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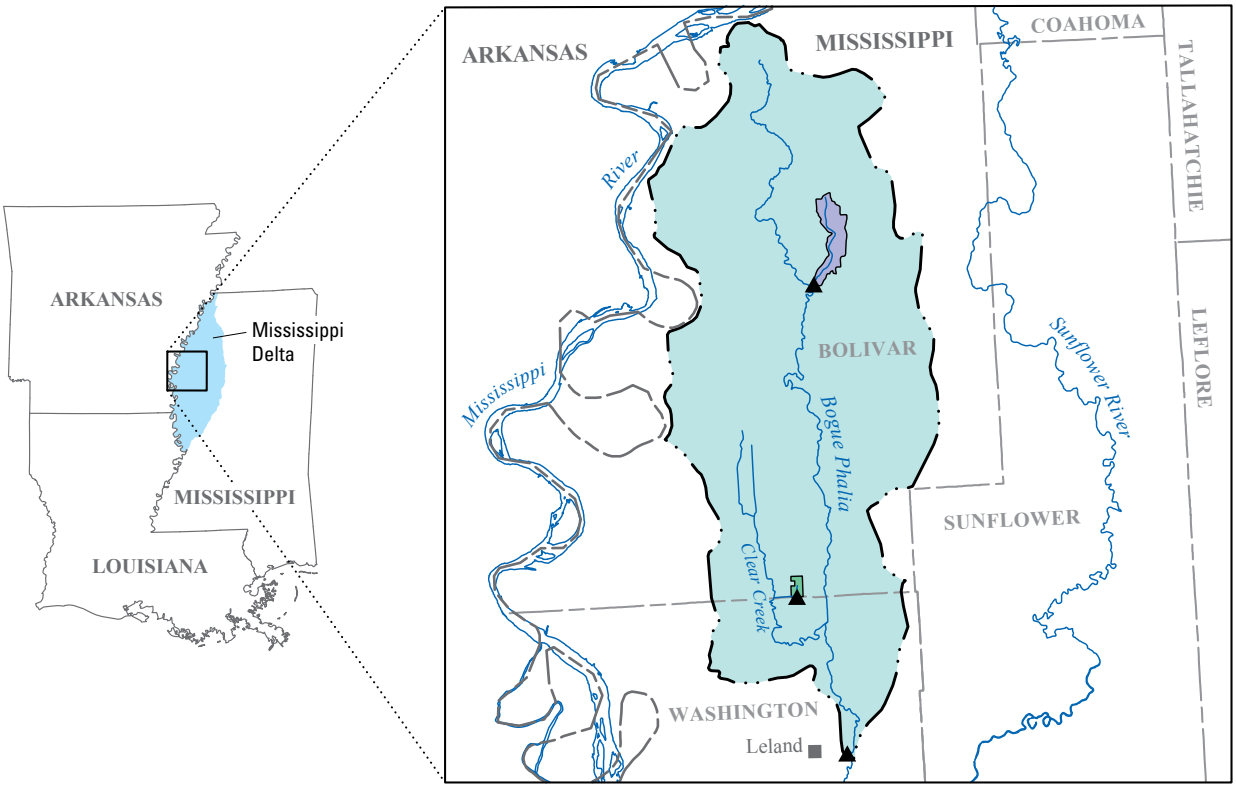
Water-Quality, Water-Level, and Discharge Data Associated with the Mississippi Embayment Agricultural Chemical Transport Study, 2006–2008



Data Series 546

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Cover. See figure 1 of this report.

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By Melinda S. Dalton, Claire E. Rose, and Richard H. Coupe

Data Series 546

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Foreword

The U.S. Geological Survey (USGS) is committed to providing the Nation with reliable scientific information that helps to enhance and protect the overall quality of life and that facilitates effective management of water, biological, energy, and mineral resources (*http://www.usgs.gov/*). Information on the Nation's water resources is critical to ensuring long-term availability of water that is safe for drinking and recreation and is suitable for industry, irrigation, and fish and wildlife. Population growth and increasing demands for water make the availability of that water, measured in terms of quantity and quality, even more essential to the long-term sustainability of our communities and ecosystems.

The USGS implemented the National Water-Quality Assessment (NAWQA) Program in 1991 to support national, regional, State, and local information needs and decisions related to water-quality management and policy (*http://water.usgs.gov/nawqa*). The NAWQA Program is designed to answer: What is the quality of our Nation's streams and ground water? How are conditions changing over time? How do natural features and human activities affect the quality of streams and ground water, and where are those effects most pronounced? By combining information on water chemistry, physical characteristics, stream habitat, and aquatic life, the NAWQA Program aims to provide science-based insights for current and emerging water issues and priorities. From 1991 to 2001, the NAWQA Program completed interdisciplinary assessments and established a baseline understanding of water-quality conditions in 51 of the Nation's river basins and aquifers, referred to as Study Units (*http://water.usgs.gov/nawqa/studies/study_units.html*).

In the second decade of the Program (2001–2012), a major focus is on regional assessments of water-quality conditions and trends. These regional assessments are based on major river basins and principal aquifers, which encompass larger regions of the country than the Study Units. Regional assessments extend the findings in the Study Units by filling critical gaps in characterizing the quality of surface water and ground water, and by determining water-quality status and trends at sites that have been consistently monitored for more than a decade. In addition, the regional assessments continue to build an understanding of how natural features and human activities affect water quality. Many of the regional assessments employ modeling and other scientific tools, developed on the basis of data collected at individual sites, to help extend knowledge of water quality to unmonitored, yet comparable areas within the regions. The models thereby enhance the value of our existing data and our understanding of the hydrologic system. In addition, the models are useful in evaluating various resource-management scenarios and in predicting how our actions, such as reducing or managing nonpoint and point sources of contamination, land conversion, and altering flow and (or) pumping regimes, are likely to affect water conditions within a region.

Other activities planned during the second decade include continuing national syntheses of information on pesticides, volatile organic compounds (VOCs), nutrients, trace elements, and aquatic ecology; and continuing national topical studies on the fate of agricultural chemicals, effects of urbanization on stream ecosystems, bioaccumulation of mercury in stream ecosystems, effects of nutrient enrichment on stream ecosystems, and transport of contaminants to public-supply wells.

The USGS aims to disseminate credible, timely, and relevant science information to address practical and effective water-resource management and strategies that protect and restore water quality. We hope this NAWQA publication will provide you with insights and information to meet your needs, and will foster increased citizen awareness and involvement in the protection and restoration of our Nation's waters.

Matthew C. Larsen

Associate Director for Water

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Conversion Factors

Multiply	By	To obtain
	Length	
inch	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	4,047	square meter (m^2)
acre	0.4047	hectare (ha)
square mile (mi^2)	259.0	hectare (ha)
	Volume	
ounce, fluid (fl. oz)	0.02957	liter (L)
pint (pt)	0.4732	liter (L)
quart (qt)	0.9464	liter (L)
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m^3)
	Flow rate	
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88) unless otherwise noted.

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

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).

Water-Quality, Water-Level, and Discharge Data Associated with the Mississippi Embayment Agricultural Chemical Transport Study, 2006–2008

By Melinda S. Dalton, Claire E. Rose, and Richard H. Coupe

Abstract

In 2006, the Agricultural Chemicals: Sources, Transport and Fate study team (Agricultural Chemicals Team, ACT) of the U.S. Geological Survey National Water-Quality Assessment Program began a study in northwestern Mississippi to evaluate the influence of surface-water recharge on the occurrence of agriculturally related nutrients and pesticides in the Mississippi River Valley alluvial aquifer. The ACT study was composed in the Bogue Phalia Basin, an indicator watershed within the National Water-Quality Assessment Program Mississippi Embayment Study Unit and utilized several small, subbasins within the Bogue Phalia to evaluate surface and groundwater interaction and chemical transport in the Basin. Data collected as part of this ACT study include water-quality data from routine and incident-driven water samples evaluated for major ions, nutrients, organic carbon, physical properties, and commonly used pesticides in the area; discharge, gage height and water-level data for surface-water sites, the shallow alluvial aquifer, and hyporheic zone; additionally, agricultural data and detailed management activities were reported by land managers for farms within two subbasins of the Bogue Phalia Basin—Tommie Bayou at Pace, MS, and an unnamed tributary to Clear Creek near Napanee, MS.

Introduction

In 2006, the Mississippi Embayment (MISE) Study Unit of the National Water-Quality Assessment (NAWQA) Program began data-collection activities in the Bogue Phalia Basin in northwestern Mississippi (fig. 1) as part of the U.S. Geological Survey's (USGS) Agricultural Chemicals: Sources, Transport and Fate study (Agricultural Chemicals Team, ACT; Capel and others, 2004). The Bogue Phalia is one of seven watersheds studied nationally to determine the mechanisms and extent to which natural and agricultural factors influence chemical transport and water quality, and it is one of the most agriculturally productive (corn, cotton, rice, and soybeans) areas in the Nation. Data collection and analysis in each ACT study basin is designed similarly, and a multiscale approach is used to evaluate water and chemical transport. An integral part of the multiscale approach is a network of shallow piezometers, in-stream piezometers, and surface-water gages that are used to monitor water levels, streamflow, and water quality.

The ACT study in the Bogue Phalia Basin was designed to (1) describe groundwater and surface-water interactions in the Bogue Phalia Basin; (2) determine if surface water could be contaminating the shallow groundwater system; (3) determine the extent to which applications of pesticides and nutrients for agricultural production affect groundwater and surface-water quality; and (4) apply the information developed as a result of this study to help advance the understanding of processes in similar environmental settings.

The data-collection network for Bogue Phalia consisted of a series of shallow groundwater and in-stream piezometers installed along a flowpath crossing the Bogue Phalia near Leland, Mississippi (fig. 1). Continuous and synoptic water levels (available at the National Water Information System Web site, *http://waterdata.usgs.gov/nwis*) were recorded in each piezometer during May 2006–November 2008. A USGS real-time surface-water monitoring station in operation less than a mile downstream from the flowpath provided continuous measurements of gage height, discharge, and precipitation. Surface-water and groundwater samples were collected quarterly beginning in 2006 and during major storms occurring in June and July 2007 and February 2008. Samples were analyzed for physical properties, major ions, sulfide, organic carbon, nutrients, and pesticides. Additionally, routine surface-water-quality samples were collected from the Bogue Phalia weekly or biweekly as part of the NAWQA assessment of the status and trends of the Nation's major river basins (U.S. Geological Survey, 2006). In two subbasins—Tommie Bayou at Pace, MS, and unnamed tributary to Clear Creek near Napanee, MS—automatic samplers were installed to collect stormflow samples. These samples were analyzed for physical properties, major ions, sulfide, nutrients, and pesticides.

Purpose and Scope

This report presents water-quality, water-level, stage, and discharge data for both groundwater and surface-water sites in the Bogue Phalia Basin in northwestern Mississippi during 2006–2008, and reported agricultural land-management activities for two small subbasins from 2007 to 2008. The data compiled in this report include field and laboratory chemical analyses of both shallow groundwater and surface-water samples collected in the Bogue Phalia Basin. In addition, the report includes reported agricultural-management activities in two subbasins in the Bogue Phalia Basin, and water-level data from shallow piezometers in the alluvial aquifer. Groundwater-quality data were collected quarterly in 13 piezometers (shallow and instream), and water-level data were collected continuously from 9 piezometers and quarterly from all 13 during water-quality sampling visits (tables 1–3 [tables 2 and 3, back of report]). Surface-water-quality data, stage, and discharge were collected as part of routine NAWQA sampling at the Bogue Phalia near Leland, MS, and during stormflow events at Tommie Bayou at Pace, MS, and an unnamed tributary to Clear Creek near Napanee, MS.

Data presented in this report are being used to develop groundwater-flow models, evaluate groundwater and surface-water interactions in similar agricultural settings, and determine the potential for the hydrology of the Bogue Phalia Basin to transmit agricultural chemicals. Additionally, data presented in this report will be used in a regional evaluation of the effects of hydrology, geology, and land-management activities on water quality and chemical transport not only in the MISE study area but in similar study areas across the Nation as part of the NAWQA ACT program.

Table 1. Sites in the Bogue Phalia Basin of Mississippi where water-quality data samples were collected, 2006–2008.

[Site type: SW—surface water, HW—hyporheic zone, GW—groundwater; see fig. 1 for locations]

Station identifier	Station name	Site type
07288636	Tommie Bayou at Pace, MS	SW
07288650	Bogue Phalia near Leland, MS	SW
332440090502001	Right bank piezometer (RB)	HW
332440090502195	Right channel piezometer (RC)	HW
332440090502196	Center channel piezometer (C)	HW
332440090502197	Left channel piezometer (LC)	HW
332440090502201	Left bank piezomter (LB)	HW
332443090502301	Flow system well 1 (FS-1A)	GW
332443090502302	Flow system well 1 (FS-1B)	GW
332443090502501	Flow system well 2 (FS-2A)	GW
332443090502502	Flow system well 2 (FS-2B)	GW
332443090502701	Flow system well 3 (FS-3A)	GW
332443090502702	Flow system well 3 (FS-3B)	GW
332445090501601	Aerial recharge well 1 (AR-1A)	GW
332445090501602	Aerial recharge well 1 (AR-1B)	GW
333150090530400	Unnamed tributary to Clear Creek near Napanee, MS	SW

Study Area

The Mississippi Delta, a 7,000-square-mile area in northwestern Mississippi (fig. 1), is one of the most agriculturally fertile areas in the United States. Composed of flood-plain soils, the Mississippi Delta is underlain by the Mississippi River Valley alluvial aquifer, the major source of water in the region and the most heavily used aquifer in the State. Rainfall averages 52 inches per year; however, agricultural practices in the area often require irrigation. Water from the alluvial aquifer is used mostly for agricultural and industrial purposes, and is not used for drinking. Land use is dominated by agriculture (corn, cotton, soybeans, and rice); as a result, agricultural chemicals are used heavily and have been detected in surface water and rainfall since the 1990s (Coupe, 2000, 2002; Coupe and Capel, 2005).

The hydrology of the alluvial aquifer has been studied previously by Arthur (2001), Boswell and others (1968), and Snider and Sanford (1981). Multiple streams and rivers incise the alluvial aquifer in the study area, contributing to streamflow in the Bogue Phalia from the headwaters near Gunnison, MS, to where it converges with the Big Sunflower River near Darlove, MS. Seasonal fluctuations in streamflow (fig. 2) are dominated by agricultural pumping and agricultural return flow The estimated annual recharge to the aquifer from precipitation is 2.6 inches (Arthur, 2001).

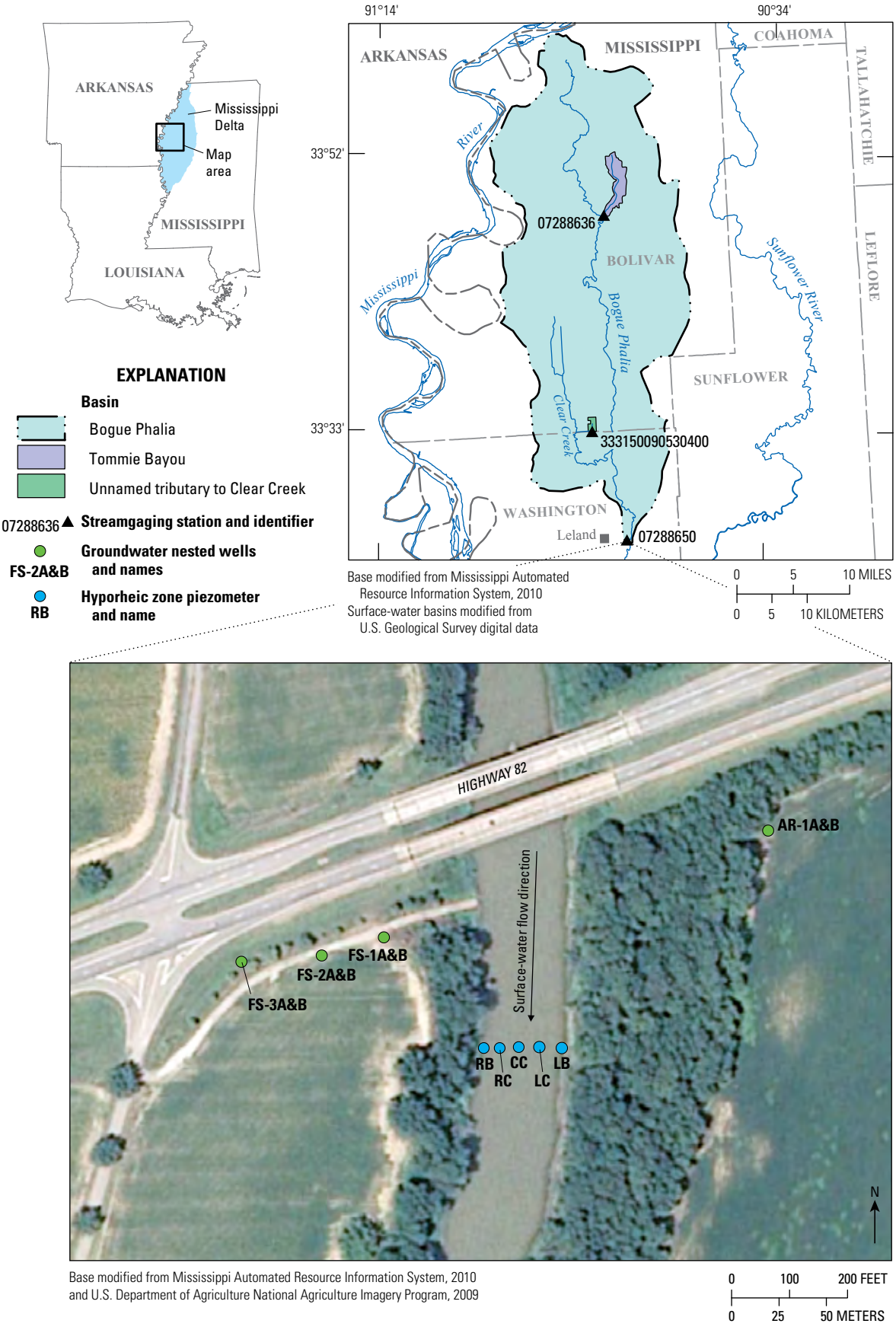


Figure 1. Locations of *(A)* the Bogue Phalia, Tommie Bayou, and unnamed tributary to Clear Creek Basins and *(B)* piezometers installed along a flowpath along the Bogue Phalia near Leland, MS, in northwestern Mississippi (see table 1).

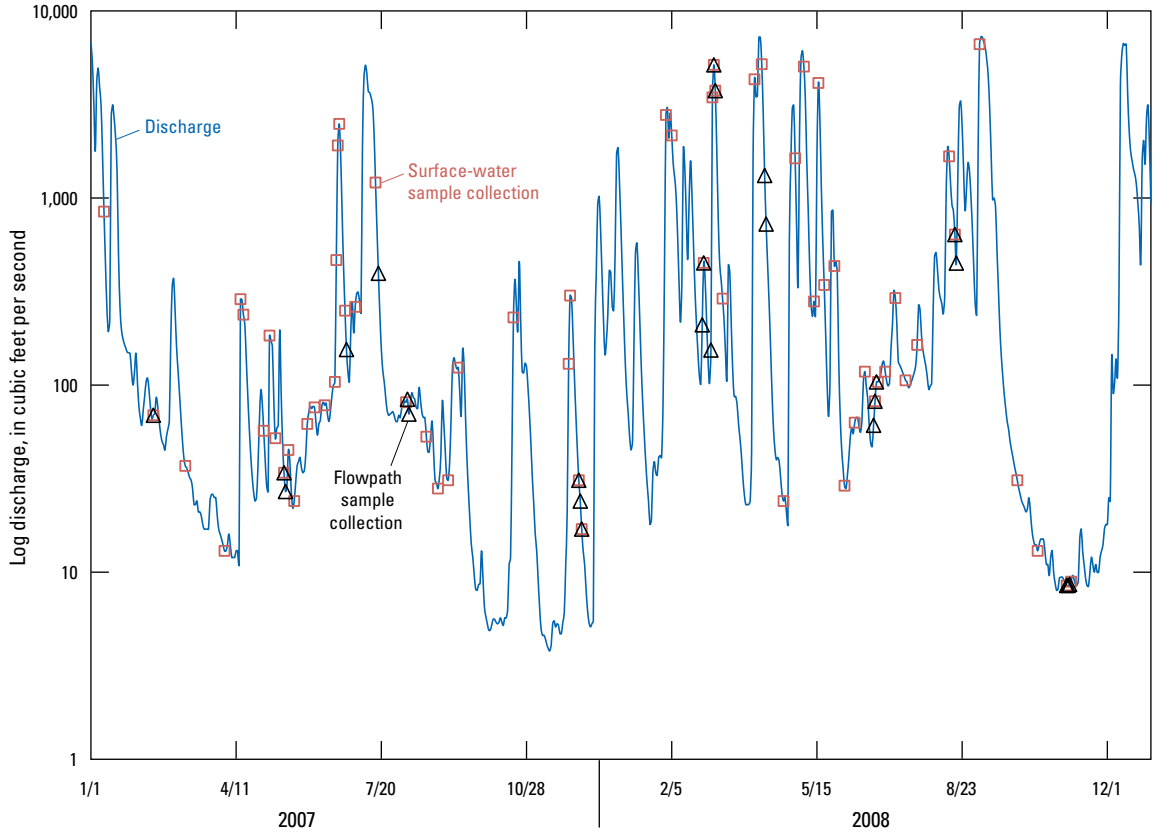


Figure 2. Hydrograph of streamflow in the Bogue Phalia in Mississippi, 2007–2008, also indicating discharge on dates when surface-water and flowpath samples were collected along the Bogue Phalia near Leland, MS.

Site-Identification System

In this report, piezometers are identified two ways—by using the 15-digit station identification (ID) numbers and field ID numbers. The 15-digit station ID number is constructed by using the latitude and longitude of the well location. Piezometers inventoried at the same location, to the minute, are numbered sequentially beginning with "01." For example, the station ID number for the second piezometer in a cluster of piezometers would be 312715085364202, with the last two digits identifying it as the second piezometer in the cluster. Field IDs are abbreviations of piezometer type; for example, FS for flow-system piezometers and AR for areal recharge piezometers. The ID for in-stream piezometers indicates the piezometer location in the stream channel; for instance, the ID for the piezometer closest to the right bank is RB. The FS piezometers were developed in both shallow and deeper zones of the alluvial aquifer and were further defined by using an "A" to designate the deeper piezometers and "B" to designate the shallower piezometers (fig. 3).

Streams are identified by downstream-order numbers according to the guidelines presented in USGS Annual Data Reports (U.S. Geological Survey, 2010).

> "Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two mainstream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary to is indicated by an indention in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

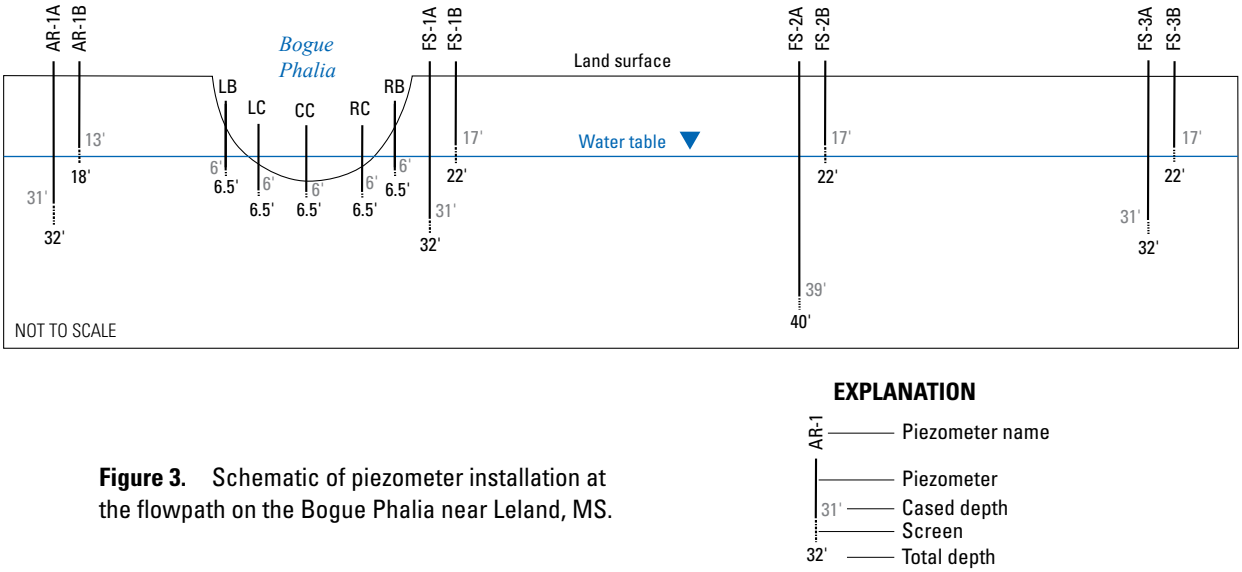


Figure 3. Schematic of piezometer installation at the flowpath on the Bogue Phalia near Leland, MS.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers."

Data-Collection Methods

Water-level data were collected both continuously with pressure transducers and during site visits and sampling events. Continuous data were collected with transducers deployed in individual piezometers. Data were downloaded periodically in the field, taken back to the office and processed, and a final value of depth to water from land surface was recorded and stored in the USGS National Water Information System (NWIS, *http://waterdata.usgs.gov/nwis*). Water levels in piezometers also were recorded during water-quality sampling as part of the USGS groundwater sampling protocol (U.S. Geological Survey, variously dated). Surface-water discharge and stage measurements were collected according to the procedures outlined in Rantz and others, 1982.

Water-quality data were collected for both surface and groundwater samples following standard sampling protocols described by Koterba and others (1995) and the USGS National Field Manual (U.S. Geological Survey, variously dated). Field measurements of stage, discharge, and depth to water level, water temperature, specific conductance, dissolved oxygen, pH, and turbidity were collected at each site. Water samples were collected and sent to multiple laboratories for analysis. When data were available, they were processed and checked at the office and made available on NWIS.

Presentation of Data

Water-quality data collected during this study are listed in tables 2–5 (back of report) and organized by site and date. Fluctuations in water levels in the alluvial aquifer and hyporheic zone and surface-water discharge are shown in figure 4; a subset of these data also can be found in tables 2 and 3. Land managers reported physical and chemical treatments of agricultural land in the basins of Tommie Bayou (figs. 5, 6) and unnamed tributary to Clear Creek (figs. 7, 8) for 2007 and 2008 are described in tables 6–9 (back of report).

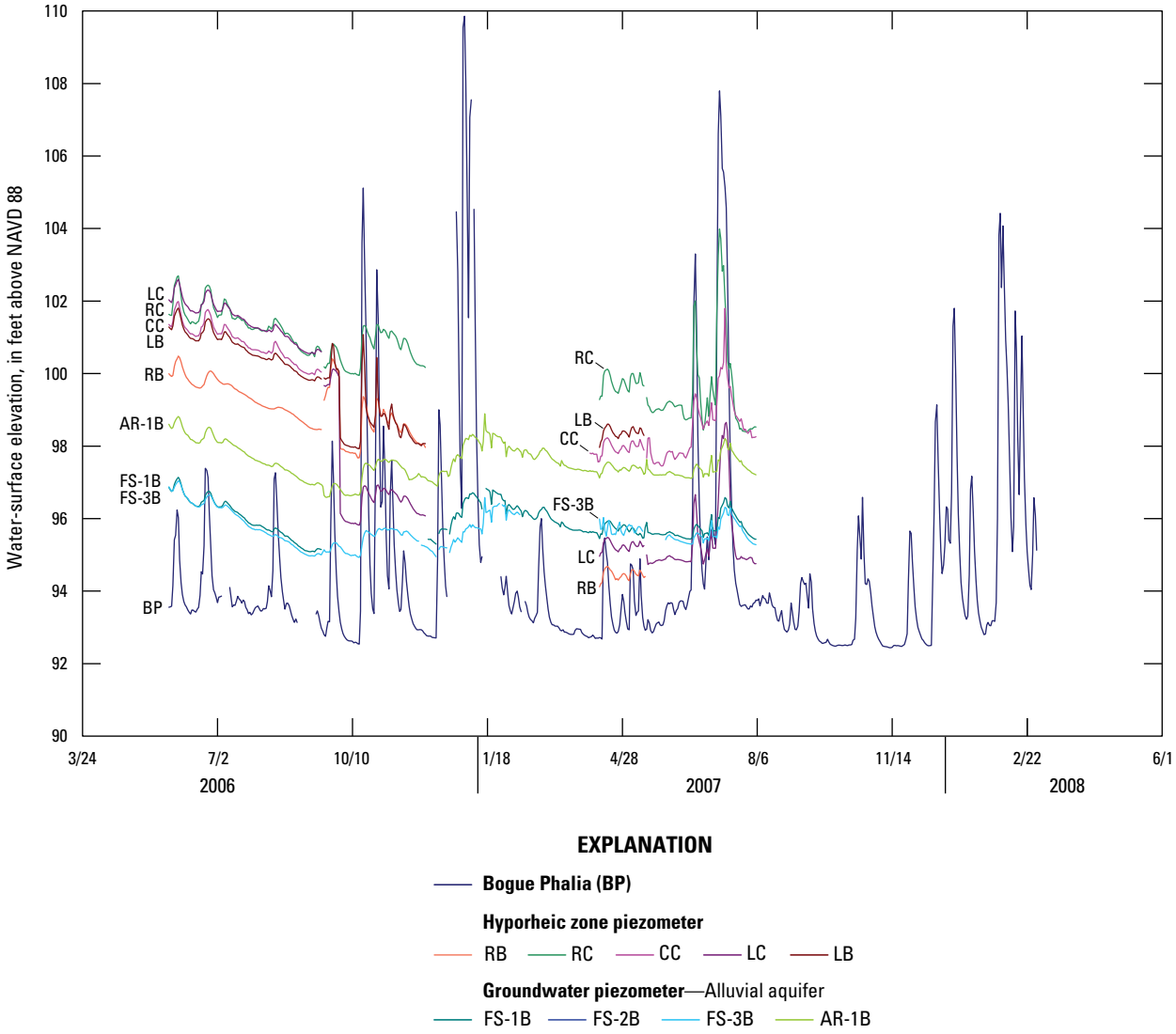


Figure 4. Hydrograph of water-surface elevations for the Bogue Phalia near Leland, MS, the alluvial aquifer, and the hyporheic zone, Bogue Phalia Basin, MS, 2006–2008. See figure 1 for locations.

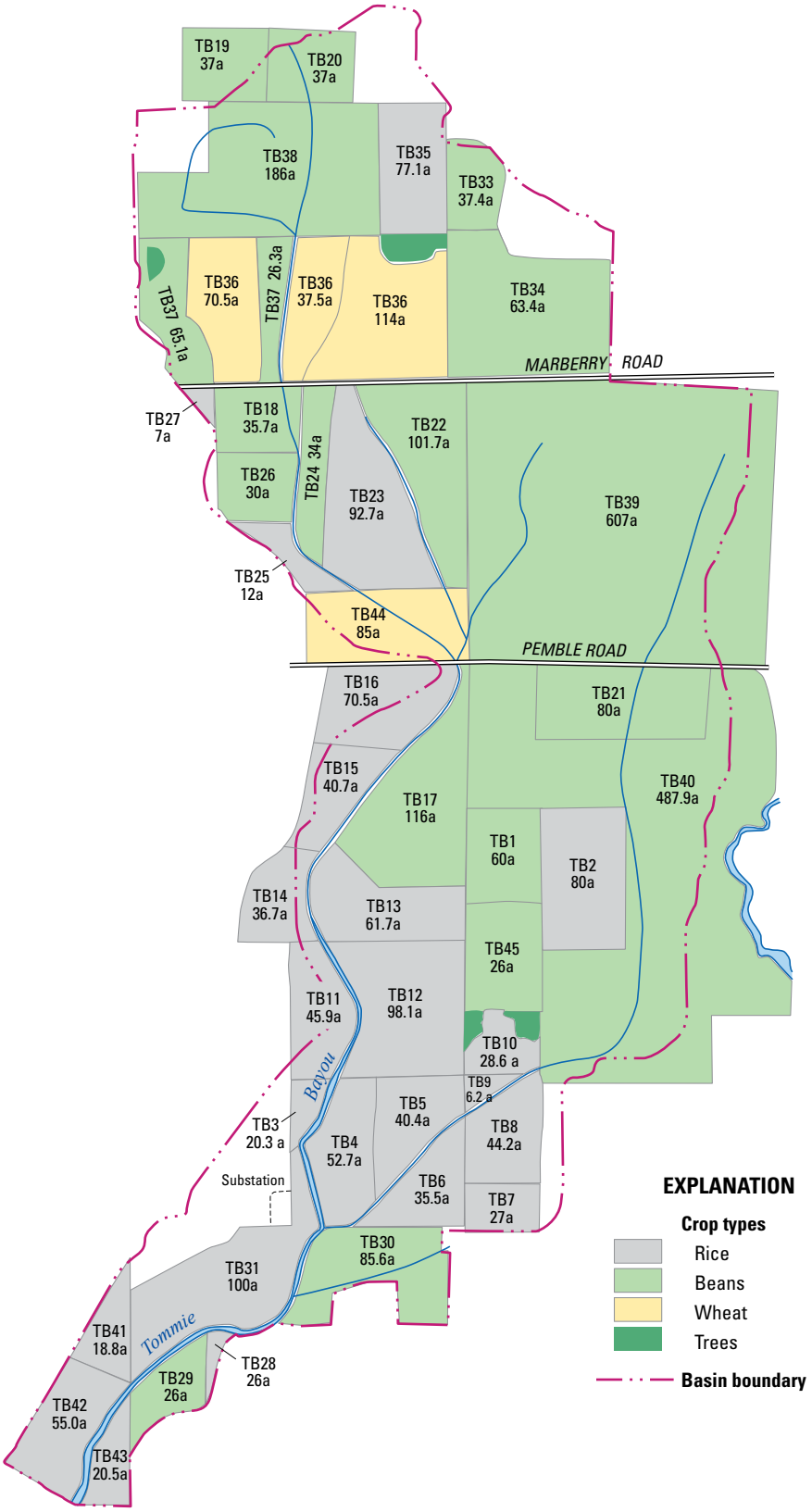


Figure 5. Land managers' report of crop types for agricultural fields in the Tommie Bayou Basin, MS, 2007.

