

# **Investigation of Water Quality and Aquatic-Community Structure in Village and Valley Creeks, City of Birmingham, Jefferson County, Alabama, 2000–01**

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**Cover photographs**—*Top*: Stream reach upstream from USGS streamgaging station 02458450 (site VIL-3). *Right*: USGS personnel collecting invertebrate samples. *Bottom left*: USGS personnel using a seine to collect fish at USGS streamgaging station 02458450 (site VIL-3). *Bottom middle*: USGS personnel sampling for fish at USGS streamgaging station 02458450 (VIL-3) using a backpack electrofisher (*photographs taken by A.K. McPherson, USGS*).

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# CONTENTS

Abstract .....	1
Introduction .....	3
Purpose and scope .....	4
Study sites .....	5
Previous investigations .....	6
Effects of urbanization on aquatic communities .....	7
Acknowledgments .....	7
Watershed characteristics .....	7
Land use in the watershed .....	9
Hydrology .....	15
Approach .....	17
Data-collection methods .....	17
Water-quality samples .....	17
Bed-sediment samples .....	19
Fish-tissue samples .....	20
Aquatic-community samples .....	20
Stream-habitat characterization .....	21
Data analysis and review .....	21
Water-quality data .....	22
Quality-control methods and results .....	24
Bed-sediment data .....	25
Fish-tissue data .....	25
Aquatic-community data .....	25
Stream-habitat data .....	27
Results and discussion .....	27
Water quality .....	27
Basic water chemistry .....	27
Major ions .....	27
Field and continuous measurements of water properties .....	28
Nutrients .....	33
Nitrogen concentrations and distribution .....	37
Phosphorus concentrations and distribution .....	39
Chlorophyll <i>a</i> and chlorophyll <i>b</i> concentrations and distribution .....	42
Comparison of nutrient data from urban sites in Birmingham to urban sites nationwide .....	42
Instantaneous nutrient loads and yields .....	42
Biochemical oxygen demand and total organic carbon .....	44
Fecal indicator bacteria .....	44
Wastewater indicators .....	48
Trace and major elements .....	49
Comparison of trace and major element data from urban sites in Birmingham to urban sites nationwide .....	56
Pesticides .....	57
Comparison of pesticide data from urban sites in Birmingham to urban sites nationwide .....	63
Polycyclic aromatic hydrocarbons .....	64
Bed sediment and fish tissue .....	66
Trace and major elements in bed sediment .....	66
Trace and major elements in fish-liver tissue .....	68
Comparison of trace-element priority pollutants in bed-sediment and fish-liver samples .....	69
Organic compounds in bed sediment .....	69

Organic compounds in fish tissue .....	74
Habitat.....	77
Aquatic community .....	78
Benthic-invertebrate communities .....	78
Fish communities.....	81
Correlations with land use .....	83
Summary.....	86
Selected references .....	89
Appendixes .....	96

