STATISTICAL SUMMARY OF SELECTED WATER-QUALITY DATA (WATER YEARS 1975 THROUGH 1985) FOR ARKANSAS RIVERS AND STREAMS

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations
Report 88-4112

Prepared in cooperation with the
ARKANSAS GEOLOGICAL COMMISSION

STATISTICAL SUMMARY OF SELECTED WATER-QUALITY DATA (WATER YEARS 1975 THROUGH 1985) FOR ARKANSAS RIVERS AND STREAMS

By James C. Petersen

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 88-4112

Prepared in cooperation with the

ARKANSAS GEOLOGICAL COMMISSION

Little Rock, Arkansas

1988

DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey
2301 Federal Office Building
700 West Capitol
Little Rock, Arkansas 72201

Copies of this report can
be purchased from:

U.S. Geological Survey
Books and Open-File Reports Section
Federal Center, Building 810
Box 25425
Denver, Colorado 80225

CONTENTS

	Page
Abstract	1
Introduction	2
Purpose and scope	2
Previous investigations	12
Data summarized	22
Calculation and reporting of descriptive and regression statistics	26
Format of statistical summary tables	28
Areal water-quality characteristics	31
Typical water quality	31
Regression equations	33
Mississippi Alluvial Plain	33
West Gulf Coastal Plain	33
Springfield-Salem Plateaus	33
Boston Mountains	34
Arkansas Valley	34
Ouachita Mountains	34
Mississippi River	35
Red River	35
Arkansas River	35
Summary and conclusions	35
References cited	37
Index of stations	41

ILLUSTRATIONS

Figure 1.	Map of Arkansas showing location of water-quality stations	10
2.	Example residual plots illustrating equal and unequal distribution of residuals and corresponding regression plots	30
3.	Map showing location of physiographic provinces and sections	32

TABLES

Table 1.	Stations summarized and related information	3
2-7.	Water-quality trends (water years 1974 through 1981) at:	
2.	Mississippi River at Memphis, Tenn., 07032000	13
3.	St. Francis River at Parkin, Ark., 07047800	14
4.	St. Francis Bay at Riverfront, Ark., 07047900	15
5.	North Sylamore Creek near Fifty Six, Ark., 07060710	16
6.	White River at Clarendon, Ark., 07077800	17
7.	Arkansas River at Dam No. 13 near Van Buren Ark., 07250550	18

TABLES (continued)

Page

Table 8-10. Water-quality trends (water years 1974 through 1981) at:
8. Arkansas River at David D. Terry Lock and Dam below Little Rock, Ark., 07263620..... 19
9. Mississippi River near Arkansas City, Ark., 07265450 20
10. Ouachita River at Camden, Ark., 07362000..... 21
11. List of properties, associated parameter codes, and water years included in statistical summaries..... 23
12. Values assigned as greatest detection limits used by Arkansas Department of Pollution Control and Ecology and U.S. Geological Survey laboratories between water years 1975 and 1985..... 29
13-41. Statistical summary of selected water-quality properties for:
13. Mississippi River at Barfield, Ark., 07029150..... 44
14. Mississippi River at Memphis, Tenn., 07032000..... 45
15. St. Francis River at St. Francis, Ark., 07040100... 47
16. St. Francis River at Lake City, Ark., 07040450..... 48
17. Right Hand Chute of Little River at Big Lake Outlet near Manila, Ark., 07046500..... 49
18. Pemiscot Bayou at Dell, Ark., 07047400..... 50
19. Tyronza River near Twist, Ark., 07047700..... 51
20. St. Francis River at Parkin, Ark., 07047800..... 52
21. St. Francis Bay at Riverfront, Ark., 07047900..... 54
22. L'Anguille River near Colt, Ark., 07047942..... 56
23. L'Anguille River at Marianna, Ark., 07047964..... 58
24. St. Francis River north of Helena, Ark., 07047968.. 59
25. West Fork White River east of Fayetteville, Ark., 07048550..... 60
26. White River near Goshen, Ark., 07048700..... 61
27. White River at Beaver Dam near Eureka Springs, Ark., 07049691..... 63
28. White River at Beaver, Ark., 07050000..... 65
29. Kings River near Berryville, Ark., 07050500..... 66
30. White River at Bull Shoals Dam near Flippin, Ark., 07054501..... 67
31. Crooked Creek at Yellville, Ark., 07055608..... 69
32. Buffalo River near St. Joe, Ark., 07056000..... 70
33. White River near Norfork., Ark., 07057370..... 71
34. North Fork River at Norfork Dam near Norfork, Ark., 07060000..... 72
35. North Fork River at Norfork, Ark., 07060010..... 74
36. White River at Calico Rock, Ark., 07060500..... 75
37. North Sylamore Creek near Fifty Six, Ark., 07060710..... 77
38. White River at Oil Trough, Ark., 07061105..... 79
39. Black River near Corning, Ark., 07064000..... 80
40. Current River near Pocahontas, Ark., 07068850..... 81
41. Black River at Pocahontas, Ark., 07069000..... 82

TABLES (continued)

Page

Table 42-76. Statistical summary of selected water-quality properties for:

42. Spring River near Hardy, Ark., 07069266..... 83
43. South Fork Spring River at Saddle, Ark., 07069295..... 84
44. Spring River at Ravenden, Ark., 07069370..... 85
45. Eleven Point River near Pocahontas, Ark., 07072100..... 86
46. Black River at Black Rock, Ark., 07072500..... 87
47. Strawberry River near Smithville, Ark., 07074100.. 89
48. Black River at Jacksonport, Ark., 07074490..... 90
49. White River at Newport, Ark., 07074500..... 91
50. White River near Augusta, Ark., 07074850..... 93
51. Middle Fork Little Red River near Shirley, Ark., 07074990..... 94
52. Little Red River near Heber Springs, Ark., 07076000..... 95
53. Little Red River near Wilburn, Ark., 07076200..... 97
54. Little Red River at Judsonia, Ark., 07076634..... 98
55. White River at DeValls Bluff, Ark., 07077000..... 99
56. Cache River near Cash, Ark., 07077400..... 100
57. Cache River at Patterson, Ark., 07077500..... 101
58. Cache River at Brasfield, Ark., 07077600..... 103
59. Bayou DeView near Gibson, Ark., 07077660..... 104
60. Bayou DeView at Morton, Ark., 07077700..... 105
61. Bayou DeView near Brasfield, Ark., 07077750..... 107
62. White River at Clarendon, Ark., 07077800..... 108
63. White River at St. Charles, Ark., 07077820..... 110
64. Big Creek near Watkins Corner, Ark., 07077960..... 111
65. White River at Arkansas Post Canal near Nady, Ark., 07078285..... 112
66. Butler Creek near Sulphur Springs, Ark., 07188910..... 113
67. Spavinaw Creek near Cherokee City, Ark., 07191179..... 114
68. Illinois River at Savoy, Ark., 07194800..... 115
69. Osage Creek near Elm Springs, Ark., 07195000..... 116
70. Illinois River south of Siloam Springs, Ark., 07195430..... 117
71. Flint Creek north of Siloam Springs, Ark., 07195850..... 118
72. Baron Fork at Dutch Mills, Ark., 07196900..... 119
73. Poteau River south of Bates, Ark., 07247012..... 120
74. James Fork near Hackett, Ark., 07249400..... 121
75. Arkansas River at Van Buren, Ark., 07250500..... 122
76. Arkansas River at Dam No. 13, near Van Buren, Ark., 07250550..... 123

TABLES (continued)

Page

Tables 77-106. Statistical summary of selected water-quality properties for:

77. Arkansas River at Ozark Dam at Ozark, Ark., 07252406..... 125
78. Arkansas River at Dardanelle, Ark., 07258000.... 126
79. Petit Jean River near Booneville, Ark., 07258500..... 127
80. Petit Jean River near Waveland, Ark., 07259500.. 128
81. Petit Jean River near Centerville, Ark., 07260640..... 130
82. Arkansas River at Dam No. 9, near Oppelo, Ark., 07260660..... 131
83. Cadron Creek west of Conway, Ark., 07261250..... 132
84. Arkansas River at Toad Suck Ferry Dam near Conway, Ark., 07261260..... 133
85. Fourche LaFave River near Gravelly, Ark., 07261500..... 134
86. Fourche LaFave River near Nimrod, Ark., 07262500..... 135
87. Fourche LaFave River near Bigelow, Ark., 07263150..... 137
88. Arkansas River at Murray Dam, at Little Rock, Ark., 07263450..... 138
89. Arkansas River at David D. Terry Lock and Dam below Little Rock, Ark., 07263620..... 139
90. Arkansas River at Lock and Dam 3 near Swan Lake, Ark., 07263750..... 141
91. Bayou Meto near Lonoke, Ark., 07264000..... 142
92. Bayou Two Prairie near Cabot, Ark., 07264050.... 143
93. Bayou Meto near Bayou Meto, Ark., 07265099..... 144
94. Arkansas River at Dam No. 2 near Gillett, Ark., 07265283..... 145
95. Mississippi River near Arkansas City, Ark., 07265450..... 147
96. Red River near Foreman, Ark., 07336860..... 149
97. Red River at Index, Ark., 07337000..... 150
98. Rolling Fork near Horatio, Ark., 07339850..... 152
99. Little River near Horatio, Ark., 07340000..... 153
100. Cossatot River near Lockesburg, Ark., 07340520.. 154
101. Saline River near Lockesburg, Ark., 07341200.... 155
102. Little River at Millwood Dam near Ashdown, Ark., 07341301..... 156
103. Sulphur River south of Texarkana, Ark., 07344275..... 158
104. Days Creek southeast of Texarkana, Ark., 07344300..... 160
105. Red River near Spring Bank, Ark., 07344350..... 161
106. Bayou Dorcheat near Taylor, Ark., 07348650..... 162

TABLES (continued)

Page

Tables 107-128. Statistical summary of selected water-quality properties for:

107. Bodcau Creek near Lewisville, Ark., 07349440... 163
108. Ouachita River near Mount Ida, Ark., 07356000.. 164
109. Ouachita River at Blakely Mountain Dam, near Hot Springs, Ark., 07357501..... 165
110. Ouachita River at Carpenter Dam near Hot Springs, Ark., 07358501..... 166
111. Ouachita River near Malvern, Ark., 07359500.... 167
112. Ouachita River near Donaldson, Ark., 07359580.. 168
113. Caddo River near Amity, Ark., 07359770..... 169
114. Ouachita River near Sparkman, Ark., 07360162... 170
115. Little Missouri River near Langley, Ark., 07360200..... 171
116. Little Missouri River near Boughton, Ark., 07361600..... 172
117. Ouachita River at Camden, Ark., 07362000..... 173
118. Smackover Creek north of Smackover, Ark., 07362110..... 175
119. Ouachita River at Lock and Dam 8, near Calion, Ark., 07362400..... 176
120. Moro Creek near Banks, Ark., 07362550..... 177
121. Saline River west of Benton, Ark., 07363002.... 178
122. Hurricane Creek near Sardis, Ark., 07363270.... 179
123. Saline River near Fountain Hill, Ark., 07364012..... 180
124. Ouachita River near Felsenthal, Ark., 07364080..... 181
125. Coffee Creek near Crossett, Ark., 07364088..... 182
126. Bayou Bartholomew near Ladd, Ark., 07364115.... 183
127. Bayou de Loutre near El Dorado, Ark., 07364600..... 184
128. Big Bayou near Jerome, Ark., 07367666..... 185

129. Typical water quality of physiographic sections and selected major rivers..... 186
130. Summary of results of regression equations of relation of specific conductance to total alkalinity, dissolved chloride, dissolved magnesium, and dissolved sulfate..... 189

CONVERSION FACTORS

For use of readers who prefer to use metric (International System) units, rather than the inch-pound units used in this report, the following conversion factors may be used:

Multiply inch-pound unit	By	To obtain metric unit
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
square mile (mi^2)	2.590	square kilometer (km^2)

Temperature in degrees Fahrenheit (°C) as follows:

$$°F = 1.8 \times °C + 32$$

STATISTICAL SUMMARY OF SELECTED WATER-QUALITY DATA (WATER YEARS 1975 THROUGH 1985) FOR ARKANSAS RIVERS AND STREAMS

By James C. Petersen

ABSTRACT

Descriptive statistics were calculated for selected water-quality data for 116 water-quality stations on Arkansas rivers and streams. Water-quality properties summarized included pH, specific conductance, dissolved oxygen, total alkalinity, total hardness, common dissolved constituents, phosphorus, nitrogen, biochemical oxygen demand, bacteria, turbidity, suspended sediment, and several heavy metals. Regression equations and related statistics describing the relation between specific conductance and total alkalinity and several dissolved constituents also were calculated.

Typical water quality (based upon median values at individual stations) of the physiographic sections and major rivers of Arkansas is also discussed. Discernible differences in water quality exist between sections and major rivers.

The regression analysis indicated that the usefulness of specific conductance as a predictor of other water-quality values is variable. The relation between specific conductance and the other property is not statistically significant ($p>0.05$) about 30 percent of the time.

INTRODUCTION

More than 200 stations have at one time or another been part of continuing water-quality sampling programs of either the U.S. Geological Survey or the Arkansas Department of Pollution Control and Ecology (ADPCE). Much of the data generated by these programs has never been statistically summarized and published until now.

Purpose and Scope

The purposes of this report are to (1) statistically summarize some of the water-quality data available for 116 of the stations (table 1, fig. 1) sampled by either the Survey or ADPCE and (2) compare some selected statistical summary results between physiographic sections of the State and also between major rivers of the State. The summary is of two types: (1) descriptive distributional statistics and (2) simple linear regression of specific conductance versus selected dissolved constituents. These summaries can be useful in interpreting existing and future data and should be helpful to those designing and evaluating sampling programs. The summaries also can be useful for estimating water quality of unsampled streams.

A short discussion of previous reports that have summarized some of the water-quality data for Arkansas rivers and streams is included in this report. These reports include some descriptive statistical summaries and investigations of time trends.

Water-quality data for surface-water stations (on rivers and streams, but not including lakes and reservoirs) that have been operated for at least 6 years during the period October 1974 through September 1985 (water years 1975 through 1985) were summarized. Several Geological Survey stations in the St. Francis River basin were omitted from this report because analyses were performed for only a few of the summarized properties. Data were retrieved from the Geological Survey's Water Data Storage and Retrieval (WATSTORE) computer data base; ADPCE data have been transferred annually into WATSTORE from the U.S. Environmental Protection Agency's STORET computer data base. Exact location descriptions of all stations can be found in the Geological Survey's annual Water-Data Reports (U.S. Geological Survey, 1976; 1977; 1978; 1979; 1980; 1981; 1982; Lamb and others, 1983; 1984; 1985; 1986).

The 33 water-quality properties summarized include discharge, dissolved oxygen, pH, specific conductance, total alkalinity, total hardness, common dissolved constituents, phosphorus, nitrogen, biochemical oxygen demand, bacteria, turbidity, suspended sediment, and several trace metals.

This report is prepared in cooperation with the Arkansas Geological Commission. At most stations water-quality samples were collected by ADPCE (table 1). These samples were also analyzed by ADPCE. All other water-quality sampling and analyses were performed by the U.S. Geological Survey, although some of the sampling was in cooperation with the Arkansas Geological Commission or the U.S. Army Corps of Engineers. Both laboratories have

Table 1.--Stations summarized and related information

[Water years begin October 1 and end September 30. ADPCE is Arkansas Department of Pollution Control and Ecology; USGS is U.S. Geological Survey. (N) indicates that station is part of NASQAN network: (S) indicates U.S. Army Corps of Engineers sediment network; (G) indicates Arkansas Geological Commission cooperative network; (C) indicates U.S. Army Corps of Engineers lake study network; (B) indicates Hydrologic Bench-Mark network; Under the "Previous investigations" column: 1 = Ward (1963), 2 = Jeffus and others (1967), 3 = Steele (1971), 4 = Briggs and Ficke (1977), 5 = Smith and others (1982), 6 = Britton and others (1983), 7 = Wells and Schertz (1983), 8 = Smith and Alexander (1983a) or Smith and Alexander (1985a), 9 = Smith and Alexander (1983b), and 10 = Stoner (1985). The stations sampled by ADPCE are summarized in the Water Quality Inventory Reports (ADPCE, 1974; 1975; 1976; 1977, 1980; 1982; 1984; 1986). Stations summarized by previous investigation may not be identical in location to station listed here]

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07029150	Mississippi River at Barfield	1975-83	ADPCE	--
07032000	Mississippi River at Memphis, Tenn.	1975-85	USGS(N)	4,5,6,7,8
07040100	St. Francis River at St. Francis	1975-85	ADPCE USGS(S)	--
07040450	St. Francis River at Lake City	1975-85	ADPCE USGS(S)	--
07046500	Right Hand Chute of Little River at Big Lake Outlet near Manila	1975-83	ADPCE	--
07047400	Pemiscot Bayou at Dell	1975-83	ADPCE	--
07047700	Tyronza River near Twist	1975-83	ADPCE	--
07047800	St. Francis River at Parkin	1975-85	USGS(N)	4,5,6,7,8,
07047900	St. Francis Bay at Riverfront	1975-85	USGS(N,S)	4,5,6,7,8
07047942	L'Anguille River near Colt	1975-85	USGS(G,S)	--
07047964	L'Anguille River at Marianna	1975-85	ADPCE	--
07047968	St. Francis River north of Helena	1975-83	ADPCE	--
07048550	West Fork White River east of Fayetteville	1975-85	ADPCE	--

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07048700	White River near Goshen	1975-85	ADPCE USGS(C)	--
07049691	White River at Beaver Dam near Eureka Springs	1975-85	USGS(C)	1,2
07050000	White River at Beaver	1975-83	ADPCE	--
07050500	Kings River near Berryville	1975-85	ADPCE	--
07054501	White River at Bull Shoals Dam near Flippin	1975-85	ADPCE USGS(C)	1,2
07055608	Crooked Creek at Yellville	1980-85	ADPCE	--
07056000	Buffalo River near St. Joe	1975-85	ADPCE	--
07057370	White River near Norfork	1975-85	ADPCE	--
07060000	North Fork River at Norfork Dam near Norfork	1975-85	USGS(C)	2
07060010	North Fork River at Norfork	1975-83	ADPCE	--
07060500	White River at Calico Rock	1975-85	USGS(G)	--
07060710	North Sylamore Creek near Fifty Six	1975-85	USGS(B)	8,9
07061105	White River at Oil Trough	1975-83	ADPCE	--
07064000	Black River near Corning	1975-83	ADPCE	1,2
07068850	Current River near Pocahontas	1975-85	ADPCE	--
07069000	Black River at Pocahontas	1978-85	ADPCE	--
07069266	Spring River near Hardy	1975-83	ADPCE	--
07069295	South Fork Spring River at Saddle	1975-85	ADPCE	--

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07069370	Spring River at Ravenden	1975-85	ADPCE	--
07072100	Eleven Point River near Pocahontas	1975-85	ADPCE	--
07072500	Black River at Black Rock	1975-85	USGS(G)	1,2
07074100	Strawberry River near Smithville	1975-85	ADPCE	--
07074490	Black River at Jacksonport	1975-83	ADPCE	--
07074500	White River at Newport	1978-85	USGS(N)	1,2,7
07074850	White River near Augusta	1975-83	ADPCE	--
07074990	Middle Fork Little Red River near Shirley	1975-85	ADPCE	--
07076000	Little Red River near Heber Springs	1975-85	USGS(C)	1,2
07076200	Little Red River near Wilburn	1975-83	ADPCE	--
07076634	Little Red River at Judsonia	1975-83	ADPCE	--
07077000	White River at DeValls Bluff	1975-85	ADPCE	--
07077400	Cache River near Cash	1975-83	ADPCE	--
07077500	Cache River at Patterson	1976-85	USGS(G)	1,2,3
07077600	Cache River at Brasfield	1975-83	ADPCE	--
07077660	Bayou DeView near Gibson	1975-85	ADPCE	--
07077700	Bayou DeView at Morton	1975-85	USGS(G)	--
07077750	Bayou DeView near Brasfield	1975-83	ADPCE	--
07077800	White River at Clarendon	1975-85	USGS(N)	1,2,4,5,6,7,8
07077820	White River at St. Charles	1975-85	ADPCE	--
07077960	Big Creek near Watkins Corner	1975-83	ADPCE	--

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07078285	White River at Arkansas Post Canal near Nady	1975-83	ADPCE	--
07188910	Butler Creek near Sulphur Springs	1975-85	ADPCE	--
07191179	Spavinaw Creek near Cherokee City	1979-85	ADPCE	--
07194800	Illinois River at Savoy	1975-85	ADPCE	--
07195000	Osage Creek near Elm Springs	1975-85	ADPCE	--
07195430	Illinois River south of Siloam Springs	1975-81	ADPCE	--
07195850	Flint Creek north of Siloam Springs	1975-81	ADPCE	--
07196900	Baron Fork at Dutch Mills	1975-85	ADPCE	--
07247012	Poteau River south of Bates	1975-83	ADPCE	--
07249400	James Fork near Hackett	1975-85	ADPCE	--
07250500	Arkansas River at Van Buren	1975-85	ADPCE	1,2,3
07250550	Arkansas River at Dam No. 13, near Van Buren	1975-85	USGS(N)	4,5,6,7, 8,10
07252406	Arkansas River at Ozark Dam at Ozark	1975-85	ADPCE	--
07258000	Arkansas River at Dardanelle	1975-85	ADPCE	1,2,3,10
07258500	Petit Jean River near Booneville	1975-85	ADPCE	--
07259500	Petit Jean River near Waveland	1976-85	USGS(C)	--
07260640	Petit Jean River near Centerville	1975-83	ADPCE	--
07260660	Arkansas River at Dam No. 9, near Oppelo	1975-85	ADPCE	--

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07261250	Cadron Creek west of Conway	1975-83	ADPCE	--
07261260	Arkansas River at Toad Suck Ferry Dam near Conway	1975-85	ADPCE	--
07261500	Fourche LaFave River near Gravelly	1975-85	ADPCE	--
07262500	Fourche LaFave River near Nimrod	1976-85	USGS(C)	--
07263150	Fourche LaFave River near Bigelow	1975-83	ADPCE	--
07263450	Arkansas River at Murray Dam at Little Rock	1975-85	ADPCE	1,2,3
07263620	Arkansas River at David D. Terry Lock and Dam below Little Rock	1975-85	USGS(N)	4,5,6,7, 8,10
07263750	Arkansas River at Lock and Dam 3 near Swan Lake	1975-83	ADPCE	--
07264000	Bayou Meto near Lonoke	1975-83	ADPCE	--
07264050	Bayou Two Prairie near Cabot	1975-83	ADPCE	--
07265099	Bayou Meto near Bayou Meto	1975-83	ADPCE	--
07265283	Arkansas River at Dam No. 2 near Gillett	1975-83	USGS(N) ADPCE	7
07265450	Mississippi River near Arkansas City	1975-83	USGS(N)	4,5,6,7,8
07336860	Red River near Foreman	1975-85	ADPCE	--
07337000	Red River at Index	1980-85	USGS(N)	7
07339850	Rolling Fork near Horatio	1975-83	ADPCE	--
07340000	Little River near Horatio	1975-85	ADPCE	1,2
07340520	Cossatot River near Lockesburg	1975-83	ADPCE	--

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07341200	Saline River near Lockesburg	1975-83	ADPCE	--
07341301	Little River at Millwood Dam near Ashdown	1979-85	USGS(N,C)	7
07344275	Sulphur River south of Texarkana	1975-85	ADPCE, USGS(N)	7
07344300	Days Creek southeast of Texarkana	1975-85	ADPCE	--
07344350	Red River near Spring Bank	1975-85	ADPCE	--
07348650	Bayou Dorcheat near Taylor	1975-85	ADPCE	1,2
07349440	Bodcau Creek near Lewisville	1975-85	ADPCE	--
07356000	Ouachita River near Mount Ida	1975-85	ADPCE	1,2,3
07357501	Ouachita River at Blakely Mountain Dam, near Hot Springs	1975-83	ADPCE	--
07358501	Ouachita River at Carpenter Dam near Hot Springs	1975-85	ADPCE	--
07359500	Ouachita River near Malvern	1975-85	ADPCE	1,2
07359580	Ouachita River near Donaldson	1975-85	ADPCE	--
07359770	Caddo River near Amity	1975-85	ADPCE	--
07360162	Ouachita River near Sparkman	1975-83	ADPCE	--
07360200	Little Missouri River near Langley	1975-85	ADPCE	--
07361600	Little Missouri River near Boughton	1975-85	ADPCE	1,2
07362000	Ouachita River at Camden	1975-85	USGS(N)	1,2,4,5, 6,7,8
07362110	Smackover Creek north of Smackover	1975-85	ADPCE	1,2,3

Table 1.--Stations summarized and related information--Continued

Station number	Station name	Water years summarized (inclusive)	Sampling agency	Previous investigations
07362400	Ouachita River at Lock and Dam 8, near Calion	1975-83	ADPCE	1,2
07362550	Moro Creek near Banks	1975-85	ADPCE	--
07363002	Saline River west of Benton	1975-85	ADPCE	1,2,3
07363270	Hurricane Creek near Sardis	1975-85	ADPCE	--
07364012	Saline River near Fountain Hill	1975-85	ADPCE	--
07364080	Ouachita River near Felsenthal	1975-80	ADPCE	1,2
07364088	Coffee Creek near Crossett	1975-83	ADPCE	--
07364115	Bayou Bartholomew near Ladd	1975-85	ADPCE	--
07364600	Bayou de Loutre near El Dorado	1975-85	ADPCE	--
07367666	Big Bayou near Jerome	1975-81	ADPCE	--

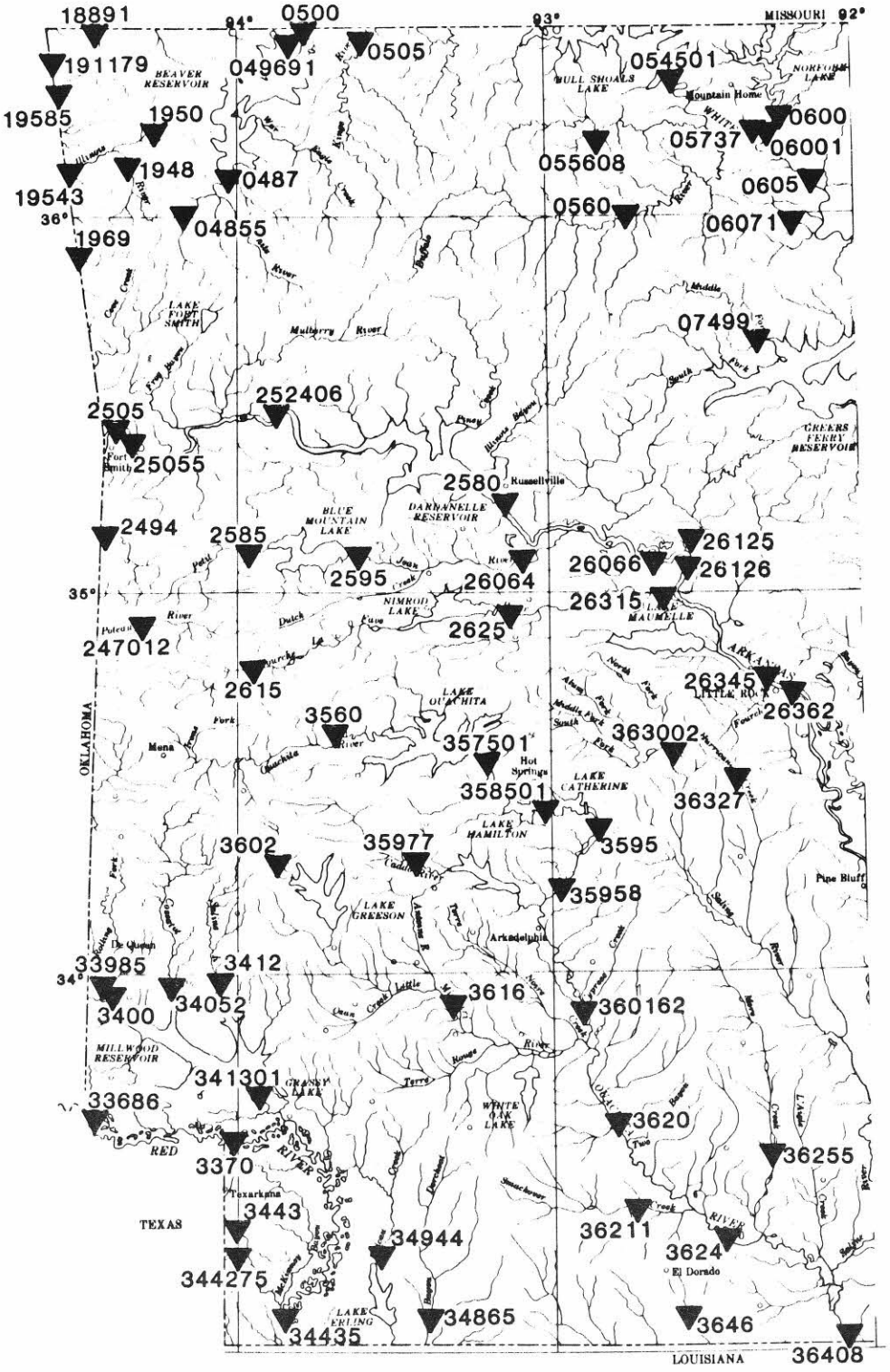
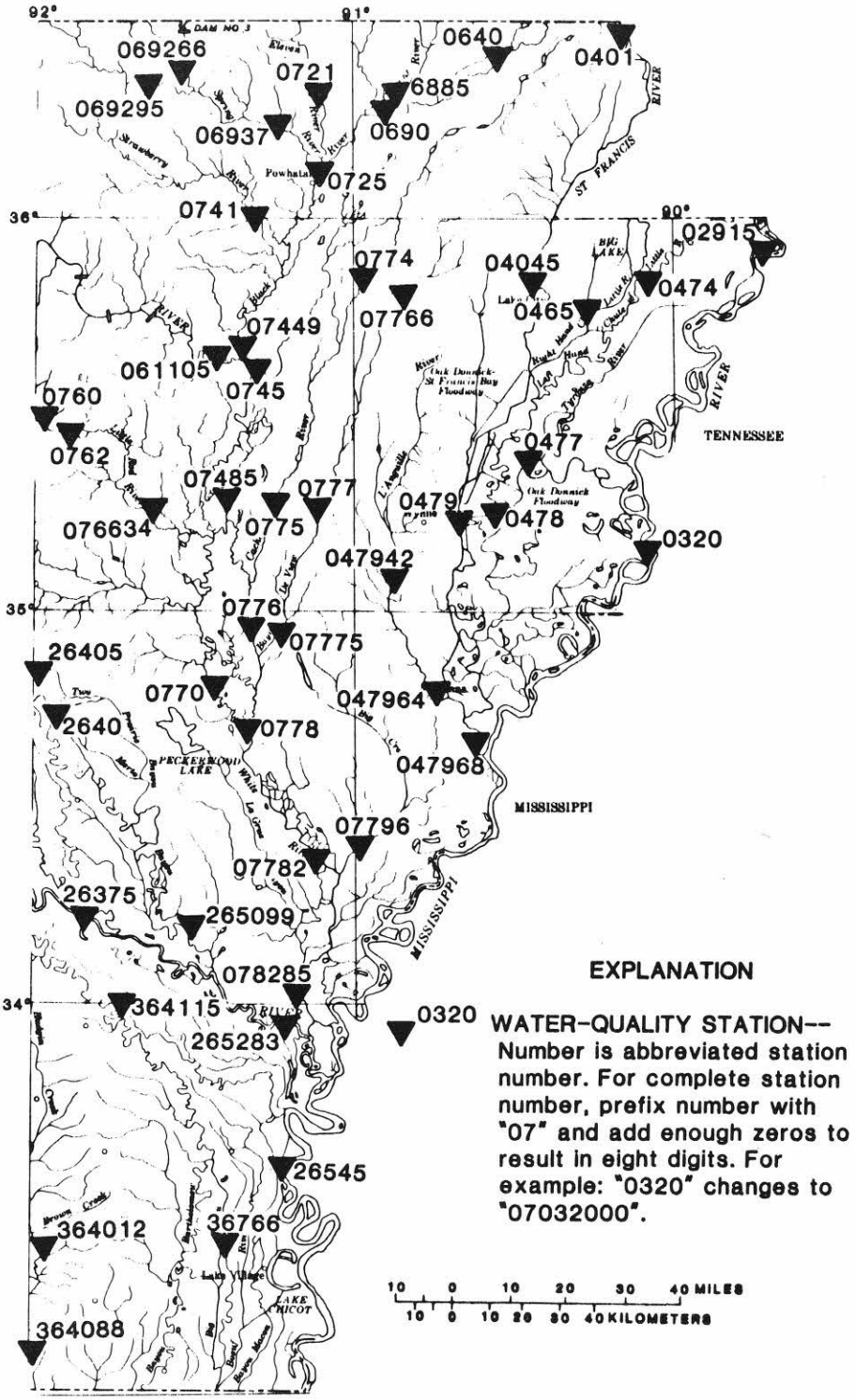


Figure 1.--Location of



water-quality stations.

quality-assurance programs (Friedman and Erdmann, 1982; Arkansas Department of Pollution Control and Ecology, 1986;) and use comparable methods (Guy, 1969; Greeson and others, 1977; Skougstad and others, 1979; Arkansas Department of Pollution Control and Ecology, 1986; Wershaw and others, 1987).

Previous Investigations

Several previous investigators have statistically summarized Arkansas water-quality data (table 1). Ward (1963) summarized data for nitrate, common dissolved constituents, specific conductance, iron, pH, color, temperature and discharge for 39 stations for the period 1946 through 1960. Ward's report was updated by Jeffus and others (1967) to include data through 1965. Steele (1971) presented a more detailed statistical and graphical summary of data for 16 of the stations summarized by Ward (1963) and by Jeffus and others (1967). Data summaries were chiefly of the same properties but were for the period 1946 through 1969. Graphical plots of specific conductance versus hardness, dissolved solids and common ions also were included.

Briggs and Ficke (1977) and Britton and others (1983) statistically summarized data for eight of the Geological Survey's National Stream Quality Accounting Network (NASQAN) stations in Arkansas as part of a description of the quality of the rivers of the United States during the 1975 and 1976 water years (October 1974 through September 1976). Properties summarized include specific conductance, pH, common dissolved constituents, metals, dissolved solids, hardness, nutrients, suspended sediment, turbidity, temperature, fecal coliform and fecal streptococcal bacteria, phytoplankton and periphyton. Both reports include several graphs and maps of the Nation that can be used to compare water quality of NASQAN stations in Arkansas with NASQAN stations in other States.

The Geological Survey has conducted several nationwide studies of water-quality time trends at NASQAN stations using the Seasonal Kendall trend test (Crawford and others, 1983), a nonparametric test that considers seasonal and streamflow effects on water quality. A study of trends during 1972 through 1979 in total phosphorus measurements at NASQAN stations (Smith and others, 1982) included eight stations in Arkansas. Except for a decreasing trend at the two stations on the Arkansas River, there was no trend in raw phosphorus concentrations, nor in flow-adjusted phosphorus concentrations. Phosphorus transport either decreased or there was no significant trend. Trend analyses for water years 1975 through 1981 of raw and flow-adjusted values of several properties at NASQAN stations, including eight in Arkansas, were conducted by Smith and Alexander (1983a, 1985). These results from these analyses are shown in Tables 2 through 10. Increasing flow-adjusted dissolved-solids concentrations in water years 1968 through 1982 were detected at two (Arkansas River at Dam 13 near Van Buren and Arkansas River at David D. Terry Lock and Dam below Little Rock) of three stations on the Arkansas River analyzed by Stoner (1985). Another nationwide study (Smith and Alexander, 1983b), included data for North Sylamore Creek near Fifty Six (07060710). For the period 1966 through 1981, a significant increase in pH and dissolved sulfate concentration and a significant decrease in total alkalinity were found at this station.

Table 2.--Water-quality trends (water years 1974 through 1981) at Mississippi River at Memphis, Tenn., 07032000

[Table modified from Smith and Alexander, 1983a. 'a' denotes transport rates estimated as averages of monthly or quarterly sample data. Otherwise, daily flow frequency distributions are used in the estimation of transport rates. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 556952 Drainage area (mi^2) 932800

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/l)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	71	16.0	8.7	0.17	-1.6	0.05	50	hyp -	0.13	-2.0	—	—	—
Conductivity (uS/cm)	72	388.9	62.3	0.96	0.0	0.57H	51	hyp -	0.44	-1.3	—	—	—
Turbidity (JTU)	35	68.1	64.8	0.34	11.0	0.28H	33	exp +	0.01S	23.2	—	—	—
pH(std units;transport as H)	72	7.8	0.3	0.00H	1.0	0.07	51	inv -	0.01H	0.8	0.28E-01	0.00H	-22.3
Alkalinity as CaCO3	62	101.1	15.6	0.69	-0.0	0.35H	43	hyp -	0.10	-2.3	0.11E+09	0.32	-7.3
Sulfate as SO4	72	60.3	14.7	0.83	-0.2	0.57H	51	hyp -	0.34	-1.0	0.64E+08	0.05S	-3.1
Chloride	72	17.0	3.9	0.12	1.5	0.30H	51	hyp -	0.67	0.7	0.18E+08	0.34	-2.3
Silica	71	5.5	1.7	0.83	0.5	0.17H	51	hyp +	0.67	-1.4	0.74E+07	0.05S	-9.7
Calcium	72	39.9	4.5	0.59	0.0	0.35H	51	log -	0.34	-0.9	0.45E+08	0.02S	-7.3
Magnesium	72	12.1	2.2	0.54	0.0	0.31H	51	log -	0.07	-1.6	0.13E+08	0.01S	-6.1
Sodium	72	18.1	5.9	0.91	-0.0	0.69H	51	hyp -	0.44	-1.5	0.18E+08	0.05S	-3.3
Potassium	72	3.1	0.6	0.96	0.0	0.14H	51	lin -	0.93	0.1	0.35E+07	0.10	-4.6
Dissolved solids	71	220.0	35.7	0.75	0.3	0.60H	51	log -	0.20	-0.7	0.24E+09	0.03S	-4.7
Suspended sediment	71	170.7	125.3	0.66	2.7	0.29H	50	exp +	0.66	0.5	0.24E+09	0.79	-3.4
Phosphorus, total as P	73	0.24	0.10	0.75	-0.9	0.13S	51	exp -	0.93	1.7	0.27E+06	0.34	-5.5
Nitrate-nitrite, total as N	70	1.34	0.59	0.02S	3.7	0.33H	50	exp +	0.25	4.1	0.18E+07	0.18	-7.0
Ammonia, total as N	37	0.08	0.08	0.69	-1.1	I.D.	18	—	I.D.	I.D.	0.89E+05	I.D.	I.D.
Organic carbon, total as C	37	8.4	3.8	0.07	7.1	I.D.	22	—	I.D.	I.D.	0.13E+08	I.D.	I.D.
Dissolved oxygen	41	8.7	2.1	0.14	2.3	0.10	24	inv -	0.80	0.3	0.92E+07	0.44	-9.1
Fecal coliform (col/100 mL)	46	990.0	1196.0	0.92	5.5	0.08	27	exp -	0.69	13.5	0.94E+16c	0.42	18.8
Fecal strep. (col/100 mL)	33	498.0	502.0	0.36	-36.1	I.D.	16	—	I.D.	I.D.	a0.29E+16c	I.D.	I.D.
Phytoplankton (cells/mL)	55	948.0	7891.0	0.63	3.6	0.42H	40	exp -	0.91	1.0	0.66E+19c	1.00	0.8

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	24	1.0	95	2.0	2.7	2.8	0.04S	-	16	0.39E+04	0.39E+04
Barium	14	100.0	57	100.0	135.7	178.6	I.D.	I.D.	7	0.34E+06	0.35E+06
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	20.0	3	<=D.L.	32.7	43.9	0.21	-	18	0.17E+06	0.18E+06
Chromium	26	20.0	15	<=D.L.	4.5	18.3*	1.00	+	18	0.68E+04	0.25E+05*
Copper	26	20.0	76	46.0	55.0	55.0	0.04S	-	18	0.82E+05	0.82E+05
Iron	26	10.0	100	3400.0	4158.8	4158.8	0.93	-	18	0.61E+07	0.61E+07
Lead	26	200.0	3	<=D.L.	15.7	108.0	0.21	-	18	0.45E+05	0.19E+06
Manganese	26	10.0	100	220.0	232.3	232.3	0.87	-	18	0.34E+06	0.34E+06
Mercury	23	0.5	0	<=D.L.	0.0	0.3*	N.D.	N.D.	15	0.26E+02	0.62E+03*
Nickel	7	200.0	0	<=D.L.	8.0	8.0*	I.D.	I.D.	7	0.12E+05	0.12E+05*
Silver	14	20.0	0	<=D.L.	0.3	14.9	I.D.	I.D.	7	0.15E+04	0.21E+05
Zinc	26	20.0	96	70.0	77.3	78.1	0.80	-	18	0.11E+06	0.11E+06

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	26	1.0	88	1.0	1.3	1.5	1.00	-	18	0.12E+04	0.16E+04
Barium	14	100.0	28	<=D.L.	57.1	128.6	I.D.	I.D.	7	0.13E+06	0.17E+06
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	2.0	19	<=D.L.	7.6	9.0	0.63	-	18	0.39E+05	0.40E+05
Chromium	26	20.0	0	<=D.L.	0.9	18.6	N.D.	N.D.	18	0.92E+03	0.26E+05
Copper	26	20.0	3	<=D.L.	8.2	9.7	0.21	-	18	0.14E+05	0.18E+05
Iron	26	10.0	73	20.0	43.5	46.2	0.02S	+	18	0.48E+05	0.50E+05
Lead	26	2.0	19	<=D.L.	0.4	2.0	0.90	-	18	0.46E+03	0.30E+04
Manganese	26	10.0	23	<=D.L.	10.4	18.1	0.80	+	18	0.15E+05	0.25E+05
Mercury	26	0.5	0	<=D.L.	0.0	0.4	N.D.	N.D.	18	0.35E+01	0.71E+03
Nickel	7	200.0	0	<=D.L.	4.3	32.9	I.D.	I.D.	7	0.77E+04	0.21E+05
Silver	14	2.0	0	<=D.L.	0.0	1.9	I.D.	I.D.	7	0.00E+00	0.29E+04
Zinc	26	20.0	38	<=D.L.	32.7	39.6	0.77	+	18	0.32E+05	0.42E+05

Table 3.--Water-quality trends (water years 1974 through 1981) at St. Francis River at Parkin, Ark., 07047800

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 2500 Drainage area (mi^2) indeterminate

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr
Temperature (degrees C)	68	16.2	8.7	0.86	-0.0	0.02	46	inv -	0.85	-0.0	—	—	--
Conductivity (uS/cm)	68	310.9	108.5	0.73	-0.6	0.68H	46	hyp -	0.57	-1.1	—	--	--
Turbidity (JTU)	30	168.3	184.0	1.00	-4.6	0.38H	29	exp +	0.70	26.5	—	—	--
pH(std units;transport as H)	68	7.8	0.3	0.01S	0.9	0.12S	46	lin -	0.34	0.3	0.16E-03	0.01S	-24.1
Alkalinity as CaCO3	57	136.5	55.3	0.82	-0.2	0.65H	37	hyp -	1.00	-1.1	0.50E+06	0.07	-8.4
Sulfate as SO4	67	19.1	5.6	0.30	2.0	0.46H	46	hyp -	0.45	1.3	0.84E+05	0.30	-3.6
Chloride	68	6.2	2.1	0.05	5.3	0.01	46	lin +	0.02S	7.8	0.29E+05	0.26	-2.8
Silica	68	13.8	4.2	0.69	0.0	0.47H	46	hyp -	1.00	0.4	0.57E+05	0.34	-4.8
Calcium	68	39.9	15.8	0.78	-1.3	0.63H	46	hyp -	1.00	-0.4	0.15E+06	0.06	-5.3
Magnesium	68	10.6	4.2	0.46	-1.9	0.66H	46	log -	1.00	0.0	0.40E+05	0.13	-3.6
Sodium	68	8.3	2.3	0.10	3.3	0.36H	46	hyp -	0.19	2.5	0.37E+05	0.34	-5.5
Potassium	68	2.8	0.7	0.05	-2.7	0.13S	46	lin -	0.71	-1.4	0.14E+05	0.19	-7.3
Dissolved solids	67	180.7	63.5	0.42	-1.2	0.66H	46	hyp -	0.85	-0.5	0.71E+06	0.13	-4.6
Suspended sediment	56	289.4	276.5	0.18	5.6	0.41H	35	exp +	0.88	-5.2	0.25E+07	1.00	2.1
Phosphorus, total as P	69	0.46	0.63	0.20	-3.6	0.35H	46	exp +	0.09	-5.6	0.26E+04	0.06	-17.9
Nitrate-nitrite, total as N	67	0.59	0.64	0.95	0.0	0.34H	44	exp +	1.00	-0.2	0.59E+04	0.76	-7.8
Ammonia, total as N	38	0.11	0.11	0.23	31.3	I.D.	16	—	I.D.	I.D.	0.74E+03	I.D.	I.D.
Organic carbon, total as C	37	10.8	5.8	0.18	7.9	I.D.	22	—	I.D.	I.D.	0.55E+05	I.D.	I.D.
Dissolved oxygen	54	8.0	2.3	0.87	-0.0	0.03	32	lin -	0.64	1.2	0.41E+05	0.64	1.9
Fecal coliform (col/100 mL)	39	474.0	763.0	1.00	-7.3	I.D.	19	—	I.D.	I.D.	0.19E+14c	I.D.	I.D.
Fecal strep. (col/100 mL)	29	4379.0	15657.0	1.00	2.7	I.D.	11	—	I.D.	I.D.	I.D.	I.D.	I.D.
Phytoplankton (cells/mL)	50	10574.0	13580.0	0.03S	24.4	0.32H	38	exp -	0.01H	38.0	0.34E+17c	0.06	25.5

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	23	1.0	100	5.0	5.4	5.4	0.01H	-	16	0.41E+02	0.41E+02
Barium	13	100.0	100	300.0	338.5	338.5	I.D.	I.D.	6	0.23E+04	0.23E+04
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	24	20.0	0	<=D.L.	0.3*	14.7	N.D.	N.D.	16	0.00E+00*	0.13E+03
Chromium	24	20.0	29	<=D.L.	7.5	20.0	0.21	+	16	0.10E+03	0.16E+03
Copper	24	20.0	45	<=D.L.	20.8	25.0	0.09	-	16	0.29E+03	0.29E+03
Iron	24	10.0	100	7600.0	8187.5	8187.5	0.08	-	16	0.82E+05	0.82E+05
Lead	24	200.0	0	<=D.L.	8.3	100.0	N.D.	N.D.	16	0.26E+02	0.82E+03
Manganese	24	10.0	100	320.0	330.8	330.8	0.93	-	16	0.21E+04	0.21E+04
Mercury	23	0.5	4	<=D.L.	0.1	0.4	1.00	-	15	0.50E+00	0.27E+01*
Nickel	6	200.0	0	<=D.L.	11.3	11.3*	I.D.	I.D.	6	0.96E+02	0.96E+02*
Silver	14	20.0	0	<=D.L.	0.3	14.8	I.D.	I.D.	7	0.10E+01	0.82E+02
Zinc	24	20.0	95	60.0	68.8	68.8	1.00	-	16	0.71E+03	0.71E+03

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	24	1.0	91	1.0	1.7	1.8	0.12	+	16	0.61E+01	0.77E+01
Barium	13	100.0	76	200.0	200.0	223.1	I.D.	I.D.	6	0.17E+04	0.17E+04
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	24	2.0	29	<=D.L.	0.6	1.8	0.62	-	16	0.83E+01	0.14E+02
Chromium	24	20.0	0	<=D.L.	0.8	19.2	N.D.	N.D.	16	0.18E+02	0.11E+03
Copper	24	20.0	4	<=D.L.	5.8	8.4	0.56	-	16	0.74E+02	0.79E+02
Iron	24	10.0	95	50.0	239.2	239.6	1.00	-	16	0.95E+03	0.95E+03
Lead	24	2.0	33	<=D.L.	0.9	2.2	1.00	-	16	0.11E+02	0.16E+02
Manganese	24	10.0	54	10.0	60.4	65.0	1.00	+	16	0.13E+03	0.17E+03
Mercury	22	0.5	0	<=D.L.	0.0	0.3	N.D.	N.D.	14	0.28E-01	0.31E+01
Nickel	6	200.0	0	<=D.L.	3.5	36.8	I.D.	I.D.	6	0.21E+02	0.39E+03
Silver	13	2.0	0	<=D.L.	0.0	1.9	I.D.	I.D.	6	0.00E+00	0.13E+02
Zinc	24	20.0	66	20.0	35.9	40.9	1.00	+	16	0.29E+03	0.30E+03

Table 4.--Water-quality trends (water years 1974 through 1981) at St. Francis Bay at Riverfront, Ark., 07047900

[Table modified from Smith and Alexander, 1983a. 'a' denotes transport rates estimated as averages of monthly or quarterly sample data. Otherwise, daily flow frequency distributions are used in the estimation of transport rates. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, exp = exponential]

Mean discharge (ft^3/s) 6181 Drainage area (mi^2) indeterminate

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	77	16.4	9.3	0.32	1.2	0.13H	69	hyp -	0.05S	-2.5	—	—	--
Conductivity (uS/cm)	77	261.9	97.1	0.06	3.1	0.81H	69	log -	0.16	-1.5	—	—	--
Turbidity (JTU)	30	93.7	86.4	0.44	-17.7	0.49H	24	exp +	0.80	8.6	—	—	--
pH(std units;transport as H)	76	7.8	0.5	0.08	0.8	0.61H	70	hyp -	0.27	0.4	0.66E-03	0.00H	-35.0
Alkalinity as CaCO3	58	109.4	47.6	0.94	0.0	0.81H	31	hyp -	0.63	-0.4	0.92E+06	0.01H	-13.6
Sulfate as SO4	68	15.0	5.2	0.00H	6.7	0.56H	40	hyp -	0.34	1.7	0.14E+06	0.00H	-13.0
Chloride	68	6.5	2.2	0.14	3.3	0.23H	40	hyp -	0.48	1.6	0.67E+05	0.02S	-11.4
Silica	68	11.7	3.8	0.02S	4.4	0.70H	40	log -	0.24	-0.9	0.11E+06	0.02S	-11.4
Calcium	68	31.4	13.3	0.43	2.9	0.76H	40	hyp -	0.48	-3.0	0.25E+06	0.00H	-12.1
Magnesium	68	9.3	3.3	0.65	1.7	0.76H	40	hyp -	0.63	-1.7	0.80E+05	0.00H	-12.6
Sodium	68	7.3	2.5	0.08	3.8	0.56H	40	hyp -	0.63	-0.4	0.72E+05	0.00H	-9.9
Potassium	68	2.3	0.7	0.73	1.4	0.15S	40	lin -	0.24	2.4	0.24E+05	0.02S	-13.3
Dissolved solids	68	149.7	55.1	0.37	3.4	0.78H	40	hyp -	0.63	-1.7	0.13E+07	0.00H	-11.1
Suspended sediment	73	229.0	182.7	0.35	5.5	0.37H	65	exp +	0.08	9.6	0.39E+07	0.43	-18.6
Phosphorus, total as P	69	0.25	0.14	0.58	-2.2	0.30H	40	exp +	0.81	4.4	0.38E+04	0.10	-22.5
Nitrate-nitrite, total as N	67	0.23	0.23	0.73	1.2	0.36H	39	exp +	0.18	15.2	0.59E+04	0.71	-14.9
Ammonia, total as N	36	0.08	0.07	0.41	32.2	I.D.	15	—	I.D.	I.D.	I.D.	I.D.	I.D.
Organic carbon, total as C	36	8.3	4.1	0.50	5.2	I.D.	21	—	I.D.	I.D.	0.14E+06	I.D.	I.D.
Dissolved oxygen	63	8.8	1.9	0.18	0.9	0.01	57	lin +	0.24	0.9	0.10E+06	0.19	-5.2
Fecal coliform (col/100 mL)	34	233.0	358.0	0.57	-23.8	I.D.	15	—	I.D.	I.D.	I.D.	I.D.	I.D.
Fecal strep. (col/100 mL)	31	1103.0	2914.0	1.00	-4.0	I.D.	10	—	I.D.	I.D.	I.D.	I.D.	I.D.
Phytoplankton (cells/mL)	48	14400.0	21555.0	0.66	10.2	0.64H	30	exp -	0.62	-5.4	a0.62E+17c	0.24	-13.4

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	24	1.0	100	2.0	2.8	2.8	0.05S	-	13	0.55E+02	0.55E+02
Barium	13	100.0	84	200.0	200.0	215.4	I.D.	I.D.	4	I.D.	I.D.
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	25	20.0	0	<=D.L.	0.1*	14.2	N.D.	N.D.	14	0.00E+00*	0.27E+03
Chromium	25	20.0	24	<=D.L.	6.0	19.6	0.42	+	14	0.15E+03	0.30E+03*
Copper	25	20.0	28	<=D.L.	17.2	22.0	0.08	-	14	0.67E+03	0.69E+03
Iron	25	10.0	100	3500.0	4752.0	4752.0	0.11	-	14	0.13E+06	0.13E+06
Lead	25	200.0	0	<=D.L.	6.1	102.1	N.D.	N.D.	14	0.99E+02	0.16E+04
Manganese	24	10.0	100	200.0	242.5	242.5	0.71	-	13	0.32E+04	0.32E+04
Mercury	23	0.5	4	<=D.L.	0.1	0.4*	0.29	+	12	0.70E+00	0.85E+01*
Nickel	7	200.0	0	<=D.L.	6.9	6.9*	I.D.	I.D.	5	I.D.	I.D.
Silver	15	20.0	0	<=D.L.	0.2	15.1	I.D.	I.D.	6	0.00E+00	0.24E+03
Zinc	24	20.0	91	40.0	47.5	49.2	1.00	+	13	0.84E+03	0.84E+03

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	25	1.0	88	1.0	1.4	1.6	0.44	+	14	0.21E+02	0.23E+02
Barium	14	100.0	71	100.0	142.9	171.4	I.D.	I.D.	5	I.D.	I.D.
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	25	2.0	12	<=D.L.	0.3	1.8	0.18	-	14	0.12E+02	0.33E+02
Chromium	25	20.0	4	<=D.L.	1.6	19.2	1.00	-	14	0.11E+02	0.33E+03
Copper	25	20.0	0	<=D.L.	4.7	7.5	N.D.	N.D.	14	0.91E+02	0.12E+03
Iron	25	10.0	92	50.0	62.8	63.6	0.07	+	14	0.89E+03	0.90E+03
Lead	25	2.0	28	<=D.L.	0.6	2.0	0.40	+	14	0.16E+02	0.39E+02
Manganese	25	10.0	64	10.0	31.6	35.2	0.27	+	14	0.14E+03	0.25E+03
Mercury	24	0.5	4	<=D.L.	0.0	0.4	0.24	+	13	0.22E+00	0.89E+01
Nickel	7	200.0	0	<=D.L.	3.4	32.0	I.D.	I.D.	5	I.D.	I.D.
Silver	14	2.0	0	<=D.L.	0.0	1.9	I.D.	I.D.	5	I.D.	I.D.
Zinc	25	20.0	48	<=D.L.	24.6	30.2	0.55	+	14	0.32E+03	0.37E+03

Table 5.--Water-quality trends (water years 1974 through 1981) at North Sylamore Creek near Fifty Six, Ark., 07060710

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 42 Drainage area (mi^2) 58

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	81	14.2	7.6	0.07	1.8	0.04	79	inv -	0.26	1.4	—	—	—
Conductivity (uS/cm)	78	270.0	29.5	0.00H	-1.1	0.52H	76	hyp -	0.03S	-0.9	—	—	—
Turbidity (JTU)	19	2.3	2.1	I.D.	I.D.	I.D.	19	—	I.D.	I.D.	—	—	—
pH(std units;transport as H)	78	8.0	0.2	0.00H	0.6	0.08S	76	hyp +	0.00H	0.5	0.11E+04	0.66	0.2
Alkalinity as CaCO3	67	134.2	18.0	0.00H	-2.2	0.50H	67	hyp -	0.01S	-1.9	0.97E+04	0.95	-0.1
Sulfate as SO4	77	6.0	2.2	0.16	2.8	0.01	75	inv +	0.06	4.0	0.48E+03	0.13	0.9
Chloride	77	2.3	1.3	0.49	-0.9	0.06S	75	lin +	0.23	-1.5	0.15E+03	0.58	0.4
Silica	77	7.5	1.7	0.10	0.8	0.11H	75	inv -	0.11	0.9	0.56E+03	0.37	0.5
Calcium	77	45.0	5.0	0.04S	-1.1	0.39H	75	hyp -	0.05	-1.0	0.32E+04	0.80	0.2
Magnesium	76	6.2	1.2	0.55	-0.8	0.54H	74	hyp -	0.72	0.2	0.38E+03	0.65	0.3
Sodium	76	1.6	0.7	0.13	-2.1	0.03	74	hyp -	0.10	-3.1	0.11E+03	1.00	-0.0
Potassium	77	0.8	0.2	0.47	-0.0	0.03	75	inv -	0.62	-0.2	0.64E+02	0.92	0.1
Dissolved solids	76	150.8	17.2	0.01H	-1.3	0.50H	74	hyp -	0.03S	-1.2	0.10E+05	1.00	-0.0
Suspended sediment	76	7.0	7.9	0.00H	-20.8	0.01	75	exp +	0.01H	-18.2	0.71E+03	0.05S	-15.3
Phosphorus, total as P	56	0.03	0.03	1.00	0.0	0.03	54	exp +	0.81	-0.3	0.23E+01	0.93	6.4
Nitrate-nitrite, total as N	77	0.07	0.10	0.03S	-16.7	0.06	75	exp +	0.01S	-17.7	0.70E+01	0.74	2.5
Ammonia, total as N	11	0.05	0.05	I.D.	I.D.	I.D.	9	—	I.D.	I.D.	I.D.	I.D.	I.D.
Organic carbon, total as C	14	4.7	6.2	I.D.	I.D.	I.D.	12	—	I.D.	I.D.	I.D.	I.D.	I.D.
Dissolved oxygen	78	10.1	1.9	0.12	1.3	0.03	76	inv +	0.08	1.1	0.82E+03	0.88	0.0
Fecal coliform (col/100 mL)	49	43.0	77.0	0.37	6.5	0.16S	49	exp -	0.49	5.5	0.51E+11c	0.28	18.9
Fecal strep. (col/100 mL)	38	130.0	203.0	0.80	-6.1	0.17S	37	exp -	0.70	-5.0	0.22E+12c	0.79	-4.2
Phytoplankton (cells/mL)	2	97.0	64.0	I.D.	I.D.	I.D.	2	—	I.D.	I.D.	I.D.	I.D.	I.D.

