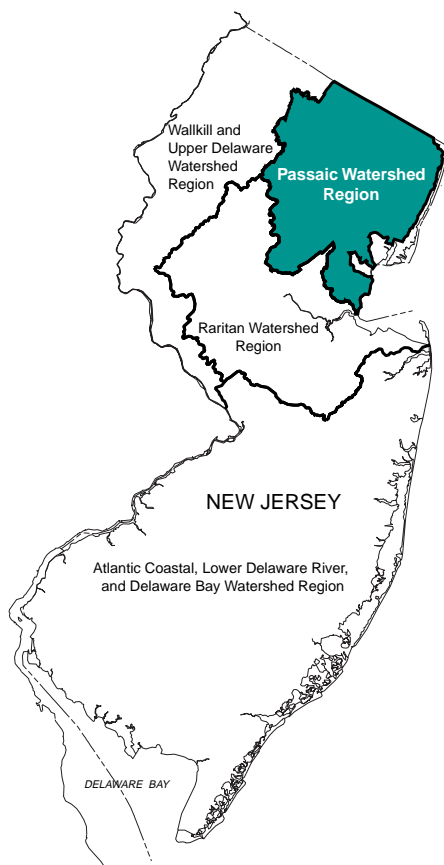


**This PDF file contains the appendixes to  
U.S. Geological Survey  
Water-Resources Investigations Report 98-4049**

**Relations of Surface-Water Quality to Streamflow in the Hackensack, Passaic, Elizabeth,  
and Rahway River Basins, New Jersey, Water Years 1976-93**



**For additional information write to:**

**District Chief  
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810 Bear Tavern Rd., Suite 206  
West Trenton, NJ 08628**

**-Email-  
dc\_nj@usgs.gov**

**-On the World Wide Web-  
<<http://nj.usgs.gov/>>**

# **RELATIONS OF SURFACE-WATER QUALITY TO STREAMFLOW IN THE HACKENSACK, PASSAIC, ELIZABETH, AND RAHWAY RIVER BASINS, NEW JERSEY, WATER YEARS 1976-93**

*By Debra E. Buxton, Kathryn Hunchak-Kariouk, and R. Edward Hickman*

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U.S. Geological Survey

Water-Resources Investigations Report 98-4049

## **APPENDIXES**

Prepared in cooperation with the

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

West Trenton, New Jersey  
1998



# Description of Appendixes

Appendixes 1-18 illustrate the relations of surface-water quality to streamflow by constituent for each station with three graphs. The first graph shows the relation of concentration to streamflow. Plots of concentration to streamflow indicate how instream constituent concentrations vary with streamflow, but do not indicate the relative contributions of constant and intermittent sources. Data for stations on streams that drain developed areas show greater scatter, especially for inorganic constituents such as sodium, chloride, and hardness. Relations between concentration and streamflow were developed by using (1) all measurements, (2) only measurements collected during the growing season, and (3) only measurements collected during the nongrowing season. Growing-season measurements are shown with open symbols, and nongrowing-season measurements are shown with crisscrossed, shaded symbols. Different symbols are used to show uncensored and censored values. For each group of measurements, the number of observations and values of slope and intercept are listed, and a regression line is shown when the slope of concentration to streamflow is different from zero at the 0.05 significance level. A seasonal dependency is indicated when the relations of concentration to streamflow for the growing- and nongrowing-season measurements are different. The 75th and 25th percentiles of the flow duration also are indicated.

The second graph shows the relation of load to streamflow. The regression slope of load to streamflow indicates the relative contributions of constant and intermittent sources to the instream load. The steeper the slope, the greater the contribution during increased streamflow from storm runoff (intermittent sources). Relations between load and streamflow were developed using all measurements. Different symbols are used to show uncensored and censored values. The number of observations and values of slope and intercept are shown, and a regression line is drawn when the slope is different from zero at the 0.05 significance level. A smoothed relation between load and streamflow is shown when there are 10 or more observations. The 75th and 25th percentiles of the flow duration also are indicated. The relations of load to streamflow for dissolved oxygen at saturation and fecal coliform bacteria are not shown because loads are not calculated for these constituents.

The third graph shows the trends in concentrations during high and low flows. Trends in constituent concentrations during high and low flows can indicate changes over time in the contributions from intermittent and constant sources, respectively. Positive trends during high flows indicate an increase in the storm runoff contributions over time, whereas negative trends indicate a decrease in the storm runoff contributions. Positive trends during low flows indicate an increase in the contributions from point sources and ground water over time, whereas negative trends indicate a decrease in the contributions from point sources and ground water. Measurements during low flows are shown with open symbols, and measurements during high flows are shown with crisscrossed, shaded symbols. Different symbols are used to show uncensored and censored values. The numbers of observations and water years during which at least one measurement was made are shown for each group of measurements. Trends are indicated by regression lines and slope values when the seasonal Kendall tau value is significant.

# Navigation Tips

1. Start at page 5 of the PDF file. This page lists the appendixes and the constituents they describe.

## Appendixes—Relation concentration and load trends in concentra

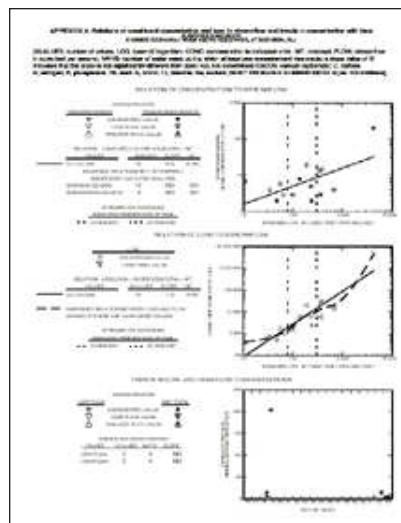
Appendix 1 ----- Alkalinity  
Appendix 2 ----- Hardness  
Appendix 3 ----- Total organic carbon  
Appendix 4 ----- Suspended sediment  
Appendix 5 ----- Dissolved solids

2. Move the cursor to the name of the desired constituent and click the mouse button to jump to the selected appendix. A list of stations will appear.

## Appendix Fraction of dissolved oxy

<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at River
01379000	Passaic River near Millin
01379500	Passaic River near Chatha
01380500	Rockaway River above Res
01381200	Rockaway River at Pine Br

3. At the station list, select the desired station, move the cursor to the station, and click the mouse button to jump to the data.





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# **Appendixes—Relations of constituent concentration and load to streamflow and trends in concentration with time**

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Appendix 1	-----	Alkalinity
Appendix 2	-----	Hardness
Appendix 3	-----	Total organic carbon
Appendix 4	-----	Suspended sediment
Appendix 5	-----	Dissolved solids
Appendix 6	-----	Dissolved sodium
Appendix 7	-----	Dissolved chloride
Appendix 8	-----	Dissolved oxygen
Appendix 9	-----	Fraction of dissolved oxygen at saturation
Appendix 10	-----	Total phosphorus
Appendix 11	-----	Total nitrogen
Appendix 12	-----	Total nitrate plus nitrite
Appendix 13	-----	Total nitrite
Appendix 14	-----	Total ammonia plus organic nitrogen
Appendix 15	-----	Total ammonia
Appendix 16	-----	Total boron
Appendix 17	-----	Total lead
Appendix 18	-----	Fecal coliform bacteria

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# Appendix 1

## Alkalinity

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<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

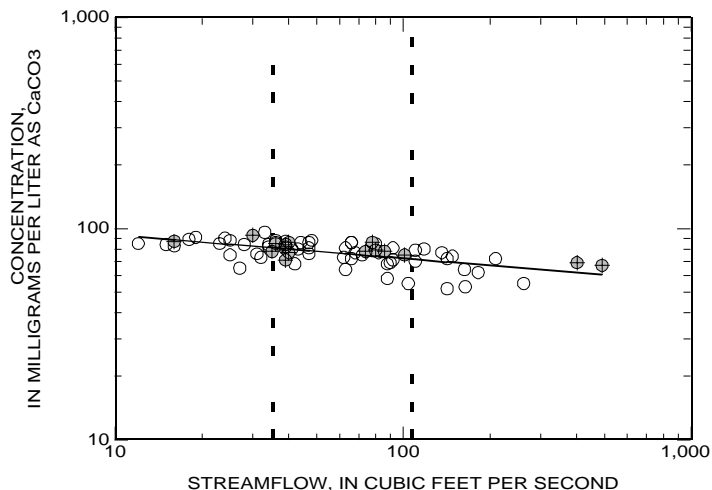
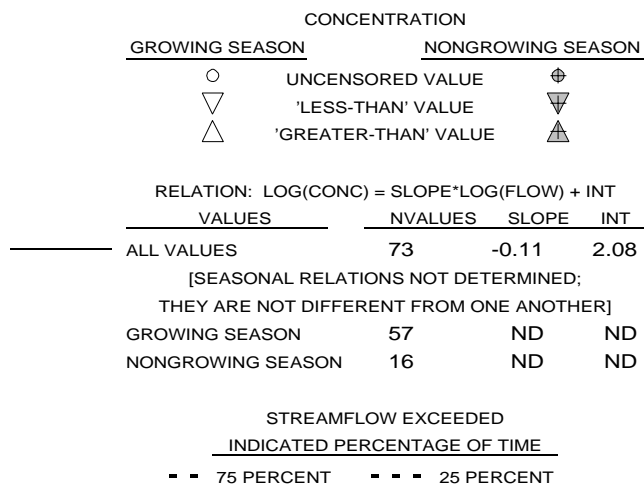
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# APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time

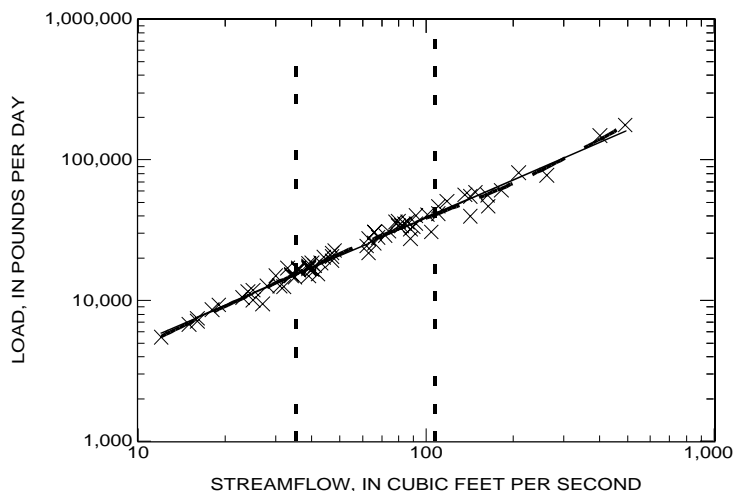
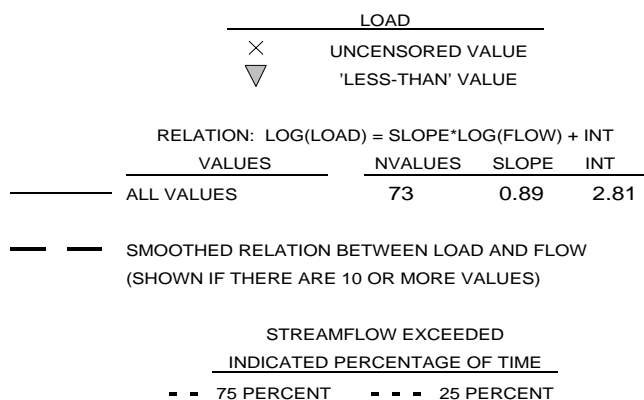
ALKALINITY  
01377000 HACKENSACK RIVER AT RIVERVALE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

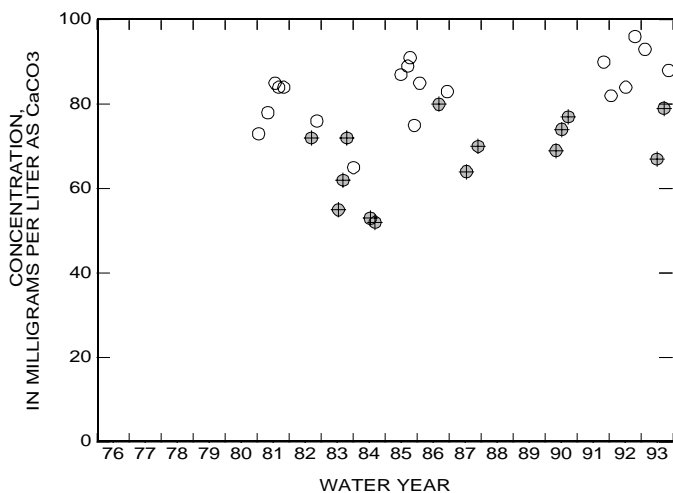
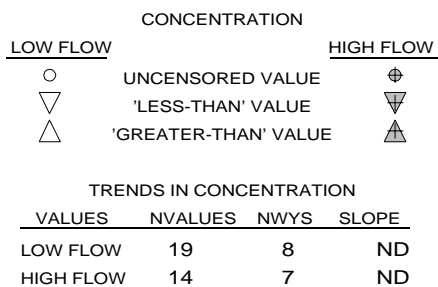
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



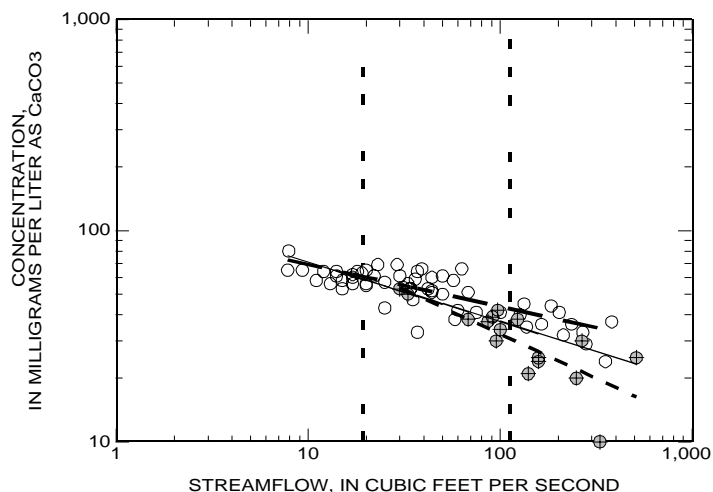
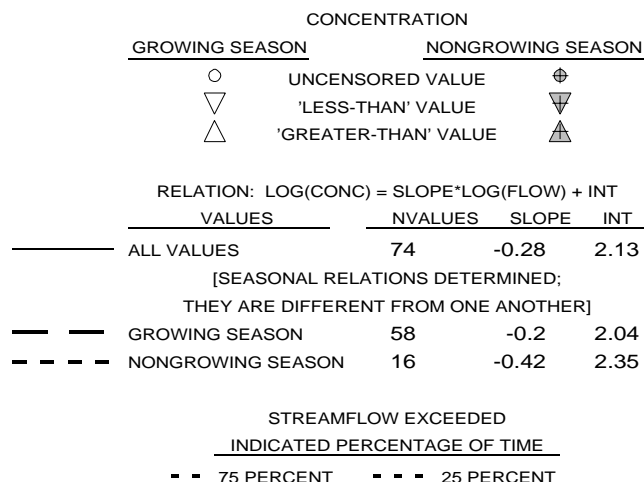
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



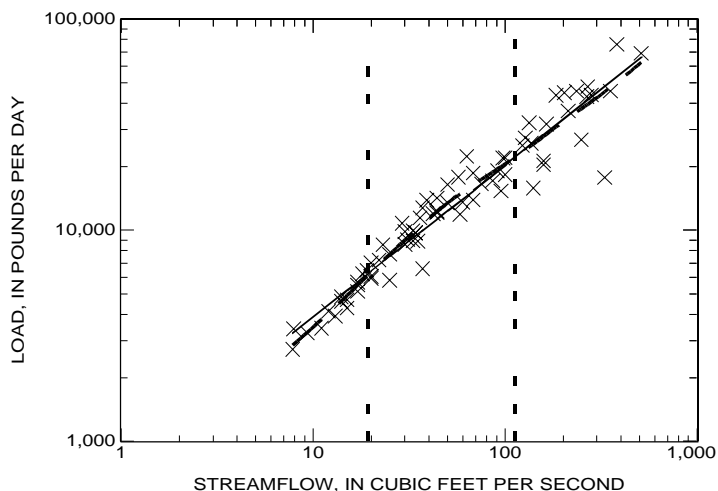
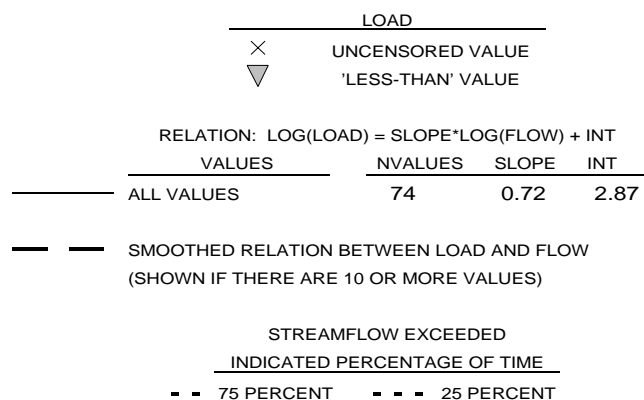
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

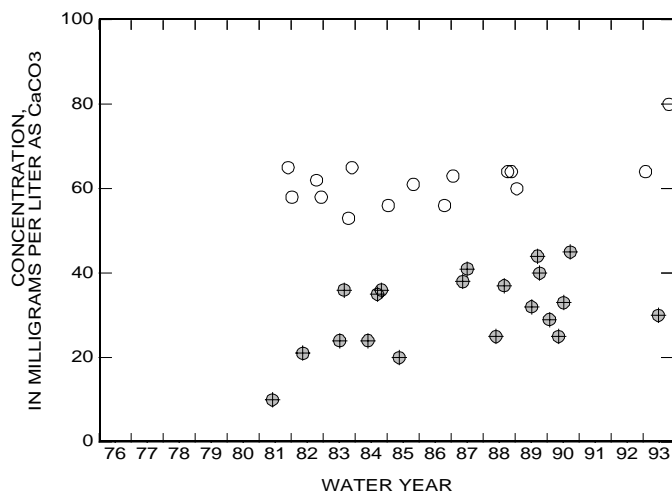
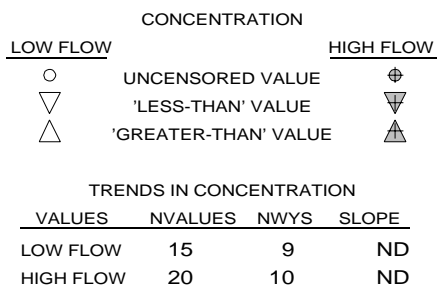
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



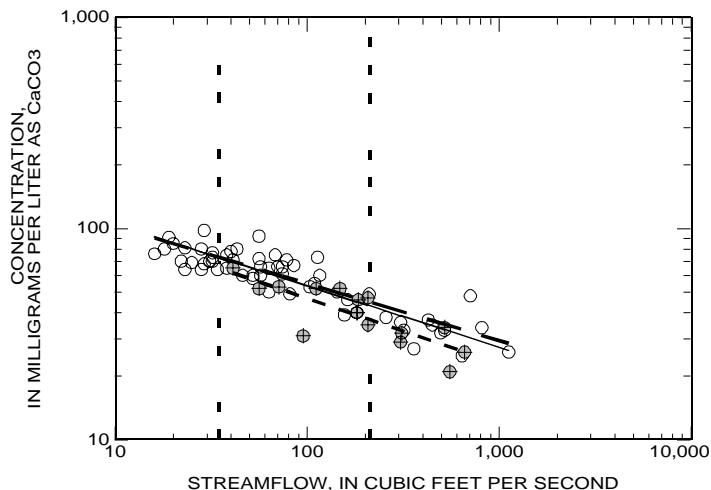
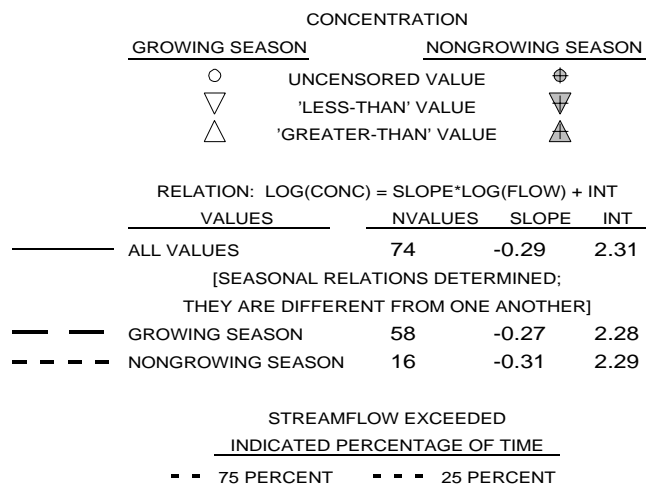
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



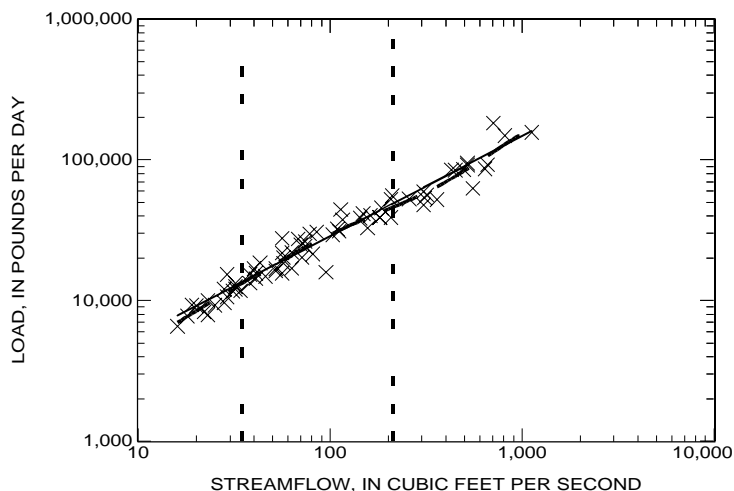
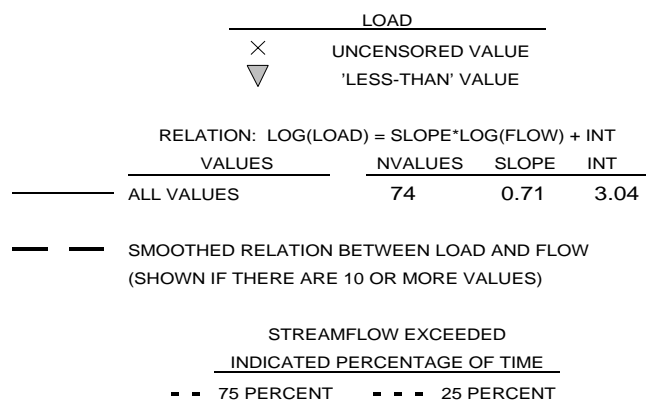
**APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**ALKALINITY**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

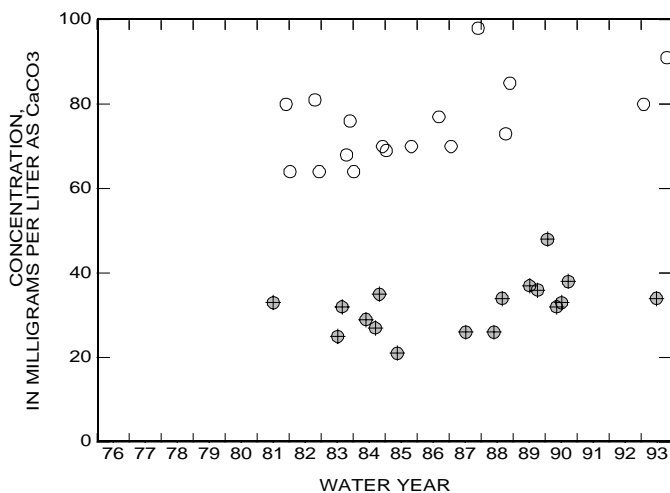
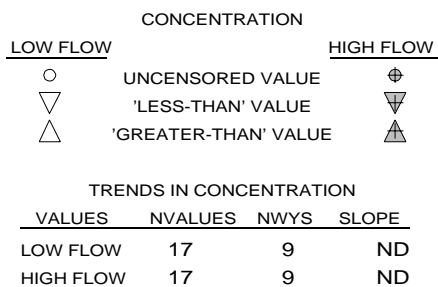
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

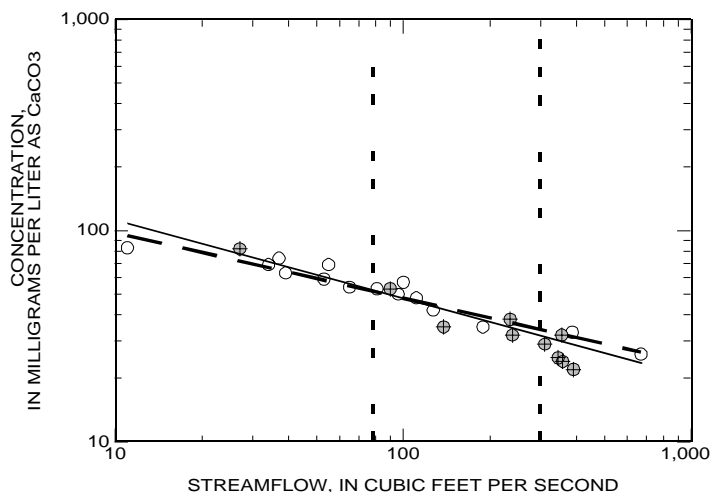
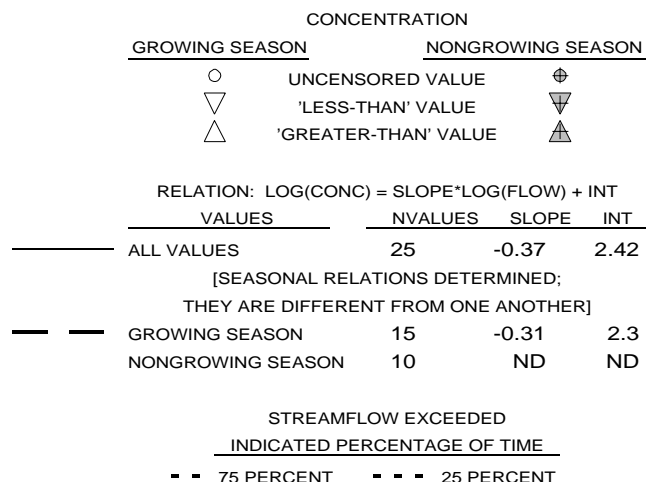


# APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time

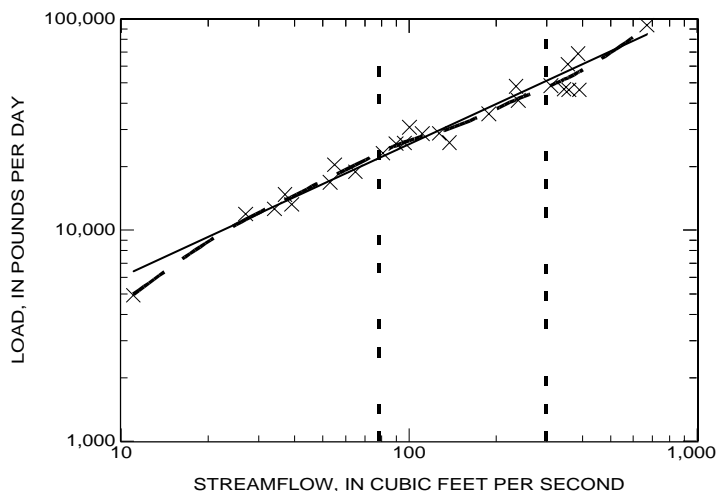
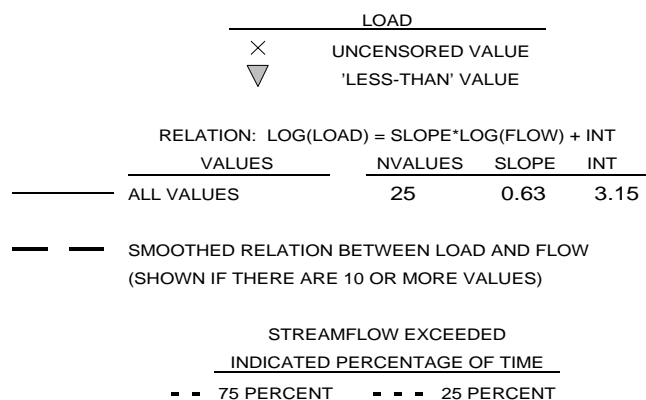
ALKALINITY  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

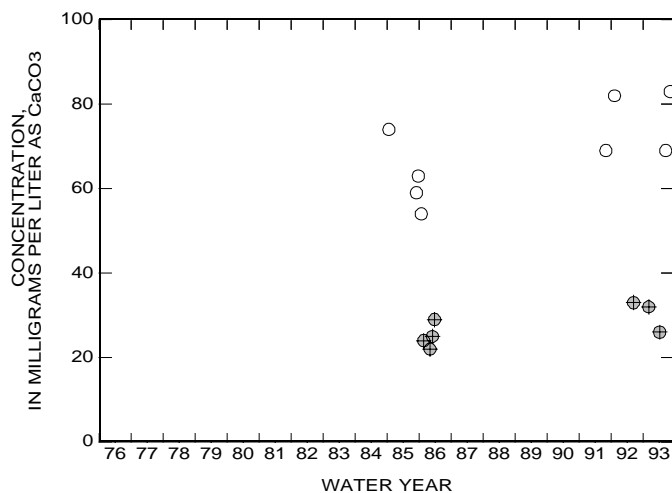
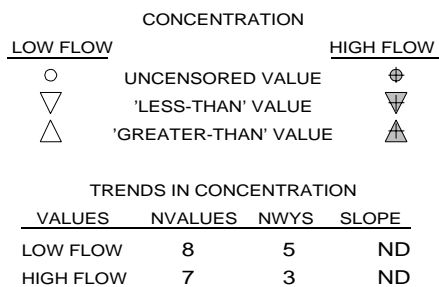
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



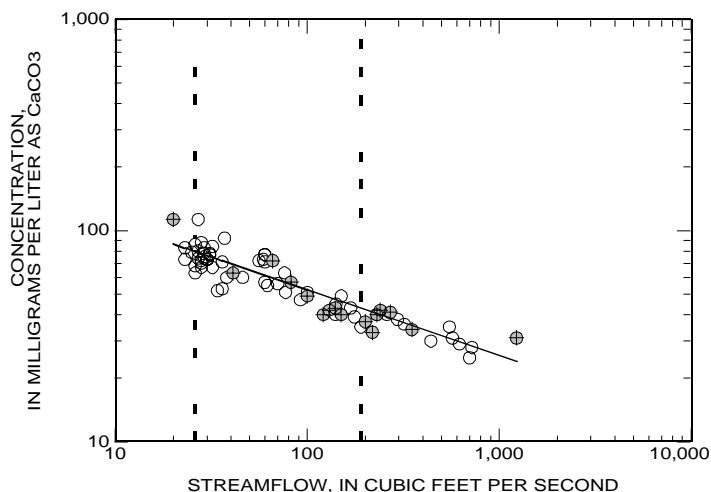
# APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time

ALKALINITY  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

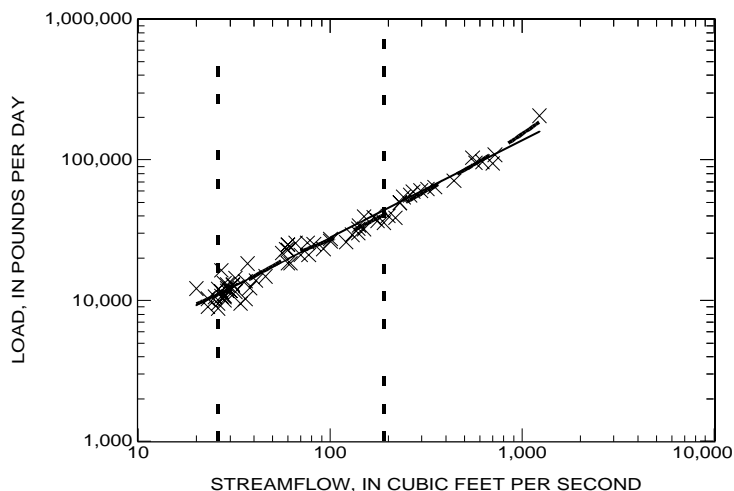
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	73	-0.31	2.34	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	57	ND	ND	
NONGROWING SEASON	16	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



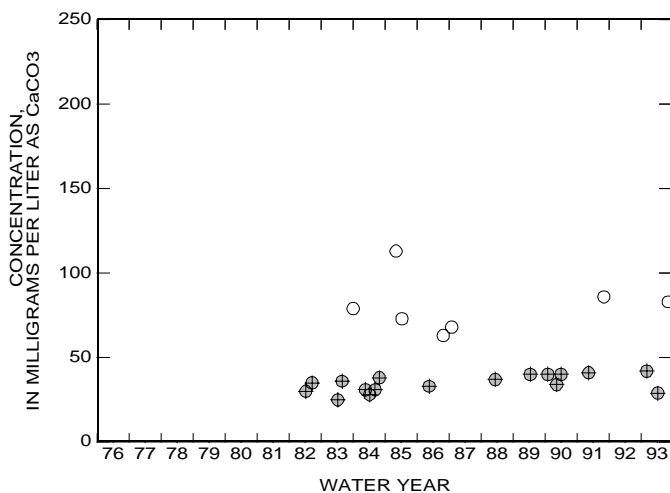
## RELATION OF LOAD TO STREAMFLOW

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	73	0.69	3.07	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

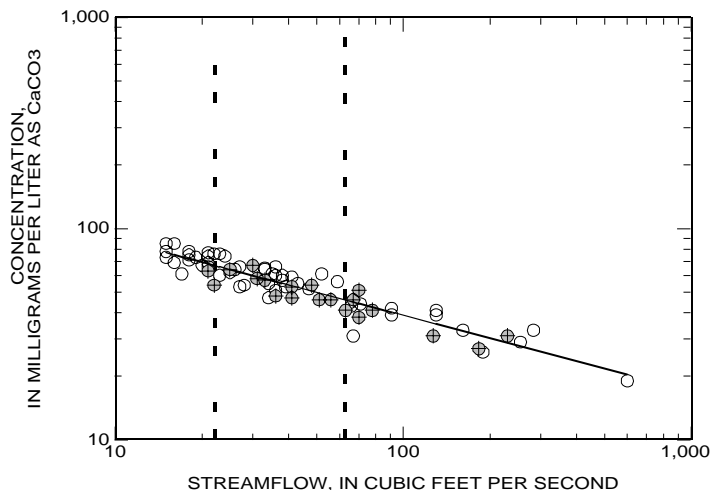
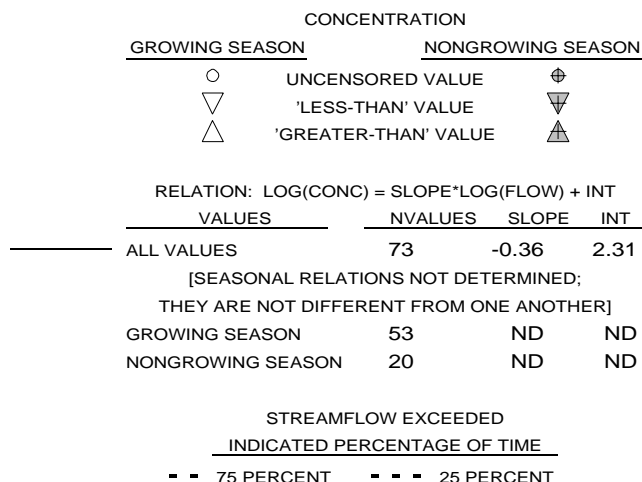
CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	7	6	ND	
HIGH FLOW	17	9	ND	



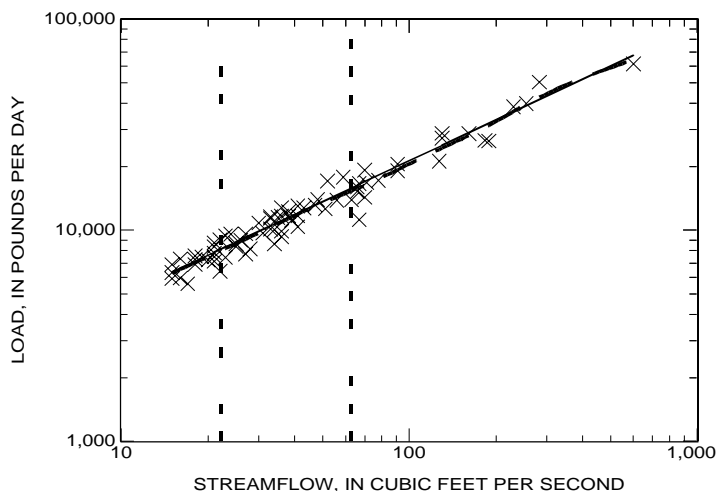
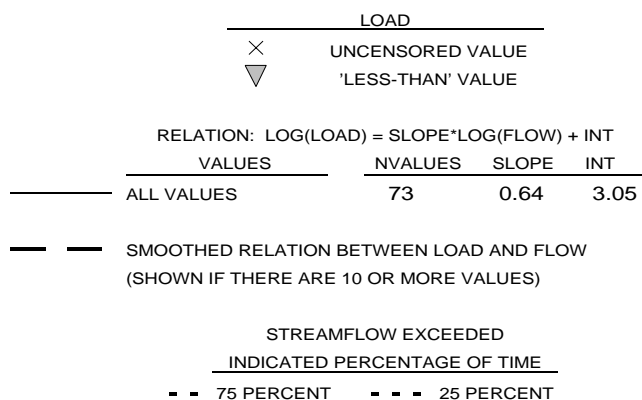
**APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**ALKALINITY**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

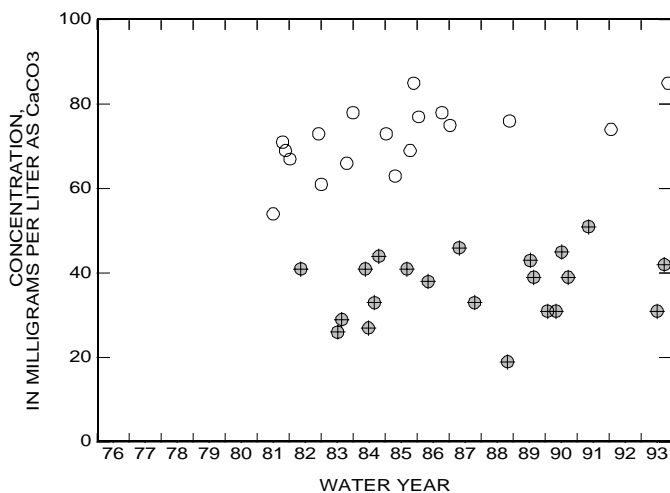
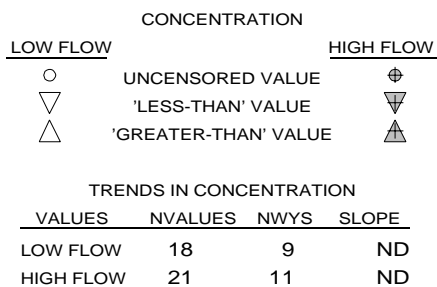
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

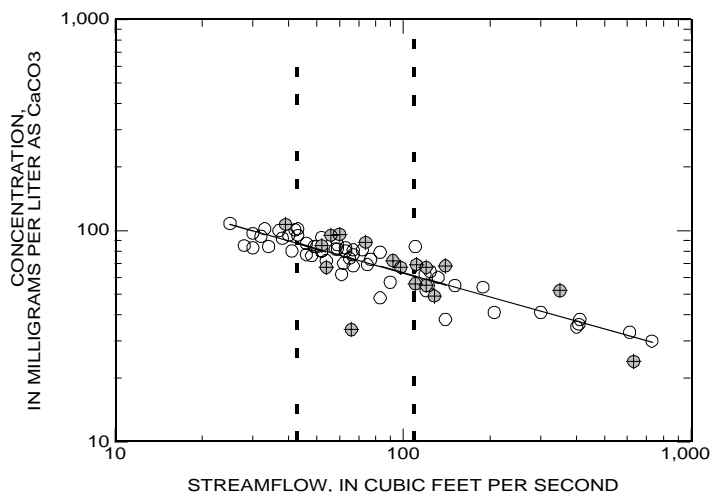
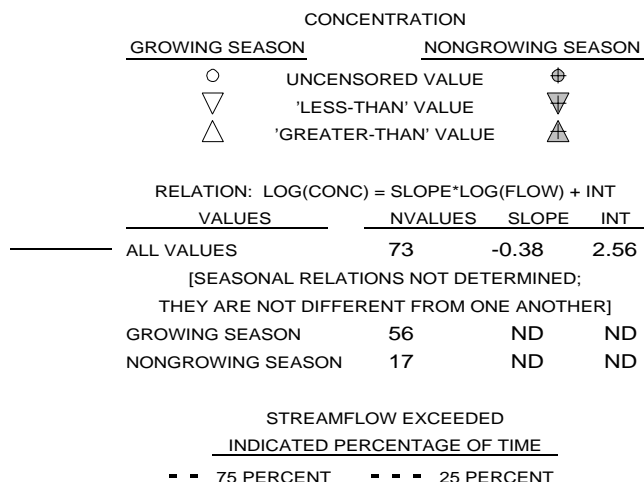




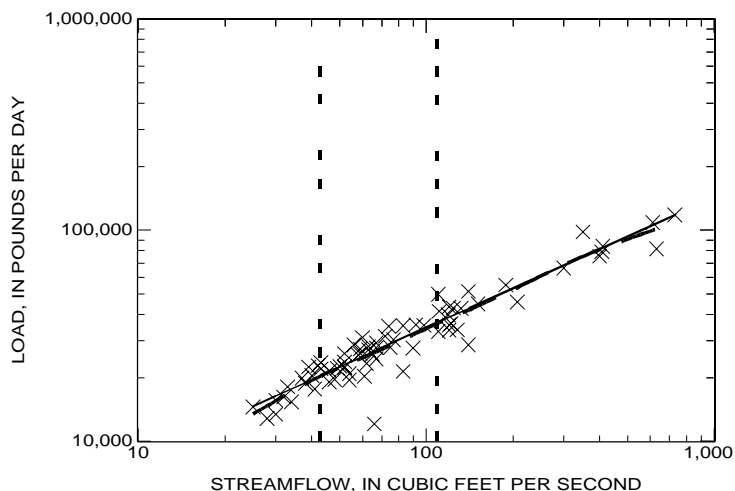
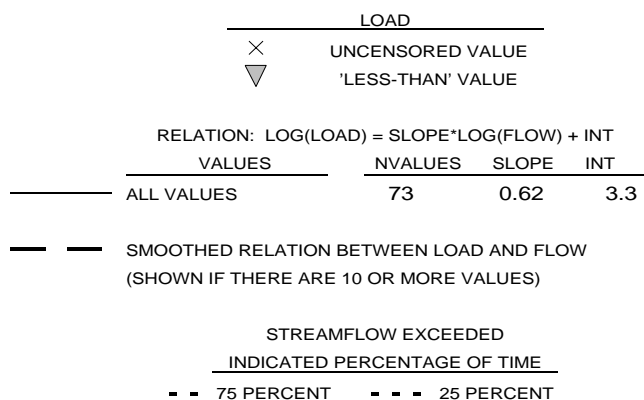
**APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**ALKALINITY**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

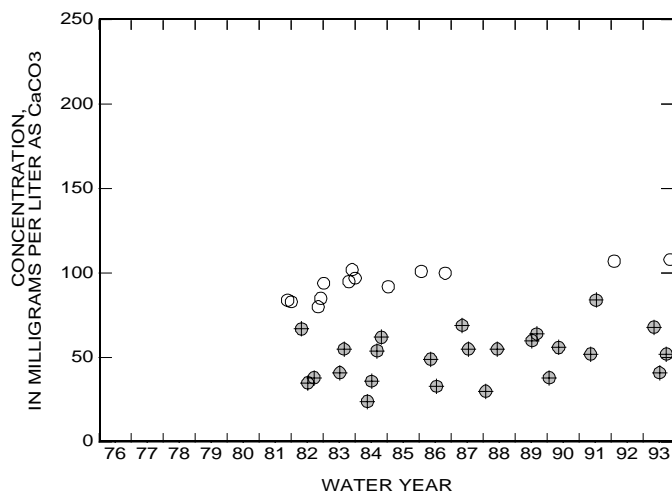
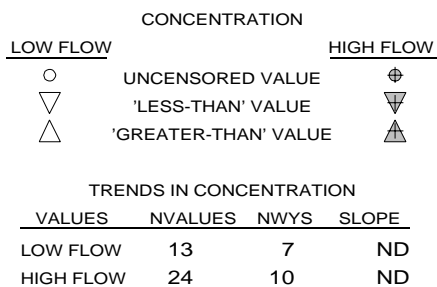
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



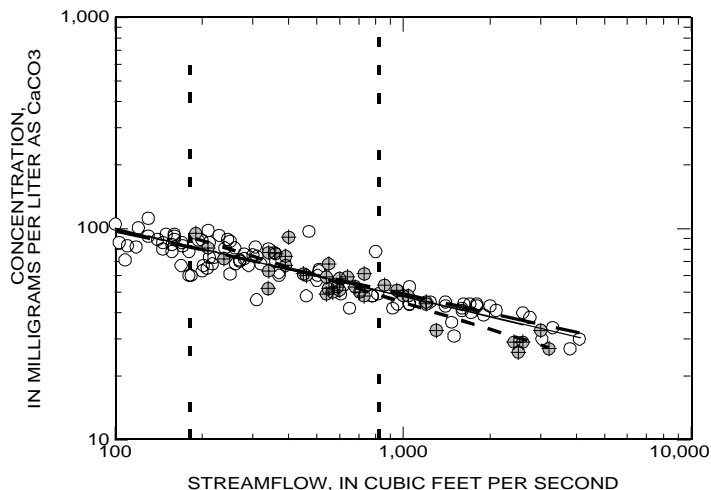
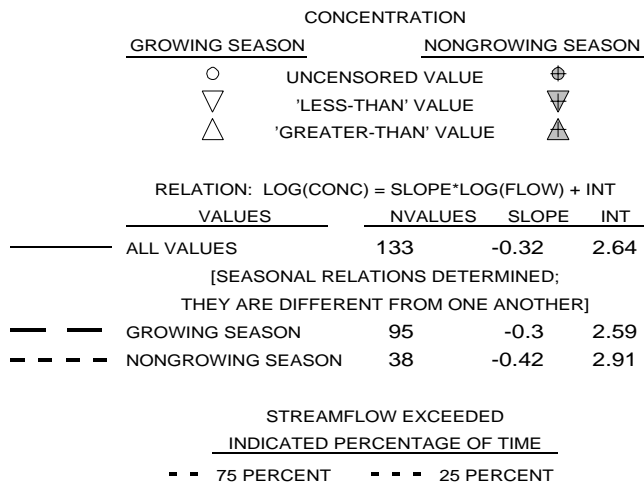
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



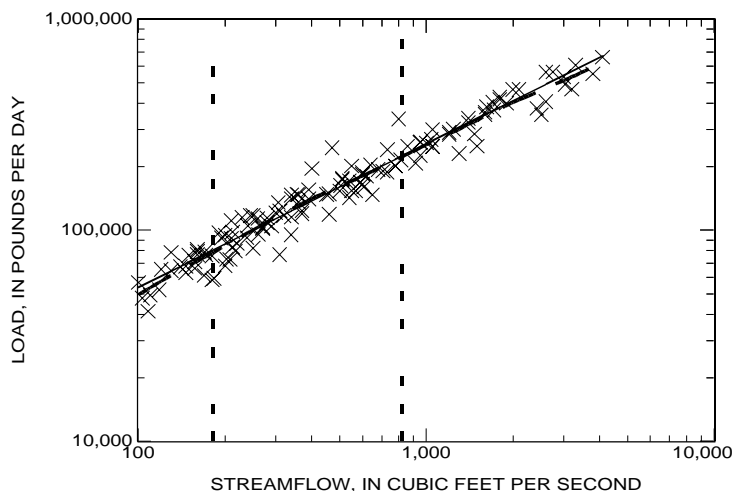
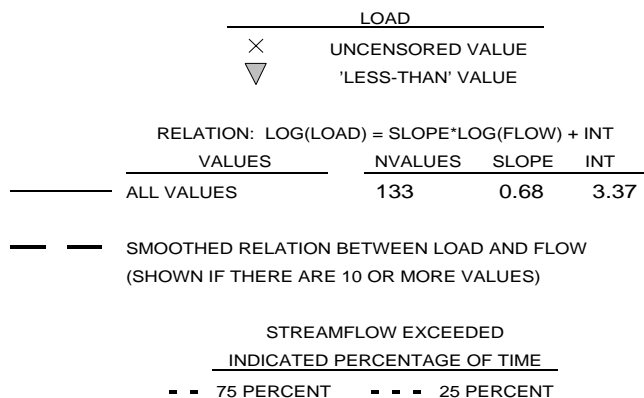
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
ALKALINITY  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

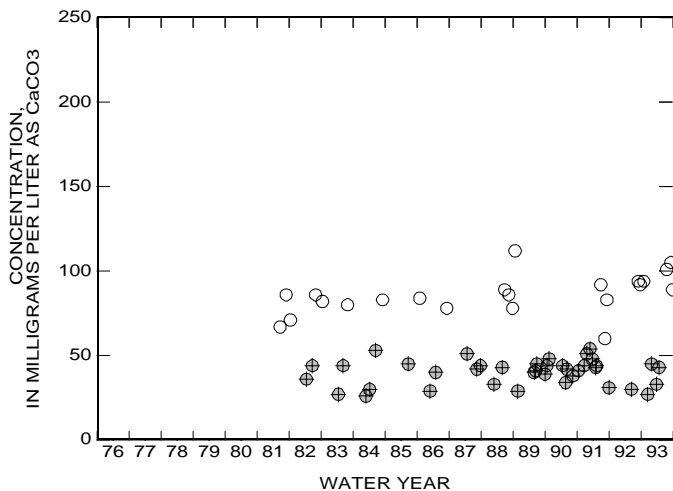
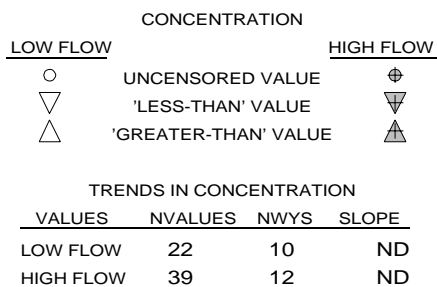
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



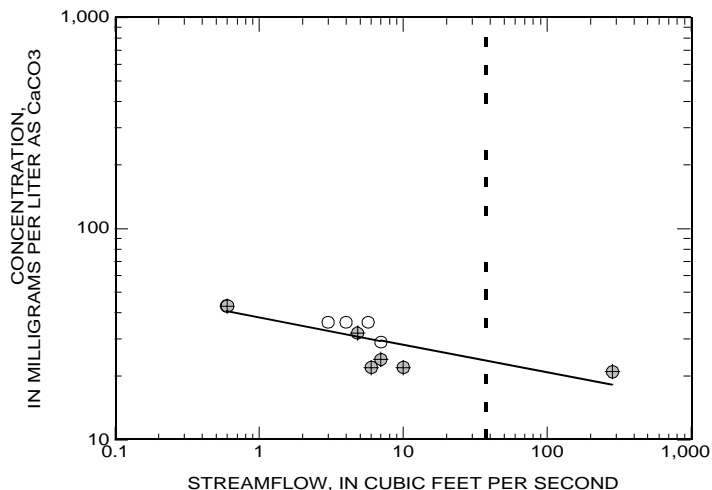
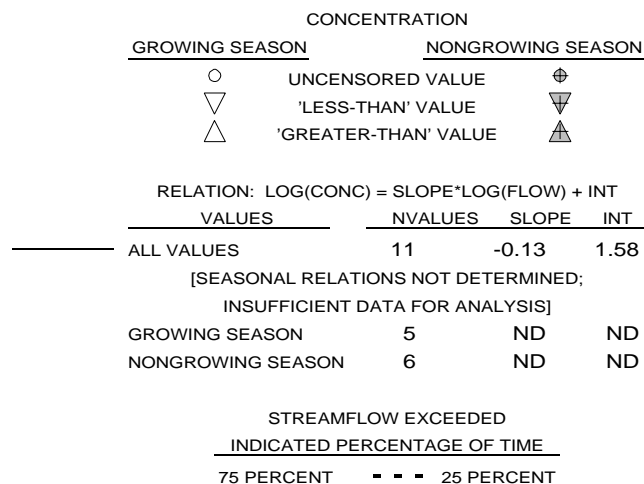
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



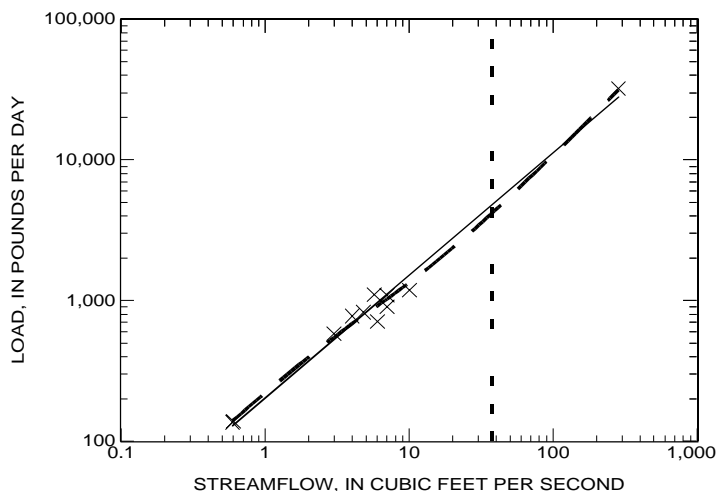
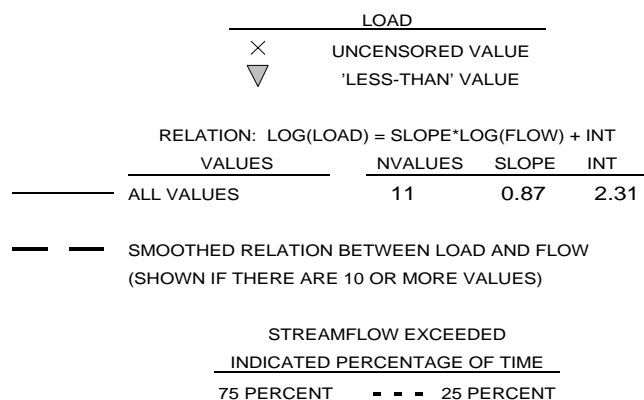
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

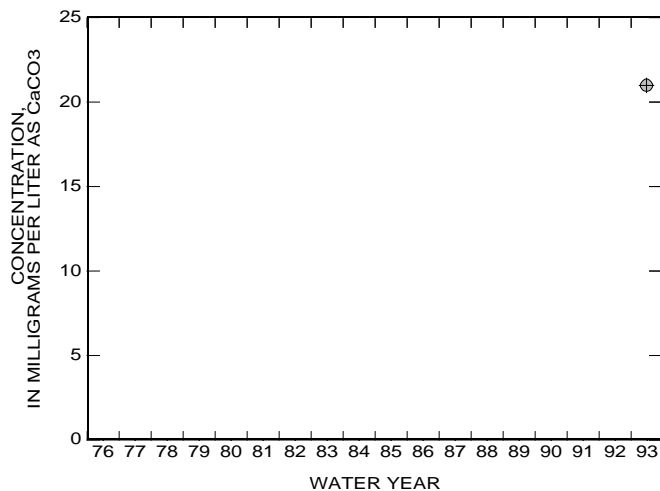
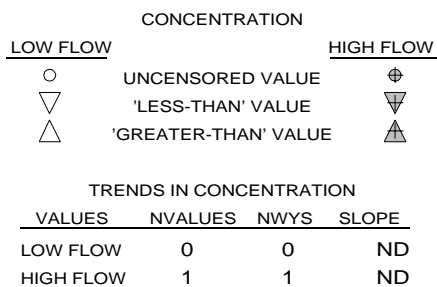
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



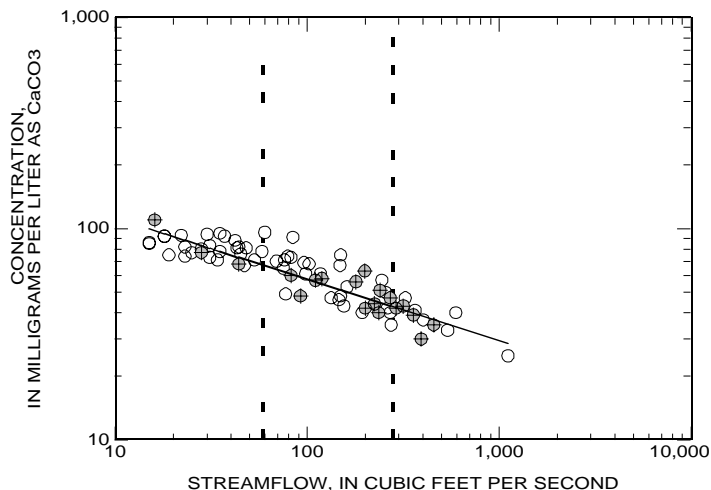
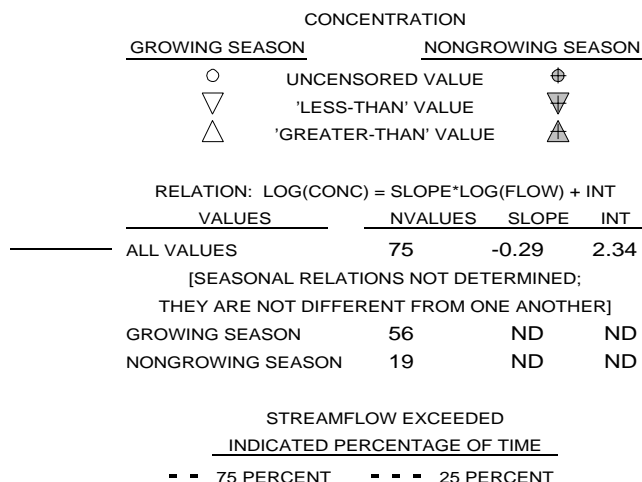
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



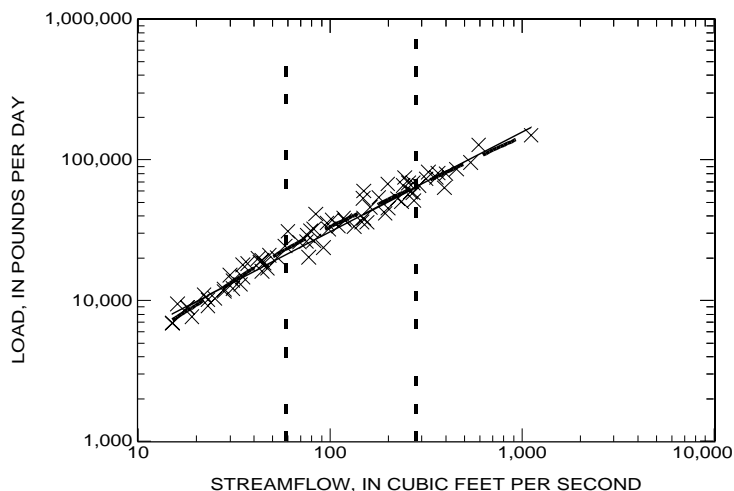
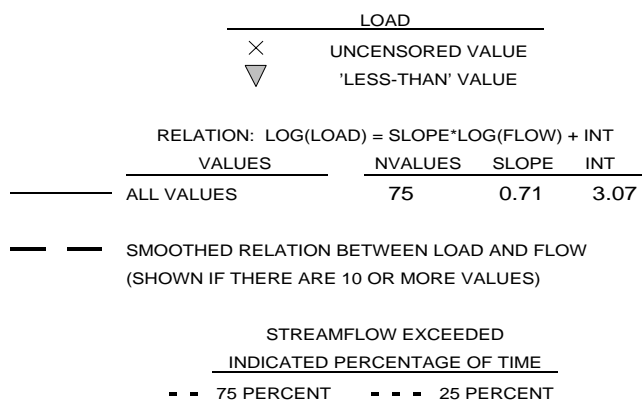
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
ALKALINITY  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

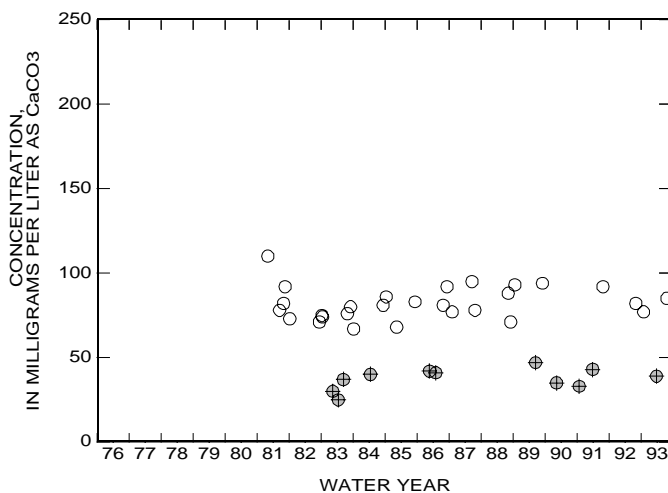
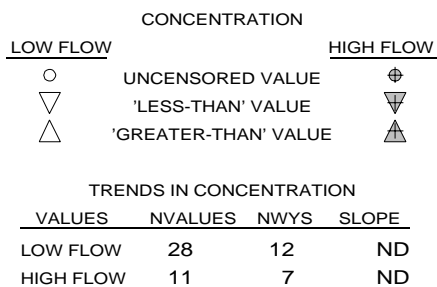
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



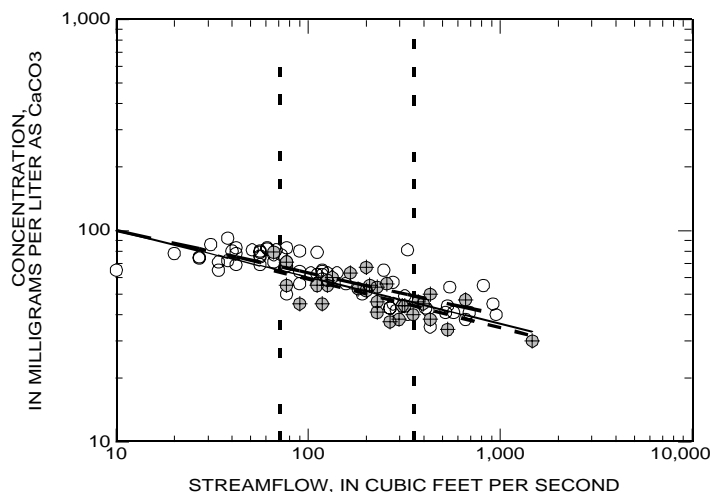
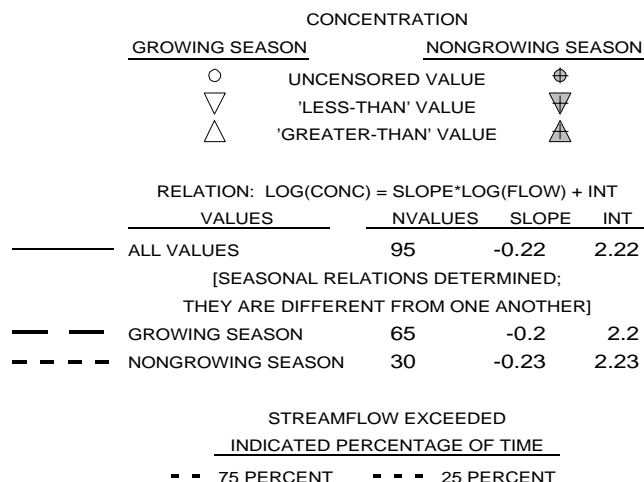
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



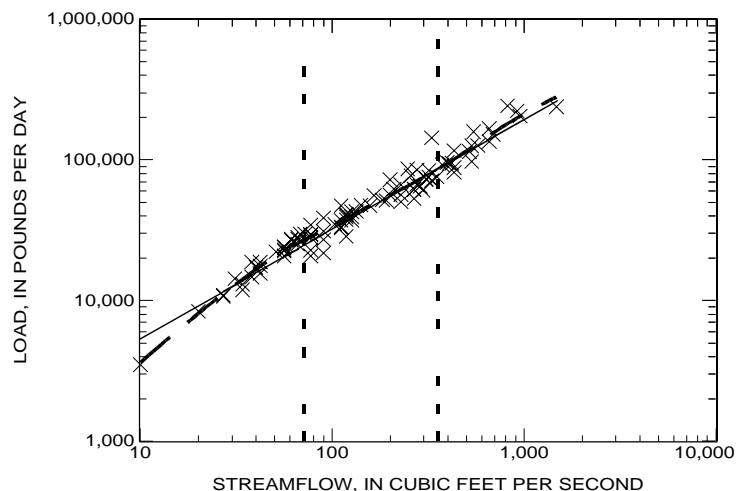
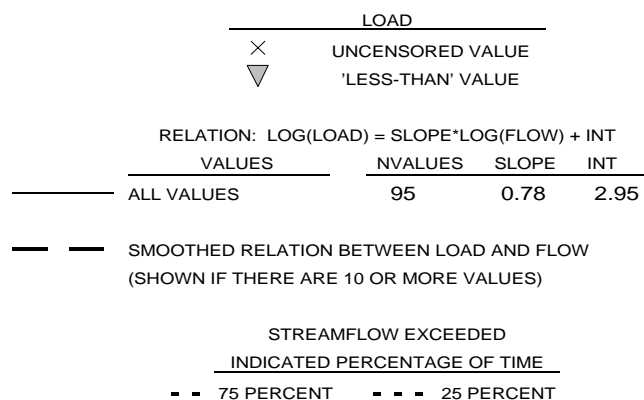
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

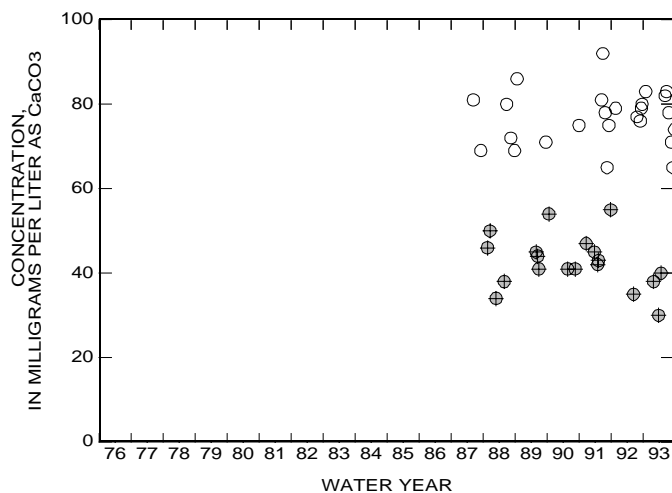
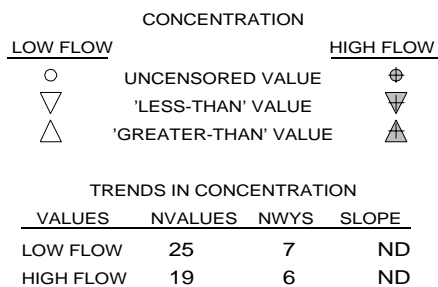
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



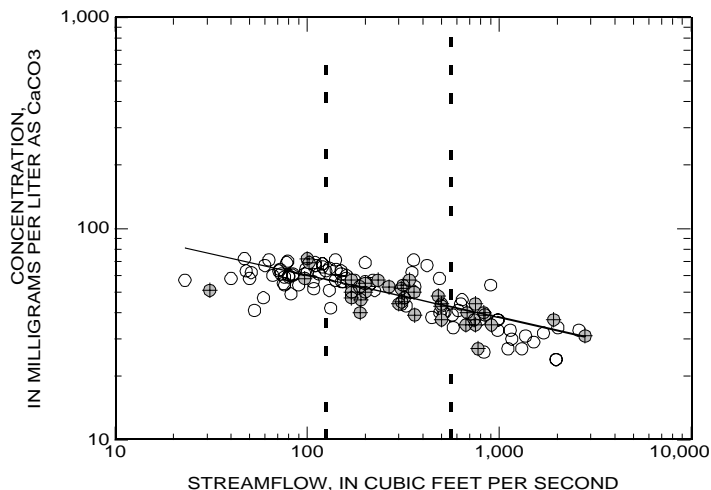
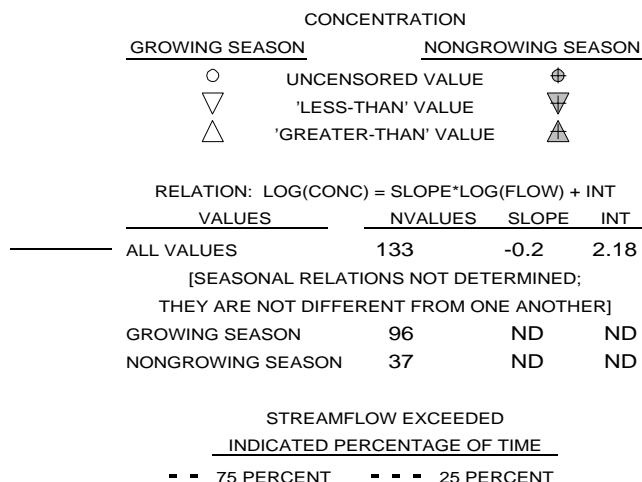
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



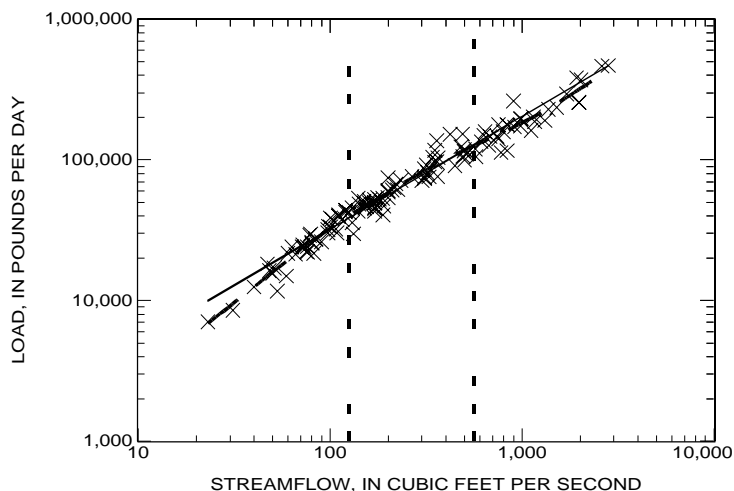
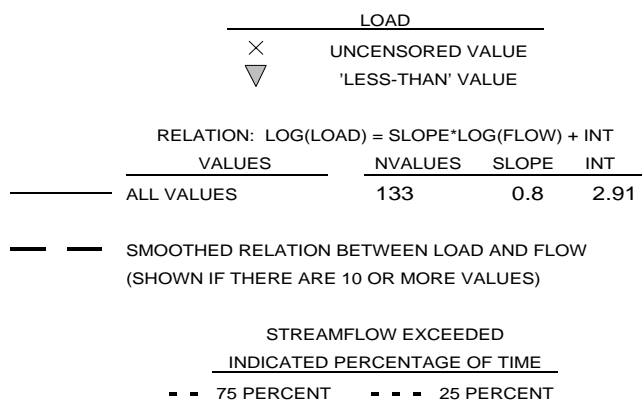
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

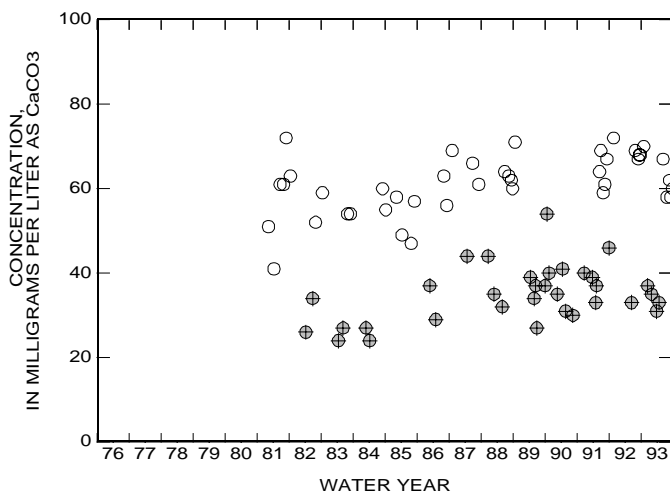
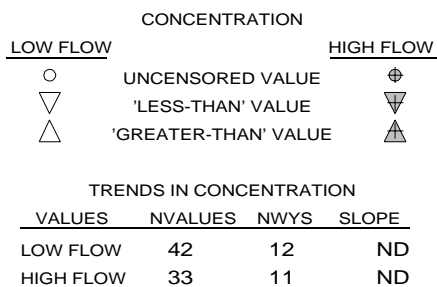
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

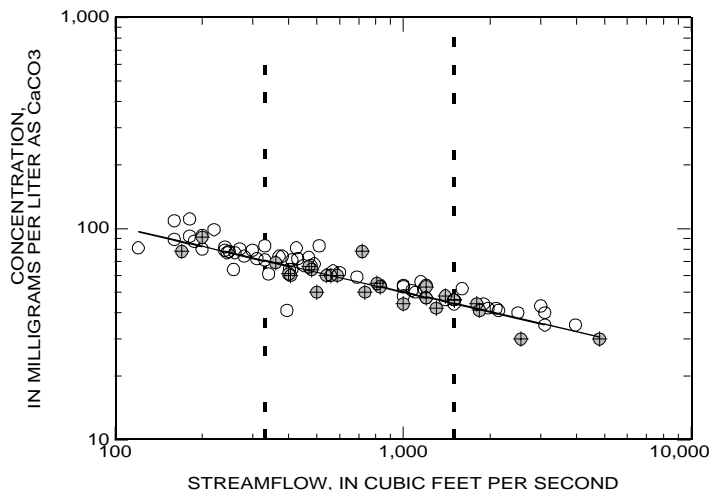
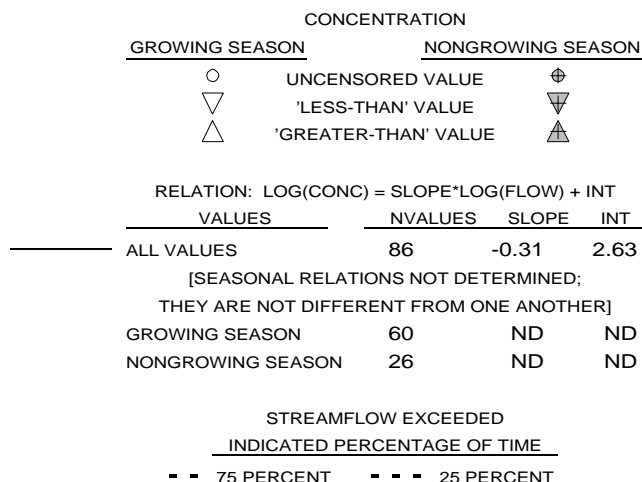


# APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time

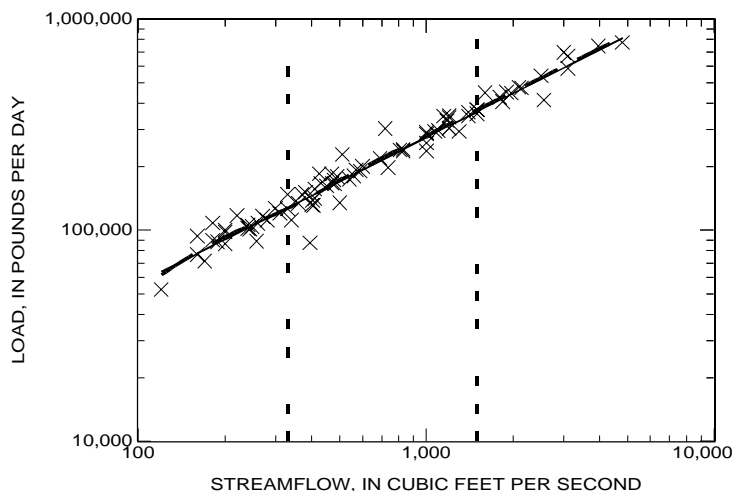
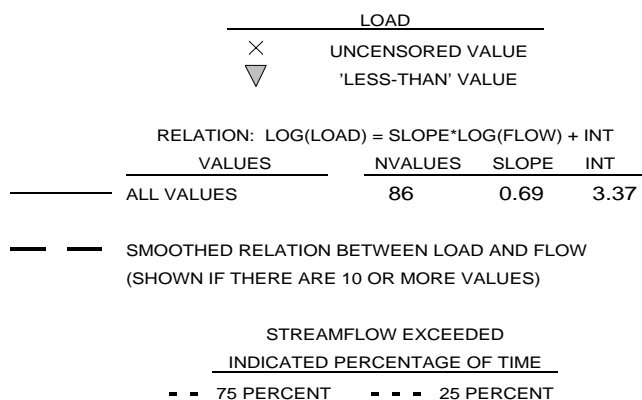
ALKALINITY  
01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

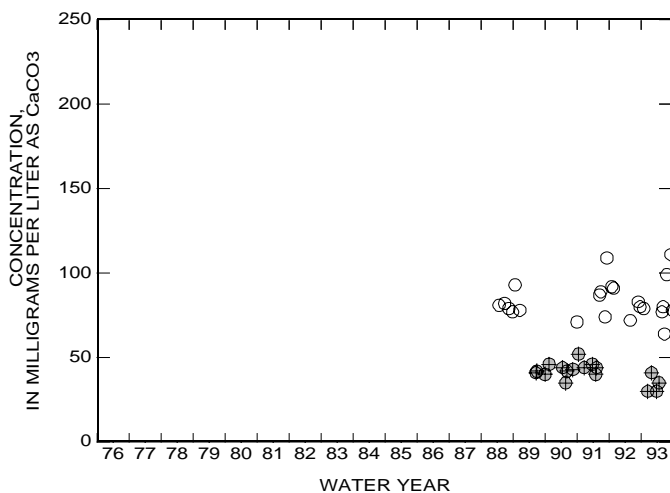
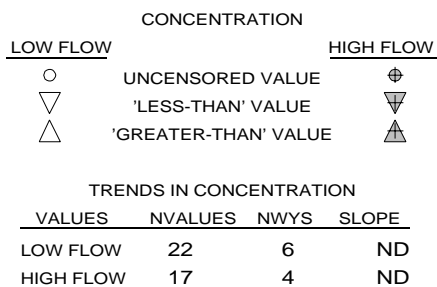
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



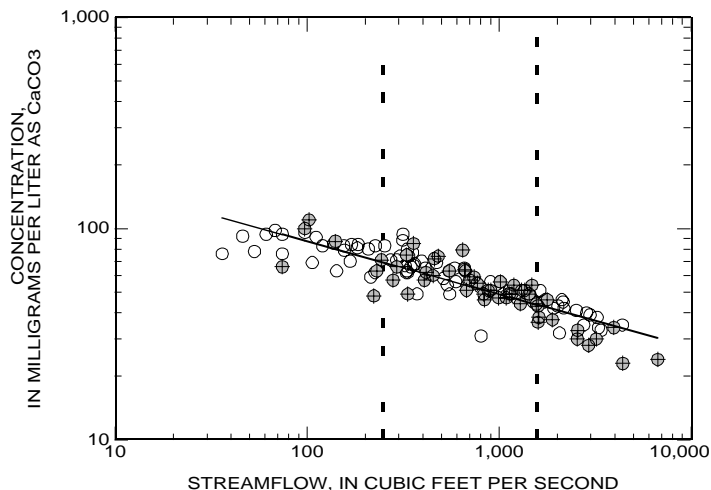
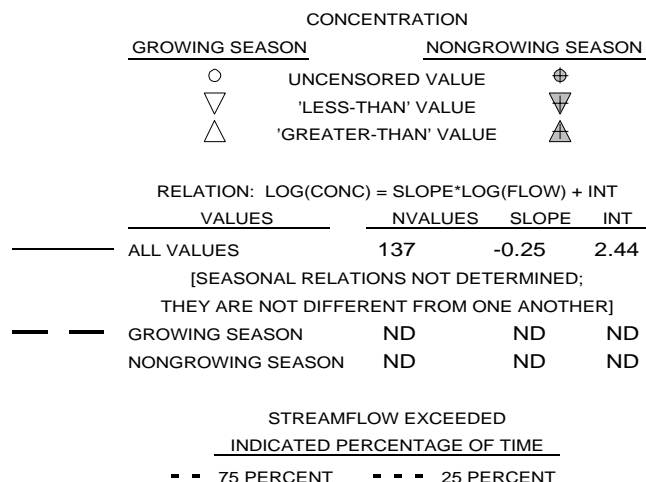
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



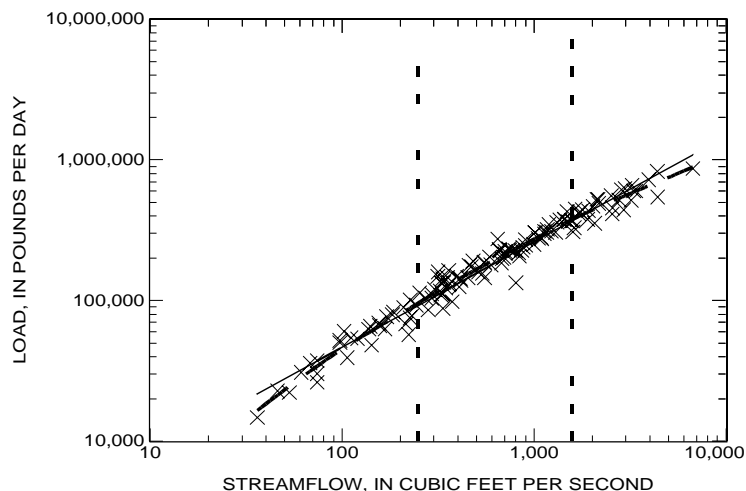
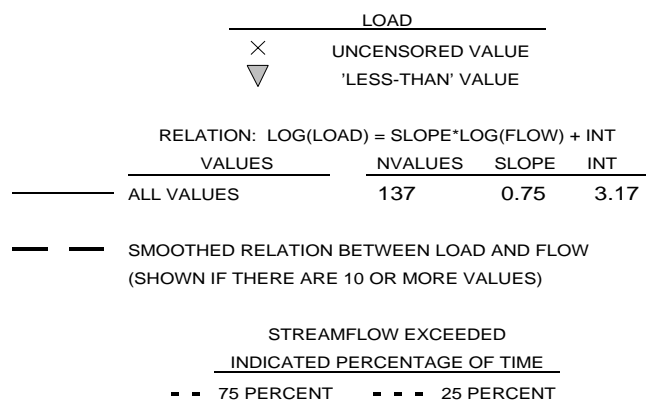
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
ALKALINITY  
01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

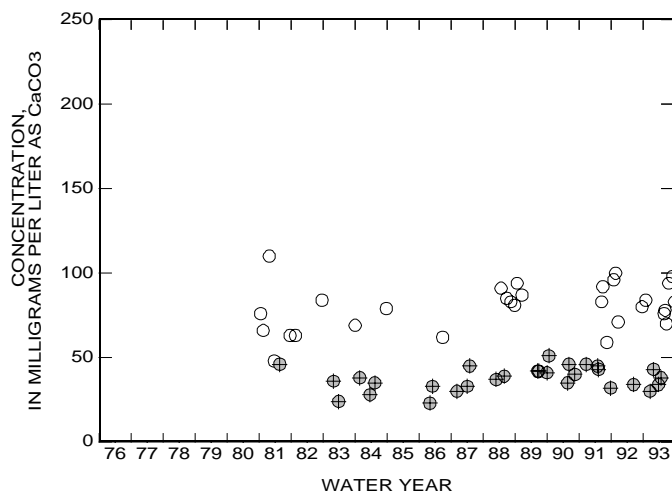
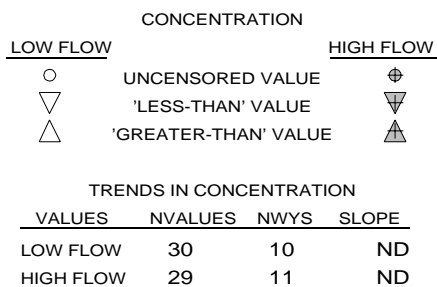
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

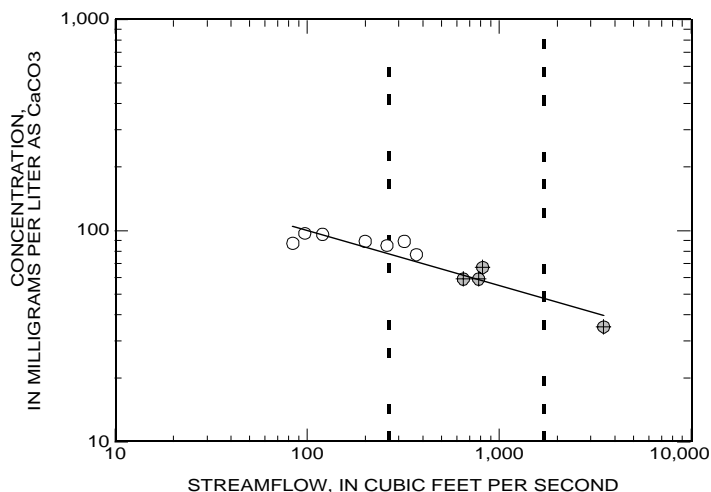
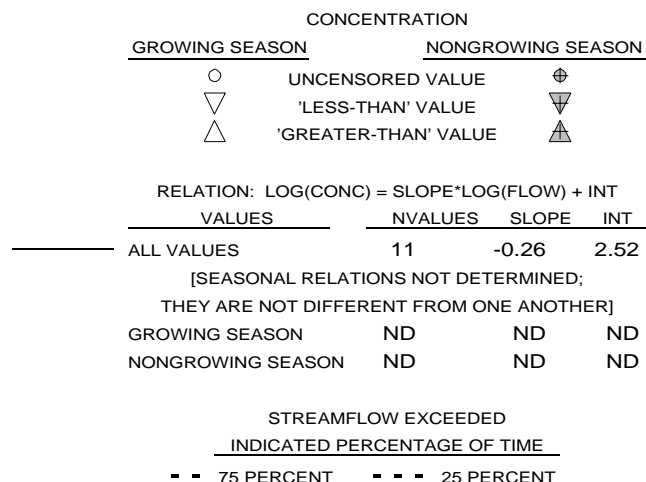




