8,640	529	308	242	4,870	178
31	618	---	5,300	3,040	---	2,950	---	506	---	237	9,190	---
TOTAL	33,294	91,473	297,610	195,600	110,810	98,566	109,710	91,105	12,590	11,181	20,619	13,730
MEAN	1,074	3,049	9,600	6,310	3,958	3,180	3,657	2,939	420	361	665	458
MAX	4,670	6,820	17,900	15,600	8,190	8,370	8,640	14,800	717	658	9,190	3,460
MIN	286	602	5,300	1,820	1,960	906	1,220	506	267	237	163	178

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1,251	2,447	4,238	4,618	5,425	4,901	3,696	3,268	2,393	1,026	853	1,203
MAX	5,337	5,414	12,800	12,130	13,610	12,040	8,632	13,250	7,209	3,132	3,642	6,104
(WY)	(1976)	(2003)	(1979)	(1974)	(1989)	(1975)	(1994)	(1983)	(1997)	(1973)	(1977)	(1979)
MIN	193	210	545	255	1,952	1,066	552	487	214	280	202	152
(WY)	(2001)	(1972)	(1981)	(1981)	(1992)	(1983)	(1986)	(1988)	(1988)	(1993)	(1993)	(1999)

03308500 GREEN RIVER AT MUNFORDVILLE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1970 - 2005	
ANNUAL TOTAL	1,404,333		1,086,288			
ANNUAL MEAN	3,837		2,976		2,930	
HIGHEST ANNUAL MEAN					5,285	1979
LOWEST ANNUAL MEAN					1,233	2000
HIGHEST DAILY MEAN	21,800	Feb 7	17,900	Dec 8	62,800	May 8, 1984
LOWEST DAILY MEAN	286	Oct 11	163	Aug 13	136	Oct 4, 2001
ANNUAL SEVEN-DAY MINIMUM	337	Oct 6	174	Aug 11	142	Sep 9, 1999
MAXIMUM PEAK FLOW			20,300	Dec 1	76,800	Mar 1, 1962
MAXIMUM PEAK STAGE			25.27	Dec 1	57.72	Mar 1, 1962
INSTANTANEOUS LOW FLOW					157	Jul 8, 1988
10 PERCENT EXCEEDS	9,390		8,040		7,090	
50 PERCENT EXCEEDS	2,060		1,400		1,440	
90 PERCENT EXCEEDS	600		233		282	



03308500 GREEN RIVER AT MUNFORDVILLE, KY—Continued

LOCATION.--Lat 37°16'05", long 85°53'10", Hart County, Hydrologic Unit 05110001, on right bank at downstream side of pier of bridge on U.S. Highway 31W at Munfordville, and at mile 225.9.

DRAINAGE AREA.--1,673 mi^2, of which about 180 mi^2 does not contribute directly to surface runoff.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--Water years 1950-77, 1980, 1983-90, August 1992 to September 1994, December 22, 1999 to current year.

GAGE.--Water-temperature recorder with telemetry.

REMARKS.-Records good.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum daily, 29°C, July 13-17, 1980; minimum daily 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--Maximum recorded 26.3°C, Aug. 27, minimum recorded, 3.7°C, Jan. 18.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.9	17.3	18.4	17.3	16.3	16.9	12.0	11.7	11.8	9.5	8.7	9.1
2	18.8	17.9	18.5	17.2	16.8	17.0	11.9	10.9	11.4	11.0	9.5	10.4
3	18.0	17.0	17.5	17.2	16.3	16.8	10.9	9.8	10.4	11.8	11.0	11.5
4	17.7	16.3	17.0	16.4	15.9	16.2	10.2	9.3	9.6	12.3	11.8	12.1
5	17.0	15.6	16.4	16.1	14.9	15.6	11.2	10.2	10.7	12.5	12.2	12.3
6	16.3	14.6	15.5	15.1	14.2	14.6	11.9	11.2	11.6	12.6	11.8	12.3
7	16.0	14.3	15.3	15.8	14.9	15.4	13.1	11.8	12.5	11.8	10.2	10.9
8	16.0	15.0	15.6	15.7	15.3	15.5	13.2	12.9	13.1	10.3	9.4	9.7
9	16.3	15.2	15.7	15.3	14.1	14.8	12.9	11.9	12.4	9.9	9.5	9.7
10	17.2	15.2	16.0	14.1	13.3	13.5	12.2	11.8	12.0	---	---	---
11	17.0	15.1	15.9	13.3	13.0	13.0	12.2	11.7	12.1	---	---	---
12	16.0	15.4	15.7	13.0	12.4	12.9	11.7	10.9	11.2	---	---	---
13	15.9	15.7	15.8	12.4	11.3	11.9	10.9	10.1	10.5	---	---	---
14	15.8	15.3	15.6	11.3	10.5	10.9	10.1	9.3	9.5	12.2	10.7	11.6
15	15.3	14.4	14.7	10.6	10.0	10.3	9.3	8.9	9.1	10.7	8.9	9.8
16	14.4	13.4	14.0	10.9	10.0	10.5	8.9	8.6	8.8	8.9	7.1	8.1
17	13.7	12.4	13.1	11.6	10.8	11.2	9.2	8.7	8.9	7.1	5.2	6.2
18	13.2	12.6	12.8	12.8	11.4	11.9	9.2	8.8	9.0	5.2	3.7	4.3
19	14.0	13.2	13.5	14.0	12.8	13.6	9.1	8.4	8.9	5.2	3.8	4.4
20	15.2	14.0	14.6	13.9	13.8	13.8	8.4	7.4	7.9	6.1	5.2	5.7
21	15.9	15.1	15.5	14.0	13.7	13.8	8.0	7.3	7.7	6.3	6.1	6.2
22	16.8	15.9	16.5	14.0	13.6	13.8	8.3	8.0	8.2	6.1	5.6	5.9
23	16.5	16.1	16.2	14.2	13.7	13.9	8.1	5.9	7.1	5.6	4.9	5.3
24	17.0	16.0	16.4	14.7	14.1	14.3	5.9	5.7	5.8	5.1	4.8	4.9
25	16.5	15.6	16.1	14.2	13.1	13.7	5.7	4.9	5.2	5.4	4.8	5.1
26	16.0	15.4	15.8	13.1	11.9	12.2	5.8	4.8	5.1	6.0	5.3	5.7
27	16.3	15.7	16.0	12.3	11.8	12.0	6.2	5.7	5.9	6.1	5.7	5.9
28	16.8	16.2	16.5	12.3	11.9	12.2	6.3	5.9	6.1	5.7	5.1	5.3
29	17.7	16.7	17.1	11.9	11.5	11.7	7.1	6.3	6.7	5.7	5.3	5.5
30	18.5	17.4	17.9	12.2	11.5	11.8	7.7	7.0	7.3	6.0	5.7	5.8
31	17.9	16.8	17.2	---	---	---	8.7	7.7	8.2	6.2	6.0	6.1
MONTH	18.9	12.4	15.9	17.3	10.0	13.5	13.2	4.8	9.2			

03308500 GREEN RIVER AT MUNFORDVILLE, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6.9	6.2	6.5	8.1	7.0	7.6	14.3	13.3	13.9	12.8	12.4	12.6
2	6.9	6.6	6.7	7.0	6.3	6.6	13.3	10.8	12.0	12.9	12.3	12.6
3	7.2	6.8	6.9	6.8	6.1	6.4	10.8	10.2	10.6	12.5	11.9	12.2
4	7.1	6.4	6.7	7.4	6.6	6.9	12.4	10.7	11.6	12.7	11.5	12.2
5	6.7	6.1	6.4	8.1	7.4	7.8	13.9	12.2	13.1	13.6	12.2	12.9
6	6.9	6.2	6.6	8.9	8.0	8.4	13.6	13.4	13.5	14.1	13.0	13.6
7	7.1	6.6	6.8	9.2	8.5	8.7	13.8	13.5	13.7	14.6	13.2	13.9
8	8.2	7.1	7.6	9.4	8.9	9.2	13.7	13.5	13.6	15.4	13.8	14.6
9	8.8	8.2	8.5	8.9	7.8	8.3	14.4	13.4	13.9	16.0	14.8	15.4
10	8.7	7.4	8.2	7.8	7.4	7.5	15.1	14.1	14.6	17.5	16.0	16.7
11	7.4	6.2	6.7	7.5	7.2	7.3	15.0	14.5	14.8	18.6	16.7	17.6
12	6.5	5.8	6.2	8.0	7.2	7.6	15.0	14.1	14.4	20.0	18.0	19.0
13	7.8	6.4	7.1	8.8	8.0	8.4	14.1	13.6	13.8	21.0	19.1	20.1
14	9.0	7.8	8.4	9.5	8.5	8.9	13.9	13.3	13.6	20.6	20.0	20.3
15	9.9	9.0	9.5	9.3	8.4	8.9	13.9	13.1	13.5	20.3	19.1	19.7
16	10.2	9.6	10	9.2	8.8	9.0	14.0	13.1	13.6	19.4	18.1	18.7
17	9.6	8.1	8.8	10.2	8.6	9.3	14.3	13.2	13.8	18.9	17.1	18.1
18	8.1	7.3	7.6	10.7	8.9	9.8	14.9	13.8	14.3	19.3	17.1	18.2
19	7.3	6.5	6.8	10.7	9.6	10.1	16.5	14.9	15.7	19.0	17.7	18.5
20	7.2	6.5	6.7	11.0	9.5	10.3	17.0	15.4	16.2	18.3	16.0	16.8
21	8.9	7.2	8.0	11.8	9.8	10.8	17.8	16.2	17.0	18.4	17.3	17.9
22	9.6	8.9	9.4	11.2	10.6	10.9	18.1	17.2	17.5	19.0	17.8	18.4
23	9.4	8.7	9.0	11.1	10.7	10.9	17.3	14.9	16.3	20.1	18.5	19.2
24	8.7	8.1	8.4	10.9	10.5	10.7	14.9	13.3	14.0	20.0	18.8	19.4
25	8.1	7.5	7.8	12.0	10.4	11.1	13.6	12.3	13.0	19.4	18.3	18.9
26	7.9	7.1	7.5	13.4	11.3	12.3	13.0	12.5	12.8	19.6	17.6	18.6
27	8.2	7.6	7.9	13.0	12.4	12.6	12.9	12.1	12.5	20.3	18.2	19.3
28	8.5	8.1	8.3	12.5	11.2	11.7	12.5	11.8	12.1	20.8	18.8	19.8
29	---	---	---	11.6	10.9	11.2	12.3	11.7	12.0	20.3	19.2	19.7
30	---	---	---	13.0	11.4	12.2	12.9	12.3	12.6	21.0	18.8	19.9
31	---	---	---	14.7	13.0	13.9	---	---	---	21.3	19.3	20.3
MONTH	10.2	5.8	7.7	14.7	6.1	9.5	18.1	10.2	13.8	21.3	11.5	17.3
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.7	19.7	20.0	---	---	---	---	---	---	20.1	18.9	19.5
2	19.8	19.2	19.5	---	---	---	---	---	---	21.1	19.7	20.4
3	20.0	19.1	19.5	---	---	---	---	---	---	21.5	19.9	20.7
4	21.6	19.1	20.3	---	---	---	---	---	---	21.4	19.8	20.7
5	23.0	20.6	21.8	24.7	23.4	24.1	---	---	---	21.5	19.7	20.7
6	24.0	22.0	23.0	25.6	23.9	24.8	22.7	20.6	21.7	21.8	19.9	20.9
7	23.9	22.3	23.1	25.2	23.9	24.5	---	---	---	21.9	20.4	21.1
8	24.5	22.6	23.6	24.5	22.8	23.8	---	---	---	22.0	20.3	21.2
9	24.8	23.3	24.1	---	---	---	---	---	---	22.2	20.6	21.5
10	24.4	23.7	24.1	---	---	---	---	---	---	22.8	21.1	22.0
11	24.0	23.4	23.6	23.6	22.3	22.7	---	---	---	23.1	21.0	22.1
12	23.6	22.4	23.1	22.5	21.3	21.9	---	---	---	23.3	20.7	21.9
13	23.5	21.9	22.7	21.3	20.8	21.0	---	---	---	---	---	---
14	23.9	22.6	23.3	21.6	20.6	21.1	---	---	---	---	---	---
15	24.6	22.6	23.6	21.8	21.2	21.5	---	---	---	---	---	---
16	24.2	22.9	23.6	21.9	21.2	21.6	25.1	19.2	21.3	23.1	20.1	21.4
17	23.6	22.0	22.9	22.8	21.4	22.0	24.7	19.1	21.0	22.3	19.4	20.5
18	23.1	21.9	22.6	23.9	22.2	23.0	23.3	18.6	20.2	---	---	---
19	23.0	21.2	22.2	25.0	23.2	24.1	22.4	18.7	20.9	---	---	---
20	23.0	21.4	22.4	25.3	23.8	24.6	23.9	21.6	22.7	---	---	---
21	23.1	21.6	22.5	26.1	24.2	25.1	24.0	21.9	23.0	---	---	---
22	23.5	21.6	22.7	25.7	24.2	24.9	22.7	19.4	21.4	---	---	---
23	---	---	---	25.6	23.6	24.7	---	---	---	---	---	---
24	---	---	---	25.6	24.0	24.9	---	---	---	---	---	---
25	24.6	22.7	23.9	25.7	24.2	25.1	---	---	---	24.6	20.1	21.3
26	24.7	22.9	24.0	25.8	24.5	25.3	23.7	20.0	20.9	24.3	19.2	21.5
27	---	---	---	25.6	23.7	24.8	26.3	19.6	22.2	---	---	---
28	---	---	---	---	---	---	23.2	19.5	21.2	---	---	---
29	26.0	23.8	25.1	---	---	---	20.8	18.5	19.4	---	---	---
30	---	---	---	---	---	---	20.5	17.9	19.1	---	---	---
31	---	---	---	---	---	---	19.2	18.5	18.9	---	---	---
MONTH												
YEAR												

03309000 GREEN RIVER AT MAMMOTH CAVE, KY

LOCATION.--Lat 37°10'48", long 86°06'45", Edmonson County, Hydrologic Unit 05110001, on right bank, upstream side of road (Echo River Road) at ferry landing, five hundred feet downstream from Echo River, 0.75 miles southwest of Mammoth Cave, and at mile 197.2.

DRAINAGE AREA.--2,020 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to Sept. 1950. Oct. 1, 2003 to current year.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 416.52 above NGVD of 1929.

REMARKS.-Records good.

COOPERATION.--Mammoth Cave National Park, Western Kentucky University, Barren River Area Development District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 52.5 ft. Jan. 24, 1937, at former site (discharge, 75,000 second feet). Flood of 1913 reached a stage of 50.5 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

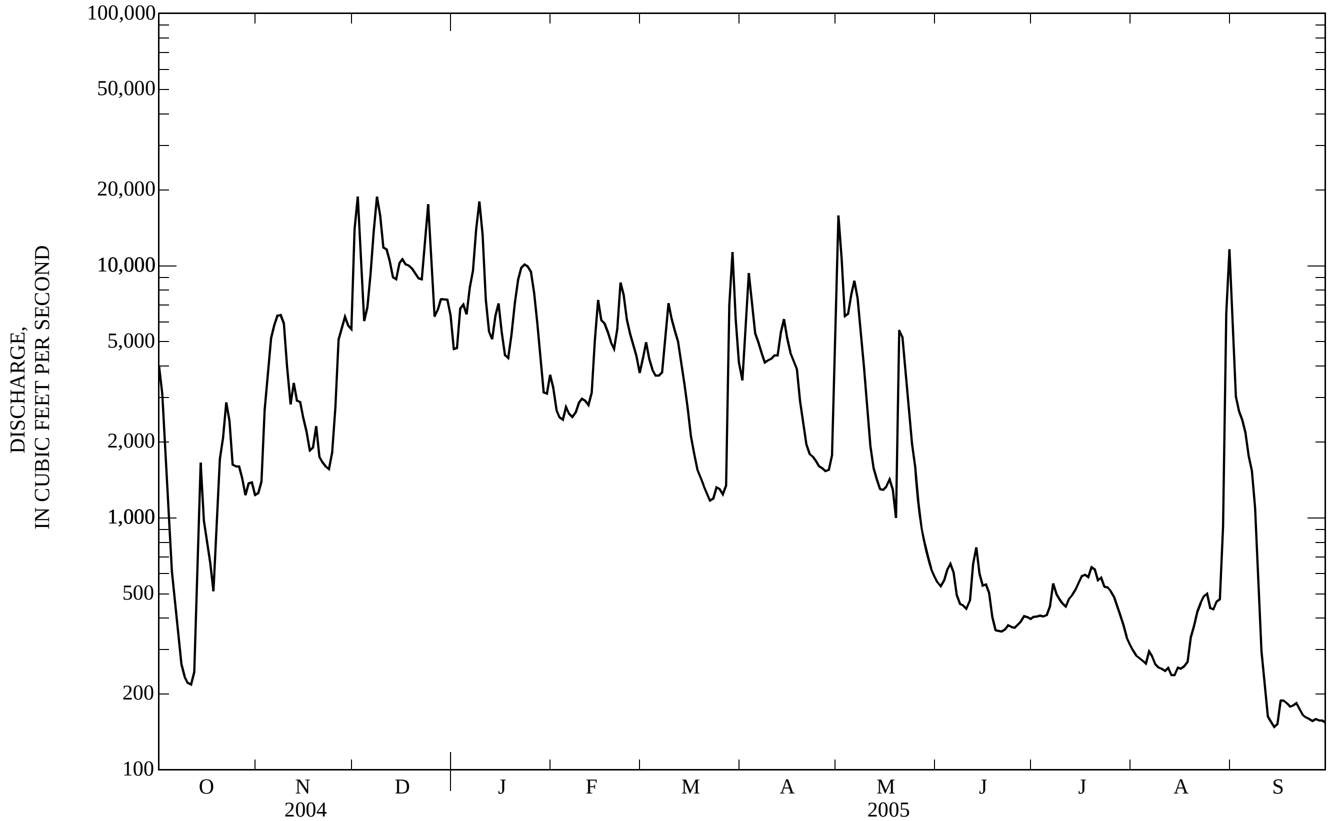
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,990	1,250	14,000	4,680	3,270	4,280	3,510	15,800	554	405	298	6,430
2	3,100	1,390	18,800	4,720	2,680	4,970	5,740	10,700	534	406	284	3,030
3	1,680	2,680	11,500	6,740	2,500	4,250	9,350	6,300	562	410	278	2,640
4	1,020	3,610	6,030	7,000	2,450	3,860	6,990	6,430	620	406	271	2,440
5	615	5,140	6,830	6,400	2,750	3,670	5,380	7,650	656	411	264	2,170
6	475	5,800	9,310	8,200	2,580	3,670	4,950	8,700	605	445	295	1,760
7	351	6,340	13,800	9,570	2,510	3,780	4,500	7,420	493	548	282	1,540
8	262	6,370	18,800	14,000	2,610	5,310	4,120	5,350	455	500	262	1,100
9	234	5,910	15,800	18,000	2,850	7,100	4,210	3,940	449	475	254	585
10	221	3,980	11,800	13,300	2,960	6,130	4,270	2,710	436	456	251	296
11	218	2,820	11,600	7,350	2,910	5,510	4,410	1,920	468	444	247	215
12	244	3,430	10,400	5,510	2,800	4,990	4,410	1,570	658	477	254	163
13	660	2,910	8,990	5,120	3,130	4,080	5,430	1,420	764	494	238	155
14	1,650	2,880	8,840	6,310	5,090	3,380	6,130	1,300	599	517	238	148
15	977	2,480	10,200	7,070	7,300	2,720	5,150	1,290	538	552	254	152
16	798	2,190	10,600	5,420	6,080	2,110	4,530	1,330	543	586	252	189
17	662	1,850	10,100	4,420	5,900	1,800	4,210	1,420	503	593	257	188
18	512	1,900	9,990	4,310	5,470	1,560	3,910	1,290	404	582	267	184
19	920	2,310	9,720	5,280	4,980	1,450	2,910	1,000	358	637	335	178
20	1,710	1,750	9,310	7,130	4,690	1,340	2,380	5,560	356	623	371	180
21	2,080	1,660	8,920	8,780	5,620	1,250	1,950	5,230	354	565	425	184
22	2,870	1,600	8,830	9,810	8,570	1,170	1,790	3,620	360	579	459	174
23	2,430	1,560	12,100	10,100	7,640	1,190	1,750	2,680	374	532	488	165
24	1,620	1,820	17,500	9,930	6,100	1,320	1,680	1,970	369	529	500	161
25	1,600	2,740	11,100	9,470	5,360	1,300	1,600	1,590	367	511	438	159
26	1,600	5,090	6,270	7,810	4,860	1,240	1,570	1,150	377	487	433	156
27	1,430	5,630	6,670	5,920	4,370	1,340	1,530	902	388	446	465	159
28	1,230	6,260	7,370	4,210	3,750	6,970	1,550	787	407	409	474	157
29	1,370	5,790	7,360	3,140	---	11,300	1,770	700	403	374	922	157
30	1,380	5,600	7,330	3,100	---	6,130	6,920	628	397	336	6,460	154
31	1,230	---	6,350	3,690	---	4,130	---	586	---	315	11,600	---
TOTAL	39,139	104,740	326,220	226,490	121,780	113,300	118,600	112,943	14,351	15,050	28,116	25,369
MEAN	1,263	3,491	10,520	7,306	4,349	3,655	3,953	3,643	478	485	907	846
MAX	3,990	6,370	18,800	18,000	8,570	11,300	9,350	15,800	764	637	11,600	6,430
MIN	218	1,250	6,030	3,100	2,450	1,170	1,530	586	354	315	238	148

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	388	1,196	3,301	6,086	6,868	6,001	4,783	2,512	2,060	1,265	1,038	754
MAX	1,263	3,491	10,520	19,220	16,080	12,010	9,467	5,354	7,008	3,276	3,103	3,758
(WY)	(2005)	(2005)	(2005)	(1950)	(1939)	(1943)	(1948)	(1947)	(1950)	(1947)	(1938)	(1950)
MIN	124	181	271	390	870	851	1,547	547	478	202	225	170
(WY)	(1941)	(1940)	(1940)	(1940)	(1941)	(1941)	(1946)	(1941)	(2005)	(1944)	(1945)	(1945)

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	1,557,020		1,246,098			
ANNUAL MEAN	4,254		3,414		2,989	
HIGHEST ANNUAL MEAN					5,680	1950
LOWEST ANNUAL MEAN					1,170	1941
HIGHEST DAILY MEAN	22,500	Feb 7	18,800	Dec 2	50,300	Feb 18, 1949
LOWEST DAILY MEAN	119	Sep 16	148	Sep 14	92	Nov 2, 1945
ANNUAL SEVEN-DAY MINIMUM	230	Sep 11	158	Sep 24	104	Oct 21, 1940
MAXIMUM PEAK FLOW			19,900	Dec 8	51,400	Feb 18, 1949
MAXIMUM PEAK STAGE			27.42	Dec 8	43.00	Feb 18, 1949
10 PERCENT EXCEEDS	10,200		8,800		7,600	
50 PERCENT EXCEEDS	2,550		1,850		1,150	
90 PERCENT EXCEEDS	572		266		206	



03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 2003 to current year.

COOPERATION.--Western Kentucky University.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: August 2003 to current year.
pH: August 2003 to current year.
WATER TEMPERATURE: August 2003 to current year.
DISSOLVED OXYGEN: August 2003 to current year.
TURBIDITY: August 2003 to current year.

INSTRUMENTATION.--Five parameter water-quality monitor with telemetry.

REMARKS.--
SPECIFIC CONDUCTANCE: Records rated fair. Missing record Oct. 9, 30, Nov. 20, 23, 25, 27, Dec. 2, 6, 8-9, 15, 2004, Jan. 9-11, 13, 30, Feb. 1, 14-18, 20-22, 25-28, 2005.
pH: Records rated good. Missing record July 29 to Sept. 7, 2005.
WATER TEMPERATURE: Records rated excellent. Missing record Feb. 20, 25-28, Mar. 5-7, 11, 13, Apr. 18, May 3, 27-31, July 30 to Sept. 7, 2005.
DISSOLVED OXYGEN: Records rated poor. Missing record Oct. 7-26, Nov. 1-4, 9-23, 25, 27, Dec. 2, 6-21, 2004, Jan. 9-11, 13, 19-31, Feb. 1-10, 13-18, 21, 22, 25-28, Mar. 1-15, Mar. 18 to May 4, May 21-25, July 10 to Sept. 7, and Sept. 20-23, 25-30, 2005.
TURBIDITY: Records rated poor. Missing record Oct. 26 to Nov.3, Nov. 7-22, 25, Dec. 6, 2004, Jan. 9-10, 20, Feb. 14-17, 20-22, 26-28, Mar. 5, 10, 12, Apr. 5-6, May 27-31, June 11-16, 28-30, July 1, 17, 27-28, July 31 to Sept. 7, and Sept. 23, 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 470 microsiemans, Oct. 25, 2004; minimum recorded, 162 microsiemens, Jan. 25, 2005.
pH: Maximum recorded, 8.3 units, Apr. 9-11, 2004; minimum recorded, 6.9 units, Dec. 7-8, 2004.
WATER TEMPERATURES: Maximum recorded, 28.8 C, July 26, 2005; minimum recorded, 3.8 C, Feb. 1, 2004.
DISSOLVED OXYGEN: Maximum recorded, 16.1 mg/L, Jan. 18, 2005; minimum recorded, 5.9 mg/L, July 29-30, 2004.
TURBIDITY: Maximum recorded, 480 FNU, May 27, 2004; minimum recorded, <2.0 FNU, July 30, Sept. 24, 27-28, 2005.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 470 microsiemens, Oct. 25, 2004; minimum recorded, 162 microsiemens, Jan. 25, 2005.
pH: Maximum recorded, 8.2 units, Sept. 11, 18-25, 27-30, 2005; minimum recorded, 6.9 units, Dec. 7-8, 2004.
WATER TEMPERATURES: Maximum recorded, 28.8°C, July 26, 2005; minimum recorded, 4.5°C, July 8, 9, 2005.
DISSOLVED OXYGEN: Maximum recorded, 16.1 mg/L, Jan. 18, 2005; minimum recorded, 6.2 mg/L, July 8, 9, 2005.
TURBIDITY: Maximum recorded, 460 FNU, Oct. 25, 2004; minimum recorded, <2.0 FNU, July 30, Sept. 24, 27-28, 2005.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	277	163	194	339	328	333	277	225	258	230	203	218
2	192	168	180	347	326	336	---	---	---	254	230	234
3	202	192	196	350	302	338	291	220	256	272	254	266
4	222	202	211	302	222	235	302	291	299	269	260	263
5	239	222	231	274	213	230	298	233	260	273	262	269
6	257	239	249	274	225	246	---	---	---	272	266	268
7	270	257	262	225	190	201	250	212	231	269	252	262
8	283	269	276	192	183	187	---	---	---	255	231	247
9	---	283	---	258	187	214	---	---	---	---	---	---
10	317	---	---	338	258	306	269	240	258	---	---	---
11	329	317	320	372	338	356	250	239	243	---	---	---
12	335	321	328	409	355	379	253	240	246	269	266	268
13	336	324	330	420	407	413	245	237	242	---	---	---
14	359	295	337	424	407	416	237	215	225	274	258	269
15	311	290	297	437	422	428	---	---	---	260	255	257
16	312	305	309	438	434	436	195	189	191	270	257	262
17	325	307	314	437	425	432	192	186	189	279	270	273
18	339	325	332	425	409	415	185	186	186	282	275	279
19	346	339	342	410	383	399	188	184	186	280	236	265
20	369	345	354	---	---	---	185	181	182	236	199	213
21	389	369	378	341	308	322	182	175	179	199	179	186
22	392	373	383	328	317	322	179	172	174	179	171	174
23	420	392	402	---	---	---	211	179	199	171	168	169
24	450	420	438	321	313	317	213	179	189	168	163	166
25	470	427	457	---	---	---	253	187	221	166	162	163
26	430	---	---	329	269	303	267	253	263	175	166	172
27	324	312	321	---	---	---	262	218	238	197	175	186
28	328	324	325	240	228	232	218	193	200	214	188	203
29	333	328	331	238	227	231	193	192	193	243	214	232
30	---	---	---	252	238	244	193	190	192	---	---	---
31	350	333	337	---	---	---	203	193	200	300	277	289
MONTH												

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	247	241	245	325	313	319	334	224	290
2	302	282	287	255	241	251	323	307	316	226	208	215
3	302	283	297	250	243	246	311	282	296	---	---	---
4	305	284	297	243	243	243	288	276	281	242	221	230
5	306	284	295	243	242	243	---	---	---	221	198	206
6	293	255	272	242	240	242	---	---	---	198	189	191
7	---	258	270	243	---	---	320	310	316	210	192	200
8	299	259	272	246	237	242	326	311	321	211	199	206
9	---	274	285	251	234	242	317	304	311	226	208	217
10	308	269	281	---	---	---	327	309	320	241	222	231
11	271	264	269	---	---	---	319	277	295	271	241	262
12	264	257	260	---	---	---	303	280	293	291	267	280
13	262	250	255	---	---	---	309	292	301	329	286	303
14	---	---	---	253	246	249	311	307	309	325	309	318
15	---	---	---	274	253	262	312	309	310	325	314	318
16	---	---	---	286	274	280	325	310	317	326	314	319
17	---	---	---	300	286	292	332	319	324	---	---	---
18	---	---	---	311	300	306	---	---	---	325	311	317
19	237	229	233	327	311	319	357	346	351	326	309	321
20	---	---	---	332	327	330	376	349	361	309	208	251
21	---	---	---	334	331	332	382	350	367	326	272	302
22	---	---	---	334	332	333	384	360	376	362	326	346
23	239	235	237	334	332	333	---	---	---	374	350	366
24	241	237	239	338	334	336	354	332	343	401	370	390
25	---	---	---	338	334	336	353	323	336	370	325	357
26	---	---	---	340	335	336	326	318	322	325	314	316
27	---	---	---	340	319	336	331	319	325	---	---	---
28	---	---	---	319	253	285	333	330	332	---	---	---
29	---	---	---	---	---	---	344	333	340	---	---	---
30	---	---	---	290	248	271	356	330	348	---	---	---
31	---	---	---	314	290	300	---	---	---	---	---	---
MONTH												
		JUNE			JULY			AUGUST			SEPTEMBER	
1	364	350	354	361	358	360	---	---	---	---	---	---
2	360	352	356	358	353	355	---	---	---	---	---	---
3	363	353	354	355	351	353	---	---	---	---	---	---
4	356	354	355	353	344	349	---	---	---	---	---	---
5	359	353	356	348	343	345	---	---	---	---	---	---
6	357	349	352	357	345	350	---	---	---	---	---	---
7	356	348	350	366	330	355	---	---	---	---	---	---
8	368	351	358	330	315	318	---	---	---	354	348	351
9	369	362	365	326	320	323	---	---	---	354	350	353
10	370	357	363	335	326	331	---	---	---	351	344	347
11	360	351	356	344	335	339	---	---	---	347	342	345
12	358	351	354	341	321	333	---	---	---	344	338	341
13	355	338	345	327	315	319	---	---	---	340	339	339
14	338	308	322	339	327	334	---	---	---	346	340	344
15	---	---	---	339	334	337	---	---	---	347	342	345
16	327	313	319	334	316	325	---	---	---	353	347	351
17	335	327	332	317	307	311	---	---	---	357	352	354
18	337	335	336	320	307	313	---	---	---	361	357	359
19	342	336	339	340	320	330	---	---	---	363	357	362
20	347	342	344	344	329	337	---	---	---	366	362	364
21	354	347	351	347	324	330	---	---	---	368	365	367
22	356	354	355	359	347	356	---	---	---	370	367	369
23	359	355	356	355	333	344	---	---	---	370	368	369
24	359	355	356	337	331	334	---	---	---	370	366	369
25	364	355	357	331	320	324	---	---	---	369	365	367
26	367	361	364	331	321	325	---	---	---	368	365	366
27	368	364	366	335	331	333	---	---	---	369	366	367
28	370	365	367	336	332	334	---	---	---	368	366	367
29	369	359	364	---	---	---	---	---	---	370	367	368
30	361	359	360	---	---	---	---	---	---	371	368	369
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH												
YEAR												

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.8	7.5	7.7	7.6	7.3	7.1	7.5	7.4	7.5	7.5	7.9	7.8
2	7.6	7.5	7.7	7.6	7.2	7.2	7.4	7.4	7.5	7.5	7.9	7.9
3	7.6	7.5	7.7	7.6	7.2	7.2	7.4	7.3	7.5	7.5	7.9	7.9
4	7.6	7.6	7.6	7.5	7.3	7.2	7.4	7.4	7.5	7.5	7.9	7.9
5	7.7	7.6	7.6	7.6	7.3	7.3	7.4	7.4	7.6	7.5	7.9	7.9
6	7.7	7.7	7.6	7.5	7.3	7.1	7.5	7.4	7.6	7.5	8.0	7.9
7	7.7	7.6	7.5	7.4	7.1	6.9	7.5	7.4	7.5	7.5	8.0	7.9
8	7.7	7.6	7.4	7.4	7.0	6.9	7.5	7.3	7.5	7.5	7.9	7.8
9	7.7	7.5	7.4	7.3	7.1	7.0	7.4	7.4	7.5	7.5	7.8	7.8
10	7.7	7.5	7.8	7.4	7.1	7.0	7.4	7.4	7.9	7.5	7.8	7.8
11	7.7	7.5	7.9	7.8	7.1	7.1	7.4	7.4	7.9	7.9	7.9	7.8
12	7.7	7.5	7.9	7.8	7.2	7.1	7.5	7.4	7.9	7.9	7.9	7.9
13	7.7	7.6	7.9	7.9	7.2	7.1	7.5	7.5	7.9	7.8	7.9	7.9
14	7.6	7.4	7.9	7.8	7.3	7.2	7.5	7.4	7.8	7.7	7.9	7.9
15	7.4	7.3	7.8	7.7	7.3	7.3	7.4	7.4	7.8	7.8	7.9	7.2
16	7.3	7.3	7.7	7.6	7.3	7.2	7.4	7.4	7.8	7.8	7.4	7.3
17	7.4	7.3	7.7	7.6	7.3	7.2	7.4	7.4	7.8	7.8	7.6	7.4
18	7.4	7.3	7.6	7.5	7.3	7.3	7.5	7.4	7.9	7.8	7.7	7.6
19	7.4	7.3	7.5	7.5	7.3	7.2	7.5	7.5	7.9	7.8	7.7	7.6
20	7.3	7.3	7.5	7.5	7.3	7.2	7.5	7.3	7.9	7.8	7.8	7.7
21	7.3	7.3	7.5	7.4	7.3	7.2	7.3	7.3	7.8	7.8	7.9	7.7
22	7.3	7.3	7.6	7.4	7.3	7.2	7.3	7.3	7.8	7.8	7.8	7.8
23	7.5	7.3	7.6	7.6	7.3	7.2	7.3	7.3	7.8	7.8	7.8	7.8
24	7.6	7.5	7.6	7.6	7.4	7.3	7.3	7.3	7.8	7.8	7.8	7.8
25	7.7	7.6	7.6	7.5	7.3	7.3	7.3	7.3	7.8	7.8	7.9	7.8
26	7.6	7.5	7.6	7.4	7.4	7.3	7.3	7.3	7.8	7.8	8.0	7.8
27	7.6	7.5	7.4	7.4	7.5	7.4	7.3	7.3	7.8	7.8	7.9	7.8
28	7.6	7.6	7.4	7.4	7.5	7.5	7.3	7.3	7.8	7.8	7.8	7.4
29	7.6	7.6	7.5	7.4	7.5	7.5	7.3	7.3	---	---	7.4	7.4
30	7.7	7.6	7.5	7.3	7.5	7.4	7.4	7.3	---	---	7.5	7.4
31	7.7	7.6	---	---	7.5	7.4	7.5	7.4	---	---	7.5	7.4
MONTH	7.8	7.3	7.9	7.3	7.5	6.9	7.5	7.3	7.9	7.5	8.0	7.2