## FIGURES

1. Locations of sampling sites and physiographic provinces in the Birmingham area, Jefferson County, Alabama.....	3
2. Mean monthly precipitation for the 30-year period (1961–1990) and monthly precipitation (January 2000–May 2001) at the Birmingham International Airport, National Weather Service, Birmingham, Alabama.....	8
3. 1992 Multi-resolution land characteristics in the Village Creek watershed, Birmingham, Alabama .....	10
4. 1992 Multi-resolution land characteristics in the Valley Creek watershed, Birmingham, Alabama .....	11
5. 1992 Multi-resolution land characteristics in the Little Cahaba River watershed, Jefferson County, Alabama.....	12
6. 1992 Multi-resolution land characteristics in the Fivemile Creek watershed, Jefferson County, Alabama.....	13
7. Land use in the watersheds of sampling sites in the Birmingham area, Alabama .....	14
8. (A) Mean monthly streamflow and (B) departure of monthly mean streamflow from the mean for the period of record (1975–79 and 1988–2000) at U.S. Geological Survey streamgaging stations 02458450 (VIL-3) and 02461500 (downstream from VAL-3) in Birmingham, Alabama.....	16
9. Dissolved oxygen, water temperature, turbidity, discharge, and specific conductivity at U.S. Geological Survey streamgaging station 02458450 (VIL-3) during low-flow conditions, August 27–31, 2000.....	32
10. Dissolved oxygen, water temperature, gage height, discharge, turbidity, and specific conductivity at U.S. Geological Survey streamgaging station 02458450 (VIL-3) during two storms, August 1–4, 2000.....	33
11. Median concentrations of measured forms of dissolved nitrogen in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	37
12. Box plots of dissolved (A) nitrate, (B) nitrite, (C) ammonia, and (D) organic nitrogen concentrations in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	38
13. Dissolved (A) nitrate, (B) nitrite, (C) ammonia, and (D) organic nitrogen concentrations in water samples collected during high and low flow from streams in the Birmingham area, Alabama, 2000–01 .....	39
14. Median concentrations of measured forms of dissolved phosphorus in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	40
15. Box plots of (A) suspended phosphorus, (B) dissolved orthophosphate, and (C) dissolved non-orthophosphorus concentrations in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	41
16. Comparison of nutrients in water samples from urban sites in the Birmingham area, Alabama, to urban sites nationwide .....	42
17. (A) <i>Escherichia coli</i> , (B) enterococci, and (C) fecal coliform concentrations in water samples collected during high and low flow from streams in the Birmingham area, Alabama, 2000–01 .....	46
18. Frequencies of detection for selected wastewater indicators in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	48
19. Relations of (A) total cadmium, (B) total recoverable copper, (C) total recoverable lead, and (D) total recoverable zinc in water-quality samples to hardness and acute and chronic toxicity at streams in the Birmingham area, Alabama, 2000–01 .....	50

20. Frequencies of detection for trace and major elements in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	54
21. (A) Total cadmium, (B) total recoverable copper, (C) total recoverable lead, (D) total recoverable zinc, and (E) total recoverable aluminum concentrations detected in water samples collected during high and low flow from streams in the Birmingham area, Alabama, 2000–01 .....	55
22. Comparison of trace and major elements in water samples from urban sites in the Birmingham area, Alabama, to urban sites nationwide .....	57
23. Frequencies of detection for pesticides in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	59
24. (A) Dissolved atrazine, (B) dissolved simazine, and (C) dissolved chlorpyrifos concentrations detected in water samples during high and low flow at streams in the Birmingham area, Alabama, 2000–01 .....	61
25. Comparison of pesticides in water samples from urban sites in the Birmingham area, Alabama, to urban sites nationwide .....	63
26. Comparison of frequencies of detection for pesticides in water samples from streams in the Birmingham area, Alabama, to urban sites nationwide .....	64
27. Frequencies of detection for polycyclic aromatic hydrocarbons in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	65
28. Concentrations of lead detected in (A) bed sediment and (B) fish-liver tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	66
29. Concentrations of cadmium detected in bed sediment and fish-liver tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	67
30. The sum of the concentrations of trace-element priority pollutants detected in (A) bed sediment and (B) fish-liver tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000.....	68
31. Concentrations of chlorpyrifos detected in bed sediment and fish tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	72
32. Concentrations of DDT and its degradation products detected in (A) bed sediment and (B) fish tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	72
33. Concentrations of (A) total chlordane detected in bed sediment and (B) components of total chlordane detected in fish tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	74
34. Concentrations of total polychlorinated biphenyls (PCBs) detected in (A) bed sediment and (B) fish tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	76
35. Benthic-invertebrate community richness in streams in the Birmingham area, Alabama, 2000.....	78
36. Similarity of the benthic-invertebrate community at five sites in the Birmingham area, Alabama, to that of a reference site—FMC—(June 2000), compared with the percentage of urban land use in the drainage basin.....	78
37. Density of benthic-invertebrate taxa in selected streams in the Birmingham area, Alabama, June and October 2000.....	79
38. The relative abundance of midges (Chironomidae) in selected streams in the Birmingham area, Alabama, June and October 2000 .....	79
39. Comparison of the relative abundances of the dominant benthic-invertebrate taxa collected from streams in the Birmingham area, Alabama, 2000 .....	80
40. Fish-community richness and catch per unit effort in streams in the Birmingham area, Alabama, 2001 .....	81
41. Relative abundance of fish families in streams in the Birmingham area, Alabama, 2001 .....	81