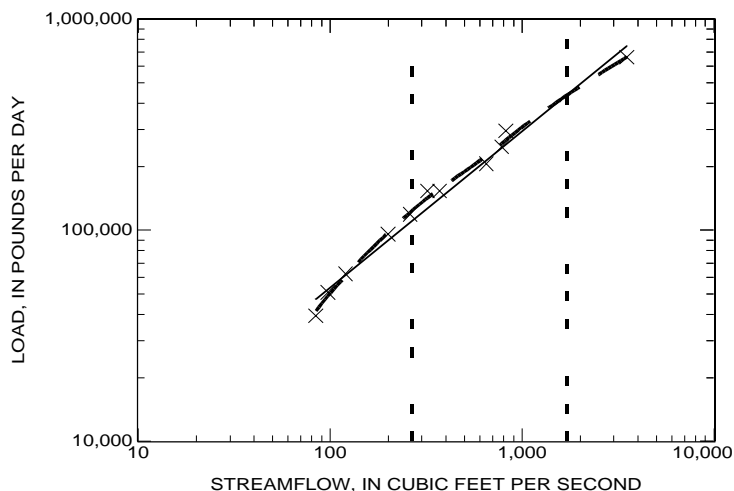
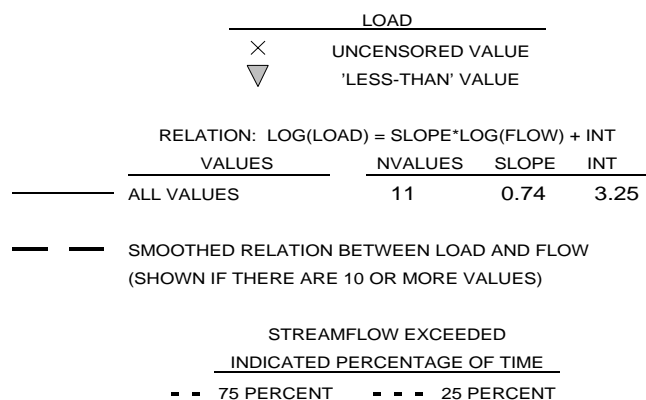
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

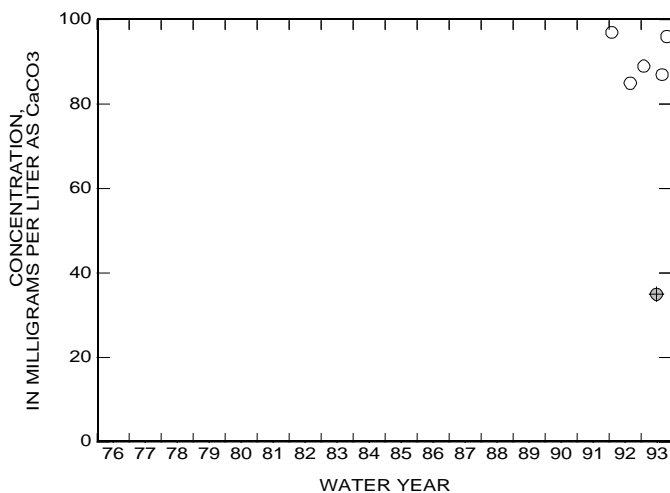
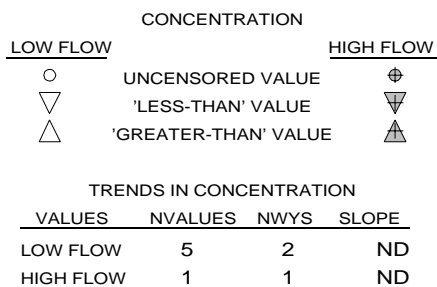
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



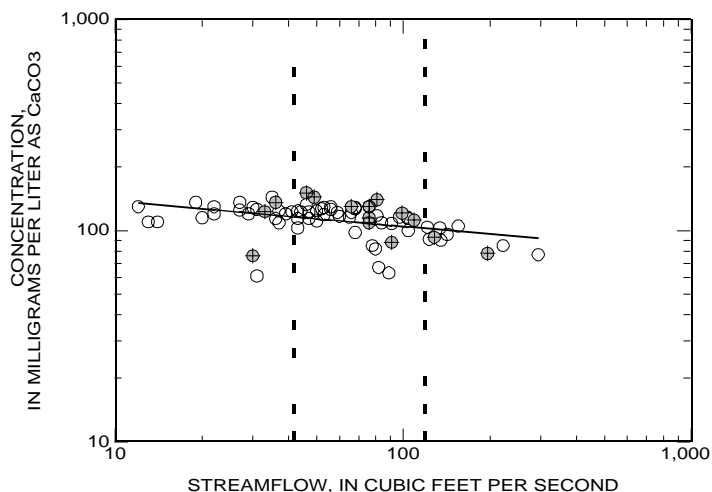
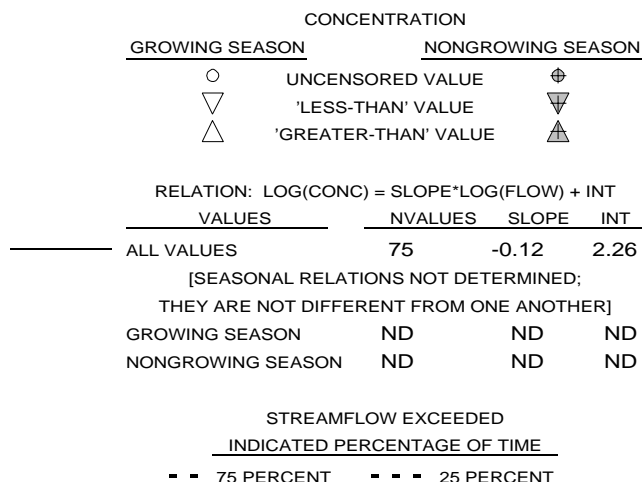
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



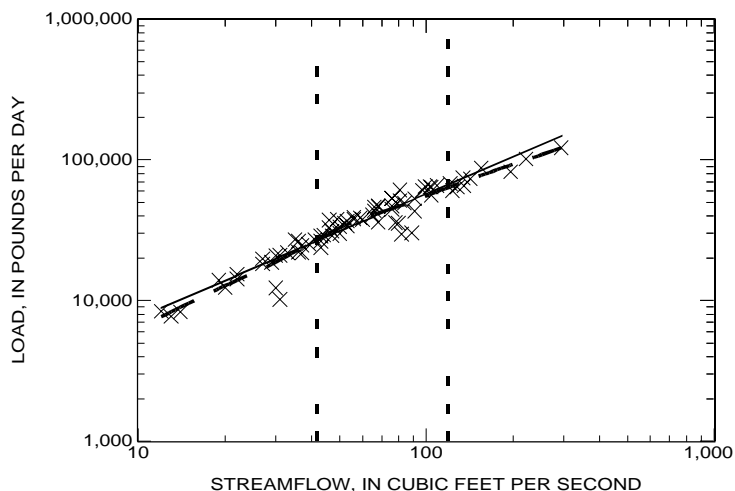
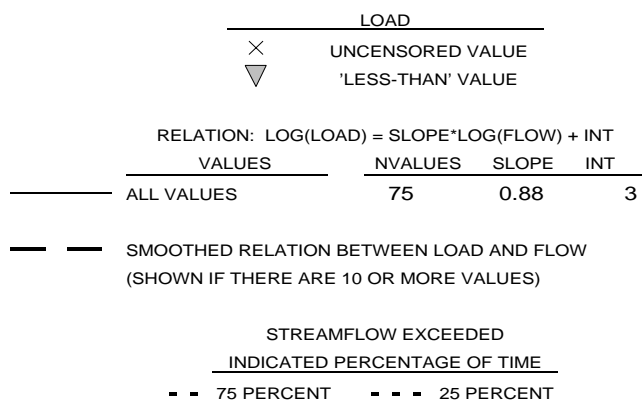
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
ALKALINITY  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

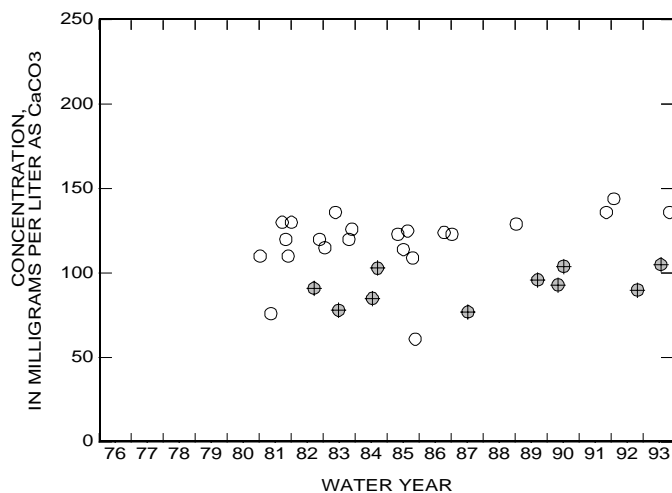
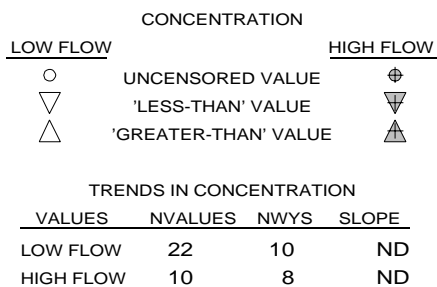
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

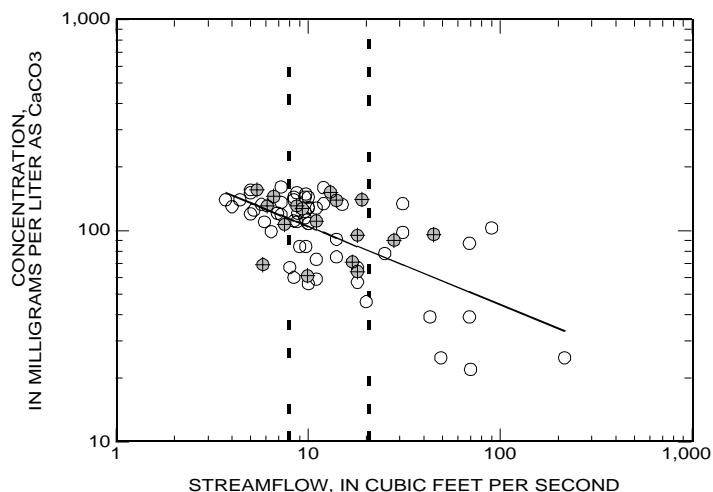
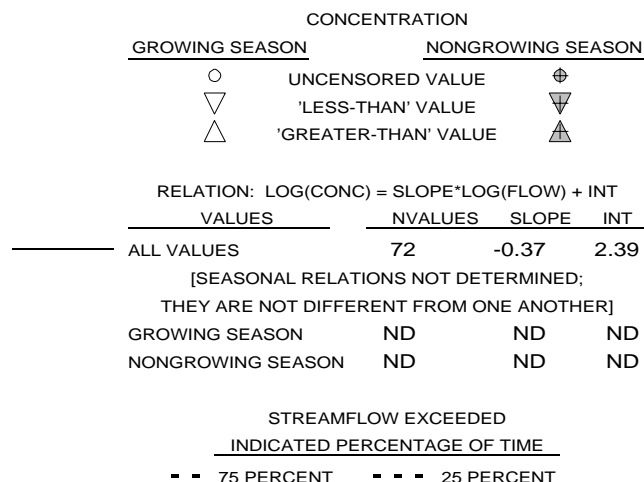


# APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time

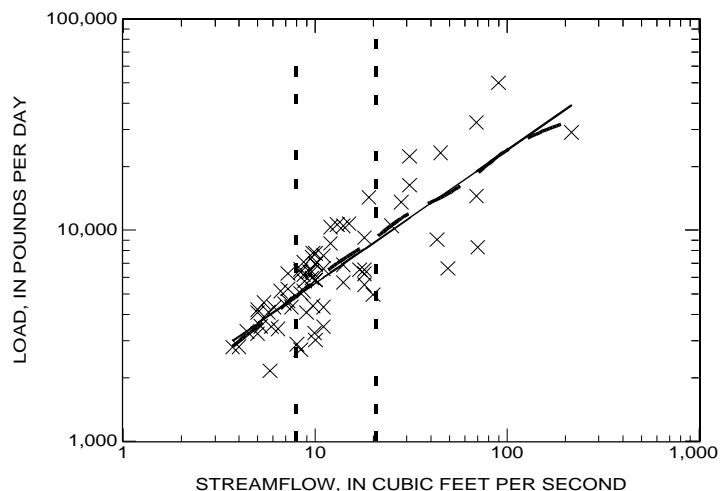
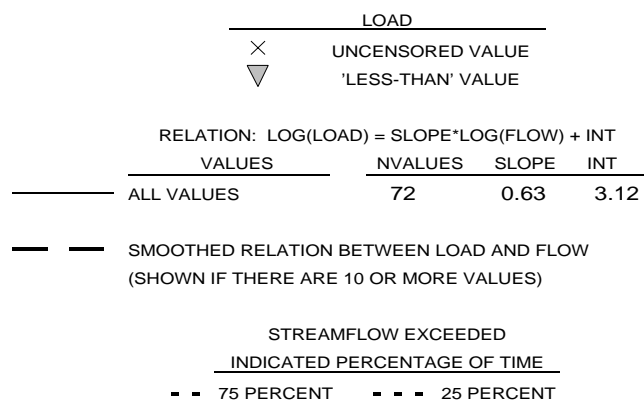
ALKALINITY  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

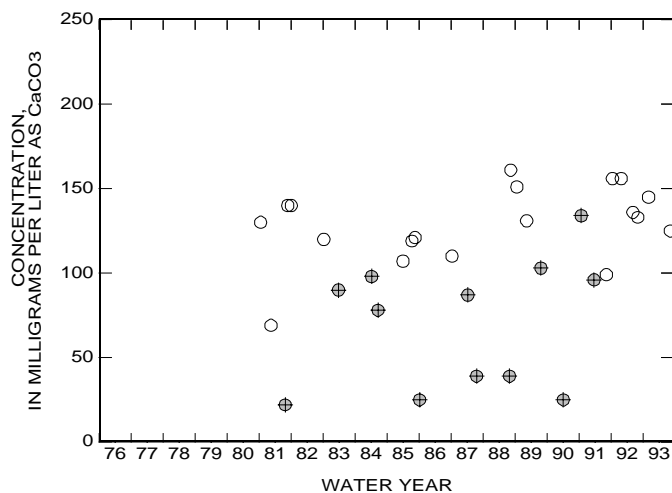
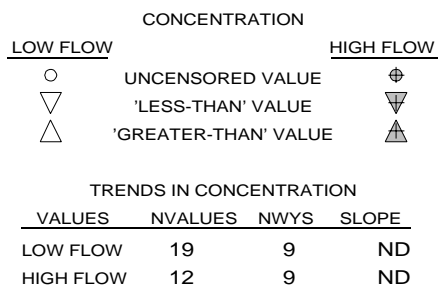
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



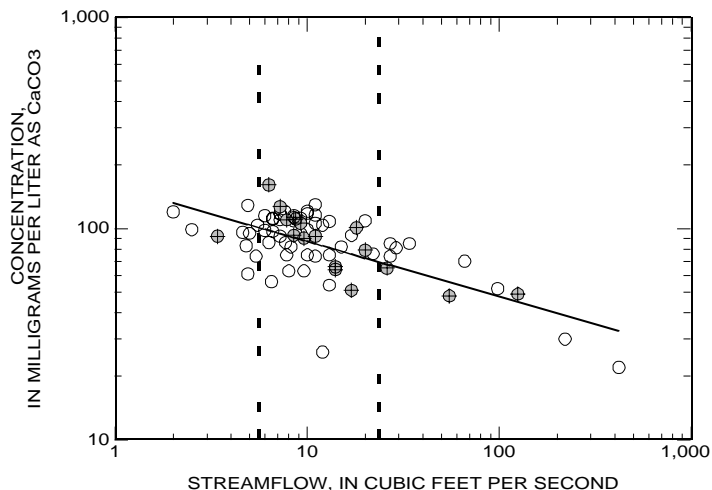
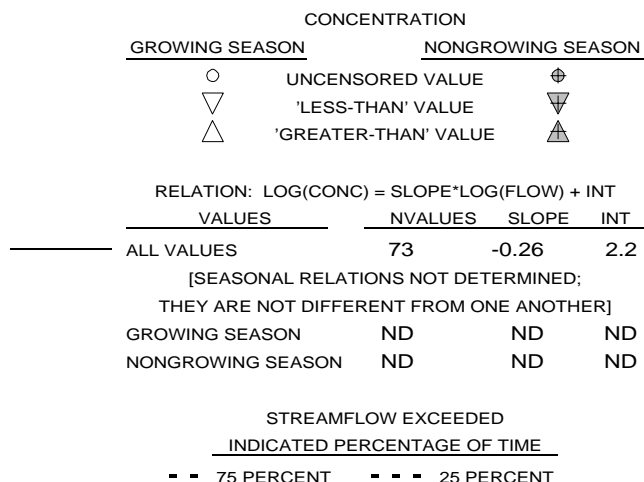
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



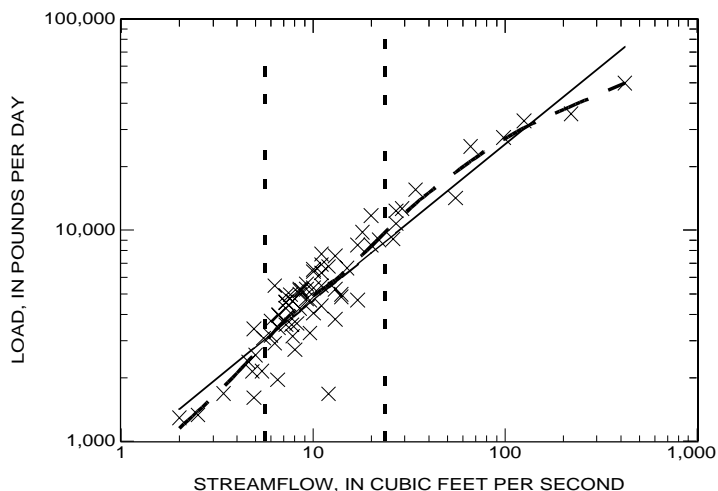
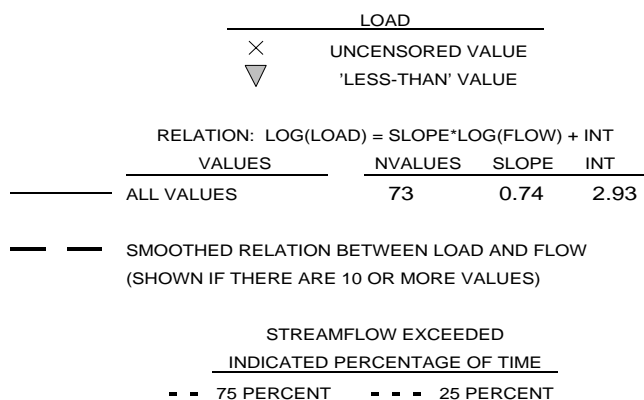
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 ALKALINITY  
 01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

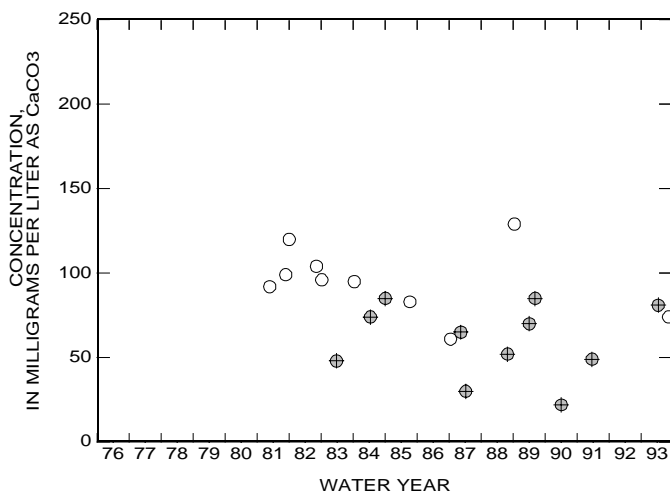
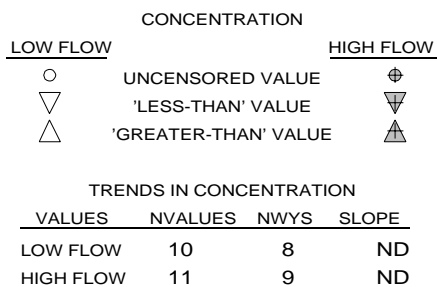
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



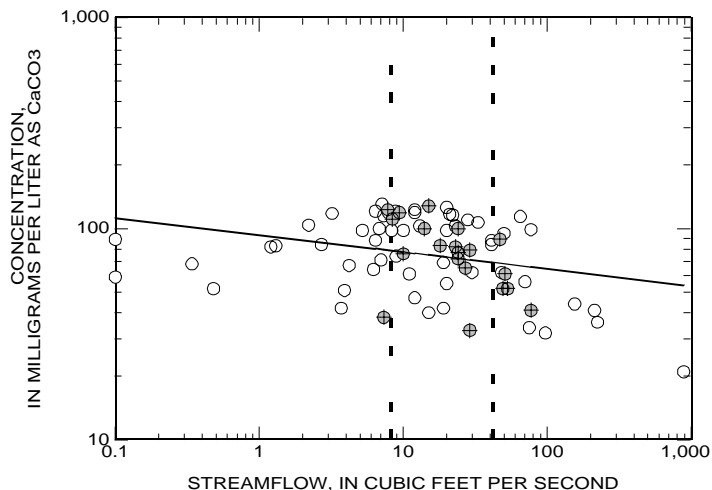
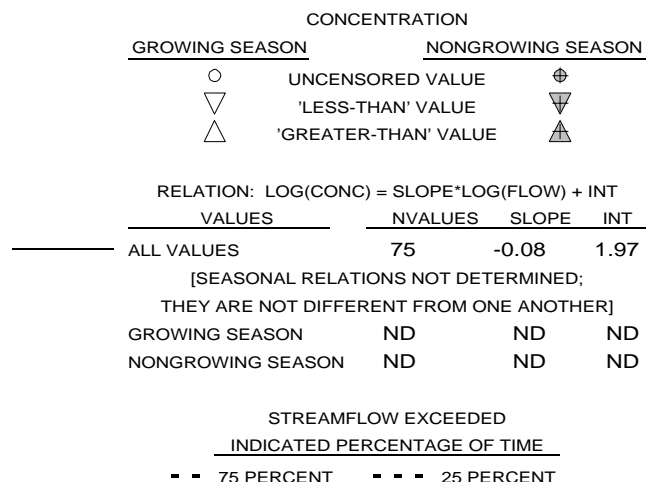
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



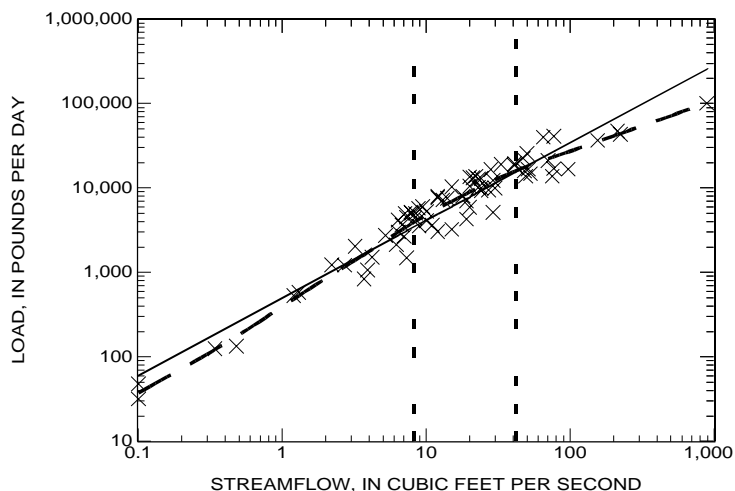
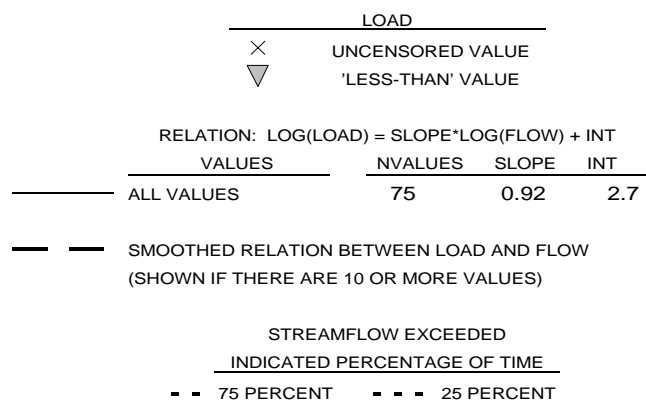
APPENDIX 1. Relations of constituent concentration and load to streamflow and trends in concentration with time  
ALKALINITY  
01395000 RAHWAY RIVER AT RAHWAY, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

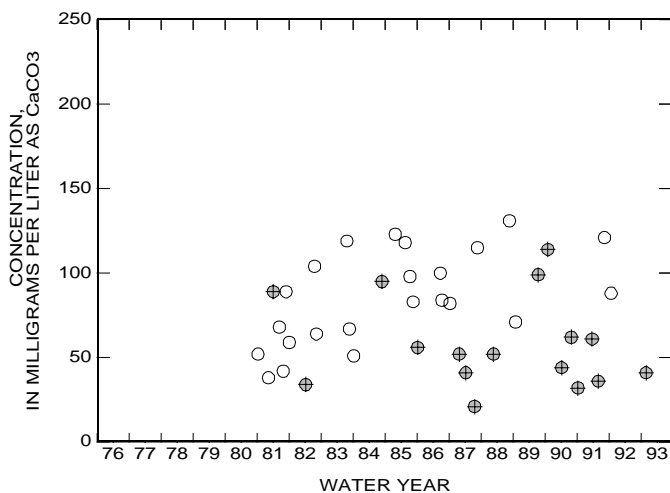
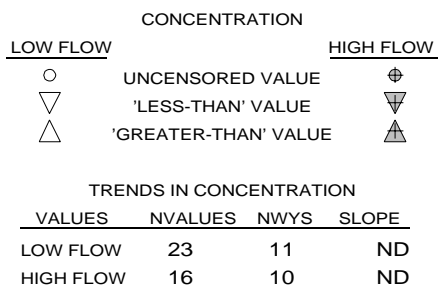
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



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## Appendix 2

### Hardness

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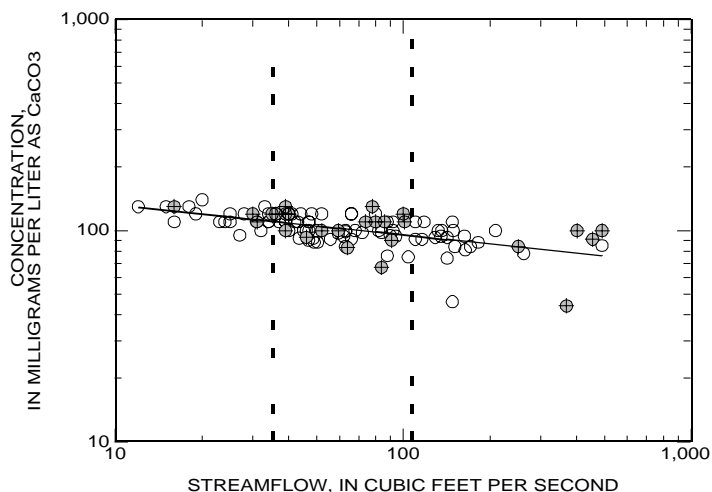
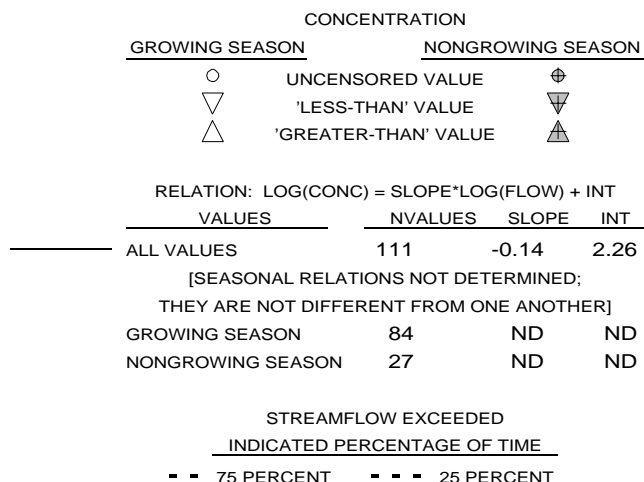
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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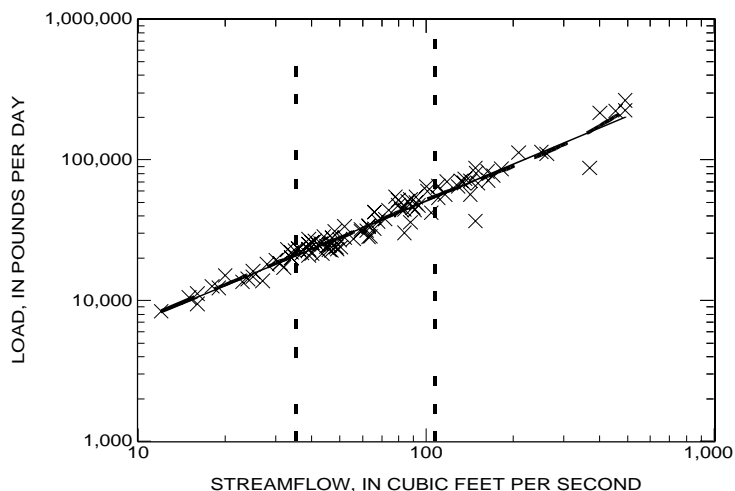
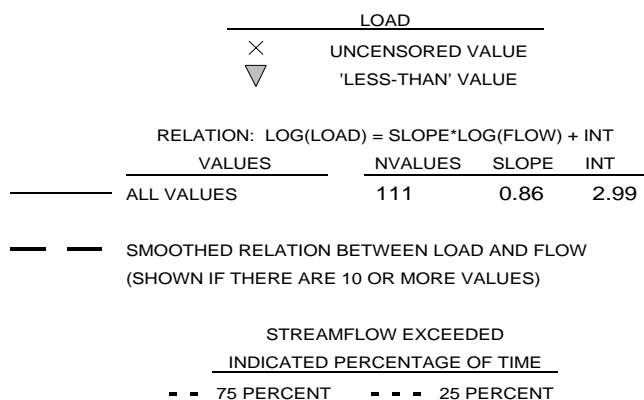
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01377000 HACKENSACK RIVER AT RIVERVALE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

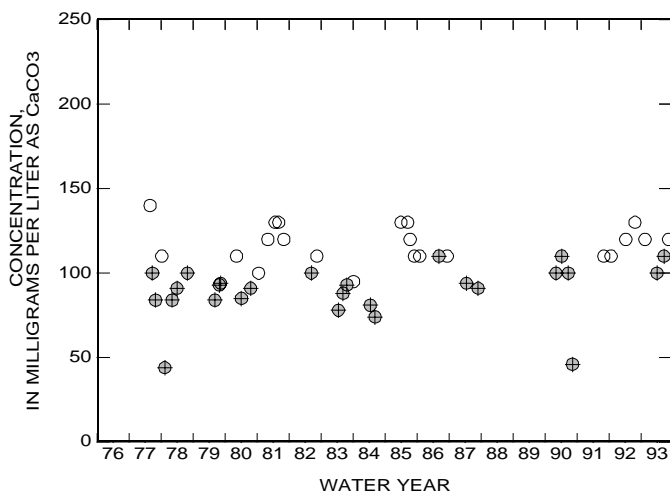
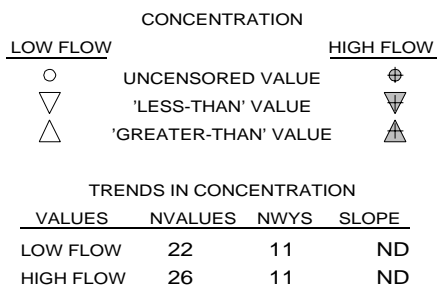
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



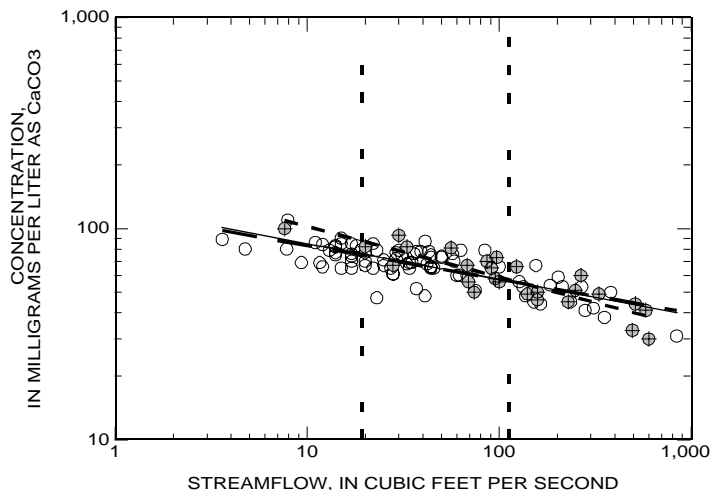
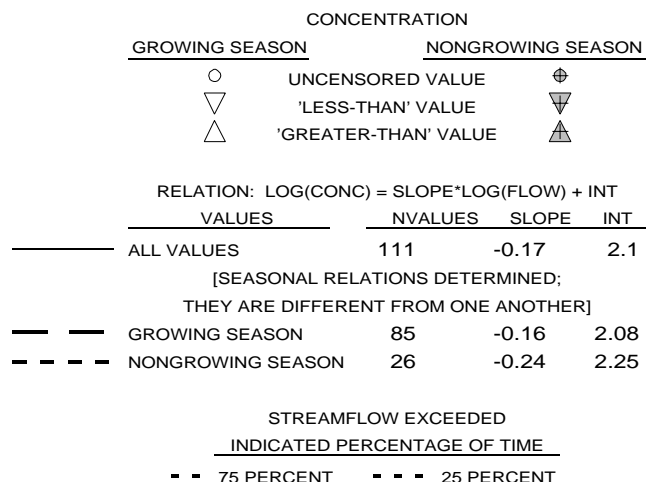
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



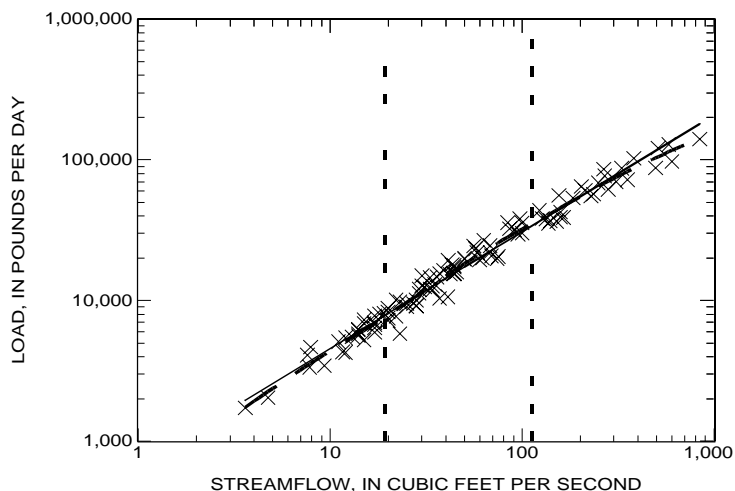
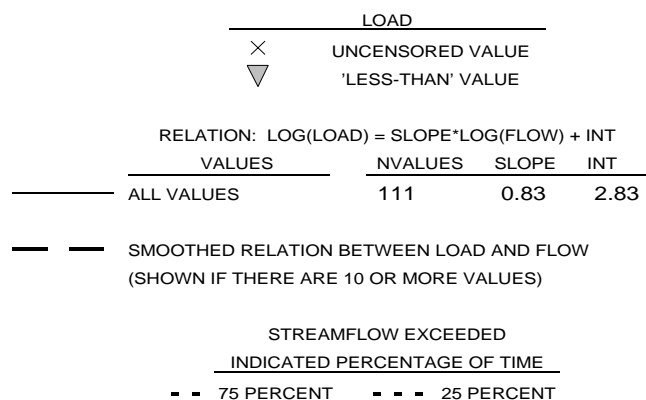
**APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL HARDNESS**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

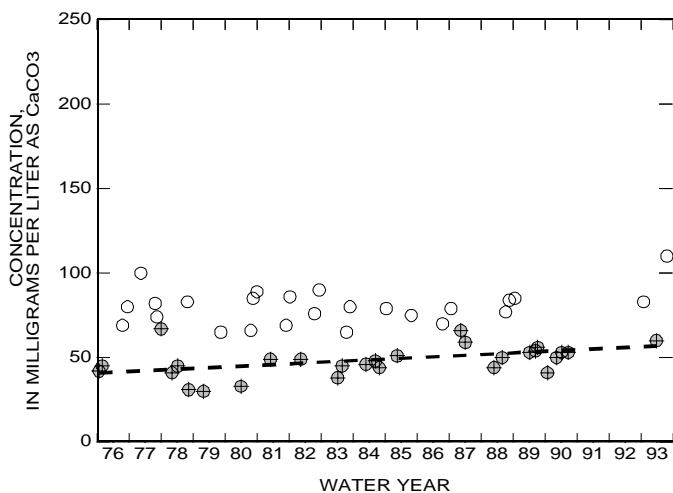
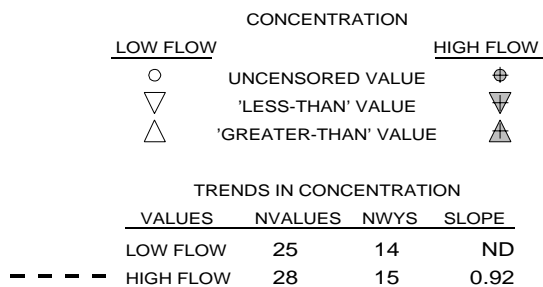
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

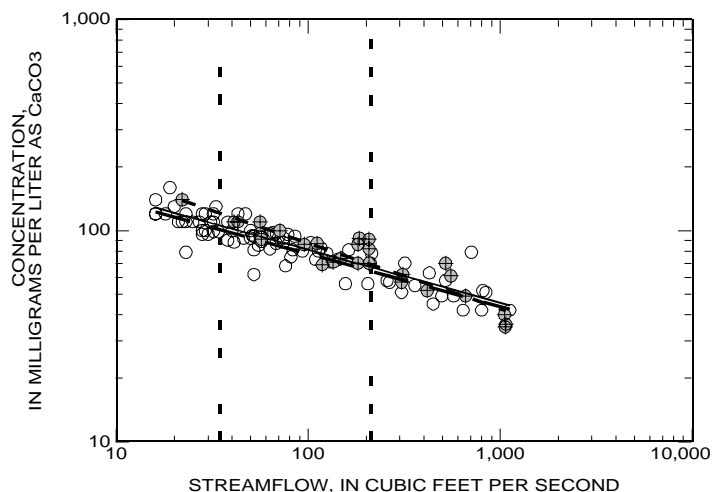
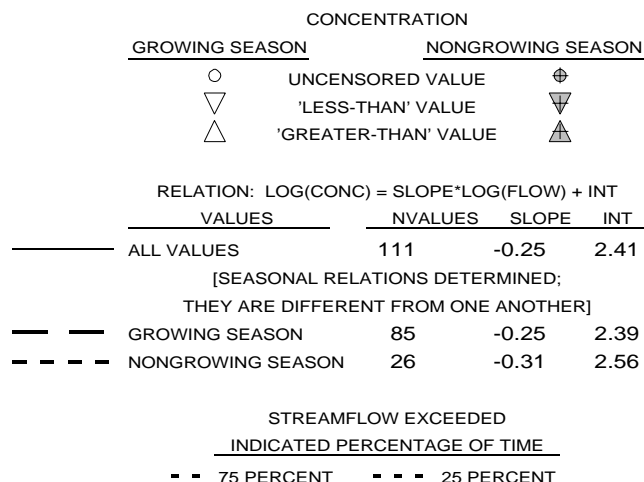




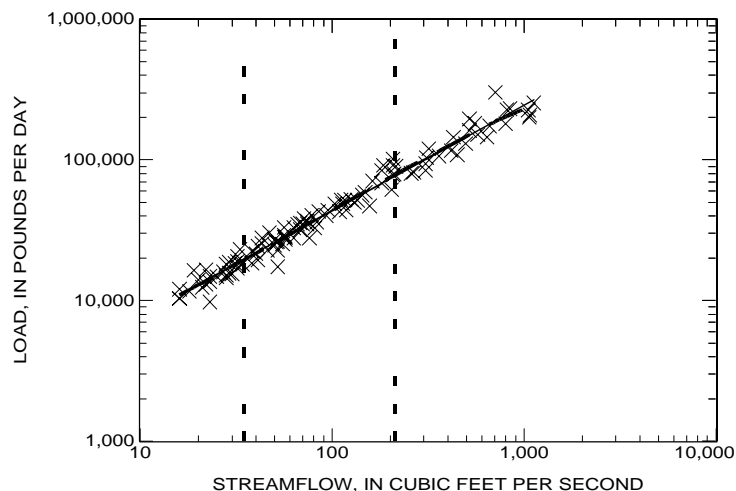
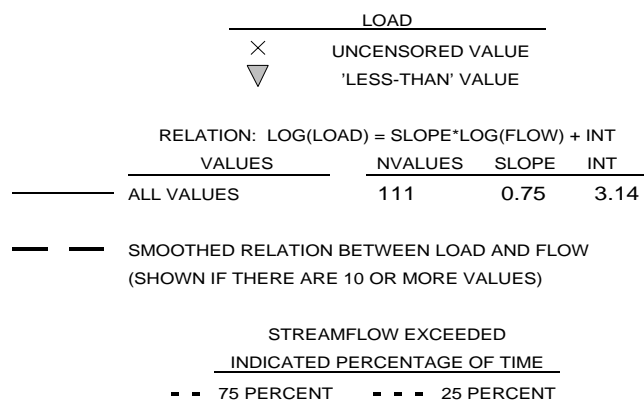
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01379500 PASSAIC RIVER NEAR CHATHAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

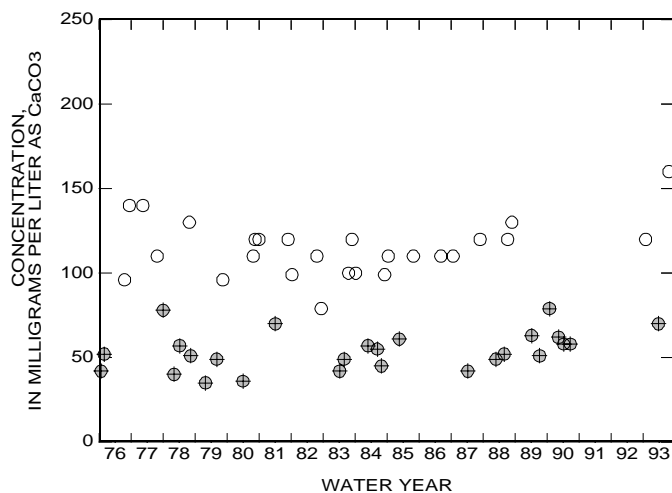
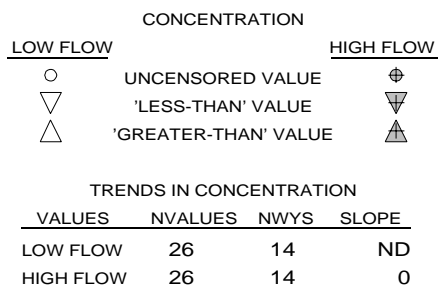
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



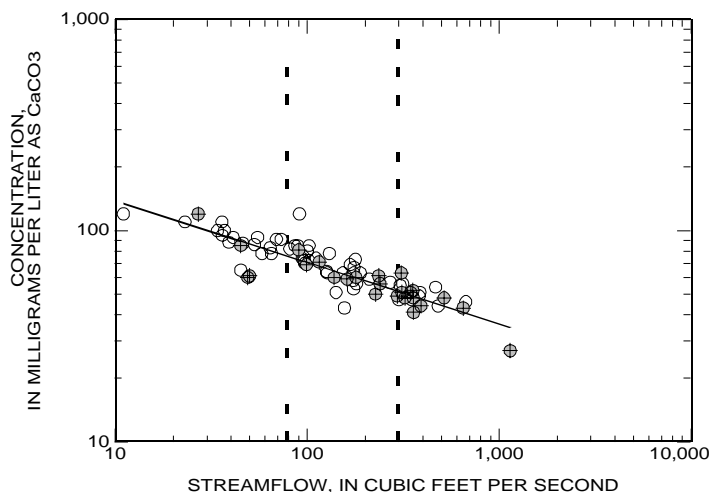
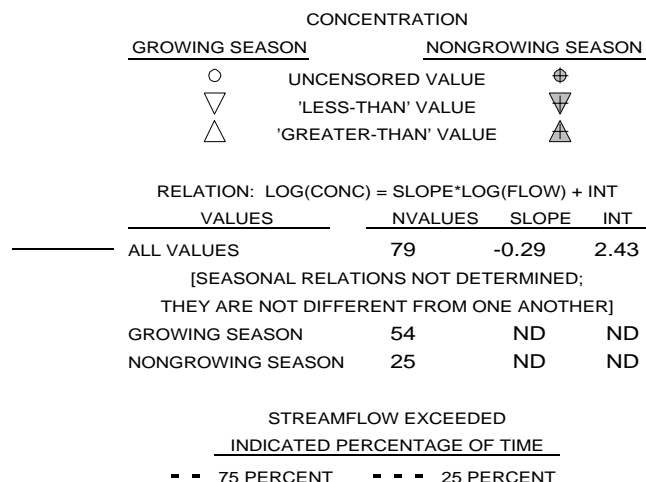
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



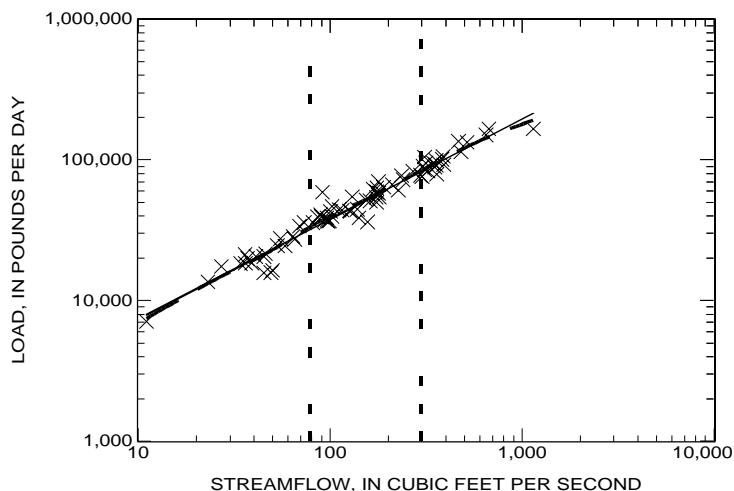
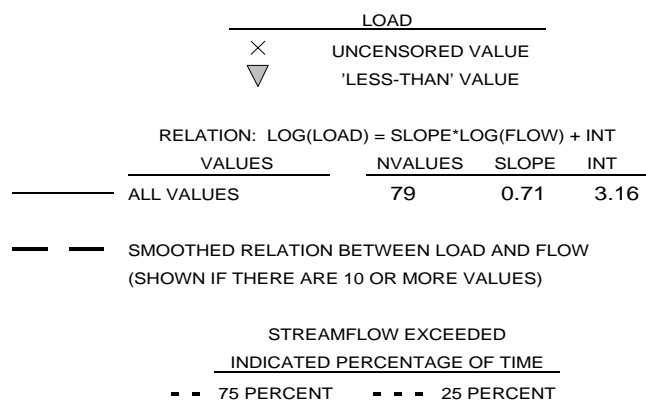
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

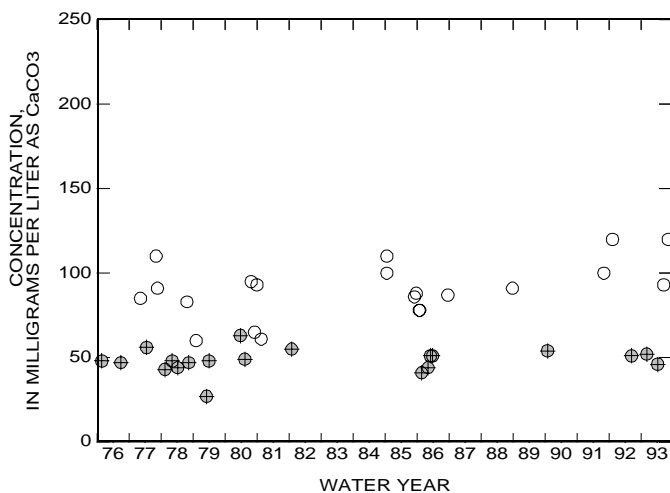
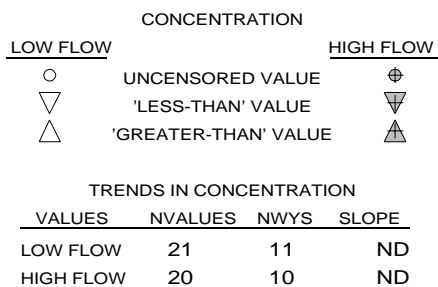
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



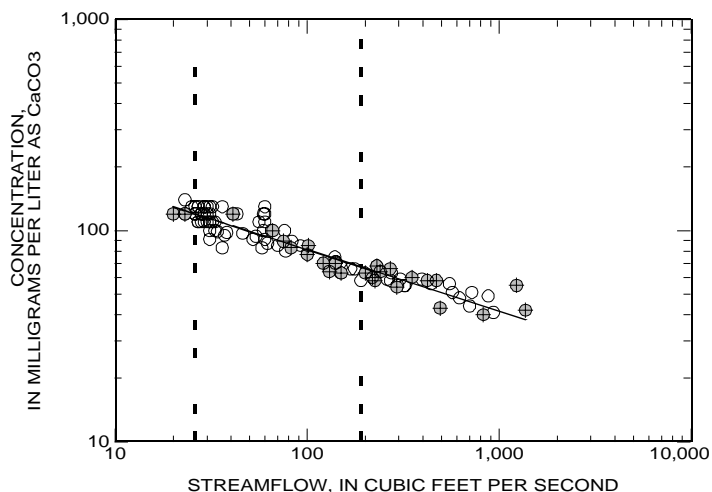
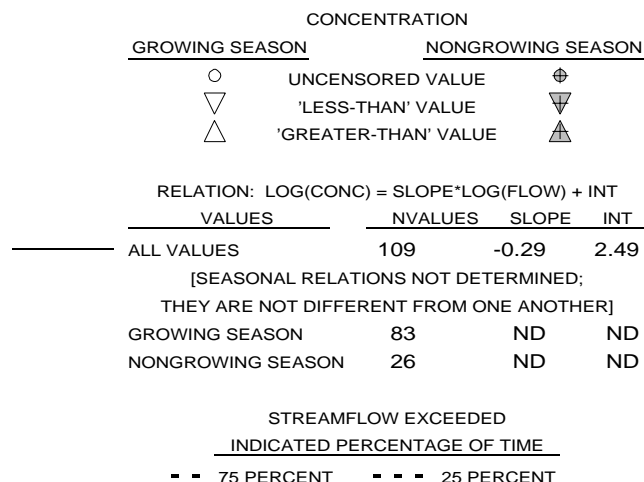
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



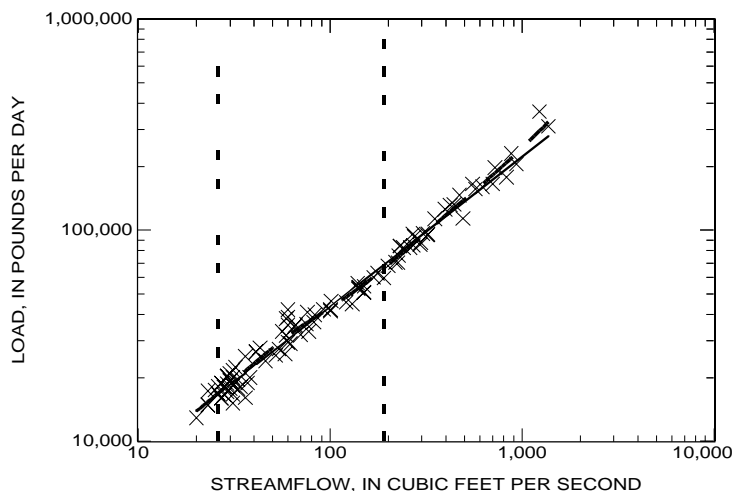
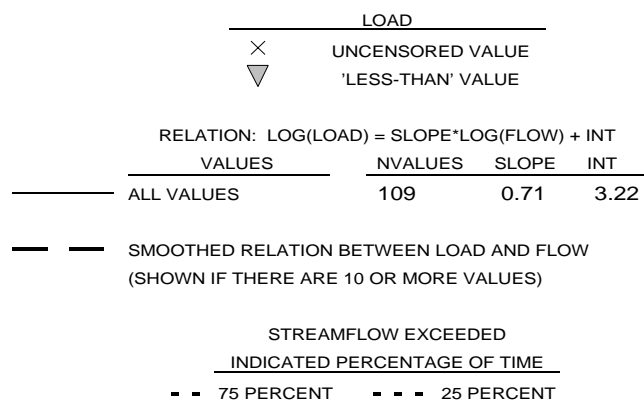
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

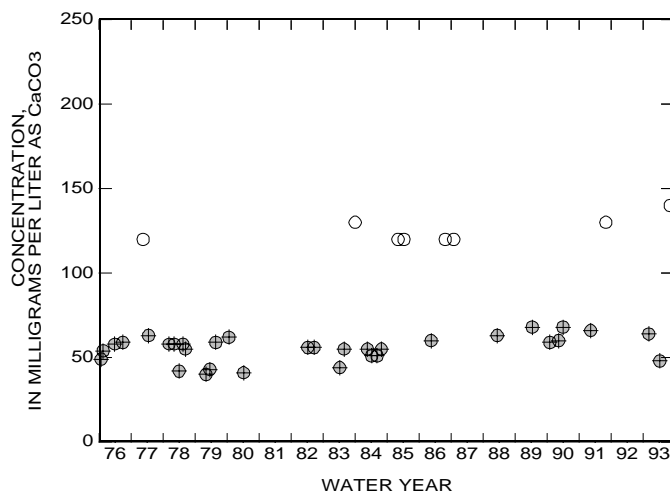
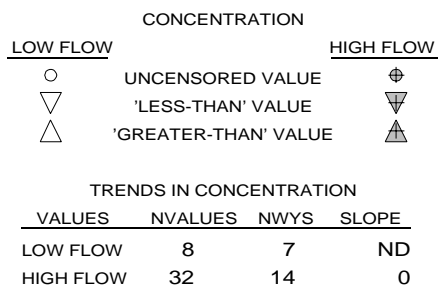
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



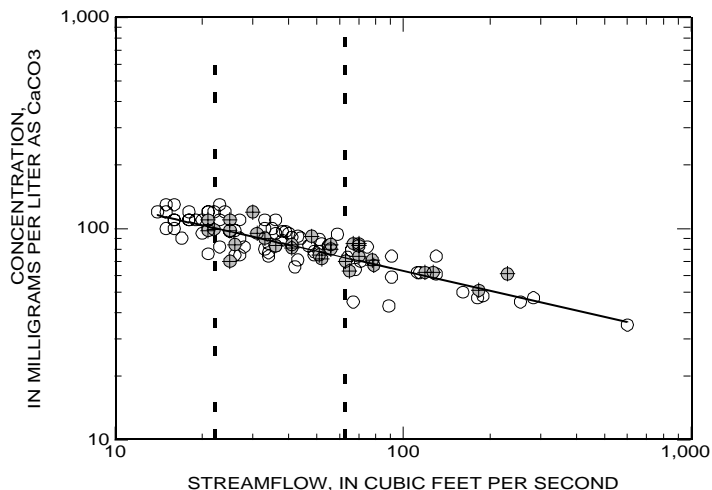
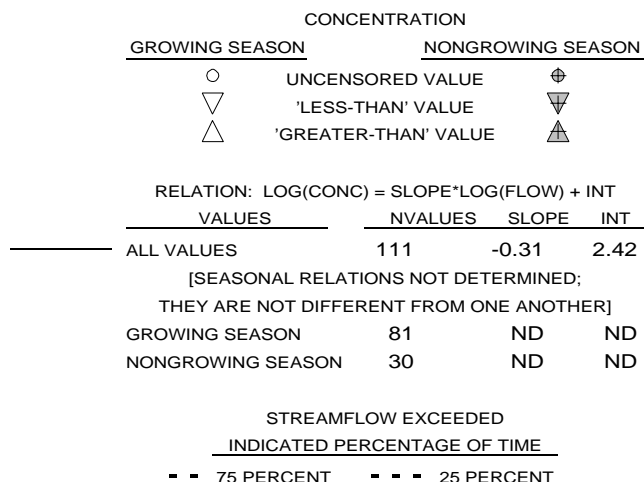
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



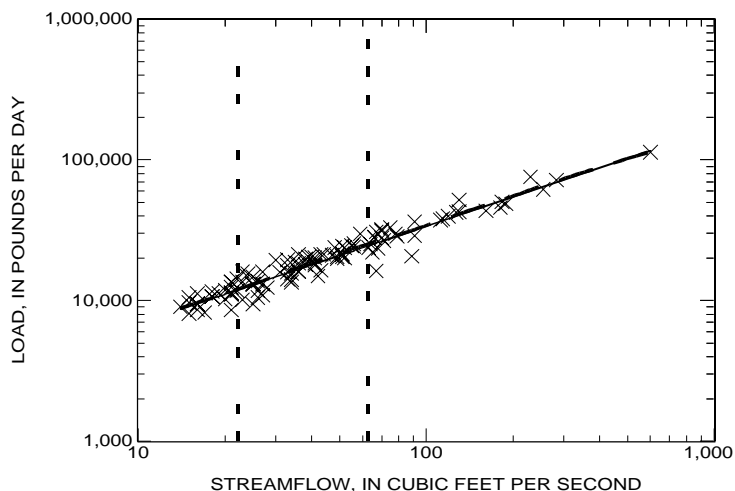
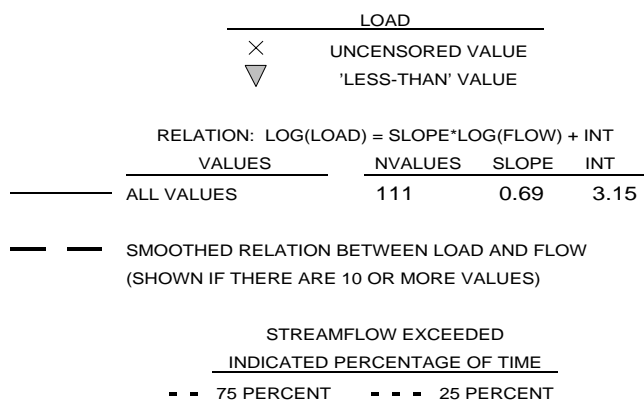
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

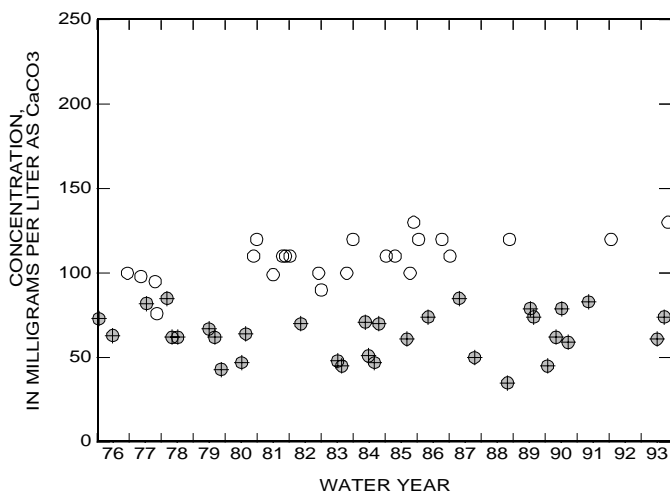
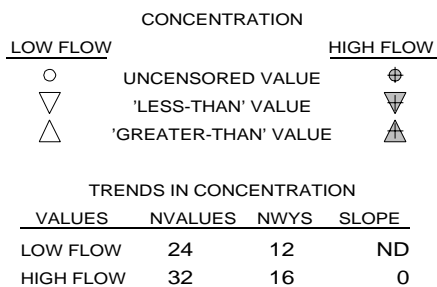
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



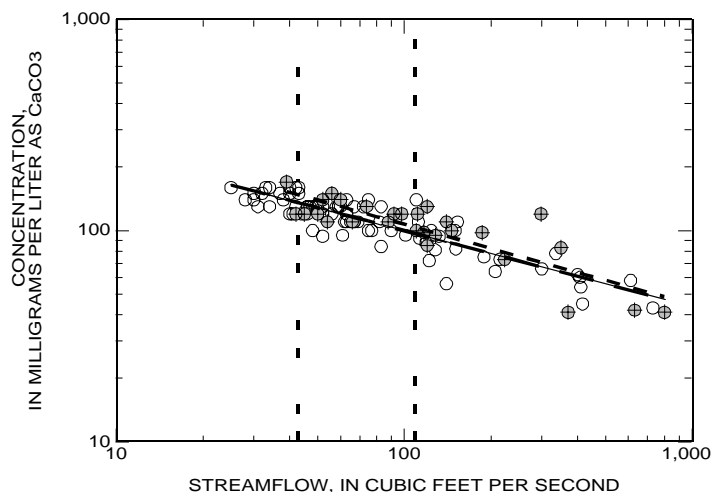
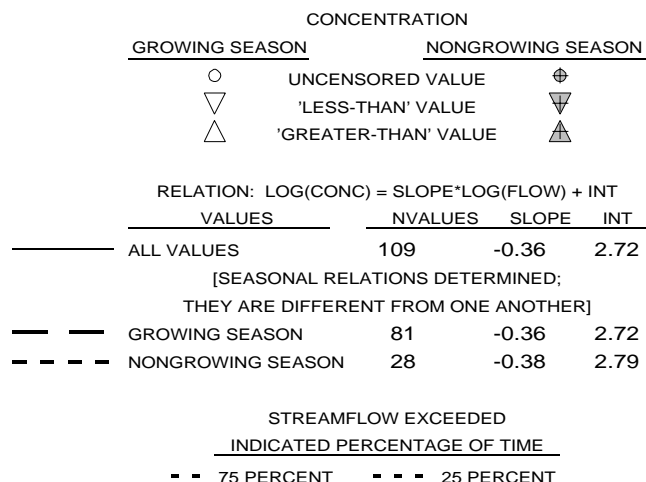
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



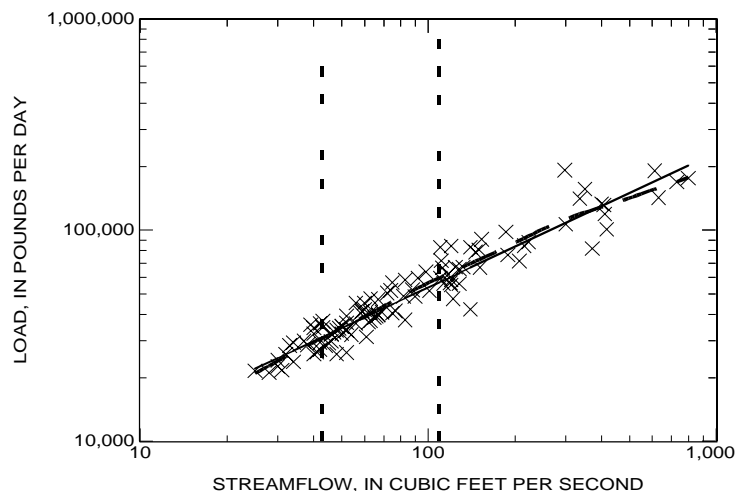
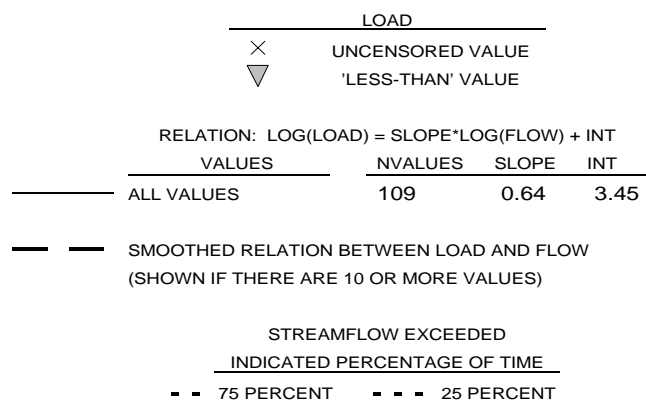
**APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL HARDNESS**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

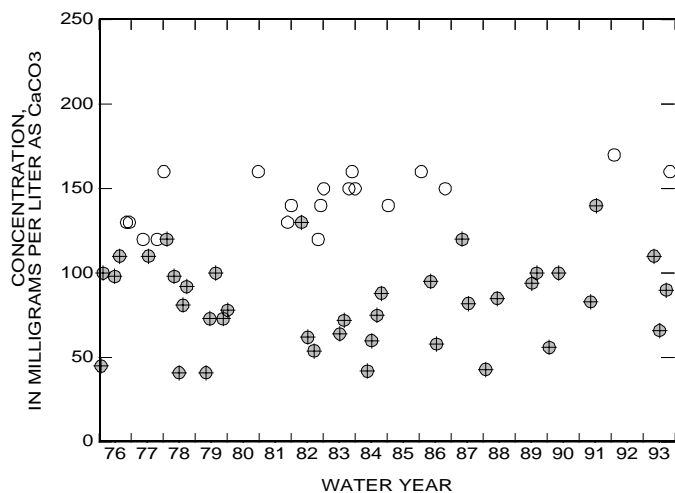
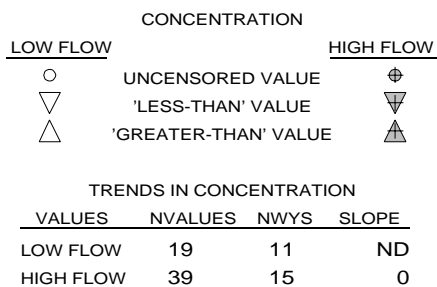
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



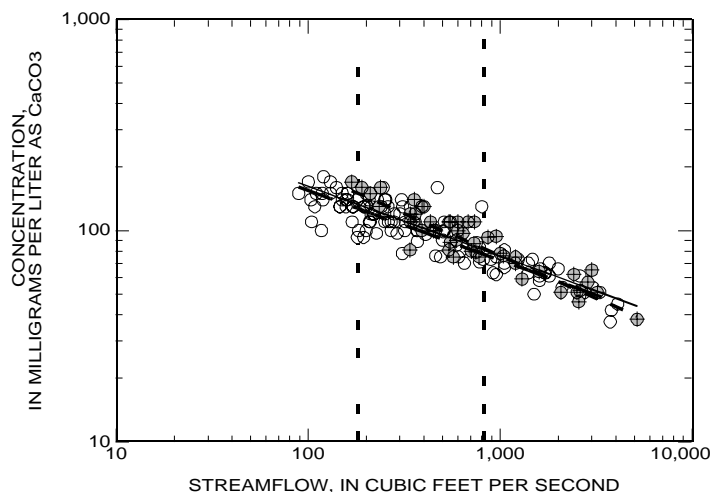
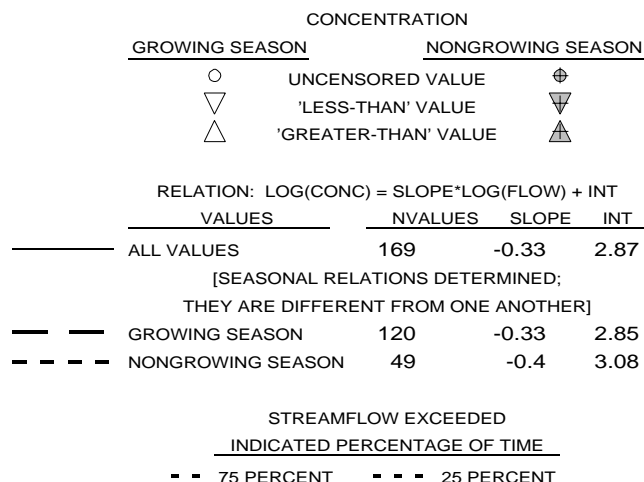
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



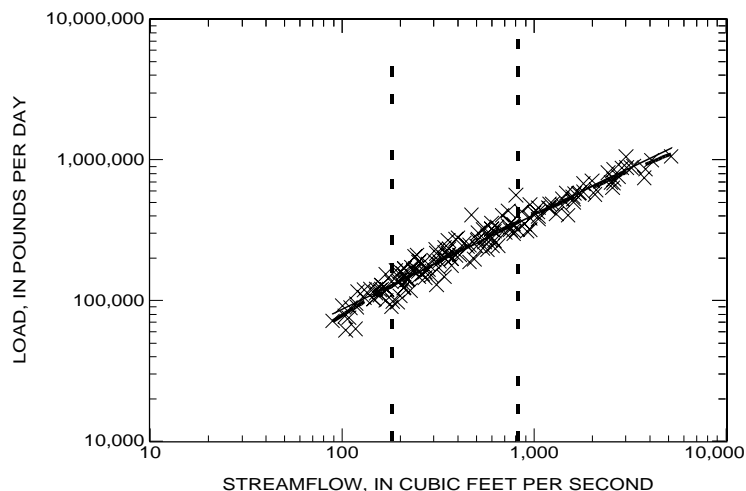
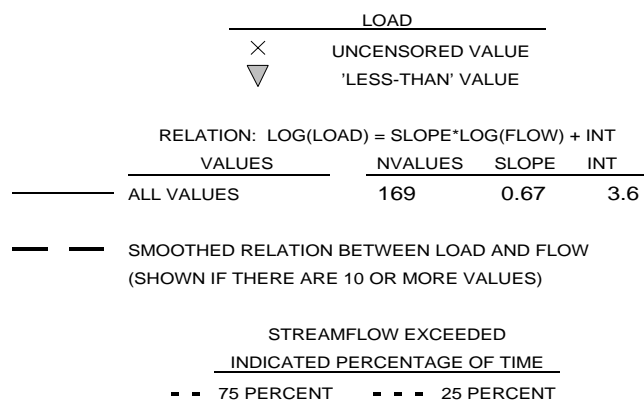
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

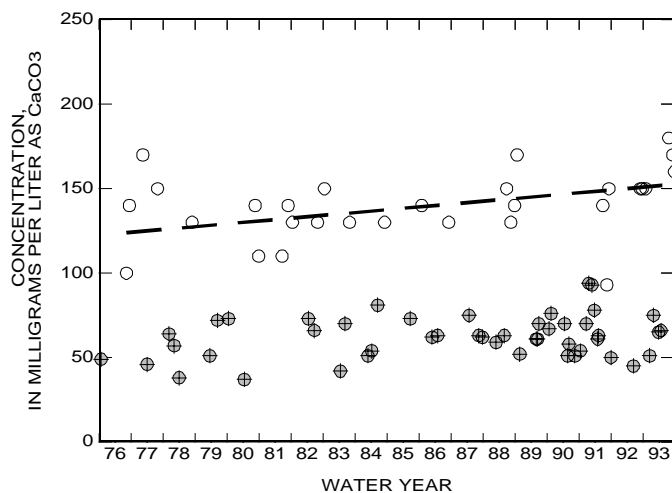
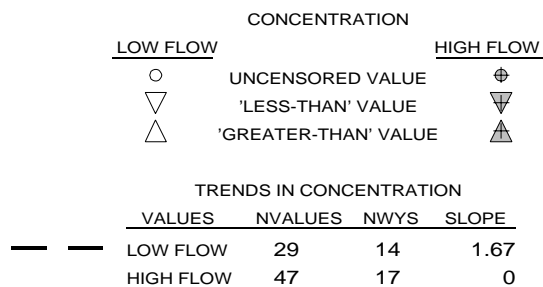
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



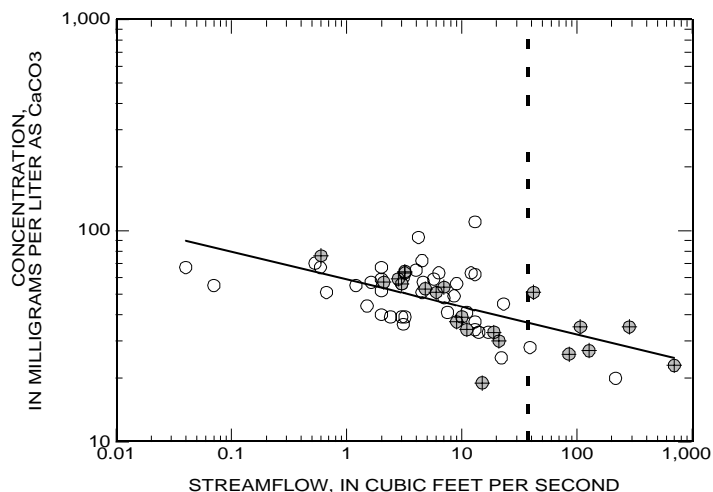
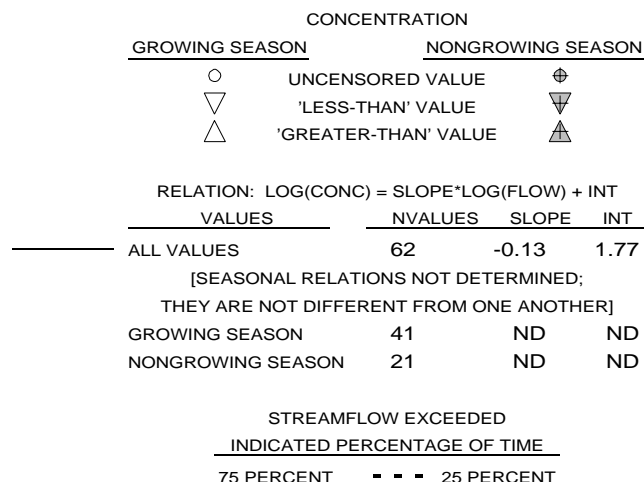
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



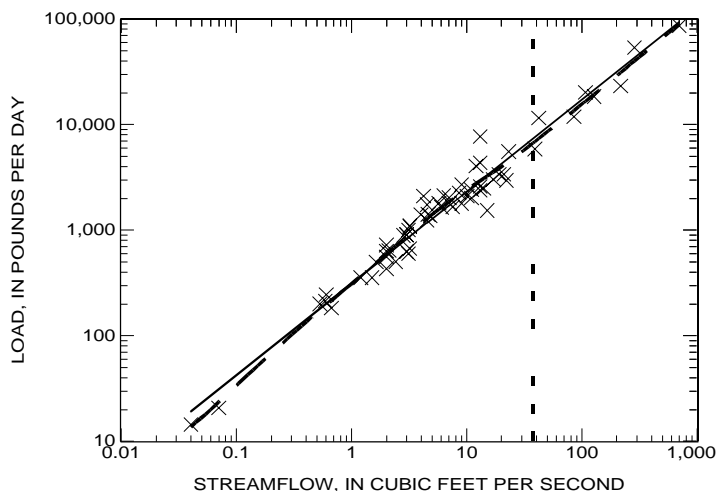
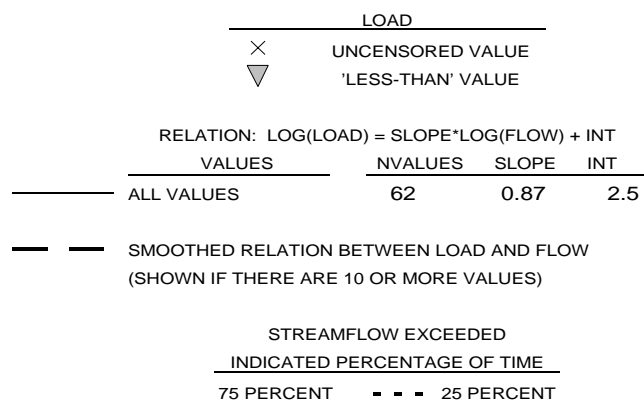
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

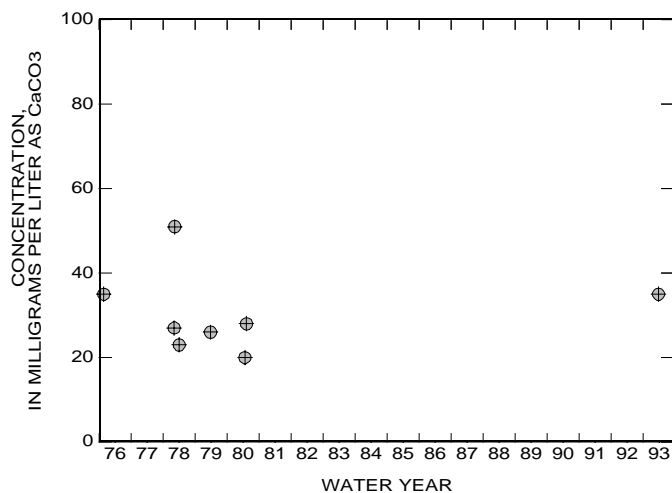
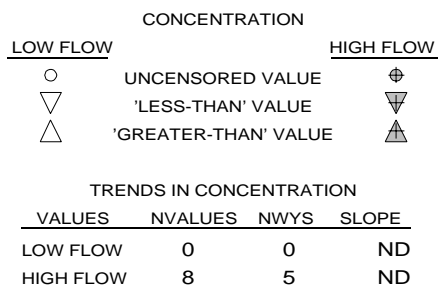
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



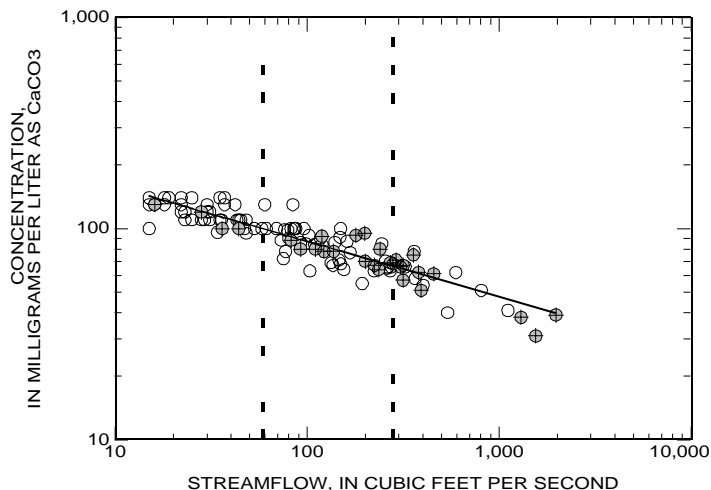
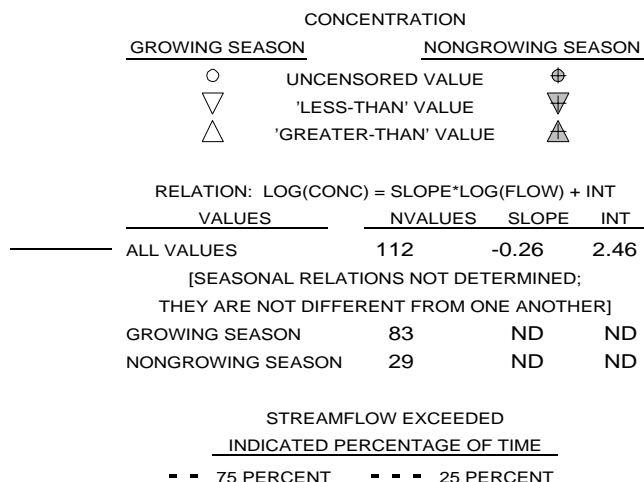
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



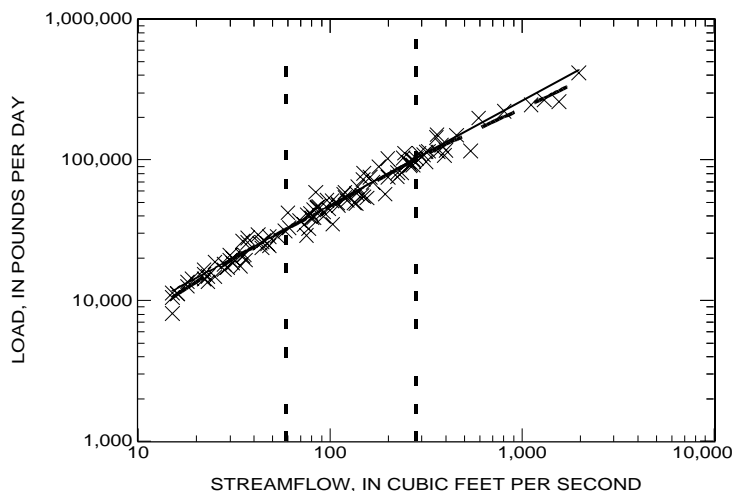
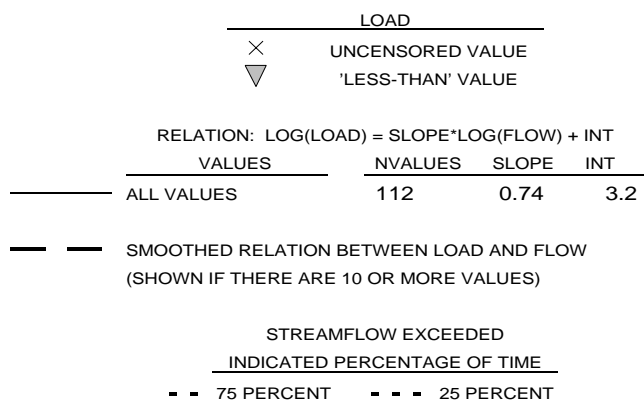
**APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL HARDNESS**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

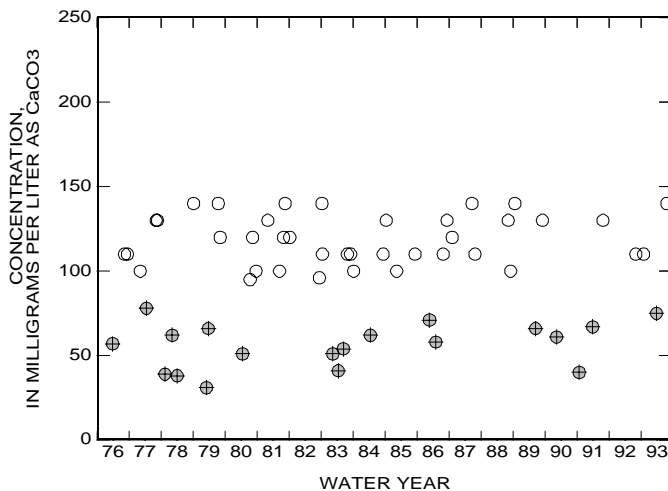
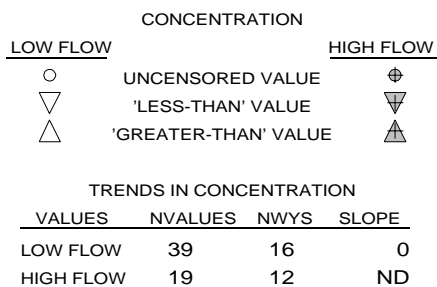
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

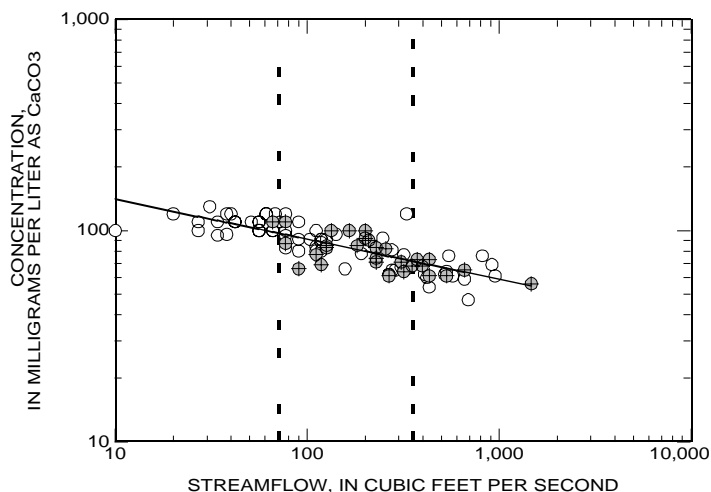
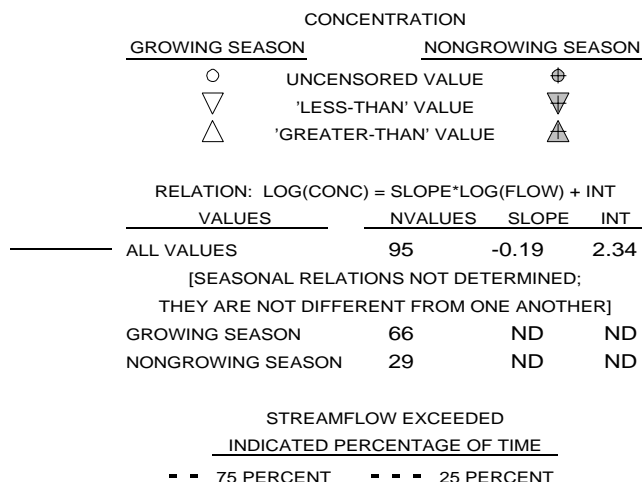




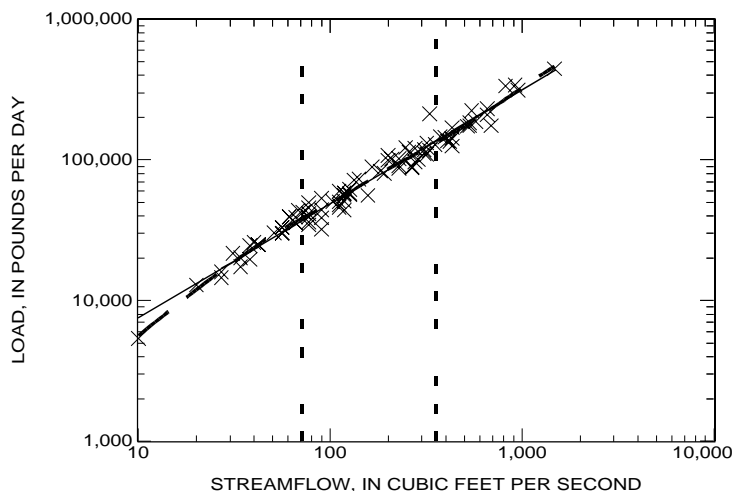
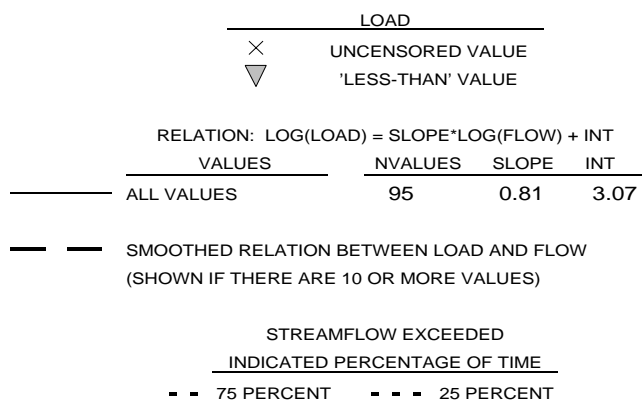
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