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	7.4	7.4	7.3	7.9	7.8	8.1	7.9	---	---	---	---
2	7.5	7.4	7.6	7.4	7.9	7.7	8.1	7.9	---	---	---	---
3	7.5	7.4	7.7	7.5	7.7	7.6	8.1	7.9	---	---	---	---
4	7.5	7.3	7.8	7.5	7.8	7.6	8.0	7.9	---	---	---	---
5	7.4	7.3	7.5	7.5	7.8	7.7	8.0	7.8	---	---	---	---
6	7.6	7.4	7.5	7.5	7.9	7.7	8.0	7.8	---	---	---	---
7	7.6	7.4	7.5	7.5	7.9	7.7	8.0	7.9	---	---	---	---
8	7.5	7.4	7.5	7.5	7.8	7.7	8.0	7.8	---	---	8.0	7.9
9	7.6	7.5	7.5	7.5	7.8	7.7	8.0	7.8	---	---	8.1	8.0
10	7.6	7.6	7.6	7.5	7.7	7.6	8.0	7.8	---	---	8.1	8.0
11	7.7	7.6	7.6	7.6	7.7	7.6	8.0	7.8	---	---	8.2	8.0
12	7.6	7.6	7.7	7.6	7.6	7.6	7.8	7.8	---	---	8.1	7.9
13	7.6	7.6	7.8	7.7	7.6	7.5	7.8	7.7	---	---	8.1	7.9
14	7.7	7.6	7.8	7.7	7.5	7.4	7.8	7.7	---	---	8.1	7.9
15	7.7	7.7	8.0	7.8	7.4	7.3	7.8	7.7	---	---	8.0	7.9
16	7.7	7.7	8.0	7.8	7.6	7.4	7.8	7.8	---	---	8.1	7.9
17	7.7	7.7	8.0	7.8	7.7	7.5	7.8	7.7	---	---	8.1	8.0
18	7.7	7.7	7.9	7.8	7.7	7.6	7.9	7.8	---	---	8.2	8.0
19	7.7	7.7	7.9	7.8	7.7	7.6	7.9	7.8	---	---	8.2	8.1
20	7.7	7.6	7.9	7.3	7.7	7.6	7.9	7.8	---	---	8.2	8.1
21	7.6	7.6	7.4	7.3	7.8	7.6	7.9	7.8	---	---	8.2	8.1
22	7.6	7.6	7.5	7.4	7.8	7.6	8.0	7.8	---	---	8.2	8.0
23	7.6	7.5	7.5	7.4	7.8	7.6	8.0	7.8	---	---	8.2	8.0
24	7.5	7.5	7.6	7.4	7.7	7.5	8.0	7.8	---	---	8.2	8.0
25	7.5	7.5	7.7	7.6	7.7	7.6	8.0	7.8	---	---	8.2	8.0
26	7.5	7.4	7.8	7.7	7.7	7.5	8.0	7.8	---	---	8.1	8.0
27	7.4	7.4	7.8	7.7	7.7	7.6	8.0	7.8	---	---	8.2	8.0
28	7.4	7.4	7.8	7.7	7.7	7.5	8.0	7.9	---	---	8.2	8.0
29	7.4	7.3	7.8	7.7	8.0	7.6	---	---	---	---	8.2	8.1
30	7.4	7.3	7.9	7.7	8.1	7.9	---	---	---	---	8.2	8.1
31	---	---	8.0	7.8	---	---	---	---	---	---	---	---
MONTH	7.7	7.3	8.0	7.3	8.1	7.3						
YEAR	8.2	6.9										

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.1	18.0	18.7	17.8	17.2	17.4	12.1	11.4	11.7	9.5	8.3	8.9
2	19.4	19.1	19.2	17.6	17.3	17.5	---	---	11.3	11.0	9.5	10.0
3	19.1	18.0	18.6	17.3	16.9	17.1	11.0	10.3	10.7	11.7	11.0	11.3
4	18.1	17.4	17.8	17.4	16.3	16.8	10.3	9.5	9.8	12.1	11.7	11.9
5	17.6	16.8	17.3	16.3	15.4	15.8	10.3	9.0	9.6	12.4	12.1	12.3
6	17.1	16.1	16.6	15.4	14.5	14.9	---	---	11.1	12.4	11.9	12.2
7	16.9	15.5	16.3	15.4	14.3	14.8	12.4	11.6	12.0	11.9	11.0	11.4
8	17.1	16.1	16.7	15.4	15.1	15.3	---	---	12.6	11.0	9.7	10.5
9	17.2	16.4	16.8	15.1	14.6	14.9	---	---	12.6	---	---	9.6
10	17.8	16.5	17.2	14.6	13.6	14.1	12.3	11.7	12.0	---	---	10.1
11	17.3	16.5	16.9	13.6	13.2	13.3	11.9	11.7	11.8	---	---	10.7
12	16.8	16.6	16.7	13.2	12.9	13.1	11.8	11.0	11.4	11.8	11.0	11.4
13	16.6	16.0	16.2	12.9	12.1	12.5	11.0	10.0	10.5	---	---	12.0
14	16.2	15.8	16.0	12.1	11.2	11.6	10.0	9.0	9.6	12.1	11.3	11.8
15	15.9	15.1	15.5	11.2	10.7	10.9	---	---	8.7	11.3	10.0	10.6
16	15.1	14.3	14.9	11.0	10.6	10.8	8.6	8.4	8.4	10.0	8.3	9.1
17	14.5	13.7	14.1	11.5	11.0	11.2	8.6	8.3	8.4	8.3	6.7	7.4
18	14.2	13.6	13.9	11.8	11.4	11.6	8.7	8.4	8.5	6.7	5.3	5.9
19	15.0	14.1	14.5	12.6	11.8	12.1	8.7	8.2	8.5	5.3	4.5	4.8
20	15.3	14.9	15.1	13.6	12.6	13.2	8.2	7.4	7.8	6.1	4.9	5.5
21	15.8	15.1	15.5	13.7	13.5	13.6	7.6	7.3	7.4	6.3	6.1	6.3
22	16.7	15.8	16.2	13.7	13.5	13.6	7.9	7.6	7.7	6.3	5.8	6.1
23	17.1	16.7	16.9	13.8	13.5	13.7	8.0	6.6	7.7	5.8	5.2	5.4
24	17.3	16.6	16.9	14.2	13.7	14.0	6.6	5.6	5.8	5.2	4.8	5.0
25	16.9	16.4	16.6	---	---	13.2	6.0	5.6	5.8	5.5	4.9	5.1
26	16.6	16.2	16.4	12.8	11.9	12.4	5.8	5.3	5.5	6.0	5.5	5.7
27	17.0	16.5	16.7	---	---	11.5	5.8	5.1	5.5	6.2	5.9	6.0
28	17.4	16.9	17.1	11.9	11.4	11.6	6.1	5.7	5.9	6.0	5.7	5.8
29	18.0	17.2	17.6	11.7	11.4	11.5	6.9	6.1	6.4	6.2	5.8	6.0
30	18.5	17.8	18.0	11.9	11.3	11.4	7.6	6.9	7.2	---	---	6.5
31	18.1	17.3	17.7	---	---	---	8.3	7.6	8.0	6.7	6.4	6.5
MONTH	19.4	13.6	16.6	17.8	10.6	13.5			9.0			8.4
	FEBRUARY			MARCH			APRIL			MAY		
1	7.1	6.6	6.8	8.2	7.6	7.8	13.8	13.1	13.5	13.4	13.1	13.2
2	7.1	7.0	7.0	7.6	6.9	7.2	13.1	12.0	12.7	13.3	12.9	13.1
3	7.6	7.1	7.3	7.0	6.3	6.7	12.0	11.0	11.3	---	---	---
4	7.6	7.1	7.3	7.6	6.5	7.0	12.3	10.8	11.4	13.4	12.5	13.0
5	7.4	6.9	7.2	---	---	---	13.4	12.1	12.6	13.9	13.0	13.3
6	7.1	6.8	7.0	---	---	---	13.9	13.4	13.6	14.6	13.9	14.2
7	7.4	7.1	7.2	---	---	---	14.1	13.6	13.8	14.8	14.3	14.6
8	8.2	7.4	7.8	9.3	8.9	9.2	14.1	13.7	14.0	15.7	14.8	15.2
9	8.5	8.2	8.4	9.0	8.3	8.6	14.6	13.4	14.0	16.6	15.4	16.0
10	8.4	7.9	8.2	---	---	7.8	15.5	14.2	14.8	17.3	16.0	16.6
11	7.9	7.3	7.6	---	---	---	15.6	15.1	15.3	18.6	17.3	17.9
12	7.3	6.6	6.9	---	---	7.6	15.4	14.7	15.0	19.7	18.2	18.9
13	8.1	7.0	7.2	---	---	---	14.7	14.0	14.3	20.5	19.1	19.8
14	---	---	8.6	9.0	8.2	8.7	14.4	13.4	13.9	20.3	19.8	20.0
15	---	---	9.2	9.0	8.6	8.9	14.4	13.4	14.0	20.1	19.3	19.8
16	---	---	9.9	9.1	8.8	8.9	14.7	13.6	14.2	19.4	18.6	19.0
17	---	---	9.3	10.0	8.8	9.3	14.9	13.6	14.3	19.1	18.0	18.5
18	---	---	8.2	10.2	9.2	9.8	---	---	---	19.6	18.1	18.9
19	7.8	7.1	7.3	10.5	9.8	10.1	16.0	14.4	15.2	19.7	18.7	19.2
20	---	---	---	10.8	9.8	10.4	17.1	16.0	16.5	19.1	15.6	16.4
21	---	---	8.0	11.3	10.2	10.8	17.8	16.6	17.2	17.7	15.8	16.6
22	---	---	8.8	11.0	10.8	10.8	18.1	17.4	17.7	18.2	17.4	17.8
23	9.4	9.1	9.3	10.9	10.7	10.8	17.6	15.6	16.8	19.2	18.1	18.6
24	9.1	8.4	8.7	10.9	10.7	10.8	15.6	14.6	15.0	19.2	18.5	18.9
25	---	---	---	12.0	10.6	11.3	14.8	14.0	14.5	19.1	18.2	18.7
26	---	---	---	12.8	11.7	12.2	14.4	13.4	13.9	19.4	18.0	18.8
27	---	---	---	12.4	12.0	12.2	13.4	12.8	13.2	---	---	---
28	---	---	---	12.3	11.4	12.0	13.1	12.6	12.7	---	---	---
29	---	---	---	11.7	11.1	11.5	13.0	12.4	12.7	---	---	---
30	---	---	---	12.9	11.4	12.0	13.2	12.8	13.0	---	---	---
31	---	---	---	13.8	12.8	13.3	---	---	---	---	---	---
MONTH							18.1	10.8	14.2			

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.8	20.0	20.3	27.1	26.0	26.6	---	---	---	---	---	---
2	20.1	19.4	19.6	27.4	25.9	26.8	---	---	---	---	---	---
3	20.0	19.2	19.6	27.1	25.7	26.6	---	---	---	---	---	---
4	21.5	19.5	20.5	26.9	25.7	26.3	---	---	---	---	---	---
5	22.6	20.7	21.6	26.0	25.2	25.6	---	---	---	---	---	---
6	23.7	21.7	22.7	25.9	24.9	25.4	---	---	---	---	---	---
7	24.1	22.4	23.3	25.4	24.4	25.1	---	---	---	---	---	---
8	24.4	22.9	23.7	26.3	24.5	25.4	---	---	---	22.1	21.0	21.6
9	24.4	23.2	23.9	26.8	25.2	26.1	---	---	---	22.5	21.2	21.9
10	24.3	23.5	24.0	26.4	25.3	26.0	---	---	---	23.1	21.7	22.5
11	24.2	23.3	23.6	26.1	24.7	25.2	---	---	---	23.1	21.9	22.7
12	23.3	22.7	22.9	24.7	22.8	23.6	---	---	---	23.5	22.3	23.0
13	24.2	22.5	23.3	22.8	22.2	22.3	---	---	---	23.5	22.5	23.1
14	24.6	23.4	24.1	22.3	21.8	22.1	---	---	---	23.3	22.4	22.9
15	24.5	23.1	23.9	23.0	22.1	22.5	---	---	---	23.0	22.3	22.7
16	24.1	23.0	23.7	22.9	22.4	22.7	---	---	---	22.7	22.1	22.4
17	24.1	22.4	23.4	23.1	22.2	22.6	---	---	---	22.5	21.7	22.0
18	23.6	22.6	23.2	24.6	22.8	23.6	---	---	---	21.9	20.9	21.5
19	23.3	21.9	22.8	25.8	24.1	24.9	---	---	---	22.0	20.9	21.5
20	23.4	22.0	22.8	26.9	25.2	26.0	---	---	---	22.2	21.4	21.9
21	23.5	22.2	23.0	27.7	26.0	26.9	---	---	---	22.7	21.5	22.2
22	24.2	22.5	23.5	27.8	26.5	27.3	---	---	---	22.9	22.0	22.6
23	24.9	23.2	24.2	28.0	26.6	27.4	---	---	---	23.1	22.2	22.8
24	25.1	23.3	24.4	28.1	26.9	27.6	---	---	---	23.2	22.5	23.0
25	25.3	23.9	24.8	28.5	27.0	27.8	---	---	---	23.2	22.6	22.9
26	25.2	24.3	24.8	28.8	27.5	28.3	---	---	---	22.8	22.3	22.6
27	25.2	24.1	24.8	28.5	27.6	28.1	---	---	---	22.5	21.7	22.2
28	26.0	24.4	25.4	27.6	26.5	26.9	---	---	---	22.1	21.3	21.8
29	26.5	24.8	25.8	27.3	25.4	26.3	---	---	---	22.1	20.4	21.3
30	27.1	25.5	26.4	---	---	---	---	---	---	20.4	19.3	19.8
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	27.1	19.2	23.3									
YEAR	28.8	4.5	15.2									

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.5	8.0	8.2	---	---	---	10.3	9.3	9.7	13.9	13.3	13.6
2	8.2	8.0	8.1	---	---	---	---	---	---	13.3	12.7	13.1
3	8.5	8.2	8.4	---	---	---	10.2	9.1	9.5	12.7	12.4	12.5
4	8.8	8.4	8.6	---	---	---	10.3	8.8	9.5	12.4	12.2	12.3
5	9.0	8.6	8.8	9.3	8.9	9.1	9.7	8.5	9.1	12.2	12.2	12.2
6	9.1	8.8	8.9	9.6	8.8	9.2	---	---	---	12.2	12.1	12.2
7	---	---	---	9.8	9.6	9.7	---	---	---	12.8	12.1	12.4
8	---	---	---	9.9	9.7	9.8	---	---	---	13.4	12.8	13.0
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	12.9	12.7	12.8
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	12.9	12.5	12.6
15	---	---	---	---	---	---	---	---	---	13.4	12.9	13.1
16	---	---	---	---	---	---	---	---	---	14.3	13.4	13.8
17	---	---	---	---	---	---	---	---	---	15.2	14.3	14.7
18	---	---	---	---	---	---	---	---	---	16.1	15.2	15.7
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	12.9	12.7	12.8	---	---	---
23	---	---	---	---	---	---	13.1	12.6	12.7	---	---	---
24	---	---	---	10.0	9.6	9.8	13.6	13.1	13.4	---	---	---
25	---	---	---	---	---	---	13.6	13.4	13.5	---	---	---
26	---	---	---	10.2	9.7	9.9	14.2	13.6	14.0	---	---	---
27	8.9	8.6	8.8	---	---	---	14.5	14.2	14.4	---	---	---
28	8.6	8.4	8.5	10.5	9.9	10.2	14.6	14.4	14.5	---	---	---
29	8.4	8.1	8.3	10.5	10.0	10.3	14.6	14.4	14.5	---	---	---
30	8.1	7.7	8.0	10.4	9.8	10.2	14.4	14.2	14.3	---	---	---
31	7.7	7.4	7.5	---	---	---	14.2	13.9	14.0	---	---	---
MONTH												

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	10.0	9.8	9.9
6	---	---	---	---	---	---	---	---	---	9.9	9.8	9.8
7	---	---	---	---	---	---	---	---	---	9.9	9.8	9.8
8	---	---	---	---	---	---	---	---	---	9.9	9.7	9.8
9	---	---	---	---	---	---	---	---	---	9.8	9.4	9.6
10	---	---	---	---	---	---	---	---	---	9.5	9.2	9.4
11	12.2	12.0	12.1	---	---	---	---	---	---	9.4	9.0	9.2
12	12.3	12.2	12.3	---	---	---	---	---	---	9.3	8.8	9.1
13	---	---	---	---	---	---	---	---	---	9.7	8.8	9.2
14	---	---	---	---	---	---	---	---	---	9.6	8.6	9.0
15	---	---	---	---	---	---	---	---	---	11.0	8.6	10
16	---	---	---	13.5	12.8	13.3	---	---	---	10.9	8.8	9.9
17	---	---	---	12.8	8.1	11.1	---	---	---	10.4	8.9	9.6
18	---	---	---	---	---	---	---	---	---	10.3	8.7	9.6
19	10.5	10.3	10.4	---	---	---	---	---	---	10.1	9.2	9.7
20	10.3	9.9	10.1	---	---	---	---	---	---	9.8	9.1	9.4
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	8.6	8.3	8.5	---	---	---	---	---	---	---	---	---
24	8.4	8.1	8.2	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	9.3	8.6	8.9
27	---	---	---	---	---	---	---	---	---	9.2	8.8	9.0
28	---	---	---	---	---	---	---	---	---	9.5	8.7	9.1
29	---	---	---	---	---	---	---	---	---	9.7	8.8	9.2
30	---	---	---	---	---	---	---	---	---	10.2	9.0	9.6
31	---	---	---	---	---	---	---	---	---	10.8	9.2	9.9
MONTH												

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.3	9.4	9.8	9.2	7.6	8.6	---	---	---	---	---	---
2	10.1	9.0	9.5	9.0	7.5	8.3	---	---	---	---	---	---
3	10.1	8.9	9.5	8.8	7.2	8.2	---	---	---	---	---	---
4	10.5	9.1	9.8	8.3	7.0	7.7	---	---	---	---	---	---
5	10.6	8.9	9.8	7.5	6.6	7.0	---	---	---	---	---	---
6	10.6	8.9	9.7	8.3	6.6	7.4	---	---	---	---	---	---
7	10.3	8.8	9.5	7.8	6.5	7.3	---	---	---	---	---	---
8	10.0	8.4	9.2	7.6	6.2	7.0	---	---	---	8.0	7.6	7.8
9	9.3	8.2	8.8	7.6	6.2	6.9	---	---	---	7.8	7.2	7.5
10	8.8	7.9	8.3	---	---	---	---	---	---	7.7	7.0	7.4
11	8.2	7.3	7.8	---	---	---	---	---	---	7.9	7.0	7.5
12	8.0	7.4	7.7	---	---	---	---	---	---	8.2	7.2	7.7
13	8.2	7.2	7.7	---	---	---	---	---	---	7.9	7.0	7.5
14	7.6	6.8	7.2	---	---	---	---	---	---	7.6	7.0	7.3
15	7.5	6.6	7.0	---	---	---	---	---	---	7.5	6.9	7.2
16	8.5	6.7	7.7	---	---	---	---	---	---	7.6	6.9	7.3
17	9.2	7.9	8.5	---	---	---	---	---	---	7.8	7.1	7.5
18	9.3	8.0	8.7	---	---	---	---	---	---	8.4	7.4	7.9
19	9.6	8.2	8.9	---	---	---	---	---	---	8.7	7.8	8.3
20	10.0	8.4	9.2	---	---	---	---	---	---	---	---	---
21	10.3	8.6	9.5	---	---	---	---	---	---	---	---	---
22	10.5	8.6	9.6	---	---	---	---	---	---	---	---	---
23	10.2	8.5	9.4	---	---	---	---	---	---	---	---	---
24	9.9	8.1	9.2	---	---	---	---	---	---	9.6	8.7	9.1
25	9.9	8.3	9.2	---	---	---	---	---	---	---	---	---
26	10.0	8.2	9.2	---	---	---	---	---	---	---	---	---
27	9.6	8.2	9.0	---	---	---	---	---	---	---	---	---
28	9.3	7.9	8.7	---	---	---	---	---	---	---	---	---
29	9.2	7.7	8.6	---	---	---	---	---	---	---	---	---
30	9.4	7.8	8.6	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	10.6	6.6	8.8									
YEAR	16.1	6.2	9.8									

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	66	22	49	---	---	---	250	62	170	20	11	14
2	45	15	26	---	---	---	---	---	110	67	11	28
3	17	8.8	13	---	---	---	71	40	49	90	38	67
4	12	6.6	8.6	30	16	22	42	27	35	88	39	61
5	14	5.1	8.2	76	17	46	38	27	32	44	24	32
6	12	6.1	8.3	130	56	86	---	---	---	51	27	40
7	10	3.2	5.8	---	---	---	---	---	85	66	38	53
8	10	2.9	5.6	---	---	---	---	---	150	220	62	110
9	---	---	6.5	---	---	---	---	---	83	---	---	---
10	---	---	5.1	---	---	---	94	50	67	---	---	---
11	10	2.0	4.1	---	---	---	76	51	60	---	---	32
12	17	2.2	6.1	---	---	---	56	35	46	30	16	21
13	17	6.6	10	---	---	---	39	27	32	---	---	17
14	25	12	17	---	---	---	37	27	31	47	17	26
15	25	11	16	---	---	---	---	---	43	55	37	47
16	16	10	12	---	---	---	52	31	39	40	16	26
17	13	8.1	10	---	---	---	42	28	32	18	4.8	10
18	13	7.7	9.5	---	---	---	---	---	32	8.5	1.4	3.1
19	16	8.1	11	---	---	---	38	27	30	17	2.5	9.3
20	21	9.4	13	---	---	---	31	25	28	---	---	---
21	20	13	16	---	---	---	29	24	27	52	32	44
22	220	15	64	---	---	---	34	26	29	50	35	43
23	270	200	240	---	---	6.1	150	27	56	40	27	34
24	320	230	260	12	5.9	7.9	190	74	150	33	26	29
25	460	260	350	---	---	---	74	44	56	34	23	28
26	---	---	---	59	41	52	44	19	30	25	16	20
27	---	---	---	---	---	41	26	19	22	17	14	15
28	---	---	---	51	31	37	38	23	30	15	9.2	12
29	---	---	---	33	21	28	27	20	23	14	8.0	9.7
30	---	---	---	62	18	25	29	20	22	---	---	11
31	---	---	---	---	---	---	20	14	17	22	13	17
MONTH												

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	14	19	11	14	27	21	25	270	100	190
2	12	7.8	9.9	23	18	20	110	27	48	100	52	76
3	8.3	6.3	7.2	20	12	16	160	93	130	---	---	40
4	7.9	5.4	6.0	13	9.7	11	96	40	64	36	24	29
5	8.3	5.8	6.5	---	---	---	---	---	---	41	28	36
6	8.2	6.2	7.0	---	---	10	---	---	---	47	32	40
7	---	---	7.0	---	---	14	24	16	19	35	23	29
8	9.7	6.5	7.6	57	18	36	19	14	16	34	19	22
9	---	---	8.8	78	57	70	25	15	19	25	17	20
10	13	8.6	11	---	---	---	24	17	20	22	13	17
11	13	10	11	---	---	18	32	18	23	21	9.7	13
12	12	8.9	10	---	---	---	32	16	22	19	9.6	12
13	---	---	12	---	---	11	71	20	35	14	9.3	11
14	---	---	---	11	8.2	9.1	88	52	67	21	8.5	13
15	---	---	---	13	6.3	8.9	65	27	41	21	10	12
16	---	---	---	13	6.0	7.7	33	20	25	13	10	11
17	---	---	---	10	5.7	7.1	30	19	23	---	---	11
18	---	---	20	9.4	4.9	6.4	---	---	21	15	8.4	9.4
19	20	16	18	11	4.4	5.5	31	16	20	30	8.6	10
20	---	---	---	5.8	3.6	4.6	31	15	20	420	28	200
21	---	---	---	7.9	3.7	4.7	29	15	20	220	72	140
22	---	---	---	6.1	3.7	4.3	36	15	21	75	31	48
23	79	40	61	7.0	3.3	4.5	---	---	23	35	22	27
24	44	22	28	13	4.3	5.7	30	15	22	27	19	23
25	---	---	19	12	5.2	6.1	22	15	18	27	16	19
26	---	---	---	8.2	4.2	5.5	26	15	18	34	16	25
27	---	---	---	25	4.4	7.2	41	18	30	---	---	---
28	---	---	---	380	16	170	48	14	28	---	---	---
29	---	---	---	360	150	270	30	10	18	---	---	---
30	---	---	---	150	49	88	240	16	94	---	---	---
31	---	---	---	54	26	36	---	---	---	---	---	---
MONTH												

03309000 GREEN RIVER AT MAMMOTH CAVE, KY—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU—CONTINUED

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11	7.0	8.7	---	---	---	---	---	---	---	---	---
2	14	6.9	9.1	23	7.2	11	---	---	---	---	---	---
3	14	6.4	8.7	31	14	20	---	---	---	---	---	---
4	12	5.6	8.0	32	15	24	---	---	---	---	---	---
5	10	5.2	7.7	19	8.1	11	---	---	---	---	---	---
6	12	5.9	7.7	16	8.3	12	---	---	---	---	---	---
7	---	---	7.7	23	11	16	---	---	---	---	---	---
8	---	---	8.3	19	7.3	13	---	---	---	13	6.3	8.5
9	13	6.0	8.4	14	8.1	11	---	---	---	11	5.5	7.9
10	13	6.9	9.7	19	12	16	---	---	---	20	5.2	9.0
11	---	---	---	23	8.5	14	---	---	---	14	4.2	7.7
12	---	---	---	12	5.5	9.1	---	---	---	14	4.1	7.7
13	---	---	---	6.2	3.5	4.5	---	---	---	19	4.8	9.8
14	---	---	---	6.9	3.5	5.0	---	---	---	17	6.0	9.3
15	---	---	---	15	5.2	9.9	---	---	---	27	7.4	17
16	---	---	---	36	8.9	21	---	---	---	47	4.5	16
17	12	5.5	7.7	---	---	---	---	---	---	8.7	3.5	5.7
18	12	5.5	7.9	13	5.9	8.3	---	---	---	8.7	3.5	5.4
19	16	6.1	8.6	37	8.7	18	---	---	---	8.0	3.3	5.3
20	25	6.2	14	30	11	16	---	---	---	14	2.9	6.2
21	25	4.7	7.8	28	13	19	---	---	---	15	3.0	6.6
22	13	4.4	7.1	45	22	31	---	---	---	14	3.1	6.3
23	12	3.8	7.1	56	21	40	---	---	---	---	---	---
24	10	4.8	7.0	---	---	26	---	---	---	7.8	<2.0	3.3
25	9.9	4.9	7.5	---	---	46	---	---	---	5.9	2.2	3.5
26	9.7	4.7	7.3	---	---	77	---	---	---	7.6	2.3	3.7
27	12	6.0	8.3	---	---	---	---	---	---	5.6	<2.0	3.0
28	---	---	---	---	---	---	---	---	---	6.0	<2.0	3.9
29	---	---	---	14	4.5	9.6	---	---	---	6.0	2.6	4.0
30	---	---	---	6.9	<2.0	<2.0	---	---	---	7.0	2.6	4.2
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH												
YEAR												

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03310300 NOLIN RIVER AT WHITE MILLS, KY

LOCATION.--Lat 37°33'43", long 86°02'12" (revised), Hardin County, Hydrologic Unit 05110001, on right bank, 0.8 mi southwest of White Mills, 1.6 mi downstream from bridge on State Highway 84, and at mile 78.7.

DRAINAGE AREA.--360 mi^2 (revised), of which about 120 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 590.37 ft above NGVD of 1988. Prior to June 8, 2005, gage located 1.6 mi downstream at datum 7.29 ft lower. Prior to Jan. 8, 1960, nonrecording gage at same site and datum.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base dishcharge of 2,500 ft^3/s and maximum(*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 11	unknown	unknown	unknown	Mar 29	0100	*5,600	*18.38
Dec 6	1930	2,940	11.18	Aug 31	1115	3,350	9.15
Jan 8	1445	1,720	6.82				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e78	e592	e1,480	1,820	473	702	1,220	1,010	207	90	73	854
2	e70	e1,150	e744	1,560	442	603	1,560	682	203	89	70	464
3	e67	e1,420	e439	1,620	439	537	1,530	553	201	84	70	325
4	e63	e506	e379	1,650	433	505	1,180	478	202	83	69	252
5	e69	e305	e506	2,220	406	494	1,010	425	191	83	65	208
6	e69	e230	e722	2,360	385	473	877	388	178	85	64	180
7	e63	e163	e1,260	2,390	378	465	790	358	169	81	62	161
8	e63	e141	e2,110	3,270	418	1,240	758	330	e149	102	74	149
9	e63	e103	e1,700	2,800	461	1,040	682	311	143	92	73	139
10	e64	e141	e1,500	1,830	457	801	613	292	156	84	66	129
11	e63	e469	e1,220	1,520	433	709	564	275	147	87	62	120
12	e64	e1,910	e908	1,320	416	651	536	260	169	137	57	113
13	e66	e804	e856	1,200	520	588	590	248	162	128	57	108
14	e67	e491	e782	1,920	1,300	522	527	255	150	141	57	105
15	e67	e327	e752	1,480	1,120	474	468	849	173	131	59	99
16	e67	e297	710	1,210	923	439	428	360	161	120	63	94
17	e67	e275	648	1,030	780	414	400	292	141	135	78	95
18	e93	e238	593	891	675	393	377	263	129	324	83	92
19	e182	e454	547	e831	598	374	356	246	123	192	77	90
20	e111	e938	491	e779	562	360	341	1,390	115	138	78	87
21	e72	e566	451	716	781	340	319	881	112	181	70	83
22	e62	e409	535	656	872	326	309	544	110	172	67	79
23	e75	e417	1,850	599	729	372	497	442	107	145	65	78
24	e91	e514	1,600	539	667	420	347	378	101	120	60	74
25	e89	e923	e1,160	513	613	369	305	334	98	106	57	74
26	e93	e566	858	496	557	341	288	304	95	97	62	78
27	e101	e514	727	465	516	887	314	281	93	94	78	84
28	e108	e461	638	423	516	4,340	290	260	109	90	79	79
29	e115	e439	671	428	---	4,310	302	245	96	86	142	78
30	e122	e469	1,390	553	---	1,950	1,410	231	92	82	1,160	76
31	e204	---	2,240	524	---	1,490	---	218	---	76	2,500	---
TOTAL	2,648	16,232	30,467	39,613	16,870	26,929	19,188	13,383	4,282	3,655	5,697	4,647
MEAN	85.4	541	983	1,278	602	869	640	432	143	118	184	155
MAX	204	1,910	2,240	3,270	1,300	4,340	1,560	1,390	207	324	2,500	854
MIN	62	103	379	423	378	326	288	218	92	76	57	74

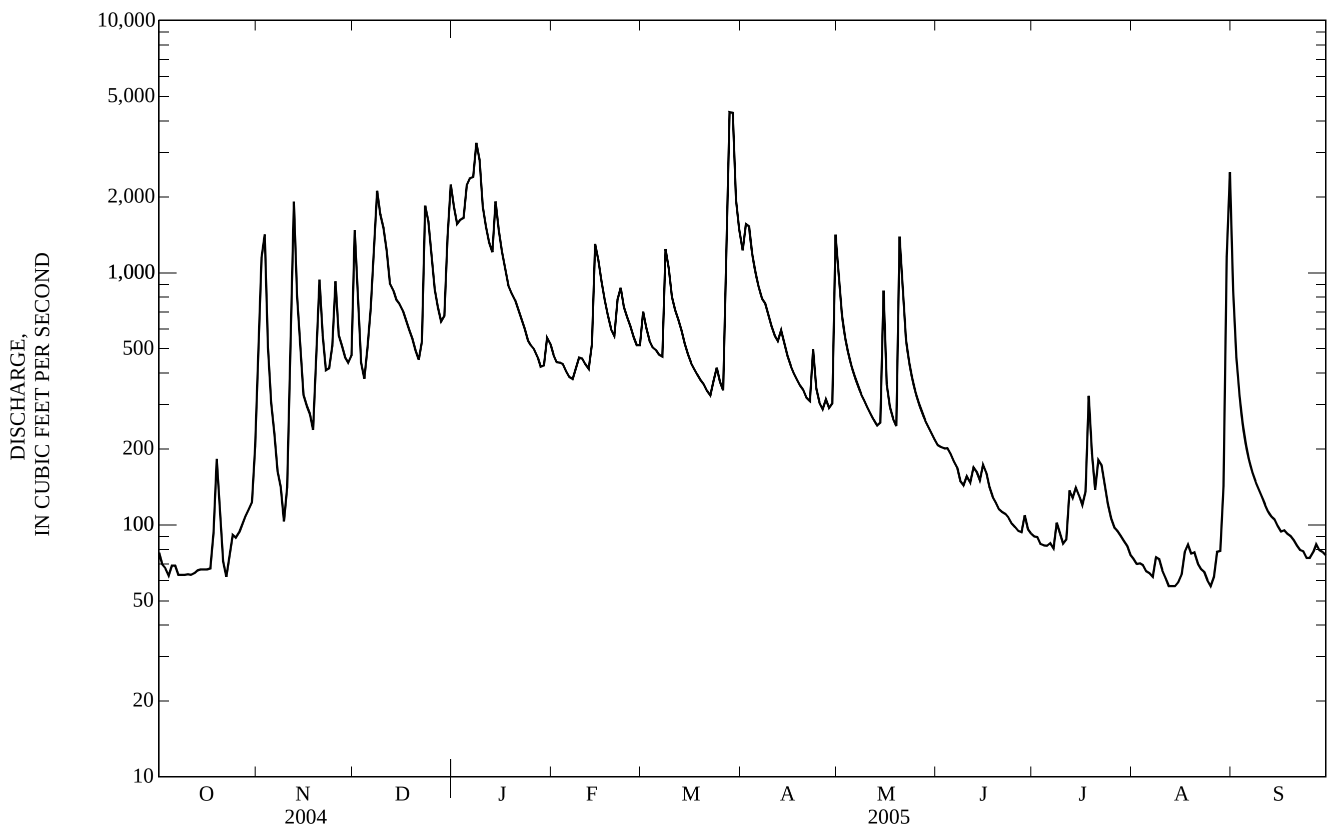
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	158	300	623	685	871	966	751	605	369	244	180	207
MAX	692	1,206	2,356	1,603	3,807	3,353	2,447	2,715	1,630	972	966	2,258
(WY)	(1978)	(1989)	(1979)	(1974)	(1989)	(1997)	(1972)	(1983)	(1997)	(1967)	(1967)	(1979)
MIN	37.0	44.3	44.7	55.5	156	228	200	131	71.9	83.2	48.6	35.6
(WY)	(1970)	(2000)	(1964)	(1981)	(1964)	(1983)	(1986)	(1976)	(1988)	(1994)	(1999)	(1999)

03310300 NOLIN RIVER AT WHITE MILLS, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1960 - 2005	
ANNUAL TOTAL	241,333		183,611			
ANNUAL MEAN	659		503		495	
HIGHEST ANNUAL MEAN					971	1979
LOWEST ANNUAL MEAN					217	1999
HIGHEST DAILY MEAN	7,760	May 28	4,340	Mar 28	20,000	Mar 2, 1997
LOWEST DAILY MEAN	62	Oct 22	57	Aug 12	27	Oct 23, 1998
ANNUAL SEVEN-DAY MINIMUM	64	Oct 7	60	Aug 10	31	Oct 17, 1998
MAXIMUM PEAK FLOW			5,600	Mar 29	24,500	Mar 2, 1997
MAXIMUM PEAK STAGE			18.38	Mar 29	36.46	Mar 2, 1997
INSTANTANEOUS LOW FLOW			50	Aug 14	31	Oct 1, 1959
ANNUAL RUNOFF (CFSM)	2.78		2.12		2.09	
ANNUAL RUNOFF (INCHES)	37.88		28.82		28.36	
10 PERCENT EXCEEDS	1,450		1,230		1,080	
50 PERCENT EXCEEDS	439		330		248	
90 PERCENT EXCEEDS	121		71		61	

e Estimated



03311000 NOLIN RIVER AT KYROCK, KY

LOCATION.--Lat 37°16'27", long 86°15'03", Edmonson County, Hydrologic Unit 0511001, 0.35 mo below Nolin River, 0.1 mi downstream from Dismal Creek, 1.1 mi nirtheast of Kyrock, and at mile 7.8.