## TABLES

1. Description of surface-water sites selected for water-quality and biological sampling in the Birmingham area, Alabama, 2000–01.....	5
2. Land-use characteristics in the watersheds of sampling sites in the Birmingham area, Alabama .....	6
3. Population changes (1970–90) in the watersheds of sampling sites in the Birmingham area, Alabama.....	14
4. Mean annual streamflow at selected continuous-record stations on Village and Valley Creeks, Birmingham, Alabama.....	15

5. Sampling type and frequency of water-quality and biological constituents at sites in the Birmingham area, Alabama, 2000–01 .....	18
6. Results of the Kruskal-Wallis test and the Tukey multiple-comparison test illustrating statistically significant ( $p \leq 0.05$ ) differences for selected water-quality constituents at sites in the Birmingham area, Alabama .....	29
7. Water-quality properties of streams in the Birmingham area, Alabama, 2000–01 .....	31
8. Summary of selected nutrients at sampling sites in the Birmingham area, Alabama, 2000–01 .....	34
9. Instantaneous loads of total nitrogen and total phosphorus at sites in the Birmingham area, Alabama, 2000–01 .....	43
10. Nutrient yields at sites in the Birmingham area, Alabama, and at sites nationwide .....	43
11. Statistical summary of <i>Escherichia coli</i> , enterococci, and fecal coliform concentrations at sites in the Birmingham area, Alabama, 2000–01 .....	45
12. State and Federal standards and criteria for bacteria in surface water .....	47
13. Exceedance frequencies for fecal indicator bacteria detected at sites in the Birmingham area, Alabama, 2000–01 .....	47
14. State and Federal standards and criteria for trace and major elements in surface water .....	49
15. Summary of trace and major elements detected in water samples and applicable aquatic life criteria at sites in the Birmingham area, Alabama, 2000–01 .....	51
16. Pesticides and pesticide degradation products, laboratory reporting levels, and minimum reporting levels .....	58
17. Standards, guidelines, and maximum concentrations of pesticides detected in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	60
18. Pesticide detection frequencies in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	62
19. Polycyclic aromatic hydrocarbon detection frequencies in water samples from streams in the Birmingham area, Alabama, 2000–01 .....	65
20. Concentrations of trace-element priority pollutants detected in bed-sediment samples from streams in the Birmingham area, Alabama, 2000 .....	66
21. Concentrations of trace and major elements detected in fish-liver tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	69
22. Concentrations of pesticides and other organic compounds detected in bed-sediment samples from streams in the Birmingham area, Alabama, 2000 .....	70
23. Concentrations of DDT and its degradation products detected in bed-sediment and fish-tissue samples at selected stream sites in the Birmingham area, Alabama, 2000 .....	73
24. Concentrations of pesticides and polychlorinated biphenyls (PCBs) detected in fish tissue ( <i>Lepomis</i> species) from streams in the Birmingham area, Alabama, 2000 .....	75
25. Habitat characteristics in selected streams in the Birmingham area, Alabama, 2000 .....	77
26. Significant correlations between land use and water quality, bed sediment, fish tissue, and aquatic-community structure at the Birmingham study sites, Alabama, 2000–01 .....	84

## APPENDIX 1 Quality Control

Table 1-1. Concentrations of nutrients, major ions, trace elements, and wastewater indicators detected in blank samples in the Birmingham area, Alabama, 2000–01 .....	97
Table 1-2. Concentrations and relative percentage differences for nutrients, major ions, trace elements, pesticides, and wastewater indicators detected in replicate samples in the Birmingham area, Alabama 2000–01 .....	98

## APPENDIX 2 Summary of Water-Quality Data

Table 2-1. Summary of major ion concentrations during different flow conditions at sites in the Birmingham area, Alabama, 2000–01 .....	100
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Table 2-2. Field water-quality properties, bacteria, and chemical constituents at sites in the Birmingham area, Alabama, 2000–01 ..... 101

Table 2-3. Wastewater indicators detected in water samples from streams in the Birmingham area, Alabama, 2000–01 ..... 103

