

Concentrations of Selected Herbicides, Two Triazine Metabolites, and Nutrients in Storm Runoff From Nine Stream Basins in the Midwestern United States, 1990–92

By ELISABETH A. SCRIBNER, DONALD A. GOOLSBY,
E. MICHAEL THURMAN, MICHAEL T. MEYER, and
MICHAEL L. POMES

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U.S. GEOLOGICAL SURVEY
GORDON P. EATON, Director

For additional information write to:

District Chief
U.S. Geological Survey
Water Resources Division
4821 Quail Crest Place
Lawrence, Kansas 66049-3839

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CONTENTS

Abstract	1
Introduction	1
Objectives of Study	2
Purpose and Scope	3
Methods	3
Selection of Sampling Sites	3
Sampling Methods	3
Sample Preparation	3
Laboratory Methods	6
ELISA	6
GC/MS	6
Nutrients	9
Quality Assurance	9
Onsite	9
Laboratory	9
ELISA	9
GC/MS	10
Analytical Results	10
References Cited	20

FIGURES

1. Map showing location of study area and sampling sites in the Midwestern United States, 1990–92	4
2. Diagram showing chemical structure of selected triazine herbicides and metabolites in order of decreasing cross reactivity	7
3. Diagram showing chemical structure of selected chloroacetanilide herbicides and metabolites in order of decreasing cross reactivity	8
4.-14. Graphs showing streamflow and analytical results for:	
4. Iroquois River near Chebanese, Ill., 1990	11
5. Sangamon River at Monticello, Ill., 1990	12
6. Silver Creek near Freeburg, Ill., 1990	13
7. Cedar River at Palisades, Iowa, 1990	14
8. Old Mans Creek near Iowa City, Iowa, 1990	15
9. Roberts Creek above St. Olaf, Iowa, 1990	16
10. Delaware River near Muscotah, Kans., 1990	17
11. West Fork Big Blue River near Dorchester, Nebr., 1990	18
12. Huron River at Milan, Ohio, 1990	19
13. Sangamon River at Monticello, Ill., 1991–92	20
14. West Fork Big Blue River near Dorchester, Nebr., 1991–92	21

TABLES

1. Average annual quantities of four major herbicides used in 12 agricultural Midwestern States, 1987–89.....	2
2. Sampling-site names, locations, drainage areas, and 1989 estimates of cropland and herbicide and nitrogen usage	5
3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990.....	23
4. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1991–92.....	29
5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990	31
6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990	103
7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92	119
8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92.....	132

CONVERSION FACTORS AND ABBREVIATED WATER-QUALITY UNITS

Multiply	By	To obtain
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second
pound (lb)	453.6	gram
million pounds per year (Mlb/yr)	453.6	million grams per year
ton	0.9072	megagram
pound per square inch (lb/in ²)	6.895	kilopascals

Temperature can be converted to degrees Celsius (°C) or degrees Fahrenheit (°F) by the equations:

$$^{\circ}\text{C} = 5/9 (^{\circ}\text{F} - 32)$$

$$^{\circ}\text{F} = 9/5 (^{\circ}\text{C}) + 32.$$

Abbreviated Water-Quality Units

liter (L)
 meter (m)
 microgram per liter (µg/L)
 microliter (µL)
 micrometer (µm)
 microsiemens per centimeter at 25 degrees Celsius (µS/cm)
 milligrams per liter (mg/L)
 milliliter (mL)
 milliliters per minute (mL/min)
 millimeter (mm)
 milliseconds (ms)
 nanogram per microliter (ng/µL)

Concentrations Of Selected Herbicides, Two Triazine Metabolites, and Nutrients in Storm Runoff From Nine Stream Basins in the Midwestern United States, 1990–92

By Elisabeth A. Scribner, Donald A. Goolsby, E. Michael Thurman, Michael T. Meyer, and Michael L. Pomes

Abstract

Water samples were collected from nine streams in five Midwestern States during 1990 and from two of the nine streams during 1991–92 to determine the concentration, temporal distribution, and transport of 11 agricultural herbicides, two triazine metabolites, and nutrients during storm runoff. This report presents a description of the sampling plan, data-collection techniques, laboratory methods, and a compilation of herbicide and nutrient concentration and quality-assurance data. Samples were collected at nine sites during April through August 1990 by a combination of manual sampling and automatic samplers. Automatic samplers were programmed to collect samples during base-flow conditions and when runoff from precipitation occurred. Sampling was continued at two sites during March 1991 through April 1992 using the same sampling procedures used in 1990. Approximately 2,000 samples were collected from the nine sites in 1990, and about 400 samples were collected from two sites in 1991–92. Laboratory analyses consisted of microtitre-plate enzyme-linked immunosorbent assay for triazine and chloroacetanilide herbicides and confirmation of selected samples by gas chromatography/mass spectrometry. The data have been useful in studying herbicide and nutrient transport, in showing that atrazine and cyanazine are the major triazine herbicides and that alachlor and metolachlor are the primary

chloroacetanilide herbicides present in water samples, and in examining the annual persistence of herbicides in surface water.

INTRODUCTION

This is the third in a series of water-quality reports intended to present the analytical results from studies of herbicides and nutrients in water resources of the midcontinent United States. This report presents the analytical results from a study of 11 preemergent herbicides, two triazine metabolites, and nutrients in storm runoff from nine agricultural streams located in five Midwestern States. Previous reports have presented analytical results from regional studies of herbicides and nutrients in ground water (Kolpin and others, 1993) and surface water (Scribner and others, 1993). This study of herbicides and nutrients in runoff was conducted during 1990–92 and is one of several regional-scale studies conducted by the U.S. Geological Survey (USGS) as part of the Toxic Substances Hydrology Program (Goolsby and others, 1993).

During 1987–89, about 143 Mlb/yr of four major herbicides, alachlor, atrazine, cyanazine, and metolachlor, were applied in the 12-state region (table 1). These herbicides accounted for about 73 percent of the pesticides applied (Gianessi and Puffer, 1990). The intense use of herbicides, their moderate water solubility, and mobility can cause them to leach into ground water, to run off in surface water, as well as to be transported in the air and in precipitation (Goolsby and others, 1990). Substantial increases in herbicide concentrations in streams and rivers from runoff immediately after herbicide application have been documented

Table 1. Average annual quantities of four major herbicides used in 12 agricultural Midwestern States, 1987–89

[From Gianessi and Puffer, 1990; values shown are in millions of pounds of active ingredient per year]

State	Alachlor	Atrazine	Cyanazine	Metolachlor
Illinois	8.0	8.5	3.1	8.1
Indiana	6.9	5.7	1.7	3.5
Iowa	6.4	5.6	3.7	8.5
Kansas	1.9	4.7	.2	2.2
Michigan	1.5	2.7	.6	2.1
Minnesota	4.0	1.5	2.8	2.4
Missouri	1.8	3.1	1.2	1.6
Nebraska	3.8	7.1	1.8	1.9
North Dakota	.1	.2	.2	.1
Ohio	3.7	3.8	1.6	4.0
South Dakota	1.9	.5	.3	1.0
Wisconsin	1.3	2.7	1.7	1.4
Total	41.3	46.1	18.9	36.8
Grand total	143.1			

(Thurman and others, 1991, 1992). Nonpoint-source contamination of surface- and ground-water supplies may be associated with the intense use of agricultural chemicals. Drinking-water quality also may be affected because conventional water-treatment practices do not remove these moderately soluble herbicides (Goolsby and others, 1990).

During 1989, the USGS conducted a reconnaissance study to determine the seasonal and geographic distribution of herbicides in about 150 streams throughout 10 Midwestern States. Results from this study (Goolsby and others, 1991; Thurman and others, 1991, 1992; Scribner and others, 1993) showed large concentrations of herbicides in streams during the first storm runoff after crops were planted. However, because of the design of the 1989 reconnaissance, it could not be determined how long the large concentrations persisted in Midwestern streams.

To improve understanding of the temporal variability of herbicides and nutrient concentrations in basins with intense agricultural land use, nine streams were sampled intensively from April

through July 1990, particularly during storm runoff following herbicide application. Samples were collected every few hours during storm runoff and several times per week during periods of base flow using automatic samplers. Two of these streams were selected for further study during April 1991 through March 1992.

Objectives of Study

The overall objective of this study was to obtain detailed information on the concentrations and mass transport of herbicides and nutrients for several months following application at a few locations across the upper Midwestern United States. Some specific objectives were to:

1. Determine the temporal distribution of the concentrations and loads of 11 herbicides, two triazine metabolites, and nutrients in selected streams in the Midcontinent.
2. Determine the duration of herbicide concentrations greater than U.S. Environmental Protection Agency (1988) Health Advisory Levels for drinking water.

3. Determine the relation of herbicide concentrations and loads to cropland use and selected agricultural practices.
4. Estimate the fraction of selected herbicides applied in each basin that is discharged in surface runoff.
5. Determine the occurrence and temporal distribution of atrazine and cyanazine metabolites in the streams.
6. Determine if herbicide metabolites and metabolite ratios can be used as a tool to help distinguish between overland runoff, irrigation return flow, tile drainage, and ground-water discharge.
7. Adapt or develop solid-phase extraction and gas chromatography/mass spectrometry (GC/MS) analytical techniques to quantify cyanazine metabolites.

Purpose and Scope

The purpose of this report is to describe the data-collection and analytical methods, the onsite and laboratory quality-assurance procedures, and to present the data on 11 herbicides, two triazine metabolites, nutrients, and streamflow from samples collected during the study. These data were derived from about 2,400 samples collected at nine sites from April 1990 through March 1992.

METHODS

Selection of Sampling Sites

Nine streams in five states (fig. 1, table 2) were selected for this study. The basins of these streams are geographically distributed across the Corn Belt and represent a range of hydrogeologic, soil, climatic, and topographic conditions and also a wide range of land use and agricultural chemical use. Some of the characteristics of these basins are summarized in table 2 (Gianessi and Puffer, 1990; U.S. Environmental Protection Agency, 1990).

Sampling Methods

Sampling consisted of a combination of manual and automatic sampling. Manual samples consisted of either a grab sample collected from the stream, an equal width increment sample collected

from three to five verticals at each site, or a multiple vertical cross-section sample at each site.

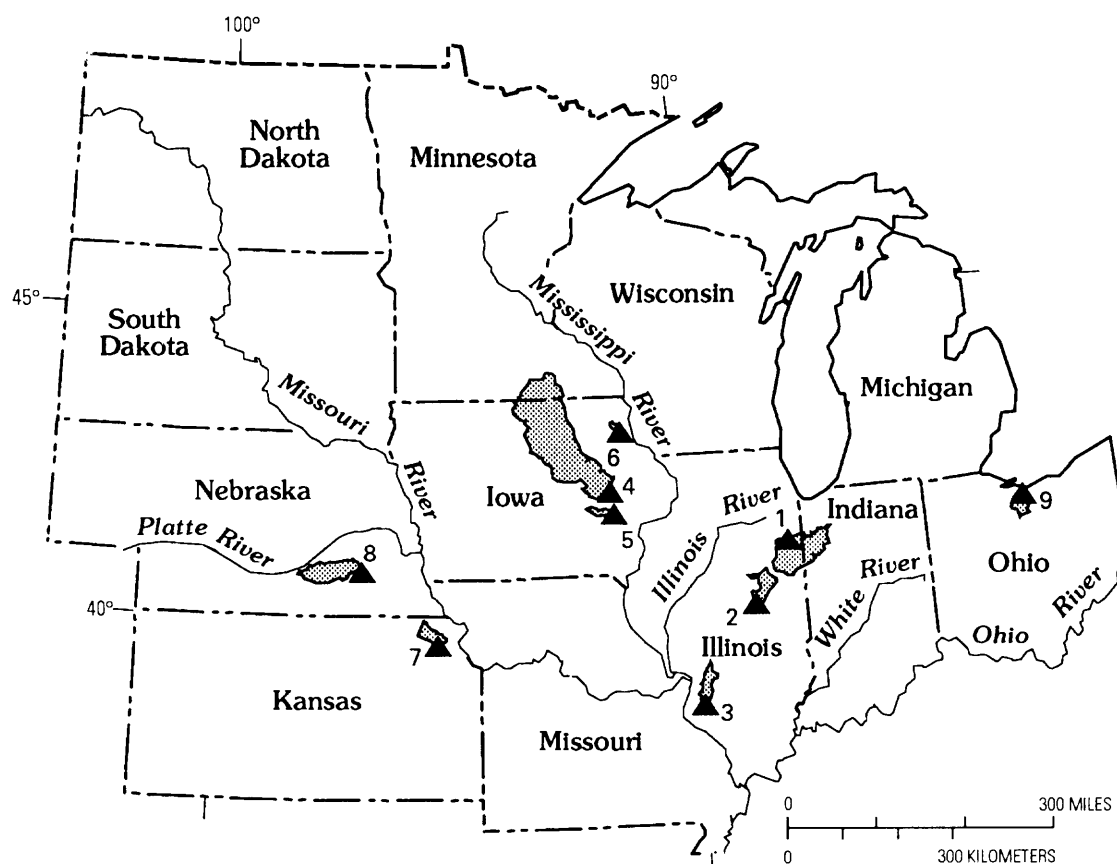
The automatic samplers were installed at existing U.S. Geological Survey streamflow-gaging stations. The samplers were equipped with Teflon¹-lined intake tubing from the pump to the stream, silicone rubber tubing in the peristaltic pump, and either 1-L or 350-mL glass sample-collection bottles. Automatic samplers were capable of collecting at least 24 samples between visits and were programmed to collect a sample every other day during non-runoff periods. When precipitation runoff occurred, samples were collected to characterize herbicide and nitrite-plus-nitrate concentrations throughout the runoff period. Because the storm-runoff characteristics were different at each site, samplers were programmed to collect stream water on the basis of either stage changes in the stream or at specific time intervals (3 to 8 hours). Several hundred samples were collected for analysis at each site during a 5-month period from April through July 1990. During base-flow periods, the samplers were visited at least once, but usually twice per week, to remove samples or to conduct manually activated automatic sampling. During runoff, sites were visited within 24 hours to remove samples.

The sites on the Sangamon River and West Fork Big Blue River (see sites 2 and 8 in fig. 1) were selected for additional sampling for a full year, from April 1991 through March 1992. These two sites were selected because they represented different soils, climate, and hydrologic settings. The sampling procedure described above was used during the spring and summer of 1991. Sampling was done manually during the fall and winter of 1991–92.

Sample Preparation

All herbicides and nutrient samples were filtered to remove particulate and colloidal matter. During 1990, samples for the analysis of herbicide and nitrite-plus-nitrate as nitrogen were filtered through a 1- μ m glass-fiber filter using a peristaltic

¹ The use of brand names is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.



EXPLANATION

 8 Location of sampling site and river drainage basin for storm-runoff study—Number corresponds to map number used in tables

- 1 - Iroquois River, IL
- 2 - Sangamon River, IL
- 3 - Silver Creek, IL
- 4 - Cedar River, IA
- 5 - Old Mans Creek, IA
- 6 - Roberts Creek, IA
- 7 - Delaware River, KS
- 8 - West Fork Big Blue River, NE
- 9 - Huron River, OH

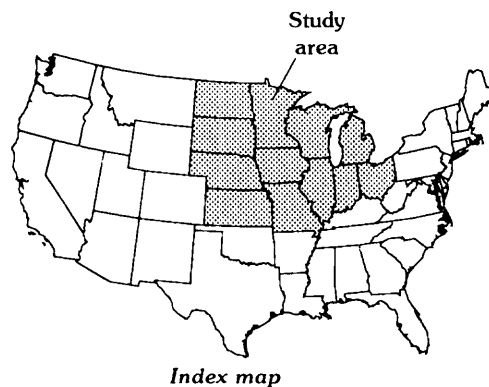


Figure 1. Location of study area and sampling sites in the Midwestern United States, 1990–92.

pump. Filters were first leached with at least 200 mL of distilled or deionized water followed by 25 to 50 mL of sample. The filtrate for herbicide analysis was collected in a 125-mL amber glass bottle that had been precleaned and baked at 200 °C. The filtrate for nitrite-plus-nitrate analysis was collected in an amber plastic bottle and preserved with mercuric chloride (40 mg/L). All samples were chilled immediately.

During the 1991–92 phase of the study, samples for herbicide analysis were filtered through a 0.7- μ m glass-fiber filter using an aluminum plate filter holder and a ceramic piston fluid-metering pump with all Teflon tubing. Samples for nutrient analysis (ammonia, nitrite-plus-nitrate, nitrate, and orthophosphate) were filtered through a 0.45- μ m membrane filter and preserved with mercuric chloride. Filters were leached with

Table 2. Sampling-site names, locations, drainage areas, and 1989 estimates of cropland and herbicide and nitrogen usage

[Estimates of cropland and herbicide and nitrogen usage from Gianessi and Puffer (1990); U.S. Environmental Protection Agency (1990)]

Map no. (fig. 1)	State	Sampling-site identifier	Sampling-site name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Drainage area (square miles)	Cropland (percent of basin)	Alachlor use (pounds)	Atrazine use (pounds)	Cyanazine use (pounds)	Nitrogen use (tons)
1	Illinois	05526000	Iroquois River near Chebanese	41°00'32"	87°49'27"	2,091	71	499,000	456,000	154,000	47,000
2		05572000	Sangamon River at Monticello	40°01'51"	88°35'20"	550	75	112,000	114,000	42,000	12,000
3		05594800	Silver Creek near Freeburg	38°24'22"	89°52'26"	464	53	51,000	46,000	16,000	6,200
4	Iowa	05431200	Cedar River at Palisades	41°55'20"	91°31'12"	4,734	64	920,000	721,000	544,000	137,000
5		05455100	Old Mans Creek near Iowa City	41°36'25"	91°36'40"	201	53	22,000	21,000	14,000	3,500
6		05412100	Roberts Creek above St. Olaf	42°55'49"	91°23'03"	103	47	6,000	6,200	4,100	1,000
7	Kansas	06890100	Delaware River near Muscotah	39°31'17"	95°31'57"	384	46	28,000	53,000	3,500	6,000
8	Nebraska	06880800	West Fork Big Blue River near Dorchester	40°43'52"	97°10'38"	1,206	61	175,000	350,000	87,000	28,000
9	Ohio	04199000	Huron River at Milan	41°18'04"	82°36'36"	371	53	52,000	48,000	20,000	6,000

distilled water and sample water prior to collection of the filtrate. All samples were chilled immediately. Herbicide samples were shipped to the USGS laboratory in Lawrence, Kansas, for immunoassay and GC/MS analysis (Thurman and others, 1990). Nutrient samples were shipped to the USGS laboratory in Arvada, Colorado, for analysis (Fishman and Friedman, 1989).

Laboratory Methods

Herbicide sample bottles received at the USGS laboratory in Lawrence, Kansas, were logged in manual and computer files, assigned identification numbers, and stored under refrigeration until analyzed. All of the storm-runoff samples collected during 1990 were analyzed for triazine and chloroacetanilide herbicides by enzyme-linked immunosorbent assay (ELISA) (Pomes and Thurman, 1991). About 25 percent of the samples were selected for analysis by GC/MS. These samples were chosen on the basis of ELISA results to represent the complete range in herbicide concentrations. Samples collected during 1991–92 were analyzed only by the GC/MS method. Procedures used to extract herbicides from water samples and the GC/MS analyses of herbicides are described by Thurman and others (1990) and Meyer and other (1993).

ELISA

Assay kits consisting of 96-well microtitre plates and reagents were used to analyze triazine- and chloroacetanilide-herbicide concentrations. Each of the wells on the polystyrene microtitre plate was coated with polyclonal antibodies that bind triazine- or chloroacetanilide-herbicide molecules, depending on the analysis. Assay kits additionally used an enzyme conjugate prepared by covalently binding atrazine or alachlor molecules to horseradish peroxides (Bushway and others, 1988). The analysis consisted of adding a small amount of sample and enzyme conjugate to wells on the microtitre plate. The enzyme conjugate and atrazine or alachlor, depending on the test, competed for the antibody binding sites on the microtitre plate. After a suitable reaction time, the mixture was removed from the plate. The plate was washed several times, and a second reagent was added which produced a color that was

inversely proportional to the concentration of the herbicide being analyzed. The concentrations then were quantified with a microtitre-plate reader that measured the intensity of the color in samples and calibration standards.

Although atrazine assay kits are marketed to analyze atrazine, the kits also can cross react to varying degrees with propazine, prometon, simazine, deethylatrazine, cyanazine, and deisopropyl-atrazine (Thurman and others, 1990). Cross reactivity stems from the affinity that antibodies have for particular molecular structures. If a family of analytes possesses a given structural group, each member of that family will exhibit some degree of cross reactivity. Of the triazine herbicides under consideration in this study, the antibodies had the greatest affinity for atrazine as signified with the smallest 50-percent inhibition concentration (IC_{50}) of 0.41 $\mu\text{g/L}$. The IC_{50} is the concentration that produces a 50-percent change in instrument response and is a measure of the sensitivity of the method. Alachlor lacks any of the critical molecular structures as shown in figure 2 and gave no response on the triazine microtitre plate.

The antibodies used in the chloroacetanilides microtitre plates had the greatest affinity for alachlor with an IC_{50} concentration of 0.87 $\mu\text{g/L}$. The antibodies had the next greatest affinity for the alachlor ethane sulfonic acid (ESA) metabolite whose IC_{50} concentration is about two times greater (1.7 $\mu\text{g/L}$) than that for alachlor. The high degree of cross reactivity of ESA in the chloroacetanilide ELISA was responsible for the poor correspondence between the ELISA and GC/MS results. Alachlor ESA is responsible for positive ELISA detections for alachlor that cannot be confirmed by GC/MS (Macomber and others, 1992; Baker and others, 1993; Aga and others, 1994). Another chloroacetanilide herbicide, metolachlor, displays some cross reactivity on the chloroacetanilide microtitre plate with an IC_{50} concentration of 26 $\mu\text{g/L}$ (fig. 3). Finally, atrazine gave no response on the chloroacetanilide microtitre plate (fig. 3).

GC/MS

Samples collected for GC/MS analysis were filtered through either 1.0 or 0.7- μm glass-fiber filters, then refrigerated in 125-mL glass bottles until analyzed. Ten samples were placed in

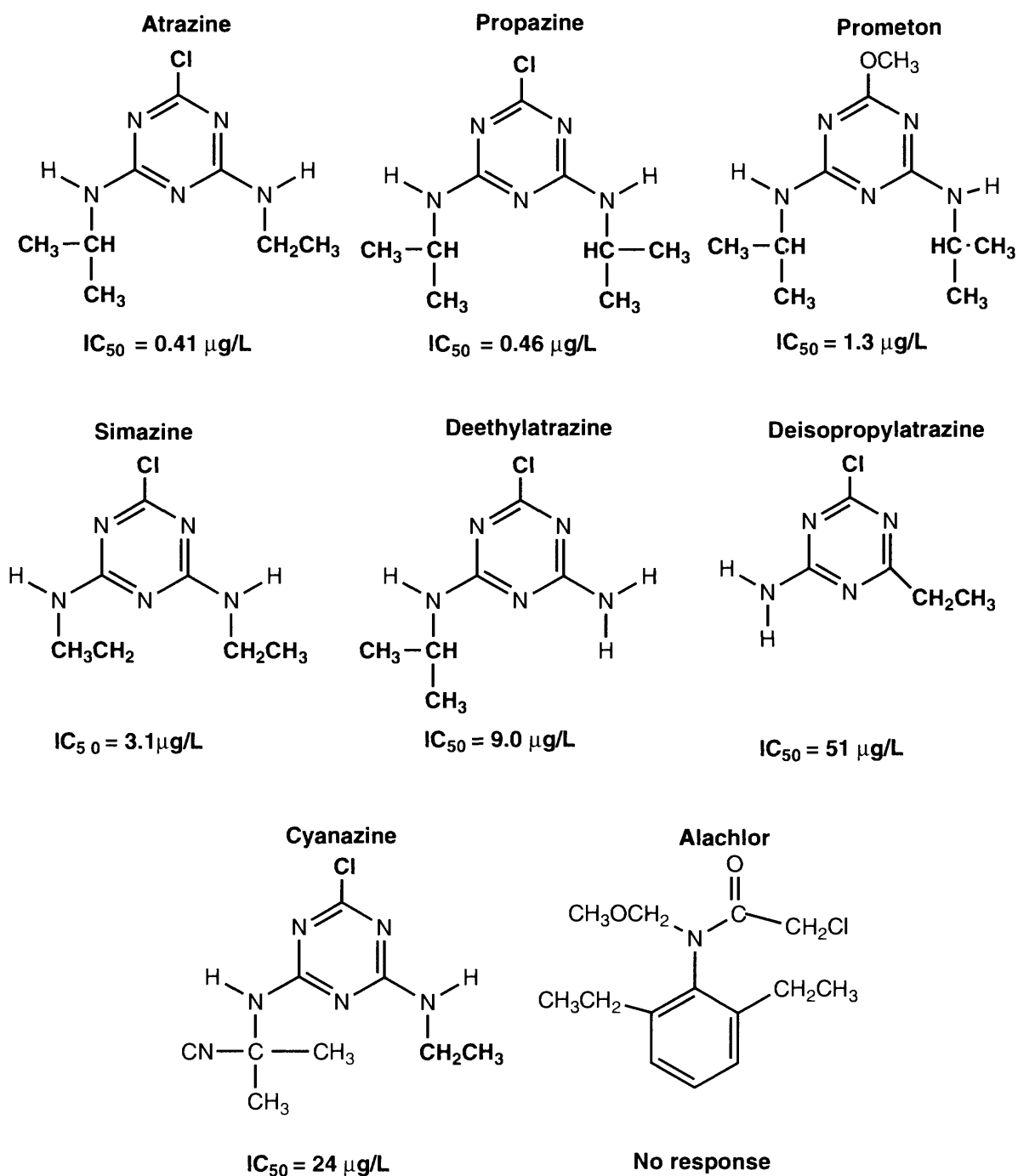


Figure 2. Chemical structure of selected triazine herbicides and metabolites in order of decreasing cross reactivity. Alachlor is included for comparison purposes. Triazine herbicides are shown at 50-percent inhibition concentration (IC_{50}) and in micrograms per liter ($\mu g/L$).

custom-made plexiglas racks. Two distilled-water solutions fortified with a herbicide mix and two blanks then were added to the sample racks for quality assurance. The concentration of the

fortified distilled-water solutions ranged from 0.05 to 5.0 $\mu g/L$. Then 100 μL of a surrogate standard, terbuthylazine (1.34 $ng/\mu L$), were added to each bottle.

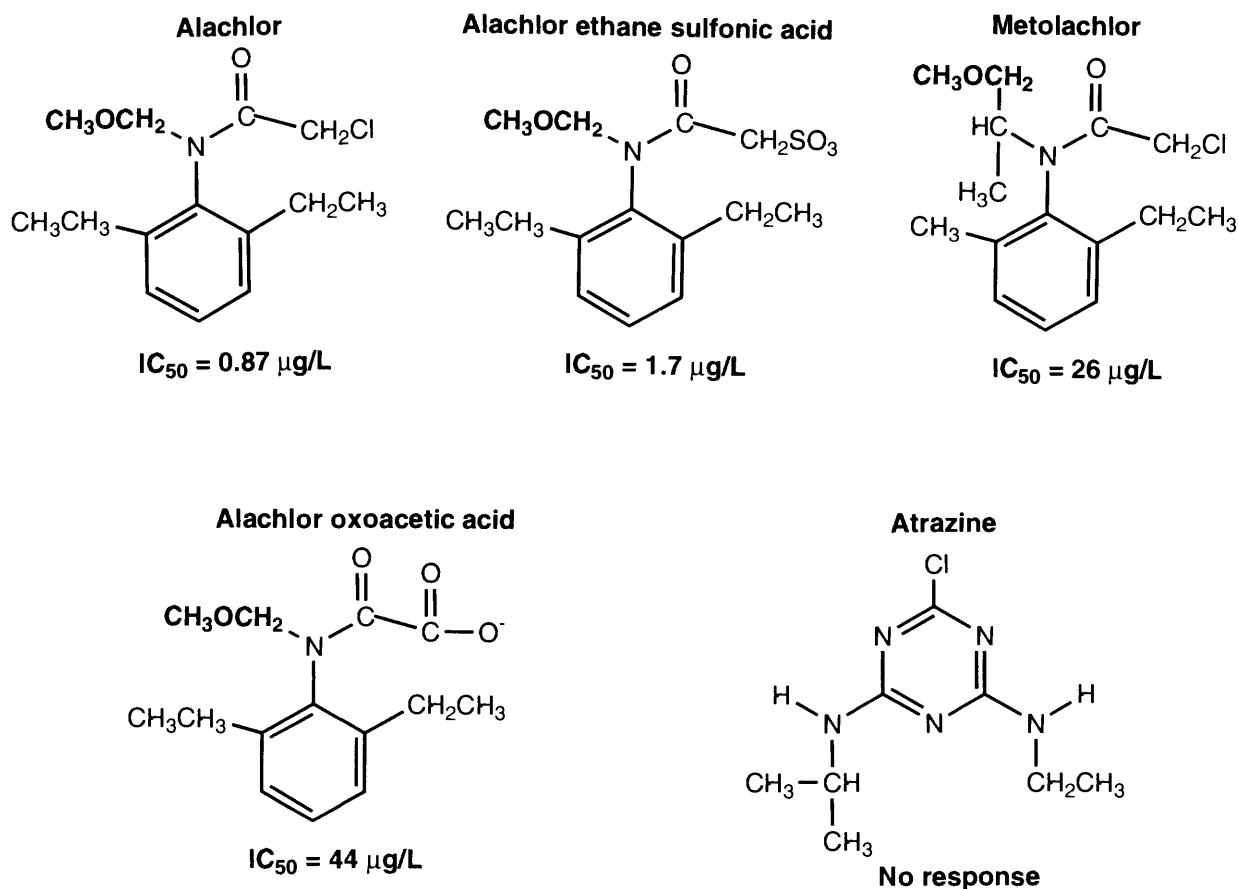


Figure 3. Chemical structure of selected chloroacetanilide herbicides and metabolites in order of decreasing cross reactivity. Atrazine is included for comparison purposes. Chloroacetanilide herbicides are shown at 50-percent inhibition concentration (IC_{50}) and in micrograms per liter ($\mu\text{g/L}$).

Herbicides were extracted from the water samples by solid-phase extraction (SPE) cartridges using an automated workstation (millilab). The SPE cartridge was conditioned by flushing with 2 mL of methanol, 6 mL of ethyl acetate, 2 mL of methanol, and 2 mL of distilled water. Reagents were pipetted through the SPE cartridge from the reagent reservoirs on the transport module. The sample lines were primed with 23 mL of water sample prior to pumping 100 mL of sample through the SPE cartridge at a flow rate of 20 mL/min. Filtered compressed air then was passed through the SPE cartridge for 1 minute to remove as much water sample trapped in the cartridge as possible. The SPE cartridge was eluted with 2.5 mL of ethyl acetate into a centrifuge tube. Each sample in the set was prepared sequentially in the same way. An internal standard,

[d₁₀] phenanthrene (500 μL ; 0.2 ng/ μL), then was added to each of the sample eluates in a batch-spiking procedure. The millilab mixed the sample eluate, then pipetted the ethyl acetate into a clean centrifuge tube to separate it from the residual water in the SPE cartridge, which coelutes with the ethyl acetate. The interior and exterior of the pipette probe then was washed with ethyl acetate after each sample was mixed and pipetted. This cycle was repeated until all the samples were mixed and separated. The eluates were removed from the millilab, reduced to a volume of approximately 100 μL , and transferred into 100- μL glass-lined polystyrene vials for analysis by GC/MS (Meyer and others, 1993).

Automated GC/MS analysis of the eluates was performed on a mass selective detector. Operating conditions were as follows: Ionization voltage,

70 electronvolts; ion-source temperature, 250 °C; electron multiplier, 2,200 volts; direct capillary interface at 280 °C, tuned daily with perfluorotributylamine; dwell time, 50 ms. Separation of the herbicides was carried out using a 12-m fused-silica capillary column, 0.2-mm inside diameter with a methyl silicone stationary phase, 0.33 µm thick. Helium was used as the carrier gas at a flow rate of 2 mL/min and a head pressure of 5 lb/in². The column temperature was increased at 50 °C per minute to 250 °C. Injector temperature was 280 °C. The filament and multiplier were not turned on until 5 minutes into the analysis. Quantification of the base peak of each compound was based on the response of the 188 ion of the internal standard, phenanthrene-d₁₀. Confirmation of the compound was based on the presence of the molecular ion and one to two confirming ions with a retention-time match of + 0.2 percent relative to phenanthrene-d₁₀. The above procedure is described in detail by Thurman and others (1990) and Meyer and others (1993).

Nutrients

Dissolved nitrite plus nitrate, nitrite, ammonia, and orthophosphate were determined by an automated colorimetric procedure at the USGS laboratory in Arvada, Colorado. Dissolved nitrate was calculated as the difference between determinations for nitrite plus nitrate and nitrite (Fishman and Friedman, 1989).

Quality Assurance

Quality-assurance procedures for this study included onsite quality assurance carried out by USGS personnel and an internal laboratory quality-assurance program.

Onsite

Onsite quality-assurance procedures required all bottles and sampling equipment to be washed with a phosphate-free laboratory detergent, rinsed with tap water, rinsed with organic-free deionized or distilled water, rinsed with methanol, and rinsed again with organic-free water to remove traces of methanol. Bottles were inverted to drain and dry.

Bottle blanks (BB) for herbicides were obtained about every 20th sample, or approximately 5 percent of the samples, to test the bottle-cleaning procedure. Cleaned automatic-sampler bottles were filled with organic-free water, covered with aluminum foil, capped, and left for 24 hours. A part of the sample then was transferred to a 125-mL herbicide bottle without filtering. The bottle then was capped and labeled as BB from the site, including the date and a sequence number.

Field blanks (FB) for herbicides from each automatic sampler were obtained with the 5th sample and about every 20th sample thereafter. Field blanks consisted of processing a sample of organic-free water through the plate-filter apparatus and treating it as though it were a normal sample from the automatic sampler. It was labeled as FB, including the date and a sequence number.

Blind spikes prepared at the USGS laboratory in Arvada, Colorado, consisted of solutions containing herbicides of known concentration. They were furnished in 125-mL glass bottles, which were labeled with a fictitious date, time, and sequence number, and submitted for analysis as a regular sample approximately four times per month (tables 3 and 4 at end of report).

Laboratory

ELISA

For the ELISA method, results were quantified with four solutions of known alachlor or atrazine concentration that ranged from 0 to 5 µg/L. Using the calibration curves, optical densities associated with calibration standards were examined. Wells with optical densities producing calculated values greater than 5 percent different than actual standard values were eliminated, and the calibration curve was recalculated. Samples were analyzed in duplicate, and the results averaged. The reporting limits for ELISA were 0.1 µg/L for atrazine and 0.15 µg/L for alachlor.

During the 1990 sampling period, atrazine was not detected in any of the 29 bottle blanks analyzed by the ELISA method. Alachlor was detected in one bottle blank (0.17 µg/L). Small amounts of alachlor and/or atrazine were detected in 10 of 22 field blanks analyzed by the ELISA method. All concentrations detected were 0.32 µg/L or less except for one field blank which contained 0.70 µg/L of atrazine.

GC/MS

For the GC/MS method, each water sample to be analyzed for herbicides was spiked with a surrogate standard, terbuthylazine. An internal standard, d_{10} -phenanthrene, was added to the sample after it was extracted by SPE. The ratio of the terbuthylazine to the d_{10} -phenanthrene was used to calculate the percent "recovery" of the sample. The internal standard also was ratioed against each individual compound to calculate concentrations. Quality-assurance protocol, to ensure the integrity of the sample handling, extraction, and analytical procedures, consisted of 10 percent blanks, 10 percent standard solutions, 1 percent blind samples, and 1 percent double blind samples. Ten percent laboratory duplicates also were used for the 1991–92 samples.

There were no herbicide detections by the GC/MS method. The mean concentrations for blind spike samples during the eight sampling rounds are shown in table 3. Trace amounts (0.15 $\mu\text{g/L}$ or less) of atrazine and/or alachlor were detected in 5 of 20 bottle blanks and/or field blanks during the 1991–92 sampling period. The mean concentrations for spike samples during the four sampling rounds are shown in table 4.

ANALYTICAL RESULTS

Analytical results for water-quality samples collected from nine sites in five states during 1990 are presented in tables 5 and 6 at the end of this report. ELISA and GC/MS data for alachlor and atrazine are shown in table 5. Streamflow, specific conductance, pH, and nitrite plus nitrate as nitrogen also are shown in table 5. The temporal distribution in streamflow, specific conductance, and nitrite plus nitrate during 1990 for the nine basins are shown in figures 4 through 12.

Microtitre-plate ELISA provides a good semiquantitative measure of atrazine concentrations in storm runoff for concentrations less than 3.0 $\mu\text{g/L}$ (Pomes and Thurman, 1991; Moody and Goolsby, 1993; Goolsby and others, 1994). At larger concentrations, a semiquantitative measure will exist only when these samples are diluted. However, ELISA is not a good semiquantitative method for alachlor because of significant cross reactivity with the ESA metabolite (Macomber and others, 1992; Baker and others, 1993; Aga and others, 1994). The cross reactivity of the anti-

alachlor antibodies with ESA has caused problems in previous water-quality surveys for alachlor by ELISA because of false-positive detections of alachlor (Baker and others, 1993).

The ELISA data indicate that prior to herbicide application (April 1, 1990), the concentration of triazine herbicides was less than 1.0 $\mu\text{g/L}$. However, the concentrations of herbicides increased sharply to more than the U.S. Environmental Protection Agency (1988) Maximum Contaminant Level for atrazine in drinking water of 3.0 $\mu\text{g/L}$, with peaks of 10–75 $\mu\text{g/L}$ during early May and June 1990 (postplanting period) (see figs. 4 through 12). GC/MS verification of the peaks showed that atrazine was the major triazine present and that alachlor and metolachlor were the major chloroacetanilide herbicides found. Concentration spikes of 20 $\mu\text{g/L}$ occurred through late June as the late spring rains continued to wash herbicides from the fields.

Herbicide concentrations correlated with stream discharge immediately following herbicide application. Stream discharge ranged from 300 to 300,000 ft^3/s during the 1991–92 sampling. Thus, transport of herbicides to streams was seasonal, generally occurring only during runoff following chemical application associated with the planting of crops. (Thurman and others, 1992).

Results from ELISA and GC/MS analyses showed that triazine herbicide concentrations frequently exceeded 3.0 $\mu\text{g/L}$ at all nine sites from early May to early July 1990. As a result, additional sampling was conducted at two sites in 1991 to develop an improved understanding of the temporal distribution of 11 herbicides, two metabolites, and nutrients (tables 7 and 8 at end of report). This sampling confirmed the seasonal transport of herbicides to Midwestern streams. The largest concentrations occurred again from early May to early July 1991 (figs. 13–14).

Nitrate and nitrite concentrations in streams are derived from many anthropogenic and natural sources, including chemical fertilizers, animal wastes, domestic sewages, legumes, mineralization of vegetation, and soil organic matter. Results from studies in the Midwest provide information on the geographic distribution of nitrate and nitrite in streams and also indicate that processes in addition to those governing herbicide transport are important in controlling the transport of nutrients to streams (Goolsby and others, 1993).

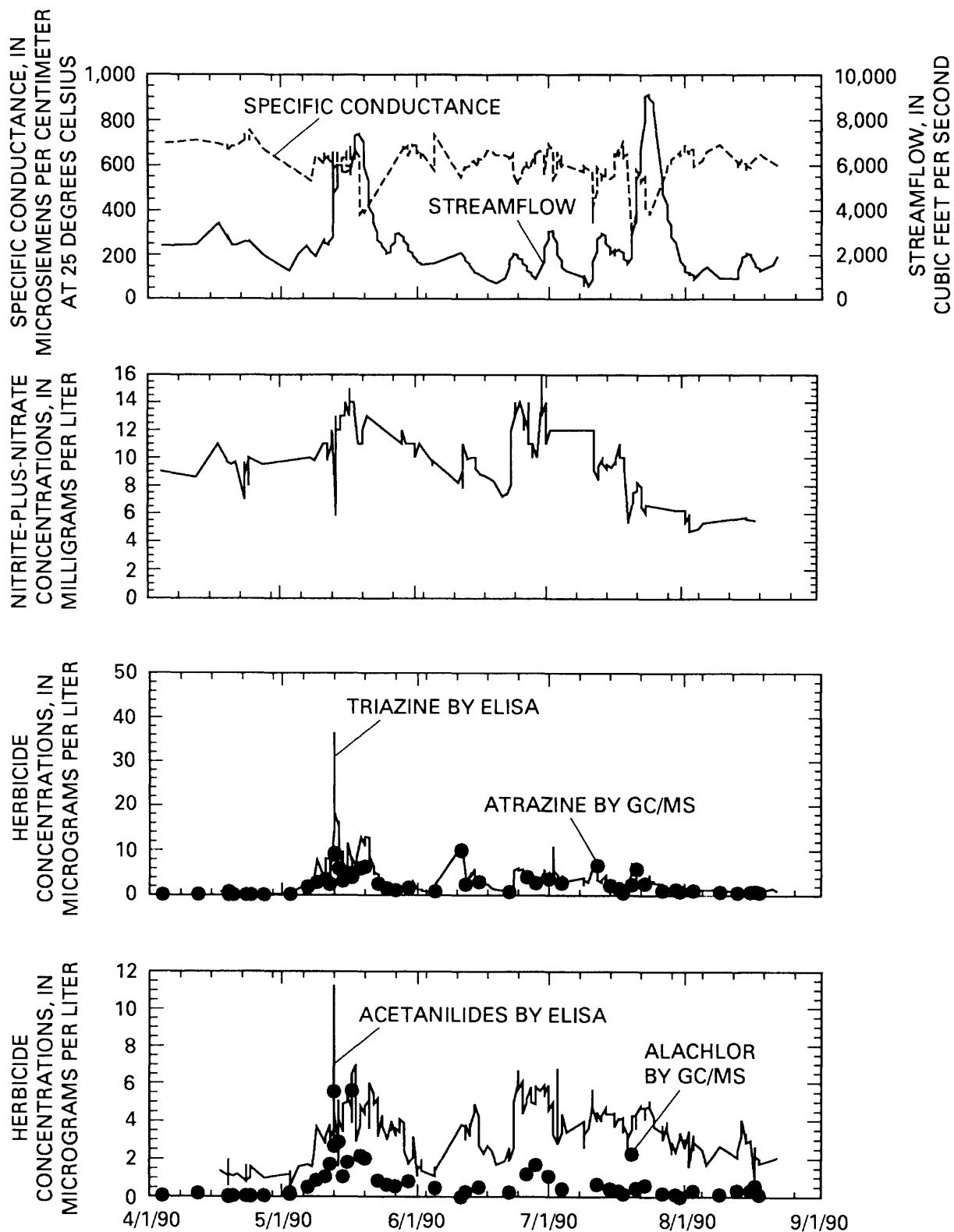


Figure 4. Streamflow and analytical results for Iroquois River near Chebanese, Ill., 1990 (sampling site 1, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

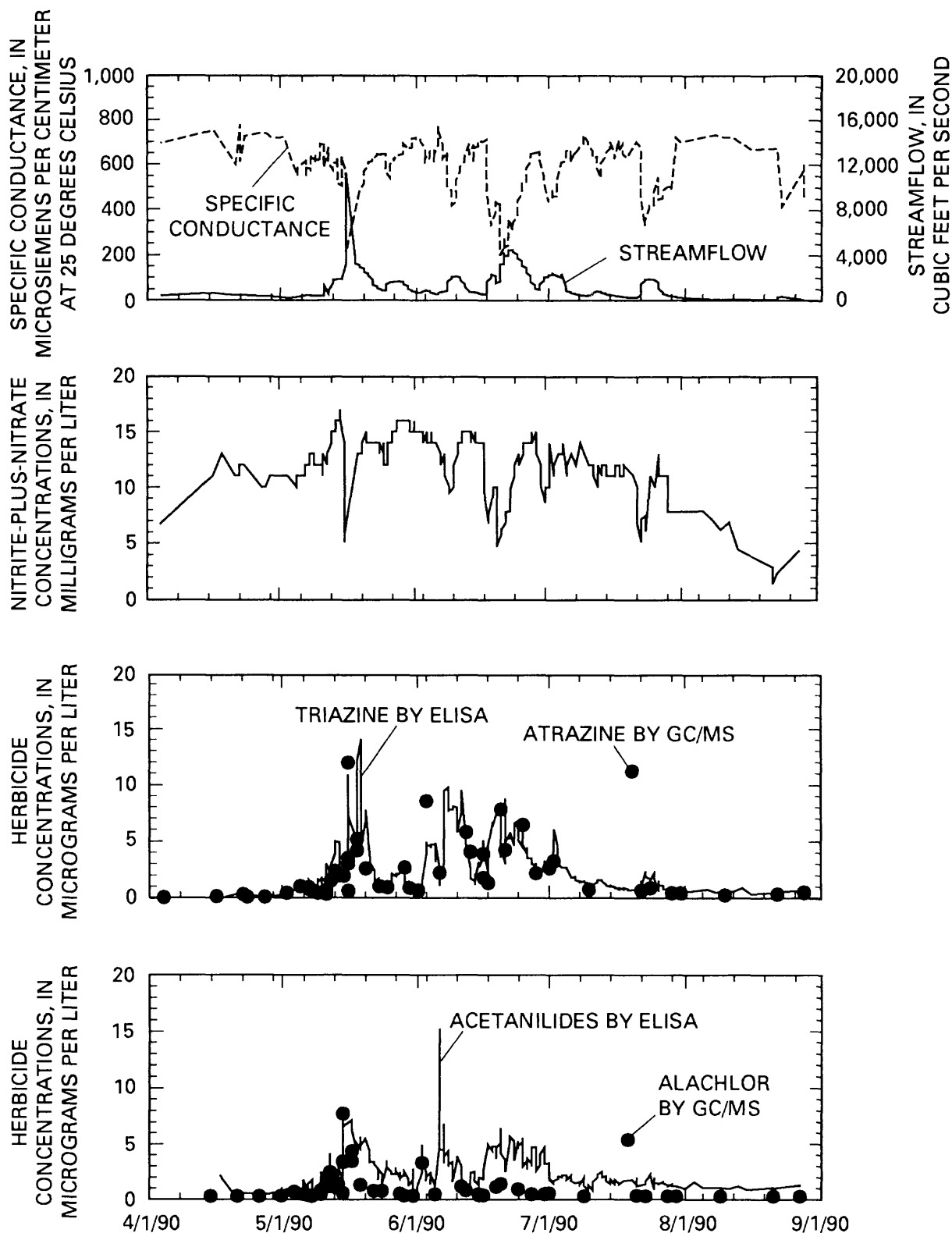


Figure 5. Streamflow and analytical results for Sangamon River at Monticello, Ill., 1990 (sampling site 2, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

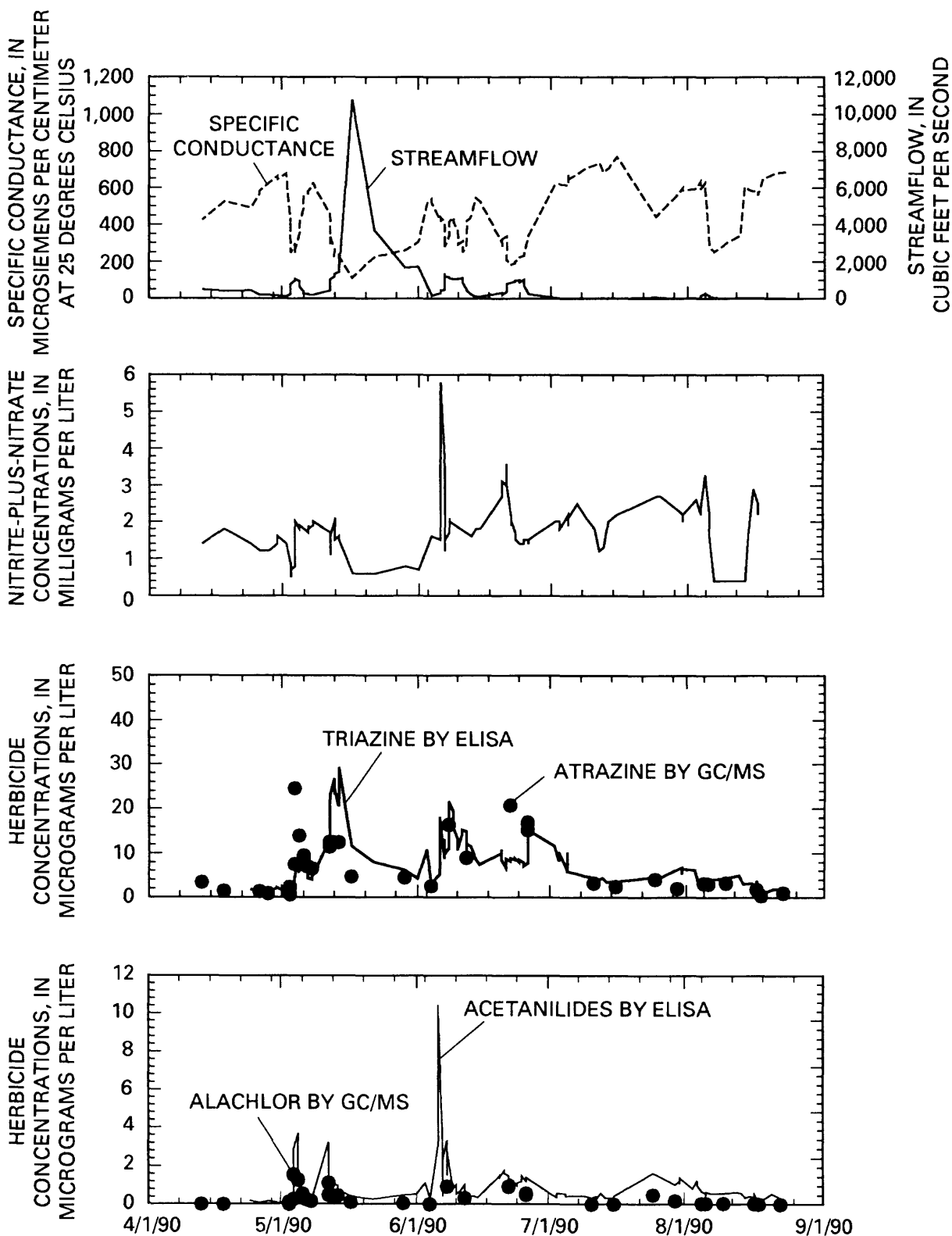


Figure 6. Streamflow and analytical results for Silver Creek near Freeburg, Ill., 1990 (sampling site 3, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