Metals (total) (sampled biannually)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	11	1.0	36	<=D.L.	0.4	1.0	0.71	+	11	0.82E-01	0.13E+00
Barium	11	100.0	18	<=D.L.	63.6	145.5	1.00	+	11	0.15E+01	0.14E+02
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	12	20.0	0	<=D.L.	0.2*	13.8	N.D.	N.D.	12	0.92E-03	0.18E+01
Chromium	12	20.0	0	<=D.L.	1.7	18.3	N.D.	N.D.	12	0.63E-01	0.25D+01
Copper	12	20.0	0	<=D.L.	1.9*	12.1	N.D.	N.D.	12	0.16E+00	0.11E+01
Iron	12	10.0	83	40.0	50.8	52.5	0.89	-	12	0.10E+02	0.10E+02
Lead	12	200.0	0	<=D.L.	2.0*	118.7	N.D.	N.D.	12	0.38E+00	0.93E+01
Manganese	12	10.0	75	20.0	20.8	23.3	0.78	-	12	0.18E+01	0.22E+01
Mercury	11	0.5	0	<=D.L.	0.0	0.3*	N.D.	N.D.	11	0.31E-03	0.32E-01
Nickel	0	200.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Silver	11	20.0	0	<=D.L.	0.0	20.0	N.D.	N.D.	11	0.00E+00	0.26E+01
Zinc	12	20.0	66	20.0	22.5	27.5	0.68	+	12	0.19E+01	0.27E+01

Metals (dissolved) (sampled biannually)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	5	1.0	20	<=D.L.	0.2	1.0	I.D.	I.D.	5	I.D.	I.D.
Barium	4	100.0	0	<=D.L.	0.0	100.0	I.D.	I.D.	4	I.D.	I.D.
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	5	2.0	20	<=D.L.	0.6	1.6	I.D.	I.D.	5	I.D.	I.D.
Chromium	5	20.0	0	<=D.L.	0.0	12.4	I.D.	I.D.	5	I.D.	I.D.
Copper	5	20.0	0	<=D.L.	8.0	8.4	I.D.	I.D.	5	I.D.	I.D.
Iron	5	10.0	0	<=D.L.	0.0	10.0	I.D.	I.D.	5	I.D.	I.D.
Lead	5	2.0	60	10.0	13.8	14.6	I.D.	I.D.	5	I.D.	I.D.
Manganese	5	10.0	0	<=D.L.	0.0	10.0	I.D.	I.D.	5	I.D.	I.D.
Mercury	5	0.5	0	<=D.L.	0.0	0.5	I.D.	I.D.	5	I.D.	I.D.
Nickel	0	200.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Silver	4	2.0	0	<=D.L.	0.0	2.0	I.D.	I.D.	4	I.D.	I.D.
Zinc	5	20.0	0	<=D.L.	7.0	11.0	I.D.	I.D.	5	I.D.	I.D.

Table 6.--Water-quality trends (water years 1974 through 1981) at White River at Clarendon, Ark., 07077800

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 33190 Drainage area (mi^2) 25555

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	68	16.8	8.6	0.73	-0.0	0.03	47	hyp -	0.29	-2.0	—	—	—
Conductivity (uS/cm)	69	236.1	43.9	0.87	-0.2	0.41H	48	hyp -	0.09	-1.1	—	—	—
Turbidity (JTU)	33	36.7	23.6	0.44	23.2	0.08	30	exp +	0.71	6.2	—	—	—
pH(std units;transport as H)	68	7.8	0.3	0.00H	0.6	0.05	48	lin -	0.19	0.4	0.16E-02	0.09	-17.6
Alkalinity as CaCO3	61	107.5	25.5	0.03S	-3.4	0.41H	42	hyp -	0.03S	-4.0	0.70E+07	0.30	-12.9
Sulfate as SO4	69	7.1	2.5	0.14	3.6	0.01	48	inv +	0.35	2.8	0.47E+06	0.45	-6.8
Chloride	68	4.9	1.7	0.11	2.3	0.07	47	lin -	0.15	2.4	0.33E+06	0.15	-7.8
Silica	68	5.7	1.3	0.61	1.1	0.07	47	lin -	1.00	0.0	0.39E+06	0.15	-10.5
Calcium	69	27.6	5.5	0.21	-1.1	0.37H	48	hyp -	0.06	-2.9	0.18E+07	0.09	-15.8
Magnesium	69	11.1	2.3	0.45	0.0	0.36H	48	hyp -	0.57	-1.3	0.72E+06	0.06	-14.1
Sodium	68	3.8	1.3	0.28	2.4	0.03	47	lin -	0.04S	5.2	0.27E+06	0.21	-8.6
Potassium	69	1.6	0.4	0.35	0.0	0.02	48	inv +	0.85	0.0	0.11E+06	0.35	-7.3
Dissolved solids	68	127.5	24.6	0.69	-0.3	0.38H	48	hyp -	0.04S	-2.3	0.84E+07	0.06	-14.2
Suspended sediment	62	87.5	69.5	0.64	1.9	0.02	44	exp -	0.23	5.8	0.63E+07	0.23	10.5
Phosphorus, total as P	68	0.1	0.04	0.30	2.6	0.05	47	exp -	0.92	-1.2	0.74E+04	0.92	1.8
Nitrate-nitrite, total as N	69	0.1	0.12	0.21	5.2	0.01	47	exp +	0.71	3.5	0.16E+05	0.92	-2.1
Ammonia, total as N	35	0.0	0.03	0.00H	33.6	I.D.	18	—	I.D.	I.D.	0.42E+04	I.D.	I.D.
Organic carbon, total as C	34	5.3	2.3	0.43	4.0	I.D.	22	—	I.D.	I.D.	0.41E+06	I.D.	I.D.
Dissolved oxygen	67	8.7	1.6	0.73	-0.3	0.02	46	hyp -	0.17	1.1	0.58E+06	0.32	-8.4
Fecal coliform (col/100 mL)	41	87.0	147.0	0.10	44.1	I.D.	22	—	I.D.	I.D.	0.79E+14c	I.D.	I.D.
Fecal strep. (col/100 mL)	32	437.0	694.0	0.29	-32.0	I.D.	14	—	I.D.	I.D.	I.D.	I.D.	I.D.
Phytoplankton (cells/mL)	48	284.0	6989.0	0.05S	20.0	0.06	37	exp -	0.07	14.4	0.24E+18c	1.00	3.9

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	27	1.0	85	1.0	1.2	1.4	0.41	-	18	0.13E+03	0.13E+03
Barium	17	100.0	58	100.0	108.8	150.0	0.63	+	8	0.18E+05	0.18E+05
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	27	20.0	0	<=D.L.	0.9	15.3	N.D.	N.D.	18	0.28E+00	0.17E+04
Chromium	27	20.0	7	<=D.L.	3.0	18.5*	0.86	-	18	0.56E+02	0.17E+04*
Copper	27	20.0	25	<=D.L.	11.2	17.1	0.83	+	18	0.71E+03	0.15E+04
Iron	27	10.0	100	1400.0	1964.8	1964.8	0.53	-	18	0.21E+06	0.21E+06
Lead	27	200.0	0	<=D.L.	10.5	99.4	N.D.	N.D.	18	0.25E+03	0.14E+05
Manganese	27	10.0	100	130.0	145.2	145.2	0.47	-	18	0.12E+05	0.12E+05
Mercury	27	0.5	0	<=D.L.	0.0*	0.4*	N.D.	N.D.	18	0.28E+00*	0.42E+02*
Nickel	8	200.0	0	<=D.L.	5.0	5.0*	I.D.	I.D.	6	0.30E+03	0.30E+03*
Silver	17	20.0	0	<=D.L.	0.1	16.8	N.D.	N.D.	8	0.49E+02	0.11E+04
Zinc	25	20.0	88	30.0	45.7	46.5	0.58	-	17	0.54E+04	0.54E+04

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	28	1.0	67	1.0	0.7	1.0	0.59	+	19	0.52E+02	0.86E+02
Barium	17	100.0	17	<=D.L.	41.2	123.5	0.81	-	8	0.82E+04	0.11E+05
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	28	2.0	7	<=D.L.	0.1	1.7	0.86	+	19	0.49E-01	0.16E+03
Chromium	28	20.0	0	<=D.L.	0.4	19.6	N.D.	N.D.	19	0.12E+00	0.17E+04
Copper	28	20.0	0	<=D.L.	4.5	5.4	N.D.	N.D.	19	0.52E+03	0.71E+03
Iron	28	10.0	82	30.0	48.6	50.4	0.07	+	19	0.47E+04	0.48E+04
Lead	28	2.0	17	<=D.L.	0.5	2.1	0.47	+	19	0.40E+02	0.17E+03
Manganese	28	10.0	35	<=D.L.	10.0	16.4	0.85	+	19	0.97E+03	0.14E+04
Mercury	28	0.5	3	<=D.L.	0.0	0.4	0.21	-	19	0.81E+01	0.43E+02
Nickel	8	200.0	0	<=D.L.	0.6	125.8	I.D.	I.D.	6	0.73E+01	0.15E+05
Silver	17	2.0	0	<=D.L.	0.0	2.0	N.D.	N.D.	8	0.00E+00	0.17E+03
Zinc	27	20.0	29	<=D.L.	17.0	24.4	0.75	+	19	0.14E+04	0.25E+04

Table 7.--Water-quality trends (water years 1974 through 1981) at Arkansas River at Dam No. 13, near Van Buren, Ark., 07250550

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, exp = exponential]

Mean discharge (ft^3/s) 33568 Drainage area (mi^2) 150547

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	71	16.9	9.5	0.09	3.0	0.03	64	lin -	0.90	-0.1	--	--	--
Conductivity (uS/cm)	70	653.6	202.3	0.00H	7.2	0.04	63	lin -	0.09	5.6	--	--	--
Turbidity (JTU)	31	25.3	11.8	0.59	-10.6	0.10	31	exp +	0.60	6.5	--	--	--
pH(std units;transport as H)	70	7.8	0.4	0.00H	0.9	0.05	63	hyp -	0.03S	0.7	0.20E-02	0.00H	-41.3
Alkalinity as CaCO3	59	92.8	15.5	0.78	-1.1	0.02	58	hyp -	0.89	-0.6	0.65E+07	0.04S	-15.4
Sulfate as SO4	69	47.3	12.6	0.00H	6.8	0.01	62	lin -	0.01H	6.7	0.29E+07	0.22	-8.2
Chloride	69	117.6	49.8	0.00H	9.6	0.03	62	lin -	0.02S	8.8	0.72E+07	0.48	-5.2
Silica	69	3.6	2.2	0.01S	-10.5	0.30H	62	hyp +	0.27	-5.6	0.42E+06	0.02S	-10.4
Calcium	69	39.0	7.4	0.57	1.0	0.00	62	hyp -	0.65	0.8	0.25E+07	0.16	-16.5
Magnesium	69	9.0	2.0	0.12	2.9	0.02	62	hyp -	0.48	2.2	0.56E+06	0.14	-13.0
Sodium	68	76.3	32.5	0.00H	9.2	0.02	61	lin -	0.01S	9.3	0.47E+07	0.42	-5.3
Potassium	69	3.9	0.8	0.00H	4.5	0.06S	62	lin -	0.01H	3.4	0.23E+06	0.27	-13.5
Dissolved solids	68	351.6	106.0	0.00H	6.9	0.02	61	lin -	0.02S	6.7	0.22E+08	0.23	-7.8
Suspended sediment	63	36.6	21.4	0.80	-0.6	0.23H	57	exp +	0.20	3.7	0.29E+07	0.20	-14.4
Phosphorus, total as P	69	0.11	0.04	0.82	0.0	0.22H	62	exp +	0.18	2.5	0.74E+04	0.04S	-22.4
Nitrate-nitrite, total as N	69	0.32	0.20	0.03S	-9.5	0.39H	62	exp +	0.23	6.8	0.31E+05	0.01S	-28.7
Ammonia, total as N	40	0.08	0.05	0.03S	28.2	0.02	31	exp +	0.24	28.8	0.38E+04	0.63	-11.3
Organic carbon, total as C	36	7.1	3.5	0.28	5.4	0.00	33	exp -	0.36	5.4	0.44E+06	0.03S	-30.4
Dissolved oxygen	67	9.5	2.0	0.42	0.8	0.04	61	hyp +	0.44	0.3	0.61E+06	0 07	-15.9
Fecal coliform (col/100 mL)	44	837.0	1270.0	0.00H	-119.3	0.09	39	exp +	0.00H	-114.7	0.16E+16c	0.00H	-152.9
Fecal strep. (col/100 mL)	31	260.0	595.0	0.06	-68.1	0.22	25	exp +	0.36	-42.5	0.33E+15c	0.07	-68.0
Phytoplankton (cells/mL)	50	11105.0	17771.0	0.00H	29.0	0.32H	48	exp -	0.11	9.0	0.40E+18c	1.00	7.1

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	25	1.0	92	2.0	1.6*	1.7*	0.18	-	22	0.16E+03	0.16E+03
Barium	14	100.0	71	100.0	135.7	164.3	I.D.	I.D.	11	0.13E+05	0.18E+05
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	20.0	3	<=D.L.	0.8	15.1	1.00	+	23	0.57E+02	0.16E+04
Chromium	26	20.0	7	<=D.L.	2.3	19.2*	0.45	+	23	0.12E+03	0.19E+04
Copper	26	20.0	38	<=D.L.	14.2	19.6	0.12	-	23	0.12E+04	0.19E+04
Iron	26	10.0	100	710.0	890.0	890.0	0.10	-	23	0.16E+06	0.16E+06
Lead	26	200.0	3	<=D.L.	17.6	117.6	1.00	+	23	0.35E+03	0.12E+05
Manganese	26	10.0	96	70.0	78.1	78.5	0.60	-	23	0.84E+04	0.85E+04
Mercury	24	0.5	0	<=D.L.	0.0	0.3*	N.D.	N.D.	21	0.26E+01	0.29E+02*
Nickel	8	200.0	0	<=D.L.	5.1	5.1*	I.D.	I.D.	5	I.D.	I.D.
Silver	14	20.0	0	<=D.L.	0.0	20.0	I.D.	I.D.	12	0.00E+00	0.19E+04
Zinc	26	20.0	84	20.0	64.6	66.9	0.86	-	23	0.38E+04	0.39E+04

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	26	1.0	84	1.0	1.8	1.9	0.85	-	23	0.11E+03	0.12E+03
Barium	14	100.0	50	<=D.L.	71.4	121.4	I.D.	I.D.	11	0.82E+03	0.90E+04
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	2.0	7	<=D.L.	0.2	1.8	0.86	+	23	0.57E+02	0.19E+03
Chromium	26	20.0	0	<=D.L.	0.4	19.6	N.D.	N.D.	23	0.40E+01	0.19E+04
Copper	26	20.0	0	<=D.L.	4.7	7.0	N.D.	N.D.	23	0.46E+03	0.78E+03
Iron	26	10.0	80	20.0	36.9	38.8	0.25	-	23	0.28E+04	0.28E+04
Lead	26	2.0	30	<=D.L.	0.9	2.3	0.18	+	23	0.43E+01	0.19E+03
Manganese	26	10.0	26	<=D.L.	6.2	13.5	0.25	+	23	0.35E+03	0.84E+03
Mercury	26	0.5	0	<=D.L.	0.0	0.4	N.D.	N.D.	23	0.85E+00	0.39E+02
Nickel	8	200.0	0	<=D.L.	1.8	76.8	I.D.	I.D.	5	I.D.	I.D.
Silver	14	2.0	0	<=D.L.	0.0	2.0	I.D.	I.D.	11	0.00E+00	0.19E+03
Zinc	26	20.0	34	<=D.L.	14.2	21.1	1.00	-	23	0.15E+04	0.20E+04

Table 8.—Water-quality trends (water years 1974 through 1981) at Arkansas River at David D. Terry Lock and Dam below Little Rock, Ark., 07263620

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 42210 Drainage area (mi^2) 158288

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	74	17.6	9.2	0.54	0.0	0.01	70	lin -	0.36	-1.3	—	—	—
Conductivity (uS/cm)	75	536.3	192.5	0.02S	4.1	0.06S	72	hyp -	0.19	2.8	—	—	—
Turbidity (JTU)	38	22.1	16.9	0.79	-9.6	0.46H	38	exp +	0.42	19.1	—	—	—
pH(std units;transport as H)	75	7.8	0.3	0.01S	0.4	0.03	72	inv -	0.22	0.4	0.18E-02	0.01H	-25.6
Alkalinity as CaCO3	66	80.0	20.7	1.00	0.0	0.14H	66	log -	0.28	-2.9	0.66E+07	0.04S	-5.7
Sulfate as SO4	75	38.9	12.1	0.04S	3.9	0.05S	72	hyp -	0.08	2.8	0.30E+07	0.08	-5.3
Chloride	75	92.8	47.5	0.00H	6.7	0.06S	72	lin -	0.04S	6.4	0.69E+07	0.19	-4.4
Silica	74	3.5	2.2	0.33	-2.8	0.27H	71	log +	0.96	-0.3	0.49E+06	0.02S	-4.3
Calcium	74	32.6	8.6	0.96	0.0	0.07S	71	hyp -	0.33	-1.3	0.25E+07	0.02S	-6.7
Magnesium	75	7.6	2.1	0.84	0.4	0.08S	72	hyp -	1.00	-0.1	0.58E+06	0.02S	-6.9
Sodium	75	60.7	28.8	0.00H	6.6	0.05	72	lin -	0.02S	6.6	0.45E+07	0.22	-4.2
Potassium	74	3.4	0.9	0.00H	3.7	0.16H	71	hyp -	0.05	2.6	0.25E+06	0.05	-5.1
Dissolved solids	74	288.0	106.0	0.02S	3.8	0.06S	71	hyp -	0.11	1.8	0.22E+08	0.05	-4.9
Suspended sediment	69	48.2	85.3	0.35	-6.1	0.52H	67	exp +	0.65	1.8	0.59E+07	0.14	-23.0
Phosphorus, total as P	74	0.11	0.04	0.18	2.6	0.02	71	exp -	0.63	0.7	0.86E+04	0.12	-18.6
Nitrate-nitrite, total as N	74	0.28	0.19	0.57	-0.9	0.27H	70	exp +	0.12	8.7	0.40E+05	0.09	-15.8
Ammonia, total as N	40	0.11	0.09	0.02S	28.3	0.25H	38	exp -	0.12	17.5	0.51E+04	0.44	-14.7
Organic carbon, total as C	37	5.5	1.7	0.23	5.0	0.07	35	exp +	0.43	4.5	0.47E+06	0.29	-11.9
Dissolved oxygen	69	9.2	2.0	0.34	-0.5	0.00	66	inv +	1.00	-0.1	0.77E+06	0.04S	-4.8
Fecal coliform (col/100 mL)	48	1801.0	2902.0	0.00H	-56.6	0.10	46	exp +	0.04S	-40.9	0.20E+16c	0.21	-45.1
Fecal strep. (col/100 mL)	37	466.0	1615.0	0.00H	-81.3	0.23S	35	exp +	0.04S	-82.4	0.62E+15c	0.00H	-113.0
Phytoplankton (cells/mL)	55	14099.0	15318.0	0.39	11.1	0.37H	53	exp -	0.59	-2.9	0.63E+18c	0.49	-14.3

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	25	1.0	96	1.0	1.4	1.4	0.20	-	23	0.17E+03	0.17E+03
Barium	15	100.0	66	100.0	140.0	173.3	I.D.	I.D.	13	0.55E+04	0.13E+05
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	20.0	3	<=D.L.	6.4	18.4	1.00	-	24	0.58E+02	0.16E+04
Chromium	26	20.0	11	<=D.L.	3.8	19.2	0.75	-	24	0.30E+02	0.24E+04
Copper	26	20.0	42	<=D.L.	24.9	29.5	0.16	-	24	0.64E+04	0.66E+04
Iron	26	10.0	100	670.0	761.2	761.2	0.08	-	24	0.17E+06	0.17E+06
Lead	26	200.0	0	<=D.L.	8.7	93.3	N.D.	N.D.	24	0.64E+03	0.13E+05
Manganese	26	10.0	100	70.0	76.9	76.9	0.93	-	24	0.89E+04	0.89E+04
Mercury	25	0.5	0	<=D.L.	0.0	0.3*	N.D.	N.D.	23	0.33E+01	0.30E+02*
Nickel	8	200.0	0	<=D.L.	4.4	4.4*	I.D.	I.D.	6	0.29E+05	0.29E+05
Silver	16	20.0	0	<=D.L.	0.2	16.6	N.D.	N.D.	14	0.97E+02	0.19E+04
Zinc	26	20.0	80	30.0	25.0	28.1	0.42	-	24	0.41E+04	0.42E+04

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	27	1.0	74	1.0	0.9	1.1	0.24	-	25	0.11E+03	0.12E+03
Barium	16	100.0	18	<=D.L.	37.5	118.8	1.00	+	14	0.22E+04	0.12E+05
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	27	2.0	11	<=D.L.	3.1	4.6	0.26	+	25	0.17E+02	0.25E+03
Chromium	27	20.0	3	<=D.L.	1.1	19.0	0.21	-	25	0.20E+02	0.23E+04
Copper	27	20.0	0	<=D.L.	5.1	6.0	N.D.	N.D.	25	0.68E+03	0.69E+03
Iron	27	10.0	77	30.0	41.9	44.1	0.46	+	25	0.75E+04	0.76E+04
Lead	27	2.0	11	<=D.L.	0.3	2.0	1.00	+	25	0.65E+02	0.25E+03
Manganese	27	10.0	33	<=D.L.	8.9	15.6	0.65	-	25	0.84E+03	0.15E+04
Mercury	27	0.5	0	<=D.L.	0.0	0.4	N.D.	N.D.	25	0.16E-01	0.37E+02
Nickel	8	200.0	0	<=D.L.	2.1	77.3	I.D.	I.D.	6	0.44E+03	0.85E+04
Silver	16	2.0	0	<=D.L.	0.0	2.0	N.D.	N.D.	14	0.00E+00	0.24E+03
Zinc	27	20.0	22	<=D.L.	8.6	18.3	0.56	+	25	0.22E+04	0.33E+04

Table 9.--Water-quality trends (water years 1974 through 1981) at Mississippi River near Arkansas City, Ark., 07265450

[Table modified from Smith and Alexander, 1983a. 'a' denotes transport rates estimated as averages of monthly or quarterly sample data. Otherwise, daily flow frequency distributions are used in the estimation of transport rates. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, inv = inverse, exp = exponential]

Mean discharge (ft^3/s) 647082 Drainage area (mi^2) 1130600

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	73	16.7	8.9	0.05S	-1.5	0.13H	55	hyp -	0.22	-1.5	—	—	—
Conductivity (uS/cm)	73	388.4	65.0	0.53	0.5	0.47H	55	hyp -	0.17	-1.3	—	—	—
Turbidity (JTU)	35	65.6	45.6	0.53	7.7	0.21S	35	exp +	0.09	14.6	—	—	—
pH(std units;transport as H)	73	7.8	0.3	0.00H	0.6	0.02	55	inv -	0.02S	0.6	0.32E-01	0.01H	-15.9
Alkalinity as CaCO3	63	99.0	16.2	0.30	-0.7	0.31H	53	lin -	0.37	-0.8	0.14E+09	0.29	-2.8
Sulfate as SO4	73	54.8	13.2	0.67	0.4	0.54H	55	hyp -	0.22	-1.4	0.70E+08	0.07	-4.7
Chloride	73	20.5	7.1	0.92	-0.0	0.13H	55	hyp -	0.54	-2.3	0.28E+08	0.01S	-4.1
Silica	73	5.6	1.5	0.71	1.1	0.23H	55	inv +	0.22	3.1	0.93E+07	0.36	-5.1
Calcium	73	38.3	5.2	0.45	0.2	0.26H	55	hyp -	0.88	0.1	0.53E+08	0.36	-3.9
Magnesium	73	11.6	2.3	0.58	0.0	0.38H	55	hyp -	0.76	0.8	0.15E+08	0.12	-3.3
Sodium	73	19.5	6.5	0.63	-0.0	0.50H	55	hyp -	0.07	-4.6	0.24E+08	0.00H	-6.1
Potassium	73	3.0	0.5	0.66	0.0	0.30H	55	lin -	0.88	0.2	0.41E+07	0.65	-1.2
Dissolved solids	73	215.1	37.0	1.00	0.0	0.56H	55	hyp -	0.22	-0.5	0.29E+09	0.07	-3.4
Suspended sediment	70	168.0	99.7	0.32	2.8	0.34H	52	exp +	0.32	4.0	0.29E+09	0.87	-0.7
Phosphorus, total as P	74	0.22	0.09	0.50	-3.3	0.10	55	exp -	0.88	-0.7	0.32E+06	0.17	-5.9
Nitrate-nitrite, total as N	73	1.21	0.47	0.01H	6.8	0.36H	55	exp +	0.00H	9.9	0.20E+07	0.88	-1.5
Ammonia, total as N	40	0.07	0.06	0.71	2.6	I.D.	22	—	I.D.	I.D.	0.11E+06	I.D.	I.D.
Organic carbon, total as C	35	7.6	3.6	0.29	4.7	0.23	25	exp +	0.20	3.1	0.11E+08	1.00	-11.5
Dissolved oxygen	41	8.8	2.0	0.55	0.4	0.05	24	inv +	0.08	2.0	0.12E+08	0.18	-6.5
Fecal coliform (col/100 mL)	45	671.0	595.0	0.19	-14.5	0.07	29	exp -	0.23	-19.4	0.90E+16c	0.39	-14.1
Fecal strep. (col/100 mL)	33	266.0	321.0	0.08	-31.4	I.D.	17	—	I.D.	I.D.	0.83E+16c	I.D.	I.D.
Phytoplankton (cells/mL)	52	6498.0	5465.0	0.12	6.4	0.40H	42	exp -	0.92	6.4	a0.69E+19c	0.92	5.1

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	23	1.0	100	3.0	3.4	3.4	0.02S	-	16	0.67E+04	0.67E+04
Barium	14	100.0	78	200.0	142.9	164.3	I.D.	I.D.	7	0.29E+06	0.33E+06
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	20.0	3	<=D.L.	1.7	14.4	0.21	-	19	0.46E+04	0.26E+05
Chromium	26	20.0	11	<=D.L.	3.9	18.5*	1.00	+	19	0.77E+04	0.32E+05*
Copper	26	20.0	84	57.0	56.2	56.2	0.87	+	19	0.12E+06	0.12E+06
Iron	25	10.0	100	3800.0	4336.0	4336.0	0.05	-	18	0.78E+07	0.78E+07
Lead	26	200.0	0	<=D.L.	7.0	107.1	N.D.	N.D.	19	0.79E+04	0.24E+06
Manganese	26	10.0	100	220.0	243.8	243.8	0.11	-	19	0.42E+06	0.42E+06
Mercury	21	0.5	0	<=D.L.	0.0	0.3*	N.D.	N.D.	14	0.14E+02	0.67E+03*
Nickel	7	200.0	0	<=D.L.	8.1	8.1	I.D.	I.D.	4	I.D.	I.D.
Silver	15	20.0	0	<=D.L.	0.3	12.7	I.D.	I.D.	8	0.00E+00	0.27E+05
Zinc	26	20.0	96	50.0	63.5	64.2	0.49	-	19	0.12E+06	0.12E+06

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	26	1.0	92	1.0	1.3	1.3	0.92	-	19	0.21E+04	0.24E+04
Barium	14	100.0	28	<=D.L.	78.6	150.0	I.D.	I.D.	7	0.51E+05	0.17E+06
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	26	2.0	15	<=D.L.	1.0	2.5	0.48	-	19	0.29E+04	0.48E+04
Chromium	26	20.0	0	<=D.L.	0.8	19.2	N.D.	N.D.	19	0.29E+03	0.33E+05
Copper	26	20.0	11	<=D.L.	9.3	11.7	0.18	+	19	0.13E+05	0.17E+05
Iron	26	10.0	73	20.0	28.1	30.8	0.10	+	19	0.53E+05	0.55E+05
Lead	26	2.0	19	<=D.L.	0.5	2.1	0.05S	+	19	0.64E+03	0.34E+04
Manganese	26	10.0	26	<=D.L.	7.3	14.6	1.00	+	19	0.65E+04	0.19E+05
Mercury	26	0.5	0	<=D.L.	0.0	0.3	N.D.	N.D.	19	0.29E+01	0.69E+03
Nickel	7	200.0	0	<=D.L.	3.4	3.6	I.D.	I.D.	4	I.D.	I.D.
Silver	14	2.0	0	<=D.L.	0.0	1.9	I.D.	I.D.	7	0.00E+00	0.33E+04
Zinc	26	20.0	46	<=D.L.	26.8	35.2	0.30	+	19	0.26E+05	0.46E+05

Table 10.--Water-quality trends (water years 1974 through 1981) at Ouachita River at Camden, Ark., 07362000

[Table modified from Smith and Alexander, 1983a. 'c' denotes transport rates expressed as colonies per day (bacteria) or cells per day (phytoplankton). '*' denotes mean total metal concentration estimated as less than the corresponding mean dissolved metal concentrations. ft^3/s = cubic feet per second, mi^2 = square miles, N = number of observations, mg/L = milligrams per liter, ug/L = microgram per liter, p = significance level of trend test, %/yr = percent of mean per year, kg/day = kilograms per day, C = Celsius, uS/cm = microsiemens per centimeter at 25 degrees Celsius, JTU = Jackson turbidity unit, col = colonies, mL = milliliter, H = highly significant (p less than 0.01), S = significant (p less than 0.05), I.D. = insufficient data, N.D. = not detected. Equation types: lin = linear, hyperbolic, exp = exponential]

Mean discharge (ft^3/s) 8520 Drainage area (mi^2) 5357

Common quality constituents (sampled monthly)	Concentration N	Mean (mg/L)	Standard deviation	Trend p	Slope (%/yr)	Flow adjusted concentration Regression vs flow r squared	N	type/slope	Trend p	Slope (%/yr)	Transport Mean (kg/day)	Trend p	Slope (%/yr)
Temperature (degrees C)	74	16.8	8.2	0.84	-0.0	0.33H	61	hyp -	0.66	-1.4	—	—	—
Conductivity (uS/cm)	73	89.3	21.1	0.33	-1.3	0.34H	60	hyp -	0.41	-0.7	—	—	—
Turbidity (JTU)	32	17.1	10.2	0.51	-4.6	0.01	32	exp +	0.44	-6.1	—	—	—
pH(std units;transport as H)	73	7.1	0.3	0.12	0.7	0.00	60	hyp +	0.28	0.4	0.20E-02	0.28	-10.3
Alkalinity as CaCO3	63	15.4	3.4	0.05	-3.2	0.04	54	lin -	0.08	-3.2	0.27E+06	0.14	-3.8
Sulfate as SO4	73	9.9	3.9	0.38	2.4	0.07S	60	hyp -	0.02S	4.5	0.17E+06	0.66	2.3
Chloride	74	9.5	4.0	0.76	-0.6	0.25H	60	hyp -	0.18	-2.1	0.14E+06	0.75	-2.3
Silica	73	5.5	1.3	0.51	1.8	0.10S	60	hyp +	0.66	1.1	0.11E+06	0.75	-1.1
Calcium	73	7.9	1.6	0.33	-1.3	0.25H	60	hyp -	0.28	-1.4	0.13E+06	0.49	-1.7
Magnesium	73	1.5	0.3	0.06	-2.2	0.21H	60	hyp -	0.09	-2.0	0.25E+05	0.49	-1.8
Sodium	72	6.0	2.1	0.38	-1.1	0.15H	59	hyp -	0.30	-1.6	0.95E+05	0.70	-1.0
Potassium	73	1.6	0.4	0.80	0.0	0.04	60	hyp -	0.57	1.6	0.27E+05	1.00	0.0
Dissolved solids	72	51.9	9.9	0.96	0.0	0.24H	60	hyp -	0.41	0.6	0.87E+06	0.85	-1.4
Suspended sediment	56	91.8	250.1	0.55	6.8	0.01	49	exp -	1.00	-1.9	0.13E+07	1.00	-0.1
Phosphorus, total as P	73	0.06	0.05	0.11	6.4	0.03	59	exp +	0.65	1.8	0.11E+04	0.84	-1.5
Nitrate-nitrite, total as N	74	0.27	0.18	0.17	4.4	0.12S	60	exp +	0.18	5.9	0.55E+04	0.41	6.6
Ammonia, total as N	45	0.06	0.05	0.23	13.8	0.30H	31	exp +	0.36	19.5	0.14E+04	0.75	5.5
Organic carbon, total as C	41	5.1	2.2	0.01H	10.8	0.21S	32	exp +	0.15	7.9	0.11E+06	0.56	17.4
Dissolved oxygen	56	9.0	1.7	0.41	0.6	0.21H	43	hyp +	0.39	0.8	0.18E+06	0.92	1.5
Fecal coliform (col/100 mL)	42	119.0	227.0	1.00	6.1	0.21S	33	exp +	0.56	-10.8	0.59E+14c	0.77	28.2
Fecal strep. (col/100 mL)	29	370.0	1102.0	0.19	-63.7	I.D.	22	—	I.D.	I.D.	0.26E+14c	I.D.	I.D.
Phytoplankton (cells/mL)	50	1095.0	1705.0	0.48	8.5	0.06	40	exp -	0.51	12.0	0.15E+17c	1.00	-1.3

Metals (total) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	1	100.0	100	930.0	930.0	930.0	I.D.	I.D.	1	I.D.	I.D.
Arsenic	26	1.0	80	1.0	1.0	1.2	1.00	+	22	0.21E+02	0.29E+02
Barium	16	100.0	43	<=D.L.	68.8	125.0	1.00	+	11	0.21E+04	0.33E+04
Boron	1	20.0	100	110.0	110.0	110.0	I.D.	I.D.	1	I.D.	I.D.
Cadmium	26	20.0	0	<=D.L.	0.4*	13.2	N.D.	N.D.	21	0.12E+01*	0.33E+03
Chromium	26	20.0	11	<=D.L.	8.5	24.6	0.54	+	21	0.50E+02	0.51E+03
Copper	26	20.0	19	<=D.L.	9.4	16.3	0.10	-	21	0.45E+03	0.61E+03
Iron	26	10.0	100	1000.0	1421.9	1421.9	0.13	-	21	0.28E+05	0.28E+05
Lead	26	200.0	0	<=D.L.	10.7	95.3	N.D.	N.D.	21	0.48E+03	0.32E+04
Manganese	26	10.0	100	130.0	150.4	150.4	0.13	-	21	0.34E+04	0.34E+04
Mercury	25	0.5	0	<=D.L.	0.0*	0.3*	N.D.	N.D.	21	0.34E+00*	0.86E+01*
Nickel	8	200.0	0	<=D.L.	4.0	29.0*	I.D.	I.D.	6	0.17E+03	0.29E+03*
Silver	16	20.0	0	<=D.L.	0.2	17.8	N.D.	N.D.	11	0.26E+00	0.47E+03
Zinc	26	20.0	69	20.0	39.2	43.8	0.04S	-	21	0.54E+03	0.66E+03

Metals (dissolved) (sampled quarterly)	Concentration N	Detection limit value (ug/L)	Detection limit frequency exceeded (%)	Median (ug/L)	Range of mean min (ug/L)	Range of mean max (ug/L)	Trend p	Slope direction	Transport N	Range of mean min (kg/day)	Range of mean max (kg/day)
Aluminum	0	100.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Arsenic	26	1.0	38	<=D.L.	0.5	1.1	1.00	+	21	0.12E+01	0.23E+02
Barium	16	100.0	6	<=D.L.	12.5	106.3	0.37	-	11	0.00E+00	0.71E+03
Boron	0	20.0	0	I.D.	I.D.	I.D.	I.D.	I.D.	0	I.D.	I.D.
Cadmium	27	2.0	14	<=D.L.	0.4	1.9	1.00	+	22	0.33E+01	0.44E+02
Chromium	27	20.0	0	<=D.L.	1.1	18.9	N.D.	N.D.	22	0.57E+01	0.49E+03
Copper	27	20.0	3	<=D.L.	4.2	6.6	0.21	-	22	0.70E+02	0.12E+03
Iron	27	10.0	100	160.0	233.7	233.7	0.05S	+	22	0.56E+04	0.56E+04
Lead	27	2.0	37	<=D.L.	1.1	2.2	1.00	+	22	0.55E+01	0.46E+02
Manganese	27	10.0	96	80.0	74.8	75.2	0.57	-	22	0.12E+04	0.12E+04
Mercury	27	0.5	3	<=D.L.	0.1	0.4	0.21	+	22	0.16E+01	0.10E+02
Nickel	8	200.0	0	<=D.L.	1.5	76.5	I.D.	I.D.	6	0.34E+02	0.19E+04
Silver	16	2.0	0	<=D.L.	0.0	2.0	N.D.	N.D.	11	0.00E+00	0.46E+02
Zinc	27	20.0	25	<=D.L.	9.9	17.3	0.07	-	22	0.25E+03	0.41E+03

Wells and Schertz (1983) summarized daily temperature, conductance, streamflow and monthly dissolved solids data for water years 1972 through 1981 for 13 NASQAN stations in Arkansas. Daily dissolved oxygen and pH data were summarized for 2 of the 13 stations.

The ADPCE periodically publishes a water-quality inventory report (ADPCE, 1974; 1975; 1976; 1977; 1980; 1982; 1984; 1986a). These reports summarize annual water-quality data by water-quality planning segments or occasionally by station. The 1984 and 1986 reports include time trends for data collected during February, March, and April, and during July, August, and September calculated by linear regression of water quality and time. Much of the trend data is shown graphically. Mean, standard deviation, and maximum and minimum values also are reported. Properties summarized include temperature, dissolved oxygen, pH, dissolved chloride, dissolved sulfate, dissolved solids, total phosphorus, total nitrite plus nitrate, turbidity, several heavy metals, and fecal coliform bacteria. The 1980 report compares the 1969 through 1974 means with the 1975 through 1979 means of several properties at individual stations.

Finally, data summaries for two stations near the Arkansas border in Oklahoma (Arkansas River at Robert S. Kerr Lock and Dam near Sallisaw, Oklahoma, 07246400 and Kiamichi River near Big Cedar, Oklahoma, 07335700) are included in a report by Kurklin (1979).

DATA SUMMARIZED

The 33 summarized properties were selected based upon number of analyses available, environmental or water-use significance, and data variability. For example, despite the environmental significance of pesticides they were not summarized because of the relatively few number of analyses and because of their low variability (often undetectable concentrations). The water-quality properties summarized in this report previously have been assigned parameter code numbers for computer storage in the U.S. Environmental Protection Agency's STORET and the Geological Survey's WATSTORE computerized data bases. The properties (parameters), associated parameter codes, and water years summarized are listed in table 11.

Sample collection methods of the Geological Survey and the ADPCE differ. Most samples collected by the Geological Survey are cross-sectional samples collected by using the equal transit rate method (Guy and Norman, 1970). Stations immediately downstream from dams (sampled for the Corps of Engineers) were sampled by collecting a single sample at midstream. Two other stations (White River at Calico Rock and Black River at Black Rock) were sampled by collecting a single sample near the river bank. ADPCE collects samples from streams horizontally at midstream, and vertically at middepth or 5 feet, whichever is less (Arkansas Department of Pollution Control and Ecology, 1986b).

Values for two different methods for measuring alkalinity and for two measurements of streamflow were combined because of changes in analytical methods or changes in the actual properties measured during the study period.

Table 11.--List of properties, associated parameter codes, and water years included in statistical summaries

[USGS = U.S. Geological Survey, ADPCE = Arkansas Department of Pollution Control and Ecology, NASQAN = National Stream Quality Accounting Network, AGC = Arkansas Geological Commission, CE = U.S. Army Corps of Engineers]

Property	Parameter code	ADPCE station	USGS stations			
			NASQAN	Bench-Mark Network	AGC cooperative[a]	CE lakes
Discharge	00061 (or 00060)	Variable	1975-85	1975-85	1975-85	1975-85
Dissolved oxygen	00300	1975-85	do.	do.	do.	do.
pH	00400	1975-85	do.	do.	do.	do.
Specific conductance	00095	1975-80	do.	do.	do.	do.
Total alkalinity	00410 (or 90410)	1975-80	do.	1975-85	1975-85	1976-85
Total hardness	00900	1975-83	do.	1975-85	1975-85	1976-85
Dissolved calcium	00915	1975-77	do.	do.	do.	1978-84
Dissolved magnesium	00925	1975-77	do.	do.	do.	1978-84
Dissolved sodium	00930	--	do.	do.	do.	--
Dissolved potassium	00935	--	do.	do.	do.	--
Dissolved sulfate	00945	1975-85	do.	do.	do	1975-84
Dissolved chloride	00940	1975-85	do.	do.	do.	do.
Dissolved fluoride	00950	--	do.	do.	do	--
Dissolved silica	00955	--	do.	do.	1975-81	--
Dissolved solids (residue on evaporation at 180°C)	70300	1978, 1980-85	do.	do.	do.	--
Total phosphorus	00665	1975-85	do.	do.	1975-85	1975-85
Total nitrogen	00600	--	1975-82	1975-76	do.	do.
Total organic nitrogen	00605	--	1978-81	--	1980-85	do.
Total nitrite plus nitrate	00630	1978, 1981-85	1975-81	1975-82	1975-85	do.
Total ammonia	00610	1977-85	1978-81	1982	1980-85	do.
5-day biochemical oxygen demand	00310	1975-85	--	--	1975-85	do.
Fecal coliform bacteria (0.7 micron filter)	31625	--	1977-85	1977-85	1977-85	1977-85
Fecal coliform bacteria (0.45 micron filter)	31616	1975-85	1975-76	1975-76	1975-76	1975-76
Fecal streptococcal bacteria (KF agar)	31673	--	1978-85	1978-85	1978-85	--
Fecal streptococcal bacteria (m-enterococcus agar)	31679	1975-77	1975-77	1975-77	1975-76	--

Table 11.--List of properties, associated parameter codes, and water years included in statistical summaries--Continued

Property	Parameter code	ADPCE station	USGS stations NASQAN	Bench-Mark Network	AGC cooperative[a]	CE lakes
Turbidity (nephelometric)	00076	1981-85	1978-85	1983-85	1980-81	1978-85
Suspended sediment	80154	---	1975-85	1975-85	--	--
Total arsenic	01002	1975-77, 1979-82	1975-82	1975-82	1975, 1977-85	1975-82
Total recoverable cadmium	01027	1975-85	do.	do.	do.	--
Total recoverable chromium	01034	1975-85	do.	do.	do.	1975-82
Total recoverable copper	01042	1975-85	do.	do.	do.	do.
Total recoverable lead	01051	1975-81, 1984-85	[b]1979-82	[b] do.	[b]1979-85	[b] do.
Total recoverable zinc	01092	1975-85	1975-82	do.	1975, 1977-85	do.

[a] Among the different AGC cooperative network stations there is some variation from the time periods shown.

[b] USGS values for lead prior to water year 1979 are available in WATSTORE but were omitted from the statistical analyses in this report. Data for stations sampled by ADPCE and which are also part (table 1) of the USGS networks shown above included lead values from both agencies. All lead values prior to water year 1979 were omitted for these jointly sampled stations.

Values of laboratory-measured total alkalinity (parameter code 90410) and field-measured total alkalinity (00410) were considered to be equivalent. When mean daily discharge (00060) values were available and instantaneous discharge (00061) values were unavailable, the mean daily values were substituted for the missing instantaneous discharge values.

The Geological Survey and ADPCE currently use different methods for analysis of both fecal coliform and fecal streptococcal bacteria. These results are stored in WATSTORE using different parameter codes. The codes and a brief description of the differences in methods are listed below:

31616 (fecal coliform bacteria) - 0.45 micrometer pore-diameter filter
31625 (fecal coliform bacteria) - 0.7 micrometer pore-diameter filter
31679 (fecal streptococcal bacteria) - m-enterococcus agar
31673 (fecal streptococcal bacteria) - KF agar.

Fecal coliform bacteria counts using the 0.7 micrometer filter are much higher than counts using the 0.45 micrometer filter (G.E. Mallard, U.S. Geological Survey, oral commun., 1985). Because counts resulting from the two fecal coliform methods are not comparable and because the fecal streptococcal counts may not be comparable, data were not combined.

The discharge data summarized in the tables are for instantaneous or mean daily measurements that correspond to a water-quality sample. Therefore, these measurements rarely, if ever, include measurements of the actual maximum or minimum discharges. For several stations, statistical summaries (monthly and annual) of continuously measured discharge are available in the U.S. Geological Survey's annual Water-Data Reports (U.S. Geological Survey, 1976; 1977; 1978; 1979; 1980; 1981; 1982; Lamb and others, 1983; 1984; 1985; 1986).

At four stations that are part of a network of sediment study stations operated for the U.S. Army Corps of Engineers in the St. Francis River basin (table 1), main-channel and overbank water often was sampled separately. Discharge and water-quality data for associated main-channel and overbank samples were not combined into single values.