DRAINAGE AREA.--703 mi^2, of which about 223 mi^2 does not contribute directly to surface runoff. Area at site used Oct. 1, 1969 to Sept. 30, 1973, 707 mi^2.

WATER-QUALITY RECORD

PERIOD OF DAILY RECORD.--Water years 1950, 1963-82, August 1989-95, October 2003 to current year.

INSTRUMENTATION.--Water-temperature recorder with telemetry since DCP was installed on Oct. 1989.

COOPERATION.--U. S. Army Corps of Engineers, Louisville District.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded 31.0°C, Jul. 19-22, 1969, minimum recorded 0.0°C, many days during winter period.

EXTREMES FOR CURRENT YEAR.--Maximum recorded 21.0°C , Aug. 28; minimum recorded 7.0°C, Feb. 12.

REMARKS.--Water-temperature records rated excellent except for periods of no record.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.9	20.4	20.6	18.2	18.1	18.1	13.6	13.4	13.5	7.9	7.7	7.8
2	21.0	20.9	21.0	18.2	18.1	18.1	13.4	13.2	13.3	7.7	7.6	7.7
3	21.0	20.6	20.7	18.1	18.0	18.0	13.2	13.0	13.1	7.7	7.5	7.6
4	20.6	19.7	20.1	18.1	18.0	18.0	13.1	13.0	13.0	7.6	7.6	7.6
5	19.8	18.8	19.2	18.0	18.0	18.0	13.0	12.8	12.9	7.6	7.6	7.6
6	19.0	17.9	18.3	18.0	17.9	17.9	12.9	12.8	12.8	7.6	7.5	7.6
7	18.2	17.6	17.9	17.9	17.8	17.8	12.8	12.8	12.8	7.7	7.5	7.6
8	18.3	18.0	18.1	17.8	17.7	17.7	12.8	12.6	12.7	7.8	7.6	7.7
9	18.4	18.1	18.2	17.7	17.6	17.6	12.6	12.5	12.6	7.8	7.8	7.8
10	18.4	18.1	18.2	17.6	17.4	17.5	12.5	12.4	12.5	7.9	7.8	7.8
11	18.3	18.0	18.2	17.4	17.3	17.4	12.4	12.3	12.3	8.0	7.9	8.0
12	18.1	17.5	17.7	17.3	17.0	17.1	12.3	12.1	12.2	8.1	8.0	8.0
13	17.6	17.4	17.4	17.0	16.9	16.9	12.1	12.0	12.0	8.1	8.0	8.1
14	17.9	17.4	17.6	16.9	16.7	16.8	12.0	11.7	11.8	8.2	8.1	8.1
15	17.9	17.4	17.7	16.7	16.5	16.6	11.7	11.4	11.5	8.1	8.1	8.1
16	17.4	16.7	17.0	16.5	16.3	16.4	11.4	11.1	11.2	8.1	8.1	8.1
17	16.7	15.8	16.2	16.3	16.1	16.2	11.1	10.9	11.0	8.1	8.0	8.0
18	16.0	15.2	15.7	16.1	16.0	16.0	10.9	10.8	10.8	---	---	---
19	17.3	15.8	16.6	16.0	15.7	15.8	10.8	10.7	10.7	---	---	---
20	17.9	17.3	17.6	15.7	15.4	15.5	10.7	10.5	10.6	8.5	8.4	8.4
21	18.1	17.9	18.0	15.4	15.1	15.2	10.5	10.3	10.4	8.5	8.4	8.5
22	18.3	18.1	18.3	15.1	14.9	15.0	10.3	10.1	10.2	8.5	8.4	8.5
23	18.4	18.3	18.4	14.9	14.7	14.8	---	---	---	8.5	8.3	8.4
24	18.4	18.4	18.4	14.7	14.5	14.6	9.6	9.4	9.5	8.3	8.2	8.3
25	18.4	18.3	18.4	14.5	14.2	14.4	9.4	9.1	9.3	8.2	8.1	8.1
26	18.4	18.4	18.4	14.3	14.1	14.2	9.1	8.9	9.0	8.1	8.1	8.1
27	18.4	18.4	18.4	14.1	14.0	14.1	8.9	8.5	8.7	8.1	8.1	8.1
28	18.4	18.4	18.4	14.0	13.8	13.9	8.5	8.3	8.4	8.1	8.1	8.1
29	18.4	18.3	18.4	13.8	13.7	13.7	8.3	8.1	8.2	8.1	8.0	8.0
30	18.4	18.3	18.3	13.7	13.6	13.7	8.1	7.9	8.0	8.0	7.9	7.9
31	18.3	18.2	18.2	---	---	---	8.0	7.8	7.9	7.9	7.7	7.8
MONTH	21.0	15.2	18.2	18.2	13.6	16.2	13.6	7.8	11.1	8.5	7.5	8.0

03311000 NOLIN RIVER AT KYROCK, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.8	7.6	7.7	8.5	8.4	8.5	9.9	9.8	9.8	12.9	12.6	12.8
2	7.7	7.6	7.6	8.4	8.4	8.4	9.9	9.8	9.8	13.0	12.9	12.9
3	7.6	7.5	7.5	8.4	8.4	8.4	9.9	9.8	9.8	13.0	12.7	12.9
4	7.5	7.4	7.4	8.5	8.4	8.4	10.1	9.9	10	12.7	12.4	12.5
5	7.4	7.2	7.4	8.5	8.4	8.5	10.2	10.1	10.1	12.4	12.3	12.4
6	7.4	7.3	7.4	8.5	8.4	8.5	10.3	10.2	10.2	12.3	12.3	12.3
7	7.4	7.3	7.4	8.6	8.5	8.5	10.5	10.3	10.4	12.4	12.1	12.2
8	7.4	7.3	7.3	8.6	8.5	8.5	10.5	10.4	10.5	13.0	12.4	12.7
9	7.3	7.2	7.3	8.5	8.5	8.5	10.6	10.5	10.5	13.3	13.0	13.1
10	7.3	7.1	7.2	8.6	8.5	8.5	10.6	10.5	10.5	13.5	13.3	13.3
11	7.1	7.1	7.1	8.6	8.5	8.5	10.6	10.5	10.6	13.6	13.5	13.5
12	7.1	7.0	7.1	8.6	8.5	8.5	10.6	10.5	10.6	13.8	13.6	13.7
13	7.2	7.1	7.2	8.6	8.5	8.6	10.7	10.5	10.6	14.0	13.8	13.9
14	7.3	7.2	7.3	8.7	8.6	8.6	11.3	10.7	11.0	14.3	14.0	14.1
15	7.3	7.2	7.3	8.7	8.6	8.6	11.7	11.3	11.5	14.4	14.3	14.3
16	7.4	7.3	7.3	8.7	8.7	8.7	11.9	11.7	11.8	14.4	14.0	14.2
17	7.5	7.4	7.4	8.7	8.6	8.7	12.2	11.9	12.1	14.0	13.5	13.7
18	7.5	7.5	7.5	8.8	8.6	8.7	12.5	12.2	12.3	13.5	13.4	13.5
19	7.6	7.5	7.5	8.7	8.6	8.7	12.7	12.5	12.6	14.3	13.5	13.7
20	7.7	7.6	7.6	8.8	8.5	8.7	12.9	12.7	12.7	14.6	14.3	14.5
21	7.9	7.7	7.7	8.9	8.5	8.7	13.1	12.9	13.0	14.5	13.6	13.9
22	8.0	7.8	7.9	8.9	8.8	8.9	13.5	13.1	13.2	13.6	13.4	13.5
23	8.0	8.0	8.0	9.0	8.9	8.9	13.5	13.1	13.4	13.4	13.4	13.4
24	8.1	8.0	8.1	9.0	8.9	9.0	13.1	12.5	12.7	13.4	13.4	13.4
25	8.2	8.1	8.1	9.6	9.0	9.1	12.6	12.2	12.4	13.4	13.3	13.3
26	8.3	8.2	8.2	10.2	9.6	9.8	12.5	12.3	12.4	13.7	13.2	13.3
27	8.4	8.3	8.3	10.3	10.1	10.2	12.4	12.2	12.3	14.9	13.7	14.2
28	8.5	8.4	8.5	10.1	10.0	10.1	12.4	12.3	12.3	15.6	14.9	15.1
29	---	---	---	10.0	9.9	9.9	12.5	12.4	12.4	15.8	15.5	15.6
30	---	---	---	10.1	10.0	10.0	12.6	12.5	12.5	16.4	15.6	15.9
31	---	---	---	10.0	9.9	9.9	---	---	---	17.0	16.3	16.6
MONTH	8.5	7.0	7.6	10.3	8.4	8.9	13.5	9.8	11.5	17.0	12.1	13.7
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.1	16.8	17.0	---	---	---	---	---	---	19.7	16.7	18.7
2	17.0	16.7	16.9	---	---	---	---	---	---	16.7	16.2	16.4
3	16.9	16.8	16.8	---	---	---	---	---	---	17.0	16.4	16.6
4	16.8	16.6	16.7	---	---	---	---	---	---	17.8	17.0	17.4
5	17.0	16.8	16.8	---	---	---	---	---	---	18.1	17.8	18.0
6	18.0	17.0	17.2	---	---	---	---	---	---	18.3	17.9	18.1
7	19.0	18.0	18.3	---	---	---	---	---	---	18.5	18.3	18.3
8	19.5	18.8	19.0	---	---	---	---	---	---	---	---	---
9	19.9	19.3	19.5	---	---	---	---	---	---	---	---	---
10	20.1	19.8	19.9	---	---	---	---	---	---	---	---	---
11	20.1	19.8	20.0	---	---	---	---	---	---	---	---	---
12	20.3	20.0	20.1	---	---	---	---	---	---	---	---	---
13	20.0	19.6	19.7	---	---	---	---	---	---	---	---	---
14	19.7	19.4	19.5	---	---	---	---	---	---	---	---	---
15	19.6	19.3	19.5	---	---	---	---	---	---	---	---	---
16	19.6	19.4	19.5	20.7	20.6	20.6	---	---	---	---	---	---
17	19.8	19.2	19.4	20.6	20.4	20.5	---	---	---	---	---	---
18	19.9	19.5	19.7	20.7	20.5	20.6	---	---	---	---	---	---
19	20.0	19.3	19.6	20.7	20.3	20.4	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	20.4	19.9	20.1	---	---	---
28	---	---	---	---	---	---	21.0	20.1	20.4	---	---	---
29	---	---	---	---	---	---	20.8	18.3	19.8	---	---	---
30	---	---	---	---	---	---	20.6	19.6	20.2	---	---	---
31	---	---	---	---	---	---	20.0	19.5	19.7	---	---	---
MONTH	20.3	16.6	18.7	20.7	20.3	20.5	21.0	18.3	20.0	19.7	16.2	17.6
YEAR	21.0	7.0	12.9									

03311500 GREEN RIVER AT LOCK 6 AT BROWNSVILLE, KY

LOCATION.--Lat 37°12'25", long 85°15'40", Edmonson County, Hydrologic Unit 05110001, on right bank 200 ft upstream from Lock and Dam 6, 0.8 mi downstream from Indian Creek, 1.0 mi northeast of Brownsville, 1.8 mi downstream from Nolin River, and at mile 181.7.

DRAINAGE AREA.--2,762 mi^2, of which about 600 mi^2 does not contribute directly to surface runoff.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--December 1999 to current year.

INSTRUMENTATION.--Temperature recorder with telemetry.

COOPERATION.--U. S. Army Corps of Engineers, Louisville District and Nature Conservancy.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded 29.0°C, July 7, 2002, minimum recorded 2.0°C, Jan. 3, 4, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum recorded 22.8°C , Aug. 30; minimum recorded 8.4°C , Jan. 25-26.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.6	19.3	19.4	17.6	17.5	17.6	12.6	12.1	12.4	9.6	9.3	9.5
2	19.3	19.2	19.3	17.7	17.6	17.6	12.4	12.3	12.3	9.5	9.4	9.5
3	19.4	19.2	19.3	17.7	17.6	17.7	12.8	12.3	12.6	9.7	9.3	9.5
4	19.3	19.0	19.1	17.6	17.3	17.5	12.8	12.6	12.7	10.3	9.7	10.0
5	19.0	18.7	18.9	17.3	16.8	17.1	12.7	12.2	12.5	10.8	10.3	10.6
6	18.8	18.2	18.4	16.8	16.6	16.6	12.2	11.9	12.0	11.1	10.8	10.9
7	18.2	17.9	18.1	16.6	16.3	16.4	12.1	11.8	12.0	11.2	11.1	11.2
8	18.3	18.1	18.2	16.3	16.1	16.2	12.3	12.1	12.2	11.3	11.2	11.2
9	18.4	18.3	18.3	16.1	15.9	16.0	12.7	12.3	12.5	11.2	11.1	11.2
10	18.5	18.3	18.4	16.0	15.9	16.0	12.9	12.7	12.9	11.2	11.0	11.1
11	18.5	18.2	18.3	16.1	15.9	16.0	12.8	12.8	12.8	11.3	11.2	11.3
12	18.3	17.9	18.1	15.9	15.7	15.8	12.8	12.7	12.8	11.4	11.3	11.3
13	18.0	17.9	18.0	15.7	15.3	15.6	12.8	12.6	12.7	11.6	11.4	11.5
14	17.9	17.5	17.7	15.3	15.1	15.2	12.7	12.2	12.5	11.7	11.6	11.6
15	17.5	17.2	17.4	15.1	15.0	15.1	12.2	11.7	11.9	11.7	11.7	11.7
16	17.2	16.8	17.0	15.0	14.9	15.0	11.7	11.4	11.5	11.7	11.5	11.6
17	16.8	16.3	16.5	15.0	14.9	14.9	11.4	11.1	11.2	11.5	10.9	11.3
18	16.4	16.1	16.3	14.9	14.6	14.7	11.1	11.0	11.0	10.9	10.3	10.6
19	16.4	16.2	16.3	14.6	14.4	14.5	11.0	10.8	10.9	10.3	9.6	10.0
20	16.7	16.3	16.6	14.4	14.3	14.4	10.9	10.7	10.8	9.6	9.2	9.4
21	16.8	16.7	16.8	14.3	14.2	14.3	10.9	10.5	10.7	9.2	9.0	9.0
22	17.0	16.8	16.9	14.3	14.2	14.2	10.5	10.3	10.4	9.0	8.8	8.9
23	17.1	16.9	17.0	14.3	14.2	14.2	---	---	---	8.8	8.6	8.7
24	17.2	17.0	17.1	14.2	14.2	14.2	9.7	9.4	9.6	8.6	8.5	8.6
25	17.3	17.2	17.2	14.2	13.9	14.1	9.9	9.3	9.6	8.5	8.4	8.4
26	17.2	17.1	17.2	13.9	13.6	13.7	10.0	9.6	9.8	8.5	8.4	8.4
27	17.3	17.1	17.2	13.6	13.3	13.5	9.6	9.3	9.4	8.6	8.4	8.5
28	17.4	17.2	17.3	13.3	13.0	13.1	---	---	---	8.7	8.5	8.6
29	17.6	17.4	17.5	13.0	12.9	12.9	---	---	---	8.8	8.6	8.7
30	17.7	17.5	17.6	12.9	12.6	12.8	9.2	9.0	9.1	8.8	8.6	8.7
31	17.7	17.6	17.7	---	---	---	9.5	9.2	9.3	8.7	8.5	8.6
MONTH	19.6	16.1	17.7	17.7	12.6	15.2				11.7	8.4	10.0

03311500 GREEN RIVER AT LOCK 6 AT BROWNSVILLE, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.7	8.5	8.6	9.3	9.2	9.3	11.2	10.9	11.0	13.2	13.0	13.1
2	8.7	8.7	8.7	9.2	8.9	9.0	11.4	11.2	11.3	13.2	12.9	13.1
3	8.7	8.7	8.7	9.0	8.8	8.9	11.4	10.8	11.1	13.2	13.1	13.2
4	8.7	8.6	8.7	8.8	8.7	8.7	11.3	11.0	11.1	13.2	13.1	13.1
5	8.6	8.5	8.6	8.7	8.5	8.6	11.2	11.1	11.1	13.1	13.0	13.0
6	8.8	8.6	8.7	8.6	8.5	8.6	11.3	11.2	11.2	13.0	13.0	13.0
7	8.8	8.7	8.8	8.6	8.5	8.6	11.4	11.3	11.3	13.1	13.0	13.0
8	8.7	8.7	8.7	8.7	8.6	8.6	11.5	11.4	11.5	13.1	13.0	13.1
9	8.7	8.7	8.7	8.8	8.7	8.8	11.7	11.5	11.6	13.3	13.1	13.2
10	8.8	8.7	8.8	8.9	8.8	8.8	12.1	11.7	11.9	13.5	13.3	13.4
11	8.8	8.8	8.8	8.9	8.8	8.8	12.4	12.1	12.2	13.8	13.5	13.7
12	8.8	8.8	8.8	8.9	8.7	8.8	12.6	12.4	12.5	14.2	13.8	14.0
13	8.8	8.6	8.8	8.9	8.9	8.9	13.0	12.6	12.8	14.6	14.2	14.4
14	8.7	8.6	8.6	9.0	8.9	8.9	13.1	12.9	13.0	15.0	14.6	14.8
15	9.0	8.7	8.9	9.1	9.0	9.0	12.9	12.9	12.9	15.4	15.0	15.2
16	9.2	9.0	9.2	9.2	9.1	9.2	12.9	12.9	12.9	15.6	15.4	15.4
17	9.3	9.2	9.3	9.3	9.2	9.2	13.0	12.9	12.9	15.6	15.3	15.5
18	9.3	9.3	9.3	9.4	9.3	9.3	13.1	12.9	13.0	15.3	15.2	15.2
19	9.3	9.2	9.2	9.4	9.3	9.4	13.2	13.0	13.1	15.3	15.2	15.2
20	9.2	9.0	9.1	9.5	9.4	9.5	13.4	13.2	13.3	16.2	15.3	15.9
21	9.0	8.9	8.9	9.7	9.5	9.6	13.7	13.4	13.5	16.1	15.8	16.0
22	8.9	8.8	8.9	9.9	9.7	9.8	14.0	13.7	13.9	15.8	15.5	15.6
23	9.2	8.9	9.1	9.9	9.8	9.9	14.3	14.0	14.2	15.5	15.2	15.3
24	9.4	9.2	9.4	10.0	9.9	10.0	14.3	14.1	14.2	15.2	15.1	15.2
25	9.4	9.4	9.4	10.2	10.0	10.0	14.2	13.9	14.0	15.2	15.1	15.2
26	9.4	9.4	9.4	10.4	10.2	10.3	13.9	13.7	13.8	15.3	15.2	15.2
27	9.4	9.3	9.4	10.9	10.4	10.5	13.7	13.6	13.7	15.6	15.2	15.4
28	9.4	9.3	9.3	11.0	10.6	10.7	13.6	13.3	13.5	15.9	15.6	15.8
29	---	---	---	10.9	10.2	10.6	13.3	13.1	13.2	16.2	15.9	16.1
30	---	---	---	11.0	10.6	10.7	13.4	13.1	13.2	16.5	16.2	16.4
31	---	---	---	10.9	10.8	10.8	---	---	---	16.8	16.5	16.7
MONTH	9.4	8.5	9.0	11.0	8.5	9.4	14.3	10.8	12.6	16.8	12.9	14.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.1	16.8	17.0	---	---	---	---	---	---	20.6	20.0	20.4
2	17.2	17.1	17.1	---	---	---	---	---	---	20.6	19.2	20.1
3	17.4	17.2	17.3	---	---	---	---	---	---	19.2	18.7	18.8
4	17.7	17.4	17.5	---	---	---	---	---	---	18.8	18.7	18.7
5	18.0	17.7	17.8	---	---	---	---	---	---	19.2	18.8	18.9
6	18.3	18.0	18.2	---	---	---	---	---	---	19.2	19.1	19.1
7	18.8	18.3	18.5	---	---	---	---	---	---	19.4	19.2	19.3
8	19.3	18.8	19.0	---	---	---	---	---	---	19.6	19.3	19.4
9	19.8	19.3	19.5	---	---	---	---	---	---	20.1	19.6	19.8
10	20.2	19.8	20.0	---	---	---	---	---	---	20.7	20.1	20.4
11	20.4	20.2	20.3	---	---	---	---	---	---	21.0	20.7	20.8
12	20.4	20.4	20.4	---	---	---	---	---	---	21.3	21.0	21.1
13	20.5	20.4	20.4	---	---	---	---	---	---	21.5	21.3	21.4
14	20.6	20.5	20.6	---	---	---	---	---	---	21.7	21.5	21.6
15	20.7	20.6	20.7	---	---	---	---	---	---	21.8	21.7	21.7
16	20.8	20.7	20.8	---	---	---	---	---	---	21.8	21.7	21.8
17	20.8	20.7	20.7	---	---	---	---	---	---	21.8	21.7	21.8
18	20.8	20.7	20.7	---	---	---	---	---	---	21.7	21.5	21.6
19	20.7	20.5	20.6	---	---	---	---	---	---	21.7	21.5	21.6
20	20.8	20.6	20.7	---	---	---	---	---	---	21.8	21.7	21.7
21	21.0	20.7	20.8	---	---	---	---	---	---	22.0	21.8	21.9
22	21.2	20.9	21.0	---	---	---	---	---	---	22.1	21.9	22.0
23	---	---	---	---	---	---	---	---	---	22.2	22.1	22.1
24	---	---	---	---	---	---	---	---	---	22.3	22.2	22.2
25	---	---	---	---	---	---	---	---	---	22.3	22.2	22.3
26	---	---	---	---	---	---	---	---	---	22.3	22.2	22.2
27	---	---	---	---	---	---	---	---	---	22.3	22.1	22.2
28	---	---	---	---	---	---	---	---	---	22.1	21.9	22.0
29	---	---	---	---	---	---	---	---	---	22.0	21.7	21.9
30	---	---	---	---	---	---	22.8	19.5	21.3	21.7	21.2	21.4
31	---	---	---	---	---	---	20.0	19.4	19.6	---	---	---
MONTH										22.3	18.7	21.0
YEAR	22.8	8.4	14.0									

03313000 BARREN RIVER NEAR FINNEY, KY

LOCATION.--Lat 36°53'42", long 86°08'02", Allen County, Hydrologic Unit 05110002, on left bank 1,200 ft upstream from Lock and Dam 6, 0.8 mi downstream from Port Oliver Ford, 2,500 ft upstream from Difficult Creek, 0.5 mi downstream from Barren River Dam, 2.1 mile southwest of Finney, and at mile 78.7.

DRAINAGE AREA.--942 mi^2 revised, of which about 77 mi^2 does not contribute directly to surface runoff.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--January 1990 to September 1994. October 2003 to current year.

INSTRUMENTATION.--Temperature recorder with telemetry since 1990.

COOPERATION.--U. S. Army Corps of Engineers, Louisville District.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded 26.0°C, Jul. 20, 1992, minimum recorded 2.1°C, Jan. 20-22, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum recorded 21.6°C , Oct. 2-4; minimum recorded 4.4°C , Feb. 2-5.

EXTREMES OUTSIDE PUBLISHED RECORD.--Maximum recorded 27.8°C , Aug. 19, 2000; minimum recorded 1.4°C , Feb. 6, 1996.

REMARKS.--Water-temperature records rated good.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.7	20.2	20.5	18.9	18.3	18.6	12.4	11.9	12.1	5.5	5.3	5.4
2	21.6	20.3	20.8	---	---	18.7	11.9	11.4	11.7	5.6	5.2	5.4
3	21.6	21.0	21.3	---	---	18.2	11.5	11.0	11.2	5.6	5.3	5.4
4	21.6	20.8	21.1	18.4	17.8	18.1	11.0	10.8	10.9	5.5	5.1	5.3
5	21.3	20.6	20.9	17.9	17.4	17.7	11.0	10.8	10.9	5.9	5.2	5.6
6	21.2	20.9	21.0	17.5	17.4	17.5	11.2	10.8	10.9	5.8	5.1	5.4
7	21.4	20.9	21.1	17.6	17.2	17.5	11.2	11.0	11.1	5.4	5.1	5.2
8	21.2	21.0	21.1	17.2	16.8	17.0	11.4	10.7	11.0	5.3	5.0	5.2
9	21.1	20.8	21.0	16.8	16.4	16.6	11.4	10.7	11.0	5.5	5.2	5.4
10	21.1	20.5	20.8	16.4	16.1	16.3	11.6	10.9	11.2	5.7	5.4	5.5
11	20.8	20.2	20.4	16.5	16.0	16.3	10.9	10.4	10.7	6.1	5.4	5.7
12	20.6	20.2	20.5	16.5	16.0	16.3	10.7	10.2	10.6	6.6	6.0	6.3
13	20.7	20.3	20.5	16.0	15.2	15.6	10.6	10.2	10.4	6.9	6.0	6.6
14	20.3	20.0	20.2	15.2	14.9	15.1	10.2	9.7	9.9	6.1	5.8	6.0
15	20.0	19.5	19.7	15.1	14.8	14.9	9.7	9.4	9.5	6.3	5.9	6.1
16	19.5	19.0	19.3	15.0	14.8	14.9	9.4	9.2	9.3	6.1	5.8	6.0
17	19.0	18.9	19.0	15.0	14.7	14.9	9.3	9.1	9.2	5.9	5.6	5.7
18	19.3	19.0	19.1	14.7	14.4	14.5	9.1	9.0	9.0	5.7	5.5	5.6
19	19.3	19.1	19.1	14.5	14.3	14.4	9.1	8.4	8.8	5.5	5.4	5.5
20	19.1	18.9	19.0	14.3	13.9	14.1	8.4	7.8	8.1	5.5	5.4	5.4
21	18.9	18.8	18.8	14.1	13.9	14.0	7.8	7.7	7.7	5.5	5.3	5.4
22	18.9	18.8	18.8	---	---	13.9	---	---	7.7	5.3	5.1	5.3
23	18.9	18.7	18.8	14.0	13.7	13.9	---	---	---	5.1	4.8	4.9
24	18.8	18.4	18.7	14.5	13.2	14.1	7.2	6.9	7.1	4.8	4.7	4.8
25	18.5	18.3	18.4	13.2	12.9	13.1	6.9	6.7	6.8	4.8	4.7	4.7
26	18.7	18.3	18.5	13.1	12.9	13.0	6.7	6.6	6.6	4.9	4.8	4.8
27	18.7	18.5	18.6	---	---	12.7	6.6	6.3	6.4	4.9	4.7	4.8
28	18.8	18.5	18.6	12.5	12.3	12.4	6.3	5.9	6.1	4.7	4.5	4.6
29	18.9	18.6	18.7	12.4	12.3	12.3	5.9	5.6	5.8	4.6	4.5	4.5
30	18.9	18.1	18.6	12.5	12.3	12.4	5.7	5.5	5.6	---	---	4.5
31	18.4	17.9	18.1	---	---	---	---	---	5.6	4.5	4.5	4.5
MONTH	21.6	17.9	19.7			15.3						5.3

03313000 BARREN RIVER NEAR FINNEY, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.5	4.5	4.5	---	---	---	9.7	8.3	9.0	12.7	12.3	12.4
2	---	---	4.5	5.8	5.7	5.7	8.6	8.1	8.3	12.8	10.6	11.8
3	4.5	4.4	4.5	5.9	5.6	5.7	10.0	8.2	9.1	11.1	10.4	10.7
4	4.5	4.4	4.5	6.2	5.7	5.9	10.5	9.1	9.8	11.2	10.6	10.9
5	4.6	4.4	4.5	6.1	5.9	6.0	11.4	9.5	10.3	11.1	10.7	10.9
6	5.0	4.5	4.7	6.2	5.8	6.0	11.2	9.6	10.5	11.2	10.7	11.0
7	5.0	4.8	4.9	6.5	6.1	6.3	11.2	10.3	10.8	11.4	11.1	11.2
8	5.0	4.7	4.8	6.4	6.1	6.2	11.2	10.4	10.7	11.5	10.9	11.3
9	4.7	4.6	4.7	---	---	6.1	12.0	10.6	11.3	11.5	11.2	11.3
10	4.7	4.6	4.7	6.1	6.0	6.1	12.2	10.1	10.8	11.9	11.3	11.6
11	4.7	4.6	4.6	6.2	6.0	6.1	11.4	10.1	10.8	11.8	11.5	11.7
12	---	---	4.6	6.2	6.0	6.1	---	---	10.8	11.8	11.6	11.7
13	4.9	4.7	4.7	6.5	6.1	6.3	---	---	---	12.0	11.7	11.8
14	5.0	4.9	4.9	6.5	6.1	6.2	---	---	---	12.1	11.7	11.9
15	5.4	4.9	5.1	6.4	6.1	6.3	---	---	---	12.3	11.8	12.0
16	5.5	5.2	5.4	6.4	6.3	6.3	---	---	---	12.2	11.4	11.8
17	5.3	5.2	5.2	6.8	6.2	6.5	---	---	---	---	---	11.1
18	5.3	5.2	5.2	7.2	6.4	6.7	---	---	---	11.1	10.5	10.8
19	5.3	5.2	5.3	7.2	6.9	7.1	---	---	---	---	---	10.7
20	5.5	5.3	5.4	7.1	6.6	6.9	---	---	---	---	---	11.1
21	5.7	5.5	5.6	7.4	6.6	6.8	11.6	10.5	11.1	11.9	11.1	11.6
22	5.6	5.6	5.6	7.5	6.8	7.1	11.6	10.1	11.0	12.3	11.8	12.1
23	5.8	5.6	5.7	7.3	6.6	7.0	11.1	9.6	10.4	12.5	12.2	12.4
24	5.8	5.7	5.7	7.8	6.8	7.3	12.2	9.9	10.9	13.1	12.3	12.6
25	6.1	5.7	5.9	8.5	7.5	7.8	12.1	11.2	11.6	12.9	12.4	12.6
26	---	---	6.1	8.5	7.5	7.9	13.2	11.1	12.1	13.0	12.6	12.7
27	6.7	6.1	6.3	8.7	8.2	8.5	12.4	11.6	12.1	13.0	12.0	12.4
28	---	---	---	8.6	7.7	7.9	12.6	12.1	12.4	12.7	11.3	11.8
29	---	---	---	9.2	7.7	8.4	12.9	12.4	12.6	11.9	11.2	11.5
30	---	---	---	10.7	8.4	9.4	12.7	12.1	12.3	11.8	11.4	11.6
31	---	---	---	10.3	8.3	9.3	---	---	---	11.8	11.3	11.6
MONTH												11.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.8	11.3	11.6	---	---	---	---	---	---	---	---	14.1
2	11.8	11.6	11.7	---	---	---	---	---	---	15.3	13.9	14.6
3	12.0	11.6	11.8	---	---	---	---	---	---	15.4	14.5	15.1
4	12.0	11.6	11.8	---	---	---	---	---	---	15.8	14.8	15.3
5	12.1	11.6	11.9	---	---	---	---	---	---	16.0	15.1	15.5
6	---	---	11.9	---	---	---	---	---	---	16.2	15.4	15.8
7	12.3	11.6	11.9	---	---	---	---	---	---	---	---	16.1
8	12.3	11.8	12.0	---	---	---	---	---	---	16.6	16.0	16.3
9	12.2	11.8	12.0	---	---	---	---	---	---	17.1	16.3	16.7
10	12.5	11.9	12.2	---	---	---	---	---	---	17.2	16.8	17.0
11	12.5	12.1	12.3	---	---	---	---	---	---	17.5	16.9	17.3
12	12.6	12.0	12.3	---	---	---	---	---	---	17.8	17.3	17.6
13	12.6	12.1	12.3	---	---	---	---	---	---	17.8	16.1	16.8
14	12.4	12.0	12.2	---	---	---	---	---	---	18.7	14.8	16.1
15	12.5	12.1	12.3	---	---	---	---	---	---	16.7	14.8	15.8
16	---	---	---	---	---	---	---	---	---	17.0	16.3	16.5
17	---	---	---	---	---	---	---	---	---	---	---	16.6
18	---	---	---	---	---	---	---	---	---	17.1	16.6	16.9
19	---	---	---	---	---	---	---	---	---	17.3	16.6	17.1
20	---	---	---	---	---	---	---	---	---	---	---	17.2
21	---	---	---	---	---	---	---	---	---	17.5	16.9	17.2
22	---	---	---	---	---	---	---	---	---	17.6	17.1	17.4
23	---	---	---	---	---	---	---	---	---	17.8	17.3	17.6
24	---	---	---	---	---	---	---	---	---	17.8	17.4	17.6
25	---	---	---	---	---	---	---	---	---	18.3	17.4	17.7
26	---	---	---	---	---	---	---	---	---	18.4	17.3	18.0
27	---	---	---	---	---	---	---	---	---	17.7	17.2	17.4
28	---	---	---	---	---	---	---	---	---	17.7	17.1	17.4
29	---	---	---	---	---	---	---	---	---	18.0	16.9	17.4
30	---	---	---	---	---	---	---	---	---	20.5	17.2	19.1
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH												16.7
YEAR	21.6	4.4	11.3									

03314500 BARREN RIVER AT BOWLING GREEN, KY

LOCATION.--Lat 37°00'04", long 86°25'51", Warren County, Hydrologic Unit 05110002, near center of downstream side of abandoned College Street bridge, 700 ft upstream from bridge on U.S. Highways 31W and 68 at Bowling Green, 6.0 mi downstream from Drakes Creek, 8.9 mi upstream from Jennings Creek, and at mile 37.6.