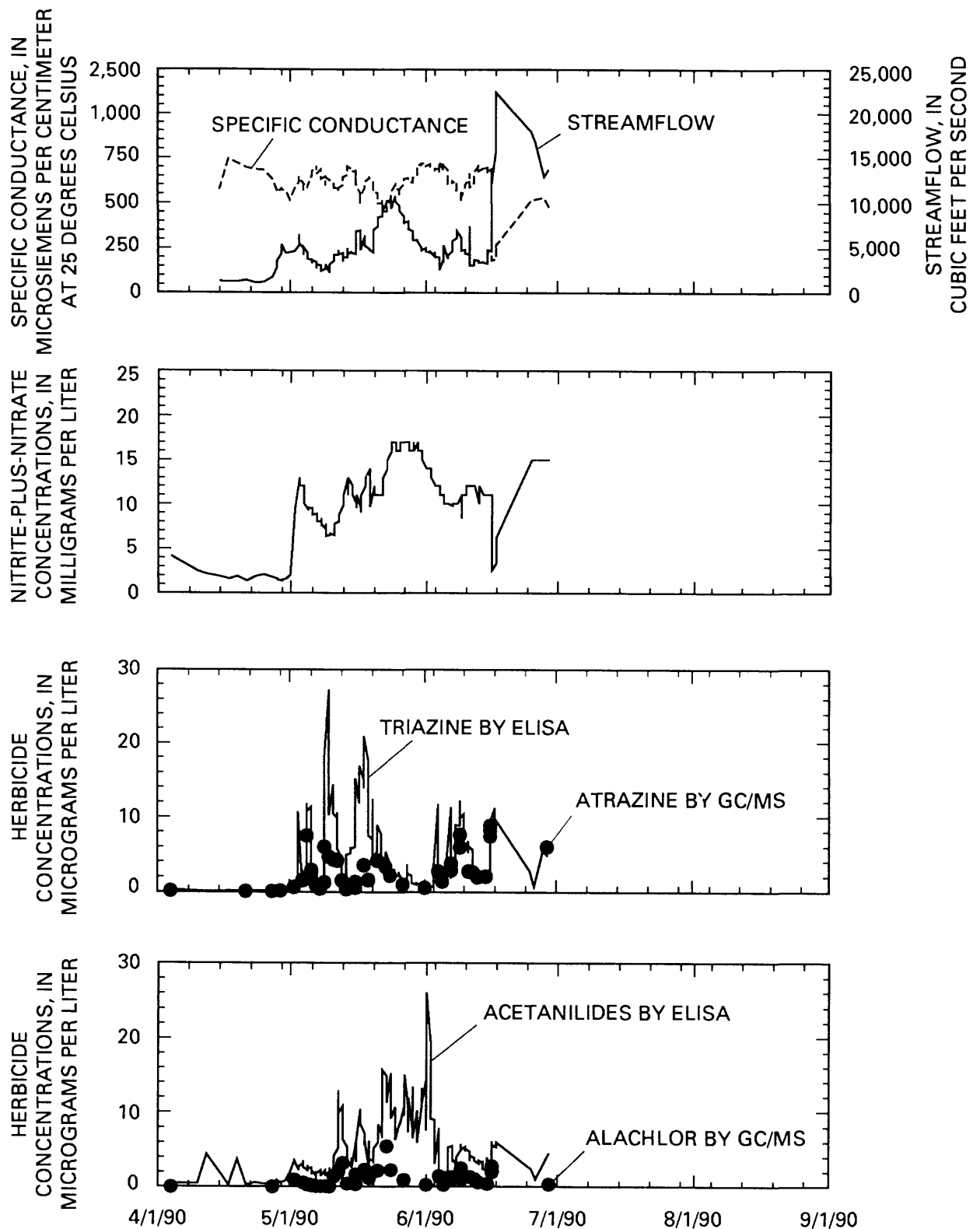


Figure 7. Streamflow and analytical results for Cedar River at Palisades, Iowa, 1990 (sampling site 4, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

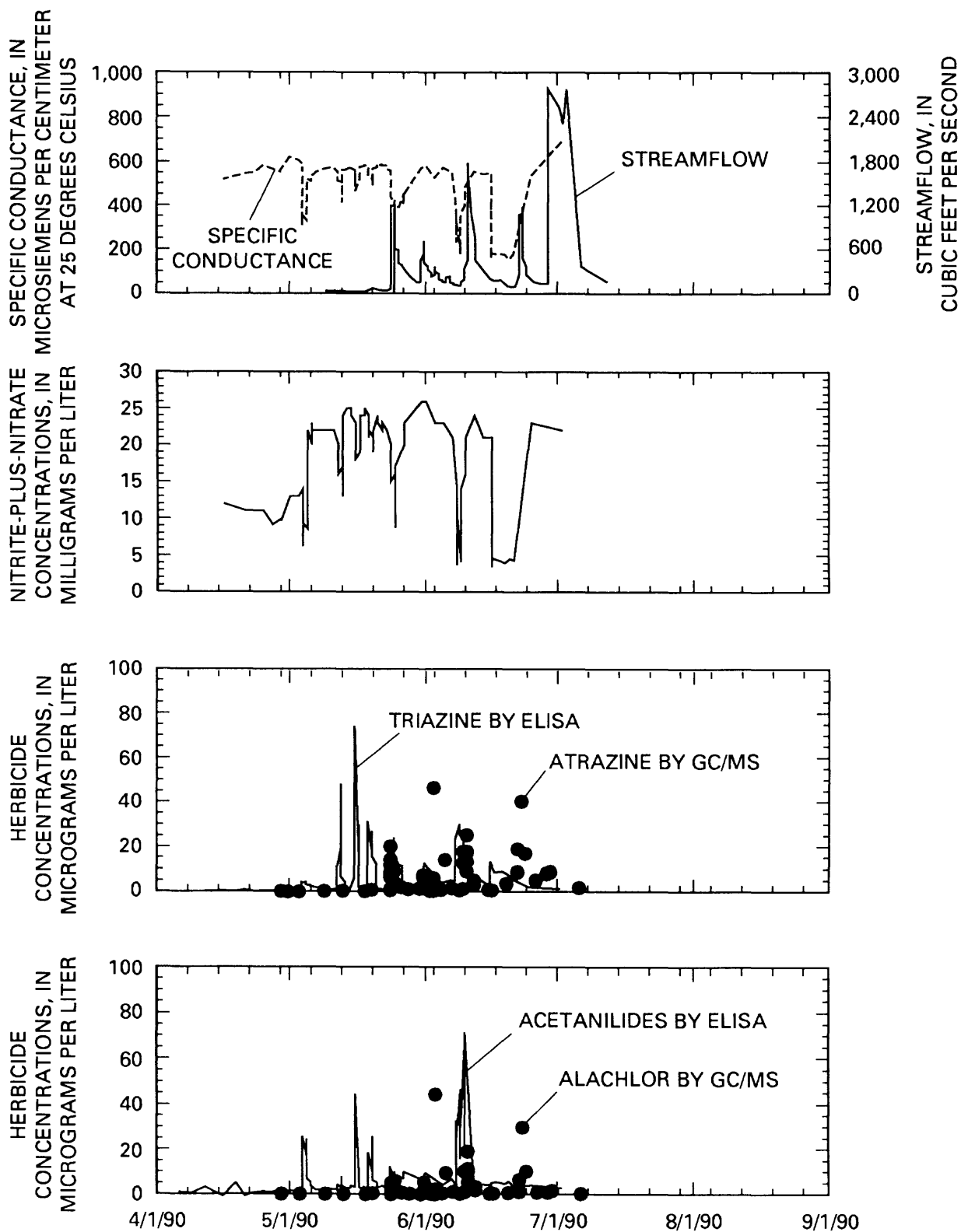


Figure 8. Streamflow and analytical results for Old Mans Creek near Iowa City, Iowa, 1990 (sampling site 5, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

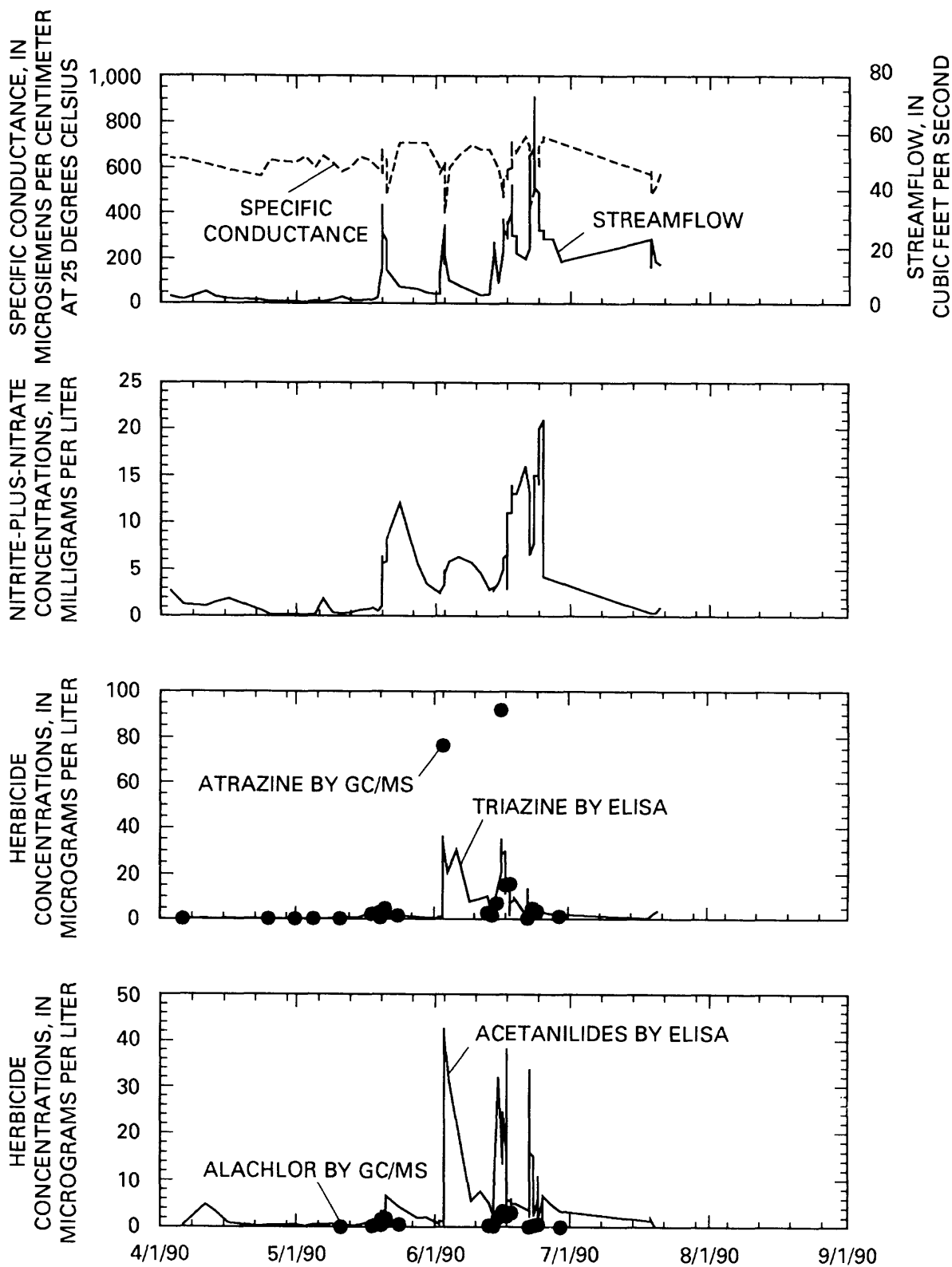


Figure 9. Streamflow and analytical results for Roberts Creek above St. Olaf, Iowa, 1990 (sampling site 6, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

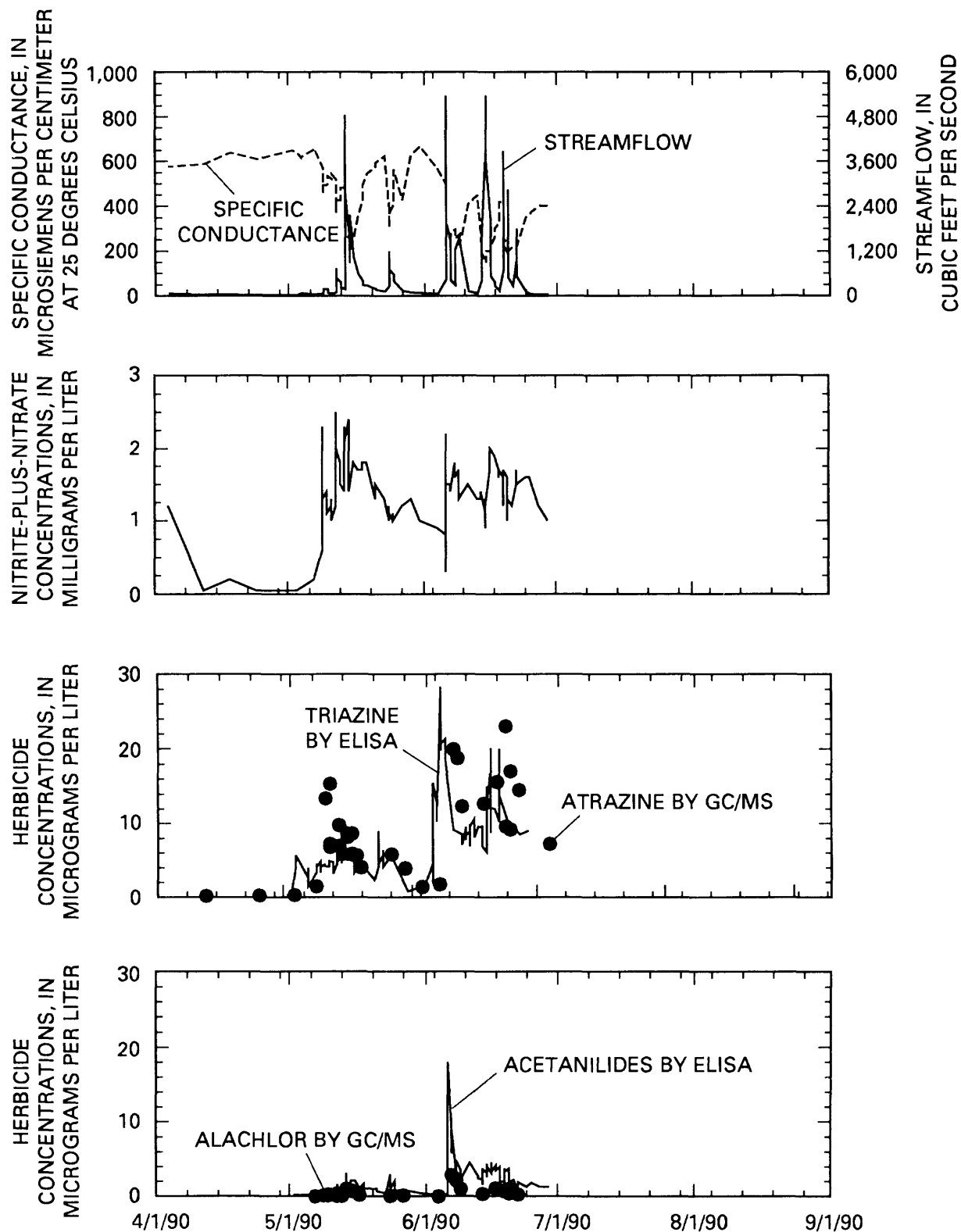


Figure 10. Streamflow and analytical results for Delaware River near Muscotah, Kans., 1990 (sampling site 7, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

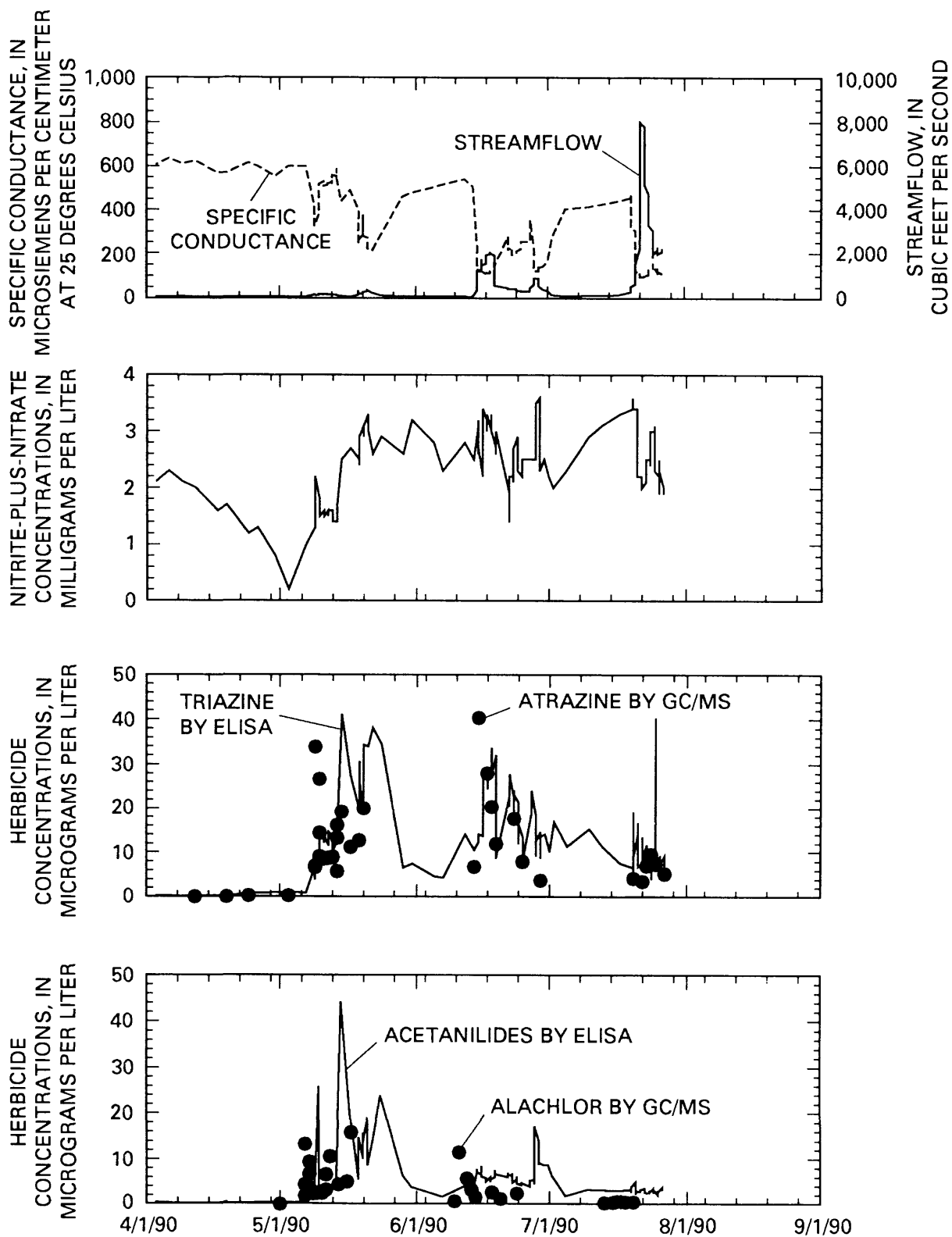


Figure 11. Streamflow and analytical results for West Fork Big Blue River, near Dorchester, Nebr., 1990 (sampling site 8, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

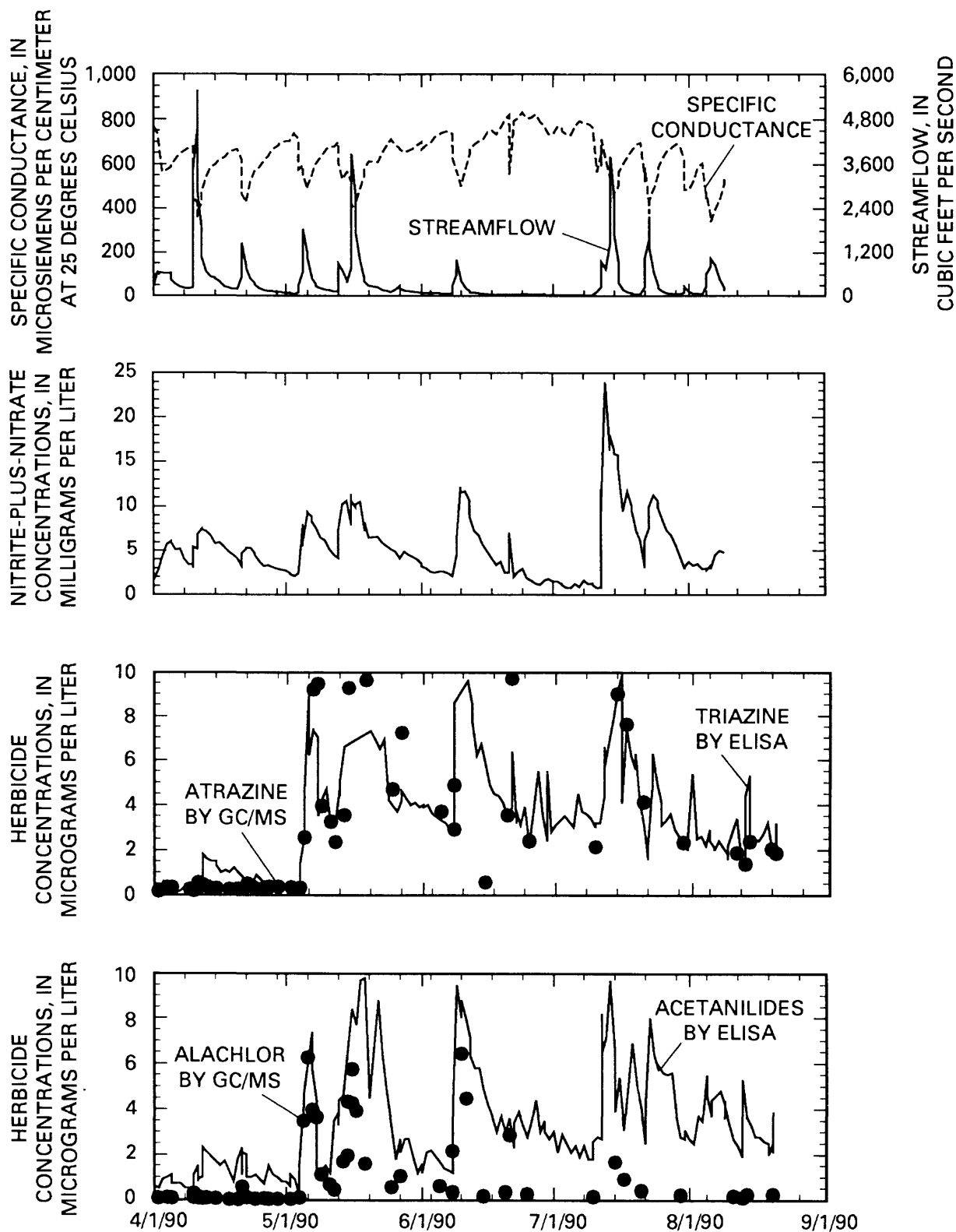


Figure 12. Streamflow and analytical results for Huron River at Milan, Ohio, 1990 (sampling site 9, fig. 1). Herbicide concentrations determined using enzyme-linked immunosorbent assay (ELISA) and gas chromatography/mass spectrometry (GC/MS).

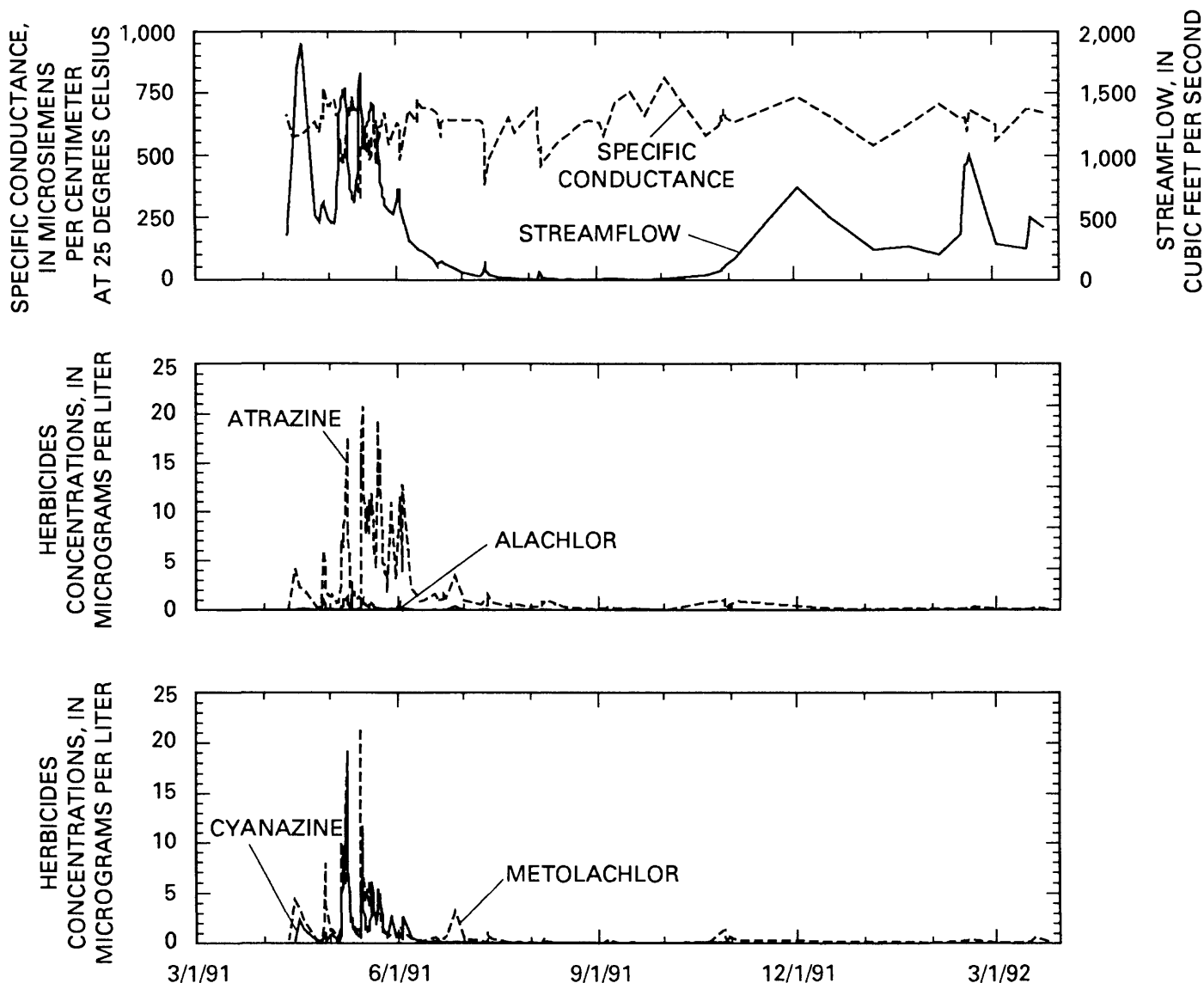


Figure 13. Streamflow and analytical results for Sangamon River at Monticello, Ill., 1991–92 (sampling site 2, fig. 1). Herbicide concentrations determined using gas chromatography/mass spectrometry (GC/MS).

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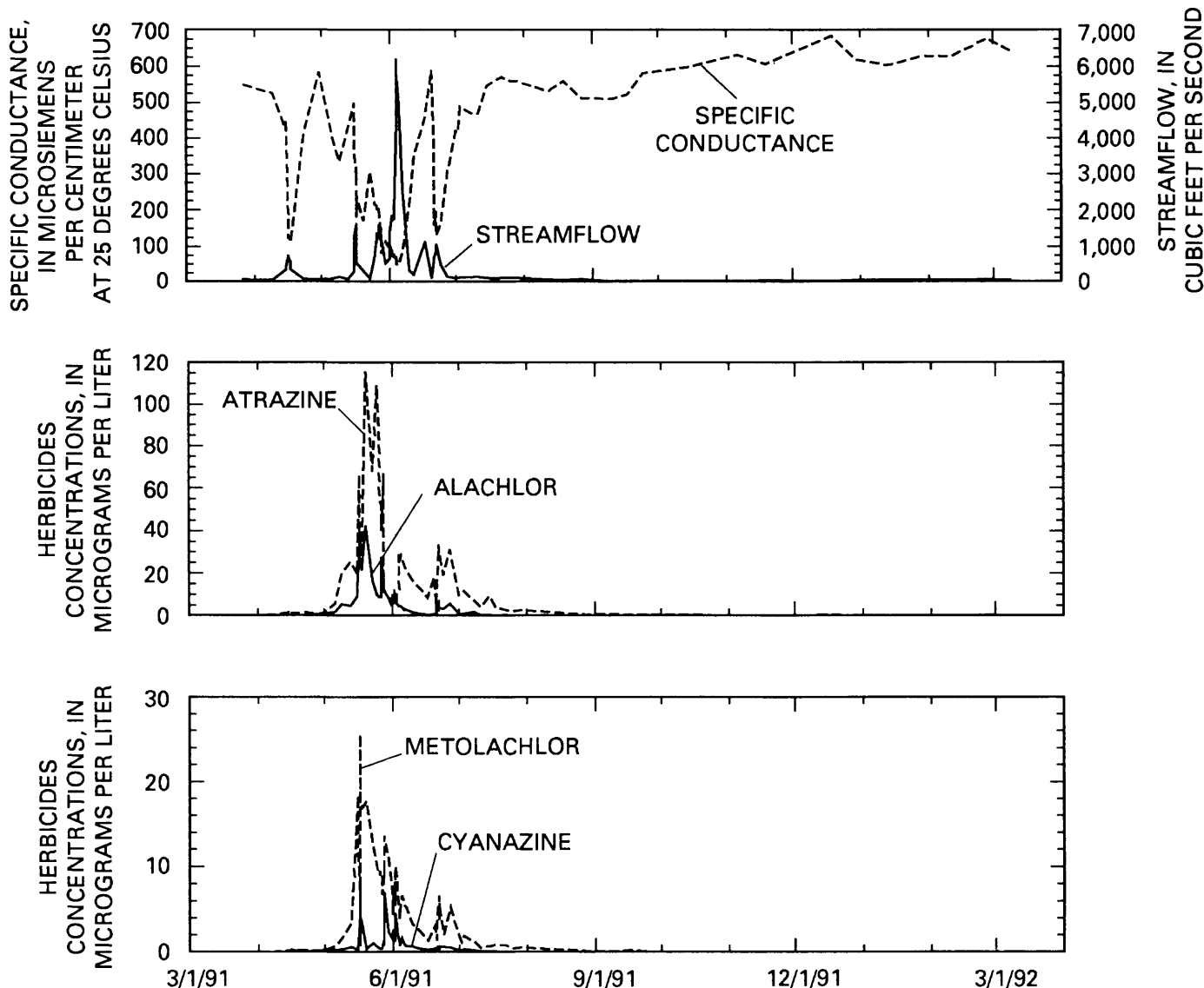


Figure 14. Streamflow and analytical results for West Fork Big Blue River near Dorchester, Nebr., 1991–92 (sampling site 8, fig. 1). Herbicide concentrations determined gas chromatography/mass spectrometry (GC/MS).

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Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990

[ELISA, analysis by enzyme-linked immunosorbent assay; GC/MS, analysis by gas chromatography/mass spectrometry; DEA, deethylatrazine; ametryn, deisopropylatrazine, prometon, prometryn, propazine, and terbutryn were not detected; BB, bottle blank sample; FB, field blank sample; DG, blind spike sample; NWQL, analysis by U.S. Geological Survey laboratory, Arvada, Colo.; --, no data; <, less than; one-half detection limit was used in calculation of mean values]

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter									
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine	
		Organic-free water									
MT-2077	BB	<0.15	<0.05	--	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	
MT-2307	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-2308	BB	.17	--	<0.10	--	--	--	--	--	--	
MT-2541	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-2807	BB	<.10	--	<0.10	--	--	--	--	--	--	
MT-3026	BB	<.10	--	--	--	--	--	--	--	--	
MT-3243	BB	<.15	<.05	<0.10	<.05	<.20	<.05	<.05	<.05	<.05	
MT-3272	BB	<.15	<.05	--	<.05	<.20	<.05	<.05	<.05	<.05	
MT-3691	BB	<.10	--	<0.10	--	--	--	--	--	--	
MT-3782	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-3921	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4629	BB	<.10	--	<0.10	--	--	--	--	--	--	
MT-4630	BB	<.10	--	<0.10	--	--	--	--	--	--	
MT-4631	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4649	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4718	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4803	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4846	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-4846	BB	<.15	--	<0.10	--	--	--	--	--	--	
MT-5764	BB	<.10	--	<0.10	--	--	--	--	--	--	

Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter									
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine	
		Organic-free water—Continued									
MT-5906	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6488	BB	<.15	--	--	--	--	--	--	--	--	
MT-6523	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6524	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6525	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6526	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6527	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6545	BB	<.15	--	<.10	--	--	--	--	--	--	
MT-6546	BB	<.15	--	<.10	--	--	--	--	--	--	
Theoretical	BB	<.15	<.05	<.10	<.05	<.20	<.05	<.05	<.05	<.05	
MT-2540	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-2547	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-2804	FB	<.15	<.05	<.10	<.05	<.20	<.05	<.05	<.05	<.05	
MT-3242	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-3385	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-3648	FB	<.15	--	.18	--	--	--	--	--	--	
MT-4134	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-4222	FB	<.15	--	.32	--	--	--	--	--	--	
MT-4743	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-4802	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-4847	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-4847	FB	<.15	--	<.10	--	--	--	--	--	--	
MT-4861	FB	<.15	--	.21	--	--	--	--	--	--	
MT-5027	FB	.20	--	.70	--	--	--	--	--	--	
MT-5241	FB	<.15	--	<.10	--	--	--	--	--	--	

Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter								
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine
		Organic-free water—Continued								
MT-5254	FB	<0.15	--	0.24	--	--	--	--	--	--
MT-5742	FB	<.15	--	<.10	--	--	--	--	--	--
MT-6490	FB	.30	--	.30	--	--	--	--	--	--
MT-7001	FB	<.15	<0.05	.17	0.05	<0.20	<0.05	0.05	<0.05	<0.05
MT-7002	FB	<.15	--	<.10	--	--	--	--	--	--
MT-7189	FB	.23	--	<.10	--	--	--	--	--	--
MT-7200	FB	<.15	--	<.10	--	--	--	--	--	--
Theoretical	FB	<.15	<.05	<.10	<.05	<.20	<.05	<.05	<.05	<.05
Blind spike samples										
MT-1964	DG1	--	.34	--	.25	.38	<.05	.21	<.05	<.05
MT-2155	DG1	--	.33	--	.27	<.20	<.05	.19	<.05	<.05
MT-2806	DG1	.80	--	.10	--	--	--	--	--	--
MT-3138	DG1	--	.35	--	.26	<.20	<.05	.19	<.05	<.05
MT-3273	DG1	<.15	--	--	--	--	--	--	--	--
MT-3350	DG1	.40	--	1.4	--	--	--	--	--	--
MT-3928	DG1	.49	.30	.15	.21	<.20	<.05	.21	<.05	<.05
MT-4076	DG1	2.0	.27	.22	.21	<.20	<.05	.19	<.05	<.05
Mean	DG1	.75	.32	.47	.24	.16	<.05	.20	<.05	<.05
Theoretical	DG1	--	.30	--	.20	<.20	<.05	.20	<.05	<.05
NWQL	DG1	--	.30	--	.20	<.20	<.05	.20	<.05	<.05
MT-1963	DG2	--	.78	--	1.4	<.20	<.05	.48	.23	.55
MT-2156	DG2	--	.86	--	1.5	.20	<.05	.50	.17	.50
MT-2805	DG2	1.5	--	.90	--	--	--	--	--	--
MT-2914	DG2	.48	--	2.3	--	--	--	--	--	--
MT-3139	DG2	--	.99	--	1.5	.50	<.05	.51	.28	.59

Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter									
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine	
		Blind spike samples—Continued									
MT-3351	DG2	0.90	--	4.2	--	--	--	--	--	--	
MT-3927	DG2	1.8	0.76	1.8	1.2	0.37	<.05	0.49	0.22	1.1	
MT-4075	DG2	3.0	.74	1.8	1.1	.33	<.05	.80	<.05	1.1	
Mean	DG2	1.5	.83	2.2	1.3	.30	<.05	.56	.19	.77	
Theoretical	DG2	--	.80	--	1.2	.40	<.05	.50	.20	.50	
NWQL	DG2	--	.60	--	1.0	.50	<.05	.40	.20	.40	
MT-3140	DG3	5.2	--	6.4	--	--	--	--	--	--	
MT-3352	DG3	3.7	--	11	--	--	--	--	--	--	
MT-3596	DG3	3.8	3.5	4.3	4.6	2.3	<.05	1.6	.92	2.0	
MT-4109	DG3	14	3.5	8.3	4.7	2.9	<.05	1.9	1.3	2.1	
MT-4142	DG3	4.9	3.7	3.9	4.1	.28	<.05	1.7	1.0	2.0	
MT-4777	DG3	4.6	4.5	9.4	5.3	3.4	<.05	2.1	1.4	.56	
MT-5917	DG3	5.7	3.8	5.5	4.7	2.5	<.05	1.7	.94	.48	
Mean	DG3	6.0	3.8	7.0	4.7	2.3	<.05	1.8	1.1	1.4	
Theoretical	DG3	--	4.0	--	4.9	4.0	<.05	2.0	1.0	1.0	
NWQL	DG3	--	4.2	--	4.5	1.4	<.05	1.7	1.0	.90	
MT-3141	DG4	11	--	20	--	--	--	--	--	--	
MT-3353	DG4	6.7	--	18	--	--	--	--	--	--	
MT-3595	DG4	7.0	8.0	5.7	16	8.5	<.05	4.5	3.0	6.1	
MT-4110	DG4	28	9.0	20	18	11	<.05	5.7	3.1	6.1	
MT-4141	DG4	52	9.3	10	18	11	<.05	5.8	3.2	6.1	

Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter								
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine
		Blind spike samples—Continued								
MT-4834	DG4	17	--	9.1	--	--	--	--	--	--
MT-5916	DG4	8.0	12	11	24	17	<.05	6.7	4.7	2.1
Mean	DG4	19	9.6	13	19	12	<.05	5.7	3.5	5.1
Theoretical	DG4	--	10	--	20	14	<.05	6.1	3.0	3.0
NWQL	DG4	--	9.3	--	17	5.2	<.05	5.5	2.6	2.8
MT-5009	DG5	2.9	--	3.3	--	--	--	--	--	--
MT-5032	DG5	2.6	--	3.5	--	--	--	--	--	--
MT-5540	DG5	3.0	--	3.3	--	--	--	--	--	--
MT-6454	DG5	2.1	<.05	2.0	6.1	.43	1.1	1.1	.08	.08
Mean	DG5	2.7	<.05	3.1	6.1	.43	1.1	1.1	.08	.08
Theoretical	DG5	--	2.0	--	2.5	2.0	--	1.0	.50	.50
NWQL	DG5	--	1.6	--	2.0	.70	--	.80	.40	.40
MT-5010	DG6	6.0	5.5	9.1	11	6.6	<.05	3.4	2.1	.96
MT-5478	DG6	5.0	--	13	--	--	--	--	--	--
MT-6453	DG6	5.6	--	19	--	--	--	--	--	--
Mean	DG6	5.6	5.5	14	11	6.6	<.05	3.4	2.1	.96
Theoretical	DG6	--	5.0	--	10	7.0	<.05	3.0	1.5	1.4
NWQL	DG6	--	4.3	--	8.0	1.4	<.05	2.5	1.1	1.4
MT-7173	DG7	2.7	2.2	11	5.0	2.5	.73	3.4	1.3	.75
MT-7176	DG7	2.4	1.8	4.8	3.8	2.8	.55	2.7	1.1	.58
MT-7177	DG7	2.6	2.2	4.7	4.7	3.6	.70	3.3	1.3	.70
MT-7178	DG7	2.4	2.5	7.6	5.2	4.1	.78	3.8	1.6	.81
Mean	DG7	2.5	2.2	7.0	4.7	3.3	.69	3.3	1.3	.71
Theoretical	DG7	--	2.0	--	4.1	3.1	.80	3.0	1.0	1.0
NWQL	DG7	--	1.9	--	3.8	1.4	.90	3.0	1.0	1.1

Table 3. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1990—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter								
		ELISA Alachlor	GC/MS Alachlor	ELISA Atrazine	GC/MS Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine
		Blind spike samples—Continued								
MT-7174	DG8	0.68	0.44	1.1	0.87	1.2	0.22	0.79	0.50	0.28
MT-7175	DG8	.77	.45	1.1	.86	1.4	.23	.81	.61	.28
Mean	DG8	.73	.45	1.1	.87	1.3	.23	.80	.56	.28
Theoretical	DG8	--	.50	--	1.0	1.5	.30	1.0	.50	.50
NWQL	DG8	--	.40	--	.80	1.5	.30	.90	.40	.50

Table 4. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1991–92

[DEA, deethylatrazine; ametryn, deisopropylatrazine, prometon, prometryn, propazine, and terbutryn were not detected; BB, bottle blank sample; FB, field blank sample; GWM, blind spike sample; <, less than; one-half detection limit was used in calculation of mean values]

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter						
		Alachlor	Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine
		Organic free water						
MT-10516	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-10966A	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11379A	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11418	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11419	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11632A	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11763A	BB	<.05	.15	<.20	<.05	.06	<.05	<.05
MT-12584A	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-14153	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-14154	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
Theoretical	BB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-10953A	FB	<.05	.07	<.20	<.05	<.05	<.05	<.05
MT-10965A	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11389A	FB	<.05	.06	<.20	<.05	.05	<.05	<.05
MT-11435A	FB	<.05	.06	<.20	<.05	<.05	<.05	<.05
MT-11435B	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11540A	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-11764A	FB	<.05	.06	<.20	<.05	<.05	<.05	<.05
MT-12583A	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-12982A	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
MT-12932A	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05
Theoretical	FB	<.05	<.05	<.20	<.05	<.05	<.05	<.05

Table 4. Concentrations of selected herbicides and deethylatrazine in quality-assurance samples, 1991–92—Continued

Laboratory identification number	Quality- assurance identification	Concentrations, in micrograms per liter						
		Alachlor	Atrazine	Cyanazine	DEA	Metolachlor	Metribuzin	Simazine
		Spike samples						
MT-11392A	GWM3	0.48	0.68	0.53	0.47	0.50	0.59	0.50
MT-11392B	GWM3	.45	.62	.49	.48	.50	.60	.52
MT-11405A	GWM3	.47	.60	.54	.54	.50	.53	.51
MT-11436A	GWM3	.45	.61	.39	.46	.44	.51	.52
MT-11616A	GWM3	.45	.56	.55	.45	.49	.50	.48
Mean	GWM3	.46	.61	.50	.48	.49	.55	.51
MT-11391A	GWM4	.95	2.0	.95	.81	1.9	1.0	.98
MT-11541A	GWM4	.97	2.2	.94	.80	1.8	.95	1.1
MT-541B	GWM4	.99	2.2	.96	.84	1.8	.98	1.1
Mean	GWM4	.97	2.1	.95	.82	1.8	.98	1.1
MT-12089A	GWM5	1.4	1.4	.85	1.2	1.5	1.6	1.3
MT-12421A	GWM5	.92	.90	.72	.74	.93	.84	.81
MT-12594A	GWM5	1.0	1.8	.47	.73	.84	1.2	1.7
MT-12707A	GWM5	1.2	1.1	.91	.99	1.2	.78	1.1
Mean	GWM5	1.1	1.3	.74	.92	1.1	1.1	1.3
MT-12221A	GWM6	1.8	4.1	1.4	1.5	3.8	1.3	2.0
MT-12415A	GWM6	2.1	4.8	2.3	2.1	4.6	2.6	2.1
MT-12416A	GWM6	2.1	4.8	2.2	2.1	4.4	2.6	2.1
MT-12416B	GWM6	1.9	4.4	2.1	1.9	4.0	2.4	2.0
MT-12582A	GWM6	2.4	8.4	2.5	2.2	4.6	2.4	4.1
MT-12582 B	GWM6	2.4	8.2	2.5	2.2	4.5	2.4	4.0
Mean	GWM6	2.1	5.8	2.2	2.0	4.3	2.3	2.7

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990

[ELISA, analysis by enzyme-linked immunosorbent assay; GC/MS, analysis by gas chromatography/mass spectrometry; ft³/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; --, no data; >, greater than; <, less than; AS, automatic sampler; MAS, manually activated automatic sampler; EWI, equal discharge increment; G, grab sample; XSECT, multiple vertical cross section]

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate					Atrazine GC/MS (µg/L)	Atrazine ELISA (µg/L)	Alachlor GC/MS (µg/L)	Alachlor ELISA (µg/L)	Nitrogen (mg/L)	Nitrite plus nitrate (mg/L)
1	Iroquois River near Chebanese, Illinois	04/04/90	1530	--	2,410	693	8.2	9.0	9.0	--	0.07	--	0.19	--	--	--	--	--
		04/12/90	1630	--	2,450	709	8.5	8.6	8.6	--	.18	--	.39	--	--	--	--	--
		04/17/90	1215	--	3,430	694	8.2	11	11	1.4	--	0.80	--	--	--	--	--	--
		04/19/90	0400	AS	2,740	681	8.5	9.8	9.8	1.1	--	.40	--	--	--	--	--	--
		04/19/90	1400	MAS	2,790	691	8.2	9.8	9.8	.60	.07	.40	.22	--	--	--	--	--
		04/19/90	1500	AS	2,890	669	8.4	9.9	9.9	1.0	--	.70	--	--	--	--	--	--
		04/19/90	1600	AS	2,910	673	8.4	9.9	9.9	2.0	<.05	--	.93	--	--	--	--	--
		04/19/90	2200	AS	2,830	663	8.5	9.7	9.7	1.2	--	1.1	--	--	--	--	--	--
		04/20/90	1150	AS	2,430	685	8.6	9.5	9.5	1.1	.07	.40	.20	--	--	--	--	--
		04/21/90	1200	AS	2,430	683	8.5	9.7	9.7	1.2	--	.30	--	--	--	--	--	--
		04/23/90	1200	AS	2,590	709	8.3	7.0	7.0	.80	--	.40	--	--	--	--	--	--
		04/23/90	1800	AS	2,610	740	8.3	9.7	9.7	1.7	.08	.60	.26	--	--	--	--	--
		04/23/90	2400	AS	2,590	708	8.3	8.8	8.8	.90	--	1.0	--	--	--	--	--	--
		04/24/90	0600	AS	2,570	712	8.4	9.8	9.8	1.0	--	.40	--	--	--	--	--	--
		04/24/90	1200	AS	2,590	705	8.3	9.8	9.8	1.0	.08	.40	.21	--	--	--	--	--
		04/24/90	1440	G	2,590	760	8.1	8.0	8.0	1.3	--	.40	--	--	--	--	--	--
		04/24/90	1441	G	2,590	758	8.3	10	10	1.6	.05	.30	.24	--	--	--	--	--
		04/27/90	1400	MAS	2,000	675	7.8	9.5	9.5	1.0	.07	.20	.23	--	--	--	--	--
		05/03/90	1515	--	--	--	--	--	--	1.2	--	.30	--	--	--	--	--	--
		05/03/90	1516	--	--	--	--	--	--	1.4	.14	.30	.33	--	--	--	--	--
		05/03/90	1800	AS	1,290	--	--	--	--	.60	.20	.40	.38	--	--	--	--	--
		05/05/90	1800	AS	2,020	--	--	--	--	1.6	--	1.6	--	--	--	--	--	--
		05/07/90	1800	AS	2,410	--	--	--	--	1.7	.44	2.1	2.0	--	--	--	--	--
		05/08/90	1445	MAS	2,130	530	8.4	10	10	1.6	--	2.0	--	--	--	--	--	--
		05/09/90	1800	AS	1,930	645	8.1	9.8	9.8	3.7	.76	>2.0	3.1	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor		Atrazine		
									ELISA (μ g/L)	GC/MS (μ g/L)	ELISA (μ g/L)	GC/MS (μ g/L)	
1	Iroquois River near Chebanese, Illinois—Continued	05/11/90	1200	MAS	2,720	605	8.4	11	2.8	--	--	2.9	--
		05/11/90	1800	AS	2,630	655	8.1	11	3.1	--	--	8.5	--
		05/11/90	2400	AS	2,530	630	8.2	11	3.2	0.92	--	>2.0	3.7
		05/12/90	0600	AS	2,460	640	8.1	11	3.8	--	--	8.2	--
		05/12/90	0900	AS	2,440	645	8.1	11	3.8	--	--	2.5	--
		05/12/90	1100	AS	2,420	635	8.1	10	3.0	--	--	3.4	--
		05/12/90	1700	AS	2,430	645	8.1	9.8	3.1	1.5	--	2.1	2.6
		05/12/90	2300	AS	2,550	625	8.1	10	3.1	--	--	4.8	--
		05/13/90	0100	AS	2,790	610	8.1	11	3.6	--	--	15	--
		05/13/90	0300	AS	3,040	660	8.0	11	9.5	4.7	--	25	9.4
		05/13/90	0500	G	3,290	575	7.9	11	8.8	--	--	33	--
		05/13/90	0900	G	3,530	645	8.0	12	2.6	--	--	14	--
		05/13/90	1300	AS	3,860	540	7.9	11	4.7	--	--	30	--
		05/13/90	1600	AS	4,160	605	8.0	12	3.1	2.3	--	26	9.2
		05/13/90	1900	AS	4,460	435	7.8	11	11	--	--	37	--
		05/13/90	2200	AS	4,710	585	7.9	12	4.5	--	--	18	--
		05/14/90	0100	AS	5,020	605	8.0	5.8	2.6	--	--	15	--
		05/14/90	0500	AS	5,340	665	7.9	12	1.6	--	--	12	--
		05/14/90	0900	AS	5,630	605	8.0	13	5.1	2.4	--	17	6.0
		05/14/90	1500	AS	5,910	665	8.0	13	4.3	--	--	9.2	--
		05/14/90	2100	AS	6,010	625	8.0	12	4.1	--	--	9.8	--
		05/15/90	0300	AS	6,010	625	8.1	12	3.4	--	--	6.5	--
		05/15/90	0900	AS	5,940	635	8.1	12	4.2	--	--	9.9	--
		05/15/90	1500	AS	5,880	630	8.1	13	4.9	--	--	6.1	--
		05/15/90	2100	AS	5,710	625	8.1	13	4.9	.92	--	6.0	3.4