At most stations, dissolved oxygen measurements have been made during daylight hours only, as part of routine sampling schedules. However, data included for some stations in this report are nighttime measurements made during more intensive studies. Nighttime dissolved oxygen concentrations are typically lower than daytime concentrations. Stations for which nighttime dissolved oxygen concentration data (Bryant and others, 1979; Terry and others, 1983; Terry and others, 1984; Petersen and Morris, 1984) were included are:

L'Anguille River near Colt (07047942),
L'Anguille River at Marianna (07047964),
White River near Goshen (07048700),
Osage Creek near Elm Springs (07195000),
Illinois River at Savoy (07194800),
Illinois River south of Siloam Springs (07195430)
Ouachita River at Camden (07362000),
Smackover Creek north of Smackover (07362110),
Ouachita River at Lock and Dam 8, near Calion (07362400), and
Ouachita River near Felsenthal (07364080).

At several U.S. Geological Survey stations during 1985, water samples were collected nearly simultaneously at numerous cross-section locations at each station. Values for pH, dissolved oxygen concentration, specific conductance, and suspended-sediment concentrations associated with these cross-section samples were determined and are stored in WATSTORE. These values were not included in the statistical analyses for this report.

CALCULATION AND REPORTING OF DESCRIPTIVE AND REGRESSION STATISTICS

Statistical terms used in this report are defined as follows:
Minimum is the observation of smallest value in a group of observations.

Twenty-fifth percentile is that value in a group of observations below which 25 percent of the total number of observations occur.

Median is the value of the middle observation of an uneven number of ordered observations or the mean of the two middle observations when there is an even number of observations. It is also the fiftieth percentile.

Mean is the sum of the values of individual observations divided by the total number of observations in the group.

Seventy-fifth percentile is that value in a group of observations below which 75 percent of the total number of observations occur.

Maximum is the observation of largest value in a group of observations.

Standard deviation is the square root of the sum of the squares of deviations from the mean of all observations in a group divided by the number of all observations minus one. It is expressed mathematically as

$$s=\sqrt{\frac{\sum_{i=1}^{n}(x_i-\bar{x})^2}{n-1}}$$

where s is the standard deviation, x_i is the ith value of x, $\bar{x}$ is the mean value of x, and n is the total number of observations.

A regression equation is an equation defining the relation between a dependent and an independent variable. For a linear relation, the equation takes the following form:

$$Y = bX + a$$

where Y and X are values of the dependent and independent variables, respectively. The coefficient "b" is the slope of the line, and the constant "a" is the Y-axis intercept.

The coefficient of determination is the proportion of variation in the independent variable (Y) explained by a sample regression curve (Iman and Conover, 1983, p. 356). The equation for the coefficient is:

$$r^2 = 1 - \frac{\Sigma(Yi-\hat{Y}i)^2}{\Sigma(Yi-\overline{Y})^2}$$

where Yi is the ith observation of Y, $\hat{Y}i$ is the point estimate of Yi from the sample regression curve, and $\overline{Y}$ is the mean of all Yi's. A perfect relation has a value of 1.0. A completely imperfect relation has a value of 0.0.

Standard error of estimate, as it is used in this report, is a measurement of the variation about the line of regression. It is, in actuality, the standard deviation about the regression line.

Residual is the difference between the actual value of the dependent variable and the dependent variable value predicted by the regression equation.

The UNIVARIATE and REG procedures of the Statistical Analysis System[1] (SAS Institute, 1982a and 1982b) were used for calculation of the descriptive statistics and regression equations. The Statistical Analysis System (SAS) also was used to compile the summary statistic tables and tabulate most of the results of the descriptive statistic and regression procedures.

Data sets summarized in this report frequently contained a substantial number of values below analytical detection limits and which therefore were reported as "less than" some number, the number being the analytical detection limit. These data are often referred to as "censored" data. This necessitated using some method for estimation of the mean and standard deviations of data sets containing censored data. Several methods have been compared (Gilliom and Helsel, 1984; Helsel and Gilliom, 1985; Gilliom and Helsel, 1986). These authors reported that the best of the methods evaluated for the estimation of mean and standard deviation assumes that censored data follow the zero-to-detection limit part of a log-normal distribution fit to observations above the detection limit by least-squares regression. A procedure using this method (termed PROC LESS) for estimating means and standard deviations has been developed by the U.S. Geological Survey. The procedure, which is compatible with SAS, was used for this report. Because of the uncertainty involved with estimating means and standard deviations when censored values compose greater than about 80 percent of the total values estimated, mean and standard deviation are not reported when greater than 75 percent of data are censored.

PROC LESS can be used for estimating of values of descriptive statistics. but not to estimate values of individual censored data. Therefore, for calculation of regression equations, all values below detection limits were arbitrarily set equal to one-half the detection limit.

---

[1] Use of a firm name in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Values of several of the summarized properties have been reported in the published literature as zero. For many properties, detection limits have changed during the period 1975 through 1985. To make the data for a station more uniform and because it is required for PROC LESS, the greatest detection limit for each property was determined and used. All values less than this detection limit (DL) were changed to <DL (less than DL). For example, if detection limits of 1 and 2 were used during the period of summary, values of 0,<1, and 1, were changed to <2. These properties and detection limits are shown in table 12.

Censored values also can be reported for bacteria analyses but, because the detection limit is dependent on the volume of sample filtered, the number of detection limits can be relatively large. Therefore, bacteria values reported as less than some number were arbitrarily multipled by 0.5 and treated as uncensored for the statistical analysis. PROC LESS was not used for analyzing bacteria data. Bacteria count values also can be reported as "greater than" or "non-ideal plate count." Values qualified by these two remarks were set equal to the unremarked value for calculation of all statistics.

In the summary tables, the minimum, median, maximum, and quartiles may be shown as less than some number. This can be used to approximate the number of censored values in the data set. For example if the minimum and 25th percentile values are reported as "<" some number, then between 25 and 50 percent of the data were censored or were detected values less than the greatest detection limit used during the summary period.

Regression equations that are not significant at the 95 percent confidence level (F test) are noted in the summary tables. This notation indicates that there is less than 95 percent probability that the slope of the equation is not zero.

Analysis of regression equations also included testing for normality of residuals using plots of residuals versus predicted concentrations. All equations that yielded plots of residuals that were judged to indicate non-constant variances (were excessively heteroscedastic) (fig. 2) are noted (with ***) in the tables.

The lack of constant variance indicates that the regression equation does not fit actual data equally well throughout the range of data; a non-linear equation may have fit the data better. For example, the equation may underestimate concentrations at low conductance values and overestimate concentrations at high conductance values. However, the equation may still be a useful model of the concentration-conductance relation.

FORMAT OF STATISTICAL SUMMARY TABLES

For each selected station, a two-part table summarizes water-quality data (tables 13-128, pages 44-185). The first part of each table contains descriptive statistics (number of observations, minimum, 25th percentile, median, mean, 75th percentile, maximum, and standard deviation). The second

Table 12.--Values assigned as greatest detection limits used by Arkansas Department of Pollution Control and Ecology and U.S. Geological Survey laboratories between water years 1975 and 1985

[Actual detection limits are not known to exceed values shown; Values are milligrams per liter except for turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc micrograms per liter)]

Property	Assigned greatest detection limit	
	Arkansas Department of Pollution Control and Ecology	U.S. Geological Survey
Dissolved sulfate	1.0	5.0
Dissolved fluoride	—	.10
Total phosphorus	.01	.01
Total nitrogen	—	.10
Total organic nitrogen	--	.10
Total nitrite + nitrate	.05	.10
Total ammonia	.10	.01
Turbidity	1	1
Total arsenic	10	1
Total recoverable cadmium	20	20
Total recoverable chromium	20	20
Total recoverable copper	20	20
Total recoverable lead	20	[a] 2
Total recoverable zinc	20	20

[a] A detection limit of 100 micrograms per liter was used by the Geological Survey during all or parts of water years 1975 through 1978. Because of the large improvement in detection limits, all Geological Survey values for lead prior to water year 1979 were omitted from the statistical analyses in this report.

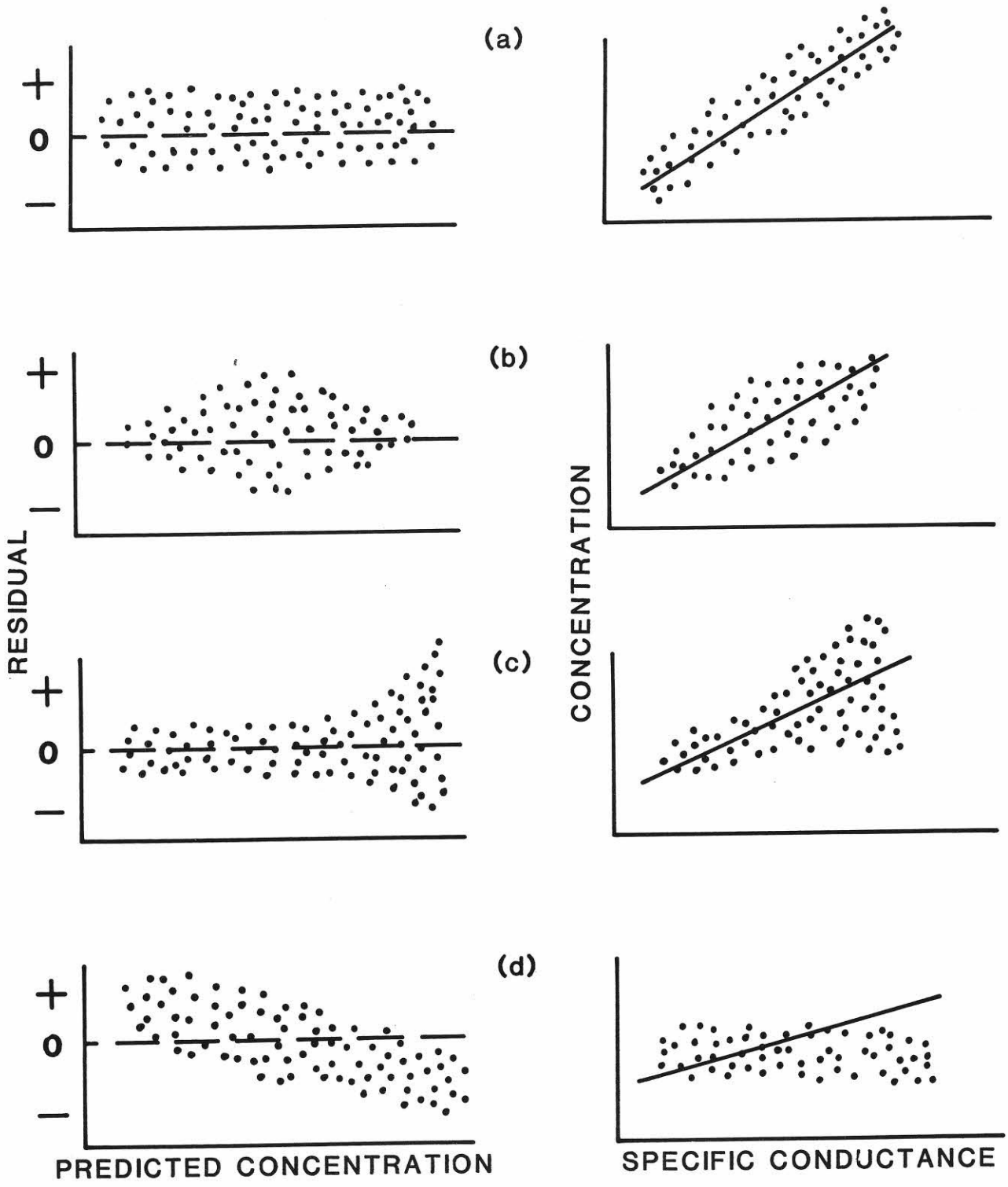


Figure 2.--Example residual plots illustrating equal and unequal distribution residuals and corresponding regression plots. Desirable plots are shown in (a); undesirable plots are shown in (b)-(d).

part is a series of linear regression equations having specific conductance as the independent variable and several common ions and total alkalinity as the dependent variables.

AREAL WATER-QUALITY CHARACTERISTICS

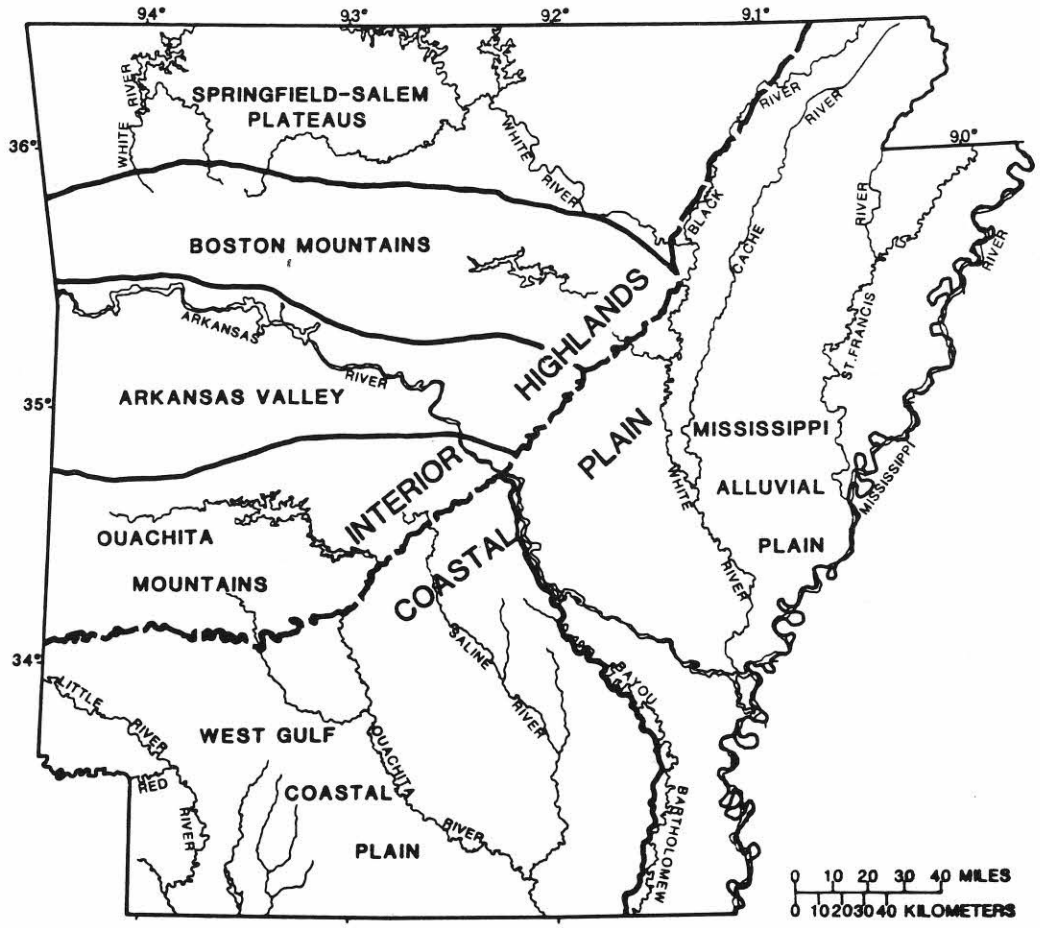
Characteristic areal differences exist in many water-quality properties. Many of these properties are influenced by geologic and land use differences which are related to physiography. Arkansas contains six physiographic sections in two physiographic provinces (fig. 3): the Mississippi Alluvial Plain and the West Gulf Coastal Plain in the Coastal Plain Province; and the Springfield-Salem Plateaus, the Boston Mountains, Arkansas Valley, and Ouachita Mountains in the Interior Highlands Province (Fenneman, 1938).

The six physiographic-section boundaries are nearly identical to boundaries of six ecoregions defined in Arkansas (Giese and others, 1987). These ecoregions are defined by topography, soil type, potential natural vegetation and land use. Water quality of least-disturbed streams in each of these ecoregions is documented by the Arkansas Department of Pollution Control and Ecology (Bennett and others,1987; Giese and others, 1987).

The quality of three of the largest rivers in Arkansas is affected substantially by influences outside Arkansas and also outside the six physiographic sections. The dissolved constituents in water from the Arkansas and Red Rivers are substantially affected by factors such as naturally occurring brine deposits, oilfield brines, and irrigation return flows in Colorado, New Mexico, Kansas, Oklahoma, and Texas. The Mississippi River, affected by innumerable tributaries in the central United States, also is not representative of any of the physiographic sections in Arkansas.

Typical Water Quality

Typical water quality of the six physiographic sections and the three large rivers not representative of the six sections is summarized in table 129 (page 186). Median value ranges of the 116 water-quality stations are used to characterize "typical" water quality of each of the sections and rivers. These values may not always be typical of the smaller streams in a physiographic section because the stations generally are located on the moderate to larger streams in a section. Median values that substantially deviate from other median values in a section or river were not used to characterize the typical water quality. The most reliable characterizations are for the Mississippi Alluvial Plain, Springfield-Salem Plateaus, Ouachita Mountains, and Arkansas River because of the large number of stations. The Boston Mountains section is characterized by using only four stations on the Little Red River and Middle Fork Little Red River. Two of these stations are actually located in the Arkansas Valley but were considered to be representative of the Boston Mountains. The Arkansas Valley, Mississippi River, and Red River are characterized based on five or fewer stations.



EXPLANATION

— — APPROXIMATE BOUNDARY OF PROVINCE

——— APPROXIMATE BOUNDARY OF SECTION

Figure 3.--Location of physiographic provinces and sections (modified from Fenneman, 1938).

Regression Equations

Simple linear regression equations that simulate the relation between specific conductance and alkalinity, dissolved chloride, dissolved magnesium, and dissolved sulfate were calculated for nearly all stations. Regression equations that simulate the relation between specific conductance and several other dissolved constituents were calculated at stations having available data. Table 130 (page 189) and the following discussion summarizes the usefulness of these equations (based upon statistical significance of the equation and the percent of variance explained by specific conductance) to predict alkalinity, dissolved chloride, dissolved magnesium, and dissolved sulfate from specific conductance. Residual analysis results, number of observations, and standard error of the estimate are also measures of the accuracy and usefulness of the estimate. It is important to note that the usefulness of an equation to estimate concentrations from specific conductance values outside the range used to derive the equation is limited.

Mississippi Alluvial Plain

In the Mississippi Alluvial Plain, specific conductance is usually a good estimator of total alkalinity. Typically, 80 to 90 percent of variance in alkalinity can be explained by specific conductance. Specific conductance is a poor estimator of dissolved sulfate; the percent of sulfate variance explained by conductance seldom exceeded 30 percent and at approximately 50 percent of the stations the regression equation was not statistically significant. The strength of the relation between chloride and conductance and between magnesium and conductance varies greatly in the Mississippi Alluvial Plain. Percent chloride variance explained by conductance generally ranges from about 30 to 80 percent. No significant relation between magnesium and conductance was found at approximately one third of the stations; where a significant relation was found, the percent variance explained ranged from about 60 to 95 percent.

West Gulf Coastal Plain

At the stations in the West Gulf Coastal Plain, only chloride was estimated well by specific conductance. At most stations, approximately 70 to 90 percent of the variance in chloride was explained by specific conductance. Specific conductance explained 60 to nearly 100 percent of the variance in magnesium at approximately half of the stations. The relation was insignificant at the remaining stations. Conductance explained relatively little of the variance of alkalinity (less than 40 percent) and sulfate (less than 30 percent).

Springfield-Salem Plateaus

In the Springfield-Salem Plateaus, as in the Mississippi Alluvial Plain, specific conductance generally predicts alkalinity better than it predicts dissolved chloride, magnesium, or sulfate concentrations. Typically, 40 to 90 percent of alkalinity variance can be explained by specific conductance.

Sulfate is poorly predicted by specific conductance. At approximately 75 percent of the stations the relation between sulfate and conductance was not significant. At most remaining stations the percentage of variance in sulfate explained by conductance values ranged from approximately 10 to 40 percent. Chloride and magnesium also were not well predicted by specific conductance. The relation between conductance and chloride was insignificant at approximately 45 percent of the stations. At most remaining stations, only about 15 to 60 percent of the variance in chloride concentration was explained. At about 55 percent of the stations, there was an insignificant relation between conductance and magnesium. At most stations where there was a significant relation the variance explained ranged from about 40 to 70 percent.

Boston Mountains

In the Boston Mountains, only alkalinity at one station could be predicted well from specific conductance. At Middle Fork Little Red River near Shirley, 87 percent of the variance in alkalinity was explained. The relation between conductance and magnesium was not significant at any of the four stations in the area. For all other relations, conductance explained less than 35 percent of the variance in alkalinity, chloride, and sulfate.

Arkansas Valley

At the few stations in the Arkansas Valley, specific conductance generally explained approximately 70 to 80 percent of the variance of alkalinity 50 to almost 100 percent of the chloride variance, and 40 to 90 percent of the sulfate variance. The relation between conductance and magnesium generally was not significant.

Ouachita Mountains

In the Ouachita Mountains, specific conductance generally is a better predictor of alkalinity than of chloride, magnesium, or sulfate. However, at about 40 percent of the stations, the relation between conductance and alkalinity is not significant. At the remaining stations, about 55 to 90 percent of the variance in alkalinity was explained by specific conductance. The relation between conductance and magnesium was seldom significant. The relation between conductance and chloride was not significant at approximately 20 percent of the stations. At the remaining stations, the variance in chloride explained by conductance ranged from approximately 10 to 90 percent. Sulfate was poorly estimated by specific conductance. At approximately 70 percent of the stations the relation was insignificant and generally only 10 to 30 percent of the sulfate variability was explained by specific conductance.

Mississippi River

Alkalinity, chloride, magnesium, and sulfate were not strongly related to specific conductance at any of the three stations on the Mississippi River. Percent variance of alkalinity, chloride, magnesium, and sulfate explained by conductance typically ranged from about 10 to 60 percent.

Red River

At most of the three stations on the Red River, specific conductance generally explained 70 to 90 percent of the variance in chloride, magnesium, and sulfate. Alkalinity and specific conductance were not strongly related at any of the stations.

Arkansas River

At most of the 10 stations on the Arkansas River, the relation between conductance and dissolved chloride concentration is strong; at all but 2 stations the percent of chloride variance explained by specific conductance ranged from approximately 80 to 95 percent. A smaller amount, approximately 45 to 85 percent, of sulfate variance was explained by specific conductance. Alkalinity and magnesium were the least related to conductance. Variance of alkalinity explained ranged from approximately 30 to 55 percent except at two stations where the relation was not significant. The relation between conductance and magnesium was not significant at four stations. Percent of magnesium variance explained ranged from approximately 40 to 75 percent at the remaining stations.

SUMMARY AND CONCLUSIONS

Several generalizations can be made about the water-quality data summarized in this report. For most properties and at most stations, more than 50 analyses were available to be included in the summarization. Dissolved magnesium, total alkalinity, and fecal streptococcal bacteria were measured fewer than 50 times during the summarization period at many stations. For most properties, values of the two most common measures of central tendency differed; mean values generally exceeded median values indicating that the data were not normally distributed and reflecting the infrequent occurrence of extremely high values. This was most apparent for discharge and bacteria values. The usefulness of simple linear regression equations, having specific conductance as the independent variable for estimating concentrations of dissolved constituents and total alkalinity is quite variable among stations, physiographic sections, major rivers, and constituents. The relation between specific conductance and the other property is not statistically significant ($p>0.05$) about 30 percent of the time. Often the percent of variance in total alkalinity or the dissolved constituent that is explained by specific conductance may not be practically significant, or residual analysis indicates that the predictive value of specific conductance changes substantially within the range of observed conductance values. The statistical significance

of the equation, residuals analysis results, number of observations, coefficient of determination, and standard error of the estimate can be used to evaluate the accuracy of the estimate. Estimates based on specific conductance values outside the range of conductance values used in deriving the regression equations are of limited use.

Differences in typical (median value) water quality exist between the six physiographic sections of the two physiographic provinces and three major rivers compared. Streams in the Mississippi Alluvial Plain generally are the most turbid in the State. Hardness ranges from soft to hard and most streams are well buffered. ("Well buffered" is an imprecise term that for this discussion will be defined as total alkalinity exceeding 50 mg/L as $CaCO_3$.) Nutrient and fecal coliform bacteria concentrations tend to be larger in this section than in most other areas of the State. Streams in the West Gulf Coastal Plain generally are soft to moderately hard and some are the least buffered in Arkansas. Several streams in this section have dissolved chloride concentrations much larger than most other streams and rivers in Arkansas. Streams in the Springfield-Salem Plateaus generally are clear, moderately hard to very hard, and well buffered. Nutrient and fecal coliform bacteria concentrations are variable in this section; some of the smallest and largest concentrations of total phosphorus, total nitrite plus nitrate, and fecal coliform bacteria occurred in the section. In the Arkansas Valley, most streams are soft and not well buffered. Generally, only the streams of the Mississippi Alluvial Plain and the Red and Mississippi Rivers were more turbid than Arkansas Valley streams. Streams in the Boston Mountains (based upon stations on the Little Red River and tributaries) and Ouachita Mountains are clear, soft, and not well buffered. Nutrient and fecal coliform bacteria concentrations are some of the smallest in Arkansas. The Mississippi, Red, and Arkansas Rivers are hard and well buffered. They have larger dissolved sulfate and chloride concentrations than most streams in Arkansas. Nitrite plus nitrate concentrations are larger in the Mississippi River than most streams except some of those in the western Springfield-Salem Plateaus section. Fecal coliform bacteria concentrations in the Mississippi River are also among the largest in the State.

REFERENCES CITED

Arkansas Department of Pollution Control and Ecology, 1974, Arkansas water quality inventory report 1974: Arkansas Department of Pollution Control and Ecology, 250 p.

----- 1975, Arkansas water quality inventory report 1975: Arkansas Department of Pollution Control and Ecology, 240 p.

----- 1976, Arkansas water quality inventory report 1976: Arkansas Department of Pollution Control and Ecology, 297 p.

----- 1977, Arkansas water quality inventory report 1977: Arkansas Department of Pollution Control and Ecology, 162 p.

----- 1980, Arkansas water quality inventory report 1980: Arkansas Department of Pollution Control and Ecology, 166 p.

----- 1982, Arkansas water quality inventory report 1982: Arkansas Department of Pollution Control and Ecology, 397 p.

----- 1984, Arkansas water quality inventory report 1984: Arkansas Department of Pollution Control and Ecology, 495 p.

----- 1986a, Arkansas water quality inventory report 1986: Arkansas Department of Pollution Control and Ecology, 401 p.

----- 1986b, Quality assurance plan for ambient water quality and compliance sampling: Arkansas Department of Pollution Control and Ecology, 37 p.

Bennett, Chuck, Giese, John, Keith, Bill, McDaniel, Roland, Maner, Martin, O'Shaughnessy, Niall, and Singleton, Bob, 1987, Physical, chemical, and biological characteristics of least-disturbed reference streams in Arkansas ecoregions, vol. I: data compilation: Arkansas Department of Pollution Control and Ecology, 685 p.

Briggs, J.C. and Ficke, J.F., 1977, Quality of rivers of the United States, 1975 water year--based on the National Stream Quality Accounting Network (NASQAN): U.S. Geological Survey Open-File Report 78-200, 436 p.

Britton, L.J., Goddard, K.E., and Briggs, J.C., 1983, Quality of rivers of the United States, 1976 water year--based on the National Stream Quality Accounting Network (NASQAN): U.S. Geological Survey Open-File Report 80-594, 423 p.

Bryant, C.T., Morris, E.E., and Terry, J.E., 1979, Water-quality assessment of the L'Anguille River basin, Arkansas: U.S. Geological Survey Open-File Report 79-1482, 139 p.

Crawford, C.G., Slack, J.R., and Hirsch, R.M., 1983, Nonparametric tests for trends in water-quality data using the statistical analysis system: U.S. Geological Survey Open-File Report 83-550, 102 p.

Durfor, C.N., and Becker, Edith, 1964, Public water supplies of the 100 largest cities inthe United States, 1962: U.S. Geological Survey Water-Supply Paper 1812, 364 p.

Fenneman, N.M., 1938, Physiography of eastern United States: New York, McGraw-Hill, 534 p.

Friedman, L.C., and Erdmann, D.E., 1982, Quality assurance practices for the chemical and biological analyses of water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A6, 181 p.

Giese, John, Keith, Bill, Maner, Martin, McDaniel, Roland, and Singleton, Bob, 1987, Physical, chemical, and biological characteristics of least-disturbed reference streams in Arkansas ecoregions, vol. II: data analysis: Arkansas Department of Pollution Control and Ecology, 148 p.

Gilliom, R.J. and Helsel, D.R., 1984, Estimation of distributional parameters for censored trace-level water-quality data: I. Estimation techniques: U.S. Geological Survey Open-File Report 84-729, 25 p.

----- 1986, Estimation of distributional parameters for censored trace-level water quality data I. Estimation Techniques, Water Resour. Res., v. 22, p. 135-146.

Greeson, P.E., Ehlke, T.A., Irwin, G.A., Lium, B.W., and Slack, K.V., 1977, Methods for collection and analysis of aquatic, biological, and microbiological samples: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A4, 332 p.

Guy, H.P., 1969, Laboratory theory and methods for sediment analysis: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter C1, 58 p.

Guy, H.P. and Norman, V.W., 1970, Field methods for measurement of fluvial sediment: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter C2, 59 p.

Helsel, D.R. and Gilliom, R.J., 1985, Estimation of distributional parameters for censored trace-level water-quality data: II. Verification and applications: U.S. Geological Survey Open-File Report 85-86, 21 p.

Hem, J.D., 1985, Study and interpretation of the chemical characteristics of natural water: U.S. Geological Survey Water-Supply Paper 2254, 263 p.

Iman, R.L., and Conover, W.J., 1983, A modern approach to statistics: New York, John Wiley, 497 p.

Jeffus, H.M., Proctor, J.A., and Heiple, L.R., 1967, Water quality studies for Arkansas streams: University of Arkansas Engineering Experiment Sation, Supplement to Research Report No. 3., 141 p.

Kirchner, J.E., Gilliom, R.J., and Hickman, R.E., 1985, Loads and concentrations of dissolved solids, phosphorus, and inorganic nitrogen at U.S. Geological Survey National Stream Quality Accounting Network stations, *in* United States Geological Survey, National Water Summary 1984: U.S. Geological Survey Water-Supply Paper 2275, p. 61-65.

Kurklin, J.K., 1979, Statistical summaries of surface-water-quality data for selected sites in Oklahoma, through the 1975 water year: U.S. Geological Survey Open-File Report 79-219, 171 p.

Lamb, T.E., Porter, J.E., Lambert, B.F., and Edds, Joe, 1983 through 1986, Water resources data, Arkansas, water years 1982 through 1985: U.S. Geological Survey Water-Data Reports AR-82-1 through AR-85-1, (Annual reports).

Petersen, J.C. and Morris, E.E., 1984, Computation of data collected and derived for water years 1980 and 1981 for the purpose of water-quality modeling of the lower Ouachita River and selected tributaries, south-central Arkansas: U.S. Geological Survey Open-File Report 84-727, 130 p.

SAS Institute, Inc., 1982a, SAS users' guide: basics, 1982 edition: Cary, N.C., SAS Institute, Inc., 932 p.

SAS Institute, Inc., 1982b, SAS User's Guide: Statistics, 1982 edition: Cary, N.C., SAS Institute, Inc., 584 p.

Skougstad, M.W., Fishman, M.J., Friedman, L.C., Erdmann, D.E., and Duncan, S.J., 1979, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A1, 626 p.

Smith, R.A., and Alexander, R.B., 1983a, A statistical summary of data from the U.S. Geological Survey's national water quality networks: U.S. Geological Survey Open-File Report 83-533, 30 p.

Smith, R.A., and Alexander, R.B., 1983b, Evidence for acid precipitation induced trends in common ion concentrations at bench-mark stations: U.S. Geological Survey Circular 910, 12 p.

Smith, R.A., and Alexander, R.B., 1985, Trends in concentrations of dissolved solids, suspended sediments, phosphorus and inorganic nitrogen at U.S. Geological Survey National Stream Quality Accounting Network stations, *in* United States Geological Survey, National Water Summary 1984: U.S. Geological Survey Water-Supply Paper 2275, p. 66-73.

Smith, R.A., Hirsch, R.M., and Slack. J.R., 1982, A study of trends in total phosphorus measurements at NASQAN stations: U.S. Geological Survey Water-Supply Paper 2190, 34 p.

Steele, T.D., 1971, A study of the chemical quality of streamflow in Arkansas: U.S. Geological Survey open-file report, 40 p.

Stoner, J.D., 1985, Dissolved solids in the Arkansas River basin, in United States Geological Survey, National Water Summary 1984: U.S. Geological Survey Water-Supply Paper 2275, p. 79-84.

Terry, J.E., Morris, E.E., and Bryant, C.T., 1983, Water-quality assessment of White River between Lake Sequoyah and Beaver Reservoir, Washington County, Arkansas: U.S. Geological Survey Water-Resources Investigations Report 82-4063, 84 p.

Terry, J.E., Morris, E.E., Petersen, J.C., and Darling, M.E., 1984, Water-quality assessment of the Illinois River basin, Arkansas: U.S. Geological Survey Water-Resources Investigations Report 83-4092, 263 p.

U.S. Geological Survey, 1976 through 1982, Water resources data for Arkansas, water years 1975 through 1981: U.S. Geological Survey Water-Data Reports AR-75-1 to AR-81-1 (Annual reports).

Ward, J.C., 1963, Streamflow quantity and quality correlations and statistical analyses: University of Arkansas Engineering Experiment Station, Research Report No. 3, 132 p.

Wells, F.C. and Schertz, T.L., 1983, Statistical summary of daily values data and trend analyses of dissolved-solids data at National Stream Quality Accounting Network (NASQAN) stations: U.S. Geological Survey Water-Resources Investigations Report 83-4172, 526 p.

Wershaw, R.L., Fishman, M.J., Grabbe, R.R., and Lowe, L.E., eds., 1987, Methods for the determination of organic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A3, 80 p.

INDEX OF STATIONS

Station name and number	Page
Arkansas River at Dam No. 2 near Gillett (07265283)	145
Arkansas River at Dam No. 9 near Oppelo (07260660)	131
Arkansas River at Dam No. 13 near Van Buren (07250550)	123
Arkansas River at Dardanelle (07258000)	126
Arkansas River at David D. Terry Lock and Dam below Little Rock (07263620)	139
Arkansas River at Lock and Dam 3 near Swan Lake (07263750)	141
Arkansas River at Murray Dam at Little Rock (07263450)	138
Arkansas River at Ozark Dam at Ozark (07252406)	125
Arkansas River at Toad Suck Ferry Dam near Conway (07261260)	133
Arkansas River at Van Buren (07250500)	122
Baron Fork at Dutch Mills (07196900)	119
Bayou Bartholomew near Ladd (07364115)	183
Bayou de Loutre near El Dorado (07364600)	184
Bayou DeView at Morton (07077700)	105
Bayou DeView near Brasfield (07077750)	107
Bayou DeView near Gibson (07077660)	104
Bayou Dorcheat near Taylor (07348650)	162
Bayou Meto near Bayou Meto (07265099)	144
Bayou Meto near Lonoke (07264000)	142
Bayou Two Prairie near Cabot (07264050)	143
Big Bayou near Jerome (07367666)	185
Big Creek near Watkins Corner (07077960)	111
Black River at Black Rock (07072500)	87
Black River at Jacksonport (07074490)	90
Black River at Pocahontas (07069000)	82
Black River near Corning (07064000)	80
Bodcau Creek near Lewisville (07349440)	163
Buffalo River near St. Joe (07056000)	70
Butler Creek near Sulphur Springs (07188910)	113
Cache River at Brasfield (07077600)	103
Cache River at Patterson (07077500)	101
Cache River near Cash (07077400)	100
Caddo River near Amity (07359770)	169
Cadron Creek west of Conway (07261250)	132
Coffee Creek near Crossett (07364088)	182
Cossatot River near Lockesburg (07340520)	154
Crooked Creek at Yellville (07055608)	69
Current River near Pocahontas (07068850)	81
Days Creek southeast of Texarkana (07344300)	160
Eleven Point River near Pocahontas (07072100)	86
Flint Creek north of Siloam Spring (07195850)	118
Fourche LaFave River near Bigelow (07263150)	137
Fourche LaFave River near Gravelly (07261500)	134
Fourche LaFave River near Nimrod (07262500)	135
Hurricane Creek near Sardis (07363270)	179

Station name and number	Page
Illinois River at Savoy (07194800)	115
Illinois River south of Siloam Springs (07195430)	117
James Fork near Hackett (07249400)	121
Kings River near Berryville (07050500)	66
L'Anguille River at Marianna (07047964)	58
L'Anguille River near Colt (07047942)	56
Little Missouri River near Boughton (07361600)	172
Little Missouri River near Langley (07360200)	171
Little Red River at Judsonia (07076634)	98
Little Red River near Heber Springs (07076000)	95
Little Red River near Shirley, Middle Fork (07074990)	94
Little Red River near Wilburn (07076200)	97
Little River at Big Lake Outlet near Manila, Right Hand Chute of (07046500)	49
Little River at Millwood Dam near Ashdown (07341301)	156
Little River near Horatio (07340000)	153
Middle Fork Little Red River near Shirley (07074990)	94
Mississippi River at Barfield (07029150)	44
Mississippi River at Memphis, Tenn. (07032000)	45
Mississippi River near Arkansas City (07265450)	147
Moro Creek near Banks (07362550)	177
North Fork River at Norfork (07060010)	74
North Fork River at Norfork Dam near Norfork (07060000)	72
North Sylamore Creek near Fifty Six (07060710)	77
Osage Creek near Elm Springs (07195000)	116
Ouachita River at Blakely Mountain Dam, near Hot Springs (07357501)	165
Ouachita River at Camden (07362000)	173
Ouachita River at Carpenter Dam near Hot Springs (07358501)	166
Ouachita River at Lock and Dam 8 near Calion (07362400)	176
Ouachita River near Donaldson (07359580)	168
Ouachita River near Felsenthal (07364080)	181
Ouachita River near Malvern (07359500)	167
Ouachita River near Mount Ida (07356000)	164
Ouachita River near Sparkman (07360162)	170
Pemiscot Bayou at Dell (07047400)	50
Petit Jean River near Booneville (07258500)	127
Petit Jean River near Centerville (07260640)	130
Petit Jean River near Waveland (07259500)	128
Poteau River south of Bates (07247012)	120
Red River at Index (07337000)	150
Red River near Foreman (07336860)	149
Red River near Spring Bank (07344350)	161
Right Hand Chute of Little River at Big Lake Outlet near Manila (07046500)	49
Rolling Fork near Horatio (07339850)	152
Saline River near Fountain Hill (07364012)	180
Saline River near Lockesburg (07341200)	155
Saline River west of Benton (07363002)	178
Smackover Creek north of Smackover (07362110)	175

Station name and number	Page
South Fork Spring River at Saddle (07069295)	84
Spavinaw Creek near Cherokee City (07191179)	114
Spring River at Ravenden (07069370)	85
Spring River at Saddle, South Fork (07069295)	84
Spring River near Hardy (07069266)	83
St. Francis Bay at Riverfront (07047900)	54
St. Francis River at Lake City (07040450)	48
St. Francis River at Parkin (07047800)	52
St. Francis River at St. Francis (07040100)	47
St. Francis River north of Helena (07047968)	59
Strawberry River near Smithville (07074100)	89
Sulphur River south of Texarkana (07344275)	158
Tyronza River near Twist (07047700)	51
West Fork White River east of Fayetteville (07048550)	60
White River at Arkansas Post Canal near Nady (07078285)	112
White River at Beaver (07050000)	65
White River at Beaver Dam near Eureka Springs (07049691)	63
White River at Bull Shoals Dam near Flippin (07054501)	67
White River at Calico Rock (07060500)	75
White River at Clarendon (07077800)	108
White River at DeValls Bluff (07077000)	99
White River at Newport (07074500)	91
White River at Oil Trough (07061105)	79
White River at St. Charles (07077820)	110
White River near Augusta (07074850)	93
White River near Goshen (07048700)	61
White River near Norfork (07057370)	71

Table 13.--Statistical summary of selected water-quality properties for Mississippi River at Barfield, Ark., 07029150

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	13	199,000	297,500	514,000	640,000	976,500	1,600,000	427,000
Dissolved oxygen	97	6.2	7.9	9.0	9.4	10.8	14.0	1.9
pH	96	7.3	7.8	7.9	7.9	8.0	8.6	0.2
Specific conductance	73	250	337	388	382	423	523	58
Total alkalinity	20	71	92	107	103	110	130	16
Total hardness	49	82	140	164	158	179	204	29
Dissolved magnesium	8	9.0	9.9	13.5	12.4	14.0	15.0	2.3
Dissolved sulfate	96	15.0	51.0	57.0	60.3	70.7	110.0	15.7
Dissolved chloride	94	13.5	16.0	18.0	18.6	20.0	28.0	3.2
Dissolved solids	57	185	236	252	255	272	337	30
Total phosphorus	91	0.04	0.17	0.23	0.26	0.29	0.67	0.13
Total nitrite + nitrate	43	0.40	1.00	1.60	1.67	2.10	3.10	0.63
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.16	0.16	1.70	0.25
BOD	95	0.5	1.8	2.6	2.7	3.4	7.6	1.3
Fecal coliforms(31616)	96	2	98	300	508	622	4,000	644
Fecal strep.(31679)	10	5	13	105	276	490	1,100	362
Turbidity	34	15	30	60	92	110	360	92
Arsenic	51	< 10	< 10	< 10	--	< 10	18	--
Cadmium	76	< 20	< 20	< 20	--	< 20	20	--
Chromium	54	< 20	< 20	< 20	--	< 20	25	--
Copper	94	< 20	< 20	< 20	--	< 20	90	--
Lead	40	< 20	< 20	< 20	--	< 20	116	--
Zinc	82	< 20	< 20	30	41	47	340	51

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.206 (SC) + 25.00	17	62	10.5
Chloride =0.040 (SC) + 3.28	65	41	2.6
Magnesium =0.014 (SC) + 7.48	8	22**	2.2
Sulfate =0.152 (SC) + 2.54	65	31	13.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 14.--Statistical summary of selected water-quality properties for Mississippi River at Memphis, Tenn., 07032000

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	101	106,000	297,000	425,000	511,000	668,000	1,490,000	299,000
Dissolved oxygen	67	6.1	7.1	8.0	8.7	10.2	13.5	2.1
pH	100	7.1	7.6	7.9	7.8	8.0	8.5	0.3
Specific conductance	100	228	350	386	391	440	515	60
Total alkalinity	99	63	92	106	104	118	150	18
Total hardness	100	96	140	150	151	170	200	20
Dissolved calcium	100	27.0	37.0	40.0	40.1	43.0	51.0	4.6
Dissolved magnesium	100	7.0	11.0	12.0	12.4	14.0	17.0	2.2
Dissolved sodium	100	8.0	14.0	17.5	18.4	22.0	31.0	5.7
Dissolved potassium	100	1.5	2.7	3.1	3.1	3.5	5.8	0.6
Dissolved sulfate	100	34.0	48.0	57.0	59.7	68.5	93.0	14.7
Dissolved chloride	100	10.0	14.0	16.5	17.2	20.0	30.0	3.7
Dissolved fluoride	100	0.1	0.2	0.2	0.2	0.3	0.5	0.1
Dissolved silica	99	0.3	4.6	5.9	5.6	6.9	8.5	1.7
Dissolved solids	100	153	213	233	236	260	310	35
Total phosphorus	100	0.03	0.17	0.22	0.23	0.26	0.64	0.10
Total nitrogen	76	1.00	1.83	2.30	2.39	2.88	5.10	0.85
Total organic nitrogen	41	0.32	0.80	1.10	1.13	1.55	2.00	0.44
Total nitrite + nitrate	80	0.27	0.95	1.30	1.33	1.60	3.20	0.58
Total ammonia	45	< 0.10	<0.10	<0.10	--	0.11	0.31	--
Fecal coliforms(31625)	72	20	238	560	981	1,000	6,600	1,318
Fecal strep.(31673)	61	5	46	260	780	590	12,000	2,129
Turbidity	55	1.8	29	55	62	80	170	44
Suspended sediment	93	24	91	140	170	203	740	122
Arsenic	29	< 10	< 10	10	--	< 10	< 10	--
Cadmium	31	< 10	< 10	< 10	--	< 20	840	--
Chromium	31	< 20	< 20	< 20	--	20	30	--
Copper	31	< 20	31	50	65	90	190	44
Lead	16	< 20	< 20	< 20	--	24	54	--
Zinc	31	< 20	40	70	85	110	340	61

Table 14.--Statistical summary of selected water-quality properties for Mississippi River at Memphis, Tenn., 07032000--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.211 (SC) + 21.85	99	53	12.2
Calcium =0.059 (SC) + 16.88	100	61	2.9
Chloride =0.039 (SC) + 1.94	100	40	2.9
Dissolved solids = 0.501 (SC) + 39.87	100	76	17.3
Fluoride =0.000 (SC) + 0.08	100	10***	0.1
Magnesium =0.029 (SC) + 0.89	100	63	1.4
Potassium =0.005 (SC) + 1.26	100	20	0.6
Silica =-0.007 (SC) + 8.31	99	6	1.7
Sodium =0.080 (SC) -12.76	100	70	3.1
Sulfate =0.199 (SC) -18.33	100	67***	8.5

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 15.--Statistical summary of selected water-quality properties for St. Francis River at St. Francis, Ark., 07040100

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N. Some discharge and other water-quality data are associated with separate main-channel and overbank samples]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	95	87	434	1,340	2,360	3,410	9,740	2,470
Dissolved oxygen	185	4.5	7.4	9.0	9.2	10.9	14.6	2.1
pH	183	5.9	7.4	7.8	7.7	8.0	8.8	0.4
Specific conductance	152	65	135	186	192	240	363	71
Total alkalinity	23	35	53	71	81	100	180	37
Total hardness	51	38	74	90	94	120	180	31
Dissolved magnesium	11	6.4	7.4	9.4	10.3	13.0	17.0	3.3
Dissolved sulfate	95	< 1.0	7.0	9.0	9.6	12.0	27.0	4.5
Dissolved chloride	97	2.2	4.7	6.0	7.8	7.5	31.0	5.7
Dissolved solids	60	72	111	128	146	163	468	61
Total phosphorus	87	< 0.01	0.09	0.13	0.19	0.19	1.90	0.26
Total nitrite + nitrate	47	< 0.05	< 0.05	0.09	0.15	0.25	0.49	0.14
Total ammonia	80	< 0.10	< 0.10	< 0.10	0.08	< 0.10	0.94	0.13
BOD	89	1.1	2.3	3.0	3.1	3.6	9.5	1.1
Fecal coliforms(31616)	96	2	20	51	461	138	11,000	1,439
Fecal strep.(31679)	15	20	40	210	3,782	5,000	30,000	8,168
Turbidity	33	7.5	22	30	46	50	340	56
Arsenic	39	< 10	< 10	< 10	--	< 10	10	--
Cadmium	78	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	49	< 20	< 20	< 20	--	< 20	< 20	--
Copper	93	< 20	< 20	< 20	21	20	520	59
Lead	43	< 20	< 20	< 20	--	< 20	300	--
Zinc	81	< 20	< 20	27	51	53	650	92

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.506 (SC) -14.50	20	91	9.5
Chloride =0.047 (SC) -1.77	60	55***	3.1
Magnesium =0.049 (SC) + 0.55	11	92***	1.0
Sulfate =-0.014 (SC) + 10.50	57	8	3.4

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 16.--Statistical summary of selected water-quality properties for St. Francis River at Lake City, Ark., 07040450

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N. Some discharge and other water-quality data are associated with separate main-channel and overbank samples]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	128	116	818	1,260	2,410	2,220	31,000	3,620
Dissolved oxygen	225	3.7	6.3	7.7	8.1	9.8	14.5	2.3
pH	227	6.1	7.4	7.7	7.6	7.9	8.8	0.4
Specific conductance	203	24	135	192	202	267	388	81
Total alkalinity	21	32	63	107	100	136	180	45
Hardness	50	6	72	93	97	129	210	41
Dissolved magnesium	9	4.8	8.0	10.0	9.9	11.5	16.0	3.1
Dissolved sulfate	99	< 1.0	7.0	10.0	10.5	12.0	46.0	6.3
Dissolved chloride	99	3.0	5.5	6.5	7.4	8.0	24.0	3.4
Dissolved solids	57	106	138	164	181	192	960	112
Total phosphorus	96	< 0.01	0.12	0.18	0.20	0.26	0.60	0.11
Total nitrite + nitrate	44	< 0.05	< 0.05	0.09	0.16	0.23	1.00	0.19
Total ammonia	76	< 0.10	< 0.10	< 0.10	0.11	0.12	0.81	0.13
BOD	104	0.5	2.1	2.6	2.7	3.2	5.5	0.9
Fecal coliforms(31616)	98	2	30	80	226	223	3500	465
Fecal strep.(31679)	12	20	67	195	1,142	352	11,000	3,118
Turbidity	36	10	30	40	64	65	340	69
Arsenic	50	< 10	< 10	< 10	--	< 10	10	--
Cadmium	80	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	56	< 20	< 20	< 20	--	< 20	< 20	--
Copper	98	< 20	< 20	< 20	--	< 20	170	--
Lead	41	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	86	< 20	< 20	< 20	23	30	110	20

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.530 (SC) -16.99	18	96	9.2
Chloride =0.018 (SC) + 2.87	69	31	2.2
Magnesium =0.033 (SC) + 2.34	9	68***	1.9
Sulfate =-0.017 (SC) + 14.11	68	4**	7.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 17.--Statistical summary of selected water-quality properties for Right Hand Chute of Little River at Big Lake Outlet near Manila, Ark., 07046500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as CaCO3, sulfate is reported as SO4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	105	2.7	6.2	8.0	8.1	10.0	13.1	2.4
pH	101	6.7	7.5	7.8	7.7	8.0	8.3	0.4
Specific conductance	77	37	190	269	261	338	446	99
Total alkalinity	22	15	71	95	104	140	190	47
Total hardness	51	32	84	130	126	168	264	51
Dissolved magnesium	9	5.0	8.0	9.0	10.6	15.0	17.0	4.1
Dissolved sulfate	99	2.0	10.0	14.0	14.5	18.0	28.0	5.9
Dissolved chloride	99	1.4	8.0	13.0	12.5	16.0	23.0	4.9
Dissolved solids	58	103	171	207	200	233	321	47
Total phosphorus	96	0.06	0.12	0.19	0.22	0.26	0.63	0.14
Total nitrite + nitrate	44	< 0.05	< 0.05	0.05	0.17	0.30	0.92	0.23
Total ammonia	77	< 0.10	< 0.10	< 0.10	0.11	0.16	0.69	0.12
BOD	102	0.9	2.0	2.3	2.6	3.0	6.6	1.1
Fecal coliforms(31616)	100	1	8	20	54	53	405	85
Fecal strep.(31679)	11	3	50	73	599	120	5,400	1,600
Turbidity	35	6.8	20	25	62	80	340	78
Arsenic	54	< 10	< 10	< 10	--	< 10	19	--
Cadmium	86	< 20	< 20	< 20	--	< 20	20	--
Chromium	57	< 20	< 20	< 20	--	< 20	30	--
Copper	104	< 20	< 20	< 20	--	< 20	110	--
Lead	43	< 20	< 20	< 20	--	< 20	50	--
Zinc	92	< 20	< 20	< 20	29	30	610	71

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.478 (SC) -20.5	19	92	13.2
Chloride =0.041 (SC) + 1.38	69	75	2.3
Magnesium =0.029 (SC) + 2.46	9	60***	2.8
Sulfate =0.039 (SC) + 3.38	68	43	4.5

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 18.--Statistical summary of selected water-quality properties for Pemiscot Bayou at Dell, Ark., 07047400