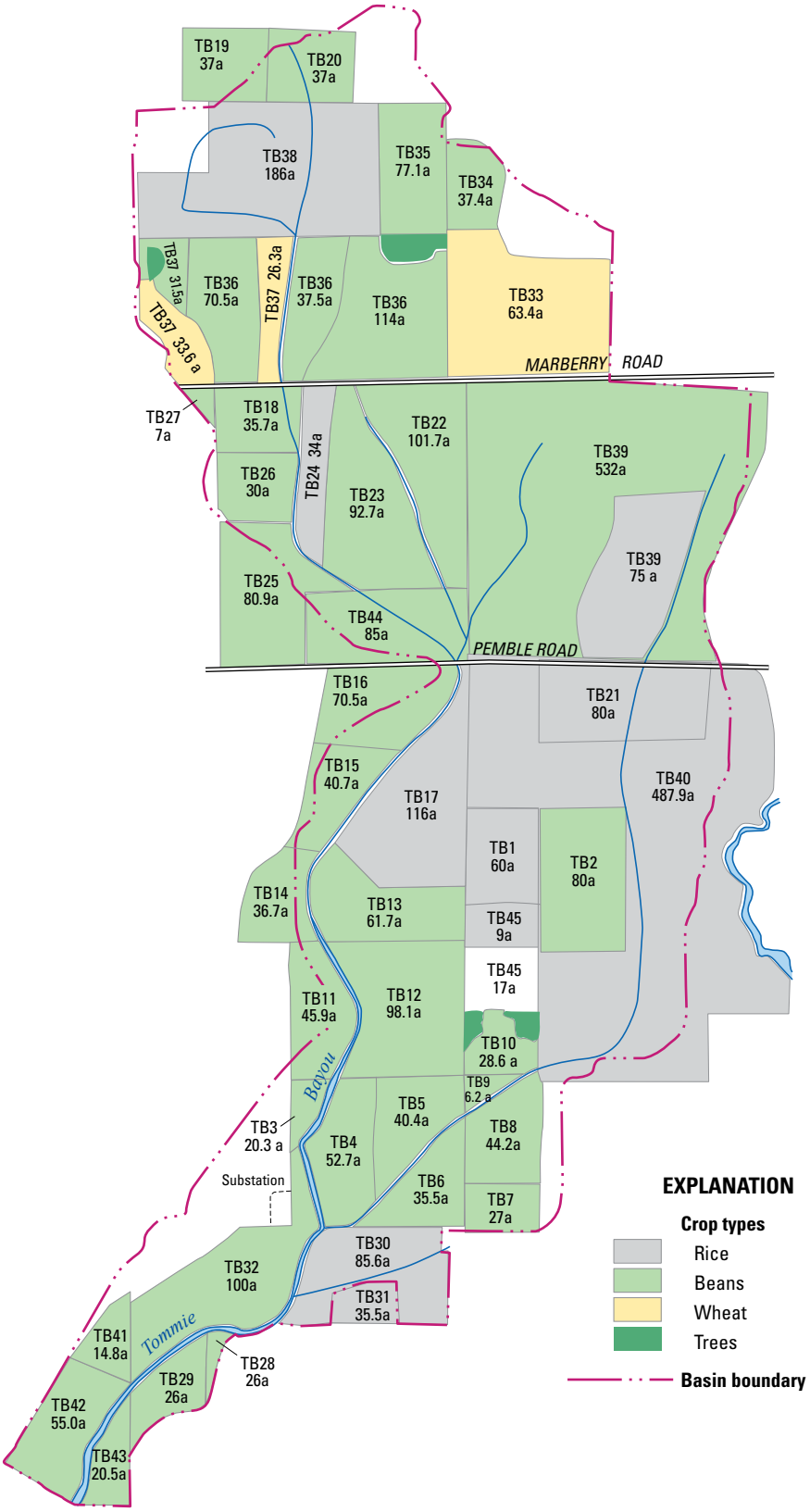
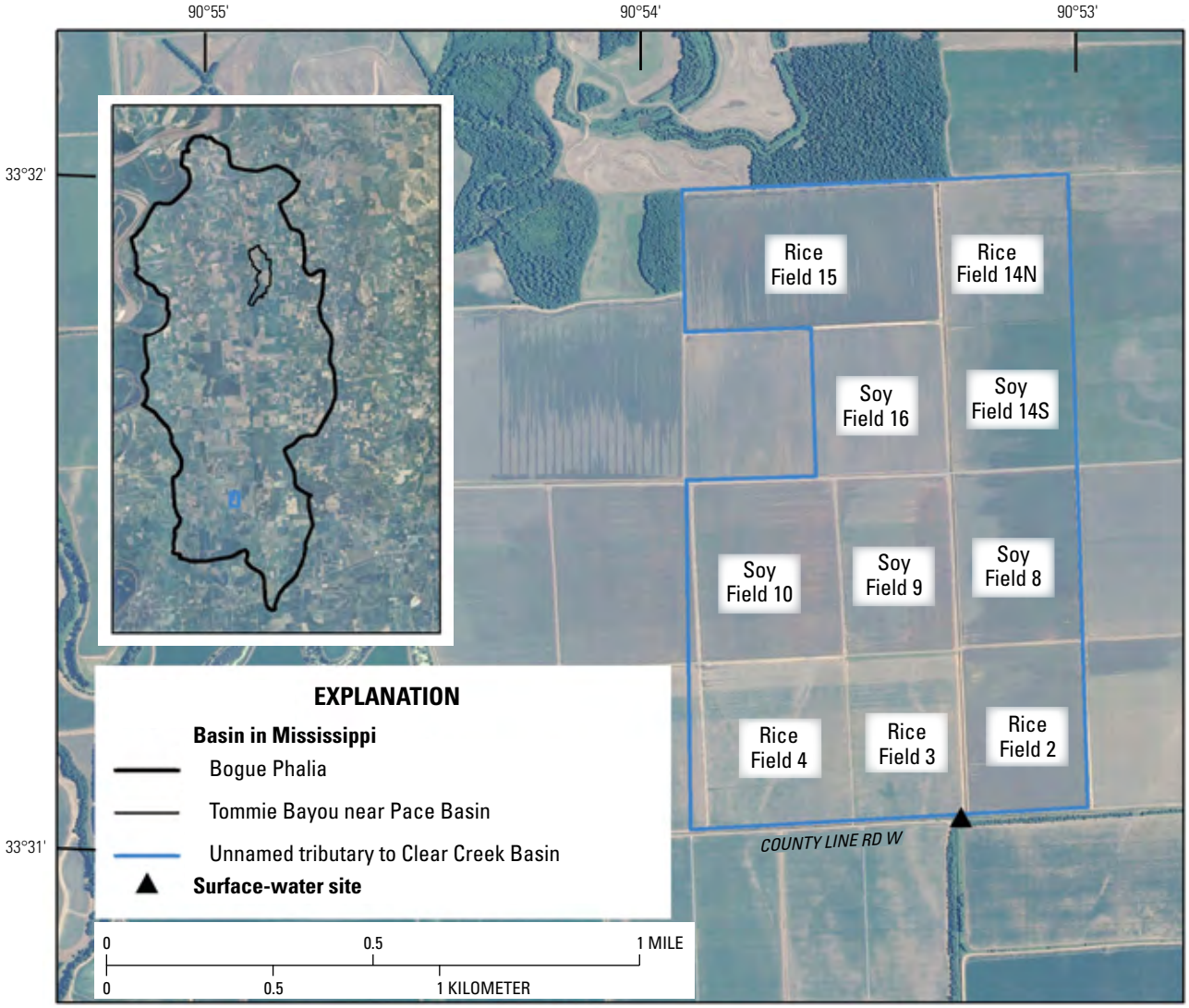
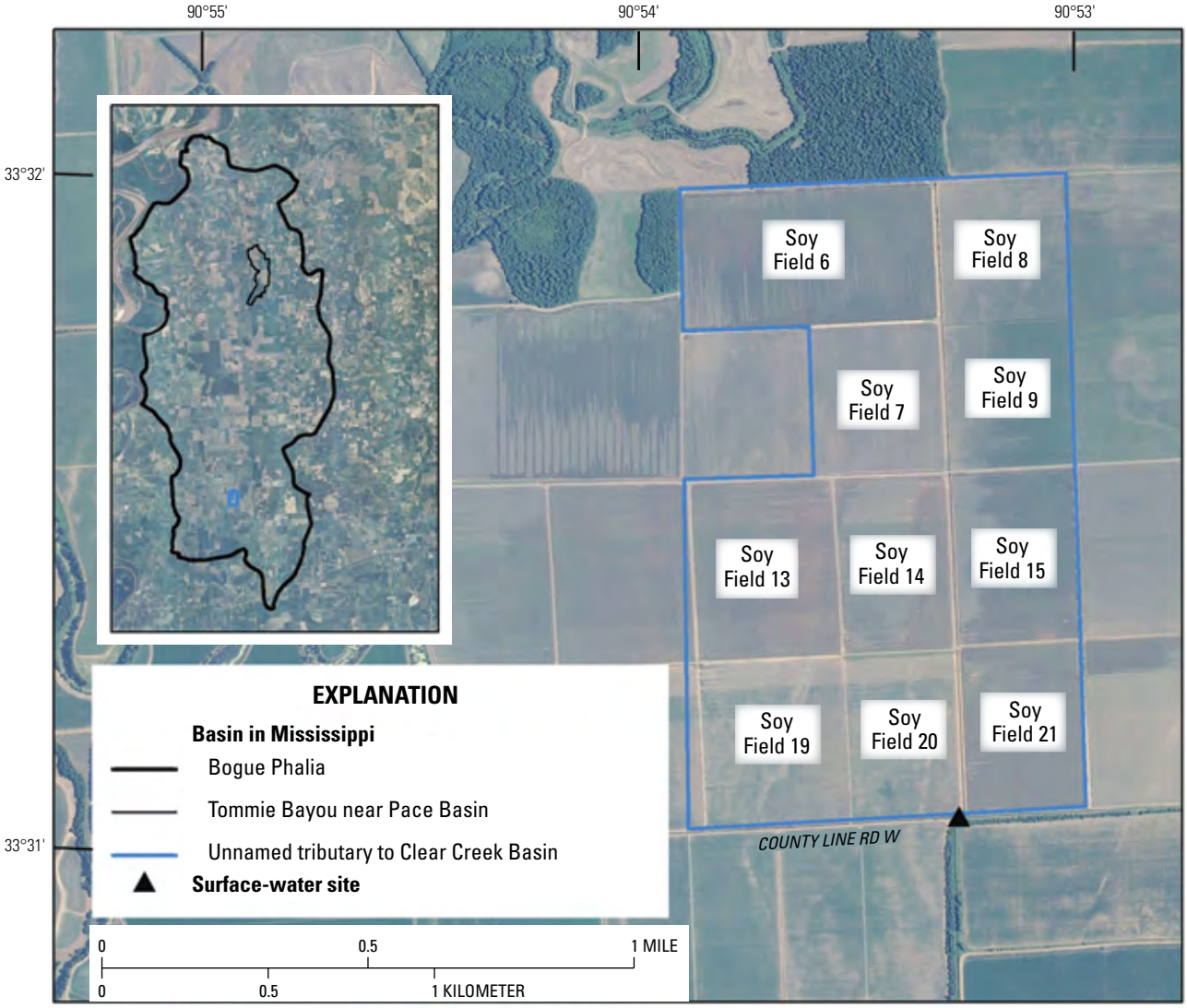


Figure 6. Land managers' report of crop types for agricultural fields in the Tommie Bayou Basin, MS, 2008.



Base modified from Mississippi Automated Resource Information System, 2010 and U.S. Department of Agriculture National Agriculture Imagery Program, 2009

Figure 7. Land managers' report of crop types for agricultural fields in the unnamed tributary to Clear Creek near Napanee, MS, 2007.



Base modified from Mississippi Automated Resource Information System, 2010 and U.S. Department of Agriculture National Agriculture Imagery Program, 2009

Figure 8. Land managers' report of crop types for agricultural fields in the unnamed tributary to Clear Creek near Napanee, MS, 2008.

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Tables 2 through 9

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008.

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Water-surface elevation (feet above NGVD 29)	Gage height (feet)	Discharge (cubic feet per second)	Turbidity, in Nephelometric Turbidity Units	Dissolved oxygen (mg/L)	pH	Specific conductance, (microsiemens per centimeter)	Water temperature (degrees Celsius)
1/9/2006	92.79	6.58	14	24	14.3	7.7	428	12.9
3/6/2006	93.82	7.61	80	190	8.7	7.1	191	14.9
4/3/2006	93.54	7.33	58	110	6.8	7.1	234	21.9
5/2/2006	104.22	18.01	2,920	630	5.8	6.6	76	21.8
7/12/2006	93.82	7.61	87	46	6.8	7.8	566	30.2
7/18/2006	93.78	7.57	88	—	7.9	7.7	695	34.4
8/1/2006	93.57	7.36	73	28	8.4	7.7	693	31.3
8/1/2006	93.57	7.36	73	—	—	—	—	—
9/12/2006	92.89	6.68	21	30	4.8	7.6	661	26.7
10/24/2006	93.91	7.70	96	32	5.0	7.1	260	15.2
11/15/2006	93.40	7.19	57	120	7.1	7.4	229	14.8
12/4/2006	92.77	6.56	17	20	9.8	7.5	427	8.5
1/10/2007	98.29	12.08	767	270	11.0	7.3	112	10.2
2/13/2007	93.41	7.20	E69	190	—	7.3	183	9.8
3/7/2007	93.04	6.83	36	180	7.8	7.1	270	18.5
4/3/2007	92.68	6.47	12	32	14.3	8.2	494	23.0
4/14/2007	96.63	10.42	461	360	8.1	7.4	337	17.5
4/16/2007	95.05	8.84	235	360	7.6	7.4	206	15.1
4/30/2007	93.40	7.19	56	—	4.5	7.3	270	24.4
5/4/2007	95.29	9.08	241	270	6.4	6.4	303	23.0
5/8/2007	93.31	7.10	49	130	—	7.0	233	27.8
5/14/2007	93.03	6.82	33	130	3.1	6.9	247	27.2
5/17/2007	93.25	7.04	47	79	9.5	7.5	311	26.0
5/21/2007	93.21	7.00	25	29	10.6	8.2	330	27.5
5/30/2007	93.52	7.31	62	29	6.2	7.3	492	26.7
6/4/2007	93.65	7.44	76	21	8.4	7.8	573	28.1
6/11/2007	93.68	7.47	80	21	9.3	7.9	622	32.5
6/18/2007	93.97	7.76	103	18	—	7.7	679	30.1
6/19/2007	98.38	12.17	832	>1,000	5.0	7.2	258	25.5
6/20/2007	102.46	16.25	2,120	220	3.8	6.8	287	27.0
6/21/2007	103.46	17.25	2,560	62	3.7	7.0	323	26.9
6/25/2007	95.18	8.97	234	38	—	7.3	368	30.0
7/2/2007	95.39	9.18	323	270	4.3	7.1	214	28.5
7/16/2007	99.51	13.3	1,110	14	4.2	7.0	185	26.6
7/30/2007	93.52	7.31	64	19	6.7	7.9	475	32.7
8/6/2007	93.75	7.54	80	16	6.1	7.9	572	33.1
8/20/2007	93.31	7.10	51	16	8.6	8.1	681	31.9
8/28/2007	92.85	6.64	35	18	6.0	7.4	705	30.9
9/4/2007	92.91	6.70	30	17	2.5	7.3	553	28.7
9/11/2007	94.26	8.05	122	21	4.2	7.4	445	29.3

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Alkalinity, field, (mg/L as calcium carbonate)	Bicarbonate, field (mg/L)	Chloride (mg/L)	Fluoride (mg/L)
1/9/2006	—	—	—	—	169	205	6.39	—
3/6/2006	—	—	—	—	72	87	3.48	—
4/3/2006	—	—	—	—	88	108	3.29	—
5/2/2006	—	—	—	—	19	23	1.60	—
7/12/2006	—	—	—	—	194	231	8.98	—
7/18/2006	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—
9/12/2006	—	—	—	—	241	289	12.0	—
10/24/2006	27.6	8.31	6.58	7.93	88	107	5.93	0.17
11/15/2006	26.2	7.57	5.18	7.63	88	107	6.10	0.16
12/4/2006	48.9	14.8	4.66	13.9	158	192	9.75	0.17
1/10/2007	11.7	3.63	3.02	3.90	43	53	1.93	0.11
2/13/2007	20.7	6.03	2.87	5.92	72	88	3.95	0.12
3/7/2007	29.5	8.55	3.36	7.83	99	120	5.25	0.16
4/3/2007	60.4	18.6	4.44	11.8	179	216	6.03	0.18
4/14/2007	38.2	11.3	3.17	9.06	121	145	5.70	0.17
4/16/2007	19.5	5.57	4.00	7.46	53	64	5.45	0.15
4/30/2007	26.1	8.08	4.59	11.3	85	103	7.26	0.19
5/4/2007	31.0	10.3	4.28	11.4	96	E116	7.05	0.18
5/8/2007	22.0	6.67	4.18	10.4	76	93	6.35	0.16
5/14/2007	25.3	8.06	4.89	9.16	81	99	5.45	0.21
5/17/2007	—	—	—	—	—	—	—	—
5/21/2007	38.0	12.0	3.89	10.9	124	149	5.24	0.23
5/30/2007	55.5	21.8	4.64	23.8	170	204	9.35	0.26
6/4/2007	61.1	22.2	4.78	23.2	189	226	10.5	0.28
6/11/2007	66.3	22.6	4.30	29.8	198	236	13.0	0.27
6/18/2007	71.9	26.0	4.04	26.6	245	242	10.0	0.32
6/19/2007	25.3	8.12	3.57	8.53	75	91	3.78	0.20
6/20/2007	26.4	8.05	3.83	11.0	88	107	5.19	0.20
6/21/2007	32.8	10.9	4.01	12.0	108	131	5.19	0.23
6/25/2007	36.7	13.0	3.81	16.1	139	168	5.16	0.26
7/2/2007	21.3	7.48	3.46	7.26	46	55	3.11	0.15
7/16/2007	21.0	6.14	3.79	5.76	79	98	2.60	0.15
7/30/2007	51.9	17.8	2.84	21.1	184	222	8.15	0.23
8/6/2007	61.1	21.5	4.29	25.2	268	321	11.0	0.24
8/20/2007	68.6	23.9	4.07	35.3	292	348	14.5	0.28
8/28/2007	76.7	28.2	4.49	30.0	250	298	12.4	0.24
9/4/2007	60.3	22.0	5.90	24.2	214	256	9.00	0.24
9/11/2007	44.7	18.1	5.54	16.8	232	280	8.16	0.24

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Silica (mg/L as silica dioxide)	Sulfate (mg/L)	Ammonia, filtered (mg/L as nitrogen)	Nitrate plus nitrite, filtered, (mg/L as nitrogen)	Nitrite, filtered (mg/L as nitrogen)	Particulate nitrogen, suspended in water (mg/L)	Total nitrogen (nitrate + nitrite + ammonia + organic-N), unfiltered (mg/L)	Ortho-phosphate, filtered (mg/L as phosphorus)	Phosphorus, unfiltered (mg/L as phosphorus)
1/9/2006	—	34.7	<0.04	<0.06	<0.008	—	0.81	<0.006	0.086
3/6/2006	—	10.9	E0.03	0.23	E0.006	—	1.31	0.027	0.26
4/3/2006	—	15.4	E0.03	0.53	0.009	—	1.38	0.014	0.22
5/2/2006	—	7.47	0.08	1.05	0.025	—	1.99	0.051	0.40
7/12/2006	—	66.9	0.084	0.72	0.065	—	1.53	0.030	0.124
7/18/2006	—	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—	—
9/12/2006	—	77.6	0.010	<0.06	<0.002	—	0.61	0.043	0.147
10/24/2006	11.5	23.9	0.099	0.07	0.010	0.09	1.26	0.128	0.32
11/15/2006	9.98	15.4	0.089	0.33	0.021	0.21	1.15	0.038	0.20
12/4/2006	10.9	33.5	<0.020	<0.06	<0.002	0.35	0.68	0.033	0.09
1/10/2007	6.34	5.83	0.057	0.32	0.010	0.91	1.24	0.096	0.32
2/13/2007	7.39	10.9	0.062	0.35	0.005	0.53	1.27	0.058	0.30
3/7/2007	7.96	18.2	0.164	1.14	0.042	0.51	2.54	0.012	0.22
4/3/2007	9.70	53.5	E0.019	1.31	0.136	0.52	3.17	E0.004	0.10
4/14/2007	7.53	27.3	0.268	1.41	0.053	0.48	2.69	0.019	0.23
4/16/2007	4.46	19.5	0.840	3.00	0.095	0.34	6.35	0.076	0.37
4/30/2007	3.28	17.3	E0.013	1.08	0.043	0.36	1.99	0.013	0.15
5/4/2007	4.90	26.2	0.233	0.82	0.036	0.56	1.92	0.023	0.20
5/8/2007	6.11	19.4	0.201	1.29	0.125	0.57	2.41	0.056	0.24
5/14/2007	6.15	20.6	0.184	1.11	0.111	0.65	2.29	0.064	0.27
5/17/2007	—	—	—	—	—	—	—	—	—
5/21/2007	8.66	37.9	E0.012	0.11	0.023	0.50	1.14	E0.005	0.12
5/30/2007	6.26	75.0	0.087	0.34	0.032	0.17	1.21	0.018	0.09
6/4/2007	9.92	78.8	<0.020	0.43	0.054	0.17	1.34	0.013	0.10
6/11/2007	13.3	93.5	0.051	0.89	0.098	0.32	1.79	0.027	0.11
6/18/2007	14.9	90.3	0.071	0.55	0.083	0.15	1.50	0.059	0.12
6/19/2007	7.36	26.9	0.309	2.72	0.077	1.36	5.42	0.070	0.51
6/20/2007	7.49	28.3	0.546	1.11	0.112	0.66	4.00	0.084	0.38
6/21/2007	9.98	33.9	0.752	1.45	0.162	0.25	3.67	0.099	0.20
6/25/2007	12.6	33.4	0.400	1.84	0.548	0.15	3.30	0.073	0.15
7/2/2007	7.30	19.8	0.088	1.00	0.093	0.28	1.92	0.103	0.29
7/16/2007	12.3	8.15	0.074	0.38	0.024	0.17	1.10	0.214	0.33
7/30/2007	12.2	51.2	0.030	0.10	0.013	0.21	0.64	0.084	0.12
8/6/2007	14.0	60.0	E0.018	E0.05	0.004	0.21	0.48	0.094	0.14
8/20/2007	15.9	78.8	E0.014	<0.06	0.004	0.20	0.44	0.129	0.15
8/28/2007	18.1	83.0	<0.020	<0.06	E0.001	0.29	0.55	0.095	0.18
9/4/2007	15.7	56.7	0.165	E0.03	0.007	0.13	0.90	0.164	0.21
9/11/2007	11.7	39.3	0.090	0.19	0.018	0.18	0.81	0.111	0.17

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Carbon (inorganic plus organic), suspended sediment, total (mg/L)	Inorganic carbon, suspended sediment, total (mg/L)	Organic carbon, filtered (mg/L)	Iron, filtered (µg/L)	Manganese, filtered (µg/L)	Aminomethyl-phosphonic acid, recoverable (µg/L)	Glufosinate (µg/L)	Glyphosate (µg/L)	Suspended sediment concentration (mg/L)
1/9/2006	—	—	—	—	—	—	—	—	70
3/6/2006	—	—	—	—	—	0.750	<0.140	0.440	225
4/3/2006	—	—	—	—	—	1.00	<0.140	0.390	140
5/2/2006	—	—	—	—	—	0.850	<0.140	1.01	374
7/12/2006	—	—	—	—	—	4.24	<0.140	1.32	99
7/18/2006	—	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—	—
8/1/2006	—	—	—	—	—	—	—	—	—
9/12/2006	—	—	—	—	—	1.32	<0.140	0.450	107
10/24/2006	0.47	<0.12	11.2	36	136	1.9	<0.10	0.50	60
11/15/2006	1.11	<0.12	7.3	12	56.0	1.3	<0.02	0.21	129
12/4/2006	1.63	<0.12	6.8	7	247	0.82	<0.02	0.11	54
1/10/2007	4.63	<0.12	6.6	22	5.5	0.80	<0.02	0.25	214
2/13/2007	2.69	<0.12	5.5	11	56.3	0.68	<0.02	0.26	176
3/7/2007	2.21	<0.12	6.2	E6	112	0.88	<0.02	0.34	177
4/3/2007	2.44	<0.12	7.1	9	45.0	1.2	<0.02	0.20	76
4/14/2007	3.03	<0.12	5.5	E4	162	2.8	<0.02	2.2	260
4/16/2007	2.27	0.20	7.6	6	4.9	3.3	0.11	2.1	277
4/30/2007	2.04	<0.12	7.0	E3	20.0	1.7	<0.02	0.28	104
5/4/2007	3.38	<0.12	6.8	7	47.6	2.0	<0.02	0.84	190
5/8/2007	2.35	<0.12	6.8	8	61.8	2.6	0.12	0.56	181
5/14/2007	2.75	<0.12	7.2	E3	85.6	4.3	3.2	2.1	154
5/17/2007	—	—	7.0	—	—	—	—	—	—
5/21/2007	2.19	<0.12	7.1	E5	133	2.9	<0.02	0.66	63
5/30/2007	0.81	<0.12	5.5	19	183	3.5	<0.02	1.1	86
6/4/2007	1.01	<0.12	6.3	8	19.5	6.7	<0.02	1.9	81
6/11/2007	1.84	<0.12	7.0	E4	19.2	6.8	<0.02	1.5	89
6/18/2007	1.11	<0.12	6.8	E4	26.8	28	<0.02	15	76
6/19/2007	8.53	<0.12	5.9	6	0.9	4.8	<0.02	4.2	662
6/20/2007	4.21	<0.12	6.7	10	8.2	3.5	<0.02	2.1	322
6/21/2007	1.90	<0.12	9.8	10	12.4	3.5	<0.02	2.0	113
6/25/2007	0.88	<0.12	5.7	29	20.0	2.9	<0.02	0.97	83
7/2/2007	1.31	<0.12	5.6	13	20.6	4.0	<0.02	2.9	203
7/16/2007	1.26	<0.12	5.5	25	27.1	2.7	<0.02	1.3	64
7/30/2007	1.01	<0.12	5.1	<6	23.2	3.3	<0.02	1.0	75
8/6/2007	1.42	<0.12	5.5	E5	25.2	4.2	<0.02	1.0	86
8/20/2007	0.94	<0.12	5.7	20	20.2	4.1	<0.02	0.92	117
8/28/2007	1.74	<0.12	6.2	E5	44.6	3.7	<0.02	1.4	167
9/4/2007	1.10	<0.12	7.8	9	90.9	4.0	<0.02	1.1	117
9/11/2007	1.29	<0.12	6.5	8	9.7	3.6	<0.02	0.38	95

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Water-surface elevation (feet above NGVD 29)	Gage height (feet)	Discharge (cubic feet per second)	Turbidity, in Nephelometric Turbidity Units	Dissolved oxygen (mg/L)	pH	Specific conductance, (microsiemens per centimeter)	Water temperature (degrees Celsius)
10/19/2007	94.86	8.65	192	23	6.1	7.7	413	24.2
11/26/2007	94.31	8.10	135	58	9.2	7.5	367	10.8
11/27/2007	95.80	9.59	322	180	8.5	7.2	236	10.7
12/3/2007	92.97	6.76	43	—	9.1	7.8	312	12.6
12/5/2007	92.75	6.54	17	—	8.9	7.5	317	11.3
2/1/2008	103.91	17.70	2,770	>1,000	11.8	6.4	112	4.5
2/5/2008	102.80	16.59	2,260	620	9.1	7.0	111	12.7
2/27/2008	96.71	10.50	482	>1,000	9.9	7.3	142	9.0
3/4/2008	106.85	20.64	4,160	>1,000	9.0	7.7	63	12.0
3/5/2008	108.64	22.43	5,220	>1,000	8.8	6.9	58	10.3
3/6/2008	106.06	19.85	3,600	>1,000	9.0	7.0	69	10.5
3/11/2008	95.56	9.35	284	400	9.6	7.1	95	12.0
4/2/2008	106.91	20.70	4,520	—	6.9	6.8	92	16.8
4/7/2008	108.20	21.99	5,360	350	6.5	6.8	74	16.0
4/22/2008	92.90	6.69	25	—	7.4	7.7	231	22.3
4/30/2008	100.54	14.33	1,380	540	7.0	6.7	106	14.3
5/6/2008	107.98	21.77	5,230	520	—	—	—	—
5/13/2008	86.21	—	—	—	—	7.2	—	—
5/16/2008	106.54	20.33	4,270	710	7.7	6.9	82	22.0
5/20/2008	95.90	9.69	330	150	6.4	7.1	140	27.2
5/27/2008	96.27	10.06	399	300	5.0	6.8	113	34.0
6/3/2008	92.99	6.78	30	—	6.6	7.3	222	31.4
6/10/2008	93.56	7.35	68	39	7.4	7.7	536	30.7
6/17/2008	94.22	8.01	124	40	9.1	8.1	419	31.2
6/24/2008	93.70	7.49	84	—	7.7	7.7	577	28.9
6/26/2008	93.91	7.70	103	—	6.0	7.9	566	28.6
7/1/2008	94.11	7.90	116	53	13.7	6.4	481	27.5
7/8/2008	95.58	9.37	290	25	5.9	6.8	479	30.2
7/15/2008	93.91	7.70	95	42	6.6	7.7	530	30.0
7/23/2008	94.59	8.38	160	31	6.5	7.5	636	31.4
8/14/2008	101.36	15.15	1,690	30	5.3	6.4	361	25.6
8/18/2008	97.34	11.13	615	—	7.0	7.4	363	26.7
9/4/2008	111.86	25.65	6,290	54	5.0	6.7	119	24.3
9/30/2008	92.93	6.45	27	16	5.8	6.6	280	24.6
10/14/2008	92.60	6.39	15	9	6.4	6.9	384	23.7
11/3/2008	92.61	6.36	8.5	10	8.7	8.3	506	16.2
11/6/2008	92.61	6.37	8.3	12	7.6	7.1	519	17.2