Table 2-4. Pesticides detected in water samples from streams in the Birmingham area, Alabama, 2000–01 ..... 106

Table 2-5. Polycyclic aromatic hydrocarbons detected in water samples from streams in the Birmingham area, Alabama, 2000–01 ..... 108

**APPENDIX 3 Summary of Ecological Data**

Table 3-1. Trace and major elements detected in bed-sediment samples from streams in the Birmingham area, Alabama, 2000..... 110

Table 3-2. Benthic-invertebrate taxa, density, and relative abundance in streams in the Birmingham area, Alabama, 2000..... 111

Table 3-3. Benthic-invertebrate community metrics in streams in the Birmingham area, Alabama, 2000 ..... 118

Table 3-4. Fish species collected from streams in the Birmingham area, Alabama, 2001 ..... 119

CONVERSION FACTORS, TEMPERATURE, ABBREVIATIONS, AND ACRONYMS

Multiply	by	To obtain
<i>Length</i>		
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
<i>Area</i>		
acre	0.4047	hectare
square mile (mi <sup>2</sup> )	2.590	square kilometer
<i>Mass</i>		
pound, avoirdupois (lb)	0.4536	kilogram
<i>Volume</i>		
gallon (gal)	3.785	liter
acre-foot (acre-ft)	1,233	cubic meter
<i>Flow</i>		
inch per year (in/yr)	25.4	millimeter per year
cubic foot per second (ft <sup>3</sup> /s)	0.02832	cubic meter per second

**Temperature:** Temperature is given in degrees Fahrenheit (°F), which can be converted to degree Celsius (°C) as follows:

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

**Abbreviations and Acronyms:**

$\alpha$	probability of a Type I error
col/100 mL	colonies per 100 milliliters
g	gram
g/kg	grams per kilogram
kg/d	kilograms per day
(kg/ha)/yr	kilograms per hectare per year
m <sup>2</sup>	square meter
m <sup>3</sup>	cubic meter
µg/kg	micrograms per kilogram
µg/g	micrograms per gram
µg/L	micrograms per liter

## Abbreviations and Acronyms (Continued):

µm	micron
µS/cm	microsiemens per centimeter at 25 °C as measure of specific conductance
meq/L	milliequivalents per liter
mg/L	milligrams per liter
mL	milliliter
n	sample size
ADEM	Alabama Department of Environmental Management
ANOVA	analysis of variance
BHA	3- <i>tert</i> -butyl-4-hydroxyanisole
BOD	biochemical oxygen demand
BOD <sub>5</sub>	5-day biochemical oxygen demand
DC	direct current
DDD	degradation product of DDT
DDE	degradation product of DDT
DDT	dichlorodiphenyltrichloroethane
DNOC	4,6-dinitro-2-methylphenol
DO	dissolved oxygen
DP	degradation product
E	concentration is estimated
<i>E. coli</i>	<i>Escherichia coli</i>
EPT	Ephemeroptera, Plecoptera, and Trichoptera
FDA	Food and Drug Administration
GC/MS	gas chromatography/mass spectrometry
GIS	geographic information system
H	herbicide
HPLC	high-performance liquid chromatography
I	insecticide
IDAS	Invertebrate Data Analysis System
K	counts greater than or less than ideal
LN	natural log
LRL	laboratory reporting level
LT-MDL	long-term method detection limit
MCL	Maximum Contaminant Level
MRL	minimum reporting level
MRLC	multi-resolution land characteristics
NAS/NAE	National Academy of Science/National Academy of Engineering
NAWQA	National Water-Quality Assessment
NPDES	National Pollutant Discharge Elimination System
NPEO2	diethoxynonylphenol
NTU	nephelometric turbidity units
NWQL	National Water Quality Laboratory
OPEO1	monoethoxyoctylphenol
OPEO2	diethoxyoctylphenol
OT	other, exposed rock
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PEL	probable effect level
RW	right-of-way
SC	specific conductance
SW	shrubs or woodland
TEPP	trace-element priority pollutants
TOC	total organic carbon
UI	urban industrial
UR	urban residential
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
WY	water year (Water year is the period October 1 through September 30 and is identified by the year in which it ends.)