DRAINAGE AREA.--1,849 mi^2, of which about 490 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1938 to September 1994, March 2002 to current year. Gage-height records collected in vicinity since 1901 are published in reports of National Weather Service (prior to 1940 records are for site about 7 mi downstream and are fragmentary prior to July 1924).

REVISED RECORDS.--WSP 1385; 1943, 1945, 1946(M). WRD KY-80-1; Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 409.83 ft above NGVD of 1929. Prior to June 21, 1944, nonrecording gage at same site and datum.

REMARKS.-Records fair except those estimated, which are poor. Flow regulated by Barren River Lake beginning March 1964.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District and National Streamflow Information Program.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 8, 1913 reached a stage of 52.2 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,170	3,510	11,100	4,700	e4,470	5,140	1,840	10,200	699	212	182	11,200
2	769	3,500	7,200	5,340	e4,670	4,990	5,950	4,180	698	206	180	4,610
3	502	3,460	5,400	5,990	4,700	4,770	5,040	4,080	702	203	175	5,060
4	346	3,370	5,240	5,850	4,700	4,660	3,370	4,260	696	199	172	4,700
5	235	3,310	4,910	4,600	4,660	4,580	2,500	4,060	682	205	166	4,390
6	249	3,270	4,980	4,310	4,610	4,490	1,960	3,840	658	205	162	4,200
7	328	3,240	7,270	5,480	4,580	4,470	1,630	3,690	671	213	161	4,050
8	425	3,200	11,700	10,200	4,630	5,020	1,630	3,580	635	211	159	3,940
9	566	3,170	5,300	8,660	4,730	5,110	1,820	3,480	623	202	159	3,850
10	571	3,140	7,440	4,840	4,710	4,840	1,390	3,410	626	194	158	3,780
11	572	3,260	4,580	3,690	4,610	4,940	e1,050	3,650	634	204	157	3,720
12	658	4,230	3,100	4,300	4,530	4,380	e760	3,730	702	214	157	3,660
13	722	4,130	3,470	3,860	4,790	3,890	e1,000	3,750	696	276	157	3,550
14	730	3,750	4,450	6,180	6,240	3,390	e1,100	3,990	685	379	156	2,100
15	1,420	3,490	4,950	4,900	6,250	3,190	e900	4,070	659	591	154	855
16	2,060	3,330	4,890	3,470	5,710	2,810	e800	4,020	628	692	155	1,060
17	2,060	3,240	4,750	2,690	5,310	2,450	e700	2,720	510	732	165	1,170
18	2,160	3,170	4,650	3,030	5,010	2,350	e650	1,520	422	738	322	1,160
19	3,330	3,130	4,560	4,230	4,800	2,040	e600	1,000	403	930	468	1,140
20	2,870	3,080	4,470	4,870	4,760	1,840	e550	3,270	393	1,050	699	1,120
21	3,150	3,020	4,380	4,850	7,320	1,790	e580	4,080	336	1,050	702	1,100
22	3,150	2,730	e3,200	4,720	8,310	1,480	647	3,270	255	1,200	641	1,090
23	3,080	2,650	e5,370	4,580	6,650	1,350	759	3,590	244	1,190	608	1,080
24	3,110	2,700	e6,260	4,480	5,810	1,290	745	3,810	229	1,090	590	1,070
25	3,090	3,310	e3,930	4,410	5,410	1,240	696	3,740	221	744	588	1,060
26	3,040	3,080	3,070	4,370	5,090	1,200	680	3,650	220	605	732	1,080
27	3,010	3,350	2,650	4,310	4,870	1,210	816	3,540	221	417	798	845
28	3,320	2,810	3,830	4,240	4,850	4,310	953	2,110	224	217	753	622
29	3,680	2,580	4,800	e4,170	---	4,360	1,090	963	219	192	1,610	626
30	3,630	3,390	5,080	e4,480	---	2,850	6,710	762	214	185	13,200	605
31	3,490	---	5,060	e4,600	---	2,110	---	724	---	183	20,300	---
TOTAL	57,493	97,600	162,040	150,400	146,780	102,540	48,916	106,739	14,805	14,929	44,786	78,493
MEAN	1,855	3,253	5,227	4,852	5,242	3,308	1,631	3,443	494	482	1,445	2,616
MAX	3,680	4,230	11,700	10,200	8,310	5,140	6,710	10,200	702	1,200	20,300	11,200
MIN	235	2,580	2,650	2,690	4,470	1,200	550	724	214	183	154	605

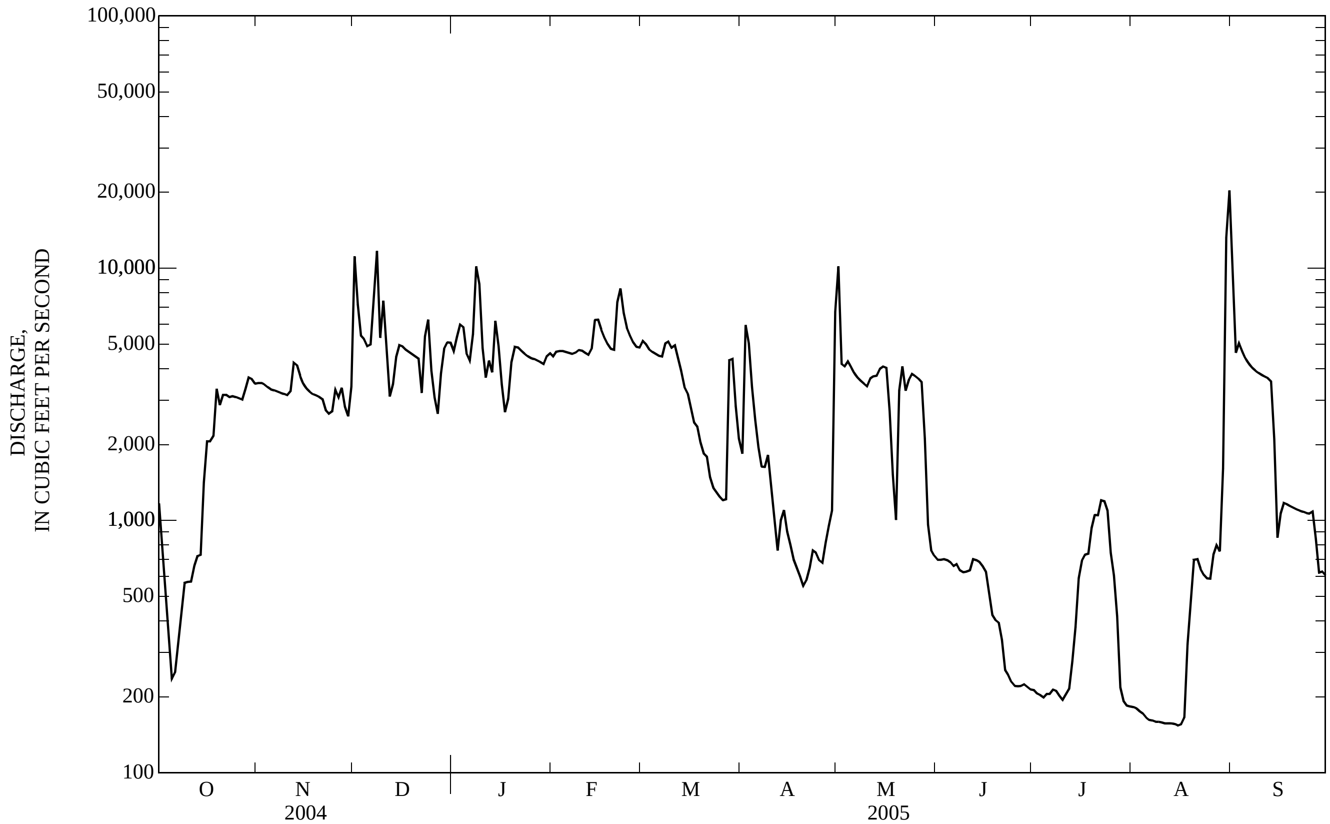
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1,862	3,150	3,984	4,317	4,848	4,052	3,000	2,861	2,082	1,490	902	1,282
MAX	4,027	6,097	9,210	9,141	9,830	10,450	8,368	9,408	5,825	5,059	3,468	5,358
(WY)	(1975)	(1980)	(1979)	(1979)	(1989)	(1975)	(1979)	(1983)	(1981)	(1989)	(1971)	(1979)
MIN	381	286	573	228	1,624	1,128	379	247	102	118	110	251
(WY)	(1977)	(1977)	(1981)	(1981)	(1992)	(1981)	(1986)	(1988)	(1988)	(1988)	(1991)	(1993)

03314500 BARREN RIVER AT BOWLING GREEN, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1965 - 2005	
ANNUAL TOTAL	1,129,523		1,025,521			
ANNUAL MEAN	3,086		2,810		2,813	
HIGHEST ANNUAL MEAN					5,001	1979
LOWEST ANNUAL MEAN					1,292	1988
HIGHEST DAILY MEAN	16,100	Feb 6	20,300	Aug 31	57,500	Mar 13, 1975
LOWEST DAILY MEAN	235	Oct 5	154	Aug 15	75	Jul 9, 1988
ANNUAL SEVEN-DAY MINIMUM	379	Oct 3	156	Aug 10	76	Jul 6, 1988
MAXIMUM PEAK FLOW			21,400	Aug 31	85,000	Feb 28, 1962
MAXIMUM PEAK STAGE			27.42	Aug 31	49.55	Feb 28, 1962
INSTANTANEOUS LOW FLOW					44	Sep 19, 1954
10 PERCENT EXCEEDS	5,180		5,070		5,910	
50 PERCENT EXCEEDS	3,120		3,030		2,140	
90 PERCENT EXCEEDS	702		221		300	

e Estimated



03316500 GREEN RIVER AT PARADISE, KY

LOCATION.--Lat 37°15'50", long 86°58'40", Muhlenberg County, Hydrologic Unit 05110003, on left bank of reservation of Tennessee Valley Authority generating plant, 0.4 mi southeast of Paradise, 1.1 mi downstream from Jacobs Creek, 2.8 mi upstream from Pond Creek, and at mile 98.8.

DRAINAGE AREA.--6,183 mi^2, of which about 1,380 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1939 to September 1950 (published as "at Green River"), October 1959 to September 1960 (low-water records only), October 1960 to September 1981 and July 1991 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 363.19 ft above NGVD of 1929 (levels by Tennessee Valley Authority). See WDR KY-81-1 for history of changes prior to October 31, 1979. Auxiliary water-stage recorder on U.S. Highway 62 bridge at Rockport, 4.4 mi downstream.

REMARKS.--Records fair except for those below 2000 ft^3/s, which are poor. Flow regulated by Nolin River Lake beginning March 1963, Barren River Lake beginning March 1964 and Green River Lake beginning February 1969.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,090	6,410	20,700	e28,000	13,800	12,900	16,500	e19,000	2,420	1,040	977	e39,700
2	4,480	8,710	29,300	e26,000	12,800	13,200	17,500	e27,000	2,290	1,020	e909	38,700
3	4,430	11,900	32,600	e29,000	12,100	13,400	21,700	25,200	2,260	958	e866	28,400
4	3,340	11,400	29,400	e28,900	11,800	12,600	22,500	18,800	2,240	934	824	19,600
5	2,420	11,000	22,000	e29,000	11,400	11,900	19,400	e15,500	2,250	983	789	15,400
6	1,870	11,500	21,500	28,100	11,000	11,300	15,700	e14,000	2,280	971	779	12,800
7	1,540	11,900	27,200	29,600	10,300	11,100	13,900	e12,300	2,210	942	740	10,000
8	1,370	11,900	34,600	32,700	10,300	16,200	e13,000	e10,500	2,050	941	735	8,590
9	1,320	11,800	37,800	35,800	10,800	19,000	e12,000	e9,500	1,960	1,000	725	7,210
10	1,340	11,300	39,900	37,200	11,300	19,200	e10,900	e8,600	1,870	997	719	5,940
11	1,390	10,300	39,400	35,200	11,200	18,000	e9,800	7,640	1,910	1,010	684	5,150
12	1,450	18,200	35,300	27,200	10,800	16,200	e9,100	6,690	2,370	992	646	4,650
13	1,780	21,400	27,900	21,800	11,900	14,100	e9,200	6,140	3,750	1,060	616	4,330
14	2,460	17,400	23,600	22,800	e17,800	11,900	9,850	6,170	4,040	1,120	657	4,100
15	2,820	14,800	22,300	23,000	e21,600	9,920	10,200	6,350	3,430	1,260	724	3,060
16	2,910	12,800	e21,500	21,200	e22,300	8,230	e10,000	6,290	2,820	1,550	746	2,490
17	3,150	11,000	e21,000	18,200	e20,700	6,830	e8,000	6,230	2,420	2,010	e770	2,160
18	3,470	9,010	e20,000	16,100	18,500	5,860	e7,200	5,670	2,220	2,390	e811	2,180
19	4,100	8,390	e18,900	15,400	16,800	5,250	e6,200	4,620	1,960	e2,420	e895	2,160
20	6,450	8,610	e17,800	16,900	15,300	4,820	e5,300	e4,750	1,730	e2,350	948	2,150
21	7,080	8,220	e16,900	19,300	15,600	4,370	e4,550	e8,600	1,570	2,490	1,070	2,120
22	7,020	7,740	e17,500	20,900	19,600	4,160	e4,100	e14,000	1,470	e2,540	1,180	2,050
23	7,250	7,430	e20,900	21,900	22,800	4,460	3,800	e13,800	1,340	e2,570	1,240	2,040
24	7,220	9,650	e24,500	22,000	21,700	5,110	3,680	e11,700	1,260	e2,540	1,290	2,010
25	6,600	12,600	e27,500	21,600	18,500	5,080	3,450	e10,100	1,190	e2,450	1,380	2,000
26	6,270	12,600	e23,500	21,000	15,900	4,660	e3,350	e8,700	1,140	e2,210	1,910	2,070
27	6,090	13,000	e17,900	19,200	14,100	5,900	e3,430	e7,700	1,130	e1,920	2,790	2,040
28	5,910	14,100	e16,300	16,700	12,900	20,300	e3,650	e6,600	1,100	e1,670	2,450	1,960
29	5,880	14,000	e16,800	14,700	---	29,700	e4,500	e6,200	1,080	1,340	3,390	1,970
30	6,130	13,600	e21,400	14,400	---	28,800	e8,200	e3,700	1,060	1,170	e13,200	1,770
31	6,200	---	e26,000	14,200	---	22,300	---	e2,900	---	1,030	e32,800	---
TOTAL	127,830	352,670	771,900	728,000	423,600	376,750	290,660	314,950	60,820	47,878	78,260	238,800
MEAN	4,124	11,760	24,900	23,480	15,130	12,150	9,689	10,160	2,027	1,544	2,525	7,960
MAX	7,250	21,400	39,900	37,200	22,800	29,700	22,500	27,000	4,040	2,570	32,800	39,700
MIN	1,320	6,410	16,300	14,200	10,300	4,160	3,350	2,900	1,060	934	616	1,770

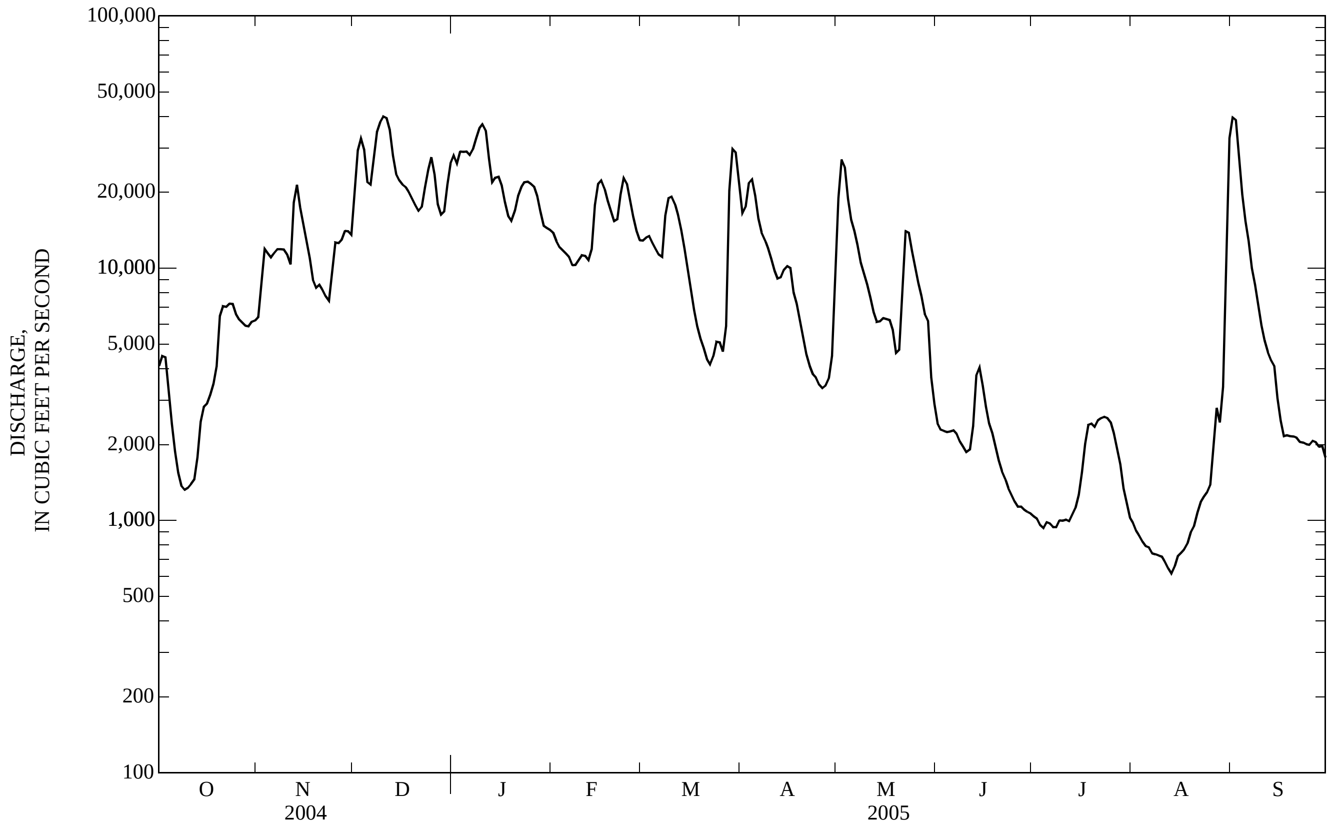
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5,037	8,266	13,650	15,790	15,870	16,690	13,130	10,550	7,768	3,722	2,711	3,906
MAX	16,950	19,310	42,250	36,020	26,410	41,520	34,210	25,950	20,190	8,811	8,743	22,540
(WY)	(1980)	(1980)	(1979)	(1974)	(1994)	(1997)	(1979)	(1995)	(1981)	(1973)	(1971)	(1979)
MIN	1,750	2,548	2,103	954	6,083	6,150	4,345	1,881	1,523	1,270	524	512
(WY)	(2001)	(2000)	(1981)	(1981)	(1977)	(1981)	(2001)	(2001)	(1999)	(2000)	(1999)	(1999)

03316500 GREEN RIVER AT PARADISE, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1970 - 2005	
ANNUAL TOTAL	4,296,650		3,812,118			
ANNUAL MEAN	11,740		10,440		9,771	
HIGHEST ANNUAL MEAN					18,460	1979
LOWEST ANNUAL MEAN					4,432	2001
HIGHEST DAILY MEAN	39,900	Dec 10	39,900	Dec 10	83,800	Mar 7, 1997
LOWEST DAILY MEAN	1,320	Oct 9	616	Aug 13	228	Oct 4, 2001
ANNUAL SEVEN-DAY MINIMUM	1,460	Oct 7	682	Aug 9	320	Sep 8, 1995
MAXIMUM PEAK FLOW			40,800	Sep 1	107,000	Mar 5, 1962
MAXIMUM PEAK STAGE			21.12	Sep 2	40.46	Mar 5, 1962
INSTANTANEOUS LOW FLOW					228	Oct 4, 2001
10 PERCENT EXCEEDS	24,500		22,900		22,700	
50 PERCENT EXCEEDS	8,630		7,700		6,060	
90 PERCENT EXCEEDS	2,380		1,080		1,340	

e Estimated



03318010 ROUGH RIVER AT ROUGH RIVER DAM NEAR FALLS OF ROUGH, KY

LOCATION.--Lat 37°37'19", long 86°30'15", Grayson County, Hydrologic Unit 05110004, on right bank 800 ft downstream from Rough River Dam, 1.5 mi upstream from Cane Run, 3.1 mi upstream from Rock Lick Creek, 3.5 mi northeast of Falls of Rough, and at mile 89.2.

DRAINAGE AREA.--454 mi^2, of which about 107 mi^2 does not contribute directly to surface runoff.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--July 1962 to current year.

INSTRUMENTATION.--Water-temperature recorder with telemetry.

COOPERATION.--U. S. Army Corps of Engineers, Louisville District and The Nature Conservancy.

EXTREMES FOR PERIOD OF DAILY RECORD.--Maximum recorded 29.0°C, July 7, 2002, minimum recorded 2.0°C, Jan. 3, 4, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum recorded 21.5°C, Sept. 7; minimum recorded 3.6°C , Dec. 28,

REMARKS.--Water-temperature records rated good.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.6	20.2	20.4	18.4	17.9	18.1	---	---	10.9	4.5	4.3	4.4
2	20.4	20.2	20.3	18.4	18.0	18.2	10.8	10.4	10.6	5.1	4.3	4.8
3	20.5	20.1	20.3	18.0	17.8	17.9	10.4	10.0	10.2	5.4	5.0	5.2
4	20.4	20.0	20.2	17.9	17.5	17.7	10.0	9.7	9.8	5.4	4.9	5.2
5	20.3	19.9	20.1	17.5	17.2	17.3	9.7	9.5	9.6	6.2	4.9	5.5
6	20.2	19.8	20.0	17.2	17.0	17.1	10.1	9.6	9.8	6.0	5.3	5.5
7	20.1	19.8	19.9	17.0	16.7	16.8	10.2	10.0	10.1	5.3	5.1	5.1
8	20.1	19.6	19.8	16.7	16.3	16.5	10.0	9.7	9.8	5.2	5.1	5.1
9	20.0	19.6	19.8	16.5	16.1	16.3	9.9	9.7	9.8	5.9	5.2	5.6
10	20.0	19.8	19.9	16.2	15.9	16.0	9.9	9.8	9.9	6.0	5.7	5.8
11	20.1	19.9	20.0	15.9	15.5	15.7	9.9	9.5	9.7	6.7	5.8	6.2
12	19.9	19.8	19.8	15.5	15.0	15.3	9.5	9.3	9.4	7.2	5.8	6.5
13	19.8	19.5	19.7	15.0	14.6	14.8	9.3	8.9	9.1	8.6	6.3	7.4
14	19.6	19.3	19.5	14.6	14.2	14.4	8.9	8.4	8.7	6.6	6.2	6.4
15	19.3	19.1	19.2	14.4	14.0	14.1	8.4	8.1	8.3	6.7	6.1	6.4
16	19.1	18.7	18.9	14.0	13.8	14.0	8.1	7.8	7.9	6.5	6.3	6.4
17	18.7	18.4	18.5	---	---	13.8	---	---	7.7	6.4	6.1	6.2
18	18.4	18.3	18.4	---	---	---	---	---	7.4	6.4	6.0	6.2
19	18.3	18.1	18.3	---	---	---	7.3	6.7	7.0	6.3	6.1	6.2
20	---	---	18.1	---	---	---	6.7	6.1	6.4	6.4	6.3	6.3
21	18.0	17.9	17.9	---	---	---	6.4	6.0	6.2	6.4	6.2	6.3
22	18.1	17.9	18.0	---	---	---	6.3	5.4	6.0	6.3	5.9	6.1
23	18.2	18.0	18.1	---	---	12.9	5.5	4.7	5.1	5.9	5.7	5.8
24	18.1	17.9	18.0	---	---	13.3	4.7	4.3	4.5	5.7	5.5	5.6
25	17.9	17.8	17.9	13.1	12.4	12.6	4.3	3.9	4.1	5.9	5.5	5.7
26	17.9	17.8	17.9	12.4	12.1	12.3	4.0	3.8	3.9	5.8	5.6	5.7
27	17.9	17.8	17.9	12.1	11.9	12.0	3.8	3.7	3.7	5.6	5.4	5.5
28	18.0	17.8	17.8	11.9	11.7	11.8	4.0	3.6	3.8	5.4	5.3	5.4
29	18.1	17.9	18.0	11.7	11.3	11.5	4.1	3.7	3.9	5.4	5.3	5.3
30	18.4	17.9	18.2	---	---	---	4.2	3.9	4.0	5.4	5.3	5.3
31	18.0	17.9	18.0	---	---	---	4.5	4.2	4.4	5.4	5.3	5.3
MONTH			19.0						7.5	8.6	4.3	5.8

03318010 ROUGH RIVER AT ROUGH RIVER DAM NEAR FALLS OF ROUGH, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	5.3	5.4	---	---	8.4	10.2	9.7	9.8	11.1	10.5	10.7
2	---	---	5.1	8.2	7.9	8.0	10.2	9.6	9.9	11.8	10.5	11.1
3	5.5	5.4	5.5	---	---	8.0	10.4	9.7	10.0	12.3	11.3	11.9
4	5.8	5.4	5.6	---	---	8.0	10.8	9.8	10.3	12.6	12.0	12.2
5	6.0	5.6	5.8	---	---	8.3	12.8	10.5	11.2	12.6	12.1	12.3
6	6.1	5.7	5.9	---	---	8.4	11.0	10.3	10.7	12.2	11.0	11.6
7	6.2	6.0	6.1	8.9	8.4	8.7	11.2	10.1	10.5	11.6	10.8	11.2
8	6.4	6.1	6.3	8.4	8.1	8.3	---	---	10.3	11.6	10.8	11.2
9	6.3	6.2	6.3	8.2	7.9	8.0	11.1	10.0	10.4	11.5	10.9	11.1
10	6.3	6.0	6.1	8.2	7.9	8.0	11.9	10.1	10.6	12.1	11.0	11.4
11	6.2	5.8	6.0	8.0	7.8	7.9	11.4	10.1	10.5	12.1	10.8	11.3
12	6.4	5.9	6.1	8.0	7.7	7.9	---	---	10.4	12.2	10.9	11.4
13	---	---	6.3	8.0	7.8	7.9	10.6	10.2	10.3	13.1	10.8	11.4
14	7.2	6.5	6.8	8.0	7.7	7.8	11.4	10.0	10.5	11.8	10.8	11.1
15	7.8	7.1	7.4	---	---	7.8	11.5	10.1	10.5	11.4	10.9	11.1
16	8.1	7.7	7.9	8.3	7.7	7.9	11.3	10.1	10.5	11.6	10.9	11.2
17	8.4	8.1	8.2	8.7	7.6	8.1	---	---	10.8	11.6	11.0	11.3
18	8.4	8.1	8.3	9.5	7.6	8.6	11.6	10.2	10.7	11.7	11.2	11.4
19	8.5	8.3	8.4	9.4	8.3	8.9	11.9	10.1	10.6	11.7	11.2	11.4
20	8.4	8.2	8.3	9.5	8.0	8.7	11.7	10.1	10.7	12.0	11.3	11.6
21	8.5	8.4	8.5	9.1	7.9	8.4	11.5	10.3	10.7	12.1	11.4	11.7
22	8.6	8.5	8.6	8.6	8.1	8.4	12.0	10.4	10.8	13.1	11.3	12.2
23	8.7	8.6	8.6	8.6	8.3	8.4	10.5	10.2	10.3	13.6	12.9	13.3
24	8.6	8.5	8.6	9.0	8.4	8.7	11.8	10.2	10.7	14.1	13.4	13.7
25	8.8	8.3	8.6	10.6	8.4	9.2	12.0	10.2	10.8	14.6	13.6	14.0
26	8.8	8.3	8.6	9.5	8.7	9.0	10.9	10.4	10.6	14.4	13.8	14.2
27	8.6	8.3	8.4	9.0	8.7	8.8	10.9	10.3	10.6	14.4	13.9	14.2
28	---	---	8.5	9.2	8.9	9.0	10.8	10.4	10.6	14.5	12.5	13.4
29	---	---	---	10.3	8.9	9.4	10.9	10.6	10.7	12.7	12.5	12.6
30	---	---	---	10.3	9.1	9.7	10.8	10.6	10.6	12.9	12.4	12.7
31	---	---	---	9.9	9.7	9.8	---	---	---	13.1	12.3	12.7
MONTH	8.8	5.3	7.2			8.5			10.5	14.6	10.5	12.0
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.9	12.3	12.6	16.0	13.4	14.1	14.8	14.0	14.3	16.2	14.5	15.4
2	12.7	12.4	12.6	14.8	13.4	13.9	14.8	14.0	14.3	18.0	16.2	17.3
3	12.9	12.4	12.6	14.9	13.4	14.0	15.2	13.9	14.4	18.7	18.0	18.5
4	13.3	12.4	12.7	14.6	13.3	13.7	15.2	14.0	14.5	19.8	18.7	19.3
5	14.5	12.3	12.9	14.5	13.1	13.6	14.9	14.0	14.3	20.5	19.4	20.1
6	13.7	12.3	12.8	15.0	13.3	13.8	15.2	13.9	14.4	21.1	20.3	20.8
7	13.1	12.3	12.7	14.6	13.4	13.7	---	---	14.3	---	---	21.1
8	13.1	12.4	12.8	14.1	13.5	13.7	14.7	13.9	14.2	21.4	20.3	20.8
9	13.0	12.6	12.8	14.4	13.4	13.8	14.9	14.0	14.3	21.0	19.3	20.1
10	13.3	12.6	12.8	14.3	13.5	13.8	15.3	14.0	14.5	20.0	19.4	19.7
11	12.9	12.5	12.7	13.9	13.4	13.6	15.0	14.1	14.4	20.0	19.4	19.7
12	13.1	12.6	12.8	14.0	13.3	13.6	---	---	14.4	20.1	19.6	19.7
13	13.2	12.6	12.9	13.7	13.2	13.4	---	---	---	20.1	19.6	19.8
14	13.3	12.7	13.0	13.7	13.3	13.5	15.5	14.0	14.4	20.2	19.6	19.9
15	13.4	12.7	13.0	---	---	13.5	15.0	14.0	14.4	20.1	19.7	19.9
16	13.2	12.7	13.0	13.8	13.3	13.5	---	---	14.4	20.2	19.7	20.0
17	13.2	12.8	13.0	14.1	13.4	13.6	---	---	14.4	20.2	19.7	20.0
18	13.2	12.8	12.9	13.8	13.4	13.6	15.1	14.2	14.4	20.2	19.8	20.0
19	13.2	12.7	12.9	14.3	13.5	13.7	15.2	14.1	14.5	20.4	19.8	20.1
20	13.3	12.7	13.0	13.9	13.4	13.6	---	---	---	20.3	19.9	20.2
21	13.3	12.7	13.0	14.0	13.4	13.8	---	---	---	20.5	19.9	20.1
22	13.4	12.8	13.0	14.9	13.8	14.2	15.0	14.3	14.5	20.6	20.0	20.2
23	13.9	12.8	13.3	14.8	14.3	14.5	15.1	14.3	14.6	20.5	20.1	20.2
24	14.3	13.2	13.6	15.3	14.5	14.8	---	---	---	20.5	20.1	20.2
25	14.3	13.3	13.7	15.3	14.3	14.6	---	---	14.7	20.4	20.0	20.2
26	14.1	13.3	13.6	14.9	13.8	14.3	15.6	14.4	14.6	20.7	19.5	20.3
27	14.0	13.2	13.5	14.2	13.6	13.9	14.9	14.4	14.6	21.0	20.2	20.6
28	14.5	13.2	13.7	15.4	13.6	14.3	15.8	14.4	14.6	20.8	20.2	20.4
29	14.3	13.5	13.8	15.4	13.9	14.4	14.8	14.4	14.5	20.6	20.2	20.4
30	14.4	13.3	13.8	14.8	13.9	14.4	15.7	14.4	15.0	20.7	20.1	20.3
31	---	---	---	15.1	13.9	14.4	15.5	14.7	15.0	---	---	---
MONTH	14.5	12.3	13.1			13.9			14.5			19.8
YEAR	21.4	3.6	12.2									

03320000 GREEN RIVER AT LOCK 2 AT CALHOUN, KY

LOCATION.--Lat 37°32'02", long 87°15'50", McLean County, Hydrologic Unit 05110005, 870 ft upstream from Lock and Dam 2, on right bank 0.2 mi downstream from bridge on State Highway 81 at Calhoun, 0.2 mi upstream from Long Falls Creek, and at mile 63.3.