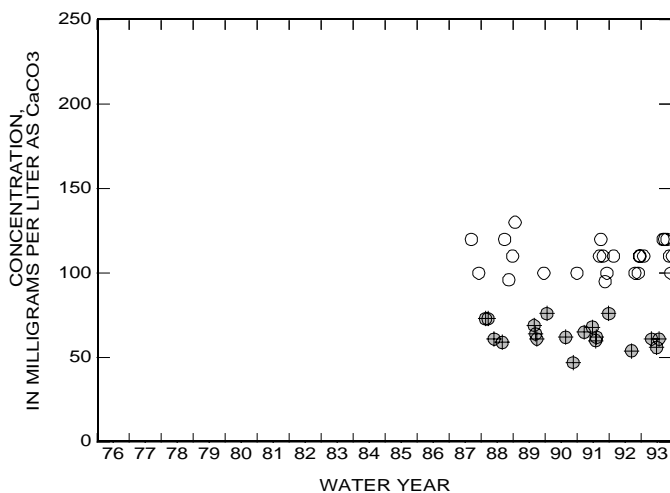
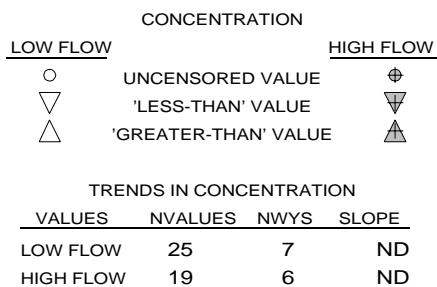
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



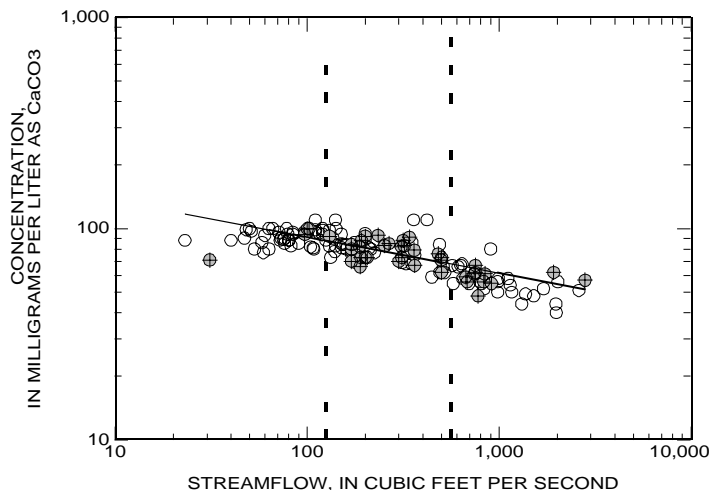
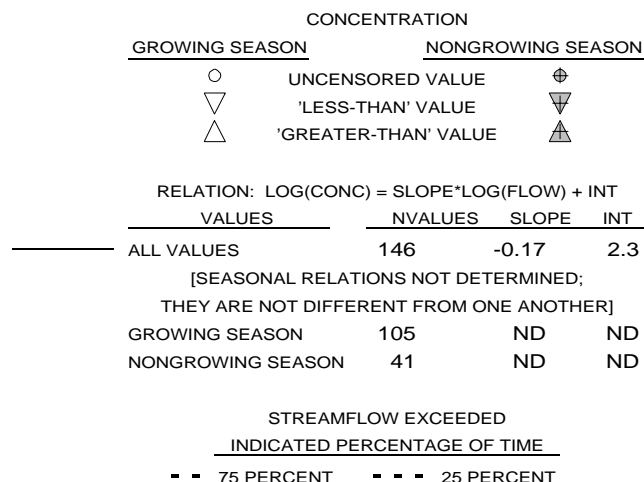
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



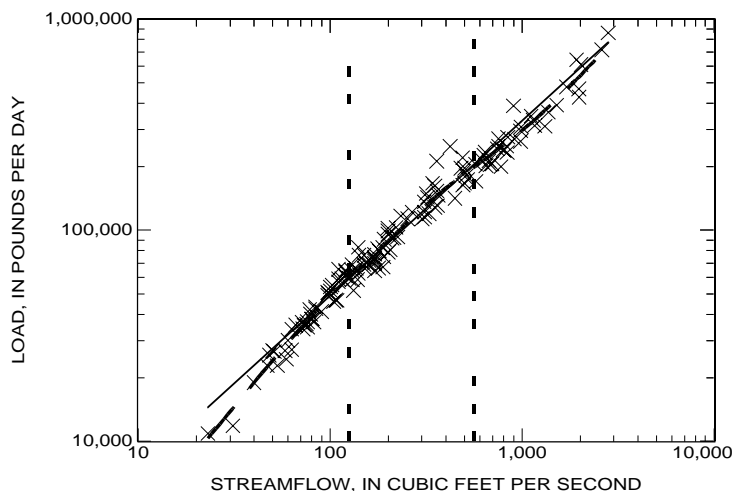
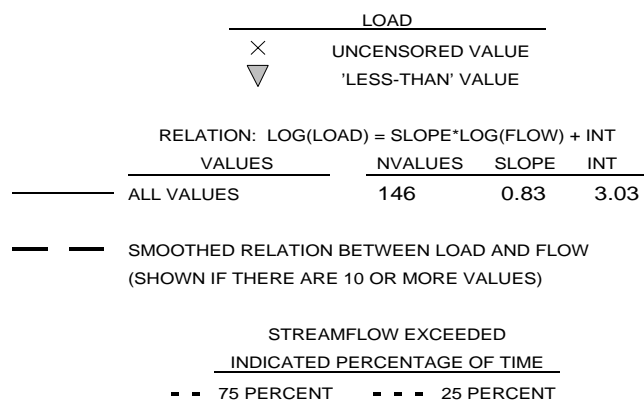
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

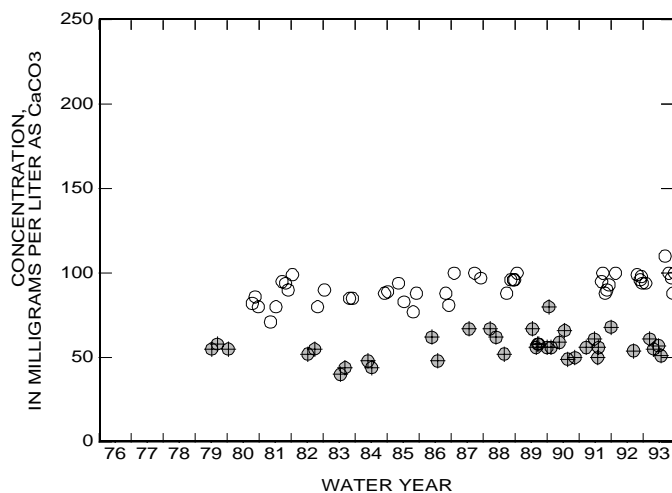
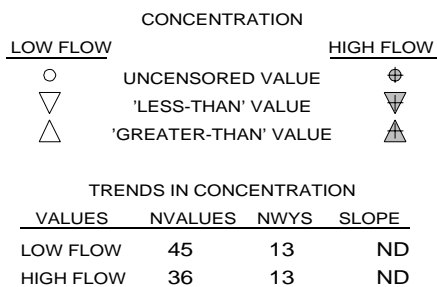
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

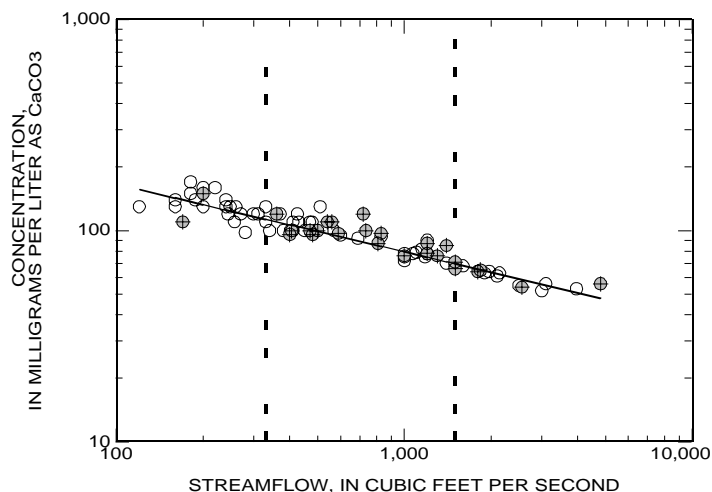


APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

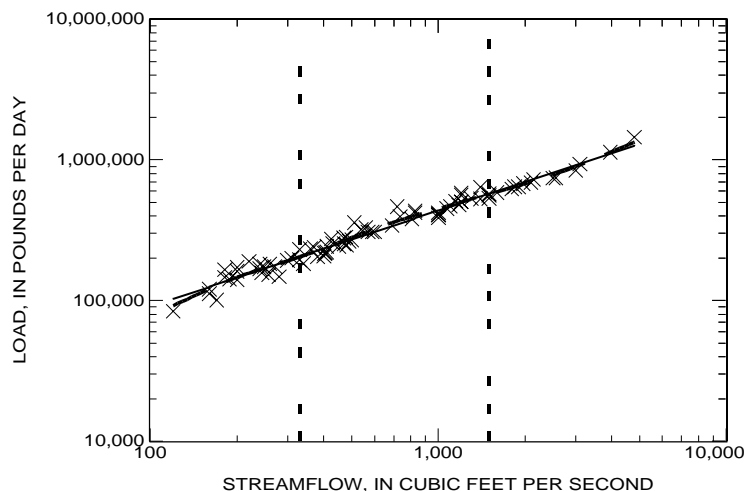
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	84	-0.32	2.86	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	58	ND	ND	
NONGROWING SEASON	26	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



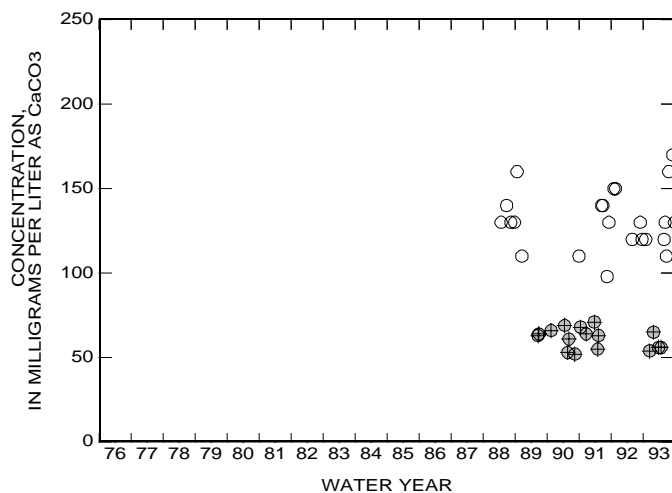
RELATION OF LOAD TO STREAMFLOW

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	84	0.68	3.6	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

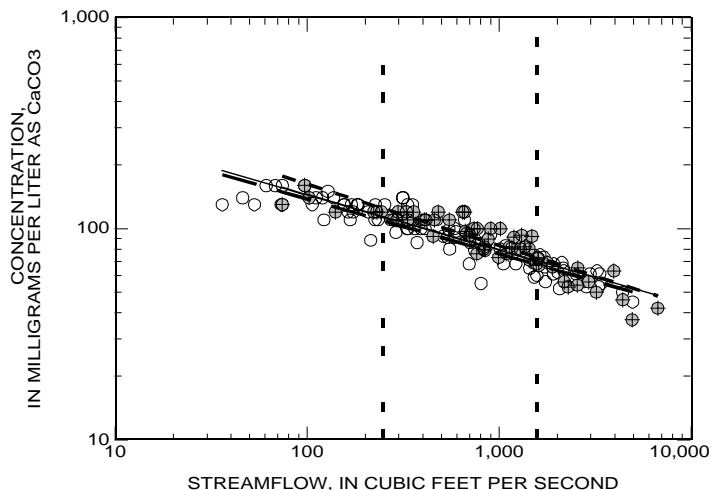
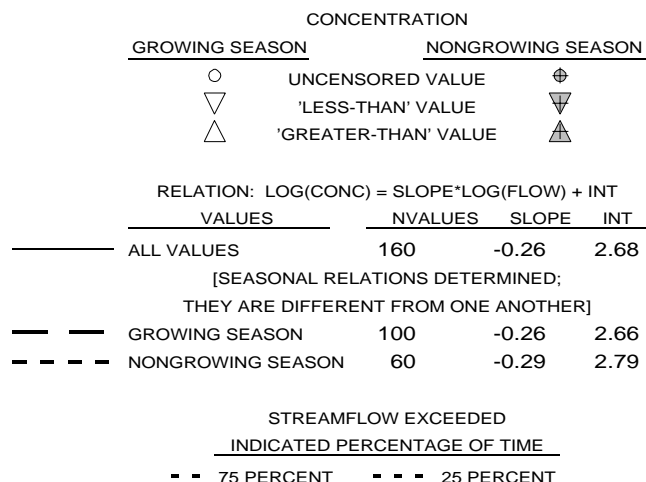
CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	23	6	ND	
HIGH FLOW	16	4	ND	



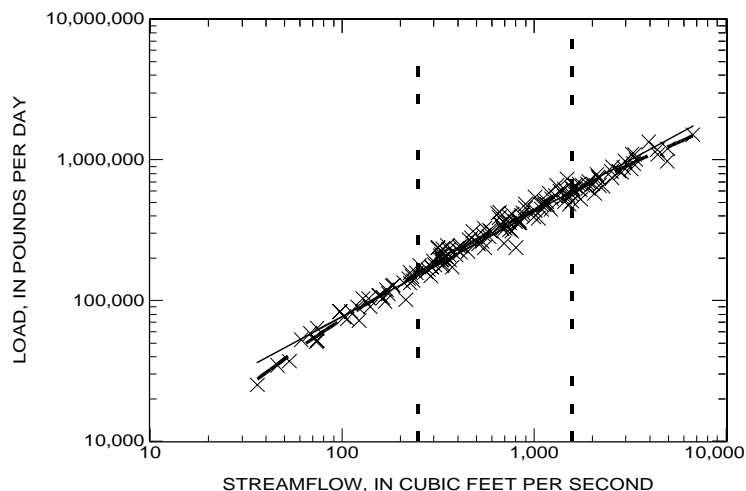
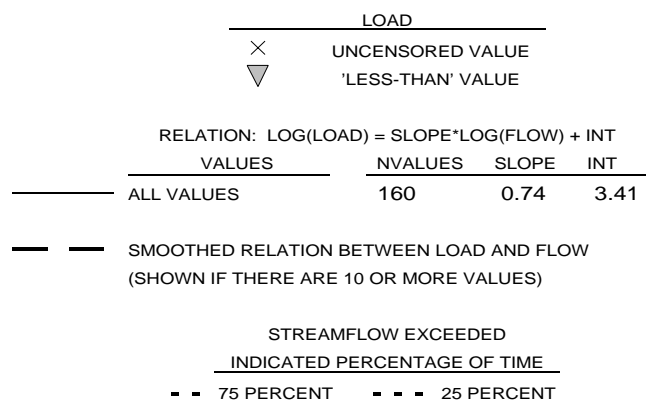
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

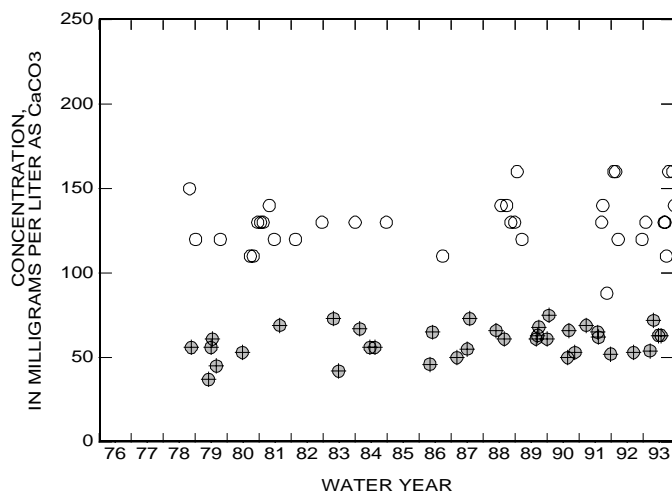
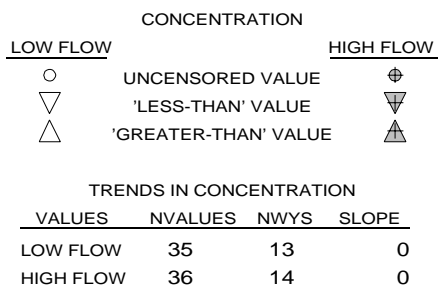
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



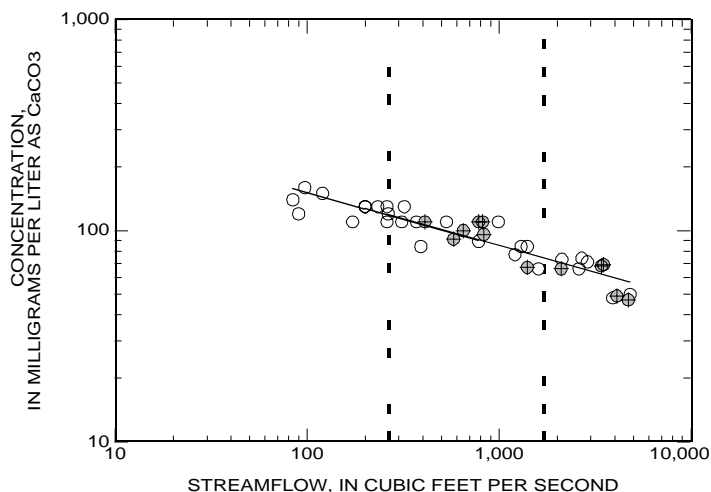
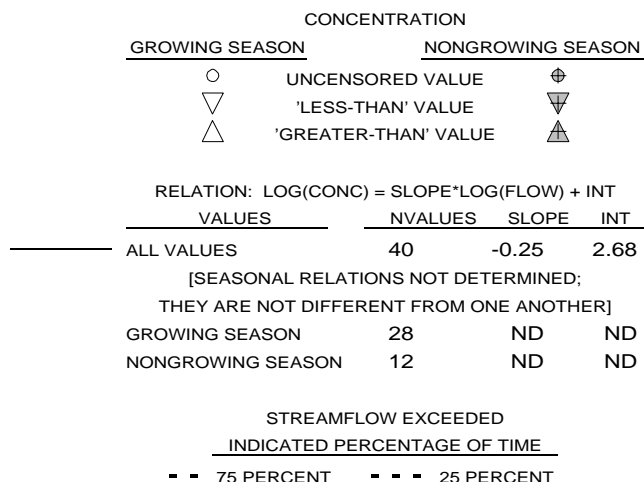
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



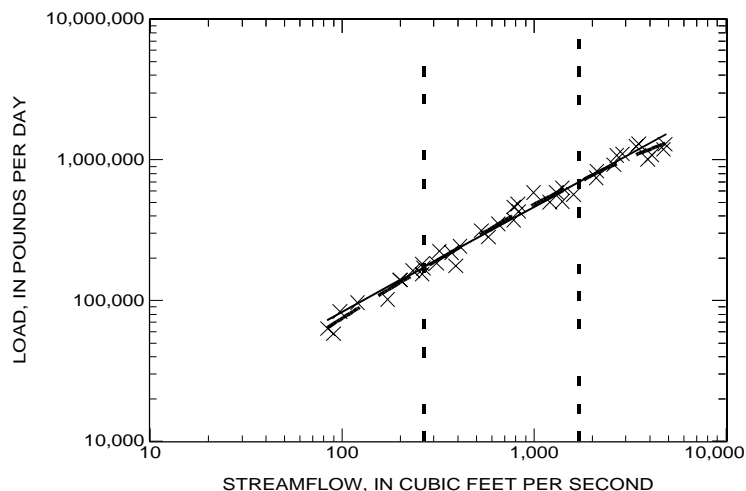
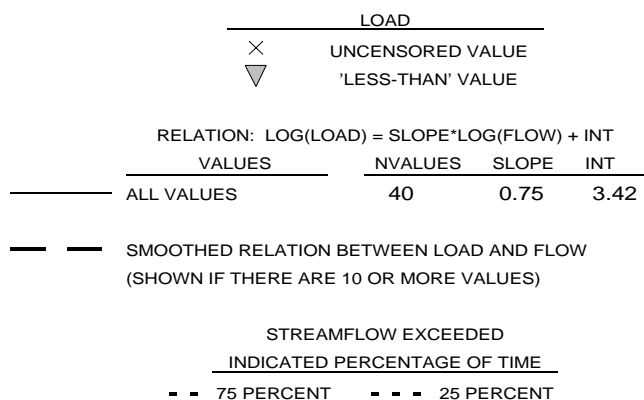
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

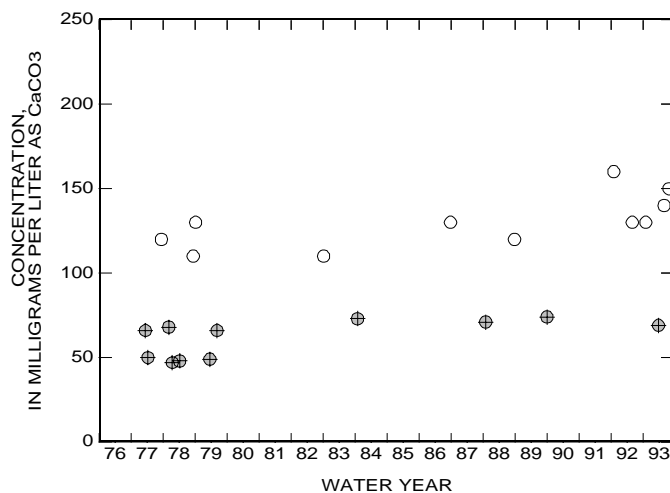
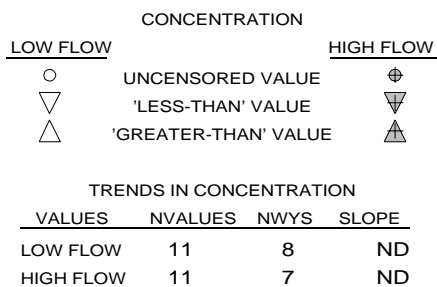
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



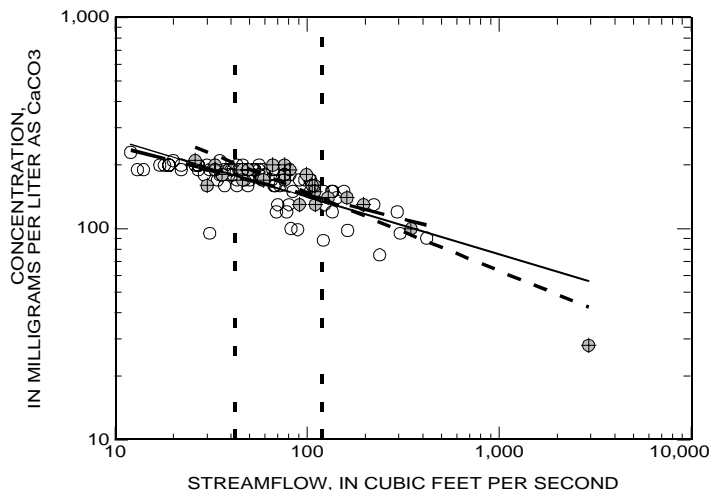
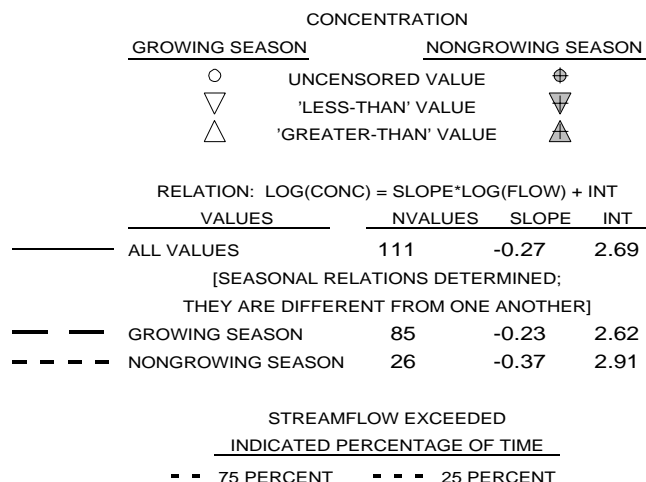
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



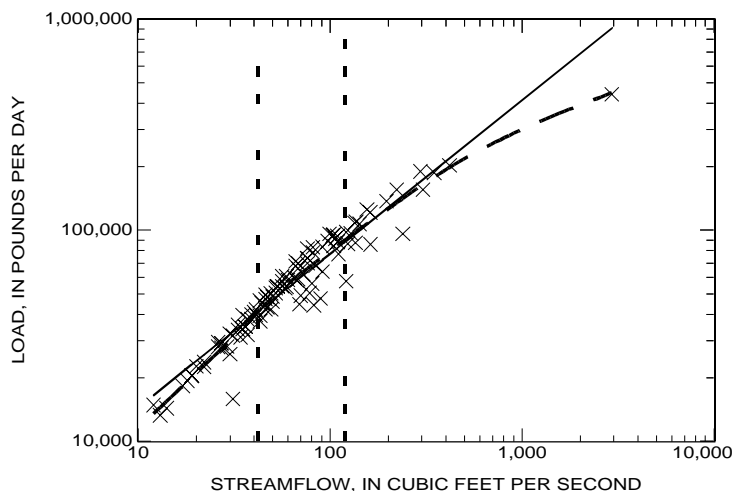
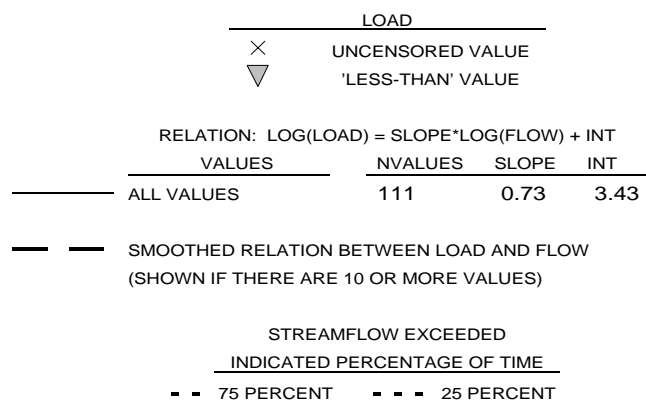
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

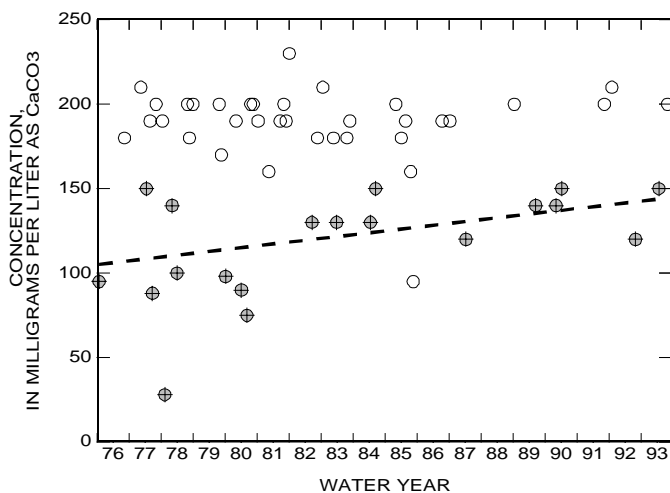
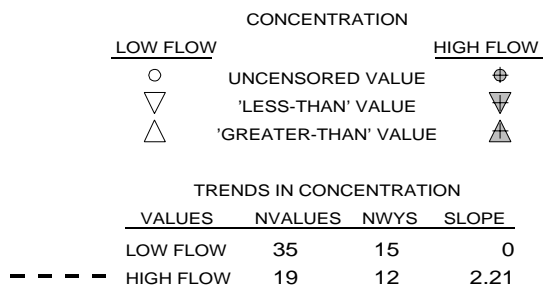
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



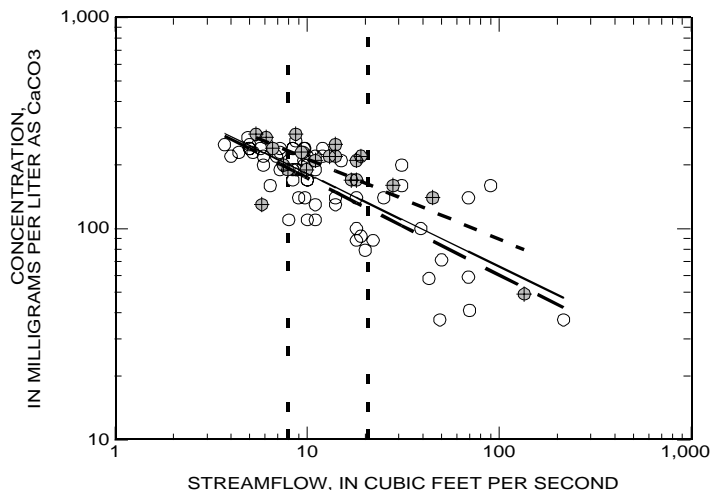
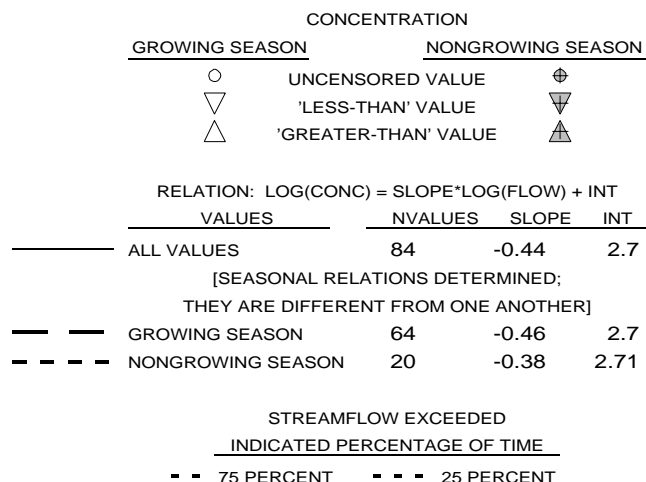
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



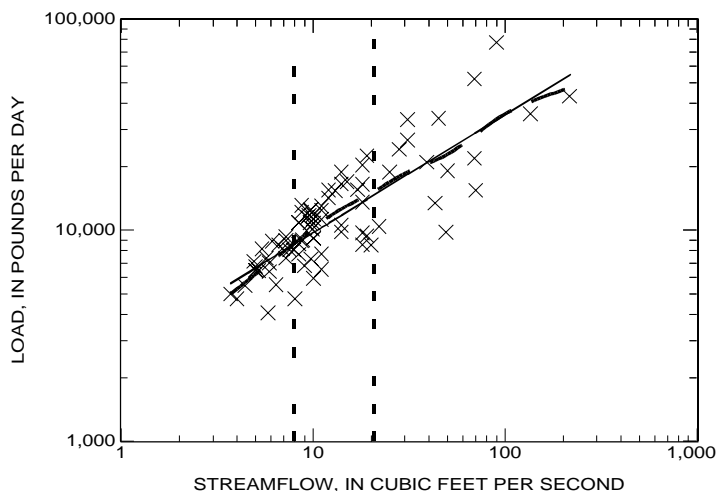
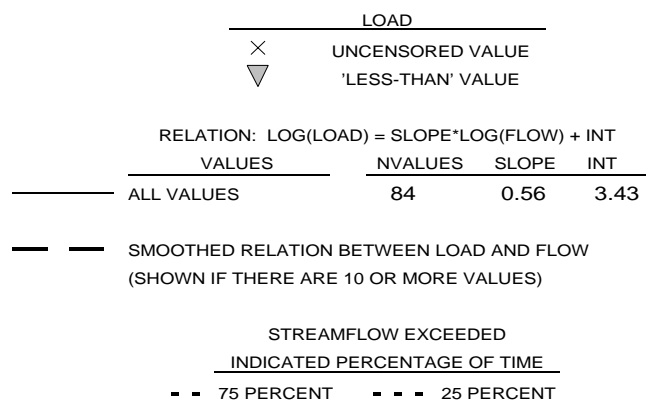
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

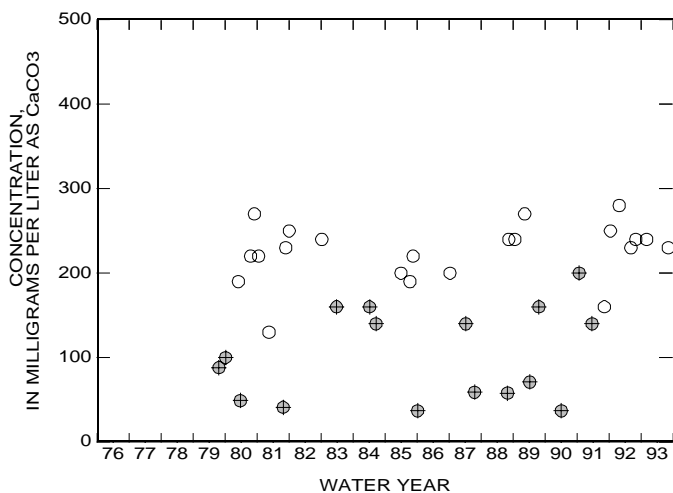
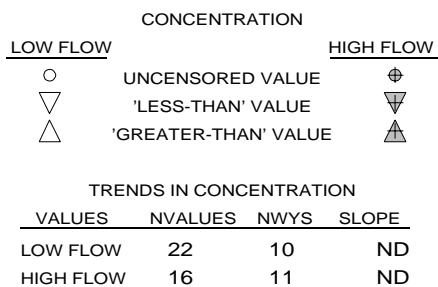
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



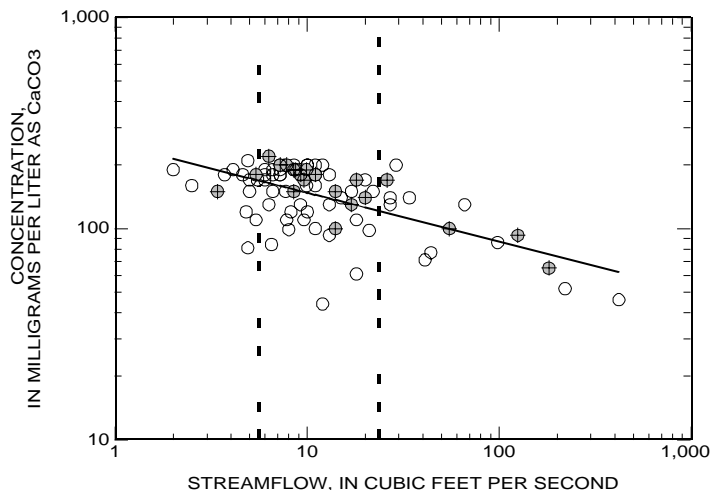
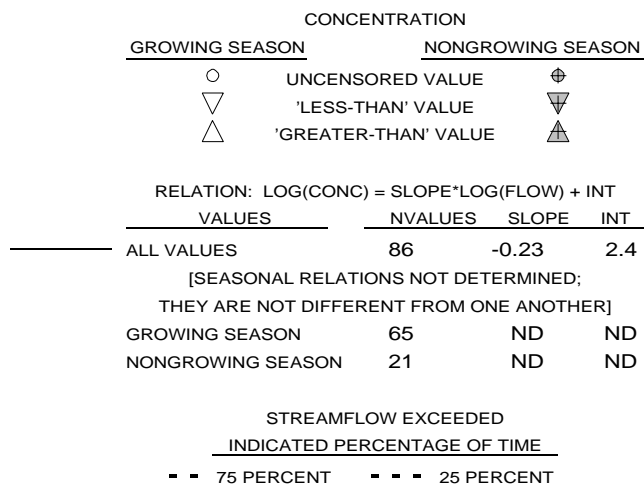
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



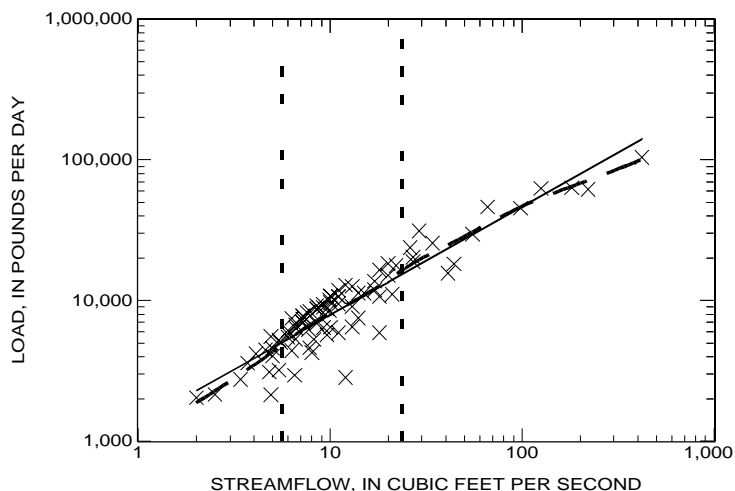
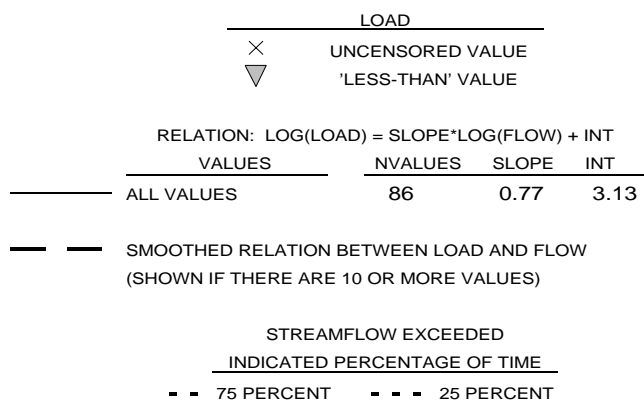
APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL HARDNESS  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

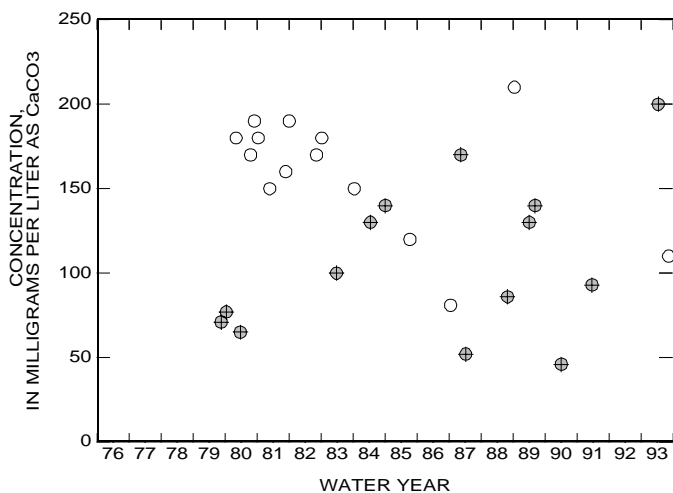
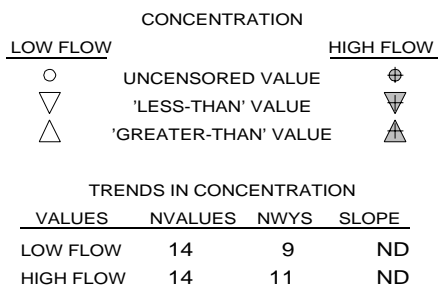
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

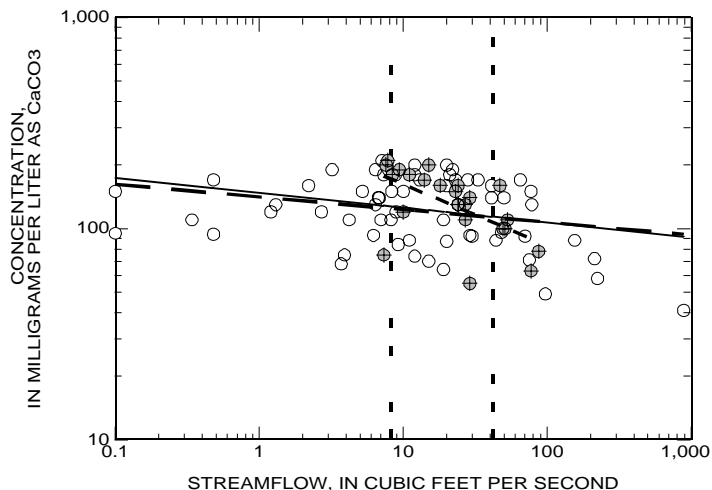
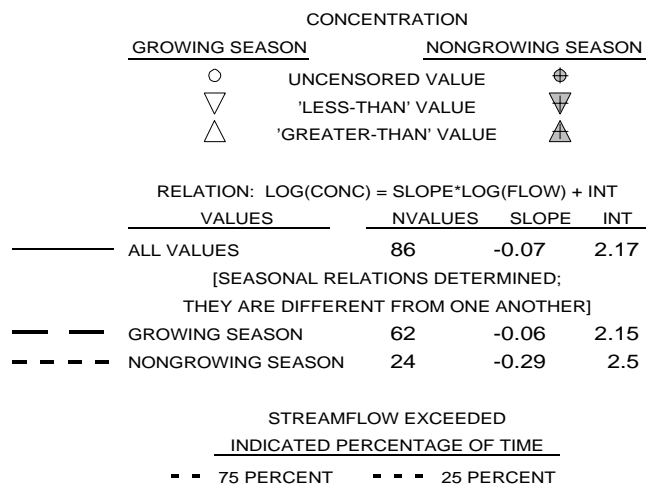




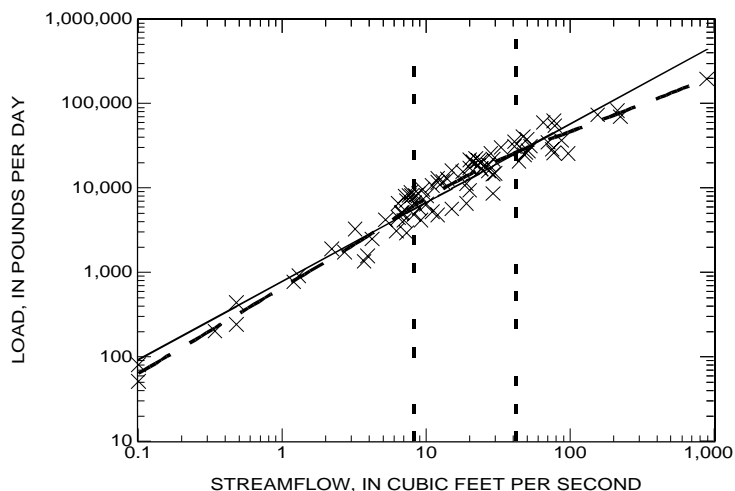
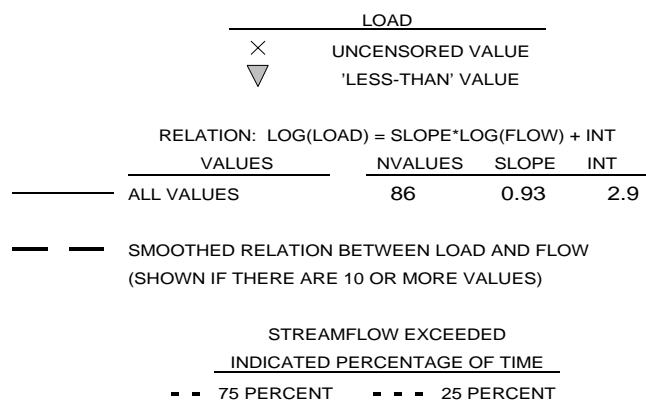
**APPENDIX 2. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL HARDNESS**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

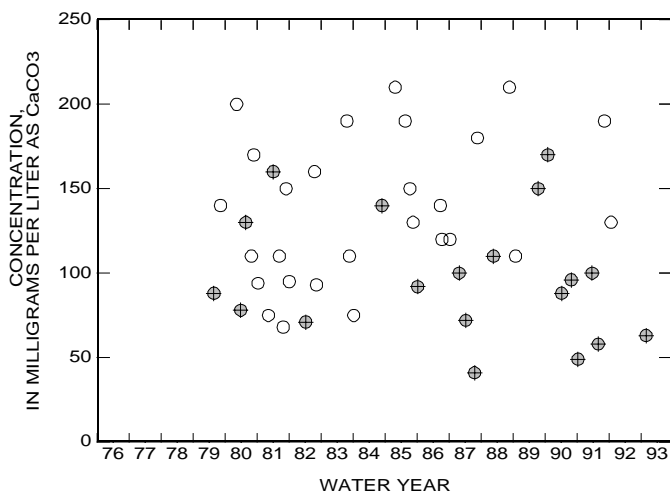
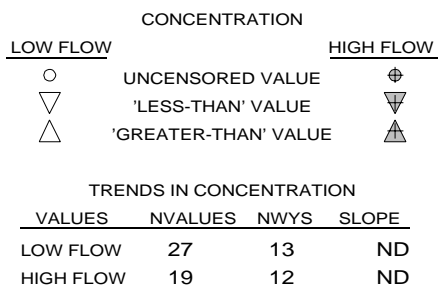
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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## Appendix 3

### Total organic carbon

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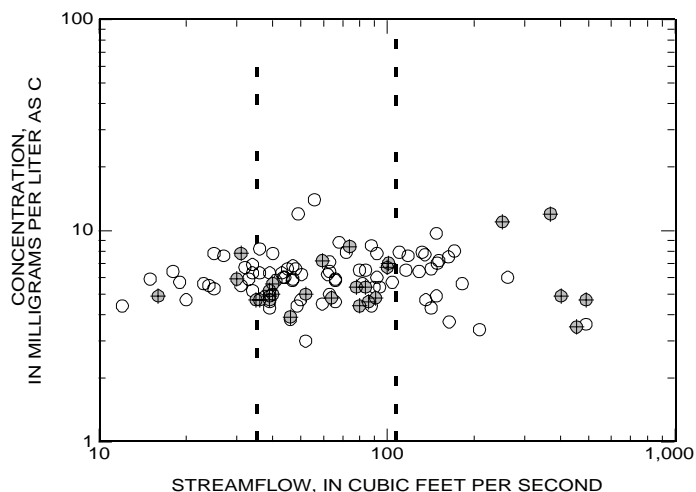
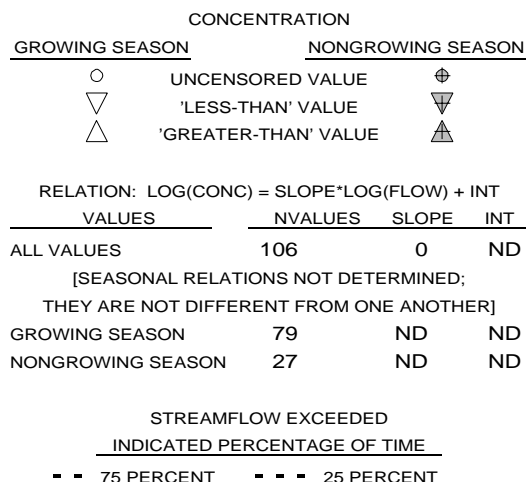
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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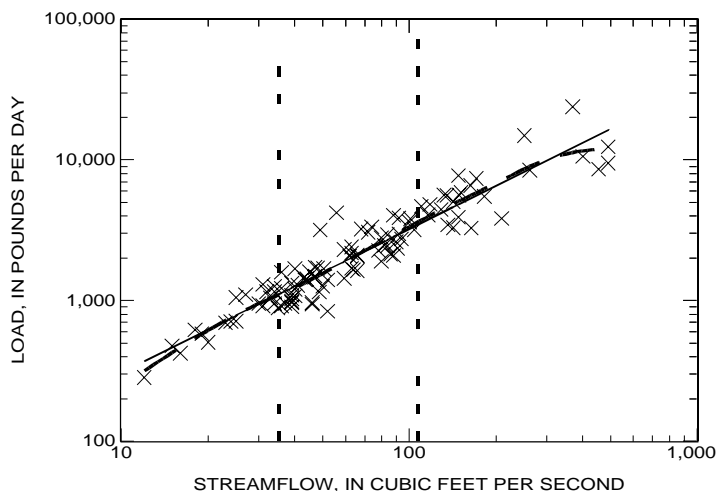
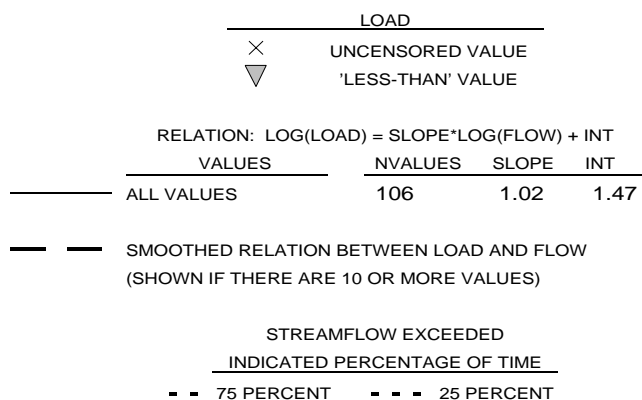
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

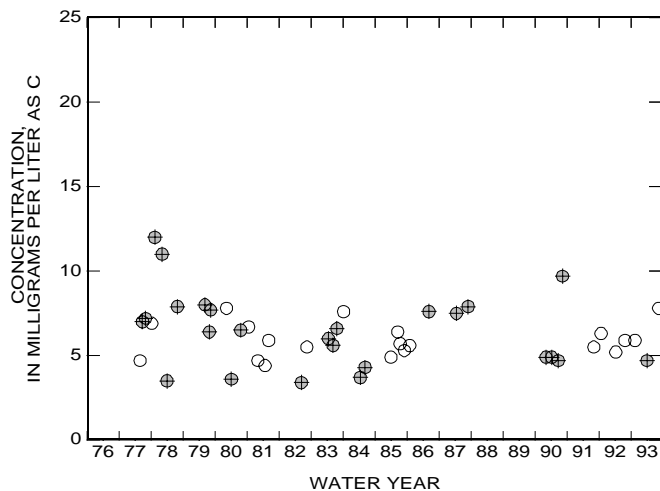
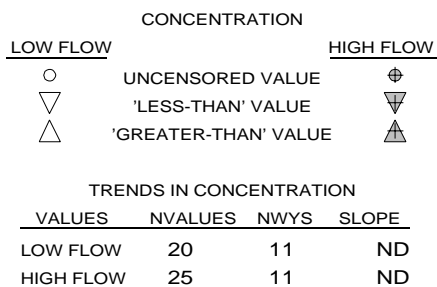
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



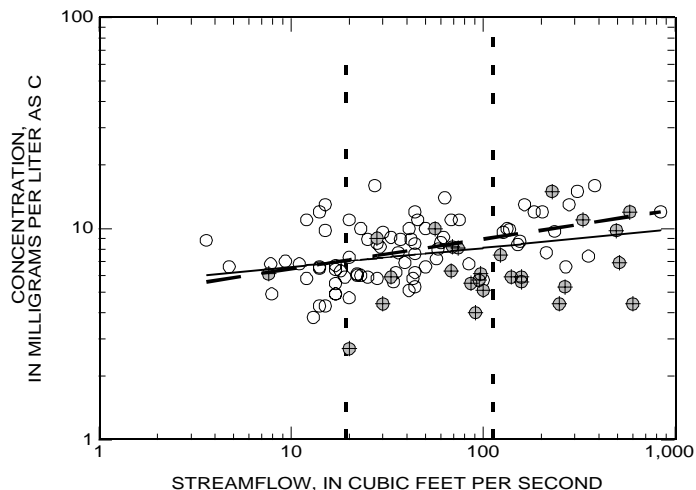
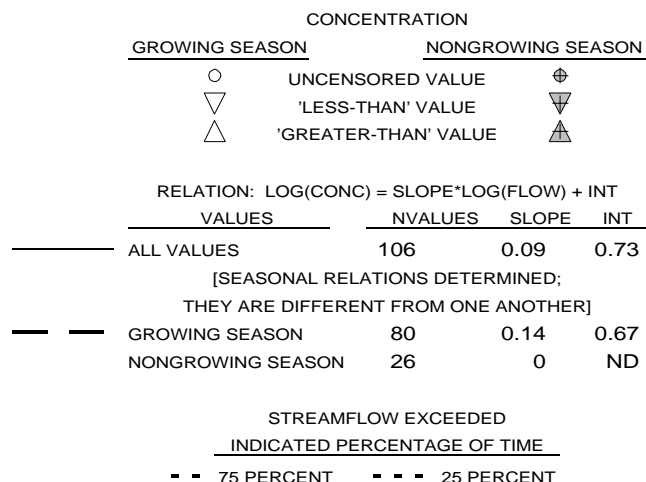
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



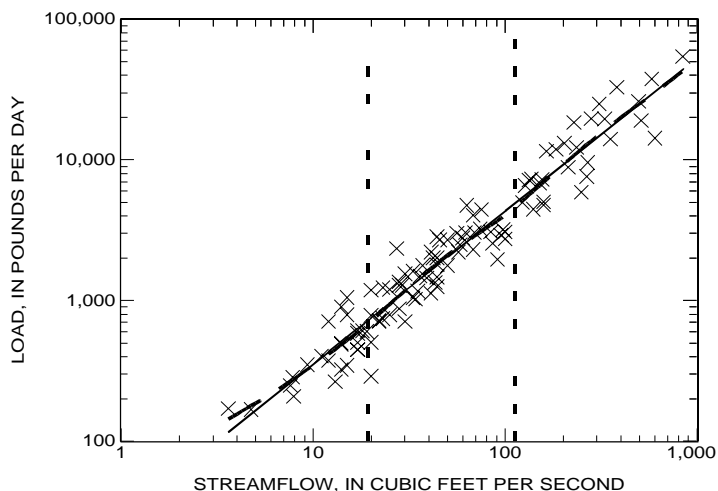
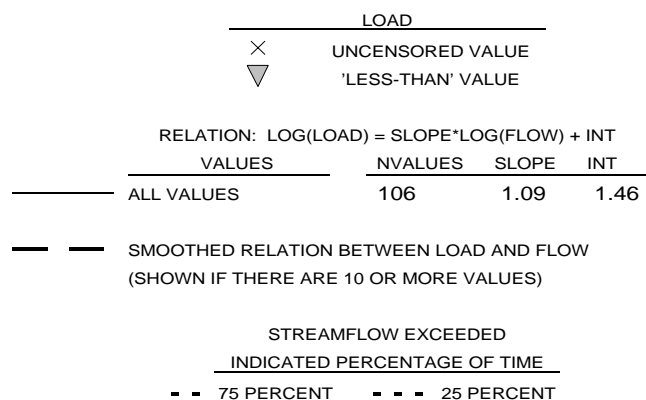
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

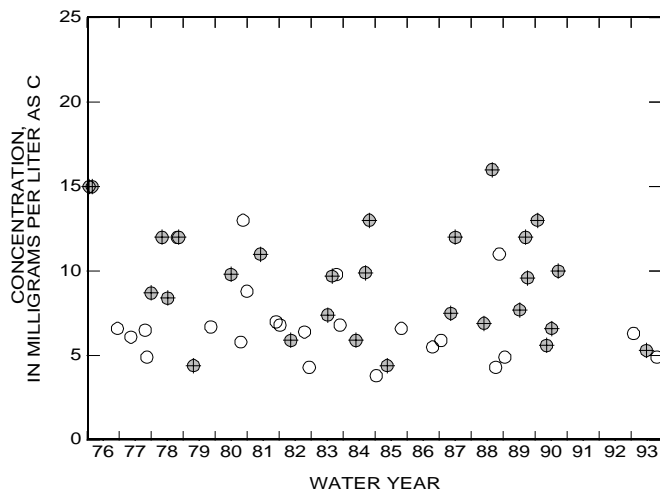
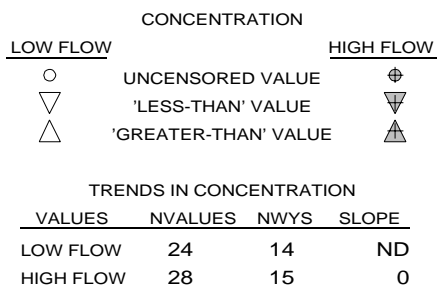
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



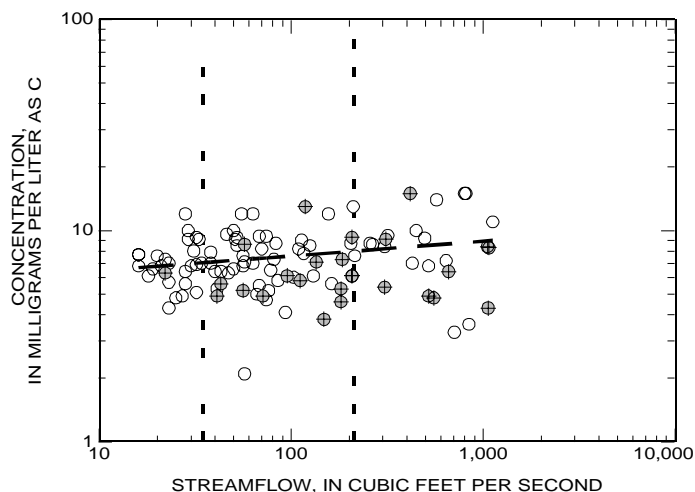
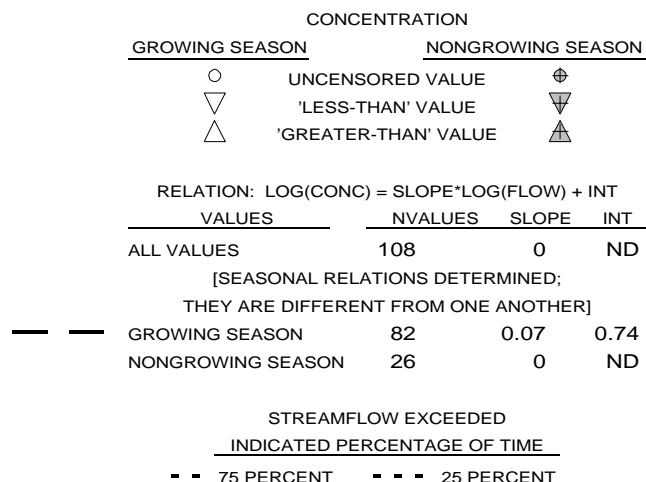
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



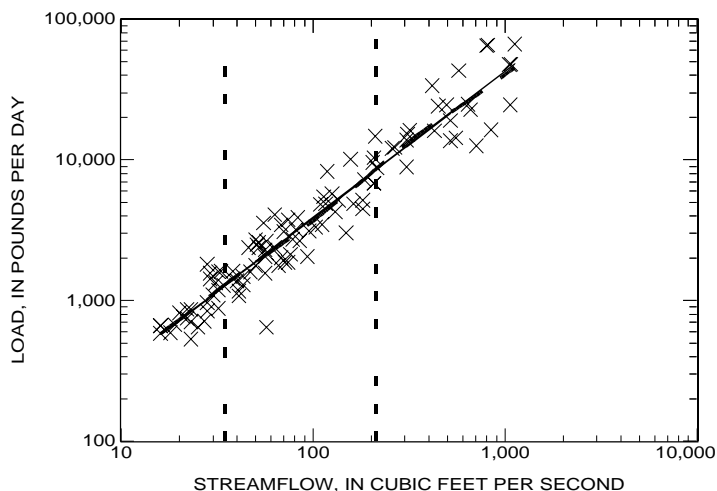
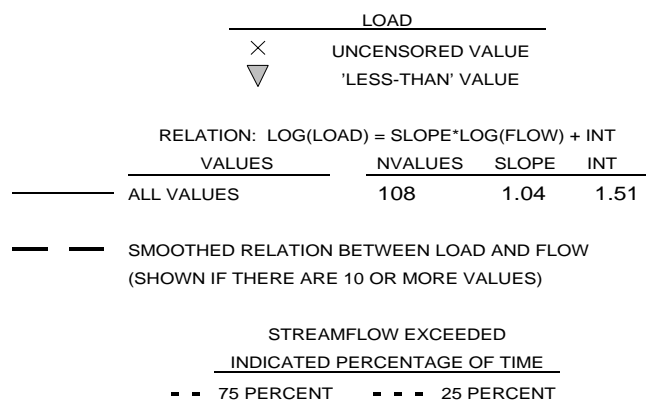
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

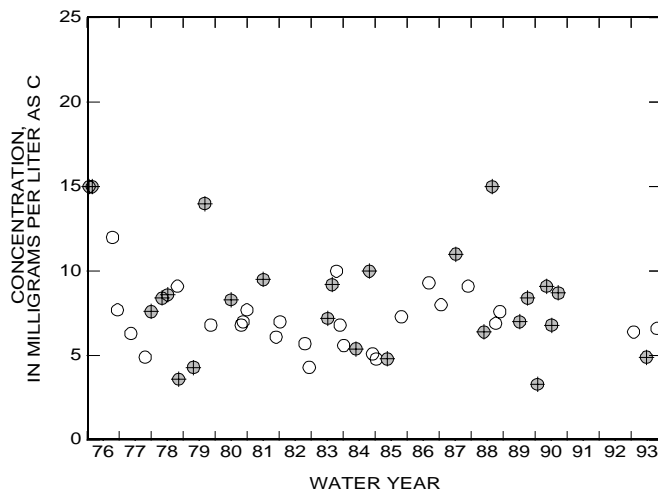
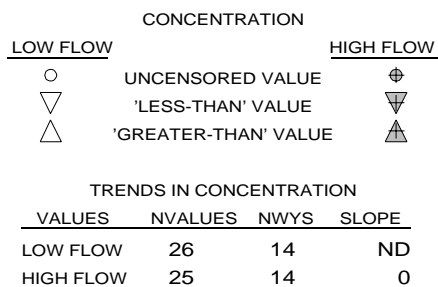
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



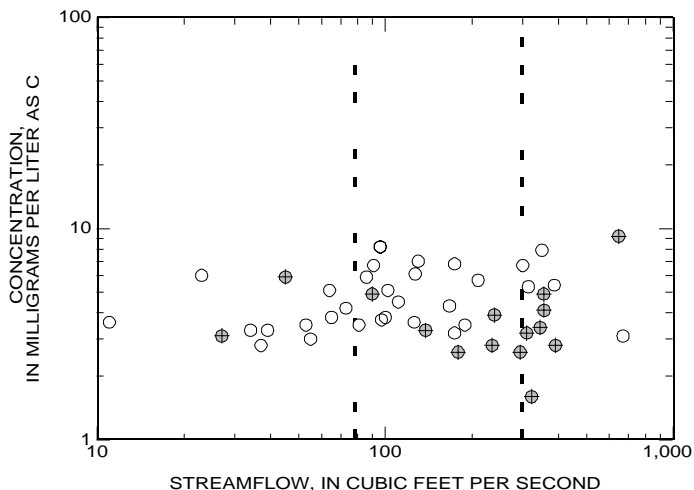
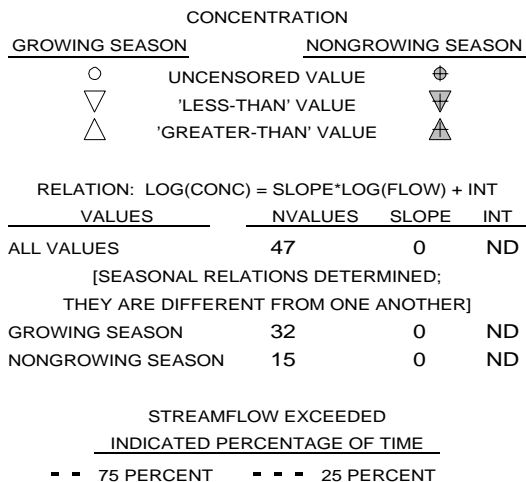
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



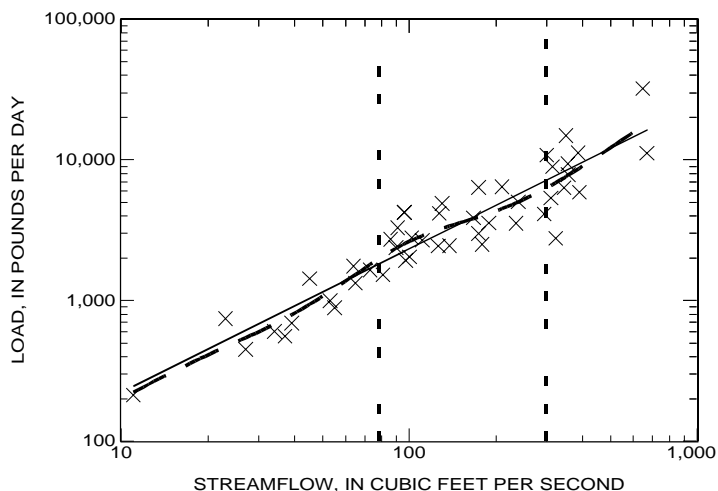
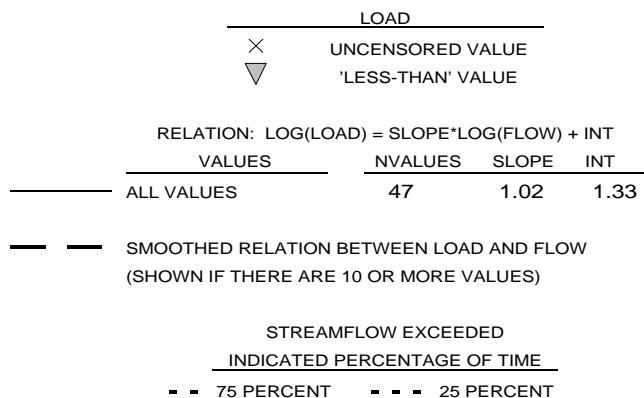
APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL ORGANIC CARBON  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

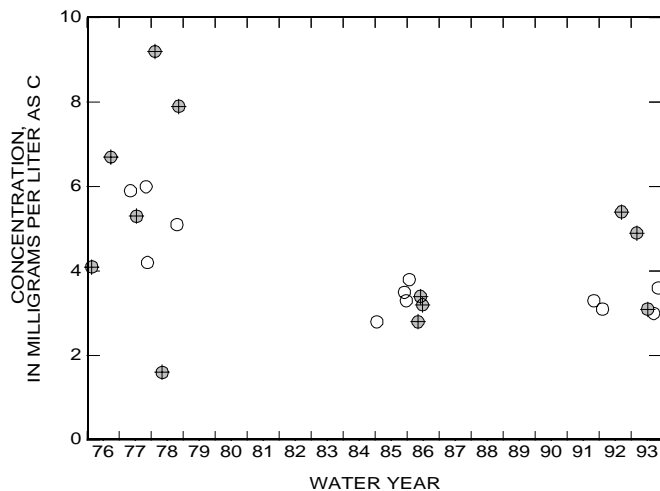
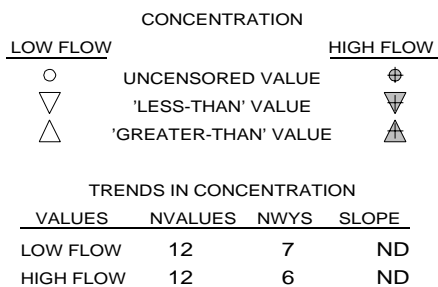
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



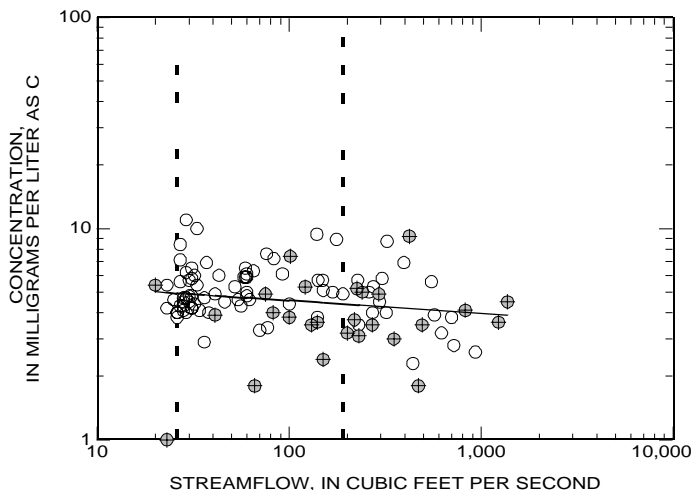
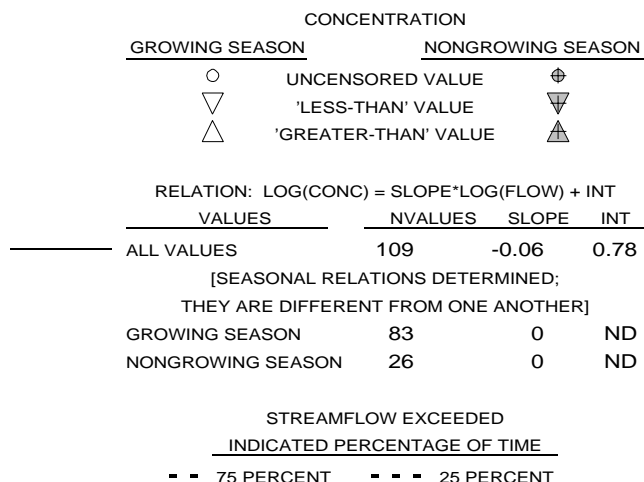
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



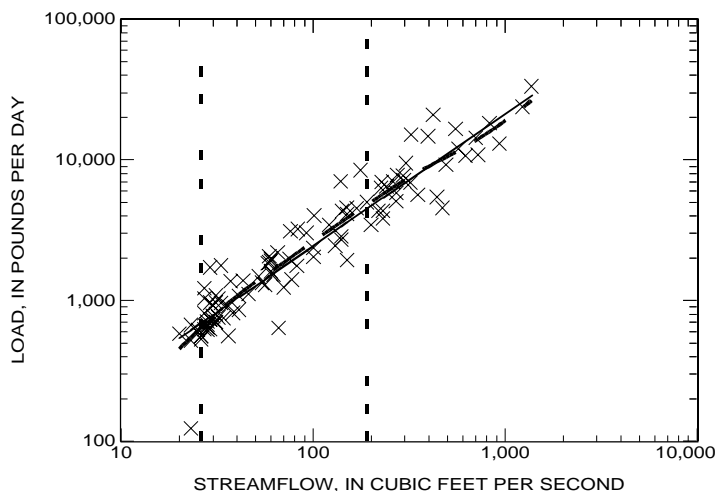
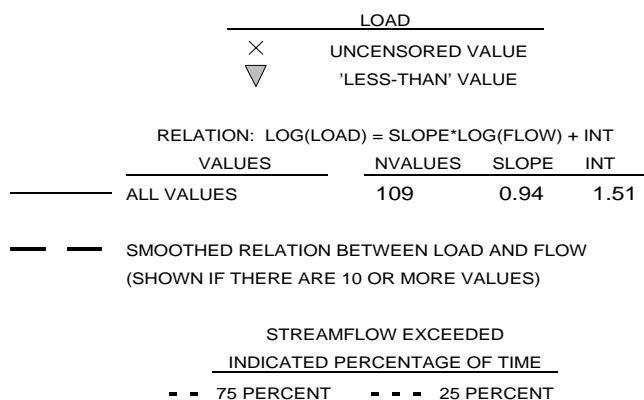
APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL ORGANIC CARBON  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

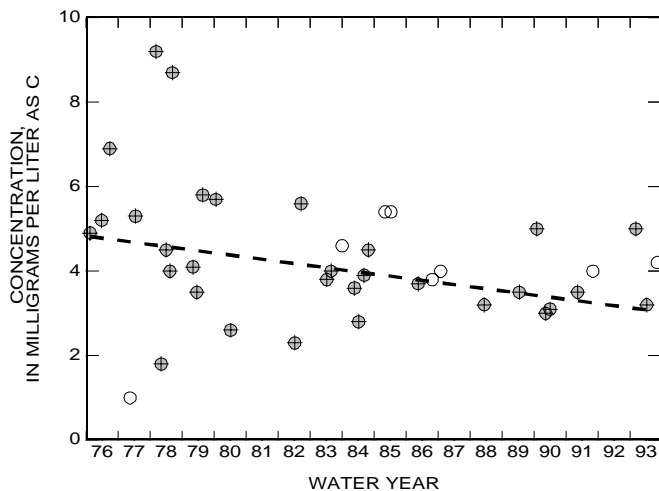
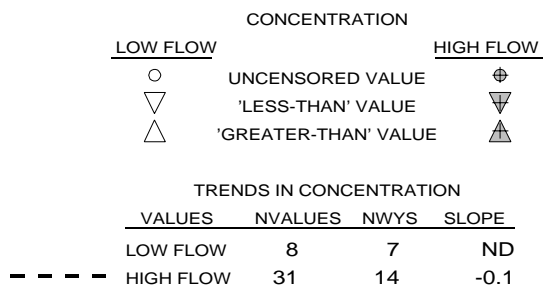
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



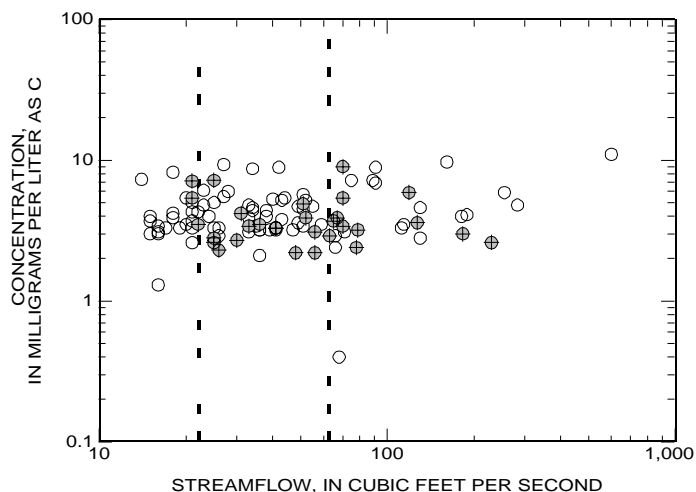
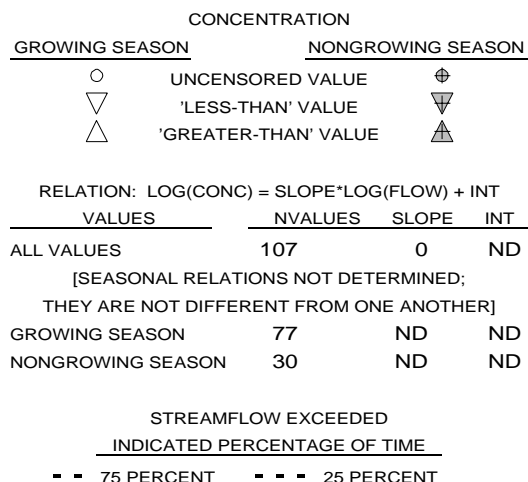
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



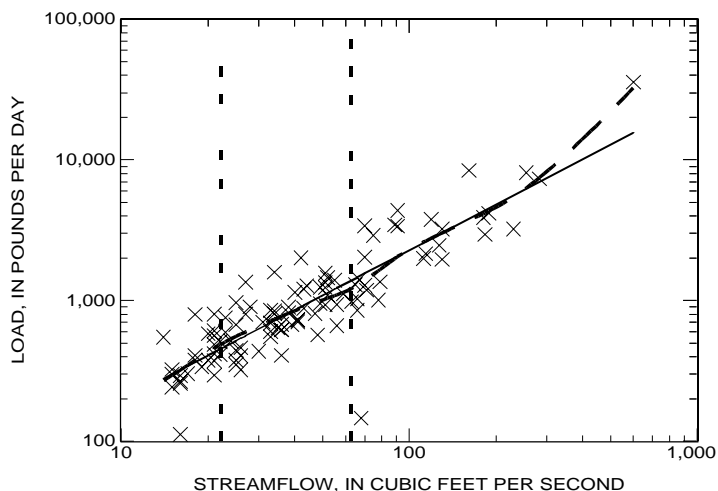
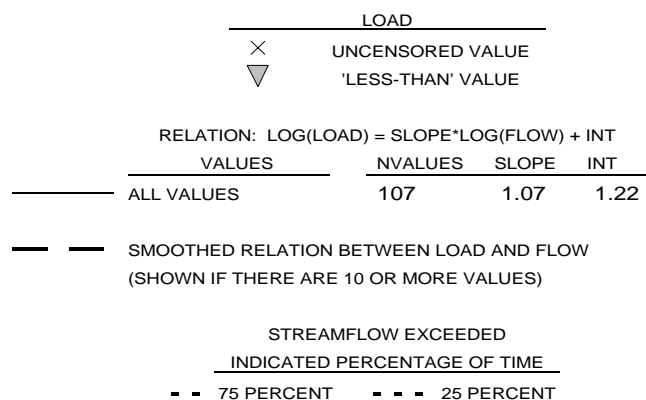
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

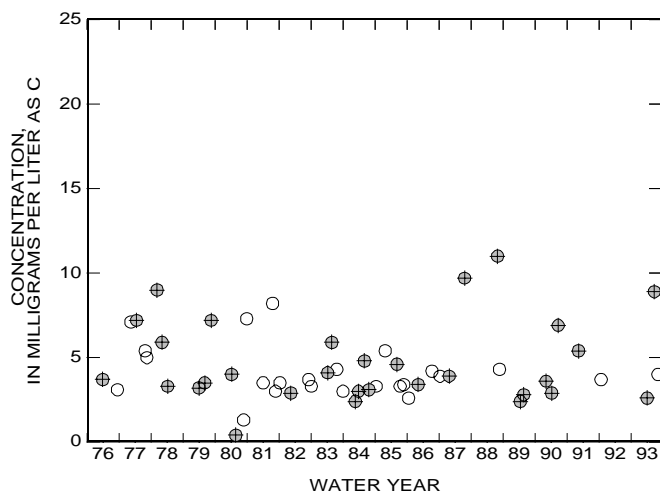
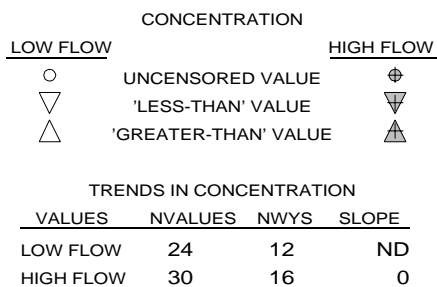
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

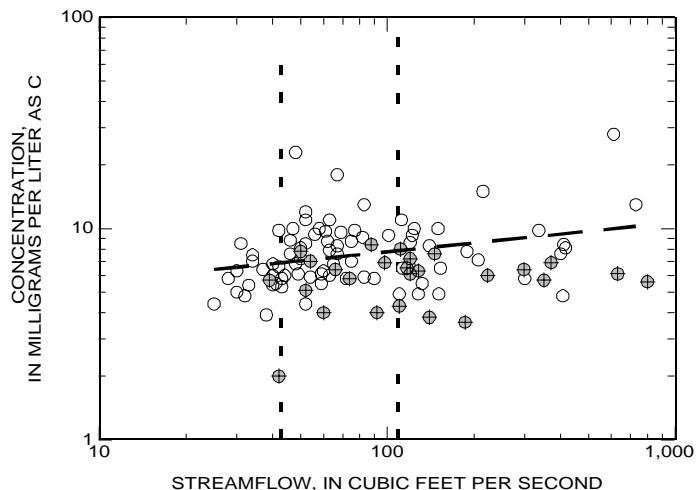
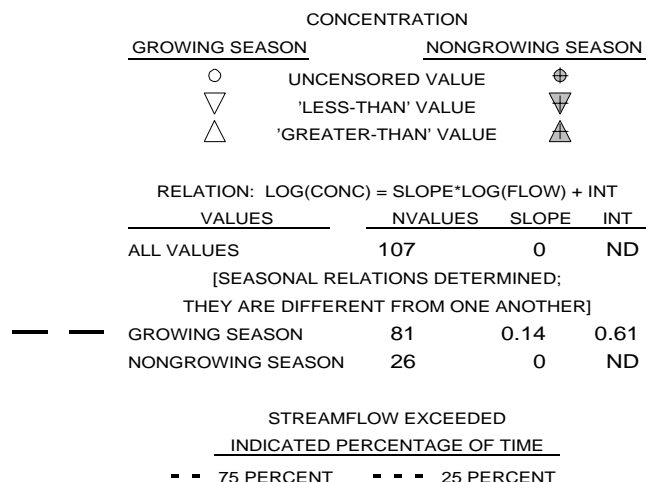




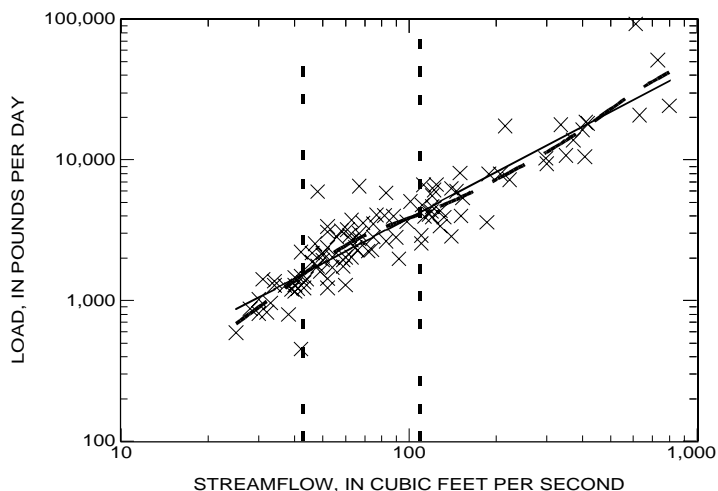
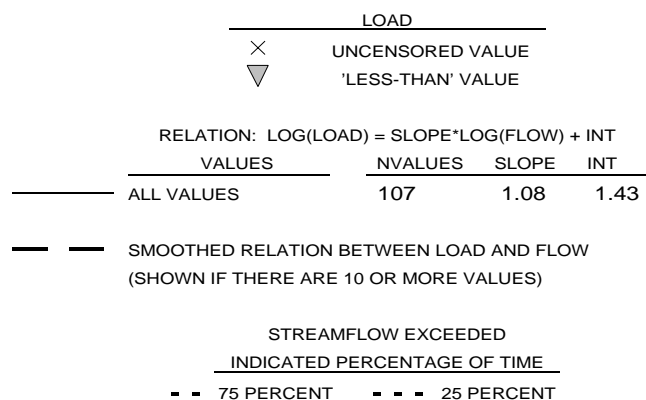
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

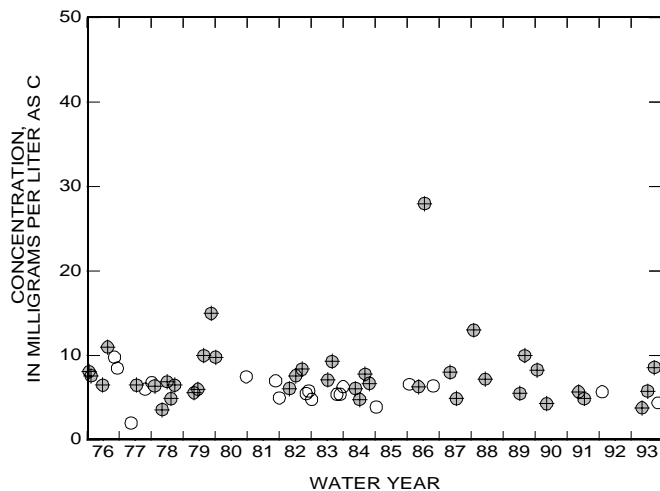
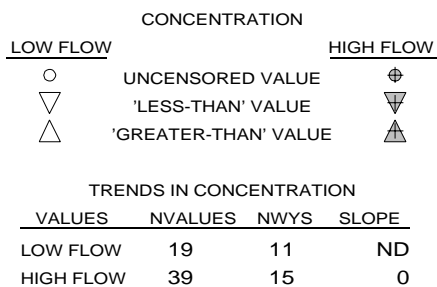
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



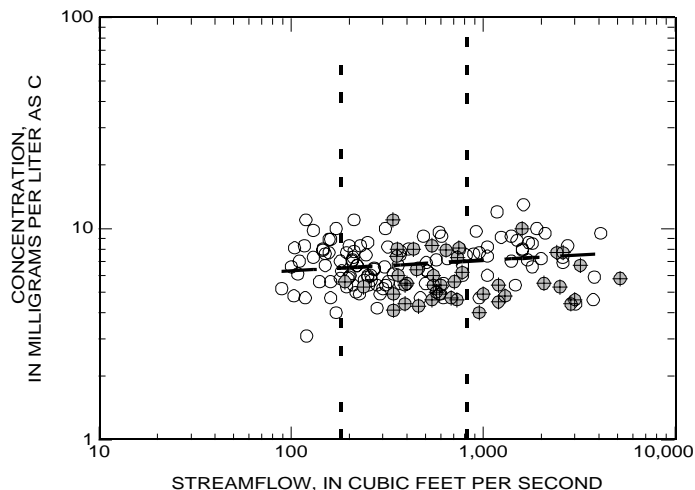
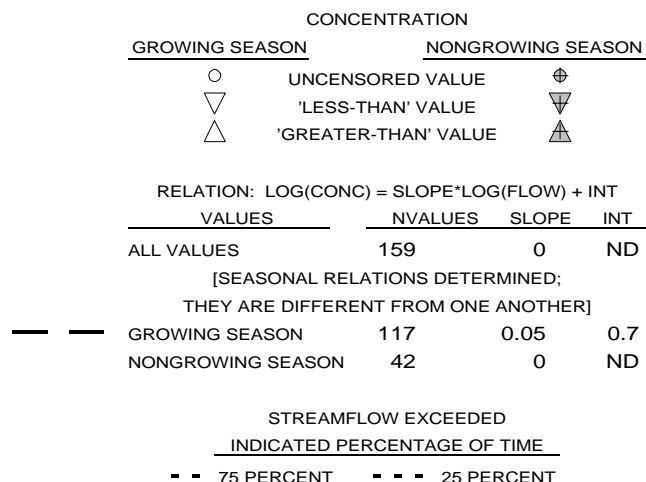
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



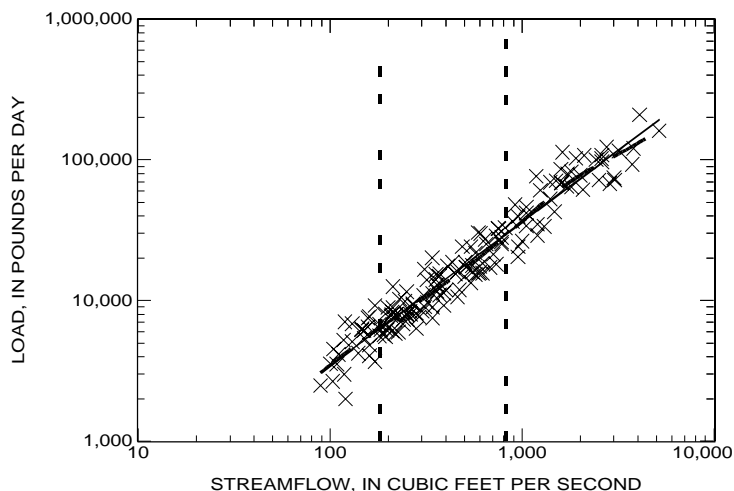
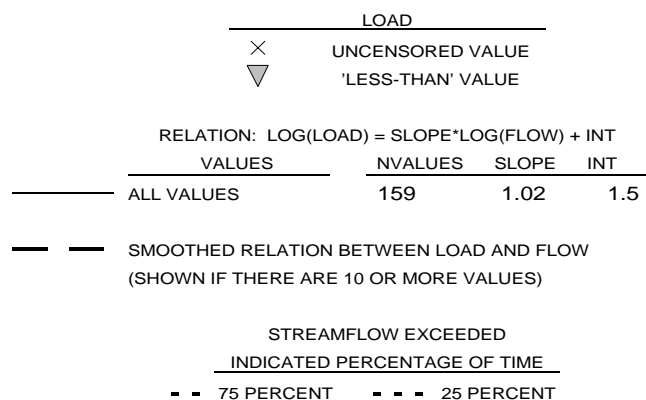
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