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
1	Iroquois River near Chebanese, Illinois—Continued	05/16/90	0300	AS	5,690	655	7.9	13	5.0	--	6.2	--	
		05/16/90	0900	AS	5,690	625	8.0	14	5.7	--	7.8	--	
		05/16/90	1500	AS	5,660	610	8.0	14	5.6	--	11	--	
		05/16/90	2105	AS	5,730	595	8.0	14	5.3	1.6	12	5.1	
		05/17/90	0300	AS	5,770	595	8.0	13	4.6	--	7.5	--	
		05/17/90	0900	AS	5,940	605	8.0	14	3.9	--	6.2	--	
		05/17/90	0930	--	5,560	685	8.2	15	--	4.7	--	4.2	
		05/17/90	1000	MAS	5,970	650	8.0	14	6.5	--	5.9	--	
		05/17/90	1800	AS	5,790	636	8.3	14	6.5	--	8.1	--	
		05/18/90	0200	AS	6,650	628	8.1	14	7.0	--	6.4	--	
		05/18/90	1000	AS	7,050	650	8.3	14	4.0	--	6.4	--	
		05/18/90	1800	AS	7,290	668	8.1	14	2.9	--	8.5	--	
		05/19/90	0200	AS	7,380	638	8.2	11	3.8	1.8	13	6.2	
		05/19/90	1800	AS	7,320	382	8.0	11	4.8	--	13	--	
		05/20/90	0200	AS	6,990	412	7.9	11	4.4	--	11	--	
		05/20/90	1000	AS	6,570	385	8.0	12	4.8	--	13	--	
		05/20/90	1800	AS	5,940	390	8.0	12	4.8	1.7	13	6.6	
		05/21/90	0200	AS	5,260	428	8.0	13	5.1	--	13	--	
		05/21/90	1000	AS	4,660	425	8.0	13	3.6	--	7.9	--	
		05/21/90	1800	AS	4,140	--	--	--	6.0	--	8.7	--	
		05/22/90	0200	AS	3,780	--	--	--	--	5.4	--	6.2	--
		05/22/90	1000	AS	3,490	--	--	--	--	5.5	--	4.6	--
		05/22/90	1800	AS	3,440	--	--	--	--	4.9	--	5.2	--
		05/23/90	0200	AS	3,020	--	--	--	--	5.2	.73	4.6	2.7
		05/23/90	1000	AS	2,810	--	--	--	--	3.6	--	2.9	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
1	Iroquois River near Chebanese, Illinois—Continued	05/23/90	1800	AS	2,650	--	--	--	3.2	--	--	3.1	--
		05/24/90	0200	AS	2,510	--	--	--	4.3	--	--	2.2	--
		05/24/90	1000	AS	2,410	--	--	--	--	3.7	--	2.2	--
		05/25/90	0200	AS	2,170	--	--	--	--	3.1	--	2.3	--
		05/25/90	1000	AS	2,120	--	--	--	--	3.2	0.57	2.4	1.7
		05/25/90	1800	AS	2,060	--	--	--	--	3.0	--	2.4	--
		05/26/90	0200	AS	2,120	--	--	--	--	3.9	--	1.9	--
		05/26/90	1000	AS	2,250	--	--	--	--	3.5	--	2.0	--
		05/26/90	1800	AS	2,390	--	--	--	--	4.0	--	1.5	--
		05/27/90	0200	AS	2,570	--	--	--	--	3.2	.49	1.4	1.2
		05/27/90	1000	AS	2,770	--	--	--	--	3.4	--	1.1	--
		05/27/90	1800	AS	2,920	--	--	--	--	3.6	--	2.0	--
		05/28/90	0200	AS	2,980	--	--	--	--	3.4	--	2.1	--
		05/28/90	1000	AS	2,960	--	--	--	--	3.5	--	2.3	--
		05/28/90	1800	AS	2,930	--	--	--	--	4.1	--	2.0	--
		05/29/90	0200	AS	2,800	--	--	--	--	3.9	--	1.6	--
		05/29/90	0800	AS	2,700	675	8.1	11	--	3.4	--	1.1	--
		05/29/90	1400	AS	2,590	685	8.2	12	--	2.5	--	1.6	--
		05/29/90	1430	AS	2,630	670	8.4	12	--	2.4	--	1.4	--
		05/30/90	0230	AS	2,430	685	8.3	11	--	1.8	--	1.3	--
		05/30/90	1000	AS	2,300	645	8.3	11	--	1.7	--	1.5	--
		05/30/90	1800	AS	2,190	640	8.4	11	--	1.8	.71	.80	1.8
		05/31/90	0200	AS	2,080	685	8.3	11	--	2.1	--	.50	--
		05/31/90	1000	AS	1,960	690	8.3	11	--	3.2	--	3.0	--
		06/01/90	0200	AS	1,770	685	8.4	11	--	1.1	--	1.3	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)		
1	Iroquois River near Chebanese, Illinois—Continued	06/01/90	1000	AS	1,740	650	8.4	10	1.5	--	1.6	--	--
		06/01/90	1800	AS	1,690	665	8.4	10	1.6	--	1.2	--	--
		06/02/90	0200	AS	1,610	645	8.4	11	1.5	--	1.2	--	--
		06/02/90	1000	AS	1,570	630	8.5	11	2.0	--	1.0	--	--
		06/02/90	1800	AS	1,560	660	8.3	11	1.4	--	.90	--	--
		06/05/90	0200	AS	1,630	575	8.6	9.7	1.1	--	.80	--	--
		06/05/90	1000	AS	1,630	630	8.4	9.4	1.6	0.43	1.5	1.0	1.0
		06/05/90	1200	AS	1,630	735	8.2	9.8	1.4	--	2.4	--	--
		06/11/90	1500	MAS	2,100	545	8.1	8.2	3.8	<.05	11	10	10
		06/12/90	1500	MAS	1,870	595	8.2	9.1	3.7	--	4.3	--	--
		06/12/90	1505	AS	1,870	575	8.3	7.8	3.2	--	4.4	--	--
		06/12/90	1510	AS	1,870	595	8.3	10	3.0	--	3.3	--	--
		06/12/90	2000	AS	1,770	590	8.3	11	3.8	.26	2.8	2.6	2.6
		06/13/90	0400	AS	1,610	595	8.3	10	3.2	--	4.6	--	--
		06/13/90	1305	AS	1,530	600	8.2	10	3.9	--	4.4	--	--
		06/13/90	1310	AS	1,530	610	8.2	9.9	3.7	--	4.1	--	--
		06/14/90	1300	AS	1,270	620	7.7	10	4.5	--	6.0	--	--
		06/14/90	2100	AS	1,220	615	8.4	10	4.9	--	4.1	--	--
		06/15/90	0500	AS	1,160	595	8.4	10	4.2	--	3.4	--	--
		06/15/90	1300	AS	1,150	595	8.4	10	3.5	.46	2.9	3.2	3.2
		06/15/90	2100	AS	1,140	630	8.4	9.2	2.7	--	2.0	--	--
		06/16/90	2100	AS	1,030	625	8.3	8.8	2.3	--	2.5	--	--
		06/17/90	2100	AS	883	665	8.3	8.7	2.7	--	2.5	--	--
		06/18/90	1530	MAS	816	665	8.3	8.5	2.4	--	1.6	--	--
		06/19/90	2100	AS	725	645	8.2	8.3	1.7	--	1.2	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
1	Iroquois River near Chebanese, Illinois—Continued	06/21/90	2100	AS	952	645	8.4	7.2	1.9	--	1.1	--
		06/22/90	0900	AS	1,460	635	8.3	7.4	2.6	--	1.5	--
		06/22/90	1700	AS	1,770	620	8.3	7.3	1.9	0.23	1.4	0.91
		06/23/90	0100	AS	1,960	650	8.3	8.1	2.6	--	1.5	--
		06/23/90	0900	AS	2,050	645	8.3	10	3.5	--	3.3	--
		06/23/90	1700	AS	2,060	565	8.3	12	5.0	--	5.7	--
		06/24/90	0100	AS	1,990	510	8.1	13	6.0	--	6.1	--
		06/24/90	0900	AS	1,920	515	8.1	14	6.7	--	5.9	--
		06/24/90	1700	AS	1,850	530	8.2	13	5.7	--	5.7	--
		06/25/90	0100	AS	1,810	550	8.1	14	6.1	--	5.9	--
		06/25/90	0900	AS	1,710	575	8.1	14	5.1	--	5.7	--
		06/25/90	1700	AS	1,630	--	--	--	4.4	--	5.1	--
		06/26/90	0100	AS	1,480	615	8.1	13	5.0	1.0	5.1	4.3
		06/26/90	0900	AS	1,370	615	8.3	12	5.0	--	5.1	--
		06/26/90	1700	AS	1,300	595	8.3	13	5.2	--	5.3	--
		06/27/90	0100	AS	1,210	585	8.2	12	5.8	--	5.3	--
		06/27/90	0900	AS	1,150	605	8.3	14	5.7	--	5.4	--
		06/27/90	1700	AS	1,080	610	8.3	11	5.0	--	4.8	--
		06/28/90	1210	XSECT	937	645	8.2	--	4.9	--	4.0	--
		06/28/90	1211	MAS	937	600	8.2	11	4.9	--	4.0	--
		06/28/90	1215	XSECT	937	635	8.2	--	5.0	--	4.3	--
		06/28/90	1220	XSECT	937	635	8.2	--	4.9	--	3.9	--
		06/28/90	1230	AS	937	660	8.5	10	5.9	--	3.8	--
		06/28/90	1300	AS	921	650	8.4	11	5.8	1.5	3.8	3.0
		06/29/90	2200	AS	1,330	665	8.3	10	5.6	--	3.7	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate							
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)			
1	Iroquois River near Chebanese, Illinois—Continued	06/30/90	0500	AS	1,730	650	8.2	14	5.9	--	5.3	--	--	--	
		06/30/90	1300	AS	2,060	560	8.2	16	5.3	--	5.9	--	--	--	
		06/30/90	2100	AS	2,350	560	8.2	13	5.5	--	4.1	--	--	--	
		07/01/90	0500	AS	2,700	700	8.2	14	5.9	0.94	5.1	3.9	--	--	
		07/01/90	1300	AS	2,940	700	8.2	13	5.0	--	3.5	--	--	--	
		07/01/90	2100	AS	3,060	690	8.3	11	4.6	--	3.3	--	--	--	
		07/02/90	0500	AS	3,090	670	8.3	12	5.0	--	3.3	--	--	--	
		07/02/90	1100	MAS	--	--	--	--	5.0	--	11	--	--	--	
		07/02/90	1300	AS	3,000	540	8.4	--	4.7	--	4.3	--	--	--	
		07/02/90	2100	AS	2,830	540	8.3	--	3.3	--	5.6	--	--	--	
		07/03/90	0500	AS	2,550	570	8.2	--	2.8	--	4.5	--	--	--	
		07/03/90	1300	AS	2,310	600	8.3	--	6.8	--	4.0	--	--	--	
		07/03/90	2100	AS	2,010	660	8.2	--	2.8	--	4.2	--	--	--	
		07/04/90	0500	AS	1,770	590	8.3	--	3.4	.39	3.2	2.9	--	--	
		07/04/90	1300	AS	1,610	650	8.3	--	4.4	--	4.6	--	--	--	
		07/04/90	2100	AS	1,450	605	8.4	--	4.4	--	3.5	--	--	--	
		07/05/90	0500	AS	1,300	600	8.3	--	3.4	--	3.2	--	--	--	
		07/09/90	0500	AS	993	570	8.3	--	4.0	--	4.0	--	--	--	
		07/09/90	1300	AS	583	605	8.3	--	2.6	--	2.3	--	--	--	
		07/09/90	2100	AS	1,080	595	8.3	--	3.3	--	3.5	--	--	--	
		07/10/90	1300	AS	583	--	--	--	--	3.6	--	2.9	--	--	--
		07/11/90	0800	AS	906	570	8.8	12	4.9	--	6.4	--	--	--	--
		07/11/90	1600	AS	1,310	345	8.2	12	5.7	--	7.5	--	--	--	--
		07/11/90	2300	AS	1,710	415	8.2	12	4.7	--	6.4	--	--	--	--
		07/12/90	0700	AS	2,170	485	8.1	12	4.0	.58	6.6	6.9	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate					Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)			
1	Iroquois River near Chebanese, Illinois—Continued	07/12/90	1500	AS	2,490	575	7.7	9.1	4.0	--	4.1	--	--	--	--
		07/12/90	2300	AS	2,700	590	8.0	9.1	4.5	--	3.5	--	--	--	--
		07/13/90	0700	AS	2,880	560	8.2	8.4	4.0	--	3.0	--	--	--	--
		07/13/90	1500	AS	2,960	530	8.1	8.6	4.2	--	3.3	--	--	--	--
		07/13/90	2300	AS	2,960	550	8.2	9.4	4.3	--	3.6	--	--	--	--
		07/14/90	0700	AS	2,850	560	8.2	9.9	4.7	--	4.5	--	--	--	--
		07/14/90	1500	AS	2,700	590	8.2	9.6	4.6	--	3.6	--	--	--	--
		07/14/90	2300	AS	2,510	550	8.2	9.6	4.4	--	3.6	--	--	--	--
		07/15/90	0700	AS	2,350	540	8.2	9.2	4.4	0.38	3.2	2.3	--	--	--
		07/15/90	2300	AS	2,060	540	8.1	9.5	4.4	--	2.2	--	--	--	--
		07/16/90	0010	AS	2,230	555	8.2	--	4.4	--	3.2	--	--	--	--
		07/16/90	0700	AS	1,960	610	8.2	--	4.5	--	2.3	--	--	--	--
		07/16/90	1500	AS	2,060	655	7.8	--	4.0	--	1.6	--	--	--	--
		07/16/90	2300	AS	2,140	630	8.0	9.3	3.7	--	1.6	--	--	--	--
		07/17/90	0700	AS	2,250	675	8.1	9.8	4.2	.29	2.0	1.7	--	--	--
		07/17/90	1500	AS	2,300	640	8.1	9.5	4.1	--	1.9	--	--	--	--
		07/17/90	2300	AS	2,210	650	8.2	10	4.1	--	1.6	--	--	--	--
		07/18/90	0700	AS	2,100	710	8.2	11	4.2	--	1.3	--	--	--	--
		07/18/90	1500	AS	1,990	630	8.1	10	3.4	.17	1.6	.68	--	--	--
		07/18/90	2300	AS	1,820	640	8.2	10	3.8	--	1.4	--	--	--	--
		07/19/90	0700	AS	1,730	650	8.1	10	3.3	--	1.4	--	--	--	--
		07/19/90	1500	AS	1,630	--	--	--	2.6	--	1.0	--	--	--	--
		07/19/90	2300	AS	1,630	590	7.6	9.1	3.1	--	1.6	--	--	--	--
		07/20/90	0700	AS	1,890	--	--	--	3.6	--	5.7	--	--	--	--
		07/20/90	0800	--	--	--	--	--	--	1.9	--	2.6	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)		
1	Iroquois River near Chebanese, Illinois—Continued	07/20/90	1200	AS	2,430	290	7.9	5.3	3.8	--	5.8	--	--
		07/20/90	1900	AS	2,980	290	7.8	5.5	4.3	--	6.9	--	--
		07/21/90	0200	AS	3,550	390	7.9	6.8	4.3	0.41	5.2	6.1	6.1
		07/21/90	0900	AS	4,190	445	7.9	7.4	3.6	--	5.2	--	--
		07/21/90	1600	AS	4,880	465	8.0	7.5	4.0	--	3.4	--	--
		07/21/90	2400	AS	5,370	580	8.1	7.5	4.4	--	3.0	--	--
		07/22/90	0800	AS	5,770	550	8.0	7.6	4.8	--	2.7	--	--
		07/22/90	1400	AS	6,680	525	8.0	8.2	4.7	--	2.3	--	--
		07/23/90	0300	AS	8,020	560	8.2	7.9	4.7	.53	2.7	2.8	2.8
		07/23/90	1100	AS	8,710	440	8.1	7.2	4.1	--	3.1	--	--
		07/23/90	1900	AS	9,060	410	8.0	6.5	4.7	--	2.9	--	--
		07/24/90	0300	AS	9,130	400	7.7	6.0	4.8	--	2.8	--	--
		07/24/90	1100	AS	9,130	380	7.8	6.5	4.9	--	4.0	--	--
		07/24/90	1130	MAS	9,170	380	7.9	6.6	5.1	--	4.8	--	--
		07/24/90	1900	AS	8,990	--	--	--	4.7	--	3.3	--	--
		07/25/90	0300	AS	8,750	--	--	--	4.2	--	3.2	--	--
		07/25/90	1100	AS	8,420	--	--	--	3.7	--	2.8	--	--
		07/27/90	1100	AS	5,200	--	--	--	3.4	--	2.6	--	--
		07/27/90	1115	XSECT	5,200	--	--	--	3.8	--	2.6	--	--
		07/27/90	1120	XSECT	5,200	--	--	--	3.5	--	2.2	--	--
		07/27/90	1125	XSECT	5,200	--	--	--	--	3.5	.19	2.4	1.3
		07/27/90	1900	AS	4,690	--	--	--	--	3.0	--	2.0	--
		07/28/90	0300	AS	4,240	--	--	--	--	3.8	--	2.2	--
		07/28/90	1100	AS	3,910	580	7.8	--	--	4.0	--	2.1	--
		07/28/90	1900	AS	3,600	600	8.2	--	--	3.5	--	1.9	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
1	Iroquois River near Chebanese, Illinois—Continued	07/29/90	0300	AS	3,330	600	8.3	--	2.5	--	1.8	--
		07/29/90	1100	AS	3,070	620	8.3	--	2.3	--	1.8	--
		07/29/90	1900	AS	2,810	625	8.3	--	2.9	--	1.3	--
		07/30/90	0300	AS	2,570	--	--	--	2.4	0.15	1.7	1.5
		07/31/90	1100	AS	1,730	660	8.3	--	3.2	<.05	1.8	1.0
		07/31/90	1900	AS	1,730	645	8.2	6.2	3.4	--	1.8	--
		08/01/90	0300	AS	1,480	660	8.2	--	2.6	--	1.8	--
		08/01/90	1100	AS	1,370	665	8.2	--	3.1	--	1.7	--
		08/01/90	1900	AS	1,270	690	8.2	--	2.6	--	1.5	--
		08/02/90	0300	AS	1,190	650	8.2	6.2	3.5	--	1.9	--
		08/02/90	1100	AS	1,090	650	8.6	6.2	2.3	--	1.3	--
		08/02/90	1200	AS	1,270	675	8.6	6.2	3.2	--	1.4	--
		08/02/90	2000	AS	1,190	670	8.6	5.4	1.6	--	1.2	--
		08/03/90	0400	AS	1,080	670	8.6	5.8	3.3	--	1.4	--
		08/03/90	1200	AS	1,030	660	8.6	6.0	2.5	--	1.3	--
08/03/90	2000	AS	937	595	8.4	4.7	2.9	.30	1.6	1.2		
08/05/90	1900	AS	1,340	620	8.4	4.9	2.5	--	1.3	--		
08/06/90	0300	AS	1,460	660	8.5	5.3	1.7	--	1.2	--		
08/09/90	2300	AS	952	690	8.8	--	2.7	.14	1.5	.86		
08/13/90	1500	AS	952	615	8.1	--	2.1	--	.70	--		
08/13/90	2300	AS	1,360	590	8.3	--	2.5	.31	1.0	.82		
08/14/90	1000	AS	1,760	630	8.0	--	3.3	--	1.2	--		
08/14/90	1800	AS	1,910	612	8.2	--	4.1	--	1.1	--		
08/15/90	0200	AS	2,000	608	8.3	--	3.0	--	1.0	--		
08/15/90	1000	AS	2,080	572	8.2	--	3.4	--	.90	--		

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
1	Iroquois River near Chebanese, Illinois—Continued	08/15/90	1800	AS	2,100	600	8.2	--	2.9	--	0.70	--
		08/16/90	0200	AS	2,020	590	8.1	5.7	3.0	0.31	.80	0.91
		08/16/90	1000	AS	1,970	612	8.1	5.6	2.9	--	.70	--
		08/17/90	0800	AS	--	--	--	--	1.0	.51	1.8	1.0
		08/17/90	1000	AS	1,610	--	--	--	2.7	--	1.3	--
		08/17/90	1800	AS	1,510	--	--	--	2.2	--	1.5	--
		08/18/90	0200	AS	1,400	--	--	--	2.0	--	.80	--
		08/18/90	1000	AS	1,320	650	8.2	5.5	1.8	.15	.90	.82
		08/21/90	2000	AS	1,590	--	--	--	2.0	--	1.6	--
		08/22/90	1100	MAS	1,960	600	8.1	--	2.1	--	1.0	--
2	Sangamon River at Monticello, Illinois	04/04/90	1400	MAS	375	693	7.9	6.7	--	<.05	--	.09
		04/16/90	0745	MAS	611	750	8.7	11	--	.05	--	.18
		04/18/90	0945	MAS	548	685	8.6	13	1.9	--	.10	--
		04/21/90	2100	AS	459	600	8.4	11	.30	--	.40	--
		04/22/90	1000	AS	439	778	8.3	11	.40	.08	.70	.36
		04/22/90	1600	AS	436	758	8.4	12	.40	--	.40	--
		04/22/90	2200	AS	429	610	8.2	12	.20	--	.30	--
		04/23/90	0400	AS	422	722	8.3	12	.30	--	.20	--
		04/23/90	1000	AS	425	725	8.3	12	.30	<.05	.30	.13
		04/27/90	0830	MAS	340	740	8.4	10	.20	.06	.10	.13
		04/28/90	0900	AS	345	735	8.4	10	.30	--	.30	--
		04/29/90	0900	AS	337	717	8.4	11	.20	--	.20	--
		05/02/90	1400	MAS	251	720	8.3	11	.50	.10	.40	.52
		05/03/90	0900	AS	235	650	8.1	11	.60	--	.50	--
05/05/90	0900	AS	324	550	8.6	10	.90	.48	1.2	1.1		

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/05/90	1200	AS	324	590	8.4	11	0.70	--	--	0.70	--	--	--	--
		05/07/90	1200	AS	456	615	8.5	11	.60	0.26	.70	0.88	--	--	--	--
		05/07/90	1700	MAS	449	540	8.4	12	.40	--	1.1	--	--	--	--	--
		05/07/90	1800	AS	447	620	8.4	12	.50	--	1.4	--	--	--	--	--
		05/07/90	2400	AS	434	585	8.4	12	1.5	.23	1.6	1.0	--	--	--	--
		05/08/90	0600	AS	421	580	8.3	12	.30	--	1.0	--	--	--	--	--
		05/08/90	1200	AS	411	570	8.3	12	.40	--	.80	--	--	--	--	--
		05/08/90	1800	AS	398	640	8.3	12	.40	.18	1.2	.65	--	--	--	--
		05/08/90	2400	AS	383	630	8.3	13	1.1	--	.70	--	--	--	--	--
		05/09/90	0600	AS	374	620	8.4	13	1.5	--	.80	--	--	--	--	--
		05/09/90	1200	AS	367	610	8.1	12	.20	--	1.6	--	--	--	--	--
		05/09/90	1800	AS	356	640	8.3	12	.40	--	1.7	--	--	--	--	--
		05/09/90	2400	AS	372	625	8.3	12	.30	.08	1.4	.51	--	--	--	--
		05/10/90	0600	AS	371	615	8.4	12	.50	--	1.7	--	--	--	--	--
		05/10/90	1200	AS	385	610	8.3	12	.70	--	1.1	--	--	--	--	--
		05/10/90	1800	AS	401	630	7.9	12	.60	--	1.5	--	--	--	--	--
		05/10/90	2400	AS	402	690	8.3	12	.80	--	1.7	--	--	--	--	--
		05/11/90	0600	AS	399	685	8.3	12	1.0	.62	1.4	.73	--	--	--	--
		05/11/90	1200	AS	419	665	8.2	11	--	.25	--	.42	--	--	--	--
		05/11/90	1800	AS	461	680	8.3	12	.60	--	1.5	--	--	--	--	--
		05/11/90	2400	AS	507	675	8.3	12	.40	--	1.5	--	--	--	--	--
		05/12/90	0600	AS	567	675	8.2	12	.50	--	2.2	--	--	--	--	--
		05/12/90	1200	AS	725	650	8.1	12	1.2	--	2.3	--	--	--	--	--
		05/12/90	1800	AS	897	605	8.1	13	1.6	.97	2.9	1.6	--	--	--	--
		05/12/90	2400	AS	1,250	585	8.0	13	2.2	--	3.0	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/13/90	0600	AS	1,510	575	7.9	14	0.30	2.3	3.9	2.4
		05/13/90	1200	AS	1,650	585	7.9	15	3.9	--	3.8	--
		05/13/90	1800	AS	1,740	605	8.0	15	3.2	--	4.9	--
		05/13/90	2400	AS	1,790	605	7.9	15	1.8	1.6	5.0	2.3
		05/14/90	0600	AS	1,810	605	7.9	15	1.8	--	4.9	--
		05/14/90	1200	AS	1,810	635	8.0	16	1.8	.91	2.4	2.0
		05/14/90	1800	AS	1,830	515	8.0	16	2.3	--	2.6	--
		05/14/90	2400	AS	1,820	515	8.0	16	1.6	--	2.6	--
		05/15/90	0600	AS	1,830	505	8.0	16	1.9	--	1.4	--
		05/15/90	1200	AS	1,830	635	7.8	16	2.4	--	2.2	--
		05/15/90	1800	AS	1,850	630	7.9	17	3.1	1.2	2.3	2.0
		05/15/90	2400	AS	2,020	625	7.9	16	2.4	--	2.3	--
		05/16/90	0200	AS	3,210	570	7.9	14	1.5	--	2.4	--
		05/16/90	0300	AS	4,030	445	7.8	12	2.8	--	2.7	--
		05/16/90	0400	AS	4,870	365	7.9	10	6.5	--	5.8	--
		05/16/90	0600	AS	6,230	250	7.6	6.3	4.1	3.1	6.7	3.1
		05/16/90	0800	AS	7,610	205	7.8	5.1	8.0	7.5	5.6	12
		05/16/90	1100	AS	9,550	205	7.5	5.3	5.9	.40	3.4	.68
		05/16/90	1300	AS	10,800	200	7.6	5.3	5.1	3.2	11	3.6
		05/16/90	1800	AS	11,300	210	7.7	5.8	6.3	--	7.2	--
		05/18/90	0800	AS	3,750	--	--	--	6.9	4.1	4.9	4.3
		05/18/90	1600	AS	3,470	--	--	--	6.6	--	7.0	--
		05/18/90	2400	AS	3,230	--	--	--	5.9	3.2	12	5.2
		05/19/90	0800	AS	3,090	--	--	--	4.2	--	14	--
		05/19/90	1600	AS	3,000	--	--	--	4.0	--	10	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)	
2	Sangamon River at Monticello, Illinois—Continued	05/19/90	2400	AS	2,900	485	7.6	13	4.8	--	4.6	--	
		05/20/90	0800	AS	2,770	515	7.9	13	4.3	--	6.8	--	
		05/20/90	1600	AS	2,650	540	7.9	14	5.4	--	7.7	--	
		05/20/90	2400	AS	2,470	570	7.9	14	4.6	1.1	7.8	2.7	
		05/21/90	0800	AS	2,320	595	7.7	15	5.1	--	3.3	--	
		05/21/90	1600	AS	2,150	610	8.1	14	5.3	--	3.1	--	
		05/22/90	0800	AS	1,770	615	8.1	14	4.1	--	2.4	--	
		05/22/90	1600	AS	1,560	625	8.1	14	3.0	--	1.8	--	
		05/22/90	2400	AS	1,350	620	8.1	14	3.1	--	1.5	--	
		05/23/90	0800	AS	1,200	640	8.1	14	3.1	--	1.7	--	
		05/23/90	2400	AS	1,000	645	8.0	14	2.9	.55	1.6	1.1	
		05/24/90	0800	AS	929	640	8.0	14	2.4	--	1.5	--	
		05/24/90	0845	MAS	929	650	8.0	14	1.5	--	1.3	--	
		05/24/90	1600	AS	881	640	8.1	13	2.1	--	1.1	--	
		05/24/90	2400	AS	839	645	8.3	14	2.4	--	1.4	--	
		05/25/90	0800	AS	828	645	8.4	13	2.0	--	1.1	--	
		05/25/90	1400	AS	1,100	625	8.2	14	1.1	.54	1.0	.99	
		05/25/90	2000	AS	1,370	570	8.1	12	1.1	--	1.4	--	
		05/26/90	0400	AS	1,540	540	8.1	12	2.7	--	1.5	--	
		05/26/90	1200	AS	1,570	560	8.1	13	3.2	--	2.0	--	
		05/26/90	2000	AS	1,580	600	8.1	14	2.6	--	2.1	--	
		05/27/90	0400	AS	1,590	625	8.1	14	2.2	--	1.9	--	
		05/27/90	1200	AS	1,610	615	8.1	14	2.1	--	2.2	--	
		05/27/90	2000	AS	1,620	625	8.1	15	2.0	--	2.0	--	
		05/28/90	0400	AS	1,620	630	8.1	15	2.0	--	2.2	--	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/28/90	1200	AS	1,650	635	8.1	15	2.6	--	2.4	--
		05/28/90	2000	AS	1,640	640	8.1	16	2.3	--	2.6	--
		05/29/90	0400	AS	1,590	645	8.0	16	1.6	0.28	2.7	2.7
		05/29/90	1200	AS	1,520	665	7.9	16	2.2	--	2.0	--
		05/29/90	2000	AS	1,400	690	8.2	16	1.7	--	1.3	--
		05/30/90	0400	AS	1,240	670	8.2	16	1.9	--	1.1	--
		05/30/90	1200	AS	1,110	675	8.2	16	1.8	--	.80	--
		05/30/90	2000	AS	982	670	8.2	16	2.2	.13	1.2	.96
		05/31/90	0400	AS	876	675	8.2	16	1.5	--	1.0	--
		05/31/90	1200	AS	822	685	8.1	15	1.3	--	.40	--
		05/31/90	1445	AS	803	720	8.3	15	.90	--	.20	--
		05/31/90	1450	AS	803	715	8.3	15	1.0	--	.10	--
		05/31/90	2000	AS	782	715	8.2	15	1.0	--	.10	--
		06/01/90	0400	AS	735	720	8.1	15	1.5	.13	.30	.75
		06/01/90	1200	AS	708	710	8.1	16	2.5	--	.70	--
		06/01/90	2000	AS	691	715	8.2	15	.70	--	1.0	--
		06/02/90	0400	AS	658	710	8.2	15	.40	--	.60	--
		06/02/90	1200	AS	677	710	8.2	15	.60	--	.90	--
		06/02/90	2000	AS	686	700	8.2	15	.90	--	1.6	--
		06/03/90	0400	AS	897	670	8.1	15	2.2	--	4.0	--
		06/03/90	1200	AS	933	605	8.0	14	4.7	3.1	5.0	8.6
		06/03/90	2000	AS	870	625	8.0	14	3.6	--	4.6	--
		06/04/90	0400	AS	820	655	8.0	15	2.1	--	4.6	--
		06/04/90	1200	AS	771	635	8.1	14	1.4	--	4.4	--
		06/04/90	2000	AS	706	620	8.1	14	1.8	--	4.7	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
2	Sangamon River at Monticello, Illinois—Continued	06/05/90	0400	AS	639	615	8.1	14	2.1	--	4.7	--
		06/05/90	1200	AS	605	665	8.1	15	1.1	--	3.2	--
		06/05/90	2000	AS	574	645	8.1	14	2.0	--	4.9	--
		06/06/90	0400	AS	548	685	8.1	14	1.0	0.25	2.6	2.3
		06/06/90	1200	AS	542	770	8.0	14	.80	--	1.1	--
		06/06/90	1900	AS	682	750	8.1	14	1.0	--	1.6	--
		06/07/90	0200	AS	814	690	7.9	13	4.7	--	3.1	--
		06/07/90	1000	AS	825	630	7.9	12	15	--	7.3	--
		06/07/90	1800	AS	768	625	7.9	12	4.2	--	9.5	--
		06/08/90	0200	AS	853	655	7.9	13	4.2	--	9.8	--
		06/08/90	1000	AS	1,090	595	8.0	12	3.0	--	7.6	--
		06/08/90	1400	AS	1,340	550	7.9	11	6.6	--	9.9	--
		06/08/90	2100	AS	1,650	505	7.9	11	3.6	--	7.8	--
		06/09/90	0500	AS	1,910	485	7.8	10	4.1	--	7.8	--
		06/09/90	1300	AS	2,030	465	7.8	10	2.7	--	8.2	--
		06/09/90	2100	AS	2,060	420	7.8	10	2.9	--	8.1	--
		06/10/90	0500	AS	2,090	435	7.8	10	3.1	--	8.0	--
		06/10/90	1300	AS	2,130	475	7.9	11	2.2	--	6.7	--
		06/10/90	2100	AS	2,090	530	7.9	12	1.3	--	5.8	--
		06/11/90	0500	AS	2,020	570	7.9	13	3.2	--	7.6	--
		06/11/90	1300	AS	1,930	570	7.9	14	3.2	--	8.0	--
		06/11/90	2100	AS	1,720	590	8.1	14	3.6	--	9.6	--
		06/12/90	0500	AS	1,420	610	8.1	14	2.7	.94	4.8	5.9
		06/12/90	1300	AS	1,200	640	8.3	15	1.6	--	--	--
		06/13/90	1300	AS	763	690	8.4	15	1.0	.61	2.6	4.1

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)		Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
2	Sangamon River at Monticello, Illinois—Continued	06/13/90	2100	AS	706	640	8.2	15		0.90	--	1.7	--
		06/14/90	0500	AS	701	685	8.1	15		.70	--	1.5	--
		06/14/90	0940	MAS	725	605	8.2	14		.70	--	1.2	--
		06/14/90	1300	AS	740	660	8.1	14		.90	--	2.1	--
		06/14/90	2100	AS	718	670	8.0	15		2.1	--	1.8	--
		06/15/90	0500	AS	672	680	8.1	14		2.2	--	3.2	--
		06/15/90	1300	AS	644	705	8.2	15		2.2	--	3.2	--
		06/15/90	2100	AS	613	705	8.4	14		1.4	--	2.8	--
		06/16/90	0500	AS	588	700	8.2	14		1.0	0.14	3.6	1.9
		06/16/90	1300	AS	570	700	8.1	14		1.4	.23	5.1	4.0
		06/16/90	2100	AS	546	700	8.2	14		1.7	--	4.1	--
		06/17/90	0500	AS	525	710	8.1	14		1.6	--	2.4	--
		06/17/90	1300	AS	548	705	8.1	14		1.8	.17	1.6	1.4
		06/17/90	2100	AS	537	645	7.9	13		1.5	--	2.0	--
		06/17/90	2300	AS	1,630	475	7.8	10		2.4	--	4.6	--
		06/18/90	0400	AS	1,990	330	7.7	6.8		4.6	--	6.6	--
		06/18/90	1200	AS	2,250	335	7.6	7.2		4.2	--	6.7	--
		06/18/90	2000	AS	2,260	340	7.5	7.6		4.7	--	6.3	--
		06/19/90	0400	AS	2,130	390	7.8	9.4		4.1	--	7.5	--
		06/19/90	1200	AS	1,820	420	7.9	10		4.1	--	8.1	--
		06/19/90	1900	AS	1,500	435	7.9	10		4.5	--	7.8	--
		06/20/90	0300	AS	1,640	420	7.8	10		4.5	.89	7.3	7.9
		06/20/90	0500	AS	2,080	430	7.8	10		4.1	--	5.5	--
		06/20/90	0800	AS	2,530	345	7.8	7.6		3.4	--	4.7	--
		06/20/90	1200	AS	2,520	290	7.5	5.2		3.6	--	3.6	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)		Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
2	Sangamon River at Monticello, Illinois—Continued	06/20/90	1800	AS	3,190	200	7.8	4.7		3.5	--	4.4	--
		06/20/90	2400	AS	3,190	200	7.9	4.8		4.4	--	4.4	--
		06/21/90	0800	AS	3,190	240	7.8	5.8		4.8	1.2	3.0	4.3
		06/21/90	1100	MAS	4,270	275	7.8	6.3		4.4	--	4.7	--
		06/21/90	1105	XSECT	4,270	--	7.9	--		4.1	--	7.6	--
		06/21/90	1110	XSECT	4,270	--	7.9	--		5.7	--	8.8	--
		06/21/90	1115	XSECT	4,270	--	7.8	--		6.2	--	7.6	--
		06/21/90	1400	AS	4,150	255	7.7	6.4		4.3	--	4.7	--
		06/21/90	2300	AS	3,920	235	7.7	6.2		3.9	--	4.9	--
		06/22/90	0700	AS	3,920	245	7.9	6.9		3.2	--	5.7	--
		06/22/90	1000	AS	4,220	300	7.6	7.1		3.2	--	5.2	--
		06/22/90	2100	AS	4,440	360	7.9	7.8		2.2	--	5.8	--
		06/23/90	0500	AS	4,490	310	7.8	7.9		4.9	--	4.6	--
		06/23/90	1300	AS	4,490	330	7.8	9.0		4.8	--	5.7	--
		06/23/90	2100	AS	4,300	345	7.9	10		5.4	--	6.6	--
		06/24/90	0500	AS	4,090	375	7.9	11		5.0	--	6.8	--
		06/24/90	1300	AS	3,930	410	7.9	11		3.2	--	5.8	--
		06/24/90	2100	AS	3,700	440	7.9	12		3.2	--	5.1	--
		06/25/90	0500	AS	3,480	470	7.9	13		5.0	.67	4.5	6.5
		06/25/90	1300	AS	3,280	505	8.0	13		4.3	--	6.0	--
		06/25/90	2100	AS	3,050	515	8.1	12		4.6	--	4.7	--
		06/26/90	0500	AS	2,840	520	8.1	13		4.9	--	3.8	--
		06/26/90	1300	AS	2,660	550	8.0	13		5.3	--	4.5	--
		06/26/90	2100	AS	2,410	585	8.1	14		2.7	--	3.5	--
		06/27/90	0500	AS	2,160	610	8.1	14		3.2	--	3.5	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
2	Sangamon River at Monticello, Illinois—Continued	06/27/90	1300	AS	1,910	625	8.1	14	2.4	2.4	3.5	--	--	--	--	--
		06/27/90	2100	AS	1,610	645	8.1	14	3.4	3.4	3.0	--	--	--	--	--
		06/28/90	0500	AS	1,350	650	8.0	14	2.9	0.23	2.9	2.3	2.3	2.3	2.3	2.3
		06/28/90	1300	AS	1,160	640	8.1	15	2.7	--	3.1	--	--	--	--	--
		06/28/90	2100	AS	1,020	650	8.3	14	4.4	4.4	2.4	--	--	--	--	--
		06/29/90	0500	AS	921	655	8.4	15	4.4	4.4	2.1	--	--	--	--	--
		06/29/90	1300	AS	1,090	655	8.2	14	3.0	3.0	2.1	--	--	--	--	--
		06/29/90	2100	AS	1,440	620	8.1	13	2.3	2.3	1.9	--	--	--	--	--
		06/30/90	0500	AS	1,720	550	8.1	12	2.8	2.8	3.1	--	--	--	--	--
		06/30/90	1300	AS	1,930	525	8.1	11	3.0	3.0	3.2	--	--	--	--	--
		06/30/90	2100	AS	2,030	520	8.0	10	3.8	3.8	3.2	--	--	--	--	--
		07/01/90	0500	AS	2,100	435	8.1	8.6	4.4	2.3	2.9	2.7	2.7	2.7	2.7	2.7
		07/01/90	1300	AS	2,170	445	8.0	10	3.7	--	2.2	--	--	--	--	--
		07/01/90	2100	AS	2,210	455	8.0	10	2.9	--	2.5	--	--	--	--	--
		07/02/90	0500	AS	2,250	455	8.0	10	3.0	3.0	4.2	--	--	--	--	--
		07/02/90	0800	AS	2,270	490	8.7	13	3.1	3.1	6.1	3.3	3.3	3.3	3.3	3.3
		07/02/90	2000	AS	2,380	460	8.3	14	1.6	--	6.0	--	--	--	--	--
		07/03/90	0800	AS	2,130	460	8.2	11	1.2	--	4.6	--	--	--	--	--
		07/03/90	2000	AS	2,200	530	8.1	12	1.4	--	3.0	--	--	--	--	--
		07/04/90	0800	--	2,010	--	--	--	1.6	--	2.7	--	--	--	--	--
		07/04/90	2000	AS	2,380	610	7.9	13	1.8	--	2.7	--	--	--	--	--
		07/05/90	0800	--	1,140	615	8.6	13	1.7	--	2.7	--	--	--	--	--
		07/05/90	2000	--	864	660	8.7	14	1.9	--	2.6	--	--	--	--	--
		07/06/90	0800	--	742	665	8.6	11	1.9	--	1.8	--	--	--	--	--
		07/06/90	2000	--	660	610	8.5	12	1.5	--	1.8	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen					Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
2	Sangamon River at Monticello, Illinois—Continued	07/07/90	0800	--	603	660	8.4	--	1.9	--	1.9	--	--	1.9	--
		07/07/90	2000	--	561	650	8.3	13	1.4	--	1.6	--	--	1.6	--
		07/08/90	0800	AS	518	670	8.3	--	1.2	--	1.5	--	--	1.5	--
		07/08/90	2000	AS	484	675	8.3	12	1.2	--	1.4	--	--	1.4	--
		07/09/90	0800	AS	458	690	8.0	14	1.3	--	1.5	--	--	1.5	--
		07/09/90	2000	AS	429	730	8.2	14	1.1	--	1.4	--	--	1.4	--
		07/10/90	0800	AS	416	700	8.1	13	1.7	--	1.3	--	--	1.3	--
		07/10/90	1100	AS	422	685	8.2	13	1.3	--	1.1	--	--	1.1	--
		07/10/90	2300	AS	432	685	8.3	13	.90	0.09	.90	0.84	--	.90	0.84
		07/11/90	1100	AS	495	660	8.2	12	.60	--	1.1	--	--	1.1	--
		07/11/90	2300	AS	644	630	8.1	12	1.0	--	1.2	--	--	1.2	--
		07/12/90	1100	AS	817	635	8.1	12	.50	--	1.4	--	--	1.4	--
		07/12/90	2300	AS	817	585	7.6	11	1.3	--	1.6	--	--	1.6	--
		07/13/90	1100	AS	758	540	8.2	10	1.7	--	1.6	--	--	1.6	--
		07/13/90	2300	AS	677	605	8.1	12	2.0	--	1.5	--	--	1.5	--
		07/14/90	1100	AS	599	635	8.2	11	2.2	--	1.2	--	--	1.2	--
		07/14/90	2300	AS	525	650	8.2	12	1.7	--	1.1	--	--	1.1	--
		07/15/90	1100	AS	472	670	8.1	12	1.8	--	1.0	--	--	1.0	--
		07/15/90	2300	AS	432	700	8.1	11	1.4	--	1.1	--	--	1.1	--
		07/16/90	1100	AS	437	650	8.3	--	1.1	--	.90	--	--	.90	--
		07/16/90	2300	AS	441	625	8.3	--	1.5	--	1.0	--	--	1.0	--
		07/17/90	0900	AS	412	710	8.1	11	1.1	--	.80	--	--	.80	--
		07/17/90	1900	AS	380	660	8.1	12	1.5	--	.90	--	--	.90	--
		07/18/90	0500	AS	349	690	8.0	12	1.2	--	.80	--	--	.80	--
		07/18/90	1500	AS	324	645	8.8	11	1.1	--	.90	--	--	.90	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor				Atrazine			
									ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)
2	Sangamon River at Monticello, Illinois—Continued	07/19/90	0300	AS	297	630	8.3	11	1.4	--	--	--	0.80	--	--	--
		07/19/90	1500	AS	278	635	8.2	12	1.4	--	--	--	.70	--	--	--
		07/20/90	--	--	--	--	--	--	--	5.2	--	--	--	11	--	--
		07/21/90	1500	AS	244	700	7.6	11	1.5	--	--	--	.80	--	--	--
		07/22/90	0200	AS	421	675	8.0	10	1.0	--	--	--	1.0	--	--	--
		07/22/90	0700	AS	639	605	8.1	9.0	.90	--	--	--	1.1	--	--	--
		07/22/90	1300	AS	957	560	8.0	8.4	1.7	--	--	--	1.6	--	--	--
		07/22/90	2400	AS	1,450	450	7.9	6.7	.90	0.11	--	--	1.0	0.71	--	--
		07/23/90	1200	AS	1,760	330	7.1	5.1	1.0	--	--	--	2.4	--	--	--
		07/23/90	2400	AS	1,840	355	7.8	7.2	1.0	--	--	--	1.9	--	--	--
		07/24/90	1200	AS	1,860	410	7.9	7.5	1.1	.08	--	--	1.7	.95	--	--
		07/24/90	2400	AS	1,830	420	8.0	6.1	1.4	--	--	--	1.6	--	--	--
		07/25/90	1200	AS	1,830	420	8.0	11	2.0	--	--	--	2.2	--	--	--
		07/25/90	2400	AS	1,820	480	8.0	--	1.8	--	--	--	1.7	--	--	--
		07/26/90	1200	AS	1,540	545	7.3	10	.60	--	--	--	.60	--	--	--
		07/26/90	1515	MAS	1,370	545	8.0	10	1.1	--	--	--	1.3	--	--	--
		07/26/90	1516	XSECT	1,370	--	--	--	1.2	--	--	--	1.2	--	--	--
		07/26/90	1517	XSECT	1,370	--	--	--	1.3	--	--	--	1.3	--	--	--
		07/26/90	1518	XSECT	1,370	--	--	--	1.7	--	--	--	1.6	--	--	--
		07/26/90	2200	AS	1,000	445	7.5	10	1.2	--	--	--	1.2	--	--	--
		07/27/90	1000	AS	706	455	8.2	13	1.2	--	--	--	1.1	--	--	--
		07/27/90	2200	AS	574	485	8.3	11	1.1	--	--	--	.80	--	--	--
		07/28/90	1000	AS	498	--	--	--	1.3	--	--	--	.80	--	--	--
		07/28/90	2200	AS	442	500	8.3	11	1.2	--	--	--	.60	--	--	--
		07/29/90	1000	AS	391	505	8.2	11	1.0	--	--	--	.60	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen					Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
								Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)					
2	Sangamon River at Monticello, Illinois—Continued	07/29/90	2200	AS	372	490	8.2	7.8	0.90	0.06	0.60	0.52		
		07/30/90	1000	AS	338	685	7.7	--	1.1	--	.70	--		
		07/30/90	1100	AS	337	710	8.1	--	1.0	--	.70	--		
		07/30/90	2300	AS	309	720	8.3	--	.90	--	.70	--		
		07/31/90	1100	AS	276	700	8.3	--	.90	.07	.70	.50		
		08/02/90	1100	AS	197	--	--	--	.70	--	.60	--		
		08/04/90	1100	AS	153	--	--	--	1.3	--	.70	--		
		08/06/90	1100	AS	122	725	8.0	7.9	.80	--	.80	--		
		08/08/90	1100	AS	95	730	8.3	7.2	.80	--	.50	--		
		08/10/90	1100	AS	75	720	7.3	6.2	.80	.06	.70	.31		
3	Silver Creek near Freeburg, Illinois	08/12/90	1100	AS	61	720	8.2	6.9	.70	--	.60	--		
		08/14/90	1100	AS	75	690	7.7	4.5	.90	--	.90	--		
		08/16/90	1100	AS	101	665	8.1	4.1	.60	--	.40	--		
		08/22/90	1100	AS	65	--	--	--	.80	.08	.50	.40		
		08/22/90	1700	AS	161	670	8.2	2.9	.70	--	.60	--		
		08/22/90	2300	AS	307	655	8.3	1.4	.70	--	.50	--		
		08/23/90	1300	MAS	345	415	8.1	2.4	.80	--	.60	--		
		08/28/90	1015	XSECT	65	575	8.3	--	1.0	.07	.70	.59		
		08/28/90	1020	XSECT	65	600	8.4	--	1.0	.07	.70	.53		
		08/28/90	1025	XSECT	65	520	8.4	--	1.0	.07	.60	.57		
		08/28/90	1030	MAS	--	460	8.3	4.4	.90	.07	.70	.57		
		04/13/90	1210	EWI	476	424	7.1	1.4	--	.09	--	3.5		
		04/18/90	1600	EWI	399	525	7.5	1.8	--	.07	--	1.5		
		04/24/90	1610	EWI	423	489	7.0	1.4	.90	--	1.8	--		
		04/26/90	1330	AS	195	565	8.2	1.2	.40	<.05	1.2	1.4		
		04/26/90	1400	AS	195	580	8.1	1.2	.30	--	1.4	--		