DRAINAGE AREA.--7,566 mi^2, of which about 1,540 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--March 1930 to current year. Prior to October 1958, published as "at Livermore".

REVISED RECORDS.--WSP 1385: 1939. WDR KY-82-1: Drainage area.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 353.95 ft above NGVD of 1929. Auxiliary water-stage recorder at Livermore, 8.0 mi upstream at datum 360.11 ft above NGVD of 1929. See WDR KY-88-1 for history of changes prior to Sept. 30, 1958.

REMARKS.--Records good except for those estimated and discharges below 2,000 ft^3/s, which are poor. Flow regulated by Rough River Lake, October 1959, Nolin Lake beginning March 1963, Barren River Lake beginning March 1964, and Green River Lake beginning February 1969.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,590	8,240	21,800	31,900	14,600	13,500	22,400	22,600	2,580	990	934	36,200
2	4,850	12,800	29,800	31,300	13,800	13,600	21,800	29,600	2,400	950	893	36,800
3	5,060	15,100	33,200	35,000	13,500	13,600	24,600	27,300	2,370	914	824	30,800
4	3,800	14,500	32,600	36,800	13,100	13,100	25,900	20,000	2,390	924	770	20,900
5	2,650	13,800	26,700	36,200	12,800	12,800	22,800	18,000	e2,400	953	739	17,000
6	2,040	13,800	23,400	34,600	12,700	12,400	18,200	e16,100	e2,420	942	721	15,200
7	1,700	14,300	28,700	35,300	12,200	12,300	15,700	e14,800	e2,300	892	684	12,600
8	1,510	14,300	35,500	36,300	12,400	15,900	15,400	e13,200	e2,150	899	674	10,900
9	1,430	14,300	38,500	37,700	12,800	18,700	14,000	e11,900	2,050	984	656	9,200
10	1,430	13,900	40,400	38,200	13,200	18,900	12,300	10,800	1,970	986	633	7,530
11	1,460	12,900	40,800	38,900	12,900	18,000	12,700	8,990	1,970	978	615	6,220
12	1,560	19,100	39,600	35,300	12,600	16,000	10,900	7,800	2,440	1,010	589	5,280
13	1,830	24,000	35,600	28,700	13,300	14,000	11,200	7,160	4,400	1,010	562	4,800
14	2,590	20,600	29,000	27,100	19,800	12,500	12,000	7,370	4,840	1,090	583	4,480
15	3,000	17,500	24,700	26,600	23,000	12,200	12,000	7,490	3,910	1,270	671	3,750
16	3,080	15,600	23,900	24,900	23,600	10,600	10,600	7,510	3,020	1,590	691	2,670
17	3,540	13,600	23,400	20,600	22,100	8,810	8,920	7,400	2,520	2,100	695	2,200
18	4,190	11,400	22,500	16,100	20,100	7,650	7,890	6,800	2,230	2,570	776	2,250
19	4,810	10,700	21,600	14,000	18,100	6,780	7,230	5,470	1,980	2,560	869	2,300
20	7,700	11,100	20,200	15,300	16,500	6,120	6,190	4,740	1,720	2,530	928	2,260
21	8,770	10,700	18,500	18,600	16,200	5,560	5,070	10,800	1,570	2,640	1,040	2,210
22	8,770	10,000	18,400	21,700	19,400	5,280	4,400	15,900	1,460	2,760	1,180	2,180
23	8,980	9,480	21,700	23,100	22,700	5,650	4,030	15,500	1,380	2,820	1,240	2,170
24	9,050	12,000	25,800	24,000	22,100	6,660	3,970	13,300	1,300	2,750	1,300	2,120
25	8,320	15,400	29,400	24,200	18,800	6,880	3,880	11,100	1,230	2,680	1,420	2,100
26	7,900	15,500	27,500	23,700	15,900	6,230	3,710	9,620	1,160	2,380	2,000	2,110
27	7,660	15,700	20,800	20,700	14,000	e7,900	3,740	8,470	1,140	1,890	3,060	2,110
28	7,510	16,400	17,400	17,200	13,500	e24,000	3,910	7,690	1,120	1,550	2,660	2,060
29	7,450	16,300	17,000	15,400	---	e35,000	4,760	6,440	1,100	1,330	3,160	2,000
30	7,660	16,300	21,100	15,200	---	33,500	11,900	4,500	1,060	1,140	13,200	1,820
31	7,760	---	30,100	14,900	---	28,700	---	3,180	---	1,010	30,300	---
TOTAL	152,650	429,320	839,600	819,500	455,700	422,820	342,100	361,530	64,580	49,092	75,067	254,220
MEAN	4,924	14,310	27,080	26,440	16,280	13,640	11,400	11,660	2,153	1,584	2,422	8,474
MAX	9,050	24,000	40,800	38,900	23,600	35,000	25,900	29,600	4,840	2,820	30,300	36,800
MIN	1,430	8,240	17,000	14,000	12,200	5,280	3,710	3,180	1,060	892	562	1,820

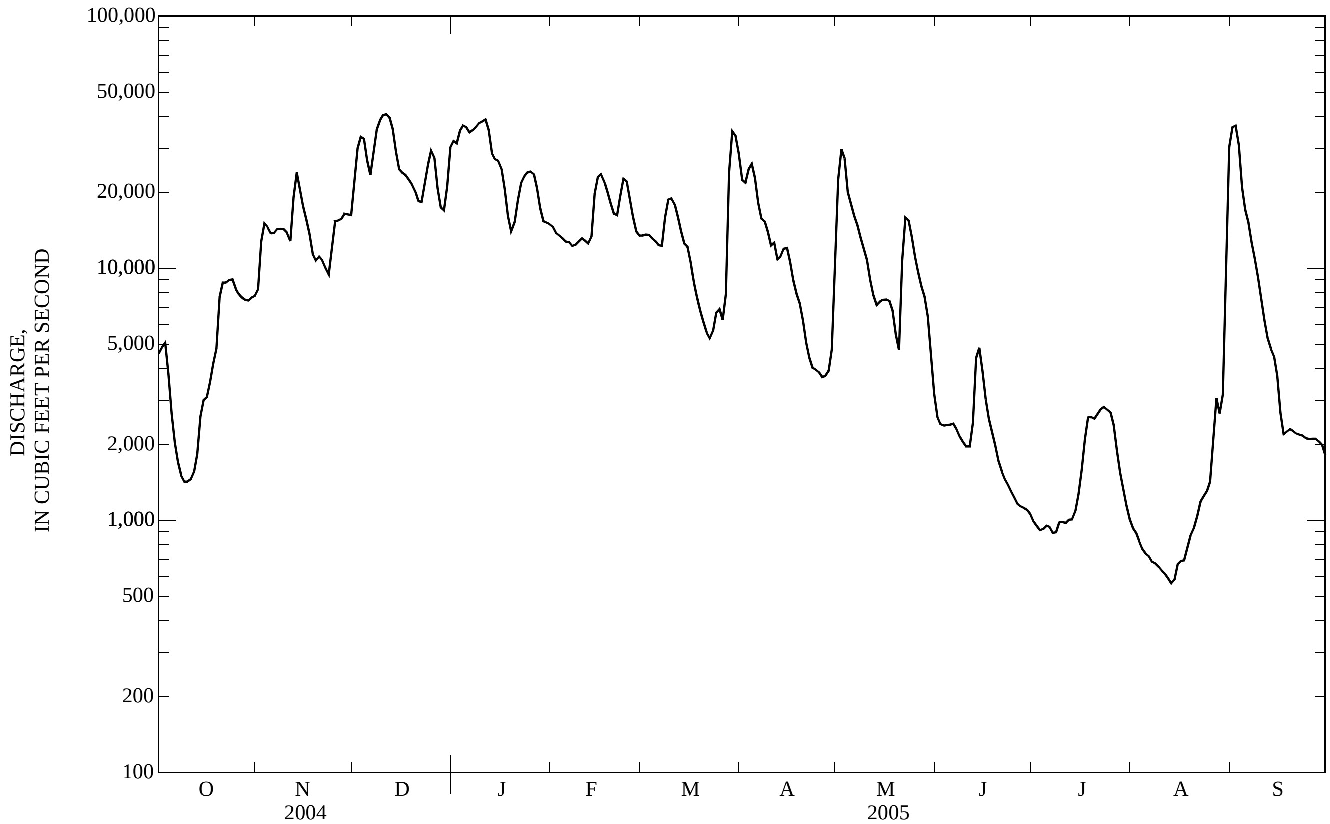
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5,594	10,440	16,750	18,590	21,600	19,550	15,350	13,450	8,873	4,465	2,875	4,352
MAX	19,100	22,770	46,530	41,100	52,100	53,330	42,430	50,460	23,850	12,260	8,763	27,360
(WY)	(1980)	(1980)	(1979)	(1974)	(1989)	(1997)	(1979)	(1983)	(1981)	(1989)	(1971)	(1979)
MIN	1,875	2,737	2,496	1,223	7,116	7,479	2,260	1,706	541	1,235	362	354
(WY)	(2000)	(2000)	(1981)	(1981)	(1977)	(1981)	(1986)	(1988)	(1988)	(2000)	(1999)	(1999)

03320000 GREEN RIVER AT LOCK 2 AT CALHOUN, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1970 - 2005	
ANNUAL TOTAL	4,990,730		4,266,179			
ANNUAL MEAN	13,640		11,690		11,770	
HIGHEST ANNUAL MEAN					22,070	1979
LOWEST ANNUAL MEAN					5,345	2000
HIGHEST DAILY MEAN	40,800	Dec 11	40,800	Dec 11	85,200	Mar 7, 1997
LOWEST DAILY MEAN	1,430	Oct 9	562	Aug 13	162	Sep 6, 1999
ANNUAL SEVEN-DAY MINIMUM	1,560	Oct 7	616	Aug 9	186	Sep 5, 1999
MAXIMUM PEAK FLOW			41,100	Dec 11	208,000	Jan 27, 1937
MAXIMUM PEAK STAGE			20.91	Dec 11	42.40	Jan 30, 1937
INSTANTANEOUS LOW FLOW					107	Sep 14, 1999
10 PERCENT EXCEEDS	29,400		27,200		29,500	
50 PERCENT EXCEEDS	10,700		9,200		7,260	
90 PERCENT EXCEEDS	2,610		1,080		1,410	

e Estimated



03320500 POND RIVER NEAR APEX, KY

LOCATION.--Lat 37°07'20", long 87°19'10", Muhlenberg County, Hydrologic Unit 05110006, on downstream side of bridge near right bank on State Highway 189, 1.1 mi downstream from Coal Creek, 2.1 mi northeast of Apex, 5.7 mi upstream from West Fork, and at mile 62.8.

DRAINAGE AREA.--194 mi^2.

PERIOD OF RECORD.--August 1940 to current year. October 1953 to September 1971, published as "East Fork Pond River near Apex".

REVISED RECORDS.--WSP 1083: 1942-46. WSP 1555: 1945-46(P), drainage area, WRD KY-93: 1989-91(P), WRD KY-97: 1989-96(P).

GAGE.--Water-stage recorder with telemetry. Datum of gage is 384.53 ft above NGVD of 1929. Prior to Aug. 21, 1942, non-recording gage at same site. Prior to Oct. 1, 1974, at datum 6.11 ft higher.

REMARKS.--Records fair except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 2	1100	3,510	17.30	Mar 28	0600	4,910	18.39
Jan 6	0900	2,840	16.67	Sep 1	0200	*6,360	*19.32

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.71	50	1,510	2,080	166	241	693	1,250	23	6.7	2.5	e5,290
2	0.72	133	1,170	e2,540	143	222	782	751	24	6.3	2.1	e2,030
3	0.61	297	761	e2,540	214	178	672	439	34	6.2	1.9	1,300
4	0.58	191	449	2,050	248	150	482	267	45	5.7	1.7	815
5	0.57	107	280	1,950	203	132	328	176	32	7.9	1.5	511
6	0.56	67	936	e2,200	164	118	239	128	26	11	1.7	337
7	0.52	44	1,660	e2,020	140	144	362	102	21	12	4.0	202
8	0.49	32	1,650	2,430	134	888	786	84	18	12	8.6	120
9	0.51	24	1,210	1,770	135	730	667	70	19	11	8.6	70
10	0.54	20	927	1,270	131	462	421	71	25	10	8.9	42
11	0.48	35	653	829	118	318	278	57	22	11	7.4	31
12	0.63	665	477	607	107	236	e213	47	39	13	5.5	25
13	1.0	546	332	661	322	184	e175	41	191	15	4.3	22
14	1.3	281	232	1,120	1,030	148	e150	62	133	17	3.6	19
15	1.7	183	170	842	916	122	e130	108	70	20	5.1	16
16	2.4	136	133	556	590	107	e120	85	41	21	21	13
17	3.1	100	113	377	388	98	e110	54	28	42	28	12
18	4.0	71	98	256	257	89	106	40	22	62	18	10
19	6.5	69	86	201	193	81	99	36	18	55	21	10
20	9.0	83	72	174	169	75	e88	536	14	53	21	9.5
21	12	78	64	153	380	70	e81	605	12	30	15	9.5
22	14	68	321	134	644	68	79	265	10	23	11	10
23	18	122	735	115	452	145	109	149	9.4	23	8.6	8.6
24	25	770	500	101	301	214	105	99	8.7	24	6.7	7.2
25	31	902	312	93	225	177	86	70	8.1	18	7.0	7.9
26	34	518	216	91	179	141	78	51	7.3	14	129	8.1
27	38	288	159	85	151	1,000	112	40	7.0	10	346	6.0
28	43	367	128	76	156	e4,480	119	33	7.8	7.2	208	4.0
29	45	329	191	85	---	e2,840	172	30	7.8	5.3	855	3.4
30	43	609	1,120	176	---	e1,680	1,320	27	7.4	3.9	3,870	2.9
31	43	---	2,190	200	---	1,110	---	25	---	3.0	5,670	---
TOTAL	381.92	7,185	18,855	27,782	8,256	16,648	9,162	5,798	930.5	559.2	11,302.7	10,952.1
MEAN	12.3	240	608	896	295	537	305	187	31.0	18.0	365	365
MAX	45	902	2,190	2,540	1,030	4,480	1,320	1,250	191	62	5,670	5,290
MIN	0.48	20	64	76	107	68	78	25	7.0	3.0	1.5	2.9
CFSM	0.06	1.23	3.14	4.62	1.52	2.77	1.57	0.96	0.16	0.09	1.88	1.88
IN.	0.07	1.38	3.62	5.33	1.58	3.19	1.76	1.11	0.18	0.11	2.17	2.10

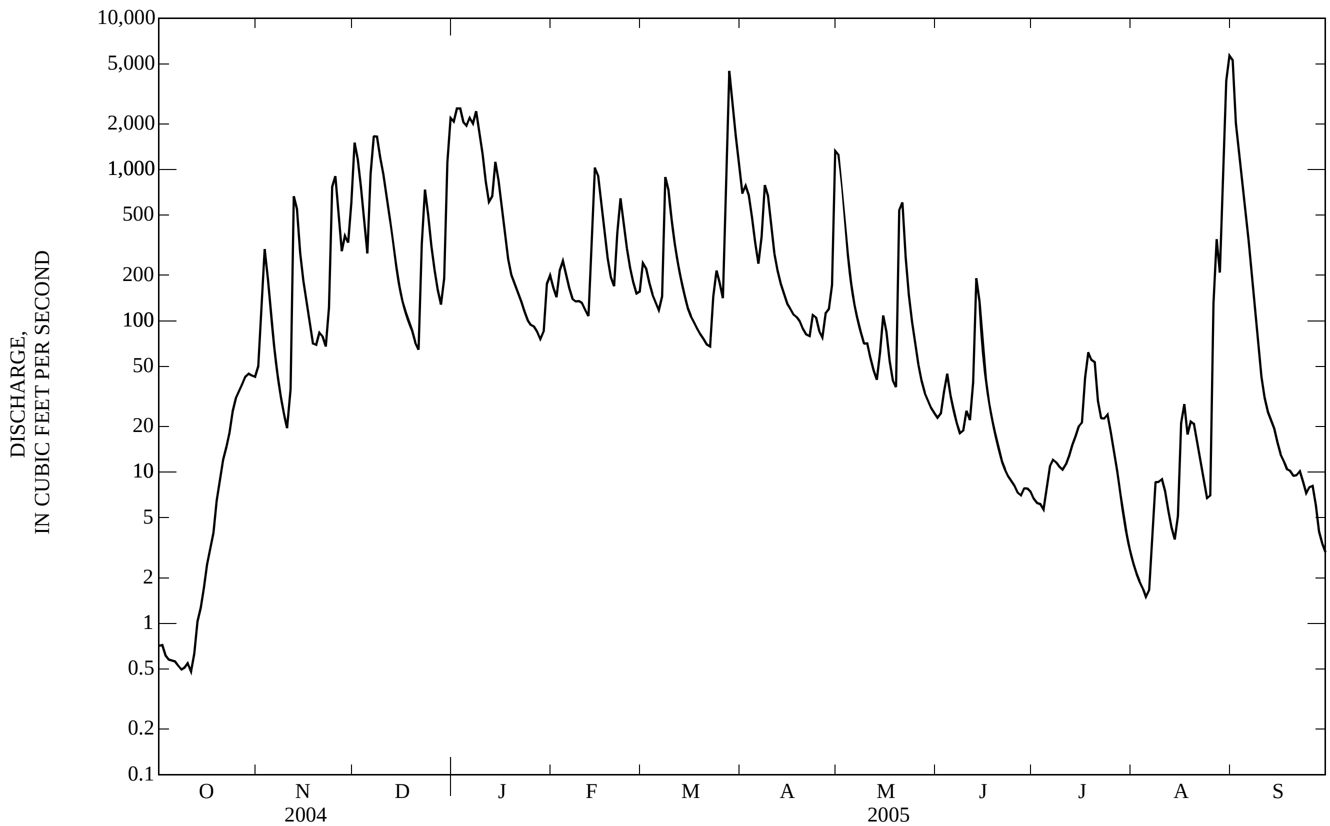
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.1	174	407	455	608	595	436	332	119	58.3	36.8	66.3
MAX	485	1,430	2,167	2,024	3,988	2,519	1,822	2,607	900	440	365	988
(WY)	(2003)	(1958)	(1979)	(1950)	(1989)	(1997)	(1979)	(1984)	(1969)	(1989)	(2005)	(1979)
MIN	0.00	0.00	0.00	3.56	42.6	35.2	39.2	6.46	1.37	0.44	0.19	0.00
(WY)	(1954)	(1954)	(1964)	(1981)	(1941)	(1941)	(1986)	(1941)	(1964)	(1964)	(1993)	(1953)

03320500 POND RIVER NEAR APEX, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	105,080.87		117,812.42			
ANNUAL MEAN	287		323		275	
HIGHEST ANNUAL MEAN					643	1979
LOWEST ANNUAL MEAN					59.8	1941
HIGHEST DAILY MEAN	2,190	Dec 31	5,670	Aug 31	28,400	Feb 15, 1989
LOWEST DAILY MEAN	0.48	Oct 11	0.48	Oct 11	0.00	Oct 21, 1940
ANNUAL SEVEN-DAY MINIMUM	0.52	Oct 5	0.52	Oct 5	0.00	Oct 21, 1940
MAXIMUM PEAK FLOW			6,360	Sep 1	35,700	May 7, 1984
MAXIMUM PEAK STAGE			19.32	Sep 1	26.81	Nov 19, 1957
ANNUAL RUNOFF (CFSM)	1.48		1.66		1.42	
ANNUAL RUNOFF (INCHES)	20.15		22.59		19.25	
10 PERCENT EXCEEDS	851		868		736	
50 PERCENT EXCEEDS	113		89		49	
90 PERCENT EXCEEDS	4.5		5.9		0.80	

e Estimated



03378500 WABASH RIVER AT NEW HARMONY, IN

(National stream-quality accounting network station)

LOCATION.-- Lat 38°07'55', long 87°56'25", Posey County, Hydrologic Unit 05120113, at bridge on U.S. Highway 66 at New Harmony, and at mile 51.5.

DRAINAGE AREA.--29,234 mi^2.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES.--October 1974 to 1986, 1997 to current water year.
SEDIMENT DISCHARGE.--Partial record station--October 1974 to 1985.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--October 1974 to September 1980.
WATER TEMPERATURES.--October 1974 to September 1980.

REMARKS.--Water discharge obtained from station Wabash River at Mount Carmel, IL. (03377500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--Maximum daily recorded, 805 microsiemens, Feb. 15, 1977; minimum daily recorded, 200 microsiemens, Mar. 3, 1979.
WATER TEMPERATURES.--Maximum daily recorded, 32.0°C, June 28, 1978, July 14-18, 1980; minimum daily recorded, freezing point on many days during the winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	UV absorb- ance, 254 nm, wat flt units /cm (50624)	UV absorb- ance, 280 nm, wat flt units /cm (61726)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV												
18...	1210	Environmental	25,800	.143	.108	768	10.7	7.7	476	11.0	210	56.0
DEC												
13...	1330	Environmental	61,000	.158	.121	772	10.2	7.7	447	8.0	210	55.3
JAN												
14...	1230	Environmental	263,000	.155	.119	782	10.8	7.6	235	6.5	130	35.4
FEB												
02...	1310	Environmental	58,800	.116	.087	773	12.6	7.6	458	3.0	220	58.1
02...	1318	Field Blank	--	--	--	--	--	--	--	--	--	.09
MAR												
22...	1210	Environmental	21,400	.070	.051	763	14.3	8.2	584	9.5	290	77.7
22...	1218	Field Blank	--	.004	.004	--	--	--	--	--	--	--
APR												
05...	1250	Environmental	37,900	.113	.085	768	10.9	8.0	455	14.0	210	54.4
05...	1300	Replicate	--	.110	.082	--	--	--	--	--	210	55.9
18...	1230	Environmental	26,500	.098	.073	772	11.5	8.0	496	18.0	220	58.6
18...	1238	Field Blank	--	--	--	--	--	--	--	--	--	--
MAY												
11...	1230	Environmental	20,600	--	--	770	13.5	8.2	560	21.0	260	64.9
11...	1238	Field Blank	--	--	--	--	--	--	--	--	--	--
24...	1150	Environmental	38,600	.114	.086	764	11.2	7.6	432	20.5	200	51.9
JUN												
07...	1240	Environmental	13,500	.074	.055	767	10.3	8.2	561	26.0	260	64.6
07...	1250	Replicate	--	.074	.055	--	--	--	--	--	260	63.8
16...	1210	Environmental	36,400	.129	.097	765	6.0	7.5	462	26.0	200	51.0
21...	1210	Environmental	23,700	.120	.089	772	8.1	7.7	483	25.5	220	57.1
21...	1218	Field Blank	--	--	--	--	--	--	--	--	--	--
AUG												
10...	1130	Environmental	6,340	.091	.067	771	8.2	8.2	492	30.5	200	39.3
SEP												
07...	1240	Environmental	10,100	.120	.089	775	8.6	7.8	430	26.0	180	46.8

03378500 WABASH RIVER AT NEW HARMONY, IN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV													
18...	17.2	4.56	14.4	147	179	22.7	.2	9.23	47.6	290	.39	.77	E.03
DEC													
13...	16.6	3.99	10.2	136	166	20.5	.2	9.68	35.4	263	.42	.83	<.04
JAN													
14...	10.1	3.92	6.19	88	107	12.4	.2	6.99	19.4	166	.41	.81	E.04
FEB													
02...	17.4	3.40	11.8	151	184	20.3	.2	8.27	39.6	269	.35	.58	E.02
02...	E.006	E.007	<.20	--	--	.09	.02	.06	.02	--	--	--	--
MAR													
22...	24.1	2.47	16.5	180	219	28.5	.2	3.33	53.7	348	.24	.86	<.04
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	16.9	2.61	13.9	132	162	22.9	.2	4.45	43.8	266	.31	.89	<.04
05...	17.3	2.72	13.9	--	--	22.8	.2	4.55	43.9	259	.33	.86	<.04
18...	18.6	2.65	15.2	150	183	24.2	.2	1.98	51.8	283	.32	.98	<.04
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
11...	24.3	2.48	18.4	172	210	30.9	.2	.73	52.1	328	.35	1.5	<.04
11...	--	--	--	--	--	--	--	--	--	--	--	--	E.005
24...	17.1	3.07	12.8	139	170	19.7	.2	5.64	38.7	276	.39	1.3	<.04
JUN													
07...	23.9	2.51	18.2	179	218	30.1	.2	1.44	55.3	317	.29	1.1	<.04
07...	23.8	2.52	18.0	179	218	30.1	.2	1.41	55.4	318	.31	1.1	<.04
16...	18.8	4.36	16.0	128	156	24.7	.2	6.42	50.2	277	.42	1.5	E.04
21...	18.8	3.74	14.2	145	177	25.2	.2	8.65	41.8	287	.43	1.1	<.04
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	24.7	3.58	26.5	136	154	40.0	.3	.09	60.2	292	.40	1.1	<.04
SEP													
07...	15.9	3.75	17.8	122	148	26.1	.2	5.33	46.9	247	.36	1.0	<.04

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Partic-ulate nitro-gen, susp, water, mg/L (49570)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor-ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheo-phytin a, phyto-plank-ton, ug/L (62360)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Arsenic water, fltrd, ug/L (01000)
NOV													
18...	2.37	E.006	.31	.096	.113	.23	2.9	<.1	2.9	4.8	E5.2	E8.0	1.1
DEC													
13...	4.01	.013	.44	.101	.126	.26	4.2	<.1	4.2	5.1	--	--	1.0
JAN													
14...	2.58	.014	.39	.114	.124	.25	3.2	<.1	3.2	4.6	--	--	.9
FEB													
02...	2.86	.012	.34	.093	.108	.21	3.2	<.1	3.2	3.6	--	--	.8
02...	--	--	--	--	--	--	--	--	--	--	--	--	<.2
MAR													
22...	2.27	E.006	.52	<.006	.007	.13	3.4	.2	3.3	2.3	9.8	42.1	.8
22...	--	--	<.02	--	--	--	<.1	<.1	<.1	.5	--	--	--
APR													
05...	2.40	.008	.25	.030	.045	.19	2.3	<.1	2.2	3.4	5.2	20.5	.8
05...	2.40	E.007	.39	.032	.044	.20	3.0	<.1	3.0	3.4	4.2	17.3	.7
18...	1.95	.012	.70	.006	.018	E.18	5.4	<.1	5.3	3.4	33.0	46.8	.7
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
11...	2.59	.009	1.07	<.006	.018	.15	8.3	.7	7.6	2.9	--	--	.7
11...	E.008	<.002	--	<.006	--	--	--	--	--	--	--	--	--
24...	2.99	.033	.86	.037	.052	.29	7.5	.3	7.2	3.5	17.0	20.3	.9
JUN													
07...	1.31	.010	.70	<.006	.010	.16	5.1	.2	5.0	2.7	45.6	31.1	.9
07...	1.32	.010	.76	<.006	.010	.16	5.3	<.1	5.2	2.8	51.1	35.0	.9
16...	4.07	.136	.75	.059	.077	.33	6.7	<.1	6.6	4.1	36.5	23.2	1.1
21...	4.87	.036	.59	.066	.082	.24	4.8	.1	4.7	4.0	19.9	18.9	1.4
21...	--	--	--	--	--	--	--	--	--	--	<.2	<.2	--
AUG													
10...	<.06	<.008	.78	<.006	.013	.07	7.4	<.1	7.4	3.5	32.7	53.7	1.4
SEP													
07...	.64	.012	.86	.024	.040	.19	7.2	<.1	7.2	3.7	37.2	72.2	1.2

03378500 WABASH RIVER AT NEW HARMONY, IN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)	Vanadium, water, fltrd, ug/L (01085)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)
NOV													
18...	68	14	2.2	E.4	181	1.1	<.006	E.042	<.010	<.005	<.005	.141	<.050
DEC													
13...	40	11	1.5	.7	135	.8	<.006	E.036	<.020	<.005	<.005	.136	<.050
JAN													
14...	21	23	.8	E.4	81.5	.7	<.006	E.027	.022	.005	<.005	.075	<.050
FEB													
02...	53	8	2.3	.5	156	1.7	<.006	E.021	.008	<.005	<.005	.072	<.050
02...	<8	<6	<.6	<.4	<.40	<.1	--	--	--	--	--	--	--
MAR													
22...	86	E5	3.3	.8	233	.6	<.006	E.014	<.006	<.005	<.005	.053	<.050
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	56	E5	2.3	.7	204	.6	<.006	E.019	.009	<.005	<.005	.181	<.050
05...	66	8	2.0	.5	202	1.0	<.006	E.022	<.010	<.005	<.005	.188	<.050
18...	75	8	2.7	.5	185	1.1	<.006	E.051	.089	<.005	<.005	1.82	<.050
18...	--	--	--	--	--	--	<.006	<.006	<.006	<.005	<.005	<.007	<.050
MAY													
11...	91	<6	2.7	.6	231	1.0	<.006	E.079	.261	<.007	<.005	2.90	<.050
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	51	8	2.1	.6	169	1.0	<.006	E.422	.872	.051	<.005	6.67	<.050
JUN													
07...	98	<6	3.4	.8	205	1.3	<.006	E.166	.166	<.005	<.005	2.38	<.050
07...	101	<6	3.8	.7	206	1.2	<.006	E.165	.167	<.005	<.005	2.47	<.050
16...	82	<6	2.8	.7	163	1.4	<.006	E.384	.472	.013	<.005	4.40	<.050
21...	74	E4	2.4	.7	182	1.5	<.006	E.405	.436	.022	<.005	4.36	<.050
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	186	8	4.2	.7	201	1.0	<.006	E.089	.013	<.005	<.005	.592	<.050
SEP													
07...	112	<6	3.2	.48	151	1.3	<.006	E.021	.010	<.005	<.005	.231	<.050

Date	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)
NOV													
18...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
DEC													
13...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
JAN													
14...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
FEB													
02...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
05...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
18...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
18...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
MAY													
11...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.010	<.004	<.041	<.020	<.010	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
JUN													
07...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
07...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
16...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
21...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009
SEP													
07...	<.010	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.009	<.02	<.004	<.009

03378500 WABASH RIVER AT NEW HARMONY, IN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)
NOV													
18...	<.005	<.003	<.004	<.035	<.027	<.015	.036	<.006	<.003	<.007	<.003	<.010	<.004
DEC													
13...	<.005	<.003	<.004	<.035	<.027	<.015	.066	<.008	<.003	<.007	<.003	<.010	<.004
JAN													
14...	<.005	<.003	<.004	<.035	<.027	<.015	.064	.007	<.003	<.007	<.003	<.010	<.004
FEB													
02...	<.005	<.003	<.004	<.035	<.027	<.015	.042	<.006	<.003	<.007	<.003	<.010	<.004
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	<.005	<.003	<.004	<.035	<.027	<.015	.021	<.006	<.003	<.007	<.003	<.010	<.004
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	<.005	<.003	<.004	<.035	<.027	<.015	.030	<.006	<.003	<.007	<.003	<.010	<.004
05...	<.005	<.003	<.004	<.035	<.027	<.015	.031	<.006	<.003	<.007	<.003	<.010	<.004
18...	<.005	<.003	<.004	<.035	<.027	<.015	.235	<.007	<.003	<.007	<.003	<.010	<.004
18...	<.005	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010	<.004
MAY													
11...	<.005	<.003	<.004	<.035	<.027	<.015	.499	<.006	<.003	<.007	<.003	<.010	<.004
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.005	<.003	<.004	E.023	<.027	<.015	1.68	.015	<.003	<.007	<.003	<.010	<.004
JUN													
07...	<.005	<.003	<.004	<.035	<.027	<.015	.578	<.006	<.003	<.007	<.003	<.010	<.004
07...	<.005	<.003	<.004	<.035	<.027	<.015	.591	<.006	<.003	<.007	<.003	<.010	<.004
16...	<.005	<.003	<.004	<.035	<.027	<.015	1.10	<.010	<.003	<.007	<.003	<.010	<.004
21...	<.005	<.003	<.004	<.035	<.027	<.015	1.33	.016	<.003	<.007	<.003	<.010	<.004
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	<.005	<.003	<.004	<.035	<.027	<.015	.114	<.006	<.003	<.007	<.003	<.010	<.004
SEP													
07...	<.005	<.003	<.004	<.035	<.027	<.015	.065	<.006	<.003	<.007	<.003	<.010	<.004

Date	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
NOV													
18...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.340	<.02	<.034	<.02	<.010	<.006
DEC													
13...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	1.01	<.02	<.034	<.02	<.010	<.006
JAN													
14...	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.617	<.02	<.034	<.02	<.010	<.006
FEB													
02...	<.022	<.011	M	<.004	<.025	<.011	<.02	.258	<.02	<.034	<.02	<.010	<.006
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.112	<.02	<.034	<.02	<.010	<.006
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.145	<.02	<.034	<.02	<.010	<.006
05...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.153	<.02	<.034	<.02	<.010	<.006
18...	<.022	<.011	E.01	<.004	<.025	<.011	<.02	.635	<.02	<.034	<.02	<.010	<.006
18...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006
MAY													
11...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.220	<.02	<.034	<.02	<.010	<.006
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.022	<.011	.03	<.004	<.025	<.011	<.02	.807	<.02	<.034	<.02	<.010	<.006
JUN													
07...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.254	<.02	<.034	<.02	<.010	<.006
07...	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.262	<.02	<.034	<.02	<.010	<.006
16...	<.022	<.011	.03	<.004	<.025	<.011	<.02	.413	<.02	<.034	<.02	<.010	<.006
21...	<.022	<.011	.04	<.004	<.025	<.011	<.02	.385	<.02	<.034	<.02	<.010	<.006
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	<.022	<.011	.03	<.004	<.025	<.011	<.02	.071	<.02	<.034	<.02	<.010	<.006
SEP													
07...	<.022	<.011	.03	<.004	<.025	<.011	<.02	.023	<.02	<.034	<.02	<.010	<.006

03378500 WABASH RIVER AT NEW HARMONY, IN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
NOV			
18...	<.009	95	114
DEC			
13...	<.009	87	140
JAN			
14...	<.009	72	98
FEB			
02...	<.009	76	86
02...	--	--	--
MAR			
22...	<.009	96	37
22...	--	--	--
APR			
05...	<.009	96	110
05...	<.009	96	108
18...	<.009	97	100
18...	<.009	--	--
MAY			
11...	<.009	98	104
11...	--	--	--
24...	<.009	98	257
JUN			
07...	<.009	98	72
07...	<.009	99	73
16...	<.009	98	293
21...	<.009	98	152
21...	--	--	--
AUG			
10...	<.009	98	35
SEP			
07...	<.009	98	95

E--Laboratory estimated value.
M--Presence of material verified but not quantified.
<--Numeric result is less than the value shown.