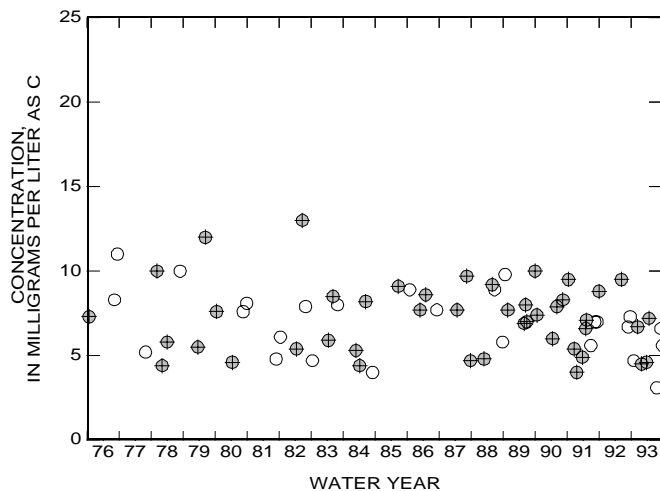
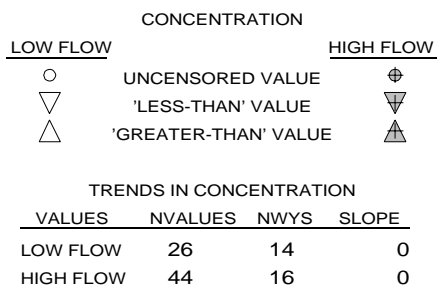
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



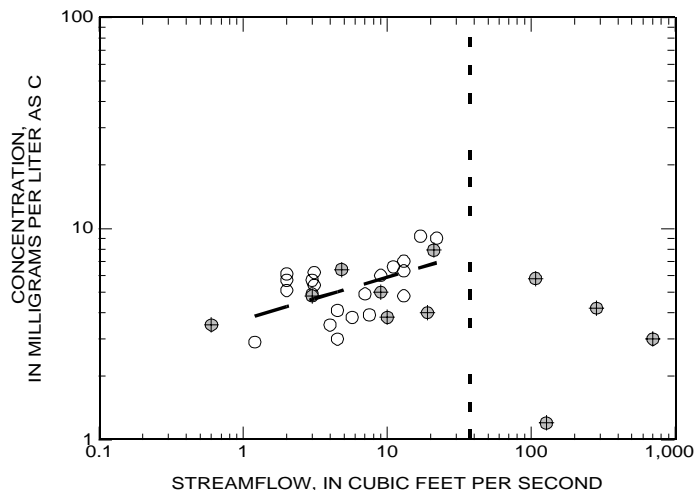
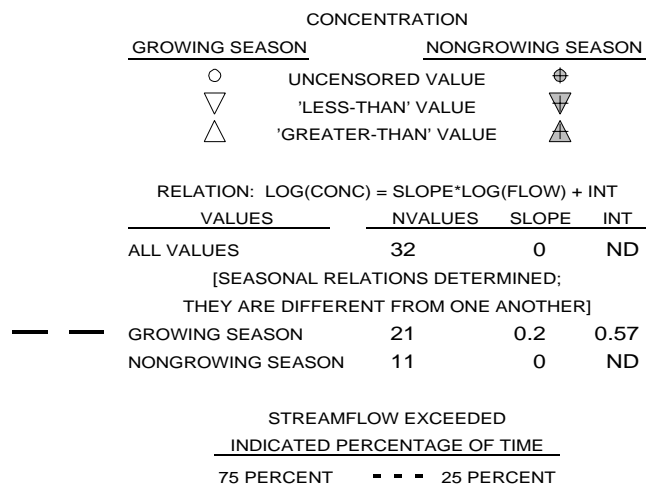
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



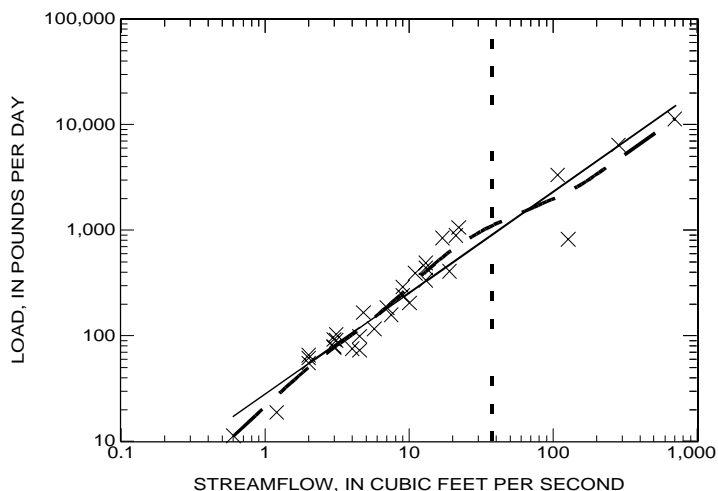
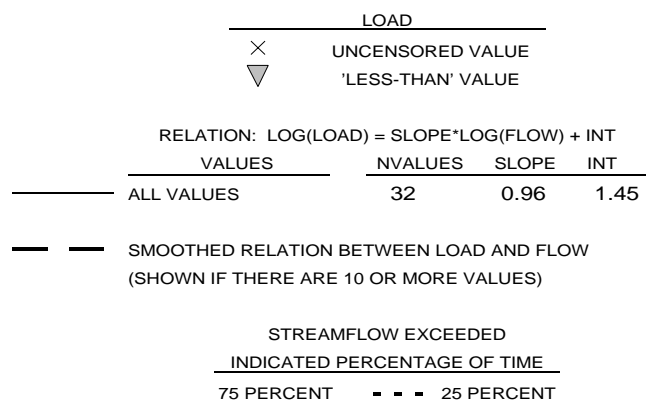
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

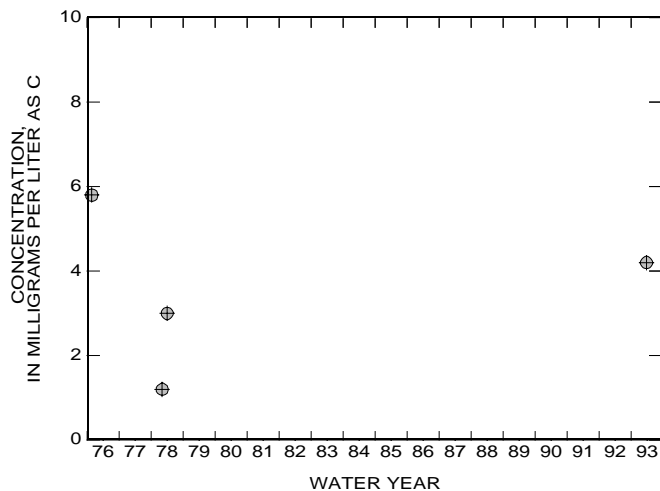
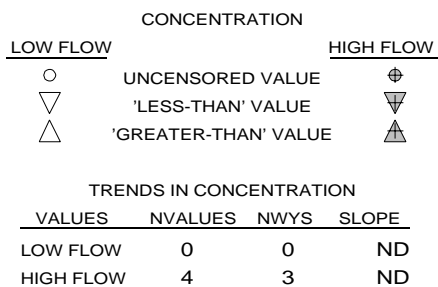
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



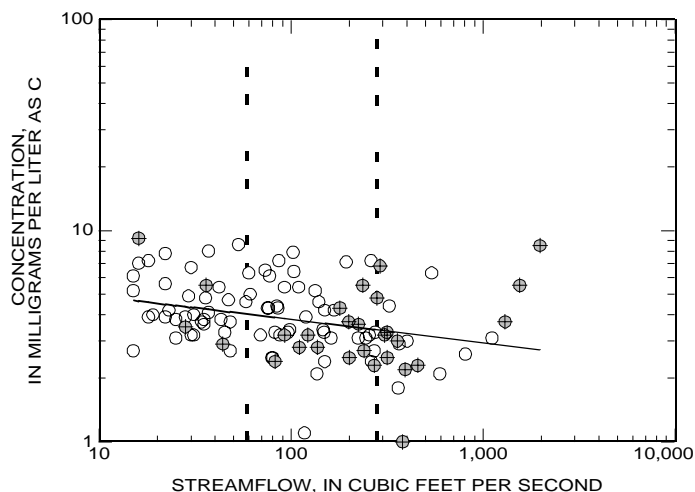
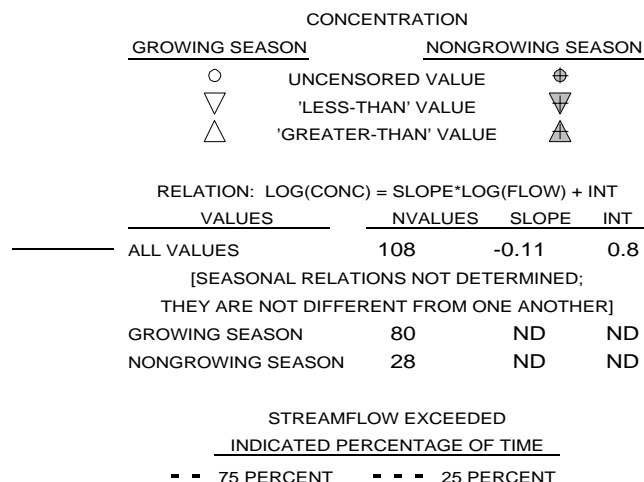
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



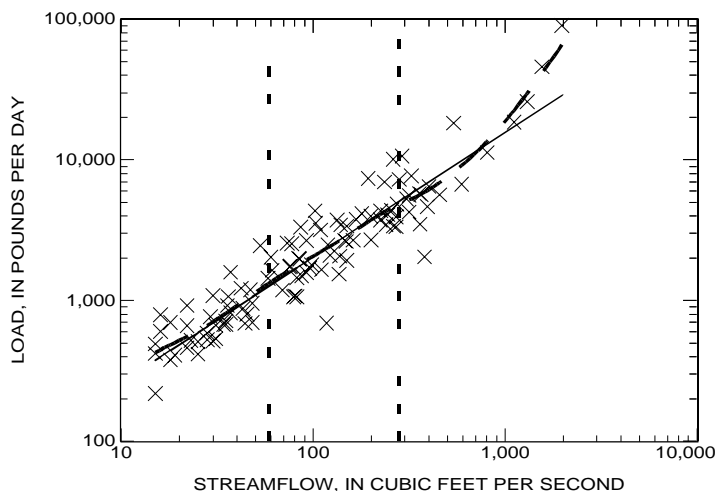
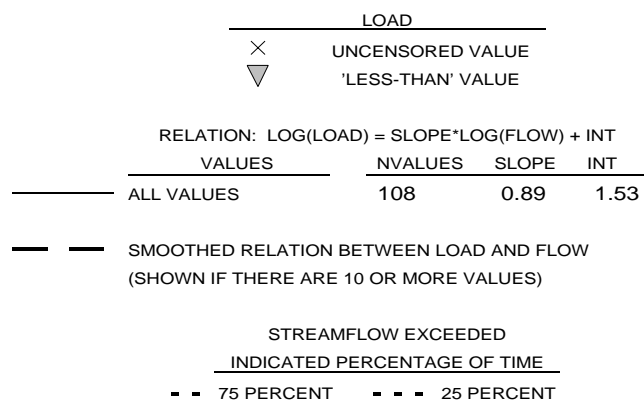
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

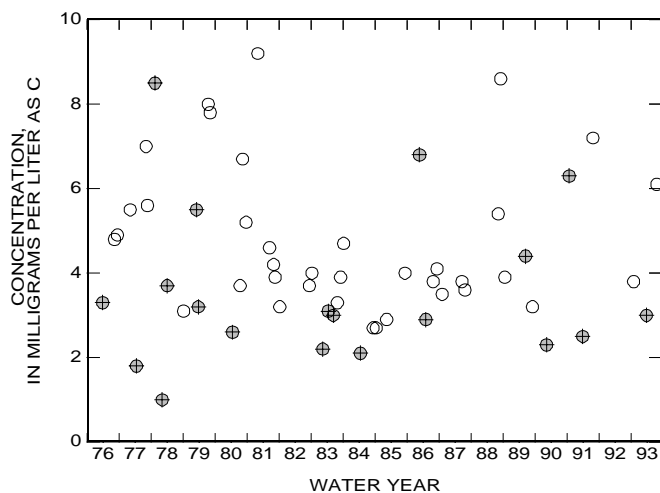
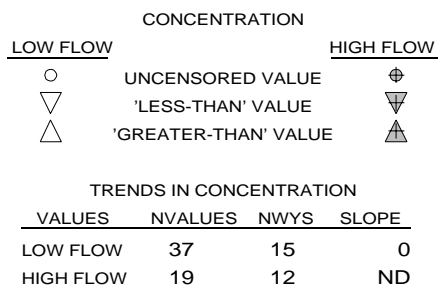
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



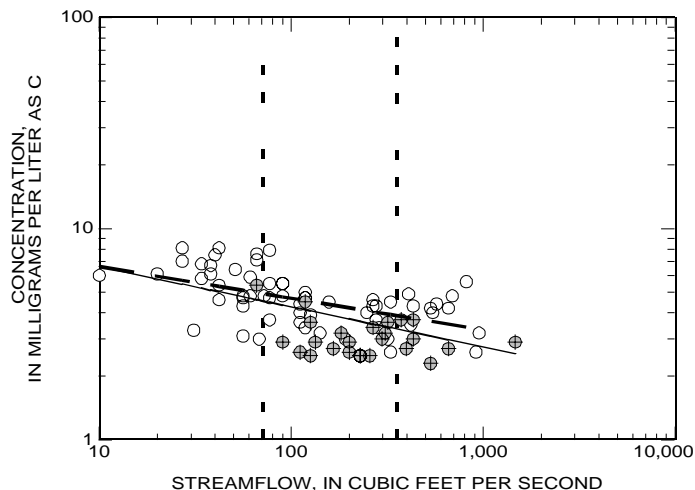
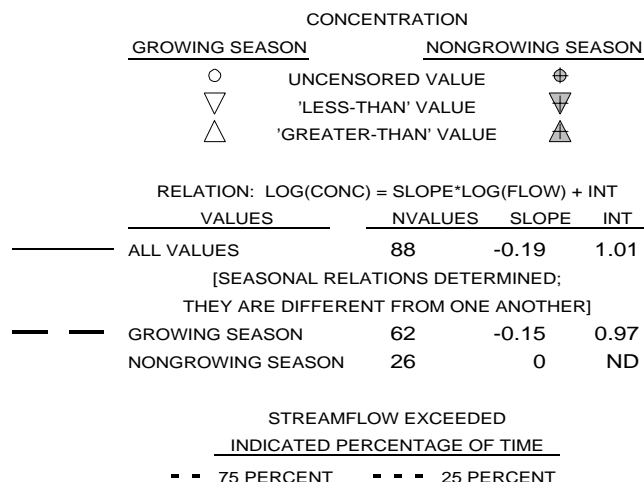
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



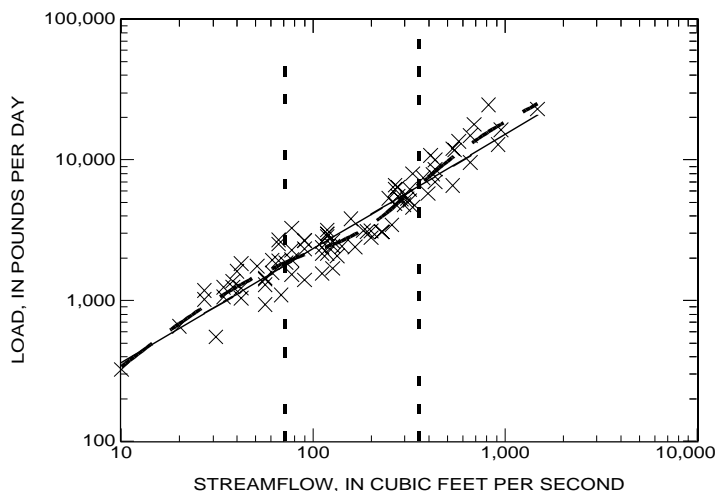
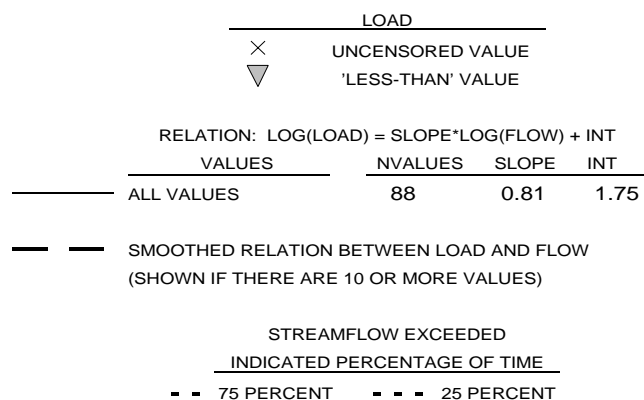
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

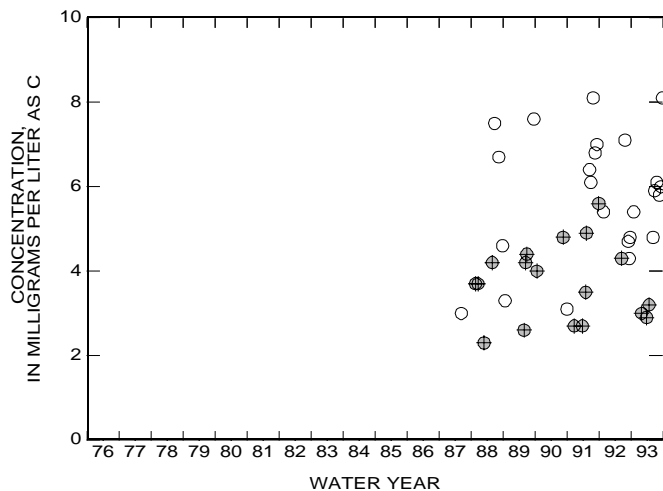
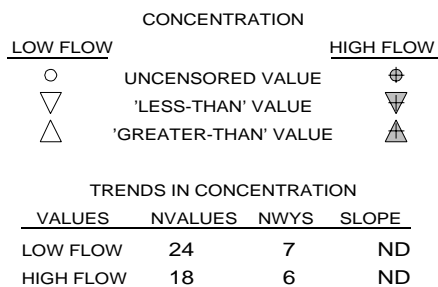
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



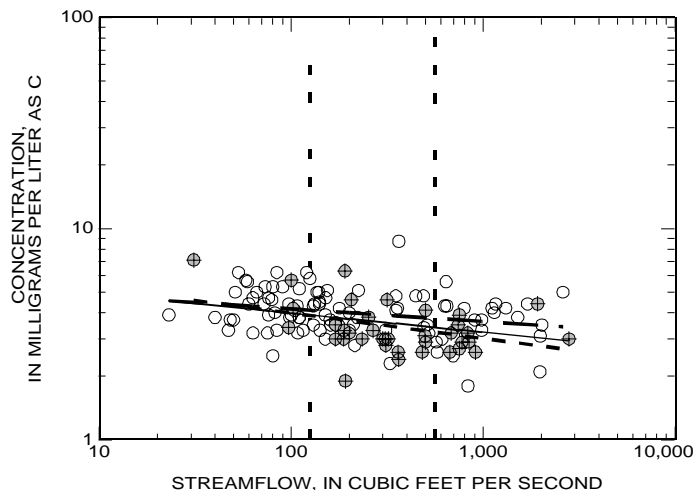
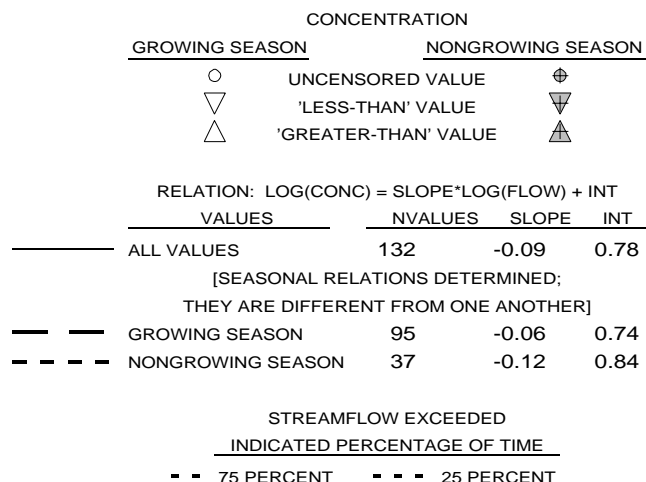
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



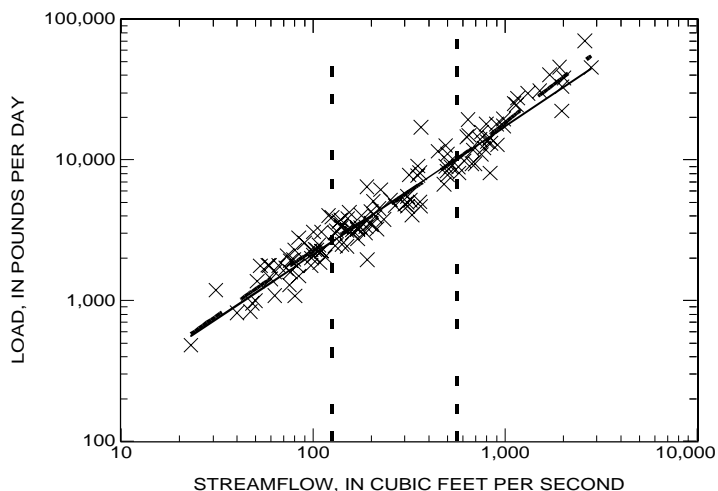
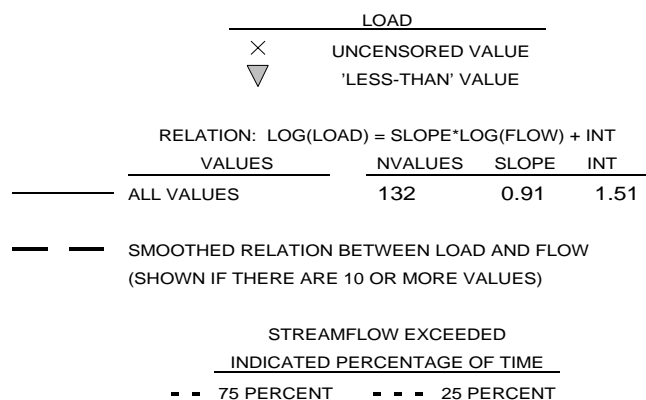
APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL ORGANIC CARBON  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

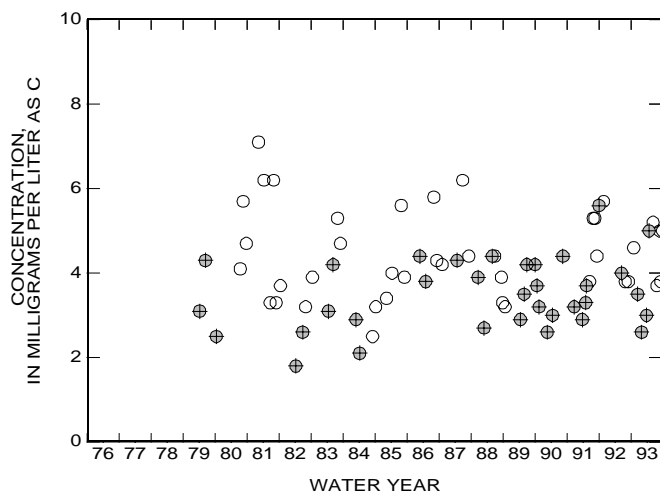
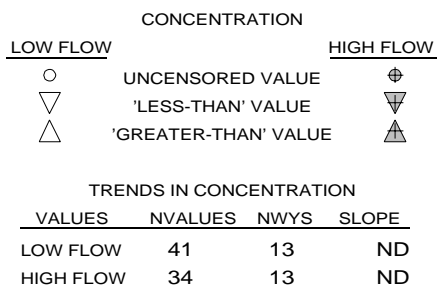
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



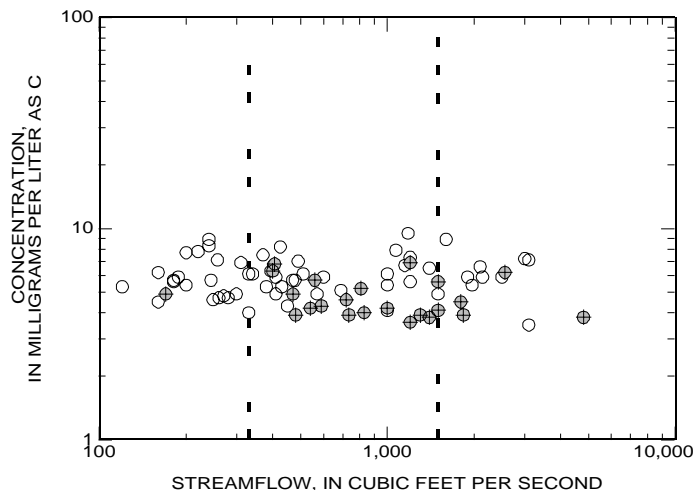
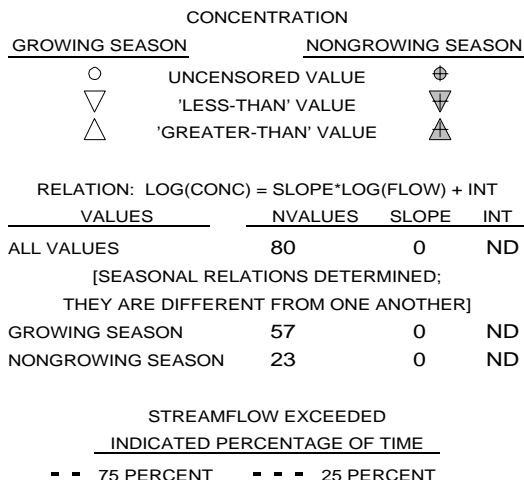
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



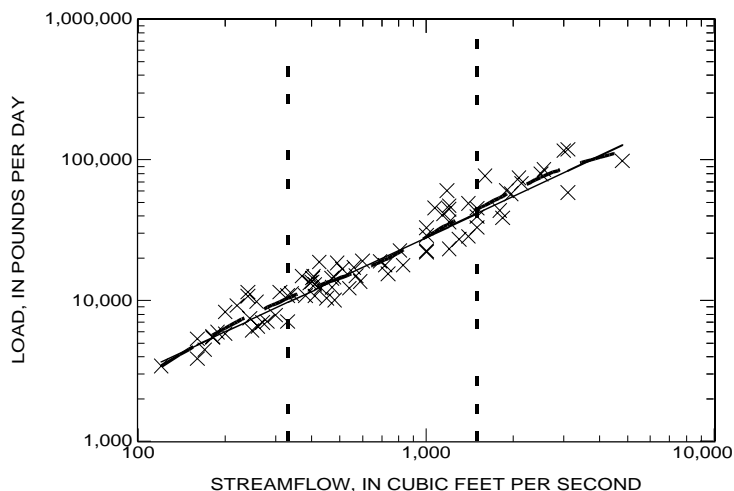
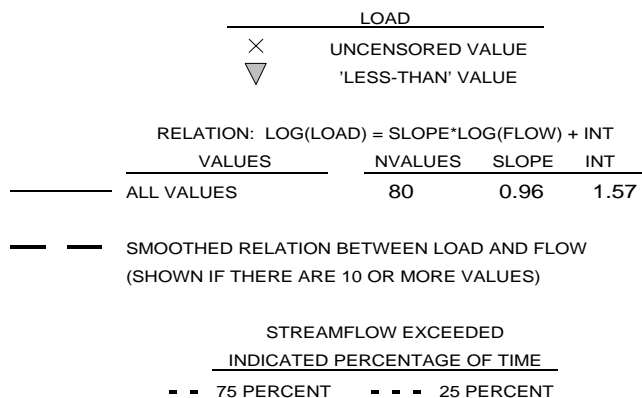
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

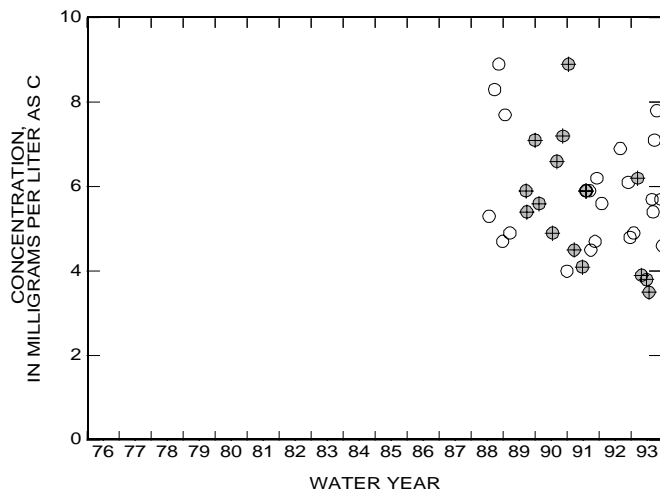
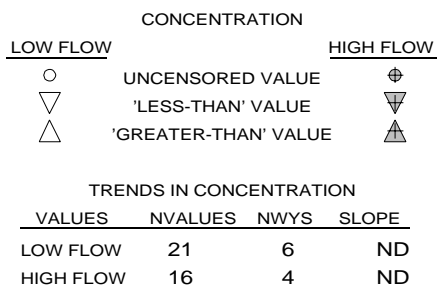
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



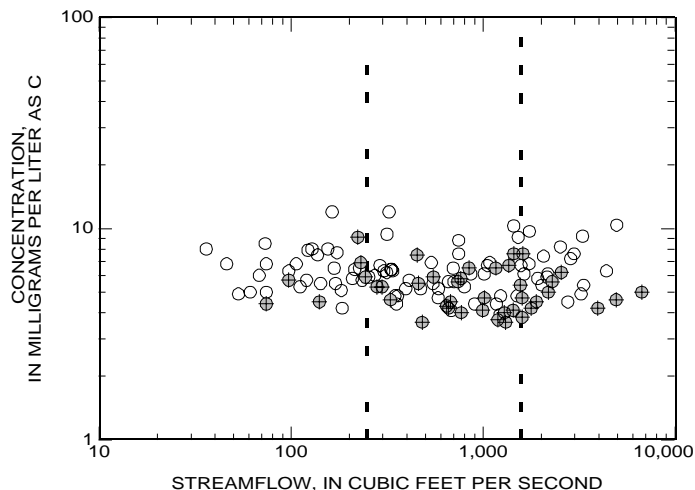
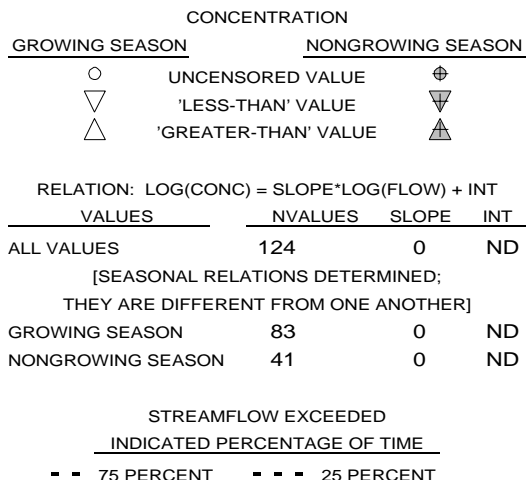
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



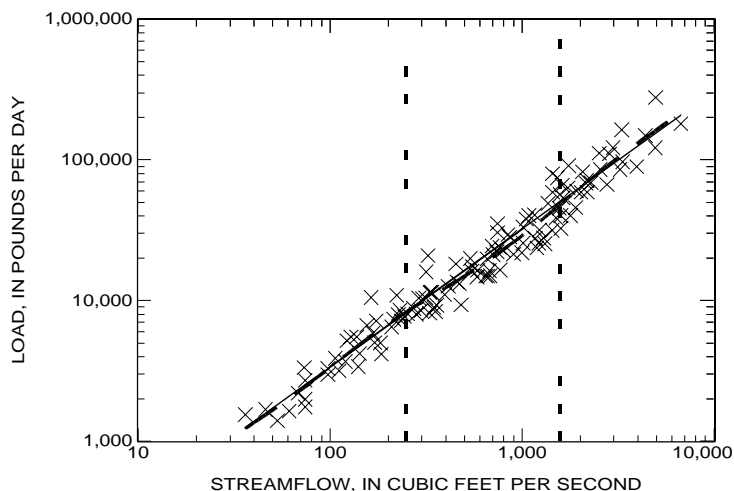
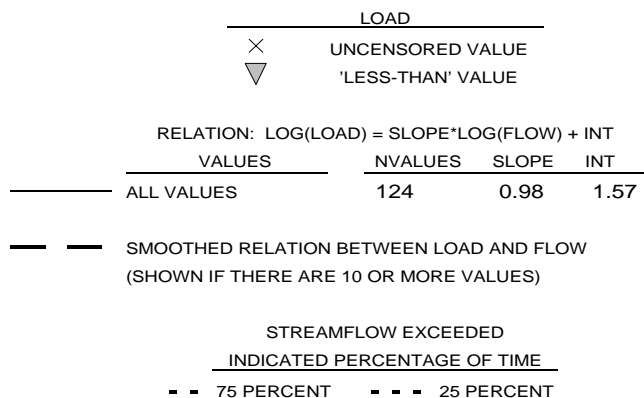
APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL ORGANIC CARBON  
01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

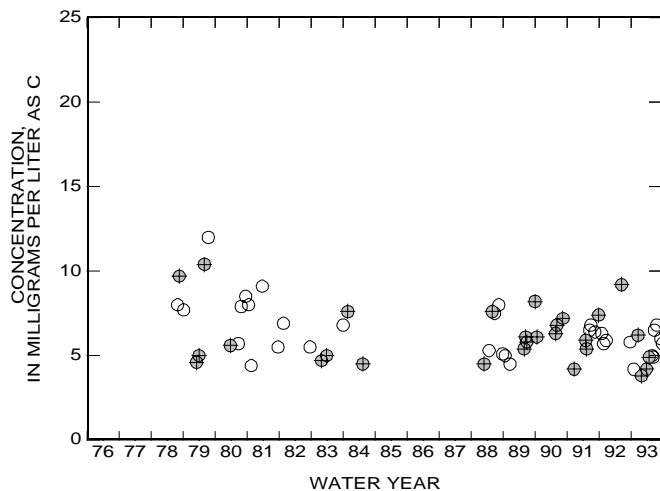
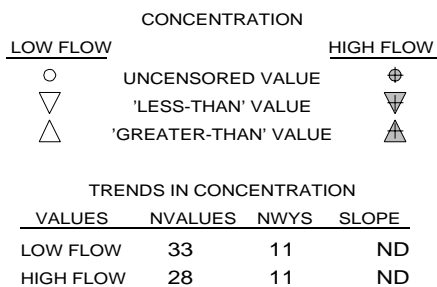
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS





**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	

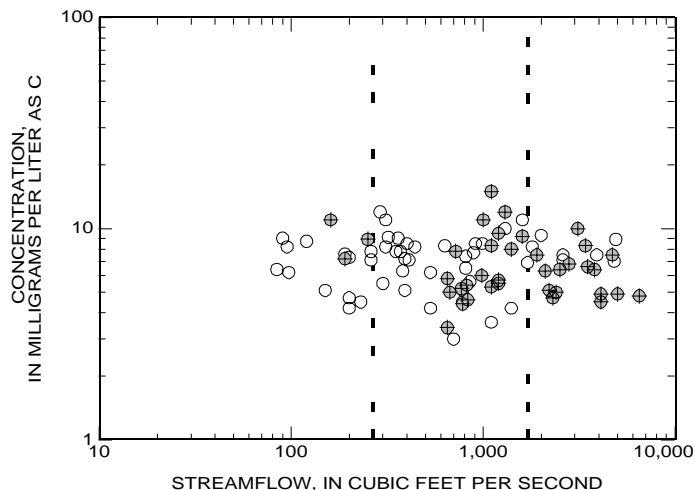
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	89	0	ND

[SEASONAL RELATIONS NOT DETERMINED;  
THEY ARE NOT DIFFERENT FROM ONE ANOTHER]

GROWING SEASON	51	ND	ND
NONGROWING SEASON	38	ND	ND

STREAMFLOW EXCEEDED	
INDICATED PERCENTAGE OF TIME	
--- 75 PERCENT	--- 25 PERCENT



**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		

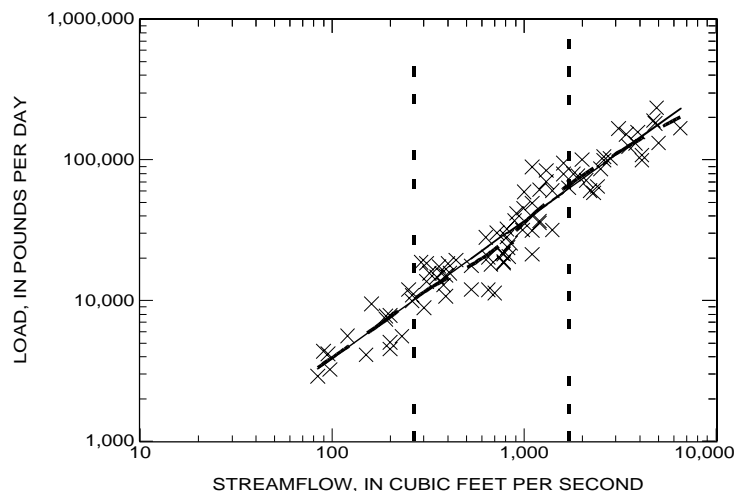
  

RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	89	0.98	1.63

— — — SMOOTHED RELATION BETWEEN LOAD AND FLOW  
(SHOWN IF THERE ARE 10 OR MORE VALUES)

STREAMFLOW EXCEEDED	
INDICATED PERCENTAGE OF TIME	
--- 75 PERCENT	--- 25 PERCENT

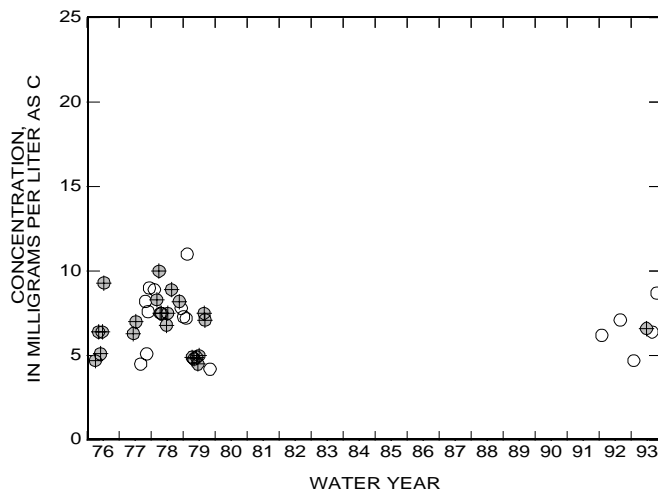


**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	

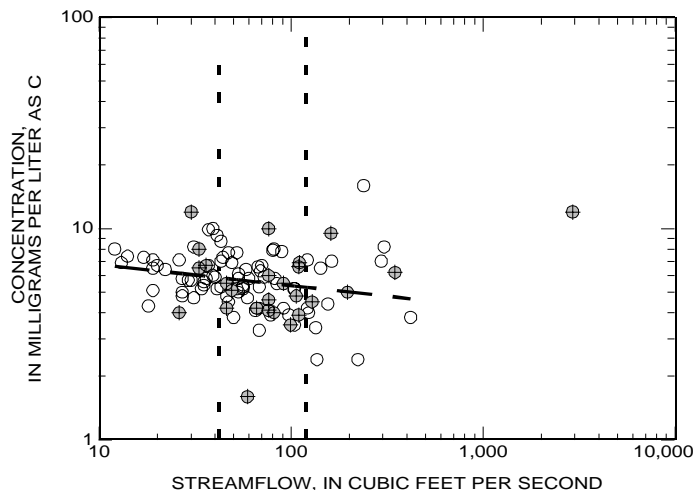
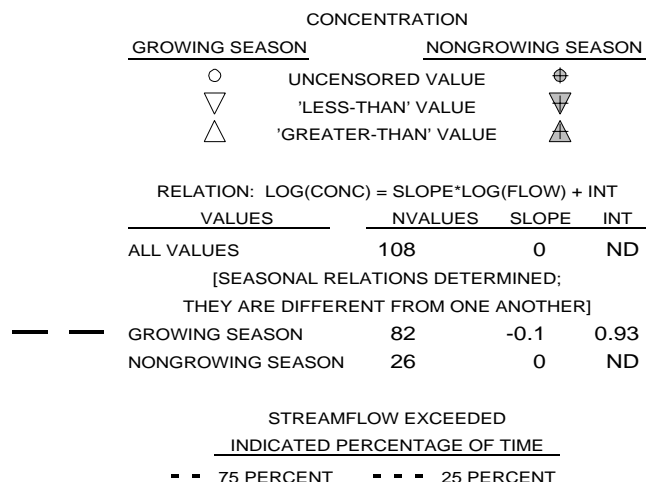
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	16	5	ND
HIGH FLOW	23	5	ND



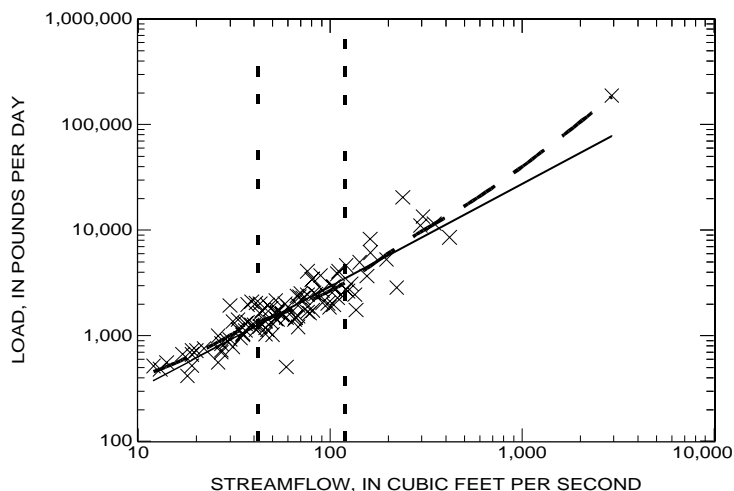
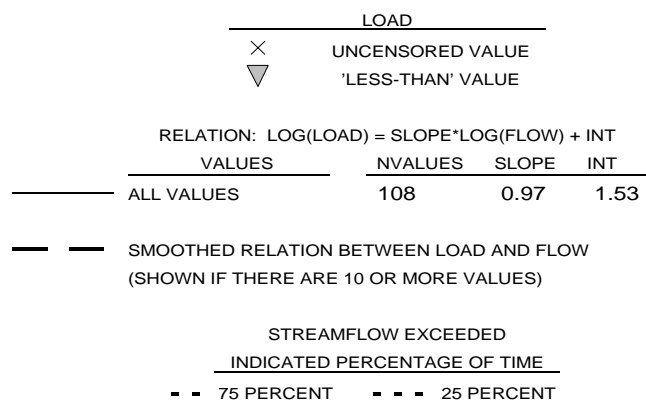
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

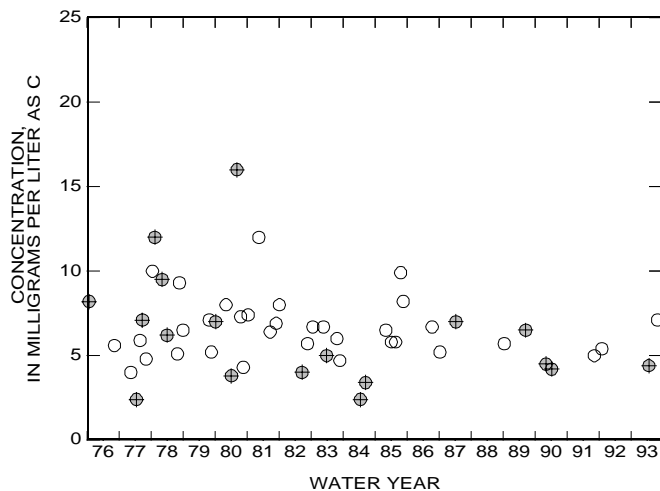
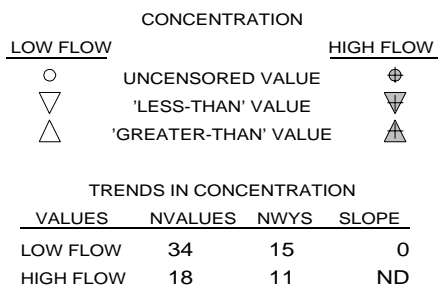
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



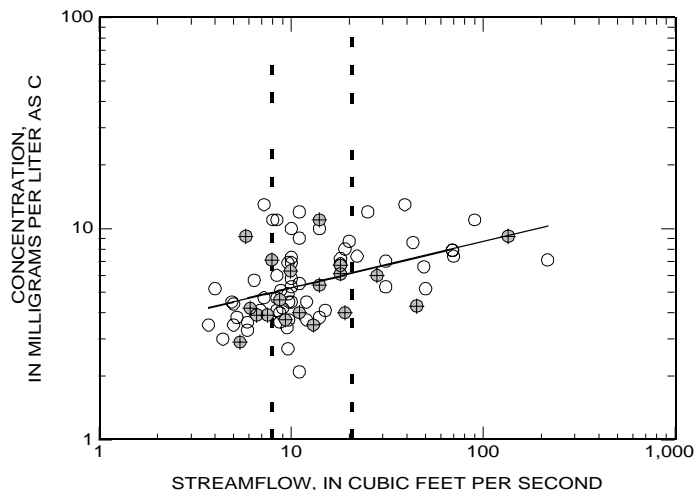
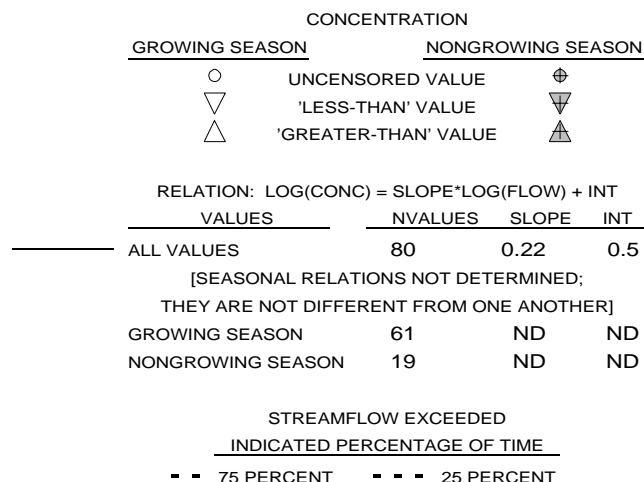
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



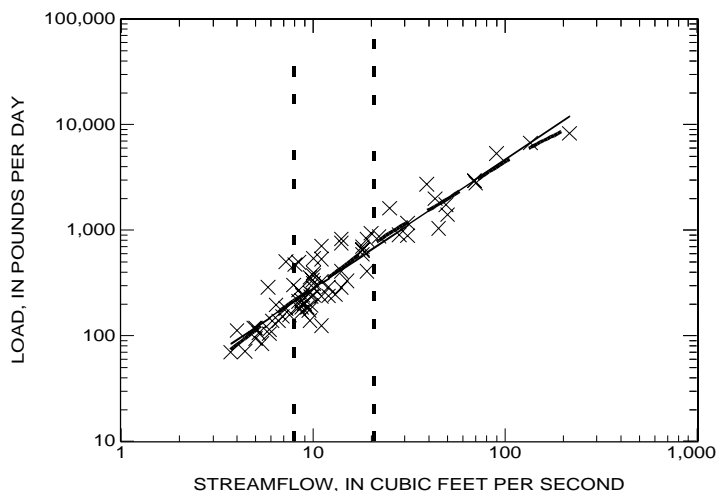
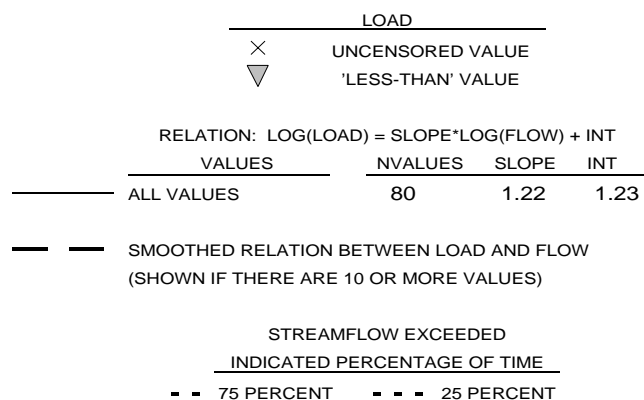
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

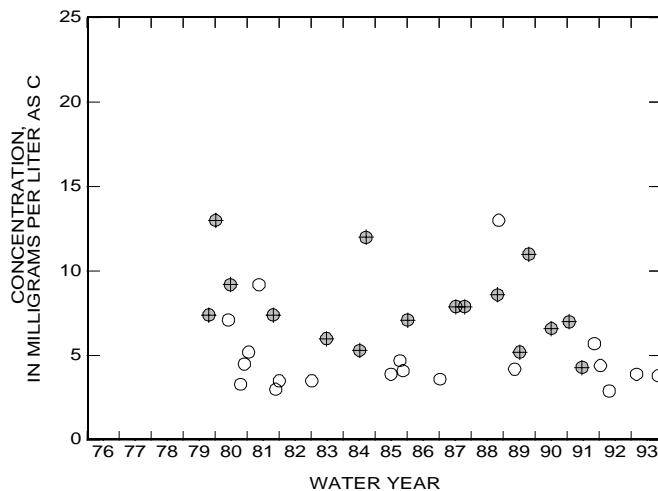
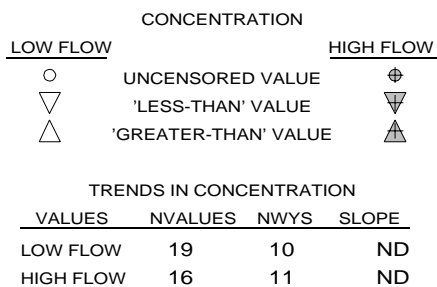
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



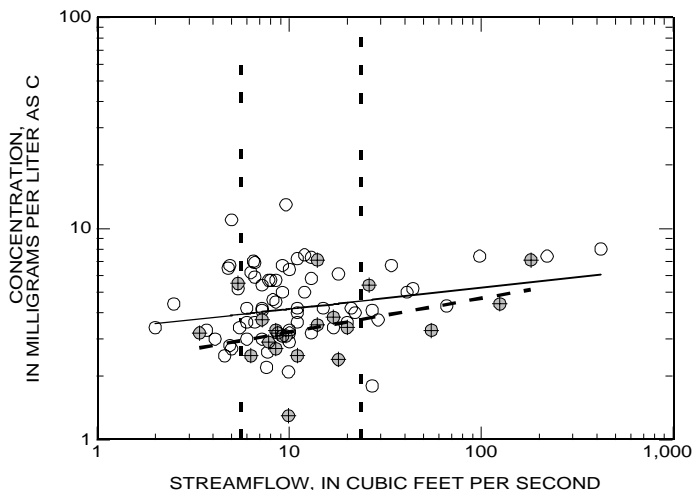
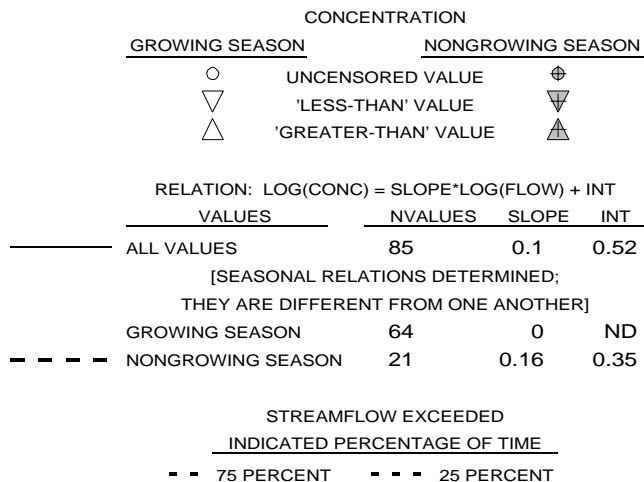
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



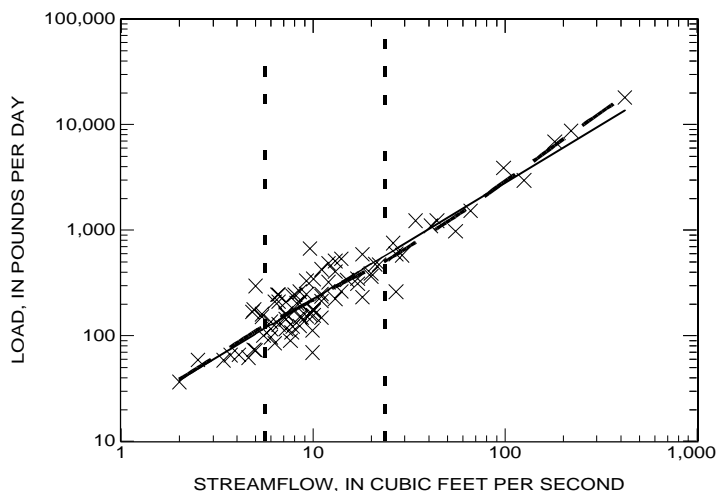
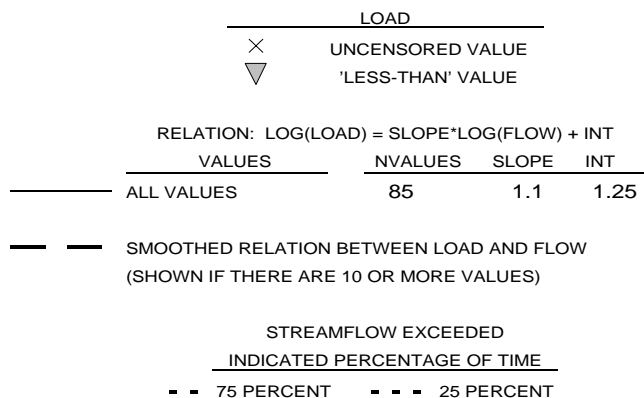
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

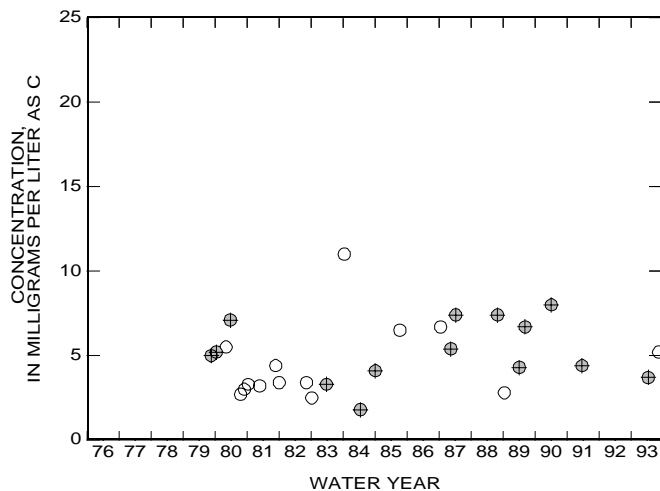
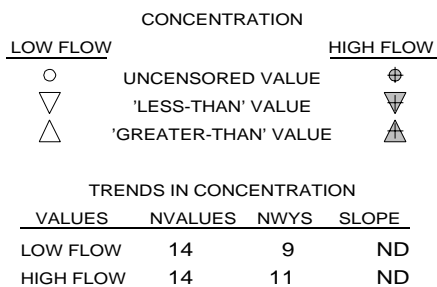
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



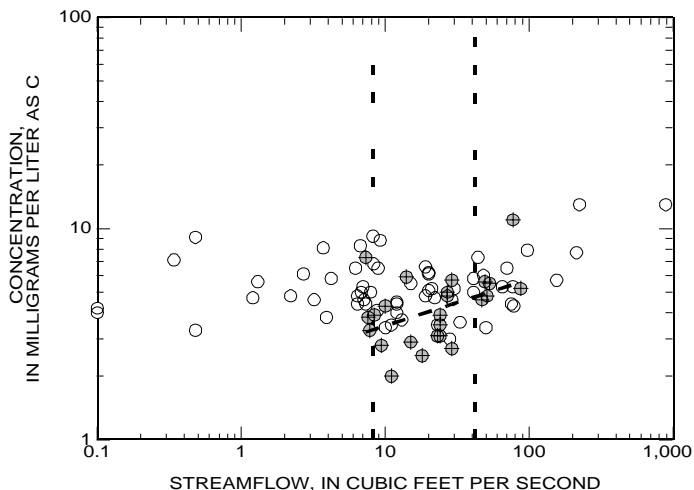
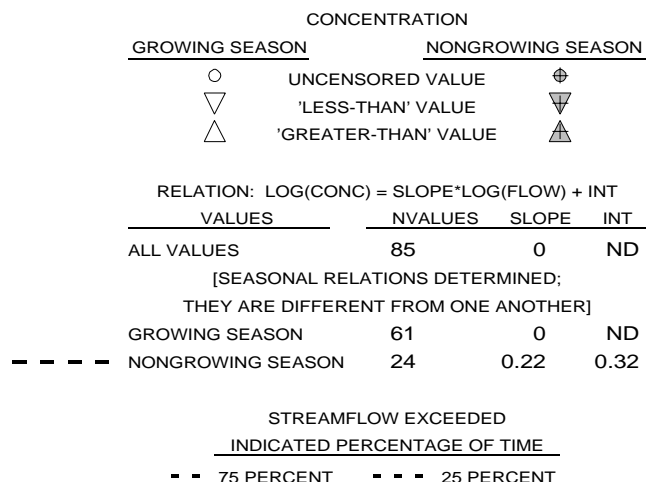
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



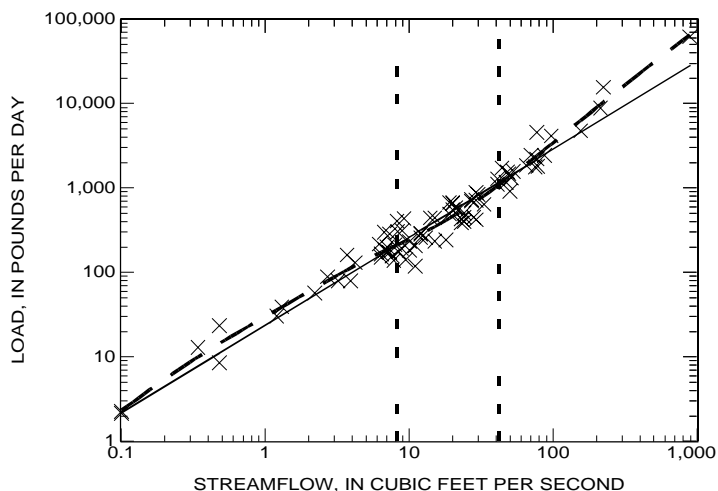
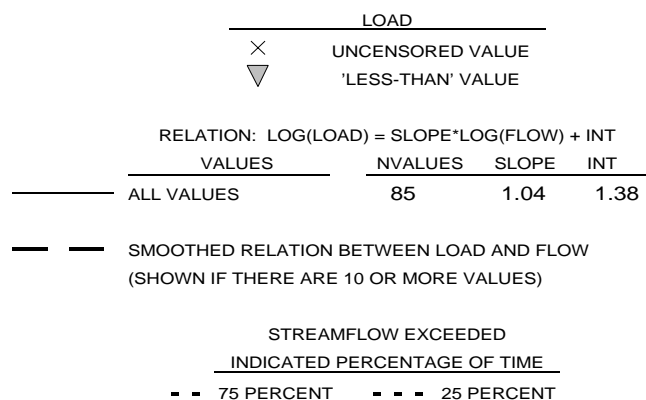
**APPENDIX 3. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL ORGANIC CARBON**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

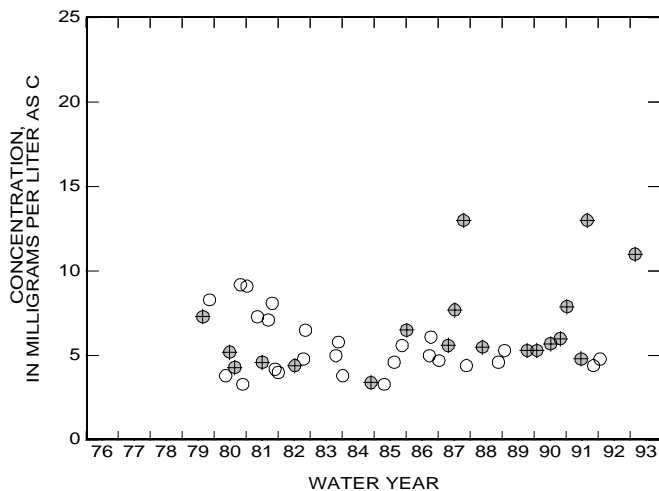
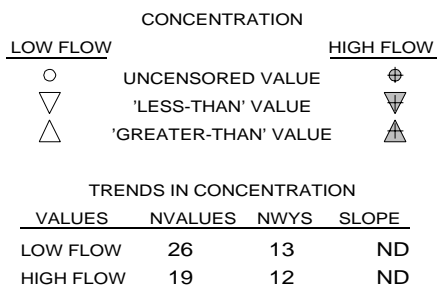
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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## Appendix 4

### Suspended sediment

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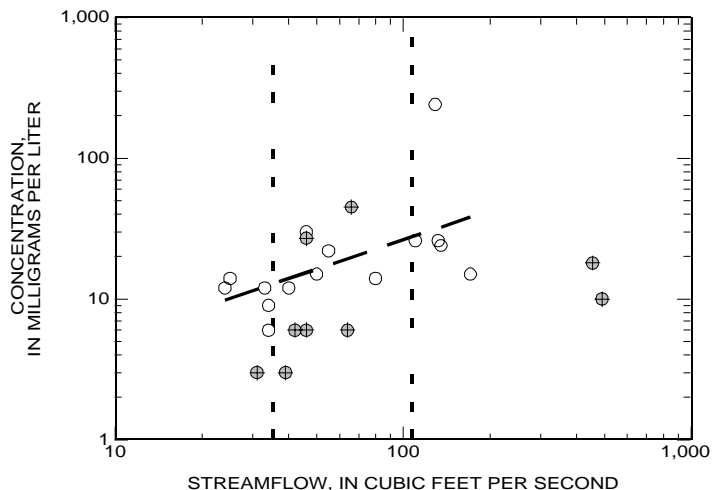
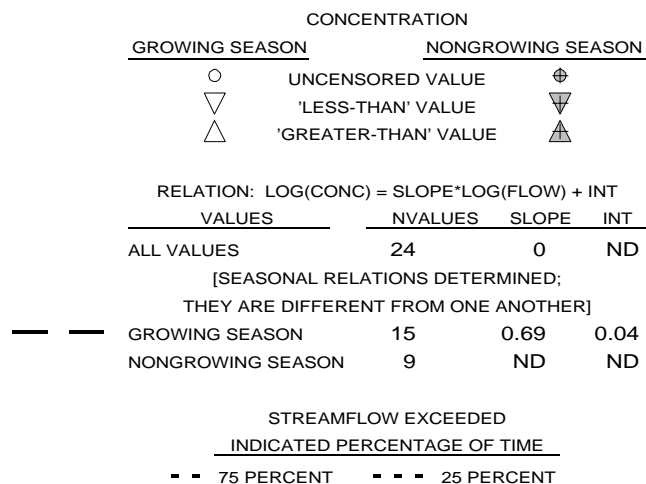
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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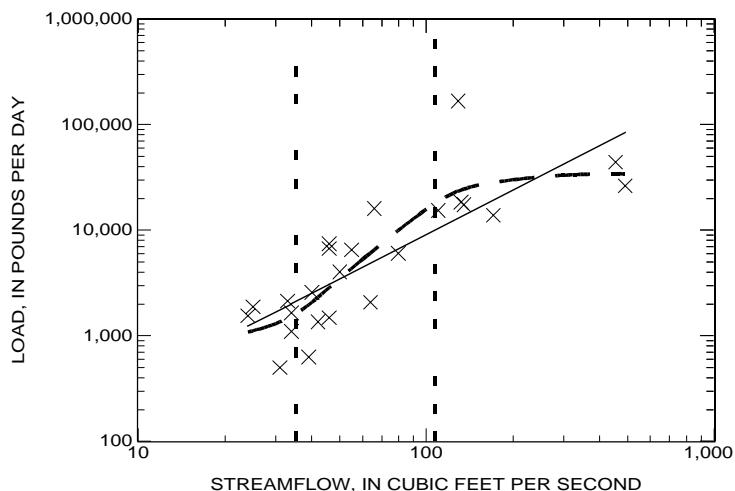
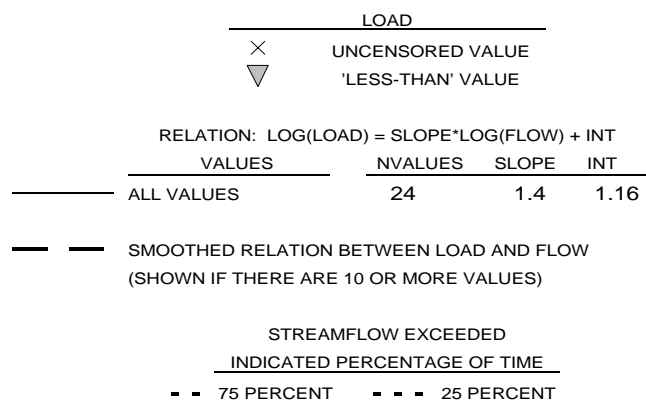
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

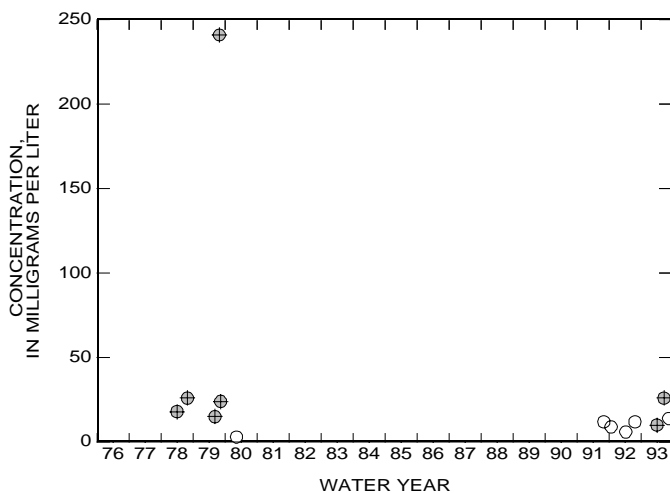
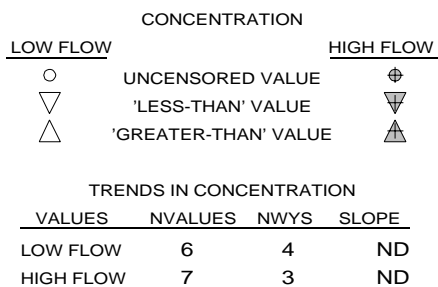
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



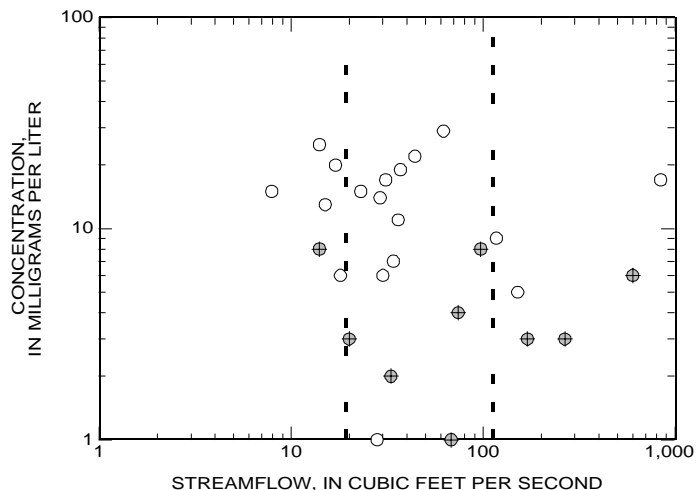
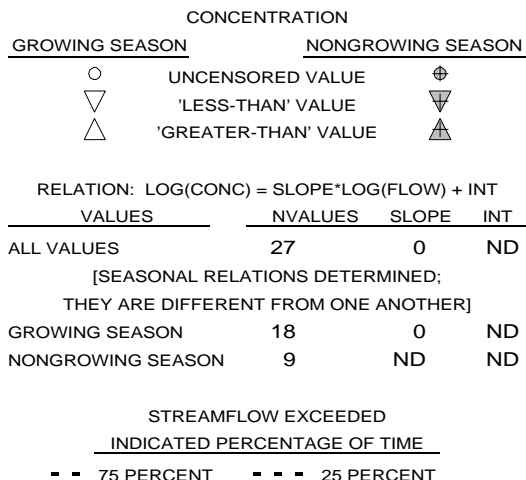
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



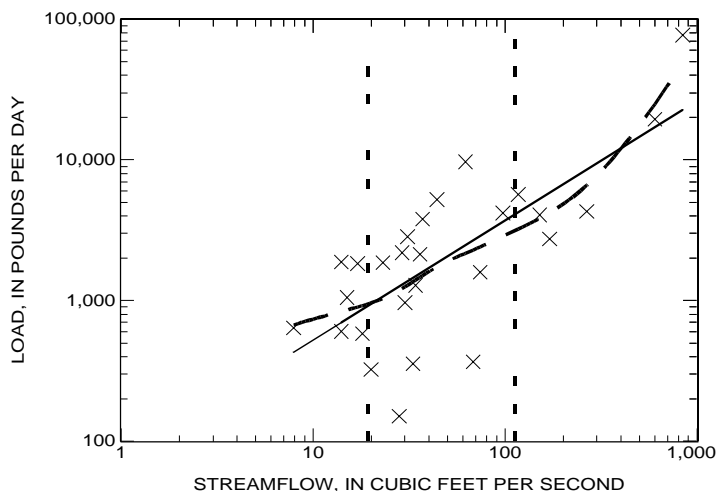
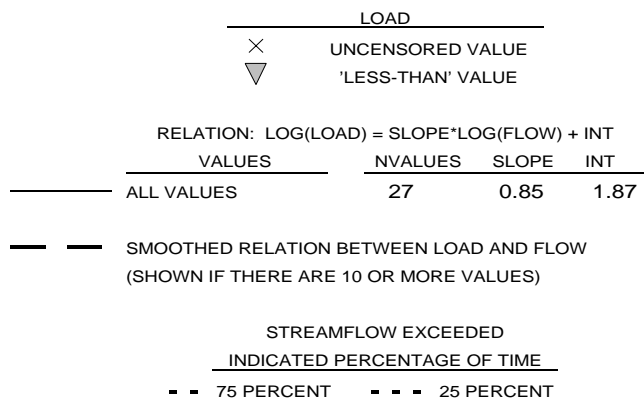
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

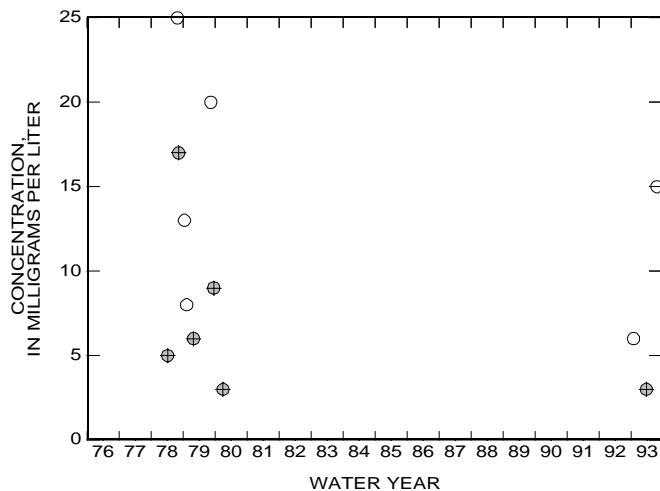
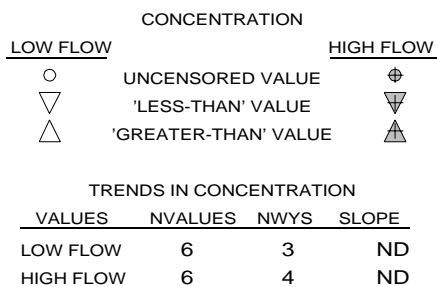
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

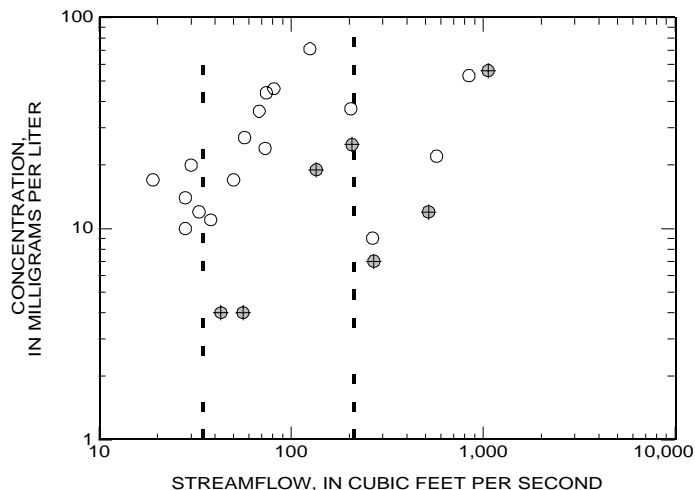
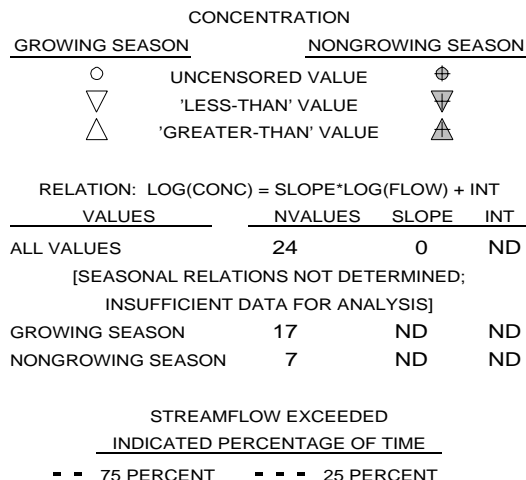




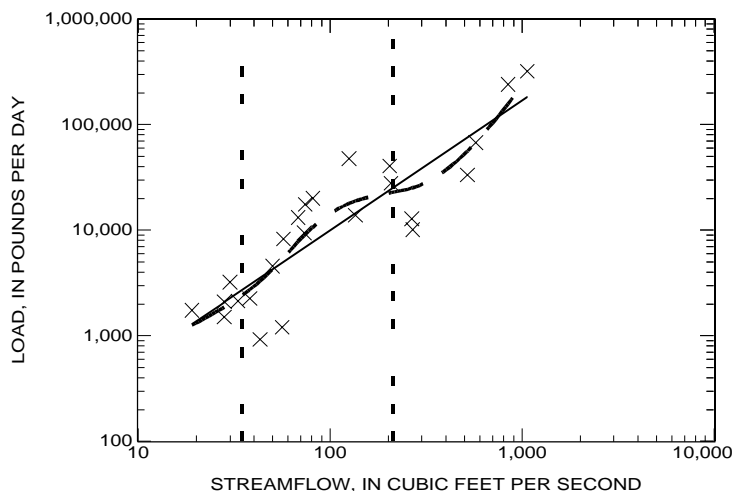
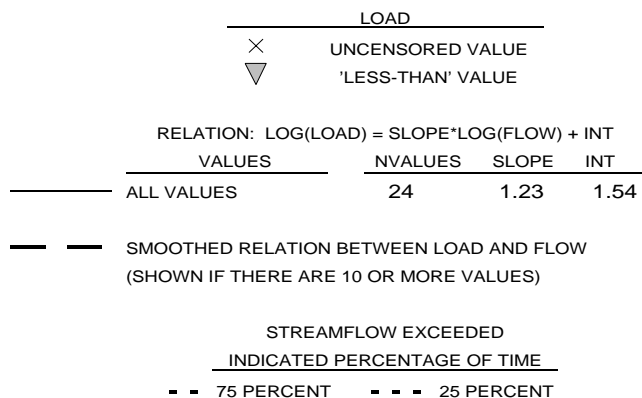
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

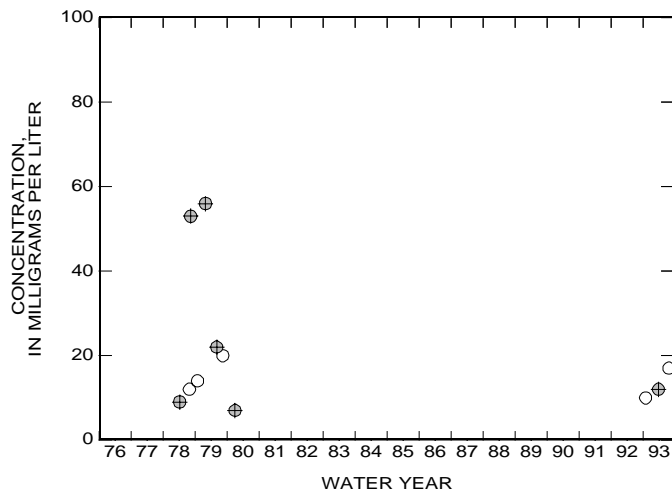
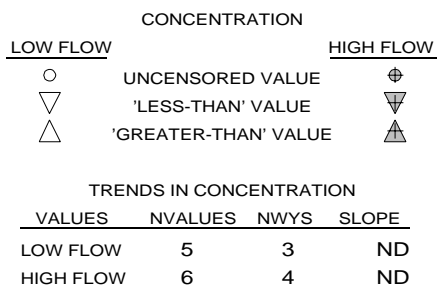
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



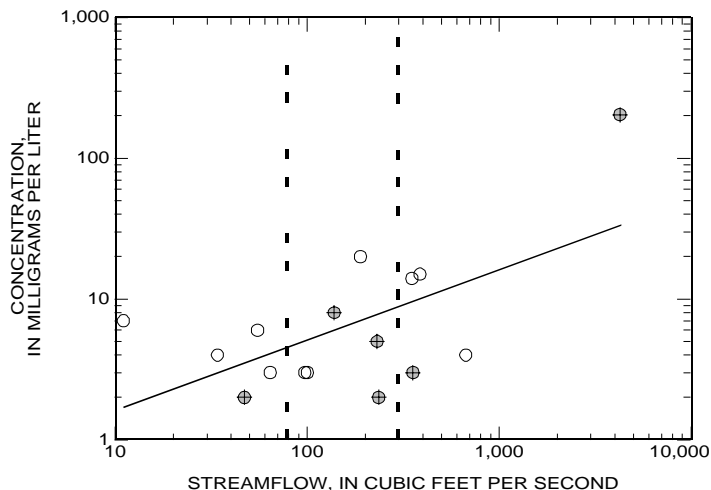
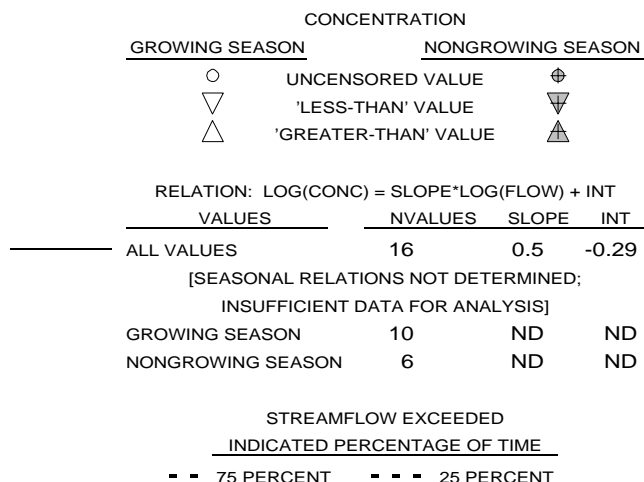
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



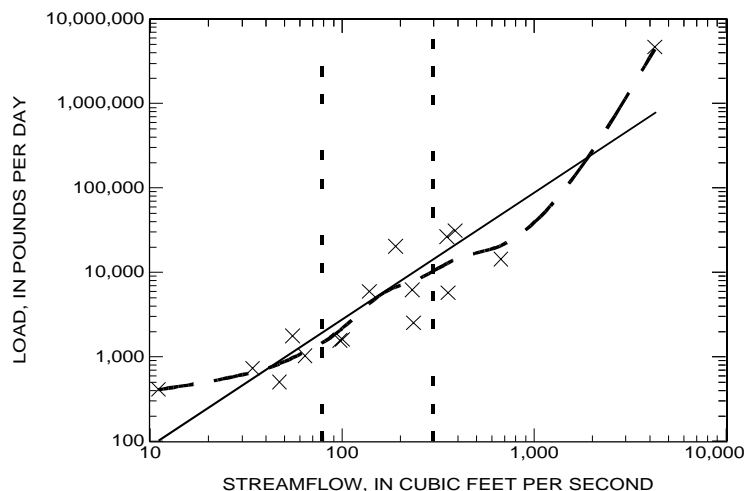
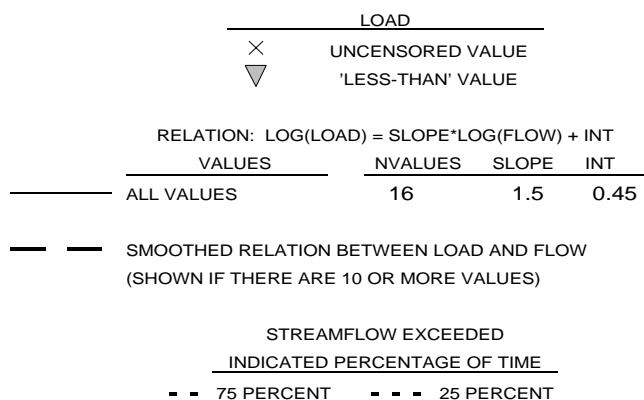
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

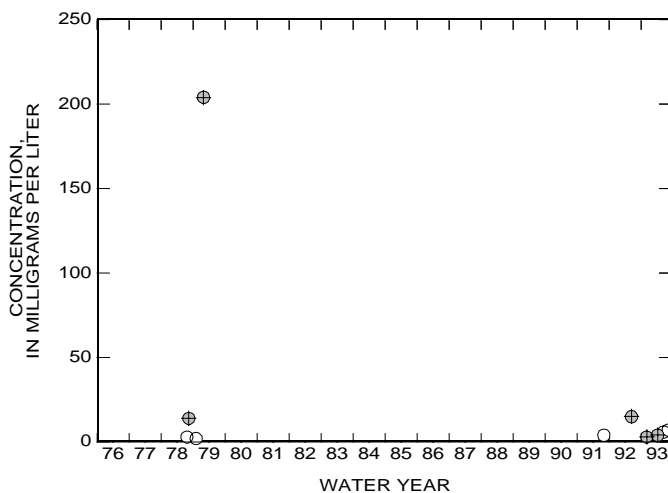
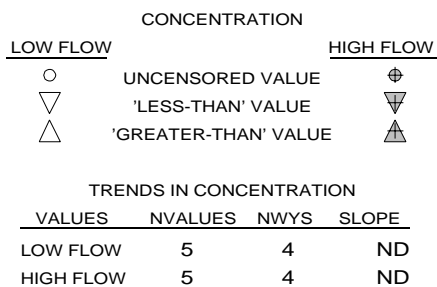
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

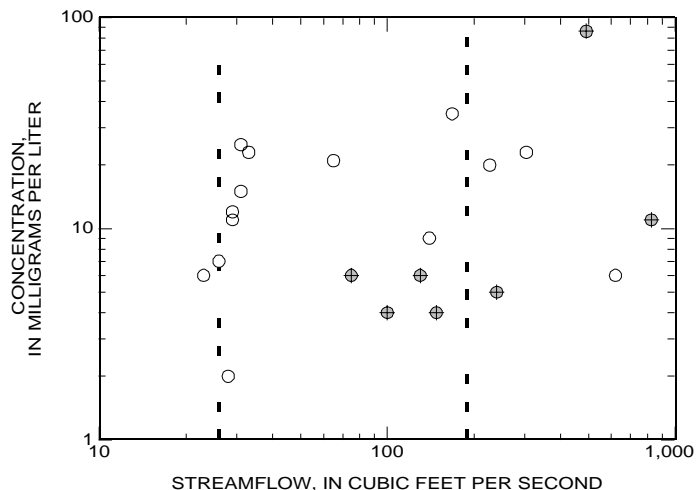


**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

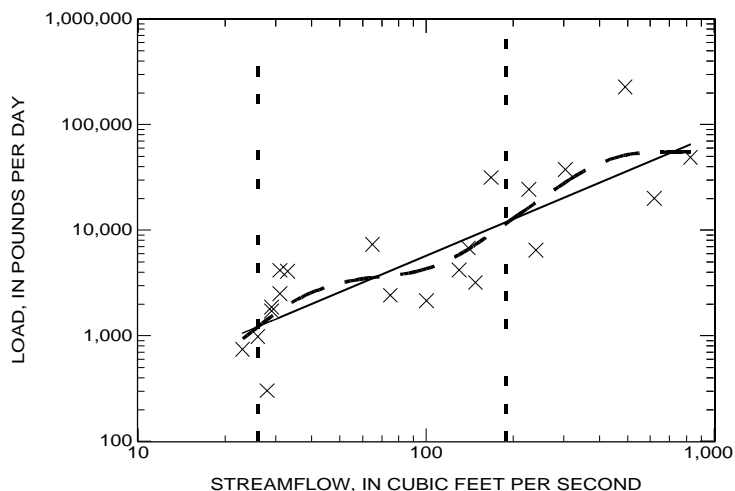
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	21	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	14	ND	ND
NONGROWING SEASON	7	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	--- 25 PERCENT		



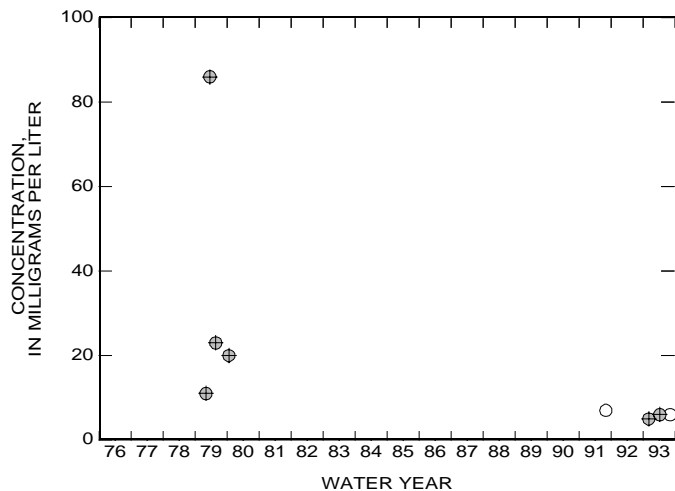
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	21	1.15	1.46
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	--- 25 PERCENT		