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	37	0.4	8.4	20	49	48	194	64
Dissolved oxygen	97	3.5	7.0	9.1	9.8	12.0	20.2	3.7
pH	94	6.9	7.5	7.7	7.7	7.9	9.2	0.4
Specific conductance	57	66	270	444	396	497	1370	200
Total alkalinity	20	65	154	205	190	236	259	55
Total hardness	50	56	122	178	167	206	280	53
Dissolved magnesium	8	12.0	12.7	17.5	16.7	19.0	22.0	3.5
Dissolved sulfate	92	3.3	16.0	23.5	24.1	28.8	68.0	11.4
Dissolved chloride	92	3.0	9.0	11.5	12.1	15.0	40.0	5.6
Dissolved solids	57	127	238	277	269	301	458	52
Total phosphorus	86	0.13	0.42	0.70	1.01	1.16	4.60	0.92
Total nitrite + nitrate	43	< 0.05	0.37	0.63	0.65	0.90	1.90	0.40
Total ammonia	74	< 0.10	< 0.10	0.31	0.41	0.54	3.80	0.51
BOD	94	0.8	3.8	5.4	6.1	7.9	22.0	3.4
Fecal coliforms(31616)	90	2	45	285	1,828	920	40,000	5,386
Fecal strep.(31679)	11	20	59	90	2,590	330	27,000	8,097
Turbidity	35	3.0	15	25	86	35	1,000	230
Arsenic	48	< 10	< 10	< 10	9	12	34	7
Cadmium	82	< 20	< 20	< 20	--	< 20	20	--
Chromium	54	< 20	< 20	< 20	--	< 20	35	--
Copper	99	< 20	< 20	< 20	29	30	269	46
Lead	39	< 20	< 20	< 20	26	20	320	69
Zinc	87	< 20	< 20	30	71	80	820	117

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.058 (SC) + 157.8	17	6**	58.5
Chloride =0.012 (SC) + 6.04	52	33***	3.4
Magnesium =-0.005 (SC) + 19.46	8	18**	3.5
Sulfate =0.026 (SC) + 13.77	50	15	12.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 19.--Statistical summary of selected water-quality properties for Tyronza River near Twist, Ark., 07047700

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	94	3.5	7.1	7.9	8.4	10.0	14.0	2.0
pH	91	6.7	7.7	7.9	7.8	8.0	8.3	0.4
Specific conductance	60	43	290	471	410	543	739	172
Total alkalinity	20	28	130	195	192	266	280	78
Total hardness	45	36	110	208	194	270	360	83
Dissolved magnesium	8	7.7	11.0	18.0	20.6	27.7	40.0	10.7
Dissolved sulfate	91	< 1.0	19.0	32.0	30.6	38.0	110.0	16.9
Dissolved chloride	89	2.0	6.0	7.5	8.8	8.5	145.0	14.8
Dissolved solids	54	134	245	306	293	343	502	73
Total phosphorus	86	0.06	0.17	0.26	0.38	0.44	1.85	0.37
Total nitrite + nitrate	42	< 0.05	< 0.05	0.08	0.33	0.47	2.30	0.47
Total ammonia	70	< 0.10	< 0.10	< 0.10	0.12	0.15	0.51	0.11
BOD	92	0.2	2.2	3.2	3.2	4.0	7.0	1.3
Fecal coliforms(31616)	82	2	40	110	321	355	4,200	651
Fecal strep.(31679)	8	10	52	122	169	280	490	160
Turbidity	32	9.5	30	50	250	300	2,700	530
Arsenic	48	< 10	< 10	< 10	--	< 10	16	--
Cadmium	83	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	53	< 20	< 20	< 20	--	< 20	48	--
Copper	96	< 20	< 20	< 20	26	30	230	35
Lead	50	< 20	< 20	< 20	34	20	957	136
Zinc	85	< 20	< 20	40	65	82	350	75

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.477 (SC) -11.70	17	84	34.1
Chloride =0.037 (SC) -5.93	53	11***	18.1
Magnesium =0.052 (SC) -2.04	8	64***	7.0
Sulfate =0.070 (SC) + 3.01	52	38	15.9

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 20.--Statistical summary of selected water-quality properties for St. Francis River at Parkin, Ark., 07047800

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	102	288	966	1,675	2,329	2,820	11,800	2,089
Dissolved oxygen	87	3.8	6.2	7.5	7.9	9.2	12.6	2.1
pH	102	6.9	7.6	7.8	7.7	8.0	8.4	0.3
Specific conductance	102	65	213	308	300	394	516	113
Total alkalinity	101	17	83	130	131	172	250	58
Total hardness	102	27	93	140	139	180	250	57
Dissolved calcium	102	7.3	25.0	38.0	38.8	51.3	71.0	16.1
Dissolved magnesium	102	1.8	6.8	11.0	10.3	14.0	19.0	4.2
Dissolved sodium	102	2.5	6.5	8.9	8.4	10.0	14.0	2.6
Dissolved potassium	102	0.3	2.3	2.7	2.7	3.0	5.4	0.8
Dissolved sulfate	102	< 5.0	14.0	19.0	18.2	22.0	33.0	5.5
Dissolved chloride	102	2.4	4.7	6.1	6.4	8.0	13	2.2
Dissolved fluoride	102	< 0.1	0.1	0.2	0.2	0.2	0.6	0.1
Dissolved silica	102	4.1	11.0	14.0	13.6	17.0	23.0	4.0
Dissolved solids	101	43	137	188	187	236	302	64
Total phosphorus	102	0.10	0.23	0.32	0.43	0.53	5.30	0.53
Total nitrogen	77	0.47	1.10	1.70	1.97	2.50	6.10	1.19
Total organic nitrogen	43	0.24	0.77	1.20	1.28	1.60	2.50	0.59
Total nitrite + nitrate	83	< 0.10	0.20	0.41	0.58	0.76	4.30	0.61
Total ammonia	48	< 0.01	0.03	0.09	0.12	0.19	0.50	0.11
Fecal coliforms(31625)	75	11	67	170	470	430	3,400	750
Fecal strep.(31673)	64	5	170	400	6,020	1,450	169,000	24,000
Turbidity	58	2.8	38	88	160	220	800	190
Suspended sediment	96	14	97	174	294	376	1,510	289
Arsenic	30	2	3	5	5	7	10	2
Cadmium	31	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	31	< 20	< 20	< 20	14	20	40	8
Copper	31	< 20	< 20	< 20	21	27	120	22
Lead	16	2	6	11	15	21	53	12
Zinc	31	< 20	30	60	69	80	300	52

Table 20.--Statistical summary of selected water-quality properties for St. Francis River at Parkin, Ark., 07047800--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.504 (SC) -23.2	101	96	11.3
Calcium =0.138 (SC) -3.23	102	94	4.0
Chloride =0.006 (SC) + 4.55	102	10	2.1
Dissolved solids =0.547 (SC) + 20.71	101	95	14.2
Fluoride =0.000 (SC) + 0.15	102	2**	0.1
Magnesium =0.036 (SC) -0.7	102	92***	1.2
Potassium =0.001 (SC) + 2.33	102	2**	0.8
Silica =0.030 (SC) + 4.5	102	71	2.1
Sodium =0.016 (SC) + 3.4	102	51	1.8
Sulfate =0.037 (SC) + 6.96	102	51	4.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 21.--Statistical summary of selected water-quality properties for St. Francis Bay at Riverfront, Ark., 07047900

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N. Some discharge and other water-quality data are associated with separate main-channel and overbank samples]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	200	158	1,140	3,120	6,080	3,150	39,000	7,100
Dissolved oxygen	186	4.5	7.2	8.5	8.8	10.2	13.8	1.9
pH	202	5.6	7.5	7.8	7.8	8.1	8.6	0.4
Specific conductance	202	68	178	246	257	328	474	100
Total alkalinity	107	24	68	102	110	150	214	51
Total hardness	106	27	78	110	116	150	230	49
Dissolved calcium	107	7.0	20.1	29.0	31.5	41.0	65.0	13.9
Dissolved magnesium	106	2.3	6.3	9.0	9.2	12.0	16.0	3.5
Dissolved sodium	107	1.5	5.2	6.9	7.4	9.2	14.0	2.8
Dissolved potassium	107	0.2	1.9	2.2	2.2	2.4	4.7	0.7
Dissolved sulfate	107	< 5.0	11.0	14.0	15.0	19.0	30.0	5.3
Dissolved chloride	107	2.8	5.0	6.1	6.6	7.7	13.0	2.2
Dissolved fluoride	107	< 0.1	0.1	0.2	0.2	0.2	0.6	0.1
Dissolved silica	107	3.9	9.0	12.0	11.8	14.0	22.0	3.9
Dissolved solids	107	55	111	152	160	201	290	58
Total phosphorus	107	0.04	0.15	0.21	0.25	0.30	0.68	0.14
Total nitrogen	76	0.24	0.82	1.10	1.27	1.60	3.30	0.65
Total organic nitrogen	43	0.20	0.64	0.95	0.96	1.30	1.90	0.40
Total nitrite + nitrate	82	< 0.10	< 0.10	0.17	0.24	0.32	1.10	0.22
Total ammonia	48	< 0.01	0.02	0.06	0.09	0.14	0.37	0.08
Fecal coliforms(31625)	80	5	23	66	240	170	4,300	570
Fecal strep.(31673)	70	3	51	190	1,500	1,000	20,000	3,400
Turbidity	64	1.5	25	58	79	110	310	72
Suspended sediment	197	21	87	144	193	239	959	162
Arsenic	30	1	2	2	3	4	7	1
Cadmium	31	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	31	< 20	< 20	< 20	15	20	30	6
Copper	31	< 20	< 20	< 20	16	20	110	22
Lead	15	3	5	10	5	14	18	48
Zinc	30	< 20	20	50	49	60	170	31

Table 21.--Statistical summary of selected water-quality properties for St. Francis Bay at Riverfront, Ark., 07047900--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.497 (SC) -20.4	107	97	9.2
Calcium =0.136 (SC) -4.24	107	96	2.8
Chloride =0.012 (SC) + 3.33	107	32	1.8
Dissolved solids =0.568 (SC) + 11.23	107	96	11.6
Fluoride =0.000 (SC) + 0.13	107	2**	0.1
Magnesium =0.034 (SC) + 0.35	106	94***	0.8
Potassium =0.001 (SC) + 1.93	107	2**	0.7
Silica =0.033 (SC) + 3.27	107	69	2.2
Sodium =0.023 (SC) + 1.29	107	70	1.5
Sulfate =0.036 (SC) + 5.64	107	46	3.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 22.--Statistical summary of selected water-quality properties for L'Anguille River near Colt, Ark., 07047942

[N=number of observations, BOD=5 day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (micro-siemens per centimeter at 25° Celsius), bacteria (colonies per 100 milli-liters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitro-gen species are reported as P and N. Some discharge and other water-quality data are associated with separate main-channel and overbank samples]

Property	N	Min-imum	25th per-centile	Median	Mean	75th per-centile	Max-imum	Stan-dard devi-ation
Discharge*	198	0.0	156	420	703	963	6,140	844
Dissolved oxygen	159	2.1	4.7	5.9	6.5	8.1	13.1	2.4
pH	162	6.4	7.2	7.4	7.4	7.7	8.3	0.4
Specific conductance	164	51	103	176	230	329	638	151
Total alkalinity	55	15	45	70	100	167	260	73
Total hardness	50	17	51	75	102	153	260	69
Dissolved calcium	50	4.4	12.8	19.0	25.3	37.3	62.0	16.4
Dissolved magnesium	50	1.5	4.7	6.6	9.4	15.0	26.0	6.8
Dissolved sodium	50	0.7	6.4	9.5	12.4	19.3	34.0	8.2
Dissolved potassium	50	0.4	2.5	3.3	3.7	4.7	9.6	1.9
Dissolved sulfate	52	< 5.0	9.6	15.0	15.6	21.7	29.0	7.4
Dissolved chloride	52	1.9	7.2	11.5	13.1	18.0	32.0	7.3
Dissolved fluoride	52	< 0.1	0.1	0.2	0.2	0.3	1.0	0.1
Dissolved silica	28	6.2	9.6	11.5	13.6	20.0	24.0	5.5
Dissolved solids	25	63	111	139	167	212	368	84
Total phosphorus	100	0.07	0.18	0.23	0.28	0.34	1.10	0.16
Total nitrogen	98	0.46	1.20	1.60	1.66	2.00	4.70	0.71
Total organic nitrogen	40	0.30	0.83	1.10	1.10	1.38	2.20	0.40
Total nitrite + nitrate	99	< 0.10	0.20	0.30	0.37	0.46	3.60	0.39
Total ammonia	41	< 0.01	0.10	0.15	0.21	0.21	2.10	0.32
BOD	96	1.2	2.5	3.2	3.5	4.0	12.0	1.7
Fecal coliforms(31625)	77	3	83	200	8,553	430	620,000	70,605
Fecal strep.(31673)	64	5	152	370	10,747	862	580,000	72,462
Turbidity	19	8.2	29	84	85	140	190	60
Suspended sediment	77	20	89	141	176	194	975	154
Arsenic	13	1	2	3	3	4	7	2
Cadmium	13	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	13	< 20	< 20	< 20	--	< 20	20	--
Copper	13	< 20	< 20	< 20	--	< 20	33	--
Lead	9	< 2	5	8	10	13	23	6
Zinc	13	< 20	20	30	40	60	80	22

Table 22.--Statistical summary of selected water-quality properties for L'Anguille River near Colt, Ark., 07047942--Continued

Regression equation		Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.447 (SC) -17.4	55	97	13.1
Calcium =0.102 (SC) -1.24	50	96	3.2
Chloride =0.04 (SC) + 2.49	52	76	3.6
Dissolved solids =0.579 (SC) + 13.19	25	98	11.2
Fluoride =0.000 (SC) + 0.16	52	6**	0.1
Magnesium =0.043 (SC) -1.65	50	98***	1.1
Potassium =0.002 (SC) + 3.21	50	3**	1.9
Silica =0.032 (SC) + 4.83	28	79	2.5
Sodium =0.046 (SC) + 0.54	50	77	3.9
Sulfate =0.028 (SC) + 7.71	52	34	6.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 23.--Statistical summary of selected water-quality properties for L'Anguille River at Marianna, Ark., 07047964

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	128	2.4	5.7	6.6	7.0	8.2	12.8	2.1
pH	128	6.4	7.0	7.3	7.3	7.6	8.1	0.4
Specific conductance	65	59	98	173	232	329	654	154
Total alkalinity	22	23	32	95	92	133	230	57
Total hardness	59	25	52	74	100	144	310	64
Dissolved magnesium	10	3.0	8.2	12.5	13.6	17.3	34.0	8.9
Dissolved sulfate	120	2.0	8.0	12.0	14.7	19.7	100.0	11.0
Dissolved chloride	122	2.5	7.5	11.5	13.2	17.6	46.0	7.4
Dissolved solids	84	102	156	189	208	241	382	68
Total phosphorus	113	0.07	0.20	0.27	0.33	0.37	3.50	0.34
Total nitrite + nitrate	67	< 0.05	0.17	0.30	0.33	0.43	1.30	0.23
Total ammonia	94	< 0.10	0.10	0.14	0.24	0.21	3.40	0.46
BOD	124	0.5	2.2	2.8	3.1	3.4	7.5	1.3
Fecal coliforms(31616)	115	2	52	130	1,034	370	42,000	4,824
Fecal strep.(31679)	18	33	134	184	958	538	9,300	2,199
Turbidity	55	20	40	70	100	110	1,000	140
Arsenic	60	< 10	< 10	< 10	--	< 10	56	--
Cadmium	114	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	82	< 20	< 20	< 20	--	< 20	30	--
Copper	120	< 20	< 20	< 20	--	< 20	50	--
Lead	62	< 20	< 20	< 20	--	< 20	66	--
Zinc	106	< 20	< 20	20	38	30	515	79

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.415 (SC) -6.78	20	96	11.4
Chloride =0.033 (SC) + 4.64	59	65***	3.8
Magnesium =0.051 (SC) -0.54	10	81	4.1
Sulfate =0.034 (SC) + 6.6	59	15	12.7

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 24.--Statistical summary of selected water-quality properties for St. Francis River north of Helena, Ark., 07047968

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	102	3.0	6.6	7.9	8.0	9.5	12.6	2.1
pH	102	6.3	7.3	7.6	7.6	7.8	8.2	0.3
Specific conductance	73	72	163	280	264	342	721	123
Total alkalinity	21	19	66	98	110	166	221	58
Total hardness	46	22	83	129	128	161	388	66
Dissolved magnesium	9	4.0	6.5	12.0	12.0	16.5	24.0	6.5
Dissolved sulfate	94	< 1.0	10.0	13.0	13.4	16.0	26.0	5.2
Dissolved chloride	95	3.5	6.5	8.0	8.3	9.5	16.0	2.5
Dissolved solids	60	101	169	199	205	235	431	57
Total phosphorus	91	0.03	0.14	0.19	0.27	0.34	2.60	0.29
Total nitrite + nitrate	43	< 0.05	0.13	0.30	0.38	0.51	1.50	0.34
Total ammonia	73	< 0.10	< 0.10	0.11	0.14	0.17	0.96	0.13
BOD	101	0.3	2.4	3.2	3.3	3.9	10.0	1.4
Fecal coliforms(31616)	90	2	18	59	238	145	4,500	597
Fecal strep.(31679)	18	3	30	427	1,026	1,775	6,000	1,482
Turbidity	33	4.0	35	50	98	160	350	96
Arsenic	46	< 10	< 10	< 10	--	< 10	30	--
Cadmium	80	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	30	--
Copper	84	< 20	< 20	< 20	--	< 20	50	--
Lead	41	< 20	< 20	< 20	--	< 20	43	--
Zinc	82	< 20	< 20	20	54	40	930	150

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.471 (SC) -11.4	19	94	15.0
Chloride =0.011 (SC) + 4.91	65	36	1.9
Magnesium =0.043 (SC) + 0.07	9	85***	2.7
Sulfate =0.014 (SC) + 9.04	67	10	5.1

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 25.--Statistical summary of selected water-quality properties for West Fork White River east of Fayetteville, Ark., 07048550

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	48	0.0	6.5	30	212	123	6,400	919
Dissolved oxygen	125	3.1	6.8	8.5	8.8	10.9	14.3	2.5
pH	129	6.9	7.4	7.5	7.6	7.6	9.6	0.3
Specific conductance	67	81	116	151	161	191	286	57
Total alkalinity	22	30	40	53	58	82	107	23
Total hardness	62	10	52	65	73	96	160	30
Dissolved magnesium	10	1.0	1.7	2.5	2.5	3.0	5.0	1.2
Dissolved sulfate	117	3.0	11.0	15.0	17.7	21.5	75.0	10.2
Dissolved chloride	122	3.0	5.0	7.0	8.1	9.0	38.0	5.3
Dissolved solids	81	66	90	110	119	144	208	35
Total phosphorus	118	< 0.01	0.04	0.06	0.09	0.09	0.87	0.12
Total nitrite + nitrate	62	< 0.05	0.17	0.33	0.46	0.64	2.10	0.42
Total ammonia	99	< 0.10	< 0.10	< 0.10	0.08	< 0.10	0.68	0.09
BOD	115	0.3	1.5	2.4	2.7	3.5	10.0	1.7
Fecal coliforms(31616)	114	2	24	98	348	253	8,100	1,089
Fecal strep.(31679)	12	10	64	335	333	560	810	261
Turbidity	59	1.6	8.0	20	42	30	750	110
Arsenic	47	< 10	< 10	< 10	--	< 10	10	--
Cadmium	95	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	84	< 20	< 20	< 20	--	< 20	30	--
Copper	95	< 20	< 20	< 20	--	< 20	98	--
Lead	60	< 20	< 20	< 20	--	< 20	110	--
Zinc	90	< 20	< 20	< 20	31	37	230	42

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.358 (SC) -0.48	21	92	6.7
Chloride =0.032 (SC) + 1.91	61	17	4.1
Magnesium =0.012 (SC) + 0.77	10	44***	0.9
Sulfate =0.080 (SC) + 2.42	59	16	9.9

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 26.--Statistical summary of selected water-quality properties for White River near Goshen, Ark., 07048700

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	75	8.5	28	206	441	391	10,000	1,190
Dissolved oxygen	148	0.5	5.3	8.0	7.7	10.2	13.1	2.9
pH	153	6.2	7.2	7.4	7.4	7.5	8.1	0.3
Specific conductance	95	57	88	111	157	195	598	106
Total alkalinity	48	12	28	38	47	54	140	29
Total hardness	92	10	40	49	59	79	140	28
Dissolved calcium	29	1.6	11.0	16.0	17.6	26.0	40.0	9.3
Dissolved magnesium	29	1.0	1.4	2.2	2.5	3.0	9.0	1.6
Dissolved sulfate	132	< 1.0	8.0	11.0	14.2	17.8	42.0	8.8
Dissolved chloride	138	2.3	5.0	7.5	12.4	14.0	62.0	12.1
Dissolved solids	71	56	73	85	121	181	305	64
Total phosphorus	144	0.03	0.15	0.32	0.74	0.93	6.80	1.02
Total nitrogen	32	0.71	1.03	1.75	2.64	2.83	12.00	2.71
Total organic nitrogen	32	0.10	0.20	0.74	1.04	1.17	7.00	1.50
Total nitrite + nitrate	101	< 0.10	0.43	0.63	0.75	0.94	2.20	0.41
Total ammonia	122	< 0.01	0.12	0.27	0.80	0.65	8.70	1.50
BOD	136	0.2	1.7	2.5	3.2	4.4	9.4	2.0
Fecal coliforms(31625)	27	1	9	53	416	190	5,200	1,045
Fecal coliforms(31616)	111	1	5	52	425	180	19,000	2,005
Fecal strep.(31673)	0	--	--	--	--	--	--	--
Turbidity	85	1.5	9.0	20	25	30	120	23
Arsenic	77	< 10	< 10	< 10	--	< 10	15	--
Cadmium	95	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	113	< 20	< 20	< 20	--	< 20	40	--
Copper	104	< 20	< 20	< 20	16	21	80	16
Lead	56	< 20	< 20	< 20	--	< 20	38	--
Zinc	124	< 20	< 20	36	66	77	650	97

Table 26.--Statistical summary of selected water-quality properties for White River near Goshen, Ark., 07048700--Continued

Regression equation	N	Percent explained variance (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.276 (SC) + 3.67	48	93	7.8
Calcium =0.092 (SC) + 3.85	29	83	4.0
Chloride =0.088 (SC) -3.76	75	93	2.5
Dissolved solids =0.500 (SC) + 26.52	12	96	12.0
Magnesium =0.015 (SC) + 0.30	29	70***	0.9
Sulfate =0.058 (SC) + 3.05	74	65	4.6

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distributionof residuals.

Table 27.--Statistical summary of selected water-quality properties for White River at Beaver Dam near Eureka Springs, Ark., 07049691

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	64	20	53	1,100	1,900	3,500	8,620	2,050
Dissolved oxygen	140	2.1	7.3	9.4	9.2	11.0	15.8	2.6
pH	138	6.2	7.3	7.6	7.6	7.8	8.6	0.4
Specific conductance	144	61	130	140	140	150	462	32
Total alkalinity	30	51	55	61	61	68	74	7
Total hardness	30	40	62	68	67	74	82	8
Dissolved calcium	19	10.0	21.0	23.0	22.2	24.0	27.0	3.6
Dissolved magnesium	19	1.4	2.1	2.5	2.6	3.2	3.7	0.7
Dissolved sulfate	25	< 5.0	6.5	7.8	7.5	8.5	11.0	1.7
Dissolved chloride	26	1.8	2.8	3.2	3.5	3.6	7.8	1.3
Total phosphorus	31	< 0.01	< 0.01	0.01	0.03	0.02	0.44	0.08
Total nitrogen	24	0.23	0.45	0.55	0.84	1.14	3.50	0.71
Total organic nitrogen	24	0.10	0.17	0.27	0.51	0.67	3.20	0.66
Total nitrite + nitrate	31	< 0.10	0.20	0.29	0.33	0.37	1.50	0.25
Total ammonia	27	< 0.01	< 0.01	0.03	0.03	0.05	0.08	0.02
BOD	31	0.1	0.6	1.0	1.0	1.2	2.3	0.6
Fecal coliforms (31625)	27	1	1	5	24	20	150	43
Turbidity	24	<1.0	< 1.0	< 1.0	1.4	1.3	14	2.9
Arsenic	31	< 1	< 1	1	1	1	8	1
Cadmium	0	--	--	--	--	--	--	--
Chromium	31	< 20	< 20	< 20	--	< 20	20	--
Copper	24	< 20	< 20	< 20	--	< 20	< 20	--
Lead	21	< 2	2	3	4	6	14	3
Zinc	24	< 20	< 20	< 20	39	20	610	122

Table 27.--Statistical summary of selected water-quality properties for White River at Beaver Dam near Eureka Springs, Ark., 07049691--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.262 (SC) + 23.61	30	31***	5.8
Calcium =-0.106 (SC) + 37.87	19	13**	3.4
Chloride =0.006 (SC) + 2.37	23	1**	1.1
Magnesium =0.032 (SC) -2.04	19	33***	0.6
Sulfate =0.018 (SC) + 4.78	23	2**	2.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 28.--Statistical summary of selected water-quality properties for White River at Beaver, Ark., 07050000

[N=number of observations, BOD=5-day biochemical oxygen demand five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	69	20	120	1,230	1,610	2,780	7,720	1,780
Dissolved oxygen	101	3.7	8.6	9.9	9.8	11.2	13.0	1.7
pH	103	7.0	7.5	7.7	7.7	7.9	8.6	0.3
Specific conductance	67	104	145	151	162	169	344	39
Total alkalinity	23	30	59	65	74	77	180	29
Total hardness	49	49	67	74	77	85	130	16
Dissolved magnesium	10	1.0	1.7	3.5	4.0	6.5	8.2	2.6
Dissolved sulfate	93	< 1.0	5.0	6.0	6.4	8.0	13.0	2.4
Dissolved chloride	97	2.5	4.5	5.0	5.1	5.5	12.0	1.5
Dissolved solids	54	73	87	93	97	105	136	15
Total phosphorus	96	< 0.01	< 0.01	0.01	0.03	0.03	0.94	0.10
Total nitrite + nitrate	37	0.05	0.16	0.23	0.25	0.30	0.59	0.11
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.05	< 0.10	0.16	0.03
BOD	90	0.3	1.3	2.0	2.1	2.5	6.2	1.1
Fecal coliforms(31616)	98	1	4	12	39	30	620	88
Fecal strep.(31679)	14	2	7	47	237	125	1,500	478
Turbidity	33	1.0	1.5	2.4	2.9	3.8	10	1.8
Arsenic	45	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	64	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	61	< 20	< 20	< 20	--	< 20	< 20	--
Copper	64	< 20	< 20	< 20	--	< 20	30	--
Lead	42	< 20	< 20	< 20	--	< 20	20	--
Zinc	61	< 20	< 20	< 20	--	< 20	60	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.570 (SC) -20.84	22	90	9.4
Chloride =0.002 (SC) + 4.38	61	1**	1.0
Magnesium =0.061 (SC) -5.68	10	83	1.1
Sulfate =0.005 (SC) + 5.02	59	1**	2.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 29.--Statistical summary of selected water-quality properties for Kings River near Berryville, Ark., 07050500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	96	0.4	119	298	423	551	3,600	527
Dissolved oxygen	128	5.8	8.6	10.0	10.1	11.4	14.8	2.1
pH	130	7.5	7.9	8.0	8.0	8.2	8.7	0.2
Specific conductance	100	141	207	234	243	270	445	51
Total alkalinity	22	77	96	122	116	133	148	22
Total hardness	63	14	100	120	119	136	190	27
Dissolved magnesium	10	4.0	4.9	7.0	7.5	9.5	14.0	3.1
Dissolved sulfate	114	< 1.0	4.0	6.0	6.9	9.0	23.0	4.0
Dissolved chloride	122	2.5	4.5	5.5	6.3	7.1	19.0	3.0
Dissolved solids	83	92	124	146	146	166	222	27
Total phosphorus	120	< 0.01	0.05	0.08	0.12	0.16	0.55	0.11
Total nitrite + nitrate	63	0.06	0.31	0.43	0.49	0.59	1.60	0.28
Total ammonia	102	< 0.10	< 0.10	< 0.10	--	< 0.10	0.99	--
BOD	119	0.2	1.4	2.1	2.3	2.8	6.7	1.2
Fecal coliforms(31616)	127	1	20	52	169	160	1,800	296
Fecal strep.(31679)	15	2	12	48	81	105	445	113
Turbidity	60	1.0	2.3	4.0	5.5	6.0	30	5.5
Arsenic	60	< 10	< 10	< 10	--	< 10	12	--
Cadmium	88	< 20	< 20	< 20	--	< 20	20	--
Chromium	86	< 20	< 20	< 20	--	< 20	23	--
Copper	90	< 20	< 20	< 20	--	< 20	58	--
Lead	67	< 20	< 20	< 20	--	< 20	30	--
Zinc	85	< 20	< 20	< 20	--	< 20	1200	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.445 (SC) + 8.09	21	84	9.1
Chloride =0.0430 (SC) -4.64	90	51***	1.9
Magnesium =0.051 (SC) -4.58	10	72	1.7
Sulfate =0.009 (SC) + 4.11	86	1**	4.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 30.--Statistical summary of selected water-quality properties for White River at Bull Shoals Dam near Flippin, Ark., 07054501

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	124	50	1,700	5,800	7,930	12,700	25,600	7,250
Dissolved oxygen	230	2.6	7.1	9.2	9.0	11.0	16.8	2.7
pH	225	6.7	7.7	7.9	7.9	8.1	9.2	0.3
Specific conductance	195	160	241	255	254	270	310	22
Total alkalinity	48	106	120	124	124	130	140	8
Total hardness	74	14	130	138	135	140	170	18
Dissolved calcium	25	31.0	35.0	36.0	37.2	38.5	47.0	3.6
Dissolved magnesium	25	7.0	9.9	11.0	10.5	11.0	13.0	1.3
Dissolved sulfate	112	< 1.0	4.0	6.3	6.7	8.0	12.0	2.0
Dissolved chloride	118	2.8	5.0	5.5	6.0	6.9	15.0	1.7
Dissolved solids	54	80	142	153	150	157	172	14
Total phosphorus	118	< 0.01	< 0.01	0.01	0.01	0.01	0.11	0.02
Total nitrogen	25	0.19	0.43	0.61	0.63	0.71	1.70	0.33
Total organic nitrogen	24	0.10	0.13	0.21	0.30	0.40	1.30	0.27
Total nitrite + nitrate	72	< 0.10	0.18	0.23	0.28	0.35	0.71	0.14
Total ammonia	100	< 0.01	0.02	0.04	0.02	0.05	0.72	0.08
BOD	121	0.1	0.8	1.2	1.4	1.8	6.2	0.9
Fecal coliforms(31625)	27	1	1	1	92	5	2300	441
Fecal coliforms(31616)	94	1	2	4	11	8	140	22
Fecal strep.(31673)	0	--	--	--	--	--	--	--
Turbidity	58	<1.0	< 1.0	1.0	1.7	1.6	25	3.5
Arsenic	56	< 10	< 10	< 10	--	< 10	15	--
Cadmium	49	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	70	< 20	< 20	< 20	--	< 20	34	--
Copper	62	< 20	< 20	< 20	--	< 20	50	--
Lead	33	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	66	< 20	< 20	< 20	14	20	100	16

Table 30.--Statistical summary of selected water-quality properties for White River at Bull Shoals Dam near Flippin, Ark., 07054501--Continued

Regression equation	N	Percent explained variance (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.115 (SC) + 95.22	47	12	7.7
Calcium =0.000 (SC) + 37.16	25	0**	3.7
Chloride =0.010 (SC) + 3.04	79	3**	1.1
Dissolved solids =0.488 (SC) + 19.34	19	48	8.7
Magnesium =0.004 (SC) + 9.38	25	0**	1.4
Sulfate =0.019 (SC) + 0.90	76	2**	2.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 31.--Statistical summary of selected water-quality properties for Crooked Creek at Yellville, Ark., 07055608

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	56	0.0	34	125	277	293	3,800	551
Dissolved oxygen	67	5.4	9.7	10.8	10.5	11.7	15.2	2.0
pH	69	7.7	8.0	8.1	8.1	8.2	8.5	0.2
Specific conductance	9	326	335	337	340	346	359	9
Total alkalinity	4	140	143	155	155	168	170	13
Total hardness	40	116	159	171	169	180	200	17
Dissolved magnesium	0	--	--	--	--	--	--	--
Dissolved sulfate	59	< 1.0	6.0	7.0	6.5	8.0	12.0	2.3
Dissolved chloride	66	3.0	5.9	7.0	7.4	9.0	16.0	2.4
Dissolved solids	67	134	177	191	203	201	924	94
Total phosphorus	60	< 0.01	0.01	0.01	0.02	0.03	0.08	0.02
Total nitrite + nitrate	52	< 0.05	0.09	0.29	0.40	0.67	1.20	0.35
Total ammonia	63	< 0.10	< 0.10	< 0.10	0.03	< 0.10	0.10	0.02
BOD	66	0.2	0.9	1.5	1.6	2.0	3.8	0.8
Fecal coliforms(31616)	66	2	4	16	110	58	3,900	486
Fecal strep.(31679)	0	--	--	--	--	--	--	--
Turbidity	56	1.0	2.0	2.7	4.2	4.0	35	5.3
Arsenic	22	< 10	< 10	< 10	--	< 10	17	--
Cadmium	65	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	58	< 20	< 20	< 20	--	< 20	< 20	--
Copper	60	< 20	< 20	< 20	18	22	120	25
Lead	38	< 20	< 20	< 20	--	< 20	130	--
Zinc	58	< 20	< 20	< 20	34	30	320	61

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =2.573 (SC) -699	3	97**	3.5
Chloride =-0.104 (SC) + 42.78	8	47**	1.2
Sulfate =0.003 (SC) + 4.70	9	0**	1.7

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 32.--Statistical summary of selected water-quality properties for Buffalo River near St. Joe, Ark., 07056000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	136	1.3	94	353	910	990	19,600	1,980
Dissolved oxygen	128	6.2	8.4	9.6	9.7	11.0	13.8	1.8
pH	126	7.4	7.8	7.9	7.9	8.0	8.4	0.2
Specific conductance	99	114	172	209	207	243	291	42
Total alkalinity	21	63	82	100	101	120	131	22
Total hardness	59	60	84	100	104	120	180	24
Dissolved magnesium	9	1.7	2.0	3.0	4.4	5.5	13.0	3.5
Dissolved sulfate	118	< 1.0	4.0	5.0	5.2	7.0	12.0	2.1
Dissolved chloride	120	1.5	3.5	4.0	4.1	4.9	8.5	1.1
Dissolved solids	78	83	104	120	120	137	159	21
Total phosphorus	121	< 0.01	0.01	0.01	0.02	0.03	0.23	0.03
Total nitrite + nitrate	68	< 0.05	0.05	0.10	0.12	0.19	0.35	0.08
Total ammonia	94	< 0.10	< 0.10	< 0.10	--	< 0.10	0.16	--
BOD	127	0.3	0.8	1.2	1.5	2.1	6.9	1.0
Fecal coliforms(31616)	120	2	4	16	79	49	1,200	195
Fecal strep.(31679)	16	2	17	28	130	118	704	228
Turbidity	57	<1.0	2.0	2.5	6.8	4.9	100	14
Arsenic	47	< 10	< 10	< 10	--	< 10	11	--
Cadmium	104	< 20	< 20	< 20	--	< 20	20	--
Chromium	87	< 20	< 20	< 20	--	< 20	< 20	--
Copper	116	< 20	< 20	< 20	--	< 20	200	--
Lead	80	< 20	< 20	< 20	48	39	480	97
Zinc	113	< 20	< 20	< 20	15	20	167	24

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.465 (SC) + 2.68	20	84	9.1
Chloride =0.014 (SC) + 1.19	91	33	0.8
Magnesium =0.041 (SC) -4.09	9	33**	3.1
Sulfate =-0.005 (SC) + 6.04	89	1**	2.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 33.--Statistical summary of selected water-quality properties for White River near Norfork, Ark., 07057370

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	96	150.0	2,247.5	6,640	8,248	11,408	42,300	7640
Dissolved oxygen	128	6.4	9.3	10.2	10.2	11.1	13.0	1.3
pH	126	7.5	7.9	8.1	8.0	8.2	8.5	0.2
Specific conductance	68	180	239	257	254	278	302	28
Total alkalinity	22	98	118	127	125	140	140	14
Total hardness	59	80	122	130	140	140	610	64
Dissolved magnesium	9	5.2	9.0	11.0	25.2	13.5	145.0	45.0
Dissolved sulfate	113	< 1.0	4.0	6.0	6.2	8.0	12.0	2.4
Dissolved chloride	122	1.5	5.0	5.5	5.7	6.5	17.0	1.7
Dissolved solids	79	113	145	150	151	158	181	12
Total phosphorus	120	< 0.01	< 0.01	0.01	0.03	0.03	0.60	0.07
Total nitrite + nitrate	65	< 0.05	0.17	0.24	0.26	0.35	0.66	0.13
Total ammonia	94	< 0.10	< 0.10	< 0.10	--	< 0.10	0.59	--
BOD	125	0.1	0.7	1.0	1.1	1.4	4.0	0.6
Fecal coliforms(31616)	119	2	4	12	115	34	6100	622
Fecal strep.(31679)	16	2	2	12	42	33	250	77
Turbidity	57	1.0	1.8	3.0	11	4.2	340	45
Arsenic	44	< 10	< 10	< 10	--	< 10	19	--
Cadmium	110	< 20	< 20	< 20	--	< 20	30	--
Chromium	84	< 20	< 20	< 20	--	< 20	20	--
Copper	122	< 20	< 20	< 20	23	26	290	37
Lead	80	< 20	< 20	< 20	60	54	1,400	160
Zinc	118	< 20	< 20	22	34	38	310	41

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.344 (SC) + 35.85	21	51***	9.7
Chloride =0.017 (SC) + 1.02	62	18***	0.9
Magnesium =-0.364 (SC) + 113.40	9	4**	47.2
Sulfate =0.015 (SC) + 1.27	60	4**	2.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 34.--Statistical summary of selected water-quality properties for North Fork River at Norfork Dam near Norfork, Ark., 07060000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4 silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	62	60	736	1,860	2,130	2,890	7,060	1,748
Dissolved oxygen	137	1.4	8.0	10.0	9.8	11.9	18.5	3.0
pH	136	6.2	7.7	7.9	7.9	8.2	8.8	0.4
Specific conductance	142	210	300	320	317	340	370	28
Total alkalinity	30	48	160	170	165	180	198	26
Total hardness	30	140	168	180	176	183	200	14
Dissolved calcium	19	31.0	32.0	36.0	35.5	37.0	43.0	3.4
Dissolved magnesium	19	17.0	20.0	22.0	21.3	23.0	25.0	1.9
Dissolved sulfate	26	< 5.0	< 5.0	5.1	5.8	7.8	11.0	2.2
Dissolved chloride	26	1.4	2.3	2.5	5.9	3.5	84.0	15.9
Total phosphorus	31	< 0.01	0.01	0.04	0.05	0.07	0.25	0.05
Total nitrogen	26	0.25	0.37	0.70	0.72	0.93	1.70	0.36
Total organic nitrogen	25	0.10	0.13	0.32	0.38	0.50	1.40	0.32
Total nitrite + nitrate	31	< 0.10	0.15	0.21	0.27	0.40	0.60	0.15
Total ammonia	27	< 0.01	0.05	0.07	0.08	0.10	0.23	0.06
BOD	31	0.6	1.0	1.4	1.6	2.0	3.3	0.8
Fecal coliforms (31625)	27	1	1	6	12	18	43	13
Turbidity	23	<1.0	< 1.0	1.1	1.9	1.9	17	3.4
Arsenic	22	< 1	1	1	1	1	2	0
Cadmium	0	--	--	--	--	--	--	--
Chromium	19	< 20	< 20	< 20	20	< 20	< 20	--
Copper	15	< 20	< 20	< 20	20	< 20	< 20	--
Lead	12	< 2	< 2	2	4	4	20	6
Zinc	15	< 20	< 20	< 20	24	20	110	32

Table 34.--Statistical summary of selected water-quality properties for North Fork River at Norfork Dam near Norfork, Ark., 07060000--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.354 (SC) + 53.31	30	15	24.5
Calcium =0.094 (SC) + 4.81	19	47***	2.5
Chloride =0.173 (SC) -50.22	23	5**	16.9
Magnesium =0.050 (SC) + 5.05	19	40	1.6
Sulfate =0.020 (SC) -1.25	23	4**	2.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 35.--Statistical summary of selected water-quality properties for North Fork River at Norfork, Ark., 07060010

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	73	20	20	2,630	2,340	3,700	7,500	2,330
Dissolved oxygen	104	4.5	8.6	10.7	10.2	12.0	15.3	2.4
pH	102	7.3	8.0	8.1	8.1	8.3	8.7	0.2
Specific conductance	68	260	296	326	321	342	381	27
Total alkalinity	22	130	159	170	167	180	190	17
Total hardness	48	18	166	181	191	199	850	104
Dissolved magnesium	9	18.0	18.5	20.0	41.4	27.0	203.0	60.7
Dissolved sulfate	93	< 1.0	3.0	4.0	4.2	6.0	14.0	2.2
Dissolved chloride	97	2.5	4.0	4.5	4.7	5.0	16.0	1.9
Dissolved solids	54	156	175	187	184	193	207	13
Total phosphorus	99	< 0.01	< 0.01	0.01	0.01	0.02	0.10	0.02
Total nitrite + nitrate	43	< 0.05	0.10	0.16	0.19	0.24	0.41	0.10
Total ammonia	74	< 0.10	< 0.10	< 0.10	--	< 0.10	0.39	--
BOD	100	0.2	1.3	1.8	1.9	2.4	6.3	1.0
Fecal coliforms(31616)	98	2	2	11	41	34	600	94
Fecal strep.(31679)	15	2	4	20	52	50	270	81
Turbidity	35	<1.0	1.5	2.0	5.0	4.0	65	11.0
Arsenic	43	< 10	< 10	< 10	--	< 10	15	--
Cadmium	61	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	58	< 20	< 20	< 20	--	< 20	< 20	--
Copper	59	< 20	< 20	< 20	--	< 20	31	--
Lead	39	< 20	< 20	< 20	--	< 20	40	--
Zinc	61	< 20	< 20	< 20	--	< 20	150	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.356 (SC) + 51.69	21	28	14.2
Chloride =-0.025 (SC) + 12.75	61	14	1.6
Magnesium =-0.453 (SC) + 183.3	9	4**	63.5
Sulfate =-0.011 (SC) + 7.28	61	2**	2.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 36.--Statistical summary of selected water-quality properties for White River at Calico Rock, Ark., 07060500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses are bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	132	1,010	3,190	10,800	10,803	16,300	37,000	8,220
Dissolved oxygen	98	6.6	8.9	9.8	19.9	10.8	16.0	1.7
pH	96	7.0	7.8	8.0	7.9	8.1	8.4	0.3
Specific conductance	96	155	260	276	277	292	350	30
Total alkalinity	56	91	124	130	134	148	170	16
Total hardness	50	100	130	140	143	160	170	15
Dissolved calcium	50	30.0	34.8	36.0	36.0	38.0	42.0	2.4
Dissolved magnesium	51	6.5	11.0	12.0	12.8	15.0	19.0	3.1
Dissolved sodium	50	1.3	1.9	2.2	2.2	2.6	3.1	0.5
Dissolved potassium	50	1.0	1.3	1.4	1.4	1.5	1.7	0.2
Dissolved sulfate	51	< 5.0	5.8	7.1	7.3	8.4	14.0	2.0
Dissolved chloride	51	1.6	3.3	3.6	3.8	4.4	6.2	0.9
Dissolved fluoride	51	< 0.1	< 0.1	0.1	0.1	0.1	0.1	0.0
Dissolved silica	27	1.4	2.9	3.7	3.5	4.2	5.9	0.9
Dissolved solids	26	112	147	153	154	165	183	14
Total phosphorus	96	< 0.01	0.01	0.01	0.03	0.03	0.76	0.08
Total nitrogen	91	0.16	0.40	0.57	0.64	0.80	2.20	0.34
Total organic nitrogen	33	0.11	0.27	0.48	0.54	0.69	1.80	0.33
Total nitrite + nitrate	96	< 0.10	0.14	0.23	0.24	0.30	0.60	0.11
Total ammonia	38	< 0.01	0.02	0.04	0.05	0.07	0.15	0.04
BOD	93	0.2	0.9	1.2	1.6	1.8	6.3	1.0
Fecal coliforms(31625)	74	1	11	43	180	93	7,900	915
Fecal strep.(31673)	61	0	27	78	202	135	5,900	757
Turbidity	18	<1.0	< 1.0	1.2	2.5	2.0	18	4.1
Suspended sediment	7	1	3	4	5	5	11	3
Arsenic	11	< 1	< 1	1	—	1	1	—
Cadmium	11	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	12	< 20	< 20	< 20	—	< 20	< 20	—
Copper	11	< 20	< 20	< 20	—	< 20	80	—
Lead	8	< 2	< 2	< 2	—	2	2	—
Zinc	11	< 20	< 20	< 20	16	20	100	29

Table 36.--Statistical summary of selected water-quality properties for White River at Calico Rock, Ark., 07060500--Continued

Regression equation		Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.507 (SC) -5.8	55	73	8.2
Calcium =0.038 (SC) + 25.38	49	18	2.2
Chloride =0.001 (SC) + 3.59	50	0**	0.9
Dissolved solids = 0.514 (SC) + 8.3	26	54	9.5
Fluoride =0.000 (SC) + 0.04	50	2**	0.0
Magnesium =0.092 (SC) -12.68	50	65	1.8
Potassium =0.001 (SC) + 1.21	49	1**	0.2
Silica =-0.013 (SC) + 7.12	27	12**	0.9
Sodium =-0.001 (SC) + 2.51	49	0**	0.5
Sulfate =-0.009 (SC) + 9.56	50	1**	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 37.--Statistical summary of selected water-quality properties for North Sylamore Creek near Fifty Six, Ark., 07060710

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	151	2.7	5.9	13	53	34	1,200	154
Dissolved oxygen	110	5.5	8.6	9.8	9.9	11.2	14.6	2.0
pH	108	7.5	7.9	8.1	8.1	8.2	8.6	0.2
Specific conductance	107	158	259	273	267	284	309	30
Total alkalinity	109	68	121	135	131	141	170	18
Total hardness	108	79	130	140	136	150	160	16
Dissolved calcium	109	27.0	42.0	45.0	44.5	48.0	54.0	5.1
Dissolved magnesium	108	2.4	5.4	6.2	6.2	6.9	14.0	1.4
Dissolved sodium	109	0.6	1.2	1.5	1.7	1.7	11.0	1.3
Dissolved potassium	110	0.3	0.7	0.8	0.9	0.9	5.9	0.6
Dissolved sulfate	109	< 5.0	< 5.0	6.0	6.2	7.1	11.0	1.6
Dissolved chloride	110	0.8	1.7	2.1	2.4	2.4	18.0	2.1
Dissolved fluoride	110	< 0.1	< 0.1	0.1	0.1	0.1	0.6	0.1
Dissolved silica	109	3.0	6.4	7.3	7.5	8.2	15.0	1.6
Dissolved solids	107	98	143	154	151	162	212	18
Total phosphorus	110	< 0.01	< 0.01	0.01	0.02	0.02	0.17	0.03
Total nitrogen	36	0.10	0.24	0.38	0.82	0.72	8.90	1.57
Total organic nitrogen	20	0.21	0.28	0.54	1.22	0.95	8.90	2.03
Total nitrite + nitrate	91	< 0.10	< 0.10	< 0.10	--	< 0.10	0.73	--
Total ammonia	22	< 0.01	0.02	0.04	0.05	0.08	0.16	0.04
Fecal coliforms(31625)	84	0	2	9	46	38	720	99
Fecal strep.(31673)	72	0	16	67	660	150	40,000	4,600
Turbidity	18	<1.0	< 1.0	<1.0	1.1	2.0	2.6	0.4
Suspended sediment	108	0	2	5	6	8	50	7
Arsenic	14	< 1	< 1	< 1	1	1	2	0
Cadmium	15	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	15	< 20	< 20	< 20	--	< 20	< 20	--
Copper	15	< 20	< 20	< 20	--	< 20	< 20	--
Lead	9	< 2	< 2	4	4	6	6	2
Zinc	15	< 20	< 20	20	26	40	70	17

Table 37.--Statistical summary of selected water-quality properties for North Sylamore Creek near Fifty Six, Ark., 07060710--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.547 (SC) -14.9	106	80	8.2
Calcium =0.15 (SC) + 4.31	106	77	2.5
Chloride =0.015 (SC) -1.54	107	4***	2.1
Dissolved solids =0.506 (SC) + 15.54	105	70	10.0
Fluoride =0.000 (SC) + 0.03	107	1**	0.1
Magnesium =0.032 (SC) -2.27	105	43	1.1
Potassium =0.001 (SC) + 0.49	107	1**	0.6
Silica =0.006 (SC) + 5.93	106	1**	1.6
Sodium =0.013 (SC) -1.73	106	9	1.2
Sulfate =-0.017 (SC) + 10.15	106	5	2.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 38.--Statistical summary of selected water-quality properties for White River at Oil Trough, Ark., 07061105

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens, per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	116	6.4	9.2	9.8	10.1	11.4	13.8	1.5
pH	119	7.5	8.0	8.1	8.1	8.2	8.4	0.2
Specific conductance	59	165	255	279	278	295	523	45
Total alkalinity	20	110	129	136	137	150	160	13
Total hardness	59	63	130	140	140	150	190	24
Dissolved magnesium	8	10.0	11.2	13.0	12.9	13.7	17.0	2.1
Dissolved sulfate	110	< 1.0	4.0	6.0	6.4	8.0	25.0	3.1
Dissolved chloride	114	2.5	4.5	5.5	5.6	6.5	13.0	1.6
Dissolved solids	77	133	150	160	161	171	197	15
Total phosphorus	112	< 0.01	0.02	0.03	0.05	0.06	0.64	0.07
Total nitrite + nitrate	63	0.07	0.18	0.27	0.28	0.35	0.57	0.12
Total ammonia	92	< 0.10	< 0.10	< 0.10	--	< 0.10	0.22	--
BOD	115	0.4	1.2	2.1	2.2	2.9	7.0	1.2
Fecal coliforms(31616)	116	2	16	49	343	213	13,000	1,269
Fecal strep.(31679)	9	12	17	32	60	85	220	67
Turbidity	54	2.5	3.9	6.0	18	15	120	28
Arsenic	45	< 10	< 10	< 10	--	< 10	12	--
Cadmium	86	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	77	< 20	< 20	< 20	--	< 20	93	--
Copper	89	< 20	< 20	< 20	--	< 20	860	--
Lead	56	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	75	< 20	< 20	< 20	16	20	60	13