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03383000 TRADEWATER RIVER AT OLNEY, KY

LOCATION.--Lat 37°13'26", long 87°46'53", Caldwell County, Hydrologic Unit 05140205, on left bank at downstream side of bridge on State Highway 1220 at Olney, 0.9 mi upstream from Cave Creek, 5.4 mi downstream from Flynn Creek, 9.5 mi northeast of Princeton, and at mile 72.7.

DRAINAGE AREA.--255 mi^2, of which about 9 mi^2 does not contribute directly to surface runoff.

PERIOD OF RECORD.--August 1940 to May 1984, March 1985 to current year.

GAGE.--Water-stage recorder with telemetry. Datum of gage is 362.80 ft above NGVD of 1929. Prior to July 31, 1942, nonrecording gage at same site and datum.

REMARKS.--Records good except for those estimated, which are poor.

COOPERATION.--Kentucky Natural Resources and Environmental Protection Cabinet.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1937 reached a stage of 19.27 ft, from floodmarks, discharge, 17,000 ft^3/s, by slope-area measurement from U.S. Army Corp of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 4	0200	2,350	13.80	Mar 29	0600	2,600	13.83
Jan 5	1500	2,500	14.12	Apr 1	0000	2,570	13.78
Jan 8	1700	*2,930	*14.69				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	49	1,500	1,920	198	200	2,440	1,160	27	4.1	2.8	1,280
2	1.7	785	1,560	2,040	180	210	1,990	881	32	4.0	2.6	1,180
3	1.6	1,760	1,390	2,290	202	193	1,360	395	36	2.8	2.4	485
4	1.5	1,830	737	2,370	273	174	741	230	40	2.3	2.1	143
5	1.3	1,650	352	2,470	266	160	446	181	40	2.4	1.8	95
6	1.0	838	506	2,710	218	146	307	149	38	1.9	1.7	68
7	0.62	220	1,280	2,870	199	145	424	127	32	1.7	1.6	51
8	0.70	136	1,680	2,890	263	389	1,060	109	27	1.5	1.6	39
9	0.80	108	1,660	2,760	263	696	907	95	38	1.4	1.6	30
10	0.82	88	1,470	2,490	224	496	561	84	67	1.3	1.7	24
11	0.86	76	813	2,200	195	307	360	73	109	1.9	1.8	18
12	1.3	365	428	1,720	176	234	289	64	221	3.5	1.8	14
13	1.9	678	284	1,130	258	202	253	56	475	7.0	1.7	11
14	2.2	444	218	1,440	873	176	224	55	354	10	1.8	9.4
15	2.3	226	182	1,380	1,000	159	198	70	175	12	2.5	8.1
16	2.5	162	159	977	699	143	175	118	108	12	3.3	7.4
17	2.7	130	145	545	423	132	154	100	73	26	3.3	6.4
18	6.0	111	132	345	283	123	140	67	52	36	4.0	5.7
19	13	117	122	263	221	115	126	e63	39	33	7.1	5.2
20	58	154	111	237	200	108	114	e340	29	30	15	5.3
21	82	148	103	223	234	103	103	e450	22	34	14	5.6
22	51	129	409	203	539	97	97	e350	17	38	14	6.0
23	31	119	1,020	179	599	101	113	e180	13	29	13	5.9
24	24	373	1,020	158	380	109	120	130	10	21	10	6.0
25	18	1,010	850	147	272	120	110	100	7.7	15	7.6	8.8
26	28	863	700	141	223	123	98	78	5.8	12	9.7	21
27	40	443	471	134	193	255	98	61	5.0	8.9	411	32
28	45	627	308	124	183	1,970	107	51	4.4	6.7	149	26
29	51	683	472	123	---	2,570	144	43	4.0	4.9	99	18
30	46	753	1,380	154	---	2,530	776	36	3.9	3.8	293	13
31	42	---	1,800	194	---	2,590	---	30	---	3.3	1,300	---
TOTAL	560.70	15,075	23,262	36,827	9,237	15,076	14,035	5,926	2,104.8	371.4	2,382.5	3,627.8
MEAN	18.1	502	750	1,188	330	486	468	191	70.2	12.0	76.9	121
MAX	82	1,830	1,800	2,890	1,000	2,590	2,440	1,160	475	38	1,300	1,280
MIN	0.62	49	103	123	176	97	97	30	3.9	1.3	1.6	5.2
CFSM	0.07	2.04	3.05	4.83	1.34	1.98	1.90	0.78	0.29	0.05	0.31	0.49
IN.	0.08	2.28	3.52	5.57	1.40	2.28	2.12	0.90	0.32	0.06	0.36	0.55

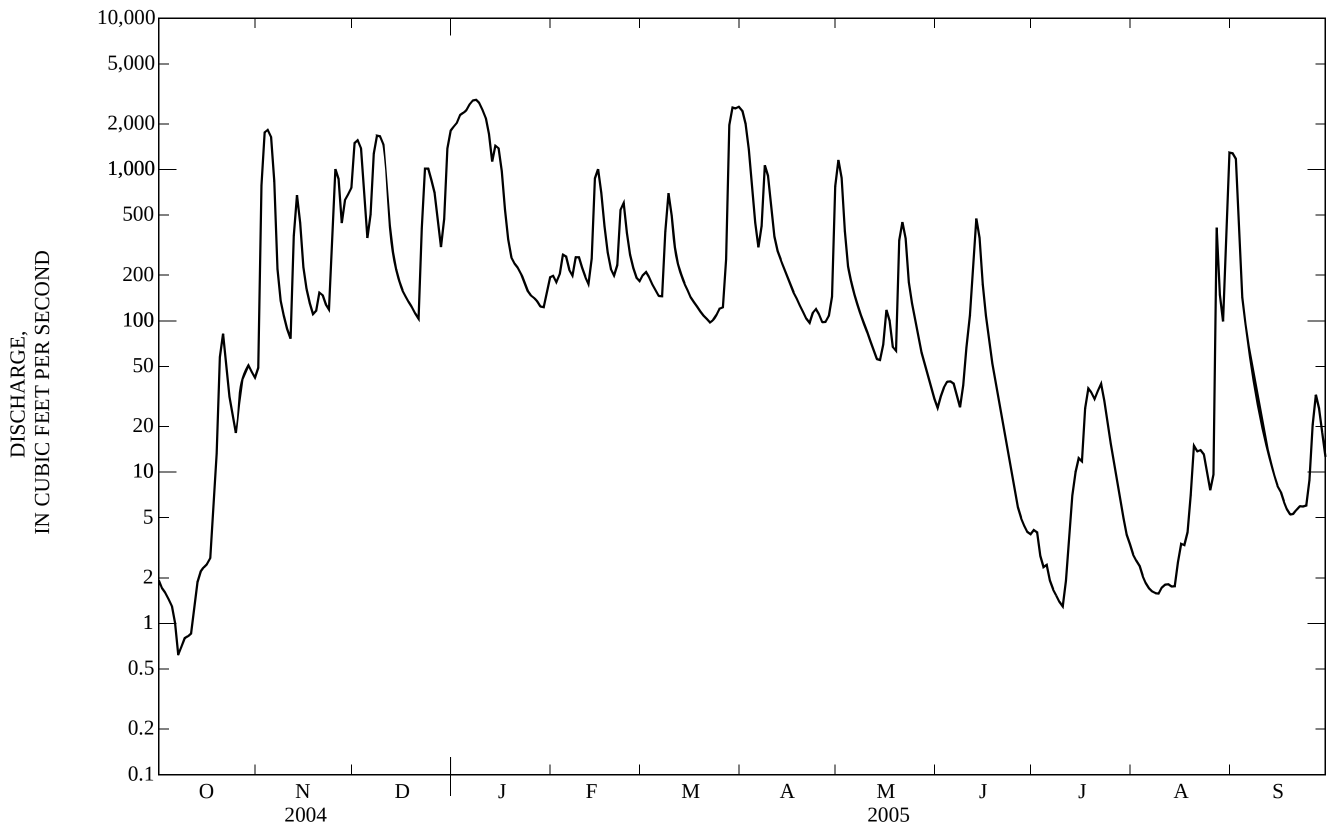
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.2	207	463	566	720	750	589	399	154	85.5	35.8	49.3
MAX	324	2,178	1,963	2,268	3,529	2,360	1,851	1,878	949	946	275	798
(WY)	(1997)	(1958)	(1979)	(1950)	(1989)	(1997)	(1979)	(1983)	(1969)	(1989)	(1985)	(1950)
MIN	0.00	0.00	0.96	4.85	19.2	61.9	53.7	7.09	1.18	0.00	0.00	0.00
(WY)	(1941)	(1954)	(1964)	(1964)	(1964)	(1941)	(1986)	(1941)	(1944)	(1952)	(1952)	(1953)

03383000 TRADEWATER RIVER AT OLNEY, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	126,053.30		128,485.20			
ANNUAL MEAN	344		352		332	
HIGHEST ANNUAL MEAN					701	1989
LOWEST ANNUAL MEAN					61.6	1941
HIGHEST DAILY MEAN	1,940	Jun 1	2,890	Jan 8	14,000	Feb 16, 1989
LOWEST DAILY MEAN	0.62	Oct 7	0.62	Oct 7	0.00	Oct 1, 1940
ANNUAL SEVEN-DAY MINIMUM	0.87	Oct 5	0.87	Oct 5	0.00	Oct 1, 1940
MAXIMUM PEAK FLOW			2,930	Jan 8	14,600	Feb 16, 1989
MAXIMUM PEAK STAGE			14.69	Jan 8	18.85	Feb 16, 1989
ANNUAL RUNOFF (CFSM)	1.40		1.43		1.35	
ANNUAL RUNOFF (INCHES)	19.06		19.43		18.35	
10 PERCENT EXCEEDS	1,200		1,170		1,120	
50 PERCENT EXCEEDS	140		119		62	
90 PERCENT EXCEEDS	4.4		2.5		1.2	

e Estimated



03399800 OHIO RIVER AT SMITHLAND DAM, SMITHLAND, KY

LOCATION.--Lat 37°09'30", long 88°25'34", Livingston County, Hydrologic Unit 05140203, at Smithland Dam, 1.1 mi upstream from Cumberland Island, 1.8 mi northwest of Smithland, and at mile 919.0.

DRAINAGE AREA.--144,000 mi^2, approximately.

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorders with telemetry. Datum of headwater gage is 311.22 ft above NGVD of 1929. Datum of tailwater gage 0.8 mi downstream is 289.28 ft above NGVD of 1929.

REMARKS.--Records good. Daily discharge computed from tailwater elevation, head, gate openings, and lockages. Flow regulated by Ohio River system of locks, dams, and reserviors upstream from station.

COOPERATION.--U.S. Army Corps of Engineers, Louisville District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115,000	128,000	334,000	298,000	322,000	333,000	e452,000	300,000	89,000	50,000	26,800	170,000
2	126,000	129,000	374,000	334,000	301,000	310,000	e467,000	307,000	71,800	54,000	30,900	174,000
3	141,000	191,000	401,000	351,000	290,000	241,000	e465,000	316,000	82,600	54,100	40,800	145,000
4	140,000	226,000	428,000	355,000	272,000	261,000	e469,000	333,000	58,500	60,900	46,500	113,000
5	129,000	231,000	449,000	362,000	263,000	276,000	e472,000	352,000	57,300	16,300	37,100	105,000
6	89,300	218,000	465,000	387,000	255,000	277,000	e478,000	356,000	56,400	46,800	21,100	65,800
7	59,700	248,000	483,000	439,000	250,000	253,000	e482,000	342,000	57,000	49,800	15,400	45,200
8	38,500	270,000	504,000	483,000	252,000	227,000	e476,000	290,000	64,500	40,700	26,800	57,400
9	51,400	270,000	526,000	523,000	257,000	221,000	e476,000	213,000	59,900	34,800	24,900	40,600
10	63,600	253,000	541,000	552,000	266,000	238,000	e467,000	160,000	58,100	43,800	28,800	30,100
11	47,300	220,000	537,000	574,000	274,000	269,000	453,000	135,000	64,200	86,900	19,800	28,500
12	47,300	209,000	531,000	600,000	281,000	297,000	439,000	112,000	53,800	70,300	26,000	31,200
13	53,300	246,000	525,000	632,000	303,000	319,000	412,000	107,000	88,700	34,800	19,600	37,900
14	53,200	278,000	530,000	663,000	319,000	328,000	362,000	114,000	105,000	38,000	27,600	21,500
15	56,000	277,000	536,000	690,000	330,000	321,000	310,000	125,000	112,000	48,600	28,700	26,000
16	54,500	259,000	528,000	708,000	340,000	288,000	262,000	119,000	78,000	19,900	20,000	30,300
17	53,800	223,000	522,000	699,000	348,000	244,000	233,000	138,000	68,400	29,100	22,300	15,500
18	53,800	190,000	512,000	696,000	353,000	211,000	205,000	150,000	81,300	60,000	22,600	20,200
19	97,500	161,000	492,000	694,000	359,000	190,000	182,000	148,000	78,600	70,000	27,400	39,100
20	170,000	164,000	446,000	692,000	364,000	168,000	158,000	140,000	65,700	75,000	38,600	26,400
21	193,000	192,000	232,000	691,000	369,000	158,000	144,000	175,000	62,900	65,100	34,000	23,800
22	214,000	211,000	195,000	693,000	361,000	151,000	112,000	198,000	59,500	66,900	48,600	27,300
23	226,000	224,000	171,000	692,000	366,000	144,000	120,000	200,000	40,100	69,300	33,500	21,100
24	212,000	221,000	172,000	681,000	373,000	157,000	112,000	209,000	43,600	53,200	43,900	29,400
25	166,000	217,000	192,000	668,000	373,000	168,000	144,000	210,000	44,600	54,800	15,100	20,900
26	134,000	215,000	222,000	641,000	369,000	181,000	180,000	180,000	32,000	40,000	30,900	29,100
27	134,000	250,000	244,000	608,000	361,000	207,000	214,000	147,000	35,100	39,000	67,200	41,000
28	139,000	260,000	257,000	563,000	352,000	280,000	246,000	127,000	39,300	51,200	64,400	41,100
29	152,000	275,000	257,000	501,000	---	330,000	269,000	119,000	31,600	59,100	62,500	37,900
30	148,000	300,000	256,000	445,000	---	375,000	288,000	107,000	24,700	52,100	81,100	59,900
31	137,000	---	267,000	381,000	---	e416,000	---	94,200	---	45,200	145,000	---
TOTAL	3,495,200	6,756,000	12,129,000	17,296,000	8,923,000	7,839,000	9,549,000	6,023,200	1,864,200	1,579,700	1,177,900	1,554,200
MEAN	112,700	225,200	391,300	557,900	318,700	252,900	318,300	194,300	62,140	50,960	38,000	51,810
MAX	226,000	300,000	541,000	708,000	373,000	416,000	482,000	356,000	112,000	86,900	145,000	174,000
MIN	38,500	128,000	171,000	298,000	250,000	144,000	112,000	94,200	24,700	16,300	15,100	15,500

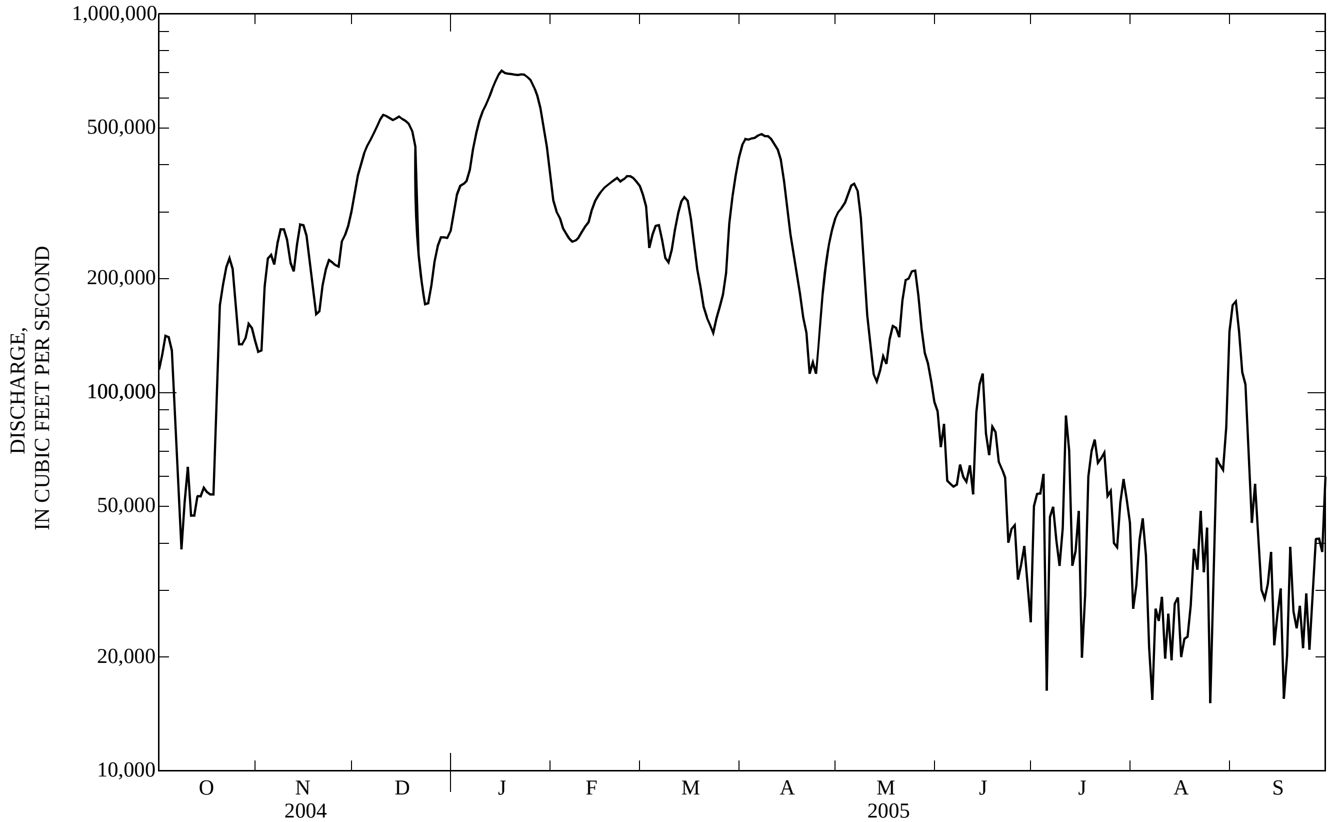
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68,780	125,500	205,200	247,100	312,500	340,600	292,000	297,200	203,900	94,580	72,430	66,420
MAX	114,500	246,000	391,300	557,900	536,200	700,900	594,100	562,200	376,000	203,600	132,400	215,700
(WY)	(2004)	(2004)	(2005)	(2005)	(1994)	(1997)	(1994)	(1996)	(1997)	(1998)	(2003)	(2004)
MIN	24,530	34,800	59,450	89,880	213,000	216,300	150,000	112,600	60,070	43,110	19,190	12,490
(WY)	(2000)	(1999)	(1999)	(2001)	(1995)	(2000)	(1995)	(2000)	(1999)	(1999)	(1999)	(1999)

03399800 OHIO RIVER AT SMITHLAND DAM, SMITHLAND, KY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1994 - 2005	
ANNUAL TOTAL	90,013,300		78,186,400			
ANNUAL MEAN	245,900		214,200		193,200	
HIGHEST ANNUAL MEAN					247,000	1994
LOWEST ANNUAL MEAN					120,900	2000
HIGHEST DAILY MEAN	541,000	Dec 10	708,000	Jan 16	831,000	Mar 12, 1997
LOWEST DAILY MEAN	37,200	Aug 16	15,100	Aug 25	3,090	Aug 5, 1999
ANNUAL SEVEN-DAY MINIMUM	45,200	Aug 15	23,000	Aug 7	10,200	Sep 1, 1999
MAXIMUM PEAK FLOW					832,000	Mar 12, 1997
MAXIMUM PEAK STAGE					51.44	Mar 12, 1997
10 PERCENT EXCEEDS	464,000		480,000		449,000	
50 PERCENT EXCEEDS	222,000		174,000		143,000	
90 PERCENT EXCEEDS	86,500		31,100		31,600	

e Estimated



USGS
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03303205 SINKING CREEK NEAR LODIBURG, KY

Lower Ohio-Salt Basin
Blue-Sinking Subbasin

LOCATION.--Lat 37°52′06″, long 86°23′16″ referenced to North American Datum of 1927, Breckinridge County, KY, Hydrologic Unit 05140104, on bridge located 2.3 miles south of Lodiburg on County Road #86, 0.75 mile downstream from Boiling Spring.

DRAINAGE AREA.--125.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 27, 2004 to current year.

GAGE.--Water-stage recorder and four parameter water-quality monitor with telemetry. Datum of gage is 410 ft above NGVD of 1929, (from topographic map).

COOPERATION.--Kentucky Department of Agriculture.

REMARKS.--Records rated good.

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12	9.7	21	26	163	122	181	131	268	34	42	21
2	12	9.8	16	42	150	115	154	445	491	33	39	20
3	12	9.8	13	95	184	106	150	526	475	31	34	19
4	11	9.6	13	67	349	97	143	298	280	30	31	18
5	11	9.5	15	45	571	92	132	219	203	30	29	18
6	11	9.7	e15	35	414	90	127	181	152	30	28	17
7	11	9.5	e13	30	341	86	125	147	125	28	28	17
8	11	9.7	12	27	292	81	191	133	110	26	27	17
9	11	9.7	14	25	256	117	210	122	99	26	77	16
10	11	9.5	17	103	226	426	166	131	89	26	39	40
11	11	9.5	17	639	203	366	152	182	87	26	90	379
12	10	9.6	16	426	188	2,460	140	158	271	55	56	538
13	10	10	15	350	173	3,600	134	127	147	66	34	376
14	10	11	15	555	161	1,590	130	111	88	85	31	218
15	10	13	23	398	152	e944	126	101	76	49	76	113
16	9.7	22	91	272	144	e540	118	96	66	36	81	84
17	9.8	18	59	1,040	483	433	304	92	60	32	42	66
18	9.7	14	32	1,500	482	344	199	87	107	29	32	53
19	9.7	12	24	635	344	288	137	82	94	28	28	45
20	9.8	11	21	445	284	254	135	77	121	27	39	37
21	9.6	10	19	329	250	238	773	74	96	292	52	32
22	9.8	10	18	429	224	228	1,150	72	68	1,540	34	196
23	9.7	9.7	17	3,400	211	200	508	69	58	781	27	5,260
24	9.9	9.6	16	1,260	178	181	349	68	57	244	25	4,710
25	9.8	9.1	17	603	159	165	270	1,800	50	127	23	1,570
26	9.6	9.2	18	405	144	155	223	5,440	45	100	22	634
27	9.5	9.2	21	298	133	146	190	2,480	43	82	21	392
28	9.4	13	21	244	129	142	168	708	39	67	22	653
29	9.4	98	22	220	---	136	152	417	37	56	43	619
30	9.4	50	24	227	---	130	140	293	35	48	33	360
31	9.6	---	23	187	---	128	---	497	---	44	24	---
Total	318.4	454.4	678	14,357	6,988	14,000	7,077	15,364	3,937	4,108	1,209	16,538
Mean	10.3	15.1	21.9	463	250	452	236	496	131	133	39.0	551
Max	12	98	91	3,400	571	3,600	1,150	5,440	491	1,540	90	5,260
Min	9.4	9.1	12	25	129	81	118	68	35	26	21	16

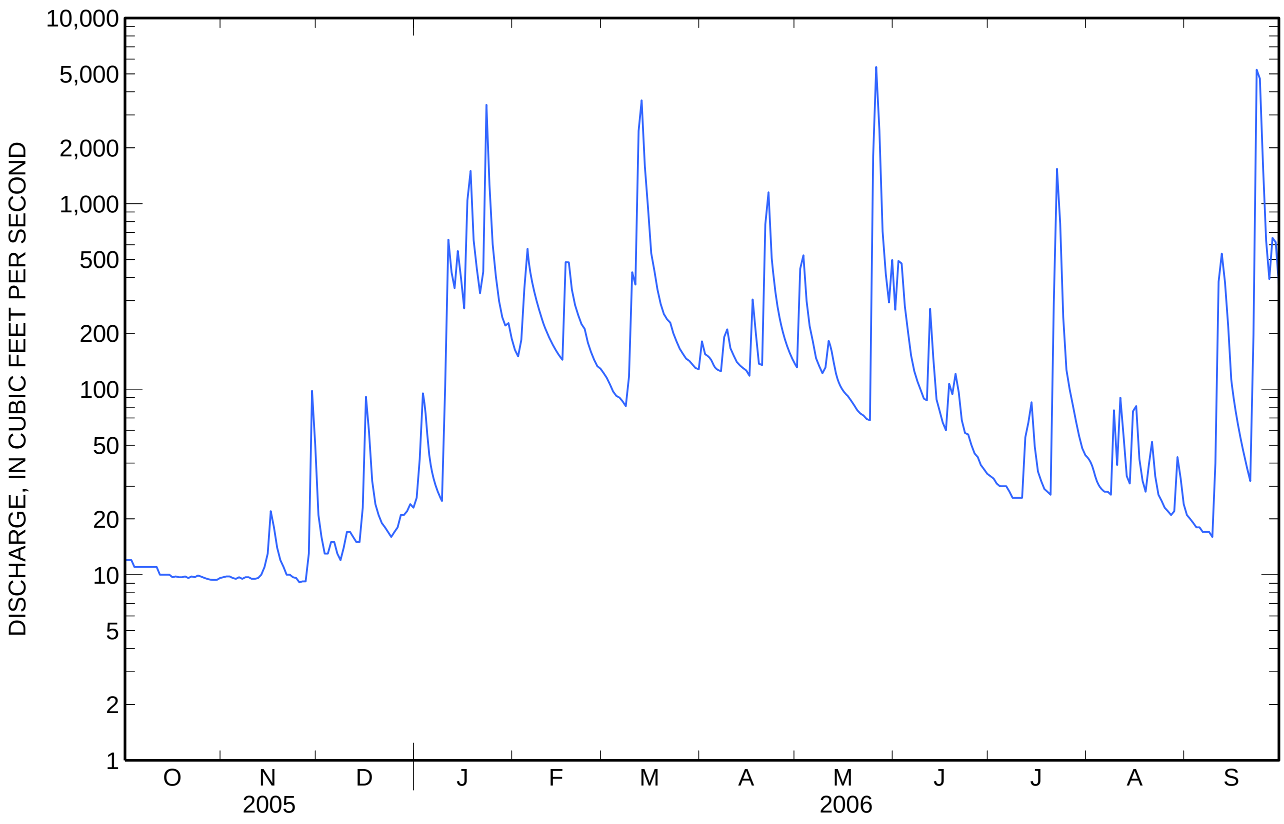
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	14.2	161	218	596	290	426	227	352	174	81.9	70.2	202
Max	18.1	306	414	728	330	452	236	496	348	133	102	551
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)	(2006)	(2006)	(2004)	(2006)	(2005)	(2006)
Min	10.3	15.1	21.9	463	250	400	219	209	42.5	31.7	39.0	16.0
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)	(2004)

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2004 - 2006	
Annual total	65,297.1		85,028.8			
Annual mean	179		233		235	
Highest annual mean					237	2005
Lowest annual mean					233	2006
Highest daily mean	3,910	Mar 28	5,440	May 26	5,440	May 26, 2006
Lowest daily mean	9.1	Nov 25	9.1	Nov 25	9.1	Nov 25, 2005
Annual seven-day minimum	9.5	Oct 26	9.5	Oct 26	9.5	Oct 26, 2005
Maximum peak flow			6,020	Sep 23	6,020	Sep 23, 2006
Maximum peak stage			24.72	Sep 23	24.72	Sep 23, 2006
10 percent exceeds	427		457		503	
50 percent exceeds	33		81		94	
90 percent exceeds	10		10		13	



03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 27, 2004 to current year.

INSTRUMENTATION.--Four parameter water-quality monitor with telemetry.

REMARKS.--
SPECIFIC CONDUCTANCE: Records rated fair. Missing record Oct 25 to Dec 6, 8, 19, 2005, Mar 2-9, May 9-12, 25-26, June 7-11, 13-21, 27 to July 5, 2006.
pH: Records rated good. Missing record Mar 9 to May 12, July 2-5, 2006.
WATER TEMPERATURES: Records rated excellent. Missing record May 11-12, June 7-11, 13-21, 30 to July 5, Sept. 5, 2006.
DISSOLVED OXYGEN: Records rated poor. Missing record Nov. 11 to Dec. 6, 2005, Jan. 11-20, 23-27, Feb. 10 to May 8, 11-12, 25 to June 7, 11-12, 14 to July 5, Aug. 17-23, Sept. 22-30, 2006.

COOPERATION.--Kentucky Department of Agriculture.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 705 microsiemens, Oct 16, 2004; minimum recorded, 118 microsiemens, July 21, 2006.
pH: Maximum recorded, 8.4 units, June 10, 14, 2006; minimum recorded, 6.0 units, June 16, 2006.
WATER TEMPERATURES: Maximum recorded, 25.1°C, July 19, 2004; minimum recorded, 7.9°C, Dec. 20, 2005.
DISSOLVED OXYGEN: Maximum recorded, 17.4 mg/L, Dec 30, 2005; minimum recorded, 3.6 mg/L, Oct 12, 2005.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 658 microseimens, Oct. 24, 2005; minimum recorded, 118 microseimens, July, 21, 2006.
pH: Maximum recorded, 8.4 units, June 10, 14, 2006; minimum recorded, 6.0 units, June 16, 2006.
WATER TEMPERATURES: Maximum recorded, 21.9°C, July 21, 2006; minimum recorded 7.9°C, Dec. 20, 2005.
DISSOLVED OXYGEN: Maximum recorded, 17.4 mg/L, Dec. 30, 2005; minimum recorded, 3.6 mg/L, Oct. 12, 2005.