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

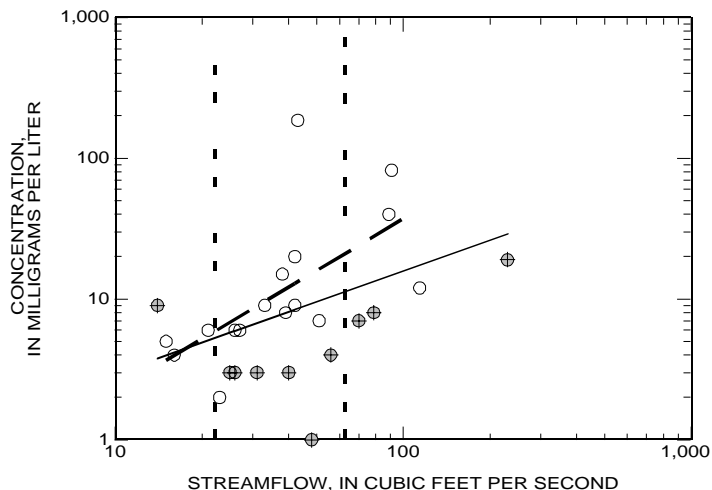
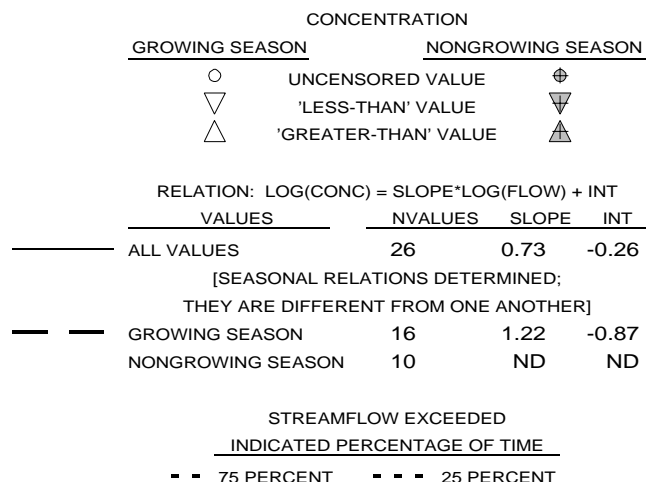
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	2	2	ND
HIGH FLOW	6	3	ND



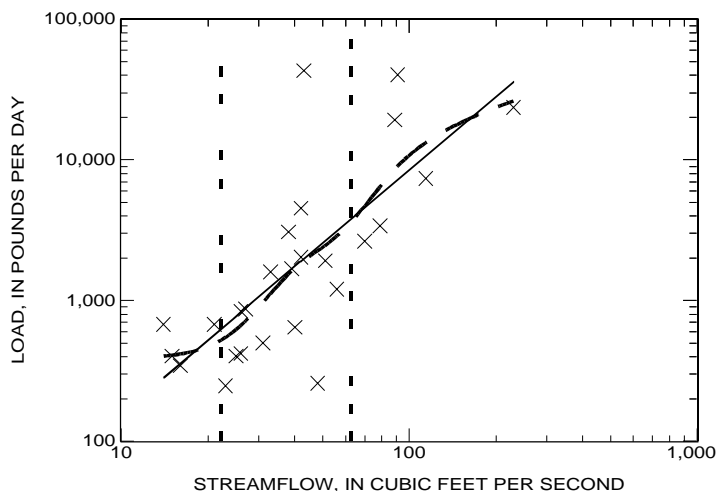
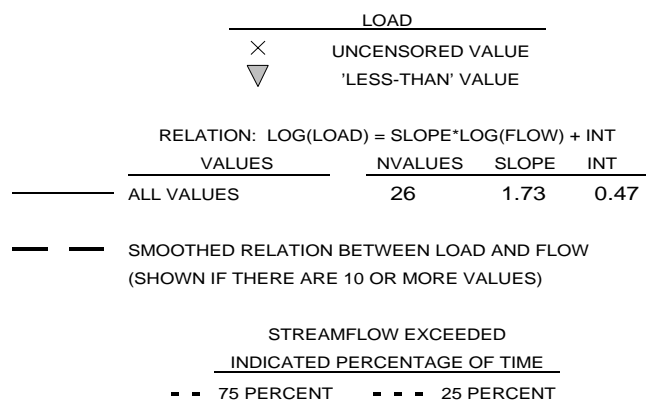
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

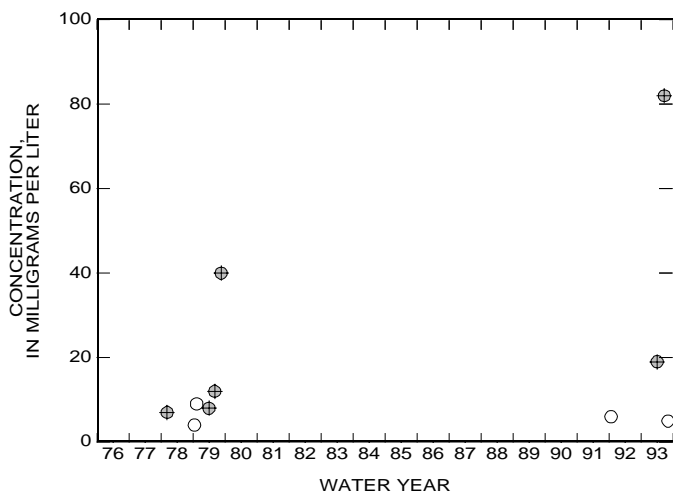
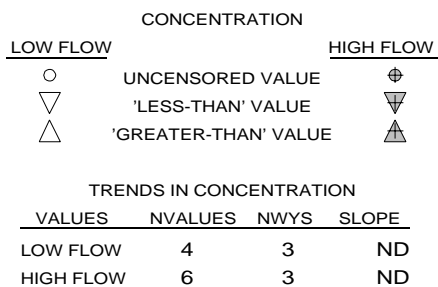
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



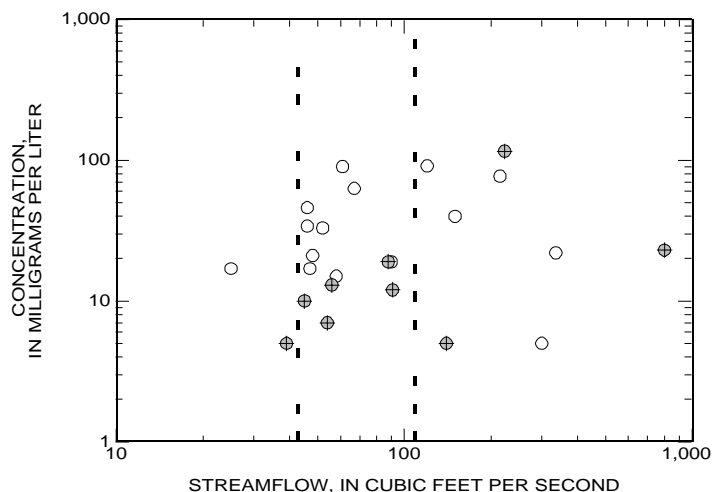
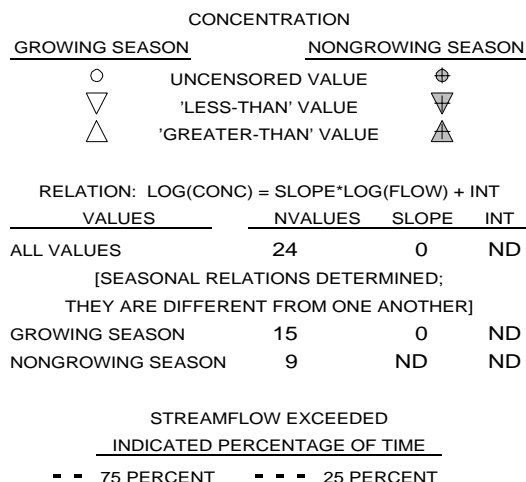
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



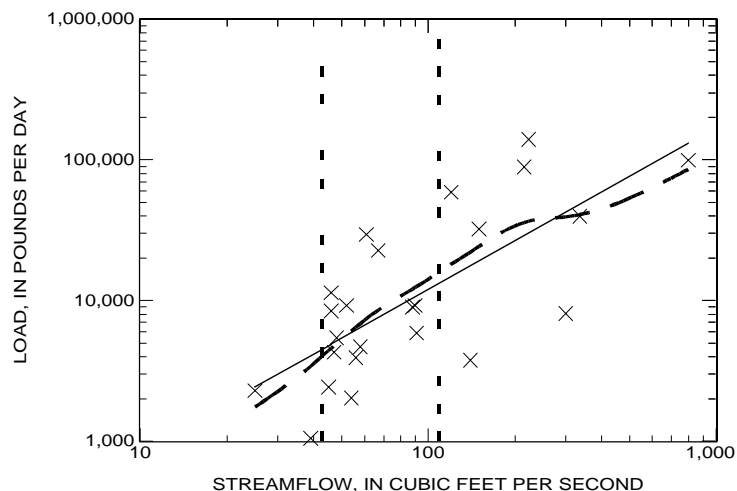
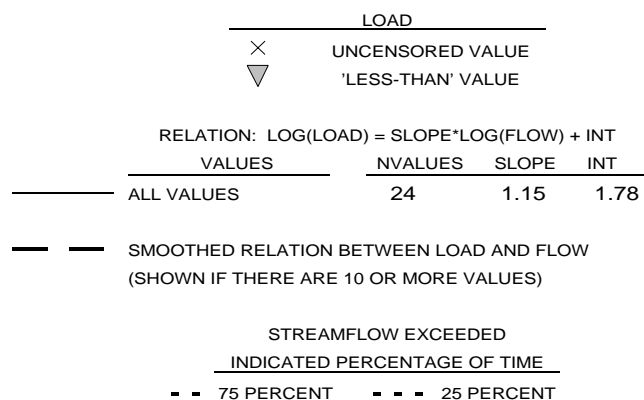
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

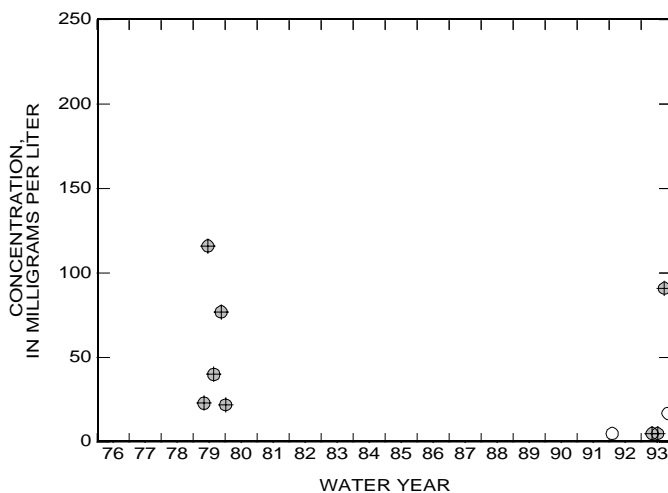
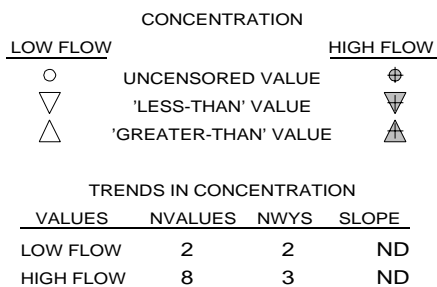
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



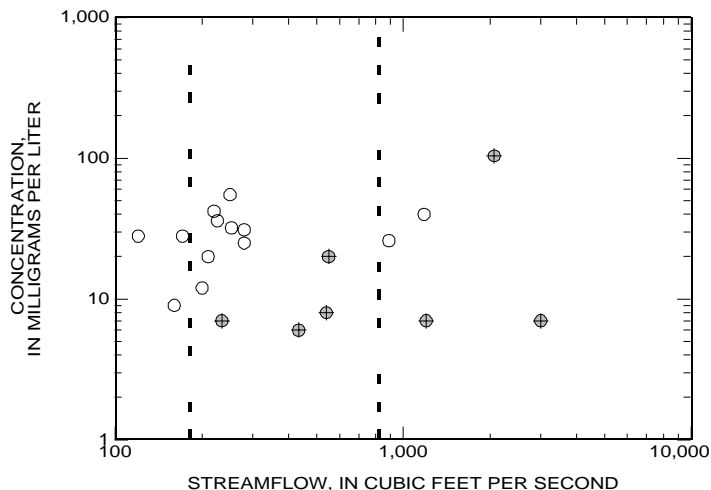
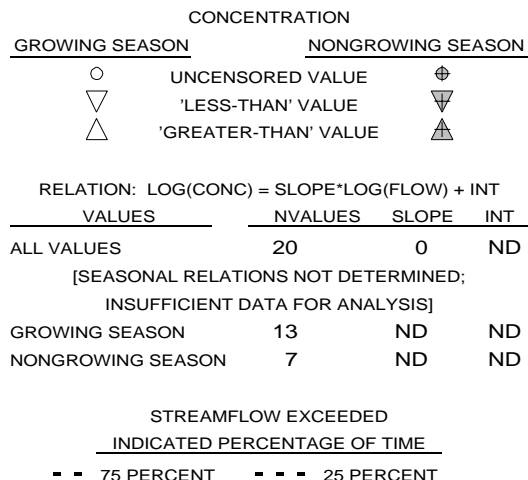
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



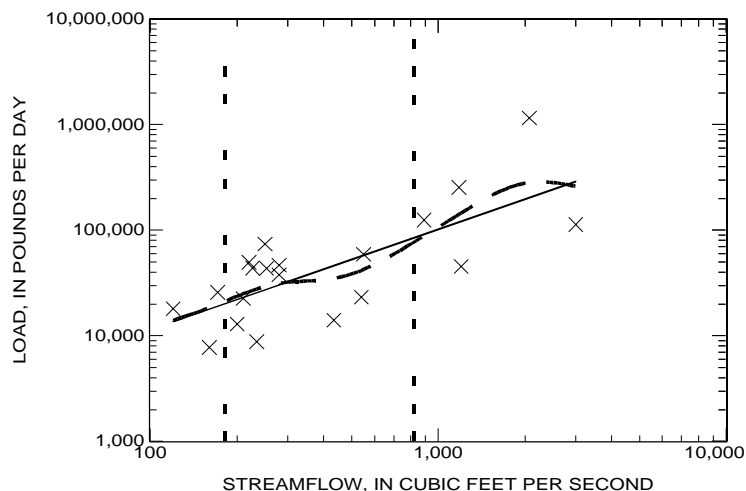
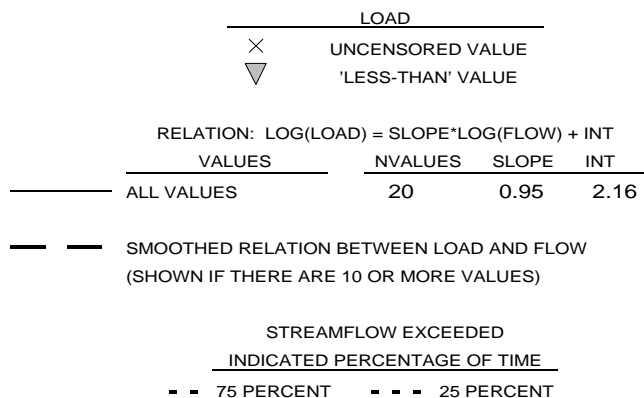
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

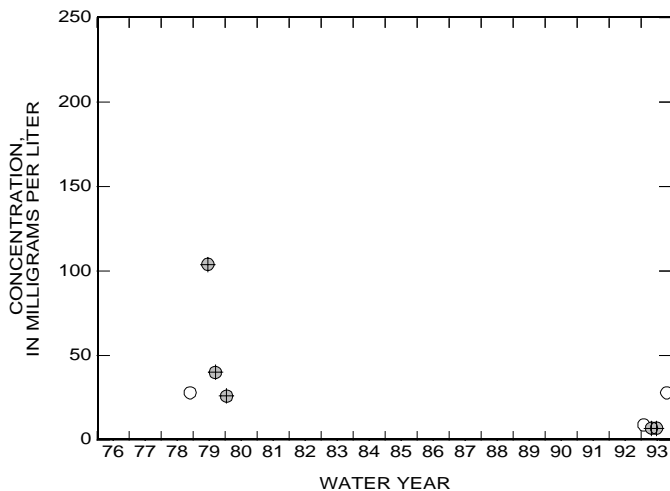
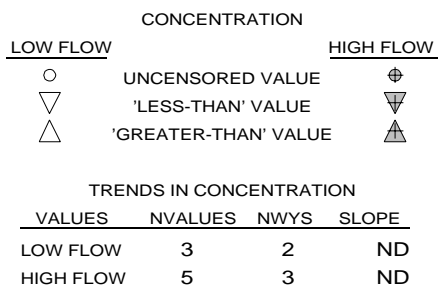
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



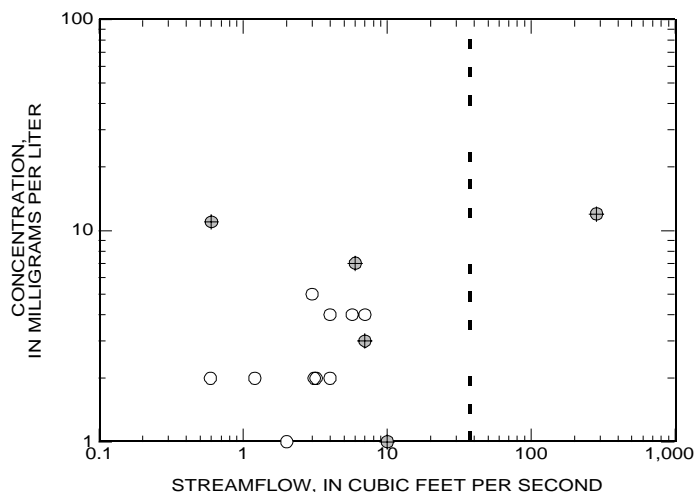
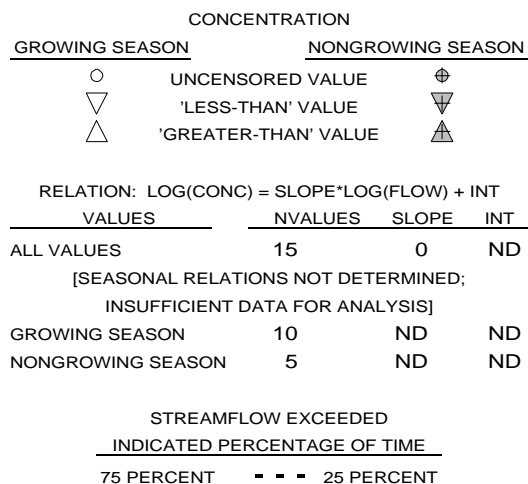
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



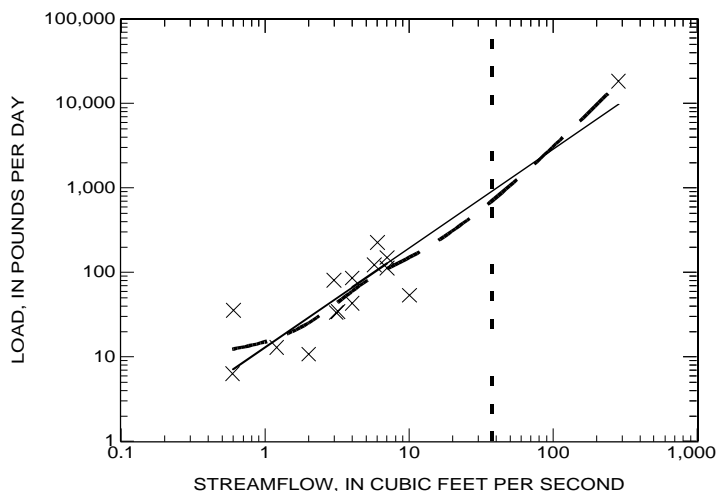
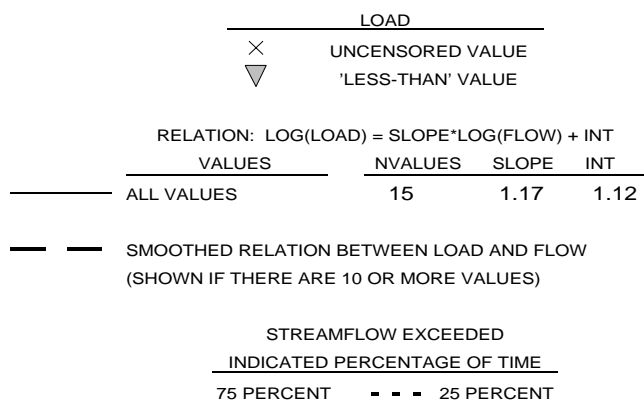
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

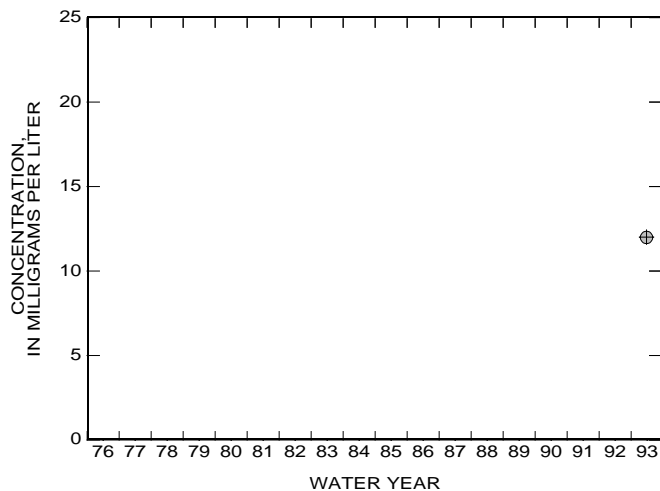
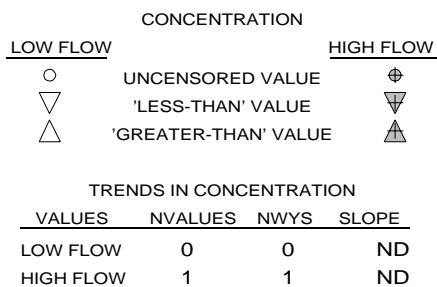
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



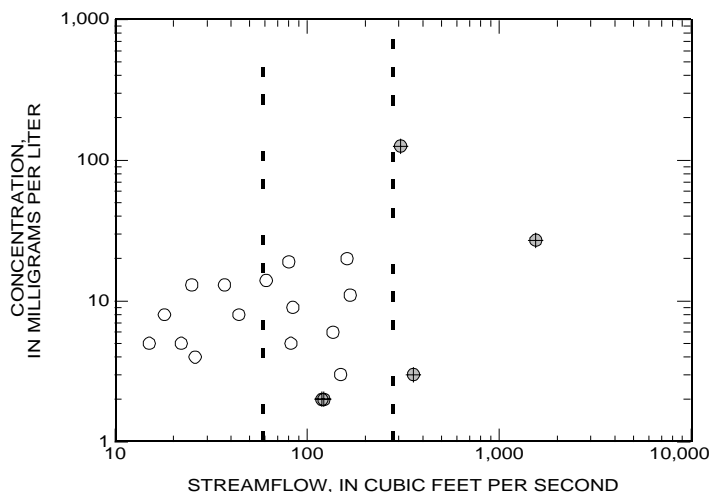
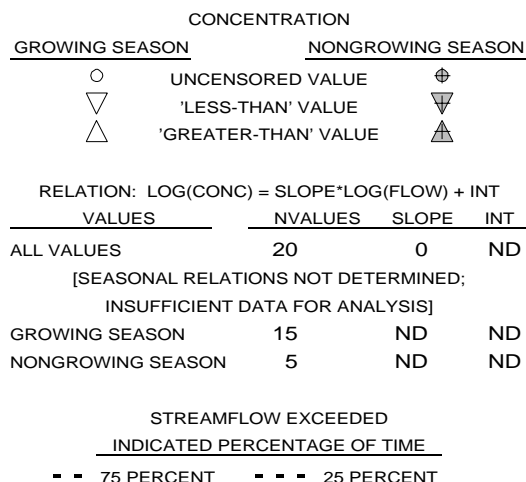
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



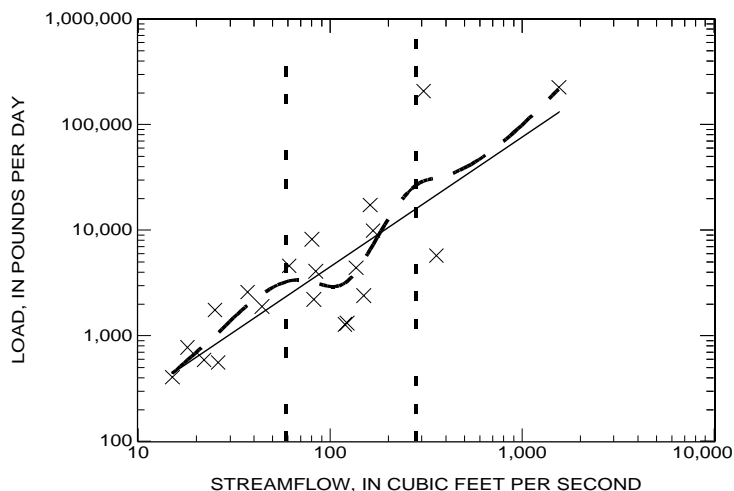
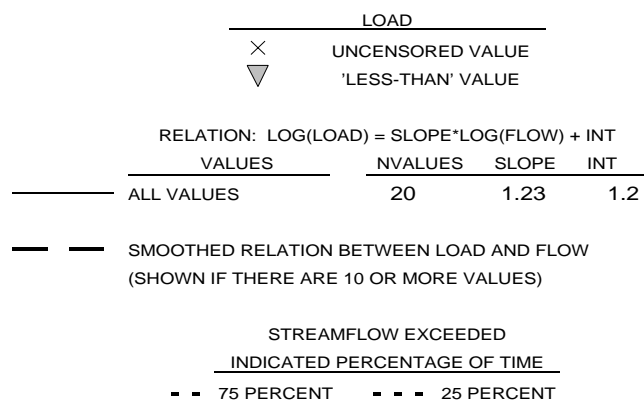
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

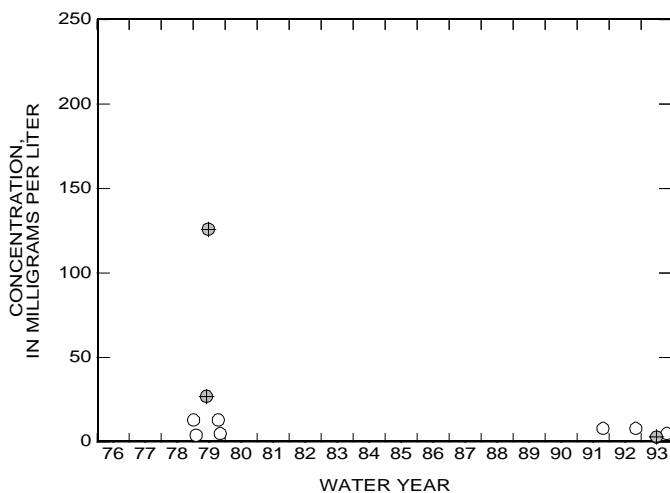
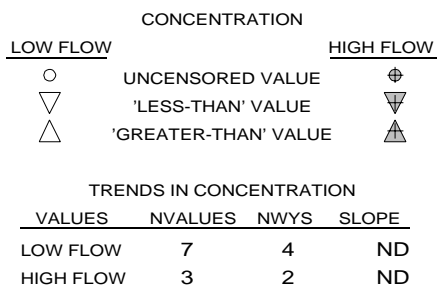
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

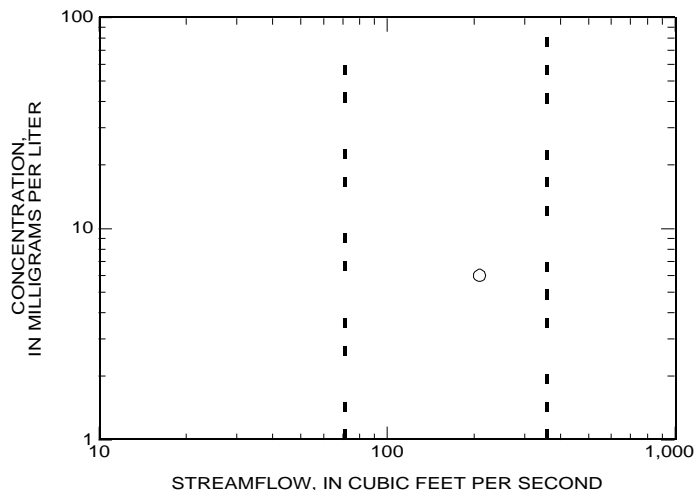
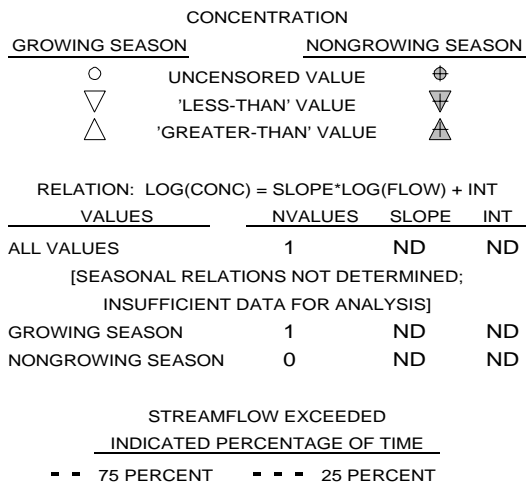




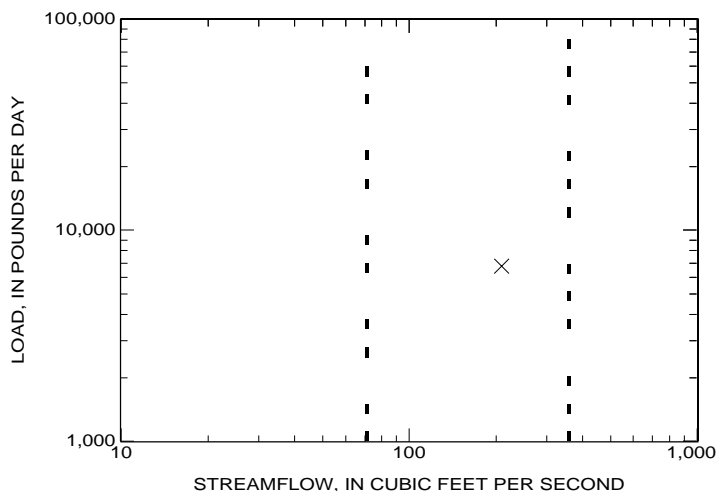
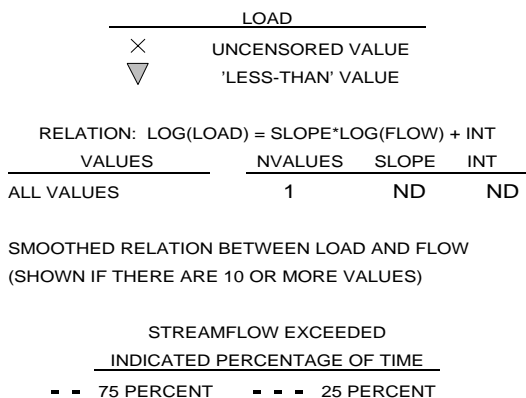
APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time  
SUSPENDED SEDIMENT  
01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

RELATION OF CONCENTRATION TO STREAMFLOW



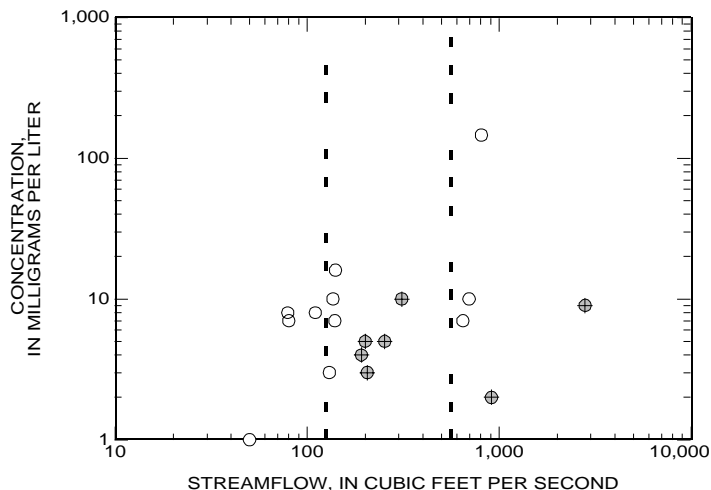
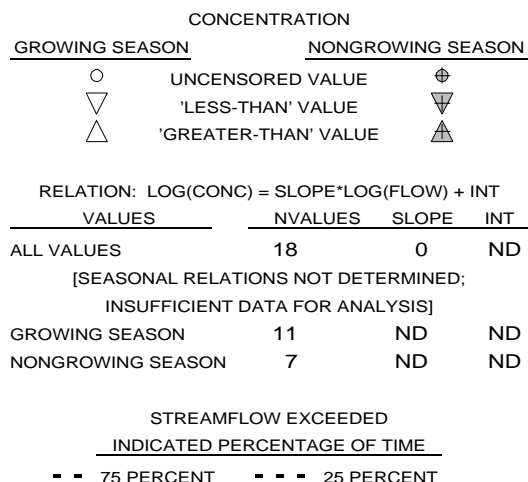
RELATION OF LOAD TO STREAMFLOW



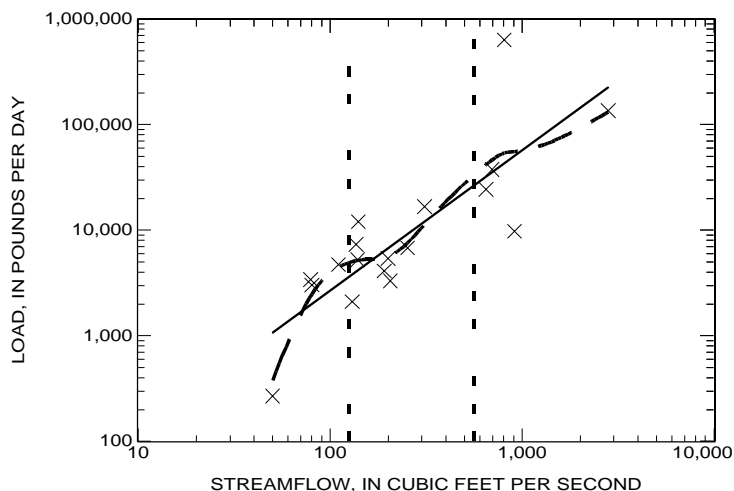
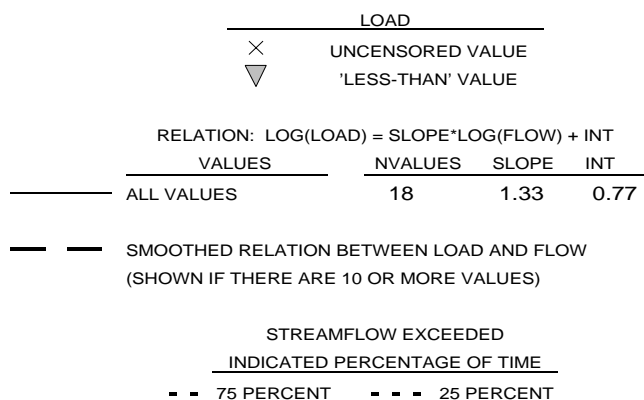
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

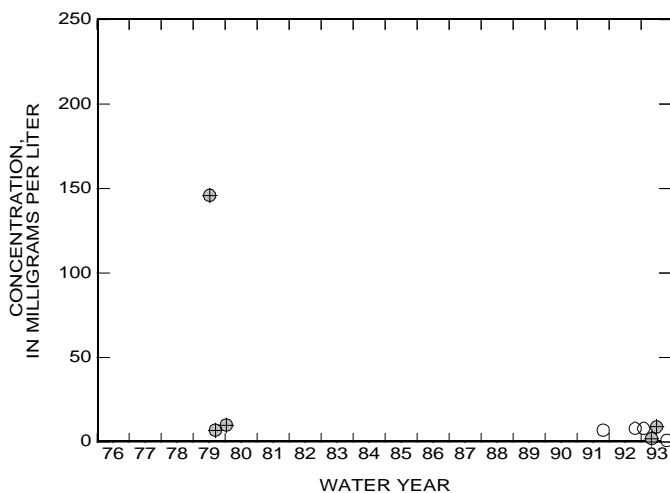
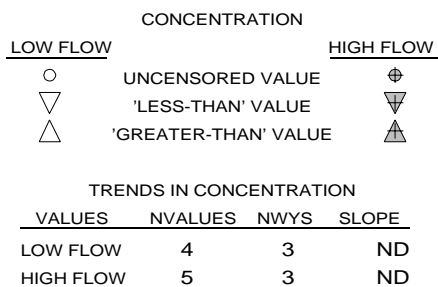
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



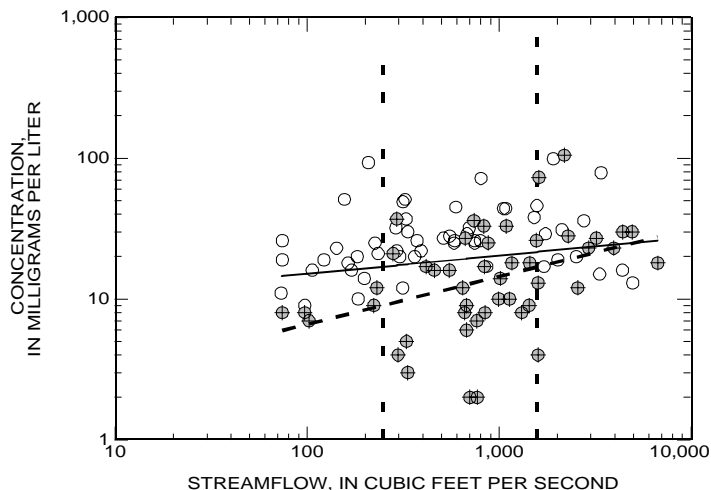
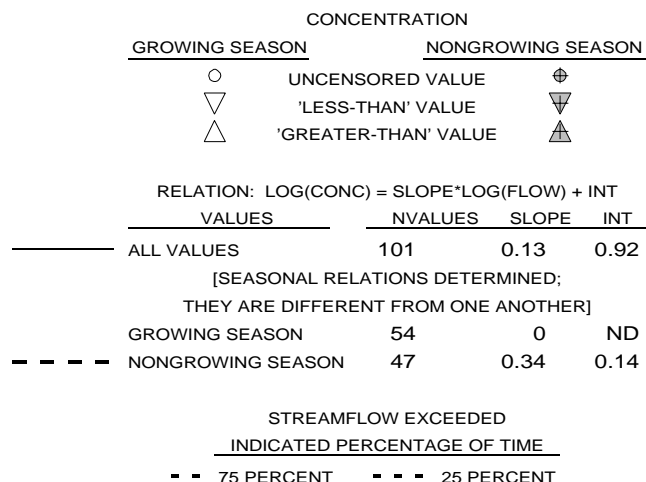
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



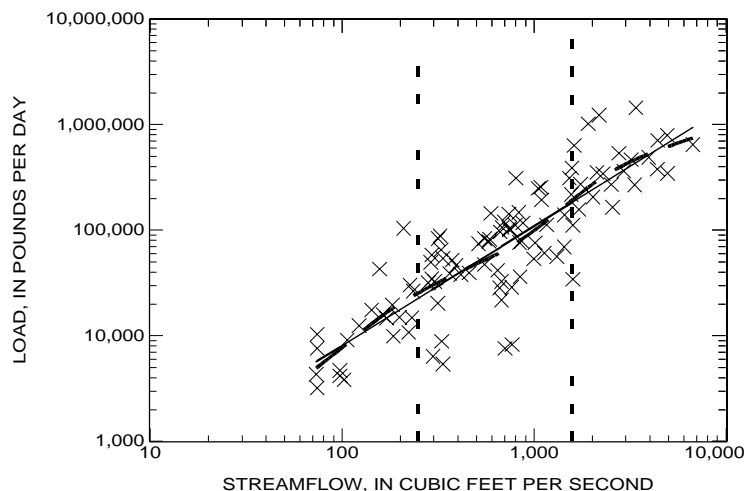
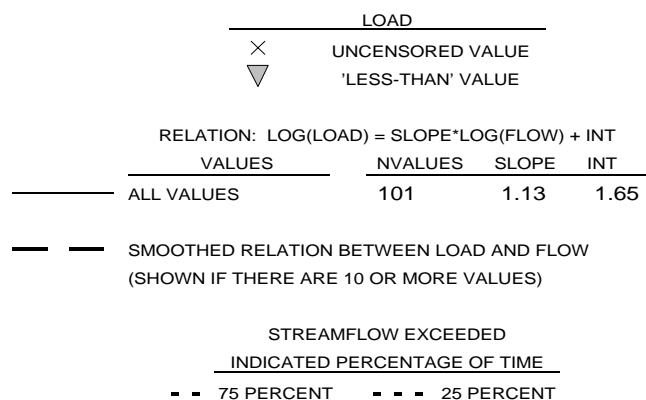
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

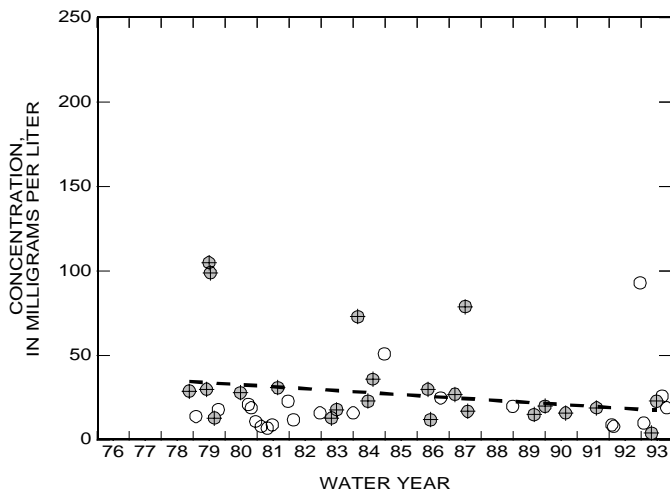
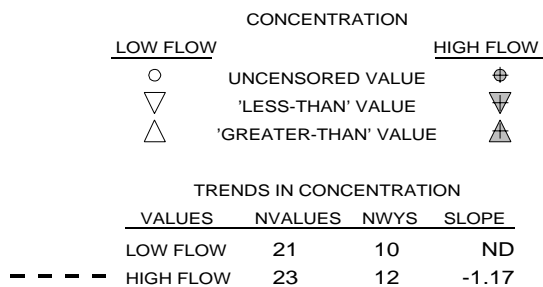
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



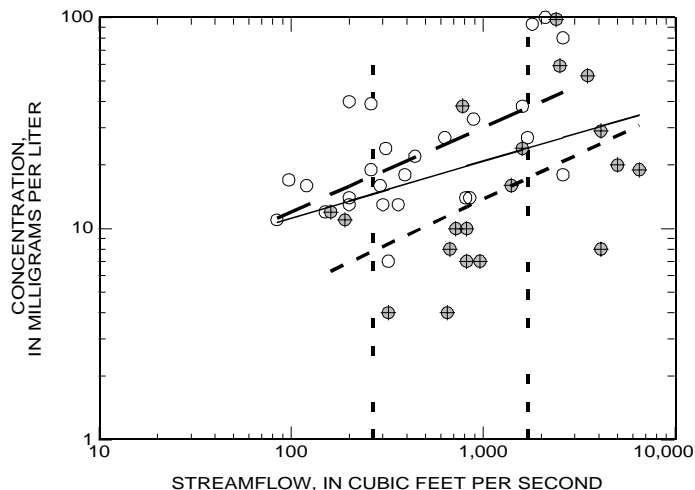
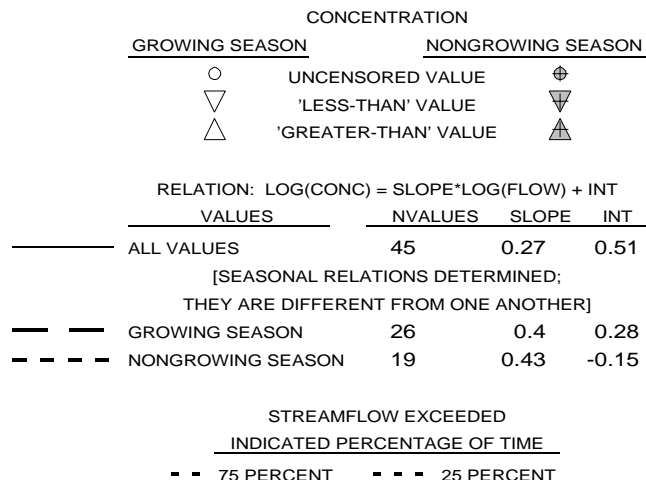
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



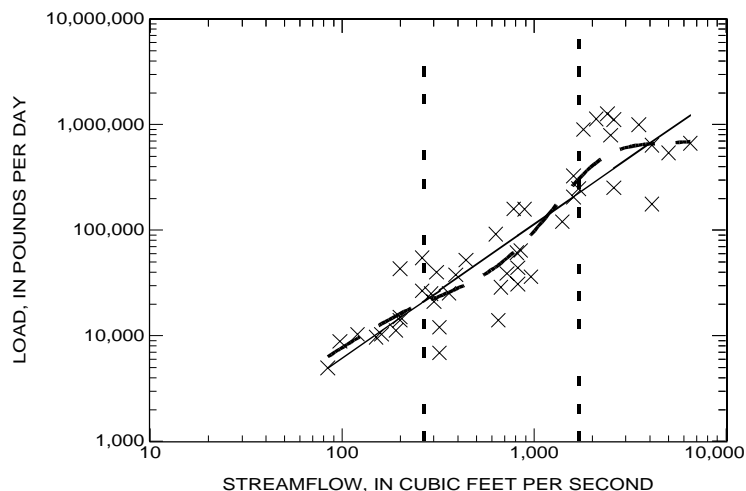
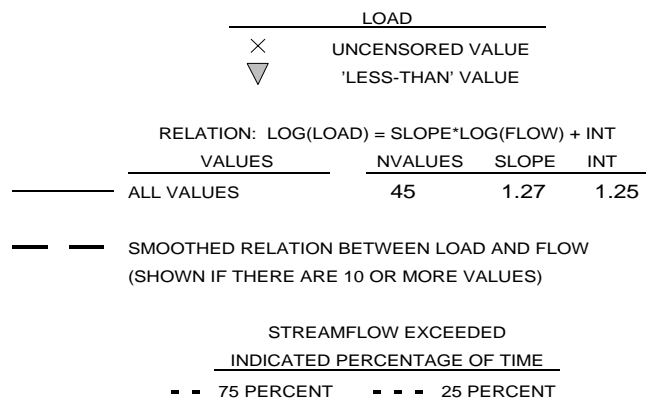
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

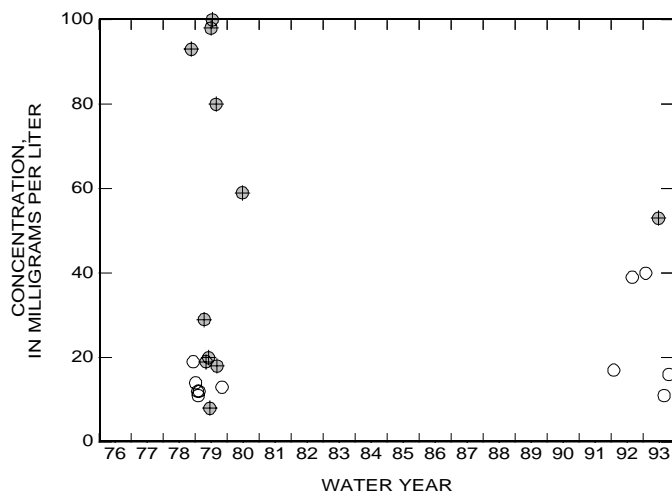
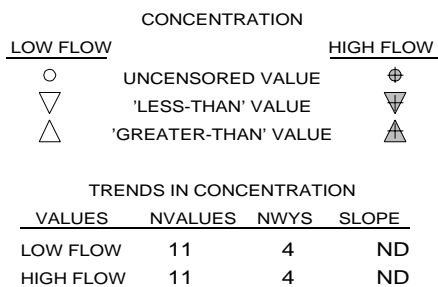
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



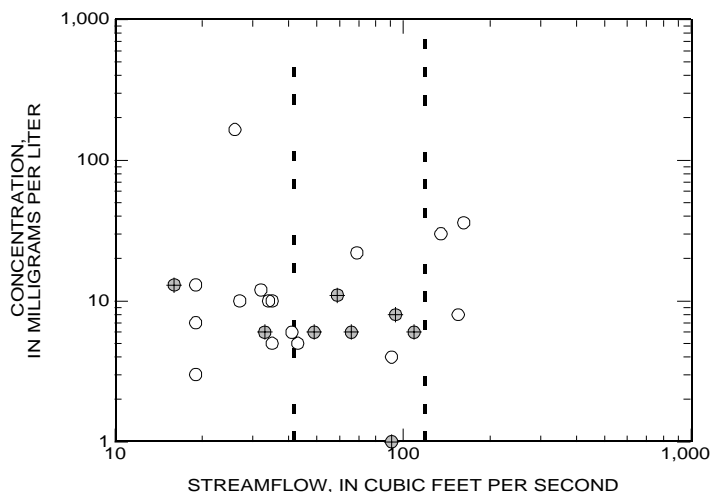
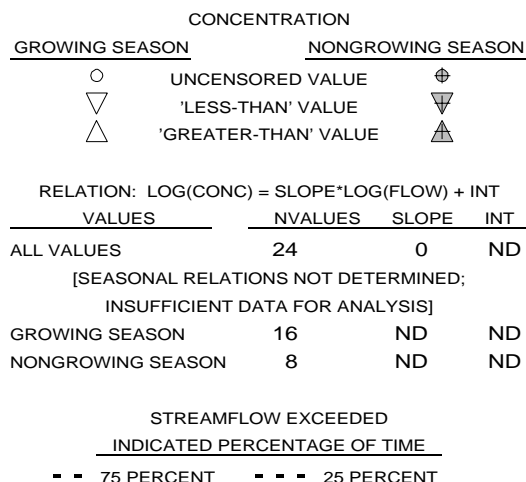
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



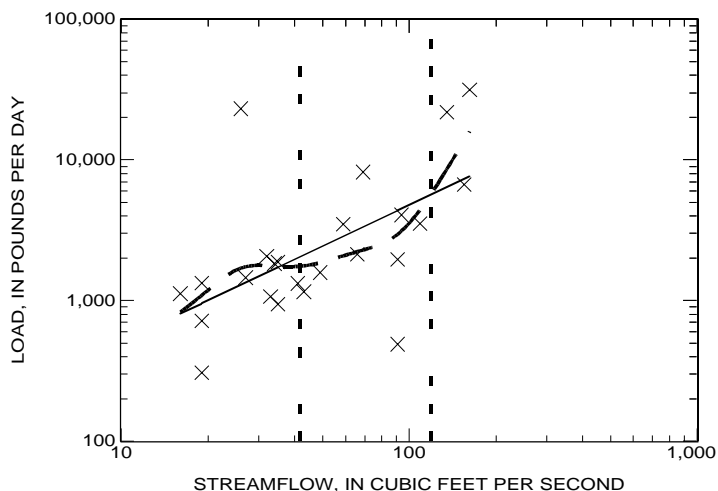
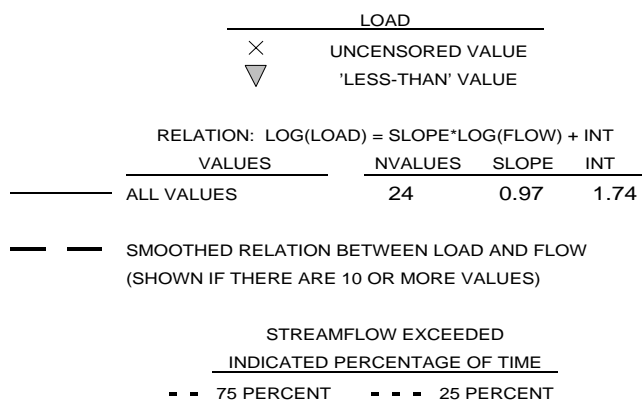
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

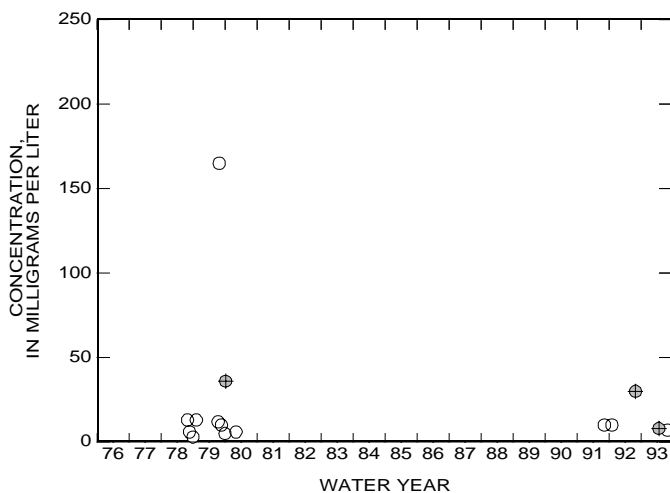
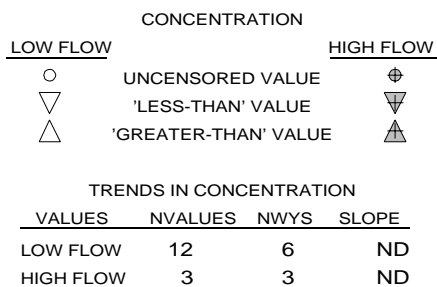
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



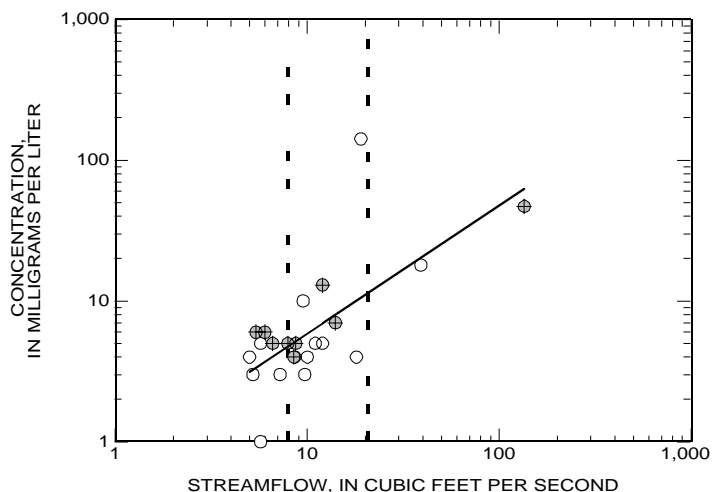
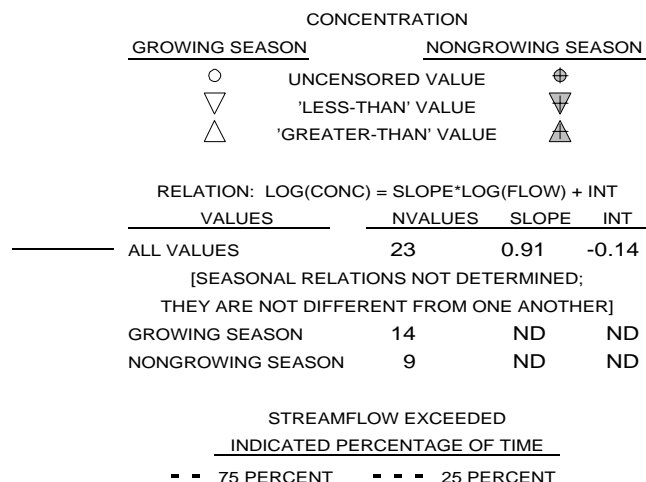
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



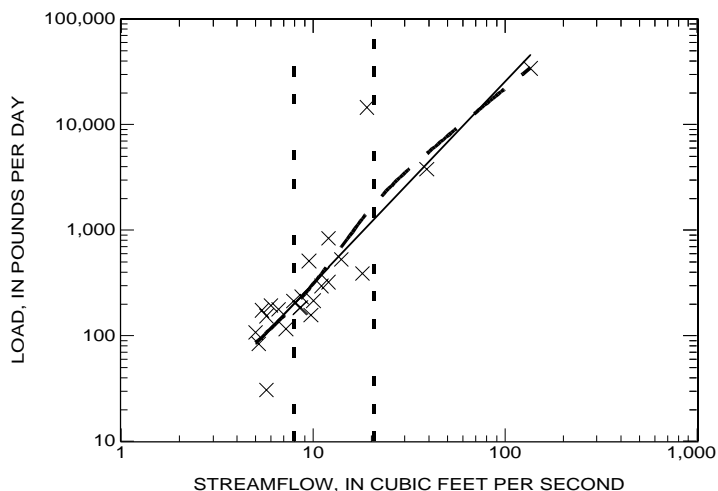
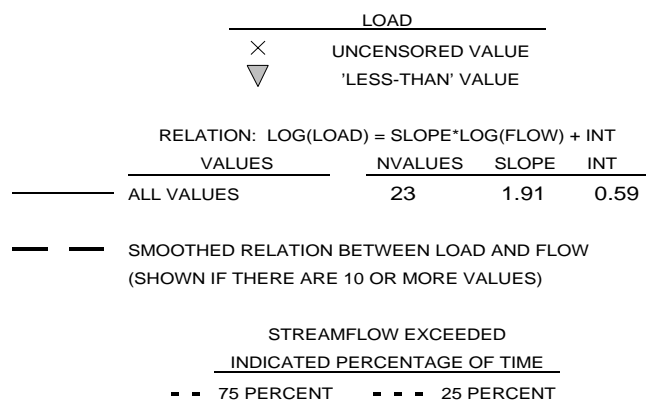
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

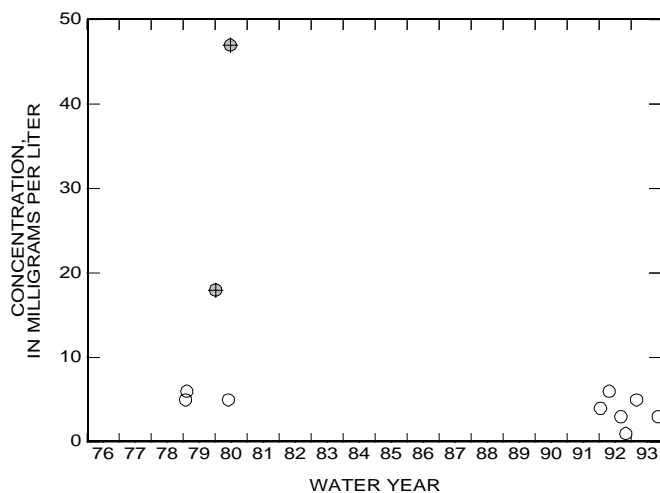
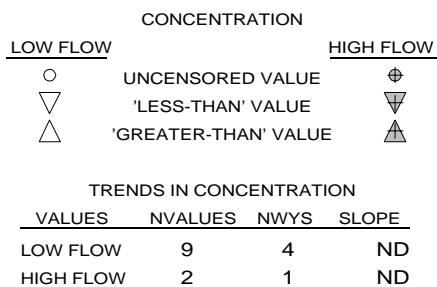
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



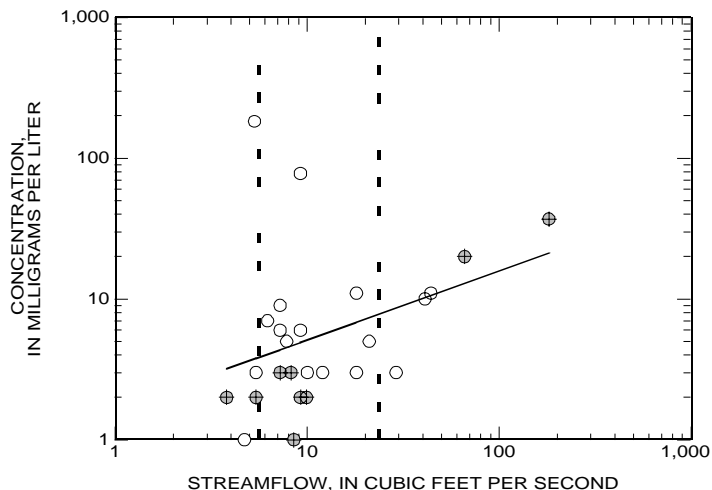
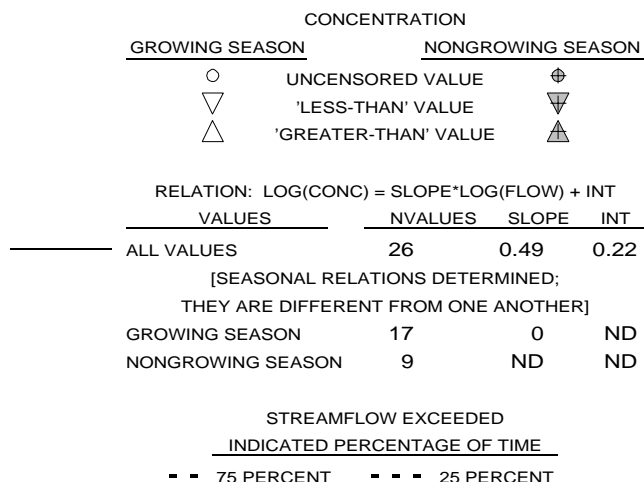
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



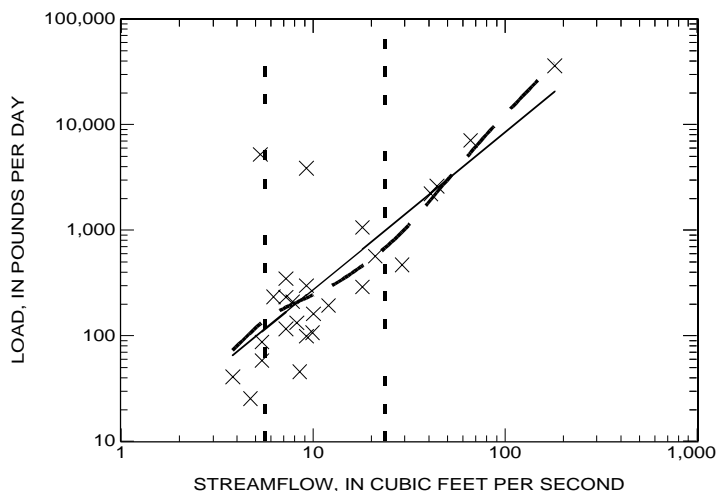
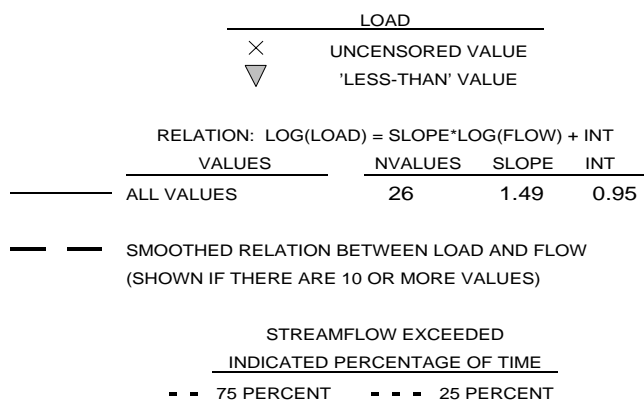
**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

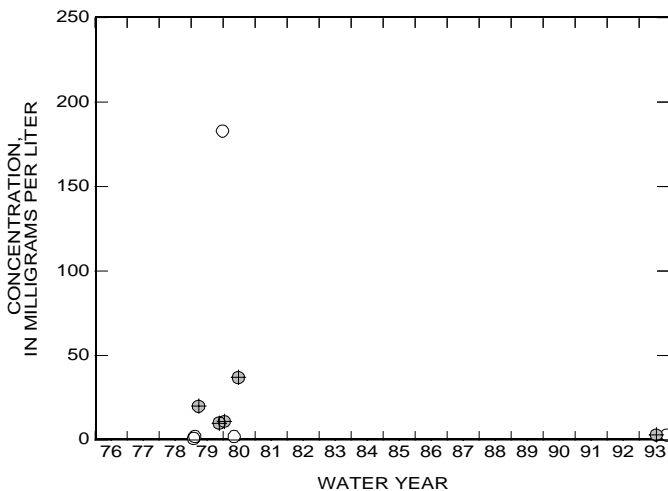
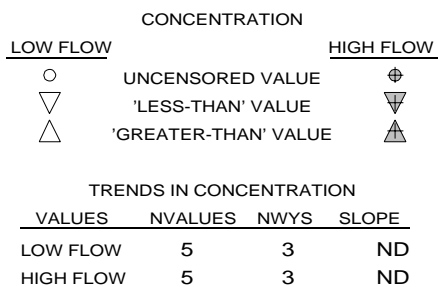
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

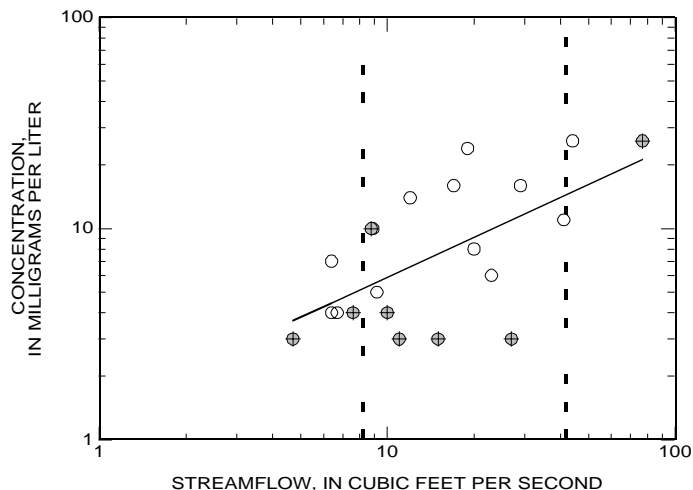


**APPENDIX 4. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**SUSPENDED SEDIMENT**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

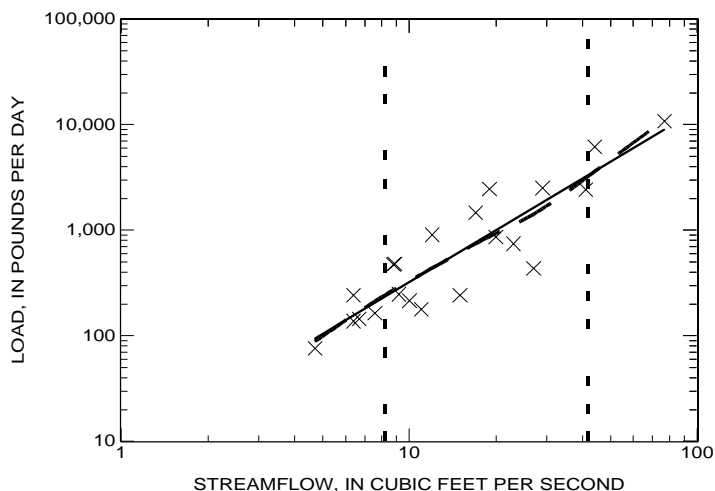
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	21	0.63	0.14	
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]				
GROWING SEASON	13	ND	ND	
NONGROWING SEASON	8	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	--- 25 PERCENT			



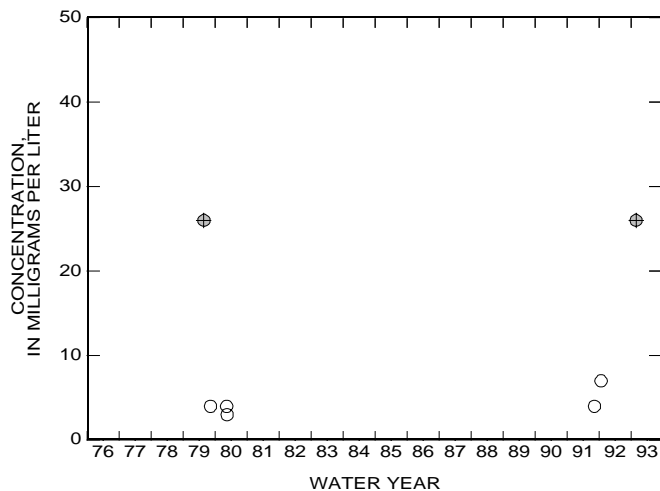
**RELATION OF LOAD TO STREAMFLOW**

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	21	1.63	0.88	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	--- 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	5	4	ND	
HIGH FLOW	2	2	ND	





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## Appendix 5

### Dissolved solids

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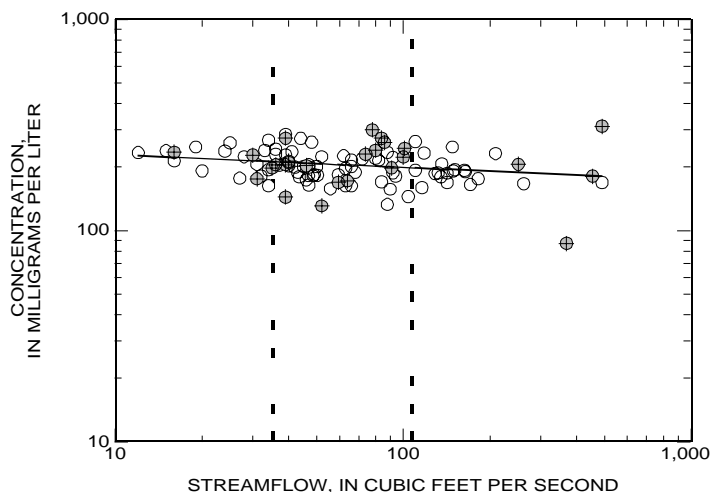
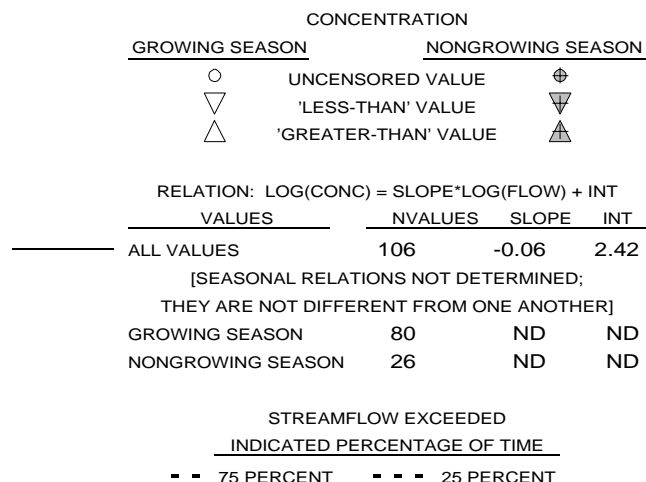
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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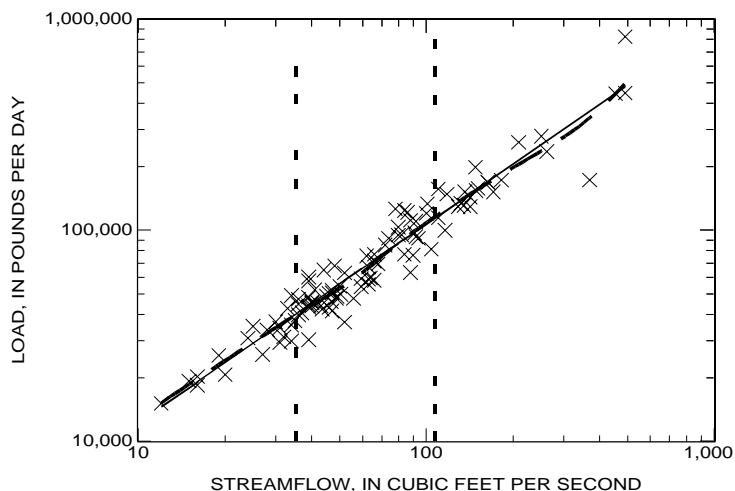
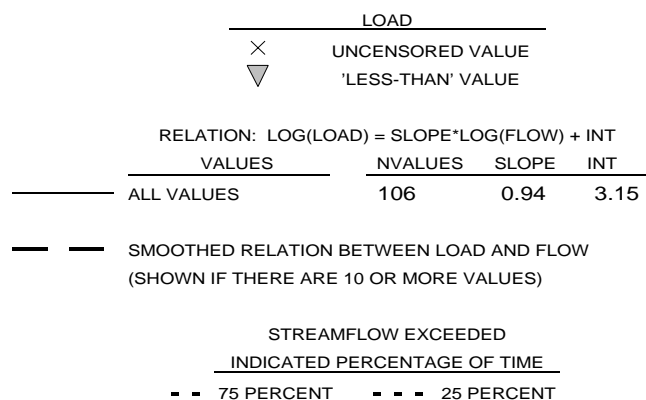
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

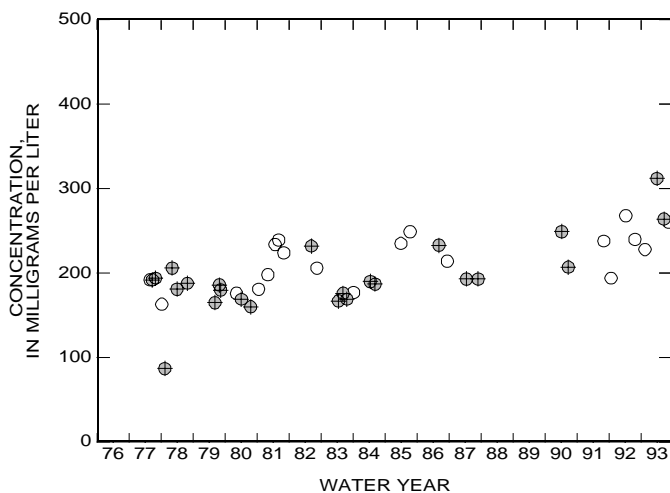
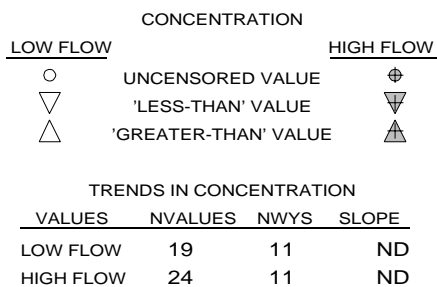
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



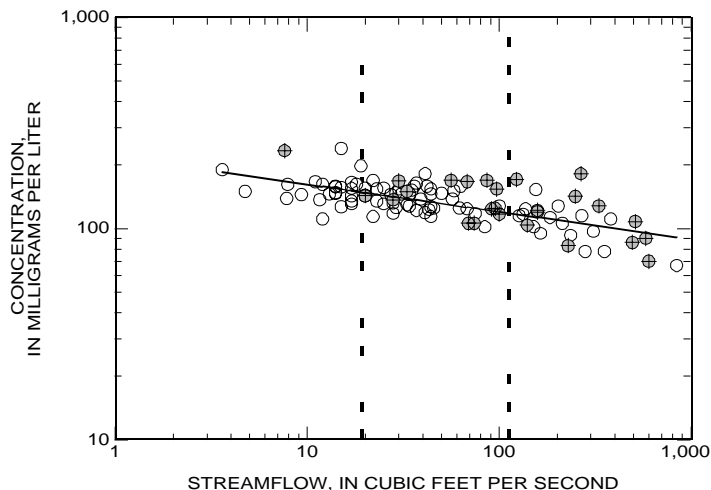
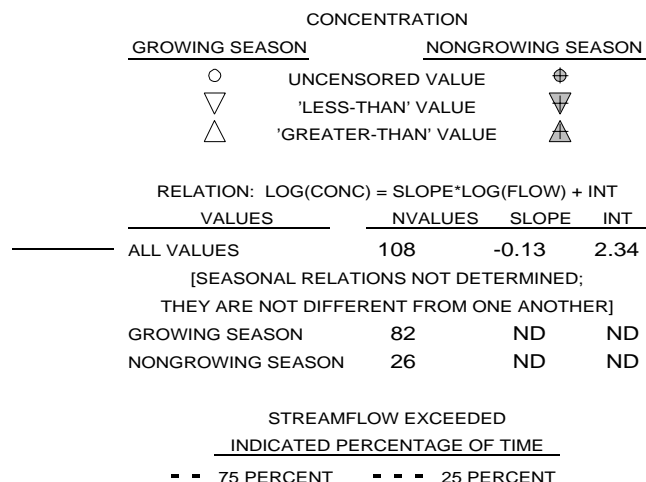
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



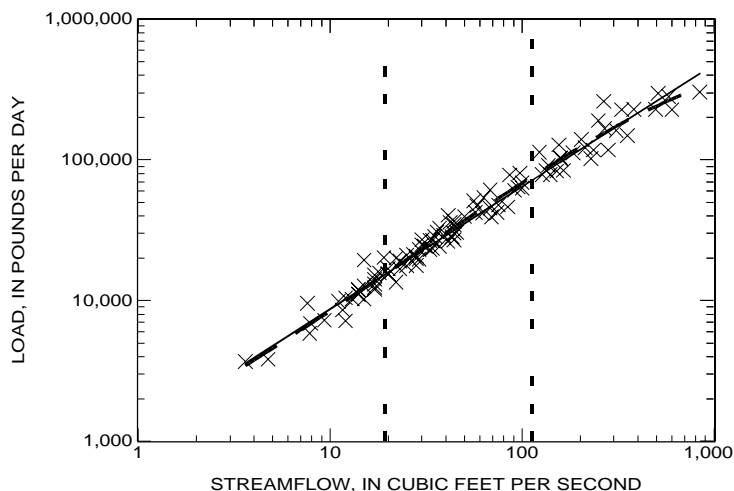
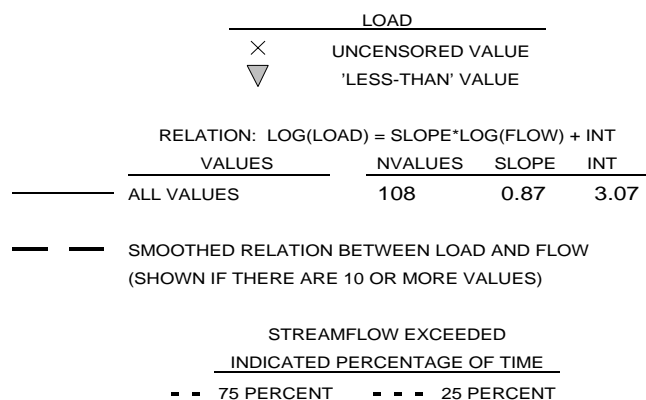
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

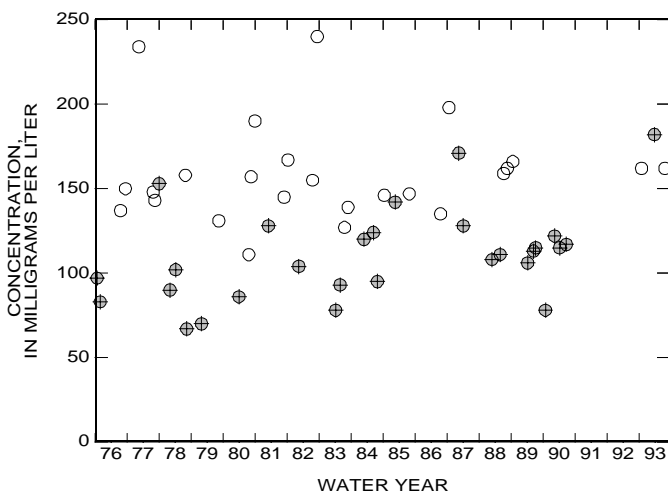
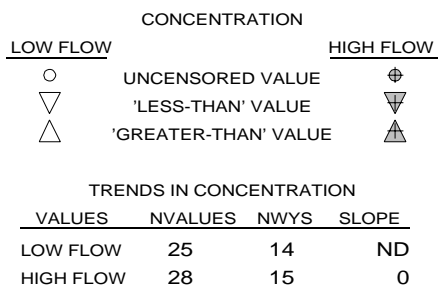
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



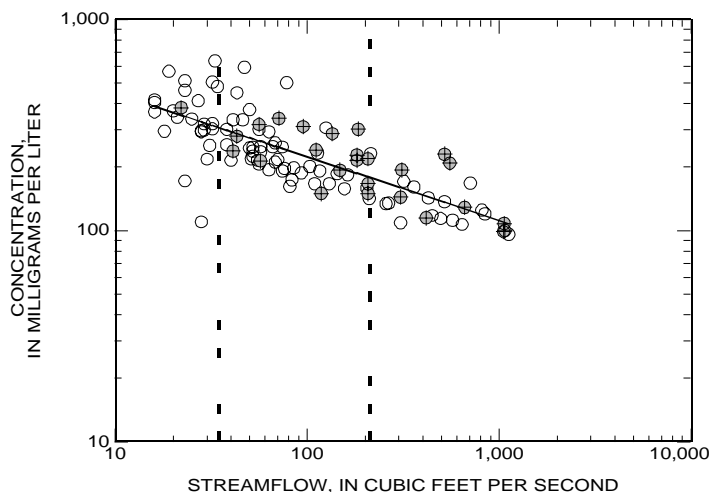
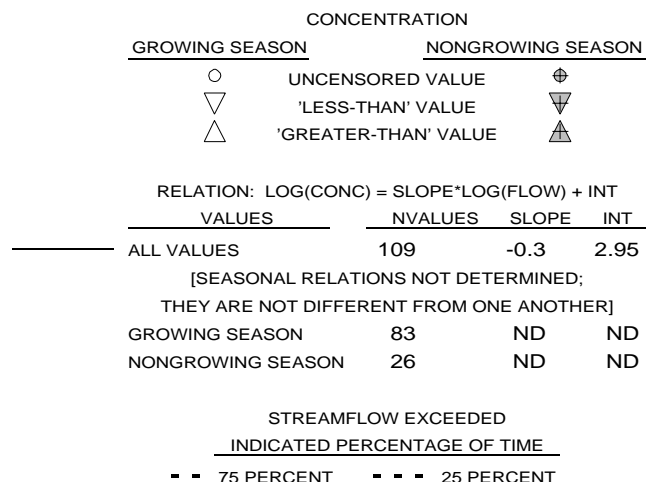
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



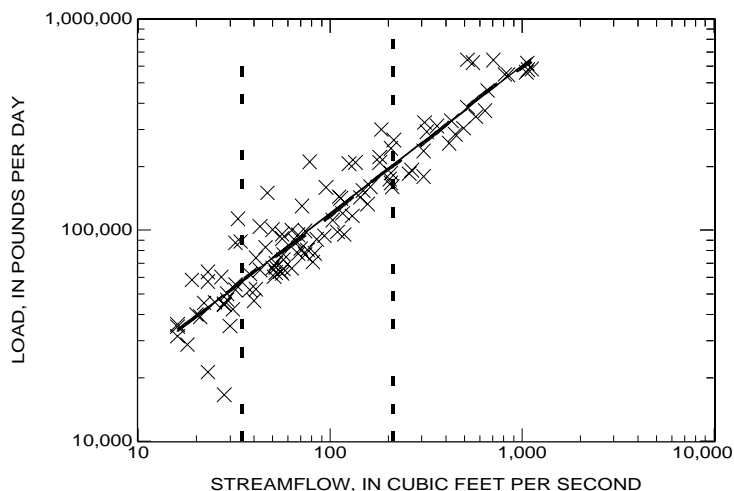
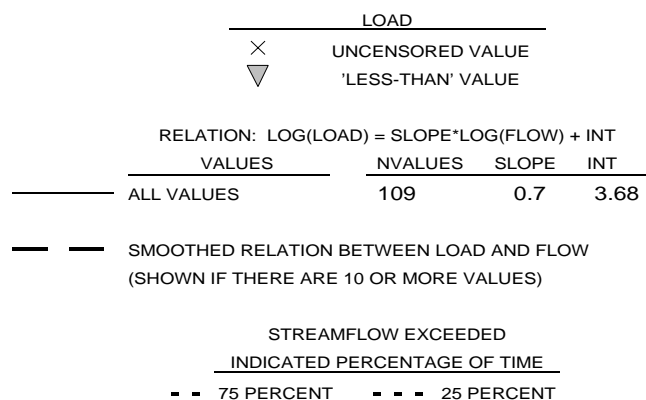
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

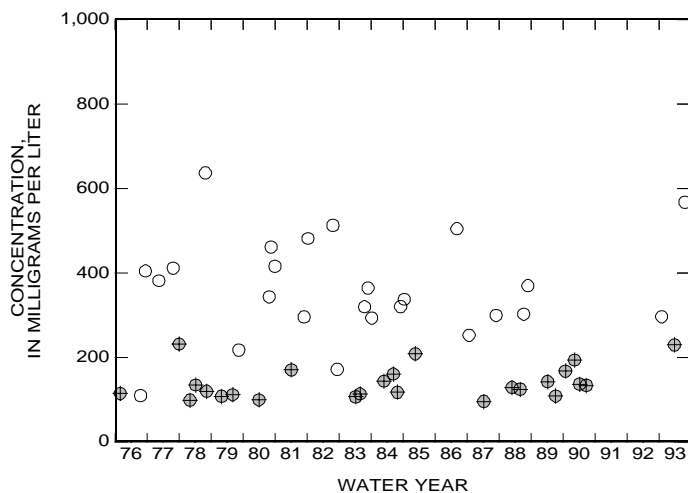
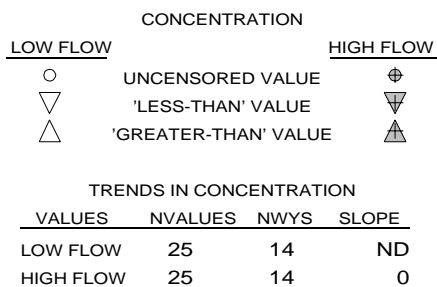
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



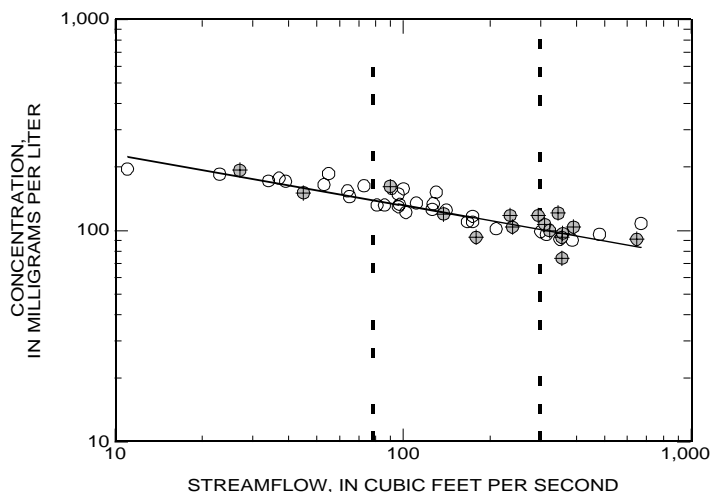
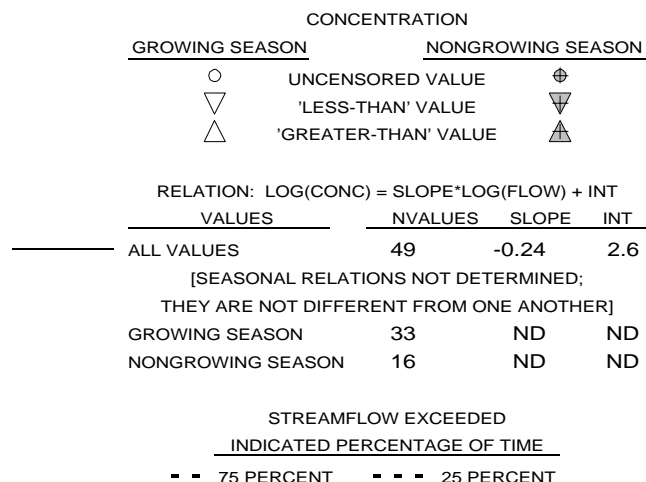
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