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.353 (SC) + 43.78	17	47	9.0
Chloride =0.002 (SC) + 4.74	53	1**	1.0
Magnesium =0.040(SC) + 2.42	8	16**	2.1
Sulfate =0.001 (SC) + 4.37	54	0**	2.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 39.--Statistical summary of selected water-quality properties for Black River near Corning, Ark., 07064000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	104	338	592	1,120	1,970	2,270	19,300	2,800
Dissolved oxygen	96	5.9	7.5	8.6	8.8	10.0	12.3	1.7
pH	94	6.9	7.6	7.9	7.8	8.0	8.3	0.3
Specific conductance	60	88	168	234	220	267	313	57
Total alkalinity	19	54	86	107	108	139	156	29
Total hardness	49	50	85	116	113	139	200	34
Dissolved magnesium	9	10.0	11.5	14.0	14.3	16.5	22.0	3.7
Dissolved sulfate	85	< 1.0	6.0	8.0	8.0	9.0	19.0	3.4
Dissolved chloride	91	2.5	4.5	5.0	5.3	6.0	12.0	1.4
Dissolved solids	57	97	121	142	138	152	247	26
Total phosphorus	90	< 0.01	0.06	0.09	0.11	0.13	0.68	0.09
Total nitrite + nitrate	43	< 0.05	0.12	0.16	0.19	0.25	0.66	0.12
Total ammonia	70	< 0.10	< 0.10	< 0.10	--	< 0.10	0.62	--
BOD	98	0.1	1.5	2.1	2.2	2.6	5.2	1.0
Fecal coliforms(31616)	92	2	27	56	236	165	3,400	492
Fecal strep.(31679)	15	13	30	80	1,350	290	18,000	4,610
Turbidity	35	7.0	20	25	30	40	85	17
Arsenic	47	< 10	< 10	< 10	--	< 10	20	--
Cadmium	77	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	20	--
Copper	77	< 20	< 20	< 20	--	< 20	52	--
Lead	42	< 20	< 20	< 20	--	< 20	25	--
Zinc	74	< 20	< 20	< 20	--	< 20	240	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.522 (SC) -8.96	16	84	11.9
Chloride =0.007 (SC) + 3.92	52	12	1.0
Magnesium =0.054 (SC) + 1.12	9	69***	2.2
Sulfate =-0.021 (SC) + 11.63	50	13	3.1

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 40.--Statistical summary of selected water-quality properties for Current River near Pocahontas, Ark., 07068850

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	96	1,060	1,510	2,400	3,310	3,840	15,600	2,730
Dissolved oxygen	120	6.6	8.4	9.2	9.5	10.4	14.7	1.4
pH	122	7.1	7.9	8.0	8.0	8.2	8.3	0.2
Specific conductance	61	26	229	290	269	314	364	64
Total alkalinity	20	85	124	144	142	163	180	27
Total hardness	61	30	127	150	146	177	230	35
Dissolved magnesium	8	14.0	15.5	17.5	18.4	20.5	26.0	3.8
Dissolved sulfate	109	< 1.0	2.0	4.0	4.1	5.0	19.0	2.8
Dissolved chloride	118	1.5	3.5	4.0	4.2	5.0	9.0	1.2
Dissolved solids	79	114	149	166	163	178	267	24
Total phosphorus	120	< 0.01	0.02	0.04	0.06	0.07	0.33	0.06
Total nitrite + nitrate	65	0.07	0.17	0.25	0.25	0.33	0.50	0.10
Total ammonia	95	< 0.10	< 0.10	< 0.10	--	< 0.10	0.78	--
BOD	120	0.4	1.1	1.5	1.7	2.2	4.6	0.9
Fecal coliforms(31616)	120	2	8	20	191	99	9,100	862
Fecal strep.(31679)	14	8	19	47	83	145	230	81
Turbidity	57	2.0	3.6	6.0	19	10	280	41
Arsenic	46	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	86	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	80	< 20	< 20	< 20	--	< 20	24	--
Copper	84	< 20	< 20	< 20	--	< 20	110	--
Lead	61	< 20	< 20	< 20	--	< 20	95	--
Zinc	78	< 20	< 20	< 20	20	26	140	24

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.214 (SC) + 86.13	17	36	22.5
Chloride =0.004 (SC) + 3.37	54	7**	0.8
Magnesium =0.083 (SC) -4.90	7	62***	2.7
Sulfate =-0.011 (SC) + 6.09	54	7	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 41.--Statistical summary of selected water-quality properties for Black River at Pocahontas, Ark., 07069000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	60	1,400	2,020	4,420	6,090	9,090	21,500	4,730
Dissolved oxygen	88	6.4	7.8	8.7	9.0	10.0	13.7	1.6
pH	92	7.4	7.7	7.9	7.9	8.1	8.9	0.3
Specific conductance	29	129	207	258	250	301	339	57
Total alkalinity	12	76	103	135	133	168	170	32
Total hardness	52	56	102	138	135	164	390	50
Dissolved magnesium	0	--	--	--	--	--	--	--
Dissolved sulfate	81	< 1.0	3.0	5.0	5.2	6.5	20.0	2.9
Dissolved chloride	93	2.0	3.5	4.5	4.6	5.5	16.0	1.9
Dissolved solids	80	111	136	157	155	176	218	23
Total phosphorus	89	< 0.01	0.04	0.06	0.07	0.09	0.26	0.05
Total nitrite + nitrate	64	0.06	0.17	0.22	0.23	0.28	0.46	0.09
Total ammonia	86	< 0.10	< 0.10	< 0.10	0.05	< 0.10	0.23	0.03
BOD	86	0.1	1.4	2.0	2.1	2.6	4.9	1.1
Fecal coliforms(31616)	87	2	20	44	182	170	2,100	340
Fecal strep.(31679)	0	--	--	--	--	--	--	--
Turbidity	57	2.3	15	20	25	32	90	17
Arsenic	32	< 10	< 10	< 10	--	< 10	13	--
Cadmium	75	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	65	< 20	< 20	< 20	--	< 20	< 20	--
Copper	74	< 20	< 20	< 20	--	< 20	350	--
Lead	44	< 20	< 20	< 20	--	< 20	36	--
Zinc	68	< 20	< 20	< 20	20	29	94	19

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.609 (SC) -22.4	9	96	7.0
Chloride =0.010 (SC) + 2.43	28	57***	0.5
Sulfate =-0.006 (SC) + 6.2	28	1**	3.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 42.--Statistical summary of selected water-quality properties for Spring River near Hardy, Ark., 07069266

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	58	160	264	385	509	650	1,690	351
Dissolved oxygen	100	6.6	8.8	9.6	9.9	10.9	13.6	1.5
pH	101	7.9	8.1	8.2	8.2	8.3	8.5	0.1
Specific conductance	60	45	393	417	404	435	482	63
Total alkalinity	20	180	227	230	231	240	250	15
Total hardness	48	110	220	232	227	242	320	33
Dissolved magnesium	8	23.0	26.5	28.5	30.7	37.0	38.0	5.8
Dissolved sulfate	87	< 1.0	< 1.0	2.0	2.5	3.0	22.0	2.6
Dissolved chloride	94	2.0	4.0	4.5	4.8	5.0	35.0	3.4
Dissolved solids	57	213	236	242	242	249	270	11
Total phosphorus	98	< 0.01	0.01	0.02	0.03	0.04	0.32	0.04
Total nitrite + nitrate	43	< 0.05	0.42	0.52	0.54	0.68	1.00	0.18
Total ammonia	73	< 0.10	< 0.10	< 0.10	--	< 0.10	0.13	--
BOD	95	0.2	1.2	1.5	1.7	2.0	6.1	0.9
Fecal coliforms(31616)	96	2	12	28	187	73	4,700	685
Fecal strep.(31679)	12	15	38	86	105	177	240	76
Turbidity	35	1.6	2.5	3.5	5.1	6.0	30	5.2
Arsenic	45	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	67	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	< 20	--
Copper	66	< 20	< 20	< 20	--	< 20	130	--
Lead	39	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	65	< 20	< 20	< 20	--	< 20	91	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.339 (SC) + 90.69	17	53	11.3
Chloride =-0.001 (SC) + 5.21	53	0**	4.3
Magnesium =0.046 (SC) + 12.01	8	7**	6.0
Sulfate =-0.001 (SC) + 2.50	52	0**	3.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 43.--Statistical summary of selected water-quality properties for South Fork Spring River at Saddle, Ark., 07069295

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	82	6.0	32	80	202	280	1,980	305
Dissolved oxygen	122	5.0	8.0	9.2	9.5	11.2	14.5	2.1
pH	124	7.5	8.0	8.1	8.1	8.2	8.5	0.2
Specific conductance	60	124	341	376	364	401	470	66
Total alkalinity	19	150	197	213	210	222	240	22
Total hardness	60	67	181	210	206	224	350	41
Dissolved magnesium	8	23.0	24.0	28.5	29.2	32.0	40.0	5.5
Dissolved sulfate	108	< 1.0	1.0	3.0	3.4	5.0	21.0	2.6
Dissolved chloride	119	2.0	4.0	5.0	4.8	5.5	16.0	1.5
Dissolved solids	81	126	184	208	205	228	253	29
Total phosphorus	120	< 0.01	0.01	0.02	0.04	0.04	0.44	0.05
Total nitrite + nitrate	65	< 0.05	0.10	0.19	0.31	0.44	1.20	0.29
Total ammonia	93	< 0.10	< 0.10	< 0.10	--	< 0.10	0.25	--
BOD	119	0.2	1.1	1.6	1.8	2.3	7.9	1.2
Fecal coliforms(31616)	118	2	14	48	296	130	12,000	1,185
Fecal strep.(31679)	12	8	29	65	169	275	720	208
Turbidity	57	1.5	2.5	4.0	7.4	5.4	80	12
Arsenic	44	< 10	< 10	< 10	--	< 10	23	--
Cadmium	90	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	80	< 20	< 20	< 20	--	< 20	< 20	--
Copper	86	< 20	< 20	< 20	31	30	684	77
Lead	62	< 20	< 20	< 20	--	< 20	92	--
Zinc	82	< 20	< 20	< 20	56	39	1,400	170

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.473 (SC) + 29.84	16	61	14.2
Chloride =0.002 (SC) + 4.18	53	2**	0.8
Magnesium =0.085 (SC) -4.65	8	22**	5.3
Sulfate =-0.012 (SC) + 6.85	53	7**	3.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 44.--Statistical summary of selected water-quality properties for Spring River at Ravenden, Ark., 07069370

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	91	281	474	816	1,160	1,400	9,240	1,190
Dissolved oxygen	119	5.5	8.3	9.2	9.6	10.8	13.7	1.6
pH	123	6.7	8.2	8.2	8.2	8.3	8.7	0.2
Specific conductance	60	68	387	409	397	436	482	66
Total alkalinity	21	20	220	226	206	238	241	63
Total hardness	61	38	210	220	219	241	330	41
Dissolved magnesium	8	23.0	25.5	28.5	30.1	34.7	42.0	6.2
Dissolved sulfate	107	< 1.0	< 1.0	3.0	3.0	4.0	9.0	2.0
Dissolved chloride	119	2.0	3.5	4.0	5.3	5.0	90.0	8.4
Dissolved solids	80	112	227	234	230	240	267	22
Total phosphorus	119	< 0.01	0.01	0.02	0.04	0.05	0.28	0.05
Total nitrite + nitrate	65	< 0.05	0.29	0.40	0.42	0.54	0.96	0.19
Total ammonia	95	< 0.10	< 0.10	< 0.10	0.03	< 0.10	0.17	0.03
BOD	117	0.1	1.2	1.7	1.9	2.3	5.1	0.9
Fecal coliforms(31616)	119	2	8	28	139	92	2,600	353
Fecal strep.(31679)	12	2	15	127	164	210	680	194
Turbidity	57	1.6	3.5	5.0	9.4	8.5	60	12
Arsenic	44	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	90	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	78	< 20	< 20	< 20	--	< 20	< 20	--
Copper	90	< 20	< 20	< 20	--	< 20	110	--
Lead	57	< 20	< 20	< 20	--	< 20	33	--
Zinc	82	< 20	< 20	< 20	15	20	50	10

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.471 (SC) + 21.24	18	37	55.2
Chloride =-0.006 (SC) + 6.83	54	19***	0.9
Magnesium =0.058 (SC) + 6.35	8	14**	6.2
Sulfate =-0.005 (SC) + 3.84	54	5**	1.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 45.--Statistical summary of selected water-quality properties for Eleven Point River near Pocahontas, Ark., 07072100

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	93	317	580	939	1,145	1,350	4,780	842
Dissolved oxygen	121	6.9	8.5	9.3	9.5	10.6	13.3	1.3
pH	123	4.0	8.0	8.1	8.1	8.2	8.5	0.4
Specific conductance	60	168	313	355	341	373	420	48
Total alkalinity	20	140	171	181	184	197	220	21
Total hardness	61	65	168	184	184	208	280	35
Dissolved magnesium	8	17.0	19.2	22.5	22.6	23.7	33.0	4.8
Dissolved sulfate	106	< 1.0	< 1.0	3.0	2.8	4.0	8.0	1.8
Dissolved chloride	118	2.0	3.0	4.0	3.9	4.5	11.0	1.4
Dissolved solids	80	142	183	200	197	212	273	22
Total phosphorus	120	< 0.01	0.01	0.02	0.03	0.04	0.22	0.04
Total nitrite + nitrate	65	0.18	0.37	0.45	0.48	0.58	0.88	0.15
Total ammonia	94	< 0.10	< 0.10	< 0.10	--	< 0.10	0.15	--
BOD	116	0.3	1.0	1.5	1.6	2.0	5.1	0.9
Fecal coliforms(31616)	117	2	16	32	135	80	1,700	291
Fecal strep.(31679)	13	25	30	50	292	225	2,400	650
Turbidity	57	1.4	3.6	5.0	12	8.4	160	23
Arsenic	45	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	81	< 20	< 20	< 20	--	< 20	< 20	--
Copper	84	< 20	< 20	< 20	--	< 20	490	--
Lead	60	< 20	< 20	< 20	--	< 20	110	--
Zinc	76	< 20	< 20	< 20	--	< 20	180	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.406 (SC) + 45.66	17	70	12.0
Chloride =-0.003 (SC) + 4.84	53	4**	0.7
Magnesium =0.079 (SC) -4.26	8	56***	3.4
Sulfate =-0.012 (SC) + 6.07	53	12***	1.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 46.--Statistical summary of selected water-quality properties for Black River at Black Rock, Ark., 07072500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	90	2,230	4,050	6,860	9,530	12,300	56,100	8,790
Dissolved oxygen	82	5.4	7.6	8.6	8.9	10.1	13.8	1.7
pH	86	7.2	7.7	8.0	7.9	8.2	8.7	0.3
Specific conductance	86	168	244	296	288	334	380	55
Total alkalinity	47	78	112	148	143	170	200	33
Total hardness	43	81	120	150	145	180	190	34
Dissolved calcium	43	17.0	26.0	31.0	30.5	36.0	41.0	6.4
Dissolved magnesium	43	2.4	13.0	18.0	16.8	21.0	23.0	4.6
Dissolved sodium	43	1.1	1.8	2.2	2.5	2.4	19.0	2.6
Dissolved potassium	43	0.1	1.1	1.2	1.4	1.5	6.3	0.9
Dissolved sulfate	43	< 5.0	< 5.0	5.4	5.8	6.7	12.0	2.1
Dissolved chloride	43	2.1	2.6	2.9	3.1	3.3	7.5	0.9
Dissolved fluoride	43	< 0.1	< 0.1	0.1	0.1	0.1	0.2	0.0
Dissolved silica	20	6.3	7.2	8.0	8.0	8.8	9.9	1.1
Dissolved solids	20	124	156	169	169	191	208	24
Total phosphorus	83	< 0.01	0.04	0.05	0.06	0.09	0.33	0.05
Total nitrogen	81	0.13	0.45	0.62	0.75	0.81	3.00	0.48
Total organic nitrogen	32	0.10	0.29	0.43	0.61	0.64	2.70	0.60
Total nitrite + nitrate	84	< 0.10	0.20	0.25	0.25	0.30	0.53	0.08
Total ammonia	35	< 0.01	0.02	0.05	0.06	0.09	0.30	0.06
BOD	77	0.6	1.4	1.7	1.9	2.0	5.0	0.9
Fecal coliforms(31625)	62	1	22	52	416	230	8,600	1,276
Fecal strep.(31673)	53	0	62	170	958	915	19,000	2,686
Turbidity	17	1.0	3.6	13	13	18	54	13
Suspended sediment	1	13	13	13	13	13	13	--
Arsenic	9	< 1	< 1	1	1	1	1	0
Cadmium	9	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	9	< 20	< 20	< 20	--	< 20	< 20	--
Copper	9	< 20	< 20	< 20	--	< 20	< 20	--
Lead	7	< 2	2	4	4	5	7	2
Zinc	9	< 20	< 20	20	--	30	30	--

Table 46.--Statistical summary of selected water-quality properties for Black River at Black Rock, Ark., 07072500--Continued

Regression equation		Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.544 (SC) -12.6	47	84	13.4
Calcium =0.104 (SC) + 0.73	43	85	2.5
Chloride =0.003 (SC) + 2.13	43	4**	0.9
Dissolved solids =0.502 (SC) + 14.74	20	78	11.6
Fluoride =0.000 (SC) + 0.01	43	20	0.0
Magnesium =0.06 (SC) -0.24	43	55	3.1
Potassium =-0.001 (SC) + 1.54	43	0**	0.9
Silica =-0.002 (SC) + 8.72	20	1**	1.2
Sodium =0.011 (SC) -0.69	43	6**	2.6
Sulfate =0.000 (SC) + 5.27	43	0**	2.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 47.--Statistical summary of selected water-quality properties for Strawberry River near Smithville, Ark., 07074100

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	84	52	97	230	480	440	5,930	927
Dissolved oxygen	118	6.3	8.1	9.0	9.5	10.7	14.0	1.7
pH	120	7.7	8.1	8.1	8.1	8.2	8.8	0.1
Specific conductance	57	152	340	382	370	396	482	55
Total alkalinity	17	160	200	210	209	217	296	29
Total hardness	59	98	186	204	200	220	310	37
Dissolved magnesium	6	23.0	23.7	25.0	27.3	30.2	40.0	6.3
Dissolved sulfate	105	< 1.0	3.0	5.0	5.1	7.0	27.0	3.3
Dissolved chloride	116	2.0	4.0	4.5	4.8	5.5	12.0	1.5
Dissolved solids	79	134	201	211	210	226	254	24
Total phosphorus	117	< 0.01	0.02	0.03	0.07	0.05	1.90	0.18
Total nitrite + nitrate	64	< 0.05	0.12	0.25	0.31	0.46	1.10	0.24
Total ammonia	93	< 0.10	< 0.10	< 0.10	—	< 0.10	0.85	—
BOD	115	0.1	0.9	1.3	1.4	1.8	4.4	0.7
Fecal coliforms(31616)	117	1	14	40	283	170	8,000	890
Fecal strep.(31679)	11	5	16	80	314	160	2,100	631
Turbidity	57	2.0	4.7	7.2	14	15	120	19
Arsenic	42	< 10	< 10	< 10	—	< 10	25	—
Cadmium	100	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	75	< 20	< 20	< 20	—	< 20	< 20	—
Copper	99	< 20	< 20	25	49	40	980	114
Lead	55	< 20	< 20	< 20	22	25	110	23
Zinc	94	< 20	20	30	58	51	690	88

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.576 (SC) -11.10	14	74***	15.7
Chloride =0.003 (SC) + 3.88	51	3**	0.8
Magnesium =0.083 (SC) -6.05	6	56**	4.7
Sulfate =0.008 (SC) + 1.44	52	1**	4.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 48.--Statistical summary of selected water-quality properties for Black River at Jacksonport, Ark., 07074490

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	92	6.7	8.2	9.2	9.5	10.7	13.6	1.6
pH	93	7.6	7.9	8.1	8.1	8.2	8.6	0.2
Specific conductance	56	188	246	289	293	343	403	56
Total alkalinity	18	98	131	155	154	182	200	29
Total hardness	44	92	130	164	158	180	260	33
Dissolved magnesium	6	13.0	15.2	17.5	19.2	22.2	32.0	6.6
Dissolved sulfate	88	< 1.0	3.0	4.0	4.8	6.0	20.0	3.1
Dissolved chloride	86	3.5	4.5	5.5	5.8	6.5	12.0	1.6
Dissolved solids	52	132	167	183	180	193	211	18
Total phosphorus	90	< 0.01	0.05	0.07	0.09	0.11	0.36	0.06
Total nitrite + nitrate	39	< 0.05	0.08	0.23	0.22	0.31	0.52	0.14
Total ammonia	70	< 0.10	< 0.10	< 0.10	--	< 0.10	0.23	--
BOD	89	0.3	1.3	2.0	2.3	2.6	6.6	1.3
Fecal coliforms(31616)	92	0	10	20	115	130	2,700	305
Fecal strep.(31679)	9	7	14	77	94	135	350	111
Turbidity	30	5.0	19	25	31	35	110	22
Arsenic	43	< 10	< 10	< 10	--	< 10	21	--
Cadmium	61	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	50	< 20	< 20	< 20	--	< 20	< 20	--
Copper	63	< 20	< 20	< 20	--	< 20	630	--
Lead	36	< 20	< 20	< 20	--	< 20	30	--
Zinc	55	< 20	< 20	< 20	--	< 20	80	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.541 (SC) -6.03	15	87	10.7
Chloride =0.016 (SC) + 1.01	49	52	0.9
Magnesium =0.119 (SC) -17.46	6	62**	4.6
Sulfate =-0.010 (SC) + 6.72	51	6**	2.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 49.--Statistical summary of selected water-quality properties for White River at Newport, Ark., 07074500

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	73	4,170	11,300	18,100	27,100	28,600	296,000	37,200
Dissolved oxygen	60	7.0	8.2	9.0	9.3	10.4	14.0	1.5
pH	61	7.4	8.0	8.1	8.1	8.3	8.4	0.2
Specific conductance	61	105	257	282	276	307	345	45
Total alkalinity	61	28	120	130	132	150	170	28
Total hardness	58	49	120	140	139	160	180	24
Dissolved calcium	58	14.0	30.0	34.0	32.9	36.0	41.0	4.9
Dissolved magnesium	59	3.4	12.0	14.0	13.8	16.0	20.0	3.3
Dissolved sodium	59	0.9	2.3	2.7	2.9	3.3	8.9	1.3
Dissolved potassium	60	0.3	1.2	1.4	1.4	1.5	2.1	0.3
Dissolved sulfate	61	< 5.0	6.0	7.5	7.5	8.7	12.0	1.9
Dissolved chloride	61	0.7	3.5	4.2	4.5	5.0	19.0	2.5
Dissolved fluoride	61	< 0.1	< 0.1	0.1	—	0.1	0.2	—
Dissolved silica	59	2.7	4.9	5.5	5.6	6.3	8.0	1.1
Dissolved solids	60	78	142	159	155	173	214	26
Total phosphorus	59	< 0.01	0.03	0.06	0.06	0.09	0.18	0.04
Total nitrogen	36	0.45	0.65	0.79	0.84	1.08	1.40	0.25
Total organic nitrogen	36	0.15	0.40	0.50	0.57	0.74	1.10	0.23
Total nitrite + nitrate	37	< 0.10	0.17	0.25	0.25	0.34	0.41	0.09
Total ammonia	37	< 0.01	0.01	0.02	0.03	0.04	0.27	0.05
Fecal coliforms(31625)	57	1	20	67	290	220	3200	560
Fecal strep.(31673)	59	2	36	90	760	430	6900	1,600
Turbidity	56	1.0	9.3	16	23	23	160	28
Suspended sediment	60	10	39	59	63	73	195	38
Arsenic	18	< 1	1	1	1	1	2	0
Cadmium	19	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	19	< 20	< 20	< 20	—	< 20	30	—
Copper	19	< 20	< 20	< 20	—	< 20	130	—
Lead	17	< 2	6	10	11	17	20	6
Zinc	19	< 20	30	40	43	50	90	22

Table 49.--Statistical summary of selected water-quality properties for White River at Newport, Ark., 07074500--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.555 (SC) -21.0	61	79	13.1
Calcium =0.092 (SC) + 7.48	58	75	2.5
Chloride =0.014 (SC) + 0.56	61	7	2.4
Dissolved solids =0.484 (SC) + 21.48	60	72	13.7
Fluoride =0.000 (SC) + 0.05	61	2**	0.0
Magnesium =0.063 (SC) -3.61	59	78	1.5
Potassium =-0.001 (SC) + 1.65	60	2**	0.3
Silica =0.007 (SC) + 3.68	59	8	1.1
Sodium =0.010 (SC) + 0.17	59	13***	1.2
Sulfate =0.000 (SC) + 7.38	61	0**	2.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 50.--Statistical summary of selected water-quality properties for White River near Augusta, Ark., 07074850

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	58	86	8,570	14,700	24,100	26,000	245,000	34,300
Dissolved oxygen	99	6.0	8.5	9.4	9.6	10.6	13.2	1.5
pH	101	7.0	7.9	8.1	8.1	8.2	8.5	0.2
Specific conductance	59	174	239	284	272	310	352	45
Total alkalinity	18	96	128	144	138	150	170	20
Total hardness	49	49	129	144	143	163	220	34
Dissolved magnesium	6	11.0	12.5	16.5	16.7	20.7	23.0	4.4
Dissolved sulfate	91	< 1.0	4.0	5.0	5.3	7.0	13.0	2.4
Dissolved chloride	92	3.0	5.0	5.5	5.9	6.5	10.0	1.2
Dissolved solids	57	124	153	167	164	179	195	17
Total phosphorus	97	< 0.01	0.04	0.06	0.09	0.10	0.74	0.09
Total nitrite + nitrate	43	< 0.05	0.16	0.22	0.23	0.30	0.47	0.09
Total ammonia	73	< 0.10	< 0.10	< 0.10	--	< 0.10	0.30	--
BOD	93	0.3	1.3	1.9	2.2	2.5	7.1	1.4
Fecal coliforms(31616)	96	2	7	25	123	78	1,625	268
Fecal strep.(31679)	11	5	20	190	179	310	465	147
Turbidity	36	5.4	16	25	33	40	190	31
Arsenic	46	< 10	< 10	< 10	--	< 10	18	--
Cadmium	63	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	54	< 20	< 20	< 20	--	< 20	30	--
Copper	68	< 20	< 20	< 20	--	< 20	660	--
Lead	36	< 20	< 20	< 20	--	< 20	70	--
Zinc	65	< 20	< 20	20	32	41	140	31

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.454 (SC) + 14.92	16	85	8.3
Chloride =0.013 (SC) + 2.17	52	25	0.9
Magnesium =0.047 (SC) + 4.28	6	37**	3.9
Sulfate =0.000 (SC) + 4.32	53	0**	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 51.--Statistical summary of selected water-quality properties for Middle Fork Little Red River near Shirley, Ark., 07074990

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	82	0.0	32	171	475	445	9,130	1,130
Dissolved oxygen	128	5.4	8.2	9.3	9.7	11.2	14.4	1.8
pH	125	6.7	7.2	7.3	7.4	7.5	8.6	0.3
Specific conductance	67	43	76	84	90	105	139	23
Total alkalinity	22	22	27	32	35	42	53	10
Total hardness	59	24	36	40	44	48	140	17
Dissolved magnesium	9	1.0	1.5	2.0	5.1	2.5	31.0	9.7
Dissolved sulfate	117	< 1.0	4.0	6.0	6.1	8.0	14.0	2.6
Dissolved chloride	120	1.5	3.1	4.0	4.5	4.5	75.0	6.6
Dissolved solids	79	40	52	58	60	64	111	13
Total phosphorus	119	< 0.01	0.02	0.03	0.04	0.05	0.26	0.04
Total nitrite + nitrate	68	< 0.05	< 0.05	< 0.05	0.08	0.10	0.50	0.09
Total ammonia	94	< 0.10	< 0.10	< 0.10	--	< 0.10	1.30	--
BOD	124	0.1	0.8	1.2	1.6	2.1	7.5	1.1
Fecal coliforms(31616)	119	2	4	17	96	64	2,200	261
Fecal strep.(31679)	14	2	6	12	37	50	200	55
Turbidity	57	2.0	3.9	5.2	10	9.5	100	16
Arsenic	57	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	111	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	86	< 20	< 20	< 20	--	< 20	20	--
Copper	122	< 20	< 20	< 20	17	20	190	26
Lead	78	< 20	< 20	< 20	--	46	790	--
Zinc	119	< 20	< 20	20	34	40	390	45

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.408 (SC) -2.73	21	87	3.5
Chloride =0.020 (SC) + 2.27	60	22	0.9
Magnesium =-0.133 (SC) + 16.69	9	10**	9.9
Sulfate =-0.012 (SC) + 6.46	60	1**	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 52.--Statistical summary of selected water-quality properties for Little Red River near Heber Springs, Ark., 07076000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	67	27	120	1,740	2,510	4,030	7,940	2,660
Dissolved oxygen	134	2.5	8.2	10.4	10.0	11.5	17.2	2.6
pH	134	5.7	6.7	7.0	7.1	7.4	8.5	0.5
Specific conductance	139	22	36	42	41	46	60	8
Total alkalinity	29	5	12	13	13	15	20	3
Total hardness	30	11	16	17	18	20	28	4
Dissolved calcium	19	3.7	4.6	4.9	5.0	5.3	6.7	0.7
Dissolved magnesium	19	0.5	0.9	1.0	1.0	1.2	1.5	0.2
Dissolved sulfate	26	< 5.0	< 5.0	< 5.0	--	< 5.0	6.3	--
Dissolved chloride	26	0.5	1.4	1.5	1.6	1.7	3.0	0.5
Total phosphorus	31	< 0.01	< 0.01	0.02	0.03	0.05	0.09	0.02
Total nitrogen	26	0.18	0.34	0.46	0.65	0.73	3.40	0.63
Total organic nitrogen	25	0.10	0.11	0.22	0.39	0.33	2.90	0.57
Total nitrite + nitrate	31	< 0.10	0.15	0.20	0.21	0.25	0.54	0.09
Total ammonia	26	< 0.01	0.02	0.05	0.07	0.11	0.28	0.07
BOD	31	0.0	0.8	1.2	1.3	1.7	2.9	0.6
Fecal coliforms (31625)	27	1	1	3	42	19	510	113
Turbidity	24	<1.0	1.0	2.1	3.5	4.4	16	4.1
Arsenic	22	< 1	< 1	< 1	--	1	1	--
Cadmium	0	--	--	--	--	--	--	--
Chromium	16	< 20	< 20	< 20	--	< 20	50	--
Copper	15	< 20	< 20	< 20	--	< 20	< 20	--
Lead	13	< 2	3	5	6	6	32	8
Zinc	22	< 20	< 20	20	42	90	130	43

Table 52.--Statistical summary of selected water-quality properties for Little Red River near Heber Springs, Ark., 07076000--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.115 (SC) + 8.22	29	7**	2.9
Calcium =-0.012 (SC) + 5.49	19	1**	0.7
Chloride =-0.007 (SC) + 1.95	23	1**	0.5
Magnesium =0.004 (SC) + 0.87	19	1**	0.2
Sulfate =0.010 (SC) + 2.71	23	0**	1.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 53.--Statistical summary of selected water-quality properties for Little Red River near Wilburn, Ark., 07076200

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	72	20	20.0	20	1,510	3,180	7,750	2,580
Dissolved oxygen	106	4.9	9.1	10.5	10.1	11.1	12.7	1.5
pH	102	6.0	6.7	6.9	6.9	7.0	9.9	0.4
Specific conductance	68	33	40	43	46	47	177	17
Total alkalinity	22	9	12	15	14	15	17	2
Total hardness	48	12	16	18	21	24	75	10
Dissolved magnesium	9	0.7	1.0	1.0	2.0	1.5	9.0	2.7
Dissolved sulfate	99	< 1.0	3.0	4.0	4.8	5.0	48.0	5.2
Dissolved chloride	98	2.5	3.0	3.5	3.8	4.0	9.0	1.2
Dissolved solids	55	21	30	35	38	44	90	12
Total phosphorus	101	< 0.01	< 0.01	0.01	0.02	0.03	0.13	0.02
Total nitrite + nitrate	46	0.10	0.13	0.17	0.20	0.22	0.61	0.11
Total ammonia	74	< 0.10	< 0.10	< 0.10	--	< 0.10	2.40	--
BOD	102	0.1	0.7	1.0	1.2	1.4	10.0	1.1
Fecal coliforms(31616)	98	2	4	15	47	40	600	95
Fecal strep.(31679)	14	2	20	37	65	60	380	95
Turbidity	35	1.2	2.0	3.6	9.9	20	60	12
Arsenic	48	< 10	< 10	< 10	--	< 10	23	--
Cadmium	89	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	62	< 20	< 20	< 20	--	< 20	22	--
Copper	101	< 20	< 20	< 20	--	< 20	260	--
Lead	57	< 20	< 20	23	114	98	1,200	224
Zinc	102	< 20	< 20	22	33	40	170	32

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.292 (SC) + 0.97	21	33	1.8
Chloride =0.024 (SC) + 2.88	61	10***	1.2
Magnesium =0.081 (SC) -1.39	9	2**	2.8
Sulfate =0.018 (SC) + 4.17	61	0**	6.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 54.--Statistical summary of selected water-quality properties for Little Red River at Judsonia, Ark., 07076634

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	101	6.9	8.8	9.7	9.7	10.5	13.6	1.3
pH	102	6.2	6.9	7.0	7.0	7.2	7.8	0.3
Specific conductance	60	36	47	51	53	57	88	10
Total alkalinity	18	9	15	17	17	21	25	4
Total hardness	49	12	17	20	27	28	130	21
Dissolved magnesium	6	1.0	1.0	2.0	3.0	6.0	6.0	2.4
Dissolved sulfate	92	< 1.0	3.0	4.0	4.0	5.0	11.0	2.0
Dissolved chloride	94	2.5	4.0	4.5	4.7	5.0	9.0	1.2
Dissolved solids	57	6	36	45	46	54	129	17
Total phosphorus	99	< 0.01	0.04	0.06	0.09	0.10	0.85	0.10
Total nitrite + nitrate	42	0.05	0.18	0.24	0.46	0.45	2.20	0.53
Total ammonia	74	< 0.10	< 0.10	< 0.10	0.10	0.12	0.44	0.07
BOD	95	0.3	1.1	1.5	1.7	2.0	7.4	0.9
Fecal coliforms(31616)	93	2	35	88	237	220	2,400	439
Fecal strep.(31679)	11	7	40	130	238	240	1,300	371
Turbidity	36	4.2	7.9	22	23	25	110	18
Arsenic	47	< 10	< 10	< 10	--	< 10	11	--
Cadmium	80	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	55	< 20	< 20	< 20	--	< 20	25	--
Copper	84	< 20	< 20	< 20	26	30	190	36
Lead	36	< 20	< 20	< 20	--	30	70	--
Zinc	81	< 20	< 20	30	36	43	160	28

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.096 (SC) + 12.16	15	6**	3.9
Chloride =0.019 (SC) + 3.42	53	5**	0.9
Magnesium =0.029 (SC) + 1.49	6	1**	2.7
Sulfate =0.060 (SC) + 0.31	53	8	2.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 55.--Statistical summary of selected water-quality properties for White River at DeValls Bluff, Ark., 07077000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	92	5,090	9,760	16,200	24,100	28,600	85,900	19,800
Dissolved oxygen	129	5.2	8.3	9.3	9.4	10.4	13.1	1.5
pH	129	7.2	7.8	8.0	8.0	8.2	8.6	0.3
Specific conductance	66	134	206	243	237	269	314	42
Total alkalinity	23	63	110	120	121	132	160	23
Total hardness	60	11	106	128	125	142	330	40
Dissolved magnesium	12	8.0	12.2	13.0	13.6	14.7	23.0	3.6
Dissolved sulfate	120	< 1.0	4.0	5.0	5.3	6.0	16.0	2.4
Dissolved chloride	122	2.5	5.0	6.0	5.9	7.0	18.0	2.1
Dissolved solids	88	106	137	147	149	161	198	17
Total phosphorus	113	< 0.01	0.05	0.07	0.09	0.10	1.10	0.11
Total nitrite + nitrate	71	< 0.05	0.11	0.20	0.22	0.30	0.71	0.15
Total ammonia	98	< 0.10	< 0.10	< 0.10	0.06	< 0.10	0.65	0.08
BOD	131	0.6	1.6	2.1	2.2	2.7	6.6	0.9
Fecal coliforms(31616)	119	1	10	40	104	100	1,600	206
Fecal strep.(31679)	13	2	15	67	117	148	605	166
Turbidity	55	6.8	20	25	31	40	130	19
Arsenic	50	< 10	< 10	< 10	--	< 10	13	--
Cadmium	98	< 20	< 20	< 20	--	< 20	20	--
Chromium	82	< 20	< 20	< 20	--	< 20	30	--
Copper	94	< 20	< 20	< 20	--	< 20	120	--
Lead	57	< 20	< 20	< 20	--	< 20	28	--
Zinc	80	< 20	< 20	< 20	22	21	180	37

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.494 (SC) -2.21	21	86	8.0
Chloride =0.006 (SC) + 4.32	59	1**	2.1
Magnesium =0.043 (SC) + 3.06	12	19**	3.4
Sulfate =-0.012 (SC) + 7.85	59	4**	2.7

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 56.--Statistical summary of selected water-quality properties for Cache River near Cash, Ark., 07077400

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	72	0.0	44	200	630	772	7,500	1,120
Dissolved oxygen	100	2.7	6.5	7.8	8.0	9.9	12.8	2.2
pH	97	6.5	7.2	7.5	7.5	7.9	8.7	0.5
Specific conductance	75	29	86	159	194	315	436	119
Total alkalinity	21	16	26	63	81	140	200	62
Total hardness	50	8	42	63	80	115	210	49
Dissolved magnesium	9	1.9	4.0	5.0	7.1	11.0	13.0	3.9
Dissolved sulfate	93	< 1.0	6.0	9.0	10.6	13.5	51.0	7.0
Dissolved chloride	92	3.0	6.5	9.0	10.6	13.0	30.0	5.6
Dissolved solids	56	3	184	212	223	258	472	76
Total phosphorus	90	0.01	0.22	0.30	0.36	0.43	2.00	0.26
Total nitrite + nitrate	43	< 0.05	0.11	0.20	0.31	0.37	2.50	0.41
Total ammonia	76	< 0.10	< 0.10	0.15	0.22	0.25	2.30	0.30
BOD	97	1.1	2.5	3.5	3.7	4.5	10.0	1.7
Fecal coliforms(31616)	90	2	40	94	319	232	4,600	732
Fecal strep.(31679)	13	10	37	150	938	1,375	4,800	1484
Turbidity	34	25	60	100	200	180	1,000	250
Arsenic	53	< 10	< 10	< 10	--	< 10	24	--
Cadmium	80	< 20	< 20	< 20	--	< 20	20	--
Chromium	59	< 20	< 20	< 20	--	< 20	30	--
Copper	95	< 20	< 20	< 20	30	28	230	48
Lead	51	< 20	< 20	< 20	21	22	275	42
Zinc	83	< 20	20	40	56	70	460	63

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.495 (SC) -13.5	18	97	10.8
Chloride =0.027 (SC) + 4.42	64	48***	3.4
Magnesium =0.028 (SC) + 1.95	9	90	1.3
Sulfate =-0.007 (SC) + 10.77	66	1**	7.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals anslysis shows unequal distribution of residuals.

Table 57.--Statistical summary of selected water-quality properties for Cache River at Patterson, Ark., 07077500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	36	33	320	830	1,370	1,230	6,300	1,400
Dissolved oxygen	90	0.0	5.3	6.9	7.1	8.5	13.6	2.5
pH	99	6.4	7.0	7.3	7.3	7.6	8.2	0.4
Specific conductance	99	44	84	132	169	240	449	108
Total alkalinity	99	7	22	40	63	94	205	53
Total hardness	98	15	26	43	62	88	180	45
Dissolved calcium	98	3.7	6.3	10.5	15.5	22.3	46.0	11.7
Dissolved magnesium	99	1.4	2.5	3.7	5.5	7.5	16.0	3.8
Dissolved sodium	99	2.8	5.8	8.8	9.8	12.0	27.0	5.2
Dissolved potassium	99	0.4	2.2	2.9	3.0	3.7	7.6	1.3
Dissolved sulfate	99	< 5.0	7.3	10.0	10.2	13.0	26.0	4.1
Dissolved chloride	99	1.7	5.1	7.3	7.5	9.5	20.0	3.4
Dissolved fluoride	99	< 0.1	0.1	0.1	0.2	0.2	0.4	0.1
Dissolved silica	75	2.7	7.1	11.0	11.6	15.0	28.0	5.6
Dissolved solids	71	41	75	104	114	140	242	52
Total phosphorus	99	0.12	0.18	0.22	0.26	0.31	0.59	0.10
Total nitrogen	97	0.40	1.10	1.50	1.59	2.00	3.40	0.70
Total organic nitrogen	41	0.11	0.76	1.10	1.17	1.35	3.00	0.64
Total nitrite + nitrate	99	< 0.10	0.17	0.33	0.37	0.50	1.10	0.23
Total ammonia	41	< 0.01	0.10	0.15	0.16	0.19	0.50	0.09
BOD	96	0.8	2.1	2.5	2.7	3.2	6.4	1.0
Fecal coliforms(31625)	73	10	79	130	209	250	1700	267
Fecal strep.(31673)	62	3	200	320	854	682	14,000	1,957
Turbidity	28	17	36	94	130	220	330	110
Suspended sediment	17	30	61	88	109	170	220	62
Arsenic	13	1	2	2	3	4	7	2
Cadmium	13	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	13	< 20	< 20	< 20	--	< 20	30	--
Copper	13	< 20	< 20	< 20	--	< 20	23	--
Lead	8	3	3	5	10	12	37	11
Zinc	13	< 20	< 20	30	50	40	360	95

Table 57.--Statistical summary of selected water-quality properties for Cache River at Patterson, Ark., 07077500--Continued

Regression equation		Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.484 (SC) -18.7	99	97	10.0
Calcium =0.106 (SC) -2.58	98	97	2.0
Chloride =0.019 (SC) + 4.24	99	38	2.7
Dissolved solids =0.507 (SC) + 29.12	71	93	13.8
Fluoride =0.000 (SC) + 0.11	99	14***	0.1
Magnesium =0.035 (SC) -0.42	99	97	0.6
Potassium =0.002 (SC) + 2.58	99	4***	1.3
Silica =0.050 (SC) + 3.49	75	77***	2.7
Sodium =0.044 (SC) + 2.31	99	85	2.0
Sulfate =0.004 (SC) + 9.36	99	1**	4.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 58.--Statistical summary of selected water-quality properties for Cache River at Brasfield, Ark., 07077600

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	107	3.9	5.6	6.9	7.2	8.6	12.7	2.1
pH	107	6.6	7.0	7.3	7.3	7.6	8.1	0.4
Specific conductance	77	51	90	142	167	232	435	92
Total alkalinity	25	5	29	55	67	110	164	43
Total hardness	50	16	41	62	72	100	190	39
Dissolved magnesium	12	1.0	7.0	8.7	9.3	13.6	17.0	4.7
Dissolved sulfate	98	< 1.0	4.0	6.0	7.1	9.0	22.0	4.2
Dissolved chloride	99	3.5	7.5	12.0	13.2	16.0	55.0	8.5
Dissolved solids	65	97	155	182	185	210	302	43
Total phosphorus	95	0.02	0.13	0.20	0.22	0.31	0.45	0.10
Total nitrite + nitrate	48	< 0.05	0.13	0.22	0.28	0.37	1.20	0.22
Total ammonia	79	< 0.10	< 0.10	0.13	0.14	0.20	0.51	0.09
BOD	107	0.9	1.9	2.5	2.9	3.3	12.0	1.7
Fecal coliforms(31616)	95	2	20	67	263	230	3,900	562
Fecal strep.(31679)	16	20	70	290	911	487	7,800	1,977
Turbidity	32	10	32	75	93	150	200	61
Arsenic	55	< 10	< 10	< 10	--	< 10	15	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	62	< 20	< 20	< 20	--	< 20	50	--
Copper	93	< 20	< 20	< 20	--	< 20	108	--
Lead	43	< 20	< 20	< 20	--	< 20	200	--
Zinc	90	< 20	< 20	< 20	25	30	230	37

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.432 (SC) -8.15	23	98	5.8
Chloride =0.055 (SC) + 1.79	69	70***	3.3
Magnesium =0.023 (SC) + 4.47	12	27**	4.2
Sulfate =-0.011 (SC) + 8.89	70	6**	4.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 59.--Statistical summary of selected water-quality properties for Bayou DeView near Gibson, Ark., 07077660

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	58	0.0	5.2	17	83	58	1,900	255
Dissolved oxygen	116	0.7	5.7	8.5	8.0	10.2	15.3	3.3
pH	115	6.4	7.1	7.4	7.5	7.8	8.8	0.5
Specific conductance	59	51	117	190	236	352	578	146
Total alkalinity	19	15	34	68	75	107	150	44
Total hardness	60	13	39	55	75	94	580	76
Dissolved magnesium	8	2.4	3.2	5.0	6.4	8.7	15.0	4.2
Dissolved sulfate	110	< 1.0	11.7	16.0	19.2	22.3	230.0	22.0
Dissolved chloride	112	2.5	10.0	17.0	20.8	28.8	71.0	13.7
Dissolved solids	76	81	149	202	210	254	375	70
Total phosphorus	106	0.08	0.48	0.97	1.60	2.01	10.00	1.69
Total nitrite + nitrate	64	< 0.05	0.34	0.68	0.94	1.08	4.10	0.91
Total ammonia	93	< 0.10	< 0.10	0.18	1.65	0.65	37.00	5.17
BOD	110	1.0	3.1	4.9	9.1	9.0	157.8	17.5
Fecal coliforms(31616)	106	2	86	395	5314	2075	122000	18194
Fecal strep.(31679)	7	10	20	100	198	180	860	298
Turbidity	55	6.4	20	45	67	80	550	85
Arsenic	46	< 10	< 10	< 10	--	< 10	36	--
Cadmium	103	< 20	< 20	< 20	--	< 20	30	--
Chromium	76	< 20	< 20	< 20	--	< 20	< 20	--
Copper	119	< 20	< 20	< 20	25	20	250	43
Lead	57	< 20	< 20	< 20	--	< 20	170	--
Zinc	102	< 20	20	30	51	60	420	67

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.278 (SC) + 3.19	16	82***	18.4
Chloride =0.071 (SC) + 2.63	53	73***	6.5
Magnesium =0.026 (SC) + 1.00	8	88***	1.6
Sulfate =0.043 (SC) + 9.41	52	4**	30.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 60.--Statistical summary of selected water-quality properties for Bayou DeView at Morton, Ark., 07077700

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	36	0.0	83	260	558	602	2,530	666
Dissolved oxygen	89	1.6	4.4	6.1	6.4	8.4	11.9	2.6
pH	99	6.2	7.0	7.2	7.3	7.6	8.1	0.4
Specific conductance	99	49	95	146	187	255	463	115
Total alkalinity	98	7	26	43	66	91	210	54
Total hardness	99	15	30	44	68	95	200	50
Dissolved calcium	99	4.2	7.6	11.0	17.5	24.0	52.0	13.1
Dissolved magnesium	99	1.1	2.7	3.9	5.8	8.2	17.0	4.1
Dissolved sodium	98	3.3	6.6	9.4	10.7	14.0	26.0	5.3
Dissolved potassium	99	0.5	2.3	3.1	3.6	4.5	13.0	2.0
Dissolved sulfate	99	< 5.0	9.0	13.0	13.3	17.0	34.0	5.6
Dissolved chloride	99	2.0	5.8	8.7	9.6	12.0	28.0	4.9
Dissolved fluoride	99	< 0.1	0.1	0.2	0.2	0.2	0.5	0.1
Dissolved silica	75	3.4	6.6	9.8	11.0	14.0	26.0	5.3
Dissolved solids	68	49	84	119	129	164	275	57
Total phosphorus	99	0.03	0.18	0.24	0.27	0.34	0.94	0.13
Total nitrogen	98	0.69	1.28	1.80	1.86	2.30	4.10	0.75
Total organic nitrogen	41	0.31	0.83	1.20	1.25	1.70	3.30	0.58
Total nitrite + nitrate	99	< 0.10	0.15	0.30	0.35	0.47	1.00	0.25
Total ammonia	41	0.02	0.08	0.18	0.23	0.28	0.91	0.19
BOD	96	0.8	3.0	3.7	3.9	4.5	8.6	1.5
Fecal coliforms(31625)	74	4	53	130	336	372	3900	572
Fecal strep.(31673)	60	5	112	320	1,207	1,223	16,000	2,454
Turbidity	28	17	35	93	120	170	430	110
Suspended sediment	17	18	50	101	115	156	289	79
Arsenic	12	2	2	2	2	3	5	1
Cadmium	13	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	13	< 20	< 20	< 20	--	< 20	20	--
Copper	13	< 20	< 20	< 20	--	< 20	29	--
Lead	8	4	5	6	6	7	9	2
Zinc	13	< 20	20	30	28	30	50	12

Table 60.--Statistical summary of selected water-quality properties for Bayou DeView at Morton, Ark., 07077700--Continued

Regression equation		Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.459 (SC) -20.3	98	96***	10.9
Calcium =0.11 (SC) -3.08	99	95	2.9
Chloride =0.028 (SC) + 4.33	99	45	3.6
Dissolved solids =0.519 (SC) + 29.13	68	96	11.4
Fluoride =0.000 (SC) + 0.11	99	14	0.1
Magnesium =0.035 (SC) -0.79	99	97	0.7
Potassium =0.004 (SC) + 2.86	99	5	2.0
Silica =0.045 (SC) + 2.71	75	84	2.1
Sodium =0.042 (SC) + 2.89	98	82	2.3
Sulfate =0.027 (SC) + 8.12	99	30	4.9

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 61.--Statistical summary of selected water-quality properties for Bayou DeView near Brasfield, Ark., 07077750

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	102	1.8	5.2	6.1	6.5	7.9	13.1	2.4
pH	102	6.6	7.0	7.2	7.2	7.4	8.2	0.3
Specific conductance	62	55	84	131	145	187	347	69
Total alkalinity	19	19	25	45	51	70	139	30
Total hardness	45	21	36	50	59	69	160	30
Dissolved magnesium	7	3.0	6.0	8.0	9.3	14.0	16.0	4.6
Dissolved sulfate	93	< 1.0	5.0	7.0	8.5	10.0	29.0	5.5
Dissolved chloride	93	4.0	6.5	10.0	10.3	13.2	22.0	4.2
Dissolved solids	60	109	131	154	163	192	286	38
Total phosphorus	90	0.03	0.13	0.21	0.21	0.28	0.46	0.10
Total nitrite + nitrate	43	< 0.05	0.05	0.09	0.14	0.18	0.52	0.12
Total ammonia	74	< 0.10	< 0.10	0.10	0.12	0.14	0.47	0.08
BOD	102	0.4	1.2	1.5	2.0	2.2	12.0	1.7
Fecal coliforms(31616)	98	2	22	62	122	110	1,800	229
Fecal strep.(31679)	14	5	57	97	345	255	2,900	746
Turbidity	33	8.4	25	50	61	98	180	42
Arsenic	46	< 10	< 10	< 10	--	< 10	33	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	30	--
Copper	92	< 20	< 20	< 20	20	20	230	36
Lead	48	< 20	< 20	< 20	36	30	878	126
Zinc	89	< 20	< 20	30	51	60	290	57

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.422 (SC) -8.56	17	93***	8.5
Chloride =0.040 (SC) + 3.96	55	55***	2.5
Magnesium =0.024 (SC) + 5.43	7	26**	4.3
Sulfate =-0.010 (SC) + 9.76	55	1**	6.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 62.--Statistical summary of selected water-quality properties for White River at Clarendon, Ark., 07077800