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Alkalinity, field, (mg/L as calcium carbonate)	Bicarbonate, field (mg/L)	Chloride (mg/L)	Fluoride (mg/L)
10/19/2007	39.9	17.2	5.83	15.4	—	—	9.42	0.21
11/26/2007	42.9	13.4	5.55	13.1	145	175	7.92	0.15
11/27/2007	21.6	7.14	7.77	8.80	72	87	9.56	0.14
12/3/2007	30.6	10.2	7.13	11.5	109	132	12.7	0.19
12/5/2007	—	—	—	—	—	—	—	—
2/1/2008	10.6	3.29	3.05	5.05	33	40	4.01	0.14
2/5/2008	11.5	3.56	3.36	4.39	43	52	2.93	E0.10
2/27/2008	14.2	3.98	3.29	6.91	54	65	3.60	0.13
3/4/2008	6.01	1.77	2.07	2.46	26	31	1.50	E0.11
3/5/2008	5.27	1.55	2.02	2.19	19	23	1.26	E0.09
3/6/2008	—	—	—	—	—	—	—	—
3/11/2008	9.60	2.89	3.32	3.04	35	42	1.89	E0.10
4/2/2008	9.09	2.69	2.91	3.60	27	33	2.37	E0.12
4/7/2008	7.62	2.22	2.64	2.74	28	34	1.40	E0.11
4/22/2008	25.3	7.85	3.53	6.50	97	117	3.89	0.16
4/30/2008	10.5	3.09	3.08	3.36	26	32	2.17	E0.12
5/6/2008	—	—	—	—	43	53	—	—
5/13/2008	11.6	3.35	3.67	2.34	43	53	1.54	E0.09
5/16/2008	6.80	2.05	2.53	2.33	19	23	1.09	0.10
5/20/2008	13.7	3.94	3.39	3.82	35	42	2.11	0.14
5/27/2008	10.7	3.12	2.92	3.47	33	40	1.76	0.15
6/3/2008	22.7	6.78	3.54	5.11	76	93	2.44	0.18
6/10/2008	57.1	18.2	4.34	19.1	164	198	8.53	0.21
6/17/2008	44.5	14.3	4.10	14.0	145	173	7.76	0.21
6/24/2008	58.9	23.7	4.16	25.0	197	237	11.1	0.20
6/26/2008	—	—	—	—	—	—	—	—
7/1/2008	48.2	19.3	4.03	21.6	156	185	9.95	0.23
7/8/2008	49.3	18.5	4.86	18.8	167	200	8.48	0.26
7/15/2008	54.3	22.0	3.81	20.5	201	242	7.47	0.27
7/23/2008	71.7	28.0	4.04	28.5	232	277	11.8	0.25
8/14/2008	38.6	13.6	5.01	12.3	145	175	6.13	0.18
8/18/2008	38.3	13.2	5.32	12.4	150	181	6.92	0.19
9/4/2008	11.8	3.48	5.17	2.76	45	55	2.36	E0.09
9/30/2008	—	—	—	—	—	—	—	—
10/14/2008	50.6	14.8	4.46	7.70	174	E212	4.12	0.16
11/3/2008	68.5	19.9	3.49	13.8	215	260	7.32	0.20
11/6/2008	—	—	—	—	—	—	—	—

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Silica (mg/L as silica dioxide)	Sulfate (mg/L)	Ammonia, filtered (mg/L as nitrogen)	Nitrate plus nitrite, filtered, (mg/L as nitrogen)	Nitrite, filtered (mg/L as nitrogen)	Particulate nitrogen, suspended in water (mg/L)	Total nitrogen (nitrate + nitrite + ammonia + organic-N), unfiltered (mg/L)	Ortho-phosphate, filtered (mg/L as phosphorus)	Phosphorus, unfiltered (mg/L as phosphorus)
10/19/2007	9.68	38.9	0.082	0.05	0.008	0.41	0.67	0.081	0.15
11/26/2007	8.41	29.1	0.038	0.51	0.005	0.28	1.07	0.041	0.14
11/27/2007	8.22	22.4	0.027	1.28	0.014	0.49	2.25	0.128	0.30
12/3/2007	7.53	21.7	0.057	0.38	0.009	0.14	1.10	0.068	0.16
12/5/2007	—	—	—	—	—	—	—	—	—
2/1/2008	4.90	10.4	0.063	0.82	0.006	1.39	2.40	0.055	0.50
2/5/2008	8.43	7.75	E0.082	0.57	0.017	1.01	1.78	0.156	0.49
2/27/2008	6.07	8.28	0.158	0.53	0.014	1.65	2.29	0.124	0.59
3/4/2008	4.45	4.55	0.088	0.38	0.008	1.48	2.67	0.046	0.65
3/5/2008	4.03	3.76	0.104	0.42	0.009	1.33	2.22	0.070	0.53
3/6/2008	—	—	—	—	—	—	—	—	—
3/11/2008	5.38	4.31	0.172	0.63	0.016	0.74	2.33	0.105	0.46
4/2/2008	5.49	7.76	0.137	1.19	0.032	1.31	2.97	0.080	0.52
4/7/2008	5.61	5.11	0.040	0.43	0.014	0.79	1.35	0.095	0.33
4/22/2008	8.61	16.8	0.043	0.06	0.004	0.31	0.79	0.048	0.17
4/30/2008	6.90	8.64	0.142	1.43	0.042	0.84	2.76	0.103	0.40
5/6/2008	—	—	—	—	—	—	—	—	—
5/13/2008	7.50	4.40	0.096	0.57	0.035	0.30	1.29	0.167	0.35
5/16/2008	5.73	6.95	0.357	1.85	0.057	0.97	3.36	0.061	0.34
5/20/2008	7.64	13.8	0.350	2.29	0.262	0.32	4.04	0.081	0.26
5/27/2008	6.37	8.84	0.175	1.49	0.186	0.51	2.65	0.079	0.32
6/3/2008	10.2	17.6	0.126	1.47	0.167	0.42	2.85	0.040	0.17
6/10/2008	14.3	72.3	0.032	1.22	0.073	0.42	1.89	0.045	0.14
6/17/2008	11.4	51.3	<0.020	0.66	0.071	0.60	1.59	0.025	0.14
6/24/2008	10.8	94.2	0.058	0.13	0.025	0.39	0.82	0.031	0.11
6/26/2008	—	—	—	—	—	—	—	—	—
7/1/2008	5.16	71.2	<0.020	0.75	0.198	0.76	1.89	<0.006	0.11
7/8/2008	10.8	59.2	0.029	0.42	0.040	0.32	1.22	0.033	0.11
7/15/2008	12.7	66.8	0.086	0.33	0.039	0.35	1.23	0.047	0.13
7/23/2008	13.5	82.9	0.027	E0.03	0.004	0.30	0.60	0.061	0.12
8/14/2008	14.9	29.1	E0.013	0.44	0.025	0.21	1.16	0.114	0.19
8/18/2008	16.1	24.3	0.021	0.28	0.022	0.18	0.91	0.123	0.18
9/4/2008	8.59	7.38	E0.016	0.23	0.012	0.21	0.97	0.160	0.27
9/30/2008	—	—	—	—	—	—	—	—	—
10/14/2008	15.7	19.7	<0.020	<0.04	E0.001	0.09	0.28	0.038	0.07
11/3/2008	14.0	47.7	<0.020	<0.04	<0.002	0.10	0.35	0.015	0.05
11/6/2008	—	—	—	—	—	—	—	—	—

Table 2. Surface-water-quality data for samples collected at station 07288650, Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; —, no data; E, estimated; see fig. 1 for location]

Sample date	Carbon (inorganic plus organic), suspended sediment, total (mg/L)	Inorganic carbon, suspended sediment, total (mg/L)	Organic carbon, filtered (mg/L)	Iron, filtered (µg/L)	Manganese, filtered (µg/L)	Aminomethyl-phosphonic acid, recoverable (µg/L)	Glufosinate (µg/L)	Glyphosate (µg/L)	Suspended sediment concentration (mg/L)
10/19/2007	3.80	<0.04	6.5	<8	1.4	12	<0.02	73	81
11/26/2007	2.30	E0.03	6.0	12	56.5	2.6	<0.02	1.0	84
11/27/2007	2.67	E0.04	8.5	22	2.7	2.4	<0.02	1.2	172
12/3/2007	0.93	E0.05	8.5	10	19.4	2.5	<0.02	1.2	83
12/5/2007	—	—	7.9	—	—	—	—	—	81
2/1/2008	9.69	0.30	5.8	11	10.4	0.97	<0.02	0.58	781
2/5/2008	5.53	<0.04	7.8	—	15.6	0.75	<0.02	0.24	419
2/27/2008	9.31	E0.08	6.4	18	1.2	1.4	<0.02	1.4	650
3/4/2008	8.88	0.20	5.0	49	9.4	0.79	<0.02	1.2	1,010
3/5/2008	7.76	0.19	4.7	67	5.5	0.93	<0.02	0.57	648
3/6/2008	—	—	6.3	—	—	—	—	—	—
3/11/2008	13.2	0.15	7.4	23	6.8	1.0	<0.02	0.49	309
4/2/2008	8.68	<0.04	8.2	41	4.2	1.4	<0.02	1.1	588
4/7/2008	5.43	<0.04	8.1	42	3.0	1.1	<0.02	1.0	249
4/22/2008	1.58	<0.04	7.0	14	85.1	1.2	<0.02	0.40	67
4/30/2008	5.10	E0.07	8.3	23	5.2	1.4	0.16	0.66	333
5/6/2008	—	—	E40.7	—	—	1.1	<0.02	0.91	—
5/13/2008	2.40	E0.10	6.3	30	42.3	1.5	<0.02	0.48	117
5/16/2008	6.21	<0.04	5.5	30	2.7	1.6	<0.02	1.0	418
5/20/2008	1.78	<0.04	6.9	21	21.6	1.6	<0.02	0.85	139
5/27/2008	2.83	<0.04	5.4	17	8.4	1.3	<0.02	0.50	260
6/3/2008	2.25	<0.04	5.8	E6	117	1.6	<0.02	0.46	98
6/10/2008	2.42	<0.04	5.1	E5	94.1	2.9	<0.02	1.1	105
6/17/2008	3.41	<0.04	6.2	9	25.1	3.0	<0.02	0.95	102
6/24/2008	2.03	<0.04	5.1	E6	35.6	3.6	<0.02	0.84	112
6/26/2008	—	—	5.4	—	—	—	—	—	133
7/1/2008	4.72	0.19	6.6	E7	1.7	3.0	<0.02	1.3	127
7/8/2008	2.17	E0.04	6.8	E5	7.4	2.3	<0.02	0.65	86
7/15/2008	2.30	0.13	5.9	E5	14.2	4.4	<0.02	0.92	96
7/23/2008	2.08	E0.04	5.2	E6	8.5	5.3	<0.02	18	126
8/14/2008	1.97	0.26	8.5	25	4.4	0.48	<0.02	0.08	88
8/18/2008	1.40	<0.04	6.5	20	3.9	3.2	<0.02	1.5	75
9/4/2008	1.70	<0.04	7.5	77	10	2.2	<0.02	1.2	164
9/30/2008	—	—	5.9	—	—	—	—	—	—
10/14/2008	0.58	<0.04	4.0	6	216	2.3	<0.02	0.22	134
11/3/2008	0.62	<0.04	4.0	14	176	4.7	<0.02	0.19	76
11/6/2008	—	—	3.8	—	—	—	—	—	—

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008.

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Station name (fig. 1 and table 1)	Site type	Sample date	Water level (feet below land surface)	Water- surface elevation (feet above NGVD 29)	Turbidity, in Nephelometric Turbidity Units	Dissolved oxygen (mg/L)	pH	Specific conductance, (microsiemens per centimeter)
332440090502001	RB	HW	12/5/2006	—	—	0.6	0.4	6.9	738
			2/13/2007	—	—	0.2	—	7.0	528
			5/15/2007	—	—	0.5	0.3	6.8	758
			6/26/2007	—	—	0.2	0.3	6.8	809
			7/18/2007	—	—	0.7	0.2	6.7	672
			8/7/2007	—	—	0.8	0.2	6.8	579
			12/3/2007	—	—	0.3	0.5	6.8	549
			12/4/2007	3.53	—	20	0.4	6.4	764
			2/27/2008	—	—	0.1	0.3	6.9	675
			3/6/2008	—	—	0.3	0.5	6.9	754
			4/10/2008	—	—	1.2	0.3	7.0	728
			6/23/2008	—	—	0.2	0.3	6.8	538
			6/23/2008	0.69	—	—	1.1	7.1	514
332440090502195	RC	HW	12/5/2006	—	—	1.5	—	6.9	690
			2/13/2007	—	—	7.4	—	7.1	741
			5/15/2007	—	—	4 .0	0.6	6.8	777
			12/5/2007	—	—	11	0.2	6.7	737
			6/25/2008	—	—	4.6	0.2	6.8	778
			11/4/2008	—	—	64	0.8	6.8	773
332440090502196	C	HW	8/8/2007	—	—	13	0.5	6.7	641
			12/5/2007	—	—	11	0.7	6.8	682
			6/25/2008	–2.56	—	1.4	0.8	6.8	458
			11/4/2008	—	—	12	1.6	6.8	576
332440090502197	LC	HW	8/8/2007	—	—	19	0.4	7.1	586
			12/3/2007	—	—	0.2	0.5	6.5	683
			2/27/2008	—	—	0.1	0.3	6.9	542
			3/6/2008	—	—	0.2	0.5	7.2	356
			4/10/2008	—	—	0.1	0.2	7.2	420
			6/23/2008	—	—	0.1	0.2	6.8	702
			6/25/2008	–4.22	—	3.5	0.2	6.8	670
			8/18/2008	—	—	0.2	0.4	6.9	680
			11/5/2008	—	—	0.1	0.1	6.8	671

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Water temperature (degrees Celsius)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Alkalinity, laboratory (mg/L as calcium carbonate)	Alkalinity, field, (mg/L as calcium carbonate)	Bicarbonate, field (mg/L)	Bromide, filtered (mg/L)
332440090502001	12/5/2006	16.8	108	34.0	1.26	8.95	369	—	—	0.03
	2/13/2007	16.3	71.3	21.6	0.92	5.83	260	—	—	E0.01
	5/15/2007	23.0	102	32.0	1.31	6.61	372	—	—	0.02
	6/26/2007	26.5	114	33.9	1.61	7.58	393	—	—	0.03
	7/18/2007	26.4	87.2	27.0	1.44	7.81	337	—	—	0.06
	8/7/2007	26.9	73.6	22.9	1.24	7.27	290	—	—	0.03
	12/3/2007	16.4	71.9	23.1	1.19	5.50	279	—	—	E0.01
	12/4/2007	17.8	102	35.0	1.66	6.95	372	—	—	0.03
	2/27/2008	14.4	92.7	28.1	1.14	6.33	301	—	—	0.05
	3/6/2008	15.0	106	32.8	1.40	7.07	386	392	477	0.08
	4/10/2008	18.7	93.3	28.3	1.18	6.72	364	—	—	0.08
	6/23/2008	24.4	67.6	22.0	1.11	5.32	258	—	—	E0.01
	6/23/2008	22.3	64.4	23.6	1.38	4.88	257	—	—	E0.01
332440090502195	12/5/2006	7.0	106	28.1	0.98	10.8	330	—	—	0.04
	2/13/2007	16.0	108	29.2	0.91	10.6	349	—	—	0.03
	5/15/2007	24.1	110	29.2	0.87	10.7	349	—	—	0.04
	12/5/2007	19.9	106	26.9	2.28	11.1	340	—	—	0.04
	6/25/2008	25.6	108	27.9	1.41	9.92	363	—	—	0.04
	11/4/2008	20.7	111	28.4	1.70	10.3	362	—	—	0.04
332440090502196	8/8/2007	28.0	90.1	21.6	1.62	9.11	349	—	—	0.03
	12/5/2007	17.3	100	23.5	1.22	10.1	308	—	—	0.02
	6/25/2008	27.6	64.9	15.3	1.72	6.56	240	—	—	0.02
	11/4/2008	20.9	83.7	19.6	2.77	7.98	336	—	—	0.05
332440090502197	8/8/2007	24.8	81.2	18.8	3.72	11.1	280	—	—	0.03
	12/3/2007	15.3	94.5	24.3	1.64	12.6	331	—	—	0.03
	2/27/2008	10.9	75.5	19.4	1.21	10.3	238	—	—	0.03
	3/6/2008	14.4	50.0	12.6	1.06	8.27	160	—	—	0.02
	4/10/2008	19.4	54.1	14.5	1.12	8.35	195	—	—	0.02
	6/23/2008	27.7	96.5	24.9	1.60	10.9	318	—	—	0.03
	6/25/2008	21.1	95.7	24.5	1.61	11.6	311	—	—	0.02
	8/18/2008	28.9	92.2	23.5	1.69	11.2	314	—	—	0.03
	11/5/2008	18.6	97.6	25.1	1.73	12.5	318	—	—	E0.02

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW–groundwater; —, no data; E, estimated]

Station identifier	Sample date	Chloride (mg/L)	Fluoride (mg/L	Silica (mg/L as silica dioxide)	Sulfate (mg/L)	Ammonia, filtered (mg/L as nitrogen)	Nitrate plus nitrite, filtered, (mg/L as nitrogen)	Nitrite, filtered (mg/L as nitrogen)	Ortho-phosphate, filtered (mg/L as phosphorus)
332440090502001	12/5/2006	3.10	0.28	24.9	43.7	0.313	<0.06	<0.002	0.052
	2/13/2007	3.64	0.30	20.1	19.9	0.496	<0.06	E0.002	0.295
	5/15/2007	3.55	0.20	21.4	41.5	0.329	<0.06	E0.002	0.245
	6/26/2007	3.91	0.24	21.9	38.4	0.674	<0.06	0.002	0.194
	7/18/2007	3.97	0.28	23.5	13.8	0.888	<0.06	0.003	0.517
	8/7/2007	3.33	0.23	22.6	13.1	0.528	<0.06	0.002	0.344
	12/3/2007	3.54	0.23	22.9	18.3	0.297	<0.04	E0.002	0.295
	12/4/2007	3.36	0.20	22.1	57.6	0.310	E0.03	0.002	0.211
	2/27/2008	4.15	0.24	21.0	10.7	0.806	<0.04	0.003	0.418
	3/6/2008	4.47	0.22	21.5	14.1	0.955	<0.04	0.002	0.407
	4/10/2008	4.61	0.25	21.2	22.7	1.27	E0.02	0.002	0.505
	6/23/2008	3.06	0.19	19.5	19.4	0.481	<0.04	0.002	0.491
	6/23/2008	3.03	0.16	16.3	19.6	0.204	<0.04	E0.001	0.272
332440090502195	12/5/2006	2.56	0.23	35.1	58.1	0.161	<0.06	<0.002	0.111
	2/13/2007	2.57	0.23	31.7	56.5	0.196	<0.06	0.003	0.178
	5/15/2007	2.64	0.23	33.9	69.3	0.162	<0.06	0.002	0.131
	12/5/2007	2.65	0.23	32.8	57.7	0.420	<0.04	0.002	0.263
	6/25/2008	2.66	0.23	30.7	51.3	0.384	<0.04	0.003	0.497
	11/4/2008	2.50	0.26	32.6	52.4	0.767	<0.04	0.003	0.495
332440090502196	8/8/2007	3.14	0.19	36.5	0.34	0.307	<0.06	0.003	0.457
	12/5/2007	2.67	0.22	35.8	60.4	0.147	<0.04	<0.002	0.108
	6/25/2008	3.07	0.18	32.9	<0.18	0.505	<0.04	<0.002	0.891
	11/4/2008	3.50	0.20	33.1	0.26	1.28	E0.03	E0.002	0.832
332440090502197	8/8/2007	3.36	0.16	27.8	36.0	0.298	<0.06	E0.001	0.123
	12/3/2007	2.82	0.16	36.7	45.9	0.131	<0.04	E0.001	0.081
	2/27/2008	6.35	0.17	31.4	35.0	0.102	<0.04	E0.001	0.082
	3/6/2008	7.30	0.18	29.7	20.2	0.070	<0.04	<0.002	0.023
	4/10/2008	6.91	0.18	31.5	22.0	0.083	<0.04	<0.002	0.019
	6/23/2008	2.76	0.13	34.9	50.5	0.120	<0.04	E0.002	0.059
	6/25/2008	2.89	0.20	34.1	50.5	0.125	<0.04	<0.002	0.091
	8/18/2008	2.70	0.15	37.9	50.0	0.127	<0.04	<0.002	0.074
	11/5/2008	2.51	0.17	37.5	49.9	0.124	<0.04	E0.002	0.108

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW–groundwater; —, no data; E, estimated]

Station identifier	Sample date	Phosphorus, unfiltered (mg/L as phosphorus)	Organic carbon, filtered (mg/L)	Iron, filtered (µg/L)	Manganese, filtered (µg/L)	Aminomethyl-phosphonic acid, recoverable (µg/L)	Glufosinate (µg/L)	Glyphosate (µg/L)
332440090502001	12/5/2006	—	—	6,630	834	—	—	—
	2/13/2007	—	—	6,900	1,020	<0.02	<0.02	<0.02
	5/15/2007	—	2.3	7,320	912	—	—	—
	6/26/2007	—	2.7	7,740	1,300	<0.02	<0.02	<0.02
	7/18/2007	—	—	10,300	1,590	<0.02	<0.02	<0.02
	8/7/2007	—	3.6	6,590	1,000	<0.02	<0.02	<0.02
	12/3/2007	—	2.3	5,340	714	<0.02	<0.02	<0.02
	12/4/2007	—	2.2	5,960	1,160	—	—	—
	2/27/2008	—	3.5	10,100	1,790	<0.02	<0.02	<0.02
	3/6/2008	—	3.7	13,200	2,530	<0.02	<0.02	<0.02
	4/10/2008	0.51	4.0	14,300	2,820	<0.02	<0.02	0.03
	6/23/2008	0.52	3.0	6,870	1,100	<0.02	<0.02	<0.02
	6/23/2008	0.50	3.2	2,550	871	0.08	<0.02	<0.02
332440090502195	12/5/2006	—	—	8,280	555	—	—	—
	2/13/2007	—	—	10,100	678	0.03	<0.02	<0.02
	5/15/2007	—	2.0	10,300	692	—	—	—
	12/5/2007	—	1.4	9,330	724	—	—	—
	6/25/2008	—	1.5	12,100	887	0.32	<0.02	<0.02
	11/4/2008	—	1.9	12,600	1,240	—	—	—
332440090502196	8/8/2007	—	3.6	3,950	474	0.12	<0.02	0.10
	12/5/2007	—	1.5	4,670	484	—	—	—
	6/25/2008	—	4.2	3,980	381	0.10	<0.02	0.11
	11/4/2008	—	6.4	6,370	708	—	—	—
332440090502197	8/8/2007	—	2.5	781	845	1.7	<0.02	2.0
	12/3/2007	—	1.4	5,950	408	<0.02	<0.02	<0.02
	2/27/2008	—	2.4	4,580	322	<0.02	<0.02	<0.02
	3/6/2008	—	3.5	2,740	206	<0.02	<0.02	<0.02
	4/10/2008	0.09	3.1	3,200	244	<0.02	<0.02	<0.02
	6/23/2008	0.07	1.7	5,960	375	<0.02	<0.02	<0.02
	6/25/2008	—	1.5	5,810	496	0.12	<0.02	<0.02
	8/18/2008	—	1.7	5,420	349	—	—	—
	11/5/2008	—	1.5	5,720	365	—	—	—

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW–groundwater; —, no data; E, estimated]

Station identifier	Station name (fig. 1 and table 1)	Site type	Sample date	Water level (feet below land surface)	Water- surface elevation (feet above NGVD 29)	Turbidity, in Nephelometric Turbidity Units	Dissolved oxygen (mg/L)	pH	Specific conductance, (microsiemens per centimeter)
332440090502201	LB	HW	8/8/2007	—	—	1.0	0.6	7.2	327
			12/5/2007	—	—	11	0.3	6.9	757
			6/25/2008	–1.97	—	3.6	0.5	6.9	537
			11/4/2008	—	—	1.4	0.7	7.2	348
332443090502301	FS-1A	GW	3/6/2008	19.22	95.82	4.2	0.2	7.0	790
			4/10/2008	18.78	96.26	3.5	0.3	7.0	790
			6/24/2008	19.40	95.64	3.0	0.1	6.7	784
			8/18/2008	20.12	94.92	3.0	1.6	6.8	763
			11/3/2008	20.07	94.97	8.0	0.5	6.8	790
332443090502302	FS-1B	GW	12/4/2006	21.25	93.80	0.4	0.5	6.7	1,120
			2/13/2007	20.40	94.65	0.4	—	6.7	1,160
			5/14/2007	19.37	95.68	1.0	0.5	6.5	1,240
			6/26/2007	19.39	95.66	0.2	0.3	6.6	1,290
			7/18/2007	18.75	96.30	0.3	0.2	6.5	1,280
			8/7/2007	19.71	95.34	0.6	0.2	6.5	1,300
			12/4/2007	20.05	95.00	0.5	0.5	6.4	1,250
			2/26/2008	19.52	95.53	0.1	0.3	6.6	1,250
			3/5/2008	19.08	95.97	0.1	0.3	6.6	1,250
			4/10/2008	18.70	96.35	0.4	0.3	6.7	1,320
			6/24/2008	20.28	94.77	0.1	0.2	6.4	1,080
			8/19/2008	19.91	95.14	0.3	0.4	6.6	1,270
			11/3/2008	19.99	95.06	0.6	0.6	6.6	1,200
332443090502501	FS-2A	GW	3/5/2008	18.95	95.72	0.4	0.2	6.8	721
			4/10/2008	18.19	96.48	0.3	0.2	7.0	704
			6/25/2008	19.10	95.57	1.0	1.4	6.9	775
			8/19/2008	19.78	94.89	1.0	0.4	6.8	702
			11/3/2008	19.85	94.82	0.6	0.7	6.8	709
332443090502502	FS-2B	GW	12/4/2006	19.51	95.34	0.3	—	6.9	1,100
			2/13/2007	18.65	96.2	7.0	—	6.6	1,060
			5/14/2007	19.17	95.68	4.0	0.2	6.5	1,100
			6/26/2007	19.2	95.65	0.8	0.3	6.5	1,120
			7/18/2007	18.91	95.94	0.9	1.3	6.4	1,060
			8/7/2007	19.43	95.42	1.0	0.2	6.6	1,090
			12/4/2007	20.17	94.68	2.2	0.3	6.5	1,150
			2/26/2008	19.39	95.46	0.1	0.2	6.7	1,080
			3/5/2008	19.00	95.85	0.3	0.2	6.6	1,080
			4/10/2008	18.62	96.23	2.0	0.3	6.7	1,050
			6/24/2008	19.10	95.75	0.7	0.1	6.4	1,030
			8/19/2008	19.53	95.32	2.0	0.5	6.6	1,130
			11/3/2008	19.80	95.05	0.3	0.8	6.6	1,140

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW–groundwater; —, no data; E, estimated]

Station identifier	Sample date	Water temperature (degrees Celsius)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Alkalinity, laboratory (mg/L as calcium carbonate)	Alkalinity, field, (mg/L as calcium carbonate)	Bicarbonate, field (mg/L)	Bromide, filtered (mg/L)
332440090502201	8/8/2007	23.9	40.7	11.3	1.90	8.97	156	—	—	0.02
	12/5/2007	17.4	109	29.9	1.91	14.3	338	—	—	0.03
	6/25/2008	19.4	78.1	21.7	1.52	9.94	278	—	—	0.02
	11/4/2008	21.2	46.9	12.4	1.36	9.87	172	—	—	0.07
332443090502301	3/6/2008	18.7	—	—	—	—	—	361	440	—
	4/10/2008	20.7	104	34.0	1.23	9.23	363	—	—	0.12
	6/24/2008	24.2	113	35.7	1.26	9.82	366	—	—	0.10
	8/18/2008	23.2	104	32.7	1.15	9.35	355	—	—	0.08
	11/3/2008	20.6	112	35.0	1.23	9.80	359	—	—	0.09
332443090502302	12/4/2006	20.2	167	61.5	1.39	12.0	517	—	—	< 0.02
	2/13/2007	19.9	160	56.3	1.28	11.3	508	—	—	< 0.02
	5/14/2007	19.7	179	62.4	1.32	11.9	513	—	—	0.06
	6/26/2007	21.7	191	60.9	1.30	12.2	504	—	—	0.05
	7/18/2007	20.5	189	62.8	1.57	12.2	501	—	—	0.05
	8/7/2007	20.2	176	59.0	1.20	11.4	509	—	—	0.05
	12/4/2007	20.1	182	61.0	1.26	11.2	493	—	—	0.06
	2/26/2008	18.8	180	58.4	1.28	10.9	397	—	—	0.07
	3/5/2008	19.5	187	58.8	1.58	11.0	473	255	311	0.08
	4/10/2008	19.6	193	60.9	1.70	10.9	470	—	—	0.08
	6/24/2008	25.6	177	54.2	1.84	10.6	466	—	—	0.09
	8/19/2008	21.1	181	60.1	1.37	10.7	460	—	—	0.08
	11/3/2008	20.6	169	58.5	1.43	10.8	465	—	—	0.09
332443090502501	3/5/2008	19.4	—	—	—	—	—	321	391	—
	4/10/2008	21.2	90.8	28.3	0.54	8.68	316	—	—	0.12
	6/25/2008	22.9	105	32.1	0.62	9.39	344	—	—	0.06
	8/19/2008	25.4	95.9	29.2	0.61	9.65	317	—	—	0.04
	11/3/2008	19.7	98.7	29.4	0.57	9.34	316	—	—	0.03
332443090502502	12/4/2006	20.6	167	56.4	1.54	9.38	570	—	—	< 0.02
	2/13/2007	19.8	148	54.8	1.09	9.04	531	—	—	< 0.02
	5/14/2007	19.9	153	55.8	1.29	9.10	554	—	—	E0.03
	6/26/2007	20.5	157	54.3	1.33	9.44	549	—	—	0.02
	7/18/2007	21.8	146	53.7	1.17	9.26	518	—	—	0.05
	8/7/2007	26.7	146	51.4	1.23	8.80	552	—	—	0.03
	12/4/2007	20.4	157	54.2	1.31	8.87	558	—	—	0.21
	2/26/2008	18.8	151	53.3	1.22	8.84	414	—	—	0.06
	3/5/2008	19.9	146	51.6	1.14	8.52	527	535	650	0.04
	4/10/2008	20.2	140	53.0	1.07	8.82	520	—	—	0.05
	6/24/2008	24.8	150	54.7	1.20	9.03	530	—	—	0.05
	8/19/2008	25.3	152	53.9	1.31	8.85	543	—	—	0.03
	11/3/2008	21.1	164	57.5	1.43	9.41	541	—	—	0.04

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Chloride (mg/L)	Fluoride (mg/L	Silica (mg/L as silica dioxide)	Sulfate (mg/L)	Ammonia, filtered (mg/L as nitrogen)	Nitrate plus nitrite, filtered, (mg/L as nitrogen)	Nitrite, filtered (mg/L as nitrogen)	Ortho-phosphate, filtered (mg/L as phosphorus)
332440090502201	8/8/2007	2.70	0.26	27.1	13.5	0.160	<0.06	E0.001	0.155
	12/5/2007	3.87	0.22	31.7	79.2	0.144	<0.04	E0.001	0.113
	6/25/2008	3.88	0.24	22.8	32.7	0.128	<0.04	<0.002	0.130
	11/4/2008	4.88	0.24	22.7	7.78	0.125	<0.04	<0.002	0.108
332443090502301	3/6/2008	—	—	—	—	—	—	—	—
	4/10/2008	3.79	0.29	33.9	75.4	0.162	E0.02	E0.002	0.073
	6/24/2008	3.82	0.28	32.0	75.8	0.131	<0.04	E0.002	0.046
	8/18/2008	3.63	0.29	31.9	73.8	0.110	<0.04	E0.001	0.075
	11/3/2008	3.64	0.30	31.4	73.7	0.097	<0.04	<0.002	0.045
332443090502302	12/4/2006	7.50	0.24	34.1	130	0.069	<0.06	0.002	0.094
	2/13/2007	6.58	0.26	30.7	156	0.064	<0.06	E0.002	0.064
	5/14/2007	6.74	0.17	29.9	204	0.069	<0.06	E0.002	0.071
	6/26/2007	6.77	0.25	29.4	242	0.075	<0.06	0.002	0.063
	7/18/2007	6.79	0.17	28.5	231	0.070	<0.06	0.003	0.071
	8/7/2007	6.93	0.21	28.1	237	0.077	<0.06	0.003	0.077
	12/4/2007	7.55	0.25	32.8	233	0.082	<0.04	0.002	0.055
	2/26/2008	7.14	0.25	28.7	239	0.066	<0.04	<0.002	0.015
	3/5/2008	7.41	0.22	28.3	247	0.065	<0.04	E0.001	0.033
	4/10/2008	7.29	0.22	26.8	300	0.064	E0.02	E0.001	0.028
	6/24/2008	7.18	0.20	25.4	212	0.067	<0.04	E0.001	0.024
	8/19/2008	7.16	0.14	28.8	282	0.069	<0.04	E0.001	0.063
	11/3/2008	7.15	0.26	29.8	219	0.068	<0.04	E0.001	0.043
332443090502501	3/5/2008	—	—	—	—	—	—	—	—
	4/10/2008	4.39	0.30	31.8	61.4	0.126	<0.04	<0.002	0.083
	6/25/2008	5.39	0.26	30.0	67.9	0.121	<0.04	E0.002	0.184
	8/19/2008	4.26	0.31	29.4	61.9	0.186	<0.04	0.003	0.164
	11/3/2008	4.15	0.33	29.4	61.6	0.153	<0.04	<0.002	0.025
332443090502502	12/4/2006	8.34	0.22	35.0	66.5	0.078	<0.06	0.002	0.079
	2/13/2007	8.89	0.23	32.8	71.2	0.076	<0.06	E0.001	0.048
	5/14/2007	8.54	0.17	31.8	69.2	0.084	<0.06	E0.002	0.064
	6/26/2007	8.55	0.19	31.4	78.1	0.074	<0.06	E0.001	0.050
	7/18/2007	8.93	0.18	32.7	72.5	0.083	<0.06	0.003	0.075
	8/7/2007	8.89	0.21	30.4	72.0	0.077	<0.06	0.002	0.080
	12/4/2007	10.4	0.23	33.2	90.8	0.087	<0.04	0.002	0.066
	2/26/2008	9.24	0.25	32.4	75.5	0.09	<0.04	E0.002	0.064
	3/5/2008	9.27	0.22	32.2	75.9	0.081	<0.04	E0.001	0.032
	4/10/2008	10.4	0.22	33.8	75.4	0.068	E0.02	<0.002	0.014
	6/24/2008	10.3	0.18	30.6	74.0	0.085	<0.04	E0.001	0.071
	8/19/2008	10.1	0.14	31.2	97.2	0.085	<0.04	E0.001	0.096
	11/3/2008	10.1	0.23	32.1	101	0.072	<0.04	<0.002	0.059