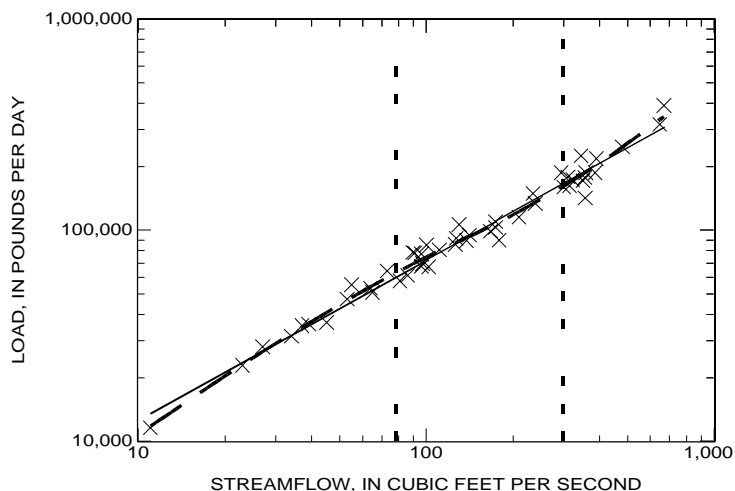
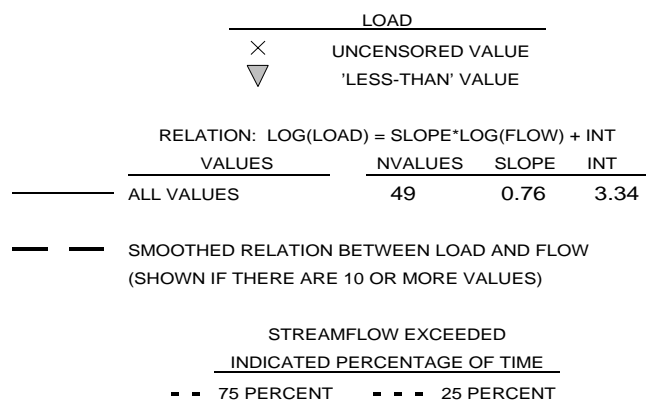
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

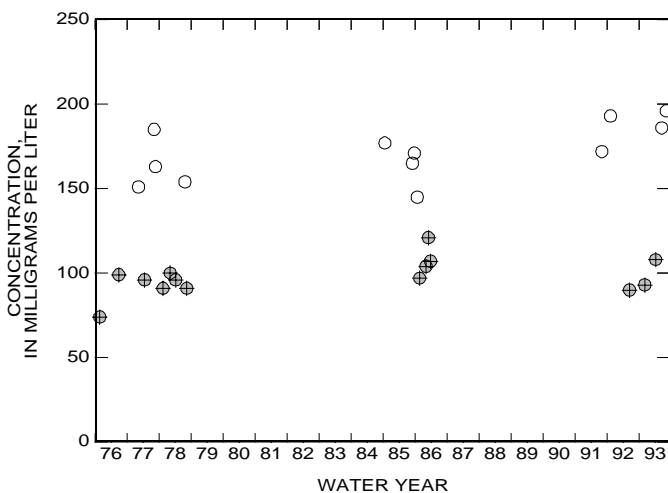
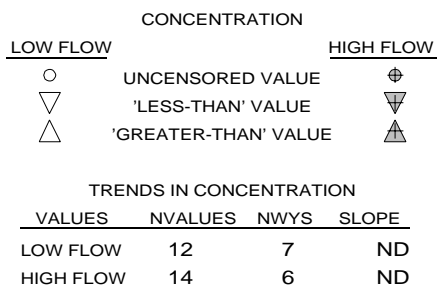
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



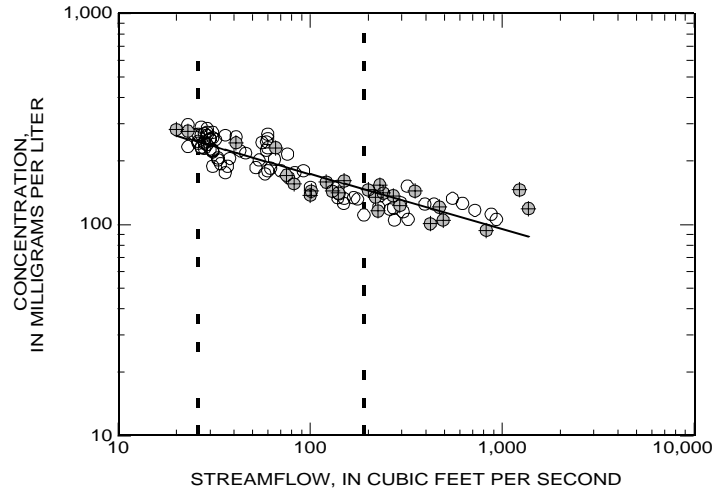
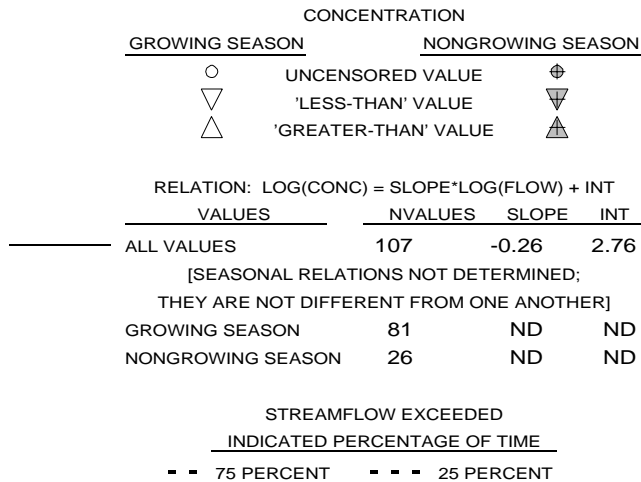
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



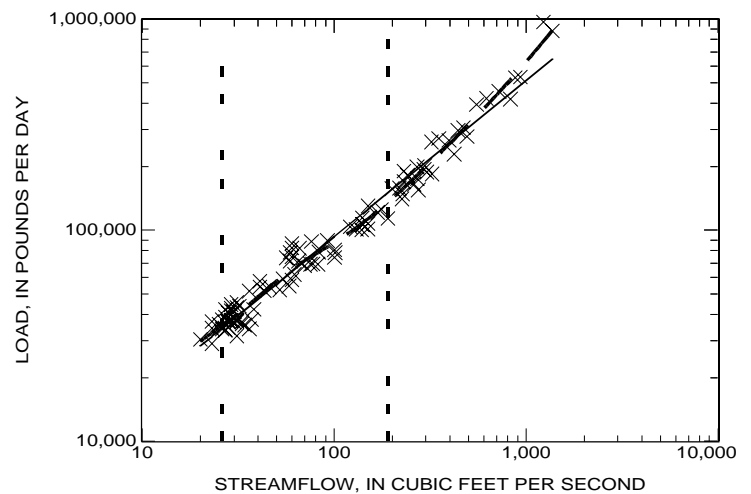
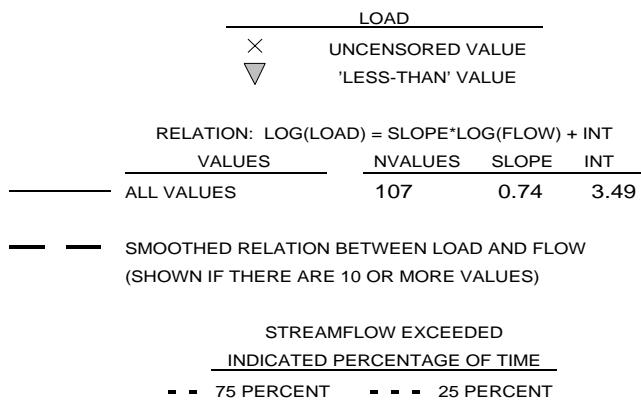
APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SOLIDS  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

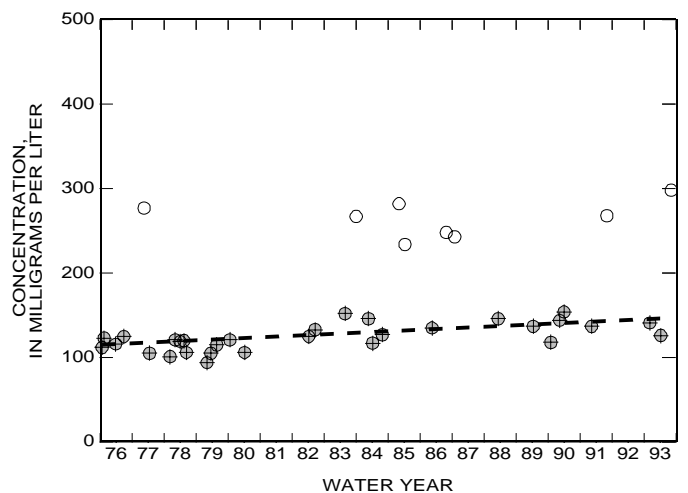
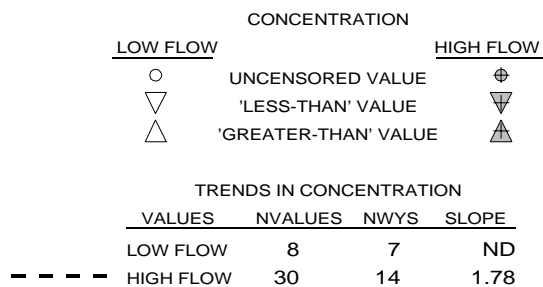
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



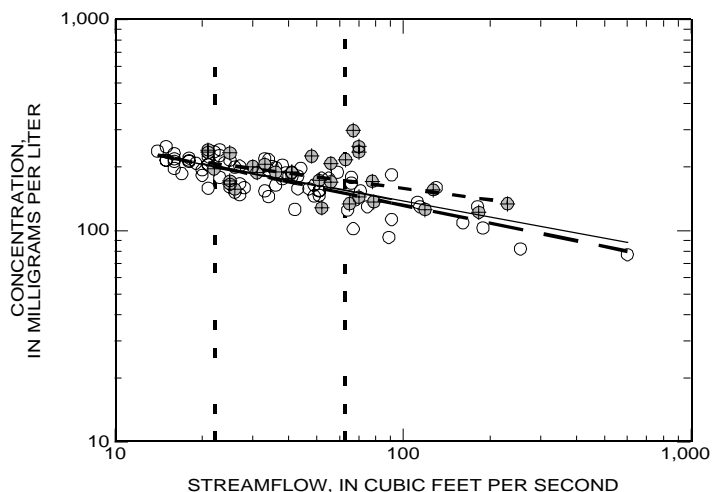
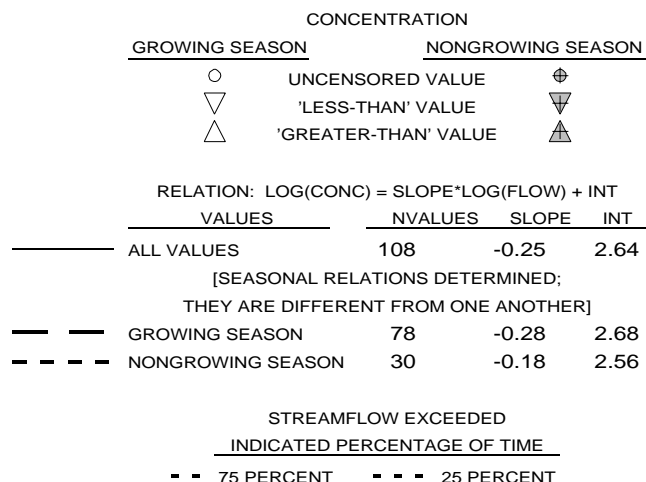
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



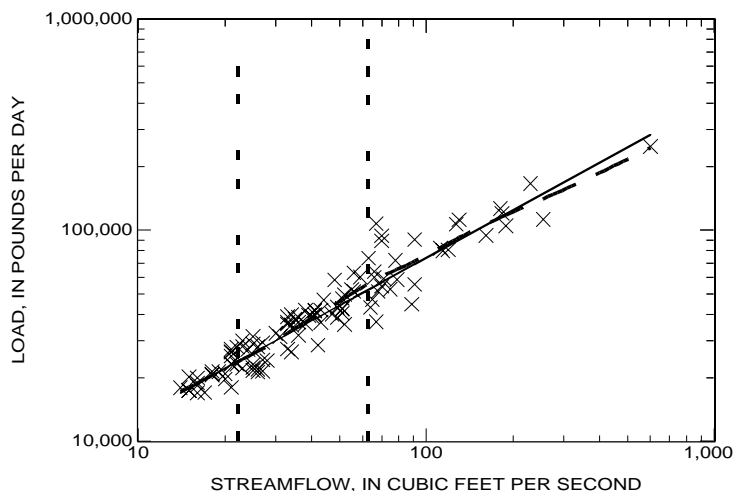
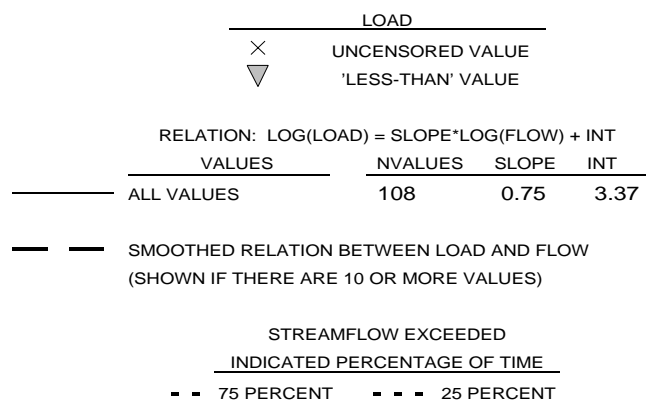
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

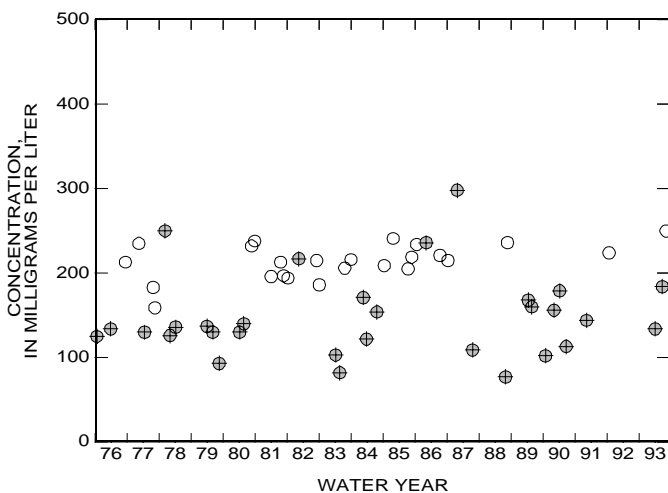
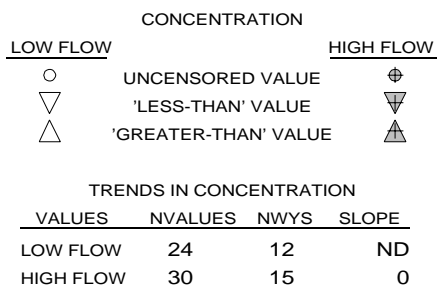
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



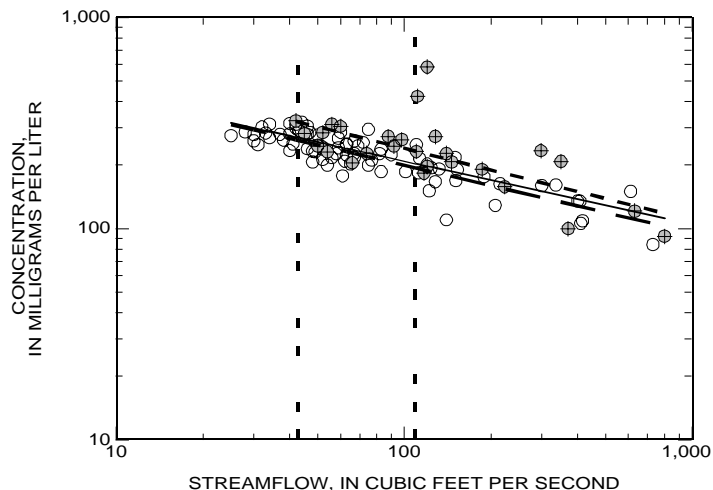
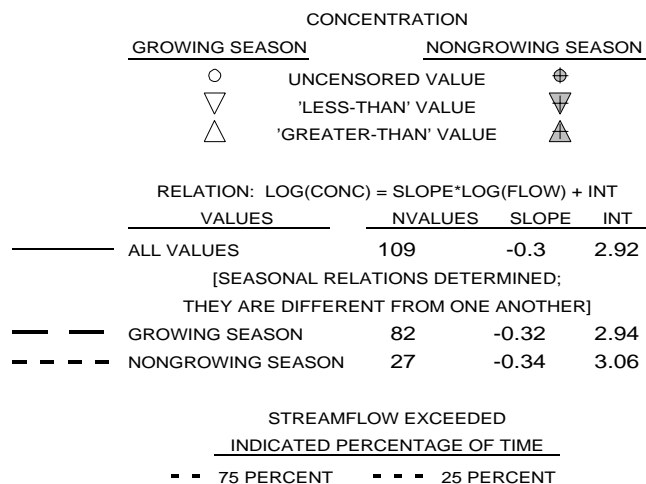
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



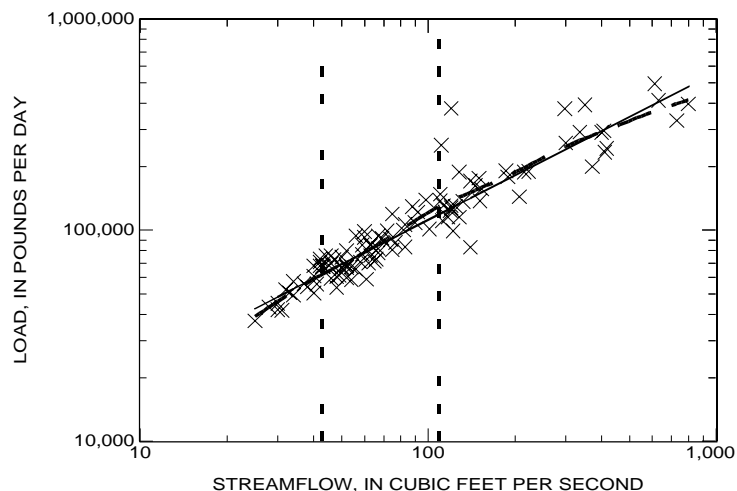
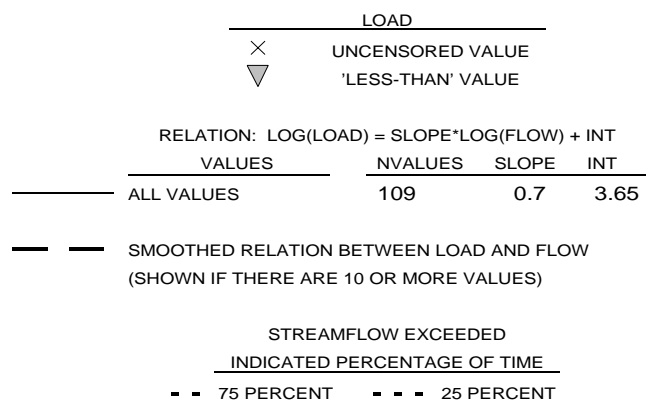
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

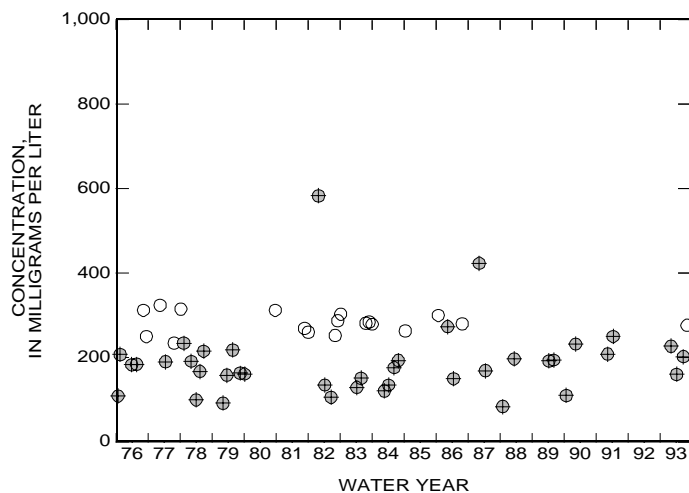
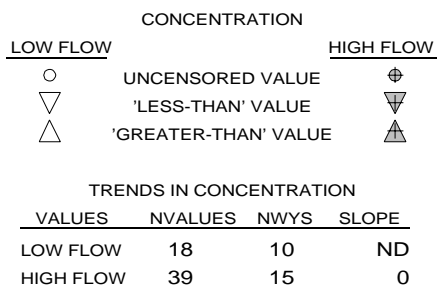
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

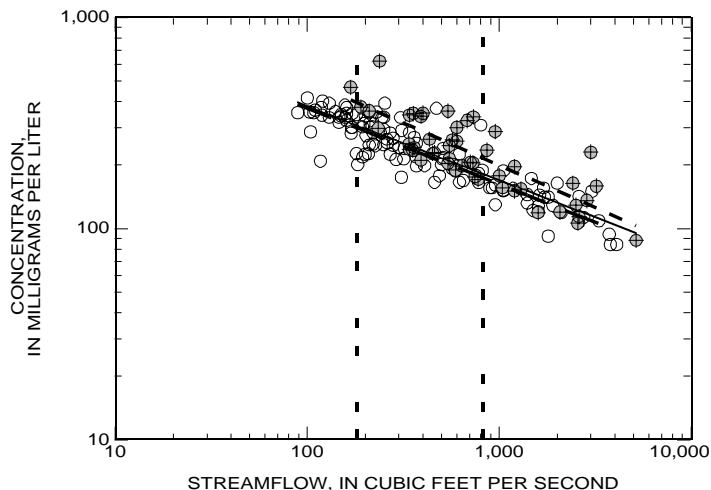
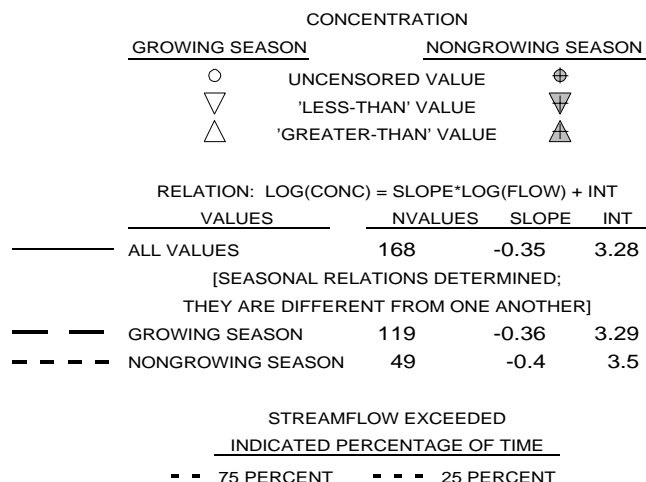




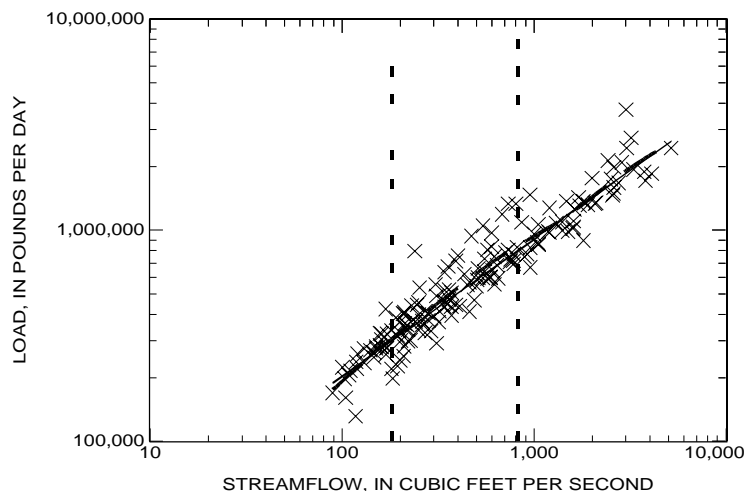
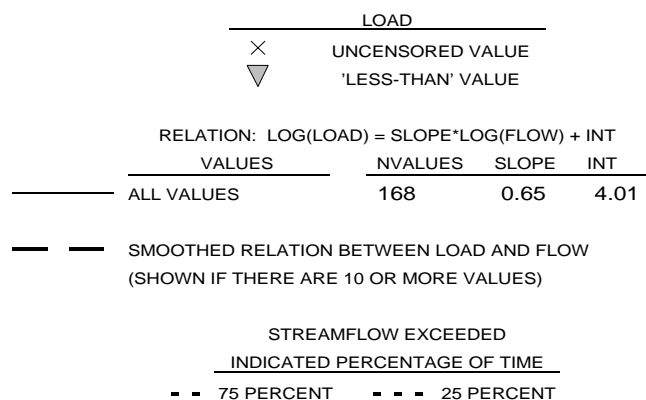
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

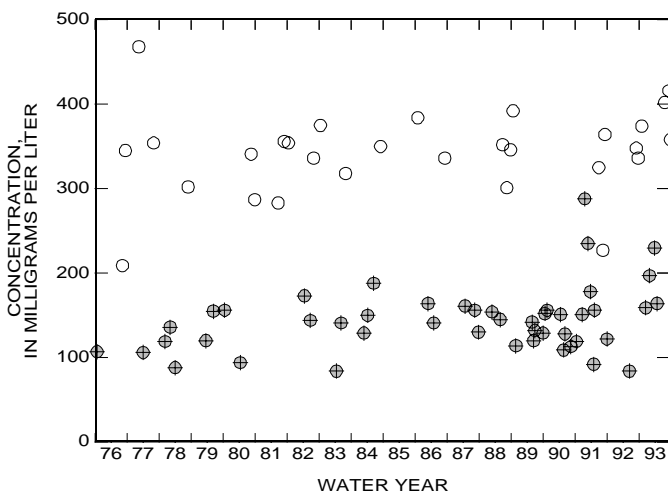
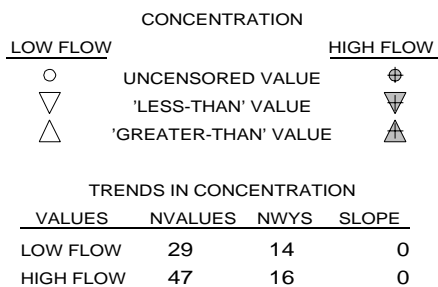
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

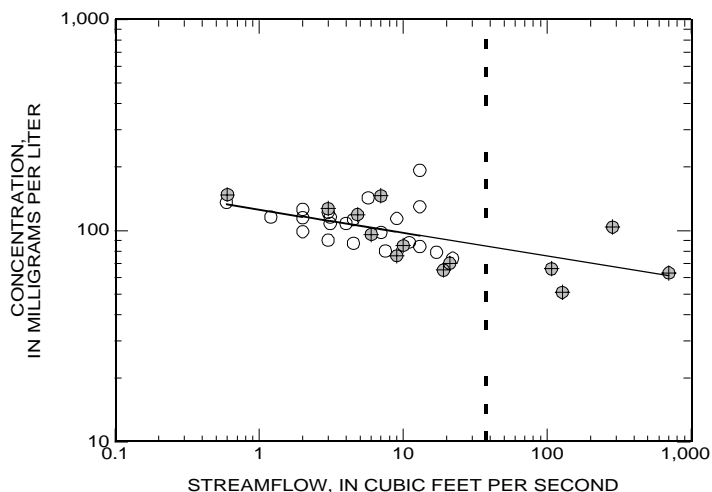


**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

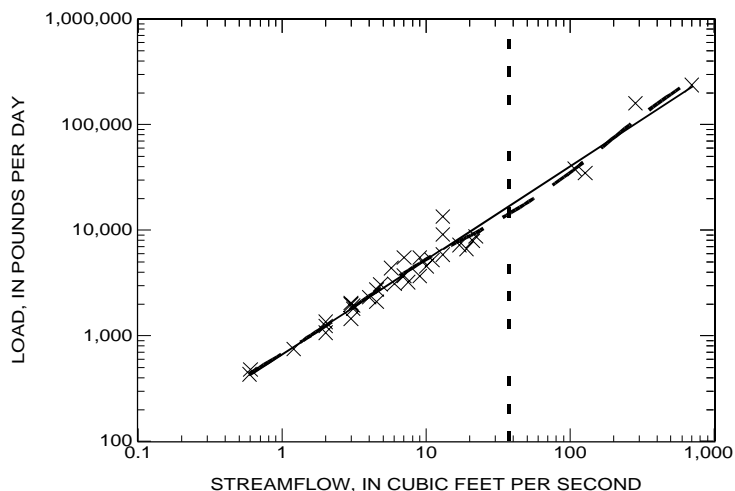
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	35	-0.11	2.1	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	22	ND	ND	
NONGROWING SEASON	13	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
75 PERCENT	- - - 25 PERCENT			



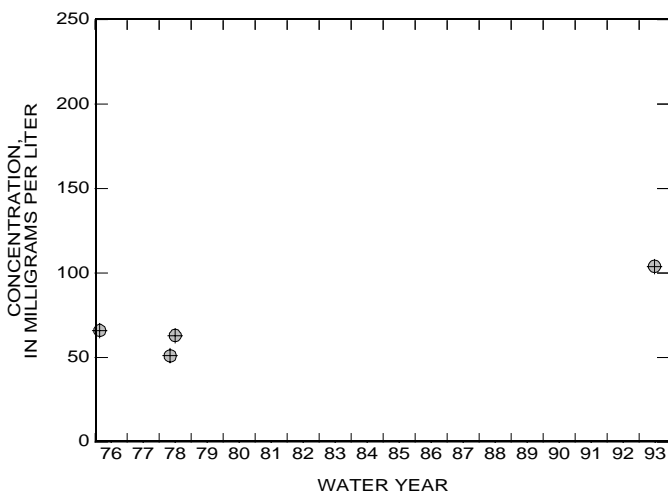
**RELATION OF LOAD TO STREAMFLOW**

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	35	0.89	2.83	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
75 PERCENT	- - - 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

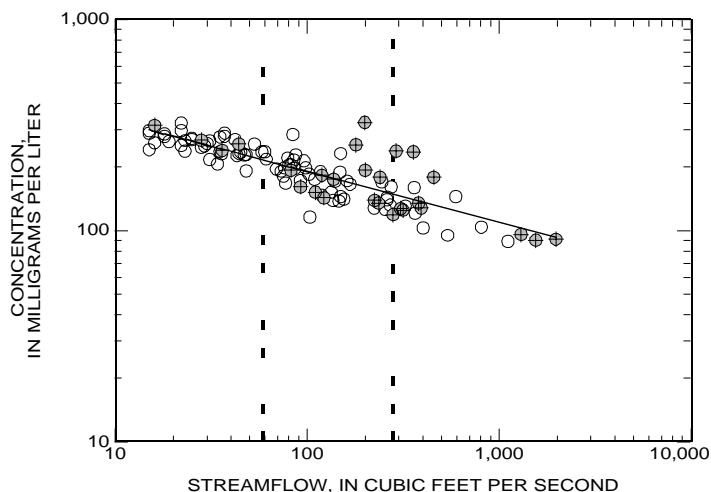
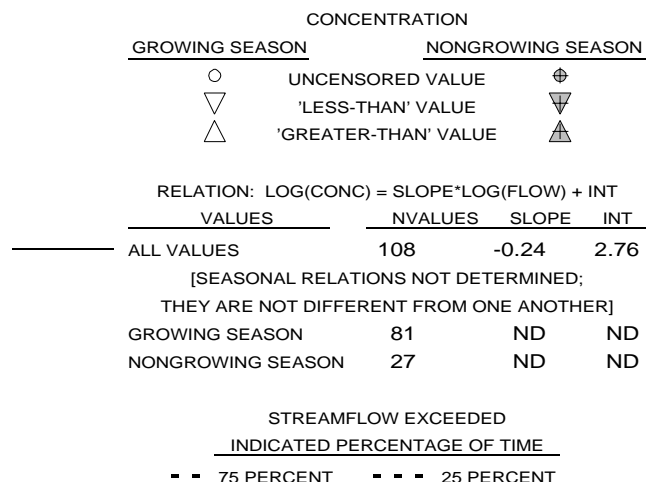
CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	0	0	ND	
HIGH FLOW	4	3	ND	



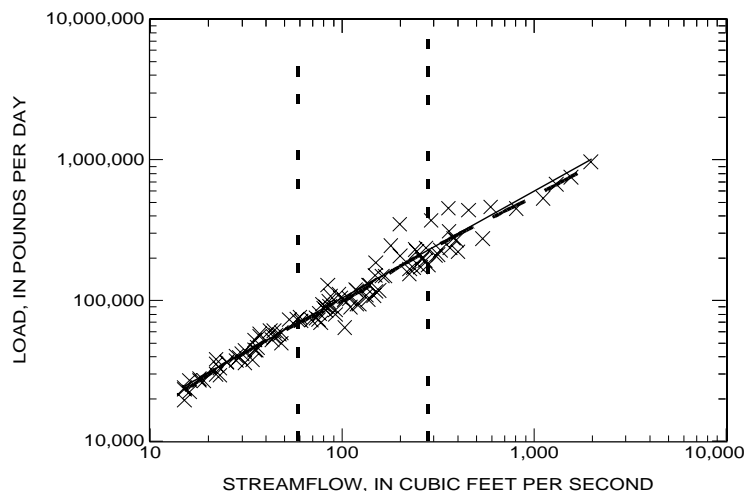
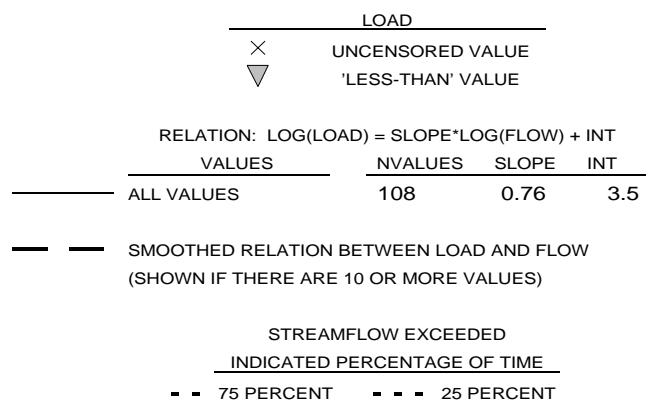
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

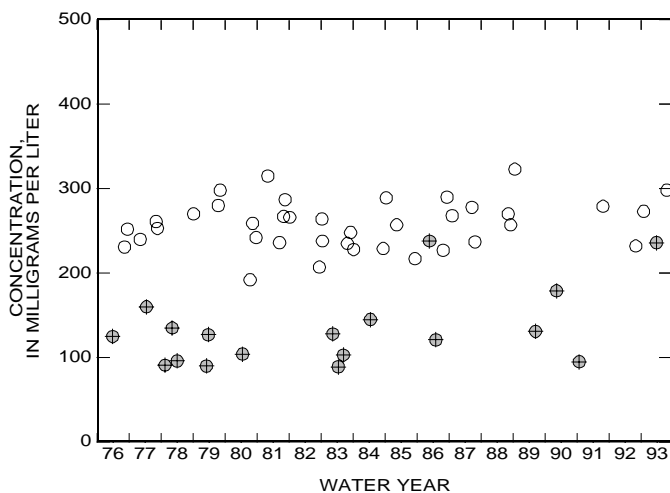
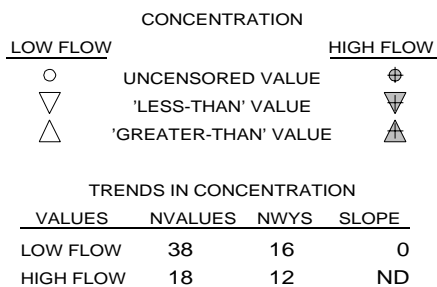
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



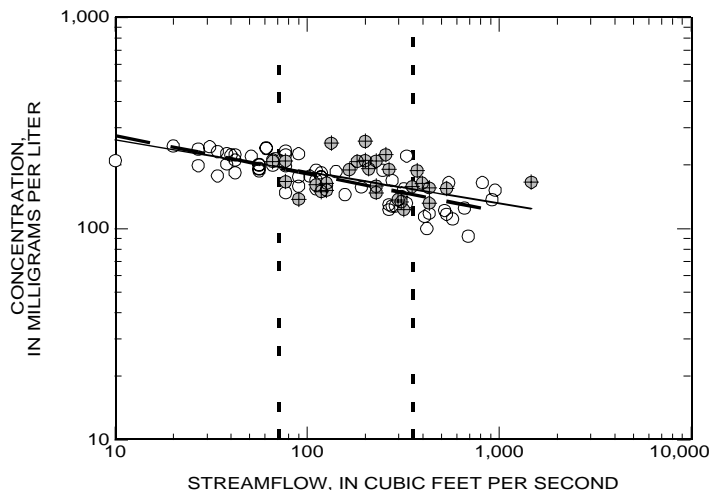
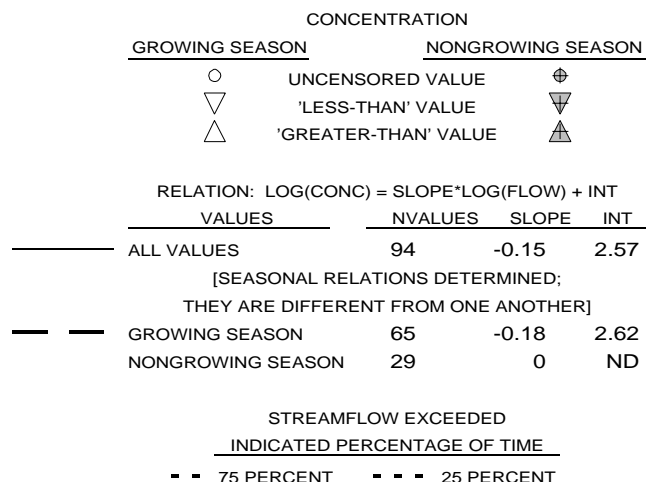
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



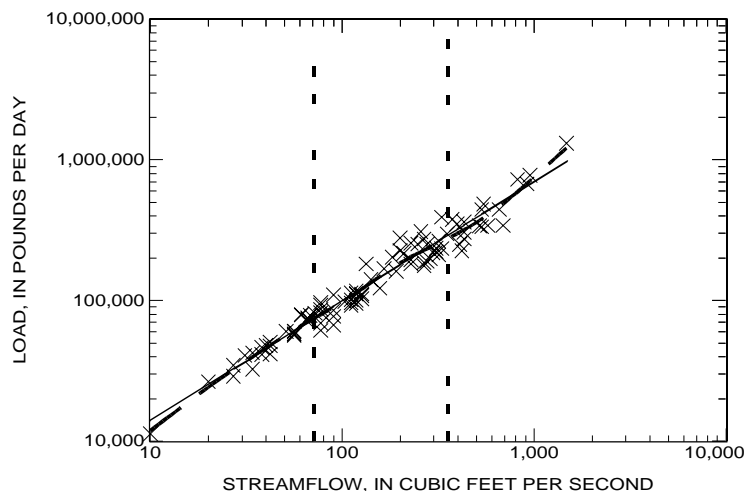
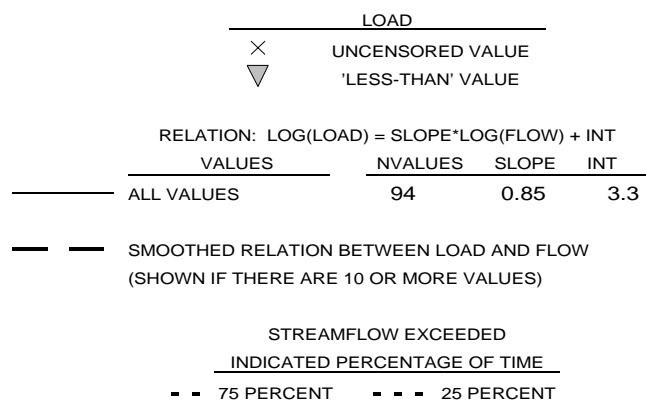
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

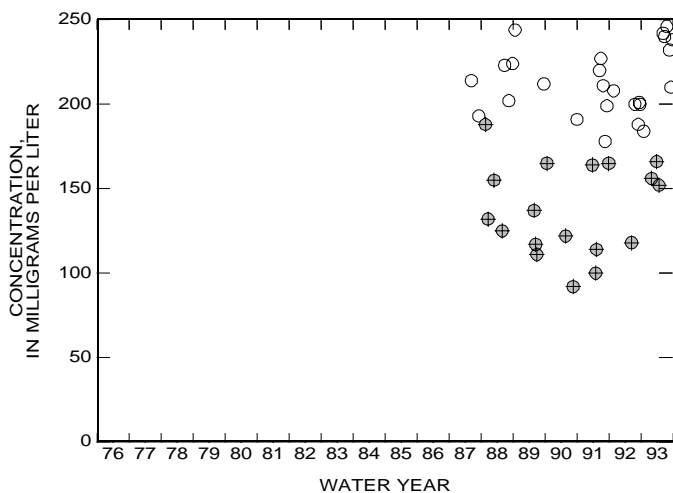
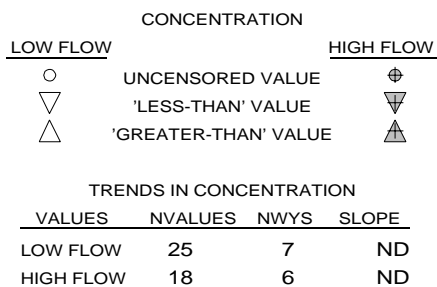
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



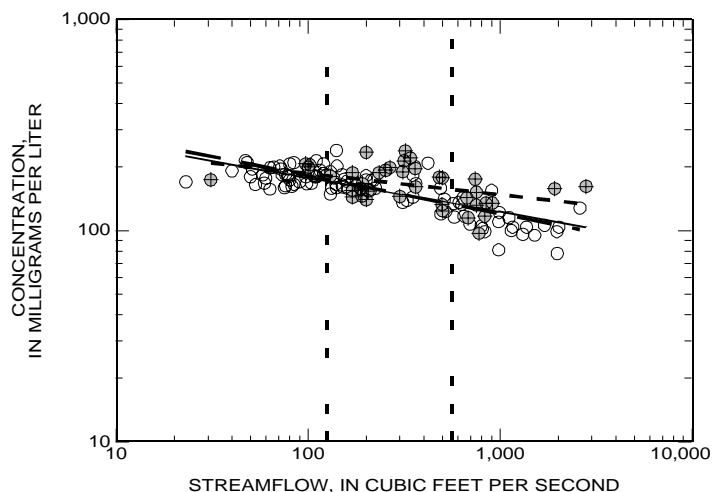
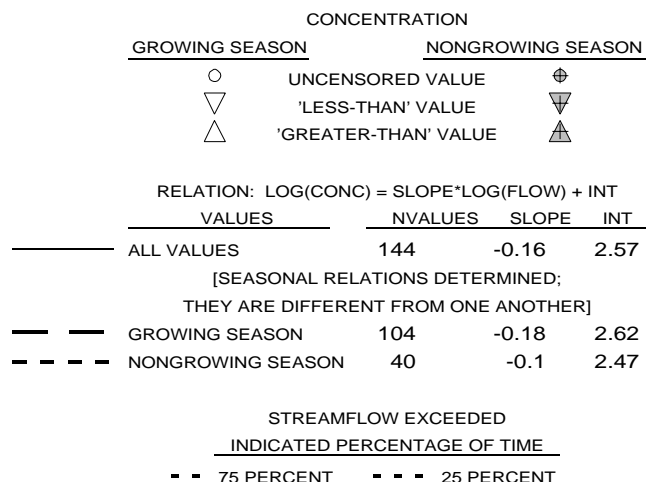
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



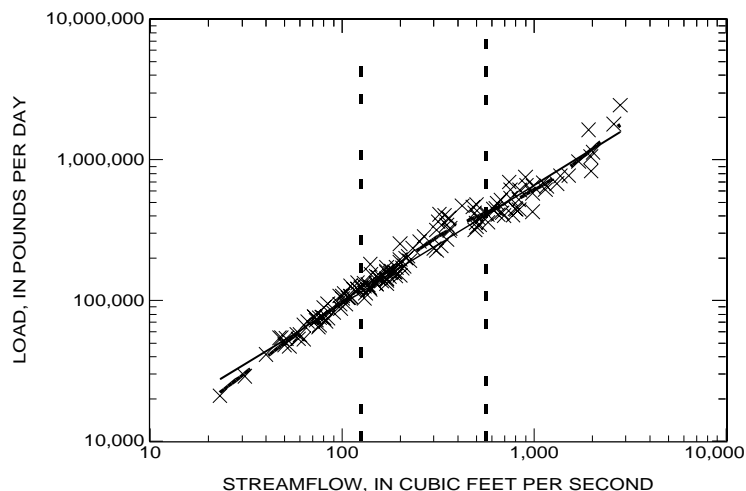
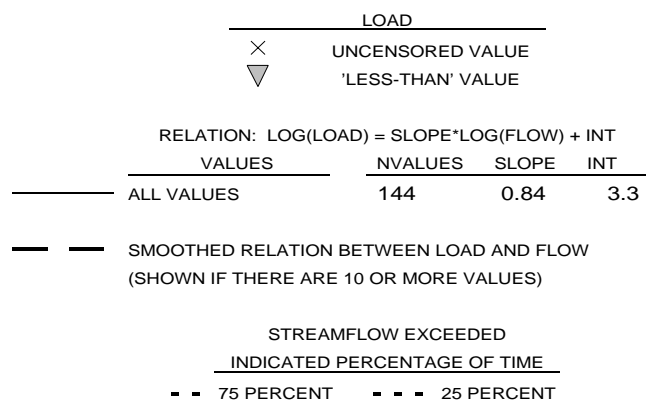
APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SOLIDS  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

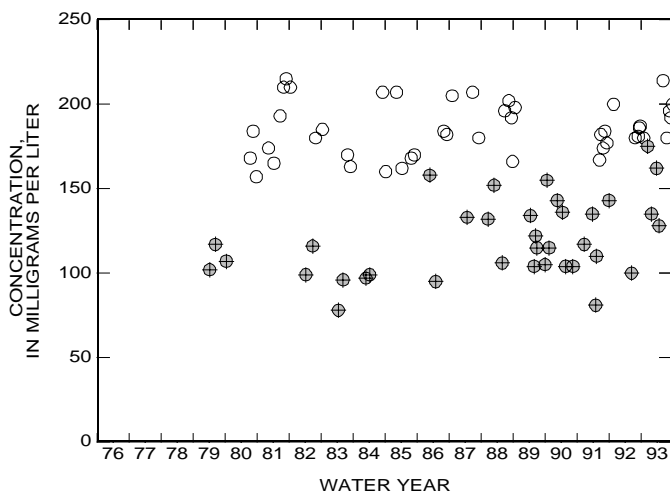
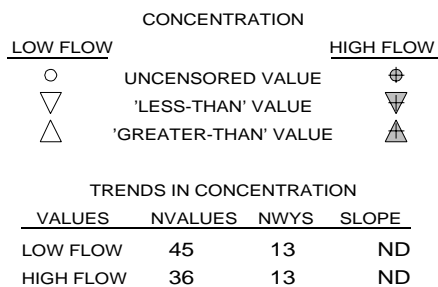
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



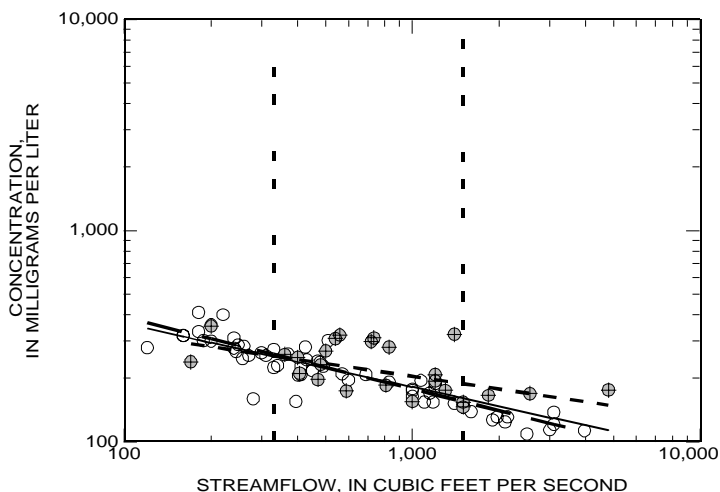
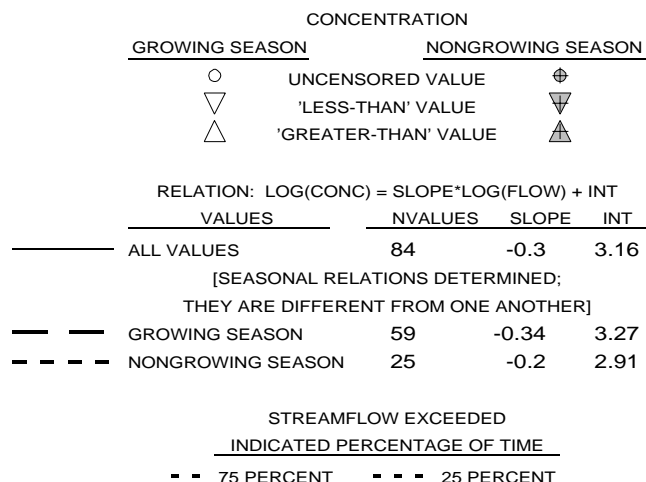
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



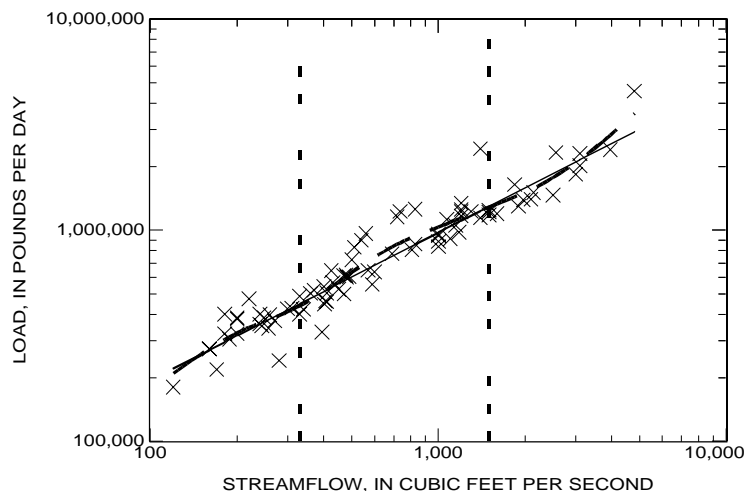
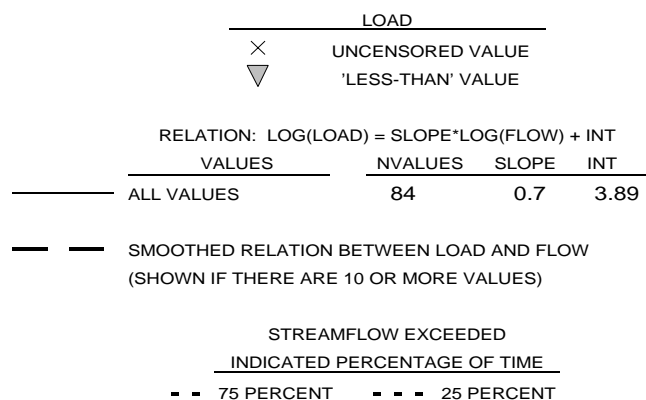
APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SOLIDS  
01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

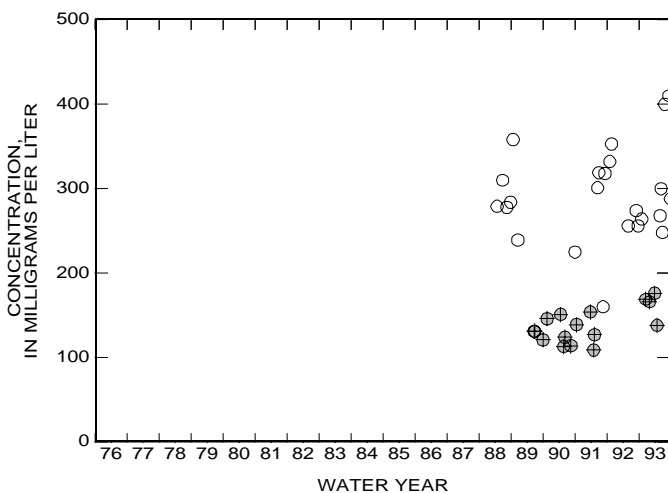
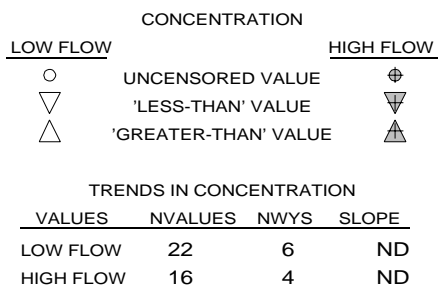
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



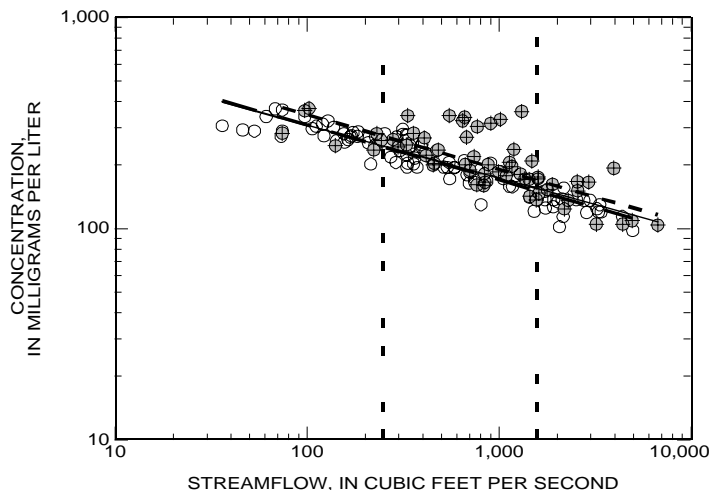
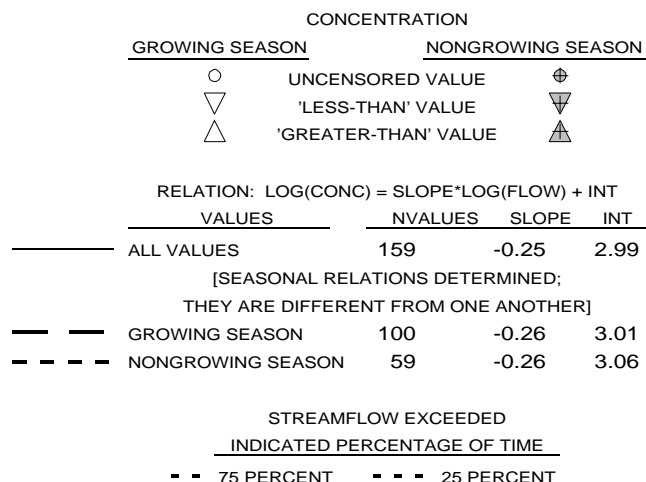
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



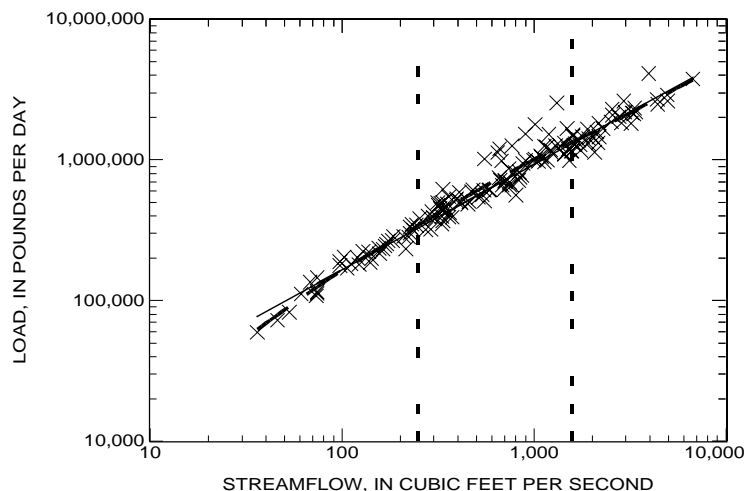
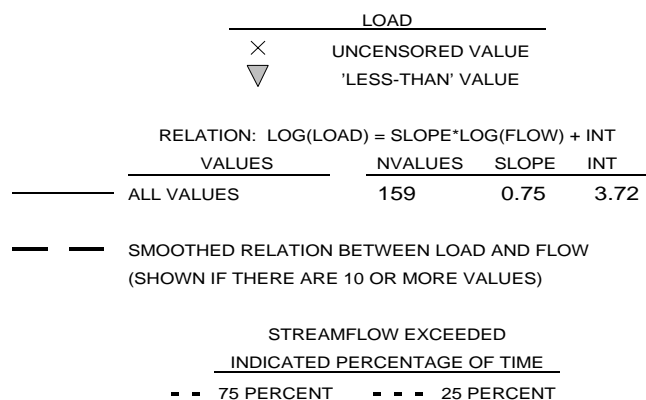
APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SOLIDS  
01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

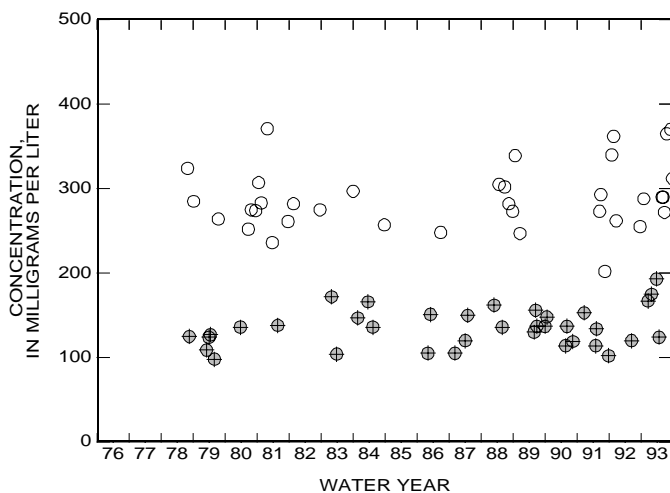
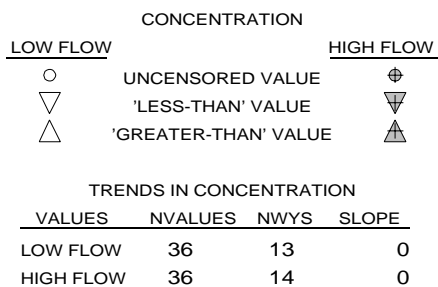
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



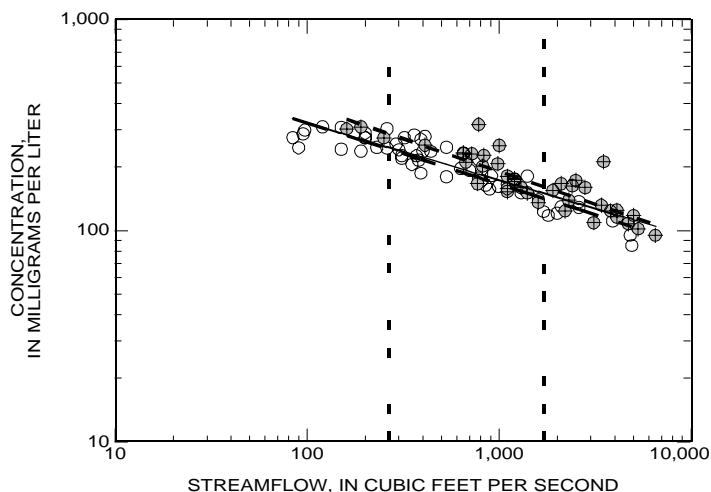
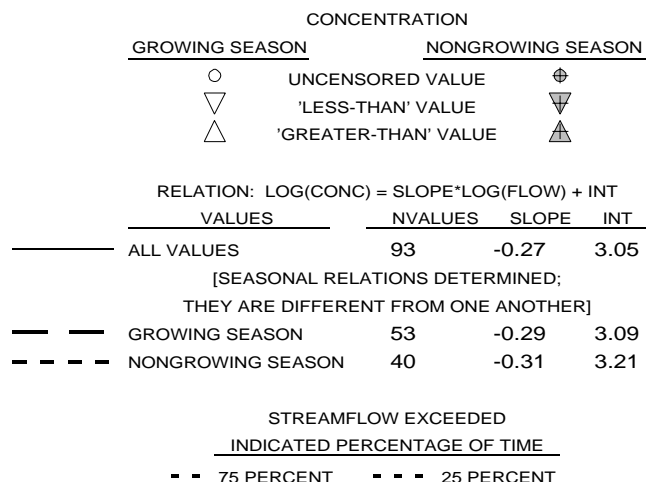
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



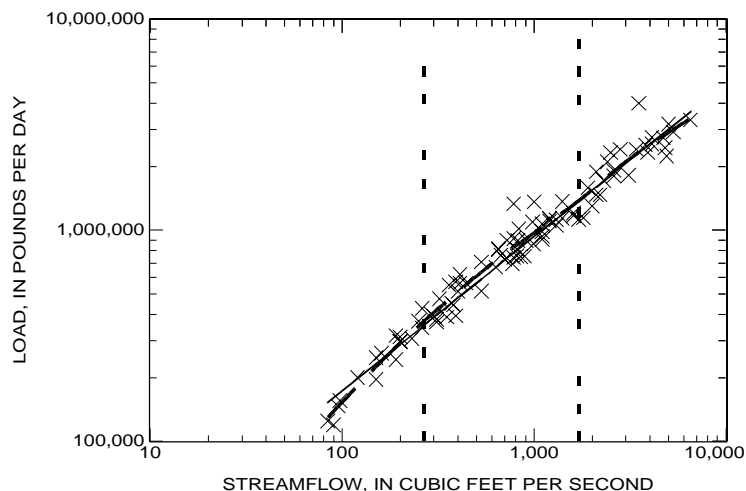
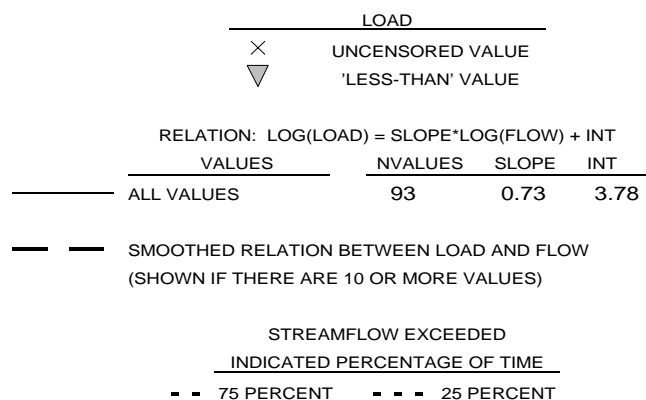
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

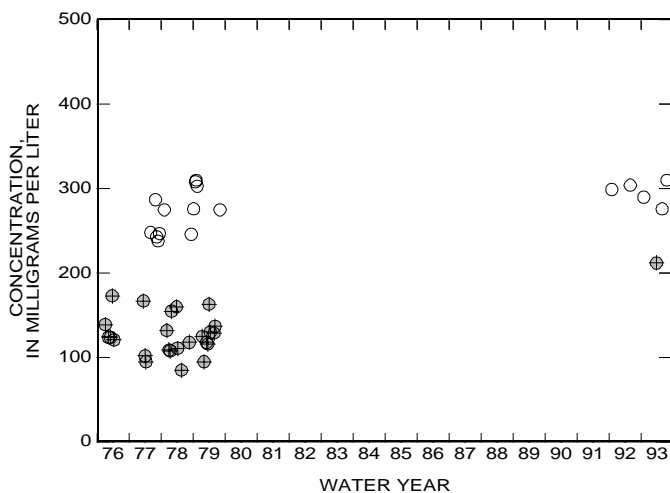
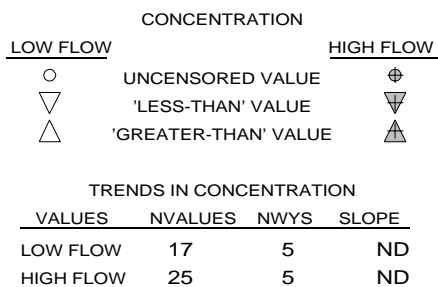
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

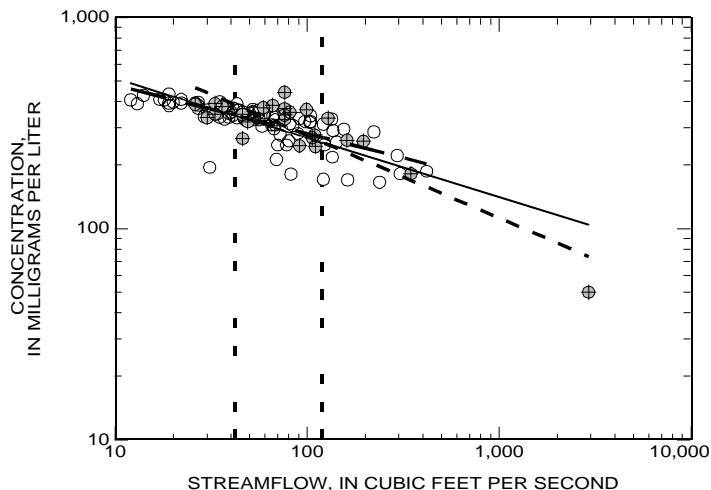
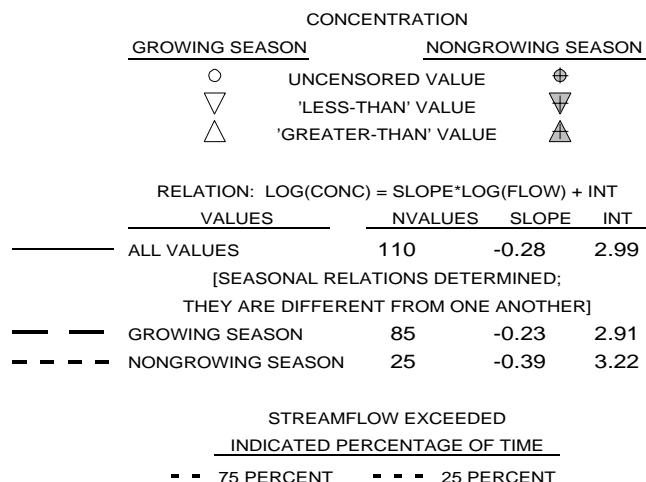




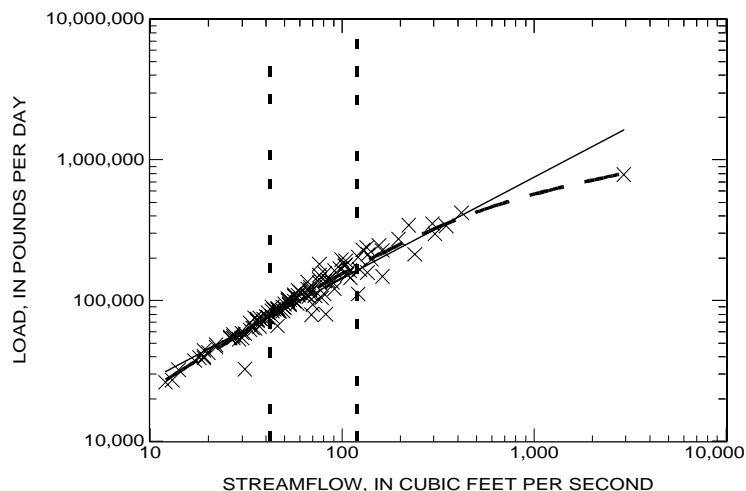
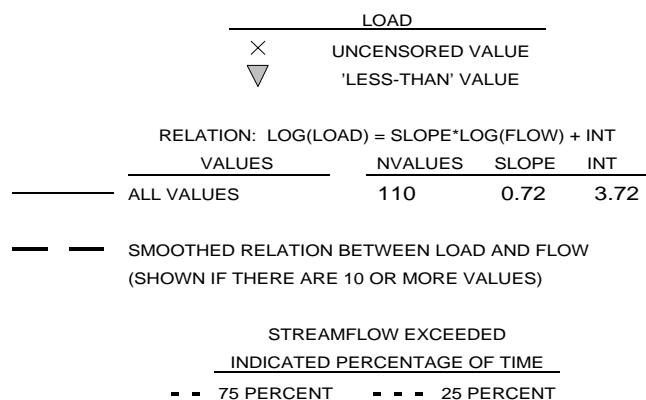
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

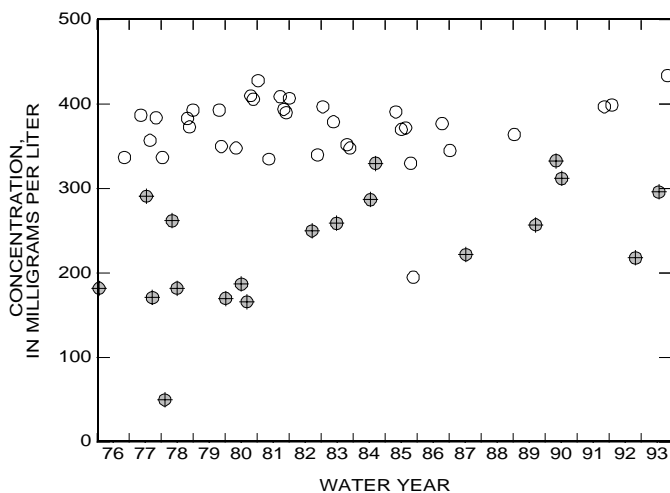
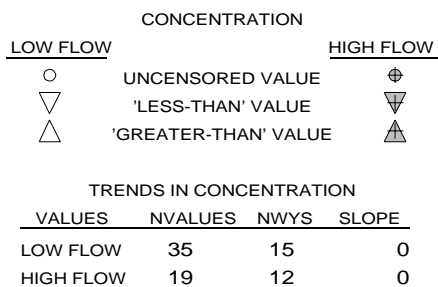
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



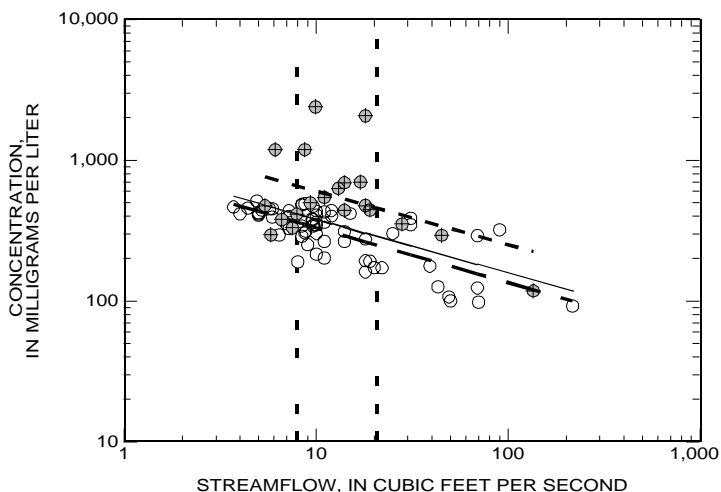
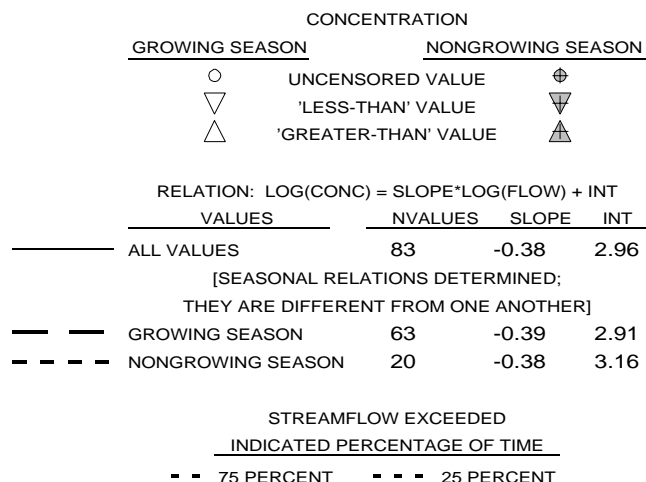
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



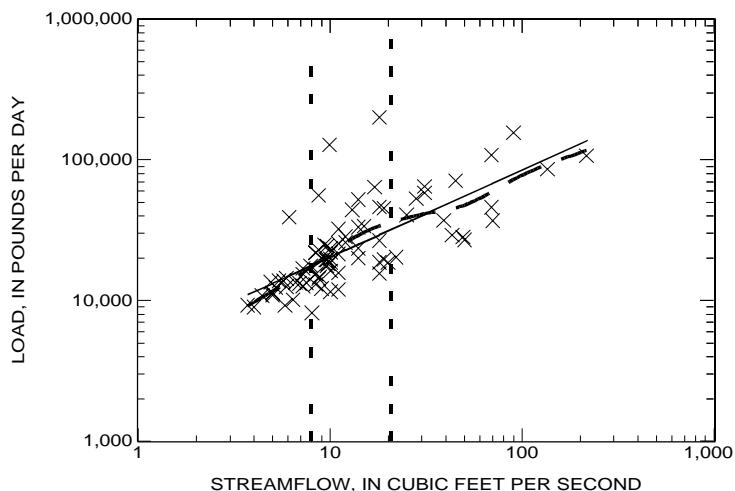
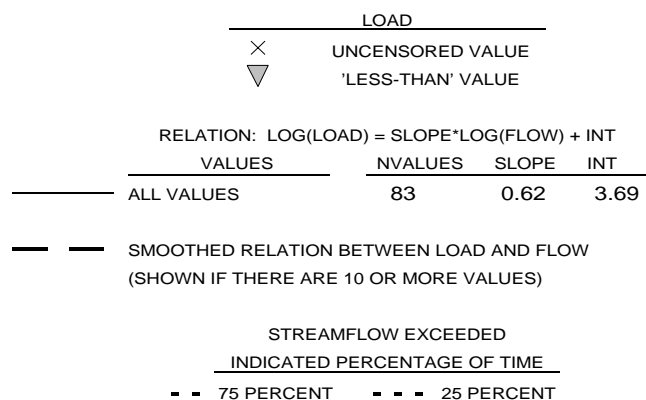
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

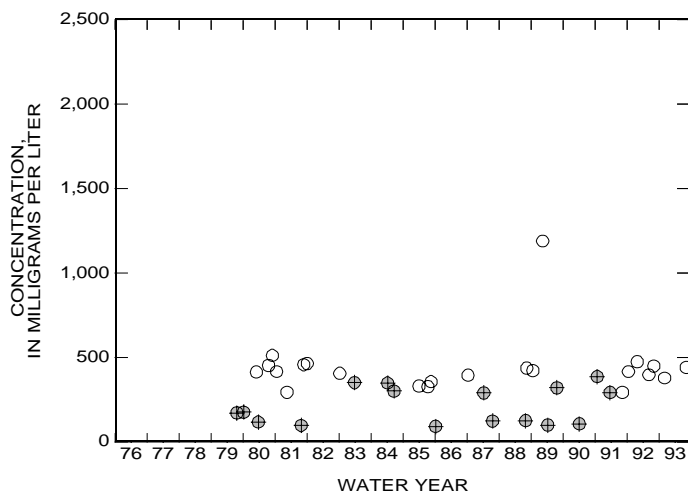
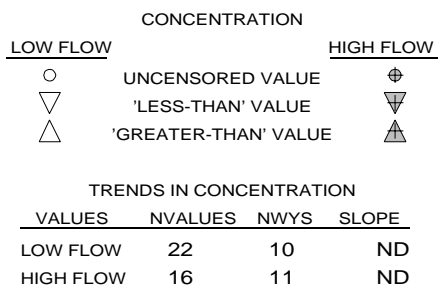
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



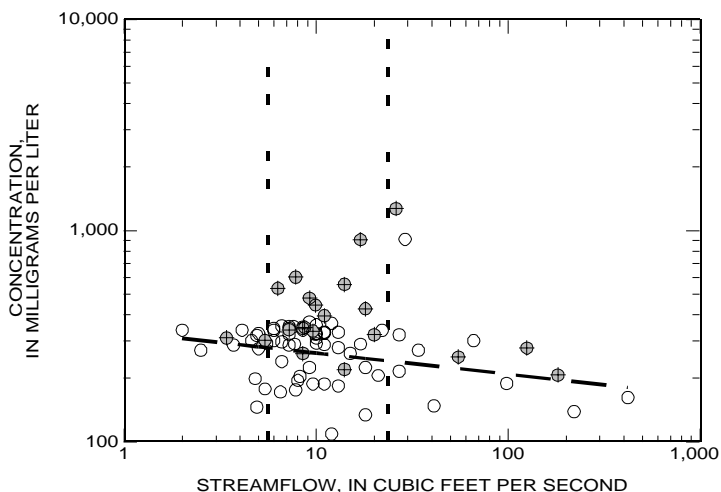
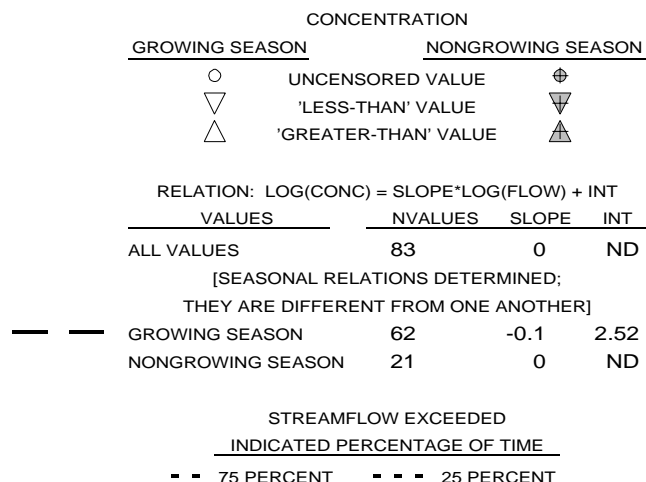
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



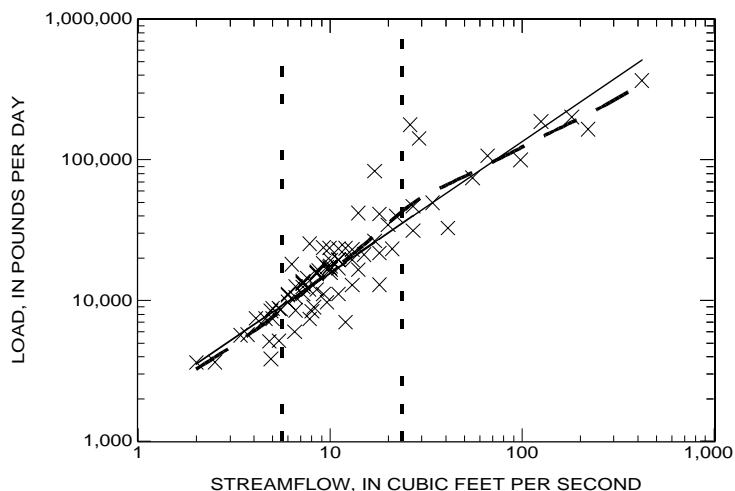
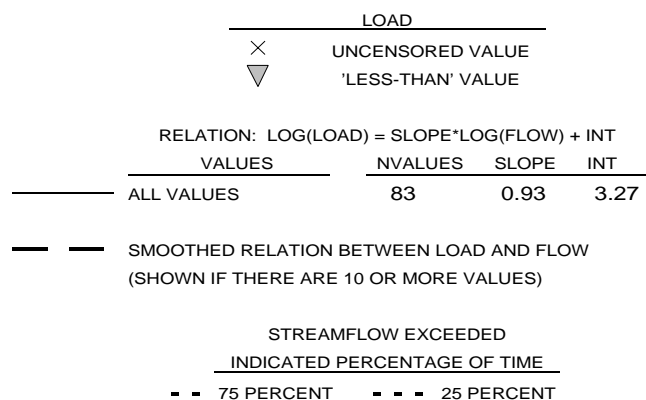
**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

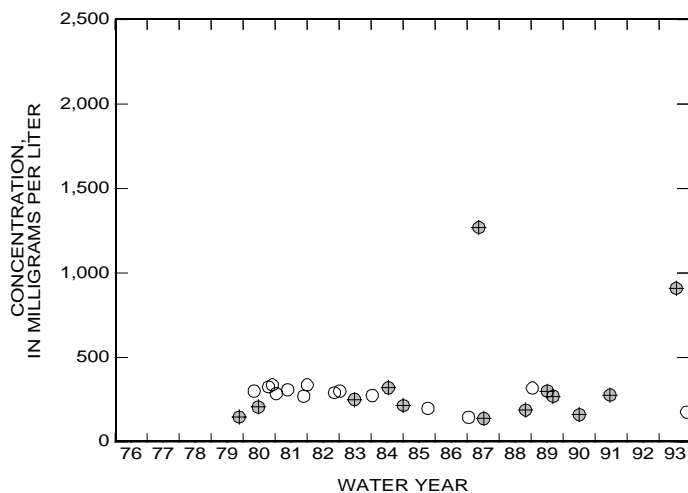
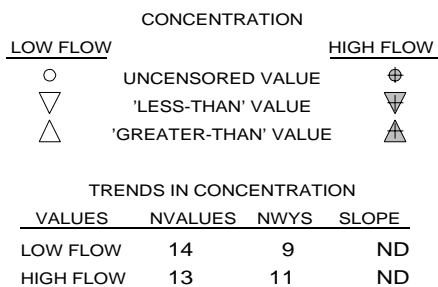
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

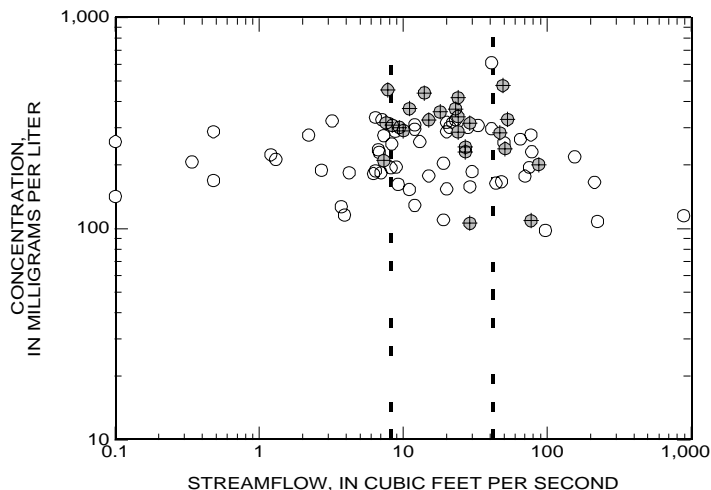


**APPENDIX 5. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SOLIDS**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

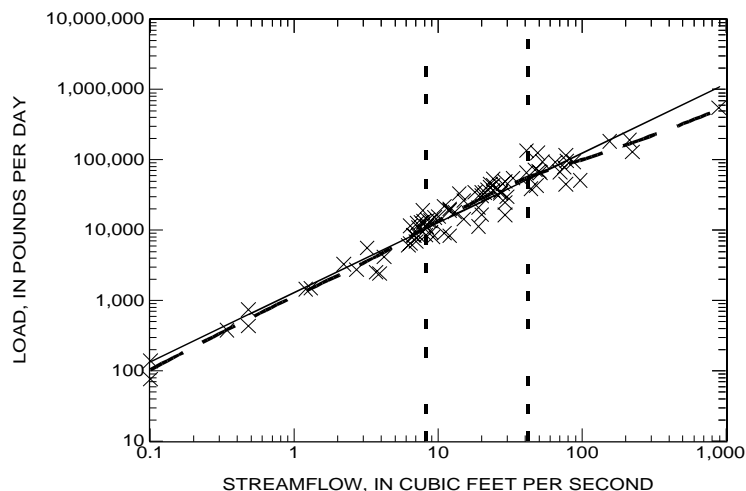
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	84	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	60	0	ND
NONGROWING SEASON	24	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - -	75 PERCENT	- - -	25 PERCENT



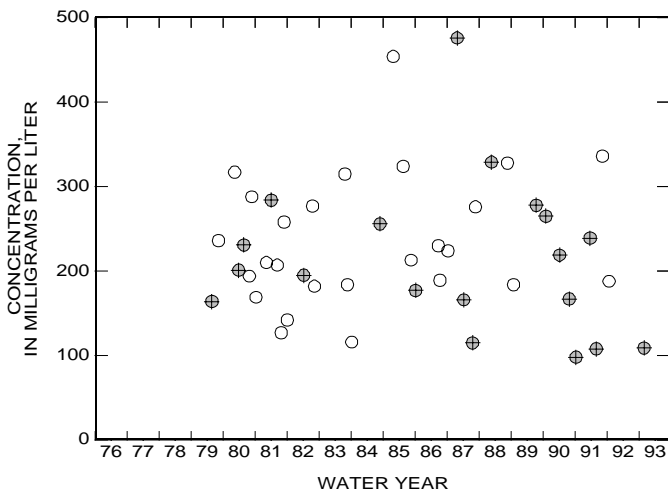
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	84	0.99	3.12
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
- - -	75 PERCENT	- - -	25 PERCENT



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	26	13	ND
HIGH FLOW	19	12	ND