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	100	84	10,600	17,800	25,100	33,500	102,000	21,900
Dissolved oxygen	97	5.5	7.5	8.4	8.8	10.1	12.8	1.7
pH	98	6.9	7.6	7.9	7.8	8.1	8.8	0.4
Specific conductance	99	112	203	238	236	278	326	48
Total alkalinity	98	40	91	110	109	128	168	25
Total hardness	99	48	97	120	115	140	170	25
Dissolved calcium	99	12.0	23.0	27.0	27.6	32.0	39.0	5.8
Dissolved magnesium	99	4.3	9.5	11.0	11.2	13.0	18.0	2.7
Dissolved sodium	98	1.6	2.9	3.6	3.9	4.3	19.0	2.1
Dissolved potassium	99	0.4	1.4	1.6	1.6	1.8	3.1	0.4
Dissolved sulfate	98	< 5.0	5.6	7.1	7.4	9.0	24.0	2.7
Dissolved chloride	98	2.4	3.7	4.7	5.1	5.6	28.0	2.9
Dissolved fluoride	98	< 0.1	0.1	0.1	0.1	0.1	0.3	0.1
Dissolved silica	99	0.6	5.0	5.8	5.9	6.7	21.0	2.0
Dissolved solids	99	68	118	131	135	153	196	26
Total phosphorus	99	< 0.01	0.06	0.09	0.11	0.11	1.80	0.18
Total nitrogen	75	0.16	0.58	0.77	0.90	1.00	6.20	0.77
Total organic nitrogen	45	0.14	0.46	0.59	0.72	0.82	2.60	0.50
Total nitrite + nitrate	80	< 0.10	0.11	0.20	0.26	0.27	5.10	0.56
Total ammonia	49	< 0.01	0.01	0.03	0.04	0.06	0.14	0.03
Fecal coliforms(31625)	72	2	11	33	76	91	730	120
Fecal strep.(31673)	63	0	40	120	330	460	3,100	540
Turbidity	55	1.0	17	26	33	41	100	25
Suspended sediment	92	8	49	63	79	98	337	55
Arsenic	38	< 1	1	1	1	2	3	1
Cadmium	38	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	38	< 20	< 20	< 20	--	< 20	40	--
Copper	38	< 20	< 20	< 20	17	21	100	18
Lead	18	2	7	13	17	18	98	21
Zinc	36	< 20	20	30	45	57	150	35

Table 62.--Statistical summary of selected water-quality properties for White River at Clarendon, Ark., 07077800--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.512 (SC) -12.2	98	91	7.7
Calcium =0.113 (SC) + 0.89	99	88	2.0
Chloride =0.020 (SC) + 0.30	98	11	2.7
Dissolved solids =0.431 (SC) + 33.31	99	63	15.9
Fluoride =0.000 (SC) + 0.08	98	1**	0.1
Magnesium =0.051 (SC) -0.83	99	84	1.1
Potassium =0.000 (SC) + 1.65	99	0**	0.4
Silica =0.009 (SC) + 3.76	99	5	2.0
Sodium =0.013 (SC) + 0.76	98	9	2.0
Sulfate =-0.001 (SC) + 7.34	98	0**	3.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 63.--Statistical summary of selected water-quality properties for White River at St. Charles, Ark., 07077820

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as CaCOs3, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	3	7,020	7,020	7,720	13,500	25,900	25,900	10,700
Dissolved oxygen	132	5.5	7.8	8.7	9.0	10.4	13.6	1.8
pH	127	7.2	7.7	7.9	7.9	8.1	8.5	0.3
Specific conductanct	69	120	188	235	225	258	321	49
Total alkalinity	25	58	81	110	105	122	170	28
Total hardness	66	36	95	117	115	133	270	35
Dissolved magnesium	15	3.0	9.0	12.0	11.1	14.0	17.0	3.9
Dissolved sulfate	124	< 1.0	4.0	5.0	5.6	7.0	12.0	2.3
Dissolved chloride	120	2.5	5.0	6.0	6.3	7.4	25.0	2.5
Dissolved solids	85	61	131	144	144	159	185	22
Total phosphorus	120	0.02	0.07	0.09	0.10	0.13	0.33	0.05
Total nitrite + nitrate	73	< 0.05	0.13	0.20	0.22	0.29	0.85	0.14
Total ammonia	99	< 0.10	< 0.10	< 0.10	0.05	< 0.10	0.23	0.04
BOD	127	0.5	1.7	2.3	2.5	3.1	6.0	1.1
Fecal coliforms(31616)	122	2	9	27	54	58	550	89
Fecal strep.(31679)	20	2	14	62	132	160	510	168
Turbidity	55	2.0	25	35	37	50	100	20
Arsenic	58	< 10	< 10	< 10	--	< 10	12	--
Cadmium	81	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	77	< 20	< 20	< 20	--	< 20	30	--
Copper	84	< 20	< 20	< 20	--	< 20	70	--
Lead	52	< 20	< 20	< 20	--	< 20	26	--
Zinc	77	< 20	< 20	< 20	--	< 20	40	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.537 (SC) -13.8	22	91***	9.1
Chloride =0.018 (SC) + 2.27	62	9	2.7
Magnesium =0.027 (SC) + 4.96	14	13**	3.8
Sulfate =-0.004 (SC) + 5.39	64	1**	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 64.--Statistical summary of selected water-quality properties for Big Creek near Watkins Corner, Ark., 07077960

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	36	5.8	132	380	761	957	4,100	995
Dissolved oxygen	106	2.7	5.3	6.6	7.1	8.7	12.2	2.2
pH	106	6.6	7.1	7.4	7.4	7.7	8.1	0.4
Specific conductance	65	42	86	144	221	303	739	177
Total alkalinity	21	19	28	53	85	120	312	77
Total hardness	47	26	46	81	103	160	272	67
Dissolved magnesium	10	4.0	5.8	14.0	14.7	21.7	33.0	9.3
Dissolved sulfate	99	< 1.0	5.0	8.0	9.9	14.0	45.0	6.8
Dissolved chloride	99	3.0	6.5	10.0	12.0	17.0	34.0	7.1
Dissolved solids	61	1	158	198	203	256	372	74
Total phosphorus	92	0.04	0.19	0.31	0.42	0.47	2.70	0.42
Total nitrite + nitrate	44	< 0.05	0.19	0.29	0.34	0.45	0.85	0.20
Total ammonia	75	< 0.10	0.11	0.18	0.21	0.25	0.81	0.15
BOD	106	0.7	1.8	2.4	3.3	3.2	75.0	7.1
Fecal coliforms(31616)	93	2	40	100	1,543	295	110,000	11,395
Fecal strep.(31679)	17	49	100	310	1,997	2,750	13,000	3,613
Turbidity	33	35	55	80	200	155	1,400	320
Arsenic	46	< 10	< 10	< 10	--	< 10	17	--
Cadmium	81	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	30	--
Copper	90	< 20	< 20	< 20	18	20	260	35
Lead	38	< 20	< 20	< 20	22	31	80	21
Zinc	86	< 20	20	35	50	64	190	43

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.535 (SC) -21.1	19	97***	13.9
Chloride =0.037 (SC) + 3.20	59	75***	3.9
Magnesium =0.045 (SC) + 3.53	10	74	5.0
Sulfate =0.027 (SC) + 2.83	60	41	5.8

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 65.--Statistical summary of selected water-quality properties for White River at Arkansas Post Canal near Nady, Ark., 07078285

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	105	2.2	7.7	8.6	8.7	9.9	12.7	2.0
pH	102	6.6	7.5	7.9	7.8	8.0	8.5	0.4
Specific conductance	78	101	187	224	227	272	329	56
Total alkalinity	21	58	70	97	96	117	160	28
Total hardness	50	26	81	108	108	139	170	36
Dissolved magnesium	10	5.5	6.7	10.5	10.6	13.7	16.0	3.8
Dissolved sulfate	99	< 1.0	4.0	6.0	6.6	8.0	19.0	3.0
Dissolved chloride	95	3.5	6.0	7.0	7.5	8.5	17.0	2.5
Dissolved solids	58	103	134	152	150	166	191	21
Total phosphorus	100	< 0.01	0.07	0.11	0.11	0.15	0.33	0.06
Total nitrite + nitrate	47	< 0.05	0.09	0.16	0.19	0.26	0.59	0.13
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.11	< 0.10	0.48	0.06
BOD	101	1.0	1.8	2.6	2.8	3.4	6.6	1.2
Fecal coliforms(31616)	102	2	9	29	78	77	1,100	150
Fecal strep.(31679)	22	5	30	155	349	365	2,700	604
Turbidity	35	7.8	30	35	45	60	180	30
Arsenic	53	< 10	< 10	< 10	--	< 10	14	--
Cadmium	59	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	53	< 20	< 20	< 20	--	< 20	20	--
Copper	59	< 20	< 20	< 20	--	< 20	36	--
Lead	37	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	61	< 20	< 20	< 20	--	< 20	50	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.437 (SC) + 1.96	19	83	11.8
Chloride =0.018 (SC) + 3.44	70	17	2.2
Magnesium =0.059 (SC) -2.78	10	81	1.7
Sulfate =0.004 (SC) + 5.19	72	0**	3.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 66.--Statistical summary of selected water-quality properties for Butler Creek near Sulphur Springs, Ark., 07188910

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	22	1.5	4.2	8.0	16	31	54	16
Dissolved oxygen	22	6.1	7.4	11.2	9.9	11.5	14.4	2.6
pH	24	7.4	7.9	7.9	7.9	8.0	8.2	0.2
Specific conductance	0	--	--	--	--	--	--	--
Total alkalinity	0	--	--	--	--	--	--	--
Total hardness	11	120	140	140	145	150	170	15
Dissolved magnesium	0	--	--	--	--	--	--	--
Dissolved sulfate	24	5.0	8.0	9.5	10.1	12.0	19.0	3.6
Dissolved chloride	23	3.5	5.5	7.5	7.9	11.0	13.0	3.0
Dissolved solids	23	154	165	179	184	205	227	22
Total phosphorus	20	0.02	0.03	0.04	0.04	0.05	0.06	0.01
Total nitrite + nitrate	24	0.61	0.97	1.30	1.32	1.78	2.50	0.50
Total ammonia	22	< 0.10	< 0.10	< 0.10	0.06	< 0.10	0.79	0.16
BOD	21	0.4	0.5	0.6	0.8	1.1	1.7	0.4
Fecal coliforms(31616)	23	4	8	60	143	170	920	248
Fecal strep.(31679)	0	--	--	--	--	--	--	--
Turbidity	23	<1.0	1.5	2.0	2.1	3.0	5.0	1.1
Arsenic	0	--	--	--	--	--	--	--
Cadmium	23	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	23	< 20	< 20	< 20	--	< 20	< 20	--
Copper	21	< 20	< 20	< 20	--	< 20	29	--
Lead	19	< 20	< 20	< 20	--	< 20	34	--
Zinc	22	< 20	< 20	24	50	40	350	84

*Includes only discharges corresponding to a water-quality sample.

Table 67.--Statistical summary of selected water-quality properties for Spavinaw Creek near Cherokee City, Ark., 07191179

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	61	5.6	16	35	60	77	310	64
Dissolved oxygen	77	6.7	9.3	10.3	10.3	11.4	15.5	1.8
pH	84	7.5	7.8	7.9	7.9	8.0	8.6	0.2
Specific conductance	50	210	271	285	286	311	339	33
Total alkalinity	8	94	103	115	118	120	170	23
Total hardness	48	39	120	130	127	142	156	22
Dissolved magnesium	0	--	--	--	--	--	--	--
Dissolved sulfate	81	< 1.0	4.0	6.0	5.5	7.0	12.0	2.2
Dissolved chloride	82	6.0	11.0	12.0	12.5	15.0	19.0	2.9
Dissolved solids	71	131	160	178	174	186	204	16
Total phosphorus	75	0.01	0.05	0.07	0.07	0.09	0.30	0.04
Total nitrite + nitrate	55	0.68	1.70	2.10	2.16	2.60	3.80	0.67
Total ammonia	80	< 0.10	< 0.10	< 0.10	0.06	< 0.10	1.30	0.14
BOD	79	0.1	0.8	1.1	1.3	1.7	3.7	0.8
Fecal coliforms(31616)	83	2	8	20	87	68	1500	241
Fecal strep.(31679)	0	--	--	--	--	--	--	--
Turbidity	60	<1.0	1.0	1.5	1.8	2.0	10	1.3
Arsenic	31	< 10	< 10	< 10	--	< 10	22	--
Cadmium	76	< 20	< 20	< 20	--	< 20	20	--
Chromium	65	< 20	< 20	< 20	--	< 20	< 20	--
Copper	71	< 20	< 20	< 20	--	< 20	26	--
Lead	40	< 20	< 20	< 20	--	< 20	28	--
Zinc	67	< 20	< 20	< 20	27	25	600	77

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.578 (SC) -45.6	6	93	3.3
Chloride =0.077 (SC) -9.82	48	70	1.6
Sulfate =-0.009 (SC) + 8.07	49	2**	1.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 68.--Statistical summary of selected water-quality properties for Illinois River at Savoy, Ark., 07194800

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	79	2.0	10	30	76	78	660	117
Dissolved oxygen	155	2.6	7.2	8.7	9.0	10.9	17.1	2.7
pH	130	7.2	7.6	7.8	7.8	7.9	8.3	0.2
Specific conductance	69	115	221	256	246	285	305	46
Total alkalinity	21	44	89	107	102	120	139	24
Total hardness	63	31	100	120	114	130	150	26
Dissolved magnesium	9	1.0	1.5	3.0	3.9	6.5	9.0	2.9
Dissolved sulfate	121	< 1.0	5.0	10.0	9.8	13.0	27.0	5.4
Dissolved chloride	125	5.5	8.5	10.0	10.5	12.0	23.0	2.9
Dissolved solids	86	107	144	163	161	176	237	24
Total phosphorus	122	< 0.01	0.06	0.08	0.12	0.13	1.80	0.20
Total nitrite + nitrate	69	0.05	0.95	1.50	1.64	2.00	5.90	0.97
Total ammonia	102	< 0.10	< 0.10	< 0.10	0.08	< 0.10	1.20	0.13
BOD	121	0.4	1.8	2.5	2.8	3.6	8.4	1.4
Fecal coliforms(31616)	116	2	36	115	768	400	47,000	4,389
Fecal strep.(31679)	15	10	40	100	283	270	1,700	458
Turbidity	61	1.8	4.0	5.4	12	9.6	150	21
Arsenic	46	< 10	< 10	< 10	--	< 10	13	--
Cadmium	83	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	80	< 20	< 20	< 20	--	< 20	20	--
Copper	80	< 20	< 20	< 20	--	< 20	41	--
Lead	55	< 20	< 20	< 20	--	< 20	49	--
Zinc	75	< 20	< 20	< 20	19	28	93	18

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.453 (SC) -10.6	19	84	10.0
Chloride =0.035 (SC) + 0.90	61	59***	1.3
Magnesium =-0.018 (SC) + 8.41	9	14**	2.9
Sulfate =-0.019 (SC) + 13.52	58	2**	5.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 69.--Statistical summary of selected water-quality properties for Osage Creek near Elm Springs, Ark., 07195000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	41	36	58	76	165	142	2,590	395
Dissolved oxygen	154	5.4	7.2	8.8	9.1	10.6	14.6	2.2
pH	132	6.7	7.6	7.8	7.8	7.9	9.5	0.3
Specific conductance	74	123	259	297	293	336	419	55
Total alkalinity	21	71	97	110	104	115	120	13
Total hardness	59	24	110	120	118	132	156	21
Dissolved magnesium	9	1.0	1.0	1.0	1.4	2.0	2.0	0.5
Dissolved sulfate	118	< 1.0	7.0	11.0	11.2	14.0	28.0	5.2
Dissolved chloride	123	3.5	11.5	15.0	17.7	19.0	280.0	24.4
Dissolved solids	81	18	178	196	194	215	256	32
Total phosphorus	122	0.04	0.53	0.97	1.19	1.53	7.50	1.04
Total nitrite + nitrate	66	< 0.14	3.08	4.10	3.98	4.93	8.70	1.48
Total ammonia	99	< 0.10	< 0.10	< 0.10	0.20	0.16	3.00	0.43
BOD	113	0.4	2.0	2.8	3.4	4.0	28.0	2.9
Fecal coliforms(31616)	109	2	37	180	840	485	16,000	2,404
Fecal strep.(31679)	12	3	16	91	507	298	4,000	1,139
Turbidity	54	2.0	3.8	5.0	9.5	8.2	60	12
Arsenic	46	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	79	< 20	< 20	< 20	--	< 20	21	--
Copper	80	< 20	< 20	< 20	--	< 20	71	--
Lead	58	< 20	< 20	< 20	--	< 20	57	--
Zinc	75	< 20	< 20	< 20	22	30	104	20

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.208 (SC) + 43.84	20	47***	9.6
Chloride =0.256 (SC) -57.66	66	16***	30.4
Magnesium =-0.008 (SC) + 3.62	9	32**	0.4
Sulfate =0.045 (SC) + -4.48	64	37***	3.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 70.--Statistical summary of selected water-quality properties for Illinois River south of Siloam Springs, Ark., 07195430

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	48	3.6	97	190	785	427	19,000	2,827
Dissolved oxygen	104	5.1	7.0	8.0	8.4	9.7	14.0	1.9
pH	83	7.3	7.6	7.8	7.7	7.9	8.1	0.2
Specific conductance	69	113	229	263	252	286	339	43
Total alkalinity	21	45	92	99	97	110	130	19
Total hardness	32	57	102	125	120	140	200	28
Dissolved magnesium	8	1.0	2.0	3.0	4.5	6.2	14.0	4.2
Dissolved sulfate	74	< 1.0	5.0	7.0	7.3	9.0	17.0	3.4
Dissolved chloride	75	4.5	10.0	13.0	12.4	15.0	22.0	3.6
Dissolved solids	37	65	149	168	163	180	200	26
Total phosphorus	78	0.08	0.18	0.31	0.31	0.42	0.74	0.15
Total nitrite + nitrate	25	1.00	1.40	2.00	2.03	2.25	4.60	0.76
Total ammonia	56	< 0.10	< 0.10	< 0.10	0.09	0.12	1.20	0.17
BOD	77	0.7	1.7	2.2	2.4	2.8	7.2	1.2
Fecal coliforms(31616)	70	2	21	83	225	294	2,400	376
Fecal strep.(31679)	15	10	35	250	260	408	930	254
Turbidity	12	4.1	5.4	9.1	15	24	40	12
Arsenic	35	< 10	< 10	< 10	--	< 10	15	--
Cadmium	39	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	37	< 20	< 20	< 20	--	< 20	< 20	--
Copper	52	< 20	< 20	< 20	--	< 20	1,110	--
Lead	38	< 20	< 20	< 20	--	< 20	32	--
Zinc	49	< 20	< 20	< 20	--	< 20	703	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.365 (SC) + 6.29	19	81	8.2
Chloride =0.063 (SC) -4.69	60	66***	1.8
Magnesium =-0.015 (SC) + 7.83	8	4**	4.5
Sulfate =-0.008 (SC) + 8.73	59	1**	3.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 71.--Statistical summary of selected water-quality properties for Flint Creek north of Siloam Springs, Ark., 07195850

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	38	1.4	3.7	12	24	40	157	29
Dissolved oxygen	75	6.9	8.7	9.7	10.0	11.3	14.0	1.7
pH	79	7.1	7.7	7.8	7.8	8.0	8.1	0.2
Specific conductance	64	112	200	220	221	247	310	38
Total alkalinity	20	54	84	94	92	100	120	16
Total hardness	31	40	96	110	112	130	176	28
Dissolved magnesium	8	1.0	1.0	2.5	2.4	3.7	4.0	1.3
Dissolved sulfate	71	< 1.0	3.0	8.0	10.1	14.0	57.0	10.0
Dissolved chloride	72	3.5	8.0	9.5	10.2	11.0	19.0	3.2
Dissolved solids	34	92	140	163	161	175	232	29
Total phosphorus	75	< 0.01	0.02	0.09	0.09	0.13	0.32	0.06
Total nitrite + nitrate	24	0.24	0.44	0.91	1.19	1.88	3.30	0.94
Total ammonia	51	< 0.10	< 0.10	< 0.10	0.60	< 0.10	2.20	0.31
BOD	77	0.3	1.2	1.7	1.8	2.1	7.3	1.0
Fecal coliforms(31616)	77	2	20	80	246	225	4000	570
Fecal strep.(31679)	16	5	34	115	277	397	950	329
Turbidity	12	<1.0	1.3	1.5	2.7	2.0	15	3.9
Arsenic	33	< 10	< 10	< 10	--	< 10	21	--
Cadmium	39	< 20	< 20	< 20	--	< 20	20	--
Chromium	37	< 20	< 20	< 20	--	< 20	< 20	--
Copper	41	< 20	< 20	< 20	--	< 20	30	--
Lead	40	< 20	< 20	< 20	--	< 20	25	--
Zinc	39	< 20	< 20	< 20	--	< 20	20	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.368 (SC) + 8.73	18	68***	9.1
Chloride =0.037 (SC) + 0.47	57	57	1.1
Magnesium =-0.015 (SC) + 5.33	8	11**	1.3
Sulfate =0.092 (SC) -14.45	56	44***	3.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 72.--Statistical summary of selected water-quality properties for Baron Fork at Dutch Mills, Ark., 07196900

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	117	0.0	1.9	8.2	37	23	913	120
Dissolved oxygen	119	4.2	7.2	8.9	9.2	10.9	16.9	2.7
pH	123	7.0	7.7	7.8	7.8	8.0	8.9	0.2
Specific conductance	68	117	253	280	279	314	365	50
Total alkalinity	21	66	117	120	119	131	140	19
Total hardness	60	35	130	140	136	156	186	30
Dissolved magnesium	8	2.0	3.0	3.5	4.1	5.5	8.0	2.0
Dissolved sulfate	114	< 1.0	10.0	13.0	15.3	19.3	44.0	8.4
Dissolved chloride	117	3.5	7.5	9.0	9.9	12.0	25.0	3.5
Dissolved solids	79	121	167	178	185	206	281	31
Total phosphorus	114	< 0.01	0.06	0.11	0.16	0.17	1.60	0.20
Total nitrite + nitrate	65	< 0.05	0.22	1.50	1.69	2.70	5.50	1.42
Total ammonia	95	< 0.10	< 0.10	< 0.10	0.05	< 0.10	1.40	0.17
BOD	115	0.4	1.5	2.2	2.6	3.4	8.0	1.6
Fecal coliforms(31616)	113	2	39	120	303	345	2,000	423
Fecal strep.(31679)	17	5	14	60	294	125	2,933	719
Turbidity	57	1.0	2.4	3.5	13	5.2	200	34
Arsenic	47	< 10	< 10	< 10	--	< 10	17	--
Cadmium	105	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	80	< 20	< 20	< 20	--	< 20	< 20	--
Copper	117	< 20	< 20	< 20	--	< 20	1,300	--
Lead	60	< 20	< 20	< 20	--	< 20	70	--
Zinc	110	< 20	< 20	< 20	56	49	710	118

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.304 (SC) + 31.56	19	58***	13.6
Chloride =0.024 (SC) + 1.91	60	33***	1.7
Magnesium =-0.011 (SC) + 6.98	8	9**	2.0
Sulfate =0.066 (SC) -5.8	59	26***	5.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 73.--Statistical summary of selected water-quality properties for Poteau River south of Bates, Ark., 07247012

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	68	0.8	12	66	190	200	3,090	424
Dissolved oxygen	104	2.6	6.4	8.1	8.2	10.2	12.9	2.5
pH	100	6.2	6.8	7.0	7.0	7.2	8.4	0.3
Specific conductance	65	11	60	78	80	99	139	25
Total alkalinity	20	11	14	18	21	26	45	9
Total hardness	49	9	22	26	30	32	84	15
Dissolved magnesium	9	2.0	3.0	5.0	5.8	7.5	15.0	4.0
Dissolved sulfate	95	< 1.0	7.0	9.0	10.9	13.0	67.0	8.9
Dissolved chloride	96	3.5	5.5	6.5	6.7	7.5	13.0	1.7
Dissolved solids	57	42	58	64	71	79	155	22
Total phosphorus	97	< 0.01	0.04	0.06	0.07	0.09	0.26	0.04
Total nitrite + nitrate	42	< 0.05	< 0.05	0.10	0.20	0.24	1.10	0.26
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.08	0.10	0.71	0.09
BOD	94	0.7	2.3	2.9	3.0	3.5	7.0	1.2
Fecal coliforms(31616)	102	2	28	54	181	140	3,300	463
Fecal strep.(31679)	12	2	11	51	516	135	3,700	1,150
Turbidity	33	3.1	12	20	25	30	90	19
Arsenic	46	< 10	< 10	< 10	--	< 10	13	--
Cadmium	63	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	58	< 20	< 20	< 20	--	< 20	< 20	--
Copper	64	< 20	< 20	< 20	--	< 20	57	--
Lead	39	< 20	< 20	< 20	--	< 20	40	--
Zinc	56	< 20	< 20	< 20	23	30	88	18

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.334 (SC) -5.77	19	54	6.4
Chloride =0.022 (SC) + 5.01	57	13***	1.5
Magnesium =-0.141 (SC) + 16.62	9	43**	3.2
Sulfate =-0.010 (SC) + 10.03	56	0**	5.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 74.--Statistical summary of selected water-quality properties for James Fork near Hackett, Ark., 07249400

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	184	0.0	6.3	30	199	85	7320	819
Dissolved oxygen	156	3.6	6.3	7.8	8.3	10.1	14.8	2.5
pH	154	6.0	7.1	7.4	7.4	7.6	8.5	0.4
Specific conductance	134	39	237	380	403	537	1000	200
Total alkalinity	59	5	28	54	80	104	479	83
Total hardness	74	23	68	120	123	180	250	62
Dissolved magnesium	50	4.2	10.8	18.0	17.9	24.0	33.0	7.6
Dissolved sulfate	110	5.0	67.0	100.0	108.2	140.0	330.0	60.8
Dissolved chloride	115	3.0	6.0	7.5	8.7	10.0	35.0	4.8
Dissolved solids	78	16	145	259	271	383	630	140
Total phosphorus	101	< 0.01	0.03	0.04	0.06	0.07	0.70	0.08
Total nitrite + nitrate	55	< 0.05	< 0.05	0.16	0.24	0.30	1.50	0.28
Total ammonia	74	< 0.10	< 0.10	< 0.10	0.07	< 0.10	0.64	0.09
BOD	74	0.4	1.0	1.5	1.9	2.6	6.2	1.2
Fecal coliforms(31616)	77	2	24	71	409	185	7,000	1,190
Fecal strep.(31679)	12	5	15	75	1,291	377	14,000	4,006
Turbidity	51	<1.0	6.3	18	20	25	72	18
Arsenic	75	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	116	< 20	< 20	< 20	--	< 20	20	--
Chromium	98	< 20	< 20	< 20	--	< 20	30	--
Copper	128	< 20	< 20	< 20	46	70	380	60
Lead	94	< 20	< 20	< 20	--	< 20	300	--
Zinc	122	< 20	20	40	73	80	1,025	126

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.343 (SC) -61.6	58	66***	49.3
Chloride =0.017 (SC) + 1.66	89	50***	3.5
Magnesium =0.036 (SC) + 3.47	48	77***	3.7
Sulfate =0.207 (SC) + 29.56	87	42***	48.8

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 75.--Statistical summary of selected water-quality properties for Arkansas River at Van Buren, Ark., 07250500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	94	0.0	9,800	24,800	36,300	47,280	154,000	36,730
Dissolved oxygen	124	5.4	8.5	9.9	10.1	11.5	18.1	2.2
pH	120	6.9	7.7	7.9	7.9	8.1	8.9	0.4
Specific conductance	96	130	444	542	580	709	1430	226
Total alkalinity	20	60	90	93	95	105	120	14
Total hardness	56	42	98	120	120	148	180	33
Dissolved magnesium	9	6.0	8.5	12.0	11.7	15.0	19.0	4.2
Dissolved sulfate	113	19.0	33.0	45.0	46.2	55.5	95.0	15.5
Dissolved chloride	114	12.0	64.7	87.5	101.9	130.0	350.0	58.4
Dissolved solids	77	124	287	352	356	436	646	108
Total phosphorus	113	0.01	0.08	0.10	0.11	0.14	0.35	0.05
Total nitrite + nitrate	60	< 0.05	0.14	0.31	0.35	0.54	0.83	0.23
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.09	0.11	0.27	0.06
BOD	112	1.1	2.5	3.1	3.2	3.9	6.5	1.1
Fecal coliforms(31616)	120	2	3	453	2,853	2,875	33,000	5,229
Fecal strep.(31679)	11	10	75	200	448	400	2,700	765
Turbidity	53	6.5	15	30	42	58	220	38
Arsenic	56	< 10	< 10	< 10	--	< 10	15	--
Cadmium	83	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	77	< 20	< 20	< 20	--	< 20	90	--
Copper	83	< 20	< 20	< 20	--	< 20	88	--
Lead	55	< 20	< 20	< 20	--	< 20	40	--
Zinc	71	< 20	< 20	< 20	38	40	880	103

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.034 (SC) + 74.71	19	20**	12.7
Chloride =0.247 (SC) -43.62	87	87***	22.2
Magnesium =0.009 (SC) + 6.88	9	6**	4.3
Sulfate =0.047 (SC) + 16.93	87	46	11.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 76.--Statistical summary of selected water-quality properties for Arkansas River at Dam No. 13, near Van Buren, Ark., 07250550

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	112	0.0	6,440	17,200	31,600	42,000	364,000	44,900
Dissolved oxygen	101	6.4	7.7	8.8	9.4	10.6	18.4	2.1
pH	103	6.4	7.7	7.9	7.8	8.1	8.6	0.4
Specific conductance	103	201	481	643	646	809	1,340	218
Total alkalinity	103	39	82	93	91	103	131	18
Total hardness	102	55	120	140	134	160	190	28
Dissolved calcium	102	15.0	35.0	40.0	36.5	45.0	53.0	8.0
Dissolved magnesium	102	4.1	7.5	8.9	9.0	11.0	14.0	2.0
Dissolved sodium	101	12.0	47.5	71.0	74.6	93.5	200.0	34.9
Dissolved potassium	102	2.0	3.2	3.8	3.8	4.3	6.2	0.8
Dissolved sulfate	102	21.0	35.8	47.5	47.2	57.3	84.0	13.2
Dissolved chloride	102	21.0	72.8	110.0	114.5	150.0	320.0	53.6
Dissolved fluoride	101	< 0.1	0.2	0.2	0.2	0.3	0.5	0.1
Dissolved silica	102	0.1	1.8	3.7	3.6	5.2	8.4	2.2
Dissolved solids	101	109	273	359	363	435	820	120
Total phosphorus	104	0.03	0.08	0.10	0.11	0.13	0.81	0.08
Total nitrogen	74	0.32	0.94	1.1	1.2	1.40	2.40	0.38
Total organic nitrogen	41	0.32	0.68	0.85	0.91	1.10	2.20	0.35
Total nitrite + nitrate	80	< 0.10	0.13	0.28	0.31	0.48	0.74	0.19
Total ammonia	46	< 0.01	0.04	0.08	0.08	0.11	0.21	0.05
Fecal coliforms(31625)	80	1	21	110	930	640	29,000	3,300
Fecal strep.(31673)	65	1	8	48	260	140	3.000	500
Turbidity	62	<1.0	8.3	15	21	31	70	18
Suspended sediment	100	6	19	30	44	48	446	57
Arsenic	33	< 1	1	2	2	2	6	1
Cadmium	34	< 20	< 20	< 20	--	< 20	20	--
Chromium	34	< 20	< 20	< 20	--	< 20	20	--
Copper	34	< 20	< 20	< 20	18	22	56	12
Lead	16	< 2	3	7	30	22	260	65
Zinc	34	< 20	20	30	63	50	920	154

Table 76.--Statistical summary of selected water-quality properties for Arkansas River at Dam No. 13, near Van Buren, Ark., 07250550--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.052 (SC) + 58.21	102	36	14.8
Calcium =0.030 (SC) + 19.36	101	64***	4.8
Chloride =0.243 (SC) -43.2	101	95	12.0
Dissolved solids =0.539 (SC) + 12.32	100	93	32.5
Fluoride =0.000 (SC) + 0.13	100	15***	0.1
Magnesium =0.008 (SC) + 4.07	101	63	1.3
Potassium =0.003 (SC) + 2.05	101	49	0.6
Silica =-0.004 (SC) + 6.06	101	14	2.0
Sodium =0.159 (SC) -27.92	100	95	7.8
Sulfate =0.057 (SC) + 10.49	101	84	5.3

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 77.--Statistical summary of selected water-quality properties for Arkansas River at Ozark Dam at Ozark, Ark., 07252406

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	92	0.0	8,890	26,200	39,400	51,300	202,000	41,800
Dissolved oxygen	124	6.3	7.6	9.0	9.6	11.1	16.9	2.4
pH	127	6.8	7.8	8.0	8.0	8.1	8.9	0.3
Specific conductance	67	275	459	560	601	745	1240	197
Total alkalinity	20	65	83	97	94	108	120	16
T ta ha	57	16	100	120	121	150	180	35
Dissolved magnesium	9	5.0	7.0	8.0	8.2	10.0	12.0	2.2
Dissolved sulfate	117	6.3	37.0	47.0	47.9	57.0	110.0	16.0
Dissolved chloride	118	5.0	66.5	95.0	106.2	152.5	300.0	57.9
Dissolved solids	74	63	289	384	371	448	632	106
Total phosphorus	115	0.01	0.07	0.10	0.11	0.13	0.40	0.05
Total nitrite + nitrate	60	< 0.05	0.15	0.40	0.39	0.62	0.89	0.26
Total ammonia	95	< 0.10	< 0.10	< 0.10	0.09	0.11	0.80	0.09
BOD	118	0.2	1.6	2.1	2.3	3.0	5.1	0.9
Fecal coliforms(31616)	112	2	8	33	247	200	4,200	552
Fecal strep.(31679)	7	3	3	34	91	170	325	118
Turbidity	53	6.0	10	25	34	45	180	31
Arsenic	45	< 10	< 10	< 10	--	< 10	17	--
Cadmium	102	< 20	< 20	< 20	--	< 20	20	--
Chromium	78	< 20	< 20	< 20	--	< 20	30	--
Copper	113	< 20	< 20	< 20	32	32	520	68
Lead	67	< 20	< 20	30	106	56	2,100	305
Zinc	108	< 20	< 20	40	60	70	480	75

Regression equation	N	Percent explained variance, (r2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.047 (SC) + 66.93	19	28	14.1
Chloride =0.250 (SC) -41.61	59	79***	26.5
Magnesium =0.020 (SC) -1.2	9	70	1.3
Sulfate =0.045 (SC) + 18.37	62	34***	12.8

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 78.--Statistical summary of selected water-quality properties for Arkansas River at Dardanelle, Ark., 07258000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	97	50.0	10,160	28,100	39,000	52,200	188,000	39,400
Dissolved oxygen	131	4.8	7.3	9.4	9.5	11.6	14.8	2.6
pH	115	7.4	7.7	7.9	7.9	8.1	8.8	0.2
Specific conductance	76	239	425	540	602	729	1,380	229
Total alkalinity	17	63	75	89	87	98	120	15
Total hardness	59	14	94	126	118	148	180	38
Dissolved magnesium	6	6.0	6.7	7.0	7.3	8.2	9.0	1.0
Dissolved sulfate	116	17.0	36.0	45.5	46.3	57.0	82.0	14.4
Dissolved chloride	116	15.0	63.2	89.5	105.3	140.0	340.0	59.2
Dissolved solids	82	74	275	375	367	444	641	113
Total phosphorus	109	< 0.01	0.06	0.09	0.09	0.13	0.30	0.04
Total nitrite + nitrate	68	< 0.05	0.17	0.33	0.36	0.57	0.88	0.23
Total ammonia	97	< 0.10	< 0.10	< 0.10	0.08	0.11	0.20	0.04
BOD	115	0.7	1.5	2.0	2.2	2.6	6.3	1.0
Fecal coliforms(31616)	111	2	20	100	263	250	4,800	595
Fecal strep.(31679)	5	25	39	80	94	155	220	75
Turbidity	56	4.2	10	25	29	40	110	23
Arsenic	41	< 10	< 10	< 10	--	< 10	20	--
Cadmium	86	< 20	< 20	< 20	--	< 20	20	--
Chromium	76	< 20	< 20	< 20	--	< 20	20	--
Copper	98	< 20	< 20	< 20	16	20	370	40
Lead	67	< 20	< 20	< 20	17	20	250	33
Zinc	95	< 20	< 20	30	38	50	170	29

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.061 (SC) + 54.82	17	37	12.1
Chloride =0.261 (SC) -48.95	60	95	14.2
Magnesium =0.010 (SC) + 2.73	6	63**	0.7
Sulfate =0.052 (SC) + 11.88	60	67	8.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 79.--Statistical summary of selected water-quality properties for Petit Jean River near Booneville, Ark., 07258500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	127	0.0	4.1	42	165	156	3,040	359
Dissolved oxygen	122	2.5	5.9	8.3	8.2	10.3	13.7	2.8
pH	125	6.4	6.9	7.1	7.1	7.3	8.2	0.3
Specific conductance	63	43	76	94	102	121	251	38
Total alkalinity	20	13	19	22	29	41	87	17
Total hardness	60	14	23	27	29	34	56	9
Dissolved magnesium	9	3.0	3.5	4.0	4.7	5.0	9.0	1.8
Dissolved sulfate	112	< 1.0	7.3	10.0	11.4	14.0	47.0	6.0
Dissolved chloride	113	3.5	5.5	6.5	7.0	8.0	14.0	1.9
Dissolved solids	75	51	66	73	82	84	332	36
Total phosphorus	115	< 0.01	0.03	0.05	0.16	0.08	11.00	1.02
Total nitrite + nitrate	62	< 0.05	< 0.05	0.09	0.15	0.19	0.75	0.15
Total ammonia	96	< 0.10	< 0.10	< 0.10	0.08	< 0.10	0.85	0.10
BOD	113	0.3	1.3	2.1	2.4	3.2	9.4	1.6
Fecal coliforms(31616)	113	2	30	90	323	200	6,800	829
Fecal strep.(31679)	6	10	20	69	84	157	180	73
Turbidity	56	4.0	15	25	37	35	440	61
Arsenic	49	< 10	< 10	< 10	--	< 10	24	--
Cadmium	111	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	82	< 20	< 20	< 20	--	< 20	20	--
Copper	119	< 20	< 20	< 20	30	21	730	84
Lead	70	< 20	< 20	< 20	67	58	680	138
Zinc	112	< 20	< 20	30	50	55	550	67

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.424 (SC) -14.5	19	73	9.6
Chloride =0.035 (SC) + 3.89	53	47	1.5
Magnesium =-0.015 (SC) + 6.12	9	3**	1.9
Sulfate =-0.003 (SC) + 11.68	54	0**	8.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 80.--Statistical summary of selected water-quality properties for Petit Jean River near Waveland, Ark., 07259500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	75	2.8	20	40	460	480	2,630	740
Dissolved oxygen	73	4.8	7.3	8.8	9.1	11.0	15.0	2.3
pH	73	6.0	6.7	7.1	7.0	7.2	8.6	0.4
Specific conductance	77	35	57	67	66	74	93	13
Total alkalinity	29	5	14	17	17	20	27	5
Total hardness	30	12	16	19	21	24	38	6
Dissolved calcium	19	2.2	3.2	3.7	4.1	4.7	8.2	1.6
Dissolved magnesium	19	1.5	1.9	2.3	2.3	2.6	3.4	0.5
Dissolved sulfate	26	< 5.0	7.7	8.4	8.7	9.9	15.0	2.3
Dissolved chloride	26	1.5	3.1	4.0	3.9	5.1	6.9	1.4
Total phosphorus	31	0.02	0.04	0.05	0.08	0.09	0.40	0.07
Total nitrogen	24	0.32	0.59	0.77	0.84	0.97	1.70	0.34
Total organic nitrogen	26	0.10	0.38	0.55	0.59	0.69	1.40	0.31
Total nitrite + nitrate	31	< 0.10	< 0.10	0.11	0.16	0.23	0.49	0.13
Total ammonia	27	< 0.01	0.04	0.07	0.10	0.12	0.33	0.08
BOD	31	0.2	1.4	1.8	1.9	2.1	3.8	0.7
Fecal coliforms(31625)	27	2	6	25	168	97	1600	379
Turbidity	26	5.3	9.6	15	20	24	84	20
Arsenic	22	< 1	1	1	2	2	8	2
Cadmium	1	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	12	< 20	< 20	< 20	--	< 20	30	--
Copper	16	< 20	< 20	< 20	--	< 20	< 20	--
Lead	12	< 2	< 2	4	9	10	57	16
Zinc	17	< 20	< 20	20	21	25	50	13

Table 80.--Statistical summary of selected water-quality properties for Petit Jean River near Waveland, Ark., 07259500--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.182 (SC) + 5.12	29	18	5.0
Calcium =-0.002 (SC) + 4.28	19	0**	1.7
Chloride =0.066 (SC) + -0.82	23	32	1.2
Magnesium =0.029 (SC) + 0.31	19	47	0.4
Sulfate =0.100 (SC) + 1.51	23	22***	2.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 81.--Statistical summary of selected water-quality properties for Petit Jean River near Centerville, Ark., 07260640

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P ,and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	70	3.5	35	140	903	1,400	15,500	1,990
Dissolved oxygen	102	4.1	5.8	7.2	7.9	9.7	13.0	2.4
pH	102	6.1	6.7	6.9	6.9	7.1	7.8	0.3
Conductance	69	42	60	72	76	88	159	22
Total alkalinity	20	10	14	18	21	25	79	15
Total hardness	49	13	20	24	28	31	110	17
Dissolved magnesium	9	2.0	3.0	3.0	4.3	5.5	10.0	2.5
Dissolved sulfate	100	< 1.0	6.0	8.0	9.3	10.0	53.0	7.8
Dissolved chloride	96	3.0	6.0	7.0	7.4	9.0	19.0	2.6
Dissolved solids	56	50	62	74	81	88	282	35
Total phosphorus	101	0.03	0.07	0.11	0.13	0.14	0.78	0.12
Total nitrite + nitrate	45	< 0.05	0.25	0.36	0.38	0.46	1.00	0.20
Total ammonia	74	< 0.10	< 0.10	< 0.10	0.12	0.12	0.55	0.10
BOD	102	0.7	1.7	2.2	2.5	2.9	6.3	1.1
Fecal coliforms(31616)	98	2	51	93	393	240	12,000	1,384
Fecal strep.(31679)	6	24	36	105	111	157	270	88
Turbidity	33	15	40	50	62	72	420	68
Arsenic	49	< 10	< 10	< 10	--	< 10	20	--
Cadmium	89	< 20	< 20	< 20	--	< 20	20	--
Chromium	61	< 20	< 20	< 20	--	< 20	50	--
Copper	99	< 20	< 20	< 20	--	< 20	40	--
Lead	55	< 20	< 20	< 20	--	< 20	168	--
Zinc	103	< 20	< 20	< 20	17	20	290	31

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.272 (SC) + 0.89	20	11**	14.1
Chloride =0.071 (SC) + 1.99	62	61	1.3
Magnesium =0.019 (SC) + 2.90	9	2**	2.7
Sulfate =0.040 (SC) + 7.36	64	1**	9.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 82.--Statistical summary of selected water-quality properties for Arkansas River at Dam No. 9, near Oppelo, Ark., 07260660

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters, turb idity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	92	0.0	8,925	23,950	36,800	52,200	186,000	37,900
Dissolved oxygen	126	3.6	8.0	9.4	9.6	11.0	14.2	2.0
pH	125	7.0	7.7	8.0	7.9	8.1	9.0	0.3
Specific conductance	68	198	423	528	580	691	1380	236
Total alkalinity	20	40	75	86	87	98	120	18
Total hardness	62	32	94	129	121	150	200	37
Dissolved magnesium	9	6.0	6.5	7.0	8.6	10.5	15.0	3.0
Dissolved sulfate	120	14.0	34.0	44.0	45.0	56.0	84.0	15.4
Dissolved chloride	118	15.0	61.0	93.5	105.9	140.0	330.0	59.3
Dissolved solids	82	64	260	359	354	428	590	114
Total phosphorus	119	0.02	0.06	0.09	0.10	0.12	0.36	0.05
Total nitrite + nitrate	68	< 0.05	0.09	0.28	0.33	0.54	0.89	0.24
Total ammonia	96	< 0.10	< 0.10	< 0.10	0.10	0.10	2.85	0.29
BOD	125	0.2	1.5	1.9	2.1	2.7	5.4	0.9
Fecal coliforms(31616)	121	2	6	32	100	125	1,113	175
Fecal strep.(31679)	7	2	4	8	33	36	160	57
Turbidity	57	3.7	9.3	20	30	40	140	26
Arsenic	49	< 10	< 10	< 10	--	< 10	31	--
Cadmium	109	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	83	< 20	< 20	< 20	--	< 20	20	--
Copper	121	< 20	< 20	< 20	21	24	270	37
Lead	74	< 20	< 20	26	62	55	630	112
Zinc	118	< 20	20	40	50	63	550	59

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.072 (SC) + 49.06	20	35	14.6
Chloride =0.255 (SC) -43.94	61	94	15.6
Magnesium =0.027 (SC) -3.96	9	48	2.4
Sulfate =0.051 (SC) + 13.58	63	55***	11.4

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 83.--Statistical summary of selected water-quality properties for Cadron Creek west of Conway, Ark., 07261250

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	63	0.0	73	622	1,370	1,450	13,400	2,470
Dissolved oxygen	103	3.1	6.6	8.6	8.4	10.1	12.9	2.2
pH	102	5.9	6.5	6.7	6.8	7.0	7.8	0.4
Specific conductance	69	30	41	48	67	61	954	110
Total alkalinity	22	7	11	14	16	19	32	6
Total hardness	51	8	14	17	21	24	66	13
Dissolved magnesium	9	1.0	1.0	2.0	2.2	3.0	6.0	1.7
Dissolved sulfate	99	< 1.0	3.0	4.0	5.6	6.0	85.0	8.6
Dissolved chloride	95	3.0	5.0	5.5	7.8	6.5	180.0	18.0
Dissolved solids	58	28	44	55	64	67	558	68
Total phosphorus	101	< 0.01	0.06	0.07	0.09	0.11	0.84	0.09
Total nitrite + nitrate	45	< 0.05	0.12	0.31	0.41	0.47	1.40	0.34
Total ammonia	72	< 0.10	< 0.10	< 0.10	0.10	0.12	0.34	0.05
BOD	103	0.4	1.9	2.6	2.9	3.8	8.0	1.5
Fecal coliforms(31616)	98	2	21	59	213	183	2,200	382
Fecal strep.(31679)	7	2	12	40	458	1,250	1,800	746
Turbidity	34	2.2	20	30	33	41	130	22
Arsenic	49	< 10	< 10	< 10	--	< 10	22	--
Cadmium	62	< 20	< 20	< 20	--	< 20	20	--
Chromium	58	< 20	< 20	< 20	--	< 20	20	--
Copper	60	< 20	< 20	< 20	--	< 20	170	--
Lead	41	< 20	< 20	< 20	--	< 20	250	--
Zinc	65	< 20	< 20	< 20	--	< 20	330	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.535 (SC) -11.7	21	80	3.0
Chloride =0.190 (SC) -4.71	61	98	3.1
Magnesium =0.069 (SC) -1.23	9	23**	1.6
Sulfate =0.085 (SC) + 0.46	63	86	4.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 84.--Statistical summary of selected water-quality properties for Arkansas River at Toad Suck Ferry Dam near Conway, Ark., 07261260

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses are bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	87	0.0	8,400	24,400	31,500	49,200	176,000	30,500
Dissolved oxygen	114	6.6	8.4	9.4	9.7	10.9	14.1	1.7
pH	114	6.9	7.6	7.9	7.8	8.1	8.9	0.4
Specific conductance	59	119	348	504	543	711	1,340	245
Total alkalinity	17	45	62	82	79	97	110	19
Total hardness	59	24	74	108	107	140	180	39
Dissolved magnesium	6	5.0	5.7	7.5	7.0	8.0	8.0	1.3
Dissolved sulfate	115	2.0	30.0	38.0	40.0	52.0	82.0	16.4
Dissolved chloride	116	4.5	51.3	81.5	96.9	130.0	340.0	58.0
Dissolved solids	82	52	230	336	332	415	581	118
Total phosphorus	109	< 0.01	0.06	0.09	0.10	0.12	0.90	0.09
Total nitrite + nitrate	68	< 0.05	0.12	0.37	0.37	0.53	0.84	0.23
Total ammonia	97	< 0.10	< 0.10	< 0.10	0.08	0.10	0.36	0.05
BOD	112	0.7	1.5	2.0	2.1	2.5	6.5	0.9
Fecal coliforms(31616)	117	2	6	40	148	140	4,000	403
Fecal strep.(31679)	6	2	6	22	20	33	35	14
Turbidity	55	5.0	9.0	25	32	45	120	26
Arsenic	41	< 10	< 10	< 10	--	< 10	16	--
Cadmium	100	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	75	< 20	< 20	< 20	--	< 20	20	--
Copper	114	< 20	< 20	< 20	22	23	340	43
Lead	64	< 20	< 20	27	--	56	340	--
Zinc	110	< 20	20	40	54	57	590	78

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.079 (SC) + 40.91	17	42	15.2
Chloride =0.245 (SC) -35.69	59	95	14.4
Magnesium =0.010 (SC) + 2.92	6	45**	1.1
Sulfate =0.052 (SC) + 8.49	59	55	11.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 85.--Statistical summary of selected water-quality properties for Fourche LaFave River near Gravelly, Ark., 07261500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	125	0.0	13	105	521	375	13,500	1,480
Dissolved oxygen	120	5.1	8.1	9.2	9.5	11.1	14.0	2.0
pH	116	5.7	6.7	7.0	6.9	7.1	7.6	0.3
Specific conductance	67	28	40	46	50	57	105	16
Total alkalinity	20	5	9	14	15	22	28	7
Total hardness	59	7	12	16	19	21	89	13
Dissolved magnesium	9	1.0	1.5	4.0	4.7	9.0	10.0	3.7
Dissolved sulfate	113	< 1.0	3.0	4.0	4.7	5.5	44.0	4.3
Dissolved chloride	112	2.5	4.0	5.0	5.4	5.5	45.0	4.2
Dissolved solids	78	26	37	42	42	47	72	9
Total phosphorus	110	< 0.01	0.01	0.03	0.04	0.05	0.31	0.04
Total nitrite + nitrate	61	< 0.05	< 0.05	0.06	0.12	0.16	0.58	0.12
Total ammonia	89	< 0.10	< 0.10	< 0.10	--	< 0.10	0.31	--
BOD	109	0.3	1.1	1.5	1.6	2.1	4.3	0.7
Fecal coliforms(31616)	119	1	2	16	59	52	980	133
Fecal strep.(31679)	11	2	2	50	51	90	120	45
Turbidity	51	3.0	5.0	8.0	13	20	40	10
Arsenic	46	< 10	< 10	< 10	--	< 10	11	--
Cadmium	102	< 20	< 20	< 20	--	< 20	21	--
Chromium	77	< 20	< 20	< 20	--	< 20	< 20	--
Copper	116	< 20	< 20	23	62	98	420	71
Lead	59	< 20	< 20	< 20	--	30	140	--
Zinc	111	< 20	20	40	47	60	230	37

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.362 (SC) -3.77	20	82	2.9
Chloride =0.067 (SC) + 2.01	60	37	1.4
Magnesium =0.088 (SC) + 0.03	9	16**	3.6
Sulfate =0.121 (SC) -1.27	61	11***	5.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 86.--Statistical summary of selected water-quality properties for Fourche LaFave River near Nimrod, Ark., 07262500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	76	2.7	16	50	789	501	5,570	1,490
Dissolved oxygen	74	5.6	7.4	8.8	9.0	10.4	15.0	2.1
pH	74	6.0	6.5	6.7	6.8	7.1	8.5	0.4
Specific conductance	75	24	34	41	41	46	71	9
Total alkalinity	30	1	8	12	12	16	30	7
Total hardness	30	3	9	12	14	17	32	7
Dissolved calcium	19	0.8	1.6	1.9	2.6	2.7	8.9	1.9
Dissolved magnesium	19	0.3	1.0	1.4	1.3	1.6	2.0	0.4
Dissolved sulfate	26	< 5.0	< 5.0	< 5.0	--	< 5.0	8.5	--
Dissolved chloride	26	0.0	2.1	2.5	2.5	3.1	4.8	1.0
Total phosphorus	31	< 0.01	0.03	0.04	0.05	0.06	0.12	0.03
Total nitrogen	23	0.24	0.48	0.71	0.75	0.93	1.90	0.41
Total organic nitrogen	26	0.10	0.29	0.43	0.50	0.67	1.40	0.33
Total nitrite + nitrate	31	< 0.10	< 0.10	< 0.10	0.08	0.12	0.26	0.06
Total ammonia	27	< 0.01	0.06	0.09	0.15	0.18	0.56	0.14
BOD	31	1.0	1.3	1.9	2.0	2.4	3.8	0.7
Fecal coliforms(31625)	27	1	3	26	180	53	2,800	547
Turbidity	27	<1.0	5.5	11	15	20	80	16
Arsenic	22	< 1	1	1	2	2	5	1
Cadmium	0	--	--	--	--	--	--	--
Chromium	16	< 20	< 20	< 20	--	< 20	20	--
Copper	15	< 20	< 20	< 20	--	< 20	< 20	--
Lead	12	< 2	< 2	4	4	6	10	3
Zinc	22	< 20	< 20	20	41	45	280	62