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Phosphorus, unfiltered (mg/L as phosphorus)	Organic carbon, filtered (mg/L)	Iron, filtered (µg/L)	Manganese, filtered (µg/L)	Aminomethyl-phosphonic acid, recoverable (µg/L)	Glufosinate (µg/L)	Glyphosate (µg/L)
332440090502201	8/8/2007	—	3.5	994	334	0.54	<0.02	0.54
	12/5/2007	—	1.3	3,760	606	—	—	—
	6/25/2008	—	2.1	2,450	421	0.14	<0.02	0.10
	11/4/2008	—	3.8	1,180	264	—	—	—
332443090502301	3/6/2008	—	—	—	—	—	—	—
	4/10/2008	0.22	2.1	6,900	592	—	—	—
	6/24/2008	0.41	1.9	7,400	554	—	—	—
	8/18/2008	—	1.8	7,170	549	—	—	—
	11/3/2008	—	1.3	7,330	605	—	—	—
332443090502302	12/4/2006	—	—	7,520	956	—	—	—
	2/13/2007	—	—	6,260	1,040	<0.02	<0.02	<0.02
	5/14/2007	—	2.2	9,800	926	—	—	—
	6/26/2007	—	2.0	9,290	953	<0.02	<0.02	<0.02
	7/18/2007	—	—	8,220	994	<0.02	<0.02	<0.02
	8/7/2007	—	2.1	9,640	894	—	—	—
	12/4/2007	—	2.1	9,080	943	—	—	—
	2/26/2008	—	2.3	8,870	901	—	—	—
	3/5/2008	—	2.1	8,200	1,010	—	—	—
	4/10/2008	E0.01	2.1	6,680	1,130	—	—	—
	6/24/2008	0.04	2.2	6,880	993	—	—	—
	8/19/2008	—	2.0	9,650	931	—	—	—
	11/3/2008	—	1.6	8,410	976	—	—	—
332443090502501	3/5/2008	—	—	—	—	—	—	—
	4/10/2008	0.18	2.2	7,910	675	—	—	—
	6/25/2008	—	1.6	9,020	691	—	—	—
	8/19/2008	—	2.0	7,860	706	—	—	—
	11/3/2008	—	1.3	7,940	723	—	—	—
332443090502502	12/4/2006	—	—	7,680	708	—	—	—
	2/13/2007	—	—	8,460	598	<0.02	<0.02	<0.02
	5/14/2007	—	2.3	7,640	665	—	—	—
	6/26/2007	—	1.8	7,650	653	<0.02	<0.02	<0.02
	7/18/2007	—	—	8,610	576	<0.02	<0.02	<0.02
	8/7/2007	—	2.0	7,920	602	—	—	—
	12/4/2007	—	2.0	8,350	595	—	—	—
	2/26/2008	—	2.5	8,500	584	—	—	—
	3/5/2008	—	2.4	8,810	586	—	—	—
	4/10/2008	0.12	2.3	8,480	540	—	—	—
	6/24/2008	0.13	2.0	8,280	545	—	—	—
	8/19/2008	—	1.9	8,740	554	—	—	—
	11/3/2008	—	2.1	8,310	632	—	—	—

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Station name (fig. 1 and table 1)	Site type	Sample date	Water level (feet below land surface)	Water- surface elevation (feet above NGVD 29)	Turbidity, in Nephelometric Turbidity Units	Dissolved oxygen (mg/L)	pH	Specific conductance, (microsiemens per centimeter)
332443090502701	FS-3A	GW	3/3/2008	18.92	95.7	0.6	0.2	6.7	1,090
			6/24/2008	18.80	95.82	0.5	0.4	6.6	1,080
			8/19/2008	19.45	95.17	0.7	3.6	6.6	1,040
			11/3/2008	19.55	95.07	2.1	0.5	6.9	1,040
332443090502702	FS-3B	GW	12/4/2006	18.21	96.23	1.0	—	6.5	1,150
			2/13/2007	18.40	96.04	1.2	—	6.6	1,170
			5/15/2007	18.91	95.53	2.0	0.3	6.4	969
			6/26/2007	18.95	95.49	0.3	0.3	6.5	1,140
			7/18/2007	18.37	96.07	0.8	0.2	6.4	1,100
			8/7/2007	19.13	95.31	0.6	0.2	6.4	1,160
			12/5/2007	19.64	94.8	0.8	0.3	6.2	1,010
			2/26/2008	19.12	95.32	0.1	0.2	6.7	916
			3/3/2008	18.78	95.66	0.3	0.4	6.6	941
			6/24/2008	18.80	95.64	0.9	0.2	6.4	1,040
			8/19/2008	19.38	95.06	0.3	0.5	6.4	1,050
			11/3/2008	19.50	94.94	0.2	0.5	6.6	908
332445090501601	AR-1A	GW	12/5/2006	17.37	95.32	0.5	—	7.2	598
			2/13/2007	16.67	96.02	0.8	—	7.2	789
			5/15/2007	17.27	95.42	0.7	0.3	6.9	931
			6/26/2007	17.25	95.44	0.1	0.4	6.8	1,180
			7/18/2007	16.68	96.01	0.6	0.2	6.8	519
			8/7/2007	17.36	95.33	0.9	0.2	7.1	459
			12/5/2007	17.97	94.72	0.3	0.3	6.8	614
			2/26/2008	17.50	95.19	0.1	0.3	7.0	612
			3/3/2008	17.33	95.36	0.2	0.3	7.0	597
			4/9/2008	16.56	96.13	0.2	0.4	7.0	1,100
			6/23/2008	17.15	95.54	0.3	0.2	6.9	940
			8/18/2008	17.77	94.92	0.2	0.3	6.9	751
			11/3/2008	17.91	94.78	0.1	0.5	6.7	980

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Water temperature (degrees Celsius)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Alkalinity, laboratory (mg/L as calcium carbonate)	Alkalinity, field, (mg/L as calcium carbonate)	Bicarbonate, field (mg/L)	Bromide, filtered (mg/L)
332443090502701	3/3/2008	20.2	—	—	—	—	—	—	—	—
	6/24/2008	26.6	152	48.6	0.71	11.6	533	—	—	0.30
	8/19/2008	22.3	142	46.3	0.71	12.2	490	—	—	0.25
	11/3/2008	22.7	150	47.2	0.72	12.1	497	—	—	0.24
332443090502702	12/4/2006	20.1	163	45.4	1.69	13.6	516	—	—	< 0.02
	2/13/2007	17.3	179	51.0	1.80	14.2	557	—	—	< 0.02
	5/15/2007	19.5	140	38.6	1.47	12.3	441	—	—	0.16
	6/26/2007	20.2	169	45.8	1.67	14.2	472	—	—	0.16
	7/18/2007	20.3	166	45.8	1.74	13.9	468	—	—	0.16
	8/7/2007	20.0	172	45.8	1.61	14.2	482	—	—	0.16
	12/5/2007	19.3	148	39.9	1.61	14.3	456	—	—	0.17
	2/26/2008	18.2	131	36.1	1.42	13.7	298	—	—	0.15
	3/3/2008	20.0	136	37.8	1.46	13.8	413	421	512	0.15
	6/24/2008	23.9	154	43.2	1.71	13.6	438	—	—	0.15
	8/19/2008	20.2	147	40.9	1.56	13.9	445	—	—	0.15
	11/3/2008	22.1	135	37.2	1.60	13.4	414	—	—	0.17
332445090501601	12/5/2006	18.3	92.4	22.5	1.39	10.6	194	—	—	E0.01
	2/13/2007	16.3	117	30.1	1.30	9.89	299	—	—	E0.02
	5/15/2007	17.8	145	36.9	1.28	9.88	290	—	—	E0.02
	6/26/2007	18.6	182	50.6	1.35	14.7	311	—	—	E0.01
	7/18/2007	17.9	71.5	20.3	0.92	7.50	221	—	—	E0.02
	8/7/2007	18.0	62.8	17.5	0.78	6.55	198	—	—	< 0.02
	12/5/2007	18.5	85.8	23.0	0.92	7.78	220	—	—	E0.01
	2/26/2008	17.5	88.6	24.7	0.88	5.42	262	—	—	E0.02
	3/3/2008	18.4	85	23.8	0.87	5.18	288	281	338	E0.02
	4/9/2008	18.2	171	43.9	1.22	7.19	354	—	—	E0.01
	6/23/2008	19.1	108	53.0	1.25	10.4	364	—	—	E0.01
	8/18/2008	18.9	88.3	41.5	1.02	6.04	277	—	—	0.03
	11/3/2008	18.7	131	52.8	1.14	7.48	364	—	—	0.01

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Chloride (mg/L)	Fluoride (mg/L	Silica (mg/L as silica dioxide)	Sulfate (mg/L)	Ammonia, filtered (mg/L as nitrogen)	Nitrate plus nitrite, filtered, (mg/L as nitrogen)	Nitrite, filtered (mg/L as nitrogen)	Ortho-phosphate, filtered (mg/L as phosphorus)
332443090502701	3/3/2008	—	—	—	—	—	—	—	—
	6/24/2008	19.3	0.23	30.6	60.0	0.186	E0.02	E0.002	0.198
	8/19/2008	16.1	0.25	29.5	68.5	0.160	<0.04	0.003	0.103
	11/3/2008	16.8	0.27	30.8	76.0	0.178	<0.04	E0.001	0.072
332443090502702	12/4/2006	18.6	0.22	28.1	62.7	0.073	<0.06	E0.002	0.098
	2/13/2007	19.2	0.19	25.8	99.6	0.063	<0.06	E0.001	0.062
	5/15/2007	13.4	0.15	25.6	97.0	0.056	<0.06	E0.001	0.073
	6/26/2007	16.1	0.25	25.2	146	0.072	<0.06	0.003	0.067
	7/18/2007	16.0	0.16	25.1	137	0.066	<0.06	0.002	0.059
	8/7/2007	16.9	0.17	24.9	146	0.066	<0.06	E0.002	0.073
	12/5/2007	14.0	0.25	26.1	96.5	0.085	<0.04	E0.001	0.054
	2/26/2008	10.2	0.21	25.0	84.1	0.076	<0.04	E0.001	0.072
	3/3/2008	10.5	0.19	24.6	101	0.069	<0.04	E0.001	0.064
	6/24/2008	10.2	0.18	22.9	153	0.064	<0.04	E0.001	0.065
	8/19/2008	11.5	0.14	24.4	146	0.057	<0.04	<0.002	0.024
	11/3/2008	9.89	0.22	25.1	90.2	0.051	<0.04	<0.002	0.017
332445090501601	12/5/2006	4.63	0.38	20.1	123	E0.017	<0.06	<0.002	0.071
	2/13/2007	5.85	0.52	17.1	124	E0.018	<0.06	<0.002	0.097
	5/15/2007	5.98	0.42	18.1	236	E0.016	<0.06	E0.001	0.090
	6/26/2007	7.60	0.42	19.3	358	E0.018	<0.06	<0.002	0.016
	7/18/2007	2.53	0.63	15.7	53.0	<0.020	<0.06	E0.001	0.014
	8/7/2007	2.16	0.64	15.5	44.3	E0.014	<0.06	E0.001	0.095
	12/5/2007	3.93	0.58	17.3	101	E0.014	<0.04	<0.002	0.085
	2/26/2008	3.21	0.56	16.1	40.7	E0.017	<0.04	<0.002	0.068
	3/3/2008	3.36	0.54	15.9	36.5	E0.011	<0.04	<0.002	0.101
	4/9/2008	11.4	0.40	16.3	273	E0.018	<0.04	<0.002	0.059
	6/23/2008	9.41	0.31	16.8	142	0.023	<0.04	<0.002	0.074
	8/18/2008	6.14	0.33	15.2	137	0.109	<0.04	<0.002	0.082
	11/3/2008	5.58	0.29	15.6	188	0.038	<0.04	<0.002	0.035

Table 3. Groundwater-quality data for samples collected at the flowpath along the Bogue Phalia near Leland, MS, 2006–2008. —Continued

[NGVD 29, National Geodetic Vertical Datum of 1929; mg/L, milligram per liter; µg/L, microgram per liter; site type: HW—hyporheic zone, GW– groundwater; —, no data; E, estimated]

Station identifier	Sample date	Phosphorus, unfiltered (mg/L as phosphorus)	Organic carbon, filtered (mg/L)	Iron, filtered (µg/L)	Manganese, filtered (µg/L)	Aminomethyl-phosphonic acid, recoverable (µg/L)	Glufosinate (µg/L)	Glyphosate (µg/L)
332443090502701	3/3/2008	—	—	—	—	—	—	—
	6/24/2008	0.17	2.4	15,200	1,140	—	—	—
	8/19/2008	—	2.0	13,900	1,140	—	—	—
	11/3/2008	—	1.8	14,200	1,220	—	—	—
332443090502702	12/4/2006	—	—	7,070	1,670	—	—	—
	2/13/2007	—	—	6,020	1,990	<0.02	<0.02	<0.02
	5/15/2007	—	2.2	4,950	1,730	—	—	—
	6/26/2007	—	2.0	6,580	1,930	<0.02	<0.02	<0.02
	7/18/2007	—	—	5,720	1,890	<0.02	<0.02	<0.02
	8/7/2007	—	2.3	6,780	1,820	—	—	—
	12/5/2007	—	2.5	6,020	1,560	—	—	—
	2/26/2008	—	2.3	5,470	1,370	—	—	—
	3/3/2008	—	2.4	5,710	1,460	—	—	—
	6/24/2008	0.06	2.3	4,980	1,730	—	—	—
	8/19/2008	—	2.1	6,170	1,580	—	—	—
	11/3/2008	—	1.7	5,130	1,530	—	—	—
332445090501601	12/5/2006	—	—	2,400	248	—	—	—
	2/13/2007	—	—	2,760	385	<0.02	<0.02	<0.02
	5/15/2007	—	2.6	3,510	523	—	—	—
	6/26/2007	—	2.3	4,830	793	<0.02	<0.02	<0.02
	7/18/2007	—	—	1,550	351	<0.02	<0.02	<0.02
	8/7/2007	—	2.6	1,360	306	—	—	—
	12/5/2007	—	2.4	1,860	428	—	—	—
	2/26/2008	—	2.6	1,920	416	<0.02	<0.02	<0.02
	3/3/2008	—	2.5	1,780	411	<0.02	<0.02	<0.02
	4/9/2008	0.06	3.1	3,610	784	<0.02	<0.02	<0.02
	6/23/2008	0.09	2.9	35,30	899	—	—	—
	8/18/2008	—	2.8	2,430	701	—	—	—
	11/3/2008		2.5	3,920	1,220	—	—	—

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Discharge, instantaneous, cubic feet per second	Gage height, feet	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius	Hydrogen ion, water, unfiltered, calculated, mg/L	pH, water, unfiltered, field, standard units	pH, water, unfiltered, laboratory, standard units	Organic nitrogen, water, unfiltered, mg/L	Ammonia, water, filtered, mg/L as nitrogen	Nitrite, water, filtered, mg/L as nitrogen	Nitrate, water, filtered, mg/L as nitrogen	Nitrate plus nitrite, water, filtered, mg/L as nitrogen	Orthophosphate, water, filtered, mg/L	Phosphorus, water, unfiltered, mg/L as phosphorus
4/11/2007	—	—	—	—	—	*8.0*	*0.68*	*0.103*	*0.012*	*0.212*	*0.22*	*0.105*	*0.094*
4/15/2007	4.1	5.53	—	—	—	7.6	0.88	0.045	0.050	2.74	2.79	E0.011	0.315
4/26/2007	19	6.06	—	—	—	7.6	1.2	0.175	0.150	7.48	7.63	0.084	0.246
6/11/2007	4.5	5.56	—	—	—	7.9	1.5	2.76	0.849	0.417	1.27	0.199	0.140
6/19/2007	32	6.34	—	—	—	8.0	1.0	0.829	0.591	0.861	1.45	0.259	0.169
6/19/2007	—	—	—	—	—	*7.8*	*1.7*	*0.657*	*0.566*	*0.814*	*1.38*	*0.117*	*0.305*
6/20/2007	74	7.55	—	—	—	7.6	1.4	1.02	0.235	0.712	0.95	0.115	0.133
6/20/2007	59	7.16	—	—	—	7.6	1.5	0.784	0.321	0.722	1.04	0.067	0.174
6/21/2007	42	6.64	—	—	—	7.6	0.99	0.615	0.326	0.533	0.86	0.170	0.193
7/1/2007	14	6	—	—	—	8.1	0.71	0.151	0.198	1.22	1.42	0.127	0.105
7/7/2007	—	—	—	—	—	*7.9*	*0.82*	*0.111*	*0.043*	*1.74*	*1.78*	*0.514*	*0.274*
7/7/2007	—	—	—	—	—	*7.4*	*0.51*	*0.066*	*0.025*	*0.621*	*0.65*	*0.222*	*0.177*
7/8/2007	145	8.88	—	—	—	7.5	0.46	0.050	0.023	0.208	0.23	0.242	0.139
7/10/2007	35	6.41	—	—	—	7.0	0.52	0.101	0.018	0.070	0.09	0.398	0.178
7/11/2007	77	7.62	—	—	—	7.8	0.69	0.058	0.161	0.507	0.67	0.293	0.223
7/11/2007	—	—	—	—	—	*7.9*	*0.57*	*0.105*	*0.044*	*0.143*	*0.19*	*0.324*	*0.167*
7/12/2007	—	—	—	—	—	*7.8*	*0.51*	*0.103*	*0.034*	*0.189*	*0.22*	*0.373*	*0.200*
9/5/2007	—	—	—	—	—	*6.5*	*0.85*	*0.057*	*0.023*	*0.319*	*0.34*	*0.621*	*0.27*
10/9/2007	—	—	*266*	*0.0016*	*5.8*	*7.4*	*2.3*	*0.077*	*0.186*	*0.071*	*0.26*	*0.424*	*0.40*
10/16/2007	14	6.02	395	0.0002	6.7	7.7	E1.6	E0.013	0.022	0.032	0.05	0.695	0.40
10/18/2007	28	6.36	350	0.00005	7.3	7.6	1.4	0.148	0.048	0.442	0.49	0.690	0.40
10/18/2007	—	—	*335*	*0.00006*	*7.2*	*7.6*	*1.3*	*0.063*	*0.035*	*0.112*	*0.15*	*0.472*	*0.375*
11/27/2007	9.5	5.95	—	—	—	7.5	—	0.052	0.016	1.24	1.26	0.303	0.184
12/12/2007	—	—	—	—	—	*7.7*	*1.1*	*0.090*	*0.020*	*1.20*	*1.22*	*0.314*	*0.214*
12/15/2007	—	—	—	—	—	*7.6*	*E1.0*	*E0.016*	*0.016*	*0.894*	*0.91*	*0.166*	*0.319*
1/10/2008	—	—	*183*	—	—	*7.5*	*1.5*	*0.082*	*0.008*	*0.426*	*0.43*	*0.242*	*0.47*
1/11/2008	—	—	*128*	—	—	*7.9*	*1.4*	*0.068*	*0.006*	*0.491*	*0.50*	*0.189*	*0.43*
1/29/2008	—	—	*240*	—	—	*7.7*	*1.0*	*0.041*	*0.006*	*0.449*	*0.46*	*0.091*	*0.296*
2/1/2008	—	—	*114*	—	—	*7.7*	*0.83*	*0.036*	*0.003*	*0.350*	*0.35*	*0.086*	*0.26*
2/3/2008	—	—	*115*	—	—	*7.7*	*1.1*	*0.031*	*0.004*	*0.221*	*0.23*	*0.073*	*0.35*
2/12/2008	9.4	5.85	195	0.0004	6.4	7.9	0.70	0.075	0.009	0.348	0.36	0.191	0.213
2/17/2008	—	—	*180*	*0.00319*	*5.5*	*7.6*	*1.1*	*0.091*	*0.009*	*0.273*	*0.28*	*0.068*	*0.27*
2/26/2008	—	—	*132*	—	—	*7.8*	*1.9*	*0.081*	*0.011*	*0.478*	*0.49*	*0.052*	*0.52*
3/3/2008	7.0	5.36	147	—	—	7.5	1.7	0.135	0.009	0.380	0.39	0.063	0.31
3/4/2008	285	9.71	52	—	—	7.1	1.6	0.025	0.007	0.272	0.28	0.061	0.49

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Orthophosphate, water, filtered, mg/L as phosphorus	Organic carbon, water, filtered, mg/L	Inorganic carbon, suspended sediment, total, mg/L	Organic carbon, suspended sediment, total, mg/L	Carbon (inorganic plus organic), suspended sediment, total, mg/L	Hardness, water, mg/L as calcium carbonate	Noncarbonate hardness, water, filtered, lab, mg/L as calcium carbonate	Calcium, water, filtered, mg/L	Magnesium, water, filtered, mg/L	Sodium, water, filtered, mg/L	Sodium adsorption ratio, water, number	Sodium fraction of cations, water, percent in equivalents of major cations	Potassium, water, filtered, mg/L
4/11/2007	*0.034*	*7.9*	*< 0.12*	*0.66*	*0.66*	*160*	*30*	*40.3*	*13.2*	*11.2*	*0.4*	*13*	*4.12*
4/15/2007	E0.004	6.3	< 0.12	3.10	3.17	78	35	21.9	5.74	6.92	0.3	16	2.44
4/26/2007	0.027	9.7	< 0.12	1.82	1.82	150	100	40.7	11.6	11.1	0.4	14	4.28
6/11/2007	0.065	8.5	< 0.12	1.03	1.03	280	65	71.0	25.2	27.5	0.7	17	4.63
6/19/2007	0.085	11.9	< 0.12	0.81	0.81	270	70	66.3	26.4	27.8	0.7	18	3.22
6/19/2007	*0.038*	*8.4*	*0.27*	*16.2*	*16.5*	*250*	*59*	*61.9*	*22.7*	*24.4*	*0.7*	*17*	*2.94*
6/20/2007	0.037	6.0	< 0.12	1.89	1.90	160	39	40.0	13.4	12.9	0.4	15	2.75
6/20/2007	0.022	0.3	< 0.12	5.39	5.39	150	23	39.1	12.9	12.4	0.4	15	2.45
6/21/2007	0.055	5.0	< 0.12	32.2	32.2	170	35	43.5	14.8	14.0	0.5	15	2.38
7/1/2007	0.042	5.5	< 0.12	0.46	0.48	260	57	63.6	25.7	23.8	0.6	16	2.52
7/7/2007	*0.168*	*4.8*	*< 0.12*	*4.25*	*4.29*	*160*	*20*	*38.9*	*14.2*	*12.6*	*0.4*	*15*	*2.87*
7/7/2007	*0.072*	*3.4*	*< 0.12*	*1.89*	*1.90*	*87*	*9*	*22.2*	*7.72*	*6.44*	*0.3*	*13*	*2.25*
7/8/2007	0.079	4.2	< 0.12	0.86	0.88	74	5	19.3	6.16	4.94	0.3	12	2.46
7/10/2007	0.130	5.2	< 0.12	0.61	0.61	120	2	30.8	9.38	7.37	0.3	12	2.53
7/11/2007	0.096	4.0	< 0.12	2.24	2.24	76	6	20.5	6.07	4.80	0.2	12	1.95
7/11/2007	*0.106*	*4.4*	*< 0.12*	*0.95*	*0.95*	*79*	*4*	*21.4*	*6.29*	*4.79*	*0.2*	*11*	*2.39*
7/12/2007	*0.122*	*5.2*	*< 0.12*	*1.17*	*1.18*	*99*	*4*	*26.5*	*7.83*	*5.81*	*0.3*	*11*	*2.54*
9/5/2007	*0.203*	*11.3*	*< 0.12*	*1.59*	*1.63*	*130*	*25*	*34.3*	*10.4*	*8.29*	*0.3*	*12*	*7.42*
10/9/2007	*0.138*	*23.4*	*E0.04*	*5.81*	*5.85*	*110*	*17*	*28.6*	*9.10*	*6.17*	*0.3*	*10*	*10.9*
10/16/2007	0.227	20.5	E0.04	3.02	3.07	150	36	39.8	13.0	10.1	0.4	11	14.1
10/18/2007	0.225	14.8	E0.06	5.83	5.89	130	30	35.4	11.2	10.1	0.4	13	9.40
10/18/2007	*0.154*	*14.2*	*0.18*	*3.01*	*3.19*	*130*	*24*	*35.2*	*11.0*	*10.2*	*0.4*	*13*	*9.07*
11/27/2007	0.099	7.6	E0.11	1.39	1.50	120	53	32.8	9.49	10.8	0.4	16	4.99
12/12/2007	*0.103*	*7.6*	*E0.04*	*1.42*	*1.46*	*130*	*59*	*35.5*	*10.6*	*11.2*	*0.4*	*15*	*5.70*
12/15/2007	*0.054*	*7.6*	*0.43*	*5.82*	*6.25*	*110*	*48*	*28.9*	*8.47*	*9.86*	*0.4*	*16*	*4.38*
1/10/2008	*0.079*	*5.9*	*< 0.04*	*8.70*	*8.70*	*75*	*10*	*20.1*	*6.06*	*7.63*	*0.4*	*17*	*3.31*
1/11/2008	*0.062*	*6.2*	*0.47*	*8.95*	*9.42*	*52*	*9*	*13.8*	*4.22*	*5.27*	*0.3*	*17*	*2.78*
1/29/2008	*0.030*	*6.8*	*E0.08*	*1.29*	*1.37*	*94*	*15*	*25.6*	*7.32*	*9.69*	*0.4*	*18*	*2.96*
2/1/2008	*0.028*	*3.8*	*0.31*	*4.46*	*4.77*	*48*	*4*	*13.0*	*3.70*	*4.42*	*0.3*	*16*	*1.92*
2/3/2008	*0.024*	*4.0*	*0.22*	*7.49*	*7.71*	*48*	*2*	*13.1*	*3.66*	*4.58*	*0.3*	*17*	*1.99*
2/12/2008	0.062	6.3	< 0.04	1.85	1.85	86	—	23.4	6.74	6.14	0.3	13	2.87
2/17/2008	*0.022*	*5.7*	*< 0.04*	*5.13*	*5.13*	*73*	—	*19.7*	*5.79*	*5.88*	*0.3*	*14*	*2.19*
2/26/2008	*0.017*	*4.8*	*0.32*	*15.7*	*16.0*	*52*	—	*14.1*	*4.10*	*4.64*	*0.3*	*16*	*2.04*
3/3/2008	0.021	5.7	0.14	8.42	8.55	58	—	15.9	4.44	5.13	0.3	16	2.13
3/4/2008	0.020	7.5	0.24	13.4	13.6	15	—	3.96	1.16	8.18	0.9	52	1.16

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Chloride, water, filtered, mg/L	Sulfate, water, filtered, mg/L	Fluoride, water, filtered, mg/L	Silica, water, filtered, mg/L as SiO_2	Iron, water, filtered, µg/L	Manganese, water, filtered, µg/L	Alkalinity, water, filtered, fixed end-point (pH 4.5) titration, laboratory, mg/L as calcium carbonate	Particulate nitrogen, suspended in water, mg/L	Absorbance, UV, 254 nm, 1-centimeter path length, water, filtered, units per centimeter	Amino-methyl-phosphonic acid, water, filtered, recoverable, µg/L	Glufosinate, water, filtered, recoverable, µg/L	Glyphosate, water, filtered, recoverable, µg/L	Total nitrogen (nitrate + nitrite + ammonia + organic-N), water, unfiltered, analytically determined, mg/L
4/11/2007	*4.39*	*51.8*	*0.36*	*4.85*	*E5*	*8.5*	*125*	*0.10*	*0.155*	*1.4*	*< 0.02*	*0.45*	*1.00*
4/15/2007	2.22	40.6	0.20	4.02	E6	12.8	43	0.59	0.100	2.4	< 0.02	1.2	3.72
4/26/2007	4.49	94.1	0.27	8.10	11	20.2	48	0.21	0.198	1.5	< 0.02	1.1	9.01
6/11/2007	7.11	123	0.51	15.5	30	244	216	0.17	0.176	1.4	< 0.02	0.64	5.56
6/19/2007	5.96	119	0.32	16.7	14	138	204	0.17	0.176	0.78	< 0.02	0.39	3.33
6/19/2007	*5.48*	*108*	*0.38*	*15.6*	*11*	*3.8*	*189*	*2.34*	*0.142*	*0.91*	*< 0.02*	*0.31*	*3.78*
6/20/2007	3.01	55.6	0.36	12.4	11	35.7	116	0.26	0.117	1.4	< 0.02	0.98	3.34
6/20/2007	3.13	57.2	0.34	12.1	8	0.7	128	0.65	—	1.4	< 0.02	0.96	3.35
6/21/2007	3.25	60.5	0.29	13.9	11	5.6	135	3.17	0.131	1.2	< 0.02	0.78	2.46
7/1/2007	4.17	90.0	0.74	11.5	8	0.7	208	0.10	0.122	1.2	< 0.02	0.53	2.28
7/7/2007	*2.50*	*43.2*	*0.49*	*12.4*	*15*	*0.5*	*136*	*0.60*	*0.134*	*1.1*	*< 0.02*	*0.89*	*2.71*
7/7/2007	*1.34*	*23.1*	*0.33*	*8.85*	*13*	*0.4*	*78*	*0.30*	*0.094*	*1.1*	*< 0.02*	*0.89*	*1.22*
7/8/2007	1.14	17.0	0.47	9.21	27	0.4	68	0.15	0.138	1.5	< 0.02	1.7	0.74
7/10/2007	1.63	24.4	0.29	14.9	38	20.1	113	0.07	0.166	1.3	< 0.02	1.1	0.71
7/11/2007	1.09	14.2	0.56	9.90	11	E0.2	70	0.28	0.114	1.6	< 0.02	1.0	1.41
7/11/2007	*0.99*	*12.1*	*0.48*	*11.0*	*20*	*0.2*	*76*	*0.16*	*0.133*	*1.9*	*< 0.02*	*0.96*	*0.86*
7/12/2007	*1.20*	*13.9*	*0.36*	*13.6*	*27*	*0.3*	*94*	*0.17*	*0.138*	*1.8*	*< 0.02*	*0.91*	*0.83*
9/5/2007	*5.03*	*42.4*	*0.34*	*11.4*	*66*	*5.7*	*104*	*0.22*	*0.335*	*3.6*	*< 0.02*	*3.1*	*1.25*
10/9/2007	*5.04*	*31.6*	*0.30*	*7.59*	*149*	*2.7*	*92*	*1.00*	*0.743*	*2.2*	*< 0.02*	*1.6*	*2.63*
10/16/2007	9.81	53.2	0.33	10.6	116	17.6	117	0.57	0.510	2.8	< 0.02	1.7	1.70
10/18/2007	12.5	48.5	0.43	12.4	54	1.1	104	0.79	0.384	1.6	< 0.02	0.41	2.03
10/18/2007	*11.2*	*43.4*	*0.30*	*13.1*	*41*	*1.1*	*109*	*0.39*	*0.338*	*1.6*	*< 0.02*	*0.46*	*1.46*
11/27/2007	12.1	58.2	0.23	8.49	17	7.1	68	0.21	0.187	0.98	< 0.02	0.23	—
12/12/2007	*12.3*	*55.4*	*0.28*	*6.87*	*20*	*2.1*	*74*	*0.23*	*0.211*	*0.84*	*< 0.02*	*0.12*	*2.42*
12/15/2007	*9.91*	*51.5*	*0.29*	*7.61*	*12*	*1.8*	*59*	*0.82*	*0.188*	*0.48*	*< 0.02*	*0.08*	*1.95*
1/10/2008	*4.42*	*19.2*	*0.22*	*6.24*	*11*	*E0.4*	*65*	*1.27*	*0.139*	*0.66*	*< 0.02*	*0.19*	*1.97*
1/11/2008	*3.00*	*13.5*	*0.23*	*6.65*	*103*	*0.9*	*43*	*1.38*	*0.138*	*0.65*	*< 0.02*	*0.04*	*1.92*
1/29/2008	*7.24*	*27.1*	*0.27*	*5.21*	*11*	*E0.4*	*79*	*0.23*	*0.152*	*0.68*	*< 0.02*	*0.20*	*1.52*
2/1/2008	*2.11*	*9.70*	*E0.12*	*3.97*	*E5*	*E0.2*	*44*	*0.76*	*0.099*	*0.51*	*< 0.02*	*0.07*	*1.22*
2/3/2008	*2.25*	*9.87*	*0.12*	*4.16*	*E6*	*< 0.4*	*46*	*1.18*	*0.103*	*0.60*	*< 0.02*	*0.10*	*1.39*
2/12/2008	2.20	8.58	0.25	5.35	16	17.2	89	0.26	0.139	0.49	< 0.02	0.19	1.13
2/17/2008	*2.52*	*6.79*	*0.19*	*5.44*	*17*	*11.3*	*76*	*0.77*	*0.132*	*0.43*	*< 0.02*	*0.04*	*1.45*
2/26/2008	*1.47*	*7.42*	*0.17*	*4.07*	*19*	*1.5*	*53*	*2.57*	*0.115*	*1.3*	*< 0.02*	*1.1*	*2.50*
3/3/2008	1.63	8.95	0.24	4.60	13	42.9	61	1.13	0.132	1.5	0.03	1.8	2.27
3/4/2008	0.78	3.77	0.16	4.38	115	1.6	20	2.13	0.079	0.12	< 0.02	0.49	1.86