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
3	Silver Creek near Freeburg, Illinois—Continued	04/28/90	1400	AS	178	623	7.9	1.2	0.80	<0.05	1.3	0.90
		04/30/90	1310	MAS	158	664	7.8	1.4	.50	--	2.0	--
		04/30/90	1400	AS	158	647	8.2	1.6	.30	--	2.1	--
		05/02/90	1400	AS	117	675	8.2	1.4	.20	--	1.1	--
		05/03/90	1000	AS	251	414	7.8	.80	.30	--	1.4	--
		05/03/90	1300	AS	403	435	7.6	.90	.40	.14	1.5	.68
		05/03/90	1600	AS	580	362	7.7	.50	.70	--	2.3	--
		05/03/90	2000	AS	787	247	7.6	.70	1.7	.52	2.6	2.4
		05/04/90	0200	AS	960	--	7.6	--	.70	--	2.1	--
		05/04/90	0800	AS	1,020	296	7.6	.80	1.5	1.2	>2.0	7.6
		05/04/90	1400	AS	1,050	244	7.8	1.5	12	--	4.2	--
		05/04/90	1645	AS	1,050	266	7.3	2.0	14	6.6	--	25
		05/05/90	0800	AS	936	347	7.6	1.8	19	5.4	>2.0	14
		05/05/90	2000	AS	634	413	7.7	1.9	6.6	--	5.8	--
		05/06/90	0800	AS	371	485	7.8	1.8	1.1	1.9	>2.0	9.5
		05/06/90	2000	AS	268	551	7.8	1.8	2.1	2.3	8.1	8.7
		05/07/90	0200	AS	238	564	7.8	1.7	1.4	--	6.0	--
		05/07/90	0800	AS	216	585	7.9	1.9	1.1	1.1	5.3	7.0
		05/07/90	1400	AS	205	582	7.8	1.8	1.0	--	4.4	--
		05/08/90	0200	AS	190	608	7.9	1.9	.80	--	4.0	--
		05/08/90	0800	AS	179	626	7.9	2.0	.80	.80	--	6.6
		05/12/90	1100	AS	425	451	7.8	1.7	16	4.7	--	13
		05/12/90	1300	AS	593	367	7.7	1.4	3.0	--	13	--
		05/12/90	1600	AS	800	293	7.5	1.1	2.6	--	19	--
		05/12/90	2100	AS	1,010	330	7.6	1.6	1.9	2.1	23	12

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
3	Silver Creek near Freeburg, Illinois—Continued	05/13/90	0300	AS	1,170	261	7.5	2.1	4.2	--	27	--
		05/13/90	0900	AS	1,220	250	7.4	2.1	5.9	--	23	--
		05/13/90	1500	AS	1,240	233	7.4	1.9	4.9	--	23	--
		05/13/90	2100	AS	1,320	226	7.4	1.5	5.0	1.9	24	13
		05/14/90	0300	AS	1,420	218	7.4	1.6	4.9	--	21	--
		05/14/90	0900	AS	1,520	220	7.4	1.5	3.7	--	25	--
		05/14/90	1500	AS	1,670	226	7.4	1.5	4.2	--	29	--
		05/14/90	1745	EWI	1,730	227	7.4	1.5	3.9	2.0	--	13
		05/17/90	1330	EWI	10,800	110	7.4	.60	2.2	.57	12	4.8
		05/22/90	1030	EWI	3,680	227	7.4	.60	1.3	--	8.0	--
		05/29/90	1045	EWI	1,680	260	6.8	.80	2.4	.32	6.2	4.6
		06/01/90	0850	EWI	1,730	307	6.9	.70	2.7	--	4.2	--
		06/03/90	1000	AS	--	517	8.0	--	5.6	--	11	--
		06/04/90	1020	EWI	178	537	7.3	1.6	1.9	.10	3.4	2.6
		06/04/90	1300	AS	172	517	8.0	1.6	.80	--	3.1	--
		06/06/90	1300	AS	293	417	7.6	1.5	15	--	5.1	--
		06/06/90	1700	AS	450	438	7.4	5.8	52	--	18	--
		06/07/90	0500	AS	487	412	7.5	3.4	16	--	9.0	--
		06/07/90	0700	AS	668	356	7.6	1.8	2.1	--	--	--
		06/07/90	0800	AS	905	292	7.6	1.5	12	--	9.4	--
		06/07/90	1000	AS	1,150	309	7.6	1.9	14	--	13	--
		06/07/90	1400	MAS	1,370	281	6.7	1.2	11	--	8.8	--
		06/07/90	2200	AS	1,220	282	7.3	1.5	11	--	9.6	--
		06/08/90	1000	AS	1,150	341	7.5	1.7	17	--	11	--
		06/08/90	1200	AS	1,150	380	7.6	2.1	11	--	12	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate		Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	nitrogen (mg/L)				
3	Silver Creek near Freeburg, Illinois—Continued	06/08/90	1400	MAS	1,140	389	7.6	2.0	7.6	7.6	--	11	--
		06/08/90	2200	AS	1,100	417	7.6	--	14	4.0	22	17	--
		06/09/90	1000	AS	1,060	438	7.4	--	6.3	--	19	--	--
		06/09/90	2200	AS	1,050	412	7.5	--	3.7	--	16	--	--
		06/10/90	1000	AS	1,060	356	7.6	--	5.0	--	13	--	--
		06/10/90	2200	AS	1,080	292	7.6	--	2.7	--	11	--	--
		06/11/90	1000	AS	1,090	309	7.6	--	3.4	--	14	--	--
		06/11/90	2200	AS	872	251	8.5	--	3.5	--	15	--	--
		06/12/90	0900	AS	483	301	8.2	--	5.0	--	15	--	--
		06/12/90	1000	AS	455	319	8.3	--	3.2	1.5	11	9.1	--
		06/12/90	1045	--	437	420	--	--	3.7	--	12	--	--
		06/13/90	0400	AS	213	453	8.1	1.6	2.1	--	12	--	--
		06/14/90	1600	AS	115	544	8.0	1.8	2.1	--	8.7	--	--
		06/15/90	1155	MAS	94	525	7.2	1.8	1.8	--	7.4	--	--
		06/20/90	1030	MAS	313	299	6.5	2.7	7.4	--	10	--	--
		06/20/90	1200	AS	292	283	7.7	3.1	7.9	--	8.9	--	--
		06/20/90	1215	EWI	287	299	6.5	2.8	7.9	--	11	--	--
		06/20/90	2400	AS	223	323	7.6	3.1	7.1	--	8.4	--	--
		06/21/90	0400	AS	387	336	7.7	3.0	8.8	--	6.7	--	--
		06/21/90	0700	AS	541	318	7.7	3.0	8.0	--	8.3	--	--
		06/21/90	1300	AS	718	284	7.5	3.6	8.9	--	8.7	--	--
		06/21/90	2300	AS	807	208	7.3	3.0	8.1	--	8.8	--	--
		06/22/90	1025	MAS	848	190	6.9	2.1	7.4	--	8.2	--	--
		06/22/90	1055	EWI	848	190	6.9	1.9	7.0	--	8.5	--	--
		06/22/90	1300	AS	862	182	7.6	2.0	6.8	4.0	8.9	21	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	as nitrogen (mg/L)	Nitrite plus nitrate				
									Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
3	Silver Creek near Freeburg, Illinois—Continued	06/23/90	0100	AS	909	192	7.5	1.7	6.3	--	--	8.5	--
		06/23/90	1300	AS	955	200	7.6	1.5	6.1	--	--	8.9	--
		06/24/90	0100	AS	989	219	7.6	1.4	4.9	--	--	8.0	--
		06/24/90	1300	AS	897	224	7.6	1.4	5.6	--	--	8.5	--
		06/25/90	0100	AS	1,030	231	7.6	1.4	6.0	--	--	7.9	--
		06/25/90	1300	AS	897	246	7.5	1.5	6.3	--	--	7.6	--
		06/25/90	1900	AS	695	252	7.7	1.5	7.5	--	--	7.1	--
		06/26/90	1135	MAS	249	345	7.1	1.5	6.1	2.4	2.4	7.7	17
		06/26/90	1140	EWI	249	--	--	1.4	6.2	--	--	14	--
		06/26/90	1141	EWI	249	--	--	1.5	7.1	2.2	2.2	15	15
		07/02/90	1135	EWI	41	620	7.4	2.0	2.5	--	--	12	--
		07/03/90	--	AS	38	620	7.4	2.0	1.9	--	--	8.2	--
		07/03/90	--	AS	38	620	7.4	1.8	3.0	--	--	10	--
		07/05/90	0001	AS	--	614	8.7	2.2	2.8	--	--	6.2	--
		07/05/90	0940	EWI	32	673	7.5	1.9	2.1	--	--	7.1	--
		07/05/90	0940	EWI	--	--	--	--	2.4	--	--	7.5	--
		07/05/90	0940	EWI	--	--	--	--	2.5	--	--	10	--
		07/05/90	1010	AS	32	646	8.7	2.2	2.8	--	--	6.0	--
		07/05/90	1100	AS	31	649	8.7	2.1	2.2	--	--	5.8	--
		07/07/90	1100	AS	32	676	8.5	2.5	2.3	--	--	5.4	--
		07/09/90	1100	AS	24	707	8.3	2.1	2.3	--	--	4.8	--
		07/11/90	1100	AS	20	725	8.1	1.8	1.7	.14	.14	4.5	3.4
		07/12/90	1020	MAS	19	738	7.7	1.2	2.1	--	--	3.7	--
		07/12/90	1030	EWI	19	738	7.7	1.2	2.3	--	--	4.4	--
		07/12/90	1030	EWI	19	738	7.7	1.2	1.8	--	--	4.1	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)				Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
3	Silver Creek near Freeburg, Illinois—Continued	07/12/90	1030	EWI	19	738	7.7	1.2	1.4	1.4	4.0	--	--	--	--
		07/13/90	1100	AS	17	683	8.3	1.3	2.9	2.9	4.4	--	--	--	--
		07/14/90	1100	AS	22	705	8.1	2.0	1.7	1.7	3.4	--	--	--	--
		07/16/90	1215	MAS	26	769	7.6	2.2	1.7	1.7	3.7	--	--	--	--
		07/16/90	1220	EWI	26	769	7.6	2.2	1.9	1.9	3.5	--	--	--	--
		07/16/90	1220	EWI	26	769	7.6	2.2	1.8	1.8	3.3	--	--	--	--
		07/16/90	1220	EWI	26	769	7.6	2.2	2.2	2.2	3.6	0.12	2.6	2.6	2.6
		07/25/90	1050	MAS	92	445	7.1	2.7	8.1	8.1	4.6	2.2	4.1	4.1	4.1
		07/26/90	1400	MAS	45	472	7.6	2.7	7.6	7.6	4.3	--	--	--	--
		07/30/90	1005	AS	21	568	7.7	2.3	5.2	5.2	6.3	.92	2.1	2.1	2.1
		07/31/90	1100	AS	17	600	7.8	2.2	6.1	6.1	6.7	--	--	--	--
		07/31/90	1200	MAS	17	586	8.1	2.0	5.4	5.4	5.3	--	--	--	--
		07/31/90	1220	MAS	18	587	8.0	2.2	7.0	7.0	6.4	--	--	--	--
		08/03/90	1515	MAS	14	595	8.0	2.6	4.1	4.1	6.1	--	--	--	--
		08/04/90	1300	AS	19	635	8.0	2.2	6.4	6.4	--	--	--	--	--
		08/04/90	2300	AS	151	592	7.9	2.4	5.0	5.0	2.5	--	--	--	--
		08/05/90	0300	AS	259	627	8.0	3.3	3.4	3.4	4.1	.28	3.2	3.2	3.2
		08/06/90	0300	--	167	--	--	2.2	2.9	2.9	3.4	--	--	--	--
		08/06/90	0955	MAS	119	280	7.1	1.6	2.4	2.4	3.9	--	--	--	--
		08/06/90	1030	EWI	115	280	7.1	1.6	2.7	2.7	3.1	--	--	--	--
		08/06/90	1030	EWI	115	280	7.1	1.6	3.2	3.2	2.7	--	--	--	--
		08/06/90	1030	EWI	115	280	7.1	1.6	3.3	3.3	2.2	.33	3.0	3.0	3.0
		08/07/90	1100	AS	43	254	8.1	.40	3.0	3.0	4.0	--	--	--	--
		08/10/90	1100	AS	15	300	8.3	.40	3.0	3.0	4.3	.36	3.3	3.3	3.3
		08/13/90	1100	AS	13	343	8.1	.40	3.2	3.2	4.9	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate				Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	nitrogen (mg/L)	nitrate (mg/L)					
3	Silver Creek near Freeburg, Illinois—Continued	08/14/90	1240	MAS	27	606	7.4	0.40				3.0	--	3.0	--
		08/15/90	1400	AS	30	590	8.1	2.0				1.8	--	3.1	--
		08/16/90	1400	AS	26	582	8.0	2.9				2.1	--	3.2	--
		08/17/90	1145	MAS	34	587	8.0	2.5				1.9	--	1.8	--
		08/17/90	1200	AS	34	559	8.0	2.2				2.7	0.16	3.8	1.9
		08/18/90	1200	AS	30	649	8.0	--				.50	.08	.90	.51
		08/21/90	1200	AS	16	682	8.0	--				2.8	--	1.9	--
		08/23/90	1035	EWI	14	685	8.3	--				1.6	.07	1.7	1.0
		08/23/90	1038	EWI	14	686	8.2	--				1.6	--	1.5	--
		08/23/90	1039	EWI	14	681	8.2	--				1.6	--	1.5	--
4	Cedar River at Palisades, Iowa	08/23/90	1041	EWI	14	682	8.2	--				1.7	--	1.8	--
		08/23/90	1043	EWI	14	684	8.1	--				1.9	--	1.8	--
		04/04/90	1130	--	--	--	--	4.2				.50	.07	.30	.24
		04/04/90	1130	--	--	--	--	--				--	<.05	--	.23
		04/10/90	1415	--	--	--	--	2.5				.50	--	<.10	--
		04/12/90	1300	--	--	--	--	2.2				<.15	--	.10	--
		04/15/90	1430	--	1,320	574	8.1	1.9				<.15	--	.10	--
		04/17/90	1430	--	1,280	744	8.8	1.6				.30	--	.20	--
		04/19/90	1430	--	1,280	721	8.0	1.9				<.15	--	<.10	--
		04/21/90	1430	--	1,410	697	8.3	1.4				.30	<.05	<.10	.13
		04/23/90	1430	--	1,140	684	7.4	1.9				.60	--	.20	--
		04/25/90	0750	--	1,210	682	7.4	2.1				.40	--	.20	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate		Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
								as nitrogen (mg/L)	as nitrogen (mg/L)				
4	Cedar River at Palisades, Iowa—Continued	04/27/90	1430	--	1,770	632	7.7	1.8	1.8	0.40	0.08	0.20	0.17
		04/28/90	0700	AS	2,860	569	7.5	1.6	1.6	.60	--	.20	--
		04/28/90	1645	AS	3,010	561	7.5	1.6	1.6	.50	--	.20	--
		04/28/90	2115	AS	3,600	555	7.6	1.5	1.5	.90	--	<.10	--
		04/29/90	0015	AS	4,410	578	7.9	1.4	1.4	.50	--	.10	--
		04/29/90	0300	AS	4,950	567	7.9	1.5	1.5	.50	<.05	.20	.20
		04/29/90	1200	AS	5,430	571	7.8	1.5	1.5	.60	--	.10	--
		04/30/90	1200	AS	4,470	571	7.8	1.6	1.6	.80	--	.20	--
		05/01/90	1200	AS	4,500	518	7.9	2.0	2.0	1.9	--	.30	--
		05/02/90	2000	AS	4,600	575	7.7	9.5	9.5	3.5	.97	.80	.72
		05/03/90	1000	AS	5,290	616	7.9	13	13	2.2	--	1.4	--
		05/03/90	1545	AS	6,540	646	8.0	12	12	2.3	--	4.5	--
		05/03/90	2015	AS	5,530	644	8.0	12	12	2.7	--	11	--
		05/04/90	0215	AS	4,950	607	7.9	12	12	3.2	--	.70	--
		05/04/90	0815	AS	4,950	583	8.0	11	11	3.5	.57	2.9	1.6
		05/04/90	1415	AS	4,250	561	8.0	11	11	3.2	--	3.0	--
		05/04/90	2015	AS	5,050	605	7.4	10	10	2.6	--	1.0	--
		05/05/90	0215	AS	4,440	598	7.4	9.4	9.4	2.2	.39	2.9	1.9
		05/05/90	0815	AS	4,350	581	7.6	9.6	9.6	2.1	--	9.6	--
		05/05/90	1415	AS	3,920	585	7.7	9.5	9.5	2.9	.35	12	7.5
		05/05/90	2015	AS	3,770	590	7.8	9.6	9.6	2.5	--	11	--
		05/06/90	0215	AS	3,660	653	7.9	9.5	9.5	2.6	--	11	--
		05/06/90	0815	AS	3,270	--	7.9	9.4	9.4	2.0	--	4.9	--
		05/06/90	1415	AS	3,320	--	8.1	9.3	9.3	1.7	.28	4.3	2.9
		05/06/90	2015	AS	3,660	676	7.4	8.8	8.8	2.2	.22	2.7	2.4

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					Atrazine GC/MS (μg/L)	Atrazine ELISA (μg/L)	Alachlor GC/MS (μg/L)	Alachlor ELISA (μg/L)	Nitrite as nitrogen (mg/L)	pH (standard units)	Specific conduct- ance (μS/cm)	Stream- flow (ft ³ /s)	Sample type	Collection time (24-hour)	Date of collection (month/ day/year)
4	Cedar River at Palisades, Iowa—Continued	05/07/90	0215	AS	3,370	687	7.5	8.9	1.4	--	--	1.9	--	--	--	--	--	--	--	--	AS	0215	05/07/90
		05/07/90	0815	AS	3,270	681	7.6	8.7	1.0	--	--	1.6	--	--	--	--	--	--	--	--	AS	0815	05/07/90
		05/07/90	1415	AS	3,160	699	8.6	--	1.7	--	--	1.6	--	--	--	--	--	--	--	--	AS	1415	05/07/90
		05/07/90	1730	AS	2,730	705	7.9	8.2	2.1	0.14	0.14	1.6	0.95	1.6	0.95	0.95	0.95	0.95	0.95	0.95	AS	1730	05/07/90
		05/07/90	2330	AS	3,140	661	7.8	8.0	1.8	--	--	1.3	--	--	--	--	--	--	--	--	AS	2330	05/07/90
		05/08/90	0530	AS	3,060	685	7.9	8.0	2.2	--	--	.80	--	--	--	--	--	--	--	--	AS	0530	05/08/90
		05/08/90	1130	AS	2,960	639	8.4	8.4	1.7	--	--	1.1	--	--	--	--	--	--	--	--	AS	1130	05/08/90
		05/08/90	1730	AS	2,960	639	8.6	7.5	1.4	.13	.13	.80	.49	.80	.49	.49	.49	.49	.49	.49	AS	1730	05/08/90
		05/08/90	2330	AS	2,450	633	8.4	7.7	1.5	--	--	.80	--	--	--	--	--	--	--	--	AS	2330	05/08/90
		05/09/90	0530	AS	2,660	647	8.2	7.2	2.2	--	--	.60	--	--	--	--	--	--	--	--	AS	0530	05/09/90
		05/09/90	1130	AS	3,010	595	8.3	7.8	1.5	.12	.12	>2.0	1.3	>2.0	1.3	1.3	1.3	1.3	1.3	1.3	AS	1130	05/09/90
		05/09/90	2330	AS	3,140	644	7.7	6.4	1.9	.15	.15	>2.0	6.1	>2.0	6.1	6.1	6.1	6.1	6.1	6.1	AS	2330	05/09/90
		05/10/90	0430	AS	2,210	626	7.7	6.5	1.7	--	--	27	--	27	--	--	--	--	--	--	AS	0430	05/10/90
		05/10/90	1100	AS	2,910	632	7.7	6.6	2.6	--	--	21	--	21	--	--	--	--	--	--	AS	1100	05/10/90
		05/10/90	1945	AS	3,160	628	8.5	6.7	2.1	.09	.09	>2.0	4.7	>2.0	4.7	4.7	4.7	4.7	4.7	4.7	AS	1945	05/10/90
		05/11/90	0145	AS	3,540	603	7.8	6.5	2.1	--	--	14	--	14	--	--	--	--	--	--	AS	0145	05/11/90
		05/11/90	0745	AS	3,680	596	8.0	6.5	2.1	--	--	14	--	14	--	--	--	--	--	--	AS	0745	05/11/90
		05/11/90	1515	AS	4,100	596	7.8	6.5	3.8	1.5	1.5	>2.0	4.3	>2.0	4.3	4.3	4.3	4.3	4.3	4.3	AS	1515	05/11/90
		05/11/90	2315	AS	4,220	582	7.6	7.8	4.1	--	--	10	--	10	--	--	--	--	--	--	AS	2315	05/11/90
		05/12/90	0715	AS	4,250	583	7.5	8.0	5.2	2.0	2.0	>2.0	4.2	>2.0	4.2	4.2	4.2	4.2	4.2	4.2	AS	0715	05/12/90
		05/12/90	1515	AS	4,760	566	7.5	8.4	13	--	--	11	--	11	--	--	--	--	--	--	AS	1515	05/12/90
		05/12/90	2315	AS	4,310	581	7.5	8.8	9.9	--	--	5.7	--	5.7	--	--	--	--	--	--	AS	2315	05/12/90
		05/13/90	0715	AS	4,440	598	7.6	9.9	11	--	--	4.3	--	4.3	--	--	--	--	--	--	AS	0715	05/13/90
		05/13/90	1515	AS	3,480	611	7.5	10	7.6	3.3	3.3	3.5	1.6	3.5	1.6	1.6	1.6	1.6	1.6	1.6	AS	1515	05/13/90
		05/13/90	2315	AS	3,980	642	7.7	11	6.4	--	--	1.9	--	1.9	--	--	--	--	--	--	AS	2315	05/13/90

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)				Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
4	Cedar River at Palisades, Iowa—Continued	05/14/90	0715	AS	3,950	653	7.7	13				5.3	--	1.4	--
		05/14/90	1515	--	4,990	679	7.5	11				2.8	0.47	1.4	0.43
		05/14/90	2315	--	4,310	703	7.9	13				3.5	--	4.9	--
		05/15/90	0715	--	4,630	688	8.0	12				2.7	--	5.1	--
		05/15/90	1515	--	4,660	682	8.2	11				3.9	--	6.0	--
		05/15/90	2315	--	4,440	673	8.3	11				2.6	--	5.7	--
		05/16/90	0715	--	4,350	676	8.2	10				6.2	.40	6.0	.66
		05/16/90	1515	--	4,500	642	8.1	9.6				3.4	--	7.8	--
		05/16/90	1715	--	5,390	651	8.2	9.9				4.9	--	7.6	--
		05/16/90	1930	--	6,540	627	8.3	10				3.8	--	7.4	--
		05/16/90	2300	--	6,840	605	8.1	11				6.2	1.7	15	1.4
		05/17/90	0215	--	6,990	550	7.9	9.5				10	--	12	--
		05/17/90	1015	--	6,320	496	7.8	9.1				8.6	--	16	--
		05/17/90	1700	--	4,790	532	7.9	11				8.5	--	17	--
		05/18/90	0100	--	6,400	588	8.0	12				7.1	--	15	--
		05/18/90	0900	--	5,220	600	7.9	13				5.6	--	14	--
		05/18/90	1700	--	5,260	619	8.0	13				6.2	2.4	21	3.6
		05/19/90	0100	--	4,920	638	8.0	14				2.5	--	18	--
		05/19/90	0900	--	4,730	632	8.0	13				6.2	--	11	--
		05/19/90	1700	--	4,790	638	7.9	9.7				3.5	1.3	7.5	1.7
		05/20/90	0100	--	4,500	612	8.0	12				3.7	--	6.9	--
		05/20/90	0330	--	5,880	600	8.0	12				3.3	--	6.8	--
		05/20/90	0830	--	6,400	600	8.1	12				3.2	--	12	--
		05/20/90	1630	AS	7,030	560	7.4	11				5.2	--	4.6	--
		05/21/90	0030	AS	7,420	555	8.0	11				6.0	--	5.3	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
4	Cedar River at Palisades, Iowa—Continued	05/21/90	0830	AS	7,690	501	7.9	11	7.0	2.3	7.3	4.2
		05/21/90	1630	AS	8,420	497	7.8	11	8.4	--	8.9	--
		05/22/90	0030	AS	8,540	497	7.8	11	7.0	--	7.7	--
		05/22/90	0830	AS	9,870	528	7.9	11	6.6	--	4.3	--
		05/22/90	1630	AS	9,210	456	7.7	13	16	--	4.6	--
		05/23/90	0030	AS	10,000	453	7.6	14	15	--	4.3	--
		05/23/90	0830	AS	10,200	486	7.6	15	14	5.5	4.9	3.4
		05/23/90	1630	AS	10,200	493	7.6	15	11	--	5.3	--
		05/24/90	0030	AS	10,200	526	7.7	16	15	--	3.8	--
		05/24/90	0830	AS	10,500	550	7.8	17	12	--	2.9	--
		05/24/90	1630	AS	9,370	561	7.8	17	9.2	2.3	1.6	2.3
		05/25/90	0030	AS	10,800	600	7.8	17	11	--	2.3	--
		05/25/90	0830	AS	10,300	597	7.8	17	11	--	3.1	--
		05/25/90	1145	AS	10,500	580	7.8	17	11	--	2.6	--
		05/25/90	1945	AS	10,200	579	7.7	16	6.3	--	2.1	--
		05/26/90	0345	AS	9,600	575	7.7	16	8.6	--	2.1	--
		05/26/90	1145	AS	9,650	541	8.0	17	8.6	--	2.7	--
		05/26/90	1945	AS	9,090	576	7.9	17	8.3	--	2.4	--
		05/27/90	0345	AS	8,500	605	7.9	17	11	--	1.6	--
		05/27/90	1145	AS	7,690	623	7.9	17	9.6	1.0	1.4	1.0
		05/27/90	1945	AS	7,810	634	8.0	17	15	--	1.2	--
		05/28/90	0345	AS	7,970	638	7.9	17	11	--	1.5	--
		05/28/90	1145	AS	6,990	618	7.9	16	7.3	--	3.6	--
		05/28/90	1945	AS	7,110	617	7.9	16	12	--	2.4	--
		05/29/90	0345	AS	6,840	611	7.9	16	7.5	--	2.1	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	as nitrogen (mg/L)	Nitrite plus nitrate				
									Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
4	Cedar River at Palisades, Iowa—Continued	05/29/90	1145	AS	6,290	622	8.0	17	13	--	--	1.6	--
		05/29/90	1945	AS	5,840	641	8.0	16	6.5	--	--	1.2	--
		05/30/90	0345	AS	5,920	646	8.0	17	10	--	--	1.0	--
		05/30/90	1145	AS	5,960	651	8.1	16	6.1	--	--	1.3	--
		05/30/90	1945	AS	5,760	712	7.8	16	5.9	--	--	1.2	--
		05/31/90	0345	AS	5,020	707	7.9	16	11	--	--	.90	--
		05/31/90	1145	AS	5,190	705	7.9	16	13	--	--	.90	--
		05/31/90	1945	AS	4,730	718	7.9	15	11	--	--	.80	--
		06/01/90	0345	AS	4,990	718	7.9	14	14	--	--	.90	--
		06/01/90	1145	AS	4,630	708	8.0	14	7.6	0.31	1.0	0.62	0.62
		06/01/90	1945	AS	4,630	706	8.0	14	26	--	--	.90	--
		06/02/90	0345	AS	4,500	715	8.0	14	19	--	--	.70	--
		06/02/90	1145	AS	4,380	700	8.1	13	13	--	--	.60	--
		06/02/90	1945	AS	4,570	700	8.0	13	9.1	--	--	.50	--
		06/03/90	0345	AS	4,070	692	8.0	12	9.0	--	--	.80	--
		06/03/90	1145	AS	4,630	678	8.1	12	6.9	--	--	1.2	--
		06/03/90	1945	AS	4,040	688	8.0	12	3.1	--	--	3.5	--
		06/04/90	0345	AS	4,010	690	8.0	12	7.9	1.5	2.8	12	2.8
		06/04/90	1145	AS	3,920	672	8.1	12	3.7	--	--	2.8	--
		06/04/90	1945	AS	2,560	730	8.1	11	1.9	--	--	1.4	--
		06/05/90	0345	AS	3,740	682	8.1	11	2.0	.35	1.3	1.5	1.5
		06/05/90	1145	AS	3,400	690	8.1	11	1.9	--	--	1.5	--
		06/05/90	1945	AS	5,340	710	8.1	10	2.0	--	--	1.5	--
		06/06/90	0230	AS	3,860	682	8.1	10	2.0	--	--	1.3	--
		06/06/90	1030	AS	4,010	650	7.9	10	1.7	--	--	2.0	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
4	Cedar River at Palisades, Iowa—Continued	06/06/90	1830	AS	4,190	606	8.0	10	5.3	--	4.2	--
		06/07/90	0230	AS	4,690	616	7.9	2.0	>5.0	1.4	11	3.8
		06/07/90	1030	AS	4,570	630	7.9	9.8	3.4	--	7.4	--
		06/07/90	1300	AS	5,190	612	8.0	10	3.5	1.1	2.0	2.9
		06/07/90	2100	AS	5,800	612	8.0	10	3.7	--	1.9	--
		06/08/90	0500	AS	6,110	620	7.9	10	3.0	--	2.3	--
		06/08/90	1300	AS	6,320	600	8.0	10	3.1	--	3.1	--
		06/08/90	1630	AS	6,930	563	7.8	10	4.0	--	8.9	--
		06/09/90	0030	AS	6,210	555	7.8	11	5.0	1.2	8.8	6.0
		06/09/90	0830	AS	6,000	502	7.7	10	5.1	--	9.1	--
		06/09/90	1630	AS	5,390	503	7.7	8.4	5.8	2.6	12	7.7
		06/09/90	2300	AS	4,730	530	7.8	11	5.0	--	9.8	--
		06/10/90	0700	AS	4,820	585	7.9	11	5.4	--	10	--
		06/10/90	1500	AS	4,730	582	7.9	12	4.8	--	7.5	--
		06/10/90	2300	AS	4,410	602	8.0	12	5.1	--	5.6	--
		06/11/90	0700	AS	4,310	640	8.0	12	4.7	--	6.7	--
		06/11/90	1500	AS	4,160	655	7.9	12	4.1	--	6.4	--
		06/11/90	1700	AS	7,490	665	8.0	12	3.9	--	5.3	--
		06/11/90	1930	AS	5,020	622	8.1	12	3.5	1.4	5.2	2.8
		06/11/90	2115	AS	3,030	588	8.2	12	4.2	--	6.1	--
		06/12/90	0015	AS	3,080	602	8.2	12	3.9	1.1	5.5	2.7
		06/12/90	0815	AS	3,770	658	8.0	12	3.5	--	4.1	--
		06/12/90	1615	AS	3,740	670	8.1	12	3.5	--	2.5	--
		06/13/90	0015	AS	3,600	705	7.8	10	3.1	.68	2.6	2.0
		06/13/90	0815	AS	3,540	712	7.9	11	3.5	--	2.5	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate				Atrazine GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Alachlor ELISA (μ g/L)	Nitrogen (mg/L)
4	Cedar River at Palisades, Iowa—Continued	06/13/90	1615	AS	3,370	678	8.0	12	3.5	--	2.8	--	--	--	--	--
		06/14/90	0015	AS	3,430	690	8.1	11	3.2	--	2.1	--	--	--	--	--
		06/14/90	0815	AS	3,320	702	8.0	11	3.5	--	1.8	--	--	--	--	--
		06/14/90	1615	AS	3,370	690	8.0	11	2.4	--	1.5	--	--	--	--	--
		06/15/90	0015	AS	3,320	696	8.1	11	2.2	--	1.6	--	--	--	--	--
		06/15/90	0815	AS	3,540	696	8.2	11	2.5	--	1.9	--	--	--	--	--
		06/15/90	1615	AS	3,240	665	8.3	11	4.0	0.47	1.6	2.1	--	--	--	--
		06/15/90	2115	AS	4,790	675	8.1	11	3.4	--	2.4	--	--	--	--	--
		06/16/90	0500	AS	4,660	688	8.1	11	3.3	--	1.8	--	--	--	--	--
		06/16/90	0715	AS	4,890	670	8.1	10	3.2	--	1.4	--	--	--	--	--
		06/16/90	0800	AS	5,720	638	8.2	10	3.3	--	1.9	--	--	--	--	--
		06/16/90	0845	AS	6,180	612	8.1	10	3.5	--	1.7	--	--	--	--	--
		06/16/90	0915	AS	6,110	580	7.9	9.5	3.7	--	1.9	--	--	--	--	--
		06/16/90	0945	AS	6,470	565	7.9	9.5	4.0	--	2.5	--	--	--	--	--
		06/16/90	1000	AS	6,580	522	7.6	8.3	5.3	--	6.4	--	--	--	--	--
		06/16/90	1015	AS	6,540	448	7.6	7.3	4.8	--	6.6	--	--	--	--	--
		06/16/90	1030	AS	6,540	422	7.6	7.0	4.6	2.0	8.9	8.9	--	--	--	--
		06/16/90	1100	AS	6,840	392	7.7	6.5	4.4	--	6.8	--	--	--	--	--
		06/16/90	1130	AS	8,050	360	7.7	5.6	4.5	--	5.6	--	--	--	--	--
		06/16/90	1215	AS	8,710	302	7.6	5.4	4.8	--	6.4	--	--	--	--	--
		06/16/90	1300	AS	9,870	295	7.7	4.7	5.0	2.2	3.8	7.5	--	--	--	--
		06/16/90	1400	AS	12,100	260	7.7	3.8	4.8	--	3.6	--	--	--	--	--
		06/16/90	1500	AS	13,000	235	7.7	3.0	5.7	--	9.8	--	--	--	--	--
		06/16/90	1545	AS	12,500	220	7.7	2.7	6.1	--	7.6	--	--	--	--	--
		06/16/90	1630	AS	11,800	188	7.6	2.6	5.5	--	7.4	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
4	Cedar River at Palisades, Iowa—Continued	06/16/90	2230	AS	12,100	182	7.5	2.6	5.6	2.8	9.4	8.3
		06/17/90	0145	AS	15,800	190	7.6	3.4	5.3	--	11	--
		06/17/90	0900	AS	17,600	225	7.6	4.7	5.4	--	8.4	--
		06/17/90	1445	AS	19,200	280	7.6	6.1	5.7	--	11	--
		06/17/90	2245	AS	22,400	268	7.7	6.3	6.0	--	9.8	--
5	Old Mans Creek near Iowa City, Iowa	06/25/90	1715	EWI	17,900	518	8.0	15	2.4	--	2.8	--
		06/26/90	0700	EWI	16,800	520	8.0	--	1.0	--	.70	--
		06/28/90	1800	EWI	12,900	532	7.7	--	3.4	--	5.5	--
		06/29/90	0645	EWI	13,700	478	7.7	15	4.5	.39	4.8	6.0
		03/15/90	1600	--	--	--	--	--	--	--	--	--
		04/04/90	0935	--	--	--	--	--	--	.07	--	.20
		04/06/90	1555	--	--	--	--	--	.90	<.05	<.10	.16
		04/09/90	1400	--	--	--	--	--	.30	.06	<.10	.15
		04/12/90	1500	--	--	--	--	--	3.0	--	.20	--
		04/16/90	1000	--	35	519	8.1	12	<1.0	.14	.30	.35
		04/19/90	0900	--	--	--	--	--	5.1	--	.20	--
		04/21/90	0900	--	37	546	8.4	11	<1.0	.17	.70	.58
		04/23/90	0900	--	29	549	7.9	11	.50	--	.20	--
		04/25/90	0900	--	28	582	8.2	11	1.0	--	.30	--
		04/27/90	0900	--	27	--	7.9	9.1	.90	.10	.30	.28
		04/29/90	0100	--	73	555	7.9	10	1.4	--	.60	--
		04/29/90	0900	--	77	560	8.3	10	2.1	.56	.90	.88
		04/30/90	--	--	--	--	--	--	.20	--	--	--
		05/01/90	0900	AS	44	618	7.9	13	1.2	--	.70	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
5	Olds Mans Creek near Iowa City, Iowa—Continued	05/03/90	0900	AS	39	605	8.3	13	1.3	--	0.60	--
		05/04/90	0700	AS	66	590	8.3	14	1.1	--	.60	--
		05/04/90	0745	AS	67	565	8.1	11	1.4	0.19	1.6	1.3
		05/04/90	0830	AS	69	568	8.0	11	1.0	--	--	--
		05/04/90	0915	AS	70	565	8.0	11	.90	--	.80	--
		05/04/90	1000	AS	74	573	8.1	11	1.4	--	1.2	--
		05/04/90	1045	AS	80	558	8.0	11	1.4	.27	1.6	.96
		05/04/90	1130	AS	83	540	8.1	11	1.4	--	1.4	--
		05/04/90	1215	AS	92	530	8.1	11	1.2	--	1.0	--
		05/04/90	1300	AS	105	520	8.2	11	.90	.26	1.0	.70
		05/04/90	1345	AS	145	508	8.1	10	.80	--	.80	--
		05/04/90	1430	AS	216	482	8.0	10	1.0	--	3.4	--
		05/04/90	1515	AS	294	434	7.9	8.1	2.9	.92	>2.0	20
		05/04/90	1600	AS	377	412	7.8	7.6	4.7	--	3.4	--
		05/04/90	1645	AS	472	400	7.8	6.2	3.2	--	3.3	--
		05/04/90	1730	AS	586	392	7.7	6.7	3.6	2.3	3.3	8.2
		05/04/90	1815	AS	702	388	7.8	7.8	4.9	3.2	>2.0	6.7
		05/04/90	1900	AS	796	385	7.8	8.5	3.9	--	3.3	--
		05/04/90	1945	AS	873	378	7.8	8.8	3.6	--	3.4	--
		05/04/90	2030	AS	952	355	7.8	8.6	9.9	--	3.9	--
		05/04/90	2115	AS	1,030	318	7.8	7.0	25	4.0	>2.0	14
		05/04/90	2200	AS	1,100	308	7.7	8.0	17	--	4.2	--
		05/04/90	2245	AS	1,150	325	7.9	8.2	20	5.2	>2.0	12
		05/04/90	2330	AS	1,190	356	7.8	9.3	26	--	3.9	--
		05/05/90	0015	AS	1,200	330	7.8	8.5	17	--	4.1	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)				Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
5	Old Mans Creek near Iowa City, Iowa—Continued	05/05/90	1430	MAS	748	475	7.8	20	24	6.1	>2.0	9.1			
		05/05/90	1945	MAS	633	505	7.8	21	7.4	--	3.4	--			
		05/05/90	2115	AS	617	518	7.8	22	7.2	--	3.2	--			
		05/05/90	2315	AS	599	520	7.7	22	6.7	2.5	3.1	4.4			
		05/06/90	0015	AS	588	510	7.6	20	5.2	--	2.7	--			
		05/06/90	0515	AS	537	510	7.8	21	5.2	--	2.2	--			
		05/06/90	0915	AS	503	508	7.7	20	4.9	--	2.8	--			
		05/06/90	1315	AS	472	528	7.9	23	3.4	--	2.5	--			
		05/06/90	1715	AS	447	525	7.6	22	4.0	1.3	2.6	2.9			
		05/06/90	2315	AS	412	532	7.6	22	3.5	--	2.3	--			
		05/07/90	0515	AS	385	550	7.7	22	1.9	.75	2.0	2.1			
		05/07/90	1115	AS	370	552	7.7	22	1.7	--	1.9	--			
		05/09/90	0845	AS	234	565	7.8	22	1.7	.40	1.4	1.2			
		05/10/90	0900	AS	196	570	8.3	22	2.3	--	.70	--			
		05/11/90	0900	AS	146	572	7.9	22	2.0	--	.70	--			
		05/12/90	1015	AS	160	552	8.3	20	2.0	--	1.2	--			
		05/12/90	1215	AS	170	558	8.1	20	1.7	--	.90	--			
		05/12/90	1415	AS	189	552	8.0	19	1.3	--	.60	--			
		05/12/90	1815	AS	290	535	7.9	19	1.6	.19	1.4	1.4			
		05/12/90	2015	AS	370	525	7.8	17	2.5	--	3.5	--			
		05/12/90	2215	AS	448	512	7.7	16	4.1	--	11	--			
		05/13/90	0015	AS	542	508	7.7	17	3.0	--	20	--			
		05/13/90	0215	AS	633	468	7.7	15	4.3	1.8	>2.0	6.6			
		05/13/90	0415	AS	692	450	7.6	15	4.2	--	22	--			
		05/13/90	0615	AS	713	440	7.7	15	4.9	--	31	--			

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
5	Old Mans Creek near Iowa City, Iowa—Continued	05/13/90	0815	AS	690	412	7.6	13	5.4	--	20	--
		05/13/90	1015	AS	650	422	7.6	15	4.6	--	28	--
		05/13/90	1215	AS	603	428	7.6	15	6.4	5.5	>2.0	7.2
		05/13/90	1615	AS	509	460	7.4	17	7.8	--	9.4	--
		05/13/90	2215	AS	417	560	7.7	24	3.6	--	6.7	--
		05/14/90	0415	AS	366	562	7.8	25	2.6	.98	>2.0	1.4
		05/14/90	1415	AS	321	565	8.0	25	2.6	.74	1.6	1.5
		05/15/90	0015	AS	285	572	7.9	25	2.6	--	1.5	--
		05/15/90	1015	--	258	578	7.9	25	2.7	--	.70	--
		05/15/90	1215	--	250	572	8.0	25	3.6	.23	.60	.53
		05/15/90	2215	--	235	570	8.2	24	3.6	--	.70	--
		05/16/90	0015	--	256	560	8.0	23	3.0	.20	.80	.57
		05/16/90	0215	--	278	542	7.9	22	2.8	--	8.5	--
		05/16/90	0615	--	307	526	7.9	21	5.3	2.2	26	6.2
		05/16/90	1015	--	345	523	7.8	21	12	--	18	--
		05/16/90	1415	--	367	528	7.7	22	6.8	--	8.6	--
		05/16/90	1615	--	372	547	7.8	23	4.0	--	34	--
		05/16/90	1815	--	353	502	7.7	21	13	--	13	--
		05/16/90	2015	--	324	480	7.7	21	10	--	53	--
		05/16/90	2215	--	304	465	7.7	18	45	45	74	47
		05/17/90	0215	--	268	522	7.8	19	8.2	--	13	--
		05/17/90	0815	--	240	542	7.9	22	5.4	--	30	--
		05/17/90	1730	--	211	570	8.1	23	5.0	--	2.4	--
		05/17/90	2330	--	196	575	7.9	24	2.9	--	1.8	--
		05/18/90	0530	--	183	578	7.9	24	2.3	--	1.6	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
5	Old Mans Creek near Iowa City, Iowa—Continued	05/18/90	1130	--	177	578	7.9	24	3.6	0.51	0.70	0.91
		05/18/90	1730	--	169	578	8.1	24	3.6	--	.90	--
		05/18/90	2330	--	164	581	8.3	25	2.7	--	.70	--
		05/19/90	0530	--	156	583	8.3	24	3.0	--	.80	--
		05/19/90	1130	--	159	573	8.2	24	3.0	--	1.1	--
		05/19/90	1730	--	199	572	8.1	21	2.8	--	.90	--
		05/19/90	2330	--	224	532	7.9	22	19	9.7	31	14
		05/20/90	0530	--	238	518	7.9	21	9.5	--	18	--
		05/20/90	1130	--	193	490	7.9	19	26	--	23	--
		05/20/90	1730	--	168	535	7.9	20	12	--	27	--
		05/20/90	2330	--	155	568	8.0	22	6.1	--	15	--
		05/21/90	0530	--	142	575	8.0	24	5.2	1.2	12	1.6
		05/21/90	1130	AS	138	585	8.0	23	3.5	--	1.2	--
		05/21/90	1730	AS	132	578	8.1	23	2.4	--	.90	--
		05/21/90	2330	AS	126	582	8.0	23	2.7	--	1.1	--
		05/22/90	0530	AS	121	585	8.2	22	3.4	--	1.2	--
		05/22/90	1130	AS	116	580	8.0	23	3.6	--	1.1	--
		05/23/90	0900	AS	108	580	8.0	22	2.7	.33	.80	18
		05/23/90	1215	AS	116	570	7.9	22	2.6	--	.80	--
		05/23/90	1815	AS	164	565	8.0	22	3.0	--	.90	--
		05/24/90	0015	AS	195	558	7.8	20	4.4	--	2.2	--
		05/24/90	0610	AS	206	522	7.8	19	3.7	--	2.3	--
		05/24/90	1215	AS	210	505	7.7	18	7.2	.96	>2.0	1.5
		05/24/90	1500	AS	273	492	7.7	17	12	10	14	13
		05/24/90	1845	AS	345	438	7.7	15	11	--	7.1	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
5	Old Mans Creek near Iowa City, Iowa—Continued	05/25/90	0230	AS	459	410	7.7	16	7.1	--	5.3	--
		05/25/90	0400	AS	516	425	7.6	17	10	--	4.1	--
		05/25/90	0445	AS	621	370	7.5	13	8.5	5.4	24	13
		05/25/90	0515	AS	722	370	7.5	13	7.9	--	11	--
		05/25/90	0545	AS	838	379	7.6	13	7.6	--	16	--
		05/25/90	0615	AS	980	335	7.5	11	8.0	--	16	--
		05/25/90	0645	AS	1,110	307	7.5	10	8.6	--	15	--
		05/25/90	0715	AS	1,240	305	7.5	10	8.0	--	14	--
		05/25/90	0730	AS	1,300	272	7.3	8.7	8.1	--	16	--
		05/25/90	0815	AS	1,490	270	7.0	8.9	8.9	--	15	--
		05/25/90	0845	AS	1,610	290	7.1	10	9.2	--	11	--
		05/25/90	1015	AS	1,770	305	7.2	12	9.5	19	23	25
		05/25/90	1545	--	1,780	262	7.5	10	8.1	11	13	17
		05/25/90	1550	--	1,780	256	7.4	10	7.9	10	11	9.3
		05/25/90	1555	--	1,780	260	7.4	10	7.5	11	9.0	18
		05/25/90	1600	MAS	1,780	271	7.5	10	7.6	--	10	--
		05/25/90	1615	AS	1,780	340	7.2	14	9.0	--	18	--
		05/25/90	2015	AS	1,615	390	7.2	17	8.4	--	17	--
		05/26/90	2005	MAS	1,040	390	7.6	--	8.0	--	12	--
		05/27/90	0045	AS	750	453	7.6	20	6.8	--	11	--
		05/27/90	0645	AS	606	410	7.5	22	7.8	3.4	11	5.1
		05/27/90	0915	AS	570	407	7.3	23	7.3	--	6.0	--
		05/27/90	1615	AS	503	442	7.4	23	9.5	1.9	3.5	3.2
		05/27/90	2215	AS	448	448	7.6	23	9.9	--	3.7	--
		05/31/90	1020	MAS	203	570	7.7	26	6.6	.40	.80	.90