Table 86.--Statistical summary of selected water-quality properties for Fourche LaFave River near Nimrod, Ark., 07262500--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.394 (SC) -3.81	28	33	5.6
Calcium =0.096 (SC) -1.34	19	26***	1.7
Chloride =0.049 (SC) + 0.38	22	22	1.0
Magnesium =0.024 (SC) + 0.33	19	33	0.4
Sulfate =-0.047 (SC) + 5.38	22	7**	1.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 87.--Statistical summary of selected water-quality properties for Fourche LaFave River near Bigelow, Ark., 07263150

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	102	3.0	5.6	7.6	7.8	9.8	13.0	2.6
pH	100	6.1	6.6	6.8	6.8	7.0	7.9	0.3
Specific conductance	68	25	41	51	93	68	752	156
Total alkalinity	20	7	11	16	16	22	28	6
Total hardness	49	8	14	18	22	24	130	20
Dissolved magnesium	9	1.0	2.0	2.0	3.1	3.5	9.0	2.4
Dissolved sulfate	99	< 1.0	3.0	5.0	6.8	6.0	68.0	9.6
Dissolved chloride	96	1.2	5.0	6.0	13.1	7.0	220.0	30.6
Dissolved solids	56	34	48	56	71	76	511	67
Total phosphorus	100	< 0.01	0.04	0.07	0.08	0.10	0.60	0.07
Total nitrite + nitrate	44	< 0.05	0.08	0.12	0.14	0.18	0.38	0.08
Total ammonia	72	< 0.10	< 0.10	< 0.10	0.08	0.10	0.28	0.04
BOD	100	0.3	1.3	1.8	2.0	2.3	5.0	0.9
Fecal coliforms(31616)	96	2	15	36	120	100	1400	230
Fecal strep.(31679)	7	13	20	27	132	215	570	206
Turbidity	32	15	25	38	40	40	130	24
Arsenic	48	< 10	< 10	< 10	--	< 10	18	--
Cadmium	82	< 20	< 20	< 20	--	< 20	30	--
Chromium	60	< 20	< 20	< 20	--	< 20	< 20	--
Copper	91	< 20	< 20	< 20	--	< 20	210	--
Lead	55	< 20	< 20	< 20	--	37	270	--
Zinc	92	< 20	< 20	26	32	44	180	27

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.388 (SC) -4.19	20	74	3.3
Chloride =0.222 (SC) -5.25	61	92	10.6
Magnesium =0.058 (SC) + 0.01	9	17**	2.3
Sulfate =0.069 (SC) + 1.46	63	89	3.9

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 88.--Statistical summary of selected water-quality properties for Arkansas River at Murray Dam, at Little Rock, Ark., 07263450

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	80	800.0	10,800	29,200	46,700	63,200	218,000	48,200
Dissolved oxygen	120	6.6	8.1	9.1	9.7	11.2	14.1	1.9
pH	119	6.7	7.6	7.9	7.9	8.1	8.7	0.4
Specific conductance	87	104	330	494	501	617	1,240	219
Total alkalinity	18	50	70	82	85	101	115	18
Total hardness	61	24	78	109	107	139	170	37
Dissolved magnesium	8	5.0	7.0	9.0	9.7	11.7	18.0	4.0
Dissolved sulfate	113	5.0	28.0	39.0	41.0	51.5	120.0	18.4
Dissolved chloride	106	2.5	44.5	77.5	92.0	120.0	550.0	69.5
Dissolved solids	76	77	210	299	312	409	579	122
Total phosphorus	111	0.04	0.06	0.08	0.09	0.12	0.27	0.04
Total nitrite + nitrate	65	< 0.05	0.09	0.32	0.36	0.53	1.60	0.26
Total ammonia	94	< 0.10	< 0.10	< 0.10	0.07	< 0.10	0.22	0.04
BOD	118	0.7	1.3	1.6	2.0	2.3	24.0	2.2
Fecal coliforms(31616)	117	2	6	20	88	110	880	144
Fecal strep.(31679)	13	1	2	56	69	110	285	88
Turbidity	54	2.8	9.5	25	32	41	150	28
Arsenic	59	< 10	< 10	< 10	--	< 10	28	--
Cadmium	94	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	77	< 20	< 20	< 20	--	< 20	< 20	--
Copper	112	< 20	< 20	< 20	--	< 20	70	--
Lead	69	< 20	< 20	< 20	29	37	169	35
Zinc	104	< 20	< 20	21	39	45	580	67

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.058 (SC) + 54.81	15	23**	17.3
Chloride =0.192 (SC) -6.57	75	33	62.2
Magnesium =0.012 (SC) + 4.06	7	10**	4.0
Sulfate =0.056 (SC) + 11.27	79	47	13.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 89.--Statistical summary of selected water-quality properties for Arkansas River at David D. Terry Lock and Dam below Little Rock, Ark., 07263620

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	108	329	6,740	16,900	35,900	56,200	162,000	40,200
Dissolved oxygen	101	6.1	7.4	8.8	9.2	10.8	15.8	2.1
pH	109	6.1	7.7	7.9	7.8	8.0	8.6	0.4
Specific conductance	109	135	364	514	532	674	1,040	198
Total alkalinity	108	36	62	80	79	95	140	21
Total hardness	107	43	89	120	113	140	170	31
Dissolved calcium	107	12.0	25.0	34.0	32.7	40.0	50.0	9.0
Dissolved magnesium	108	3.1	6.1	7.7	7.6	9.1	13.0	2.2
Dissolved sodium	108	8.5	36.3	55.0	60.1	77.7	150.0	29.5
Dissolved potassium	108	1.3	2.7	3.4	3.4	3.9	6.0	0.9
Dissolved sulfate	109	14.0	29.5	39.0	39.6	48.0	77.0	13.0
Dissolved chloride	109	11.0	50.5	83.0	91.3	120.0	220.0	47.3
Dissolved fluoride	109	< 0.1	0.2	0.2	0.2	0.2	0.6	0.1
Dissolved silica	108	0.2	1.2	3.7	3.9	5.3	48.0	4.8
Dissolved solids	108	86	205	286	295	367	558	106
Total phosphorus	109	< 0.01	0.08	0.10	0.10	0.12	0.28	0.04
Total nitrogen	78	0.11	0.85	1.00	1.14	1.30	4.80	0.68
Total organic nitrogen	42	0.35	0.62	0.77	0.84	0.98	3.30	0.45
Total nitrite + nitrate	84	< 0.10	0.11	0.24	0.29	0.43	0.70	0.17
Total ammonia	48	< 0.01	0.06	0.10	0.11	0.13	0.46	0.08
Fecal coliforms(31625)	80	1	78	400	1,300	1,400	16,000	2,500
Fecal strep.(31673)	68	1	22	82	410	280	10,000	1,300
Turbidity	64	2.0	5.5	17	30	31	660	82
Suspended sediment	103	2	20	27	51	46	644	84
Arsenic	32	< 1	1	1	2	2	4	1
Cadmium	33	< 20	< 20	< 20	--	< 20	160	--
Chromium	33	< 20	< 20	< 20	--	< 20	30	--
Copper	33	< 20	< 20	< 20	24	30	110	24
Lead	17	< 2	5	12	14	17	63	14
Zinc	33	< 20	20	30	32	40	110	19

Table 89.--Statistical summary of selected water-quality properties for Arkansas River at David D. Terry Lock and Dam below Little Rock, Ark., 07263620--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.078 (SC) + 37.04	108	53	14.8
Calcium =0.039 (SC) + 11.94	107	72	4.8
Chloride =0.233 (SC) -32.95	109	96	9.8
Dissolved solids =0.531 (SC) + 11.67	108	99	12.4
Fluoride =0.000 (SC) + 0.09	109	29***	0.1
Magnesium =0.01 (SC) + 2.55	108	74	1.1
Potassium =0.004 (SC) + 1.47	108	63	0.5
Silica =-0.003 (SC) + 5.32	108	1**	4.8
Sodium =0.146 (SC) -18.1	108	96	6.2
Sulfate =0.061 (SC) + 7.19	109	86	4.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 90.--Statistical summary of selected water-quality properties for Arkansas River at Lock and Dam 3 near Swan Lake, Ark., 07263750

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	66	0.0	4,900	22,900	37,000	48,200	158,000	41,200
Dissolved oxygen	103	5.5	8.3	9.3	9.7	10.8	18.9	2.0
pH	100	7.0	7.7	7.9	7.8	8.0	8.6	0.3
Specific conductance	75	167	397	497	521	631	1,150	202
Total alkalinity	20	31	63	74	75	90	107	19
Total hardness	50	24	74	111	109	140	250	42
Dissolved magnesium	10	3.2	5.7	8.0	7.3	9.0	9.0	2.0
Dissolved sulfate	99	7.0	27.0	40.0	39.8	48.0	87.0	16.1
Dissolved chloride	96	0.5	60.0	85.5	97.6	150.0	280.0	55.4
Dissolved solids	56	67	232	324	346	464	598	127
Total phosphorus	99	0.02	0.08	0.12	0.13	0.16	0.76	0.09
Total nitrite + nitrate	47	< 0.05	0.13	0.33	0.33	0.46	0.79	0.20
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.09	0.12	0.24	0.05
BOD	100	0.6	1.5	2.1	2.4	2.6	13.0	1.6
Fecal coliforms(31616)	99	2	8	80	268	320	2,900	499
Fecal strep.(31679)	19	2	5	20	109	163	570	148
Turbidity	35	2.8	8.0	20	32	50	150	130
Arsenic	46	< 10	< 10	< 10	--	< 10	28	--
Cadmium	64	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	55	< 20	< 20	< 20	--	< 20	20	--
Copper	74	< 20	< 20	< 20	28	21	350	63
Lead	51	< 20	< 20	< 20	31	30	340	53
Zinc	77	< 20	< 20	32	60	57	900	117

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.089 (SC) + 33.45	18	51	14.6
Chloride =0.185 (SC) -7.92	68	58	33.2
Magnesium =0.007 (SC) + 3.93	10	46***	1.6
Sulfate =0.059 (SC) + 7.34	70	58	10.6

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 91.--Statistical summary of selected water-quality properties for Bayou Meto near Lonoke, Ark., 07264000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	100	2.3	20	106	296	456	1,970	409
Dissolved oxygen	99	0.8	3.6	5.2	5.6	7.3	11.2	2.7
pH	100	6.2	7.0	7.2	7.2	7.5	8.1	0.4
Specific conductance	74	39	157	274	332	428	1,530	274
Total alkalinity	17	18	26	61	60	88	123	33
Total hardness	46	11	36	58	80	120	250	58
Dissolved magnesium	8	1.6	4.2	9.0	7.7	11.0	11.0	3.7
Dissolved sulfate	96	< 1.0	8.0	12.0	17.4	20.0	130.0	18.0
Dissolved chloride	91	9.0	18.0	38.0	62.1	62.0	550.0	88.4
Dissolved solids	56	77	115	163	220	250	1,120	177
Total phosphorus	96	0.08	0.20	0.25	0.29	0.35	0.85	0.13
Total nitrite + nitrate	44	0.19	0.36	0.50	0.48	0.60	0.98	0.18
Total ammonia	74	< 0.10	< 0.10	0.14	0.17	0.22	0.50	0.12
BOD	93	0.5	2.1	2.7	3.2	3.4	12.0	1.9
Fecal coliforms(31616)	92	2	87	155	499	371	7,400	1,173
Fecal strep.(31679)	17	25	205	500	1,148	700	12,000	2,811
Turbidity	33	3.0	20	35	42	52	100	28
Arsenic	45	< 10	< 10	< 10	--	< 10	22	--
Cadmium	73	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	50	< 20	< 20	< 20	--	< 20	20	--
Copper	86	< 20	< 20	< 20	17	20	89	14
Lead	36	< 20	< 20	20	25	30	70	16
Zinc	84	< 20	< 20	27	40	50	320	53

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.191 (SC) + 5.5	16	74	18.2
Chloride =0.264 (SC) -34.06	65	90***	24.5
Magnesium =0.001 (SC) + 7.4	8	0**	4.0
Sulfate =0.042 (SC) + 4.75	68	36***	16.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 92.--Statistical summary of selected water-quality properties for Bayou Two Prairie near Cabot, Ark., 07264050

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	52	0.0	3.0	16	65	64	445	111
Dissolved oxygen	95	0.5	2.7	4.5	4.9	6.6	11.7	2.6
pH	98	5.5	6.5	6.8	6.8	7.1	7.6	0.4
Specific conductance	61	43	76	114	140	182	849	117
Total alkalinity	19	9	13	35	38	62	82	25
Total hardness	47	13	20	36	40	56	91	21
Dissolved magnesium	6	2.0	2.7	5.5	5.8	8.7	11.0	3.4
Dissolved sulfate	90	< 1.0	5.0	8.0	8.1	10.0	21.0	4.2
Dissolved chloride	88	4.5	8.0	11.5	13.7	18.0	39.0	7.5
Dissolved solids	53	45	83	102	110	137	201	35
Total phosphorus	95	0.01	0.21	0.39	0.65	0.77	7.90	0.95
Total nitrite + nitrate	42	< 0.05	0.18	0.25	0.28	0.38	0.77	0.17
Total ammonia	71	< 0.10	0.22	0.39	1.07	1.00	9.50	1.69
BOD	83	1.2	2.1	2.9	3.9	4.7	20.0	2.8
Fecal coliforms(31616)	90	2	88	180	375	332	4,400	676
Fecal strep.(31679)	11	5	380	860	910	1,600	2,200	771
Turbidity	32	4.6	20	30	32	39	130	24
Arsenic	45	< 10	< 10	< 10	--	< 10	30	--
Cadmium	77	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	52	< 20	< 20	< 20	--	< 20	< 20	--
Copper	92	< 20	< 20	< 20	18	23	127	20
Lead	42	< 20	< 20	< 20	--	< 20	52	--
Zinc	90	< 20	< 20	23	42	51	390	58

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.363 (SC) -9.62	15	93	6.4
Chloride =0.025 (SC) + 9.58	53	21***	6.1
Magnesium =-0.003 (SC) + 5.92	5	0**	4.4
Sulfate =0.000 (SC) + 7.15	54	0**	4.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 93.--Statistical summary of selected water-quality properties for Bayou Meto near Bayou Meto, Ark., 07265099

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	65	0.0	56	952	1,348	2,070	6,050	1,480
Dissolved oxygen	118	2.5	4.8	6.0	6.3	7.9	11.4	2.1
pH	116	6.3	6.9	7.2	7.2	7.4	8.3	0.4
Specific conductance	64	69	104	160	195	253	678	124
Total alkalinity	20	19	27	41	50	77	110	30
Total hardness	62	12	38	48	64	81	174	37
Dissolved magnesium	10	2.4	3.0	7.0	7.0	10.5	13.0	3.9
Dissolved sulfate	113	< 1.0	7.0	9.0	10.6	13.0	43.0	5.5
Dissolved chloride	109	4.5	11.0	16.0	18.5	25.2	56.0	10.4
Dissolved solids	73	56	133	155	164	180	390	52
Total phosphorus	108	0.03	0.17	0.22	0.25	0.30	0.95	0.13
Total nitrite + nitrate	61	< 0.05	0.17	0.24	0.25	0.33	1.00	0.12
Total ammonia	89	< 0.10	< 0.10	0.10	0.12	0.15	0.36	0.07
BOD	109	0.3	1.7	2.3	2.4	2.9	8.0	1.2
Fecal coliforms(31616)	112	2	20	68	155	148	4,167	415
Fecal strep.(31679)	21	10	44	110	644	605	4,000	1,213
Turbidity	48	8.0	35	55	100	80	2,000	280
Arsenic	46	< 10	< 10	< 10	--	< 10	19	--
Cadmium	92	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	70	< 20	< 20	< 20	--	< 20	20	--
Copper	106	< 20	< 20	< 20	--	< 20	66	--
Lead	53	< 20	< 20	< 20	--	< 20	40	--
Zinc	102	< 20	< 20	< 20	23	30	110	19

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.331 (SC) -4.52	18	93	8.4
Chloride =0.077 (SC) + 4.06	57	73***	5.8
Magnesium =0.029 (SC) + 1.66	10	56	2.8
Sulfate =0.026 (SC) + 4.93	59	24	5.9

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 94.--Statistical summary of selected water-quality properties for Arkansas River at Dam No. 2 near Gillett, Ark., 07265283

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	95	0.0	9,500	26,300	40,800	61,700	166,000	41,400
Dissolved oxygen	91	5.9	7.8	8.8	9.2	10.6	13.9	1.8
pH	94	7.0	7.7	7.9	7.8	8.0	8.6	0.3
Specific conductance	95	157	383	501	522	616	1260	208
Total alkalinity	62	36	61	75	77	98	117	23
Total hardness	63	23	81	110	111	132	170	34
Dissolved calcium	58	4.2	23.5	33.5	31.8	39.3	49.0	9.9
Dissolved magnesium	59	3.0	5.5	7.7	7.8	9.5	18.0	2.8
Dissolved sodium	49	21.0	40.0	56.0	64.0	83.5	130.0	31.8
Dissolved potassium	49	1.7	2.8	3.3	3.5	4.1	6.3	1.0
Dissolved sulfate	91	10.0	28.0	40.0	41.3	51.0	100.0	17.4
Dissolved chloride	89	21.0	56.0	78.0	90.4	110.5	310.0	51.7
Dissolved fluoride	49	0.1	0.2	0.2	0.2	0.3	0.3	0.1
Dissolved silica	49	0.3	1.6	4.2	4.8	5.0	65.0	9.0
Dissolved solids	61	139	211	286	303	379	540	111
Total phosphorus	95	0.02	0.08	0.11	0.13	0.15	1.30	0.13
Total nitrogen	25	0.68	1.10	1.20	1.39	1.60	4.20	0.67
Total organic nitrogen	25	0.33	0.68	0.94	0.92	1.20	1.50	0.33
Total nitrite + nitrate	38	< 0.10	0.16	0.42	0.42	0.49	2.70	0.42
Total ammonia	43	< 0.01	0.05	0.08	0.10	0.13	0.51	0.09
Fecal coliforms(31625)	48	1	23	85	2100	270	90,000	13,000
Fecal strep.(31673)	49	2	23	180	2200	640	52,000	7,900
Turbidity	48	<1.0	6.4	23	28	40	80	23
Suspended sediment	47	4	15	43	61	77	531	89
Arsenic	31	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	36	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	33	< 20	< 20	< 20	--	< 20	20	--
Copper	49	< 20	< 20	< 20	--	< 20	180	--
Lead	13	< 2	3	4	12	8	75	21
Zinc	48	< 20	< 20	20	40	40	302	54

Table 94.--Statistical summary of selected water-quality properties for Arkansas River at Dam No. 2 near Gillett, Ark., 07265283--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.083 (SC) + 31.59	62	57***	15.2
Calcium =0.04 (SC) + 10.07	58	70	5.5
Chloride =0.235 (SC) -34.38	89	92***	14.7
Dissolved solids =0.512 (SC) + 25.57	61	93	29.8
Fluoride =0.000 (SC) + 0.11	49	34***	0.1
Magnesium =0.009 (SC) + 3.07	59	42	2.2
Potassium =0.004 (SC) + 1.49	49	58	0.7
Silica =-0.004 (SC) + 7.31	49	1**	9.0
Sodium =0.142 (SC) -16.12	49	90	9.9
Sulfate =0.06 (SC) + 9.81	91	52	12.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 95.--Statistical summary of selected water-quality properties for Mississippi River near Arkansas City, Ark., 07265450

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	101	162,000	320,000	471,000	571,000	692,000	1,740,000	333,000
Dissolved oxygen	66	5.5	7.2	8.1	8.8	10.4	14	2.1
pH	100	7.2	7.7	7.9	7.8	8.0	8.4	0.3
Specific conductance	100	255	346	395	394	438	550	65
Total alkalinity	100	61	90	101	103	112	160	19
Total hardness	100	74	130	140	146	160	210	23
Dissolved calcium	100	21.0	35.2	39.0	38.7	42.0	54.0	5.3
Dissolved magnesium	100	5.2	10.0	12.0	11.8	13.0	18.0	2.4
Dissolved sodium	100	6.5	15.0	20.0	20.4	24.0	53.0	7.7
Dissolved potassium	100	1.6	2.7	3.0	3.0	3.4	4.4	0.5
Dissolved sulfate	100	31.0	44.0	53.0	55.2	64.0	91.0	14.3
Dissolved chloride	100	2.0	16.0	19.5	21.5	24.0	73.0	8.9
Dissolved fluoride	100	< 0.1	0.2	0.2	0.2	0.3	0.5	0.1
Dissolved silica	100	0.8	4.5	5.8	5.6	6.8	8.5	1.6
Dissolved solids	99	151	206	232	235	263	323	40
Total phosphorus	100	0.03	0.16	0.21	0.22	0.25	0.54	0.10
Total nitrogen	77	0.99	1.70	2.00	2.66	2.40	41.00	4.5
Total organic nitrogen	42	0.33	0.67	0.87	1.01	1.40	2.20	0.45
Total nitrite + nitrate	82	0.31	0.84	1.20	1.20	1.40	2.90	0.46
Total ammonia	47	< 0.01	0.02	0.04	0.06	0.07	0.26	0.06
Fecal coliforms (31625)	72	5	200	440	6,600	990	430,000	51,000
Fecal strep.(31673)	59	5	52	120	270	300	1,600	360
Turbidity	55	<1.0	30	48	60	85	170	39
Suspended sediment	95	18	97	145	169	190	548	107
Arsenic	27	1	2	3	3	4	8	2
Cadmium	30	< 20	< 20	< 20	--	< 20	30	--
Chromium	30	< 20	< 20	< 20	--	< 20	20	--
Copper	30	< 20	38	60	65	90	150	36
Lead	15	< 2	10	15	14	17	27	6
Zinc	30	< 20	40	50	66	70	230	44

Table 95.--Statistical summary of selected water-quality properties for Mississippi River near Arkansas City, Ark., 07265450--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.218 (SC) + 16.92	100	58	12.2
Calcium =0.063 (SC) + 13.92	100	60	3.4
Chloride =0.047 (SC) + 2.99	100	12***	8.4
Dissolved solids =0.509 (SC) + 34.65	99	68	22.7
Fluoride =0.001 (SC) -0.01	100	25***	0.1
Magnesium =0.029 (SC) + 0.49	100	63	1.4
Potassium =0.004 (SC) + 1.29	100	30	0.4
Silica =-0.007 (SC) + 8.29	100	8	1.6
Sodium =0.081 (SC) -11.68	100	48	5.6
Sulfate =0.165 (SC) + -9.86	100	57	9.5

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 96.--Statistical summary of selected water-quality properties for Red River near Foreman, Ark., 07336860

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	95	1,130	3,380	6,020	12,735	15,200	95,300	15,600
Dissolved oxygen	120	6.0	7.8	8.7	9.1	10.4	12.9	1.7
pH	124	7.4	7.9	8.0	8.0	8.2	8.5	0.2
Specific conductance	66	181	526	1,115	1,079	1,543	1,920	519
Total alkalinity	20	66	110	127	120	135	160	23
Total hardness	60	37	154	222	213	276	380	80
Dissolved magnesium	9	9.0	16.5	21.0	23.2	25.0	51.0	11.6
Dissolved sulfate	115	13.0	73.0	100.0	125.3	170.0	540.0	76.6
Dissolved chloride	114	5.5	71.7	150.0	162.9	240.0	410.0	103.3
Dissolved solids	79	20	347	551	576	767	1190	280
Total phosphorus	118	0.03	0.09	0.12	0.15	0.17	0.90	0.11
Total nitrite + nitrate	67	< 0.05	< 0.05	0.16	0.18	0.28	0.62	0.13
Total ammonia	97	< 0.10	< 0.10	< 0.10	0.08	< 0.10	0.26	0.05
BOD	119	0.9	2.2	3.0	3.1	4.0	7.3	1.2
Fecal coliforms(31616)	114	1	13	44	272	183	8200	861
Fecal strep.(31679)	11	2	20	100	226	400	829	282
Turbidity	53	2.6	25	50	99	120	600	120
Arsenic	56	< 10	< 10	< 10	8	10	31	6
Cadmium	110	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	82	< 20	< 20	< 20	--	< 20	36	--
Copper	115	< 20	< 20	< 20	17	20	80	14
Lead	51	< 20	< 20	26	40	45	220	46
Zinc	112	< 20	< 20	30	45	53	460	54

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.033 (SC) + 80.62	18	38	19.4
Chloride =0.214 (SC) -34.86	56	95	26.2
Magnesium =0.028 (SC) -5.2	8	44**	10.0
Sulfate =0.118 (SC) + 12.54	57	45***	69.1

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 97.--Statistical summary of selected water-quality properties for Red River at Index, Ark., 07337000

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	73	1,780	3,280	4,900	9,770	12,800	64,200	11,200
Dissolved oxygen	54	5.8	7.5	9.7	9.3	10.8	13.6	1.9
pH	54	7.2	7.8	7.8	7.9	8.0	8.5	0.2
Specific conductance	55	300	800	860	878	930	1950	328
Total alkalinity	36	55	87	122	118	142	195	36
Total hardness	36	82	150	200	210	255	380	78
Dissolved calcium	36	24.0	43.3	55.5	57.5	69.8	100.0	19.5
Dissolved magnesium	36	5.3	11.0	15.0	16.0	19.8	31.0	7.0
Dissolved sodium	36	24.0	66.3	97.5	101.0	118.0	260.0	56.5
Dissolved potassium	36	2.3	3.5	4.3	4.3	5.0	7.6	1.2
Dissolved sulfate	36	32.0	59.8	100.0	108.3	127.5	260.0	58.0
Dissolved chloride	36	27.0	84.8	135.0	150.8	175.0	390.0	90.2
Dissolved fluoride	36	< 0.1	0.2	0.2	0.2	0.3	0.6	0.1
Dissolved silica	36	0.1	3.6	5.1	4.7	6.0	7.6	1.8
Dissolved solids	35	183	395	525	545	629	1,180	242
Total phosphorus	36	0.02	0.07	0.12	0.13	0.18	0.30	0.08
Total nitrogen	10	1.10	1.30	1.40	1.67	1.80	3.40	0.66
Total organic nitrogen	12	0.85	1.10	1.30	1.37	1.40	2.80	0.49
Total nitrite + nitrate	12	< 0.10	< 0.10	< 0.10	0.25	0.44	0.53	0.17
Total ammonia	13	< 0.01	0.01	0.05	0.07	0.11	0.18	0.06
Fecal coliforms(31625)	35	1	23	130	510	570	5,000	1,100
Fecal strep.(31673)	34	8	84	140	490	400	4,500	900
Turbidity	36	1.5	16	40	62	85	240	58
Suspended sediment	45	16	50	151	223	289	1,150	250
Arsenic	10	1	2	3	3	3	4	1
Cadmium	10	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	10	< 20	< 20	< 20	14	20	30	8
Copper	10	< 20	< 20	< 20	10	< 20	24	7
Lead	10	2	4	9	9	11	24	6
Zinc	10	20	28	50	60	100	110	35

Table 97.--Statistical summary of selected water-quality properties for Red River at Index, Ark., 07337000--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.033 (SC) + 89.47	35	15	33.1
Calcium =0.042 (SC) + 20.31	35	78	9.5
Chloride =0.209 (SC) -34.93	35	89	31.1
Dissolved solids =0.575 (SC) + 26.71	34	94	63.3
Fluoride =0.000 (SC) + 0.08	35	45	0.1
Magnesium =0.015 (SC) + 2.26	35	80***	3.2
Potassium =0.002 (SC) + 2.09	35	70	0.7
Silica =-0.002 (SC) + 6.28	35	15	1.7
Sodium =0.126 (SC) -10.98	35	83	24.2
Sulfate =0.129 (SC) -6.35	35	82	25.6

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 98.--Statistical summary of selected water-quality properties for Rolling Fork near Horatio, Ark., 07339850

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	97	4.9	7.1	8.4	8.8	10.2	13.1	2.0
pH	96	6.4	6.7	6.9	6.9	7.0	7.4	0.2
Specific conductance	65	33	50	63	69	83	163	26
Total alkalinity	20	10	13	16	16	20	23	4
Total hardness	49	8	16	20	20	23	45	7
Dissolved magnesium	9	1.0	1.0	1.0	1.6	2.5	3.0	0.9
Dissolved sulfate	90	< 1.0	3.0	4.0	4.7	6.0	19.0	3.1
Dissolved chloride	90	2.5	6.5	8.5	10.1	13.0	31.0	5.2
Dissolved solids	53	25	45	53	54	60	91	12
Total phosphorus	95	< 0.01	0.03	0.04	0.05	0.06	0.16	0.03
Total nitrite + nitrate	45	< 0.05	0.10	0.16	0.19	0.24	0.97	0.15
Total ammonia	72	< 0.10	< 0.10	< 0.10	0.07	< 0.10	0.22	0.04
BOD	96	0.1	1.1	1.5	1.7	2.1	5.6	0.9
Fecal coliforms(31616)	95	2	29	59	305	170	5,400	881
Fecal strep.(31679)	11	27	67	190	733	510	5,500	1,598
Turbidity	32	3.6	5.9	9.1	13	20	45	10
Arsenic	49	< 10	< 10	< 10	--	< 10	24	--
Cadmium	62	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	61	< 20	< 20	< 20	--	< 20	< 20	--
Copper	55	< 20	< 20	< 20	--	< 20	39	--
Lead	38	< 20	< 20	< 20	--	< 20	90	--
Zinc	55	< 20	< 20	20	40	52	290	50

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.111 (SC) + 8.44	20	55***	2.9
Chloride =0.178 (SC) -2.44	55	85	2.0
Magnesium =0.014 (SC) + 0.63	9	6**	0.9
Sulfate =0.000 (SC) + 4.97	57	0**	3.7

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 99.--Statistical summary of selected water-quality properties for Little River near Horatio, Ark., 07340000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and, N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	154	191	479	1,930	3,750	4,800	23,600	4,750
Dissolved oxygen	145	3.0	7.4	8.4	8.9	10.3	14.0	1.9
pH	147	5.9	6.7	6.9	6.9	7.1	8.1	0.3
Specific conductance	90	25	52	62	73	84	279	38
Total alkalinity	19	10	14	15	16	19	30	4
Total hardness	73	5	16	20	21	25	54	8
Dissolved magnesium	8	1.0	1.0	1.5	1.7	2.0	4.0	1.0
Dissolved sulfate	134	< 1.0	4.0	6.0	6.5	8.0	58.0	6.3
Dissolved chloride	132	0.5	5.0	8.0	9.7	13.0	76.0	8.2
Dissolved solids	79	6	50	60	59	71	98	16
Total phosphorus	137	< 0.01	0.04	0.05	0.18	0.08	5.00	0.69
Total nitrite + nitrate	87	< 0.05	0.15	0.20	0.22	0.25	0.70	0.11
Total ammonia	96	< 0.10	< 0.10	< 0.10	0.10	0.12	0.50	0.08
BOD	123	0.3	1.1	1.4	1.7	1.9	7.4	1.1
Fecal coliforms(31616)	123	2	12	32	239	160	5,300	662
Fecal strep.(31679)	11	10	20	110	749	310	7,000	2,077
Turbidity	64	1.6	6.6	15	19	20	100	21
Arsenic	54	< 10	< 10	< 10	--	< 10	19	--
Cadmium	90	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	88	< 20	< 20	< 20	--	< 20	25	--
Copper	84	< 20	< 20	< 20	--	< 20	140	--
Lead	63	< 20	< 20	< 20	17	21	120	23
Zinc	81	< 20	< 20	29	39	60	140	31

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.013 (SC) + 15.22	18	0**	4.5
Chloride =0.234 (SC) -6.3	71	41	7.9
Magnesium =0.01 (SC) + 1.08	8	1**	1.1
Sulfate =-0.024 (SC) + 8.07	76	1**	7.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 100.--Statistical summary of selected water-quality properties for Cossatot River near Lockesburg, Ark., 07340520

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	58	14.0	51	174	649	870	3,850	931
Dissolved oxygen	101	6.0	7.6	9.1	9.1	10.5	12.7	1.8
pH	100	6.3	6.7	6.9	6.9	7.1	8.8	0.3
Specific conductance	68	27	40	45	45	51	62	7
Total alkalinity	20	10	12	15	15	17	23	3
Total hardness	49	6	14	16	19	20	100	13
Dissolved magnesium	9	0.1	1.0	2.0	2.0	3.0	5.0	1.5
Dissolved sulfate	94	< 1.0	2.0	3.5	3.5	4.0	15.0	2.2
Dissolved chloride	91	2.5	3.5	4.0	4.4	5.0	9.5	1.1
Dissolved solids	55	28	36	41	42	47	64	8
Total phosphorus	97	< 0.01	0.02	0.03	0.05	0.05	0.23	0.05
Total nitrite + nitrate	45	< 0.05	0.10	0.15	0.71	0.22	25.00	3.70
Total ammonia	74	< 0.10	< 0.10	< 0.10	0.06	< 0.10	0.21	0.04
BOD	100	0.1	1.1	1.4	1.6	2.0	6.0	1.0
Fecal coliforms(31616)	97	3	28	65	232	205	2,600	482
Fecal strep.(31679)	12	5	34	102	501	792	2,250	774
Turbidity	33	2.8	4.5	8.0	13	18	65	13
Arsenic	48	< 10	< 10	< 10	--	< 10	15	--
Cadmium	62	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	60	< 20	< 20	< 20	--	< 20	< 20	--
Copper	55	< 20	< 20	< 20	--	< 20	52	--
Lead	38	< 20	< 20	< 20	--	22	200	--
Zinc	57	< 20	< 20	20	33	51	120	26

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.443 (SC) -5.88	20	65	2.0
Chloride =0.028 (SC) + 3.14	56	4**	1.0
Magnesium =0.160 (SC) -5.57	9	42**	1.2
Sulfate =-0.048 (SC) + 5.69	60	2**	2.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 101.--Statistical summary of selected water-quality properties for Saline River near Lockesburg, Ark., 07341200

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	105	3.4	27	101	466	535	6,250	967
Dissolved oxygen	101	4.0	6.2	8.3	8.3	10.2	12.9	2.3
pH	100	6.4	6.8	7.0	7.0	7.2	7.4	0.2
Specific conductance	68	34	56	64	67	75	104	15
Total alkalinity	20	13	18	20	20	23	26	4
Total hardness	50	8	20	24	25	31	38	7
Dissolved magnesium	9	2.0	2.0	3.0	2.8	3.5	4.0	0.8
Dissolved sulfate	92	< 1.0	4.0	6.0	6.5	8.0	37.0	4.7
Dissolved chloride	91	3.0	4.5	5.5	5.8	6.5	12.0	1.7
Dissolved solids	53	29	52	63	62	70	108	14
Total phosphorus	97	< 0.01	0.04	0.06	0.06	0.08	0.29	0.04
Total nitrite + nitrate	45	< 0.05	0.12	0.18	0.19	0.24	0.41	0.09
Total ammonia	74	< 0.10	< 0.10	< 0.10	0.09	0.11	0.56	0.08
BOD	99	0.1	1.2	1.7	1.9	2.2	6.3	1.0
Fecal coliforms(31616)	97	4	44	87	334	245	4,400	722
Fecal strep.(31679)	12	10	87	327	908	1,421	4,375	1,357
Turbidity	33	4.8	8.1	15	20	25	80	16
Arsenic	54	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	78	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	60	< 20	< 20	< 20	--	< 20	< 20	--
Copper	71	< 20	< 20	< 20	--	< 20	76	--
Lead	36	< 20	< 20	< 20	--	26	230	--
Zinc	74	< 20	< 20	24	35	49	210	31

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.235 (SC) + 4.13	20	57	2.5
Chloride =0.052 (SC) + 2.34	56	18	1.5
Magnesium =0.025 (SC) + 1.08	9	10**	0.8
Sulfate =0.071 (SC) + 1.93	59	3**	5.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 102.--Statistical summary of selected water-quality properties for Little River at Millwood Dam near Ashdown, Ark., 07341301

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	61	157	692	3,440	6,380	10,200	30,500	7,430
Dissolved oxygen	108	5.7	8.4	10.2	10.2	12.2	15.1	2.2
pH	98	6.2	7.0	7.1	7.2	7.4	8.2	0.3
Specific conductance	100	31	48	61	60	67	96	13
Total alkalinity	47	10	14	18	18	20	28	4
Total hardness	47	0	17	20	20	23	28	5
Dissolved calcium	44	3.0	4.9	5.6	5.7	6.8	8.4	1.5
Dissolved magnesium	43	1.0	1.2	1.3	1.3	1.5	1.8	0.2
Dissolved sodium	41	2.4	3.3	4.1	4.2	4.9	6.6	1.1
Dissolved potassium	42	0.8	1.2	1.3	1.4	1.5	2.0	0.3
Dissolved sulfate	47	< 5.0	< 5.0	5.3	5.5	7.0	12.0	2.2
Dissolved chloride	47	0.6	3.7	4.8	5.2	6.3	13.0	2.1
Dissolved fluoride	42	< 0.1	< 0.1	0.1	0.1	0.1	0.3	0.1
Dissolved silica	41	2.8	6.1	6.5	6.8	7.4	11.0	1.7
Dissolved solids	42	21	45	50	52	57	110	15
Total phosphorus	47	< 0.01	0.04	0.05	0.06	0.06	0.41	0.06
Total nitrogen	26	0.46	0.59	0.79	0.95	1.30	2.70	0.50
Total organic nitrogen	26	0.10	0.41	0.56	0.75	1.10	2.70	0.53
Total nitrite + nitrate	30	< 0.10	< 0.10	< 0.10	0.15	0.21	0.62	0.14
Total ammonia	26	< 0.01	0.02	0.04	0.06	0.08	0.36	0.07
Fecal coliforms(31625)	47	1	5	9	27	23	250	51
Fecal strep.(31673)	40	0	4	15	92	56	1300	240
Turbidity	47	1.0	4.1	7.6	12	16	75	12
Suspended sediment	50	2	10	14	23	22	222	36
Arsenic	19	< 1	1	1	--	2	2	--
Cadmium	14	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	20	< 20	< 20	< 20	--	< 20	20	--
Copper	19	< 20	< 20	< 20	--	< 20	43	--
Lead	19	< 2	3	5	7	8	30	8
Zinc	18	< 20	20	25	28	40	50	14

Table 102.--Statistical summary of selected water-quality properties for Little River at Millwood Dam near Ashdown, Ark., 07341301--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.215 (SC) + 3.65	47	41	3.3
Calcium =0.091 (SC) -0.16	44	48	1.1
Chloride =0.091 (SC) -0.75	47	29	1.8
Dissolved solids =0.639 (SC) + 9.73	42	24	12.9
Fluoride =0.001 (SC) + 0.02	42	6**	0.0
Magnesium =0.013 (SC) + 0.5	43	51	0.1
Potassium =0.01 (SC) + 0.75	42	16	0.3
Silica =0.000 (SC) + 6.81	41	0**	1.8
Sodium =0.057 (SC) + 0.48	41	37***	0.8
Sulfate =0.028 (SC) + 3.25	47	2**	2.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 103.--Statistical summary of selected water-quality properties for Sulphur River south of Texarkana, Ark., 07344275

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	92	13	126	579	2,520	3,780	11,500	3,520
Dissolved oxygen	411	1.2	6.0	7.4	7.6	9.2	13.9	2.8
pH	395	2.9	7.1	7.4	7.4	7.7	8.6	0.5
Specific conductance	403	60	193	200	231	280	900	123
Total alkalinity	53	38	57	66	65	74	100	13
Total hardness	54	0	62	76	76	85	200	28
Dissolved calcium	49	7.4	21.2	25.0	25.5	28.0	72.0	9.5
Dissolved magnesium	49	2.0	2.5	3.0	3.1	3.5	5.0	0.8
Dissolved sodium	39	7.1	11.0	14.0	24.2	23.0	170.0	29.0
Dissolved potassium	41	1.8	3.2	3.6	3.8	4.2	9.3	1.1
Dissolved sulfate	76	< 5.0	14.0	19.0	23.1	25.0	73.0	14.7
Dissolved chloride	77	5.1	12.0	18.0	28.1	27.0	250.0	32.5
Dissolved fluoride	41	0.1	0.1	0.2	0.2	0.2	0.3	0.1
Dissolved silica	39	0.1	4.0	7.1	6.3	8.3	11.0	2.7
Dissolved solids	51	25	130	152	180	193	717	102
Total phosphorus	86	0.02	0.09	0.12	0.21	0.17	3.1	0.40
Total nitrogen	23	0.78	1.10	1.20	1.42	1.80	2.60	0.55
Total organic nitrogen	24	0.36	0.86	1.10	1.19	1.48	2.50	0.47
Total nitrite + nitrate	36	< 0.10	< 0.10	< 0.10	0.12	0.18	0.43	0.11
Total ammonia	42	< 0.01	0.04	0.15	0.39	0.32	8.00	1.22
Fecal coliforms(31625)	40	3	14	33	78	72	760	140
Fecal strep.(31673)	39	0	37	90	180	240	1,200	230
Turbidity	41	1.9	14	25	30	37	170	28
Suspended sediment	50	8	24	43	140	79	4,191	587
Arsenic	33	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	34	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	33	< 20	< 20	< 20	--	< 20	40	--
Copper	35	< 20	< 20	< 20	--	< 20	490	--
Lead	14	2	5	6	9	14	20	6
Zinc	36	< 20	< 20	20	27	30	142	28

Table 103.--Statistical summary of selected water-quality properties for Sulphur River south of Texarkana, Ark., 07344275--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.035 (SC) + 54.99	52	13***	11.4
Calcium =0.047 (SC) + 13.29	46	56***	4.3
Chloride =0.193 (SC) -23.85	74	86	7.7
Dissolved solids =0.589 (SC) + 19.73	49	84	25.9
Fluoride =0.000 (SC) + 0.17	40	0**	0.1
Magnesium =0.002 (SC) + 2.43	46	20***	0.6
Potassium =0.004 (SC) + 2.68	40	46***	0.5
Silica =-0.001 (SC) + 6.39	38	0**	2.7
Sodium =0.146 (SC) -16.55	38	90***	5.4
Sulfate =0.095 (SC) -2.43	73	55	8.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 104.--Statistical summary of selected water-quality properties for Days Creek southeast of Texarkana, Ark., 07344300

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	94	5.0	21	30	129	68	2,370	345
Dissolved oxygen	122	0.9	3.8	5.3	5.3	6.9	11.4	2.2
pH	127	6.4	7.1	7.3	7.3	7.5	7.8	0.3
Specific conductance	97	74	389	622	974	1148	7430	1,098
Total alkalinity	20	21	38	93	85	118	170	45
Total hardness	63	30	57	74	111	94	720	136
Dissolved magnesium	9	3.0	3.0	4.0	5.9	9.0	12.0	3.4
Dissolved sulfate	117	< 1.0	22.0	31.0	31.0	38.0	76.0	13.8
Dissolved chloride	116	8.4	53.5	99.0	210.5	200.0	2,500.0	330.8
Dissolved solids	80	12	188	270	508	438	4840	725
Total phosphorus	119	0.08	0.80	1.50	1.75	2.60	5.40	1.18
Total nitrite + nitrate	70	< 0.05	0.10	0.26	0.33	0.54	0.88	0.26
Total ammonia	90	< 0.10	2.98	5.90	7.47	9.58	44.00	6.62
BOD	105	1.6	6.9	10.0	11.3	13.0	73.0	8.2
Fecal coliforms(31616)	112	2	49	265	2,446	600	96,000	11,861
Fecal strep.(31679)	11	6	20	60	3,261	175	35,000	10,527
Turbidity	55	6.0	9.2	15	21	20	110	18
Arsenic	61	< 10	< 10	< 10	--	< 10	49	--
Cadmium	111	< 20	< 20	< 20	--	< 20	30	--
Chromium	84	< 20	< 20	< 20	--	< 20	68	--
Copper	102	< 20	< 20	< 20	24	28	530	52
Lead	53	< 20	< 20	20	62	38	1,600	222
Zinc	100	< 20	24	49	192	81	4,900	591

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.019 (SC) + 61.66	19	28***	39.9
Chloride =0.324 (SC) -75.14	85	95	80.4
Magnesium =0.005 (SC) + 1.96	9	61	2.3
Sulfate =0.005 (SC) + 27.21	88	13	13.8

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 105.--Statistical summary of selected water-quality properties for Red River near Spring Bank, Ark., 07344350

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N],

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	49	2,500	5,285	16,000	25,274	36,100	104,000	25,800
Dissolved oxygen	122	1.5	7.8	8.4	8.7	9.5	13.0	1.7
pH	121	5.8	7.7	7.9	7.8	8.0	8.5	0.3
Specific conductance	94	132	361	598	709	1,087	1,760	450
Total alkalinity	19	2	49	98	98	120	240	61
Total hardness	63	33	92	120	163	196	1,200	151
Dissolved magnesium	9	3.7	9.5	12.0	14.6	21.0	30.0	8.1
Dissolved sulfate	114	2.0	31.8	53.5	71.9	96.0	250.0	54.1
Dissolved chloride	117	8.0	35.5	69.5	117.1	165.0	1,500.0	157.0
Dissolved solids	81	49	213	289	390	505	1,040	247
Total phosphorus	111	0.04	0.10	0.13	0.16	0.19	0.90	0.11
Total nitrite + nitrate	67	< 0.05	0.08	0.18	0.20	0.26	0.60	0.12
Total ammonia	95	< 0.10	< 0.10	< 0.10	0.21	0.15	6.00	0.68
BOD	121	0.9	1.8	2.6	2.7	3.4	7.2	1.2
Fecal coliforms(31616)	115	1	12	32	125	110	3,300	335
Fecal strep.(31679)	12	2	15	35	68	100	264	77
Turbidity	54	15	30	52	97	96	850	130
Arsenic	60	< 10	< 10	< 10	--	< 10	27	--
Cadmium	94	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	82	< 20	< 20	< 20	--	< 20	22	--
Copper	84	< 20	< 20	< 20	18	21	50	9
Lead	53	< 20	< 20	25	36	47	180	36
Zinc	81	< 20	< 20	30	36	50	150	26

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.065 (SC) + 44.4	18	27***	55.4
Chloride =0.186 (SC) -18.42	87	84	37.4
Magnesium =0.023 (SC) -0.26	9	95	1.9
Sulfate =0.108 (SC) -0.31	85	74	29.4

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 106.--Statistical summary of selected water-quality properties for Bayou Dorcheat near Taylor, Ark., 07348650

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	87	0.7	13	72	347	396	2,850	562
Dissolved oxygen	97	0.9	4.8	6.4	6.5	8.3	12.2	2.6
pH	96	5.2	5.9	6.3	6.3	6.7	7.4	0.6
Specific conductance	50	97	165	239	244	327	449	98
Total alkalinity	14	4	7	13	14	21	28	8
Total hardness	55	8	30	37	42	54	94	18
Dissolved magnesium	10	1.8	2.0	3.0	3.3	4.0	7.0	1.5
Dissolved sulfate	88	< 1.0	6.0	8.0	10.6	11.0	43.0	8.0
Dissolved chloride	94	12.0	39.0	53.0	60.6	79.3	180.0	31.1
Dissolved solids	57	77	130	174	182	228	308	62
Total phosphorus	97	0.01	0.06	0.11	0.31	0.25	5.70	0.74
Total nitrite + nitrate	58	< 0.05	< 0.05	0.06	0.09	0.11	0.74	0.11
Total ammonia	72	< 0.10	< 0.10	< 0.10	0.11	0.14	0.70	0.12
BOD	93	0.2	1.0	1.4	1.7	2.0	6.0	1.0
Fecal coliforms(31616)	94	2	36	67	254	183	6,000	718
Fecal strep.(31679)	13	20	67	270	435	930	1,300	444
Turbidity	49	2.6	5.0	8.4	14	15	150	21
Arsenic	39	< 10	< 10	< 10	--	< 10	19	--
Cadmium	69	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	66	< 20	< 20	< 20	--	< 20	< 20	--
Copper	63	< 20	< 20	25	27	34	60	10
Lead	32	< 20	< 20	30	--	55	200	--
Zinc	60	< 20	25	39	43	50	270	36

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.046 (SC) + 2.67	14	39	6.1
Chloride =0.276 (SC) -11.43	42	74***	16.0
Magnesium =0.005 (SC) + 1.97	10	16**	1.5
Sulfate =0.043 (SC) + 1.83	40	24***	7.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 107.--Statistical summary of selected water-quality properties for Bodcau Creek near Lewisville, Ark., 07349440

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	38	0.0	6.0	45	233	386	990	317
Dissolved oxygen	112	2.9	4.9	5.9	6.4	7.8	11.8	2.1
pH	111	5.4	6.0	6.3	6.3	6.6	7.6	0.4
Specific conductance	52	61	107	154	189	220	596	118
Total alkalinity	15	3	6	9	9	11	23	5
Total hardness	59	12	24	33	37	44	120	19
Dissolved magnesium	9	1.5	2.0	2.0	2.9	4.0	6.0	1.6
Dissolved sulfate	106	< 1.0	5.0	7.5	7.8	10.0	27.0	4.2
Dissolved chloride	108	9.0	28.0	43.0	54.2	69.5	240.0	39.8
Dissolved solids	68	63	110	148	166	196	581	79
Total phosphorus	105	0.03	0.07	0.11	0.13	0.15	0.46	0.08
Total nitrite + nitrate	57	< 0.05	< 0.05	0.06	0.09	0.12	0.33	0.07
Total ammonia	87	< 0.10	< 0.10	< 0.10	0.08	< 0.10	0.81	0.12
BOD	105	0.1	1.0	1.5	1.6	2.2	5.0	0.8
Fecal coliforms(31616)	109	2	20	55	135	137	1,500	239
Fecal strep.(31679)	13	5	56	110	385	360	2,200	663
Turbidity	57	2.8	7.3	10	14	18	110	15
Arsenic	56	< 10	< 10	< 10	--	< 10	17	--
Cadmium	89	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	78	< 20	< 20	< 20	--	< 20	< 20	--
Copper	78	< 20	< 20	< 20	25	31	70	12
Lead	46	< 20	< 20	20	25	30	160	24
Zinc	77	< 20	< 20	30	38	50	260	32

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.012 (SC) + 7.13	13	11**	5.0
Chloride =0.286 (SC) -6.49	46	91	10.7
Magnesium =0.002 (SC) + 2.62	9	1**	1.6
Sulfate =0.008 (SC) + 5.44	46	5**	4.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 108.--Statistical summary of selected water-quality properties for Ouachita River near Mount Ida, Ark., 07356000