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Specific UV absorbance, 254 nm, water, filtered	Turbidity, water, unfiltered, in Nephelo-metric Turbidity Units	Dissolved solids dried at 180 degrees Celsius, water, filtered, mg/L	Dissolved solids, water, filtered, sum of constit-uents, mg/L	Dissolved solids, water, tons per day	Dissolved solids, water, filtered, tons per acre-foot	Ammonia, water, filtered, mg/L as NH_4	Nitrate, water, filtered, mg/L	Nitrite, water, filtered, mg/L	Suspended sediment concen-tration, mg/L	Suspended sediment discharge, tons per day	Specific conduc-tance, water, unfiltered, laboratory, micro-siemens per centi-meter at 25 degrees Celsius	Ratio of particulate nitrogen to particulate organic carbon, number
4/11/2007	*2.0*	*—*	*220*	*E207*	*—*	*0.30*	*0.133*	*0.939*	*0.039*	*55*	*—*	*360*	*0.145*
4/15/2007	1.6	> 1,000	137	E123	1.52	0.19	0.058	12.1	0.163	368	4.1	211	0.191
4/26/2007	2.0	—	251	237	12.9	0.34	0.226	33.1	0.494	205	11	380	0.116
6/11/2007	2.1	8.0	460	414	5.59	0.63	3.55	1.85	2.79	73	0.89	676	0.167
6/19/2007	1.5	8.0	426	396	36.8	0.58	1.07	3.81	1.94	112	9.7	632	0.203
6/19/2007	*1.7*	*260*	*408*	*362*	*—*	*0.55*	*0.846*	*3.61*	*1.86*	*242*	*—*	*599*	*0.145*
6/20/2007	1.9	56	240	216	48.0	0.33	1.32	3.15	0.772	185	37	373	0.136
6/20/2007	—	100	242	222	38.6	0.33	1.01	3.20	1.05	154	25	383	0.121
6/21/2007	2.6	88	256	238	29.0	0.35	0.792	2.36	1.07	221	25	407	0.098
7/1/2007	2.2	5.0	356	353	13.4	0.48	0.194	5.40	0.650	108	4.1	579	0.215
7/7/2007	*2.8*	*—*	*225*	*217*	*—*	*0.31*	*0.143*	*7.71*	*0.140*	*137*	*—*	*366*	*0.142*
7/7/2007	*2.8*	*97*	*131*	*122*	*—*	*0.18*	*0.085*	*2.75*	*0.082*	*93*	*—*	*210*	*0.157*
7/8/2007	3.3	26	120	103	47.1	0.16	0.065	0.922	0.075	52	20	178	0.176
7/10/2007	3.2	12	176	160	16.6	0.24	0.130	0.309	0.060	62	5.9	273	0.114
7/11/2007	2.9	120	113	E104	23.5	0.15	0.074	2.24	0.529	137	28	176	0.124
7/11/2007	*3.1*	*34*	*117*	*106*	*—*	*0.16*	*0.135*	*0.633*	*0.145*	*53*	*—*	*180*	*0.172*
7/12/2007	*2.7*	*56*	*140*	*130*	*—*	*0.19*	*0.132*	*0.838*	*0.110*	*38*	*—*	*216*	*0.145*
9/5/2007	*3.0*	*29*	*204*	*184*	*—*	*0.28*	*0.074*	*1.41*	*0.077*	*81*	*—*	*317*	*0.137*
10/9/2007	*3.2*	*100*	*202*	*156*	*—*	*0.27*	*0.099*	*0.313*	*0.612*	*134*	*—*	*273*	*0.173*
10/16/2007	2.5	23	261	E222	9.85	0.35	E0.017	0.141	0.072	105	4.0	376	0.189
10/18/2007	2.6	89	248	206	18.8	0.34	0.191	1.96	0.158	141	11	353	0.135
10/18/2007	*2.4*	*47*	*238*	*200*	*—*	*0.32*	*0.081*	*0.497*	*0.114*	*91*	*—*	*338*	*0.130*
11/27/2007	2.5	65	206	184	5.29	0.28	0.067	5.51	0.054	113	2.9	312	0.155
12/12/2007	*2.5*	*41*	*202*	*188*	*—*	*0.28*	*0.116*	*5.33*	*0.065*	*69*	*—*	*322*	*0.159*
12/15/2007	*2.5*	*160*	*177*	*E160*	*—*	*0.24*	*E0.021*	*3.96*	*0.053*	*179*	*—*	*274*	*0.140*
1/10/2008	*2.3*	*> 1,000*	*131*	*E109*	*—*	*0.18*	*0.106*	*1.89*	*0.025*	*676*	*—*	*183*	*0.146*
1/11/2008	*2.2*	*> 1,000*	*90*	*78*	*—*	*0.12*	*0.088*	*2.17*	*0.020*	*641*	*—*	*129*	*0.154*
1/29/2008	*2.2*	*350*	*151*	*E135*	*—*	*0.21*	*0.053*	*1.99*	*0.018*	*298*	*—*	*239*	*0.178*
2/1/2008	*2.6*	*430*	*68*	*E67*	*—*	*0.09*	*0.046*	*1.55*	*0.011*	*326*	*—*	*115*	*0.171*
2/3/2008	*2.6*	*970*	*62*	*E69*	*—*	*0.08*	*0.040*	*0.977*	*0.014*	*558*	*—*	*114*	*0.158*
2/12/2008	2.2	98	131	111	3.31	0.18	0.096	1.54	0.031	122	3.1	194	0.141
2/17/2008	*2.3*	*400*	*101*	*96*	*—*	*0.14*	*0.117*	*1.21*	*0.031*	*411*	*—*	*175*	*0.150*
2/26/2008	*2.4*	*> 1,000*	*82*	*72*	*—*	*0.11*	*0.104*	*2.11*	*0.037*	*1150*	*—*	*129*	*0.164*
3/3/2008	2.3	650	88	82	1.66	0.12	0.174	1.68	0.028	547	10	147	0.134
3/4/2008	1.1	> 1,000	31	37	24.1	0.04	0.032	1.21	0.021	974	749	50	0.159

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Discharge, instantaneous, cubic feet per second	Gage height, feet	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius	Hydrogen ion, water, unfiltered, calculated, mg/L	pH, water, unfiltered, field, standard units	pH, water, unfiltered, laboratory, standard units	Organic nitrogen, water, unfiltered, mg/L	Ammonia, water, filtered, mg/L as nitrogen	Nitrite, water, filtered, mg/L as nitrogen	Nitrate, water, filtered, mg/L as nitrogen	Nitrate plus nitrite, water, filtered, mg/L as nitrogen	Orthophosphate, water, filtered, mg/L	Phosphorus, water, unfiltered, mg/L as phosphorus
3/4/2008	197	9.02	57	—	—	7	1.4	0.056	0.008	0.260	0.27	0.077	0.40
3/4/2008	147	8.49	68	—	—	7.2	1.2	0.135	0.017	0.421	0.44	0.173	0.42
3/14/2008	3.8	7.79	105	0.00139	5.9	7.5	2.1	0.117	0.028	0.390	0.42	0.480	0.79
3/14/2008	2.7	7.25	71	0.00064	6.2	7.5	E1.6	E0.019	0.006	0.232	0.24	0.025	0.38
4/1/2008	12	6.17	—	—	—	7.4	1.5	0.050	0.022	1.95	1.97	0.101	0.37
4/1/2008	67	7.22	141	—	—	7.4	E1.4	E0.014	0.033	2.22	2.25	0.048	0.34
4/1/2008	—	—	*112*	—	—	*7.5*	*1.2*	*0.039*	*0.030*	*1.55*	*1.58*	*0.093*	*0.34*
4/2/2008	—	—	*142*	—	—	*7.6*	*1.2*	*0.064*	*0.018*	*0.852*	*0.87*	*0.061*	*0.31*
4/4/2008	293	9.69	88	—	—	7.7	1.1	0.058	0.011	0.315	0.33	0.070	0.36
4/4/2008	250	9.38	85	—	—	7.4	0.86	0.025	0.010	0.286	0.30	0.086	0.28
4/5/2008	—	—	*110*	—	—	*7.5*	*0.72*	*0.039*	*0.009*	*0.278*	*0.29*	*0.103*	*0.269*
4/26/2008	2.4	5.34	211	0.00004	7.4	7.6	0.66	0.107	0.021	1.18	1.20	0.165	0.176
4/26/2008	—	—	*121*	*0.00006*	*7.2*	*7.6*	*1.3*	*0.052*	*0.037*	*3.10*	*3.14*	*0.103*	*0.45*
5/2/2008	3.1	5.39	170	0.00016	6.8	7.3	2.5	0.456	0.020	0.176	0.20	0.703	0.97
5/3/2008	649	11.41	—	—	—	7.4	0.87	0.047	0.017	0.345	0.36	0.110	0.30
5/4/2008	860	12.08	—	—	—	7.4	0.75	0.048	0.017	0.296	0.31	0.136	0.24
5/5/2008	—	—	*94*	*0.00006*	*7.2*	*7.5*	*0.67*	*0.074*	*0.009*	*0.151*	*0.16*	*0.095*	*0.219*
5/14/2008	—	—	*132*	*0.00002*	*7.8*	*7.4*	—	*0.240*	*0.030*	*2.03*	*2.06*	*0.218*	*0.45*
5/15/2008	—	—	*151*	*0.0001*	*7.0*	*7.5*	*2.4*	*0.353*	*0.088*	*2.60*	*2.69*	*0.125*	*0.25*
5/16/2008	—	—	*171*	*0.0008*	*6.1*	*7.2*	*1.2*	*0.331*	*0.129*	*1.77*	*1.90*	*0.124*	*0.211*
5/23/2008	0.33	4.69	180	0.00064	6.2	7.0	—	< 0.020	0.043	0.350	0.39	0.094	0.344
5/23/2008	—	—	*183*	*0.0004*	*6.4*	*7.3*	*1.3*	*0.275*	*0.145*	*1.25*	*1.40*	*0.175*	*0.33*
6/9/2008	—	—	*741*	*0.00013*	*6.9*	*7.9*	*0.67*	*0.072*	*0.023*	*0.206*	*0.23*	*0.129*	*0.101*
7/4/2008	7.6	5.72	714	—	—	8.3	0.46	0.040	0.018	0.555	0.57	0.048	0.029
7/5/2008	—	—	*609*	—	—	*8.0*	*0.83*	*0.197*	*0.321*	*1.14*	*1.46*	*0.115*	*0.084*
8/9/2008	—	—	*612*	—	—	*8.0*	*0.48*	*0.040*	*0.014*	*0.353*	*0.37*	*0.302*	*0.133*
8/19/2008	—	—	*274*	*0.00025*	*6.6*	*7.8*	—	*< 0.020*	*0.004*	*0.219*	*0.22*	*0.216*	*0.216*
8/20/2008	—	—	*188*	*0.00003*	*7.5*	*7.4*	—	*< 0.020*	*0.008*	*0.431*	*0.44*	*0.249*	*0.221*
9/2/2008	—	—	*387*	*0.00064*	*6.2*	*7.7*	*0.74*	*0.033*	*0.007*	*0.174*	*0.18*	*0.280*	*0.178*
9/3/2008	—	—	*175*	*0.00032*	*6.5*	*7.4*	*0.66*	*0.035*	*0.006*	*0.152*	*0.16*	*0.324*	*0.185*
9/4/2008	—	—	*185*	*0.0002*	*6.7*	*7.8*	*0.46*	*0.054*	*0.005*	*0.047*	*0.05*	*0.389*	*0.172*
9/14/2008	—	—	*347*	*0.00051*	*6.3*	*7.9*	*0.63*	*0.045*	*0.013*	*0.237*	*0.25*	*0.392*	*0.193*
9/17/2008	—	—	*489*	*0.00003*	*7.5*	*8.4*	*E0.35*	*0.026*	*0.007*	*E0.023*	*E0.03*	*0.200*	*0.091*

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Orthophosphate, water, filtered, mg/L as phosphorus	Organic carbon, water, filtered, mg/L	Inorganic carbon, suspended sediment, total, mg/L	Organic carbon, suspended sediment, total, mg/L	Carbon (inorganic plus organic), suspended sediment, total, mg/L	Hardness, water, mg/L as calcium carbonate	Noncarbonate hardness, water, filtered, lab, mg/L as calcium carbonate	Calcium, water, filtered, mg/L	Magnesium, water, filtered, mg/L	Sodium, water, filtered, mg/L	Sodium adsorption ratio, water, number	Sodium fraction of cations, water, percent in equivalents of major cations	Potassium, water, filtered, mg/L
3/4/2008	0.025	9.4	0.18	8.55	8.73	17	—	4.67	1.37	4.18	0.4	33	1.26
3/4/2008	0.056	6.3	E0.08	5.58	5.66	27	—	7.22	2.13	2.48	0.2	16	1.36
3/14/2008	0.157	4.9	0.41	15.0	15.4	31	—	9.68	1.66	7.19	0.6	32	2.09
3/14/2008	0.008	3.1	0.56	11.2	11.8	25	1	6.61	2.00	3.14	0.3	21	1.20
4/1/2008	0.033	7.0	E0.05	4.62	4.67	68	16	18.3	5.41	5.87	0.3	15	2.70
4/1/2008	0.016	5.9	0.49	7.57	8.05	51	22	13.8	3.96	5.38	0.3	18	2.30
4/1/2008	*0.030*	*5.7*	*0.23*	*6.11*	*6.34*	*42*	*15*	*11.3*	*3.23*	*4.26*	*0.3*	*17*	*2.13*
4/2/2008	*0.020*	*5.7*	*< 0.04*	*6.05*	*6.05*	*50*	*15*	*13.6*	*3.96*	*5.28*	*0.3*	*18*	*2.14*
4/4/2008	0.023	4.1	< 0.04	7.40	7.40	31	3	8.41	2.47	3.77	0.3	20	1.69
4/4/2008	0.028	4.3	< 0.04	4.13	4.13	31	0	8.48	2.44	3.23	0.3	17	1.69
4/5/2008	*0.034*	*5.0*	*< 0.04*	*2.91*	*2.91*	*40*	*0*	*10.8*	*3.20*	*4.02*	*0.3*	*17*	*1.75*
4/26/2008	0.054	7.2	E0.10	1.58	1.68	84	19	22.3	6.88	6.75	0.3	14	3.60
4/26/2008	*0.034*	*5.6*	*0.15*	*12.1*	*12.3*	*45*	*19*	*12.1*	*3.50*	*4.07*	*0.3*	*16*	*2.16*
5/2/2008	0.229	6.1	0.49	25.5	26.0	38	—	12.1	1.98	13.5	0.9	41	3.30
5/3/2008	0.036	2.9	E0.05	5.98	6.03	11	—	2.85	0.865	1.23	0.2	18	1.09
5/4/2008	0.044	3.8	E0.04	3.86	3.90	15	—	4.07	1.21	1.44	0.2	16	1.33
5/5/2008	*0.031*	*5.9*	*< 0.04*	*2.13*	*2.13*	*34*	—	*9.31*	*2.73*	*3.08*	*0.2*	*15*	*1.94*
5/14/2008	*0.071*	*6.3*	*E0.09*	*6.23*	*6.32*	*46*	*12*	*12.9*	*3.43*	*4.74*	*0.3*	*17*	*2.70*
5/15/2008	*0.041*	*7.5*	*< 0.04*	*5.03*	*5.03*	*53*	*20*	*14.6*	*4.10*	*5.10*	*0.3*	*16*	*2.61*
5/16/2008	*0.040*	—	*< 0.04*	*1.92*	*1.92*	*63*	*22*	*17.3*	*4.84*	*5.11*	*0.3*	*14*	*2.71*
5/23/2008	0.031	7.3	< 0.04	6.53	6.53	68	21	18.7	5.28	5.22	0.3	14	3.04
5/23/2008	*0.057*	*7.3*	*0.14*	*5.36*	*5.49*	*70*	*18*	*19.3*	*5.28*	*5.42*	*0.3*	*14*	*2.89*
6/9/2008	*0.042*	*7*	*< 0.04*	*1.12*	*1.12*	*320*	*110*	*83.8*	*27.5*	*31.9*	*0.8*	*17*	*4.31*
7/4/2008	0.016	5.3	1.36	3.04	4.40	330	88	80.7	31.6	30.3	0.7	16	3.85
7/5/2008	*0.037*	*6.7*	*0.14*	*1.24*	*1.38*	*270*	*73*	*70.5*	*23.9*	*24.5*	*0.6*	*16*	*4.17*
8/9/2008	*0.098*	*5.3*	*< 0.04*	*1.07*	*1.07*	*270*	*48*	*68.9*	*24.9*	*22.3*	*0.6*	*15*	*4.20*
8/19/2008	*0.070*	*6.0*	*< 0.04*	*3.31*	*3.31*	*120*	*19*	*29.6*	*10.8*	*9.97*	*0.4*	*15*	*3.73*
8/20/2008	*0.081*	*6.2*	*< 0.04*	*1.74*	*1.74*	*75*	—	*19.6*	*6.19*	*6.02*	*0.3*	*14*	*4.06*
9/2/2008	*0.091*	*7.5*	*E0.03*	*2.04*	*2.07*	*170*	*16*	*43.0*	*15.0*	*13.5*	*0.5*	*14*	*4.66*
9/3/2008	*0.106*	*7.4*	*< 0.04*	*2.42*	*2.42*	*72*	*0*	*19.3*	*5.80*	*4.74*	*0.2*	*12*	*4.91*
9/4/2008	*0.127*	*6.1*	*< 0.04*	*0.88*	*0.88*	*77*	—	*20.8*	*6.21*	*4.24*	*0.2*	*10*	*4.98*
9/14/2008	*0.128*	*6.9*	*< 0.04*	*1.61*	*1.61*	*150*	*11*	*39.2*	*13.1*	*11.4*	*0.4*	*14*	*5.71*
9/17/2008	*0.065*	*5.7*	*< 0.04*	*0.51*	*0.51*	*230*	*34*	*59.0*	*19.5*	*18.4*	*0.5*	*15*	*5.90*

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Chloride, water, filtered, mg/L	Sulfate, water, filtered, mg/L	Fluoride, water, filtered, mg/L	Silica, water, filtered, mg/L as SiO_2	Iron, water, filtered, µg/L	Manganese, water, filtered, µg/L	Alkalinity, water, filtered, fixed end-point (pH 4.5) titration, laboratory, mg/L as calcium carbonate	Particulate nitrogen, suspended in water, mg/L	Absorbance, UV, 254 nm, 1-centimeter path length, water, filtered, units per centimeter	Amino-methyl-phosphonic acid, water, filtered, recoverable, µg/L	Glufosinate, water, filtered, recoverable, µg/L	Glyphosate, water, filtered, recoverable, µg/L	Total nitrogen (nitrate + nitrite + ammonia + organic-N), water, unfiltered, analytically determined, mg/L
3/4/2008	0.65	3.48	0.15	3.14	68	3.2	21	1.48	0.079	0.69	< 0.02	0.53	1.73
3/4/2008	0.85	5.49	0.18	3.00	38	6.9	29	0.99	0.091	0.99	< 0.02	1.1	1.75
3/14/2008	4.22	4.55	E0.10	3.10	60	0.6	41	1.71	0.139	1.4	< 0.02	1.2	2.61
3/14/2008	1.09	8.30	0.15	2.40	26	E0.2	24	1.57	0.069	0.77	< 0.02	0.32	1.81
4/1/2008	3.31	20.0	0.25	5.53	12	< 0.4	52	0.70	0.168	2.6	< 0.02	3.0	3.47
4/1/2008	3.05	23.5	0.20	5.35	16	E0.3	29	1.22	0.138	2.0	< 0.02	1.1	3.71
4/1/2008	*1.88*	*18.3*	*0.16*	*5.24*	*15*	*1.6*	*26*	*0.94*	*0.138*	*1.8*	*< 0.02*	*1.2*	*2.87*
4/2/2008	*2.66*	*24.7*	*0.23*	*5.94*	*14*	*E0.4*	*35*	*0.99*	*0.133*	*1.9*	*< 0.02*	*0.96*	*2.13*
4/4/2008	1.49	11.2	0.37	4.57	13	E0.3	28	1.06	0.099	1.3	< 0.02	0.41	1.51
4/4/2008	1.16	8.68	0.15	4.60	18	E0.4	30	0.56	0.113	1.5	0.02	0.75	1.18
4/5/2008	*1.31*	*11.5*	*0.32*	*5.48*	*16*	*E0.3*	*40*	*0.52*	*0.124*	*1.7*	*< 0.02*	*0.99*	*1.05*
4/26/2008	2.83	26.9	0.20	3.90	12	3.4	65	0.32	0.145	1.3	< 0.02	0.85	1.97
4/26/2008	*1.68*	*16.6*	*0.17*	*6.52*	*9*	*0.5*	*26*	*1.86*	*0.140*	*1.1*	*< 0.02*	*0.43*	*4.50*
5/2/2008	8.67	7.93	0.26	4.71	49	24.1	53	2.91	0.173	1.8	< 0.02	3.5	3.10
5/3/2008	0.52	3.45	0.22	4.21	117	1.0	11	0.94	0.080	0.82	< 0.02	0.41	1.28
5/4/2008	0.61	3.98	0.19	5.01	73	0.8	17	0.63	0.107	1.0	< 0.02	0.48	1.11
5/5/2008	*0.94*	*8.05*	*0.24*	*6.86*	*30*	*0.9*	*35*	*0.32*	*0.149*	*0.96*	*< 0.02*	*0.20*	*0.91*
5/14/2008	*1.67*	*15.0*	*0.20*	*6.37*	*33*	*7.0*	*35*	*0.91*	*0.174*	*2.4*	*0.02*	*6.2*	*1.54*
5/15/2008	*1.53*	*22.0*	*0.25*	*7.92*	*16*	*1.3*	*33*	*0.97*	*0.177*	*1.9*	*0.02*	*1.5*	*5.41*
5/16/2008	*1.72*	*28.7*	*0.19*	*8.80*	*12*	*1.7*	*41*	*0.36*	—	—	—	—	*3.47*
5/23/2008	1.88	31.9	0.33	1.96	16	E0.3	48	1.08	0.170	1.3	< 0.02	0.23	1.63
5/23/2008	*2.49*	*25.9*	*0.29*	*8.10*	*11*	*1.1*	*52*	*0.94*	*0.194*	*1.7*	*< 0.02*	*1.5*	*2.95*
6/9/2008	*11.4*	*172*	*0.37*	*11.6*	*38*	*37.2*	*214*	*0.11*	*0.168*	*1.9*	*< 0.02*	*0.77*	*0.97*
7/4/2008	9.14	148	0.36	8.35	21	1.1	244	0.15	0.119	3.5	< 0.02	0.92	1.08
7/5/2008	*7.77*	*117*	*0.43*	*13.6*	*E6*	*0.5*	*202*	*0.16*	*0.156*	*4.4*	*< 0.02*	*4.0*	*2.49*
8/9/2008	*6.52*	*87.7*	*0.30*	*17.7*	*16*	*1.4*	*226*	*0.13*	*0.140*	*1.9*	*< 0.02*	*0.88*	*0.88*
8/19/2008	*2.66*	*23.4*	*0.20*	*10.0*	*24*	*0.8*	*100*	*0.36*	*0.171*	*3.0*	*< 0.02*	*0.85*	*1.01*
8/20/2008	*2.28*	*17.8*	*0.17*	*8.17*	*35*	*0.8*	*75*	*0.33*	*0.187*	*3.2*	*< 0.02*	*1.3*	*1.22*
9/2/2008	*4.52*	*40.5*	*0.39*	*12.9*	*30*	*0.7*	*153*	*0.32*	*0.226*	*1.9*	*< 0.02*	*0.54*	*0.95*
9/3/2008	*2.33*	*13.3*	*0.18*	*9.39*	*46*	*1.5*	*71*	*0.31*	*0.221*	*1.6*	*< 0.02*	*0.60*	*0.85*
9/4/2008	*2.66*	*12.2*	*0.20*	*10.8*	*38*	*E0.3*	*79*	*0.12*	*0.179*	*1.5*	*< 0.02*	*0.53*	*0.57*
9/14/2008	*6.45*	*33.4*	*0.25*	*13.5*	*25*	*1.0*	*141*	*0.23*	*0.206*	*1.5*	*< 0.02*	*0.37*	*0.93*
9/17/2008	*10.5*	*57.3*	*0.29*	*14.8*	*12*	*E0.3*	*193*	*0.08*	*0.132*	*1.4*	*< 0.02*	*0.19*	*0.41*

Table 4. Surface-water-quality data from samples collected at station 07288636, Tommie Bayou at Pace, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Specific UV absorbance, 254 nm, water, filtered	Turbidity, water, unfiltered, in Nephelo-metric Turbidity Units	Dissolved solids dried at 180 degrees Celsius, water, filtered, mg/L	Dissolved solids, water, filtered, sum of constit-uents, mg/L	Dissolved solids, water, tons per day	Dissolved solids, water, filtered, tons per acre-foot	Ammonia, water, filtered, mg/L as NH_4	Nitrate, water, filtered, mg/L	Nitrite, water, filtered, mg/L	Suspended sediment concen-tration, mg/L	Suspended sediment discharge, tons per day	Specific conduc-tance, water, unfiltered, laboratory, microsie-mens per centimeter at 25 degrees Celsius	Ratio of particulate nitrogen to particulate organic carbon, number
3/4/2008	0.8	> 1,000	40	33	21.2	0.05	0.072	1.15	0.026	665	354	51	0.173
3/4/2008	1.5	820	51	42	20.4	0.07	0.173	1.86	0.057	492	195	72	0.177
3/14/2008	2.8	780	61	E60	0.62	0.08	0.151	1.72	0.093	723	7.4	111	0.114
3/14/2008	2.3	> 1,000	45	E40	0.33	0.06	E0.024	1.03	0.019	1080	7.9	73	0.140
4/1/2008	2.4	> 1,000	119	101	3.86	0.16	0.064	8.63	0.071	702	23	176	0.152
4/1/2008	2.3	950	97	E85	17.5	0.13	E0.018	9.83	0.107	616	111	146	0.161
4/1/2008	*2.4*	*810*	*81*	*69*	—	*0.11*	*0.050*	*6.87*	*0.097*	—	—	*116*	*0.154*
4/2/2008	*2.4*	*710*	*96*	*E84*	—	*0.13*	*0.082*	*3.77*	*0.058*	*465*	—	*144*	*0.163*
4/4/2008	2.4	840	64	E52	50.9	0.09	0.075	1.39	0.036	523	414	91	0.144
4/4/2008	2.6	460	59	E50	39.9	0.08	0.033	1.27	0.032	328	221	86	0.134
4/5/2008	*2.5*	*240*	*70*	*E64*	—	*0.10*	*0.050*	*1.23*	*0.029*	*201*	—	*111*	*0.178*
4/26/2008	2.0	86	139	118	0.90	0.19	0.138	5.22	0.069	118	0.76	206	0.202
4/26/2008	*2.5*	*> 1,000*	*90*	*77*	—	*0.12*	*0.066*	*13.7*	*0.123*	*661*	—	*120*	*0.153*
5/2/2008	2.8	840	103	87	0.86	0.14	0.587	0.777	0.067	826	6.9	156	0.114
5/3/2008	2.8	750	25	23	44.4	0.03	0.061	1.53	0.055	435	762	36	0.158
5/4/2008	2.8	440	47	30	110	0.06	0.062	1.31	0.056	289	671	47	0.164
5/5/2008	*2.5*	*200*	*73*	*55*	—	*0.10*	*0.095*	*0.669*	*0.029*	*157*	—	*91*	*0.149*
5/14/2008	*2.7*	*370*	*84*	*77*	—	*0.11*	*0.308*	*8.99*	*0.097*	*235*	—	*100*	*0.146*
5/15/2008	*2.3*	*500*	*110*	*90*	—	*0.15*	*0.454*	*11.5*	*0.289*	*346*	—	*146*	*0.193*
5/16/2008	—	*160*	*123*	*103*	—	*0.17*	*0.426*	*7.85*	*0.423*	*165*	—	*172*	*0.186*
5/23/2008	2.3	280	103	E99	0.09	0.14	<0.026	1.55	0.140	279	0.25	180	0.166
5/23/2008	*2.7*	—	*118*	*108*	—	*0.16*	*0.354*	*5.54*	*0.475*	*425*	—	*183*	*0.176*
6/9/2008	*2.4*	*19*	*514*	*472*	—	*0.70*	*0.093*	*0.912*	*0.076*	*96*	—	*749*	*0.100*
7/4/2008	2.3	3.0	491	461	10.1	0.67	0.052	2.46	0.060	106	2.2	730	0.048
7/5/2008	*2.3*	*10*	*426*	*E389*	—	*0.58*	*0.253*	*5.04*	*1.05*	*76*	—	*622*	*0.130*
8/9/2008	*2.6*	*10*	*384*	*370*	—	*0.52*	*0.051*	*1.56*	*0.047*	*57*	—	*578*	*0.119*
8/19/2008	*2.9*	*79*	*153*	*151*	—	*0.21*	*<0.026*	*0.968*	*0.014*	*102*	—	*280*	*0.108*
8/20/2008	*3.0*	*67*	*121*	*111*	—	*0.16*	*<0.026*	*1.91*	*0.027*	*88*	—	*193*	*0.188*
9/2/2008	*3.0*	*30*	*247*	*227*	—	*0.34*	*0.043*	*0.772*	*0.022*	*232*	—	*387*	*0.157*
9/3/2008	*3.0*	*33*	*109*	*104*	—	*0.15*	*0.045*	*0.673*	*0.020*	*157*	—	*176*	*0.127*
9/4/2008	*2.9*	*7.0*	*112*	*E110*	—	*0.15*	*0.069*	*0.208*	*0.016*	*105*	—	*188*	*0.138*
9/14/2008	*3.0*	*20*	*228*	*209*	—	*0.31*	*0.058*	*1.05*	*0.043*	*184*	—	*359*	*0.143*
9/17/2008	*2.3*	*4.4*	*317*	*E302*	—	*0.43*	*0.033*	*E0.101*	*0.022*	*153*	—	*496*	*0.164*

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; *italic font indicates composite sample*; see fig. 1 for location]