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	596	592	594	---	---	---	---	---	---	575	566	568
2	602	596	598	---	---	---	---	---	---	571	489	552
3	606	601	603	---	---	---	---	---	---	534	490	525
4	607	605	606	---	---	---	---	---	---	545	496	519
5	611	607	608	---	---	---	---	---	---	559	510	545
6	616	611	613	---	---	---	---	---	---	563	551	559
7	619	615	616	---	---	---	617	610	613	551	546	548
8	621	618	620	---	---	---	---	---	---	552	548	549
9	625	621	623	---	---	---	600	592	596	557	550	552
10	628	625	626	---	---	---	604	589	592	559	477	533
11	632	628	629	---	---	---	597	590	592	481	381	444
12	634	631	632	---	---	---	597	594	596	381	355	363
13	636	634	634	---	---	---	597	591	594	379	363	372
14	639	636	637	---	---	---	600	594	598	386	365	377
15	640	639	639	---	---	---	594	580	584	392	367	380
16	643	640	641	---	---	---	594	575	587	414	389	401
17	645	643	644	---	---	---	593	575	582	418	268	370
18	649	645	647	---	---	---	576	568	572	297	247	263
19	650	647	648	---	---	---	---	---	---	390	297	331
20	652	648	650	---	---	---	567	560	562	409	357	380
21	653	648	650	---	---	---	571	567	569	422	392	407
22	654	651	652	---	---	---	575	567	570	468	298	423
23	656	652	654	---	---	---	571	565	567	346	173	242
24	658	653	656	---	---	---	571	555	560	288	212	251
25	---	---	---	---	---	---	555	548	551	347	288	318
26	---	---	---	---	---	---	552	548	550	391	347	370
27	---	---	---	---	---	---	559	552	554	414	391	405
28	---	---	---	---	---	---	562	557	560	431	414	423
29	---	---	---	---	---	---	569	562	565	440	431	436
30	---	---	---	---	---	---	571	567	569	441	433	437
31	---	---	---	---	---	---	586	566	570	437	433	435
Month	---	---	---	---	---	---	---	---	---	575	173	428

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	444	436	440	360	347	354	390	372	383	465	437	449
2	450	444	447	---	---	---	372	362	366	464	361	402
3	452	447	451	---	---	---	362	359	361	378	322	338
4	447	397	425	---	---	---	362	360	361	350	319	328
5	397	351	359	---	---	---	365	360	362	384	342	365
6	368	353	359	---	---	---	372	365	367	407	378	393
7	396	368	383	---	---	---	380	372	376	425	401	411
8	419	396	409	---	---	---	387	380	383	435	420	427
9	430	419	425	---	---	---	410	376	394	---	---	---
10	454	430	442	363	342	352	402	391	395	---	---	---
11	453	442	446	379	363	370	409	389	399	---	---	---
12	445	439	443	379	293	330	420	409	413	---	---	---
13	442	433	436	319	311	315	431	420	425	428	424	426
14	439	434	437	326	319	323	437	431	433	438	428	433
15	446	436	440	331	320	326	444	437	439	443	438	441
16	446	442	444	327	320	324	450	443	446	450	443	447
17	446	354	428	323	307	316	452	327	389	457	450	454
18	354	325	331	307	300	302	373	340	357	463	457	461
19	351	328	341	302	300	301	404	373	392	468	463	466
20	410	350	368	308	299	303	412	404	408	480	468	471
21	447	410	427	310	307	308	445	245	341	479	472	477
22	450	426	439	311	306	309	291	265	280	483	478	481
23	439	428	433	310	305	308	339	273	304	487	482	484
24	430	413	421	313	310	312	374	336	354	487	399	460
25	413	398	404	316	313	315	392	369	382	---	---	---
26	399	378	391	321	316	319	415	389	402	---	---	---
27	378	369	374	327	321	324	431	403	416	213	132	187
28	369	360	365	339	327	337	440	417	426	276	213	249
29	---	---	---	344	339	342	449	430	437	290	261	276
30	---	---	---	380	343	373	459	431	442	313	290	307
31	---	---	---	388	380	383	---	---	---	326	311	317
Month	454	325	411	---	---	---	459	245	388	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	391	326	349	---	---	---	433	417	425	495	487	492
2	386	274	331	---	---	---	448	433	440	487	481	483
3	462	347	425	---	---	---	458	448	454	490	481	484
4	472	387	414	---	---	---	465	458	462	507	490	498
5	413	382	397	---	---	---	473	465	470	524	507	515
6	413	392	398	533	525	528	481	473	477	534	524	528
7	---	---	---	534	531	532	488	481	484	545	531	536
8	---	---	---	546	534	538	494	483	489	551	538	545
9	---	---	---	542	539	540	505	491	500	555	547	551
10	---	---	---	552	541	544	491	450	465	560	305	523
11	---	---	---	547	521	541	486	422	464	551	337	453
12	489	394	435	541	478	518	432	421	428	377	250	282
13	---	---	---	547	528	537	436	427	431	357	258	302
14	---	---	---	540	513	527	434	413	426	351	339	344
15	---	---	---	539	516	526	463	416	436	369	341	354
16	---	---	---	531	502	514	450	399	411	390	365	379
17	---	---	---	502	486	493	403	400	402	410	389	400
18	---	---	---	491	485	487	416	399	407	424	410	417
19	---	---	---	501	491	496	435	416	427	436	424	431
20	---	---	---	509	501	504	444	423	436	446	436	441
21	---	---	---	514	118	430	476	444	460	458	446	452
22	432	405	414	368	187	271	489	476	482	460	244	432
23	417	404	411	238	184	204	493	485	490	286	161	182
24	434	417	425	289	238	262	496	489	492	282	170	201
25	450	434	442	317	284	300	497	493	496	383	231	354
26	467	450	459	345	317	332	505	497	500	449	370	421
27	---	---	---	366	345	358	510	505	508	448	420	429
28	---	---	---	379	364	373	510	507	509	448	383	399
29	---	---	---	392	379	386	528	508	519	456	405	433
30	---	---	---	406	392	399	528	515	519	491	416	463
31	---	---	---	417	406	411	516	493	505	---	---	---
Month	---	---	---	---	---	---	528	399	465	560	161	424

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	7.5	7.4	7.6	7.4	7.7	7.6	8.0	7.8	7.8	7.8	7.2	7.2
2	7.5	7.3	7.7	7.5	7.7	7.6	8.0	7.8	7.8	7.8	7.3	7.2
3	7.5	7.3	7.7	7.5	7.7	7.6	7.9	7.8	7.8	7.8	7.3	7.2
4	7.5	7.2	7.6	7.5	7.7	7.6	7.8	7.7	7.8	7.7	7.3	7.2
5	7.5	7.4	7.6	7.4	7.8	7.6	7.8	7.7	7.8	7.7	7.3	7.3
6	7.6	7.4	7.6	7.4	7.8	7.7	7.8	7.7	7.7	7.7	7.3	7.3
7	7.5	7.3	7.6	7.4	7.9	7.6	7.9	7.7	7.7	7.6	7.3	7.3
8	7.6	7.4	7.6	7.4	7.8	7.7	7.9	7.8	7.8	7.7	7.3	7.3
9	7.6	7.3	7.5	7.3	7.9	7.7	8.0	7.8	7.8	7.7	7.3	7.3
10	7.5	7.3	7.7	7.4	7.9	7.7	7.8	7.7	7.8	7.5	---	---
11	7.6	7.4	7.7	7.5	7.9	7.7	7.7	7.5	7.8	7.4	---	---
12	7.5	7.4	7.7	7.5	7.9	7.7	7.5	7.5	7.8	7.3	---	---
13	7.6	7.3	7.7	7.4	7.9	7.7	7.6	7.5	7.4	7.3	---	---
14	7.6	7.4	7.7	7.4	7.8	7.7	7.6	7.4	7.3	7.3	---	---
15	7.6	7.5	7.8	7.5	7.8	7.7	7.5	7.4	7.3	7.3	---	---
16	7.7	7.4	7.7	7.5	7.8	7.6	7.5	7.4	7.3	7.3	---	---
17	7.6	7.5	7.8	7.5	7.8	7.6	7.6	7.5	7.8	7.3	---	---
18	7.6	7.5	7.9	7.6	7.8	7.7	7.5	7.4	7.7	7.6	---	---
19	7.5	7.3	7.9	7.6	7.9	7.7	7.6	7.5	7.6	7.6	---	---
20	7.5	7.2	7.9	7.6	7.9	7.8	7.6	7.6	7.6	7.4	---	---
21	7.5	7.3	7.8	7.6	8.0	7.8	7.6	7.6	7.5	7.4	---	---
22	7.6	7.4	7.8	7.6	8.0	7.8	7.7	7.5	7.5	7.3	---	---
23	7.6	7.4	7.8	7.6	8.0	7.8	7.5	7.4	7.3	7.3	---	---
24	7.7	7.5	7.9	7.6	7.9	7.8	7.5	7.4	7.3	7.3	---	---
25	7.7	7.3	7.9	7.7	7.9	7.8	7.6	7.4	7.3	7.3	---	---
26	7.7	7.4	7.8	7.6	7.9	7.8	7.6	7.4	7.3	7.3	---	---
27	7.6	7.5	7.7	7.6	8.1	7.8	7.6	7.6	7.3	7.3	---	---
28	7.7	7.5	7.7	7.5	7.9	7.8	7.7	7.6	7.3	7.2	---	---
29	7.7	7.5	7.6	7.5	7.9	7.8	7.7	7.7	---	---	---	---
30	7.6	7.5	7.6	7.5	8.0	7.8	7.8	7.7	---	---	---	---
31	7.6	7.5	---	---	8.0	7.7	7.8	7.8	---	---	---	---
Month	7.7	7.2	7.9	7.3	8.1	7.6	8.0	7.4	7.8	7.2	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	---	---	---	---	7.4	7.2	7.4	7.2	7.4	7.4	7.4	7.3
2	---	---	---	---	7.4	7.2	---	---	7.4	7.4	7.4	7.3
3	---	---	---	---	7.3	7.2	---	---	7.4	7.4	7.4	7.3
4	---	---	---	---	7.3	7.2	---	---	7.4	7.4	7.4	7.3
5	---	---	---	---	7.3	7.2	---	---	7.5	7.4	7.4	7.3
6	---	---	---	---	7.5	7.2	7.5	7.5	7.5	7.4	7.4	7.3
7	---	---	---	---	8.0	7.4	7.5	7.5	7.5	7.4	7.4	7.3
8	---	---	---	---	8.1	7.8	7.5	7.5	7.5	7.4	7.4	7.3
9	---	---	---	---	8.2	8.0	7.5	7.5	7.4	7.3	7.5	7.3
10	---	---	---	---	8.4	7.6	7.6	7.5	7.5	7.4	7.5	7.2
11	---	---	---	---	8.2	7.8	7.5	7.4	7.4	7.3	7.3	7.0
12	---	---	---	---	7.9	7.5	7.5	7.4	7.5	7.4	7.1	7.1
13	---	---	7.6	7.6	8.1	7.5	7.4	7.3	7.4	7.4	7.3	7.1
14	---	---	7.6	7.6	8.4	7.4	7.5	7.3	7.4	7.4	7.2	7.2
15	---	---	7.6	7.6	8.3	6.9	7.5	7.5	7.4	7.2	7.3	7.2
16	---	---	7.6	7.6	8.2	6.0	7.5	7.4	7.4	7.4	7.3	7.3
17	---	---	7.7	7.6	8.2	6.5	7.5	7.4	7.4	7.4	7.3	7.3
18	---	---	7.7	7.6	8.2	7.4	7.5	7.4	7.4	7.4	7.4	7.3
19	---	---	7.7	7.7	7.9	7.1	7.5	7.4	7.4	7.4	7.4	7.4
20	---	---	7.7	7.7	7.7	7.2	7.5	7.4	7.4	7.3	7.4	7.4
21	---	---	7.7	7.6	7.6	7.3	7.6	7.2	7.3	7.3	7.5	7.4
22	---	---	7.7	7.7	7.6	7.4	7.3	7.1	7.4	7.3	7.6	7.2
23	---	---	7.7	7.7	7.5	7.4	7.3	7.2	7.4	7.3	7.2	7.1
24	---	---	7.7	7.6	7.5	7.3	7.3	7.2	7.4	7.3	7.2	7.0
25	---	---	7.7	7.2	7.5	7.3	7.3	7.2	7.4	7.3	7.2	7.1
26	---	---	7.4	7.2	7.5	7.4	7.4	7.3	7.4	7.3	7.1	7.1
27	---	---	7.2	7.1	7.5	7.3	7.4	7.4	7.4	7.3	7.1	7.1
28	---	---	7.4	7.2	7.5	7.4	7.4	7.4	7.4	7.3	7.1	7.0
29	---	---	7.4	7.3	7.6	7.2	7.4	7.4	7.3	7.2	7.1	7.0
30	---	---	7.4	7.3	7.5	7.2	7.4	7.4	7.4	7.3	7.1	7.1
31	---	---	7.4	7.4	---	---	7.4	7.4	7.4	7.3	---	---
Month	---	---	---	---	8.4	6.0	---	---	7.5	7.2	7.6	7.0

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	18.4	15.7	17.1	14.9	13.6	14.3	11.3	10.3	10.9	10.3	8.9	9.6
2	18.7	17.0	17.8	14.4	12.4	13.5	10.7	9.8	10.2	10.9	10.0	10.4
3	18.8	17.0	17.9	14.7	12.7	13.9	11.1	10.1	10.6	10.8	10.1	10.3
4	18.7	17.1	18.0	15.5	13.9	14.8	11.1	10.3	10.7	11.3	10.2	10.8
5	18.6	17.0	17.8	16.0	14.7	15.4	10.6	9.8	10.2	11.1	10.8	11.0
6	18.4	16.6	17.5	16.1	14.3	15.4	10.6	9.3	9.9	10.8	10.5	10.7
7	17.4	16.3	16.7	14.3	12.7	13.7	10.0	8.8	9.5	10.9	10.3	10.6
8	17.0	15.5	16.2	15.5	13.5	14.6	9.7	9.2	9.5	11.4	10.3	10.8
9	16.7	15.4	16.1	15.9	14.5	15.3	9.7	8.5	9.1	11.2	10.1	10.7
10	16.6	16.0	16.3	14.5	12.2	12.8	10.3	8.8	9.7	11.0	10.0	10.4
11	17.6	16.4	16.9	12.7	10.8	12.0	10.5	10.0	10.2	11.9	11.0	11.6
12	17.8	16.5	17.1	13.6	11.3	12.5	10.2	9.6	10	11.6	11.4	11.5
13	17.6	16.0	16.8	14.9	13.6	14.2	10.0	9.2	9.6	11.9	11.6	11.8
14	17.5	15.8	16.7	14.1	12.8	13.4	9.7	9.0	9.4	12.0	11.3	11.7
15	17.0	15.0	16.0	15.8	14.0	15.0	9.9	9.4	9.6	11.5	11.3	11.4
16	16.1	13.9	15.1	14.6	12.4	13.3	9.7	9.2	9.4	11.6	11.2	11.4
17	16.3	13.9	15.3	12.6	11.6	12.2	9.7	9.0	9.4	12.3	11.3	11.8
18	17.1	15.2	16.1	12.6	11.2	11.9	9.6	8.9	9.2	11.3	11.0	11.1
19	17.2	14.5	15.9	12.6	10.6	11.7	9.0	8.2	8.7	11.7	11.2	11.5
20	17.3	15.9	16.7	12.7	11.0	11.9	9.1	7.9	8.4	12.2	11.7	12.0
21	16.9	15.8	16.5	12.2	10.6	11.5	9.4	7.9	8.6	12.4	12.1	12.3
22	15.9	14.9	15.4	12.2	11.0	11.6	9.6	8.0	8.7	12.1	10.6	11.8
23	15.2	13.8	14.6	12.4	10.6	11.5	9.8	8.4	9.1	10.9	9.9	10.2
24	14.4	13.2	13.8	12.1	9.8	11.2	9.7	8.9	9.3	10.7	9.9	10.3
25	14.7	13.8	14.2	9.9	8.7	9.4	9.6	8.8	9.3	11.0	10.7	10.8
26	14.3	12.8	13.7	12.3	9.5	10.7	8.9	8.7	8.8	10.9	10.7	10.8
27	14.5	13.4	14.0	13.3	12.3	12.7	9.8	8.3	9.0	11.0	10.7	10.8
28	14.0	12.6	13.4	14.1	12.9	13.5	9.6	8.8	9.2	11.5	10.8	11.2
29	14.1	12.1	13.1	12.9	11.7	12.4	9.2	8.8	9.0	12.0	11.4	11.7
30	14.2	12.0	13.3	11.9	10.8	11.5	9.7	9.1	9.3	12.1	11.6	11.9
31	15.2	13.3	14.3	---	---	---	9.7	8.9	9.3	11.8	11.2	11.5
Month	18.8	12.0	15.8	16.1	8.7	12.9	11.3	7.9	9.5	12.4	8.9	11.1

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	11.7	11.1	11.3	11.4	10.9	11.1	13.6	12.6	13.0	14.6	13.7	14.0
2	11.4	11.1	11.3	12.0	11.4	11.7	14.0	12.9	13.4	14.2	13.7	13.9
3	11.9	11.4	11.7	12.4	12.0	12.1	13.3	13.0	13.2	14.0	13.5	13.8
4	11.7	10.4	11.5	12.4	12.0	12.2	13.8	12.5	13.1	14.2	13.7	14.0
5	10.9	10.4	10.7	12.2	11.7	11.8	13.6	12.1	12.8	14.6	13.9	14.2
6	10.9	10.6	10.7	11.7	11.3	11.5	13.2	12.4	12.8	14.8	13.9	14.3
7	10.9	10.6	10.8	11.4	11.1	11.2	13.9	12.9	13.3	14.6	13.9	14.2
8	11.0	10.7	10.9	11.3	11.1	11.2	13.9	12.9	13.3	14.8	13.8	14.2
9	11.1	10.6	10.9	11.9	11.2	11.4	13.9	12.6	13.3	14.2	12.9	13.7
10	11.0	10.6	10.7	12.0	11.6	11.7	13.9	12.4	13.0	14.2	12.8	13.3
11	10.9	10.6	10.8	12.2	12.0	12.1	14.1	12.5	13.3	---	---	---
12	10.9	10.6	10.8	12.7	12.2	12.4	14.6	13.2	13.8	---	---	---
13	10.7	10.5	10.6	12.8	12.7	12.7	15.3	13.6	14.3	14.2	13.5	13.8
14	10.6	10.4	10.5	12.8	12.7	12.7	15.9	14.2	14.9	13.8	13.4	13.6
15	10.9	10.4	10.6	12.7	12.5	12.6	16.2	14.7	15.3	13.7	13.3	13.4
16	11.5	10.9	11.1	12.6	12.5	12.5	15.9	15.1	15.4	13.8	13.3	13.5
17	12.1	11.4	11.6	12.7	12.6	12.6	17.1	14.3	14.8	14.1	13.2	13.5
18	11.4	10.8	11.1	12.7	12.3	12.4	15.4	14.2	14.7	14.2	13.4	13.7
19	10.8	10.4	10.6	12.3	12.1	12.2	15.7	14.4	14.9	14.7	13.4	13.9
20	10.6	10.3	10.5	12.1	11.9	12.0	14.9	14.6	14.8	14.9	13.8	14.2
21	10.8	10.6	10.7	11.9	11.5	11.7	14.9	14.1	14.5	15.2	13.7	14.3
22	11.1	10.8	11.0	11.5	11.1	11.4	14.5	13.8	14.2	15.3	14.0	14.4
23	11.3	11.1	11.2	11.9	11.0	11.4	14.8	14.1	14.3	15.6	13.8	14.5
24	11.3	11.2	11.2	11.7	11.3	11.5	14.6	14.1	14.3	15.9	14.0	14.8
25	11.3	11.2	11.2	11.7	11.4	11.5	14.5	14.0	14.3	16.1	14.8	15.3
26	11.3	11.2	11.2	11.9	11.1	11.5	14.2	13.5	14.0	16.2	15.7	15.9
27	11.2	11.0	11.1	12.1	11.1	11.5	14.2	13.2	13.6	16.2	15.6	15.9
28	11.0	10.8	10.9	11.9	11.5	11.7	14.5	13.2	13.7	16.1	15.6	15.8
29	---	---	---	12.7	11.6	12.0	14.4	13.6	14.0	15.6	15.5	15.6
30	---	---	---	13.1	11.6	12.3	14.1	13.9	14.0	15.5	15.3	15.5
31	---	---	---	12.9	12.2	12.5	---	---	---	15.6	15.3	15.5
Month	12.1	10.3	11.0	13.1	10.9	11.9	17.1	12.1	13.9	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	15.5	15.3	15.4	---	---	---	19.0	17.6	18.1	18.6	18.0	18.4
2	16.2	15.1	15.5	---	---	---	19.1	17.6	18.1	18.1	17.7	17.9
3	15.2	15.0	15.1	---	---	---	19.3	17.7	18.3	18.9	17.5	18.1
4	15.1	14.9	15.0	---	---	---	19.5	17.9	18.4	18.4	17.1	17.7
5	15.8	14.7	15.0	---	---	---	19.7	17.8	18.5	---	---	---
6	15.8	14.7	15.1	18.5	16.5	17.3	19.7	18.0	18.6	18.7	16.9	17.7
7	---	---	---	18.7	16.6	17.5	19.9	18.2	18.8	18.6	16.6	17.5
8	---	---	---	18.9	16.7	17.6	19.4	18.3	18.7	18.5	16.7	17.5
9	---	---	---	18.1	16.8	17.4	19.3	18.1	18.6	18.6	16.8	17.5
10	---	---	---	18.9	16.9	17.6	20.0	18.6	19.1	19.1	16.8	17.5
11	---	---	---	18.2	17.1	17.5	18.6	17.7	18.2	17.3	16.3	16.9
12	17.0	15.5	15.9	18.3	17.2	17.6	18.7	17.6	18.0	16.9	16.4	16.5
13	---	---	---	18.3	17.1	17.5	18.6	17.5	17.9	16.5	16.0	16.4
14	---	---	---	18.6	17.0	17.8	18.4	17.4	17.8	16.0	15.7	15.9
15	---	---	---	18.4	17.1	17.6	18.3	17.3	17.8	16.4	15.7	16.0
16	---	---	---	18.7	17.0	17.6	19.0	17.7	18.2	16.6	15.7	16.1
17	---	---	---	18.9	17.0	17.6	18.6	17.5	17.9	16.7	15.7	16.1
18	---	---	---	18.7	17.0	17.6	18.7	17.5	17.9	16.4	16.1	16.2
19	---	---	---	19.1	17.1	17.8	18.5	17.5	17.8	16.7	16.0	16.3
20	---	---	---	18.5	17.3	17.7	19.1	17.5	18.0	16.6	15.6	16.1
21	---	---	---	21.9	17.4	18.2	18.4	17.5	17.9	16.6	15.4	15.9
22	17.4	16.3	16.7	18.0	17.2	17.7	18.7	17.5	17.9	17.1	15.8	16.0
23	17.3	16.6	16.8	17.9	17.6	17.8	19.0	17.4	18.0	17.6	16.4	17.3
24	17.6	16.5	16.9	17.9	17.3	17.7	18.9	17.3	17.9	17.2	16.7	17.0
25	17.6	16.6	16.9	18.2	17.3	17.7	18.9	17.2	17.8	16.8	16.7	16.7
26	17.6	16.6	16.9	18.4	17.3	17.7	19.0	17.3	18.0	16.7	16.3	16.5
27	17.5	16.5	16.9	18.5	17.3	17.8	19.1	17.4	18.0	16.3	16.2	16.2
28	17.9	16.5	17.0	17.9	17.6	17.8	18.7	17.6	18.0	16.2	16.0	16.1
29	18.2	16.6	17.1	18.6	17.6	18.0	18.1	17.5	17.7	16.0	15.7	15.8
30	---	---	---	18.4	17.5	17.8	18.9	17.7	18.3	15.7	15.5	15.6
31	---	---	---	18.7	17.4	17.9	19.0	18.3	18.6	---	---	---
Month	---	---	---	---	---	---	20.0	17.2	18.2	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	10.4	7.2	8.3	11.0	7.0	9.4	---	---	---	17.1	12.9	14.3
2	10.2	4.6	7.8	12.1	8.2	10.1	---	---	---	16.9	12.3	13.8
3	10.6	4.8	7.8	12.1	8.1	9.9	---	---	---	13.5	11.9	12.9
4	11.0	5.4	8.1	11.6	6.7	9.5	---	---	---	13.9	12.1	13.1
5	11.0	5.6	8.3	11.5	5.3	8.9	---	---	---	14.0	12.7	13.0
6	11.3	5.9	8.6	11.0	5.6	8.5	---	---	---	14.6	12.7	13.2
7	10.1	6.3	8.0	10.7	6.8	8.8	14.3	10.0	12.0	15.3	12.2	13.4
8	11.7	7.1	9.1	10.7	5.9	8.2	12.3	10.4	11.3	15.6	12.1	13.4
9	11.3	6.9	8.8	9.3	4.5	7.0	15.2	10.4	12.4	16.7	12.6	13.9
10	9.5	5.9	7.8	10.0	6.4	8.2	14.8	10.5	12.3	13.9	12.9	13.3
11	11.3	4.7	8.4	---	---	---	15.0	10.5	12.4	---	---	---
12	10.7	3.6	7.6	---	---	---	15.4	10.7	12.5	---	---	---
13	12.2	6.1	8.9	---	---	---	15.5	11.0	12.8	---	---	---
14	11.8	6.7	8.9	---	---	---	13.6	11.5	12.3	---	---	---
15	11.8	7.2	9.1	---	---	---	15.0	10.6	12.6	---	---	---
16	12.4	7.8	9.4	---	---	---	13.7	12.0	12.7	---	---	---
17	12.2	7.8	9.4	---	---	---	15.0	12.5	13.6	---	---	---
18	12.6	7.1	9.3	---	---	---	15.7	12.9	13.8	---	---	---
19	12.1	7.3	9.3	---	---	---	15.6	13.0	13.9	---	---	---
20	12.7	5.9	8.8	---	---	---	15.9	13.1	14.1	---	---	---
21	10.4	4.8	7.8	---	---	---	16.5	13.1	14.3	9.4	8.2	9.2
22	12.3	6.8	9.2	---	---	---	17.2	13.0	14.4	---	---	---
23	9.8	5.5	8.2	---	---	---	16.5	12.8	14.1	---	---	---
24	11.4	7.9	9.4	---	---	---	14.9	12.8	13.5	---	---	---
25	13.7	7.7	10.3	---	---	---	14.8	12.7	13.5	---	---	---
26	13.2	8.9	10.9	---	---	---	15.0	12.9	13.7	---	---	---
27	13.2	8.6	10.9	---	---	---	17.2	13.1	14.5	---	---	---
28	14.1	8.9	11.3	---	---	---	15.7	13.0	13.8	9.8	9.7	9.8
29	13.5	8.8	10.9	---	---	---	15.8	13.2	13.9	9.8	9.5	9.6
30	13.3	8.8	10.7	---	---	---	17.4	13.1	14.4	9.8	9.5	9.7
31	13.7	8.3	10.4	---	---	---	16.8	13.0	14.3	10.1	9.8	9.9
Month	14.1	3.6	9.1	---	---	---	---	---	---	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	10.2	10.0	10.1	---	---	---	---	---	---	---	---	---
2	10.2	9.9	10.2	---	---	---	---	---	---	---	---	---
3	10.2	10.0	10.1	---	---	---	---	---	---	---	---	---
4	11.1	10.0	10.4	---	---	---	---	---	---	---	---	---
5	11.0	10.5	10.8	---	---	---	---	---	---	---	---	---
6	10.7	9.9	10.4	---	---	---	---	---	---	---	---	---
7	10.9	9.8	10.5	---	---	---	---	---	---	---	---	---
8	11.1	10.4	11.0	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	14.2	12.9	13.7
10	---	---	---	---	---	---	---	---	---	14.2	12.8	13.3
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	9.3	8.9	9.2
14	---	---	---	---	---	---	---	---	---	9.4	9.2	9.3
15	---	---	---	---	---	---	---	---	---	9.5	9.3	9.4
16	---	---	---	---	---	---	---	---	---	9.7	9.3	9.5
17	---	---	---	---	---	---	---	---	---	9.7	9.4	9.6
18	---	---	---	---	---	---	---	---	---	10.0	9.4	9.5
19	---	---	---	---	---	---	---	---	---	9.7	9.3	9.4
20	---	---	---	---	---	---	---	---	---	9.7	9.3	9.5
21	---	---	---	---	---	---	---	---	---	9.8	9.3	9.5
22	---	---	---	---	---	---	---	---	---	9.7	9.3	9.5
23	---	---	---	---	---	---	---	---	---	10.1	9.3	9.5
24	---	---	---	---	---	---	---	---	---	9.8	9.1	9.4
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

03303205 SINKING CREEK NEAR LODIBURG, KY—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	---	---	---	---	---	---	8.0	7.5	7.7	8.3	7.1	7.5
2	---	---	---	---	---	---	8.1	7.5	7.7	8.2	7.1	7.5
3	---	---	---	---	---	---	8.2	7.4	7.7	9.5	7.2	8.0
4	---	---	---	---	---	---	8.3	7.3	7.7	9.7	7.1	8.1
5	---	---	---	---	---	---	8.3	7.2	7.6	10.1	7.2	8.2
6	---	---	---	8.8	7.9	8.3	8.4	7.1	7.6	10.5	7.2	8.5
7	---	---	---	9.1	8.0	8.4	8.5	7.0	7.5	11.0	7.3	8.6
8	13.8	10.1	12.3	9.4	8.1	8.6	8.4	6.9	7.4	11.2	7.4	8.8
9	14.1	9.6	12.1	9.4	8.2	8.7	7.7	6.9	7.3	11.7	7.4	9.0
10	13.5	9.8	11.8	10.0	8.4	9.0	7.7	6.9	7.3	12.1	7.4	8.7
11	---	---	---	9.9	8.4	8.9	7.6	6.9	7.2	8.7	7.3	8.0
12	---	---	---	9.0	8.2	8.6	7.9	7.4	7.6	8.6	6.9	7.8
13	13.8	9.5	11.1	9.9	8.9	9.3	8.1	7.4	7.7	8.2	6.6	7.6
14	---	---	---	9.8	9.1	9.5	8.4	7.5	7.7	8.1	7.7	7.9
15	---	---	---	10.1	9.2	9.6	8.4	7.5	7.9	8.7	8.1	8.4
16	---	---	---	10.2	9.0	9.5	8.4	8.1	8.2	8.7	8.6	8.7
17	---	---	---	10.5	8.8	9.5	---	---	---	8.8	8.5	8.7
18	---	---	---	10.8	8.7	9.5	---	---	---	8.8	8.5	8.6
19	---	---	---	11.0	8.5	9.4	---	---	---	8.8	8.5	8.6
20	---	---	---	10.7	8.5	9.2	---	---	---	9.0	8.5	8.7
21	---	---	---	11.2	8.4	9.3	---	---	---	9.1	8.6	8.8
22	---	---	---	9.7	8.4	9.1	---	---	---	---	---	---
23	---	---	---	9.0	6.8	7.9	---	---	---	---	---	---
24	---	---	---	8.0	6.2	7.5	8.8	7.0	7.6	---	---	---
25	---	---	---	8.5	7.8	8.2	9.0	7.0	7.7	---	---	---
26	---	---	---	8.4	7.9	8.4	9.3	6.9	7.7	---	---	---
27	---	---	---	8.4	8.1	8.3	9.3	6.9	7.7	---	---	---
28	---	---	---	8.2	7.6	7.9	9.0	6.9	7.6	---	---	---
29	---	---	---	7.9	7.6	7.7	8.5	7.0	7.5	---	---	---
30	---	---	---	8.0	7.6	7.7	9.0	7.3	8.0	---	---	---
31	---	---	---	8.0	7.5	7.7	8.8	7.2	7.8	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

Project Final Report

"Land Use Practices and Their Impact on Water Quality in Upper Sinking Creek Watershed

May 1, 2004 – September 30, 2008

EPA Grant Number: C9994861-04 KY

Memorandum of Agreement Number: M-04144062

Workplan: 00-00

Submitted by : Ernest Collins and Angie Crain

Kentucky Department of Agriculture
Technical Support Branch
Division of Environmental Services
107 Corporate Drive
Frankfort, Kentucky 40601

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Executive Summary

The Sinking Creek Project included two field days that provided an educational outreach programs on pesticide labels requiring setbacks and buffers to reduce runoff. Also, the field days addressed educational presentations and demonstrations of Forestry BMP's and Wildlife refuge development. In addition the field days provided other opportunities for the display of other agricultural practices involving rotational grazing, livestock/manure management, alternate water and disposal systems, and fencing. There was a wide range of opportunities for producers to observe the advantages of developing and implementing conservation and management practices in their watershed. Other field days activities included indoor displays and discussions by the USGS on monitoring data showing pesticide levels, sediment, and nutrient data which would be used to develop GIS models. The Technical Support Branch exhibited displays showing the Department of Agriculture's Pesticide Collection and Rinse & Return programs. As an added effort there were U of K educational brochures and pamphlets on septic systems care which was important for farm pathogen concerns. This manner of coordination and cooperation among agencies such as the University of Kentucky, local Extension Offices and Conservation Offices, USGS, Forestry, KY Fish & Wildlife and local producers working together helped expanded the importance of cooperative assistance with a multi conservation and farm practices available to farm producers.

It was through extensive planning and cooperation with the local DC, Sinking Creek Council and other local stakeholders meeting at the Breckinridge Extension Office that the two field days were established. The Sinking Creek Council was the central workgroup for the organizational activities. It took approximately six months per season of planning between the partners and stakeholders to select BMPs and conservation practices to exhibit at each field day. The first field day was July 25, 2005 on the 300 acre VanLahr Farm in the Upper Sinking Creek watershed. The VanLahr farm located in eastern Breckinridge County near Irvington, Kentucky was given the technical assistance to help design different practices representing forestry, wildlife and agriculture. Many of the agriculture management activities previously described were highlighted at the farm. The Department of Agriculture's outreach of course focused on a sinkhole on the farm that received cost shares through the Division of Conservation to build a reinforced sinkhole structure exhibiting along with a 50 foot setback with a waterway to controlled runoff from a corn field. The U of K Extension gave a weed management and alternate pesticide presentation in tandem with the Department of Agriculture's presentation pesticide label setbacks and buffers as described on the atrazine product labels.

Using a wagon tour, 99 people attended the 2005 field day at the VanLahr farm. Clearly the different demonstrations provided example of many management techniques that producers could implement using cost shares to protect their farm land in karst terrain for soil, sediment, nutrient and pesticide runoff.

The second field day in 2006 also used the Sinking Creek Council to plan and organize the field day that took place on July 6, 2006; however multiple farms (six) were used located in Breckinridge and Meade Counties. Like the previous year the local DC took the lead coming up with the appropriate farm sites. Working with the Forest and Fish &

Wildlife the DC selected farms locations to demonstrate different management practices and conservation efforts. These farms had examples of water disposal systems, livestock and manure management, rotational grazing and other forest management practices. The forestry activity showed examples of timber harvest on steep terrain and BMP installation. The forestry discussions stressed the importance of protecting sinkholes from sediment, nutrient and pesticide runoff. At the same time the KY Fish and Wildlife focused on wildlife management and restoring a habitat in the karst watershed. The Wildlife official stressed cost shares and the incorporation of grassland buffers for songbirds around crop fields. The KY Department of Ag's pesticide setbacks and buffers outreach were demonstrated at two different farms showing sinkhole setbacks and a wide field buffer for reduced runoff into a continuous flowing stream.

Since the multiple farms were several miles apart, the 2006 field day used five vans to transport people to different farm sites. After the tour all participants met at the Irvington Elementary school in Breckinridge County where an hour was used discussing setback labels and other management practices that help reduced pesticide runoff and promoted other environmental protective practices such as pesticide container recycling and on farm pesticide collection/disposal programs. Also, the Division of Water gave a discussion of its Watershed Watch Monitoring program. It was estimated that 72 people attend the 2006 field day.

Overall these demonstration activities were designed to provide different examples of conservation and management practices that help protect farm land from soil erosion and soil sediment, nutrient and pesticide runoff in the Sinking Creek Watershed.

In conclusion the 319 (h) project's field days showed the importance of pesticide label education to properly educate producers by reviewing and studying labels for changes and reinforcing the importance of setbacks, buffers, application rates, alternate pesticides, etc. The forestry and wildlife showed farmers or producers alternate conservation practices that protect the land from sediment and nutrient runoff while at the same time provided other ways to use the land. Properly maintaining the land, using alternate land use production and following proper management and conservation practices not only protect the soil, but reduce nutrient, sediment, and pesticide runoff into nearby streams and rivers that could affect aquatic and wildlife inhabitance in the watershed. Keeping the soil sediments, nutrients in the field and the pesticides out of the water is important in having a more productive farm and at the time protecting the environment, locally.

Introduction/Background

Pesticides, nutrients, and soil sediments are frequently detected in shallow groundwater and are a threat to the degradation of drinking water because of erosion and leaching, respectively. Resource managers are often faced with decisions concerning development of land and the protection of ground water from these contaminants. Fundamental to developing sound land-policies is the understanding of what role agriculture management practices and conservation management play in protecting shallow groundwater from contamination due to human-induced activities (agriculture, silviculture, residential). By providing demonstrations at field days gives an opportunity for local resource managers and farmers in the groundwater recharge area of the upper Sinking Creek Basin to observe different agricultural, forestry, and wildlife habitat to evaluating alternative management strategies through experiments and a limited amount of field measurements. Providing examples of watershed modeling study can be a viable means of providing input to manage water pollution problems that may be caused by agriculture activities.

The groundwater recharge in the upper Sinking Creek Basin located in the Salt River Basin (Sinking Creek-Hardinsburg (Hydrologic Unit Code 05140104250)) drains about 120 square miles in parts of Breckinridge, Hardin, and Meade Counties in Kentucky. The groundwater recharge area consists of an area of mixed agricultural (slightly less than 50 percent) and forested (about 50 percent) land use and can be described as rural forested with streams impacted by human-induced activities. Because much of the upper portion of the Sinking Creek Basin is underlain by karst, the area has a high hydrogeologic sensitivity rating making it highly vulnerable to runoff of pesticides, nutrients, and sediment. The Sinking Creek Basin has been listed as a targeted priority watershed within the Salt River-Minor Ohio River Tributary Basin Unit.

Typical of karst terrain, almost all runoff is diverted to subsurface channels. Within the upper portion of the Sinking Creek Basin, groundwater from the subsurface channels comes out at several natural springs and karst windows and flows directly into Sinking Creek. The lower portion of Sinking Creek (Sinking Creek of the Ohio River in Breckenridge County) is listed as a 1st Priority Stream in the State's 2002 Draft 303(d) List of Waters for Kentucky. The pollutants of concern included siltation, nutrients, and organic enrichment/low dissolved oxygen. Although pesticides are not considered the main pollutants, pesticides were detected at high levels during rain- storm events above drinking water standards in April or May. Since atrazine has been listed as one of the major pesticides of concern for the past fiftteen years, it was naturally the pesticide of choice to monitor and evaluate for this project.