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## Appendix 6

### Dissolved sodium

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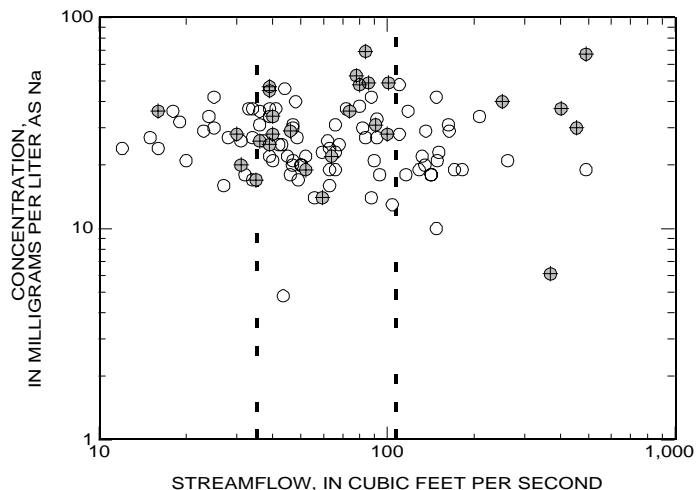
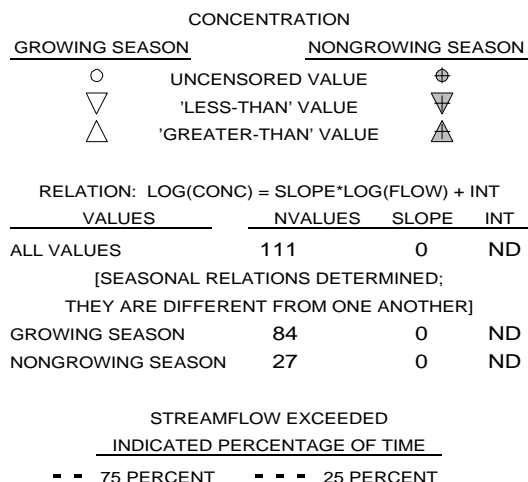
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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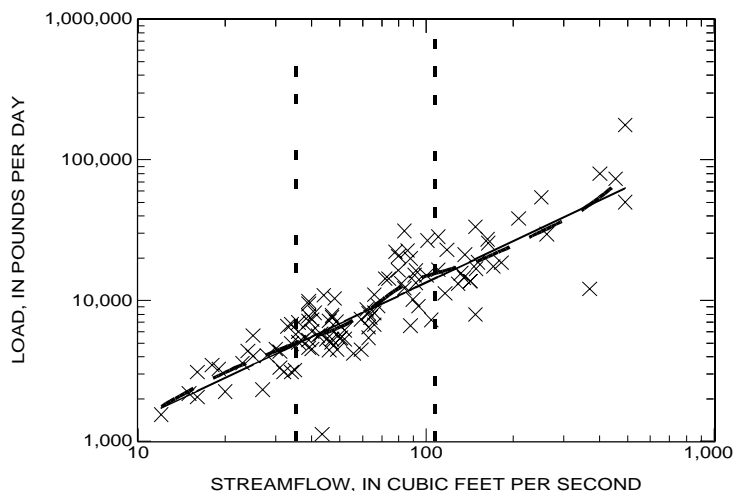
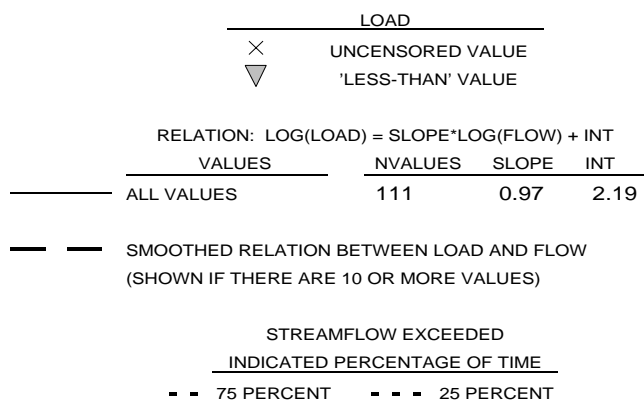
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

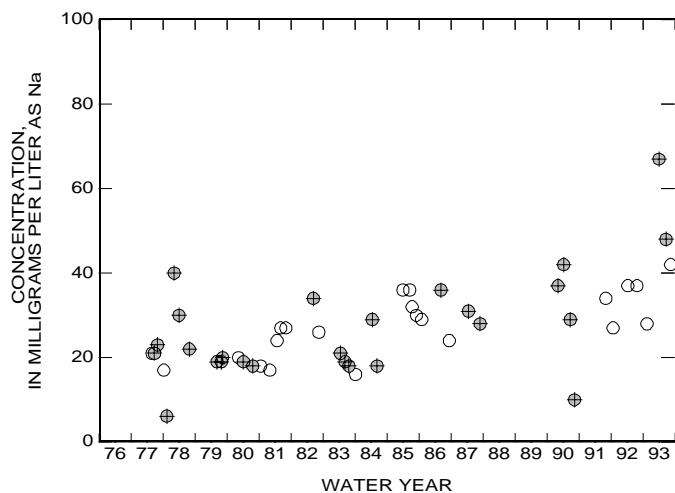
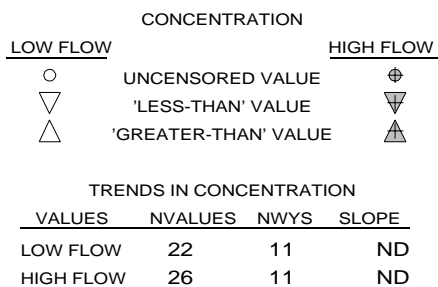
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



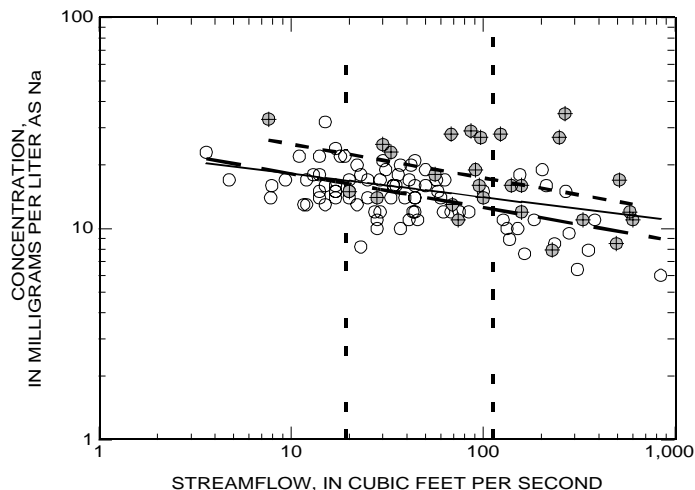
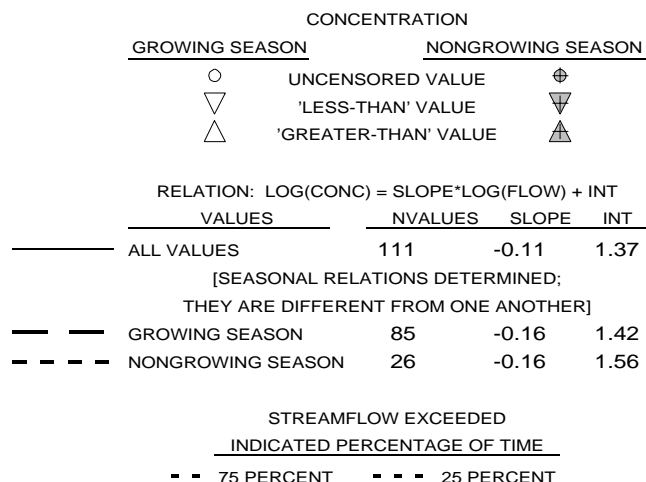
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



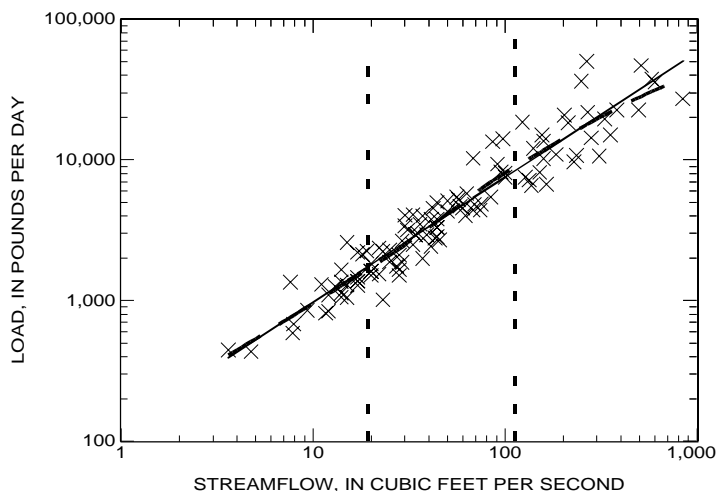
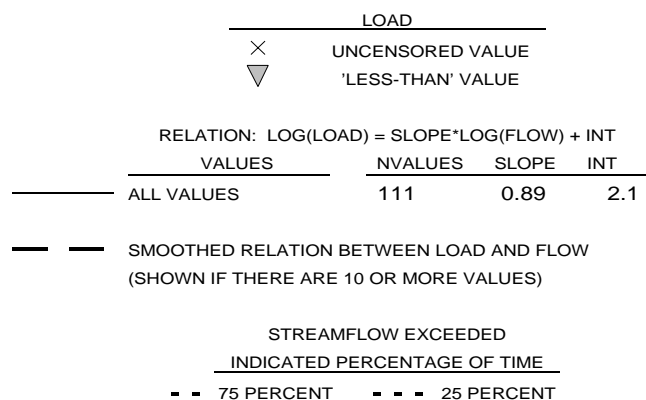
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

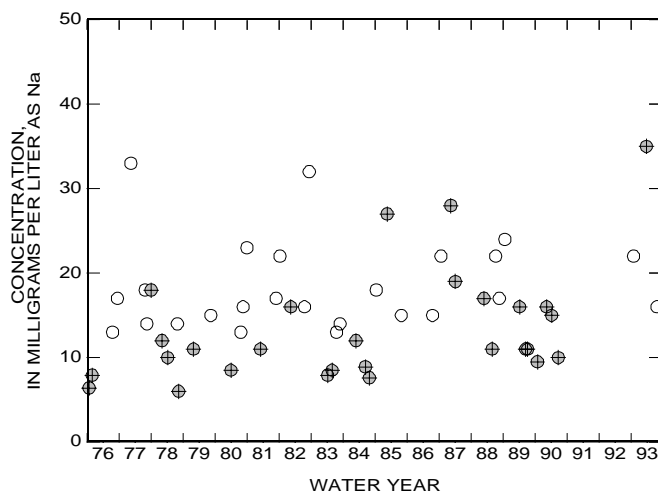
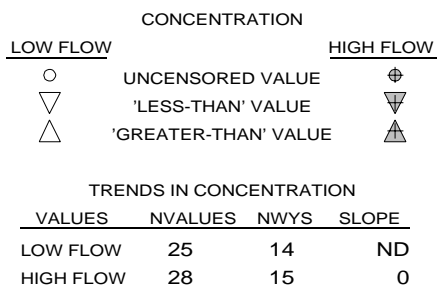
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



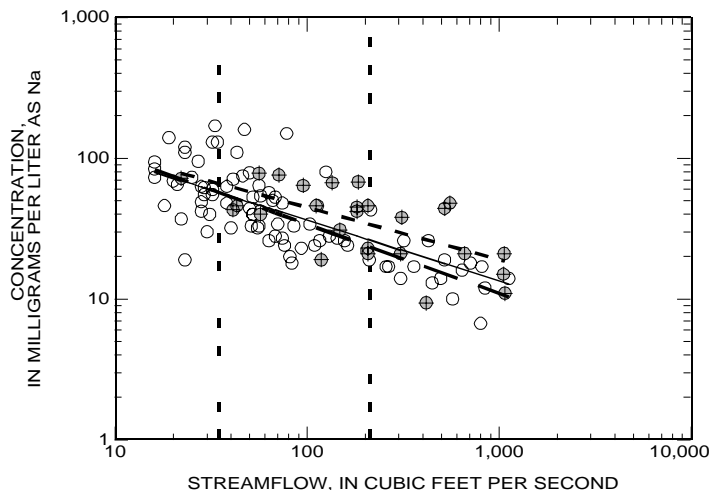
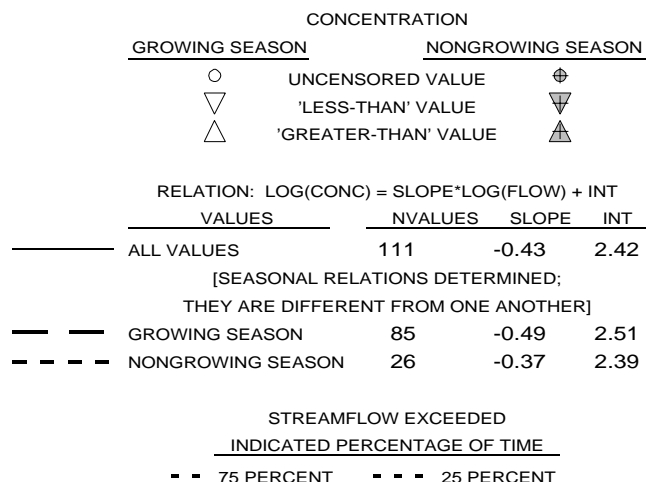
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



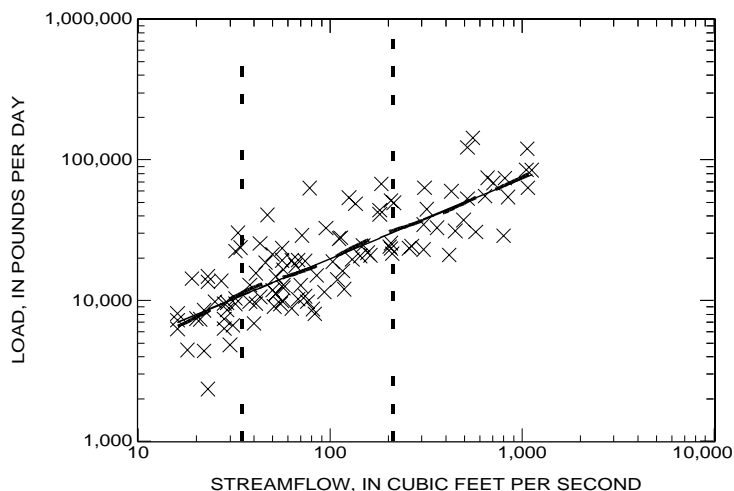
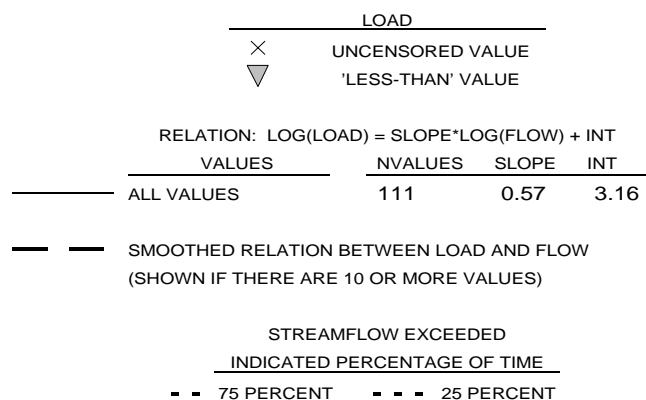
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

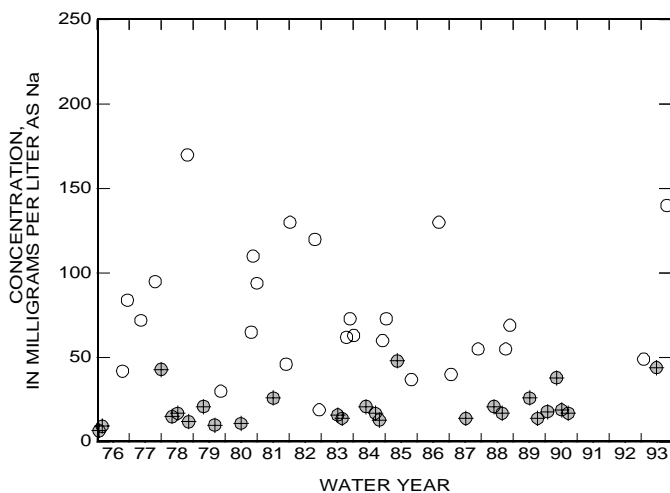
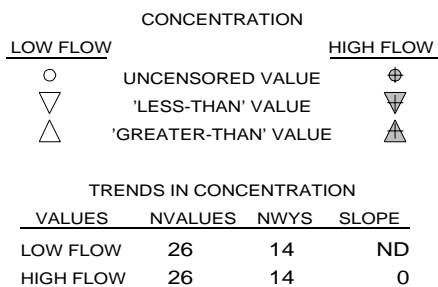
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

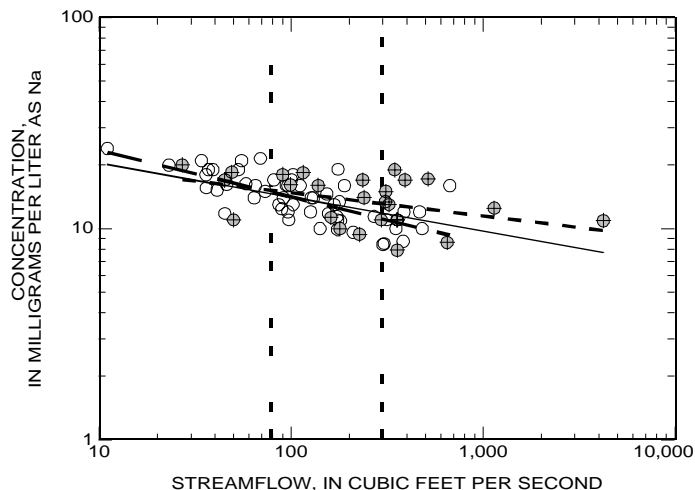
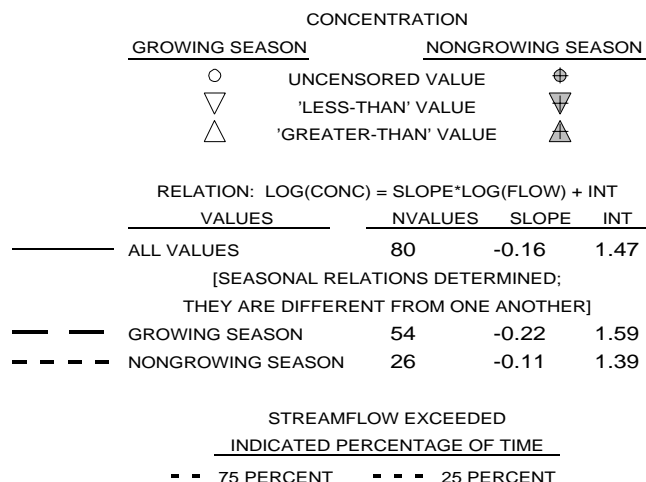




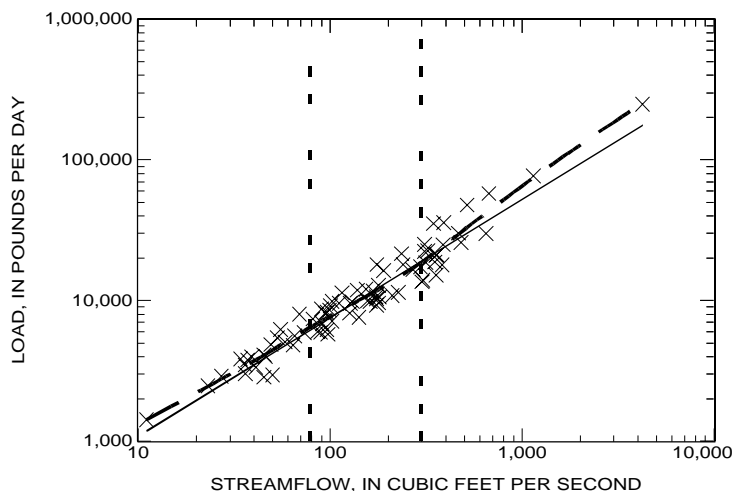
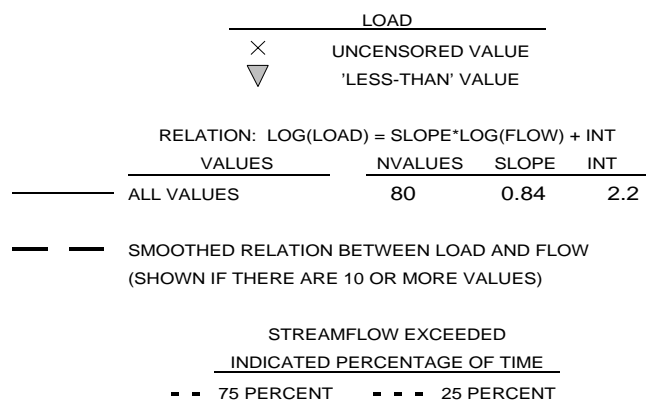
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

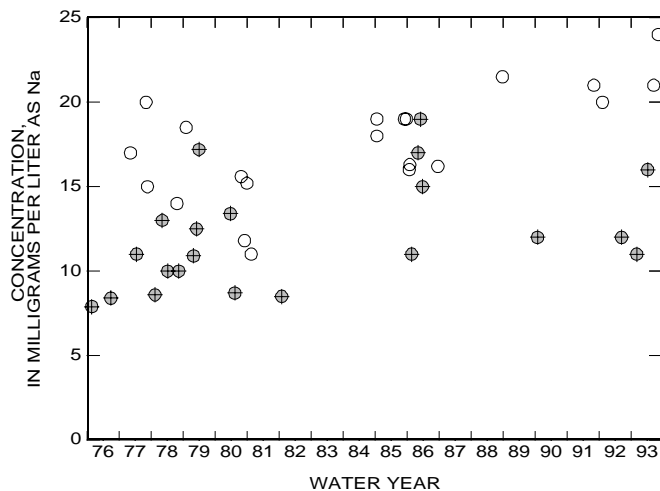
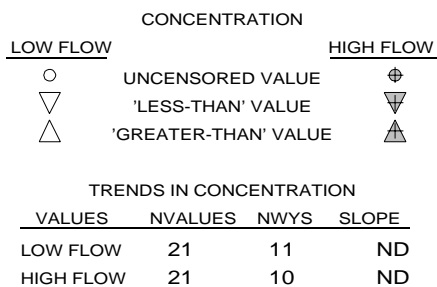
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



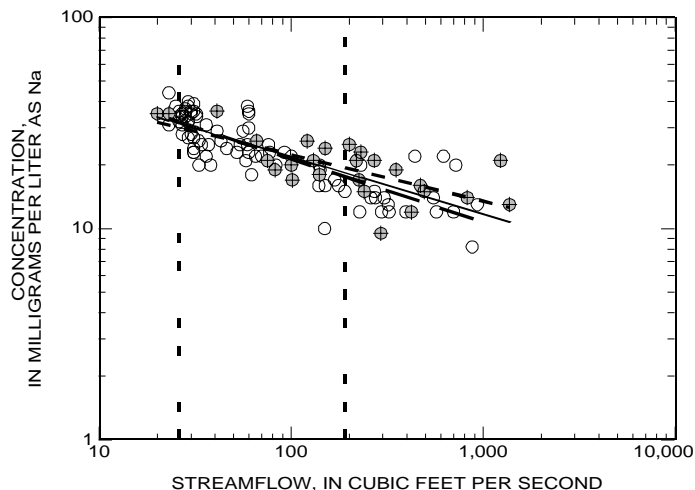
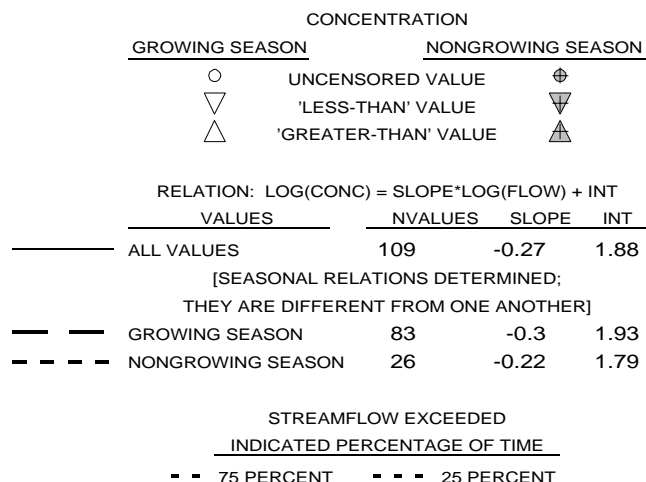
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



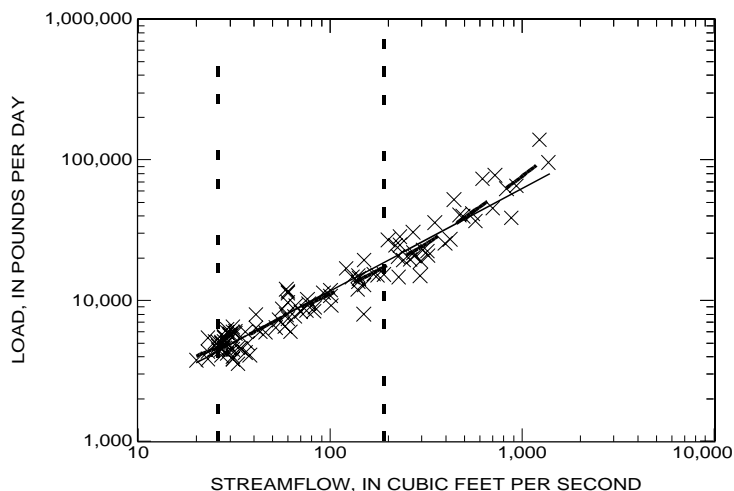
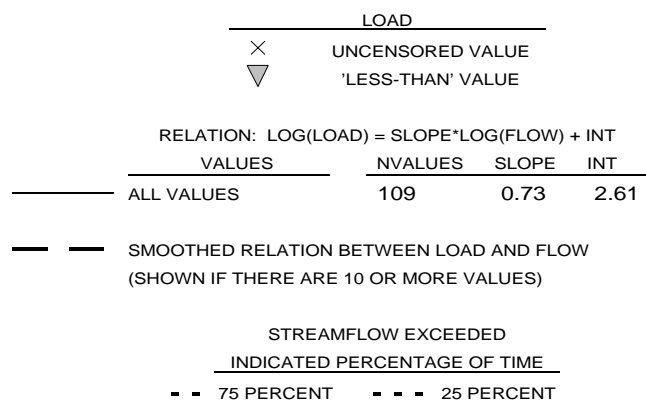
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

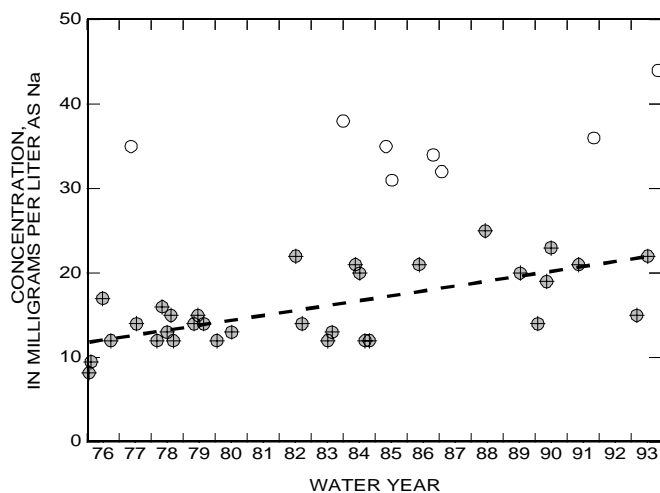
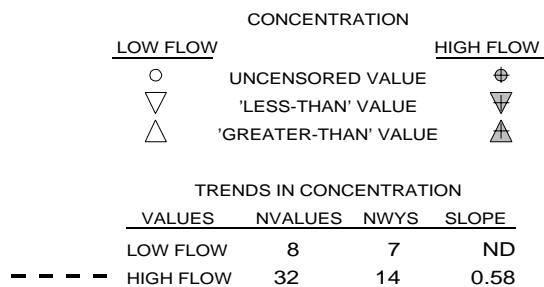
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



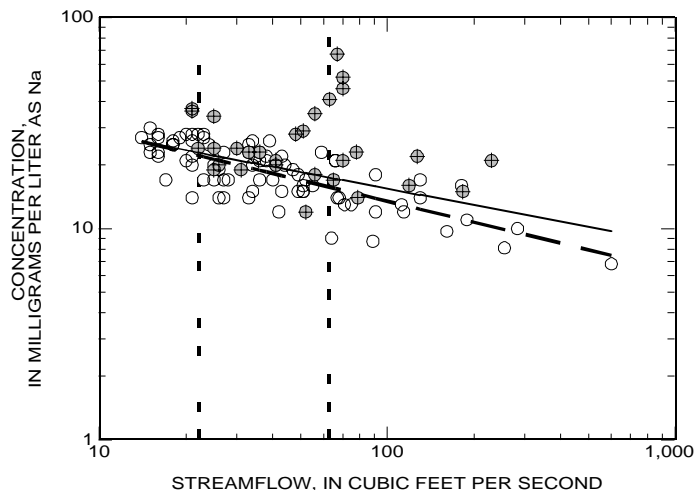
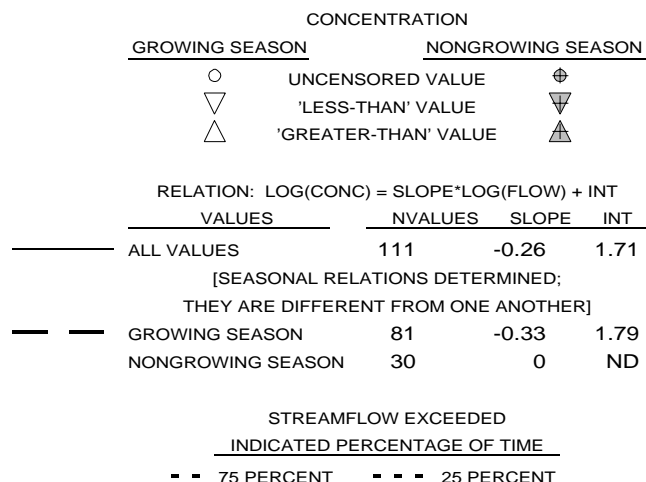
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



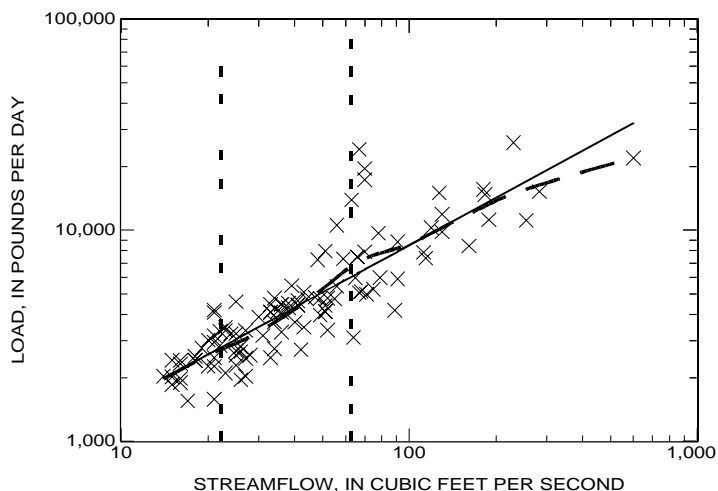
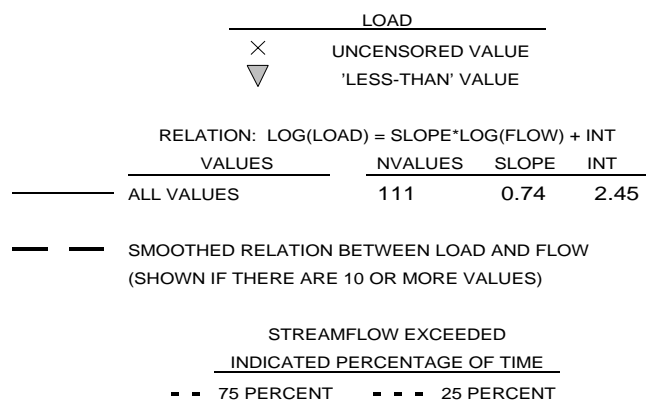
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

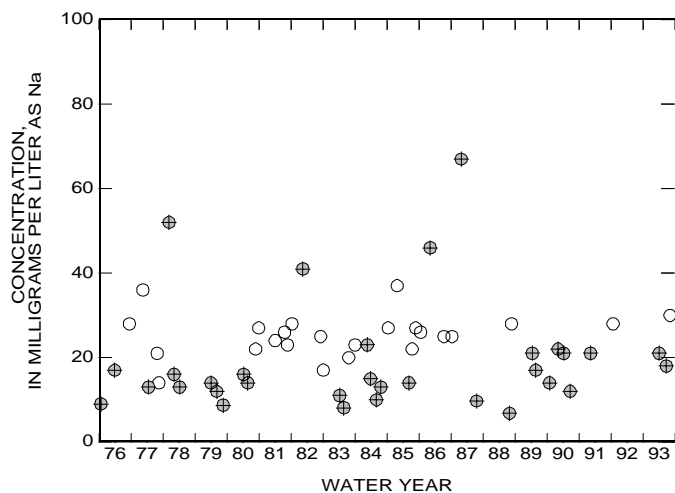
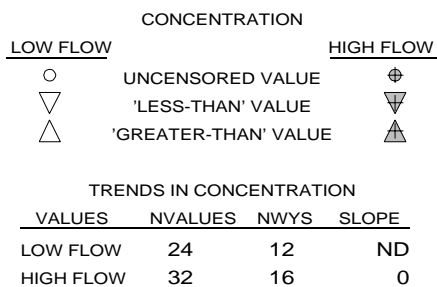
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



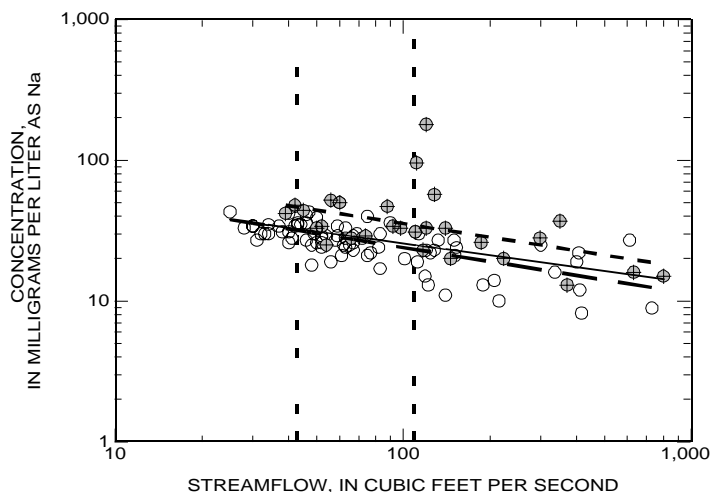
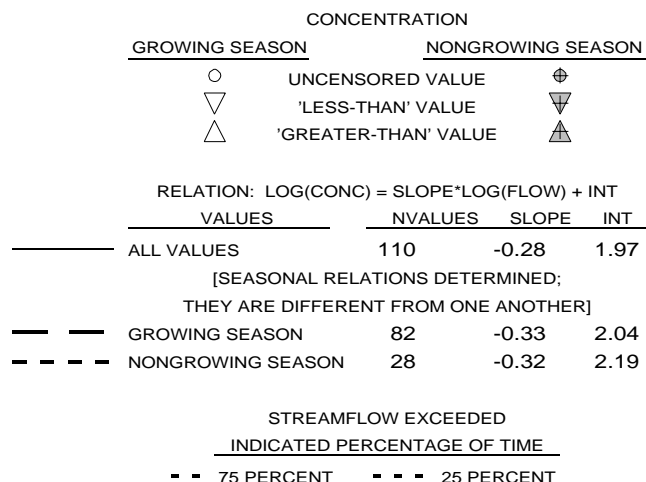
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



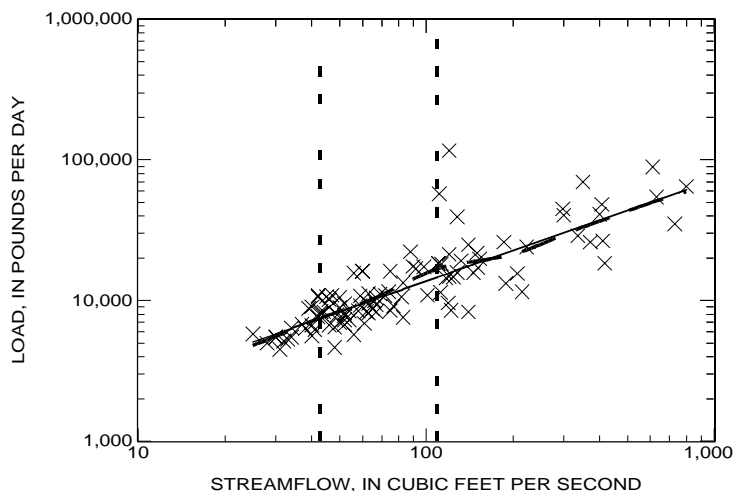
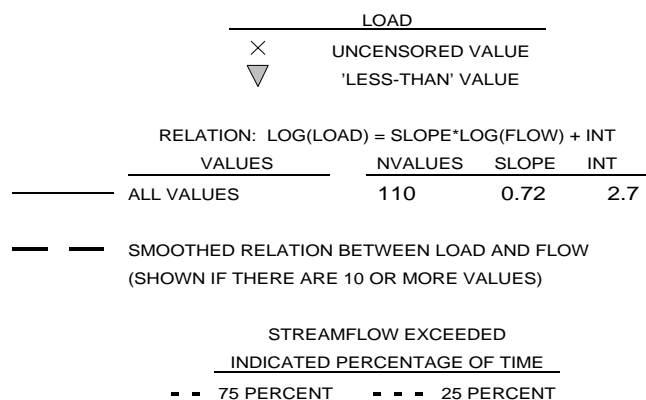
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

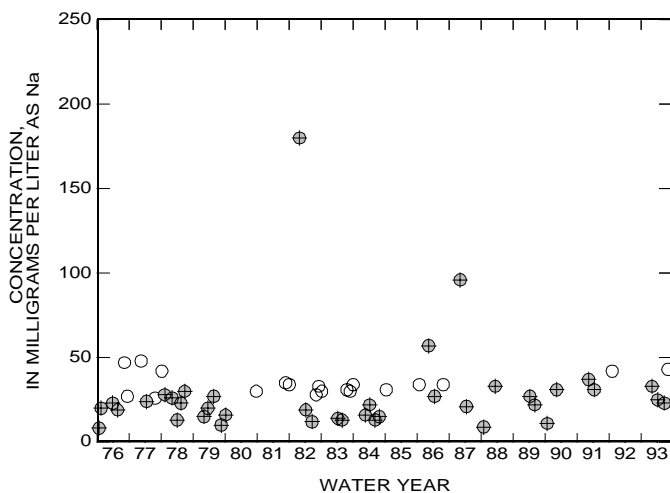
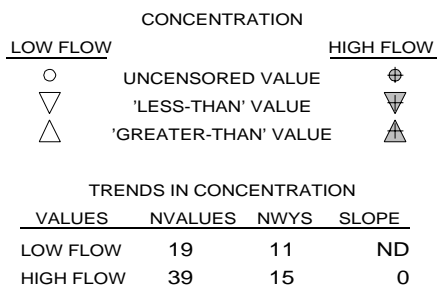
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



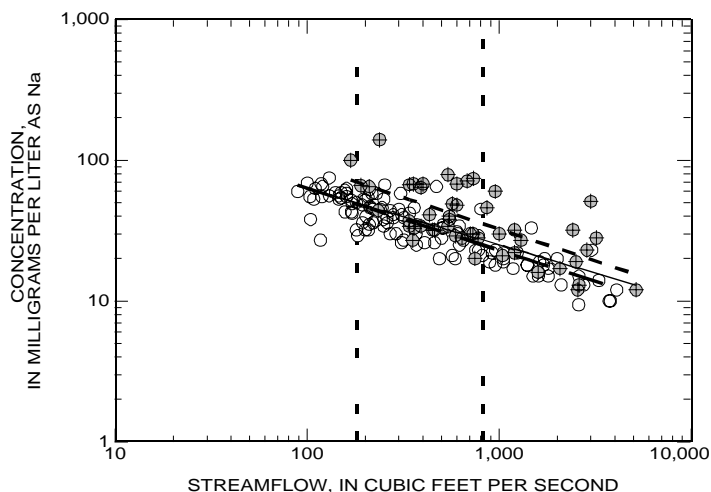
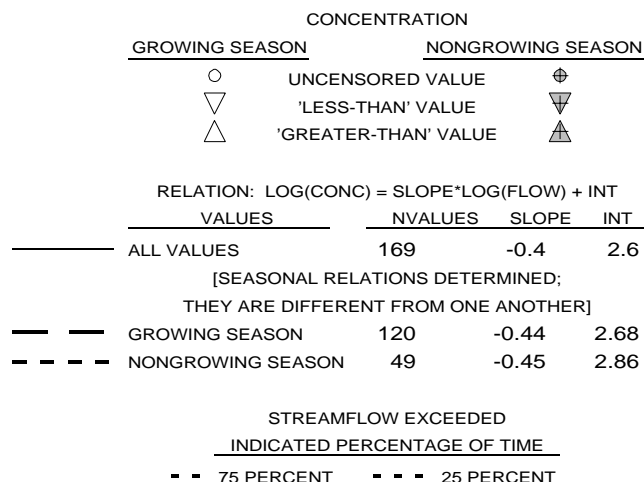
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



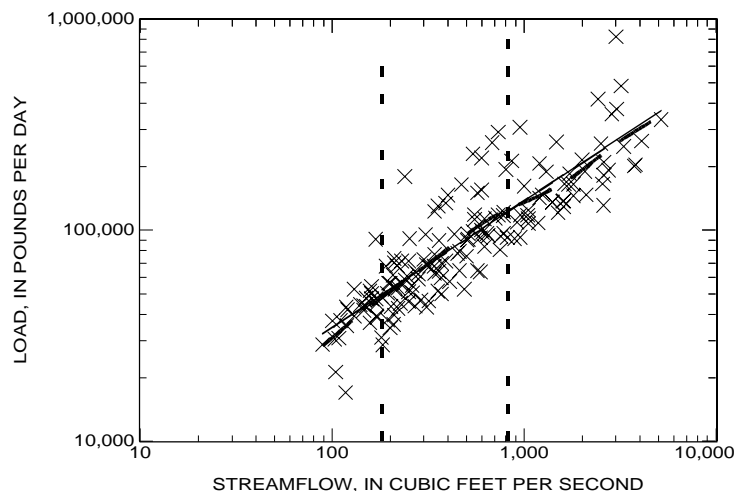
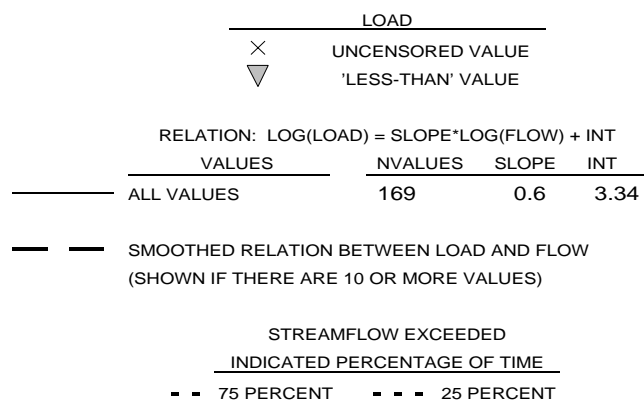
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

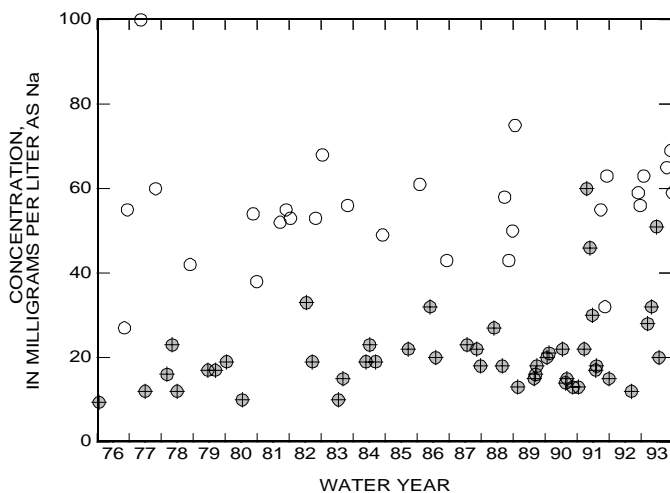
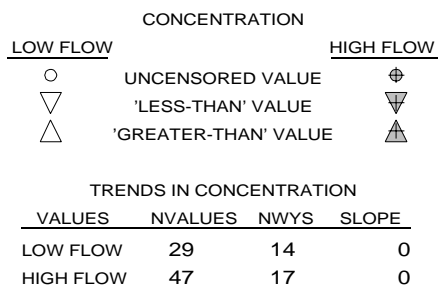
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



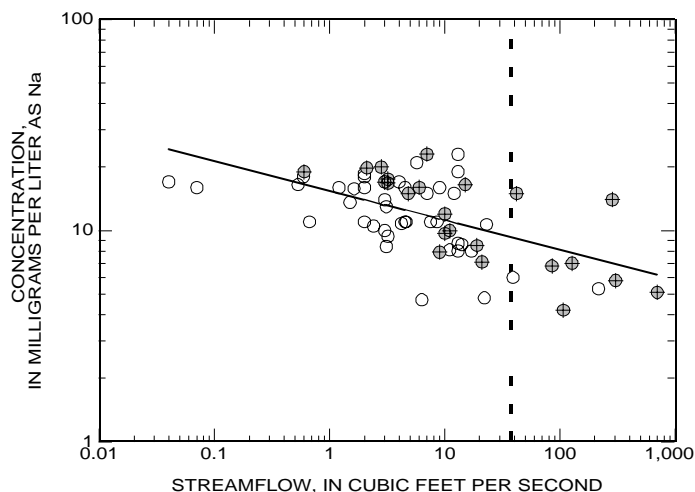
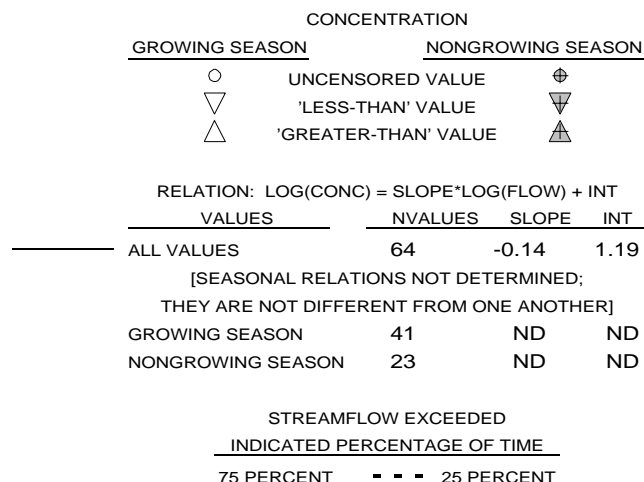
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



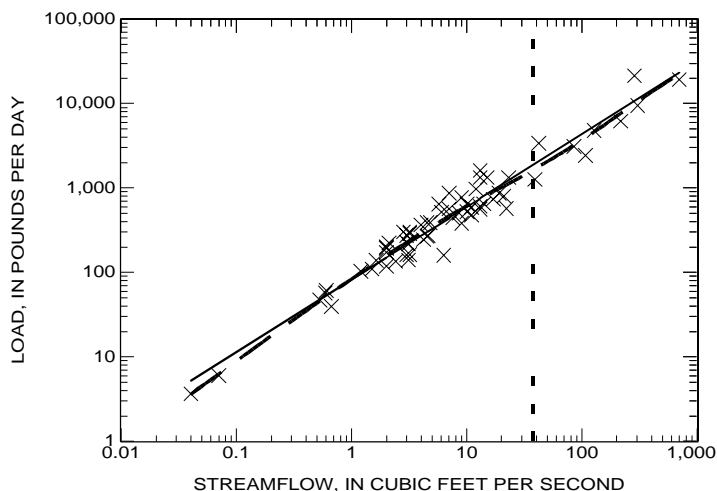
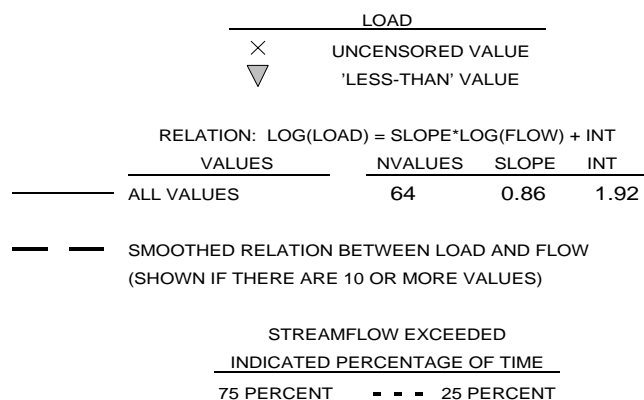
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

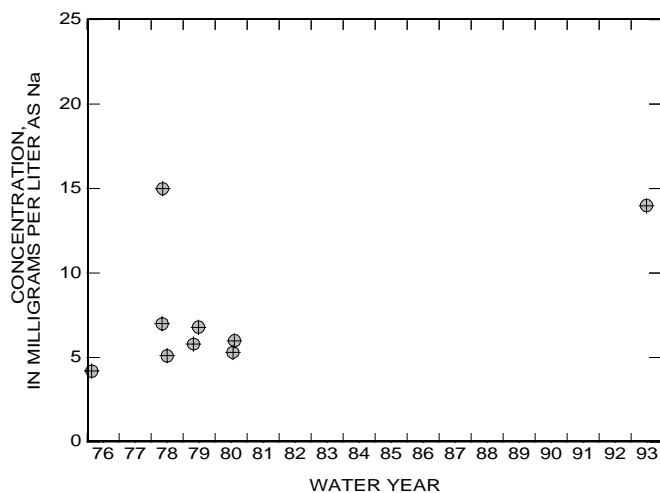
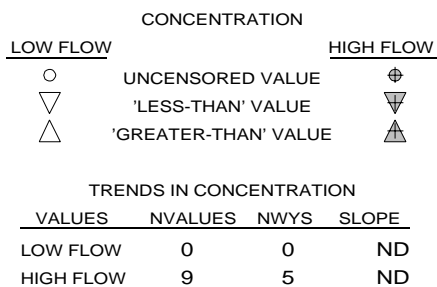
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



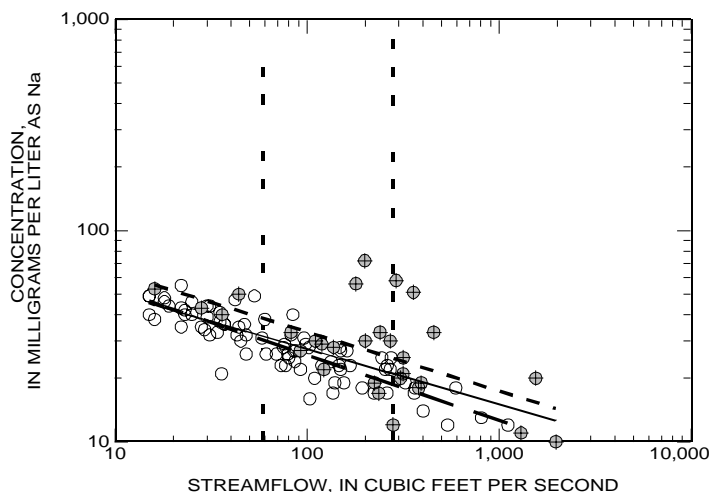
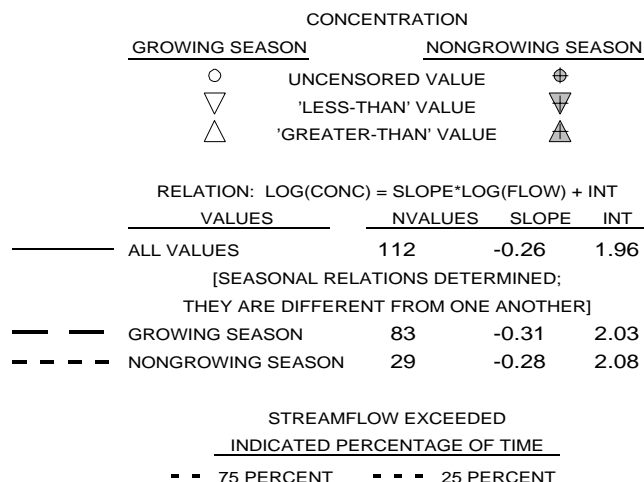
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



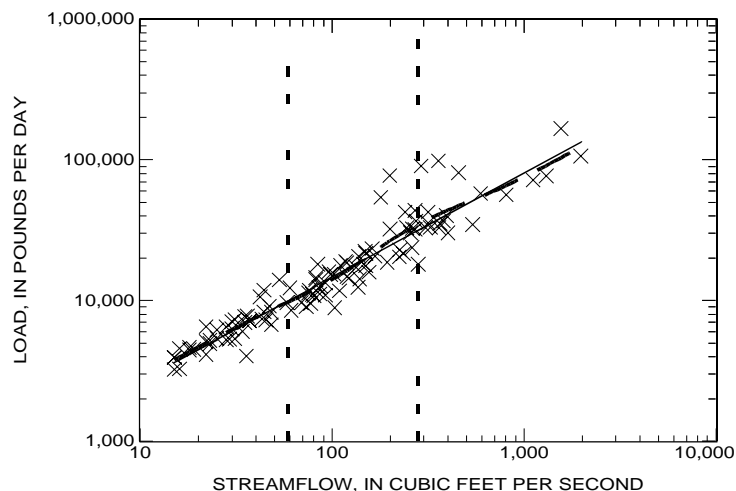
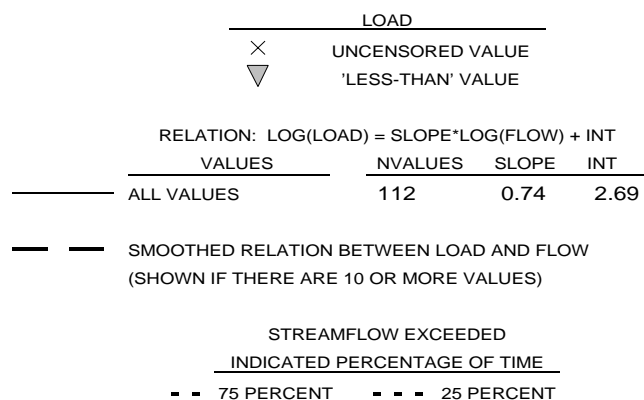
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

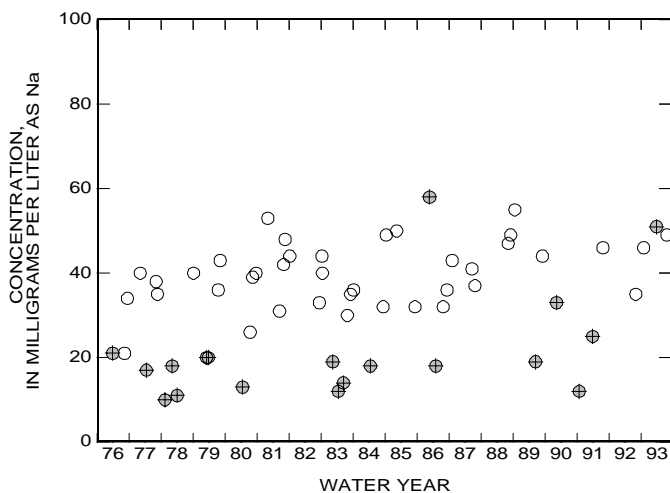
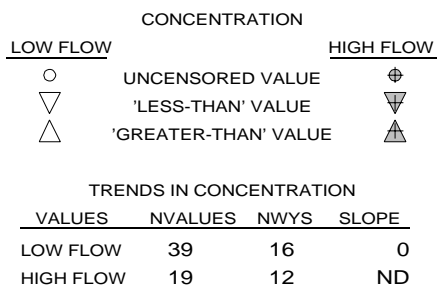
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



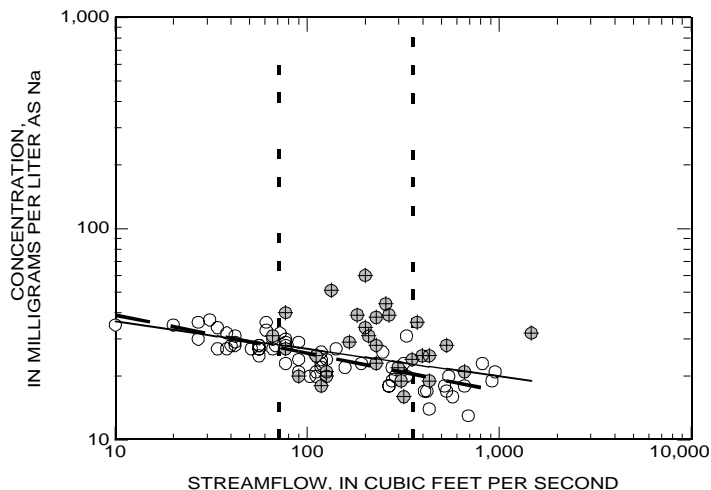
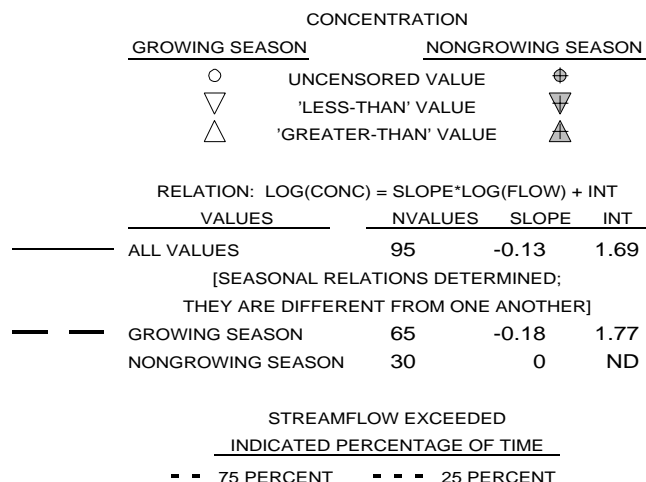
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



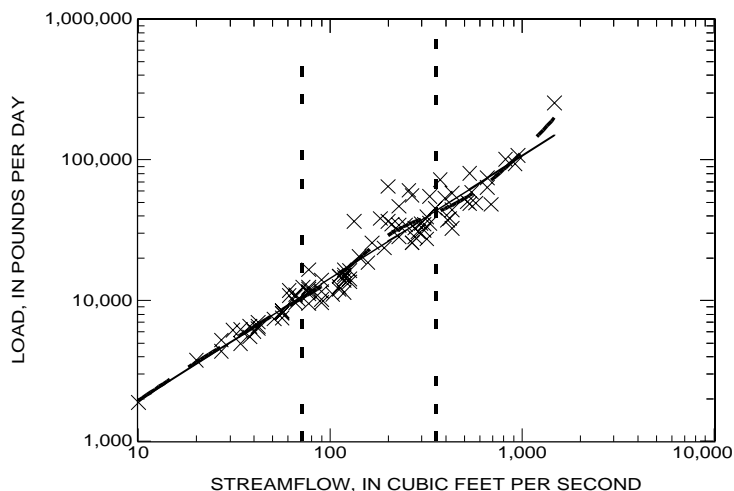
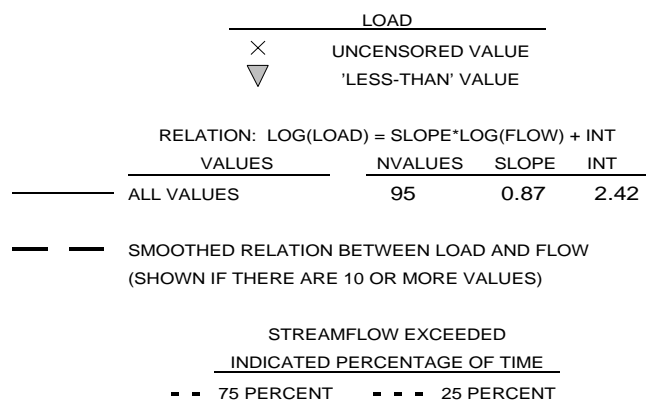
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

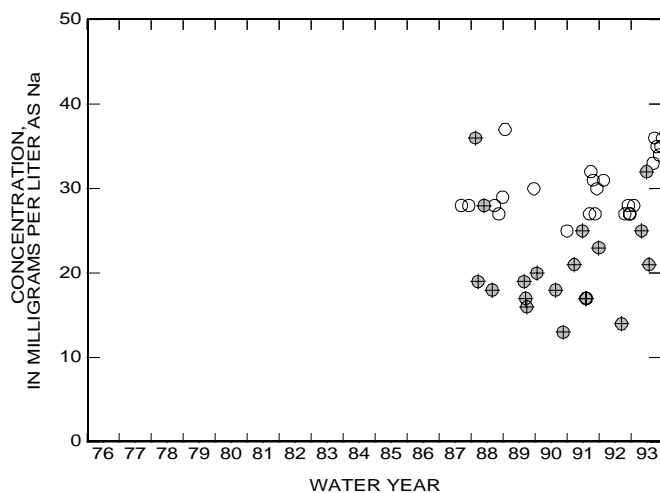
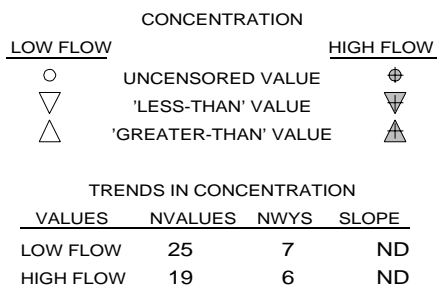
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

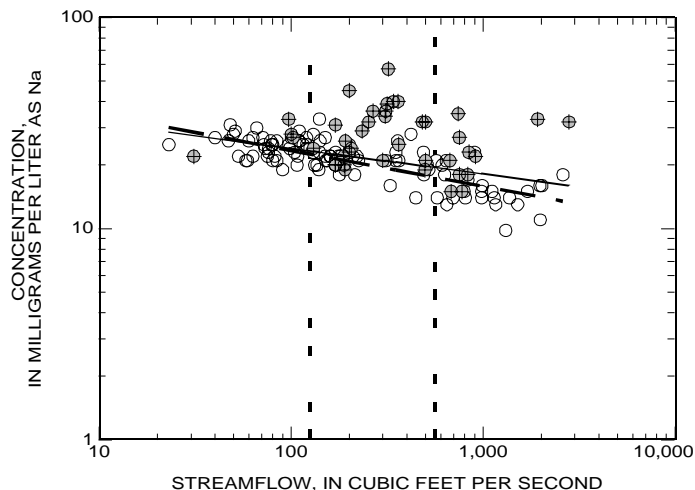
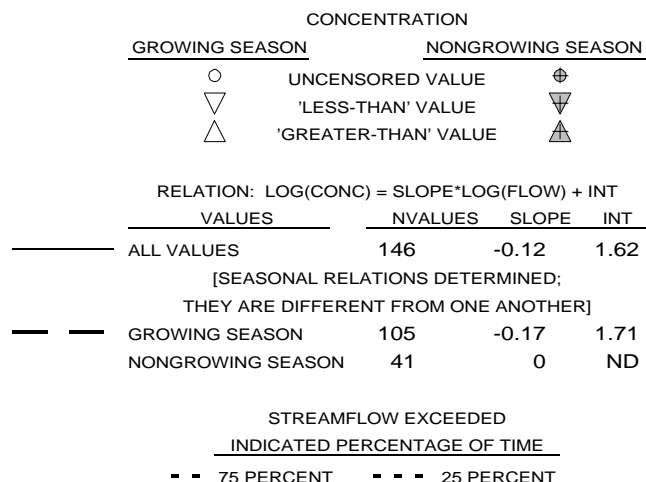




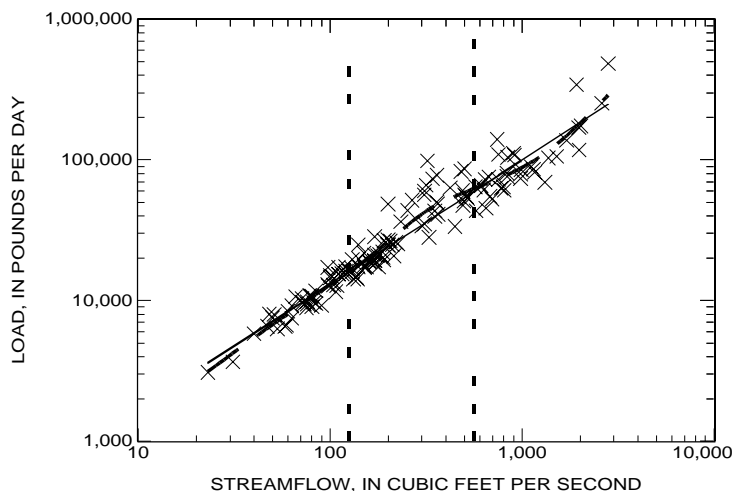
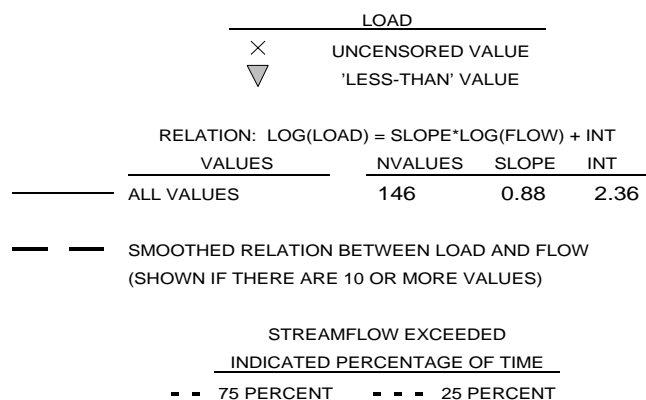
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

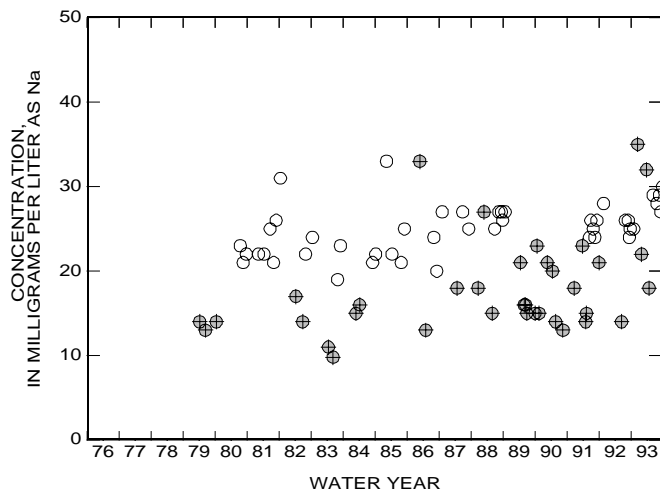
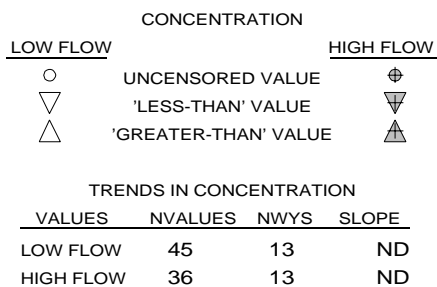
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



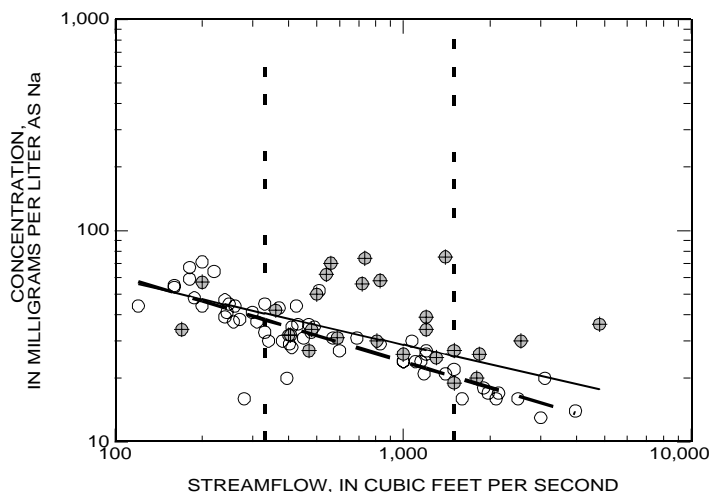
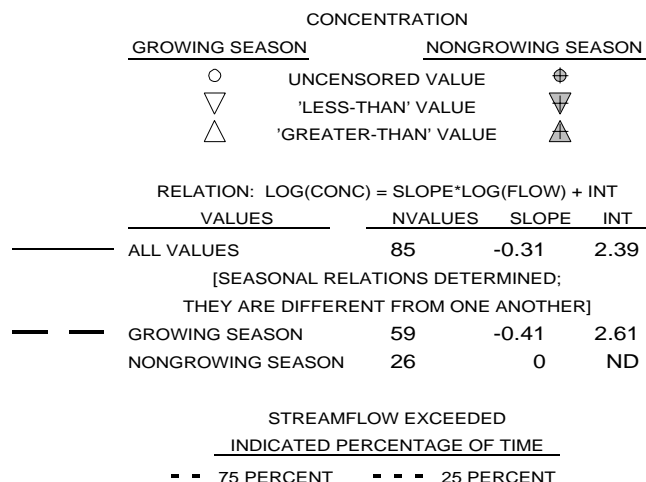
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



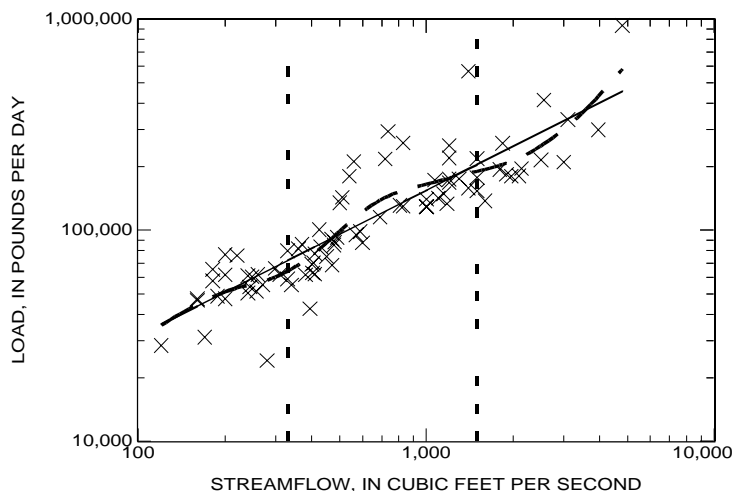
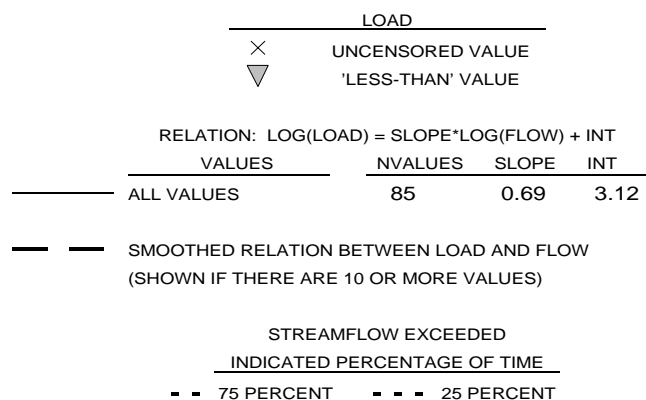
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

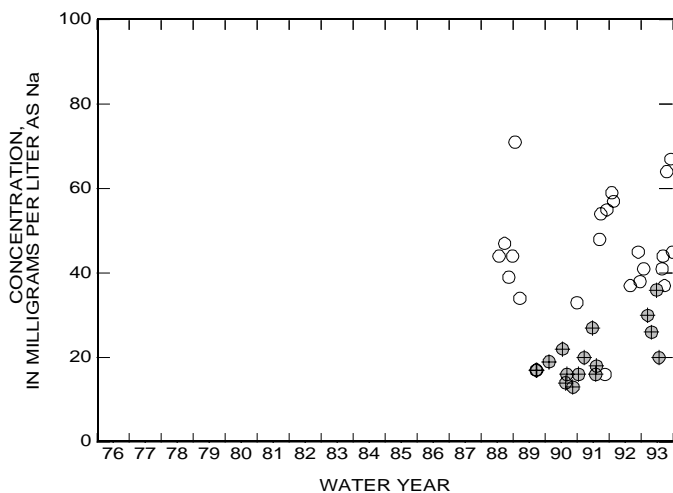
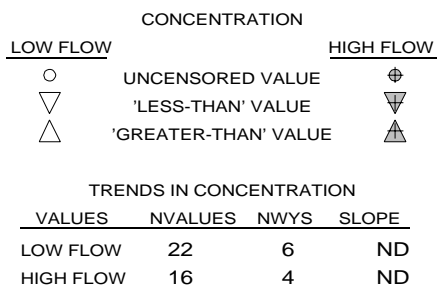
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



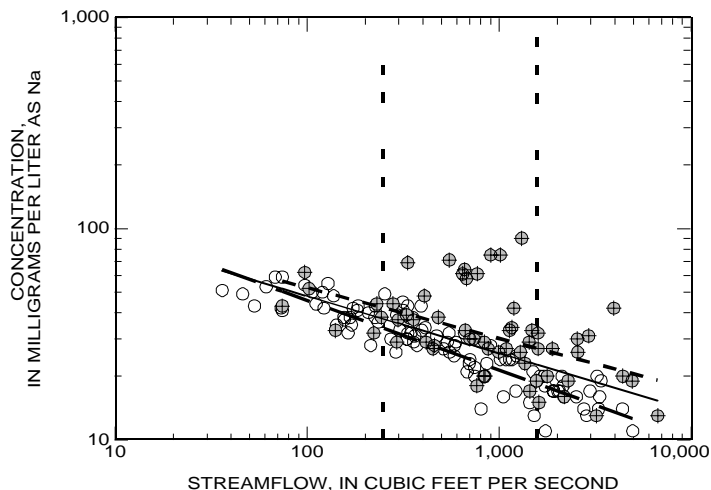
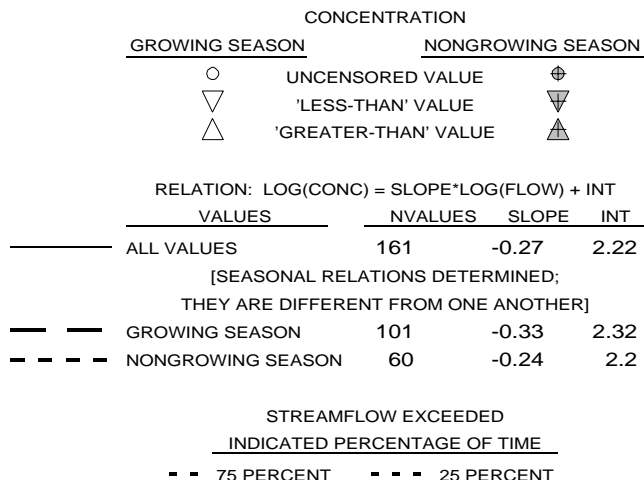
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



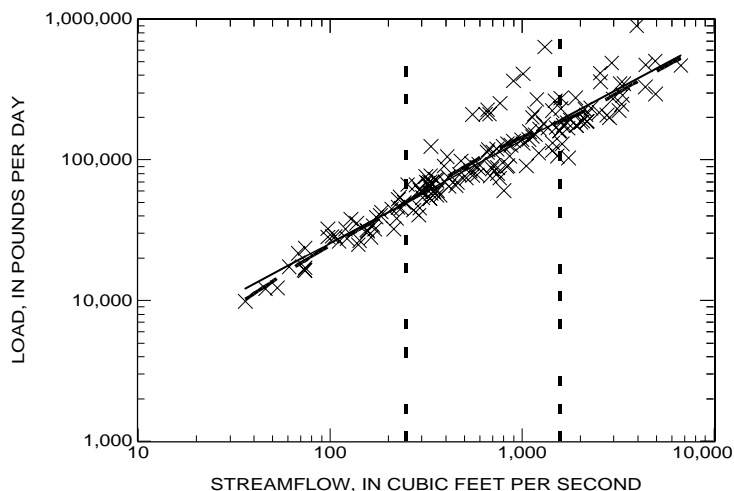
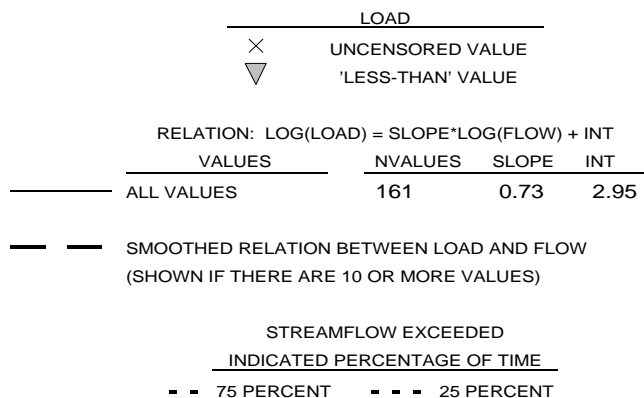
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

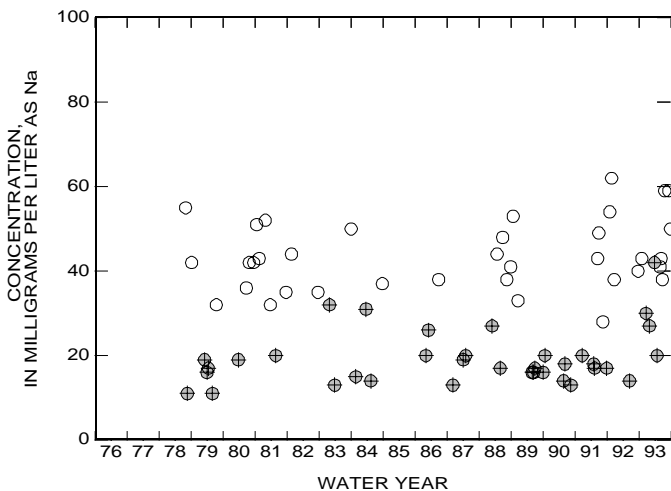
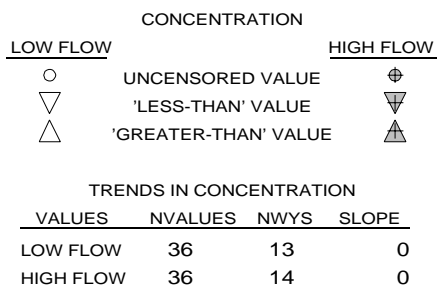
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



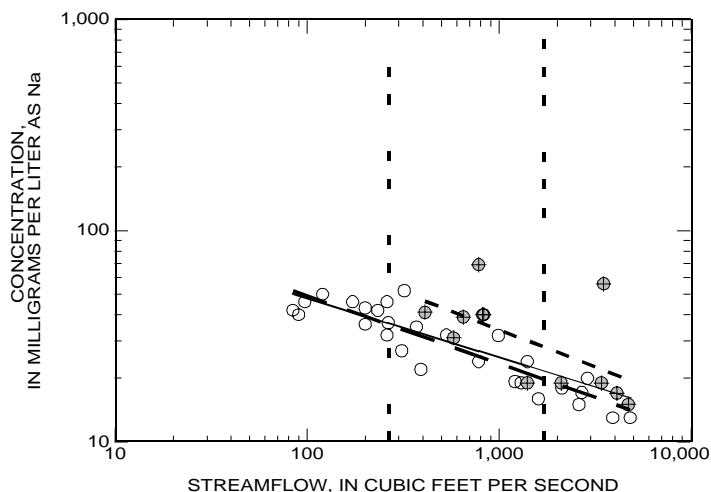
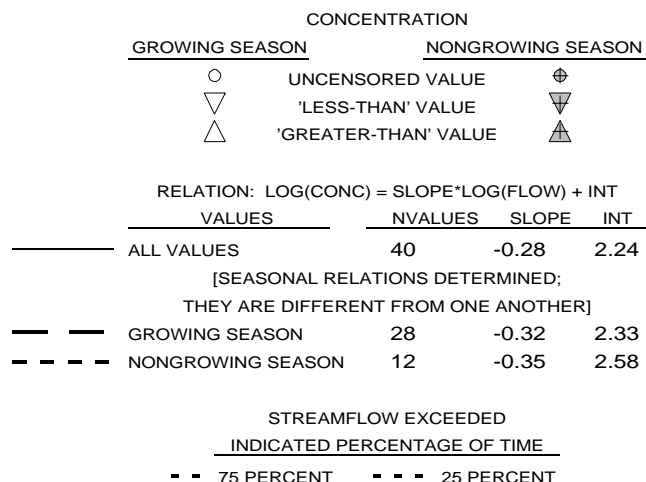
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



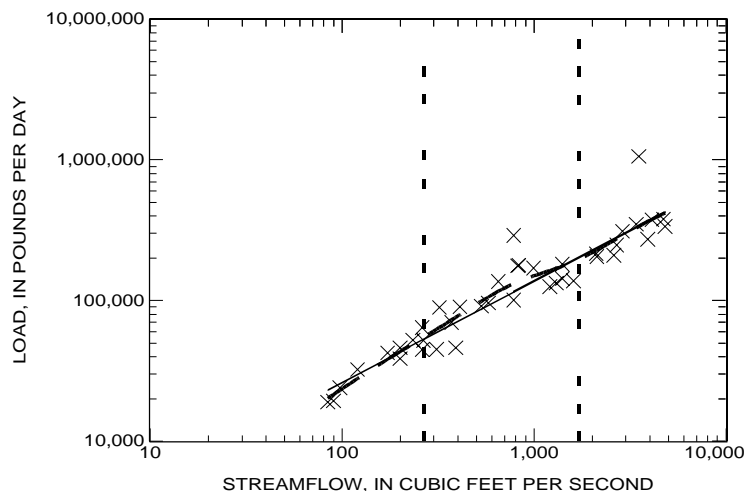
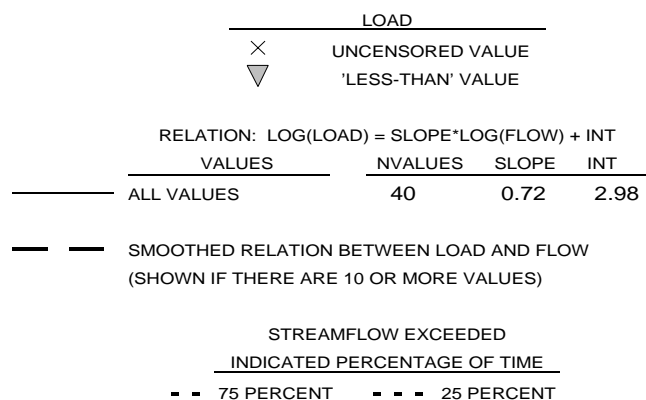
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

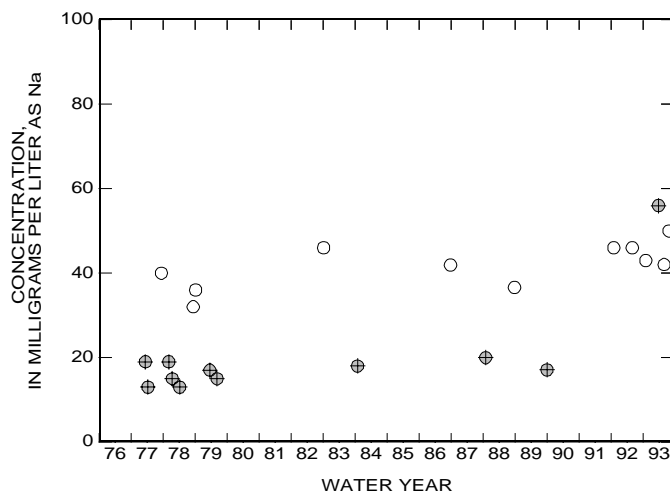
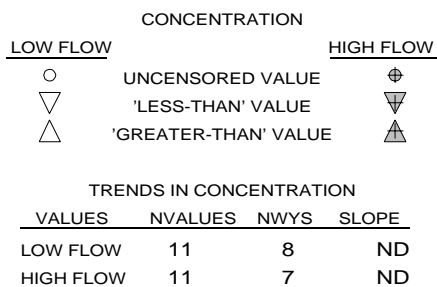
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



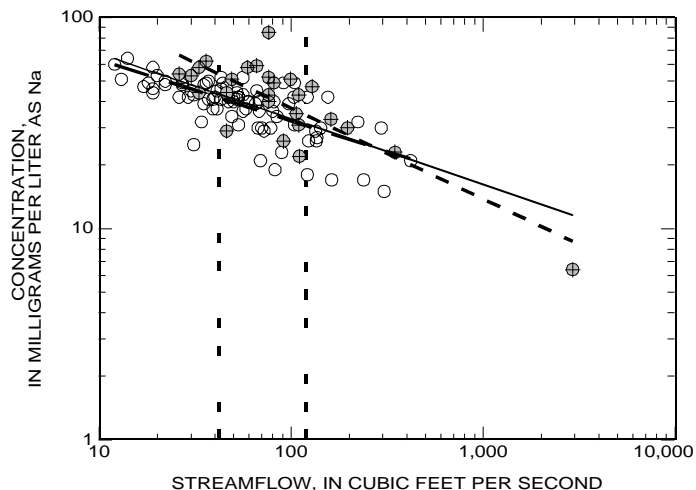
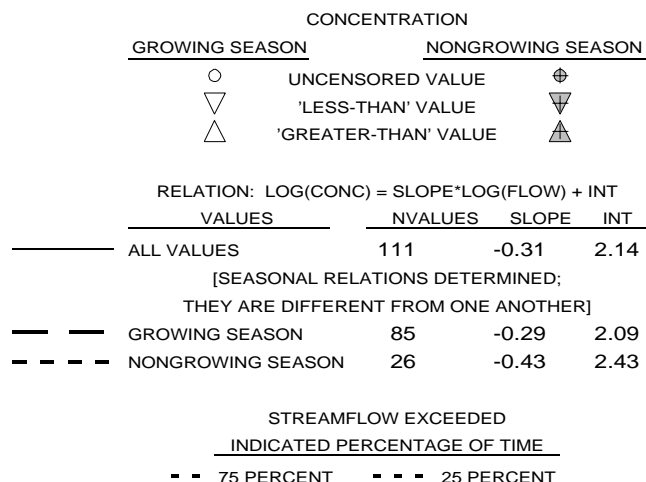
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



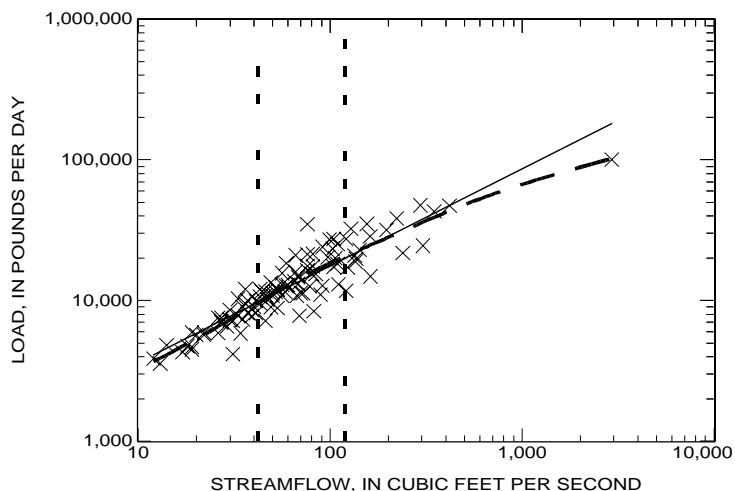
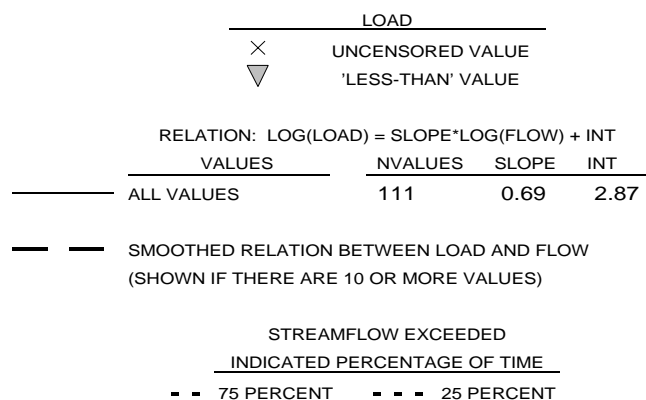
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