Date	Discharge, instantaneous, cubic feet per second	Gage height, feet	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius	Hydrogen ion, water, unfiltered, calculated, mg/L	pH, water, unfiltered, field, standard units	pH, water, unfiltered, laboratory, standard units	Organic nitrogen, water, unfiltered, mg/L	Ammonia, water, filtered, mg/L as nitrogen	Nitrite, water, filtered, mg/L as nitrogen	Nitrate, water, filtered, mg/L as nitrogen	Nitrate plus nitrite, water, filtered, mg/L as nitrogen	Orthophosphate, water, filtered, mg/L	Phosphorus, water, unfiltered, mg/L as phosphorus
4/14/2007	0.07	3.95	—	—	—	7.4	3.9	0.078	0.037	5.29	5.33	0.083	0.74
4/14/2007	—	—	—	—	—	*7.7*	*2.4*	*0.064*	*0.131*	*8.76*	*8.89*	*0.038*	*0.54*
4/26/2007	0.19	4.12	—	—	—	7.5	E1.5	E0.011	0.039	3.90	3.94	E0.015	0.24
5/4/2007	—	—	—	—	—	*6.5*	*3.3*	*0.060*	*0.052*	*8.06*	*8.11*	*0.054*	*0.71*
5/22/2007	—	—	*793*	—	—	*8.3*	*0.88*	*0.027*	*1.72*	*1.68*	*3.40*	*0.115*	*0.080*
6/9/2007	—	—	—	—	—	*8.2*	*11*	*1.69*	*0.050*	*0.998*	*1.05*	*0.076*	*0.069*
6/19/2007	3.4	5.14	—	—	—	7.6	11	2.36	0.565	2.95	3.52	0.151	0.304
6/19/2007	17	7.03	—	—	—	7.4	4	0.570	0.113	1.29	1.41	0.165	0.51
6/19/2007	18	7.20	—	—	—	7.5	5.9	0.911	0.126	1.06	1.18	0.126	0.322
6/19/2007	18	7.07	—	—	—	7.4	7.8	1.26	0.102	0.713	0.81	0.131	0.208
6/19/2007	21	7.50	—	—	—	7.3	8.1	1.35	0.091	0.918	1.01	0.132	0.392
6/19/2007	20	7.53	—	—	—	7.3	7.3	1.33	0.085	0.678	0.76	0.107	0.274
6/19/2007	19	7.35	—	—	—	7.5	8.4	1.64	0.084	0.538	0.62	0.087	0.163
6/20/2007	18	7.09	—	—	—	7.6	8.4	1.79	0.083	0.432	0.52	0.086	0.128
6/20/2007	11	6.31	387	0.00006	7.2	7.6	4.3	2.76	2.45	1.56	4.01	0.067	0.119
6/21/2007	7.9	5.84	484	0.00003	7.5	7.6	2.8	4.44	4.61	1.19	5.80	0.046	0.064
6/21/2007	—	—	*510*	*0.00003*	*7.6*	*7.8*	*1.1*	*4.81*	*3.03*	*1.18*	*4.20*	*0.030*	*0.043*
6/26/2007	—	—	*273*	—	—	*8.0*	*E1.1*	*E0.011*	*0.022*	*2.40*	*2.42*	*0.120*	*0.25*
6/27/2007	—	—	*375*	—	—	*8.2*	*E0.75*	*E0.011*	*0.023*	*1.31*	*1.33*	*0.109*	*0.112*
7/7/2007	5.5	5.49	—	—	—	7.4	3.5	0.026	0.034	1.06	1.09	0.258	0.57
7/7/2007	20	7.37	—	—	—	7.7	0.71	0.036	0.012	0.646	0.66	0.122	0.288
7/7/2007	22	7.69	—	—	—	7.9	—	< 0.020	0.017	0.316	0.33	0.092	0.187
7/7/2007	—	—	—	—	—	*8.2*	*0.54*	*0.034*	*0.007*	*0.226*	*0.23*	*0.095*	*0.118*
7/9/2007	6.2	5.59	—	—	—	8.0	0.59	0.047	0.082	0.176	0.26	0.068	0.108
7/10/2007	6.2	5.60	—	—	—	8.0	0.54	0.038	0.041	0.075	0.12	0.073	0.090
8/2/2007	10	6.15	634	—	—	8.2	E0.58	E0.013	0.149	0.185	0.33	0.147	0.118
8/2/2007	11	6.27	643	—	—	8.3	E0.48	E0.011	0.090	0.139	0.23	0.155	0.096
8/2/2007	—	—	*727*	—	—	*8.3*	*0.35*	*0.077*	*0.030*	*0.047*	*0.08*	*0.117*	*0.069*
8/31/2007	2.7	5.02	530	0.00010	7.0	7.6	1.2	0.055	0.016	0.054	0.07	0.622	0.34
3/4/2008	32	7.40	49	—	—	7	E1.0	E0.020	0.006	0.15	0.15	0.206	0.36
3/4/2008	30	7.22	49	0.00010	7.0	7.7	—	< 0.020	< 0.002	—	0.14	0.072	0.12
3/5/2008	15	6.18	68	0.00006	7.2	7.3	—	< 0.020	0.008	0.146	0.15	0.179	0.11
3/5/2008	—	—	*82*	*0.00006*	*7.2*	*7.3*	—	*< 0.020*	*0.025*	*0.174*	*0.20*	*0.119*	*0.13*
4/1/2008	16	6.32	119	—	—	7.5	3.3	0.024	0.028	2.79	2.82	0.085	0.79
4/1/2008	33	7.40	64	—	—	7.9	E1.4	E0.013	0.048	1.34	1.39	0.165	0.47

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; *italic font indicates composite sample*; see fig. 1 for location]

Date	Orthophosphate, water, filtered, mg/L as phosphorus	Organic carbon, water, filtered, mg/L	Inorganic carbon, suspended sediment, total, mg/L	Organic carbon, suspended sediment, total, mg/L	Carbon (inorganic plus organic), suspended sediment, total, mg/L	Hardness, water, mg/L as calcium carbonate	Noncarbonate hardness, water, filtered, lab, mg/L as calcium carbonate	Calcium, water, filtered, mg/L	Magnesium, water, filtered, mg/L	Sodium, water, filtered, mg/L	Sodium adsorption ratio, water, number	Sodium fraction of cations, water, percent in equivalents of major cations	Potassium, water, filtered, mg/L
4/14/2007	0.027	5.7	1.30	33.0	34.3	27	17	7.24	2.25	9.20	0.77	40	1.87
4/14/2007	*0.012*	*7.7*	*0.39*	*10.9*	*11.3*	*42*	*28*	*11.0*	*3.54*	*13.4*	*0.90*	*39*	*2.47*
4/26/2007	E0.005	9.1	< 0.12	4.92	4.92	62	11	16.1	5.24	18.4	1.02	38	2.96
5/4/2007	*0.018*	*6.3*	*0.66*	*30.6*	*31.2*	*51*	*22*	*13.0*	*4.39*	*18.9*	*1.16*	*43*	*2.40*
5/22/2007	*0.037*	*5.3*	*< 0.12*	*0.54*	*0.54*	*270*	*20*	*71.5*	*23.3*	*68.4*	*1.80*	*35*	*5.44*
6/9/2007	*0.025*	*12.1*	*< 0.12*	*0.61*	*0.61*	*220*	—	*56.0*	*19.5*	*68.2*	*2.00*	*40*	*5.03*
6/19/2007	0.049	11.9	0.29	6.61	6.90	170	—	40.7	17.3	63.8	2.11	44	3.04
6/19/2007	0.054	6.0	< 0.12	5.30	5.39	30	—	7.34	2.72	15.9	1.27	52	2.00
6/19/2007	0.041	7.5	< 0.12	4.88	4.88	48	—	11.8	4.49	21.6	1.36	48	2.27
6/19/2007	0.043	8.0	< 0.12	3.56	3.56	70	—	17.2	6.53	27.3	1.42	45	2.31
6/19/2007	0.043	10.9	< 0.12	6.57	6.61	59	—	14.6	5.41	26.2	1.49	48	2.38
6/19/2007	0.035	9.0	< 0.12	5.28	5.28	60	—	14.7	5.55	26.9	1.51	48	2.35
6/19/2007	0.028	9.6	0.13	2.66	2.79	68	—	17.1	6.15	28.1	1.48	46	2.32
6/20/2007	0.028	9.7	< 0.12	3.61	3.61	82	—	20.6	7.36	31.0	1.49	44	2.28
6/20/2007	0.022	6.0	< 0.12	1.87	1.89	100	22	25.8	9.06	34.4	1.48	42	2.59
6/21/2007	0.015	5.4	< 0.12	1.08	1.08	130	—	34.4	11.5	42.9	1.62	41	2.79
6/21/2007	*0.010*	*5.8*	*< 0.12*	*1.20*	*1.23*	*140*	—	*36.5*	*12.1*	*45.1*	*1.65*	*40*	*2.90*
6/26/2007	*0.039*	*5.3*	*0.25*	*5.58*	*5.84*	*84*	—	*21.9*	*7.08*	*22.7*	*1.08*	*36*	*2.06*
6/27/2007	*0.035*	*4.2*	*< 0.12*	*1.33*	*1.38*	*120*	—	*32.6*	*10.4*	*29.8*	*1.16*	*34*	*1.64*
7/7/2007	0.084	5.1	0.35	57.3	57.6	93	—	24.4	7.91	24.2	1.09	35	1.94
7/7/2007	0.040	3.9	< 0.12	3.32	3.38	25	—	6.47	2.23	8.81	0.76	41	1.51
7/7/2007	0.030	3.6	< 0.12	2.42	2.47	25	—	6.47	2.22	8.65	0.75	41	1.53
7/7/2007	*0.031*	*3.5*	*< 0.12*	*2.13*	*2.16*	*46*	—	*12.0*	*3.86*	*12.6*	*0.81*	*36*	*1.71*
7/9/2007	0.022	4.0	< 0.12	2.55	2.60	90	—	24.9	6.84	20.6	0.94	33	1.73
7/10/2007	0.024	4.5	< 0.12	1.49	1.54	85	—	23.3	6.41	18.8	0.89	32	1.85
8/2/2007	0.048	5.6	< 0.12	1.52	1.56	210	—	54.7	18.4	50.7	1.51	33	6.00
8/2/2007	0.050	5.5	< 0.12	1.52	1.53	220	—	55.8	18.7	51.7	1.53	33	5.96
8/2/2007	*0.038*	*4.9*	*< 0.12*	*0.52*	*0.54*	*240*	—	*62.3*	*19.6*	*64.7*	*1.83*	*37*	*5.62*
8/31/2007	0.203	12.5	< 0.12	2.21	2.21	150	0	38.0	14.4	52.3	1.83	41	7.54
3/4/2008	0.067	17.9	E0.08	7.29	7.37	11	—	2.85	0.981	4.06	0.53	40	1.72
3/4/2008	0.023	4.6	E0.04	6.55	5.59	12	—	3.05	1.02	4.21	0.53	40	1.59
3/5/2008	0.058	6.2	< 0.04	4.71	4.71	21	—	5.58	1.73	4.33	0.41	28	2.08
3/5/2008	*0.039*	*8.2*	*< 0.04*	*3.18*	*3.18*	*29*	—	*7.73*	*2.29*	*4.53*	*0.37*	*24*	*2.33*
4/1/2008	0.028	6.6	0.73	30.1	30.8	29	0	7.39	2.51	10.5	0.85	42	2.34
4/1/2008	0.054	5.7	0.19	8.51	8.70	13	—	3.37	1.15	6.59	0.79	48	1.81

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Chloride, water, filtered, mg/L	Sulfate, water, filtered, mg/L	Fluoride, water, filtered, mg/L	Silica, water, filtered, mg/L as SiO_2	Iron, water, filtered, µg/L	Manganese, water, filtered, µg/L	Alkalinity, water, filtered, fixed end-point (pH 4.5) titration, laboratory, mg/L as calcium carbonate	Particulate nitrogen, suspended in water, mg/L	Absorbance, UV, 254 nm, 1-centimeter path length, water, filtered, units per centimeter	Amino-methyl-phosphonic acid, water, filtered, recoverable, µg/L	Glufosinate, water, filtered, recoverable, µg/L	Glyphosate, water, filtered, recoverable, µg/L	Total nitrogen (nitrate + nitrite + ammonia + organic-N), water, unfiltered, analytically determined, mg/L
4/14/2007	2.22	16.5	0.25	5.42	E5	11.8	10	4.71	0.132	2.6	< 0.02	11	9.34
4/14/2007	*5.08*	*22.0*	*0.23*	*6.87*	*E6*	*19.3*	*14*	*1.88*	*0.162*	*1.9*	*< 0.02*	*4.1*	*11.4*
4/26/2007	5.14	30.8	0.31	5.91	E3	0.5	51	0.62	0.160	2.0	< 0.02	1.2	5.46
5/4/2007	*6.44*	*28.0*	*0.31*	*8.06*	*6*	*0.5*	*29*	*5.74*	*0.141*	*1.8*	*< 0.02*	*2.6*	*11.4*
5/22/2007	*29.7*	*117*	*1.35*	*17.2*	*E3*	*0.3*	*254*	*0.09*	*0.130*	*8.9*	*< 0.02*	*22*	*4.30*
6/9/2007	*26.7*	*110*	*0.55*	*13.6*	*E5*	*0.3*	*232*	*0.11*	*0.146*	*2.8*	*< 0.02*	*7.7*	*13.8*
6/19/2007	22.5	88.1	0.56	13.0	E5	0.4	186	1.05	0.142	3.4	< 0.02	13	16.5
6/19/2007	5.74	21.1	0.36	4.96	6	E0.2	37	0.93	0.119	2.0	< 0.02	1.9	5.93
6/19/2007	6.91	28.3	0.37	5.97	9	0.3	56	0.88	0.121	2.2	< 0.02	2.4	7.99
6/19/2007	8.48	35.0	0.45	7.76	9	0.4	82	0.53	0.117	2.1	< 0.02	2.9	9.83
6/19/2007	9.19	30.7	0.36	7.78	10	0.2	76	1.04	0.131	0.64	< 0.02	1.2	10.4
6/19/2007	8.71	32.2	0.39	7.68	E5	0.2	74	0.71	0.125	1.3	< 0.02	1.2	9.39
6/19/2007	8.83	35.2	0.72	8.16	E5	0.4	86	0.45	0.121	1.2	< 0.02	1.4	10.7
6/20/2007	9.73	39.2	0.47	9.15	7	0.5	102	0.61	0.124	1.4	< 0.02	1.8	10.7
6/20/2007	11.2	43.6	0.82	10.2	E4	0.3	80	0.35	0.098	1.4	< 0.02	1.6	11.1
6/21/2007	12.4	51.1	0.84	11.7	E3	0.3	146	0.16	0.117	1.2	< 0.02	1.1	13.0
6/21/2007	*12.3*	*51.9*	*0.88*	*12.5*	*7*	*0.3*	*168*	*0.25*	*0.106*	*1.0*	*< 0.02*	*1.4*	*10.2*
6/26/2007	*5.21*	*28.2*	*0.62*	*10.0*	*E5*	*0.2*	*87*	*0.97*	*0.138*	*4.0*	*< 0.02*	*8.4*	*3.55*
6/27/2007	*7.50*	*40.7*	*0.56*	*14.1*	*E3*	*0.3*	*134*	*0.19*	*0.108*	*1.9*	*< 0.02*	*3.6*	*2.10*
7/7/2007	8.12	27.2	0.37	15.2	37	235	108	9.61	0.113	0.97	< 0.02	0.71	4.63
7/7/2007	2.38	6.66	0.25	6.50	9	0.2	34	0.56	0.095	1.2	< 0.02	1.6	1.41
7/7/2007	2.28	5.72	0.23	5.83	11	0.3	35	0.37	0.097	0.96	< 0.02	1.2	0.91
7/7/2007	*3.62*	*11.1*	*0.26*	*8.56*	*14*	*0.5*	*59*	*0.39*	*0.106*	*1.2*	*< 0.02*	*1.2*	*0.80*
7/9/2007	6.95	19.3	0.47	13.3	9	0.2	107	0.34	0.107	1.1	< 0.02	1.1	0.90
7/10/2007	6.36	16.7	0.50	13.3	14	0.3	100	0.25	0.144	0.90	< 0.02	0.71	0.69
8/2/2007	29.4	65.0	0.62	29.8	11	0.4	226	0.23	0.156	0.65	< 0.02	0.27	0.93
8/2/2007	30.2	62.7	0.49	29.6	10	0.4	228	0.19	0.153	0.73	< 0.02	0.28	0.72
8/2/2007	*29.5*	*77.7*	*0.53*	*23.3*	*6*	*0.3*	*263*	*0.07*	*0.130*	*0.76*	*< 0.02*	*0.28*	*0.51*
8/31/2007	22.7	77.7	0.33	11.9	36	34.4	153	0.36	0.335	4.0	< 0.02	4.6	1.33
3/4/2008	1.28	3.07	0.25	3.73	11	1.7	18	1.17	0.133	0.77	< 0.02	0.24	1.18
3/4/2008	1.21	2.93	0.19	3.74	57	0.5	19	1.16	0.115	0.79	< 0.02	0.14	1.20
3/5/2008	1.44	3.29	0.13	5.18	63	0.9	29	0.81	0.178	0.49	< 0.02	0.10	1.05
3/5/2008	*1.40*	*3.42*	*0.13*	*4.93*	*95*	*3.9*	*36*	*0.40*	*0.238*	*0.48*	*< 0.02*	*0.03*	*1.16*
4/1/2008	4.51	9.80	0.24	5.64	17	E0.3	28	4.34	0.159	2.5	< 0.02	1.4	6.15
4/1/2008	2.21	6.03	0.39	6.20	160	1.3	15	1.39	0.155	2.7	< 0.02	3.2	2.84

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Specific UV absorbance, 254 nm, water, filtered	Turbidity, water, unfiltered, in Nephelo-metric Turbidity Units	Dissolved solids dried at 180 degrees Celsius, water, filtered, mg/L	Dissolved solids, water, filtered, sum of constit-uents, mg/L	Dissolved solids, water, filtered, tons per day	Dissolved solids, water, filtered, tons per acre-foot	Ammonia, water, filtered, mg/L as NH_4	Nitrate, water, filtered, mg/L	Nitrite, water, filtered, mg/L	Suspended sediment concen-tration, mg/L	Suspended sediment discharge, tons per day	Specific conduc-tance, water, unfiltered, laboratory, micro-siemens per centi-meter at 25 degrees Celsius	Ratio of particulate nitrogen to particulate organic carbon, number
4/14/2007	2.3	> 1,000	77	E75	0.01	0.10	0.100	23.4	0.123	2,790	0.53	117	0.143
4/14/2007	*2.1*	*> 1,000*	*130*	*E112*	—	*0.18*	*0.082*	*38.8*	*0.429*	*1,210*	—	*174*	*0.172*
4/26/2007	1.8	650	140	E133	0.07	0.19	E0.014	17.3	0.130	519	0.27	226	0.126
5/4/2007	*2.3*	—	*130*	*135*	—	*0.18*	*0.077*	*35.7*	*0.171*	*2,500*	—	*215*	*0.188*
5/22/2007	*2.5*	*7.0*	*523*	*E502*	—	*0.71*	*0.035*	*7.43*	*5.66*	*78*	—	*803*	*0.160*
6/9/2007	*1.2*	*5.0*	*476*	*E445*	—	*0.65*	*2.18*	*4.42*	*0.164*	*81*	—	*742*	*0.176*
6/19/2007	1.2	370	390	E380	3.56	0.53	3.04	13.1	1.86	400	3.7	636	0.159
6/19/2007	2.0	> 1,000	104	E89	4.76	0.14	0.734	5.73	0.371	826	38	157	0.175
6/19/2007	1.6	520	142	122	6.88	0.19	1.17	4.67	0.413	364	18	215	0.180
6/19/2007	1.5	520	168	160	8.01	0.23	1.62	3.15	0.336	244	12	277	0.149
6/19/2007	1.2	850	155	148	8.69	0.21	1.74	4.06	0.300	504	28	260	0.158
6/19/2007	1.4	490	158	E148	8.68	0.21	1.72	3.00	0.278	343	19	258	0.135
6/19/2007	1.3	190	177	E163	8.91	0.24	2.12	2.38	0.277	199	10	286	0.168
6/20/2007	1.3	110	201	186	9.76	0.27	2.30	1.91	0.272	207	10	325	0.170
6/20/2007	1.6	130	235	E207	6.97	0.32	3.55	6.91	8.03	140	4.2	391	0.185
6/21/2007	2.2	38	259	E287	5.53	0.35	5.72	5.25	15.2	109	2.3	485	0.151
6/21/2007	*1.8*	*26*	*278*	*300*	—	*0.38*	*6.20*	*5.21*	*9.94*	*84*	—	*510*	*0.207*
6/26/2007	*2.6*	*690*	*164*	*E161*	—	*0.22*	*E0.014*	*10.6*	*0.072*	*443*	—	*270*	*0.174*
6/27/2007	*2.6*	*61*	*228*	*E224*	—	*0.31*	*0.014*	*5.81*	*0.074*	*101*	—	*379*	*0.144*
7/7/2007	2.2	—	190	179	2.82	0.26	0.033	4.68	0.112	702	10	298	0.168
7/7/2007	2.5	—	52	58	2.80	0.07	0.046	2.86	0.040	255	14	94	0.170
7/7/2007	2.7	—	63	56	3.71	0.09	<0.026	1.40	0.056	152	9.0	91	0.152
7/7/2007	*3.1*	*72*	*101*	*90*	—	*0.14*	*0.044*	*0.999*	*0.024*	*73*	—	*153*	*0.185*
7/9/2007	2.7	160	166	159	2.78	0.23	0.060	0.781	0.268	152	2.5	271	0.133
7/10/2007	3.2	—	152	148	2.53	0.21	0.044	0.331	0.135	95	1.6	252	0.169
8/2/2007	2.8	67	412	E392	11.1	0.56	E0.017	0.821	0.488	242	6.5	644	0.151
8/2/2007	2.8	52	428	E393	12.7	0.58	E0.014	0.614	0.297	194	5.8	653	0.122
8/2/2007	*2.7*	*9.0*	*466*	*442*	—	*0.63*	*0.099*	*0.208*	*0.099*	*113*	—	*730*	*0.128*
8/31/2007	2.7	47	352	318	2.61	0.48	0.071	0.239	0.052	112	0.83	539	0.164
3/4/2008	0.7	770	29	E30	2.51	0.04	E0.026	0.651	0.020	426	37	46	0.161
3/4/2008	2.5	690	33	30	2.70	0.05	<0.026	<0.615	<0.007	419	34	52	0.178
3/5/2008	2.9	420	44	42	1.76	0.06	<0.026	0.648	0.025	281	11	69	0.172
3/5/2008	*2.9*	*330*	*59*	*49*	—	*0.08*	*<0.026*	*0.770*	*0.082*	*221*	—	*84*	*0.125*
4/1/2008	2.4	> 1,000	91	E73	4.03	0.12	0.031	12.4	0.092	3,170	140	124	0.144
4/1/2008	2.7	> 1,000	56	E43	4.98	0.08	E0.016	5.93	0.159	641	57	67	0.163

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Discharge, instantaneous, cubic feet per second	Gage height, feet	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius	Hydrogen ion, water, unfiltered, calculated, mg/L	pH, water, unfiltered, field, standard units	pH, water, unfiltered, laboratory, standard units	Organic nitrogen, water, unfiltered, mg/L	Ammonia, water, filtered, mg/L as nitrogen	Nitrite, water, filtered, mg/L as nitrogen	Nitrate, water, filtered, mg/L as nitrogen	Nitrate plus nitrite, water, filtered, mg/L as nitrogen	Orthophosphate, water, filtered, mg/L	Phosphorus, water, unfiltered, mg/L as phosphorus
4/1/2008	—	—	*80*	—	—	*7.5*	*1.4*	*0.030*	*0.032*	*0.992*	*1.02*	*0.177*	*0.41*
4/1/2008	31	7.29	76	—	—	7.5	1.4	0.030	0.032	0.992	1.02	0.177	0.41
4/4/2008	5.0	5.30	99	—	—	7.2	2.7	0.075	0.012	0.515	0.53	0.127	0.99
4/4/2008	51	8.18	48	—	—	7.5	0.99	0.039	0.007	0.166	0.17	0.106	0.37
4/5/2008	50	8.15	48	—	—	7.4	0.81	0.035	0.005	0.126	0.13	0.099	0.28
4/5/2008	39	7.75	—	—	—	7.4	0.99	0.028	0.005	0.118	0.12	0.102	0.30
4/5/2008	—	—	*62*	—	—	*7.3*	*1.0*	*0.066*	*0.007*	*0.129*	*0.14*	*0.187*	*0.36*
4/26/2008	—	—	*103*	*0.00003*	*7.5*	*7.5*	*1.6*	*0.071*	*0.099*	*3.04*	*3.14*	*0.119*	*0.59*
4/26/2008	—	—	*119*	*0.00016*	*6.8*	*8.0*	*1.7*	*0.069*	*0.134*	*3.51*	*3.64*	*0.097*	*0.48*
5/2/2008	0.39	4.55	112	0.00010	7.0	7.3	2.3	0.057	0.020	1.43	1.45	0.072	0.96
5/3/2008	23	6.74	57	0.00010	7.0	7.3	1.3	0.066	0.025	0.489	0.52	0.189	0.42
5/4/2008	E5.5	5.37	89	0.00013	6.9	7.3	1.4	0.129	0.032	0.349	0.38	0.329	0.43
5/4/2008	E1.3	4.77	89	0.00013	6.9	7.5	1.4	0.147	0.017	0.115	0.13	0.359	0.41
5/5/2008	0.43	4.56	108	0.00013	6.9	7.5	1.4	0.094	0.013	0.081	0.09	0.229	0.38
5/14/2008	0.70	4.64	241	0.00003	7.5	7.6	1.6	0.049	0.040	4.92	4.96	0.066	0.29
5/15/2008	1.0	4.71	171	0.00003	7.6	7.4	1.0	0.095	0.049	3.40	3.45	0.062	0.41
5/15/2008	41	7.82	62	0.00001	7.9	7.4	0.87	0.050	0.016	1.15	1.16	0.085	0.33
5/15/2008	39	7.73	68	0.00013	6.9	7.4	0.99	0.056	0.016	0.978	0.99	0.097	0.30
5/15/2008	29	7.15	—	—	—	8.0	0.93	0.062	0.017	0.701	0.72	0.127	0.27
5/16/2008	—	6.89	72	0.00010	7.0	7.3	0.47	0.054	0.015	0.614	0.63	0.106	0.25
5/16/2008	—	—	*92*	*0.00020*	*6.7*	*7.5*	*1.1*	*0.209*	*0.023*	*0.280*	*0.30*	*0.326*	*0.32*
5/24/2008	—	—	*73*	*0.00040*	*6.4*	*7.4*	*2.0*	*0.139*	*0.036*	*0.640*	*0.68*	*0.208*	*0.56*
5/28/2008	—	—	*63*	*0.00016*	*6.8*	*7.6*	*1.5*	*0.060*	*0.015*	*0.382*	*0.40*	*0.160*	*0.44*
7/15/2008	0.90	4.68	792	—	—	8.3	0.96	0.207	0.070	1.59	1.66	0.239	0.153
7/16/2008	5.6	5.38	—	—	—	8.3	0.45	0.063	0.017	0.297	0.31	0.243	0.124
7/22/2008	1.9	4.87	420	0.00020	6.7	7.7	E1.7	E0.015	0.044	1.82	1.87	0.135	0.53
7/23/2008	18	6.40	361	0.00032	6.5	7.5	—	< 0.020	0.098	2.28	2.38	0.143	0.316
8/7/2008	—	—	*558*	*0.00040*	*6.4*	*8.3*	*E0.78*	*0.129*	*0.007*	*E0.015*	*E0.02*	*0.267*	*0.149*
8/19/2008	9.2	5.73	340	0.00004	7.4	7.7	E0.94	E0.017	0.008	0.459	0.47	0.199	0.28
8/20/2008	—	—	*78*	*0.00003*	*7.6*	*7.0*	*1.1*	*0.021*	*0.006*	*0.348*	*0.35*	*0.436*	*0.37*
9/2/2008	—	—	*125*	*0.00025*	*6.6*	*7.2*	*1.5*	*0.075*	*0.018*	*1.77*	*1.79*	*0.316*	*0.33*
9/3/2008	—	—	*60*	*0.00016*	*6.8*	*7.3*	*0.53*	*0.044*	*0.007*	*0.087*	*0.09*	*0.248*	*0.173*
9/4/2008	—	—	*64*	*0.00010*	*7.0*	*7.7*	*E0.42*	*0.100*	*0.003*	*E0.019*	*E0.02*	*0.284*	*0.141*
9/22/2008	—	—	*142*	*0.00032*	*6.5*	*8.0*	—	*0.044*	*0.003*	—	*< 0.04*	*0.505*	*0.282*

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Orthophosphate, water, filtered, mg/L as phosphorus	Organic carbon, water, filtered, mg/L	Inorganic carbon, suspended sediment, total, mg/L	Organic carbon, suspended sediment, total, mg/L	Carbon (inorganic plus organic), suspended sediment, total, mg/L	Hardness, water, mg/L as calcium carbonate	Noncarbonate hardness, water, filtered, lab, mg/L as calcium carbonate	Calcium, water, filtered, mg/L	Magnesium, water, filtered, mg/L	Sodium, water, filtered, mg/L	Sodium adsorption ratio, water, number	Sodium fraction of cations, water, percent in equivalents of major cations	Potassium, water, filtered, mg/L
4/1/2008	*0.058*	*7.4*	*0.13*	*7.87*	*7.99*	*19*	—	*5.02*	*1.66*	*7.54*	*0.75*	*43*	*2.00*
4/1/2008	0.058	—	0.13	7.87	7.99	19	—	5.02	1.66	7.54	0.75	43	2.00
4/4/2008	0.041	7.1	0.25	18.2	18.4	22	—	5.61	1.84	8.58	0.80	43	2.37
4/4/2008	0.035	5.8	< 0.04	6.89	6.89	10	—	2.44	0.838	4.85	0.68	48	1.40
4/5/2008	0.032	4.3	< 0.04	4.34	4.34	10	—	2.63	0.870	4.73	0.65	46	1.38
4/5/2008	0.033	7.3	0.13	7.95	8.08	14	—	3.60	1.18	5.20	0.61	42	1.59
4/5/2008	*0.061*	*3.7*	*< 0.04*	*4.92*	*4.92*	*17*	—	*4.37*	*1.37*	*5.00*	*0.54*	*37*	*1.84*
4/26/2008	*0.039*	*8.2*	*E0.10*	*14.7*	*14.8*	*24*	*2*	*6.19*	*2.17*	*9.13*	*0.80*	*42*	*2.17*
4/26/2008	*0.032*	*9.6*	*0.33*	*8.35*	*8.68*	*29*	*7*	*7.44*	*2.48*	*9.22*	*0.75*	*39*	*2.31*
5/2/2008	0.023	7.5	0.49	14.0	14.5	28	—	7.14	2.39	9.39	0.78	40	2.26
5/3/2008	0.061	6.0	0.21	7.71	7.92	11	—	2.86	0.934	5.23	0.69	47	1.50
5/4/2008	0.107	10.9	E0.03	5.41	5.44	26	—	6.90	2.11	4.58	0.39	25	2.72
5/4/2008	0.117	11.9	< 0.04	3.97	3.97	31	—	8.21	2.55	5.11	0.40	24	3.08
5/5/2008	0.075	12.2	E0.10	4.53	4.63	36	—	9.44	3.00	5.32	0.39	23	2.94
5/14/2008	0.022	10.8	< 0.04	4.43	4.43	69	15	18.0	5.82	18.6	0.97	35	3.59
5/15/2008	0.020	10.6	< 0.04	11.1	11.1	54	12	14.1	4.59	12.9	0.76	33	3.14
5/15/2008	0.028	4.5	< 0.04	7.99	7.99	14	—	3.56	1.29	6.21	0.72	45	1.61
5/15/2008	0.032	7.2	0.16	4.08	4.24	14	—	3.62	1.27	6.45	0.74	46	1.64
5/15/2008	0.041	5.7	0.63	6.38	7.01	14	—	3.45	1.21	5.42	0.64	43	1.72
5/16/2008	0.035	5.8	< 0.04	5.04	5.04	16	—	4.23	1.44	6.27	0.67	42	1.77
5/16/2008	*0.106*	*10.0*	*< 0.04*	*5.67*	*5.67*	*28*	—	*7.42*	*2.34*	*5.21*	*0.43*	*26*	*3.03*
5/24/2008	*0.068*	*7.0*	*< 0.04*	*17.4*	*17.4*	*21*	—	*5.35*	*1.77*	*4.22*	*0.40*	*28*	*2.28*
5/28/2008	*0.052*	*6.9*	*E0.07*	*11.3*	*11.4*	*17*	—	*4.41*	*1.53*	*4.76*	*0.50*	*34*	*1.95*
7/15/2008	0.078	9.1	< 0.04	1.28	1.29	260	14	67.5	21.9	66.4	1.80	35	5.92
7/16/2008	0.079	7.8	< 0.04	0.56	0.57	310	12	80.5	25.4	72.5	1.81	34	5.70
7/22/2008	0.044	7.1	0.32	8.20	8.52	130	—	34.5	11.2	41.7	1.58	40	4.15
7/23/2008	0.047	9.5	< 0.04	3.76	3.76	110	—	28.9	9.48	38.5	1.59	42	4.64
8/7/2008	*0.087*	—	*< 0.04*	*0.92*	*0.92*	*150*	—	*36.2*	*15.0*	*59.6*	*2.10*	*45*	*4.59*
8/19/2008	0.065	6.1	< 0.04	3.96	3.96	86	—	22.3	7.39	35.6	1.67	46	5.05
8/20/2008	*0.142*	*6.9*	*< 0.04*	*5.12*	*5.12*	*18*	—	*4.62*	*1.62*	*8.16*	*0.83*	*45*	*2.88*
9/2/2008	*0.103*	*10.1*	*< 0.04*	*6.43*	*6.43*	*30*	—	*7.75*	*2.66*	*12.2*	*0.96*	*44*	*3.05*
9/3/2008	*0.081*	*4.8*	*< 0.04*	*2.70*	*2.70*	*14*	—	*3.73*	*1.25*	*5.97*	*0.68*	*43*	*2.10*
9/4/2008	*0.093*	*4.7*	*< 0.04*	*0.85*	*0.85*	*19*	—	*4.83*	*1.60*	*5.02*	*0.51*	*33*	*2.55*
9/22/2008	*0.165*	*9.6*	*E0.03*	*1.20*	*1.24*	*54*	—	*13.2*	*5.20*	*9.07*	*0.54*	*26*	*1.09*