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								alachlor ELISA (μg/L)	alachlor GC/MS (μg/L)	as nitrogen (mg/L)	as nitrate (mg/L)		
5	Old Mans Creek near Iowa City, Iowa—Continued	06/01/90	0900	AS	174	582	7.7	9.5	0.32	26	26	12	0.76
		06/03/90	0900	--	185	528	7.6	8.2	--	23	23	24	--
		06/05/90	0900	AS	101	572	8.0	4.2	.69	23	23	4.0	3.6
		06/07/90	0900	AS	94	552	7.9	6.8	--	21	21	5.1	--
		06/08/90	0500	AS	270	378	7.5	3.4	--	14	14	4.9	--
		06/08/90	0530	AS	380	320	7.4	2.7	1.3	12	12	5.4	8.7
		06/08/90	0600	AS	538	368	7.6	7.4	--	12	12	8.7	--
		06/08/90	0630	AS	677	350	7.6	31	--	13	13	7.6	--
		06/08/90	0800	AS	807	232	7.4	33	--	6.6	6.6	8.2	--
		06/08/90	1215	AS	964	318	7.4	32	--	3.7	3.7	21	--
		06/08/90	1815	AS	1,070	320	7.3	25	6.5	10	10	24	19
		06/09/90	0015	AS	1,090	198	7.1	47	--	4.1	4.1	>2.0	--
		06/09/90	0615	AS	1,180	192	7.1	28	--	5.4	5.4	--	--
		06/09/90	1215	AS	1,050	180	7.1	33	30	10	10	30	41
		06/09/90	1400	AS	895	252	7.3	27	--	9.2	9.2	29	--
		06/09/90	1545	AS	743	316	7.5	23	--	12	12	26	--
		06/09/90	1745	AS	608	338	7.6	16	--	13	13	25	--
		06/09/90	2115	AS	476	357	7.6	29	--	14	14	26	--
		06/10/90	0315	AS	364	400	7.6	67	--	16	16	24	--
		06/10/90	0915	AS	315	444	7.7	17	10	19	19	20	17
		06/10/90	1515	AS	285	466	7.7	49	--	20	20	22	--
		06/10/90	2115	AS	256	485	7.7	71	--	21	21	17	--
		06/12/90	0900	AS	165	555	7.9	5.3	--	24	24	4.8	--
		06/13/90	1015	XSEC	140	--	--	4.3	--	--	--	5.9	--
		06/13/90	1015	XSEC	140	--	--	3.9	1.0	--	--	5.5	5.2

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
5	Old Mans Creek near Iowa City, Iowa—Continued	06/13/90	1015	XSECT	140	--	--	--	3.5	--	5.6	--
		06/13/90	1015	MAS	140	--	--	--	3.5	--	6.7	--
		06/14/90	0900	AS	136	542	7.8	21	4.1	--	5.0	--
		06/16/90	0600	AS	137	548	7.6	21	3.9	--	2.6	--
		06/16/90	0715	AS	227	390	7.3	14	4.1	0.99	5.8	8.1
		06/16/90	0830	AS	327	350	7.3	10	4.0	--	11	--
		06/16/90	1400	AS	435	405	7.3	14	4.4	--	8.7	--
		06/16/90	1415	AS	536	398	7.4	12	4.1	--	11	--
		06/16/90	1430	AS	683	328	7.3	8.0	5.1	--	11	--
		06/16/90	1500	AS	891	278	7.4	6.4	3.2	--	11	--
		06/16/90	1530	AS	1,190	275	7.3	7.6	4.9	--	12	--
		06/16/90	1545	AS	1,540	222	7.2	--	4.8	--	11	--
		06/16/90	1600	AS	2,010	170	7.3	--	4.7	--	13	--
		06/16/90	1615	--	2,310	158	7.3	3.4	--	--	--	--
		06/16/90	1645	--	2,770	180	7.1	4.6	--	--	--	--
		06/17/90	0001	AS	--	--	--	--	16	3.0	6.4	19
		06/17/90	0002	AS	--	--	--	--	15	--	7.0	--
		06/17/90	0003	AS	--	--	--	--	12	--	6.2	--
		06/17/90	0004	AS	--	--	--	--	5.3	1.8	8.4	8.8
		06/19/90	0900	EWI	2,530	178	7.4	4.0	4.6	--	8.8	--
		06/20/90	1845	EWI	2,310	155	7.4	4.5	5.6	--	7.7	--
		06/21/90	0900	EWI	2,770	178	7.4	4.3	3.2	--	5.6	--
		06/25/90	1130	EWI	369	535	7.7	23	4.0	.39	1.8	1.8
		07/02/90	1700	EWI	164	690	7.8	22	2.6	--	1.2	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
6	Roberts Creek near St. Olaf, Iowa	04/03/90	1346	--	2.6	640	9.1	2.8	--	--	--	--	--	--	--	--
		04/06/90	1040	--	1.4	637	9.0	1.3	0.40	<0.05	0.10	0.32	--	--	--	0.32
		04/11/90	1500	--	4.2	--	--	1.1	4.8	--	.30	--	--	--	--	--
		04/13/90	0940	--	2.3	--	--	1.5	3.4	--	.20	--	--	--	--	--
		04/16/90	1020	--	1.7	590	9.0	1.9	.90	--	.30	--	--	--	--	--
		04/23/90	1045	--	1.2	560	8.3	.70	--	--	--	--	--	--	--	--
		04/23/90	1500	--	--	--	--	--	.30	--	.20	--	--	--	--	--
		04/25/90	0900	--	.79	630	8.0	.20	.50	<.05	.40	.27	--	--	--	.27
		05/01/90	1000	MAS	.75	621	8.1	<.10	.60	<.05	.10	.29	--	--	--	.29
		05/03/90	0900	AS	.62	648	7.6	.20	.30	--	.20	--	--	--	--	--
		05/05/90	1430	AS	.89	600	8.2	.20	.60	<.05	.40	.30	--	--	--	.30
		05/07/90	0930	AS	.79	650	7.9	1.9	.60	--	.20	--	--	--	--	--
		05/09/90	0900	AS	1.2	619	7.8	.40	.70	--	.30	--	--	--	--	--
		05/11/90	0900	AS	2.4	580	7.7	.30	.50	.16	.50	.27	--	--	--	.27
		05/13/90	0900	AS	1.2	600	8.1	.40	.40	--	.60	--	--	--	--	--
		05/15/90	0900	AS	1.0	645	7.6	.70	.50	--	.60	--	--	--	--	--
		05/17/90	0900	AS	1.5	634	7.3	.80	1.0	--	2.2	--	--	--	--	--
		05/18/90	0900	AS	1.3	--	--	.90	.60	.35	2.6	2.4	--	--	--	2.4
		05/19/90	0900	AS	2.2	--	--	.60	.90	--	2.2	--	--	--	--	--
		05/20/90	0200	AS	13	--	--	1.1	1.1	--	1.0	--	--	--	--	--
		05/20/90	0400	AS	20	--	--	1.2	1.4	--	.90	--	--	--	--	--
		05/20/90	0600	AS	33	--	--	1.3	1.6	.54	1.2	.75	--	--	--	.75
		05/20/90	0800	AS	33	--	--	1.4	2.0	--	1.8	--	--	--	--	--
		05/20/90	1000	AS	32	--	--	1.5	1.2	--	1.3	--	--	--	--	--
		05/20/90	1136	EWI	--	--	--	--	2.9	--	1.9	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
6	Roberts Creek near St. Olaf, Iowa—Continued	05/20/90	1138	EWI	--	--	--	--	3.0	--	2.5	--	
		05/20/90	1140	EWI	--	--	--	--	2.9	--	2.3	--	
		05/20/90	1142	MAS	--	--	--	--	--	2.2	1.1	2.6	2.0
		05/20/90	1200	AS	31	577	8.2	2.0	3.5	--	3.7	--	
		05/20/90	1400	AS	35	--	--	3.1	3.6	1.7	4.1	3.3	
		05/20/90	1600	AS	34	--	--	5.4	3.2	--	3.7	--	
		05/20/90	1800	AS	31	--	--	6.0	2.7	--	3.1	--	
		05/20/90	2000	AS	27	681	8.2	6.4	3.0	--	2.7	--	
		05/20/90	2200	AS	25	649	7.5	5.6	2.9	--	2.9	--	
		05/21/90	--	AS	22	641	7.5	5.8	3.8	--	4.1	--	
		05/21/90	0200	AS	20	633	7.4	5.8	2.4	1.4	3.1	2.8	
		05/21/90	0400	AS	19	626	7.4	5.8	2.7	--	3.5	--	
		05/21/90	0600	AS	18	625	7.4	5.9	2.4	--	3.2	--	
		05/21/90	0800	AS	16	510	7.6	6.1	2.6	--	4.6	--	
		05/21/90	1000	AS	15	480	7.8	6.6	3.9	1.9	6.1	4.8	
		05/21/90	1200	AS	14	520	8.0	7.3	6.6	--	3.4	--	
		05/21/90	1400	AS	14	502	8.0	7.7	4.9	--	2.7	--	
		05/21/90	1600	AS	12	485	8.1	8.1	6.6	--	3.4	--	
		05/24/90	0900	AS	5.9	710	7.6	12	4.2	.71	1.5	1.8	
		05/28/90	0900	AS	5.2	709	8.0	5.6	2.0	--	--	--	
		05/30/90	0900	AS	4.0	710	8.4	3.5	2.1	--	--	--	
		06/02/90	0900	AS	3.4	594	7.9	2.5	.70	--	.40	--	
		06/02/90	2205	AS	11	578	8.0	2.6	1.4	--	1.1	--	
		06/03/90	0005	AS	28	614	8.3	3.4	1.2	--	1.0	--	
		06/03/90	0205	AS	20	625	8.3	3.6	.60	--	.80	--	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
6	Roberts Creek near St. Olaf, Iowa—Continued	06/03/90	1155	AS	14	563	8.2	3.9	43	--	27	--
		06/03/90	1355	AS	22	450	8.1	4.9	43	--	37	--
		06/03/90	1555	AS	22	469	8.0	3.9	41	135	33	76
		06/03/90	1755	AS	19	412	8.0	4.2	38	--	35	--
		06/03/90	1955	AS	17	400	7.9	4.5	41	--	34	--
		06/04/90	0900	AS	8.2	600	8.0	5.8	31	--	21	--
		06/06/90	0900	AS	6.7	650	7.5	6.3	21	--	30	--
		06/09/90	0900	AS	4.5	700	8.0	5.7	5.5	--	7.8	--
		06/11/90	0900	AS	3.1	680	7.1	4.6	7.5	--	8.9	--
		06/12/90	1201	--	--	--	--	--	--	--	--	--
		06/13/90	0900	AS	3.5	680	8.1	2.9	5.1	.43	10	3.0
		06/14/90	0925	AS	18	638	7.8	3.1	2.4	.32	2.0	1.9
		06/14/90	1125	AS	22	637	7.9	3.1	3.4	--	1.8	--
		06/14/90	1325	AS	20	637	8.0	2.9	5.2	--	2.9	--
		06/15/90	0900	AS	7.3	587	7.6	3.6	32	2.1	12	7.3
		06/16/90	1245	AS	19	479	7.5	5.0	13	--	21	--
		06/16/90	1445	AS	28	467	7.5	5.4	14	--	34	--
		06/16/90	1645	AS	30	485	7.5	5.6	--	--	33	--
		06/16/90	1845	AS	29	512	7.5	6.0	25	3.4	35	92
		06/16/90	2045	AS	30	546	7.5	6.1	--	--	33	--
		06/16/90	2245	AS	26	557	7.5	6.2	--	--	29	--
		06/17/90	0045	AS	24	566	7.5	6.6	--	--	30	--
		06/17/90	0245	AS	23	579	7.5	6.5	15	--	30	--
		06/17/90	0445	AS	24	573	7.5	6.4	38	--	29	--
		06/17/90	0645	AS	23	568	7.5	5.8	--	--	24	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor		Atrazine	
									ELISA (μ g/L)	GC/MS (μ g/L)	ELISA (μ g/L)	GC/MS (μ g/L)
6	Roberts Creek near St. Olaf, Iowa—Continued	06/17/90	0845	AS	24	572	7.5	2.9	--	--	23	--
		06/17/90	1045	AS	25	578	7.7	5.9	19	2.4	18	15
		06/17/90	1245	AS	27	579	7.7	6.9	4.7	--	16	--
		06/17/90	1445	AS	29	--	--	--	5.2	--	13	--
		06/17/90	1645	AS	29	545	7.7	7.5	5.8	--	11	--
		06/17/90	1845	AS	28	556	7.6	8.3	4.7	--	16	--
		06/17/90	2045	AS	28	585	7.6	9.8	5.1	--	--	--
		06/17/90	2245	AS	28	589	7.5	11	5.7	--	--	--
		06/18/90	0045	AS	32	599	7.5	11	5.4	--	12	--
		06/18/90	0245	AS	34	600	7.5	11	6.1	--	17	--
		06/18/90	0445	AS	42	--	--	--	5.8	3.2	7.8	16
		06/18/90	0645	AS	36	623	7.4	12	5.3	--	18	--
		06/18/90	0845	AS	36	639	7.4	--	5.3	--	--	--
		06/18/90	0945	--	35	599	7.4	11	--	--	--	--
		06/18/90	1045	AS	34	654	7.5	13	4.8	--	1.6	--
		06/18/90	1245	AS	32	672	7.6	14	5.2	--	8.5	--
		06/18/90	1445	AS	29	693	7.7	14	5.5	--	7.4	--
		06/18/90	1645	AS	28	710	7.7	14	5.2	--	5.0	--
		06/18/90	1845	AS	26	715	7.7	13	4.8	--	7.2	--
		06/18/90	2045	AS	25	698	7.6	13	5.0	--	--	--
		06/18/90	2245	AS	24	681	7.5	13	4.9	--	--	--
		06/19/90	0045	AS	24	674	7.6	13	4.9	--	8.5	--
		06/19/90	0900	AS	18	670	7.4	13	4.9	--	9.2	--
		06/21/90	0900	AS	16	735	7.4	16	3.9	--	3.8	--
		06/22/90	0715	AS	20	693	7.6	13	3.4	.08	2.4	.57

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
6	Roberts Creek near St. Olaf, Iowa—Continued	06/22/90	0915	AS	30	680	7.6	13	3.3	--	2.8	--
		06/22/90	1115	AS	41	674	7.5	12	2.1	--	2.4	--
		06/22/90	1315	AS	44	661	7.5	12	3.2	--	2.4	--
		06/22/90	1515	AS	47	613	7.7	11	4.9	--	4.1	--
		06/22/90	1715	AS	46	533	7.8	10	6.5	--	14	--
		06/22/90	1915	AS	50	465	7.4	8.1	15	--	8.8	--
		06/22/90	2115	AS	50	457	7.3	7.8	34	--	10	--
		06/22/90	2315	AS	52	424	7.2	6.5	16	--	7.4	--
		06/23/90	0115	AS	55	501	7.1	7.9	15	--	5.9	--
		06/23/90	0315	AS	55	529	7.1	9.0	7.0	--	6.5	--
		06/23/90	0515	AS	60	587	7.2	11	8.1	--	7.0	--
		06/23/90	0715	AS	73	623	7.2	14	12	--	6.7	--
		06/23/90	0915	AS	70	665	7.2	15	7.8	0.45	5.6	4.8
		06/23/90	1115	AS	64	674	7.3	15	7.2	--	5.2	--
		06/23/90	1315	AS	58	659	7.4	15	5.7	--	5.1	--
		06/23/90	1515	AS	53	641	7.4	14	5.9	--	4.7	--
		06/23/90	1715	AS	50	629	7.4	14	6.7	--	6.0	--
		06/23/90	1915	AS	46	621	7.4	14	7.4	--	5.3	--
		06/23/90	2115	AS	44	621	7.4	15	8.1	--	6.0	--
		06/23/90	2315	AS	41	616	7.3	15	2.3	--	2.1	--
		06/24/90	0115	AS	39	609	7.3	15	6.0	--	6.1	--
		06/24/90	0315	AS	37	607	7.2	16	9.3	--	7.3	--
		06/24/90	0515	AS	36	609	7.2	16	2.2	--	2.0	--
		06/24/90	0715	AS	34	617	7.2	17	3.8	--	3.0	--
		06/24/90	0915	AS	33	626	7.3	14	11	.66	6.1	3.8

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen					Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	as nitrogen (mg/L)				
6	Roberts Creek near St. Olaf, Iowa—Continued	06/24/90	1115	AS	33	642	7.4	3.1	--	18	2.1	--	--	
		06/24/90	1315	AS	32	657	7.5	2.9	--	19	1.9	--	--	
		06/24/90	1515	AS	31	672	7.6	3.7	--	19	2.7	--	--	
		06/24/90	1715	AS	31	684	7.6	7.7	--	20	5.5	--	--	
		06/24/90	1915	AS	30	694	7.6	8.4	--	20	4.6	--	--	
		06/24/90	2115	AS	29	702	7.6	4.1	--	20	1.7	--	--	
		06/24/90	2315	AS	26	709		1.9	--	20	1.0	--	--	
		06/25/90	0115	AS	26	716	7.5	5.7	--	21	3.3	--	--	
		06/25/90	0315	AS	25	723	7.5	5.7	--	21	2.1	--	--	
		06/25/90	0515	AS	23	726	7.5	3.7	--	21	1.9	--	--	
		06/25/90	0715	AS	23	726	7.5	1.3	--	21	.80	--	--	
		06/25/90	0915	AS	23	735	7.5	6.6	--	4.2	3.2	--	--	
		06/27/90	0900	AS	23	--	--	4.7	--	--	2.3	--	--	
		06/29/90	0900	AS	15	--	--	3.3	0.17	--	2.2	1.5	--	
		07/19/90	--	AS	23	570	8.0	1.3	--	.40	.40	--	--	
7	Delaware River near Muscotah, Kansas	07/19/90	0600	AS	13	593	7.8	1.8	--	.40	.50	--	--	
		07/19/90	2000	AS	23	483	7.7	--	--	.40	.50	--	--	
		07/20/90	1400	AS	15	517	7.6	--	--	.40	2.4	--	--	
		07/21/90	1600	AS	14	575	7.7	--	--	1.0	3.8	--	--	
		04/04/90	1245	EWI	68	575	8.4	--	--	1.2	--	--	--	
		04/12/90	1245	G	34	587	8.4	--	<.05	.05	--	.29	--	
		04/18/90	1105	G	32	638	8.4	--	--	.20	--	--	--	
		04/24/90	1055	G	26	610	8.4	--	<.05	.05	--	.34	--	
		05/02/90	1620	G	18	651	8.4	.20	<.05	.05	.30	.37	--	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate		Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	as nitrogen (mg/L)				
7	Delaware River near Muscotah, Kansas— Continued	05/03/90	1400	G	18	642	8.4	0.05		0.20	--	0.40	--
		05/04/90	1400	EWI	79	616	8.2	--		.10	--	--	--
		05/04/90	1401	EWI	79	617	8.3	--		.20	--	4.1	--
		05/04/90	1402	EWI	79	618	8.3	--		.20	--	5.7	--
		05/07/90	1430	MAS	32	654	8.5	.20		.20	--	2.6	--
		05/07/90	1431	G	32	654	8.5	.20		.50	--	4.0	--
		05/07/90	1500	AS	32	659	8.6	.20		.20	0.07	1.5	1.5
		05/09/90	1000	AS	65	569	8.2	.60		.50	--	3.4	--
		05/09/90	1200	AS	110	545	8.2	.70		.30	--	3.3	--
		05/09/90	1400	AS	178	540	8.2	.80		.40	--	3.7	--
		05/09/90	1600	AS	203	496	8.1	1.9		.70	.23	4.1	13
		05/09/90	1800	AS	179	460	8.1	2.3		.80	--	4.5	--
		05/09/90	2000	AS	168	464	8.1	1.3		.50	--	4.2	--
		05/09/90	2200	AS	172	476	8.1	1.3		.90	--	4.3	--
		05/09/90	2400	AS	179	492	8.2	1.3		.70	--	4.1	--
		05/10/90	0200	AS	170	495	8.2	1.4		.80	.32	4.8	15
		05/10/90	0600	AS	145	492	8.2	1.4		.70	--	3.4	--
		05/10/90	1000	AS	127	495	8.2	1.3		.60	--	4.0	--
		05/10/90	1400	AS	100	532	8.2	1.2		.60	.18	3.9	6.9
		05/10/90	1700	AS	94	532	8.3	1.2		.80	.18	4.6	7.3
		05/10/90	2100	AS	84	533	8.3	1.1		.70	--	4.1	--
		05/11/90	0100	AS	65	521	8.3	1.2		.30	--	4.4	--
		05/11/90	0500	AS	59	531	8.2	1.3		.40	--	4.3	--
		05/11/90	1100	AS	51	543	8.2	1.0		.50	--	4.2	--
		05/12/90	0800	AS	88	518	8.2	1.2		.60	.16	4.1	7.0

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
7	Delaware River near Muscotah, Kansas— Continued	05/12/90	0900	AS	133	405	7.8	2.3	1.0	--	4.9	--
		05/12/90	1000	AS	326	435	7.9	1.8	.60	--	4.7	--
		05/12/90	1200	AS	617	389	7.8	2.5	.80	--	5.0	--
		05/12/90	1400	AS	741	372	7.9	2.3	.90	--	4.7	--
		05/12/90	1600	AS	731	382	7.9	2.3	1.6	0.44	4.7	9.8
		05/12/90	1800	AS	658	400	8.0	1.5	.90	--	4.8	--
		05/12/90	2000	AS	580	383	8.1	2.3	1.1	--	4.7	--
		05/12/90	2400	AS	467	427	8.1	2.0	.60	--	4.9	--
		05/13/90	0600	AS	361	426	8.2	1.8	.40	--	4.7	--
		05/13/90	1200	AS	276	456	8.2	1.5	.50	.16	3.8	6.0
		05/13/90	1800	AS	211	481	8.3	1.5	.60	--	3.2	--
		05/14/90	0200	AS	176	483	8.3	1.4	.90	--	4.5	--
		05/14/90	1100	AS	3,060	280	7.5	2.3	2.2	--	6.5	--
		05/14/90	1101	EWI	3,060	267	7.5	--	2.6	--	6.4	--
		05/14/90	1102	EWI	3,060	257	7.6	--	2.7	1.1	5.2	8.3
		05/14/90	1103	EWI	3,060	259	7.5	--	3.1	--	6.0	--
		05/14/90	1200	AS	3,980	248	7.5	1.9	2.2	.88	6.0	8.7
		05/14/90	1300	AS	4,460	244	7.5	2.0	1.9	--	5.9	--
		05/14/90	1700	AS	4,840	224	7.7	1.9	1.2	--	4.9	--
		05/14/90	1900	AS	4,350	232	7.7	1.9	1.0	--	4.6	--
		05/14/90	2100	AS	2,750	245	7.7	2.1	1.2	--	4.7	--
		05/15/90	0200	AS	1,460	275	7.6	2.4	1.9	.87	5.6	6.0
		05/15/90	0800	AS	890	297	7.7	2.3	2.0	--	4.6	--
		05/15/90	1100	AS	1,150	267	7.6	1.6	1.8	.81	6.7	8.7
		05/15/90	1820	G	2,183	191	7.7	1.4	2.1	--	5.4	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)			
7	Delaware River near Muscotah, Kansas— Continued	05/16/90	1025	G	1,028	262	7.6	1.8	2.1	0.66	5.1	5.8	
		05/17/90	1525	G	574	366	7.9	1.7	1.1	.28	5.0	4.1	
		05/18/90	1125	MAS	389	424	8.0	1.7	1.7	--	4.9	--	
		05/18/90	2400	AS	286	493	8.2	1.8	1.0	--	3.3	--	
		05/19/90	2400	AS	264	544	8.1	1.8	1.1	--	4.2	--	
		05/21/90	1410	MAS	186	577	8.2	1.3	1.0	--	4.3	--	
		05/21/90	1500	AS	163	595	8.6	1.5	.70	--	3.7	--	
		05/23/90	1500	AS	119	622	8.5	1.3	.40	--	2.4	--	
		05/24/90	1200	AS	264	382	7.8	1.0	2.9	--	4.2	--	
		05/24/90	1500	AS	1,200	307	7.9	1.2	.70	--	6.6	--	
		05/24/90	1900	AS	1,130	421	7.9	1.2	.80	.11	9.0	5.9	
		05/24/90	2300	AS	710	367	8.0	1.1	1.1	--	4.6	--	
		05/25/90	0300	AS	565	409	8.0	1.0	2.1	--	5.7	--	
		05/25/90	0700	AS	467	441	8.2	1.1	1.0	--	6.4	--	
		05/25/90	1100	AS	383	564	8.3	1.0	.80	--	4.1	--	
		05/27/90	1100	AS	127	428	8.4	1.2	.90	.23	5.6	4.0	
		05/29/90	1100	AS	94	629	8.5	1.3	--	--	--	--	
		05/31/90	1100	AS	81	668	8.7	1.0	.40	<.05	.80	1.5	
		06/04/90	1100	AS	50	566	8.4	.90	.20	.08	1.6	1.8	
		06/06/90	0900	AS	448	498	8.0	.80	.20	--	4.5	--	
		06/06/90	0955	G	985	318	7.5	.30	1.8	--	14	--	
		06/06/90	1000	AS	1,050	286	7.6	1.0	7.8	--	9.2	--	
		06/06/90	1100	AS	2,420	288	7.6	.90	6.6	--	13	--	
		06/06/90	1105	G	2,660	273	7.6	1.0	11	--	12	--	
		06/06/90	1130	G	3,400	221	7.5	1.2	13	--	12	--	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
7	Delaware River near Muscotah, Kansas— Continued	06/06/90	1200	AS	4,040	229	7.3	1.4	--	--	--	--	--	--	--	--
		06/06/90	1230	G	4,590	193	7.7	1.1	5.1	--	--	9.7	--	--	9.7	--
		06/06/90	1415	G	5,330	201	7.9	1.3	3.7	--	--	9.7	--	--	9.7	--
		06/06/90	1445	G	5,370	202	8.1	1.4	4.9	--	--	8.9	--	--	8.9	--
		06/06/90	1500	AS	5,300	212	7.7	1.2	--	--	--	--	--	--	--	--
		06/06/90	1700	AS	4,490	236	7.6	1.5	.30	--	--	1.9	--	--	1.9	--
		06/06/90	1900	AS	3,470	212	7.7	2.2	1.3	--	--	3.6	--	--	3.6	--
		06/06/90	2100	AS	2,570	260	7.7	1.3	12	--	--	11	--	--	11	--
		06/06/90	2300	AS	1,930	284	7.7	1.5	18	--	--	16	--	--	16	--
		06/07/90	0100	AS	1,460	256	7.2	1.5	9.4	--	--	13	--	--	13	--
		06/07/90	0500	AS	958	200	7.7	1.5	11	--	--	10	--	--	10	--
		06/07/90	1100	AS	734	200	7.6	1.4	6.8	3.0	--	12	20	3.0	12	20
		06/07/90	1800	AS	556	277	7.7	1.4	5.8	--	--	11	--	--	11	--
		06/07/90	2400	AS	400	284	7.8	1.4	8.9	--	--	12	--	--	12	--
		06/08/90	1100	AS	281	295	8.0	1.8	3.3	2.2	--	28	19	2.2	28	19
		06/08/90	1900	AS	639	294	7.7	1.7	2.4	--	--	20	--	--	20	--
		06/08/90	2100	AS	875	258	7.6	1.6	3.1	--	--	20	--	--	20	--
		06/08/90	2300	AS	1,240	255	7.6	1.6	4.8	--	--	21	--	--	21	--
		06/09/90	0100	AS	1,560	275	7.6	1.7	3.5	--	--	21	--	--	21	--
		06/09/90	0300	AS	1,460	229	7.7	1.3	2.3	1.0	--	18	12	1.0	18	12
		06/11/90	1100	G	116	409	8.0	1.5	4.5	--	--	9.1	--	--	9.1	--
		06/13/90	1500	MAS	59	446	8.3	1.3	2.7	--	--	8.5	--	--	8.5	--
		06/13/90	1600	AS	59	450	7.9	1.3	2.4	--	--	7.1	--	--	7.1	--
		06/14/90	1400	AS	426	220	7.3	1.3	2.3	--	--	9.4	--	--	9.4	--
		06/14/90	1500	AS	754	180	7.7	1.3	1.8	--	--	9.5	--	--	9.5	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μ S/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
7	Delaware River near Muscotah, Kansas— Continued	06/14/90	1600	AS	1,320	145	7.8	1.3	1.6	0.42	9.2	13
		06/14/90	1630	MAS	1,530	150	8.0	1.4	3.8	--	9.5	--
		06/14/90	1700	AS	1,660	200	7.5	1.4	3.2	--	7.8	--
		06/14/90	1900	AS	1,760	190	7.5	1.4	3.6	--	8.4	--
		06/15/90	1048	G	--	--	--	--	3.2	--	8.9	--
		06/15/90	1230	G	4,010	150	7.6	1.1	2.8	--	8.4	--
		06/15/90	1300	G	4,340	150	7.7	1.2	3.1	--	8.3	--
		06/15/90	1330	G	4,670	150	7.6	1.1	2.7	--	8.6	--
		06/15/90	1400	AS	4,900	150	7.6	1.1	3.1	--	8.4	--
		06/15/90	1440	G	5,220	155	7.7	1.2	3.6	--	8.0	--
		06/15/90	1600	AS	5,380	150	7.3	.90	2.6	--	6.9	--
		06/15/90	1800	AS	4,900	190	7.4	1.2	2.9	--	7.4	--
		06/15/90	2200	AS	4,100	200	7.4	1.3	4.4	--	9.9	--
		06/15/90	2400	AS	3,590	200	7.5	1.2	4.0	--	9.6	--
		06/16/90	0400	AS	1,980	200	7.5	1.7	3.1	--	11	--
		06/16/90	0800	AS	1,160	200	7.5	1.9	4.6	--	9.8	--
		06/16/90	1400	AS	748	220	7.6	2.0	3.4	--	9.0	--
		06/16/90	2000	AS	526	225	7.7	2.0	3.3	--	8.1	--
		06/17/90	0400	AS	367	260	7.9	1.9	4.2	1.2	9.7	16
		06/17/90	1200	AS	264	300	8.0	1.9	3.5	--	9.5	--
		06/18/90	1048	MAS	138	330	8.1	1.7	4.0	--	9.6	--
		06/18/90	1200	AS	135	400	8.2	1.6	1.9	--	7.1	--
		06/18/90	2400	AS	142	420	8.2	1.7	1.9	--	6.8	--
		06/19/90	0100	AS	724	420	8.2	1.6	2.1	--	6.1	--
		06/19/90	0200	AS	1,230	325	7.8	1.7	3.8	--	6.9	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
7	Delaware River near Muscotah, Kansas— Continued	06/19/90	0400	AS	1,850	220	7.6	1.5	2.6	0.76	6.1	9.7
		06/19/90	0600	AS	2,330	200	7.6	1.6	2.7	--	7.7	--
		06/19/90	0700	AS	3,150	190	7.6	1.5	1.3	--	9.1	--
		06/19/90	0800	AS	3,830	170	7.6	1.4	1.9	--	8.4	--
		06/19/90	1000	AS	3,890	160	7.5	1.3	1.9	--	7.6	--
		06/19/90	1100	AS	3,520	150	7.3	1.2	1.9	--	11	--
		06/19/90	1300	AS	2,690	170	7.5	1.4	.80	--	10	--
		06/19/90	1500	AS	2,150	170	7.5	1.5	1.8	--	10	--
		06/19/90	1900	AS	1,640	210	7.6	1.5	3.7	--	15	--
		06/19/90	2300	AS	1,340	250	7.6	1.7	3.3	.88	13	23
		06/20/90	0100	AS	1,130	240	7.7	1.6	3.7	--	17	--
		06/20/90	0300	AS	1,070	250	7.7	1.6	3.0	1.1	20	17
		06/20/90	0400	AS	2,100	200	7.6	1.4	2.5	--	13	--
		06/20/90	0500	AS	2,670	180	7.7	1.0	2.4	--	9.6	--
		06/20/90	0700	AS	2,850	170	7.6	1.3	1.9	--	8.8	--
		06/20/90	0900	AS	2,250	165	7.7	1.4	1.3	--	9.8	--
		06/20/90	1100	AS	1,820	180	7.7	1.4	1.2	--	12	--
		06/20/90	1200	AS	1,650	150	7.8	1.4	1.2	--	12	--
		06/20/90	1600	AS	950	150	7.7	1.4	2.7	.46	11	9.2
		06/20/90	2000	AS	632	190	7.6	1.4	1.4	--	12	--
		06/20/90	2400	AS	481	200	7.5	1.3	1.9	--	12	--
		06/21/90	1200	AS	267	220	7.6	1.2	2.2	--	12	--
		06/22/90	0300	AS	977	210	7.6	1.5	.70	--	10	--
		06/22/90	0500	AS	1,580	150	7.6	1.6	.80	--	--	--
		06/22/90	0700	AS	1,800	130	7.6	1.7	.80	--	17	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
								as nitrogen (mg/L)								
7	Delaware River near Muscotah, Kansas— Continued	06/22/90	1100	AS	1,520	140	7.6	1.6	1.0	1.0	20	--	--	--	--	
		06/22/90	1500	AS	857	180	7.4	1.7	1.4	0.33	11	0.33	11	15	15	
		06/22/90	2300	AS	509	220	7.3	1.5	1.9	--	14	--	14	--	--	
		06/24/90	2300	AS	104	350	7.9	1.6	1.3	--	11	--	11	--	--	
		06/25/90	1200	AS	51	370	8.2	1.6	1.8	--	9.7	--	--	--	--	
8	West Fork Big Blue River near Dorchester, Nebraska	06/27/90	1200	AS	43	400	8.3	1.2	1.3	--	8.5	--	--	--	--	
		06/29/90	1200	AS	38	400	8.1	1.0	1.3	<.05	9.0	<.05	9.0	7.3	7.3	
		04/03/90	1225	G	67.7	607	8.2	2.1	.30	--	.20	--	--	--	--	
		04/06/90	1500	G	65.7	637	8.2	2.3	.20	--	.20	--	--	--	--	
		04/09/90	1345	G	68.8	612	8.3	2.1	.10	--	.10	--	--	--	--	
		04/12/90	1500	G	63.8	624	8.0	2.0	<.10	<.05	.20	<.05	.20	.16	.16	
		04/17/90	1330	MAS	63.8	570	8.0	1.6	.10	--	.20	--	--	--	--	
		04/19/90	1330	MAS	64.7	570	8.0	1.7	.30	--	.30	--	--	--	--	
		04/19/90	1330	MAS	64.7	570	8.0	--	.10	--	.10	--	--	--	--	
		04/19/90	1330	G	64.7	570	8.0	--	.20	<.05	.20	<.05	.20	.14	.14	
		04/19/90	1330	MAS	64.7	570	8.0	--	.10	--	.10	--	--	--	--	
		04/24/90	1200	MAS	61.8	615	8.1	1.2	.10	<.05	.80	<.05	.80	.34	.34	
		04/26/90	1405	MAS	60.8	601	8.4	1.3	.20	--	.80	--	--	--	--	
		04/30/90	1055	MAS	57.0	555	8.2	.80	<.10	--	.90	--	--	--	--	
		05/03/90	1325	MAS	59.8	599	8.4	.20	.20	.05	1.0	.05	1.0	.33	.33	
		05/07/90	1000	MAS	61.8	599	8.4	1.0	.30	--	.80	--	--	--	--	
		05/09/90	0930	AS	153	420	8.4	1.3	1.8	1.8	6.9	1.8	1.8	7.0	7.0	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	05/09/90	1330	AS	179	360	7.3	1.6	4.7	--	3.9	--
		05/09/90	1730	AS	166	360	7.3	1.7	3.5	4.4	5.0	6.8
		05/09/90	2130	AS	138	325	7.2	2.2	11	13	<.50	34
		05/10/90	0130	AS	130	380	7.3	1.8	26	9.4	<.50	27
		05/10/90	0530	AS	125	420	7.5	1.6	17	6.8	<.50	14
		05/10/90	0930	AS	124	430	7.5	1.5	3.3	3.7	<.50	9.2
		05/10/90	1300	AS	116	498	7.5	1.6	3.8	--	13	--
		05/10/90	1700	AS	154	506	7.7	1.6	3.2	2.4	12	8.5
		05/10/90	2100	AS	168	520	7.5	1.5	3.7	--	15	--
		05/11/90	0100	AS	160	530	7.6	1.6	4.3	--	13	--
		05/11/90	0500	AS	139	520	7.7	1.6	4.4	--	14	--
		05/11/90	0900	AS	130	510	7.7	1.6	4.3	--	14	--
		05/11/90	1300	AS	138	513	7.7	1.5	3.6	2.4	12	8.6
		05/11/90	1700	AS	159	510	7.7	1.6	2.8	--	14	--
		05/11/90	2100	AS	170	510	7.7	1.5	3.7	--	14	--
		05/12/90	0100	AS	174	515	7.7	1.6	4.1	--	11	--
		05/12/90	0500	AS	171	525	7.8	1.5	3.9	--	12	--
		05/12/90	0900	AS	164	522	7.8	1.6	4.0	2.4	13	8.8
		05/12/90	1300	AS	159	526	7.9	1.6	3.3	--	13	--
		05/12/90	1700	AS	157	520	7.8	1.6	2.9	--	13	--
		05/12/90	2100	AS	156	517	7.8	1.6	1.6	--	14	--
		05/13/90	0100	AS	151	530	7.8	1.6	4.2	--	14	--
		05/13/90	0500	AS	144	530	7.9	1.6	4.0	2.5	14	9.0
		05/13/90	0900	AS	138	520	7.8	1.6	3.9	--	14	--
		05/13/90	1300	AS	136	528	7.8	1.4	3.4	--	12	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate				Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	05/13/90	1700	AS	136	538	7.8	1.6	3.2	11	11	3.2	--	--	--
		05/13/90	2100	AS	136	560	7.9	1.4	3.1	10	10	3.1	--	--	--
		05/14/90	0100	AS	136	556	7.9	1.4	5.2	<.05	<.05	5.2	3.2	5.9	5.9
		05/14/90	0500	AS	131	590	7.9	1.7	5.2	<.05	<.05	5.2	3.3	13	13
		05/14/90	0900	AS	125	545	7.9	1.7	7.3	14	14	7.3	6.6	16	16
		05/15/90	1430	MAS	94.0	438	7.5	2.5	44	41	41	44	11	19	19
		05/17/90	0945	MAS	64.0	490	7.6	2.7	20	27	27	20	4.4	11	11
		05/19/90	0245	AS	147	398	7.6	2.5	5.4	19	19	5.4	--	--	--
		05/19/90	0645	AS	254	292	7.6	2.4	6.2	21	21	6.2	--	--	--
		05/19/90	1045	AS	315	285	7.5	2.5	7.8	19	19	7.8	--	--	--
		05/19/90	1445	AS	356	237	7.3	2.6	9.5	24	24	9.5	5.1	13	13
		05/19/90	1845	AS	267	244	7.3	2.6	14	31	31	14	--	--	--
		05/19/90	2245	AS	216	260	7.3	2.9	15	26	26	15	--	--	--
		05/20/90	0245	AS	199	286	7.4	3.1	10	19	19	10	--	--	--
		05/20/90	0645	AS	189	323	7.5	3.1	13	21	21	13	--	--	--
		05/20/90	1045	AS	208	360	7.5	2.9	16	26	26	16	--	--	--
		05/20/90	1445	AS	247	377	7.6	3.0	13	24	24	13	--	--	--
		05/20/90	1845	AS	260	316	7.6	3.0	15	32	32	15	--	--	--
		05/20/90	2245	AS	266	280	7.6	3.1	14	34	34	14	16	20	20
		05/21/90	0245	AS	296	270	7.6	3.3	19	34	34	19	--	--	--
		05/21/90	0645	AS	330	218	7.6	3.0	14	34	34	14	--	--	--
		05/21/90	1045	AS	337	222	7.3	3.0	8.5	34	34	8.5	--	--	--
		05/22/90	1420	MAS	229	210	7.3	2.6	13	38	38	13	--	--	--
		05/24/90	1010	MAS	135	281	7.4	2.9	24	34	34	24	--	--	--
		05/29/90	1100	MAS	83.0	460	8.0	2.6	6.3	6.6	6.6	6.3	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor ELISA (μ g/L)	Alachlor GC/MS (μ g/L)	Atrazine ELISA (μ g/L)	Atrazine GC/MS (μ g/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	05/31/90	0945	MAS	78.0	480	8.0	3.2	3.8	--	7.4	--	--	--	--	--
		06/05/90	1105	MAS	73.0	505	8.1	2.8	2.2	--	4.6	--	--	--	--	--
		06/07/90	1420	MAS	82.0	--	--	2.3	1.6	--	4.3	--	--	--	--	--
		06/12/90	1310	MAS	76.0	541	8.0	2.8	3.9	--	14	--	--	--	--	--
		06/14/90	1210	MAS	66.0	507	8.2	2.5	2.9	0.71	11	6.9	--	--	--	--
		06/15/90	0900	AS	340	222	7.6	3.1	7.1	--	12	--	--	--	--	--
		06/15/90	1300	AS	823	202	7.4	2.6	7.8	--	13	--	--	--	--	--
		06/15/90	1700	AS	926	145	7.1	3.2	<.05	11	<.05	40	--	--	--	--
		06/15/90	2100	AS	1,230	127	7.0	2.7	7.0	--	14	--	--	--	--	--
		06/16/90	0100	AS	1,210	125	7.1	2.2	6.5	--	14	--	--	--	--	--
		06/16/90	0500	AS	1,200	174	7.2	2.3	6.3	--	14	--	--	--	--	--
		06/16/90	0900	AS	1,210	152	7.2	3.0	7.1	--	14	--	--	--	--	--
		06/16/90	1030	MAS	1,270	148	7.2	--	7.5	--	14	--	--	--	--	--
		06/16/90	1035	G	1,270	149	7.2	--	8.2	--	14	--	--	--	--	--
		06/16/90	1040	G	1,270	148	7.2	--	8.4	--	14	--	--	--	--	--
		06/16/90	1045	G	1,270	147	7.2	--	7.4	--	14	--	--	--	--	--
		06/16/90	1300	AS	1,340	143	7.2	2.2	7.6	--	13	--	--	--	--	--
		06/16/90	1700	AS	1,430	123	6.8	2.7	7.2	--	13	--	--	--	--	--
		06/16/90	2100	AS	1,480	120	6.7	3.4	6.1	--	29	--	--	--	--	--
		06/17/90	0100	AS	1,530	109	6.6	3.2	5.8	--	26	--	--	--	--	--
		06/17/90	0500	AS	1,580	104	6.6	3.0	5.4	--	27	--	--	--	--	--
		06/17/90	0900	AS	1,630	107	6.5	3.0	5.2	5.7	28	28	--	--	--	--
		06/17/90	1300	AS	1,730	113	6.7	3.1	6.0	--	26	--	--	--	--	--
		06/17/90	1700	AS	1,820	111	6.7	3.3	5.8	--	24	--	--	--	--	--
		06/17/90	2100	AS	1,910	114	6.5	3.3	5.0	--	26	--	--	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/18/90	0100	AS	1,970	110	6.4	3.0	6.0	--	29	--
		06/18/90	0500	AS	2,040	121	6.3	3.3	5.6	--	31	--
		06/18/90	0900	AS	2,070	116	6.4	3.3	4.9	3.2	32	20
		06/18/90	1300	AS	2,080	118	6.4	3.2	6.0	--	31	--
		06/18/90	1700	AS	2,060	120	6.4	3.1	6.0	--	34	--
		06/18/90	2100	AS	2,000	119	6.4	3.0	5.4	--	28	--
		06/19/90	0100	AS	1,890	123	6.4	2.7	6.0	--	32	--
		06/19/90	0500	AS	1,650	130	6.5	2.6	5.9	--	27	--
		06/19/90	0900	AS	1,180	136	6.9	2.7	7.0	--	9.2	--
		06/19/90	1300	AS	828	141	6.9	2.7	6.7	--	8.6	--
		06/19/90	1700	AS	651	143	7.0	2.9	7.5	1.5	9.4	12
		06/19/90	2100	AS	562	148	6.8	3.0	6.6	--	8.8	--
		06/22/90	1000	MAS	471	276	8.7	1.9	6.0	--	23	--
		06/22/90	1415	AS	453	214	6.6	2.1	6.5	--	21	--
		06/22/90	1815	AS	423	228	6.8	1.4	7.0	--	20	--
		06/22/90	2215	AS	413	221	6.8	2.2	6.5	--	28	--
		06/23/90	0215	AS	416	220	6.6	2.2	6.3	--	22	--
		06/23/90	0615	AS	425	226	6.8	2.2	6.0	--	20	--
		06/23/90	1015	AS	421	215	6.8	2.1	5.9	--	18	--
		06/23/90	1415	AS	415	191	6.7	2.3	6.9	--	24	--
		06/23/90	1815	AS	413	189	6.7	2.2	6.8	2.6	23	18
		06/23/90	2215	AS	413	193	6.6	2.7	4.8	--	23	--
		06/24/90	0215	AS	413	199	6.7	2.9	5.4	--	21	--
		06/24/90	0615	AS	411	201	6.7	2.6	5.3	--	20	--
		06/24/90	1015	AS	404	202	6.8	2.6	4.7	--	15	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen					Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/24/90	1415	AS	394	203	6.8	2.4	6.2	--	--	17	--	--
		06/24/90	1815	AS	374	202	6.8	2.3	6.0	--	--	12	--	--
		06/24/90	2215	AS	354	210	6.9	2.3	4.5	--	--	16	--	--
		06/25/90	0215	AS	334	222	6.9	2.2	4.2	1.2	1.2	13	8.0	--
		06/25/90	1430	MAS	300	252	7.1	2.5	4.7	--	--	8.3	--	--
		06/27/90	1930	AS	304	252	7.3	2.5	3.9	--	--	19	--	--
		06/27/90	2330	AS	458	355	7.4	2.5	5.2	--	--	24	--	--
		06/28/90	0330	AS	621	216	6.9	2.5	5.4	--	--	18	--	--
		06/28/90	0730	AS	733	170	6.8	2.5	4.9	--	--	11	--	--
		06/28/90	1130	AS	810	144	6.6	3.1	4.4	--	--	16	--	--
		06/28/90	1530	AS	859	128	6.2	2.9	11	--	--	9.1	--	--
		06/28/90	1930	AS	881	119	6.4	3.2	14	--	--	13	--	--
		06/28/90	2330	AS	885	121	6.4	3.5	17	--	--	13	--	--
		06/29/90	0330	AS	894	120	6.4	3.6	14	--	--	15	--	--
		06/29/90	0730	AS	863	134	6.8	2.8	8.7	2.4	2.4	9.0	3.9	--
		06/29/90	1130	AS	776	147	6.9	3.2	13	--	--	8.7	--	--
		06/29/90	1930	AS	556	136	7.0	2.3	9.2	--	--	14	--	--
		06/30/90	0930	AS	403	142	7.5	2.5	8.6	--	--	14	--	--
		07/01/90	0130	AS	332	165	7.4	2.2	8.6	--	--	10	--	--
		07/02/90	1245	MAS	152	275	7.5	2.0	6.3	--	--	17	--	--
		07/05/90	1205	MAS	108	404	7.9	2.3	1.8	--	--	11	--	--
		07/10/90	1410	MAS	121	414	7.8	2.9	3.2	--	--	15	--	--
		07/13/90	1420	MAS	131	426	8.2	3.1	3.1	--	--	11	--	--
		07/17/90	1000	MAS	145	441	8.2	3.3	3.0	--	--	7.6	--	--
		07/20/90	0840	MAS	292	456	7.4	3.4	3.2	--	--	6.5	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	07/20/90	1125	AS	351	470	7.4	3.5	2.7	0.38	5.1	4.3
		07/20/90	1525	AS	434	399	7.7	3.4	3.0	--	19	--
		07/20/90	1925	AS	482	386	7.7	3.6	2.7	--	11	--
		07/20/90	2325	AS	534	318	7.1	3.4	3.9	--	9.2	--
		07/21/90	0325	AS	641	305	7.0	3.4	5.0	--	14	--
		07/21/90	0725	AS	791	304	7.1	3.0	2.8	--	17	--
		07/21/90	1125	AS	949	223	7.3	2.7	2.2	--	12	--
		07/21/90	1525	AS	1,120	154	7.1	2.4	2.3	--	9.2	--
		07/21/90	1925	AS	1,290	129	7.1	2.3	3.0	--	8.9	--
		07/21/90	2325	AS	1,540	118	7.0	2.2	2.9	--	6.8	--
		07/22/90	0325	AS	2,240	120	7.0	2.2	2.8	--	7.5	--
		07/22/90	0725	AS	3,650	117	7.0	2.2	2.9	--	7.3	--
		07/22/90	1125	AS	6,740	113	7.1	2.2	3.4	.49	13	3.7
		07/22/90	1525	AS	7,170	110	7.0	2.1	3.1	--	<5.0	--
		07/22/90	1925	AS	7,840	101	7.1	2.2	3.1	--	--	--
		07/22/90	2325	AS	8,000	95	7.1	2.0	3.2	--	9.0	--
		07/23/90	0325	AS	7,780	98	7.0	2.1	3.5	--	<5.0	--
		07/23/90	0725	AS	7,360	100	7.2	2.2	3.2	--	12	--
		07/23/90	1125	AS	6,790	104	6.9	2.3	2.7	--	7.5	--
		07/23/90	1525	AS	6,290	101	--	2.4	2.6	--	9.0	--
		07/23/90	1925	AS	5,670	105	6.9	2.4	2.5	.63	11	7.1
		07/23/90	2325	AS	5,140	102	6.7	2.5	2.6	--	11	--
		07/24/90	0325	AS	4,720	105	6.8	2.5	2.5	--	7.4	--
		07/24/90	0725	AS	4,350	108	6.9	2.4	3.1	.66	6.2	8.7
		07/24/90	1125	AS	4,050	109	6.7	2.5	2.6	--	9.5	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)					Alachlor		Atrazine		Atrazine	
													ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	07/24/90	1525	AS	3,770	115	6.9	2.8	2.9	0.71	8.3	9.6						
		07/24/90	1925	AS	3,500	118	6.9	2.9	2.4	--	4.0	--						
		07/24/90	2325	AS	3,280	127	6.9	3.0	2.7	--	7.9	--						
		07/25/90	0325	AS	3,050	130	6.9	3.0	3.5	--	6.8	--						
		07/25/90	0725	AS	2,790	139	7.0	3.0	3.3	.50	6.6	7.5						
		07/25/90	0945	MAS	2,630	145	7.0	3.0	2.6	--	<5.0	--						
		07/25/90	1125	AS	2,510	150	6.6	3.1	3.0	--	10	--						
		07/25/90	1525	AS	2,080	158	6.6	3.1	2.9	.51	11	7.5						
		07/25/90	1925	AS	1,800	158	6.6	2.7	2.4	--	7.2	--						
		07/25/90	2325	AS	1,960	144	6.6	2.3	3.2	--	8.2	--						
9	Huron River at Milan, Ohio	07/26/90	0325	AS	2,160	116	6.5	2.2	2.0	--	9.0	--						
		07/26/90	0725	AS	2,290	108	6.5	1.9	3.1	--	6.8	--						
		07/26/90	1125	AS	2,300	113	6.6	2.0	1.9	--	7.4	--						
		07/26/90	1525	AS	2,140	135	6.6	2.4	1.9	--	7.5	--						
		07/26/90	1925	AS	2,000	132	6.6	2.5	1.8	--	7.7	--						
		07/26/90	2325	AS	1,970	119	6.7	2.3	2.7	--	7.4	--						
		07/27/90	0325	AS	2,080	109	6.7	2.0	3.8	--	9.2	--						
		07/27/90	0725	AS	2,230	109	6.7	1.9	3.1	.53	6.8	5.3						
		03/30/90	0600	AS	106	726	--	2.4	.50	<.05	.30	.29						
		03/31/90	0400	AS	106	735	--	2.4	.40	--	.20	--						
		04/01/90	0300	AS	127	751	--	1.9	.40	--	.20	--						
		04/01/90	1930	AS	277	767	--	1.7	.60	--	.10	--						
		04/02/90	0700	AS	657	733	--	2.7	.50	.10	.10	.19						