The Sinking Creek project developed two field days to emphasize the importance of reading and following the pesticide label on the atrazine label and properly establishing setbacks and buffers to reduce pesticide and/or nutrient runoff in a karst watershed. The field days were setup through the Sinking Creek Council working with the local DC and local stakeholders. Six agencies along with some of the local members of the community took part in the field day planning and organization of the field days.

Each agency selected land demonstration projects and educational materials to focus on the importance of their management and conservation activities such as pesticide labels, setback/buffer requirements, forestry, wildlife, septic systems to be displayed or discussed at the field days. Since atrazine and simazine were the main pesticide targets of this project, the USGS's pesticide monitoring data was made available to the local community in the form of charts, maps, and computer modeling.

One of the goals for the field days is to show the USGS's monitoring data and provide that data to the local community for educational outreach purposes. The final report is attempting to use the monitoring data to help show how agriculture activities, forestry, wildlife management practices can be used to reduce nonpoint source pollution (NPS). The use of and demonstration of best management practices is intended to show reduce NPS pollution. Both surface water and groundwater have been shown to receive increased loadings of pesticides, nutrients, and sediment (Becher and others, 2000; Goolsby and Battaglin, 1997; and Schilling and Thompson, 2000). The impact on water quality by agricultural activities, habitat modification, and urbanization in areas of karst terrain are important considerations for resource management within Kentucky.

Materials and Methods

Methods of Educational Output

Knowledge from this project on nonpoint sources of pesticides and nutrients and how they are related to land use/land cover, agricultural practices, and basin characteristics such as soils or slope, population growth, and land development were displayed in 2 field days. The USGS shared all data and applied that data to various computer modeling techniques which was opened to the public as well as members from various local and state agencies and fiscal courts.

Activities for the two field days included: (1) meeting with project partners to discuss participation and planning for the two events and select dates and locations, (2) activities to include formal presentation and discussion of the 319 Project-Land Use Practices and their impact on water quality in the Upper Sinking Creek-Watershed-A Priority Targeted Watershed, (3) lead a field trip to visit sites in the watershed to see demonstrations of field data collection as well as pesticide application, grazing management, forestry management, septic system operation, selection and use of proper BMP's, etc. (4) enjoy a field-day lunch provided by partners, (5) close-out event with a question/answer session.

Educational Materials

The pesticide label presentations presented at the field days were the result of another program specifically designed for education outreach programs which involved pesticide labels and management documents being studied and discussed among present and previous partners. The presentations goal was to make producers aware of label requirement in the Precautionary State, Environmental Hazard section. These discussions addressed required setbacks and buffers designs and their direct association to sinkholes, wells, streams, rivers, etc. The educational documents "Guidelines for Atrazine Use and Application for Groundwater and Surface Water Production" were displayed as a supplement to the presentation. In addition there were other brochures and pamphlets describing other water quality related program efforts such as the 'Farm (Chemical)Pesticide Collection', (Pesticide Container Recycling) 'Rinse & Return' and Crop Protectant Mini-Bulk Recycling. Also, there was the Ground Water Protection brochure which addressed pesticide handling and best management practices. These materials and programs were originally designed under the Water Quality program in the Technical Support Branch.

Other pre-published educational materials that were made available at the display areas located on VanLahr Farm barn and the Irvington Elementary were:

a. Sinking Creek Watershed of the Sale River Basin – Breckinridge Cooperative Extension and Breckinridge Conservation District.
b. 15 Fun Facts About Recycling – U of K Cooperative Extension Service (CES)
c. Your Septic System Isn't Working Right – U of K CES
d. Septic Systems for Homeowners – U of K CES
e. Household Wastewater: Septic Systems & Other Treatment Methods – U of K CES

Results and Discussions - Outcomes

Field Days Demonstrations - 2005

In the 1st year of the Sinking Creek Project one farm was selected to demonstrate pesticide, forestry, wildlife, and other agriculture management and conservation practices. The location was the VanLahr Farm, Breckinridge County, Webster, KY.

The Field Day consisted of a walking tour and wagon tours.

1. The barn and yard walk consisted of : a) Cattle Handling/Electronic I.D., b) Hay Testing Lab., c) Pesticide Collection/Rinse & Return Display and, d) USGS GIS Maps and Monitoring data from karst springs and surface water sites.

2. Wagon Tours consisted of: a) Forestry and Wildlife Management, b) Rotational Grazing, Alternate Water Systems, Fencing and Equipment and, c) Label, Setbacks & Buffers.

(See Appendix – W – Field Day Program and Agenda 2005)

At the first Field Day, 2005, there were 99 people in attendance.

Field Days Demonstrations - 2006

The 2nd year of the Sinking Creek Project consisted of six farms each demonstrating specific areas of management and conservation involving pesticides use, setbacks/buffers/field borders, agricultural livestock activities, forestry management, bobwhite quail initiatives, and sinkhole management.

(See Appendix – X – Field Day Program and Agenda 2006)

The 2006 Field Day consisted of six farms located in East Breckinridge and West Meade Counties. Since the farms were a few miles apart, transportation using four rented van was provided to participants.

The 2006 Farm Field Day tour started and ended at the Irvington Elementary School in Irvington, KY in Breckinridge County located near the Meade County line. At the end of the day in the school's lunchroom three presentations were given by the Department of Agriculture and the Division of Water. The three presentations were:

a) Watershed Watch and Data – Division of Water, b) Pesticide Label Setbacks and Buffers – Department of Agriculture, Technical Support Branch and, c) Rinse & Return, Farm Pesticide Collection and Mini-Bulk.

According to the local Breckinridge District Conservationalist (DC), 72 people attended the Field Day, overall. A local newspaper quoted approximately 40 people took the tour. **(See Appendix Y – Local Newspaper Article on the Sinking Creek Tour - 2006)**

Field Day Demonstration Overview and Pictures - 2005

The first field site at the VanLahr Farm in 2005 demonstrated a sinkhole setback with a waterway. Earlier in the spring a picture was taken of the site before a sinkhole setback and waterway were in place. (See photograph #1). During the wagon tour on July 25, 2005, pictures were taken of the final site (See photograph # 2). A third picture shows the site with a tent covered display used to discuss setbacks and buffers (See photograph # 3).

Photograph # 1
Sinkhole without setback/waterway

The picture at the left was taken during the spring of 2005 before the sinkhole reinforcement and waterway were constructed in the corn field. As shown in the picture the sinkhole is directly in front of the partners who were observing the future site.

Photograph # 2
Sinkhole with setback/waterway

The picture at the right shows the finished setback and waterway construction in the same corn field later in the season.

The sinkhole was provided additional designed involving rip rap and a 50 foot grassed buffer.

Photograph # 3
Presentation Site with Setback Charts

The picture at the left is at the same site, above. The presentation site was located just to the left of the sinkhole in the field. The Department of Agriculture discussed setbacks and buffers and the U of Kentucky did an ‘Alternate Pesticide Discussion’.

Field Day Demonstration Overview and Pictures - 2006

At the July 6, 2006 Field Day Van Tour there were two sinkhole demonstrations and a field border demonstration showing setbacks and/or buffers.

Photograph # 4 shows one of the sinkhole demonstration sites. This sinkhole demonstration has a fenced off area to keep cattle out of the setback. Cattle are permitted into the area from time to time. Also, the picture shows the USGS giving a presentation in front of the sinkhole area. The sinkhole can be observed behind the presenter, along with a cave entrance in the background (See photograph # 4)

Photograph # 4
(Sinkhole Presentation by the USGS on Karst Topography)

The picture at the left was taken within a fenced area to control cattle movement. Behind the tree is rip rap to help prevent additional movement of the soil. Also, further to the rear is a clump of trees which is hiding an entrance to an underground cavern.

The next two pictures show the field border between the corn crop and a continuously flowing stream. Both pictures show the extent of the border but do not show the stream. (See photograph # 5 and #6). These pictures display setback charts that were used to discuss label setbacks and buffers field designs needed between the field and the stream.

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Field Border

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The picture at the right shows the same field border with charts being used for a Setback and Buffers presentation.

Field Day Demonstration - 2007

As an added bonus to the Sinking Creek 319 (h) project the Kentucky Department of Agriculture and the USGS continued working with the local Sinking Creek Council and the Salt River Basin Coordinator into 2007. Both the Department Technical Support Branch and the USGS took advantage of the Sinking Creek Council's EPA Environmental Education grant that it received in late 2006.

The EPA Educational Grant consisted of community events that involved updating local citizens about recent activities such as the USGS monitoring from another grant effort, establishing informational booths at the local Breckinridge County Fair, developing educational tools and materials, presenting teachers workshop and having and educational BMP Field Day 2007.

The Technical Support Branch manager took the lead on organizing the 2007 Field Day event; however, again, the local DC's was the local key person who really brought the local farms and producer together to have selected demonstration sites in and around the Sinking Creek Watershed Basin.

Basically the 2007 Field Day was patterned after the 2006 Field Day under the Sinking Creek Field 2006. As last year the tour started from the Irvington Elementary School. Instead of five vans, one bus was used to transport participants to five demonstration sites:
(1) Native Grass Borders and Wildlife Management
(2) Heavy Use Areas & Feed Pads
(3) Sinkhole and Grass Waterways
(4) Fence, Riparian Buffers and Field Borders, and
(5) Forest Woodland Management

The Sinking Creek Council Management and Conservation Tour (field day) as it was referred to provided the opportunity for the Technical Support Branch and USGS to contribute its educational BMP expertise and monitoring data to the local community one more time. The Field Day took place on July 24, 2007, at 2:00 p.m. (CST).

Also, the Division of Forestry through in a Cave Tour (Brandy Cave) to give the partners first hand experience at walking through a karst cave and observing various pollution facts such as sediment, cans, bottles, tires, toys and various plastic materials that infiltrate a karst cave. The partners actually carried out these materials to be proper disposed of in an appropriate manner.

There were approximately 50 people in attendance. This was somewhat lower than the previous two field days; however, it was still successful providing local people and grant participants with an opportunity to see BMP and conservational practices in the field as educational activities that teach the pubic how to protect the agriculture environment.

One last important item needs to be pointed out. The Sinkhole and Grass Waterway demonstration site was the same site from the 2005 which provided an opportunity to show how a sinkhole construction and waterway held up after two years. It showed the producers that properly developed and constructed BMPs can last several years providing ongoing protection to surface and groundwater areas in karst terrain.

Conclusions

1. *Field Day programs are important to demonstrate management and conservation practices that protect the soil and water resources in karst terrain watersheds.*

   The field day activities developed and implemented under the “Sinking Creek Project” show the importance of field demonstrations. It is important to provide examples of these pesticide label and management/conservation practices to help producers understand buffers and setbacks design and their importance in reducing pesticide, soil and nutrient runoff through management programs.

   This project was designed to provide examples of management and conservation practices that exist in the watershed.

2 *Coordination and cooperation of interagency personnel and resources are essential in the development of educational materials and presentations contributing to a successful program and field day events.*

   Several agencies contributed to the development of the educational materials, but, the most important contributions were the agencies that contributed directly their time and resources to doing a field demonstration.

   The University of Kentucky’s Extension Service/Agronomy Department, Conservation District/ NRCS, Kentucky Fish and Wildlife, Division of Forestry and the Department of Agriculture’s Technical Support Branch personnel all played a very important role in making the program a success by providing valuable expertise in their discussions and presentations.

   It was important to the project’s goals to locally show different management and conservation practices that protect the soil and water quality in a karst terrain.

3. *Establishing a good demonstration site requires time, travel and planning among the partners.*

   It was found that establishing a good demonstration site requires much time and travel on the part of the local DC, partners and Environmental Tech Branch Staff to locate, review a site and mark off the setbacks and/or buffers. In some cases the local extension agents were very helpful in locating and selecting a field demonstration site; however, this sometimes resulted in a site that was not exactly representative of a label setback or buffer requirement. If there had been more time and personnel available in helping select demonstration sites then those sites used would have been better representative of a labeling. However, any future activity or BMP program that could occur from this project would have more techs involved in helping to organize and establish demonstration sites. Using environmental technician located in the work areas of the basin would clearly provide more assistance reducing time and travel for the one tech. At the beginning of this project only one of the techs was qualified for setback and buffer development. If the project was being done again, more field personnel would be involved in the project. Toward the end of the project the last two sites had more staff involvement that paid off with greater participation of applicators. Demonstration site development proved to be the more difficult part of the project activities.

The use of the 319 (h) funding has provided seed money for the department and other agencies to promote on going educational outreach to help inform producers and commercial applicators of pesticide label changes and other management activities that need to be followed to protect the environment. Pesticide labels do change and the agriculture community applicators need to be informed of those changes in an educational cooperative program between the Department and the U of K Extension along with any other agencies that can contribute valuable input. The same applies to the Division of Forestry and Kentucky Fish & Wildlife relative to conservation and management practices that protect the soil and promote wildlife habitat.

Appendix E. Summary of field-day demonstrations.

Table of Contents

Executive Summary

The Sinking Creek Project included two field days that provided an educational outreach programs on pesticide labels requiring setbacks and buffers to reduce runoff. Also, the field days addressed educational presentations and demonstrations of Forestry BMP's and Wildlife refuge development. In addition the field days provided other opportunities for the display of other agricultural practices involving rotational grazing, livestock/manure management, alternate water and disposal systems, and fencing. There was a wide range of opportunities for producers to observe the advantages of developing and implementing conservation and management practices in their watershed. Other field days activities included indoor displays and discussions by the USGS on monitoring data showing pesticide levels, sediment, and nutrient data which would be used to develop GIS models. The Technical Support Branch exhibited displays showing the Department of Agriculture's Pesticide Collection and Rinse & Return programs. As an added effort there were U of K educational brochures and pamphlets on septic systems care which was important for farm pathogen concerns. This manner of coordination and cooperation among agencies such as the University of Kentucky, local Extension Offices and Conservation Offices, USGS, Forestry, KY Fish & Wildlife and local producers working together helped expanded the importance of cooperative assistance with a multi conservation and farm practices available to farm producers.

It was through extensive planning and cooperation with the local DC, Sinking Creek Council and other local stakeholders meeting at the Breckinridge Extension Office that the two field days were established. The Sinking Creek Council was the central workgroup for the organizational activities. It took approximately six months per season of planning between the partners and stakeholders to select BMPs and conservation practices to exhibit at each field day. The first field day was July 25, 2005 on the 300 acre VanLahr Farm in the Upper Sinking Creek watershed. The VanLahr farm located in eastern Breckinridge County near Irvington, Kentucky was given the technical assistance to help design different practices representing forestry, wildlife and agriculture. Many of the agriculture management activities previously described were highlighted at the farm. The Department of Agriculture's outreach of course focused on a sinkhole on the farm that received cost shares through the Division of Conservation to build a reinforced

sinkhole structure exhibiting along with a 50 foot setback with a waterway to controlled runoff from a corn field. The U of K Extension gave a weed management and alternate pesticide presentation in tandem with the Department of Agriculture's presentation pesticide label setbacks and buffers as described on the atrazine product labels.

Using a wagon tour, 99 people attended the 2005 field day at the VanLahr farm. Clearly the different demonstrations provided example of many management techniques that producers could implement using cost shares to protect their farm land in karst terrain for soil, sediment, nutrient and pesticide runoff.

The second field day in 2006 also used the Sinking Creek Council to plan and organize the field day that took place on July 6, 2006; however multiple farms (six) were used located in Breckinridge and Meade Counties. Like the previous year the local DC took the lead coming up with the appropriate farm sites. Working with the Forest and Fish & Wildlife the DC selected farms locations to demonstrate different management practices and conservation efforts. These farms had examples of water disposal systems, livestock and manure management, rotational grazing and other forest management practices. The forestry activity showed examples of timber harvest on steep terrain and BMP installation. The forestry discussions stressed the importance of protecting sinkholes from sediment, nutrient and pesticide runoff. At the same time the KY Fish and Wildlife focused on wildlife management and restoring a habitat in the karst watershed. The Wildlife official stressed cost shares and the incorporation of grassland buffers for songbirds around crop fields. The KY Department of Ag's pesticide setbacks and buffers outreach were demonstrated at two different farms showing sinkhole setbacks and a wide field buffer for reduced runoff into a continuous flowing stream.

Since the multiple farms were several miles apart, the 2006 field day used five vans to transport people to different farm sites. After the tour all participants met at the Irvington Elementary school in Breckinridge County where an hour was used discussing setback labels and other management practices that help reduced pesticide runoff and promoted other environmental protective practices such as pesticide container recycling and on farm pesticide collection/disposal programs. Also, the Division of Water gave a discussion of its Watershed Watch Monitoring program. It was estimated that 72 people attend the 2006 field day.

Overall these demonstration activities were designed to provide different examples of conservation and management practices that help protect farm land from soil erosion and soil sediment, nutrient and pesticide runoff in the Sinking Creek Watershed.

In conclusion the 319 (h) project's field days showed the importance of pesticide label education to properly educate producers by reviewing and studying labels for changes and reinforcing the importance of setbacks, buffers, application rates, alternate pesticides, etc. The forestry and wildlife showed farmers or producers alternate conservation practices that protect the land from sediment and nutrient runoff while at the same time provided other ways to use the land. Properly maintaining the land, using alternate land use production and following proper management and conservation practices not only protect the soil, but reduce nutrient, sediment, and pesticide runoff into nearby streams and rivers that could affect aquatic and wildlife inhabitance in the watershed. Keeping the soil sediments, nutrients in the field and the pesticides out of the water is important in having a more productive farm and at the time protecting the environment, locally.

Introduction/Background

Pesticides, nutrients, and soil sediments are frequently detected in shallow groundwater and are a threat to the degradation of drinking water because of erosion and leaching, respectively. Resource managers are often faced with decisions concerning development of land and the protection of ground water from these contaminants. Fundamental to developing sound land-policies is the understanding of what role agriculture management practices and conservation management play in protecting shallow groundwater from contamination due to human-induced activities (agriculture, silviculture, residential). By providing demonstrations at field days gives an opportunity for local resource managers and farmers in the groundwater recharge area of the upper Sinking Creek Basin to observe different agricultural, forestry, and wildlife habitat to evaluating alternative management strategies through experiments and a limited amount of field measurements. Providing examples of watershed modeling study can be a viable means of providing input to manage water pollution problems that may be caused by agriculture activities.

The groundwater recharge in the upper Sinking Creek Basin located in the Salt River Basin (Sinking Creek-Hardinsburg (Hydrologic Unit Code 05140104250)) drains about 120 square miles in parts of Breckinridge, Hardin, and Meade Counties in Kentucky. The groundwater recharge area consists of an area of mixed agricultural (slightly less than 50 percent) and forested (about 50 percent) land use and can be described as rural forested with streams impacted by human-induced activities. Because much of the upper portion of the Sinking Creek Basin is underlain by karst, the area has a high hydrogeologic sensitivity rating making it highly vulnerable to runoff of pesticides, nutrients, and sediment. The Sinking Creek Basin has been listed as a targeted priority watershed within the Salt River-Minor Ohio River Tributary Basin Unit.

Typical of karst terrain, almost all runoff is diverted to subsurface channels. Within the upper portion of the Sinking Creek Basin, groundwater from the subsurface channels comes out at several natural springs and karst windows and flows directly into Sinking Creek. The lower portion of Sinking Creek (Sinking Creek of the Ohio River in Breckenridge County) is listed as a 1st Priority Stream in the State's 2002 Draft 303(d) List of Waters for Kentucky. The pollutants of concern included siltation, nutrients, and organic enrichment/low dissolved oxygen. Although pesticides are not considered the main pollutants, pesticides were detected at high levels during rain- storm events above drinking water standards in April or May. Since atrazine has been listed as one of the major pesticides of concern for the past fiftteen years, it was naturally the pesticide of choice to monitor and evaluate for this project.

The Sinking Creek project developed two field days to emphasize the importance of reading and following the pesticide label on the atrazine label and properly establishing setbacks and buffers to reduce pesticide and/or nutrient runoff in a karst watershed. The field days were setup through the Sinking Creek Council working with the local DC and local stakeholders. Six agencies along with some of the local members of the community took part in the field day planning and organization of the field days.

Each agency selected land demonstration projects and educational materials to focus on the importance of their management and conservation activities such as pesticide labels, setback/buffer requirements, forestry, wildlife, septic systems to be displayed or discussed at the field days. Since atrazine and simazine were the main pesticide targets of this project, the USGS's pesticide monitoring data was made available to the local community in the form of charts, maps, and computer modeling.

One of the goals for the field days is to show the USGS's monitoring data and provide that data to the local community for educational outreach purposes. The final report is attempting to use the monitoring data to help show how agriculture activities, forestry, wildlife management practices can be used to reduce nonpoint source pollution (NPS). The use of and demonstration of best management practices is intended to show reduce NPS pollution. Both surface water and groundwater have been shown to receive increased loadings of pesticides, nutrients, and sediment (Becher and others, 2000; Goolsby and Battaglin, 1997; and Schilling and Thompson, 2000). The impact on water quality by agricultural activities, habitat modification, and urbanization in areas of karst terrain are important considerations for resource management within Kentucky.

Materials and Methods

Methods of Educational Output

Knowledge from this project on nonpoint sources of pesticides and nutrients and how they are related to land use/land cover, agricultural practices, and basin characteristics such as soils or slope, population growth, and land development were displayed in 2 field days. The USGS shared all data and applied that data to various computer modeling techniques which was opened to the public as well as members from various local and state agencies and fiscal courts.

Activities for the two field days included: (1) meeting with project partners to discuss participation and planning for the two events and select dates and locations, (2) activities to include formal presentation and discussion of the 319 Project-Land Use Practices and their impact on water quality in the Upper Sinking Creek-Watershed-A Priority Targeted Watershed, (3) lead a field trip to visit sites in the watershed to see demonstrations of field data collection as well as pesticide application, grazing management, forestry management, septic system operation, selection and use of proper BMP's, etc. (4) enjoy a field-day lunch provided by partners, (5) close-out event with a question/answer session.

Educational Materials

The pesticide label presentations presented at the field days were the result of another program specifically designed for education outreach programs which involved pesticide labels and management documents being studied and discussed among present and previous partners. The presentations goal was to make producers aware of label requirement in the Precautionary State, Environmental Hazard section. These discussions addressed required setbacks and buffers designs and their direct association to sinkholes, wells, streams, rivers, etc. The educational documents "Guidelines for Atrazine Use and Application for Groundwater and Surface Water Production" were displayed as a supplement to the presentation. In addition there were other brochures and pamphlets describing other water quality related program efforts such as the 'Farm (Chemical)Pesticide Collection', (Pesticide Container Recycling) 'Rinse & Return' and Crop Protectant Mini-Bulk Recycling. Also, there was the Ground Water Protection brochure which addressed pesticide handling and best management practices. These materials and programs were originally designed under the Water Quality program in the Technical Support Branch.

Other pre-published educational materials that were made available at the display areas located on VanLahr Farm barn and the Irvington Elementary were:

a. Sinking Creek Watershed of the Sale River Basin – Breckinridge Cooperative Extension and Breckinridge Conservation District.
b. 15 Fun Facts About Recycling – U of K Cooperative Extension Service (CES)
c. Your Septic System Isn't Working Right – U of K CES
d. Septic Systems for Homeowners – U of K CES
e. Household Wastewater: Septic Systems & Other Treatment Methods – U of K CES

Results and Discussions - Outcomes

Field Days Demonstrations - 2005

In the 1st year of the Sinking Creek Project one farm was selected to demonstrate pesticide, forestry, wildlife, and other agriculture management and conservation practices. The location was the VanLahr Farm, Breckinridge County, Webster, KY.

The Field Day consisted of a walking tour and wagon tours.

1. The barn and yard walk consisted of : a) Cattle Handling/Electronic I.D., b) Hay Testing Lab., c) Pesticide Collection/Rinse & Return Display and, d) USGS GIS Maps and Monitoring data from karst springs and surface water sites.

2. Wagon Tours consisted of: a) Forestry and Wildlife Management, b) Rotational Grazing, Alternate Water Systems, Fencing and Equipment and, c) Label, Setbacks & Buffers.

(See Appendix – W – Field Day Program and Agenda 2005)

At the first Field Day, 2005, there were 99 people in attendance.

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The 2nd year of the Sinking Creek Project consisted of six farms each demonstrating specific areas of management and conservation involving pesticides use, setbacks/buffers/field borders, agricultural livestock activities, forestry management, bobwhite quail initiatives, and sinkhole management.

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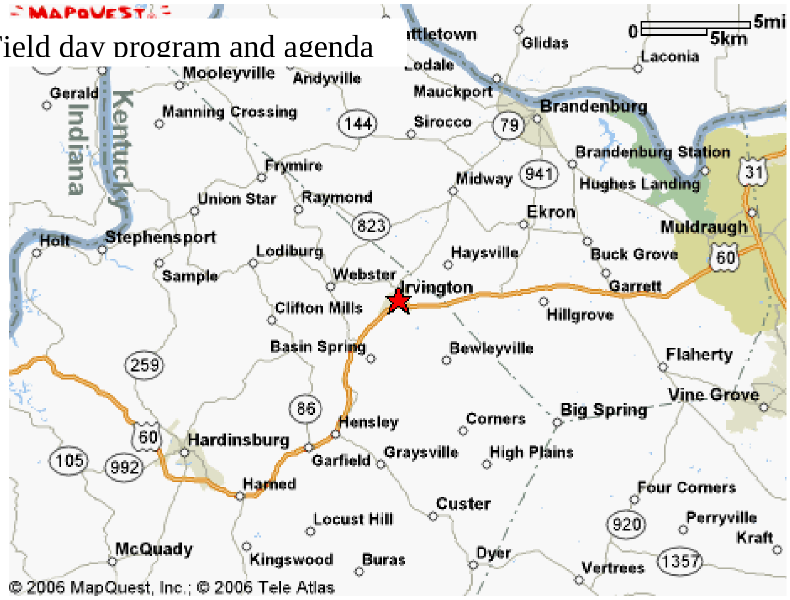
Appendix G. Field day program and agenda



The Irvington Elementary School is located
at the intersection off Hwy 79 and US 60.

<u>Driving Directions:</u>

From Owensboro, take Hwy 60 East to State Hwy 79 intersection. Then turn left into Irvington Elementary parking lot.

From Louisville, travel 31W South to Hwy 60. Turn right on Hwy 60 travel west to State Highway 79 intersection turn right into Irvington Elementary parking lot.

From Elizabethtown, travel Highway 62 West to Highway 86 turn right, travel Highway 86 until you reach Highway 60 turn right, travel Highway 60 until you reach State Highway 79 intersection turn left into Irvington Elementary parking lot.

Please contact one of the following partners by 4:30 p.m. on July 3rd for meal & transportation reservations

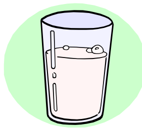
Breckinridge County Conservation District – (270) 756-2776 Breckinridge County Extension Office – (270) 756-2182 Meade County Conservation District – (270) 422-3183 Meade County Extension Office – (270) 422-4958

Disabilities accommodated with prior notification

♿

Sinking Creek Conservation Tour

BEST MANAGEMENT PRACTICES FOR A SAFE WATER SUPPLY



July 6, 2006
2:00 PM (CST)

Irvington Elementary School
Irvington, KY
(Park behind school)

(Note to Commercial Applicators of Pesticides, Categories 1A, 10, and 12: program is applied for CEUs) (Note to Cert. Crop Advisers: CEUs applied for)

PROGRAM

2:00 **Welcome – NRCS, Conservation District & Extension Service Personnel**

2:15 **Tour Starts: (Includes 5 farms)**
Water Disposal Systems
Livestock & Manure Mgt.
Rotational Grazing
Sinkhole Management
Forest Management
Bobwhite Quail Initiative
Pesticide & Herbicides
Buffers and Setbacks
Field Borders

Tour Sponsors and Partners

Breckinridge Co, Meade Co C.D's
Breckinridge Co, Meade Co Extension Service
Salt River Basin Team
Salt River Watershed Planning Committee
Sinking Creek Watershed Council
FSA and NRCS
Lincoln RC&D
USGS - Louisville Office
KY Division of Water, Forestry, Conservation
KY Dept of Agriculture
Fish & Wildlife Resources
Salt River Watershed Watch Volunteers
U.S. Army Corps of Engineers
KY Farm Bureau
UK College of Agriculture and Cooperative Extension Service
Agri-businesses in Meade and Breckinridge Counties
Midway Homemakers
Cattleman's Association.

5:00 **Tour Ends: Displays & Exhibits in School Cafeteria**

5:15 **Watershed Watch, Ken Cooke, Division of Water**

5:30 **Pesticide Label and Setbacks and Buffers, Ernest Collins and Chris Ragan, Kentucky Department of Agriculture**

5:45 **Rinse & Return, Farm Pesticide Collection, and Mini-Bulk. Darrell Jones, Kentucky Department of Agriculture**

6:00 **Meal**

7:00 **Closing Discussion and Thanks**

Kentucky Proud
Kentucky Department of Agriculture
Richie Farmer, Commissioner

This work was funded in part by a grant from the U.S. Environmental Protection Agency under §319(h) of the Clean Water Act through the Kentucky Division of Water to the Kentucky Department of Agriculture, Grant #C-9994861-04. The Environmental and Public Protection Cabinet and the Kentucky Department of Agriculture do not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the ... DA will provide reasonable accommodations for disabilities upon request. ... mat, contact the Kentucky Division of Water, 14 Reilly Road, Frankfort KY ... e Kentucky Department of Agriculture TTY line. (502) 564-2075.. Hearing and

Appendix H. Field day program

Appendix I. Local newspaper article on the Sinking Creek Tour, 2006

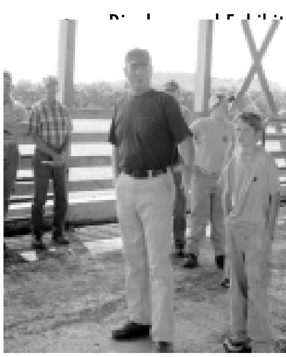
Conservation Tour

Sinkin... offers

Wed... ews

Approximately 40 guests left Irvington Elementary for a tour of the Sinking Creek watershed and how some of the problems facing the quality of water in are being handled. The group made five stops on the tour and completed the tour with dinner at the school and concluding speakers. A collaborative effort by several agencies was successful.

...s in Cafeteria



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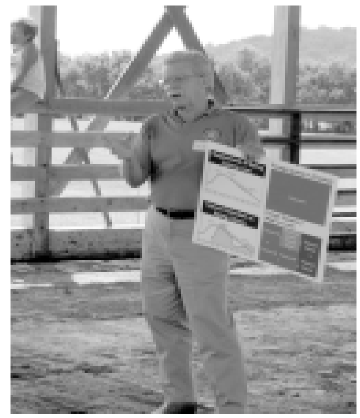
...fter tour for Meal and Closeout Presentations.

- **Wildlife Habitat Incentives Program, Continuous Conservation Reserve Program, Pesticide Labels and Herbicides**
- **Planning and Application of Conservation Buffers as Setbacks**
- **Rinse and Return Program**

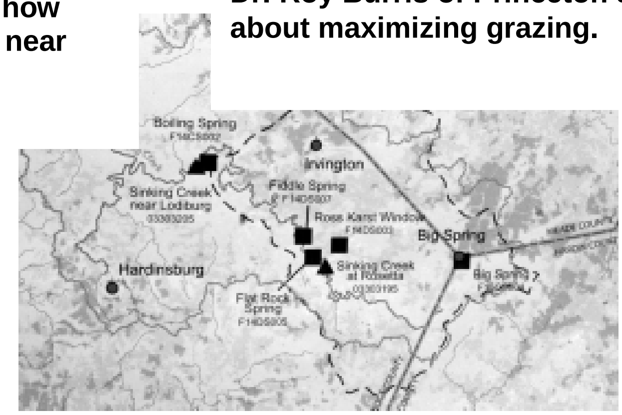
Harold Millay, Jr., who owns 125 acres and two hayfields, spoke to the group about his rotational grazing, watering livestock and his handling of feeding and manure management with his covered feeding area.



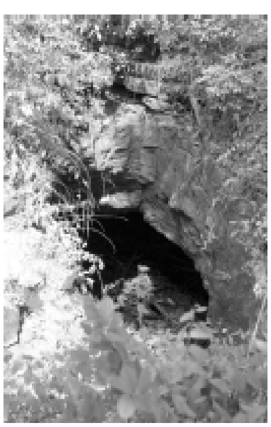
District conservationist Calvin Bohannon shows how sinkholes were managed on the J.B. Preher farm near Bewleyville with rip rap and a drain pipe.

Dr. Roy Burris of Princeton spoke about maximizing grazing.

Angie Crain with the U.S. Geological Survey explains the problems with water quality and karst topography.



ABOVE—A map of the area shows the Sinking Creek watershed & the number of caves in the watershed which can be contaminated.



LEFT—The cave entrance on the J.B. Preher Farm has been cordoned off from livestock to prevent contamination.

BELOW—Barriers are required to be put on logging skids to prevent erosion after the operation is completed.

Byron Nelson (left) and Steve Gray with the Kentucky Division of Forestry explain what can be done to the land following a logging operation on the Dale Lynch Farm near Custer. This area was seeded with a cover grass, but the seeds had been washed away by heavy rain.

LEFT—Scott Harp with the Kentucky Division of Fish and Wildlife explains the use of border areas around crop fields to increase the food and habitat for wildlife. Harp commented that 63 percent of the quail population had been lost in recent years.

Chris Ragan of the Kentucky Department of Agriculture and Dr. Ben Thomas of the University of Kentucky explained the importance of setbacks and buffers between the crop field and streams, lakes, and ponds to avoid pesticide runoff into surface water.

Participants on the tour learned the importance of crop rotation on farms and to encourage livestock to take water in different locations to avoid contaminating streams with their waste products. There are programs available which helps in cost share of putting in systems to help avoid contamination. The group saw first hand how sinkholes can be managed to avoid soil erosion and collapse. The group learned for the most part the water quality found in Sinking Creek is good and helps to promote a healthy stream for wildlife and human use. The greatest pollutant is Atrazine which is found in pesticides. The group learned that the laws governing the restoring of land after a logging operation are not strict enough to put the land back into a natural state. The idea of field borders provides a food source and natural cover for wildlife in marginal growing areas of a crop field. Buffer areas next to streams helps prevent runoff of pesticides into water sources.