Table 5. Surface-water-data results from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Chloride, water, filtered, mg/L	Sulfate, water, filtered, mg/L	Fluoride, water, filtered, mg/L	Silica, water, filtered, mg/L as SiO_2	Iron, water, filtered, µg/L	Manganese, water, filtered, µg/L	Alkalinity, water, filtered, fixed end-point (pH 4.5) titration, laboratory, mg/L as calcium carbonate	Particulate nitrogen, suspended in water, mg/L	Absorbance, UV, 254 nm, 1-centimeter path length, water, filtered, units per centimeter	Amino-methyl-phosphonic acid, water, filtered, recoverable, µg/L	Glufosinate, water, filtered, recoverable, µg/L	Glyphosate, water, filtered, recoverable, µg/L	Total nitrogen (nitrate + nitrite + ammonia + organic-N), water, unfiltered, analytically determined, mg/L
4/1/2008	*2.44*	*7.64*	*0.26*	*6.62*	*26*	*0.5*	*22*	*1.19*	*0.199*	*2.5*	*< 0.02*	*2.3*	*2.43*
4/1/2008	2.44	7.64	0.26	6.62	26	0.5	22	1.19	—	—	—	—	2.43
4/4/2008	4.95	13.8	0.16	7.24	50	0.6	22	2.48	0.188	0.27	< 0.02	0.34	3.28
4/4/2008	1.97	5.30	0.15	4.49	119	1.7	15	0.93	0.165	1.5	< 0.02	0.72	1.21
4/5/2008	1.57	4.12	0.15	4.32	61	0.6	17	0.60	0.099	1.8	< 0.02	1.5	0.97
4/5/2008	1.58	4.76	0.18	5.20	95	0.8	21	1.12	0.139	2.0	< 0.02	1.2	1.14
4/5/2008	*1.33*	*4.19*	*0.19*	*5.22*	*61*	*2.0*	*24*	*0.83*	*0.090*	*1.9*	*< 0.02*	*0.87*	*1.22*
4/26/2008	*2.68*	*8.51*	*0.22*	*7.44*	*16*	*0.6*	*23*	*2.62*	*0.201*	*1.7*	*< 0.02*	*0.58*	*4.79*
4/26/2008	*3.03*	*11.3*	*0.17*	*9.53*	*21*	*0.9*	*22*	*1.46*	*0.218*	*1.3*	*< 0.02*	*0.57*	*5.46*
5/2/2008	3.55	12.7	0.27	7.20	42	0.8	30	1.69	0.185	1.1	< 0.02	0.20	3.85
5/3/2008	1.47	5.18	0.35	7.03	121	0.9	17	1.26	0.177	2.0	< 0.02	0.54	1.92
5/4/2008	1.98	5.75	0.26	7.41	96	0.9	32	0.74	0.331	1.1	< 0.02	0.46	1.91
5/4/2008	2.08	6.12	0.27	8.31	139	5.4	39	0.59	0.365	1.3	< 0.02	0.51	1.66
5/5/2008	2.09	6.22	0.24	8.70	151	22.8	45	0.71	0.366	1.6	< 0.02	0.56	1.60
5/14/2008	9.14	28.0	0.25	8.36	20	38.6	54	0.80	0.247	2.0	< 0.02	0.29	6.58
5/15/2008	5.03	21.0	0.22	9.20	13	6.8	42	1.77	0.250	1.4	< 0.02	0.22	4.57
5/15/2008	1.60	6.88	0.16	5.50	18	E0.3	17	1.14	0.110	1.2	< 0.02	0.34	2.08
5/15/2008	1.53	6.35	0.12	6.10	46	E0.3	20	0.68	0.123	1.5	< 0.02	0.40	2.04
5/15/2008	1.16	5.00	0.15	6.78	55	0.7	20	1.09	0.147	1.7	< 0.02	0.42	1.71
5/16/2008	1.36	6.22	0.15	7.39	31	0.5	23	0.76	0.149	1.5	< 0.02	0.34	1.15
5/16/2008	*1.57*	*5.81*	*0.17*	*8.73*	*64*	*1.3*	*34*	*0.77*	*0.307*	*1.2*	*< 0.02*	*0.43*	*1.63*
5/24/2008	*1.03*	*4.05*	*0.24*	*7.28*	*45*	*11.4*	*27*	*2.49*	*0.216*	*0.91*	*< 0.02*	*0.22*	*2.78*
5/28/2008	*1.05*	*5.14*	*0.19*	*6.93*	*13*	*0.8*	*22*	*1.49*	*0.204*	*0.98*	*< 0.02*	*0.15*	*1.93*
7/15/2008	24.5	133	0.46	13.8	9	0.7	245	0.22	0.213	3.8	< 0.02	2.2	2.83
7/16/2008	33.0	129	0.40	18.9	E6	0.8	294	0.08	0.184	4.6	< 0.02	4.9	0.82
7/22/2008	22.2	54.9	0.32	11.0	E6	18.8	138	1.44	0.150	8.0	< 0.02	35	3.57
7/23/2008	20.1	44.3	0.38	12.1	18	5.6	117	0.84	0.209	9.7	< 0.02	38	3.45
8/7/2008	*23.6*	*49.3*	*0.59*	*10.6*	*12*	*0.6*	*215*	*0.09*	—	*3.1*	*< 0.02*	*1.4*	*0.93*
8/19/2008	26.9	11.4	0.26	16.6	14	E0.3	123	0.63	0.185	—	—	—	1.43
8/20/2008	*1.60*	*3.92*	*0.24*	*8.19*	*62*	*0.5*	*32*	*0.97*	*0.217*	—	—	—	*1.47*
9/2/2008	*2.79*	*8.71*	*0.22*	*12.5*	*35*	*0.6*	*41*	*1.21*	*0.352*	*4.8*	*< 0.02*	*4.3*	*3.35*
9/3/2008	*0.91*	*2.12*	*0.19*	*6.06*	*57*	*0.7*	*28*	*0.35*	*0.146*	*3.8*	*< 0.02*	*2.3*	*0.67*
9/4/2008	*0.67*	*1.65*	*0.18*	*6.61*	*60*	*0.5*	*31*	*0.11*	*0.143*	*2.8*	*< 0.02*	*2.0*	*0.54*
9/22/2008	*1.20*	*2.07*	*0.28*	*6.01*	*518*	*16.7*	*69*	*0.14*	*0.293*	*7.4*	*< 0.02*	*1.8*	*0.95*

Table 5. Surface-water-quality data from samples collected at station 333150090530400, an unnamed tributary to Clear Creek near Napanee, MS.—Continued

[mg/L, milligram per liter; SiO_2, silica dioxide; µg/L, microgram per liter; UV, ultraviolet; nm, nanometer; NH_4, ammonium; —, no data; italic font indicates composite sample; see fig. 1 for location]

Date	Specific UV absorbance, 254 nm, water, filtered	Turbidity, water, unfiltered, in Nephelometric Turbidity Units	Dissolved solids dried at 180 degrees Celsius, water, filtered, mg/L	Dissolved solids, water, filtered, sum of constituents, mg/L	Dissolved solids, water, filtered, tons per day	Dissolved solids, water, filtered, tons per acre-foot	Ammonia, water, filtered, mg/L as NH_4	Nitrate, water, filtered, mg/L	Nitrite, water, filtered, mg/L	Suspended sediment concentration, mg/L	Suspended sediment discharge, tons per day	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius	Ratio of particulate nitrogen to particulate organic carbon, number
4/1/2008	*2.7*	*780*	*71*	*51*	—	*0.10*	*0.039*	*4.39*	*0.104*	—	—	*83*	*0.151*
4/1/2008	—	> 1,000	71	51	5.95	0.10	0.039	4.39	0.104	487	41	83	0.151
4/4/2008	2.6	> 1,000	65	61	0.88	0.09	0.096	2.28	0.041	1,800	24	101	0.137
4/4/2008	2.8	830	36	31	5.00	0.05	0.050	0.736	0.022	503	69	52	0.134
4/5/2008	2.3	510	36	31	4.88	0.05	0.044	0.556	0.018	343	46	50	0.138
4/5/2008	1.9	540	32	36	3.38	0.04	0.036	0.521	0.017	384	40	58	0.141
4/5/2008	*2.5*	*460*	*43*	*39*	—	*0.06*	*0.085*	*0.571*	*0.023*	*347*	—	*63*	*0.169*
4/26/2008	*2.5*	*> 1,000*	*79*	*66*	—	*0.11*	*0.092*	*13.4*	*0.326*	*1,190*	—	*102*	*0.178*
4/26/2008	*2.3*	*86*	*93*	*75*	—	*0.13*	*0.088*	*15.5*	*0.440*	*714*	—	*113*	*0.175*
5/2/2008	2.5	> 1,000	88	70	0.09	0.12	0.073	6.31	0.067	3,340	3.5	115	0.121
5/3/2008	3.0	> 1,000	40	37	2.47	0.05	0.085	2.17	0.084	578	36	57	0.164
5/4/2008	3.0	310	76	53	E1.13	0.10	0.166	1.54	0.106	325	E4.8	88	0.137
5/4/2008	3.1	310	89	61	E0.31	0.12	0.189	0.510	0.055	267	E0.94	101	0.149
5/5/2008	3.0	250	87	66	0.10	0.12	0.121	0.358	0.043	195	0.23	110	0.158
5/14/2008	2.3	350	161	146	0.30	0.22	0.063	21.8	0.132	309	0.58	245	0.181
5/15/2008	2.4	> 1,000	117	111	0.32	0.16	0.122	15.1	0.160	938	2.5	179	0.159
5/15/2008	2.4	> 1,000	56	E43	6.23	0.08	0.065	5.08	0.051	580	64	66	0.142
5/15/2008	1.7	790	53	E44	5.55	0.07	0.072	4.33	0.052	418	44	68	0.167
5/15/2008	2.6	610	43	40	3.37	0.06	0.079	3.10	0.057	351	27	64	0.171
5/16/2008	2.6	600	61	45	—	0.08	0.069	2.72	0.050	337	—	69	0.151
5/16/2008	*3.1*	*260*	*74*	*57*	—	*0.10*	*0.269*	*1.24*	*0.074*	*199*	—	*92*	*0.135*
5/24/2008	*3.1*	*> 1,000*	*47*	*46*	—	*0.06*	*0.179*	*2.83*	*0.119*	*5,060*	—	*73*	*0.143*
5/28/2008	*3.0*	*> 1,000*	*54*	*41*	—	*0.07*	*0.077*	*1.69*	*0.049*	*784*	—	*63*	*0.132*
7/15/2008	2.3	16	504	488	1.22	0.69	0.267	7.03	0.231	193	0.47	783	0.173
7/16/2008	2.4	5.0	554	E543	8.38	0.75	0.081	1.32	0.055	106	1.6	857	0.147
7/22/2008	2.1	> 1,000	301	E271	1.54	0.41	E0.019	8.07	0.145	735	3.8	464	0.176
7/23/2008	2.2	260	267	239	13.0	0.36	—	10.1	0.322	243	12	410	0.222
8/7/2008	—	*6.0*	*356*	*E329*	—	*0.48*	*0.167*	*E0.065*	*0.024*	*297*	—	*569*	*0.101*
8/19/2008	3.1	540	208	E201	5.17	0.28	E0.022	2.03	0.027	386	9.6	349	0.159
8/20/2008	*3.2*	*460*	*63*	*53*	—	*0.09*	*0.027*	*1.54*	*0.021*	—	—	*E82*	*0.190*
9/2/2008	*3.5*	*320*	*99*	*83*	—	*0.14*	*0.097*	*7.83*	*0.060*	*403*	—	*127*	*0.187*
9/3/2008	*3.0*	*87*	*43*	*40*	—	*0.06*	*0.057*	*0.387*	*0.021*	*151*	—	*E62*	*0.130*
9/4/2008	*3.0*	*20*	*48*	*E42*	—	*0.07*	*0.129*	*E0.084*	*0.010*	*115*	—	*E66*	*0.128*
9/22/2008	*3.1*	*10*	*114*	*81*	—	*0.15*	*0.057*	*<0.163*	*0.010*	*99*	—	*143*	*0.114*

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB1	
3/15/2007	NA	2 pt. Glyphosate (generic)
4/7/2007	Plant	NA
4/20/2007	NA	2 pt. Glyphosate (generic)
5/25/2007	NA	2 pt. Glyphosate (generic)
6/18/2007	NA	2 pt. Glyphosate (generic)
7/2 – 7/5/2007	Irrigate (MRVA)	NA
8/10/2007	NA	1:80 Cyhalothrin, .3 oz. Dimilin, .4 oz. Azoxystrobin
11/16/2007	Harvest	NA
	TB2	
3/15/2007	NA	2 pt. Glyphosate (generic)
4/13/2007	Plant,	1:7 Clomazone
5/11/2007	NA	100# Ammonium sulfate, .3 oz. Bispyribac-sodium, .5 pt. Triclopyr, Permit .5 oz.
5/12/2007	START FLOOD	115# 41.0.0.4;
5/20/2007	NA	115# 41.0.0.4
6/5/2007	NA	Dimilin 2 oz.
6/9/2007	NA	115# 41.0.0.4
6/27/2007	NA	1:16 Blazer
7/7/2007	NA	.14 oz. Stratego
7/19/2007	NA	1:80 Cyhalothrin
8/23 – 8/28/2007	Drain fields	NA
9/7 – 9/12/2007	Harvest	NA
	TB3	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/2/2007	Plant	1:6 Clomazone
4/21/2007	NA	4# Propanil; 13 oz. Permit
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea;
5/28/2007	NA	75# urea
6/16/2007	NA	4 oz. Azoxystrobin; 1:8 Prithrine
6/21/2007	NA	1.5 pt. 2,4-dichlorophenoxy acetic acid; 150# urea
7/26/2007	Drain fields	NA
8/25 – 8/30/2007	Harvest; disk	NA
	TB4	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/2/2007	Plant	1:6 Clomazone
4/21/2007	NA	4# Propanil; 13 oz. Permit
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea;
5/28/2007	NA	75# urea
6/16/2007	NA	4 oz. Azoxystrobin; 1:8 Prithrine
6/21/2007	NA	1.5 pt. 2,4-dichlorophenoxy acetic acid; 150# urea
7/26/2007	Drain fields	NA
8/25 – 8/30/2007	Harvest; disk	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB5	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/2/2007	Plant	1:6 Clomazone
4/21/2007	NA	4# Propanil; 13o z. Permit
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea;
5/28/2007	NA	75# urea
6/16/2007	NA	4 oz. Azoxystrobin; 1:8 Prithrine
6/21/2007	NA	1.5 pt. 2,4-dichlorophenoxy acetic acid; 150# urea
7/26/2007	Drain fields	NA
8/25 – 8/30/2007	Harvest; disk	NA
	TB6	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/2/2007	Plant	1:6 Clomazone
4/21/2007	NA	4# Propanil; 13 oz. Permit
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea;
5/28/2007	NA	75# urea
6/16/2007	NA	4 oz. Azoxystrobin; 1:8 Prithrine
6/21/2007	NA	1.5 pt. 2,4-dichlorophenoxy acetic acid; 150# urea
7/26/2007	Drain fields	NA
8/25 – 8/30/2007	Harvest; disk	NA
	TB7	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/3/2007	Plant	1:6 Clomazone
4/7 – 4/9/2007	Flushed (watered)	NA
5/1/2007	NA	100# Ammonium sulfate
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea
6/21/2007	NA	150# urea; 1.5 pt. 2,4-dichlorophenoxy acetic acid
7/26/2007	Drain	NA
8/25 – 8/30/2007	Harvest, disk	NA
	TB8	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/3/2007	Plant	1:6 Clomazone
4/7 – 4/9/2007	Flushed (watered)	NA
5/1/2007	NA	100# Ammonium sulfate
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea
6/21/2007	NA	150# urea; 1.5 pt. 2,4-dichlorophenoxy acetic acid
7/26/2007	Drain	NA
8/25 – 8/30/2007	Harvest, disk	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB9	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/3/2007	Plant	1:6 Clomazone
4/7 – 4/9/2007	Flushed (watered)	NA
5/1/2007	NA	100# Ammonium sulfate
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea
6/21/2007	NA	150# urea; 1.5 pt. 2,4-dichlorophenoxy acetic acid
7/26/2007	Drain	NA
8/25 – 8/30/2007	Harvest, disk	NA
	TB10	
3/2/2007	NA	1.5 pt. Glyphosate (generic)
4/3/2007	Plant	1:6 Clomazone
4/7 – 4/9/2007	Flushed (watered)	NA
NA	NA	100# Ammonium sulfate
5/1/2007	NA	250# urea
5/18/2007	START FLOOD	100# urea
6/21/2007	NA	150# urea; 1.5 pt. 2,4-dichlorophenoxy acetic acid
7/26/2007	Drain	NA
8/25 – 8/30/2007	Harvest, disk	NA
	TB11	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/9/2007	Plant	NA
4/12/2007	NA	2 pt. Glyphosate (generic); 1:8 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/18/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit;
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin; 1:80 Cyhalothrin
9/6 – 9/11/2007	Drain fields	NA
9/20 – 9/21/2007	Harvest	NA
	TB12	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/9/2007	Plant	NA
4/12/2007	NA	2 pt. Glyphosate (generic); 1:8 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/18/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit;
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin; 1:80 Cyhalothrin
9/6 – 9/11/2007	Drain fields	NA
9/20 – 9/21/2007	Harvest	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB13	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/6 – 4/8/2007	Plant	2 pt. Glyphosate (generic); 1:7 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/19/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit;
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin
8/8/2007	NA	1:8 Cyhalothrin
8/20 – 8/23/2007	Drain fields	NA
9/3/2007	Harvest	NA
	TB14	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/6 – 4/8/2007	Plant	2 pt. Glyphosate (generic); 1:7 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/19/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin
8/8/2007	NA	1:8 Cyhalothrin
8/20 – 8/23/2007	Drain fields	NA
9/3/2007	Harvest	NA
	TB15	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/6 – 4/8/2007	Plant	2 pt. Glyphosate (generic); 1:7 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/19/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin
8/8/2007	NA	1:8 Cyhalothrin
8/20 – 8/23/2007	Drain fields	NA
9/3/2007	Harvest	NA
	TB16	
2/5 – 2/7/2007	NA	2 pt. Glyphosate (generic)
4/6 – 4/8/2007	Plant	2 pt. Glyphosate (generic); 1:7 Clomazone
5/17/2007	NA	250# 41.0.0.4
5/19/2007	START FLOOD	.3# Quinclorac; 4# Propanil; .66 oz. Permit
5/29/2007	NA	100# 41.0.0.4
6/8/2007	NA	100# 41.0.0.4
7/6/2007	NA	4 oz. Azoxystrobin
8/8/2007	NA	1:8 Cyhalothrin
8/20 – 8/23/2007	Drain fields	NA
9/3/2007	Harvest	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB17	
2/5/ – 2/7/2007	NA	2 pt. Glyphosate (generic)
3/25/2007	Plant	NA
5/1/2007	NA	2 pt. Glyphosate (generic)
5/20/2007	NA	2 pt. Glyphosate (generic)
10/15/2007	Harvest	NA
10/20/2007	Disk	NA
	TB18	
5/21/2007	Plant	NA
5/8/2007	NA	3 pt. Glyphosate (generic)
7/28/2007	NA	3 pt. Glyphosate (generic)
8/13 – 8/15/2007	Irrigated (MRVA)	NA
9/25/2007	Harvest	NA
	TB19	
2/22/2007	NA	2 pt. Glyphosate (generic)
4/27/2007	Plant	NA
6/5/2007	NA	3 pt. Glyphosate (generic)
7/28/2007	NA	3 pt. Glyphosate (generic)
7/29/2007	NA	1:80 Cyhalothrin, 2 oz. Dimilin, 4 oz. Azoxystrobin
8/13 – 8/15/2007	Irrigated (MRVA)	NA
8/15/2007	NA	1:80 Cyhalothrin
10/31 – 11/1/2007	Harvest	NA
	TB20	
2/22/2007	NA	2 pt. Glyphosate (generic)
4/27/2007	Plant	NA
6/5/2007	NA	3 pt. Glyphosate (generic)
7/28/2007	NA	3 pt. Glyphosate (generic)
7/29/2007	NA	1:80 Cyhalothrin, 2 oz. Dimilin, 4 oz. Azoxystrobin
8/13 – 8/15/2007	Irrigated (MRVA)	NA
8/15/2007	NA	1:80 Cyhalothrin
10/31 – 11/1/2007	Harvest	NA
	TB21	
4/21/2007	Plant	NA
5/2/2007	NA	3 pt. Glyphosate (generic)
8/20 – 8/22/2007	Irrigate	NA
9/1 – 9/2/2007	Harvest	NA
	TB22	
2/28/2007	NA	1.5 pt. Glyphosate (generic); 2 pt. 2,4-dichlorophenoxy acetic acid
5/21/2007	Plant	NA
5/30/2007	NA	3 pt. Glyphosate (generic)
6/21 – 6/22/2007	NA	2 pt. Glyphosate (generic)
8/24/2007	NA	3 oz. Intrepid; .6 oz. Acceplate
9/25 – 9/26/2007	Harvest	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB23	
4/20/2007	Plant	1 qt. Glyphosate (generic), 1:7 Clomazone
5/2/2007	NA	100# Ammonium sulfate
5/16/2007	START FLOOD	.4# Quinclorac, 3# Propanil; 250# 41.0.0.4
6/16/2007	NA	100# 41.0.0.4
7/5/2007	NA	1 qt. 2,4-dichlorophenoxy acetic acid on levee; 100# urea on fields
8/16/2007	Drain rice	NA
8/25 – 8/28/2007	Harvest	NA
	TB24	
2/28/2007	NA	1.5 pt. Glyphosate (generic); 2 pt. 2,4-dichlorophenoxy acetic acid
5/21/2007	Plant	NA
5/30/2007	NA	3 pt. Glyphosate (generic)
6/21 – 6/22/2007	NA	2 pt. Glyphosate (generic)
8/24/2007	NA	3 oz. Intrepid; .6 oz. Acceplate
9/25 – 9/26/2007	Harvest	NA
	TB25	
4/20/2007	Plant	1 qt. Glyphosate (generic), 1:7 Clomazone
5/2/2007	NA	100# Ammonium sulfate
5/16/2007	START FLOOD	.4# Quinclorac, 3# Propanil; 250# 41.0.0.4
6/16/2007	NA	100# 41.0.0.4
7/5/2007	NA	1 qt. 2,4-dichlorophenoxy acetic acid on levee; 100# urea on fields
8/16/2007	Drain rice	NA
8/25 – 8/28/2007	Harvest	NA
	TB26	
2/28/2007	NA	1.5 pt. Glyphosate (generic); 2 pt. 2,4-dichlorophenoxy acetic acid
5/21/2007	Plant	NA
5/30/2007	NA	3 pt. Glyphosate (generic)
6/21 – 6/22/2007	NA	2 pt. Glyphosate (generic)
8/24/2007	NA	3 oz. Intrepid; .6 oz. Acceplate
9/25 – 9/26/2007	Harvest	NA
	TB27	
4/20/2007	Plant	1 qt. Glyphosate (generic), 1:7 Clomazone
5/2/2007	NA	100# Ammonium sulfate
5/16/2007	START FLOOD	.4# Quinclorac, 3# Propanil; 250# 41.0.0.4
6/16/2007	NA	100# 41.0.0.4
7/5/2007	NA	1 qt. 2,4-dichlorophenoxy acetic acid on levee; 100# urea on fields
8/16/2007	Drain rice	NA
8/25 – 8/28/2007	Harvest	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB28	
2/9/2007	NA	Using an airplane applied 1.5. pt. Glyphosate (generic)
4/12 – 4/13/2007	Plant	1:6.5 Clomazone; 2 pt. Glyphosate (generic)
5/4/2007	NA	1 oz. Carfentrazone-ethyl; .4# Quinclorac
5/14/2007	NA	250# 41.0.0.4
5/15/2007	Began irrigating	NA
5/29/2007	NA	#100 41.0.0.4
6/8/2007	NA	#100 41.0.0.4
6/8 – 6/15/2007	NA	Spray levees 2,4-dichlorophenoxy acetic acid
7/6/2007	NA	4 oz. Azoxystrobin (fungicide)
8/8/2007	NA	1:60 Maliathion (insecticide-stick bugs)
8/24 – 8/28/2007	Drained fields	NA
9/10 – 9/12/2007	Harvest and disk twice	NA
	TB29	
2/9/2007	NA	Using an airplane: 1.5 pt. Glyphosate (generic)
4/18/2007	Plant	NA
5/1/2007	NA	3 pt. Glyphosate (generic); 1:30 Blazer
5/22/2007	NA	3 pt. Glyphosate (generic); 1:30 Blazer
7/28/2007	NA	4 oz. Pyraclostrobin; 2 oz. Dimilin; 1:80 Priritirin
9/8 – 9/10/2007	Harvest, disk	NA
	TB30	
2/9/2007	NA	Using an airplane: 1.5 pt. Glyphosate (generic)
3/26/2007	Plant	NA
4/15/2007	NA	2 pt. Glyphosate (generic)
5/2/2007	NA	2 pt. Glyphosate (generic)
7/28/2007	NA	1:80 Cyhalothrin; 2 oz. Dimilin; 4 oz. Pyraclostrobin (fungicide)
9/23/2007	Harvest	NA
9/30/2007	Disk	NA
10/10/2007	Harrow	NA
	TB31	
2/9/2007	NA	Using an airplane: 1.5 pt. Glyphosate (generic)
3/26/2007	Plant	NA
4/15/2007	NA	2 pt. Glyphosate (generic)
5/2/2007	NA	2 pt. Glyphosate (generic)
7/28/2007	NA	1:80 Cyhalothrin; 2 oz. Dimilin; 4 oz. Pyraclostrobin (fungicide)
9/23/2007	Harvest	NA
9/30/2007	Disk	NA
10/10/2007	Harrow	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB32	
2/9/2007	NA	Using an airplane: 1.5 pt. Glyphosate (generic)
4/12 – 4/13/2007	Plant	1:6.5 Clomazone; 2 pt. Glyphosate (generic)
5/4/2007	NA	4# Propanil; .66 pt. Triclopyr; .3# Quinclorac
5/14/2007	NA	250# 41.0.0.4
5/15/2007	Began irrigating	NA
5/29/2007	NA	#100 41.0.0.4
6/8/2007	NA	#100 41.0.0.4
6/8 – 6/15/2007	NA	Spray levees 2,4-dichlorophenoxy acetic acid
7/6/2007	NA	4 oz. Azoxystrobin (fungicide)
8/8/2007	NA	1:60 Maliathion (insecticide-stick bugs)
8/24 – 8/28/2007	Drained fields	NA
9/10 – 9/12/2007	Harvest and disk twice	NA
	TB33	
4/18/2007	Plant	NA
5/10/2007	NA	3 pt. Glyphosate (generic)
6/20/2007	NA	3 pt. Glyphosate (generic)
7/28/2007	NA	1:75 Cyhalothrin; irrigated (MRVA)
8/10/2007	NA	1:75 Cyhalothrin
10/15/2007	Harvest	NA
10/16 – 10/18/2007	Disk, land plane	NA
	TB34	
4/18/2007	Plant	NA
5/10/2007	NA	3 pt. Glyphosate (generic)
6/20/2007	NA	3 pt. Glyphosate (generic)
7/28/2007	NA	1:75 Cyhalothrin; irrigated (MRVA)
8/10/2007	NA	1:75 Cyhalothrin
10/15/2007	Harvest	NA
10/16 – 10/18/2007	Disk, land plane	NA
	TB35	
4/20/2007	Plant	.5 pt. Triclopyr, .5 oz. Permit
5/8/2007	NA	100# Ammonium sulfate
5/16/2007	START FLOOD	115# 41.0.0.4
6/5/2007	NA	115# 41.0.0.4
6/15/2007	NA	100# 41.0.0.4
6/18/2007	NA	.4 oz. Azoxystrobin, 1:71 Cyhalothrin
8/24 – 8/28/2007	Drained fields	NA
9/8/2007	Harvest	NA
9/11 – 9/12/2007	Disk and smooth	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB36	
2/8/2007	NA	100# Ammonium sulfate (fertilizer)
2/19/2007	NA	125# 41.0.0.4 (fertilizer)
2/22/2007	NA	.6 oz. Thifensulfuron methyl
5/29/2007	Harvest	NA
All year	Left fallow	NA
	TB37	
3/5/2007	NA	1 pt. 2,4-dichlorophenoxy acetic acid; 1 qt. Glyphosate (generic)
4/19/2007	Planted	NA
4/15/2007	NA	2 pt. Glyphosate (generic)
5/8/2007	NA	2 pt. Glyphosate (generic)
8/20 – 8/22/2007	Harvest	NA
	TB38	
1/10/2007	NA	Using an airplane applied: 1.5 pt. Glyphosate (generic)
4/19 – 4/23/2007	Plant	NA
4/30/2007	NA	2 pt. Glyphosate (generic)
7/1/2007	NA	2 pt. Glyphosate (generic)
7/21/2007	NA	4 oz. Pyraclostrobin; 2 oz. Dimilin; 1:80 Cyhalothrin
8/12 – 8/13/2007	Harvest	NA
	TB39	
1/10/2007	NA	Using an airplane applied: 1.5 pt. Glyphosate (generic)
4/19 – 4/23/2007	Plant	NA
4/30/2007	NA	2 pt. Glyphosate (generic)
7/1/2007	NA	2 pt. Glyphosate (generic)
7/21/2007	NA	4 oz. Pyraclostrobin; 2 oz. Dimilin; 1:80 Cyhalothrin
10/7 – 10/8/2007	Harvest	NA
	TB40	
3/4/2007	Field cultivate	NA
3/12/2007	Harrow	NA
4/14/2007	Field cultivate	NA
4/22/2007	Harrow	NA
5/10 – 5/15/2007	Plant	NA
5/30/2007	NA	2 pt. Glyphosate (generic)
6/8/2007	NA	2 pt. Glyphosate (generic)
6/11/2007	NA	.4 oz. Azoxystrobin; EDTA, copper complex insecticide 1:70
7/2 – 7/5/2007	Irrigated (MRVA)	NA
10/15 – 10/17/2007	Harvest	NA

Table 6. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2007.—Continued

[NA, no treatment; pt., pint; MRVA, Mississippi River valley aquifer; oz., ounce; #, pound; qt., quart; GPM, gallon per minute; hrs., hours; see fig. 5 for locations]