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)			
9	Huron River at Milan, Ohio—Continued	04/03/90	0500	AS	639	564	--	4.2	0.90	--	0.60	--	--	--
		04/04/90	0300	AS	625	572	--	5.7	1.0	0.13	.40	0.37	--	--
		04/05/90	0100	AS	643	585	--	6.1	1.1	--	.40	--	--	--
		04/05/90	2300	AS	433	602	--	5.9	.70	.10	.10	.36	--	--
		04/06/90	2100	AS	329	620	--	5.1	.70	--	.10	--	--	--
		04/07/90	1900	AS	266	645	--	5.2	.70	--	.20	--	--	--
		04/08/90	1700	AS	225	657	--	4.0	.50	--	.40	--	--	--
		04/09/90	1300	AS	212	671	--	3.4	.50	<.05	.20	.29	--	--
		04/10/90	1300	AS	227	677	--	3.4	.40	--	.40	--	--	--
		04/10/90	1900	AS	1,090	527	--	3.0	.30	.14	.20	.21	--	--
		04/10/90	2030	AS	1,730	497	--	4.7	.70	--	.10	--	--	--
		04/10/90	2130	AS	2,430	515	--	4.8	1.0	.30	.10	.28	--	--
		04/10/90	2300	AS	3,480	454	--	5.4	1.1	--	.40	--	--	--
		04/11/90	0030	AS	4,610	420	--	5.2	1.5	.11	.40	.34	--	--
		04/11/90	0230	AS	5,580	389	--	5.1	1.3	--	.30	--	--	--
		04/11/90	1900	AS	4,160	358	--	6.1	.80	.15	.30	.58	--	--
		04/11/90	2330	AS	2,840	389	--	6.9	.90	--	.40	--	--	--
		04/12/90	0630	AS	1,850	420	--	7.5	1.0	--	.40	--	--	--
		04/12/90	2100	AS	1,050	476	--	7.4	2.3	.08	1.8	.48	--	--
		04/13/90	1900	AS	675	542	--	7.2	--	.10	1.6	.40	--	--
		04/14/90	1700	AS	526	587	--	6.7	1.9	--	1.5	--	--	--
		04/15/90	1500	AS	504	597	--	5.8	1.7	--	1.5	--	--	--
		04/15/90	1900	AS	475	603	--	5.9	--	.09	1.3	.33	--	--
		04/16/90	1700	AS	398	622	--	5.9	1.5	--	1.0	--	--	--
		04/17/90	1500	AS	262	629	--	5.4	1.7	--	1.1	--	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
9	Huron River at Milan, Ohio—Continued	04/18/90	1300	AS	237	649	--	4.9	--	0.05	1.0	0.28
		04/19/90	1100	AS	196	661	--	4.5	0.80	--	1.2	--
		04/20/90	0900	AS	189	667	--	4.1	1.8	.05	1.0	.31
		04/21/90	0700	AS	533	620	--	3.2	2.3	.60	.80	.30
		04/21/90	1000	AS	972	612	--	3.3	1.1	--	.70	--
		04/21/90	1800	AS	1,460	464	--	4.7	2.1	--	.60	--
		04/22/90	1600	AS	826	426	--	5.2	2.0	.13	.50	.52
		04/22/90	1800	AS	770	434	--	5.3	1.0	--	.40	--
		04/23/90	1600	AS	482	522	--	5.3	1.0	<.05	.50	.41
		04/24/90	1400	AS	359	571	--	4.7	1.1	.06	.90	.31
		04/24/90	1830	AS	309	568	--	4.5	1.1	--	.90	--
		04/25/90	1630	AS	220	586	--	3.8	.90	--	.70	--
		04/26/90	1430	AS	169	615	--	3.2	.70	.09	.50	.34
		04/27/90	1230	AS	143	636	--	3.3	1.5	.06	.30	.39
		04/28/90	1030	AS	140	666	--	3.1	1.1	--	.40	--
		04/29/90	0830	AS	111	679	--	2.9	1.0	.06	.40	.39
		04/30/90	0630	AS	108	695	--	2.8	.80	--	.40	--
		05/01/90	0430	AS	90	703	--	2.7	.80	--	.40	--
		05/02/90	0230	AS	93	702	--	2.4	.60	.06	.40	.36
		05/02/90	1830	AS	81	712	--	2.3	1.1	--	.60	--
		05/03/90	1630	AS	63	736	--	2.1	.90	--	.50	--
		05/04/90	1430	AS	97	713	--	2.4	.20	.12	.20	.35
		05/04/90	2030	AS	304	574	--	2.5	1.5	--	1.4	--
		05/05/90	0200	AS	672	595	--	8.0	4.3	3.5	2.6	2.6
		05/05/90	0400	AS	1,220	551	--	5.5	4.7	--	4.7	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
9	Huron River at Milan, Ohio—Continued	05/05/90	0500	AS	1,830	555	--	6.1	15	--	4.7	--
		05/06/90	0300	AS	1,190	488	--	9.1	27	6.3	9.1	12
		05/06/90	0600	AS	1,040	500	--	9.4	13	--	6.2	--
		05/07/90	0400	AS	510	552	--	8.8	7.4	4.0	>2.0	9.2
		05/07/90	0700	AS	482	558	--	8.3	5.7	--	7.3	--
		05/08/90	0300	AS	321	--	--	--	4.3	3.7	>2.0	9.5
		05/08/90	0600	AS	303	--	--	--	4.0	--	5.3	--
		05/08/90	1030	AS	278	602	--	7.5	1.2	--	3.5	--
		05/09/90	0830	AS	222	--	--	6.5	1.3	1.2	>2.0	4.0
		05/10/90	0630	AS	183	660	--	6.2	1.5	--	4.7	--
		05/11/90	0430	AS	162	680	--	5.2	1.2	.71	3.0	3.3
		05/12/90	0230	AS	119	677	--	4.5	3.5	.48	3.2	2.4
		05/13/90	0030	AS	127	700	--	4.1	3.9	--	4.8	--
		05/13/90	1130	AS	475	604	--	5.9	3.3	--	4.4	--
		05/13/90	1630	AS	896	603	--	7.4	4.4	--	5.1	--
		05/14/90	1430	AS	720	532	--	10	4.6	1.7	6.6	3.6
		05/15/90	0630	AS	435	--	--	--	15	4.4	31	14
		05/15/90	1230	AS	386	567	--	11	12	2.0	29	9.3
		05/15/90	1300	AS	370	568	--	11	13	--	24	--
		05/16/90	0800	AS	790	522	--	7.9	13	--	16	--
		05/16/90	0930	AS	1,250	526	--	8.6	14	4.3	23	11
		05/16/90	1130	AS	2,110	496	--	10	11	--	28	--
		05/16/90	1300	AS	3,050	476	--	11	13	--	36	--
		05/16/90	1530	AS	3,880	421	--	11	8.4	5.8	37	16
		05/17/90	0600	AS	2,690	385	--	9.9	7.7	--	34	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)	
9	Huron River at Milan, Ohio—Continued	05/17/90	1130	AS	1,720	428	--	10	10	4.0	30	15	
		05/18/90	0700	AS	942	495	--	11	9.7	--	26	--	
		05/19/90	0500	AS	482	548	--	7.3	12	1.6	11	9.7	
		05/19/90	1730	AS	395	577	--	8.2	9.8	--	13	--	
		05/20/90	1530	AS	284	614	--	6.5	4.5	--	7.3	--	
		05/22/90	1130	AS	242	608	--	6.6	8.8	--	6.5	--	
		05/23/90	0930	AS	167	650	--	5.9	6.4	--	6.9	--	
		05/24/90	0730	AS	147	682	--	5.5	4.7	--	4.2	--	
		05/25/90	0530	AS	106	714	--	5.2	3.3	.60	13	4.7	
		05/26/90	0330	AS	179	688	--	4.9	1.8	--	3.7	--	
		05/27/90	0130	AS	289	672	--	4.1	2.7	--	4.2	--	
		05/27/90	2330	AS	218	667	--	4.1	2.1	1.1	4.6	7.2	
		05/28/90	2130	AS	149	654	--	4.9	2.7	--	4.3	--	
		05/29/90	1930	AS	143	660	--	4.5	2.7	--	4.0	--	
		05/30/90	1730	AS	129	668	--	4.3	1.9	--	4.1	--	
		05/31/90	1530	AS	108	--	--	4.0	1.2	--	3.9	--	
		06/01/90	1330	AS	97	701	--	3.5	1.6	--	4.0	--	
		06/01/90	2000	AS	83	666	--	3.2	1.2	--	3.9	--	
		06/02/90	1800	AS	83	684	--	3.0	2.1	--	4.0	--	
		06/03/90	1600	AS	99	697	--	2.6	2.2	--	3.6	--	
		06/04/90	1400	AS	83	720	--	2.5	--	--	--	--	
		06/05/90	1200	AS	81	735	--	2.6	1.7	.65	3.3	3.7	
		06/06/90	1000	AS	68	744	--	2.6	1.4	--	3.2	--	
		06/07/90	0800	AS	66	748	--	2.4	1.3	--	2.8	--	
		06/08/90	0600	AS	69	734	--	2.1	1.2	.37	3.0	2.9	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)	Alachlor		Atrazine	
									ELISA (µg/L)	GC/MS (µg/L)	ELISA (µg/L)	GC/MS (µg/L)
9	Huron River at Milan, Ohio—Continued	06/08/90	1900	AS	294	628	--	2.1	4.5	2.2	8.6	4.9
		06/09/90	0030	AS	600	568	--	4.6	9.5	--	24	--
		06/09/90	0730	AS	999	572	--	6.6	--	--	--	--
		06/10/90	0530	AS	463	502	--	12	8.0	6.5	27	17
		06/10/90	0730	AS	436	501	--	12	8.8	--	11	--
		06/11/90	0530	AS	231	580	--	12	8.0	4.5	9.6	14
		06/12/90	0330	AS	143	649	--	11	7.1	--	8.5	--
		06/12/90	2130	AS	97	671	--	8.8	6.3	--	7.7	--
		06/13/90	1930	AS	99	690	--	7.3	5.8	--	6.2	--
		06/14/90	1730	AS	79	703	--	6.8	5.8	--	6.7	--
		06/15/90	1530	AS	67	711	--	5.7	4.9	.19	5.9	.59
		06/16/90	1330	AS	57	743	--	4.9	4.2	--	4.9	--
		06/17/90	1130	AS	47	749	--	4.1	3.7	--	4.5	--
		06/18/90	0930	AS	39	733	--	3.4	3.0	--	4.4	--
		06/19/90	0730	AS	38	760	--	3.7	3.7	--	4.1	--
		06/20/90	0530	AS	45	797	--	2.5	3.0	.37	3.5	3.6
		06/21/90	0330	AS	43	819	--	2.5	3.6	--	3.9	--
		06/21/90	1330	AS	39	555	--	7.1	12	2.9	6.4	9.7
		06/22/90	0130	AS	45	775	--	2.1	2.3	--	3.2	--
		06/22/90	2330	AS	49	792	--	2.0	3.4	--	3.7	--
		06/23/90	2130	AS	47	805	--	2.6	3.9	--	3.1	--
		06/24/90	1930	AS	61	831	--	2.9	3.3	--	3.9	--
		06/25/90	1730	AS	55	803	--	1.9	2.8	.29	2.2	2.4
		06/26/90	1530	AS	47	806	--	1.6	3.4	--	3.8	--
		06/27/90	1330	AS	40	821	--	1.3	4.4	--	5.5	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				Atrazine GC/MS (µg/L)
								Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)	
9	Huron River at Milan, Ohio—Continued	06/28/90	1130	AS	40	790	--	3.0	--	3.5	--	--
		06/29/90	0330	AS	53	--	--	3.5	--	2.4	--	--
		06/29/90	0930	AS	49	766	--	3.0	--	5.5	--	--
		06/30/90	0730	AS	37	733	--	2.7	--	2.8	--	--
		07/01/90	0530	AS	38	735	--	3.0	--	3.1	--	--
		07/02/90	0330	AS	34	769	--	2.1	--	3.3	--	--
		07/03/90	0130	AS	34	759	--	2.9	--	3.5	--	--
		07/03/90	2330	AS	33	747	--	--	--	--	--	--
		07/04/90	2130	AS	27	733	--	--	--	--	--	--
		07/05/90	1130	AS	31	729	--	2.1	--	3.0	--	--
		07/06/90	0930	AS	27	769	--	2.4	--	4.5	--	--
		07/07/90	0730	AS	25	793	--	1.9	--	3.7	--	--
		07/08/90	0530	AS	26	783	--	2.4	--	3.6	--	--
		07/09/90	0330	AS	23	778	--	1.8	--	3.4	--	--
		07/10/90	0130	AS	23	768	--	1.8	0.18	3.0	2.2	--
		07/10/90	2330	AS	26	767	--	2.6	--	3.2	--	--
		07/11/90	2130	AS	119	565	--	2.8	--	3.2	--	--
		07/12/90	0130	AS	259	651	--	2.7	--	4.4	--	--
		07/12/90	1530	AS	563	586	--	8.2	--	6.6	--	--
		07/12/90	2000	AS	951	715	--	6.5	--	5.7	--	--
		07/13/90	1800	AS	762	618	--	7.1	--	10	--	--
		07/14/90	1200	AS	1,480	535	--	9.7	--	7.9	--	--
		07/14/90	1330	AS	2,240	505	--	14	--	12	--	--
		07/14/90	1630	AS	3,000	483	--	9.4	--	12	--	--
		07/14/90	2200	AS	3,810	461	--	9.4	--	16	--	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (μg/L)	Alachlor GC/MS (μg/L)	Atrazine ELISA (μg/L)	Atrazine GC/MS (μg/L)
9	Huron River at Milan, Ohio—Continued	07/15/90	0800	AS	2,660	449	--	16	6.5	1.7	11	9.0
		07/15/90	1430	AS	1,670	474	--	16	3.9	--	9.1	--
		07/16/90	0030	AS	900	504	--	16	5.4	--	9.9	--
		07/16/90	2100	AS	372	566	--	14	16	--	4.1	--
		07/17/90	1900	AS	179	601	--	9.5	3.1	.96	7.4	7.6
		07/18/90	1700	AS	116	642	--	12	11	--	6.2	--
		07/19/90	1500	AS	81	662	--	10	16	--	5.6	--
		07/19/90	2200	AS	69	670	--	9.5	6.9	--	6.3	--
		07/20/90	2000	AS	61	690	--	7.2	5.1	--	4.2	--
		07/21/90	1800	AS	56	695	--	6.2	4.1	.43	3.1	4.2
		07/22/90	1530	AS	259	537	--	3.1	2.5	--	1.6	--
		07/22/90	2000	AS	636	524	--	5.6	4.4	--	2.2	--
		07/22/90	2130	AS	1,070	585	--	6.2	--	--	--	--
		07/23/90	0030	AS	1,580	412	--	7.6	7.9	--	4.9	--
		07/23/90	0600	AS	2,190	377	--	9.0	8.0	--	6.1	--
		07/23/90	1800	AS	1,320	438	--	10	8.0	--	6.3	--
		07/24/90	0630	AS	664	489	--	11	6.4	--	5.0	--
		07/25/90	0430	AS	287	562	--	11	5.7	--	4.1	--
		07/25/90	1300	AS	225	586	--	10	5.9	--	3.1	--
		07/26/90	1100	AS	134	627	--	8.5	5.6	--	3.3	--
		07/27/90	0900	AS	90	660	--	7.4	5.5	--	3.6	--
		07/28/90	0700	AS	77	--	--	6.8	5.6	--	2.9	--
		07/29/90	0500	AS	61	692	--	5.7	3.7	--	2.6	--
		07/30/90	0300	AS	56	679	--	4.3	2.8	.24	2.4	2.4
		07/31/90	0100	AS	102	611	--	2.9	2.7	--	2.0	--

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate					
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)	
9	Huron River at Milan, Ohio—Continued	07/31/90	2300	AS	255	485	--	3.2	3.1	--	2.7	--	
		08/01/90	2100	AS	121	485	--	3.7	2.7	--	5.4	--	
		08/02/90	1900	AS	71	525	--	3.3	2.5	--	2.5	--	
		08/03/90	1700	AS	66	589	--	3.5	3.7	--	2.6	--	
		08/04/90	1500	AS	51	605	--	2.9	3.5	--	2.2	--	
		08/05/90	1300	AS	277	444	--	3.0	5.5	--	2.9	--	
		08/05/90	1700	AS	607	471	--	2.8	4.6	--	2.4	--	
		08/06/90	1500	AS	822	361	--	3.3	3.7	--	2.1	--	
		08/06/90	1800	AS	1,030	339	--	2.9	4.4	--	2.0	--	
		08/07/90	1600	AS	846	395	--	4.5	4.6	--	2.4	--	
		08/08/90	0400	AS	463	443	--	5.0	4.8	--	2.1	--	
		08/09/90	0200	AS	233	516	--	4.8	4.2	--	1.8	--	
		08/09/90	1205	AS	163	535	--	--	4.3	--	1.6	--	
		08/09/90	1230	AS	--	--	--	--	4.4	--	2.0	--	
		08/09/90	1345	AS	158	535	--	--	3.6	--	1.9	--	
		08/09/90	1345	AS	--	--	--	--	4.1	--	2.2	--	
		08/11/90	0630	AS	181	602	--	4.0	2.7	0.19	3.4	1.9	
		08/12/90	0430	AS	144	623	--	3.1	2.4	--	1.6	--	
		08/13/90	0230	AS	148	625	--	2.5	1.9	.14	1.6	1.4	
		08/13/90	1330	AS	464	508	--	1.7	2.3	--	1.4	--	
		08/13/90	1730	AS	797	530	--	3.2	4.1	--	2.0	--	
		08/13/90	2330	AS	1185	421	--	3.0	5.3	--	4.4	--	
		08/14/90	2130	AS	720	384	--	3.5	3.6	.26	5.3	2.4	
		08/14/90	2330	AS	667	397	--	3.5	3.7	--	2.4	--	
		08/15/90	2130	AS	387	474	--	3.5	3.3	--	2.5	--	

Table 5. Streamflow, physical properties, and analytical results for nutrients and the herbicides, alachlor and atrazine, using ELISA and GC/MS for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (µS/cm)	pH (standard units)	Nitrite plus nitrate				
								as nitrogen (mg/L)	Alachlor ELISA (µg/L)	Alachlor GC/MS (µg/L)	Atrazine ELISA (µg/L)	Atrazine GC/MS (µg/L)
9	Huron River at Milan, Ohio—Continued	08/16/90	1300	AS	262	522	--	3.3	2.8	--	2.4	--
		08/17/90	1100	AS	199	569	--	3.1	2.8	--	2.7	--
		08/18/90	0900	AS	177	617	--	2.9	2.6	--	3.2	--
		08/19/90	0700	AS	179	644	--	2.9	2.5	<0.05	2.0	2.1
		08/19/90	2330	AS	681	661	--	2.2	2.0	--	2.0	--
		08/20/90	0100	AS	1083	546	--	1.4	2.5	--	2.1	--
		08/20/90	0100	AS	1533	363	--	1.1	3.9	--	2.8	--
		08/20/90	0430	AS	2004	316	--	1.1	3.5	--	2.8	--
		08/20/90	0800	AS	2542	241	--	1.0	3.0	.26	3.2	1.9
		08/20/90	1330	AS	1783	265	--	1.2	2.5	--	1.7	--
		08/20/90	1730	AS	1117	313	--	1.4	2.1	<.05	2.0	1.9

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990

[DEA, deethylatrazine; DIA, deisopropylatrazine; ft³/s, cubic feet per second; µg/L, micrograms per liter; --, no data; <, less than; AS, automatic sampler; MAS, manually activated automatic sampler; EW1, equal discharge increment; G, grab sample; XSECT, multiple vertical cross section]

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
1	Iroquois River near Chebanese, Illinois	04/04/90	1530	--	2,410	0.07	<0.05	0.19	<0.20	0.12	0.07	0.14	<0.05	<0.05	<0.05	<0.05
		04/12/90	1630	--	2,450	.18	<0.05	.39	<0.20	.11	.08	.50	<0.05	<0.05	<0.05	<0.05
		04/19/90	1400	--	2,790	.07	<0.05	.22	<0.20	.10	<0.05	.23	<0.05	<0.05	<0.05	<0.05
		04/19/90	1600	AS	2,910	<0.05	<0.05	.93	<0.20	.10	<0.05	.84	<0.05	<0.05	<0.05	<0.05
		04/20/90	1150	AS	2,430	.07	<0.05	.20	<0.20	.09	<0.05	.14	<0.05	<0.05	<0.05	<0.05
		04/23/90	1800	AS	2,610	.08	<0.05	.26	<0.20	.09	<0.05	.47	<0.05	<0.05	<0.05	<0.05
		04/24/90	1200	AS	2,590	.08	<0.05	.21	<0.20	.08	<0.05	.17	<0.05	<0.05	<0.05	<0.05
		04/24/90	1441	G	2,590	.05	<0.05	.24	<0.20	.08	<0.05	.24	<0.05	<0.05	<0.05	<0.05
		04/27/90	1400	MAS	2,000	.07	<0.05	.23	<0.20	.11	<0.05	.22	<0.05	<0.05	<0.05	<0.05
		05/03/90	1516	--	--	.14	<0.05	.33	<0.20	.11	.07	.21	<0.05	.14	<0.05	<0.05
		05/03/90	1800	AS	1,290	.20	<0.05	.38	.24	.12	.10	.33	<0.05	<0.05	<0.05	<0.05
		05/07/90	1800	AS	2,410	.44	<0.05	2.0	.55	.15	.11	1.5	<0.05	<0.05	<0.05	<0.05
		05/09/90	1800	AS	1,930	.76	<0.05	3.1	.85	.27	.12	1.8	<0.05	<0.05	<0.05	.16
		05/11/90	2400	AS	2,530	.92	<0.05	3.7	1.1	.35	.15	2.3	<0.05	<0.05	<0.05	.19
		05/12/90	1700	AS	2,430	1.5	<0.05	2.6	.80	.24	.14	1.3	<0.05	<0.05	<0.05	.35
		05/13/90	0300	AS	3,040	4.7	<0.05	9.4	.91	.57	.18	3.6	<0.05	<0.05	.11	.26
		05/13/90	1600	AS	4,160	2.3	<0.05	9.2	1.2	.64	.21	5.6	<0.05	<0.05	.11	.18
		05/14/90	0900	AS	5,630	2.4	<0.05	6.0	2.4	.54	.22	3.8	.10	<0.05	.06	.21
		05/15/90	2100	AS	5,710	.92	<0.05	3.4	4.0	.33	.26	1.3	<0.05	<0.05	<0.05	.27
		05/16/90	2105	AS	5,730	1.6	<0.05	5.1	5.8	.44	.31	1.6	<0.05	<0.05	.05	.33
		05/17/90	0930	--	5,560	4.7	<0.05	4.2	.41	.43	.41	1.9	<0.05	<0.05	.13	.09
		05/19/90	0200	AS	7,380	1.8	<0.05	6.2	6.6	.55	.40	2.4	.16	<0.05	.07	.25
		05/20/90	1800	AS	5,940	1.7	<0.05	6.6	9.2	.63	.47	1.7	.22	<0.05	.07	.25
		05/23/90	0200	AS	3,020	.73	<0.05	2.7	2.3	.27	.20	.65	.09	<0.05	<0.05	.21
		05/25/90	1000	AS	2,120	.57	<0.05	1.7	1.1	.18	.14	.46	<0.05	<0.05	<0.05	.18

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
1	Iroquois River near Chebanese, Illinois— Continued	05/27/90	0200	AS	2,570	0.49	<0.05	1.2	0.77	0.15	0.13	0.34	<0.05	<0.05	<0.05	0.15
		05/30/90	1800	AS	2,190	.71	<0.05	1.8	1.6	.26	.17	.52	<0.05	<0.05	<0.05	<0.05
		06/05/90	1000	AS	1,630	.43	<0.05	1.0	.39	.18	.11	.54	<0.05	<0.05	<0.05	<0.05
		06/11/90	1500	MAS	2,100	<0.05	<0.05	10	3.5	.83	.62	1.7	.32	<0.05	.12	<0.05
		06/12/90	2000	AS	1,770	.26	<0.05	2.6	4.6	.34	.19	1.3	.11	.09	.05	<0.05
		06/15/90	1300	AS	1,150	.46	<0.05	3.2	1.9	.46	.36	.80	<0.05	<0.05	.05	.10
		06/22/90	1700	AS	1,770	.23	<0.05	.91	.49	.17	.18	.32	<0.05	<0.05	<0.05	.11
		06/26/90	0100	AS	1,480	1.0	<0.05	4.3	3.2	.82	.84	1.1	.65	<0.05	.06	.06
		06/28/90	1300	AS	921	1.5	<0.05	3.0	1.6	.51	.51	.69	.20	<0.05	.05	.07
		07/01/90	0500	AS	2,700	.94	<0.05	3.9	.83	.72	.37	2.1	.66	<0.05	.06	.05
		07/04/90	0500	AS	1,770	.39	<0.05	2.9	1.5	.67	.61	.54	.22	<0.05	.05	.08
		07/12/90	0700	AS	2,170	.58	<0.05	6.9	.48	1.3	.51	3.7	.23	<0.05	.09	.22
		07/15/90	0700	AS	2,350	.38	<0.05	2.3	.65	.52	.38	<0.05	.11	<0.05	<0.05	.08
		07/17/90	0700	AS	2,250	.29	<0.05	1.7	.68	.47	.27	.67	.08	.06	<0.05	.07
		07/18/90	1500	AS	1,990	.17	<0.05	.68	.42	.20	.14	.32	<0.05	.05	<0.05	<0.05
		07/20/90	0800	--	--	1.9	<0.05	2.6	1.4	<0.05	<0.05	.90	.63	<0.05	<0.05	.50
		07/21/90	0200	AS	3,550	.41	<0.05	6.1	.56	1.3	.47	3.4	.08	.05	.08	.26
		07/23/90	0300	AS	8,020	.53	<0.05	2.8	.51	.76	.36	1.0	.08	.07	.05	<0.05
		07/27/90	1125	XSECT	5,200	.19	<0.05	1.3	.72	.38	.24	<0.05	.06	.05	<0.05	<0.05
		07/30/90	0300	AS	2,570	.15	<0.05	1.5	.40	.63	.31	.42	<0.05	<0.05	<0.05	<0.05
		07/31/90	1100	AS	1,730	<0.05	<0.05	1.0	.43	.36	.20	.26	<0.05	<0.05	<0.05	<0.05
		08/03/90	2000	AS	937	.30	<0.05	1.2	.26	.33	.15	.51	<0.05	.07	<0.05	<0.05
		08/09/90	2300	AS	952	.14	<0.05	.86	<0.20	.31	.17	.40	<0.05	.07	<0.05	<0.05
		08/13/90	2300	AS	1,360	.31	<0.05	.82	<0.20	.25	.14	.43	<0.05	.11	<0.05	<0.05
		08/16/90	0200	AS	2,020	.31	<0.05	.91	.28	.38	.20	.32	<0.05	.12	<0.05	<0.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
1	Iroquois River near Chebanese, Illinois— Continued	08/17/90	0800	MAS	--	0.51	<0.05	1.0	1.1	0.28	<0.05	0.96	0.57	<0.05	0.05	<0.05
		08/18/90	1000	AS	1,320	.15	<0.05	.82	.22	.40	.22	.22	<.05	.09	<.05	<.05
2	Sangamon River at Monticello, Illinois	04/04/90	1400	MAS	375	<.05	<.05	.09	<.20	.08	<.05	.09	<.05	<.05	<.05	<.05
		04/16/90	0745	MAS	611	.05	<.05	.18	<.20	<.05	<.05	.36	<.05	<.05	<.05	<.05
		04/22/90	1000	AS	439	.08	<.05	.36	<.20	.08	<.05	.31	<.05	<.05	<.05	<.05
		04/23/90	1000	AS	425	<.05	<.05	.13	<.20	.08	<.05	.18	<.05	<.05	<.05	<.05
		04/27/90	0830	MAS	340	.06	<.05	.13	<.20	.08	<.05	.13	<.05	.09	<.05	<.05
		05/02/90	1400	MAS	251	.10	<.05	.52	.25	.11	.09	.28	<.05	<.05	<.05	<.05
		05/05/90	0900	AS	324	.48	<.05	1.1	.27	.12	.09	1.1	<.05	.06	<.05	<.05
		05/07/90	1200	AS	456	.26	<.05	.88	2.2	.12	.15	.75	<.05	.07	<.05	<.05
		05/07/90	2400	AS	434	.23	<.05	1.0	2.1	.14	.16	.41	<.05	.50	<.05	<.05
		05/08/90	1800	AS	398	.18	<.05	.65	.79	.13	.13	.72	<.05	.57	<.05	<.05
		05/09/90	2400	AS	372	.08	<.05	.51	.62	.14	.12	.60	<.05	<.05	<.05	<.05
		05/11/90	0600	AS	399	.62	<.05	.73	.37	.14	.13	.96	<.05	.07	<.05	<.05
		05/11/90	1200	AS	419	.25	<.05	.42	.31	.11	.11	.63	<.05	.12	<.05	<.05
		05/12/90	1800	AS	897	.97	<.05	1.6	1.2	.20	.15	1.9	<.05	.20	.33	<.05
		05/13/90	0600	AS	1,510	2.3	<.05	2.4	1.7	.31	.22	2.8	.15	.19	<.05	<.05
		05/13/90	2400	AS	1,790	1.6	<.05	2.3	.90	.28	.18	2.5	.15	.17	<.05	<.05
		05/14/90	1200	AS	1,810	.91	<.05	2.0	1.2	.25	.16	2.5	.14	.13	<.05	.10
		05/15/90	1800	AS	1,850	1.2	<.05	2.0	2.0	.32	.20	2.1	.12	.12	<.05	.08
		05/16/90	0600	AS	6,230	3.1	<.05	3.1	1.1	.36	.21	2.9	.09	<.05	<.05	.09
		05/16/90	0800	AS	7,610	7.5	<.05	12	7.5	1.1	.66	15	.15	<.05	.12	.27
		05/16/90	1100	AS	9,550	.40	<.05	.68	.99	.07	<.05	.19	<.05	<.05	<.05	<.05
		05/16/90	1300	AS	10,800	3.2	<.05	3.6	2.2	.34	.23	5.0	.15	<.05	<.05	.10
		05/18/90	0800	AS	3,750	4.1	<.05	4.3	2.4	.41	.29	6.6	.18	<.05	<.05	.15
		05/18/90	2400	AS	3,230	3.2	<.05	5.2	2.7	.48	.30	7.6	.30	<.05	.05	.15
		05/20/90	2400	AS	2,470	1.1	<.05	2.7	1.4	.35	.22	3.1	<.05	.07	<.05	<.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	05/23/90	2400	AS	1,000	0.55	<0.05	1.1	0.42	0.17	0.12	1.6	0.09	0.16	<0.05	0.06
		05/25/90	1400	AS	1,100	.54	<0.05	.99	.27	.17	.13	1.3	.08	.16	<0.05	<0.05
		05/29/90	0400	AS	1,590	.28	<0.05	2.7	.57	.23	.17	1.3	.08	.13	<0.05	.11
		05/30/90	2000	AS	982	.13	<0.05	.96	.23	.15	.12	.70	<0.05	.08	<0.05	.13
		06/01/90	0400	AS	735	.13	<0.05	.75	<20	.14	.08	.66	<0.05	.08	<0.05	<0.05
		06/03/90	1200	AS	933	3.1	<0.05	8.6	.63	.66	.42	2.7	.09	<0.05	.10	.13
		06/06/90	0400	AS	548	.25	<0.05	2.3	.44	.26	.14	1.1	<0.05	.13	<0.05	<0.05
		06/12/90	0500	AS	1,420	.94	<0.05	5.9	.83	.74	.47	3.0	.33	.09	.06	<0.05
		06/13/90	1300	AS	763	.61	<0.05	4.1	2.6	.49	.42	.97	.11	.05	.06	.06
		06/16/90	0500	AS	588	.14	<0.05	1.9	.26	.18	.11	.63	<0.05	.07	<0.05	<0.05
		06/16/90	1300	AS	570	.23	<0.05	4.0	.29	.33	.20	.93	<0.05	.11	.06	<0.05
		06/17/90	1300	AS	548	.17	<0.05	1.4	.28	.24	.14	.71	<0.05	.14	<0.05	<0.05
		06/20/90	0300	AS	1,640	.89	<0.05	7.9	.38	.91	.49	3.1	.25	<0.05	.10	.07
		06/21/90	0800	AS	3,190	1.2	<0.05	4.3	.40	.64	.39	2.6	.41	<0.05	.06	.08
		06/25/90	0500	AS	3,480	.67	<0.05	6.5	.93	1.1	.62	2.7	.43	<0.05	.09	.05
		06/28/90	0500	AS	1,350	.23	<0.05	2.3	.45	.53	.35	.96	.30	<0.05	.07	<0.05
		07/01/90	0500	AS	2,100	.23	<0.05	2.7	.35	.60	.37	1.6	.12	<0.05	.05	<0.05
		07/02/90	0800	AS	2,270	.32	<0.05	3.3	.53	.73	.52	1.3	.36	.48	.06	.07
		07/10/90	2300	AS	432	.09	<0.05	.84	.26	.25	.21	.43	<0.05	<0.05	<0.05	<0.05
		07/20/90	--	--	--	5.2	<0.05	11	5.3	<0.05	.06	3.1	2.2	<0.05	.11	1.5
		07/22/90	2400	AS	1,450	.11	<0.05	.71	<20	.13	.09	.30	<0.05	.07	<0.05	<0.05
		07/24/90	1200	AS	1,860	.08	<0.05	.95	<20	.43	.25	.53	.05	<0.05	<0.05	<0.05
		07/29/90	2200	AS	372	.06	<0.05	.52	<20	.21	.15	.24	<0.05	.06	<0.05	<0.05
		07/31/90	1100	AS	276	.07	<0.05	.50	<20	.20	.15	.24	<0.05	.09	<0.05	<0.05
		08/10/90	1100	AS	75	.06	<0.05	.31	<20	.13	.10	.17	<0.05	.24	<0.05	<0.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	08/22/90	1100	AS	65	0.08	<0.05	0.40	<0.20	0.17	0.12	0.31	<0.05	0.13	<0.05	<0.05
		08/28/90	1015	XSECT	65	.07	<0.05	.59	<0.20	.32	.25	.30	<0.05	.11	<0.05	<0.05
		08/28/90	1020	XSECT	65	.07	<0.05	.53	<0.20	.28	.21	.28	<0.05	.10	<0.05	<0.05
		08/28/90	1025	XSECT	65	.07	<0.05	.57	<0.20	.30	.24	.31	<0.05	.11	<0.05	<0.05
		08/28/90	1030	MAS	--	.07	<0.05	.57	<0.20	.30	.22	.31	<0.05	.10	<0.05	<0.05
3	Silver Creek near Freeburg, Illinois	04/13/90	1210	EWI	476	.09	<0.05	3.5	<0.20	.54	.41	3.2	.37	.07	<0.05	.97
		04/18/90	1600	EWI	399	.07	<0.05	1.5	<0.20	.42	.30	.95	<0.05	<0.05	<0.05	.59
		04/26/90	1330	AS	195	<0.05	<0.05	1.4	<0.20	.32	.21	.65	<0.05	<0.05	<0.05	.54
		04/28/90	1400	AS	178	<0.05	<0.05	.90	<0.20	.24	.14	.37	<0.05	<0.05	<0.05	2.4
		05/03/90	1300	AS	403	.14	<0.05	.68	.34	.15	.14	.57	.11	<0.05	<0.05	7.8
		05/03/90	2000	AS	787	.52	<0.05	2.4	.44	.35	.30	.17	<0.05	<0.05	<0.05	3.0
		05/04/90	0800	AS	1,020	1.2	<0.05	7.6	11	.44	.43	2.3	.26	<0.05	.09	1.8
		05/04/90	1645	AS	1,050	6.6	<0.05	25	30	1.3	1.1	14	1.6	<0.05	.22	.74
		05/05/90	0800	AS	936	5.4	<0.05	14	19	.73	.60	5.5	1.6	<0.05	.17	2.2
		05/06/90	0800	AS	371	1.9	<0.05	9.5	12	.60	.45	5.4	1.1	<0.05	1.2	2.2
		05/06/90	2000	AS	268	2.3	<0.05	8.7	10	.54	.40	3.7	.66	<0.05	.11	1.5
		05/07/90	0800	AS	216	1.1	<0.05	7.0	9.0	.50	.37	2.6	.43	<0.05	.09	1.3
		05/08/90	0800	AS	179	.80	<0.05	6.6	6.9	.33	.23	2.8	.23	<0.05	.08	1.2
		05/12/90	1100	AS	425	4.7	<0.05	13	3.7	.61	.39	5.2	.16	<0.05	.13	3.4
		05/12/90	2100	AS	1,010	2.1	<0.05	12	2.9	.77	.50	5.3	.13	<0.05	.10	1.7
		05/13/90	2100	AS	1,320	1.9	<0.05	13	9.9	1.1	.80	5.7	.45	<0.05	.14	1.7
		05/14/90	1745	EWI	1,730	2.0	<0.05	13	10	1.2	.79	5.9	.50	<0.05	.14	1.2
		05/17/90	1330	EWI	10,800	.57	<0.05	4.8	4.1	.53	.48	2.1	<0.05	<0.05	<0.05	.46
		05/29/90	1045	EWI	1,680	.32	<0.05	4.6	2.0	.77	.61	1.6	<0.05	<0.05	<0.05	.70
		06/04/90	1020	EWI	178	.10	<0.05	2.6	.80	.46	.37	.86	.08	<0.05	<0.05	.49

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Metolachlor (µg/L)	Metribuzin (µg/L)	Pro-meton (µg/L)	Pro-pazine (µg/L)	Sima- zine (µg/L)
3	Silver Creek near Freeburg, Illinois—Continued	06/08/90	2200	AS	1,100	4.0	<0.05	17	5.7	1.5	1.2	5.9	0.98	<0.05	0.15	0.33
		06/12/90	1000	AS	455	1.5	<0.05	9.1	2.9	.92	.59	2.6	1.4	<0.05	.16	.25
		06/22/90	1300	AS	862	4.0	.15	21	5.4	2.1	1.3	8.5	1.5	<0.05	.18	.27
		06/26/90	1135	MAS	249	2.4	<0.05	17	3.7	1.9	1.6	6.6	1.3	<0.05	.18	.22
		06/26/90	1141	EWI	249	2.2	<0.05	15	3.0	1.6	1.1	6.0	1.1	<0.05	.14	.20
		07/11/90	1100	AS	20	.14	<0.05	3.4	.84	.56	.36	1.1	.10	<0.05	.05	.08
		07/16/90	1220	EWI	26	.12	<0.05	2.6	.55	.44	.29	.70	.05	.09	.05	.07
		07/25/90	1050	MAS	92	2.2	<0.05	4.1	1.4	.87	.86	2.0	1.3	.09	.05	.07
		07/30/90	1005	AS	21	.92	<0.05	2.1	.82	1.9	.96	2.2	.91	.11	.08	.09
		08/05/90	0300	AS	259	.28	<0.05	3.2	.78	.88	.41	.85	.29	.10	<0.05	.06
4	Cedar River at Palisades, Iowa	08/06/90	1030	EWI	115	.33	<0.05	3.0	.69	.66	.57	1.6	.21	.08	.05	.11
		08/10/90	1100	AS	15	.36	<0.05	3.3	.51	.76	.58	1.7	.24	.10	.05	.10
		08/17/90	1200	AS	34	.16	<0.05	1.9	.52	.53	.39	.71	.09	.16	<0.05	.07
		08/18/90	1200	AS	30	.08	<0.05	.51	<.20	.13	.15	.25	<.05	<.05	<.05	<.05
		08/23/90	1035	EWI	14	.07	<0.05	1.0	<.20	.28	.18	.27	.05	.34	<.05	.12
		04/04/90	1130	--	--	.07	<0.05	.24	<.20	.16	<.05	.09	<.05	<.05	<.05	<.05
		04/04/90	1130	--	--	<.05	<0.05	.23	<.20	.13	.06	.08	<.05	<.05	<.05	<.05
		04/21/90	1430	--	1,410	<.05	<0.05	.13	<.20	.10	<.05	<.05	<.05	<.05	<.05	<.05
		04/27/90	1430	--	1,770	.08	<0.05	.17	<.20	.12	<.05	.09	<.05	<.05	<.05	<.05
		04/29/90	0300	AS	4,950	<.05	<0.05	.20	<.20	.10	.08	.08	<.05	<.05	<.05	<.05
		05/02/90	2000	AS	4,600	.97	<0.05	.72	<.20	.20	.11	.12	<.05	<.05	<.05	.05
		05/04/90	0815	AS	4,950	.57	<0.05	1.6	.25	.27	.12	.74	<.05	<.05	<.05	.07
		05/05/90	0215	AS	4,440	.39	<0.05	1.9	<.20	.21	.11	.51	<.05	<.05	<.05	.07
		05/05/90	1415	AS	3,920	.35	<0.05	7.5	.24	.25	.11	.55	<.05	<.05	.09	.16
		05/06/90	1415	AS	3,320	.28	<0.05	2.9	.20	.23	.09	.48	<.05	<.05	<.05	.07

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
4	Cedar River at Palisades, Iowa—Continued	05/06/90	2015	AS	3,660	0.22	<0.05	2.4	<0.20	0.20	0.12	0.38	<0.05	<0.05	<0.05	0.06
		05/07/90	1730	AS	2,730	.14	<0.05	.95	<0.20	.18	.10	.32	<0.05	<0.05	<0.05	.05
		05/08/90	1730	AS	2,960	.13	<0.05	.49	<0.20	.17	.10	.30	<0.05	<0.05	<0.05	<0.05
		05/09/90	1130	AS	3,010	.12	<0.05	1.3	<0.20	.18	.09	.29	<0.05	<0.05	<0.05	.05
		05/09/90	2330	AS	3,140	.15	<0.05	6.1	<0.20	.16	.07	.29	<0.05	<0.05	.06	.10
		05/10/90	1945	AS	3,160	.09	<0.05	4.7	<0.20	.17	.09	.24	<0.05	<0.05	.05	<0.05
		05/11/90	1515	AS	4,100	1.5	<0.05	4.3	<0.20	.25	.14	.77	.05	<0.05	.05	.08
		05/12/90	0715	AS	4,250	2.0	<0.05	4.2	2.1	.35	.20	4.2	.11	<0.05	<0.05	.11
		05/13/90	1515	AS	3,480	3.3	<0.05	1.6	1.2	.28	.14	4.2	<0.05	<0.05	<0.05	<0.05
		05/14/90	1515	--	4,990	.47	<0.05	.43	.25	.13	.09	.93	<0.05	<0.05	<0.05	<0.05
		05/16/90	0715	--	4,350	.40	<0.05	.66	.43	.15	.11	.67	<0.05	<0.05	<0.05	.06
		05/16/90	2300	--	6,840	1.7	<0.05	1.4	<0.20	.16	.15	1.3	<0.05	<0.05	<0.05	.09
		05/18/90	1700	--	5,260	2.4	<0.05	3.6	2.1	.28	.19	2.8	.11	<0.05	<0.05	.15
		05/19/90	1700	--	4,790	1.3	<0.05	1.7	.74	.16	.11	1.2	<0.05	<0.05	<0.05	.09
		05/21/90	0830	--	7,690	2.3	<0.05	4.2	2.1	.41	.26	1.9	.10	<0.05	.05	.15
		05/23/90	0830	AS	10,200	5.5	<0.05	3.4	3.4	.46	.25	6.5	.18	<0.05	<0.05	<0.05
		05/24/90	1630	AS	9,370	2.3	<0.05	2.3	2.1	.35	.18	3.4	.08	<0.05	<0.05	<0.05
		05/27/90	1145	AS	7,690	1.0	<0.05	1.0	1.1	.28	.14	1.6	<0.05	<0.05	<0.05	<0.05
		06/01/90	1145	AS	4,630	.31	<0.05	.62	.42	.24	.12	.78	<0.05	<0.05	<0.05	<0.05
		06/04/90	0345	AS	4,010	1.5	<0.05	2.8	1.4	.35	.21	1.1	<0.05	<0.05	<0.05	<0.05
		06/05/90	0345	AS	3,740	.35	<0.05	1.5	.57	.31	.12	.75	<0.05	<0.05	<0.05	<0.05
		06/07/90	0230	AS	4,690	1.4	<0.05	3.8	1.6	.53	.47	1.8	.12	<0.05	.05	.05
		06/07/90	1300	AS	5,190	1.1	<0.05	2.9	1.2	.43	.36	1.2	<0.05	<0.05	.05	<0.05
		06/09/90	0030	AS	6,210	1.2	<0.05	6.0	3.2	.52	.42	3.2	<0.05	<0.05	.07	.07
		06/09/90	1630	AS	5,390	2.6	<0.05	7.7	4.5	.75	.59	4.3	.19	<0.05	.09	.06