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	132	13	60	291	906	807	17,600	2,200
Dissolved oxygen	115	5.9	8.0	9.1	9.3	10.5	14.1	1.7
pH	112	6.1	6.9	7.1	7.1	7.3	7.8	0.3
Specific conductance	90	5	46	56	60	71	134	20
Total alkalinity	17	13	15	23	23	30	37	8
Total hardness	60	4	18	22	23	28	50	8
Dissolved magnesium	10	1.0	1.0	1.0	2.2	3.0	6.0	2.0
Dissolved sulfate	104	< 1.0	3.0	4.0	4.6	6.0	16.0	2.6
Dissolved chloride	107	1.5	3.5	4.5	4.2	5.0	8.0	1.1
Dissolved solids	68	22	41	46	46	51	70	9
Total phosphorus	111	< 0.01	0.02	0.04	0.05	0.06	0.31	0.05
Total nitrite + nitrate	65	< 0.05	0.05	0.19	0.30	0.34	6.00	0.74
Total ammonia	86	< 0.10	< 0.10	< 0.10	--	< 0.10	0.22	--
BOD	110	0.3	1.2	1.6	1.8	2.3	5.2	0.9
Fecal coliforms(31616)	107	1	20	53	254	160	7,000	739
Fecal strep.(31679)	8	10	12	28	331	837	1,400	573
Turbidity	55	1.8	3.1	4.8	12	20	85	15
Arsenic	52	< 10	< 10	< 10	--	< 10	16	--
Cadmium	84	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	83	< 20	< 20	< 20	--	< 20	37	--
Copper	98	< 20	< 20	< 20	--	< 20	240	--
Lead	60	< 20	< 20	< 20	--	< 20	50	--
Zinc	91	< 20	< 20	< 20	33	50	160	38

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.44 (SC) -4.35	17	87	3.2
Chloride =0.013 (SC) + 3.38	81	6	1.1
Magnesium =-0.008 (SC) + 2.67	10	0**	2.2
Sulfate =-0.035 (SC) + 6.62	80	5**	3.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 109.--Statistical summary of selected water-quality properties for Ouachita River at Blakely Mountain Dam, near Hot Springs, Ark., 07357501

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	61	0.0	0.0	20	3,070	2,940	60,000	9,240
Dissolved oxygen	194	4.3	7.6	8.8	9.1	10.6	18.0	2.2
pH	190	6.1	6.8	7.0	7.0	7.2	7.7	0.3
Specific conductance	170	15	50	59	64	67	480	40
Total alkalinity	18	16	21	23	24	25	38	5
Total hardness	47	16	22	26	28	27	100	13
Dissolved magnesium	7	1.0	1.0	1.0	1.9	3.0	5.0	1.6
Dissolved sulfate	93	< 1.0	2.0	3.0	3.5	4.5	14.0	2.0
Dissolved chloride	91	2.0	3.5	4.0	4.4	4.5	17.0	2.0
Dissolved solids	55	1	35	40	43	45	142	19
Total phosphorus	95	< 0.01	< 0.01	0.01	0.02	0.03	0.12	0.02
Total nitrite + nitrate	42	< 0.05	< 0.05	0.10	0.10	0.13	0.20	0.04
Total ammonia	75	< 0.10	< 0.10	< 0.10	0.04	< 0.10	0.27	0.04
BOD	91	0.2	1.2	1.8	2.0	2.6	4.6	1.0
Fecal coliforms(31616)	101	1	2	8	48	35	860	117
Fecal strep.(31679)	11	2	2	4	24	20	125	41
Turbidity	34	<1.0	1.1	2.5	5.3	3.5	55	10
Arsenic	40	< 10	< 10	< 10	--	< 10	10	--
Cadmium	58	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	57	< 20	< 20	< 20	--	< 20	< 20	--
Copper	59	< 20	< 20	< 20	--	< 20	40	--
Lead	34	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	54	< 20	< 20	< 20	36	43	370	56

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.165 (SC) + 13.41	18	17**	4.5
Chloride =0.064 (SC) + 0.56	66	27***	2.0
Magnesium =0.060 (SC) -1.65	7	10**	1.6
Sulfate =0.041 (SC) + 0.57	69	12	2.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 110.--Statistical summary of selected water-quality properties for Ouachita River at Carpenter Dam near Hot Springs, Ark., 07358501

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	88	0.0	0.0	3,390	3,370	4,910	11,300	2,930
Dissolved oxygen	120	2.8	5.9	8.8	8.5	10.9	14.7	2.9
pH	117	6.3	6.8	7.0	7.0	7.2	7.6	0.3
Specific conductance	69	7	53	57	58	64	85	10
Total alkalinity	20	17	19	22	22	24	32	4
Total hardness	56	12	20	24	24	27	50	6
Dissolved magnesium	9	1.0	1.0	2.0	2.7	4.5	6.0	1.9
Dissolved sulfate	111	< 1.0	3.0	4.0	3.9	5.0	14.0	2.0
Dissolved chloride	111	1.5	3.5	4.0	4.1	4.5	13.0	1.4
Dissolved solids	73	26	35	40	40	45	59	7
Total phosphorus	117	< 0.01	0.01	0.02	0.03	0.04	0.24	0.04
Total nitrite + nitrate	58	< 0.05	0.11	0.14	0.13	0.15	0.29	0.04
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.07	< 0.10	0.31	0.05
BOD	114	0.2	1.2	1.6	1.9	2.3	6.6	1.1
Fecal coliforms(31616)	113	1	4	20	63	49	1,370	168
Fecal strep.(31679)	7	2	2	10	92	100	500	183
Turbidity	52	1.5	2.4	3.0	6.4	4.4	70	11
Arsenic	46	< 10	< 10	< 10	--	< 10	13	--
Cadmium	80	< 20	< 20	< 20	--	< 20	20	--
Chromium	81	< 20	< 20	< 20	--	< 20	< 20	--
Copper	83	< 20	< 20	< 20	--	< 20	92	--
Lead	58	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	74	< 20	< 20	< 20	--	< 20	240	--

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.175 (SC) + 11.88	20	14**	3.3
Chloride =0.034 (SC) + 2.32	60	12***	0.7
Magnesium =-0.018 (SC) + 3.67	9	0**	2.1
Sulfate =0.003 (SC) + 3.29	62	0**	2.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 111.--Statistical summary of selected water-quality properties for Ouachita River near Malvern, Ark., 07359500

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	111	48	95	1,190	2,330	3,300	16,000	3,080
Dissolved oxygen	117	4.0	7.6	9.3	9.0	10.5	13.6	2.0
pH	114	6.3	6.8	7.0	7.0	7.1	8.8	0.3
Specific conductance	91	50	75	106	126	161	408	68
Total alkalinity	19	14	16	19	24	21	27	4
Total hardness	55	12	24	30	35	40	150	19
Dissolved magnesium	8	1.0	1.5	1.9	2.6	4.5	5.0	1.6
Dissolved sulfate	108	< 1.0	6.0	9.0	12.0	14.0	50.0	9.3
Dissolved chloride	112	0.5	6.0	12.0	14.2	19.0	85.0	11.4
Dissolved solids	75	24	49	61	70	83	172	30
Total phosphorus	108	< 0.01	0.03	0.04	0.08	0.07	2.30	0.22
Total nitrite + nitrate	63	0.09	0.15	0.18	0.28	0.34	1.20	0.22
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.19	0.29	1.40	0.24
BOD	108	0.3	1.1	1.8	2.4	3.3	11.0	1.8
Fecal coliforms(31616)	118	2	4	20	86	58	1,300	199
Fecal strep.(31679)	22	2	2	15	107	67	1,080	260
Turbidity	55	<1.0	2.4	3.4	6.1	6.4	45	7.8
Arsenic	47	< 10	< 10	< 10	—	< 10	15	—
Cadmium	97	< 20	< 20	< 20	—	< 20	59	—
Chromium	74	< 20	< 20	< 20	—	< 20	58	—
Copper	112	< 20	< 20	< 20	—	< 20	220	—
Lead	55	< 20	< 20	< 20	—	< 20	60	—
Zinc	103	< 20	20	50	70	90	480	73

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.121 (SC) + 10.26	15	4**	29.8
Chloride =0.111 (SC) + 1.77	83	39	9.7
Magnesium =0.013 (SC) + 0.53	5	14**	1.6
Sulfate =0.092 (SC) + 1.67	81	30***	8.7

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 112.--Statistical summary of selected water-quality properties for Ouachita River near Donaldson, Ark., 07359580

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	56	278	777	2,420	3,500	4,690	17,200	3,660
Dissolved oxygen	118	5.5	7.6	8.6	8.9	10.0	12.9	1.7
pH	116	6.3	6.8	6.9	6.9	7.1	7.4	0.2
Specific conductance	63	61	86	102	117	126	485	58
Total alkalinity	20	12	16	18	18	20	23	3
Total hardness	58	6	24	28	30	34	71	11
Dissolved magnesium	9	1.0	1.5	2.0	2.8	3.5	7.0	1.9
Dissolved sulfate	109	< 1.0	6.0	10.0	12.3	15.0	91.0	11.5
Dissolved chloride	111	1.5	6.0	10.0	12.0	15.0	120.0	12.3
Dissolved solids	74	8	47	55	60	70	117	22
Total phosphorus	114	< 0.01	0.03	0.04	0.05	0.06	0.23	0.04
Total nitrite + nitrate	62	0.10	0.15	0.19	0.27	0.35	1.00	0.18
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.15	0.17	2.00	0.25
BOD	112	0.3	1.0	1.5	1.9	2.6	6.9	1.4
Fecal coliforms(31616)	110	2	16	44	147	173	1,700	252
Fecal strep.(31679)	17	2	8	28	247	326	1,800	462
Turbidity	55	1.8	3.8	5.0	9.8	10	60	12
Arsenic	43	< 10	< 10	< 10	--	< 10	< 10	--
Cadmium	82	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	80	< 20	< 20	< 20	--	< 20	< 20	--
Copper	83	< 20	< 20	< 20	--	< 20	50	--
Lead	61	< 20	< 20	< 20	--	< 20	170	--
Zinc	75	< 20	< 20	20	38	53	430	54

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =-0.018 (SC) + 19.6	18	6**	2.5
Chloride =0.24 (SC) -12.97	54	88***	5.4
Magnesium =0.050 (SC) -2.52	7	37**	1.8
Sulfate =0.038 (SC) + 9.87	54	5**	10.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 113.--Statistical summary of selected water-quality properties for Caddo River near Amity, Ark., 07359770

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	73	20	102	201	404	405	3,900	639
Dissolved oxygen	173	6.2	8.5	9.6	10.0	11.1	27.0	2.2
pH	169	3.2	7.1	7.4	7.4	7.7	8.4	0.5
Specific conductance	116	7	69	85	87	109	150	25
Total alkalinity	19	9	26	36	35	44	52	13
Total hardness	60	3	29	35	38	49	81	14
Dissolved magnesium	9	1.0	1.0	2.0	2.4	4.0	5.0	1.6
Dissolved sulfate	114	< 1.0	4.0	5.0	5.3	7.0	14.0	2.5
Dissolved chloride	115	2.0	3.5	4.0	4.4	4.5	40.0	3.5
Dissolved solids	77	26	55	64	65	72	150	17
Total phosphorus	119	< 0.01	0.02	0.03	0.04	0.05	0.32	0.04
Total nitrite + nitrate	64	< 0.05	< 0.05	0.13	0.19	0.26	0.94	0.15
Total ammonia	96	< 0.10	< 0.10	< 0.10	0.05	< 0.10	0.28	0.04
BOD	115	0.6	1.5	2.2	2.3	2.7	7.3	1.1
Fecal coliforms(31616)	119	2	12	40	222	180	3,750	570
Fecal strep.(31679)	7	8	25	67	183	250	645	227
Turbidity	56	1.3	3.0	5.5	21	15	400	57
Arsenic	46	< 10	< 10	< 10	--	< 10	14	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	86	< 20	< 20	< 20	--	< 20	20	--
Copper	87	< 20	< 20	< 20	--	< 20	91	--
Lead	63	< 20	< 20	< 20	--	< 20	< 20	--
Zinc	79	< 20	< 20	30	55	68	705	87

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.503 (SC) -9.54	19	84	5.2
Chloride =0.008 (SC) + 3.62	58	6**	0.7
Magnesium =0.021 (SC) + 0.61	9	8**	1.6
Sulfate =-0.005 (SC) + 5.07	60	0**	2.5

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 114.--Statistical summary of selected water-quality properties for Ouachita River near Sparkman, Ark., 07360162

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	38	760	1,775	3,650	5,140	6,540	22,000	4,640
Dissolved oxygen	99	4.4	8.0	8.5	8.9	10.2	12.5	1.5
pH	100	5.5	6.8	7.0	6.9	7.1	8.2	0.3
Specific conductance	61	47	91	108	128	130	616	89
Total alkalinity	19	13	15	18	18	20	23	3
Total hardness	46	18	24	28	32	38	64	10
Dissolved magnesium	9	1.0	1.0	2.0	2.0	2.5	4.0	1.0
Dissolved sulfate	85	1.0	5.0	8.0	10.1	13.0	31.0	6.7
Dissolved chloride	91	0.5	9.5	13.0	15.6	18.0	110.0	14.7
Dissolved solids	53	38	49	70	69	79	115	20
Total phosphorus	94	< 0.01	0.03	0.04	0.05	0.05	0.23	0.04
Total nitrite + nitrate	47	< 0.05	0.15	0.20	0.25	0.29	0.98	0.18
Total ammonia	67	< 0.10	< 0.10	< 0.10	0.11	< 0.10	0.85	0.14
BOD	98	0.3	1.0	1.3	1.5	1.7	5.3	0.9
Fecal coliforms(31616)	92	1	12	31	113	133	1,400	202
Fecal strep.(31679)	19	2	15	40	181	160	1,500	355
Turbidity	34	3.0	4.7	6.7	11	16	40	9.3
Arsenic	45	< 10	< 10	< 10	--	< 10	13	--
Cadmium	58	< 20	< 20	< 20	--	< 20	40	--
Chromium	55	< 20	< 20	< 20	--	< 20	< 20	--
Copper	60	< 20	< 20	< 20	--	< 20	190	--
Lead	35	< 20	< 20	< 20	29	40	130	31
Zinc	55	< 20	< 20	< 20	23	30	80	16

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =-0.007 (SC) + 18.6	15	1**	3.2
Chloride =0.181 (SC) -5.69	52	87	6.5
Magnesium =-0.002 (SC) + 1.9	7	0**	0.8
Sulfate =0.049 (SC) + 5.69	50	19***	6.7

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 115.--Statistical summary of selected water-quality properties for Little Missouri River near Langley, Ark., 07360200

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	45	8.6	21	82	352	620	3,100	559
Dissolved oxygen	102	6.8	9.0	10.1	10.2	11.2	14.3	1.5
pH	99	6.2	6.8	7.0	7.0	7.3	7.6	0.3
Specific conductance	56	7	31	41	44	54	71	15
Total alkalinity	16	8	11	16	17	23	27	6
Total hardness	46	2	12	17	18	24	46	9
Dissolved magnesium	9	1.0	1.0	1.0	2.2	4.0	5.0	1.7
Dissolved sulfate	93	< 1.0	2.0	3.0	3.4	4.0	9.0	1.7
Dissolved chloride	93	1.0	3.0	3.5	3.5	4.0	5.5	1.0
Dissolved solids	56	15	26	34	34	41	48	9
Total phosphorus	98	< 0.01	< 0.01	0.01	0.02	0.03	0.14	0.02
Total nitrite + nitrate	54	< 0.05	< 0.05	0.07	0.08	0.09	0.34	0.05
Total ammonia	74	< 0.10	< 0.10	< 0.04	0.11	< 0.10	0.41	0.05
BOD	98	0.2	0.9	1.5	1.8	2.1	20.0	2.1
Fecal coliforms(31616)	96	1	8	26	65	73	760	117
Fecal strep.(31679)	7	2	4	50	78	150	230	86
Turbidity	45	<1.0	1.9	2.2	5.0	5.0	30	6.5
Arsenic	32	< 10	< 10	< 10	—	< 10	< 10	—
Cadmium	70	< 20	< 20	< 20	—	< 20	20	—
Chromium	72	< 20	< 20	< 20	—	< 20	23	—
Copper	70	< 20	< 20	< 20	—	< 20	40	—
Lead	59	< 20	< 20	< 20	—	< 20	< 20	—
Zinc	65	< 20	< 20	< 20	—	< 20	90	—

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.414 (SC) -1.66	16	92	1.9
Chloride =-0.009 (SC) + 4.20	48	3**	0.7
Magnesium =0.020 (SC) + 1.36	9	2**	1.8
Sulfate =-0.023 (SC) + 4.06	49	2**	2.0

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 116.--Statistical summary of selected water-quality properties for Little Missouri River near Boughton, Ark., 07361600

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	62	47	386	727	1,220	2,040	7,180	1,290
Dissolved oxygen	123	5.8	8.1	8.9	9.2	10.2	12.9	1.6
pH	123	6.4	6.9	7.0	7.0	7.2	7.6	0.2
Specific conductance	67	39	60	78	88	89	808	94
Total alkalinity	19	2	15	18	18	23	36	7
Total hardness	61	15	21	28	30	36	70	11
Dissolved magnesium	9	1.0	1.0	1.4	1.7	2.0	4.0	1.0
Dissolved sulfate	116	< 1.0	5.0	8.0	8.9	11.7	30.0	5.4
Dissolved chloride	120	2.0	4.5	5.5	5.7	6.0	25.0	2.5
Dissolved solids	81	6	50	63	66	74	190	24
Total phosphorus	119	< 0.01	0.04	0.05	0.09	0.08	1.90	0.20
Total nitrite + nitrate	67	< 0.05	0.14	0.19	0.20	0.24	0.47	0.08
Total ammonia	97	< 0.10	< 0.10	< 0.10	0.06	< 0.10	0.44	0.08
BOD	122	0.4	0.9	1.3	1.5	1.9	4.5	0.8
Fecal coliforms(31616)	118	2	20	51	217	165	7,500	727
Fecal strep.(31679)	13	2	69	150	695	745	3,400	1,197
Turbidity	55	6.0	15	20	26	25	150	26
Arsenic	47	< 10	< 10	< 10	--	< 10	11	--
Cadmium	85	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	81	< 20	< 20	< 20	--	< 20	< 20	--
Copper	75	< 20	< 20	< 20	26	31	210	25
Lead	52	< 20	< 20	27	34	39	200	31
Zinc	72	< 20	< 20	45	69	100	390	68

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.269 (SC) -0.64	18	54	5.0
Chloride =-0.003 (SC) + 6.46	61	1**	3.1
Magnesium =-0.015 (SC) + 2.78	9	11**	1.0
Sulfate =0.005 (SC) + 8.06	58	1**	5.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 117.--Statistical summary of selected water-quality properties for Ouachita River at Camden, Ark., 07362000

[N=number of observations, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.=streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, silica is reported as SiO_2, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	108	300	2,020	3,475	6,440	7,700	53,000	8,100
Dissolved oxygen	139	4.7	7.7	8.1	8.5	9.0	12.7	1.4
pH	99	6.0	6.9	7.1	7.1	7.4	7.9	0.3
Specific conductance	100	50	73	86	89	100	174	22
Total alkalinity	98	7	14	16	16	18	34	4
Total hardness	98	17	21	25	25	29	35	5
Dissolved calcium	98	5.0	6.3	7.3	7.7	8.9	11.0	1.6
Dissolved magnesium	98	0.9	1.3	1.5	1.5	1.7	2.1	0.2
Dissolved sodium	96	2.4	4.0	5.4	5.6	6.6	13.0	2.0
Dissolved potassium	98	0.6	1.2	1.5	1.5	1.7	2.9	0.4
Dissolved sulfate	100	< 5.0	6.6	9.2	9.5	11.0	21.0	3.6
Dissolved chloride	100	3.1	5.6	7.9	9.0	11.8	23.0	4.2
Dissolved fluoride	98	< 0.1	0.1	0.1	0.1	0.1	0.5	0.1
Dissolved silica	98	2.9	4.7	5.5	5.5	6.5	8.8	1.2
Dissolved solids	97	35	49	58	59	67	95	13
Total phosphorus	100	< 0.01	0.03	0.05	0.06	0.06	0.31	0.04
Total nitrogen	79	0.30	0.60	0.81	0.92	1.0	5.10	0.61
Total organic nitrogen	48	0.20	0.35	0.54	0.69	0.74	5.00	0.73
Total nitrite + nitrate	82	< 0.10	0.15	0.23	0.28	0.36	1.00	0.18
Total ammonia	50	< 0.01	0.02	0.05	0.07	0.09	0.20	0.05
Fecal coliforms(31625)	76	1	10	30	96	67	1,300	200
Fecal strep.(31673)	61	1	20	44	260	110	4,500	790
Turbidity	58	1.0	8.4	12	15	17	58	10
Suspended sediment	89	8	20	30	51	42	639	82
Arsenic	31	< 1	1	1	1	1	2	0
Cadmium	32	< 20	< 20	< 20	—	< 20	< 20	—
Chromium	32	< 20	< 20	< 20	—	< 20	160	—
Copper	32	< 20	< 20	< 20	—	< 20	55	—
Lead	17	< 2	5	8	12	14	70	16
Zinc	31	< 20	< 20	30	41	40	400	69

Table 117.--Statistical summary of selected water-quality properties for Ouachita River at Camden, Ark., 07362000--Continued

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.049 (SC) + 11.81	98	6	3.9
Calcium =0.057 (SC) + 2.68	98	49	1.2
Chloride =0.156 (SC) -4.87	100	66***	2.4
Dissolved solids =0.417 (SC) + 21.86	97	48	9.4
Fluoride =0.001 (SC) + 0.02	98	9***	0.1
Magnesium =0.006 (SC) + 0.96	98	25	0.2
Potassium =0.011 (SC) + 0.57	98	27	0.4
Silica =-0.017 (SC) + 6.95	98	8***	1.1
Sodium =0.074 (SC) -0.92	96	56	1.3
Sulfate =0.093 (SC) + 1.14	100	28	3.3

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 118.--Statistical summary of selected water-quality properties for Smackover Creek north of Smackover, Ark., 07362110

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	96	1.0	38	93	440	411	7890	948
Dissolved oxygen	124	2.5	5.2	6.3	6.9	8.7	13.0	2.4
pH	120	4.9	5.7	6.0	6.0	6.4	7.1	0.4
Specific conductance	96	118	453	777	918	1,297	3,560	627
Total alkalinity	21	3	5	7	8	12	19	5
Total hardness	60	24	63	119	120	150	630	86
Dissolved magnesium	9	4.0	5.0	6.0	7.6	11.5	13.0	3.4
Dissolved sulfate	110	< 1.0	5.0	7.0	7.1	9.0	19.0	3.0
Dissolved chloride	119	25.0	150.5	280.0	335.6	450.0	1,500.0	246.2
Dissolved solids	74	130	387	653	676	886	2160	396
Total phosphorus	119	< 0.01	0.02	0.04	0.05	0.07	0.19	0.03
Total nitrite + nitrate	66	< 0.05	< 0.05	0.06	0.09	0.11	0.51	0.09
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.09	0.12	0.28	0.06
BOD	113	0.2	0.8	1.1	1.5	1.8	5.4	1.0
Fecal coliforms(31616)	118	2	16	48	182	113	4,200	490
Fecal strep.(31679)	18	27	69	132	193	263	650	172
Turbidity	55	4.0	8.0	15	19	25	75	14
Arsenic	49	< 10	< 10	< 10	8	11	47	8
Cadmium	107	< 20	< 20	< 20	--	< 20	50	--
Chromium	78	< 20	< 20	< 20	--	< 20	< 20	--
Copper	113	< 20	< 20	< 20	22	30	180	22
Lead	48	< 20	< 20	25	41	43	590	84
Zinc	109	< 20	30	40	55	66	660	66

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.001 (SC) + 5.88	17	6**	4.2
Chloride =0.309 (SC) -0.05	86	92	58.7
Magnesium =0.008 (SC) + 0.91	7	98	0.6
Sulfate =-0.002 (SC) + 8.83	80	12	3.4

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 119.--Statistical summary of selected water-quality properties for Ouachita River at Lock and Dam 8, near Calion, Ark., 07362400

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	36	1,500	2,450	3,750	6,780	7,250	33,000	7,000
Dissolved oxygen	86	5.0	6.7	7.7	7.9	8.9	11.9	1.6
pH	87	5.1	6.5	6.8	6.8	7.1	8.5	0.5
Specific conductance	61	59	174	238	284	333	915	176
Total alkalinity	19	8	12	18	18	26	32	8
Total hardness	41	4	35	38	52	46	540	79
Dissolved magnesium	7	1.0	3.0	3.0	3.7	5.0	7.0	1.9
Dissolved sulfate	79	2.0	8.0	10.0	11.8	15.0	35.0	5.9
Dissolved chloride	82	6.0	32.3	49.0	81.2	77.0	1,600.0	177.8
Dissolved solids	43	77	128	152	236	189	2,620	385
Total phosphorus	85	< 0.01	0.03	0.06	0.07	0.08	0.26	0.05
Total nitrite + nitrate	34	< 0.05	0.17	0.24	0.26	0.30	0.54	0.12
Total ammonia	61	< 0.10	< 0.10	0.11	0.13	0.15	0.87	0.13
BOD	82	0.2	1.3	1.7	2.0	2.2	20.0	2.1
Fecal coliforms(31616)	76	2	4	13	111	70	1,400	252
Fecal strep.(31679)	13	2	4	10	93	71	800	219
Turbidity	24	2.5	15	18	24	30	100	21
Arsenic	41	< 10	< 10	< 10	--	< 10	23	--
Cadmium	66	< 20	< 20	< 20	--	< 20	120	--
Chromium	46	< 20	< 20	< 20	--	< 20	25	--
Copper	75	< 20	< 20	< 20	15	20	90	16
Lead	43	< 20	< 20	< 20	40	40	380	72
Zinc	76	< 20	< 20	23	35	40	490	57

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =-0.009 (SC) + 21.2	17	2**	8.0
Chloride =0.326 (SC) -25.16	57	96	12.7
Magnesium =0.010 (SC) + 0.22	7	63	1.3
Sulfate =-0.001 (SC) + 12.17	55	0**	6.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 120.--Statistical summary of selected water-quality properties for Moro Creek near Banks, Ark., 07362550

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	85	0.0	26.0	215	591	872	4,890	896
Dissolved oxygen	125	1.7	5.5	7.0	7.1	8.7	12.3	2.4
pH	125	5.4	6.2	6.5	6.5	6.7	7.6	0.4
Specific conductance	73	31	48	62	74	90	435	50
Total alkalinity	23	2	7	11	14	19	39	10
Total hardness	66	2	16	20	22	26	67	11
Dissolved magnesium	15	0.8	1.0	1.1	1.9	2.0	8.0	1.9
Dissolved sulfate	111	< 1.0	5.0	7.0	7.2	9.0	18.0	3.1
Dissolved chloride	120	2.9	6.5	8.0	9.0	11.0	33.0	4.3
Dissolved solids	77	40	73	84	86	96	157	20
Total phosphorus	121	0.01	0.05	0.08	0.09	0.11	0.31	0.05
Total nitrite + nitrate	73	< 0.05	< 0.05	0.06	0.12	0.17	0.96	0.15
Total ammonia	97	< 0.10	< 0.10	< 0.10	0.07	< 0.10	0.43	0.06
BOD	111	0.5	1.2	1.6	2.1	2.6	8.7	1.4
Fecal coliforms(31616)	110	5	41	80	296	180	7,300	944
Fecal strep.(31679)	19	10	47	140	286	280	2,800	619
Turbidity	61	4.0	8.9	15	20	25	55	13
Arsenic	52	< 10	< 10	< 10	--	< 10	18	--
Cadmium	94	< 20	< 20	< 20	--	< 20	120	--
Chromium	83	< 20	< 20	< 20	--	< 20	20	--
Copper	86	< 20	< 20	< 20	20	25	52	10
Lead	52	< 20	< 20	20	25	38	70	15
Zinc	82	< 20	20	25	36	41	210	33

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.009 (SC) + 12.94	20	1**	8.7
Chloride =0.008 (SC) + 8.31	61	2**	3.4
Magnesium =-0.001 (SC) + 2.15	14	0**	2.0
Sulfate =0.002 (SC) + 6.85	59	0**	4.1

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 121.--Statistical summary of selected water-quality properties for Saline River west of Benton, Ark., 07363002

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	92	2.2	44	259	652	859	5,900	963
Dissolved oxygen	121	6.1	7.3	8.5	8.9	10.5	13.2	1.8
pH	124	6.6	7.2	7.4	7.4	7.5	7.9	0.3
Specific conductance	78	64	95	118	115	133	168	24
Total alkalinity	19	38	43	51	51	58	67	9
Total hardness	57	36	49	53	56	64	110	13
Dissolved magnesium	8	1.0	2.2	4.0	4.0	4.7	9.0	2.4
Dissolved sulfate	110	< 1.0	5.0	7.0	6.7	8.0	20.0	2.9
Dissolved chloride	116	2.0	4.0	4.5	4.7	5.0	16.0	1.8
Dissolved solids	78	49	70	81	79	87	114	12
Total phosphorus	115	< 0.01	0.01	0.03	0.03	0.04	0.34	0.04
Total nitrite + nitrate	68	< 0.05	0.05	0.09	0.11	0.12	0.61	0.10
Total ammonia	93	< 0.10	< 0.10	< 0.10	0.05	< 0.10	0.21	0.03
BOD	120	0.0	0.7	1.1	1.2	1.5	3.0	0.6
Fecal coliforms(31616)	122	2	29	73	222	190	2,800	440
Fecal strep.(31679)	7	20	30	50	115	192	320	113
Turbidity	56	2.5	4.8	6.0	9.8	10	35	8.3
Arsenic	58	< 10	< 10	< 10	--	< 10	13	--
Cadmium	100	< 20	< 20	< 20	--	< 20	20	--
Chromium	84	< 20	< 20	< 20	--	< 20	64	--
Copper	117	< 20	< 20	< 20	48	51	1,000	114
Lead	58	< 20	< 20	< 20	18	21	270	37
Zinc	100	< 20	30	50	111	80	3,800	387

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.415 (SC) + 0.49	17	74	4.8
Chloride =0.010 (SC) + 3.42	71	4**	1.1
Magnesium =0.046 (SC) -1.54	8	19**	2.3
Sulfate =-0.027 (SC) + 9.14	69	6	2.6

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.

Table 122.--Statistical summary of selected water-quality properties for Hurricane Creek near Sardis, Ark., 07363270

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$ sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	72	0.2	9.1	36	90	126	470	115
Dissolved oxygen	120	5.3	7.7	8.6	9.0	10.1	18.0	1.8
pH	122	3.3	6.5	7.2	6.9	7.6	9.1	1.2
Specific conductance	86	3	316	508	590	828	1440	330
Total alkalinity	19	1	13	21	25	34	113	25
Total hardness	57	15	80	148	188	274	543	132
Dissolved magnesium	7	5.0	5.0	8.0	8.6	11.0	14.0	3.2
Dissolved sulfate	109	2.0	100.0	200.0	254.7	370.0	780.0	184.9
Dissolved chloride	113	4.0	5.5	6.5	8.5	8.0	120.0	11.2
Dissolved solids	77	104	236	478	501	665	1300	302
Total phosphorus	112	< 0.01	0.01	0.03	0.06	0.06	1.00	0.12
Total nitrite + nitrate	68	< 0.05	0.16	0.22	0.26	0.32	0.75	0.14
Total ammonia	93	< 0.10	< 0.10	0.11	0.13	0.17	0.41	0.09
BOD	119	0.2	0.8	1.2	1.3	1.7	8.0	0.9
Fecal coliforms(31616)	117	2	10	52	237	140	2,900	531
Fecal strep.(31679)	17	2	10	56	340	300	3,200	785
Turbidity	56	1.0	4.0	9.0	31	20	800	110
Arsenic	46	< 10	< 10	< 10	--	< 10	17	--
Cadmium	116	< 20	< 20	< 20	--	< 20	50	--
Chromium	82	< 20	< 20	< 20	--	< 20	20	--
Copper	118	< 20	< 20	< 20	--	< 20	360	--
Lead	60	< 20	< 20	< 20	--	30	880	--
Zinc	103	< 20	32	52	117	100	2,700	277

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =-0.039 (SC) + 46.9	15	20**	23.8
Chloride =0.003 (SC) + 5.01	77	11	3.2
Magnesium =0.008 (SC) + 5.25	5	47**	2.2
Sulfate =0.384 (SC) + 7.14	72	57***	111.2

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 123.--Statistical summary of selected water-quality properties for Saline River near Fountain Hill, Ark., 07364012

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	70	38	205	1,360	4,100	5,210	35,500	6,610
Dissolved oxygen	120	2.2	6.8	8.2	8.2	9.6	13.0	2.2
pH	118	5.8	6.7	7.0	7.0	7.3	8.1	0.5
Specific conductance	63	37	80	112	157	160	757	137
Total alkalinity	17	5	17	24	30	29	110	26
Total hardness	57	13	30	38	42	47	160	24
Dissolved magnesium	8	1.0	1.2	3.0	3.6	6.0	7.0	2.4
Dissolved sulfate	107	< 1.0	10.0	16.0	18.5	23.0	75.0	12.4
Dissolved chloride	110	2.5	5.0	6.5	15.2	8.0	140.0	26.1
Dissolved solids	77	12	80	93	98	104	321	37
Total phosphorus	108	< 0.01	0.04	0.06	0.06	0.08	0.15	0.03
Total nitrite + nitrate	66	< 0.05	0.05	0.10	0.15	0.21	0.65	0.14
Total ammonia	92	< 0.10	< 0.10	< 0.10	0.09	< 0.10	1.70	0.18
BOD	119	0.3	1.1	1.5	1.7	2.0	8.6	1.0
Fecal coliforms(31616)	120	2	12	30	106	85	3,000	297
Fecal strep.(31679)	13	2	6	40	76	64	470	131
Turbidity	57	3.0	7.3	15	16	20	40	9.3
Arsenic	46	< 10	< 10	< 10	--	< 10	19	--
Cadmium	107	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	72	< 20	< 20	< 20	--	< 20	< 20	--
Copper	110	< 20	< 20	< 20	22	27	390	37
Lead	62	< 20	< 20	< 20	36	40	203	46
Zinc	108	< 20	< 20	20	29	35	380	42

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.108 (SC) + 5.88	16	70***	15.1
Chloride =0.230 (SC) -14.17	54	90	11.2
Magnesium =0.007 (SC) + 2.45	8	20**	2.3
Sulfate =0.040 (SC) + 10.29	55	15	13.3

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 124.--Statistical summary of selected water-quality properties for Ouachita River near Felsenthal, Ark., 07364080

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	29	957	1,840	3,900	5,530	8,740	15,800	4,370
Dissolved oxygen	89	1.2	5.8	7.2	7.5	8.5	12.7	2.1
pH	63	6.0	6.7	7.0	6.9	7.2	8.5	0.4
Specific conductance	74	33	114	163	192	229	763	131
Total alkalinity	21	5	12	18	25	24	100	23
Total hardness	37	12	26	34	43	49	160	29
Dissolved magnesium	17	0.9	1.3	1.8	2.3	2.3	6.0	1.4
Dissolved sulfate	77	5.0	8.0	11.0	13.4	16.5	64.0	8.6
Dissolved chloride	74	3.5	9.1	28.5	36.2	49.0	140.0	32.0
Dissolved solids	45	65	90	121	126	144	310	47
Total phosphorus	62	0.02	0.04	0.06	0.07	0.08	0.15	0.03
Total nitrite + nitrate	26	0.09	0.18	0.25	0.29	0.39	0.65	0.14
Total ammonia	48	< 0.10	< 0.10	< 0.10	0.11	0.14	0.30	0.06
BOD	60	0.2	0.9	1.5	1.5	2.0	3.4	0.7
Fecal coliforms(31616)	65	2	16	40	169	175	2,000	369
Fecal strep.(31679)	10	2	10	45	91	110	400	132
Turbidity	10	8.5	15	20	22	24	50	12
Arsenic	26	< 10	< 10	< 10	--	< 10	11	--
Cadmium	51	< 20	< 20	< 20	--	< 20	< 20	--
Chromium	25	< 20	< 20	< 20	--	< 20	60	--
Copper	61	< 20	< 20	< 20	15	20	100	15
Lead	39	< 20	< 20	< 20	24	30	70	15
Zinc	62	< 20	< 20	20	30	31	170	34

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.106 (SC) -0.80	20	69***	13.3
Chloride =0.228 (SC) -8.08	71	90	10.0
Magnesium =0.008 (SC) + 0.86	17	46***	1.1
Sulfate =0.040 (SC) + 5.91	72	35***	7.2

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 125.--Statistical summary of selected water-quality properties for Coffee Creek near Crossett, Ark., 07364088

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	0	--	--	--	--	--	--	--
Dissolved oxygen	79	0.0	0.0	0.0	0.4	0.6	3.4	0.7
pH	82	6.7	7.2	7.4	7.4	7.7	8.2	0.3
Specific conductance	60	390	1,485	1,750	1,643	1,830	2,550	357
Total alkalinity	17	140	165	210	226	283	344	67
Total hardness	33	46	170	200	198	225	330	57
Dissolved magnesium	6	5.0	8.7	10.0	13.5	17.5	34.0	10.3
Dissolved sulfate	74	15.0	95.8	120.0	135.4	152.5	400.0	70.2
Dissolved chloride	77	47.0	310.0	370.0	360.3	410.0	550.0	88.1
Dissolved solids	44	134	1,210	1,275	1,229	1,320	1,630	231
Total phosphorus	78	< 0.01	0.34	0.48	0.50	0.59	1.60	0.29
Total nitrite + nitrate	33	< 0.05	< 0.05	0.07	0.12	0.15	0.62	0.14
Total ammonia	56	< 0.10	0.24	0.44	0.81	0.99	4.30	0.91
BOD	76	3.0	28.0	37.0	56.6	54.7	760.0	89.6
Fecal coliforms(31616)	75	2	980	6,000	90,322	68,000	1,040,000	198,139
Fecal strep.(31679)	16	100	225	1,094	1,864	2,875	8,300	2,313
Turbidity	21	7.0	20	25	24	30	50	8.8
Arsenic	37	< 10	< 10	< 10	14	18	39	11
Cadmium	73	< 20	< 20	< 20	--	< 20	20	--
Chromium	44	< 20	< 20	< 20	26	36	120	22
Copper	81	< 20	< 20	20	32	45	120	23
Lead	38	< 20	< 20	60	80	130	310	74
Zinc	81	< 20	40	64	78	90	540	73

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.121 (SC) + 14.4	15	26**	58.2
Chloride =0.125 (SC) + 131.61	50	31	54.2
Magnesium =0.010 (SC) -8.55	5	74**	1.5
Sulfate =0.126 (SC) -79.92	50	25***	63.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 126.--Statistical summary of selected water-quality properties for Bayou Bartholomew near Ladd, Ark., 07364115

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	66	0.5	35	64	189	192	1,280	271
Dissolved oxygen	123	1.4	4.6	6.3	6.6	8.1	11.9	2.4
pH	122	6.0	6.7	6.9	6.9	7.1	7.6	0.3
Specific conductance	61	33	74	105	104	135	333	45
Total alkalinity	18	10	24	35	34	41	60	15
Total hardness	61	17	26	34	37	43	110	15
Dissolved magnesium	8	1.0	1.2	3.5	3.4	4.0	8.0	2.3
Dissolved sulfate	111	< 1.0	7.0	9.0	9.9	13.0	21.0	4.4
Dissolved chloride	114	3.5	6.5	8.0	8.7	11.0	20.0	3.3
Dissolved solids	78	66	89	100	115	118	592	63
Total phosphorus	114	< 0.01	0.16	0.22	0.27	0.31	1.70	0.22
Total nitrite + nitrate	70	< 0.05	0.06	0.13	0.18	0.22	1.00	0.18
Total ammonia	94	< 0.10	< 0.10	< 0.10	0.13	0.16	0.56	0.11
BOD	119	0.3	2.0	2.4	2.5	3.1	5.8	0.9
Fecal coliforms(31616)	112	2	40	110	364	380	4400	757
Fecal strep.(31679)	15	2	70	160	1,350	370	10,000	3,132
Turbidity	56	1.8	30	35	44	50	160	28
Arsenic	47	< 10	< 10	< 10	--	< 10	22	--
Cadmium	106	< 20	< 20	< 20	--	< 20	40	--
Chromium	83	< 20	< 20	< 20	--	< 20	41	--
Copper	120	< 20	< 20	< 20	14	20	100	15
Lead	60	< 20	< 20	< 20	20	23	180	28
Zinc	107	< 20	20	40	47	56	390	50

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.402 (SC) -13.3	17	71***	7.5
Chloride =0.073 (SC) + 1.28	54	77***	1.3
Magnesium =0.066 (SC) -4.31	7	33**	2.1
Sulfate =-0.004 (SC) + 8.85	53	0**	3.8

*Includes only discharges corresponding to a water-quality sample.
**Equation not significant at 95 percent confidence level.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 127.--Statistical summary of selected water-quality properties for Bayou de Loutre near El Dorado, Ark., 07364600

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	64	7.4	21.0	44	83	78	825	140
Dissolved oxygen	118	0.4	3.7	5.3	6.0	8.1	14.3	2.8
pH	122	5.3	6.8	7.1	7.1	7.4	8.2	0.5
Specific conductance	65	198	1,690	2,980	3,310	4,375	13,900	2,275
Total alkalinity	20	14	30	61	71	107	160	46
Total hardness	59	37	182	290	364	530	1260	258
Dissolved magnesium	8	7.0	10.5	15.5	18.1	25.0	39.0	10.4
Dissolved sulfate	107	7.0	32.0	48.0	55.6	72.0	220.0	37.7
Dissolved chloride	117	19.0	490.0	890.0	1,081.5	1,500.0	4,500.0	797.0
Dissolved solids	75	195	980	1,520	2,018	2610	7950	1,481
Total phosphorus	114	0.01	0.10	0.18	0.30	0.34	1.80	0.33
Total nitrite + nitrate	63	0.08	0.44	0.77	0.95	1.20	5.80	0.84
Total ammonia	91	< 0.10	0.14	0.32	0.85	0.72	6.20	1.29
BOD	112	0.4	1.7	2.6	3.7	3.9	74.0	7.0
Fecal coliforms(31616)	118	2	91	175	484	352	13,000	1,325
Fecal strep.(31679)	21	3	7	50	399	220	5,000	1,096
Turbidity	57	3.0	5.9	15	15	20	45	9.6
Arsenic	59	< 10	< 10	< 10	--	< 10	73	--
Cadmium	119	< 20	< 20	< 20	--	< 20	40	--
Chromium	79	< 20	< 20	< 20	--	< 20	53	--
Copper	117	< 20	< 20	20	23	30	140	20
Lead	63	< 20	< 20	30	46	62	280	52
Zinc	111	< 20	30	50	57	75	430	47

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.013 (SC) + 24.82	18	39***	35.1
Chloride =0.331 (SC) -16.44	57	91	196.4
Magnesium =0.005 (SC) + 4.35	8	89	3.6
Sulfate =0.009 (SC) + 24.81	56	28	32.9

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 128.--Statistical summary of selected water-quality properties for Big Bayou near Jerome, Ark., 07367666

[N=number of observations, BOD=5-day biochemical oxygen demand, five-digit numbers in parentheses=bacteria parameter codes (see table 11), strep.= streptococci, SC=specific conductance. Units are milligrams per liter (mg/L) except discharge (cubic feet per second), pH, specific conductance (microsiemens per centimeter at 25° Celsius), bacteria (colonies per 100 milliliters), turbidity (nephelometric turbidity units) and arsenic, cadmium, chromium, copper, lead and zinc (total or total recoverable in micrograms per liter). Alkalinity and hardness are reported as $CaCO_3$, sulfate is reported as SO_4, and the phosphorus and nitrogen species are reported as P and, N]

Property	N	Minimum	25th percentile	Median	Mean	75th percentile	Maximum	Standard deviation
Discharge*	35	0.0	58.0	85	175	122	1370	288
Dissolved oxygen	71	4.0	6.0	7.1	7.9	9.4	13.2	2.5
pH	71	6.6	7.2	7.6	7.5	7.9	8.3	0.4
Specific conductance	63	51	118	248	275	418	594	166
Total alkalinity	19	14	57	82	80	93	180	41
Total hardness	26	28	52	83	94	121	220	52
Dissolved magnesium	9	3.0	4.5	6.0	8.8	12.0	24.0	6.6
Dissolved sulfate	65	< 1.0	7.0	10.0	11.9	14.0	60.0	9.6
Dissolved chloride	64	5.0	12.2	24.5	35.1	56.0	94.0	25.4
Dissolved solids	27	55	188	216	231	271	399	77
Total phosphorus	70	0.06	0.17	0.31	0.34	0.44	1.70	0.26
Total nitrite + nitrate	19	< 0.05	0.25	0.62	0.59	0.80	1.70	0.39
Total ammonia	43	< 0.10	0.12	0.16	0.23	0.33	0.81	0.18
BOD	71	0.8	2.1	3.0	3.2	4.1	11.0	1.7
Fecal coliforms(31616)	59	2	50	220	1,261	600	40,000	5,240
Fecal strep.(31679)	14	10	20	64	996	815	10,000	2,630
Turbidity	5	20	28	65	94	175	220	82
Arsenic	30	< 10	< 10	< 10	--	< 10	11	--
Cadmium	56	< 20	< 20	< 20	--	< 20	20	--
Chromium	31	< 20	< 20	< 20	--	< 20	30	--
Copper	67	< 20	< 20	< 20	24	29	160	30
Lead	48	< 20	< 20	20	45	50	340	63
Zinc	69	< 20	< 20	30	47	50	330	55

Regression equation	N	Percent explained variance, (r^2 X 100)	Standard error of estimate (mg/L)
Alkalinity =0.245 (SC) + 8.46	16	83	17.5
Chloride =0.152 (SC) -8.52	55	93***	6.9
Magnesium =0.043 (SC) -2.18	8	77***	3.5
Sulfate =0.020 (SC) + 5.88	55	11	9.4

*Includes only discharges corresponding to a water-quality sample.
***Significant at 95 percent confidence level but residuals analysis shows unequal distribution of residuals.

Table 129.--Typical water quality of physiographic sections and selected major rivers

[Ranges and single values shown are medians for individual stations operated by Arkansas Department of Pollution Control and Ecology or U.S. Geological Survey as part of water-quality programs. Water quality of smallest streams in a section may not be reflected by these data because of the design of the water-quality programs. Individual medians which were considered to be outliers are not included in these ranges. °C = degrees Celsius, µS = microsiemens per centimeter at 25° Celsius, mg/L = milligrams per liter, $CaCO_3$ = calcium carbonate, mL = milliliters, and µg/L = micrograms per liter. Five-digit numbers in parentheses are WATSTORE parameter codes]

Physiographic section or river	Specific conductance in µS (00095 or 90095)	Total alkalinity, in mg/L as $CaCO_3$ (00410 or 90410)	Total hardness, in mg/L as $CaCO_3$[a] (00900)
Mississippi Alluvial Plain	100-450	100-150	50-130
West Gulf Coastal Plain	200-800	10-90	30-75
Springfield-Salem Plateaus	150-400	100-150	70-230
Boston Mountains	50-100	15-20	20-40
Arkansas Valley	50-100	15-20	25
Ouachita Mountains	50-100	15-20	20-30
Red River	600-1,100	100-125	120-220
Arkansas River	500-600	80-100	110-130
Mississippi River	400	100	140-150

Physiographic section or river	Dissolved sulfate as SO_4, in mg/L (00945)	Dissolved chloride, in mg/L (00940)	Dissolved solids, in mg/L (70300)
Mississippi Alluvial Plain	5-10	5-10	150-225
West Gulf Coastal Plain	10-900	30-300	100-300
Springfield-Salem Plateaus	5-10	5-10	100-225
Boston Mountains	5-10	4	40-60
Arkansas Valley	5-10	5-10	50-75
Ouachita Mountains	5-10	5-10	40-60
Red River	50-100	70-150	300-550
Arkansas River	40-50	80-110	300-375
Mississippi River	50-60	15-20	250

[a] 0-60 mg/L, soft; 61-120 mg/L, moderately hard; 121-180 mg/L, hard; greater than 180 mg/L, very hard (from Durfor and Becker, 1964, p. 27 Hem, 1985, p. 157).

Table 129.--Typical water quality of physiographic sections and selected major rivers--Continued

Physiographic section or river	Total phosphorus as P, in mg/L (00665)	Total ammonia as N, in mg/L (00610)	Total nitrite plus nitrate as N, in mg/L (70300)
Mississippi Alluvial Plain	0.1-0.3	<0.1-0.2	0.1-0.6
West Gulf Coastal Plain	0.1-0.2	<0.1	0.1-0.3
Springfield-Salem Plateaus	[b]<0.05	<0.1	[c]0.2-0.5
Boston Mountains	<0.05	<0.1	0.1-0.2
Arkansas Valley	0.05-0.1	<0.1	0.1-0.3
Ouachita Mountains	<0.05	<0.1	0.1-0.2
Red River	0.1	<0.1	0.2
Arkansas River	0.1	<0.1	0.3-0.4
Mississippi River	0.2	<0.1	1.5

Physiographic section or river	5-day biochemical oxygen demand, in mg/L (00310)	Fecal coliform bacteria, colonies per 100 mL (31616)	Turbidity, in nephelometric turbidity units (00076)
Mississippi Alluvial Plain	2-5	20-300	25-100
West Gulf Coastal Plain	1-3	50-80	10-15
Springfield-Salem Plateaus	1-3	[d]10-80	2-20
Boston Mountains	1-3	20-90	2-20
Arkansas Valley	1-3	60-90	20-50
Ouachita Mountains	1-3	20-60	2-20
Red River	2-3	30-40	40-50
Arkansas River	2-3	20-100	20-30
Mississippi River	2-3	300	50-60

[b] 0.1 to 1 mg/L in several streams in western part of section
[c] 1 to 4 mg/L in several streams in western part of section
[d] 100 to 180 colonies per 100 mL in some streams in western part of section

Table 129.--Typical water quality of physiographic sections and selected major rivers--Continued

Physiographic section or river	Total arsenic, in µg/L (01002)	Total recoverable cadmium, in µg/L (01027)	Total recoverable chromium, in µg/L (01034)
Mississippi Alluvial Plain	<10	<20	<20
West Gulf Coastal Plain	<10	<20	<20
Springfield-Salem Plateaus	<10	<20	<20
Boston Mountains	<10	<20	<20
Arkansas Valley	<10	<20	<20
Ouachita Mountains	<10	<20	<20
Red River	<10	<20	<20
Arkansas River	<10	<20	<20
Mississippi River	<10	<20	<20

Physiographic section or river	Total recoverable copper, in µg/L (01042)	Total recoverable lead, in µg/L (01051)	Total recoverable zinc, in µg/L (01092)
Mississippi Alluvial Plain	<20	<20	<20-40
West Gulf Coastal Plain	<20	<20-30	30-50
Springfield-Salem Plateaus	<20	<20	[e]<20-30
Boston Mountains	<20	<20	20-30
Arkansas Valley	<20	<20	<20-40
Ouachita Mountains	<20	<20	<20-40
Red River	<20	<20-25	30-50
Arkansas River	<20	<20-30	<20-40
Mississippi River	<20-60	<20	<20-50

[e] <20 at almost all stations

Table 130.--Summary of results of regression equations of relation of specific conductance to total alkalinity, dissolved chloride, dissolved magnesium, and dissolved sulfate

[PNS = approximate percent of equations not significant ($p<0.05$), TPEV = typical percent explained variance, includes significant equations only]

Physiographic section or river	Alkalinity		Chloride		Magnesium		Sulfate	
	PNS	TPEV	PNS	TPEV	PNS	TPEV	PNS	TPEV
Mississippi Alluvial Plain	5	80-90	10	30-80	35	60-95	50	<30
West Gulf Coastal Plain	35	30-40	20	70-90	45	60-100	25	10-30
Springfield-Salem Plateaus	5	40-90	45	15-60	55	40-70	75	10-40
Boston Mountains	50	30-90	50	10-20	100	--	75	10
Arkansas Valley	20	70-80	0	50-100	60	80	40	40-90
Ouachita Mountains	40	55-90	20	10-90	95	35	70	10-30
Mississippi River	0	55-60	0	10-40	35	65	0	30-65
Red River	0	15-40	0	80-95	35	80-95	0	45-80
Arkansas River	20	30-55	0	80-95	40	40-75	0	45-85