Date	Physical treatment	Chemical treatment
	TB41	
3/16/2007	NA	1.5 pt. Glyphosate (generic)
4/6/2007	Planted	NA
4/30/2007	NA	1 qt. Pendimethalin; 4 oz. Imazethapyr; 1 pt. Crop oil (soy)
5/14/2007	2,500 GPM pump runs 12 hrs. twice weekly	.5# Quinclorac and Imazethapyr; 125# urea;
5/25/2007	NA	125# urea
6/8/2007	NA	100# urea
6/22/2007	NA	100# urea
8/6/2007	Pump off, drain fields	NA
9/22/2007	Harvest	NA
10/?/2007	Disk twice	NA
	TB42	
3/16/2007	NA	1.5 pt. Glyphosate (generic)
4/6/2007	Planted	NA
4/30/2007	NA	1 qt. Pendimethalin; 4 oz. Imazethapyr; 1 pt. Crop oil (soy)
5/14/2007	Pump on, 2,500 GPM pump runs 12 hrs. twice weekly	.5# Quinclorac and Imazethapyr; 125# urea
5/25/2007	NA	125# urea
6/8/2007	NA	100# urea
6/22/2007	NA	100# urea
8/6/2007	Pump off, drain fields	NA
9/22/2007	Harvest	NA
10/?/2007	Disk twice	NA
	TB43	
3/16/2007	NA	1.5 pt. Glyphosate (generic)
4/6/2007	Planted	NA
4/30/2007	NA	1 qt. Pendimethalin; 4 oz. Imazethapyr; 1 pt. Crop oil (soy)
5/14/2007	Pump on	NA
5/25/2007	NA	125# urea
6/8/2007	NA	100# urea
6/22/2007	NA	100# urea
8/6/2007	Pump off, drain fields	NA
9/22/2007	Harvest	NA
10/?/2007	Disk twice	NA
	TB44	
Did not participate		
	TB45	
Did not participate		

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB1	
3/15/2008	NA	(Burndown) 1 qt. Glyphosate (generic)
3/20/2008	Field cultivated twice, harrowed and smoothed	NA
4/22 – 4/24/2008	Field cultivated	NA
5/1/2008	Plant	Clomazone 1:7
5/8/2008	NA	1 qt. Glyphosate (generic) before emergence; Cyhalofop (grass herbicide) 12 oz/acre
5/17/2008	NA	100# Ammonium sulfate
5/27/2008	START FLOOD	125# 41.0.0.4
6/6/2008	NA	100# 41.0.0.4
6/15/2008	NA	100# 41.0.0.4
6/25/2008	NA	100# 41.0.0.4
7/8/2008	NA	14 oz. Strego (fungicide); Blazer 1:20; Cyhalothrin 1:70 (stick bugs)
9/22 – 9/26/2008	Drain field	NA
10/6 – 10/10/2008	Harvest; disk twice, harrow	NA
	TB2	
3/15/2008	NA	(Burndown) 1 qt. Glyphosate (generic)
3/20/2008	Field cultivated twice, harrowed and smoothed	NA
6/15/2008	Plant; Irrigate same week (MRVA)	NA
7/10/2008	NA	2 pt. Glyphosate (generic); 1:70 Cyhalothrin
10/21 – 10/22/2008	Harvest	NA
11/3 – 11/5/2008	Disk and harrow	NA
	TB3	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/10/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/7/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/15/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
9/15/2008	Harvest, disk, and smooth	NA
	TB4	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB5	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA
	TB6	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA
	TB7	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA
	TB8	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA
	TB9	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/15 – 4/16/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/8/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/18/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
10/5/2008	Harvest, disk, and smooth	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB10	
3/17/2008	NA	1 qt. Glyphosate (generic); 2 oz. Flumioxazin (herbicide)
4/10/2008	Plant	NA
5/10/2008	NA	1 qt. Glyphosate (generic)
6/7/2008	NA	1 qt. Glyphosate (generic); Blazer 1:16
7/15/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
7/15 – 7/20/2008	Irrigate (MRVA)	NA
9/15/2008	Harvest, disk, and smooth	NA
	TB11	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA
	TB12	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA
	TB13	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA
	TB14	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA
	TB15	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA
	TB16	
2/25/2008	NA	2 qt. Glyphosate (generic)
5/19 – 5/22/2008	Plant	1 qt. Glyphosate (generic)
6/15/2008	NA	1 qt. Glyphosate (generic)
7/10/2008	NA	Dimilin 2 oz.; Quandurs 4 oz.
7/15 – 7/21/2008	Harvest; disk and smooth	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB17	
4/22/2008	Plant	NA
4/23/2008	NA	1 qt. Glyphosate (generic); 1 pt. Clomazone
5/6/2008	NA	100# Ammonium sulfate
5/13/2008	START FLOOD	0.66# Quinclorac; Carfentrazone-ethyl 0.66 oz.; 1 qt. Crop oil;
5/25/2008	NA	Urea 200#
6/5/2008	NA	Urea 100#
6/15/2008	NA	Urea 100#
7/18/2008	NA	Azoxystrobin 4 oz. (fungicide)
9/8 – 9/12/2008	Drain field	NA
9/20 – 9/24/2008	Harvest; disk twice and harrow	NA
	TB18	
3/25/2008	NA	2 pt. Glyphosate (generic)
4/11/2008	Planted	NA
5/31/2008	NA	30 oz. Glyphosate (Roundup UltraMAX); 3 oz. First Rate; 10 GPA
6/15/2008	Irrigate (MRVA)	NA
9/2/2008	Harvest; no till; ready for planting	NA
	TB19	
3/25/2008	NA	2 pt. Glyphosate (generic)
4/10/2008	Plant	Clomazone 1:7
5/23/2008	NA	100# Ammonium sulfate
5/30/2008	START FLOOD	100# urea
6/7/2008	NA	100# urea
6/17/2008	NA	100# urea
7/11/2008	NA	Cyhalofop SF (herbicide) 12 oz; 1 qt. Crop oil
7/25/2008	NA	Cyhalothrin 1:80; Quadrius 4 oz.; Dimilin 2 oz.
9/8 – 9/12/2008	Drain field	NA
9/20 – 9/24/2008	Harvest; disk twice; harrow	NA
	TB20	
3/25/2008	NA	2 pt. Glyphosate (generic)
4/10/2008	Plant	Clomazone 1:7
5/23/2008	NA	100# Ammonium sulfate
5/30/2008	START FLOOD	100# urea
6/7/2008	NA	100# urea
6/17/2008	NA	100# urea
7/11/2008	NA	Cyhalofop SF (herbicide) 12 oz.; 1 qt. Crop oil
7/25/2008	NA	Cyhalothrin 1:80; Quadrius 4 oz.; Dimilin 2 oz.
9/8 – 9/12/2008	Drain field	NA
9/20 – 9/24/2008	Harvest; disk twice; harrow	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB21	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/7 – 4/11/2008	Plant	NA
5/3/2008	NA	1 qt. Glyphosate (generic); 1:6 Clomazone
5/10/2008	NA	Imazethapyr 4 oz.
5/20/2008	START FLOOD	Quinclorac and Imazethapyr .50#; 100# 41.0.0.4
5/25/2008	NA	Cyhalothrin 1:38
5/30/2008	NA	100# 41.0.0.4
6/9/2008	NA	100# 41.0.0.4
6/21/2008	NA	100# 41.0.0.4
7/5/2008	NA	Azoxystrobin 0.5 oz. (fungicide)
9/20/2008	Drain field	NA
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB22	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/10 – 4/15/2008	Plant	NA
5/10/2008	NA	3 pt. Glyphosate (generic); 1 qt. Fomesafen sodium
7/15 – 7/20/2008	Irrigate (MRVA)	NA
7/20/2008	NA	Intrepid 4 oz.; Brigade 1:30
7/22/2008	NA	Fomesafen sodium (pigweeds) 1.5 pt.
8/5/2008	NA	Quadrius 4 oz.
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB23	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/10 – 4/15/2008	Plant	NA
5/10/2008	NA	3 pt. Glyphosate (generic); 1 qt. Fomesafen sodium
7/15 – 7/20/2008	Irrigate (MRVA)	NA
7/20/2008	NA	Intrepid 4 oz.; Brigade 1:30
7/22/2008	NA	Fomesafen sodium (pigweeds) 1.5 pt.
8/5/2008	NA	Quadrius 4 oz.
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB24	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/7 – 4/11/2008	Plant	NA
5/3/2008	NA	1 qt. Glyphosate (generic); 1:6 Clomazone
5/10/2008	NA	Imazethapyr 4oz.
5/20/2008	START FLOOD	Quinclorac and Imazethapyr .50#; 100# 41.0.0.4
5/25/2008	NA	Cyhalothrin 1:38
5/30/2008	NA	100# 41.0.0.4
6/9/2008	NA	100# 41.0.0.4
6/21/2008	NA	100# 41.0.0.4
7/5/2008	NA	Azoxystrobin 0.5 oz. (fungicide)
9/20/2008	Drain field	NA
10/5 – 10/10/2008	Harvest; disked, harrowed	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB25	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/10 – 4/15/2008	Plant	NA
5/10/2008	NA	3 pt. Glyphosate (generic); 1 qt. Fomesafen sodium
7/15 – 7/20/2008	Irrigate (MRVA)	NA
7/20/2008	NA	Intrepid 4 oz.; Brigade 1:30
7/22/2008	NA	Fomesafen sodium (pigweeds) 1.5 pt.
8/5/2008	NA	Quadrius 4 oz.
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB26	
3/3 – 3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/10 – 4/15/2008	Plant	NA
5/10/2008	NA	3 pt. Glyphosate (generic); 1 qt. Fomesafen sodium
7/15 – 7/20/2008	Irrigate (MRVA)	NA
7/20/2008	NA	Intrepid 4 oz.; Brigade 1:30
7/22/2008	NA	Fomesafen sodium (pigweeds) 1.5 pt.
8/5/2008	NA	Quadrius 4 oz.
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB27	
3/3-3/7/2008	NA	1.5 pt. Glyphosate (generic); 1 pt. 2,4-dichlorophenoxy acetic acid
4/10 – 4/15/2008	Plant	NA
5/10/2008	NA	3 pt. Glyphosate (generic); 1 qt. Fomesafen sodium
7/15 – 7/20/2008	Irrigate (MRVA)	NA
7/20/2008	NA	Intrepid 4 oz.; Brigade 1:30
7/22/2008	NA	Fomesafen sodium (pigweeds) 1.5 pt.
8/5/2008	NA	Quadrius 4 oz.
10/5 – 10/10/2008	Harvest; disked, harrowed	NA
	TB28	
3/10 – 3/12/2008	NA	(Burndown) 1.5 pt. Glyphosate (generic)
4/16/2008	Plant	NA
5/20/2008	NA	2 pt. Glyphosate (generic) on N. half
5/21/2008	NA	2 pt. Glyphosate (generic) sequence on S. half
6/23/2008	NA	Pyraclostrobin 4 oz. and Cyhalothrin 1:70
10/2 – 10/4/2008	Harvest	NA
	TB29	
3/10 – 3/12/2008	NA	(Burndown) 1.5 pt. Glyphosate (generic)
4/16/2008	Plant	NA
5/20/2008	NA	2 pt. Glyphosate (generic) on N. half
5/21/2008	NA	2 pt. Glyphosate (generic) sequence on S. half
6/23/2008	NA	Pyraclostrobin 4 oz. and Cyhalothrin 1:70
10/2 – 10/4/2008	Harvest	NA
10/4 – 10/6/2008	Disk twice and harrow	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB30	
3/10 – 3/12/2008	NA	(Burndown) 1.5 pt. Glyphosate (generic)
4/13/2008	Plant	Clomazone 1:7
5/19/2008	NA	Propanil 4#; Carfentrazone-ethyl 1 oz.
5/20/2008	START FLOOD	150# 41.0.0.4
5/31/2008	NA	100# 4.10.0.4
6/9/2008	NA	100# 4.10.0.4
6/8/2008	NA	Bispyribac-sodium 0.5 oz.; Quinclorac 0.5#; Zeta-cypermethrin 1:40; Dynapact 1%
9/15 – 9/19/2008	Drained Fields	NA
9/29 – 10/4/2008	Harvest	NA
1027 – 10/31/2008	Disk two or three times; landplane once; and harrow twice	NA
	TB31	
3/10 – 3/12/2008	NA	(Burndown) 1.5 pt. Glyphosate (generic)
4/13/2008	Plant	Clomazone 1:7
5/19/2008	NA	Propanil 4#; Carfentrazone-ethyl 1 oz.
5/20/2008	START FLOOD	150# 41.0.0.4
5/31/2008	NA	100# 4.10.0.4
6/9/2008	NA	100# 4.10.0.4
6/8/2008	NA	Bispyribac-sodium 0.5 oz.; Quinclorac 0.5#; Zeta-cypermethrin 1:40; Dynapact 1%
9/15 – 9/19/2008	NA	Drained fields
9/29 – 10/4/2008	Harvest	NA
10/27 – 10/31/2008	Disk two or three times; landplane once; and harrow twice	NA
	TB32	
3/10 – 3/12/2008	NA	(Burndown) 1.5 pt. Glyphosate (generic)
4/16/2008	Plant	NA
5/20/2008	NA	2 pt. Glyphosate (generic) on N. Half
5/21/2008	NA	2 pt. Glyphosate (generic) sequence on S. Half
6/15/2008	Irrigate (MRVA)	NA
6/23/2008	NA	Pyraclostrobin 4 oz. and Cyhalothrin 1:70
10/2 – 10/4/2008	Harvest	NA
	TB33	
2/25/2008	NA	Glyphosate 2 pt. (generic); 1.5 pt. 2,4-dichlorophenoxy acetic acid
4/2/2008	Plant	NA
4/25/2008	NA	22 oz. Glyphosate (Roundup MAX)
5/25/2008	NA	22 oz. Glyphosate (Roundup MAX)
6/8/2008	NA	Cyhalothrin 1:60; Quadrius 4 oz.
6/15/2008	Irrigate (MRVA)	NA
9/2 – 9/3/2008	Harvest; no till, ready to plant	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB34	
11/1/2007	Plant wheat	NA
2/10/2008	NA	Urea 200#
3/7/2008	NA	Urea 150#
6/8/2008	Harvest	NA
6/9/2008	Plant beans	NA
6/20/2008	NA	2 pt. Glyphosate (generic)
6/25/2008	Irrigate (MRVA)	NA
7/10/2008	NA	2 pt. Glyphosate (generic); Cyhalothrin 1:60; Azoxystrobin 4 oz.
8/15/2008	Irrigate (MRVA)	NA
9/2 – 9/3/2008	Harvest	NA
	TB35	
2/25/2008	NA	2 pt. Glyphosate (generic); 1.5 pt. 2,4-dichlorophenoxy acetic acid
4/2/2008	Plant	NA
4/25/2008	NA	22 oz. Glyphosate (Roundup MAX)
5/25/2008	NA	22 oz. Glyphosate (Roundup MAX)
6/8/2008	NA	Cyhalothrin 1:60; Quadrius 4 oz.
6/15/2008	Irrigate (MRVA)	NA
9/2 – 9/3/2008	Harvest; no till, ready to plant	NA
	TB36	
2/28/2008	NA	2 pt. Glyphosate (generic)
4/16/2008	Planted	22 oz. Glyphosate (Roundup UltraMAX)
5/6/2008	NA	22 oz. Glyphosate (Roundup UltraMAX)
7/9/2008	NA	22 oz. Glyphosate (Roundup UltraMAX)
9/15 – 9/16/2008	Harvest	NA
Oct 08	Disk and harrow	NA
	TB37	
10/2/2007	Planted	NA
10/8/2007	NA	Osprey 4.7 oz.; Thifensulfuron methyl 0.5 oz.
2/21/2008	NA	125# 41.0.0.4
3/5/2008	NA	100# 41.0.0.4
6/15/2008	Harvest; left fallow	NA
	TB38	
Between 2/25– 2/28/2008	NA	1 qt. Glyphosate (generic); Flumioxazin 1.5 oz. (herbicide)
4/1-4/4/2008	Disk, scratch, harrow	NA
4/20/2008	Plant	NA
5/7/2008	NA	Imazethapyr 4 oz.
5/17/2008	NA	Imazethapyr 4 oz.; Cyhalothrin 1:70
6/1/2008	START FLOOD	200# 41.0.0.4;
6/15/2008	NA	100# 41.0.0.4
7/1/2008	NA	100# 41.0.0.4
9/1/2008	Drained field	NA
9/8 – 9/12/2008	Harvest; disk and harrow	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB39	
Between 2/25 – 2/28/2008	NA	1 qt. Glyphosate (generic); Flumioxazin 1.5 oz. (herbicide)
4/10/2008	Plant	NA
5/25/2008	NA	2 pt. Glyphosate (generic)
6/8/2008	NA	1:60 Cyhalothrin; Azoxystrobin 5 oz.
9/1 – 9/2/2008	Harvest; disk and harrow	NA
	TB40	
2/15/2008	NA	2 pt. Glyphosate (generic)
5/21 – 5/22/2008	Plant	NA
6/6/2008	NA	Imazethapyr 6 oz.
6/21/2008	NA	Imazethapyr 6 oz.
6/23/2008	NA	250# urea; preflood
6/25/2008	STARTED FLOOD (MRVA)	NA
7/10/2008	NA	15 oz. Cyhalofop (herbicide); 1 qt. Aliphatic petroleum solvent and alkylphenol ethoxylate
7/15/2008	NA	135# urea
8/9/2008	NA	Azoxystrobin 4 oz.; Cyhalothrin 1:70
9/15 – 9/19/2008	Drained field	NA
9/29 – 10/3/2008	Harvest; disk twice and harrow	NA
	TB41	
4/11/2008	Planted	NA
4/15/2008	NA	23 oz. Glyphosate (generic); 5 GPA Flumioxazin 2 oz.
4/21/2008	NA	1.5 pt. Glyphosate (generic)
5/19/2008	NA	1.5 pt. Glyphosate (generic); 5 GPA Synchrony .375 oz.
6/15/2008	Irrigated (MRVA)	NA
7/16/2008	NA	23 oz. Glyphosate (generic); 12.8 oz. Blazer at 7.5 GPA
8/1/2008	NA	4.5 oz. Endigo 5 GPA (insecticide)
9/17/2008	Harvest	NA
10/8/2008	Field cultivated	NA
10/22/2008	Harrow	NA

Table 7. Land managers' report of physical and chemical treatments of fields during crop production, Tommie Bayou Basin, Mississippi, 2008.—Continued

[NA, no treatment; oz, ounce; #, pound; qt., quart; MRVA, Mississippi River valley aquifer; pt., pint; GPA, gallons per acre; %, percent; see fig. 6 for locations]

Date	Physical treatment	Chemical treatment
	TB42	
4/11/2008	Planted	NA
4/21/2008	NA	1.5 pt. Glyphosate (generic)
5/19/2008	NA	1.5 pt. Glyphosate (generic); 5 GPA Synchrony .375 oz
6/15/2008	Irrigated (MRVA)	NA
7/17/2008	NA	23 oz. Glyphosate (generic); 12.8 Blazer at 7.5 GPA
8/1/2008	NA	4.5 oz. Endigo 5 GPA (insecticide)
9/17/2008	Harvest	NA
10/8/2008	Field cultivated	NA
10/22/2008	Harrow	NA
	TB43	
4/11/2008	Planted	NA
4/15/2008	NA	1.5 pt. Glyphosate (generic); Flumioxazin 1/5 oz/acre
6/30/2008	Irrigate (MRVA)	NA
9/17/2008	Harvest	NA
10/8/2008	Field cultivated	NA
10/22/2008	Harrow	NA
	TB44	
Did not participate		
	TB45	
Did not participate		

Table 8. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2007.

[NA, not applicable; gal, gallon; GW, groundwater; lbs, pounds; MRVA, Mississippi River valley aquifer; see fig. 7 for locations]

Date	Physical treatment	Chemical treatment
	Field 2	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/4/2007	Planted crop	NA
4/9 – 4/13/2007	NA	Using a ground rig applied a 300 gal load containing: 1:8 Glyphosate (Roundup WeatherMAX), 1:8 Carfentrazone-ethyl
5/17 – 5/20/2007	Flooded field, GW	Aerial application of 200 lbs urea
5/21 – 5/25/2007	Pulled levees, put in levee gates using levee squeezer and pusher	NA
6/8/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea
6/11 – 6/15/2007	NA	Aerial application of Bispyribac-sodium to western field edges
6/18 – 6/21/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea; Ground rig application of a 300 gal load: Glyphosate (generic), 2,4-dichlorophenoxy acetic acid sprayed on levees in 1:8 ratio
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Drained water from field	NA
9/9/2007	Harvested with combine	NA
	Field 3	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/4/2007	Planted crop	NA
4/9 – 4/13/2007	NA	Using a ground rig applied a 300 gal load containing: 1:8 Glyphosate (Roundup WeatherMAX), 1:8 Carfentrazone-ethyl
5/17 – 5/20/2007	Field flooded GW	Aerial application of 200 lbs urea
5/21 – 5/25/2007	Pulled levees, put in levee gates using levee squeezer and pusher	NA
6/8/2007	Mid-season flood	Aerial application of 100 lbs urea
6/11 – 6/15/2007	NA	Airplane: trimmed west edges with Bispyribac-sodium
6/18 – 6/21/2007	Mid-season flooding GW	Aerial application of 100 lbs urea; Ground rig application of a 300 gal load: Glyphosate (generic), 2,4-dichlorophenoxy acetic acid sprayed on levees in 1:8 ratio
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Drained water from field	NA
9/9/2007	Harvested with combine	NA
	Field 4	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio; 2,4-dichlorophenoxy acetic acid 1:10 ratio; petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/4/2007	Planted crop	NA
4/9 – 4/13/2007	NA	Using a ground rig applied a 300 gal load containing: 1:8 Glyphosate (Roundup WeatherMAX), 1:8 Carfentrazone-ethyl
5/17 – 5/20/2007	Flooded field, GW	Aerial application of 200 lbs urea

Table 8. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2007.—Continued

[NA, not applicable; gal, gallon; GW, groundwater; lbs, pounds; MRVA, Mississippi River valley aquifer; see fig. 7 for locations]

Date	Physical treatment	Chemical treatment
	Field 4—Continued	
5/21 – 5/25/2007	Pulled levees, put in levee gates using levee squeezer and pusher	NA
6/8/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea
6/18 – 6/21/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea; Ground rig application of a 300 gal load: Glyphosate (Roundup WeatherMAX), 2,4-dichlorophenoxy acetic acid sprayed on levees in 1:8 ratio
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Drained water from field	NA
9/12/2007	Harvested with combine	NA
	Field 8	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
3/7/2007	Harrowed field	NA
3/20/2007	Tilled with field cultivator	NA
3/26 – 3/30/2007	Harrowed	NA
4/30/2007	Planted crop	NA
5/7 – 5/11/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX) in a 1:4 ratio, FirstRate in a 1:6.66 ratio
5/16/2007	Replanted	NA
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/23 – 7/27/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX), Quadrant 1:8, 16 Glyphosate, 16 Quadrant
7/30 – 8/3/2007	Irrigated (precision flush-on-field) source MRVA	NA
10/4/2007 & 10/8/2007	Harvested with combine	NA
	Field 9	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio; 2,4-dichlorophenoxy acetic acid 1:10 ratio; petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/30/2007	Planted crop	NA
5/7 – 5/11/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX) in a 1:4 ratio, FirstRate in a 1:6.66 ratio
6/1/2007	Irrigated (precision flush-on-field) source MRVA; 41 hours	NA
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/23 – 7/27/2007	NA	Ground rig, hooded sprayer 5:1, 300 gal load: Glyphosate (Roundup WeatherMAX), Quadrant 1:8
7/30 – 8/3/2007	Irrigated (precision flush-on-field) source MRVA	NA
10/3 – 10/4/2007	Harvested with combine	NA

Table 8. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2007.—Continued

[NA, not applicable; gal, gallon; GW, groundwater; lbs, pounds; MRVA, Mississippi River valley aquifer; see fig. 7 for locations]

Date	Physical treatment	Chemical treatment
	Field 10	
2/26/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/30/2007	Planted crop	NA
5/7 – 5/11/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX) in a 1:4 ratio, FirstRate in a 1:6.66 ratio
6/1/2007	Irrigated (precision flush-on-field) source MRVA; 36 hours	NA
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/23 – 7/27/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX), and Quadrant in a 1:8 ratio
7/30 – 8/3/2007	Irrigated (precision flush-on-field) source MRVA	NA
10/3 – 10/4/2007	Harvested with combine	NA
	Field 14S	
2/27/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/21/2007	Planted crop	NA
5/7 – 5/11/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX) in a 1:4 ratio, FirstRate in a 1:6.66 ratio
6/6/2007	Irrigated (precision flush-on-field) source MRVA	NA
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Irrigated (precision flush-on-field) source MRVA	NA
9/18 – 9/19/2007	Harvested with combine	NA
	Field 14N	
2/27/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/5 – 4/6/2007	Planted crop	
4/9 – 4/13/2007	NA	Using a ground rig applied a 300 gal load containing: 1:8 Glyphosate (Roundup WeatherMAX), 1:8 Carfentrazone-ethyl
5/17 – 5/20/2007	Flooded field, GW	Aerial application of 200 lbs urea
5/21 – 5/25/2007	Pulled levees, put in levee gates using levee squeezer and pusher	NA
6/8/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea
6/18 – 6/21/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea; Ground rig application of a 300 gal load: Glyphosate (Roundup WeatherMAX), 2,4-dichlorophenoxy acetic acid sprayed on levees in 1:8 ratio

Table 8. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2007.—Continued

[NA, not applicable; gal, gallon; GW, groundwater; lbs, pounds; MRVA, Mississippi River valley aquifer; see fig. 7 for locations]

Date	Physical treatment	Chemical treatment
	Field 14N —Continued	
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Drained water from field	NA
9/15 – 9/16/2007	Harvested with combine	NA
	Field 15	
2/27/2007	NA	Aerial application of a 300 gal load containing: Glyphosate (Roundup WeatherMAX) 1:8 ratio, 2,4-dichlorophenoxy acetic acid 1:10 ratio, petroleum distillate and alkyl phenol ethoxylate 1:30 ratio
4/5 – 4/6/2007	Planted crop	NA
4/9 – 4/13/2007	NA	Using a ground rig applied a 300 gal load containing: 1:8 Glyphosate (Roundup WeatherMAX), 1:8 Carfentrazone-ethyl
5/17 – 5/20/2007	Flooded field, GW	Aerial application of 200 lbs urea
5/21 – 5/25/2007	Pulled levees, put in levee gates using levee squeezer and pusher	NA
6/8/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea
6/18 – 6/21/2007	Mid-season flooding, GW	Aerial application of 100 lbs urea; Ground rig application of a 300 gal load: Glyphosate (Roundup WeatherMAX), 2,4-dichlorophenoxy acetic acid sprayed on levees in 1:8 ratio
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Drained water from field	NA
9/9/2007	Harvested with combine	NA
	Field 16	
3/7/2007	Harrowed field	NA
3/10 – 3/11/2007	Burned, disked, harrowed	NA
3/19/2007	Scraped to break up plot	NA
4/21/2007	Planted crop	NA
5/7 – 5/11/2007	NA	Using a ground rig with a hooded sprayer applied a 300 gal load containing: Glyphosate (Roundup WeatherMAX) in a 1:4 ratio, FirstRate in a 1:6.66 ratio
6/13 – 6/14/2007	Irrigated (precision flush-on-field) source MRVA the West and East halves; Tractor East half, creating furrs to let water run down East half	NA
6/25 – 6/30/2007	NA	Sprayed edges of field using a ground rig with a hooded sprayer: 2,4-dichlorophenoxy acetic acid
7/30 – 8/3/2007	Irrigated (precision flush-on-field) source MRVA	NA
9/19 – 9/20/2007	Harvested with combine	NA

Table 9. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2008.

[NA, no treatment; ratio represents gallon of pesticide/herbicide per acre; oz, ounce; pt, pint; qt, quart; USGS, U.S. Geological Survey; %, percent; hrs, hours; MRVA, Mississippi River valley aquifer; see fig. 8 for locations]

Date	Physical treatment	Chemical treatment
	Field 21	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, cleaned out and culverts replaced	NA
2/15/2008	NA	Aerial application of 100 acre load containing: Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichlorophenoxy acetic acid 1.5 pt/acre
3/17 – 3/21/2008	Ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out using a tractor	NA
3/24 – 3/28/2008	Fields planted in rice during 2007 were disked across rice levees with tractor and planed to smooth	NA
6/2 – 6/5/2008	Field planted	NA
6/9 – 6/13/2008	NA	Using a ground-rig applied a 50 acre load containing: Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual)
6/?/2008	Plowed furrows for irrigation trench, laid irrigation pipe	NA
7/4-7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Using a ground-rig applied Glyphosate (generic) 1 qt/acre
10/27 – 10/23/2008	Harvested; fields disked and cultivated; rows reformed	NA
	Field 20	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichloro-phenoxy acetic acid 1.5 pt/acre, applied by plane; 100 acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium & dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA

Table 9. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2008.—Continued

[NA, no treatment; ratio represents gallon of pesticide/herbicide per acre; oz, ounce; pt, pint; qt, quart; USGS, U.S. Geological Survey; %, percent; hrs, hours; MRVA, Mississippi River valley aquifer; see fig. 8 for locations]

Date	Physical treatment	Chemical treatment
	Field 19	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichloro-phenoxy acetic acid 1.5 pt/acre, applied by plane; 100 acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA
	Field 15	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichloro-phenoxy acetic acid 1.5 pt/acre, applied by plane; 100 acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
7/22/2008	NA	Sprayed Glyphosate (generic) 1 qt/acre, 50 acre load; with ground-rig
7/31/2008	Irrigated; turned on pump for 48 hrs (MRVA)	NA
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA

Table 9. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2008.—Continued

[NA, no treatment; ratio represents gallon of pesticide/herbicide per acre; oz, ounce; pt, pint; qt, quart; USGS, U.S. Geological Survey; %, percent; hrs, hours; MRVA, Mississippi River valley aquifer; see fig. 8 for locations]

Date	Physical treatment	Chemical treatment
	Field 14	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichlorophenoxy acetic acid 1.5 pt/acre, applied by plane; 100 acre load
3/17 – 3/21/2008	2 ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA
	Field 13	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichlorophenoxy acetic acid 1.5 pt/acre, applied by plane; 100 acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA

Table 9. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2008.—Continued

[NA, no treatment; ratio represents gallon of pesticide/herbicide per acre; oz, ounce; pt, pint; qt, quart; USGS, U.S. Geological Survey; %, percent; hrs, hours; MRVA, Mississippi River valley aquifer; see fig. 8 for locations]

Date	Physical treatment	Chemical treatment
	Field 9	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichloro-phenoxy acetic acid 1.5 pt/acre, applied by plane; 100-acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
7/22/2008	NA	Sprayed Glyphosate (generic) 1 qt/acre, 50-acre load; with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA
	Field 8	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichloro-phenoxy acetic acid 1.5 pt/acre, applied by plane; 100-acre load
3/17 – 3/21/2008	Two ditches that run East and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
7/28 – 7/31/2008	NA	Glyphosate (Roundup PowerMAX) 1 qt/acre w/ ground-rig second application
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA

Table 9. Land managers' report of physical and chemical treatments of fields during crop production, unnamed tributary to Clear Creek Basin, Mississippi, 2008.—Continued

[NA, no treatment; ratio represents gallon of pesticide/herbicide per acre; oz, ounce; pt, pint; qt, quart; USGS, U.S. Geological Survey; %, percent; hrs, hours; MRVA, Mississippi River valley aquifer; see fig. 8 for locations]

Date	Physical treatment	Chemical treatment
	Field 6	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichlorophenoxy acetic acid 1.5 pt/acre, applied by plane; 100-acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA
	Field 7	
2/4 – 2/8/2008	Main drainage ditch near the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, dug out and culverts replaced	NA
2/15/2008	NA	Glyphosate (Roundup PowerMAX) 22 oz/acre; 2,4-dichlorophenoxy acetic acid 1.5 pt/acre, applied by plane; 100-acre load
3/17 – 3/21/2008	Two ditches that run east and west of the USGS gage, unnamed tributary to Clear Creek near Napanee, MS, were cleaned out with tractor	NA
3/24 – 3/28/2008	2007 rice fields: Disked across rice levees with tractor and land plane to smooth out land; will make planting easier	NA
6/2 – 6/5/2008	Soybeans: All soy fields planted	NA
6/9 – 6/13/2008	NA	Glyphosate (generic) and Metolachlor (Fomesafen sodium and dual) sprayed 1 qt/acre (50 acres a load) used ground-rig; all fields
6/?/2008	All fields: Plowed out furrows to make trench for irrigation water. Laid out irrigation pipe	NA
7/4 – 7/6/2008	All fields irrigated; turned on pump for 48 hrs (MRVA)	NA
7/7 – 7/11/2008	NA	Glyphosate (generic) 1 qt/acre applied to all fields with ground-rig
10/27 – 10/23/2008	Harvest all soybeans;disked and cultivated fields to smooth out and reform rows	NA

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