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Metolachlor (µg/L)	Metribuzin (µg/L)	Pro-meton (µg/L)	Pro-pazine (µg/L)	Sima-zine (µg/L)
4	Cedar River at Palisades, Iowa—Continued	06/11/90	1930	AS	5,020	1.4	<0.05	2.8	1.4	0.36	0.25	1.8	0.14	<0.05	<0.05	<0.05
		06/12/90	0015	AS	3,080	1.1	<0.05	2.7	1.5	.38	.23	1.6	.13	<0.05	.05	<0.05
		06/13/90	0015	AS	3,600	.68	<0.05	2.0	1.6	.32	.18	1.3	.09	<0.05	<0.05	<0.05
		06/15/90	1615	AS	3,240	.47	<0.05	2.1	.81	.38	.24	.88	.05	<0.05	<0.05	<0.05
		06/16/90	1030	AS	6,540	2.0	<0.05	8.9	6.4	.96	1.0	4.2	<0.05	.07	.10	.06
		06/16/90	1300	AS	9,870	2.2	<0.05	7.5	4.5	.95	.89	2.5	.10	<0.05	<0.05	.08
		06/16/90	2230	AS	12,100	2.8	<0.05	8.3	6.0	.96	.92	2.6	.74	<0.05	.09	.07
		06/29/90	0645	EWI	13,700	.39	<0.05	6.0	1.4	.77	.63	1.2	<0.05	.05	.08	<0.05
5	Old Mans Creek near Iowa City, Iowa	04/04/90	0935	--	--	.07	<0.05	.20	<0.20	.18	.09	<0.05	<0.05	<0.05	<0.05	<0.05
		04/06/90	1555	--	--	<0.05	<0.05	.16	<0.20	.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/09/90	1400	--	--	.06	<0.05	.15	<0.20	.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/16/90	1000	--	35	.14	<0.05	.35	<0.20	.15	.06	.07	<0.05	<0.05	<0.05	<0.05
		04/21/90	0900	--	37	.17	<0.05	.58	<0.20	.14	.10	.16	<0.05	<0.05	<0.05	<0.05
		04/27/90	0900	--	27	.10	<0.05	.28	<0.20	.15	<0.05	.09	<0.05	<0.05	<0.05	<0.05
		04/29/90	0900	--	77	.56	<0.05	.88	<0.20	.16	<0.05	.30	<0.05	<0.05	<0.05	<0.05
		05/04/90	0745	AS	67	.19	<0.05	1.3	<0.20	.14	.07	.86	<0.05	<0.05	<0.05	<0.05
		05/04/90	1045	AS	80	.27	<0.05	.96	.38	.17	.13	.68	<0.05	<0.05	<0.05	<0.05
		05/04/90	1300	AS	105	.26	<0.05	.70	.59	.16	.11	.51	<0.05	<0.05	<0.05	<0.05
		05/04/90	1515	AS	294	.92	<0.05	20	2.2	<0.05	<0.05	20	<0.05	<0.05	.30	.11
		05/04/90	1730	AS	586	2.3	<0.05	8.2	4.2	.33	.26	7.3	<0.05	<0.05	.11	<0.05
		05/04/90	1815	AS	702	3.2	<0.05	6.7	5.0	.34	.44	4.2	.28	<0.05	.09	.13
		05/04/90	2115	AS	1,030	4.0	<0.05	14	22	.51	.63	19	<0.05	<0.05	.18	<0.05
		05/04/90	2245	AS	1,150	5.2	<0.05	12	19	.52	.58	14	<0.05	<0.05	<0.05	<0.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
5	Old Mans Creek near Iowa City, Iowa— Continued	05/05/90	1430	MAS	748	6.1	<0.05	9.1	4.3	0.55	<0.05	3.0	<0.05	<0.05	0.12	<0.05
		05/05/90	2315	AS	599	2.5	<0.05	4.4	2.7	.29	.17	1.7	<0.05	<0.05	.06	<0.05
		05/06/90	1715	AS	447	1.3	<0.05	2.9	1.7	.26	.11	1.1	<0.05	<0.05	<0.05	<0.05
		05/07/90	0515	AS	385	.75	<0.05	2.1	1.1	.24	.10	.78	<0.05	<0.05	<0.05	<0.05
		05/09/90	0845	AS	234	.40	<0.05	1.2	.90	.22	.11	.50	<0.05	<0.05	<0.05	<0.05
		05/12/90	1815	AS	290	.19	<0.05	1.4	.54	.22	.12	.95	<0.05	<0.05	<0.05	<0.05
		05/13/90	0215	AS	633	1.8	<0.05	6.6	5.8	.43	.29	3.3	.07	<0.05	.08	.14
		05/13/90	1215	AS	603	5.5	<0.05	7.2	10	.78	.46	2.1	.22	<0.05	.15	.25
		05/14/90	0415	AS	366	.98	<0.05	1.4	1.0	.36	.17	.41	.08	<0.05	<0.05	.05
		05/14/90	1415	AS	321	.74	<0.05	1.5	.83	.28	.12	.34	<0.05	<0.05	<0.05	<0.05
		05/15/90	1215	--	250	.23	<0.05	.53	.31	.19	.14	.18	<0.05	<0.05	<0.05	<0.05
		05/16/90	0015	--	256	.20	<0.05	.57	.46	.21	.14	.25	<0.05	<0.05	<0.05	<0.05
		05/16/90	0615	--	307	2.2	<0.05	6.2	5.1	.55	.42	1.7	<0.05	<0.05	<0.05	<0.05
		05/16/90	2215	--	304	45	<0.05	47	66	1.2	1.4	4.5	<0.05	<0.05	.78	1.8
		05/18/90	1130	--	177	.51	<0.05	.91	.85	.21	.15	.26	<0.05	<0.05	<0.05	<0.05
		05/19/90	2330	--	224	9.7	<0.05	14	26	.55	.57	1.4	<0.05	<0.05	.16	.23
		05/21/90	0530	--	142	1.2	<0.05	1.6	1.1	.25	.20	.33	<0.05	<0.05	<0.05	<0.05
		05/23/90	0900	AS	108	.33	<0.05	18	.42	.18	.14	.16	.08	<0.05	<0.05	<0.05
		05/24/90	1215	AS	210	.96	<0.05	1.5	1.7	.26	.20	.92	.10	<0.05	<0.05	.06
		05/24/90	1500	AS	273	10	<0.05	13	13	.89	.67	2.8	<0.05	<0.05	.25	.33
		05/25/90	0445	AS	621	5.4	<0.05	13	8.0	1.1	.75	8.0	.13	<0.05	.14	.20
		05/25/90	1015	AS	1,770	19	.18	25	15	2.1	.96	4.6	.35	<0.05	.24	.11
		05/25/90	1545	--	1,780	11	<0.05	17	18	1.6	1.0	6.8	.71	<0.05	.18	.10
		05/25/90	1550	--	1,780	10	<0.05	9.3	16	1.5	.92	6.3	.65	<0.05	.14	.09
		05/25/90	1555	--	1,780	11	<0.05	18	18	1.6	.94	7.0	.64	<0.05	.16	.10

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
5	Old Mans Creek near Iowa City, Iowa— Continued	05/27/90	0645	AS	606	3.4	<.05	5.1	3.2	0.36	0.20	1.1	0.12	<.05	0.06	0.12
		05/27/90	1615	AS	503	1.9	<.05	3.2	2.6	.44	.22	.83	.06	<.05	<.05	<.05
		05/31/90	1020	MAS	203	.40	<.05	.90	.45	.28	.11	.28	<.05	<.05	<.05	<.05
		06/01/90	0900	AS	174	.32	<.05	.76	.39	.24	.10	.23	<.05	<.05	<.05	<.05
		06/05/90	0900	AS	101	.69	<.05	3.6	2.1	.30	.22	.93	<.05	<.05	<.05	<.05
		06/08/90	0530	AS	380	1.3	<.05	8.7	4.6	1.3	1.2	9.9	<.05	<.05	.10	.06
		06/08/90	1815	AS	1,070	6.5	.06	19	18	1.6	1.8	8.7	.53	<.05	.21	.11
		06/09/90	1215	AS	1,050	30	.27	41	20	2.9	2.1	4.3	2.1	<.05	.55	.13
		06/10/90	0915	AS	315	10	.10	17	8.9	1.3	.96	2.0	.80	<.05	.21	.10
		06/13/90	1015	XSECT	140	1.0	<.05	5.2	1.1	.35	.19	.38	<.05	<.05	.07	<.05
6	Roberts Creek above St. Olaf, Iowa	06/16/90	0715	AS	227	.99	<.05	8.1	3.1	1.5	1.2	5.1	.27	<.05	.09	.07
		06/17/90	0001	AS	--	3.0	.13	19	12	2.8	2.6	7.6	.45	<.05	.17	.10
		06/17/90	0004	AS	--	1.8	<.05	8.8	8.8	1.4	1.4	3.7	.35	<.05	.11	.07
		06/25/90	1130	EWI	369	.39	<.05	1.8	.91	.43	.29	.34	<.05	<.05	<.05	<.05
		04/06/90	1040	--	1	<.05	<.05	.32	<.20	.12	<.05	<.05	<.05	<.05	<.05	<.05
		04/25/90	0900	--	1	<.05	<.05	.27	<.20	.13	<.05	<.05	<.05	<.05	<.05	<.05
		05/01/90	1000	MAS	1	<.05	<.05	.29	<.20	.13	.06	<.05	<.05	<.05	<.05	<.05
		05/05/90	1430	AS	1	<.05	<.05	.30	<.20	.12	<.05	<.05	<.05	<.05	<.05	<.05
		05/11/90	0900	AS	2	.16	<.05	.27	<.20	.12	.08	.05	<.05	<.05	<.05	<.05
		05/18/90	0900	AS	1	.35	<.05	2.4	.47	.21	.11	.46	<.05	<.05	<.05	<.05
		05/20/90	0600	AS	33	.54	<.05	.75	<.20	.13	.08	.10	<.05	<.05	<.05	<.05
		05/20/90	1142	MAS	--	1.1	<.05	2.0	<.20	.18	.11	.11	<.05	.05	<.05	.07
		05/20/90	1400	AS	35	1.7	<.05	3.3	.30	.25	.13	.45	<.05	<.05	<.05	.08
		05/21/90	0200	AS	20	1.4	<.05	2.8	.41	.29	.14	.41	<.05	<.05	<.05	<.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
6	Roberts Creek above St. Olaf, Iowa—Continued	05/21/90	1000	AS	15	1.9	<0.05	4.8	0.24	0.34	0.15	1.9	<0.05	<0.05	0.05	0.09
		05/24/90	0900	AS	6	.71	<0.05	1.8	<20	.28	.09	.40	<0.05	<0.05	<0.05	<0.05
		06/03/90	1555	AS	22	135	2.0	76	57	3.9	2.5	.60	<0.05	<0.05	1.1	.57
		06/13/90	0900	AS	4	.43	<0.05	3.0	1.5	.38	.16	.26	<0.05	<0.05	.05	<0.05
		06/14/90	0925	AS	18	.32	<0.05	1.9	1.0	.30	.14	.16	<0.05	<0.05	<0.05	<0.05
		06/15/90	0900	AS	7	2.1	<0.05	7.3	2.5	1.2	4.8	3.5	<0.05	<0.05	<0.05	.18
		06/16/90	1845	AS	29	3.4	<0.05	92	4.3	2.6	1.3	6.3	2.4	<0.05	.91	.29
		06/17/90	1045	AS	25	2.4	<0.05	15	4.9	1.4	.88	3.2	<0.05	<0.05	.17	.07
		06/18/90	0445	AS	42	3.2	<0.05	16	3.4	1.3	.63	1.1	<0.05	<0.05	.17	.06
		06/22/90	0715	AS	20	.08	<0.05	.57	.30	.11	<0.05	.13	<0.05	<0.05	<0.05	<0.05
7	Delaware River near Muscotah, Kansas	06/23/90	0915	AS	70	.45	<0.05	4.8	.73	1.3	.40	.24	<0.05	<0.05	.08	<0.05
		06/24/90	0915	AS	33	.66	<0.05	3.8	.93	.68	.26	.52	<0.05	.05	.07	<0.05
		06/29/90	0900	AS	15	.17	<0.05	1.5	.51	.51	.17	.13	<0.05	<0.05	<0.05	<0.05
		04/12/90	1245	G	34	<0.05	<0.05	.29	<20	.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/24/90	1055	G	26	<0.05	<0.05	.34	<20	.14	.05	.07	<0.05	<0.05	<0.05	<0.05
		05/02/90	1620	G	18	<0.05	<0.05	.37	<20	.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		05/07/90	1500	AS	32	.07	<0.05	1.5	<20	.17	.10	.50	<0.05	<0.05	<0.05	<0.05
		05/09/90	1600	AS	203	.23	<0.05	13	1.5	.71	.36	5.2	.21	<0.05	.21	.09
		05/10/90	0200	AS	170	.32	<0.05	15	.23	.84	.38	4.1	3.1	<0.05	<0.05	.12
		05/10/90	1400	AS	100	.18	<0.05	6.9	<20	.46	.22	3.1	<0.05	<0.05	.10	<0.05
		05/10/90	1700	AS	94	.18	<0.05	7.3	.22	.52	.18	2.5	<0.05	<0.05	.07	.05
		05/12/90	0800	AS	88	.16	<0.05	7.0	<20	.46	.16	1.9	<0.05	<0.05	.08	.05
		05/12/90	1600	AS	731	.44	<0.05	9.8	.20	.79	.26	3.2	.16	<0.05	.12	.08

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
7	Delaware River near Muscotah, Kansas— Continued	05/13/90	1200	AS	276	0.16	<.05	6.0	<.20	0.44	0.16	2.2	0.08	<.05	0.06	0.05
		05/14/90	1102	EWI	1,352	1.1	<.05	8.3	.28	.72	.25	3.2	.08	<.05	.10	.08
		05/14/90	1200	AS	3,980	.88	<.05	8.7	.24	.76	.29	3.1	.08	<.05	.09	.08
		05/15/90	0200	AS	1,460	.87	<.05	6.0	.25	.58	.26	2.7	.16	<.05	.07	.07
		05/15/90	1100	AS	1,150	.81	<.05	8.7	.50	.79	.31	3.2	.13	<.05	.11	.08
		05/16/90	1025	G	1,028	.66	<.05	5.8	.48	.56	.20	2.5	.09	<.05	.06	.08
		05/17/90	1525	G	574	.28	<.05	4.1	.35	.44	.21	3.1	<.05	<.05	<.05	.07
		05/24/90	1900	AS	1,130	.11	<.05	5.9	<.20	.78	.39	2.5	<.05	<.05	<.05	.07
		05/27/90	1100	AS	127	.23	<.05	4.0	<.20	.50	.26	1.5	<.05	<.05	<.05	.06
		05/31/90	1100	AS	81	<.05	<.05	1.5	<.20	.19	.12	.60	<.05	<.05	<.05	<.05
		06/04/90	1100	AS	50	.08	<.05	1.8	<.20	.23	.08	.89	<.05	<.05	<.05	<.05
		06/07/90	1100	AS	734	3.0	<.05	20	<.20	1.2	.41	13	<.05	<.05	.17	<.05
		06/08/90	1100	AS	281	2.2	<.05	19	.31	1.3	.63	13	.95	<.05	.18	.06
		06/09/90	0300	AS	1,460	1.0	<.05	12	<.20	1.4	.70	7.6	.78	<.05	.12	<.05
		06/14/90	1600	AS	1,320	.42	<.05	13	.25	1.6	.89	4.3	.87	<.05	.11	<.05
		06/17/90	0400	AS	367	1.2	<.05	16	.60	1.6	.69	.88	.90	.09	.14	.06
		06/19/90	0400	AS	1,850	.76	<.05	9.7	.27	1.6	.82	3.5	.34	<.05	.10	<.05
		06/19/90	2300	AS	1,340	.88	<.05	23	.26	2.0	.83	9.7	.65	<.05	.20	.06
		06/20/90	0300	AS	1,070	1.1	<.05	17	.24	1.7	.69	8.1	<.05	<.05	.16	.06
		06/20/90	1600	AS	950	.46	<.05	9.2	<.20	1.2	.55	4.3	.30	<.05	.09	<.05
		06/22/90	1500	AS	857	.33	<.05	15	<.20	1.4	.60	5.8	.58	<.05	.13	.05
		06/29/90	1200	AS	38	<.05	<.05	7.3	<.20	.75	.35	2.5	.11	<.05	.08	<.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska	04/12/90	1500	G	64	<0.05	<0.05	0.16	<0.20	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/19/90	1330	G	65	<0.05	<0.05	.14	<0.20	.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/24/90	1200	MAS	62	<0.05	<0.05	.34	<0.20	.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		05/03/90	1325	MAS	60	.05	<0.05	.33	<0.20	.06	<0.05	<0.05	.11	<0.05	<0.05	<0.05
		05/09/90	0930	AS	153	1.8	<0.05	7.0	6.3	.42	.32	2.5	.10	<0.05	.10	.05
		05/09/90	1730	AS	166	4.4	<0.05	6.8	2.0	.45	.23	.54	<0.05	<0.05	.10	.13
		05/09/90	2130	AS	138	13	<0.05	34	3.4	1.5	.68	17	.21	<0.05	.42	.09
		05/10/90	0130	AS	130	9.4	<0.05	27	2.1	1.1	.70	14	.47	<0.05	.32	<0.05
		05/10/90	0530	AS	125	6.8	<0.05	14	2.0	.84	.53	5.7	.44	.07	.18	<0.05
		05/10/90	0930	AS	124	3.7	<0.05	9.2	1.9	.47	.24	3.6	.13	<0.05	.11	.10
		05/10/90	1700	AS	154	2.4	<0.05	8.5	1.3	.44	.20	2.6	.09	<0.05	.09	.11
		05/11/90	1300	AS	138	2.4	<0.05	8.6	1.4	.44	.20	2.6	.08	<0.05	.11	.11
		05/12/90	0900	AS	164	2.4	<0.05	8.8	1.4	.45	.20	2.6	.09	<0.05	.10	.11
		05/13/90	0500	AS	144	2.5	.21	9.0	1.4	.45	.20	2.7	.08	<0.05	.11	.12
		05/14/90	0100	AS	136	3.2	<0.05	5.9	.61	.32	.14	1.4	.05	<0.05	.06	.08
		05/14/90	0500	AS	131	3.3	<0.05	13	<0.20	.40	.20	.97	<0.05	<0.05	.05	<0.05
		05/14/90	0900	AS	125	6.6	<0.05	16	<0.20	.54	<0.05	.83	<0.05	<0.05	.08	1.0
		05/15/90	1430	MAS	94	11	<0.05	19	2.2	.99	.53	4.2	.21	<0.05	.24	1.4
		05/17/90	0945	MAS	64	4.4	<0.05	11	1.1	.69	.43	1.4	.23	<0.05	.14	1.0
		05/19/90	1445	AS	356	5.1	<0.05	13	1.6	1.1	.65	5.0	.14	.10	.16	.45
		05/20/90	2245	AS	266	16	<0.05	20	3.7	2.3	.86	2.3	<0.05	.71	.41	<0.05
		06/14/90	1210	MAS	66	.71	.05	6.9	.45	.63	.30	.73	<0.05	.39	.08	.16
		06/15/90	1700	AS	926	11	<0.05	40	5.8	3.4	1.5	8.7	1.3	<0.05	.47	.13
		06/17/90	0900	AS	1,630	5.7	<0.05	28	2.4	3.3	1.3	3.0	<0.05	.48	.47	.62
		06/18/90	0900	AS	2,070	3.2	.23	20	1.1	2.2	.96	2.7	.92	.18	.23	.38

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/19/90	1700	AS	651	1.5	<0.05	12	1.3	1.5	0.80	1.4	0.57	<0.05	0.14	0.19
		06/23/90	1815	AS	413	2.6	<0.05	18	2.4	2.8	1.5	2.0	<0.05	1.3	.40	.45
		06/25/90	0215	AS	334	1.2	<0.05	8.0	2.3	1.9	1.0	1.2	<0.05	.33	.30	.24
		06/29/90	0730	AS	863	2.4	<0.05	3.9	1.1	2.6	1.4	1.6	.60	.05	.22	.05
		07/20/90	1125	AS	351	.38	<0.05	4.3	.29	1.0	.47	.08	<0.05	.06	.07	.09
		07/22/90	1125	AS	6,740	.49	.07	3.7	<0.20	.92	.45	.35	.05	<0.05	.06	.10
		07/23/90	1925	AS	5,670	.63	<0.05	7.1	.47	1.3	.62	1.4	.08	.06	.09	.10
		07/24/90	0725	AS	4,350	.66	<0.05	8.7	.59	1.6	.73	.21	.09	.06	.11	.12
		07/24/90	1525	AS	3,770	.71	<0.05	9.6	.66	1.8	.86	2.1	.10	.06	.11	.14
		07/25/90	0725	AS	2,790	.50	<0.05	7.5	.45	1.5	.72	1.7	.09	.06	.08	.17
9	Huron River at Milan, Ohio	07/25/90	1525	AS	2,080	.51	.14	7.5	.23	1.8	.83	1.8	.11	<0.05	.09	.17
		07/27/90	0725	AS	2,230	.53	.23	5.3	.23	1.4	.71	.61	.08	.23	.07	.14
		03/30/90	0600	AS	106	<0.05	<0.05	.29	<0.20	.12	<0.05	.14	<0.05	<0.05	<0.05	<0.05
		04/02/90	0700	AS	657	.10	<0.05	.19	<0.20	<0.05	<0.05	.13	<0.05	<0.05	<0.05	<0.05
		04/04/90	0300	AS	625	.13	<0.05	.37	<0.20	.18	<0.05	.23	<0.05	<0.05	<0.05	<0.05
		04/05/90	2300	AS	433	.10	<0.05	.36	<0.20	.21	.10	.30	<0.05	<0.05	<0.05	.07
		04/09/90	1300	AS	212	<0.05	<0.05	.29	<0.20	.16	.09	.16	<0.05	<0.05	<0.05	<0.05
		04/10/90	1900	AS	1,090	.14	<0.05	.21	<0.20	.09	<0.05	.13	<0.05	<0.05	<0.05	<0.05
		04/10/90	2130	AS	2,430	.30	<0.05	.28	<0.20	<0.05	<0.05	.17	<0.05	<0.05	<0.05	.10
		04/11/90	0030	AS	4,610	.11	<0.05	.34	<0.20	.16	<0.05	.20	<0.05	<0.05	<0.05	<0.05
		04/11/90	1900	AS	4,160	.15	<0.05	.58	<0.20	.38	.13	.36	<0.05	<0.05	<0.05	.12
		04/12/90	2100	AS	1,050	.08	<0.05	.48	<0.20	.24	.08	.21	<0.05	<0.05	<0.05	<0.05

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
9	Huron River at Milan, Ohio—Continued	04/13/90	1900	AS	675	0.10	<0.05	0.40	<0.20	0.24	<0.05	0.21	<0.05	<0.05	<0.05	<0.05
		04/15/90	1900	AS	475	.09	<0.05	.33	<0.20	.20	.08	.15	<0.05	<0.05	<0.05	<0.05
		04/18/90	1300	AS	237	.05	<0.05	.28	<0.20	.15	<0.05	.15	<0.05	<0.05	<0.05	<0.05
		04/20/90	0900	AS	189	.05	<0.05	.31	<0.20	.12	.05	.11	<0.05	<0.05	<0.05	<0.05
		04/21/90	0700	AS	533	.60	<0.05	.30	<0.20	.11	<0.05	.16	<0.05	<0.05	<0.05	<0.05
		04/22/90	1600	AS	826	.13	<0.05	.52	<0.20	.24	.12	.84	<0.05	<0.05	<0.05	<0.05
		04/23/90	1600	AS	482	<.05	<0.05	.41	<0.20	<.05	<.05	.51	<.05	<.05	<.05	<.05
		04/24/90	1400	AS	359	.06	<0.05	.31	<0.20	.20	.09	.27	<.05	<.05	<.05	<.05
		04/26/90	1430	AS	169	.09	<0.05	.34	<0.20	.16	<.05	.23	<.05	<.05	<.05	<.05
		04/27/90	1230	AS	143	.06	<0.05	.39	<0.20	.14	.07	.17	<.05	<.05	<.05	<.05
		04/29/90	0830	AS	111	.06	<0.05	.39	<0.20	.12	.06	.15	<.05	<.05	<.05	<.05
		05/02/90	0230	AS	93	.06	<0.05	.36	<0.20	.12	.05	.18	<.05	<.05	<.05	<.05
		05/04/90	1430	AS	97	.12	<0.05	.35	.27	.11	.08	.20	<.05	<.05	<.05	<.05
		05/05/90	0200	AS	672	3.5	<0.05	2.6	3.0	.36	.24	1.2	.24	<.05	<.05	.45
		05/06/90	0300	AS	1,190	6.3	<0.05	12	9.6	.89	.40	6.4	.35	<.05	.17	.44
		05/07/90	0400	AS	510	4.0	<0.05	9.2	8.3	.77	.38	4.5	.19	<.05	.13	.56
		05/08/90	0300	AS	321	3.7	<0.05	9.5	9.0	.80	.36	3.8	.19	<.05	.12	.75
		05/09/90	0830	AS	222	1.2	<0.05	4.0	3.7	.44	.24	1.4	.07	<.05	.05	.33
		05/11/90	0430	AS	162	.71	<0.05	3.3	2.2	.36	.19	1.7	<.05	<.05	<.05	.25
		05/12/90	0230	AS	119	.48	<0.05	2.4	1.6	.26	.16	1.3	<.05	<.05	<.05	.24
		05/14/90	1430	AS	720	1.7	<0.05	3.6	2.2	.47	.27	1.5	.17	<.05	<.05	.49
		05/15/90	0630	AS	435	4.4	<0.05	14	11	1.2	.59	5.5	.79	<.05	.18	1.2
		05/15/90	1230	AS	386	2.0	<0.05	9.3	10	.84	.43	3.5	.30	<.05	.12	.72
		05/16/90	0930	AS	1,250	4.3	<0.05	11	8.5	1.2	.63	3.3	.55	<.05	.13	1.1
		05/16/90	1530	AS	3,880	5.8	<0.05	16	11	1.6	.84	6.4	.64	<.05	.21	.86

Table 6. Streamflow and analytical results for selected herbicides and two triazine metabolites for storm samples collected from nine streams in the Midwestern United States, 1990—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
9	Huron River at Milan, Ohio—Continued	05/17/90	1130	AS	1,720	4.0	<0.05	1.5	12	1.6	0.72	6.8	0.51	<0.05	0.18	1.3
		05/19/90	0500	AS	482	1.6	<0.05	9.7	5.4	.99	.48	3.2	.20	<0.05	.11	1.8
		05/25/90	0530	AS	106	.60	<0.05	4.7	1.7	.45	.28	1.2	.09	<0.05	.05	.74
		05/27/90	2330	AS	218	1.1	<0.05	7.2	2.4	.73	.35	2.7	.07	<0.05	.07	.40
		06/05/90	1200	AS	81	.65	<0.05	3.7	1.5	.50	.30	1.4	<0.05	<0.05	<0.05	.22
		06/08/90	0600	AS	69	.37	<0.05	2.9	1.1	.41	.23	1.1	<0.05	<0.05	<0.05	.16
		06/08/90	1900	AS	294	2.2	<0.05	4.9	2.1	.42	.19	1.2	.35	.06	.06	.11
		06/10/90	0530	AS	463	6.5	<0.05	17	7.7	2.2	1.3	13	4.1	<0.05	.36	.40
		06/11/90	0530	AS	231	4.5	.05	14	5.9	2.2	1.2	9.2	2.3	.05	.17	.62
		06/15/90	1530	AS	67	.19	<0.05	.59	.42	.10	<0.05	.48	<0.05	<0.05	<0.05	.05
		06/20/90	0530	AS	45	.37	<0.05	3.6	1.7	.64	.39	1.5	.36	<0.05	.06	.23
		06/21/90	1330	AS	39	2.9	<0.05	9.7	4.2	1.2	.72	2.0	.24	<0.05	.12	1.3
		06/25/90	1730	AS	55	.29	<0.05	2.4	.87	.45	.31	.46	<0.05	<0.05	.05	.12
		07/10/90	0130	AS	23	.18	<0.05	2.2	1.0	.43	.23	.63	<0.05	<0.05	<0.05	.08
		07/15/90	0800	AS	2,660	1.7	<0.05	9.0	1.3	2.8	1.4	7.7	1.4	<0.05	.12	.21
		07/17/90	1900	AS	179	.96	<0.05	7.6	1.4	2.6	1.2	4.6	.67	.06	.10	.18
		07/21/90	1800	AS	56	.43	<0.05	4.2	1.1	1.4	.72	2.3	.19	.09	.06	.13
		07/30/90	0300	AS	56	.24	<0.05	2.4	.58	.88	.41	1.2	<0.05	<0.05	<0.05	.08
		08/11/90	0630	AS	--	.19	<0.05	1.9	.60	.77	.39	.87	.10	<0.05	<0.05	.09
		08/13/90	0230	AS	--	.14	<0.05	1.4	.41	.55	.29	.64	<0.05	<0.05	<0.05	.06
		08/14/90	2130	AS	--	.26	<0.05	2.4	.52	1.0	.40	1.1	.12	.06	.05	.07
		08/19/90	0700	AS	--	<0.05	<0.05	2.1	.67	.79	.38	.86	<0.05	.06	<0.05	.08
		08/20/90	0800	AS	--	.26	<0.05	1.9	.33	.61	.29	.98	.10	<0.05	<0.05	.05
		08/20/90	1730	AS	--	<0.05	<0.05	1.9	.44	.74	.30	<0.05	.11	<0.05	<0.05	<0.05

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92
[ft³/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter; --, no data; <, less than; AS, automatic sampler; MAS, manually activated automatic sampler; EW1, equal discharge increment; G, grab sample; XSECT, multiple vertical cross section]

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite plus nitrate as nitrogen			Ortho-phosphate (mg/L)
									Nitrite (mg/L)	Nitrate (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	
2	Sangamon River at Monticello, Illinois	04/12/91	1500	EW1	353	661	8.0	0.02	0.05	10	10	0.03
		04/15/91	1530	EW1	1,030	576	7.9	.13	.06	10	10	.04
		04/17/91	0930	MAS	1,700	--	--	.07	.07	10	10	.27
		04/19/91	0830	MAS	1,900	580	6.5	.05	.14	7.1	7.0	.04
		04/25/91	1215	MAS	516	633	8.3	.02	.05	12	12	.02
		04/27/91	1300	AS	463	590	7.3	.02	.04	11	11	<.01
		04/28/91	2000	AS	592	655	7.1	.08	.06	10	10	.04
		04/29/91	0400	MAS	619	655	7.2	.11	.07	11	11	.04
		04/29/91	1200	AS	603	645	7.1	.18	.08	10	10	.03
		04/29/91	1430	AS	595	675	7.1	.07	.08	11	11	.03
		04/29/91	1445	AS	595	770	7.5	.06	.08	11	11	.03
		05/01/91	1600	AS	484	695	7.2	.13	.05	11	11	.02
		05/02/91	0745	AS	463	695	7.1	.10	.07	11	11	.05
		05/02/91	0800	AS	465	705	8.2	.02	.10	11	11	.03
		05/04/91	0800	AS	449	725	8.1	.02	.08	10	10	.02
		05/04/91	0800	AS	449	725	8.1	.02	.08	10	10	.02
		05/05/91	1700	AS	586	680	8.5	.01	.05	11	11	.03
		05/05/91	2300	AS	738	660	8.5	.04	.04	7.0	7.0	.02
		05/06/91	0300	AS	905	660	8.7	.05	.06	11	11	.03
		05/06/91	0700	AS	1,080	640	8.6	.04	.07	11	11	.03
		05/06/91	1400	AS	1,250	615	8.5	.06	.07	11	11	.04
		05/06/91	2200	AS	1,330	590	8.6	.12	.07	8.2	8.1	.06
		05/07/91	0600	AS	1,380	540	8.5	.10	.09	11	11	.08
		05/07/91	0600	AS	1,380	540	8.5	.10	.09	11	11	.08
		05/07/91	1400	AS	1,440	555	7.8	.05	.09	12	12	.07

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Specific conduct- ance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen				Ortho- phos- phate (mg/L)	
								Ammonia (mg/L)	Nitrite (mg/L)	(mg/L)	Nitrate (mg/L)		
2	Sangamon River at Monticello, Illinois—Continued	05/07/91	2200	AS	1,450	475	7.7	0.08	0.10	12	12	12	0.08
		05/08/91	0600	AS	1,490	500	7.6	.14	.11	13	13	13	.10
		05/08/91	0600	AS	1,490	500	7.6	--	--	--	--	--	--
		05/08/91	0830	MAS	1,510	505	7.8	.12	.11	13	13	13	.10
		05/08/91	1400	AS	1,530	510	8.3	.03	.14	12	12	12	.11
		05/08/91	2200	AS	1,520	470	8.2	.04	.11	12	12	12	.11
		05/09/91	0600	AS	1,510	475	8.1	.02	.11	12	12	12	.12
		05/09/91	1400	AS	1,540	510	8.1	.01	.09	12	12	12	.11
		05/09/91	1400	AS	1,540	510	8.1	.01	.09	12	12	12	.11
		05/09/91	2200	AS	1,450	535	8.1	.03	.08	13	13	13	.12
		05/09/91	2200	AS	1,450	535	8.1	.03	.08	13	13	13	.12
		05/10/91	0600	AS	1,330	645	8.1	.01	.07	13	13	13	.10
		05/10/91	1400	AS	1,140	620	8.1	.04	.10	13	13	13	.08
		05/10/91	2200	AS	941	645	7.8	.02	.08	13	13	13	.07
		05/11/91	0600	AS	825	650	8.3	.02	.07	11	11	11	.09
		05/11/91	1400	AS	768	660	8.2	.02	.07	12	12	12	.07
		05/11/91	2200	AS	723	700	8.2	.02	.06	12	12	12	.06
		05/12/91	0600	AS	691	715	8.2	.02	.06	12	12	12	.06
		05/12/91	1400	AS	677	670	8.3	.02	.07	12	12	12	.05
		05/12/91	2200	AS	644	735	8.3	.02	.06	12	12	12	.05
		05/13/91	0600	AS	633	680	8.1	.03	.05	12	12	12	.05
		05/13/91	0900	AS	633	685	8.0	.03	.04	12	12	12	<.01
		05/13/91	1700	AS	613	690	8.2	.02	.04	12	12	12	<.01
		05/14/91	2300	AS	790	680	8.3	.04	.05	12	12	12	.01
		05/15/91	0100	AS	870	680	8.3	.03	.06	11	11	11	.01

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/15/91	0400	AS	986	670	8.3	0.05	0.06	13	13	0.02
		05/15/91	0400	AS	986	670	8.3	.05	.06	13	13	.02
		05/15/91	0830	MAS	1,150	470	8.2	.15	.07	9.3	9.2	.07
		05/15/91	0900	AS	1,170	360	8.0	.23	.08	7.0	6.9	.09
		05/15/91	1400	AS	1,340	350	7.5	.10	.13	7.0	6.6	.12
		05/15/91	2100	AS	1,530	340	7.5	.04	.07	6.1	6.0	.09
		05/16/91	0500	AS	1,660	330	7.6	.17	.13	8.0	7.5	.12
		05/16/91	0500	AS	1,660	330	7.6	.17	.13	8.0	7.5	.12
		05/16/91	1300	AS	1,510	420	7.6	.11	.12	9.0	8.5	.10
		05/16/91	2100	AS	1,400	520	7.6	.07	.11	10	10	.08
		05/17/91	0500	AS	1,280	560	7.6	.08	.10	11	11	.08
		05/17/91	1300	AS	1,170	605	7.8	--	--	--	--	--
		05/17/91	2100	AS	1,060	585	8.1	--	--	--	--	--
		05/18/91	0500	AS	1,050	570	8.1	--	--	--	--	--
		05/18/91	1300	AS	1,150	560	8.1	--	--	--	--	--
		05/18/91	2100	AS	1,220	580	8.1	--	--	--	--	--
		05/19/91	0500	AS	1,240	585	8.1	.04	.07	13	13	.05
		05/19/91	1300	AS	1,260	570	7.9	.03	.09	12	12	.09
		05/19/91	2100	AS	1,260	510	8.1	.02	.09	11	11	.09
		05/19/91	2100	AS	1,260	510	8.1	.02	.09	11	11	.09
		05/20/91	0500	AS	1,280	560	8.1	.04	.10	12	12	.09
		05/20/91	1300	AS	1,320	500	8.3	.04	.11	12	12	.10
		05/20/91	2100	AS	1,340	480	8.3	.04	.09	12	12	.10
		05/21/91	0500	AS	1,380	500	8.1	.04	.09	12	12	.10
		05/21/91	1300	AS	1,410	550	8.1	.04	.09	12	12	.11

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/21/91	2100	AS	1,410	570	8.1	0.03	0.08	12	12	0.10
		05/22/91	0500	AS	1,390	590	8.0	.04	.08	12	12	.09
		05/22/91	1300	AS	1,320	630	8.0	.04	.10	13	13	.08
		05/22/91	2100	AS	1,270	605	8.1	.03	.09	13	13	.07
		05/23/91	0500	AS	1,270	510	8.0	.07	.09	10	10	.09
		05/23/91	1130	MAS	1,280	475	7.9	.11	.09	9.4	9.3	.09
		05/23/91	1300	AS	1,280	460	7.4	.02	.09	10	10	.09
		05/23/91	2100	AS	1,240	480	7.9	.02	.09	10	10	.09
		05/24/91	0500	AS	1,200	470	8.1	.02	.08	10	10	.08
		05/24/91	0500	AS	1,200	470	8.1	.02	.08	10	10	.08
		05/24/91	1300	AS	1,140	510	8.1	.01	.08	10	10	.08
		05/24/91	2100	AS	1,030	550	8.0	.01	.08	11	11	.08
		05/25/91	0500	AS	909	580	8.0	.01	.08	11	11	.07
		05/25/91	1300	AS	839	600	8.0	<.01	.07	12	12	.06
		05/25/91	2100	AS	776	615	7.9	.01	.07	12	12	.05
		05/26/91	0500	AS	728	620	7.9	.01	.07	12	12	.05
		05/26/91	1300	AS	694	635	7.9	.01	.03	12	12	.05
		05/26/91	2100	AS	667	640	8.1	<.01	.04	12	12	.04
		05/27/91	0500	AS	642	660	8.2	<.01	.04	13	13	.04
		05/27/91	1300	AS	627	660	8.2	.02	.05	13	13	.05
		05/27/91	2100	AS	595	670	8.2	.01	.04	13	13	.05
		05/27/91	2100	AS	595	670	8.2	.01	.04	13	13	.05
		05/29/91	2100	AS	551	540	7.5	.02	.07	11	11	.06
		05/29/91	2100	AS	551	540	7.5	.02	.07	11	11	.06
		05/31/91	2100	AS	524	590	7.9	<.01	.04	12	12	.06

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate as nitrogen (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	06/02/91	1400	AS	663	630	8.3	0.01	0.04	12	0.05
		06/02/91	2200	AS	718	620	8.4	.02	.04	12	.07
		06/02/91	2200	AS	718	620	8.4	.02	.04	12	.07
		06/03/91	0600	AS	718	620	8.4	<.01	.02	12	.05
		06/03/91	1400	AS	658	520	8.4	<.01	.02	10	.07
		06/03/91	2200	AS	580	480	8.3	<.01	.02	10	.07
		06/07/91	0830	MAS	313	680	8.1	.02	.05	12	.07
		06/11/91	0730	MAS	243	630	7.8	.07	.03	11	.05
		06/11/91	0730	MAS	243	630	7.8	.07	.03	11	.05
		06/11/91	0800	AS	243	725	8.1	.07	.01	11	.04
		06/11/91	1600	AS	239	715	8.2	.08	.02	9.4	.03
		06/13/91	1600	AS	226	690	8.3	.06	.02	10	.03
		06/18/91	0655	MAS	166	685	7.8	.03	.03	8.8	.05
		06/20/91	0705	MAS	109	670	7.4	.03	.02	7.0	.05
		06/20/91	0800	AS	127	--	--	.02	.02	7.8	.04
		06/22/91	0800	AS	145	570	7.4	.01	.02	6.9	.06
		06/22/91	1600	AS	145	630	7.5	.01	.02	7.1	.06
		06/22/91	1600	AS	145	630	7.5	.01	.02	7.1	.06
		06/22/91	2400	AS	145	630	8.2	.02	.02	7.0	.07
		06/23/91	0800	AS	130	640	8.1	.02	.02	6.7	.08
		06/23/91	0800	AS	130	640	8.1	.02	.02	6.7	.08
		06/27/91	0655	MAS	97	--	7.9	.03	.04	5.4	.06
		07/01/91	0655	MAS	63	--	--	--	--	--	--
		07/01/91	0655	MAS	63	--	--	--	--	--	--
		07/09/91	0705	MAS	32	640	8.3	.05	.04	1.2	.05

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	07/10/91	1000	AS	34	640	7.8	0.09	0.05	1.3	1.3	0.09
		07/11/91	0700	AS	60	630	8.3	.06	.03	1.2	1.2	.08
		07/12/91	0400	AS	120	560	8.2	--	--	--	--	--
		07/12/91	0700	AS	145	420	8.2	.14	.05	1.0	.93	.09
		07/12/91	1200	HS	125	--	--	.07	.04	1.4	1.4	.16
		07/12/91	1200	HS	125	--	--	.07	.04	1.4	1.4	.16
		07/12/91	1215	MAS	124	--	--	.06	.04	1.3	1.3	.14
		07/12/91	1300	AS	119	380	8.2	.06	.08	1.7	1.6	.17
		07/12/91	2100	AS	75	385	8.4	.05	.04	1.8	1.8	.12
		07/14/91	2100	AS	38	490	8.3	<.01	.01	1.3	1.3	.07
		07/14/91	2100	AS	38	490	8.3	<.01	.01	1.3	1.3	.07
		07/18/91	0630	MAS	24	--	--	.05	<.01	.07	.07	.06
		07/23/91	1045	MAS	--	--	--	--	--	--	--	--
		07/23/91	1045	--	17	650	8.1	.18	<.02	.18	.18	.07
		07/26/91	1340	MAS	12	590	8.8	.20	.04	.30	.26	.10
		07/31/91	0710	--	10	--	--	.03	<.01	.08	.08	.06
		08/02/91	1047	--	9	--	--	.04	.01	.06	.05	.06
		08/05/91	1045	MAS	6	695	7.8	.07	.06	.10	.04	.06
		08/05/91	1045	MAS	6	695	7.8	.07	.06	.10	.04	.06
		08/05/91	1200	AS	6	--	--	.06	.12	.18	.06	.05
		08/06/91	0400	AS	71	--	--	.10	.04	.26	.22	.09
		08/06/91	1200	AS	53	--	--	.10	.03	.26	.23	.06
		08/06/91	1205	XSECT	54	--	--	.09	.11	.29	.18	.05
		08/06/91	1215	XSECT	54	--	--	.10	.06	.26	.20	.07
		08/06/91	1230	XSECT	57	--	--	.09	.09	.27	.18	.06

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	08/06/91	1445	MAS	66	--	--	0.09	0.03	0.21	0.18	0.08
		08/06/91	2000	AS	62	525	8.2	<.01	.02	.40	.38	.12
		08/07/91	0400	AS	37	530	8.2	.05	.03	.61	.58	.16
		08/07/91	1200	AS	24	530	8.1	.05	.02	.55	.53	.12
		08/07/91	2000	AS	21	460	8.2	.03	.03	.75	.72	.11
		08/08/91	0400	AS	16	--	--	.04	.02	.69	.67	.09
		08/12/91	1100	MAS	12	525	7.8	.03	.01	.37	.36	.09
		08/12/91	1100	MAS	12	525	7.8	.03	.01	.37	.36	.09
		08/14/91	0900	MAS	10	--	--	.04	.01	.37	.36	.09
		08/16/91	0800	MAS	5	560	7.0	.05	<.01	.19	.19	.09
		08/19/91	1015	MAS	7	--	--	.04	<.01	.22	.22	.09
		08/26/91	1120	--	5	630	7.9	.23	.09	.44	.35	.11
		08/29/91	1155	MAS	5	640	8.0	.26	.03	.22	.19	.09
		09/03/91	0635	MAS	3	630	7.9	.15	.02	.23	.21	.11
		09/05/91	0930	MAS	14	580	7.6	.07	.02	.41	.39	.09
		09/05/91	0930	MAS	14	580	7.6	.07	.02	.41	.39	.09
		09/10/91	0715	MAS	14	710	8.3	.09	.02	.43	.41	.11
		09/17/91	0715	MAS	5	755	7.9	.20	.02	.42	.40	.12
		09/24/91	1600	--	6	660	8.2	.03	<.01	.33	.33	.10
		10/03/91	1330	--	11	810	8.2	.04	.05	.74	.69	.18
		10/22/91	1325	--	40	580	7.9	.06	.01	.55	.54	.04
		10/28/91	1945	--	71	620	7.4	.02	.08	2.7	2.6	.10
		10/29/91	0745	--	80	660	7.4	.02	.05	1.9	1.9	.10
		10/29/91	1945	--	90	640	7.4	<.01	.03	1.4	1.4	.10
		10/30/91	0745	--	101	645	7.5	.03	.07	2.9	2.8	.11

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
2	Sangamon River at Monticello, Illinois—Continued	10/30/91	1215	--	106	680	7.3	<0.01	0.03	1.5	1.5	0.10
		10/30/91	1220	--	106	686	7.3	<0.1	.03	1.4	1.4	.10
		10/30/91	1225	--	106	687	7.2	<0.1	.03	1.4	1.4	.10
		10/30/91	2400	--	104	665	8.2	.02	.03	1.9	1.9	.13
		10/31/91	1200	--	118	660	8.1	.01	.02	2.3	2.3	.10
		10/31/91	2400	--	118	650	8.1	.02	.02	2.9	2.9	.08
		11/04/91	1025	--	170	633	7.9	.03	.13	8.2	8.1	.08
		11/19/91	1430	--	82	736	8.0	.02	.07	6.0	5.9	.07
		11/20/91	1245	--	224	658	7.9	.02	.06	6.3	6.2	.11
		12/03/91	1610	--	742	540	8.1	.04	.03	12	12	.08
		12/18/91	1730	--	502	625	8.1	.04	.03	14	14	.05
		01/07/92	1015	--	238	705	8.1	.11	.04	12	12	.03
		01/23/92	1230	--	265	647	8.0	.02	.03	11	11	.03
		02/06/92	1215	--	200	650	8.1	<.01	.03	11	11	.01
		02/16/92	1525	--	363	594	7.9	.02	.03	10	10	.01
		02/18/92	1300	--	921	684	7.8	.05	.04	14	14	.06
		02/19/92	1500	--	933	621	7.8	.03	.04	14	14	.03
		02/20/92	1030	--	999	560	7.8	.05	.03	14	14	.05
		03/03/92	0700	--	285	685	7.8	.02	.04	13	13	.02
		03/03/92	0700	--	285	685	7.8	.02	.04	13	13	.02
		03/17/92	0715	--	247	670	7.9	<.01	.03	12	12	.01
		03/19/92	1115	--	502	667	7.8	.03	.03	12	12	.02
		03/25/92	0715	--	424	678	8.1	.02	.05	14	14	.01

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (µS/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
8	West Fork Big Blue River near Dorchester, Nebraska	03/26/91	1400	--	70	550	8.8	0.04	0.02	0.91	0.89	0.26
		03/26/91	1400	--	70	550	8.8	.04	.02	.91	.89	.26
		04/09/91	1000	--	50	525	8.1	.20	.11	2.2	2.1	.41
		04/15/91	1100	AS	346	422	7.8	.40	.08	2.7	2.6	.36
		04/15/91	1700	AS	441	452	7.6	.44	.07	2.6	2.5	.30
		04/16/91	1100	AS	738	146	7.6	.87	.06	2.0	1.9	.24
		04/16/91	1105	AS	--	--	--	.84	.05	2.0	2.0	.23
		04/16/91	1700	AS	763	121	7.3	.93	.04	1.9	1.9	.25
		04/16/91	2300	AS	692	124	7.3	.90	.04	1.9	1.9	.24
		04/16/91	2300	AS	692	124	7.3	.90	.04	1.9	1.9	.24
		04/17/91	0500	AS	563	119	7.4	.82	.04	2.0	2.0	.25
		04/17/91	1100	AS	437	119	7.3	.78	.04	1.9	1.9	.25
		04/17/91	1700	AS	345	111	7.4	.76	.04	1.8	1.8	.25
		04/23/91	1435	AS	91	409	8.0	.28	.18	2.4	2.2	.42
		04/30/91	0930	AS	76	584	8.5	.05	.02	2.6	2.6	.37
		04/30/91	0935	--	--	--	--	--	--	--	--	--
		05/06/91	0840	AS	107	400	8.0	.08	.04	2.6	2.6	.41
		05/09/91	1110	AS	150	334	7.7	.34	.14	3.1	3.0	.43
		05/13/91	0940	AS	84	430	7.1	.09	.07	2.8	2.7	.38
		05/16/91	0900	AS	71	500	8.3	.09	.06	2.8	2.7	.45
		05/16/91	2000	AS	302	354	7.6	.31	.09	2.4	2.3	.21
		05/16/91	2300	AS	1,290	366	7.5	.57	.12	2.9	2.8	.12
		05/17/91	0200	AS	1,630	293	7.3	.36	.09	2.7	2.6	.21
		05/17/91	0500	AS	1,580	320	7.4	.68	.12	3.5	3.4	.15
		05/17/91	0800	AS	1,130	302	7.5	.46	.10	2.5	2.4	.25

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen (mg/L)				Ortho-phosphate (mg/L)
								Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)		
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	05/17/91	0935	--	881	178	7.3	--	--	--	--	--
		05/17/91	1100	AS	671	238	7.4	0.38	0.08	2.1	2.0	0.23
		05/17/91	1200	AS	537	240	7.2	.60	.08	2.6	2.5	.45
		05/18/91	1312	AS	--	--	--	--	--	--	--	--
		05/20/91	1515	AS	310	170	8.3	.28	.14	2.8	2.7	.29
		05/23/91	0745	AS	98	305	7.2	.19	.06	2.8	2.7	.36
		05/25/91	2000	AS	671	216	6.7	.09	.11	2.0	1.9	.32
		05/26/91	0100	AS	1,260	212	6.7	.14	.10	1.8	1.7	.32
		05/26/91	0600	AS	1,380	210	6.6	.20	.13	1.6	1.5	.36
		05/26/91	1100	AS	1,180	209	6.6	.14	.08	1.6	1.5	.30
		05/26/91	1600	AS	1,110	203	6.9	.16	.10	1.7	1.6	.32
		05/26/91	2100	AS	1,200	204	6.9	.18	.12	1.7	1.6	.33
		05/27/91	0200	AS	1,330	200	6.9	.17	.12	1.5	1.4	.32
		05/27/91	0700	AS	1,450	204	6.9	.22	.12	1.5	1.4	.33
		05/27/91	1200	AS	1,550	206	7.0	.24	.11	1.4	1.3	.33
		05/27/91	1700	AS	1,600	200	7.0	.28	.11	1.5	1.4	.35
		05/27/91	2200	AS	1,580	199	7.1	.21	.12	1.8	1.7	.29
		05/28/91	0300	AS	1,480	102	6.8	.26	.09	1.9	1.8	.24
		05/28/91	0300	AS	1,480	102	6.8	.26	.09	1.9	1.8	.24
		05/28/91	0730	MAS	1,380	94	6.9	.30	.08	1.9	1.8	.30
		05/28/91	1750	AS	1,190	82	6.6	.28	.05	1.9	1.9	.25
		05/30/91	0735	AS	515	114	6.5	.19	.07	1.8	1.7	.26
		06/01/91	1615	AS	651	95	6.2	.15	.10	2.2	2.1	.47
		06/01/91	2215	AS	1,420	105	6.0	.20	.11	2.0	1.9	.29
		06/01/91	2215	AS	1,420	105	6.0	.20	.11	2.0	1.9	.29

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/02/91	0415	AS	1,870	83	5.9	0.10	0.07	1.9	1.8	0.34
		06/02/91	1015	AS	1,850	94	5.8	.17	.10	2.1	2.0	.47
		06/02/91	1615	AS	1,730	83	5.8	.16	.09	2.2	2.1	.35
		06/02/91	2215	AS	1,720	73	5.7	.22	.07	1.9	1.8	.31
		06/03/91	0415	AS	1,760	71	5.7	.25	.07	1.5	1.4	.30
		06/03/91	1615	AS	2,140	78	6.8	.24	.06	1.5	1.4	.37
		06/04/91	0415	AS	4,640	79	6.5	.28	.06	1.3	1.2	.33
		06/04/91	1015	AS	6,220	68	6.3	.18	.04	1.1	1.1	.30
		06/04/91	1615	AS	6,210	61	6.2	.18	.03	1.1	1.1	.29
		06/04/91	2215	AS	5,790	50	6.4	.21	.03	.98	1.0	.30
		06/05/91	1355	AS	5,120	47	6.3	.20	.03	.88	.85	.29
		06/06/91	1335	AS	3,510	71	6.5	.21	.04	.70	.66	.30
		06/06/91	1335	AS	3,510	71	6.5	.21	.04	.70	.66	.30
		06/07/91	0730	AS	2,480	86	6.8	.28	.07	.87	.80	.28
		06/10/91	0940	--	312	217	6.1	.08	.04	1.2	1.2	.28
		06/12/91	1300	AS	216	347	5.7	.10	.03	1.6	1.6	.33
		06/17/91	1010	--	1,130	462	6.5	.07	.02	2.0	2.0	.36
		06/20/91	1140	AS	102	591	6.5	.07	.01	1.8	1.8	.33
		06/21/91	1600	AS	631	356	7.6	.25	.10	2.1	2.0	.25
		06/21/91	2200	AS	681	158	7.4	.28	.08	2.7	2.6	.14
		06/22/91	0400	AS	868	198	7.1	.32	.10	2.5	2.4	.20
		06/22/91	1000	AS	955	175	7.1	.26	.09	2.5	2.4	.23
		06/22/91	1600	AS	1,070	131	7.1	.23	.10	3.1	3.0	.19
		06/22/91	2200	--	601	133	7.1	.31	.16	3.6	3.4	.22
		06/24/91	1325	AS	484	161	6.9	.17	.13	3.0	2.9	.21

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μS/cm)	pH (standard units)	Nitrite plus nitrate as nitrogen					Ortho-phosphate (mg/L)
								Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/27/91	1230	MAS	142	304	6.4	0.05	0.02	2.5	0.02	2.5	0.28
		07/01/91	1250	AS	120	421	6.5	.09	.02	2.8	.02	2.8	.36
		07/02/91	1255	AS	120	415	6.6	.05	.02	2.7	.02	2.7	.35
		07/03/91	0825	AS	134	488	6.4	.05	.03	3.1	.03	3.1	.36
		07/08/91	0920	AS	--	470	6.7	.04	.02	3.7	.02	3.7	.42
		07/11/91	1230	AS	147	469	6.5	.03	<.01	3.1	<.01	3.1	.34
		07/15/91	1155	AS	118	546	8.2	.05	.03	2.7	.03	2.7	.38
		07/18/91	1145	AS	104	558	8.0	.03	.01	2.5	.01	2.5	.37
		07/22/91	0820	--	120	570	8.3	.05	.08	3.0	.08	2.9	.40
		07/25/91	1300	--	117	560	9.0	.08	.05	3.1	.05	3.1	.38
		07/29/91	1230	--	109	560	8.2	.07	.02	2.8	.02	2.8	.33
		08/06/91	0900	--	144	480	7.9	.04	.01	2.4	.01	2.4	.34
		08/12/91	1350	AS	69	532	8.4	.02	.01	1.5	.01	1.5	.36
		08/19/91	1000	AS	59	560	8.2	<.01	.01	2.1	.01	2.1	.32
		08/27/91	1245	AS	84	511	8.9	<.01	.02	.34	.02	.32	.19
		08/27/91	1245	--	84	511	8.9	<.01	.02	.34	.02	.32	.19
		09/03/91	1235	--	40	512	8.6	.04	.02	.18	.02	.16	.16
		09/10/91	1245	--	24	510	8.5	<.01	<.01	<.05	<.01	<.05	.12
		09/17/91	1330	--	24	522	8.7	<.01	<.01	<.05	<.01	<.05	.19
		09/24/91	0920	--	21	581	8.3	.02	<.01	<.05	<.01	<.05	.17
		10/01/91	1330	--	21	568	8.4	<.01	<.01	<.05	<.01	<.05	.12
		10/15/91	0945	--	22	599	7.7	.01	<.01	<.05	<.01	<.05	.18
		11/06/91	0920	--	25	631	7.8	.06	.02	1.7	.02	1.7	.31
		11/19/91	0945	--	36	606	7.7	.05	.04	2.0	.04	2.0	.51
		12/05/91	1445	--	23	572	8.1	.61	.04	2.6	.04	2.6	.72

Table 7. Streamflow, physical properties, and analytical results for nutrients in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Specific conductance (μ S/cm)	pH (standard units)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrite plus nitrate as nitrogen (mg/L)	Nitrate (mg/L)	Ortho-phosphate (mg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	12/19/91	0930	--	25	683	8.2	0.82	0.04	2.4	2.4	0.67
		12/30/91	1300	--	51	619	7.8	.50	.04	2.5	2.5	.56
		01/14/92	1230	--	55	603	8.0	.53	.03	2.4	2.4	.60
		01/14/92	1230	--	55	603	8.0	.53	.03	2.4	2.4	.60
		01/28/92	1200	--	56	626	8.0	.29	.04	2.5	2.5	.51
		02/11/92	1300	--	56	626	8.0	.26	.04	2.4	2.4	.46
		02/27/92	1220	--	65	678	8.2	.07	.03	1.8	1.8	.34
		03/09/92	1140	--	50	644	8.1	.19	.04	1.5	1.5	.37
		03/23/92	1115	--	--	--	--	--	--	--	--	--
		04/01/92	1100	--	--	--	--	--	--	--	--	--

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92

[DEA, deethylatrazine; DIA, deisopropylatrazine; ft³/s, cubic feet per second; µg/L, micrograms per liter; --, no data; <, less than; AS, automatic sampler; MAS, manually activated automatic sampler; EW1, equal discharge increment; G, grab sample; XSECT, multiple vertical cross section; prometryn and terbuthryn were not detected]

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois	04/12/91	1500	EW1	353	<0.05	<0.05	0.11	<0.05	0.08	0.05	0.33	<0.05	<0.05	<0.05	<0.05
		04/15/91	1530	EW1	1,030	.37	<0.05	4.1	.23	.20	.10	4.3	.08	.05	<0.05	<0.05
		04/17/91	0930	MAS	1,700	.65	<0.05	2.3	2.3	.19	.11	3.6	<0.05	<0.05	<0.05	<0.05
		04/19/91	0830	MAS	1,900	.86	<0.05	2.1	1.4	.23	.13	2.3	.05	<0.05	<0.05	<0.05
		04/25/91	1215	MAS	516	.09	<0.05	.30	.23	.10	.06	.26	<0.05	<0.05	<0.05	<0.05
		04/27/91	1300	AS	463	.12	<0.05	.33	.19	.11	.08	.31	<0.05	<0.05	<0.05	<0.05
		04/28/91	2000	AS	592	4.7	<0.05	6.0	.65	.19	.09	1.7	<0.05	<0.05	<0.05	<0.05
		04/29/91	0400	MAS	619	2.6	<0.05	4.3	1.1	.24	.13	8.0	.11	.06	<0.05	<0.05
		04/29/91	1200	AS	603	1.3	<0.05	2.3	.35	.16	.09	5.6	.06	<0.05	<0.05	<0.05
		04/29/91	1430	AS	595	.98	<0.05	1.9	.28	.15	.13	4.5	.05	<0.05	<0.05	<0.05
		04/29/91	1445	AS	595	.84	<0.05	1.8	.24	.14	.08	3.8	.05	<0.05	<0.05	<0.05
		05/01/91	1600	AS	484	.63	<0.05	1.3	.81	.14	.10	1.2	<0.05	.08	<0.05	<0.05
		05/02/91	0745	AS	463	.56	<0.05	1.3	.98	.15	.10	1.2	<0.05	.07	<0.05	<0.05
		05/02/91	0800	AS	465	.66	<0.05	1.4	.78	.16	.10	1.3	<0.05	.08	<0.05	<0.05
		05/04/91	0800	AS	449	.29	<0.05	.80	.38	.14	.10	.77	<0.05	.37	<0.05	<0.05
		05/04/91	0800	AS	449	.23	<0.05	.72	.28	.10	.07	.59	<0.05	.33	<0.05	<0.05
		05/05/91	1700	AS	586	.30	<0.05	.75	.16	.12	.06	.84	<0.05	.63	<0.05	<0.05
		05/05/91	2300	AS	738	.34	<0.05	1.3	.23	.13	.08	1.1	<0.05	.57	<0.05	<0.05
		05/06/91	0300	AS	905	.69	<0.05	2.4	.82	.18	.11	1.7	.05	.68	<0.05	<0.05
		05/06/91	0700	AS	1,080	.86	<0.05	3.8	.64	.18	.10	2.1	.07	.76	<0.05	<0.05
		05/06/91	1400	AS	1,250	1.4	<0.05	3.8	3.0	.25	.15	3.8	.22	.49	<0.05	<0.05
		05/06/91	2200	AS	1,330	1.6	<0.05	7.0	4.9	.37	.23	10	.33	.45	.06	<0.05
		05/07/91	0600	AS	1,380	1.5	<0.05	6.2	5.6	.37	.25	5.5	.53	.34	.06	<0.05
		05/07/91	0600	AS	1,380	1.6	<0.05	6.8	6.1	.39	.25	9.7	.55	.38	.06	<0.05
		05/07/91	1400	AS	1,440	4.3	<0.05	7.7	6.9	.42	<0.05	6.2	.45	2.5	.07	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	05/07/91	2200	AS	1,450	5.0	<0.05	8.5	8.2	0.45	0.30	6.6	0.44	2.6	0.08	0.05
		05/08/91	0600	AS	1,490	4.9	<0.05	9.7	9.7	.47	.34	8.7	.39	1.5	.09	.06
		05/08/91	0600	AS	1,490	4.8	<0.05	10	9.5	.51	.33	5.7	.33	.94	.09	.07
		05/08/91	0830	MAS	1,510	4.9	<0.05	10	10	.50	.31	7.7	.32	.78	.09	.07
		05/08/91	1400	AS	1,530	4.8	<0.05	11	10	.58	.36	12	.32	.64	.10	.07
		05/08/91	2200	AS	1,520	5.1	<0.05	12	11	.63	.37	14	.24	.58	.10	.08
		05/09/91	0600	AS	1,510	6.3	<0.05	18	16	1.0	.61	19	.21	.84	.15	.12
		05/09/91	1400	AS	1,540	3.7	<0.05	9.7	9.4	.64	.38	10	.18	.64	.09	.07
		05/09/91	1400	AS	1,540	2.8	<0.05	7.9	7.6	.52	.27	8.3	.14	.52	.07	.05
		05/09/91	2200	AS	1,450	3.0	<0.05	8.3	8.0	.60	.37	8.7	.14	.76	.08	.07
		05/09/91	2200	AS	1,450	2.6	<0.05	7.2	6.9	.50	.30	7.4	.14	.67	.06	.05
		05/10/91	0600	AS	1,330	1.7	<0.05	4.8	4.5	.39	.23	4.7	.10	.58	<.05	<.05
		05/10/91	1400	AS	1,140	1.2	<0.05	3.7	3.2	.33	.18	3.5	.07	.54	<.05	<.05
		05/10/91	2200	AS	941	.77	<0.05	2.2	2.1	.23	.14	2.2	.06	.41	<.05	<.05
		05/11/91	0600	AS	825	8.8	<0.05	2.8	2.6	.32	.17	2.8	.07	.38	<.05	<.05
		05/11/91	1400	AS	768	.53	<0.05	2.1	1.7	.25	.14	1.8	.05	.39	<.05	<.05
		05/11/91	2200	AS	723	.40	<0.05	1.7	1.5	.22	.15	1.5	<.05	.37	<.05	<.05
		05/12/91	0600	AS	691	.35	<0.05	1.5	1.3	.21	.15	1.3	.06	.40	<.05	<.05
		05/12/91	1400	AS	677	.43	<0.05	1.9	1.7	.28	.21	1.7	.07	.64	<.05	<.05
		05/12/91	2200	AS	644	.33	<0.05	1.4	1.1	.21	.14	1.3	.05	.48	<.05	<.05
		05/13/91	0600	AS	633	.29	<0.05	1.3	1.0	.23	.14	1.1	<.05	.43	<.05	<.05
		05/13/91	0900	AS	633	.37	<0.05	1.2	.85	.22	.18	1.2	<.05	.33	<.05	<.05
		05/13/91	1700	AS	613	.39	<0.05	1.1	1.1	.19	.12	1.4	<.05	.31	<.05	<.05
		05/14/91	2300	AS	790	.82	<0.05	1.3	.65	.18	.11	1.4	<.05	.38	<.05	<.05
		05/15/91	0100	AS	870	.42	<0.05	1.0	.64	.16	.09	.87	<.05	.34	<.05	<.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana-zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto-lachlor (µg/L)	Metri-buzin (µg/L)	Pro-meton (µg/L)	Pro-pazine (µg/L)	Sima-zine (µg/L)
2	Sangamon River at Monticello, Illinois—Continued	05/15/91	0400	AS	986	0.70	<0.05	1.9	0.59	0.23	0.13	1.5	<0.05	0.29	<0.05	0.06
		05/15/91	0400	AS	986	.60	<0.05	1.7	.46	.20	.09	1.3	<0.05	.26	<0.05	<0.05
		05/15/91	0830	MAS	1,150	2.8	<0.05	16	2.1	.58	.38	16	.58	.15	.12	.10
		05/15/91	0900	AS	1,170	3.3	<0.05	16	2.5	.62	.40	22	.66	.14	.12	<0.05
		05/15/91	1400	AS	1,340	2.4	<0.05	13	3.2	.62	.43	11	.48	.11	.10	.08
		05/15/91	2100	AS	1,530	4.0	<0.05	17	5.7	.92	.62	5.3	.50	.10	.13	<0.05
		05/16/91	0500	AS	1,660	5.3	<0.05	21	6.5	1.1	.78	7.0	.44	.08	.14	<0.05
		05/16/91	0500	AS	1,660	5.0	<0.05	20	5.6	1.0	.72	12	.40	.08	.16	<0.05
		05/16/91	1300	AS	1,510	4.4	<0.05	18	4.9	.97	.72	10	.40	.10	.15	<0.05
		05/16/91	2100	AS	1,400	2.9	<0.05	12	3.3	.72	.52	6.9	.31	.14	.10	.07
		05/17/91	0500	AS	1,280	3.0	<0.05	10	2.5	.64	.44	5.3	.23	.40	.08	.06
		05/17/91	1300	AS	1,170	2.7	<0.05	8.9	1.7	.60	.38	4.4	.18	.61	.07	.06
		05/17/91	2100	AS	1,060	2.3	<0.05	7.6	1.4	.54	.32	4.2	.17	.40	.06	.06
		05/18/91	0500	AS	1,050	2.0	<0.05	8.7	1.6	.53	.32	4.5	.17	.13	.06	.05
		05/18/91	1300	AS	1,150	2.0	<0.05	10	1.5	.65	.36	5.5	.15	.12	.08	.06
		05/18/91	2100	AS	1,220	1.7	<0.05	8.5	1.1	.60	.30	4.8	.14	.10	.07	.05
		05/19/91	0500	AS	1,240	1.5	<0.05	7.7	1.3	.57	.31	3.7	.13	1.5	.07	.05
		05/19/91	1300	AS	1,260	2.2	<0.05	10	1.8	.68	.46	5.3	.22	1.1	.08	.06
		05/19/91	2100	AS	1,260	2.8	<0.05	11	2.2	.77	.54	6.1	.22	.71	.09	.07
		05/19/91	2100	AS	1,260	2.7	<0.05	10	2.2	.73	.49	5.6	.34	.63	.08	.06
		05/20/91	0500	AS	1,280	2.8	<0.05	9.8	2.8	.74	.53	4.5	.36	.68	.08	.06
		05/20/91	1300	AS	1,320	3.0	<0.05	10	4.5	.83	.62	4.0	.39	.70	.11	.09
		05/20/91	2100	AS	1,340	3.3	<0.05	12	6.1	1.0	.72	4.6	.29	.70	.12	.08
		05/21/91	0500	AS	1,380	2.4	<0.05	8.8	4.7	.80	.53	3.9	.25	.39	.11	.06

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection		Stream-flow (ft ³ /s)	Sample type	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyanazine (µg/L)	DEA (µg/L)	DIA (µg/L)	Metolachlor (µg/L)	Metribuzin (µg/L)	Pro-meton (µg/L)	Propazine (µg/L)	Simazine (µg/L)
		(month/ day/year)	(24-hour time)													
2	Sangamon River at Monticello, Illinois—Continued	05/21/91	1300	AS	1,410	2.1	<0.05	7.7	4.3	0.77	0.49	4.0	0.23	0.30	0.06	0.06
		05/21/91	2100	AS	1,410	1.5	<0.05	6.2	3.2	.65	.40	3.3	.18	.27	.05	.05
		05/22/91	0500	AS	1,390	.96	<0.05	4.4	2.1	.50	.33	2.3	<.05	.28	<.05	<.05
		05/22/91	1300	AS	1,320	.86	<0.05	4.1	1.8	.48	.31	2.2	.12	.32	<.05	<.05
		05/22/91	2100	AS	1,270	.75	<0.05	4.5	2.1	.51	.37	1.9	.12	.43	.06	.05
		05/23/91	0500	AS	1,270	1.1	<0.05	17	3.6	.79	.74	4.2	.14	.37	.25	.14
		05/23/91	1130	MAS	1,280	.99	<0.05	19	5.2	.87	.92	5.4	.20	.30	.25	.17
		05/23/91	1300	AS	1,280	.55	<0.05	13	5.1	.69	.72	4.8	.23	<.05	.15	.08
		05/23/91	2100	AS	1,240	.52	<0.05	12	4.5	.66	.73	4.2	.31	.25	.12	.07
		05/24/91	0500	AS	1,200	.69	<0.05	14	4.0	.61	.70	2.9	.32	.28	.12	.08
		05/24/91	0500	AS	1,200	.69	<0.05	14	4.3	.62	.71	2.8	.34	.28	.12	.08
		05/24/91	1300	AS	1,140	.94	<0.05	17	5.0	.66	.69	2.2	.35	.28	.14	<.05
		05/24/91	2100	AS	1,030	.80	<0.05	12	3.9	.60	.57	1.8	.26	.25	.11	.07
		05/25/91	0500	AS	909	.56	<0.05	7.5	2.6	.50	.44	1.5	.21	.22	.07	<.05
		05/25/91	1300	AS	839	.40	<0.05	4.8	1.8	.40	.34	1.2	.14	.32	<.05	<.05
		05/25/91	2100	AS	776	.57	<0.05	4.7	1.4	.40	.31	1.1	.13	.27	.05	<.05
		05/26/91	0500	AS	728	.41	<0.05	4.5	1.1	.37	.30	1.1	.11	.18	.05	<.05
		05/26/91	1300	AS	694	.27	<0.05	4.3	1.2	.40	.34	1.3	.10	.18	<.05	<.05
		05/26/91	2100	AS	667	.26	<0.05	3.6	1.1	.38	.32	1.1	.09	.19	<.05	<.05
		05/27/91	0500	AS	642	.28	<0.05	3.4	1.1	.42	.33	1.1	.10	.21	<.05	.06
		05/27/91	1300	AS	627	.21	<0.05	2.4	.84	.32	.29	.80	.08	.19	<.05	.85
		05/27/91	2100	AS	595	.19	<0.05	2.1	.78	.29	.29	.71	.07	.16	<.05	.24
		05/27/91	2100	AS	595	.16	<0.05	1.8	.62	.25	.19	.61	.06	.14	<.05	.20
		05/29/91	2100	AS	551	.80	<0.05	11	2.8	.78	.83	.93	.07	.18	.09	.13
		05/29/91	2100	AS	551	.73	<0.05	10	2.4	.71	.76	.88	.07	.18	.08	.13

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	05/31/91	2100	AS	524	0.30	<0.05	3.1	0.60	0.36	0.32	1.0	0.06	0.11	<0.05	<0.05
		06/02/91	1400	AS	663	3.4	<0.05	12	.75	.62	.64	.82	.05	.10	.11	.08
		06/02/91	2200	AS	718	1.5	<0.05	11	.62	.67	.56	1.7	.06	.11	.11	.07
		06/02/91	2200	AS	718	1.6	<0.05	10	.60	.66	.56	1.6	.06	.11	.10	.07
		06/03/91	0600	AS	718	.32	<0.05	4.5	.42	.38	.27	1.2	.07	.13	<0.05	<0.05
		06/03/91	1400	AS	658	1.6	<0.05	3.8	1.7	1.2	1.3	.32	.11	.08	<0.05	<0.05
		06/03/91	2200	AS	580	1.1	<0.05	13	2.6	.94	1.1	1.1	.08	.13	.12	.07
		06/07/91	0830	MAS	313	.14	<0.05	2.2	.58	.32	.32	.43	<0.05	.12	<0.05	<0.05
		06/11/91	0730	MAS	243	.07	<0.05	1.1	.19	.24	.21	.32	<0.05	.14	<0.05	<0.05
		06/11/91	0730	MAS	243	.06	<0.05	1.1	.18	.23	.21	.32	<0.05	.14	<0.05	<0.05
		06/11/91	0800	AS	243	.06	<0.05	1.0	.17	.22	.13	.32	<0.05	.14	<0.05	<0.05
		06/11/91	1600	AS	239	<0.05	<0.05	.86	.11	.12	.41	.24	<0.05	.10	<0.05	<0.05
		06/13/91	1600	AS	226	.05	<0.05	.97	.15	.21	.12	.30	<0.05	.12	<0.05	<0.05
		06/18/91	0655	MAS	166	.15	<0.05	1.6	.23	.34	.28	.62	<0.05	.26	<0.05	<0.05
		06/20/91	0705	MAS	109	.07	<0.05	.81	.11	.17	.12	.29	<0.05	.15	<0.05	<0.05
		06/20/91	0800	AS	127	.08	<0.05	.97	.14	.21	.15	.34	<0.05	.17	<0.05	<0.05
		06/22/91	0800	AS	145	.16	<0.05	1.1	.09	.20	.14	.52	<0.05	.15	<0.05	<0.05
		06/22/91	1600	AS	145	.22	<0.05	1.3	.09	.22	.16	.56	<0.05	.07	<0.05	<0.05
		06/22/91	1600	AS	145	.15	<0.05	.95	.07	.16	.12	.41	<0.05	.05	<0.05	<0.05
		06/22/91	2400	AS	145	.12	<0.05	1.6	.11	.21	.16	.56	<0.05	.06	<0.05	<0.05
		06/23/91	0800	AS	130	.10	<0.05	1.2	.14	.20	.14	.71	<0.05	.18	<0.05	<0.05
		06/23/91	0800	AS	130	.10	<0.05	1.2	.10	.20	.15	.68	<0.05	.18	<0.05	<0.05
		06/27/91	0655	MAS	97	1.9	<0.05	3.4	.14	.44	.31	3.2	.13	.27	<0.05	.05
		07/01/91	0655	MAS	63	.07	<0.05	1.2	<0.05	.28	.14	.54	<0.05	.34	<0.05	<0.05
		07/01/91	0655	MAS	63	.10	<0.05	.97	<0.05	.22	.10	.45	<0.05	.28	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	07/09/91	0705	MAS	32	<0.05	<0.05	0.58	<0.05	0.17	0.10	0.28	<0.05	0.13	<0.05	<0.05
		07/10/91	1000	AS	34	<0.05	<0.05	.85	<0.05	.10	.12	.17	<0.05	.18	<0.05	<0.05
		07/10/91	1000	AS	34	<0.05	<0.05	.82	<0.05	.10	.14	.16	<0.05	.17	<0.05	<0.05
		07/11/91	0700	AS	60	<0.05	<0.05	.45	<0.05	.09	.10	.14	<0.05	.09	<0.05	<0.05
		07/12/91	0400	AS	120	<0.05	<0.05	.44	<0.05	.10	.08	.16	<0.05	.07	<0.05	<0.05
		07/12/91	0700	AS	145	.14	<0.05	1.6	<0.05	.16	.16	1.2	<0.05	.05	<0.05	<0.05
		07/12/91	1200	G	125	.07	<0.05	1.3	.06	.12	.13	.81	<0.05	.07	<0.05	<0.05
		07/12/91	1200	G	125	.11	<0.05	1.2	.07	.12	.12	.79	<0.05	.07	<0.05	<0.05
		07/12/91	1215	MAS	124	.12	<0.05	1.3	<0.05	.16	.18	.89	<0.05	.05	<0.05	<0.05
		07/12/91	1300	AS	119	.21	<0.05	1.3	.06	.23	.14	1.1	<0.05	.06	<0.05	<0.05
		07/12/91	2100	AS	75	.28	<0.05	1.5	.08	.27	.18	.79	<0.05	.10	<0.05	<0.05
		07/14/91	2100	AS	38	.08	<0.05	.76	.09	.19	.12	.45	<0.05	.10	<0.05	<0.05
		07/14/91	2100	AS	38	.08	<0.05	.80	.08	.20	.12	.46	<0.05	.11	<0.05	<0.05
		07/18/91	0630	MAS	24	.05	<0.05	.55	.13	.10	.07	.32	<0.05	.07	<0.05	<0.05
		07/23/91	1045	MAS		<0.05	<0.05	.31	.10	.06	<0.05	.06	<0.05	.09	<0.05	<0.05
		07/23/91	1045	--	17	<0.05	<0.05	.64	.08	.10	.07	.10	<0.05	.13	<0.05	<0.05
		07/26/91	1340	MAS	12	.37	<0.05	.58	<0.05	.11	<0.05	.15	<0.05	.06	<0.05	<0.05
		07/31/91	0710	--	10	.37	<0.05	.36	<0.05	.11	.06	.13	<0.05	.10	<0.05	<0.05
		08/02/91	1047	--	9	.07	<0.05	.34	<0.05	.10	.05	.09	<0.05	.11	<0.05	<0.05
		08/05/91	1045	MAS	6	<0.05	<0.05	.39	<0.05	.15	.09	.09	<0.05	.14	<0.05	<0.05
		08/05/91	1045	MAS	6	<0.05	<0.05	.37	<0.05	.15	.10	.09	<0.05	.11	<0.05	<0.05
		08/05/91	1200	AS	6	<0.05	<0.05	.39	<0.05	.09	<0.05	.06	<0.05	.12	<0.05	<0.05
		08/06/91	0400	AS	71	.21	<0.05	.31	<0.05	.07	<0.05	.06	<0.05	4.6	<0.05	<0.05
		08/06/91	1200	AS	53	<0.05	<0.05	.44	<0.05	.09	<0.05	.10	<0.05	1.4	<0.05	<0.05
		08/06/91	1205	XSECT	54	<0.05	<0.05	.73	<0.05	.13	.07	.15	<0.05	2.6	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	08/06/91	1215	XSECT	54	<0.05	<0.05	0.51	<0.05	0.09	<0.05	0.09	<0.05	0.99	<0.05	<0.05
		08/06/91	1230	XSECT	57	<0.05	<0.05	.92	<0.05	.09	<0.05	.08	<0.05	.88	<0.05	<0.05
		08/06/91	1445	MAS	66	<0.05	<0.05	.40	<0.05	.08	<0.05	.10	<0.05	.42	<0.05	<0.05
		08/06/91	2000	AS	62	<0.05	<0.05	.62	<0.05	.11	.07	.17	<0.05	.15	<0.05	<0.05
		08/07/91	0400	AS	37	.05	<0.05	.73	<0.05	.12	.08	.58	<0.05	.09	<0.05	<0.05
		08/07/91	1200	AS	24	.07	<0.05	.68	<0.05	.09	.07	.17	<0.05	.11	<0.05	<0.05
		08/07/91	2000	AS	21	.19	<0.05	.94	<0.05	.10	.08	.18	<0.05	.08	<0.05	<0.05
		08/08/91	0400	AS	16	.18	<0.05	1.0	<0.05	.10	.07	.20	<0.05	.09	<0.05	<0.05
		08/12/91	1100	MAS	12	<0.05	<0.05	.64	<0.05	.08	.07	.13	<0.05	.13	<0.05	.07
		08/12/91	1100	MAS	12	<0.05	<0.05	.39	<0.05	.09	.07	.13	<0.05	.07	<0.05	.05
		08/14/91	0900	MAS	10	<0.05	<0.05	.49	<0.05	.09	.12	.13	<0.05	.10	<0.05	.08
		08/16/91	0800	MAS	5	.07	<0.05	.31	<0.05	.08	.08	.12	<0.05	.11	<0.05	<0.05
		08/19/91	1015	MAS	7	<0.05	<0.05	.30	.12	.08	.07	.10	<0.05	.09	<0.05	<0.05
		08/26/91	1120	--	5	.06	<0.05	.14	<0.05	<0.05	<0.05	.07	<0.05	.17	<0.05	<0.05
		08/29/91	1155	MAS	5	<0.05	<0.05	.12	.09	<0.05	.06	.06	<0.05	.37	<0.05	<0.05
		09/03/91	0635	MAS	3	<0.05	<0.05	.14	.07	.05	.07	.05	<0.05	.07	<0.05	<0.05
		09/05/91	0930	MAS	14	<0.05	<0.05	.24	.05	.08	.11	.34	<0.05	.07	<0.05	<0.05
		09/05/91	0930	MAS	14	<0.05	<0.05	.27	.07	.08	.08	.38	<0.05	.07	<0.05	<0.05
		09/10/91	0715	MAS	14	.05	<0.05	.14	<0.05	.05	<0.05	.06	<0.05	.08	<0.05	<0.05
		09/17/91	0715	MAS	5	.79	<0.05	.09	<0.05	<0.05	<0.05	.10	<0.05	.09	<0.05	<0.05
		09/24/91	1600	--	6	<0.05	<0.05	.12	<0.05	.05	<0.05	.05	<0.05	.06	<0.05	<0.05
		10/03/91	1330	--	11	.08	<0.05	.08	<0.05	<0.05	<0.05	.06	<0.05	.18	<0.05	.05
		10/22/91	1325	--	40	.11	<0.05	.82	<0.05	.08	.05	.18	<0.05	.21	<0.05	<0.05
		10/28/91	1945	--	71	.21	<0.05	.96	<0.05	.15	.09	1.3	<0.05	.10	<0.05	<0.05
		10/29/91	0745	--	80	.21	<0.05	1.1	.10	.15	.10	1.3	<0.05	.12	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream- flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
2	Sangamon River at Monticello, Illinois— Continued	10/29/91	1945	--	90	0.09	<0.05	0.52	<0.05	0.11	<0.05	0.60	<0.05	0.11	<0.05	<0.05
		10/30/91	0745	--	101	.07	<0.05	.54	<0.05	.14	<0.05	.22	<0.05	.12	<0.05	<0.05
		10/30/91	1215	--	106	.07	<0.05	.51	<0.05	.13	<0.05	.44	<0.05	.12	<0.05	<0.05
		10/30/91	1220	--	106	.08	<0.05	.52	<0.05	.13	<0.05	.49	<0.05	.12	<0.05	<0.05
		10/30/91	1225	--	106	.09	<0.05	.55	<0.05	.14	.09	.53	<0.05	.13	<0.05	<0.05
		10/30/91	2400	--	104	.06	<0.05	.38	<0.05	.11	<0.05	.38	<0.05	.10	<0.05	<0.05
		10/31/91	1200	--	118	.05	<0.05	.36	<0.05	.13	.08	.33	<0.05	.12	<0.05	<0.05
		10/31/91	2400	--	118	.20	<0.05	.58	.09	.16	.09	.67	<0.05	.14	<0.05	<0.05
		11/04/91	1025	--	170	.14	<0.05	.91	<0.05	.15	.11	.27	<0.05	.14	<0.05	<0.05
		12/03/91	1610	--	742	.06	<0.05	.39	<0.05	.17	.11	.28	<0.05	.05	<0.05	<0.05
		12/18/91	1730	--	502	<0.05	<0.05	.18	<0.05	.11	.08	.16	<0.05	<0.05	<0.05	<0.05
		01/07/92	1015	--	238	<0.05	<0.05	.13	<0.05	.12	.05	.15	<0.05	<0.05	<0.05	<0.05
		01/23/92	1230	--	265	<0.05	<0.05	.18	<0.05	.13	<0.05	.17	<0.05	<0.05	<0.05	<0.05
		02/06/92	1215	--	200	<0.05	<0.05	.10	<0.05	.06	<0.05	.12	<0.05	.06	<0.05	<0.05
		02/16/92	1525	--	363	<0.05	<0.05	.13	<0.05	.07	<0.05	.29	<0.05	.05	<0.05	<0.05
		02/18/92	1300	--	921	.06	<0.05	.34	<0.05	.15	.13	.31	<0.05	<0.05	<0.05	<0.05
		02/19/92	1500	--	933	<0.05	<0.05	.21	<0.05	.11	.09	.47	<0.05	<0.05	<0.05	<0.05
		02/20/92	1030	--	999	<0.05	<0.05	.35	<0.05	.21	.20	.34	<0.05	<0.05	<0.05	<0.05
		03/03/92	0700	--	285	<0.05	<0.05	.10	<0.05	.08	.07	.08	<0.05	<0.05	<0.05	<0.05
		03/03/92	0700	--	285	<0.05	<0.05	.12	<0.05	.09	.07	.09	<0.05	<0.05	<0.05	<0.05
		03/17/92	0715	--	247	<0.05	<0.05	.11	<0.05	.08	.07	.14	<0.05	<0.05	<0.05	<0.05
		03/19/92	1115	--	502	.14	<0.05	.26	<0.05	.09	.06	.60	<0.05	<0.05	<0.05	<0.05
		03/25/92	0715	--	424	<0.05	<0.05	.11	<0.05	.09	.08	.20	<0.05	<0.05	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska	03/26/91	1400	MAS	70	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		03/26/91	1400	--	70	<0.05	<0.05	.17	<0.05	.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/09/91	1000	MAS	50	<0.05	<0.05	.36	<0.05	.08	<0.05	.05	<0.05	<0.05	<0.05	<0.05
		04/15/91	1100	AS	346	.24	<0.05	1.5	<0.05	.10	.05	.12	<0.05	.06	<0.05	.06
		04/15/91	1700	AS	441	.14	<0.05	.84	<0.05	.10	.05	.12	<0.05	.07	<0.05	.06
		04/16/91	1100	MAS	738	.13	<0.05	.97	<0.05	.16	.10	.20	<0.05	.06	<0.05	.06
		04/16/91	1105	G	738	.13	<0.05	1.1	.09	.18	.12	.23	<0.05	.06	<0.05	.07
		04/16/91	1700	AS	763	.14	<0.05	1.1	.07	.20	.14	.23	.06	<0.05	<0.05	.06
		04/16/91	2300	AS	692	.17	<0.05	1.0	.17	.18	.12	.24	.10	.06	<0.05	.06
		04/16/91	2300	AS	692	.14	<0.05	1.1	.09	.19	.13	.24	<0.05	.06	<0.05	.06
		04/17/91	0500	AS	563	.13	<0.05	.92	.10	.14	.11	.20	<0.05	<0.05	<0.05	.05
		04/17/91	1100	AS	437	.16	<0.05	1.1	.10	.19	.15	.25	<0.05	.05	<0.05	.06
		04/17/91	1700	AS	345	.15	<0.05	1.1	.10	.18	.15	.23	<0.05	.05	<0.05	.06
		04/23/91	1435	MAS	91	.11	<0.05	1.3	.07	.14	.08	.17	<0.05	<0.05	<0.05	.06
		04/30/91	0930	MAS	76	<0.05	<0.05	.62	<0.05	.10	.05	.10	<0.05	<0.05	<0.05	<0.05
		05/06/91	0840	MAS	107	1.8	<0.05	5.7	<0.05	.19	.06	.72	<0.05	.09	<0.05	<0.05
		05/09/91	1110	MAS	150	5.4	<0.05	20	.34	.48	<0.05	1.7	<0.05	.11	.13	<0.05
		05/13/91	0940	MAS	84	4.7	<0.05	25	.55	.57	.05	3.4	<0.05	<0.05	.17	.12
		05/16/91	2000	MAS	302	9.1	<0.05	19	.22	1.1	.48	18	.54	<0.05	<0.05	<0.05
		05/16/91	2300	AS	1,290	15	<0.05	33	.54	1.2	.63	12	.66	<0.05	<0.05	<0.05
		05/17/91	0200	AS	1,630	34	<0.05	66	4.5	1.3	.68	6.4	1.3	<0.05	<0.05	<0.05
		05/17/91	0500	AS	1,580	32	<0.05	39	8.6	.74	.40	6.4	1.7	<0.05	<0.05	<0.05
		05/17/91	0800	AS	1,130	31	<0.05	35	3.0	1.1	.53	19	1.2	<0.05	<0.05	<0.05
		05/17/91	1100	AS	671	33	<0.05	31	.72	1.1	.41	26	1.9	<0.05	<0.05	<0.05
		05/17/91	1200	EWI	537	27	<0.05	40	4.1	1.4	.65	18	.85	<0.05	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meta- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	05/18/91	1312	AS	268	21	<0.05	29	3.0	1.1	0.51	17	0.94	<0.05	<0.05	<0.05
		05/20/91	1515	MAS	310	43	.32	116	.40	2.8	1.2	18	.40	<0.05	.81	.42
		05/23/91	0745	MAS	98	17	<0.05	68	1.1	2.0	.76	12	.43	<0.05	.50	<0.05
		05/25/91	2000	AS	671	9.8	<0.05	109	.58	2.4	.98	9.6	.38	<0.05	.82	.27
		05/26/91	0100	AS	1,260	8.9	<0.05	86	.39	2.1	.76	9.4	.40	<0.05	.66	.20
		05/26/91	0600	AS	1,380	8.5	<0.05	67	.36	1.8	.89	9.0	.50	<0.05	.54	.21
		05/26/91	1100	AS	1,180	8.9	<0.05	67	.33	1.7	.67	9.5	.51	<0.05	.53	.19
		05/26/91	1600	AS	1,110	8.7	<0.05	60	.36	1.7	.77	9.5	.47	<0.05	.46	.17
		05/26/91	2100	AS	1,200	8.5	<0.05	55	--	1.6	.66	9.2	.49	<0.05	.43	.16
		05/26/91	2100	AS	1,200	8.3	<0.05	34	.34	1.5	.63	7.5	.56	<0.05	.44	.16
		05/27/91	0200	AS	1,330	8.7	<0.05	52	.36	1.5	.65	9.3	.46	<0.05	.40	.15
		05/27/91	0700	AS	1,450	8.6	<0.05	48	.29	1.5	.66	8.9	.46	<0.05	.36	.14
		05/27/91	1200	AS	1,550	9.1	<0.05	43	--	1.2	.48	7.9	.41	<0.05	.32	<0.05
		05/27/91	1200	AS	1,550	9.5	<0.05	29	.44	1.7	.86	7.2	.40	<0.05	.39	.10
		05/27/91	1700	AS	1,600	13	<0.05	41	.40	1.3	.54	7.7	.43	<0.05	.29	<0.05
		05/27/91	2200	AS	1,580	28	<0.05	40	.47	1.3	.57	6.8	.41	<0.05	.28	.14
		05/28/91	0300	AS	1,480	14	<0.05	65	1.6	2.7	1.1	9.1	.69	<0.05	.45	.37
		05/28/91	0300	AS	1,480	14	<0.05	67	1.6	2.9	1.4	9.6	.69	<0.05	.48	.39
		05/28/91	0730	MAS	1,380	11	<0.05	56	.75	2.9	1.4	8.8	.33	.08	.40	.36
		05/28/91	1750	MAS	1,190	12	.11	51	7.1	3.4	1.7	14	.53	<0.05	<0.05	.14
		05/30/91	0735	MAS	515	8.9	<0.05	50	2.3	2.4	1.5	11	.51	<0.05	.07	.13
		06/01/91	1615	AS	651	6.3	.07	34	1.4	3.1	1.9	6.4	.07	.11	<0.05	<0.05
		06/01/91	2215	AS	1,420	5.0	<0.05	32	2.1	2.9	2.1	4.4	.52	<0.05	.07	.07
		06/01/91	2215	AS	1,420	6.8	<0.05	40	2.6	2.6	1.7	5.8	.55	<0.05	.28	.08
		06/02/91	0415	AS	1,870	5.9	<0.05	45	1.8	2.8	1.8	8.3	.28	<0.05	.10	.08

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	06/02/91	1015	AS	1,850	5.7	<0.05	31	1.2	2.4	1.3	5.4	0.42	0.16	<0.05	0.05
		06/02/91	1615	AS	1,730	7.4	<0.05	47	2.2	3.5	2.1	7.7	.34	<0.05	.07	1.5
		06/02/91	2215	AS	1,720	9.5	<0.05	55	4.6	3.4	2.6	10.0	.84	<0.05	.07	.08
		06/03/91	0415	AS	1,760	7.5	<0.05	43	2.4	3.5	2.2	8.2	.42	.05	.06	.06
		06/03/91	1615	AS	2,140	5.7	<0.05	39	2.3	3.5	2.2	6.7	.38	<0.05	.09	.11
		06/04/91	0415	AS	4,640	4.5	<0.05	31	1.1	2.9	1.8	4.5	.30	<0.05	.11	.14
		06/04/91	1015	AS	6,220	4.1	<0.05	23	.82	3.0	1.4	3.9	.24	.06	.21	.25
		06/04/91	1615	AS	6,210	5.1	<0.05	29	.96	3.7	2.1	4.5	.24	.07	.26	.26
		06/04/91	2215	AS	5,790	4.4	<0.05	25	.73	3.0	1.6	4.5	.22	.06	.23	.24
		06/04/91	2215	AS	5,790	4.7	.96	22	1.9	3.6	2.5	4.9	1.3	.95	1.1	1.1
		06/05/91	1355	G	5,120	4.4	<0.05	28	1.6	3.3	1.7	6.6	.33	<0.05	.26	.29
		06/06/91	1335	G	3,510	3.1	<0.05	25	.96	2.8	1.7	5.8	.34	.10	.23	.40
		06/06/91	1335	AS	3,510	3.2	<0.05	25	.89	2.7	1.6	5.5	.24	.11	.22	.39
		06/07/91	0730	G	2,480	2.7	.05	22	.66	2.3	1.3	5.2	.25	.06	.20	.34
		06/10/91	0940	G	312	1.8	<0.05	17	.65	2.1	1.2	3.2	.16	.09	.15	.19
		06/12/91	1300	MAS	216	1.3	<0.05	15	.43	1.4	.67	2.8	.13	.06	.12	.15
		06/17/91	1010	MAS	1,130	.47	<0.05	8.4	.26	.97	.53	1.4	.10	<0.05	.06	.08
		06/20/91	1140	MAS	102	.73	.08	18	.35	1.9	1.1	3.0	.10	.09	.16	.18
		06/21/91	1600	AS	631	.73	<0.05	8.0	.18	1.1	.36	1.7	.15	<0.05	.09	.05
		06/21/91	2200	AS	681	5.0	<0.05	11	.58	.88	.53	4.5	.92	<0.05	.08	<.05
		06/22/91	0400	AS	868	6.2	<0.05	31	.61	2.8	1.5	6.6	1.0	<0.05	.34	.10
		06/22/91	1000	AS	955	2.1	.06	34	.28	1.7	.99	3.8	.45	<0.05	.20	<.05
		06/22/91	1600	AS	1,070	3.7	.07	32	.58	3.0	1.7	5.2	.28	<0.05	.34	<.05
		06/24/91	1325	MAS	484	3.1	<0.05	19	.55	1.7	1.2	2.0	.33	<0.05	.20	.34
		06/27/91	1230	MAS	142	5.8	<0.05	31	.52	2.4	1.7	5.2	.34	<0.05	.25	.06
		07/01/91	1250	MAS	120	.90	<0.05	9.6	.21	1.4	.68	1.8	.07	<0.05	.08	.11

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991–92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	DIA (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	07/02/91	1255	EWI	120	0.53	<0.05	9.9	0.10	1.4	0.72	1.2	0.05	0.05	0.09	0.11
		07/03/91	0825	MAS	134	.98	.05	12	.34	1.7	.98	1.9	.08	.06	.11	.11
		07/08/91	0920	MAS	143	1.6	<0.05	7.2	.20	1.4	.71	1.2	.05	.05	.07	.13
		07/11/91	1230	MAS	147	.36	.06	4.1	.05	.65	.54	.46	<0.05	<0.05	<0.05	.12
		07/15/91	1155	MAS	118	.47	.22	9.4	.05	.84	.69	.69	<0.05	.09	.06	.14
		07/18/91	1145	MAS	104	.22	.09	3.5	.07	.69	.35	.87	<0.05	<0.05	<0.05	.06
		07/22/91	0820	MAS	120	.26	.30	2.7	<0.05	.81	.46	.75	<0.05	<0.05	<0.05	.05
		07/25/91	1300	MAS	117	.13	.20	1.9	<0.05	.53	.11	.40	<0.05	<0.05	<0.05	<0.05
		07/29/91	1230	MAS	109	.23	.20	2.6	<0.05	.58	.62	.53	<0.05	<0.05	<0.05	<0.05
		07/29/91	1230	MAS	109	.15	.15	1.7	<0.05	1.0	.46	.31	<0.05	<0.05	<0.05	<0.05
		08/12/91	1350	AS	69	.17	.28	1.6	<0.05	.79	.27	.29	<0.05	.06	<0.05	<0.05
		08/19/91	1000	AS	59	.14	.27	1.1	<0.05	.67	.21	.28	<0.05	<0.05	<0.05	<0.05
		08/27/91	1245	MAS	84	.10	.09	.69	<0.05	.39	.20	.12	<0.05	<0.05	<0.05	<0.05
		09/03/91	1235	MAS	40	.07	.12	.53	<0.05	.29	.14	.08	<0.05	<0.05	<0.05	<0.05
		09/10/91	1245	MAS	24	.05	.08	.54	<0.05	.17	.08	.07	<0.05	<0.05	<0.05	<0.05
		09/17/91	1330	MAS	24	.12	.18	.49	<0.05	.24	.19	.18	<0.05	<0.05	<0.05	.11
		09/24/91	0920	MAS	21	.05	<0.05	.42	<0.05	.18	.06	.06	<0.05	<0.05	<0.05	<0.05
		10/01/91	1330	MAS	21	<0.05	<0.05	.35	<0.05	.14	.05	.05	<0.05	<0.05	<0.05	<0.05
		10/15/91	0945	MAS	22	<0.05	<0.05	.26	<0.05	.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		10/22/91	1225	MAS	26	.05	<0.05	.28	<0.05	.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		11/06/91	0920	G	25	<0.05	<0.05	.20	<0.05	.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		11/19/91	0945	G	36	<0.05	<0.05	.25	<0.05	.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		12/19/91	0930	G	25	.13	<0.05	.35	<0.05	.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		12/30/91	1300	G	51	<0.05	<0.05	.19	<0.05	.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		01/14/92	1230	G	55	<0.05	<0.05	.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table 8. Streamflow and analytical results for selected herbicides and two triazine metabolites in storm samples collected from two streams in the Midwestern United States, 1991-92—Continued

Map no. (fig. 1)	Sampling-site name	Date of collection (month/ day/year)	Collection time (24-hour)	Sample type	Stream-flow (ft ³ /s)	Alachlor (µg/L)	Ametryn (µg/L)	Atrazine (µg/L)	Cyana- zine (µg/L)	DEA (µg/L)	D/A (µg/L)	Meto- lachlor (µg/L)	Metri- buzin (µg/L)	Pro- meton (µg/L)	Pro- pazine (µg/L)	Sima- zine (µg/L)
8	West Fork Big Blue River near Dorchester, Nebraska—Continued	01/14/92	1230	G	55	<0.05	<0.05	0.17	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		01/28/92	1200	G	56	<0.05	<0.05	.16	<0.05	.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		02/11/92	1300	G	56	<0.05	<0.05	.13	<0.05	.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		02/27/92	1220	G	65	<0.05	<0.05	.46	<0.05	.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		03/09/92	1140	G	50	<0.05	<0.05	.15	<0.05	.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		03/23/92	1115	G	69	<0.05	<0.05	.22	<0.05	.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		04/01/92	1100	--	--	<0.05	<0.05	.13	<0.05	.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05