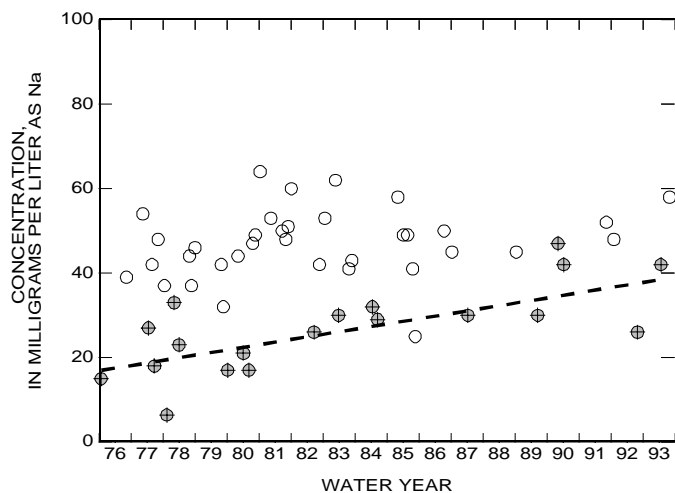
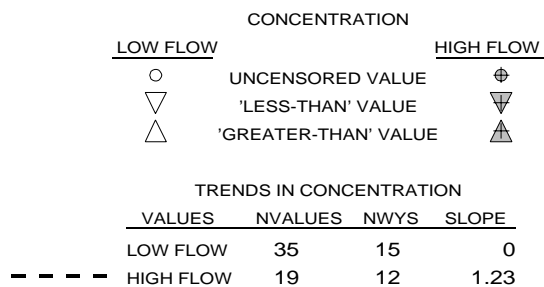
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



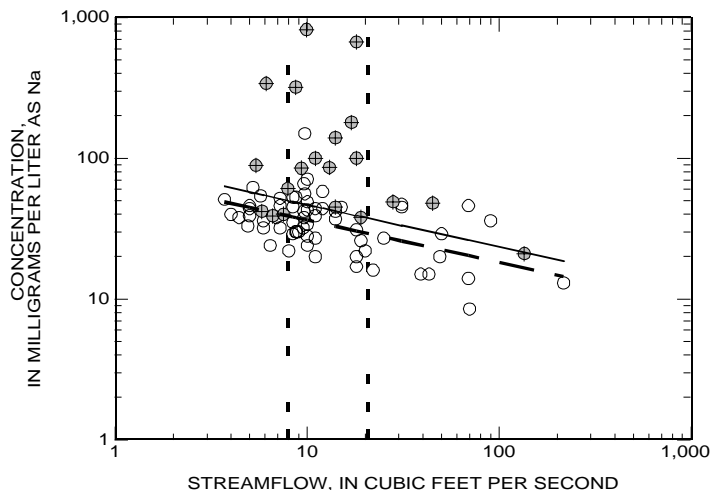
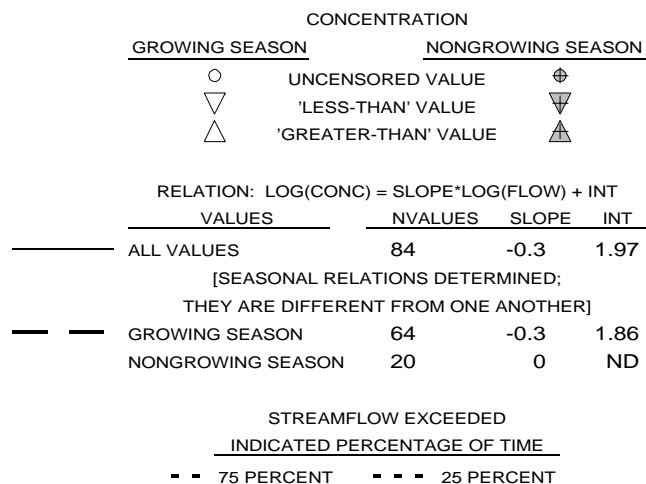
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



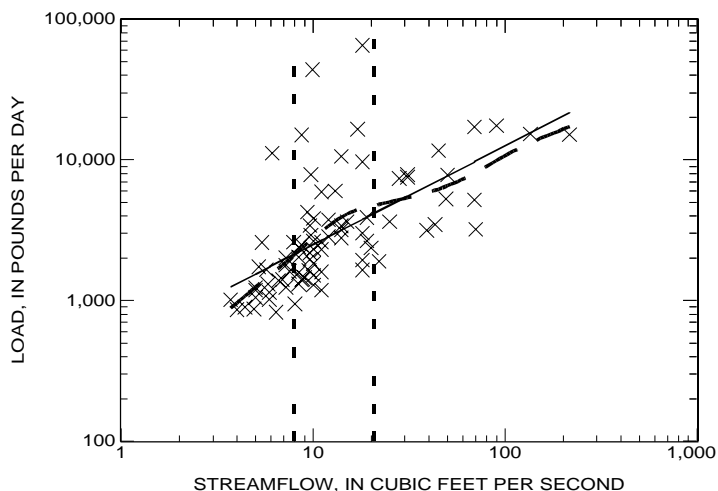
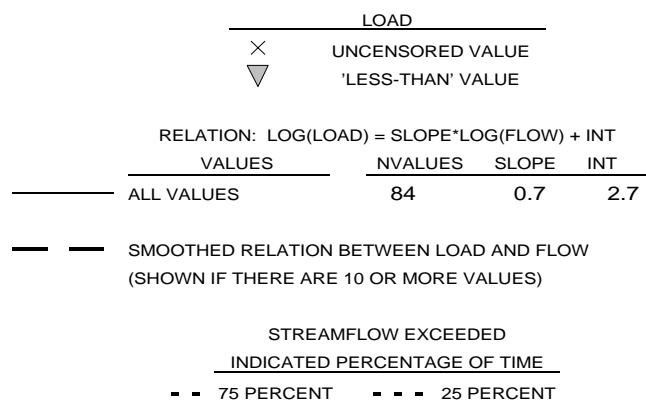
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

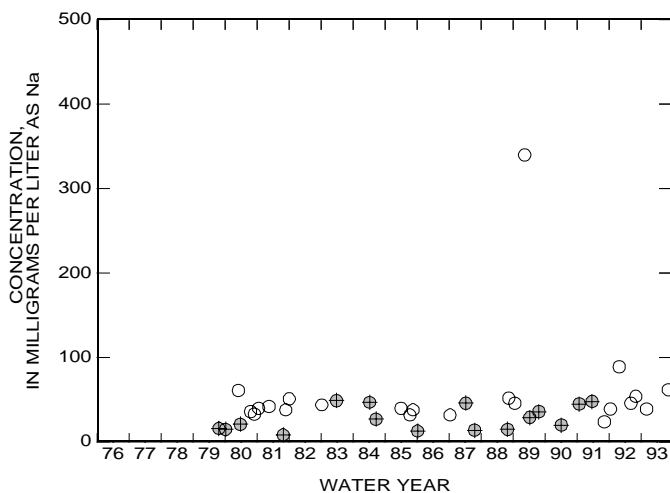
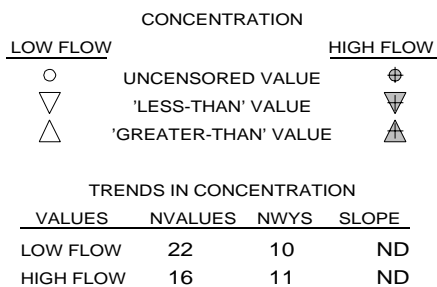
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



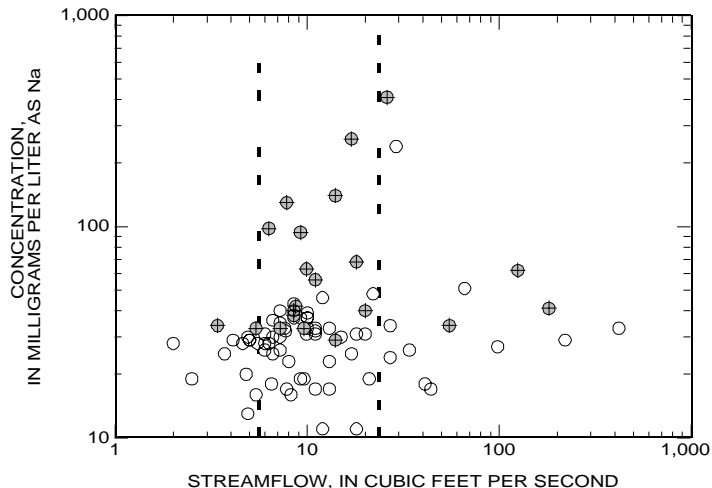
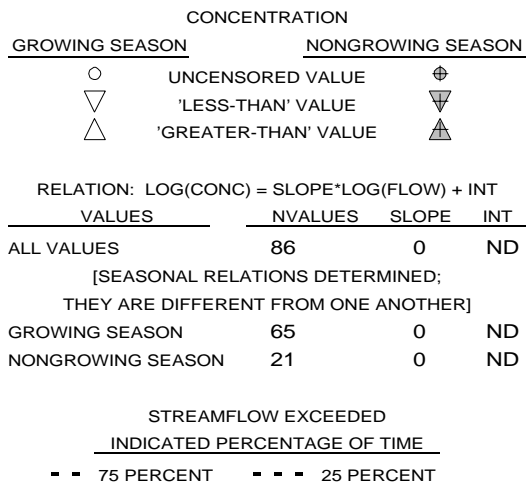
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



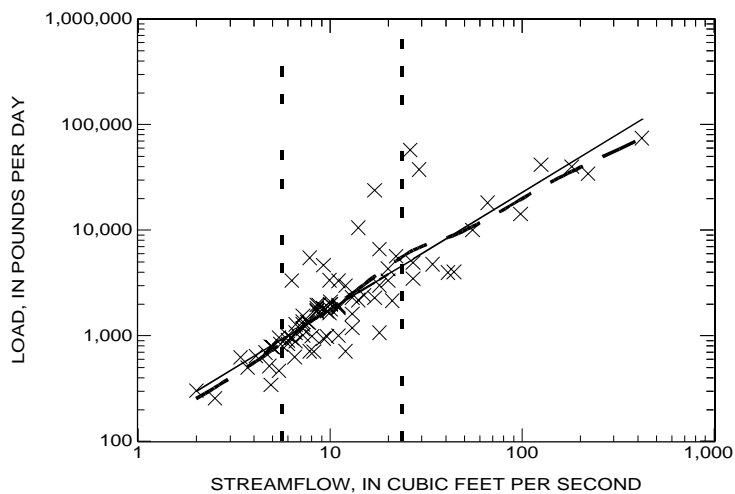
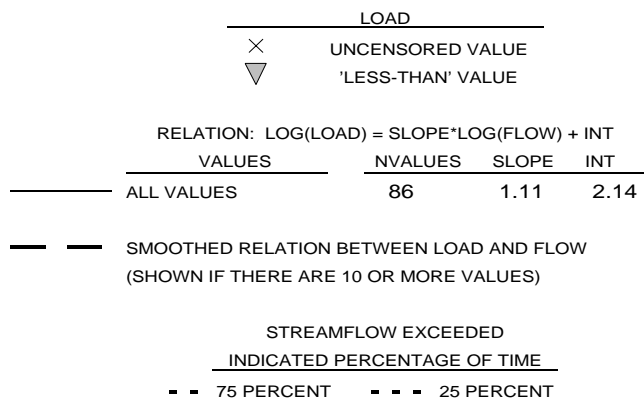
APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED SODIUM  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

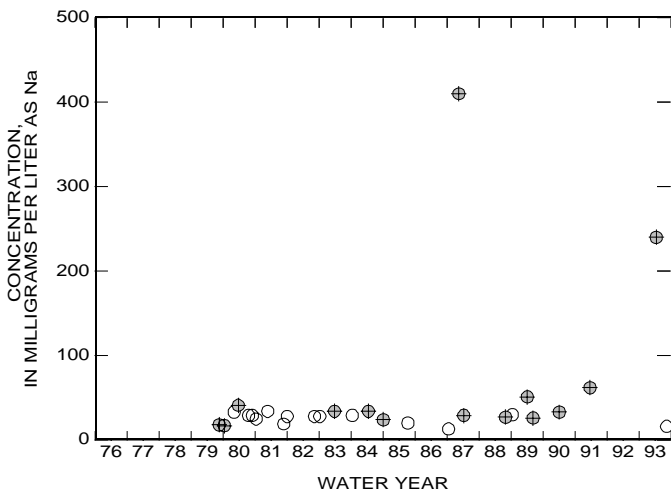
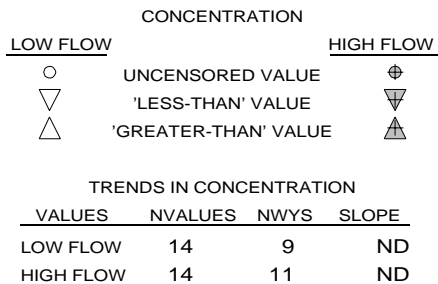
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



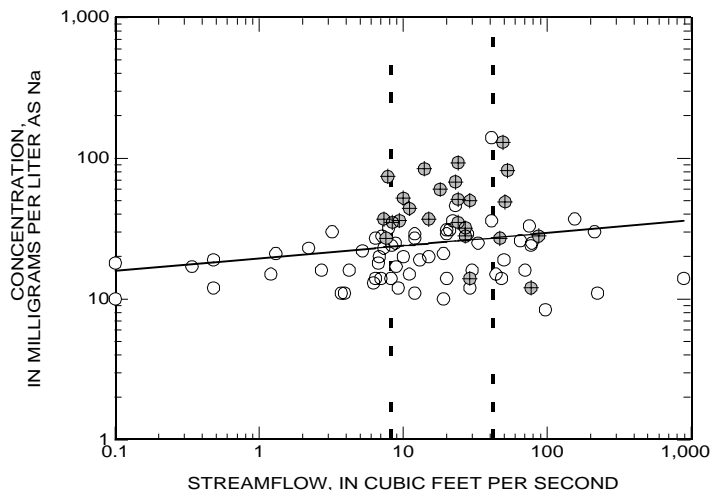
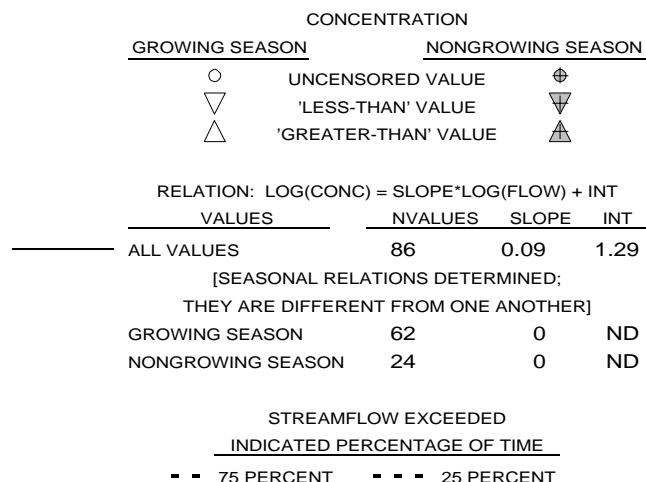
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



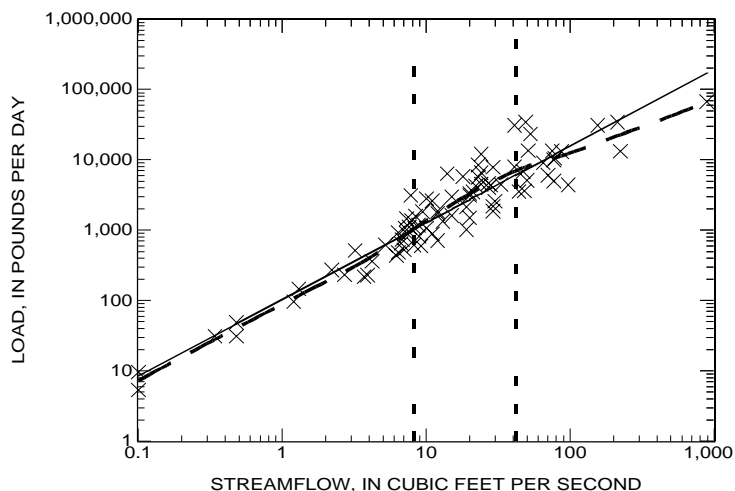
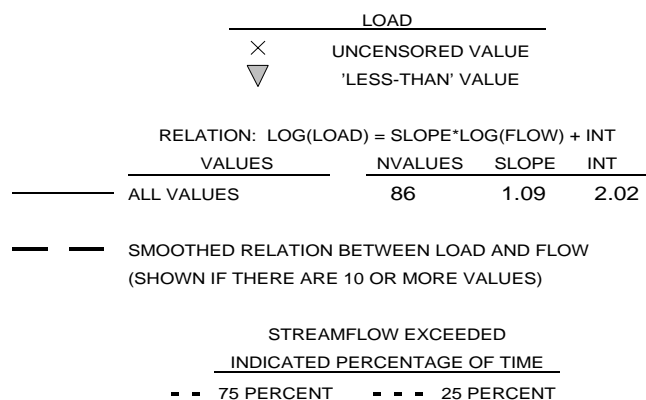
**APPENDIX 6. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED SODIUM**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

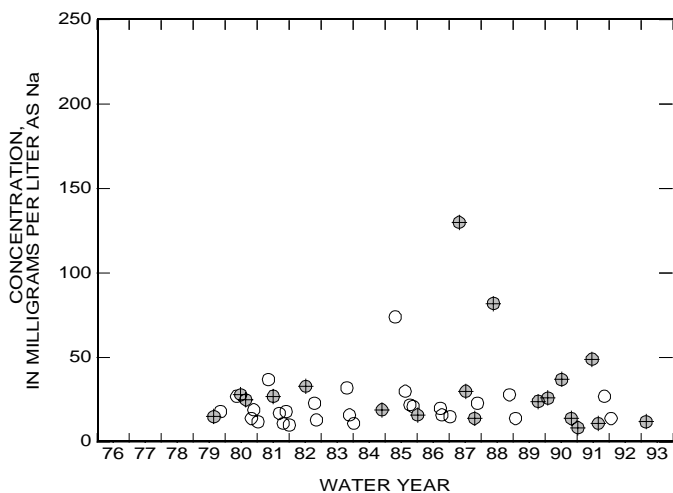
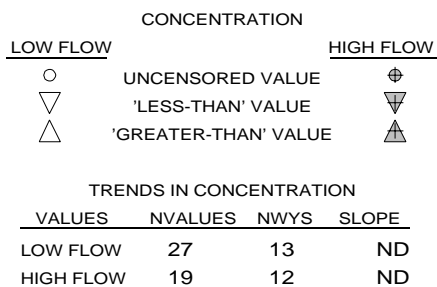
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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# Appendix 7

## Dissolved chloride

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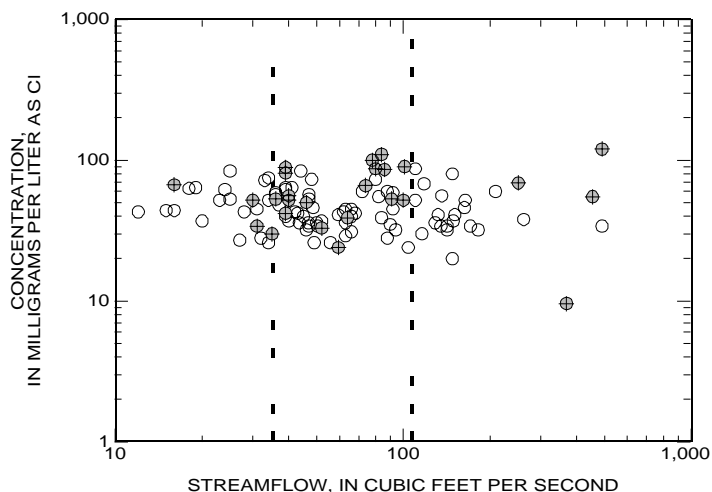
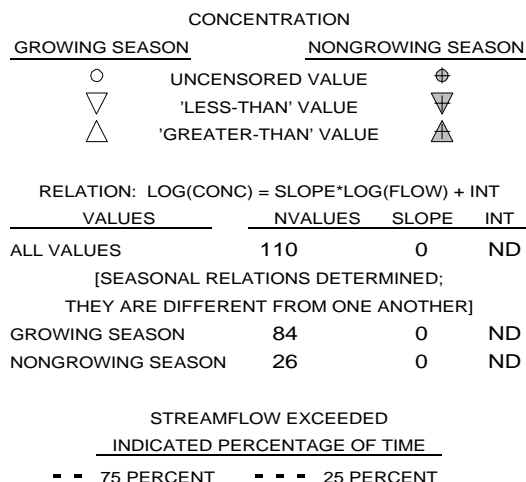
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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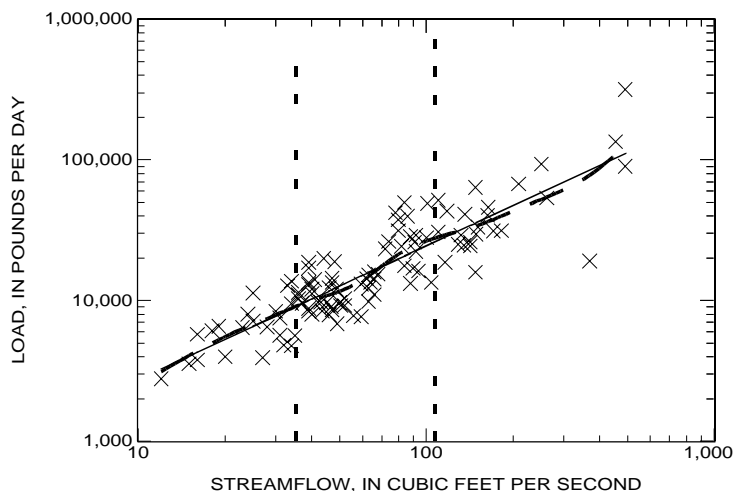
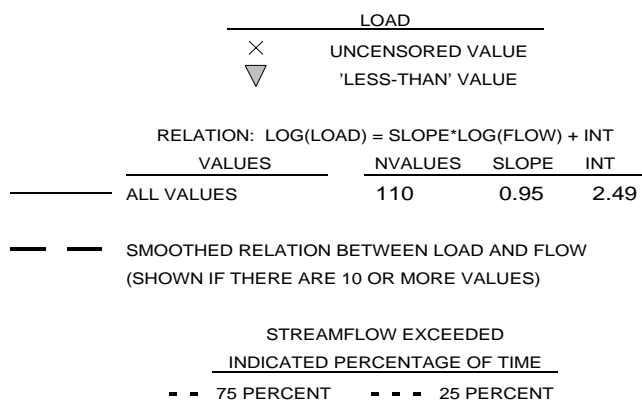
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

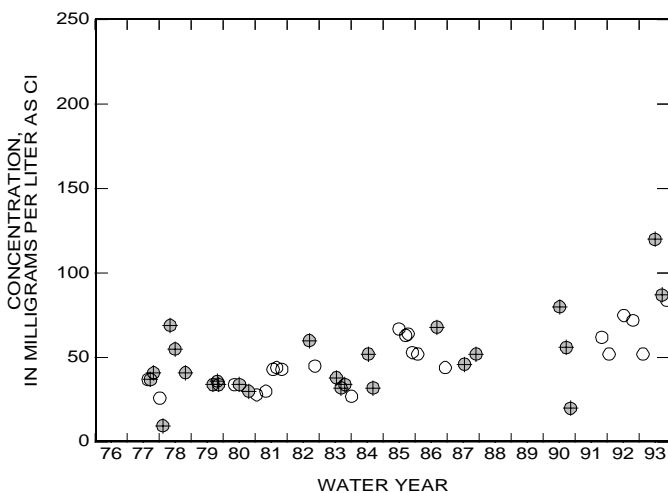
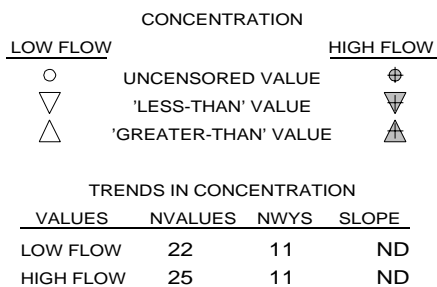
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



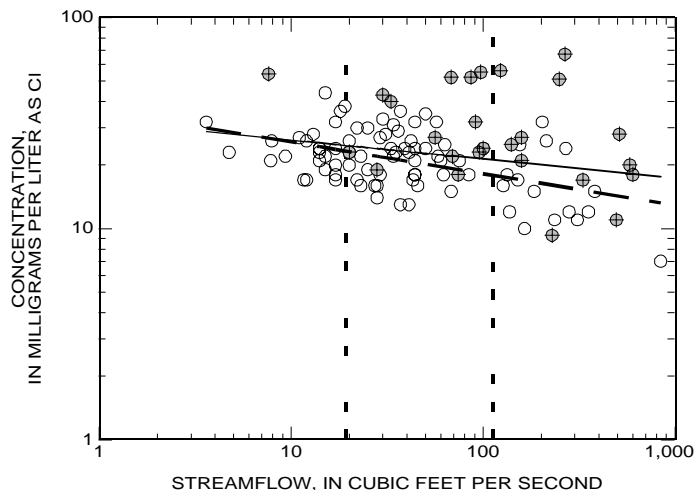
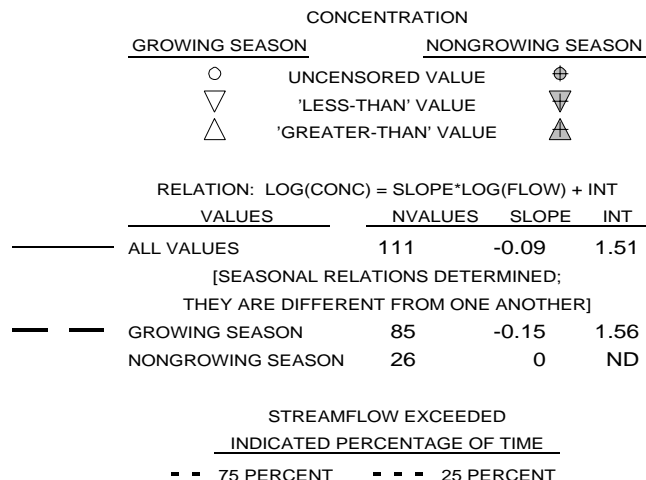
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



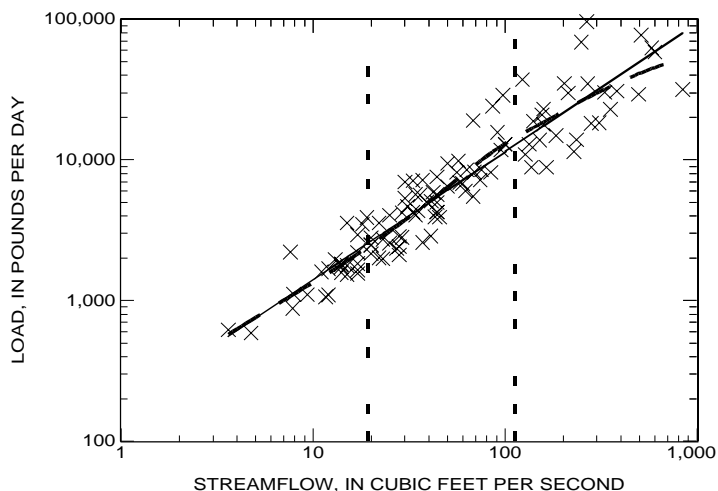
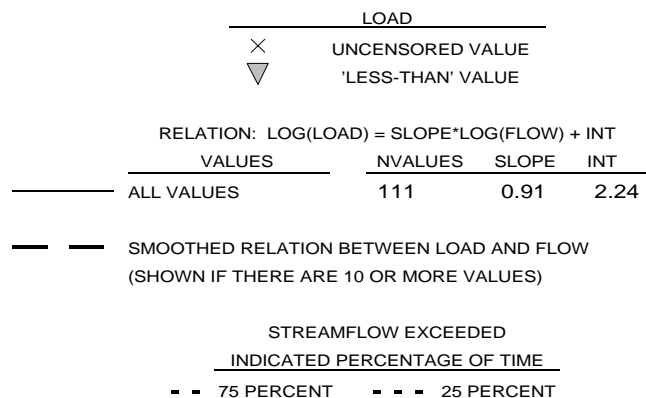
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

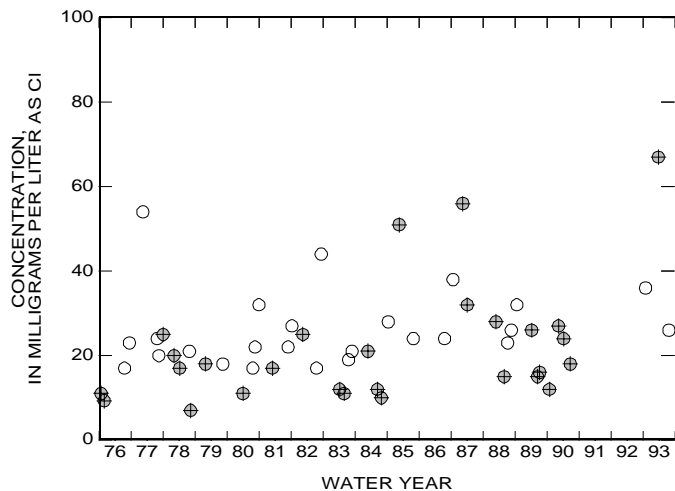
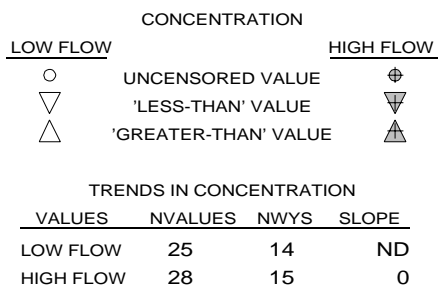
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



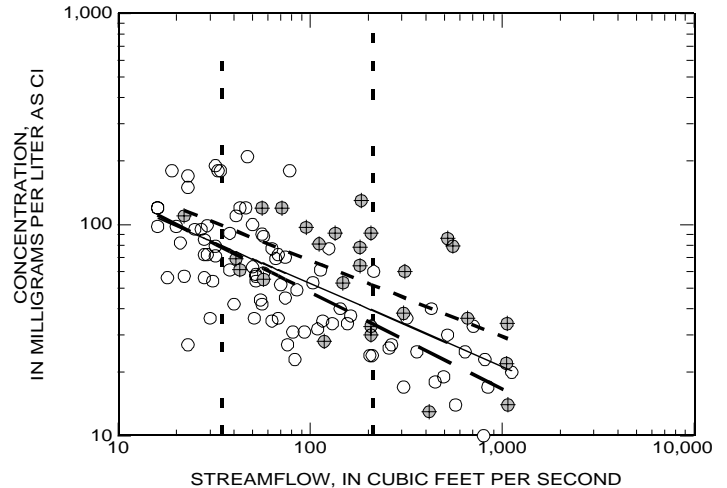
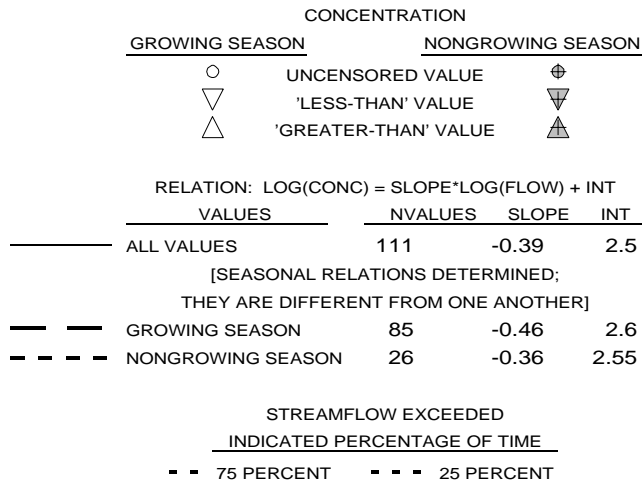
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



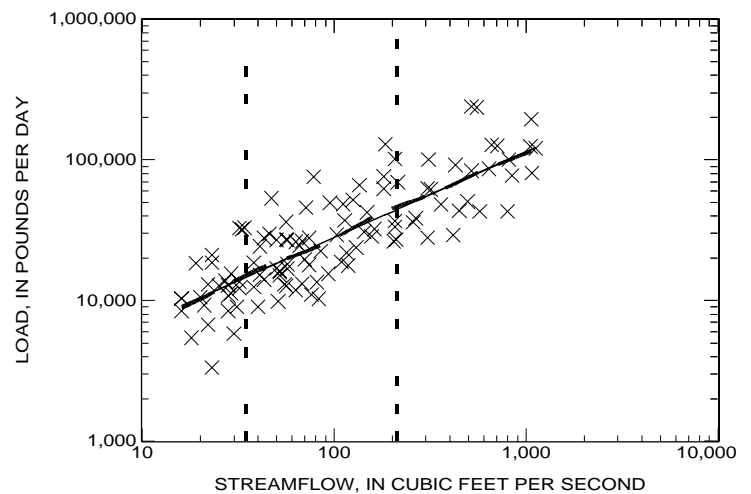
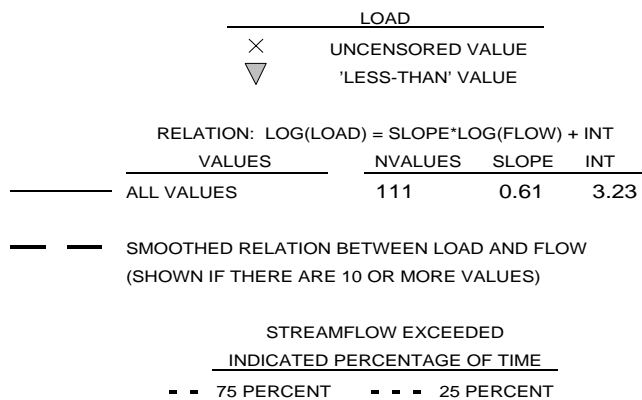
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

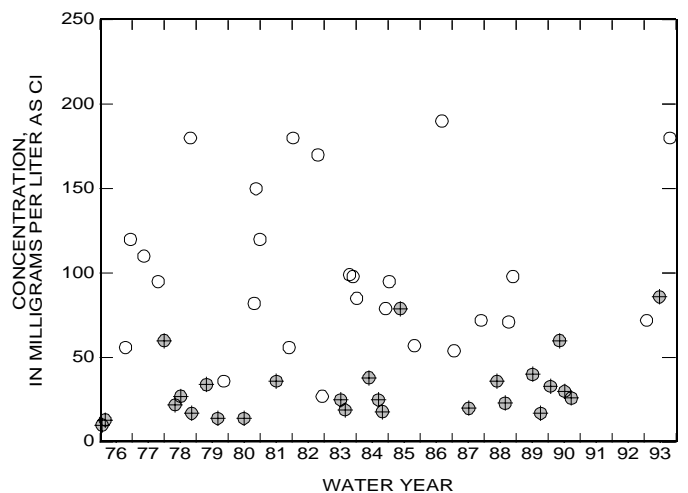
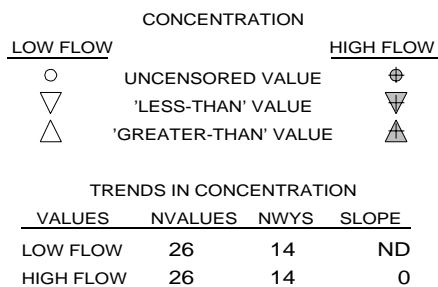
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



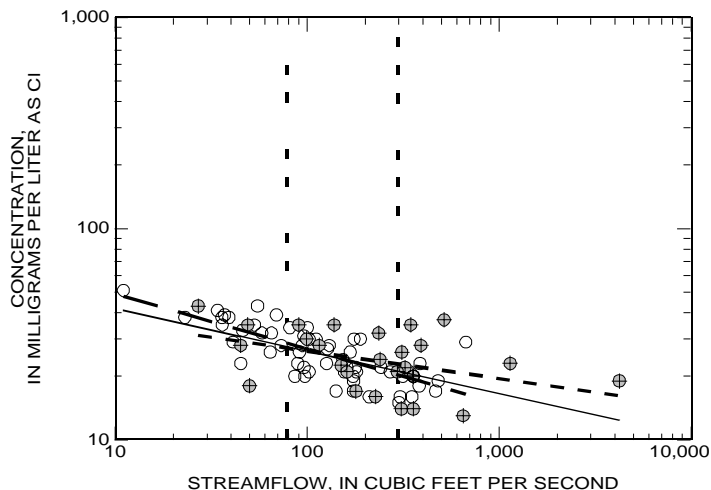
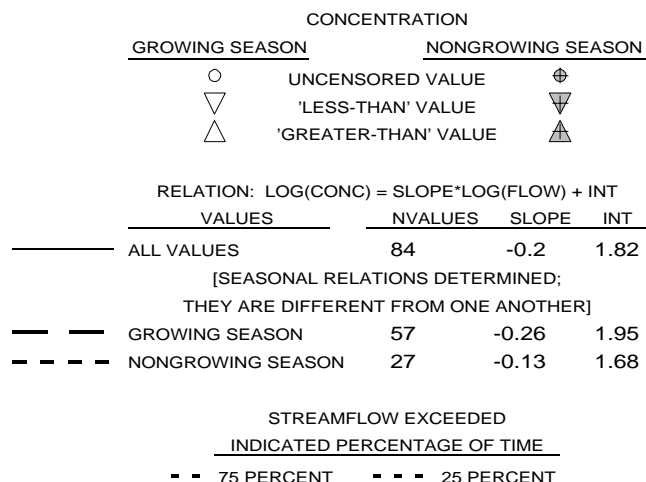
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



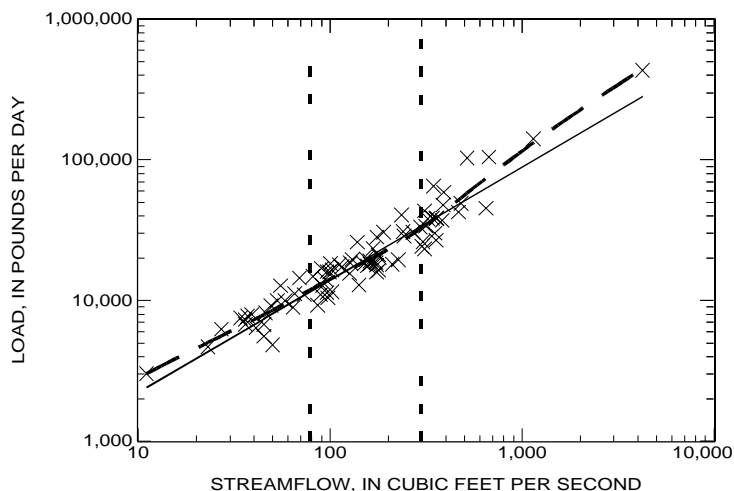
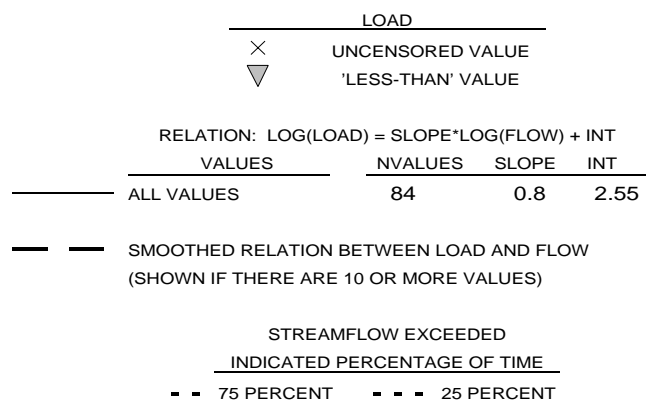
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

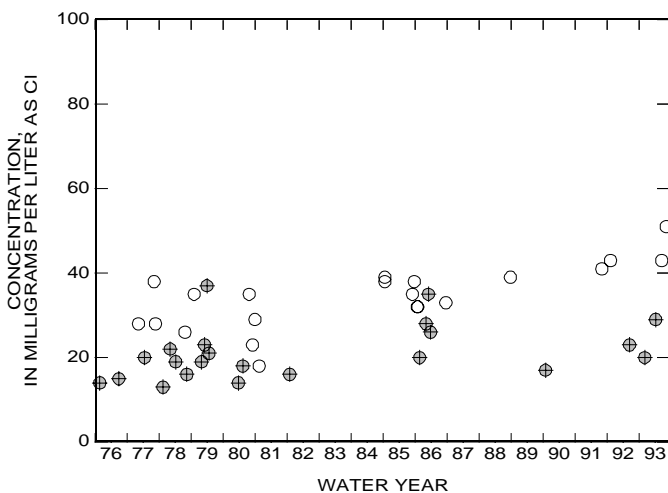
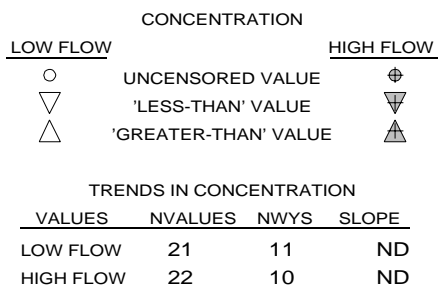
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



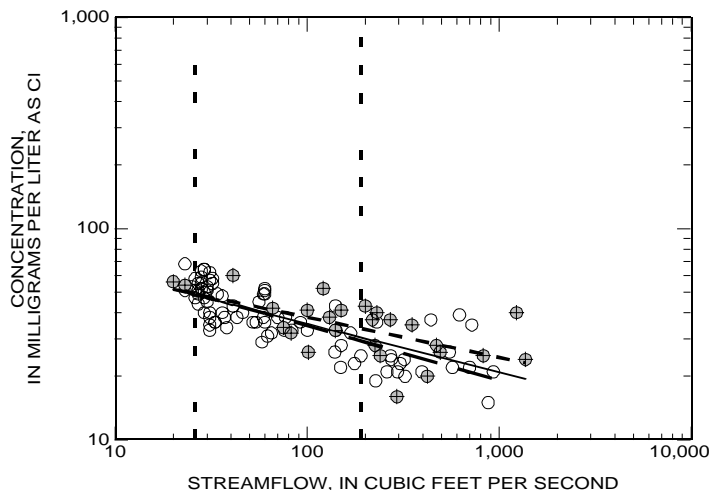
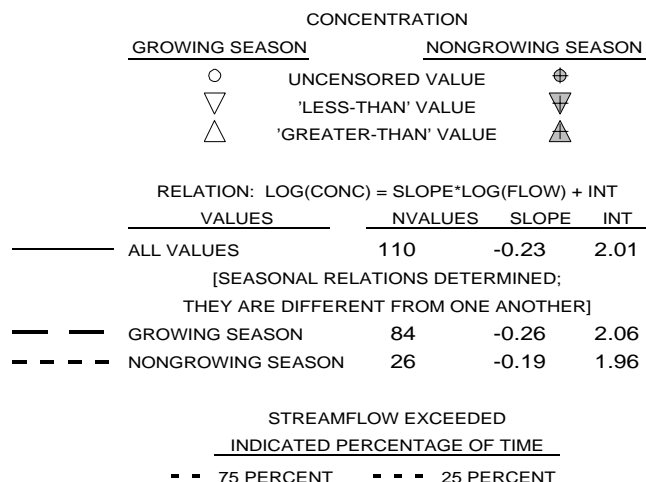
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



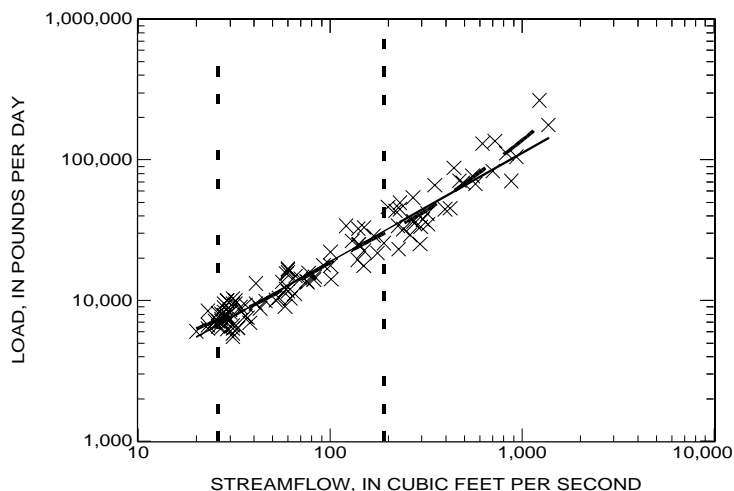
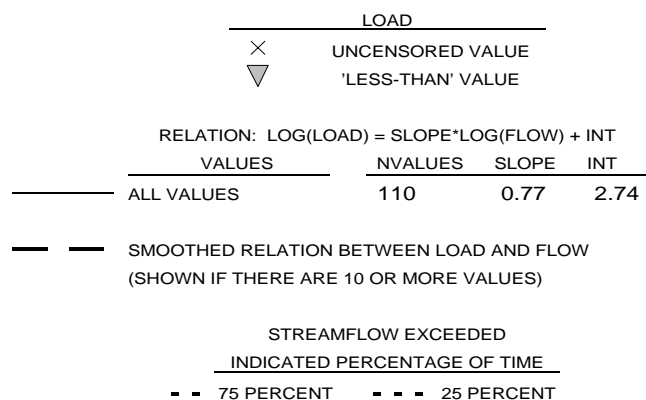
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

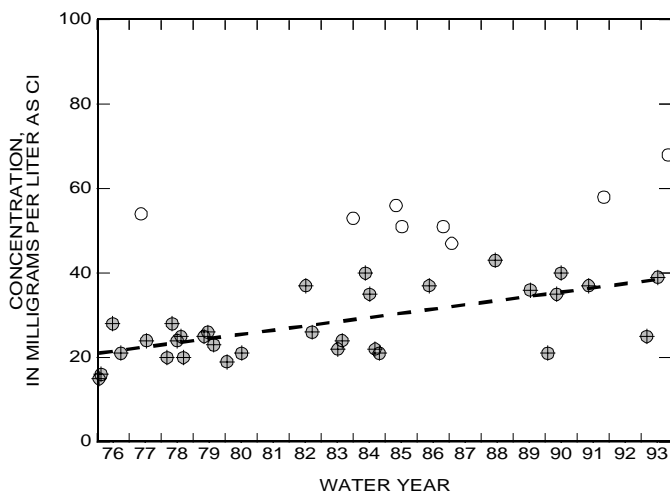
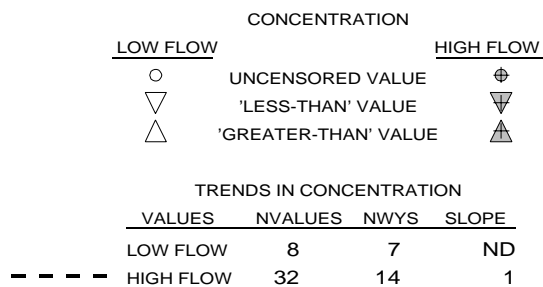
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



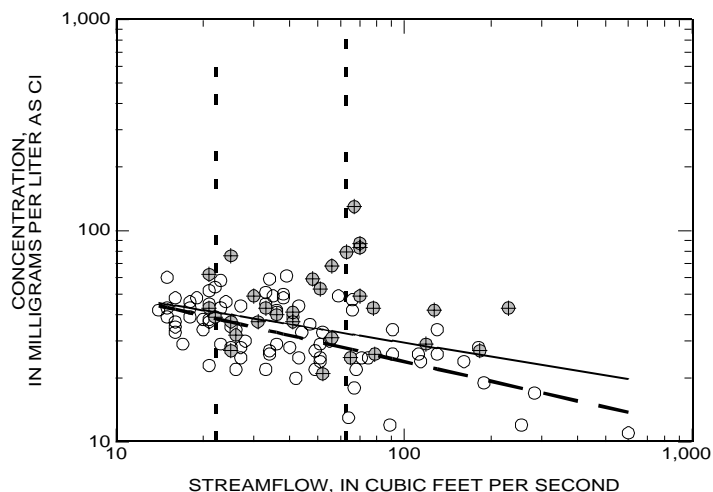
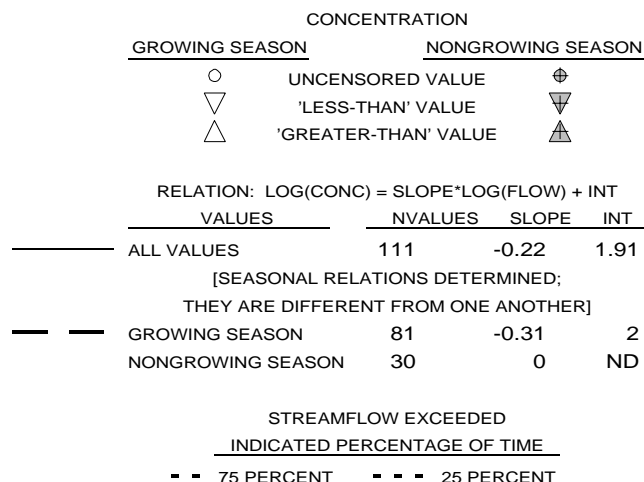
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



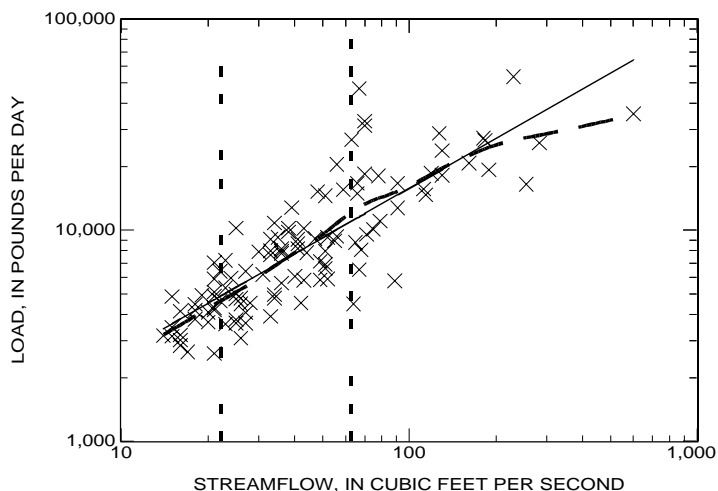
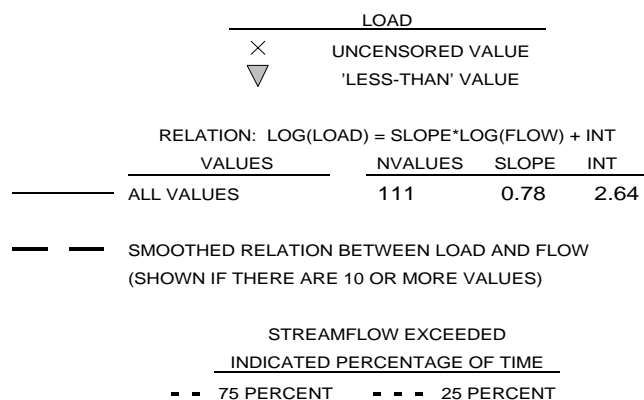
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

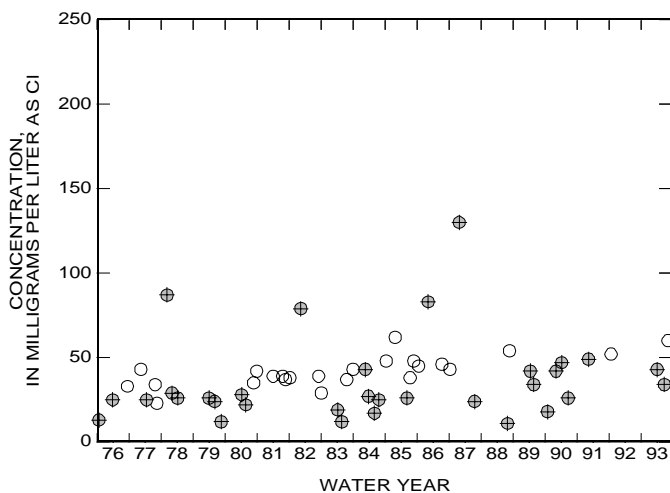
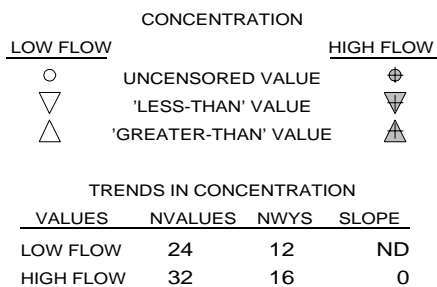
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



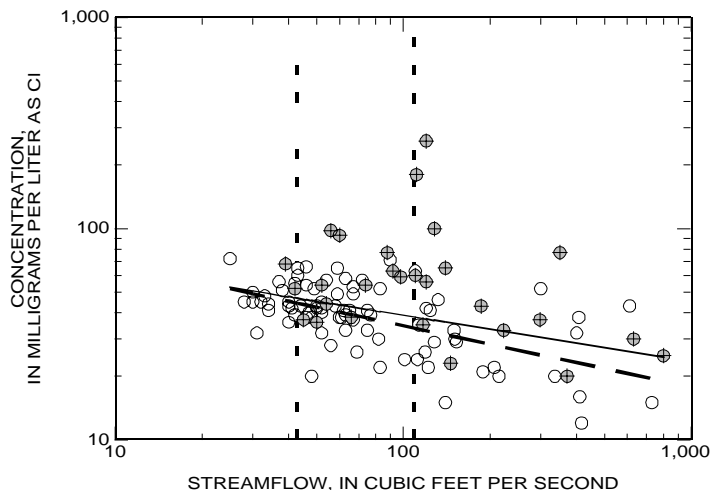
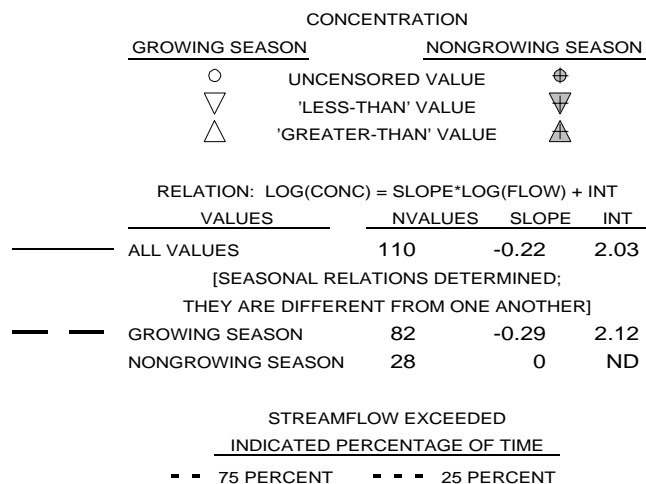
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



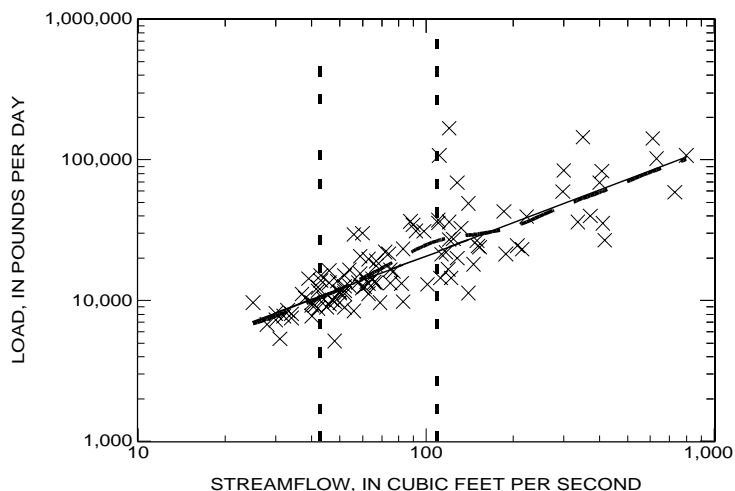
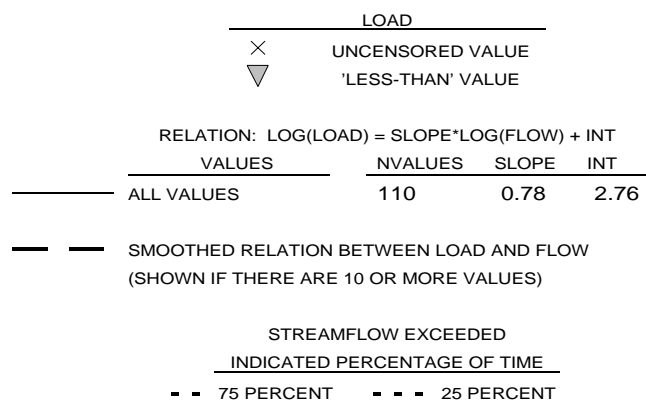
APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED CHLORIDE  
01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

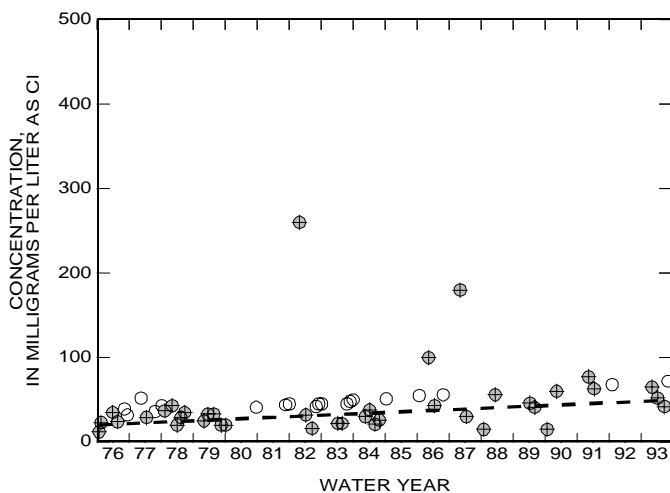
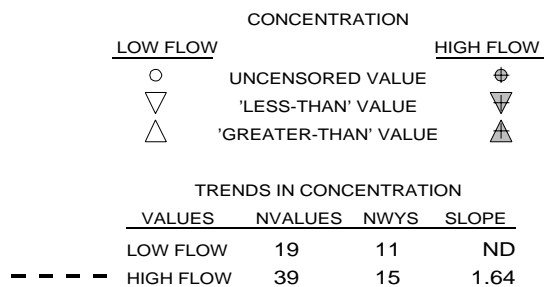
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

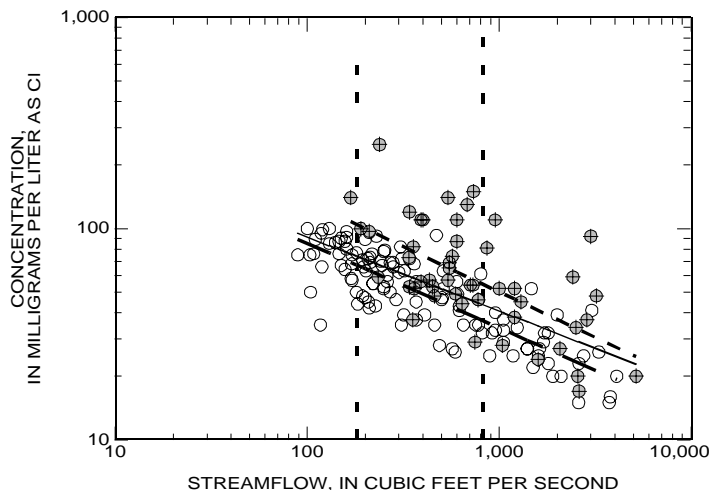
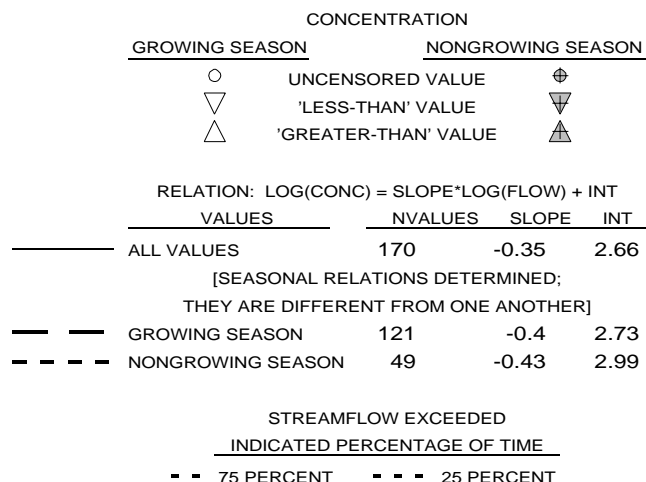




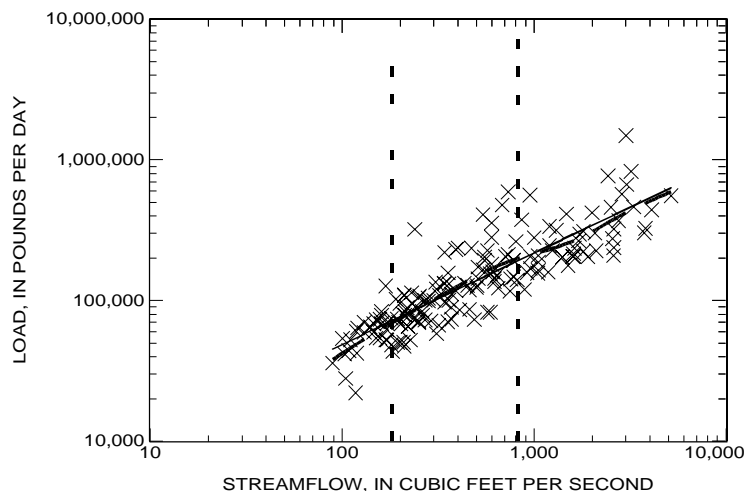
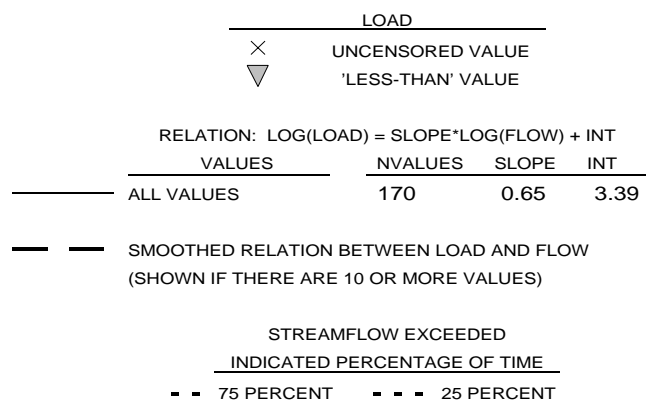
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

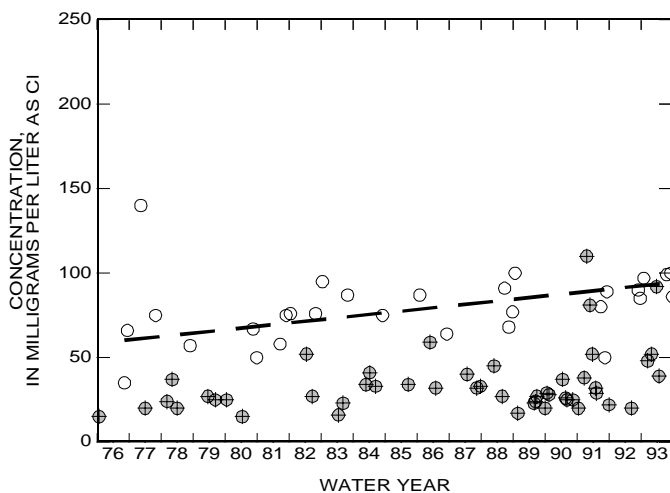
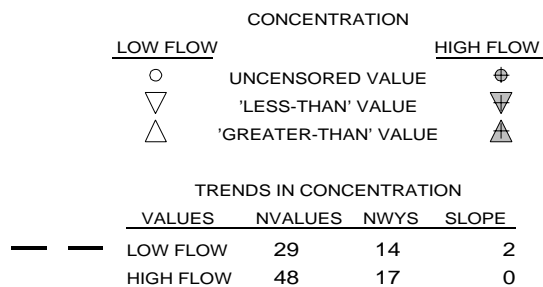
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



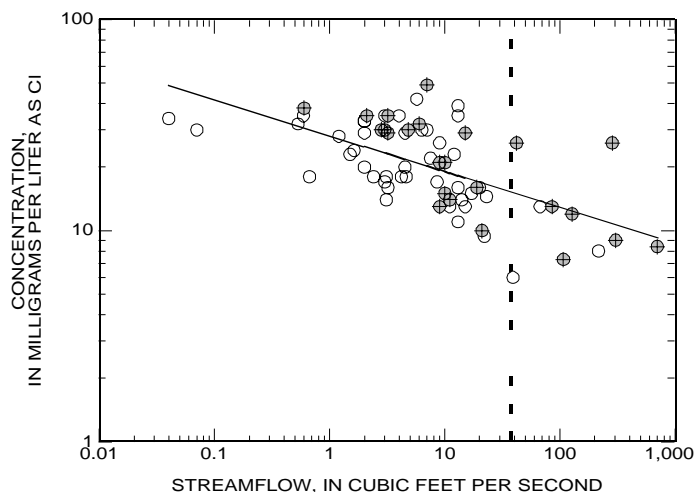
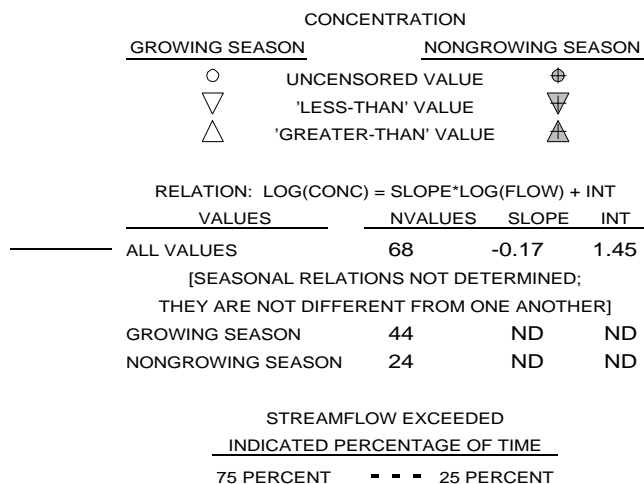
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



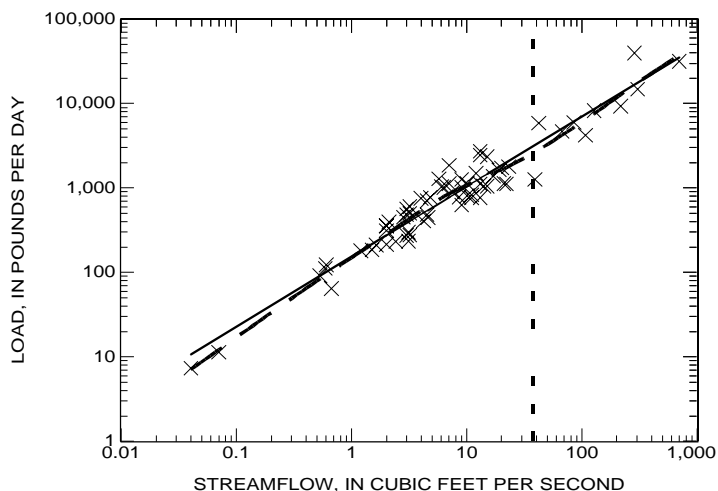
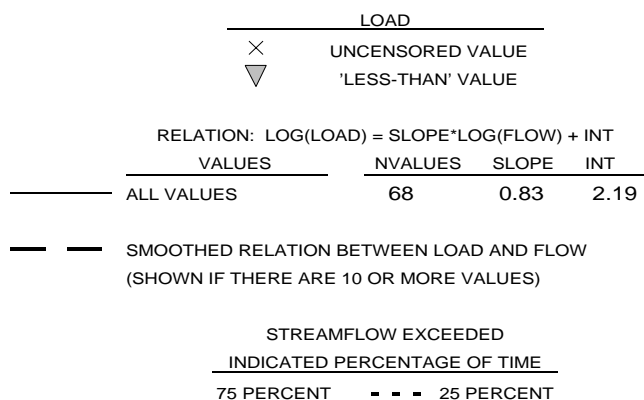
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

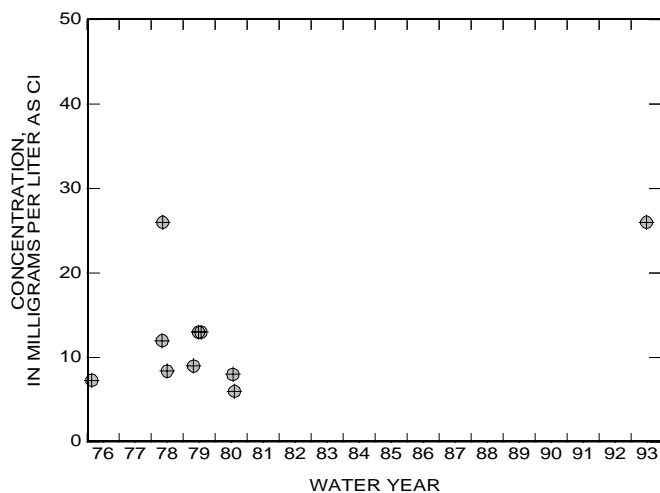
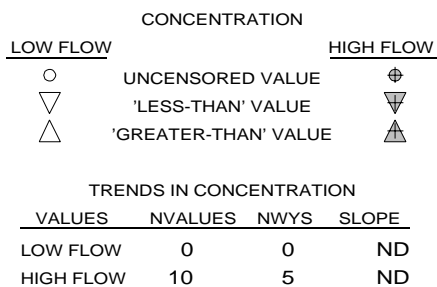
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



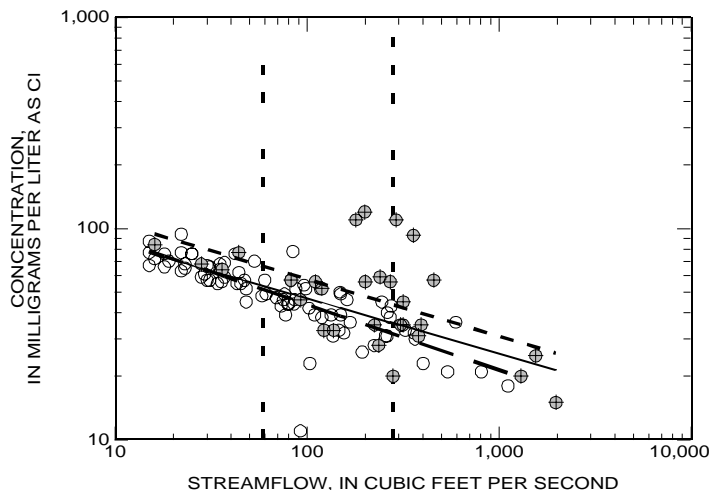
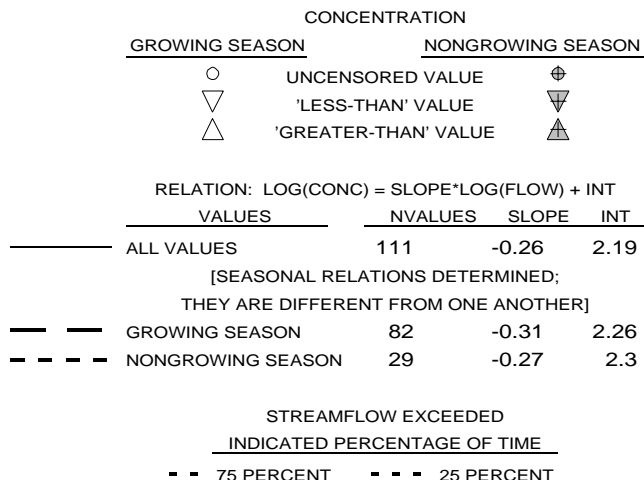
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



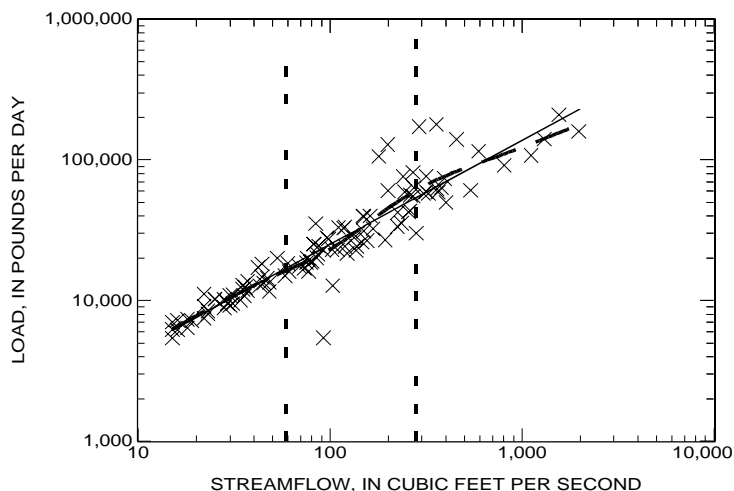
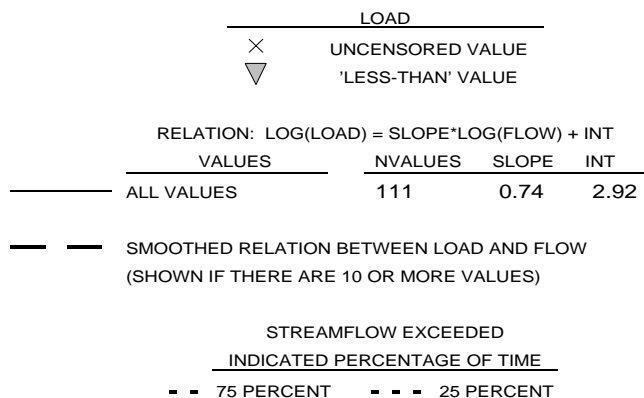
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

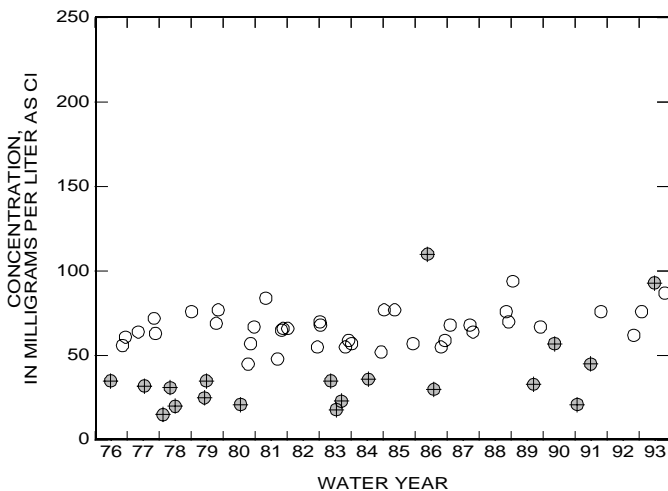
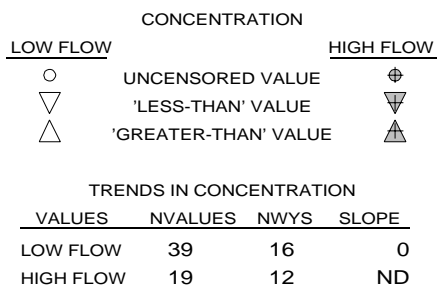
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



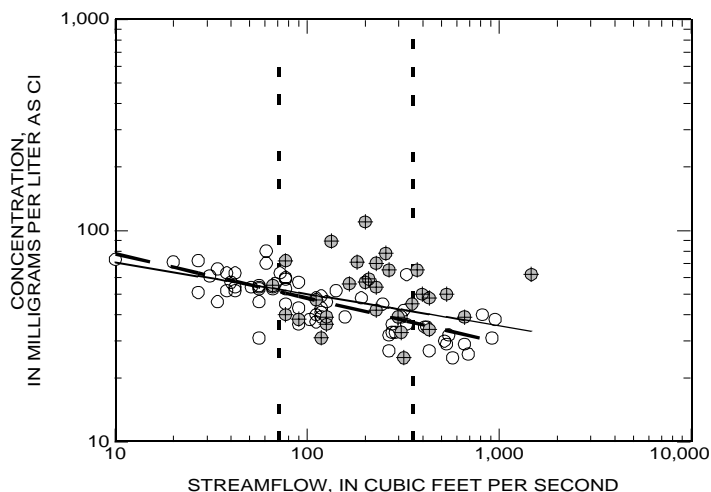
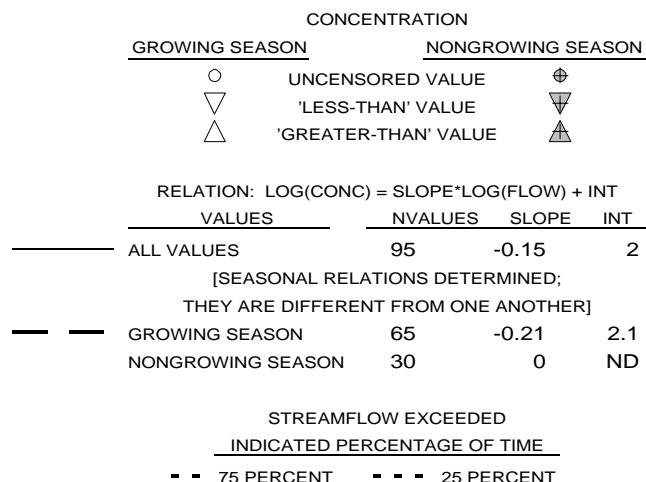
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



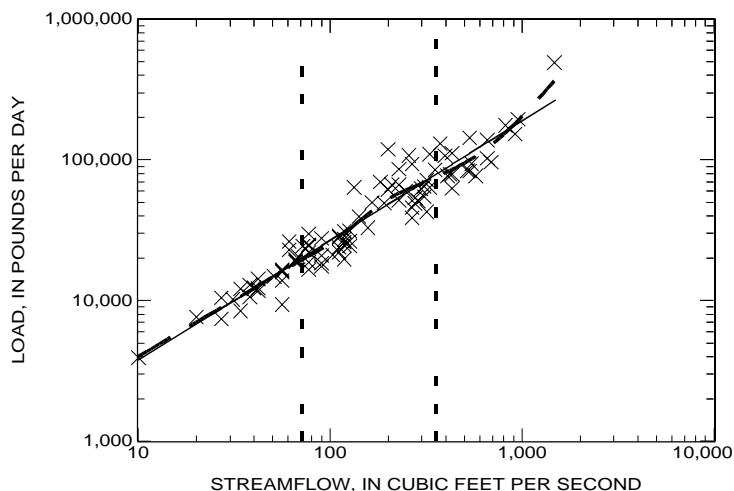
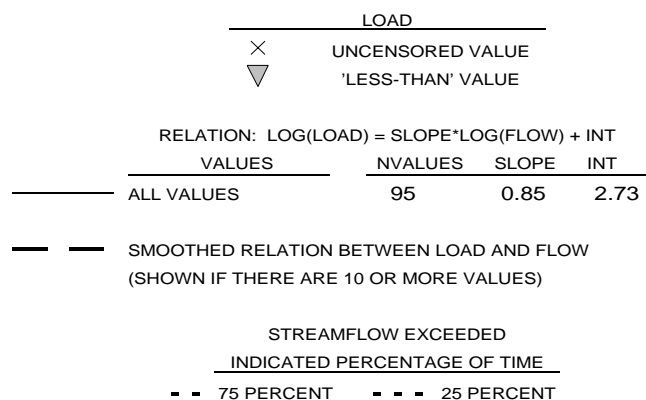
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

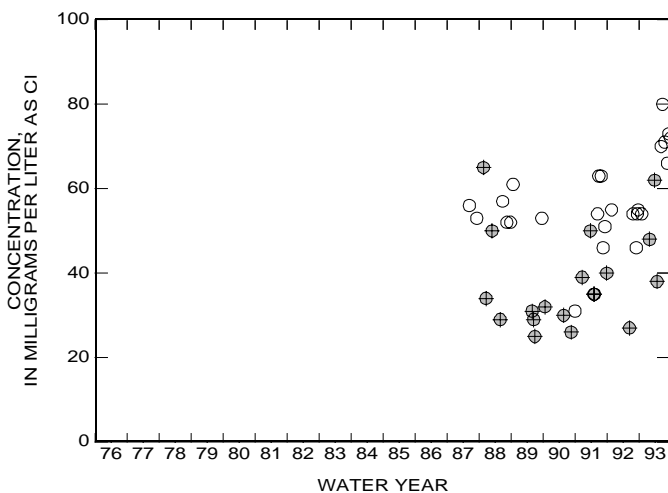
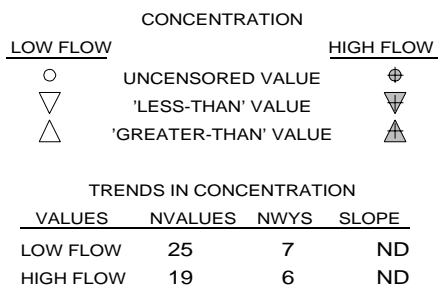
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



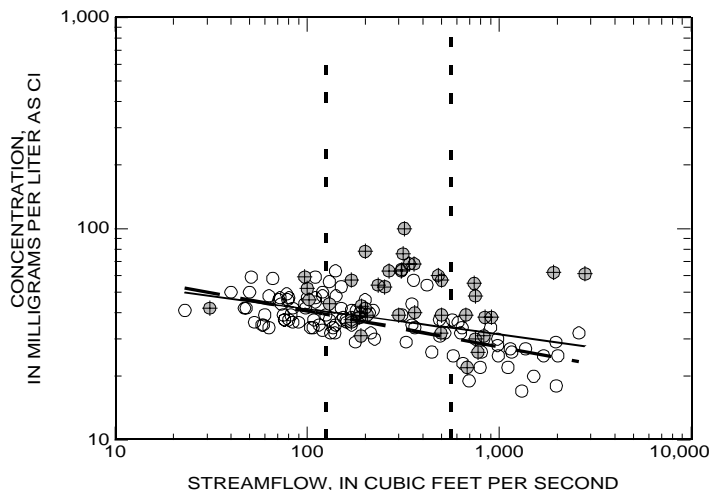
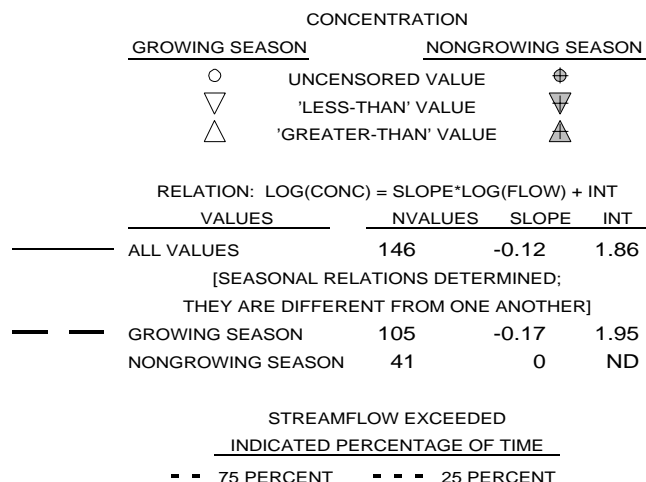
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



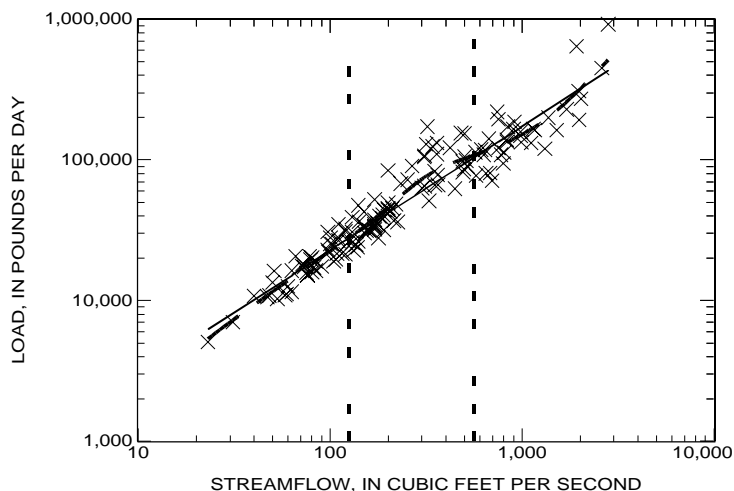
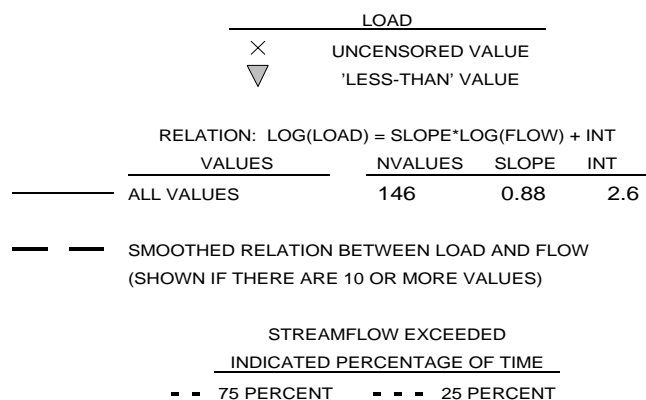
APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED CHLORIDE  
 01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

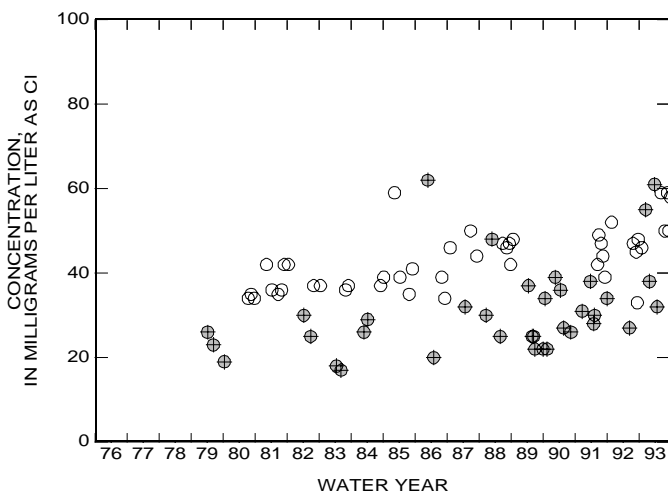
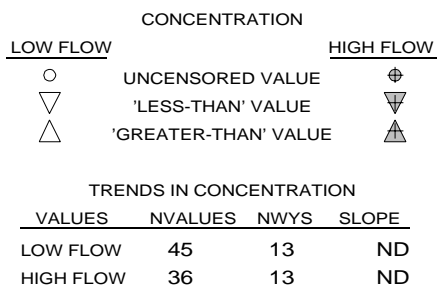
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



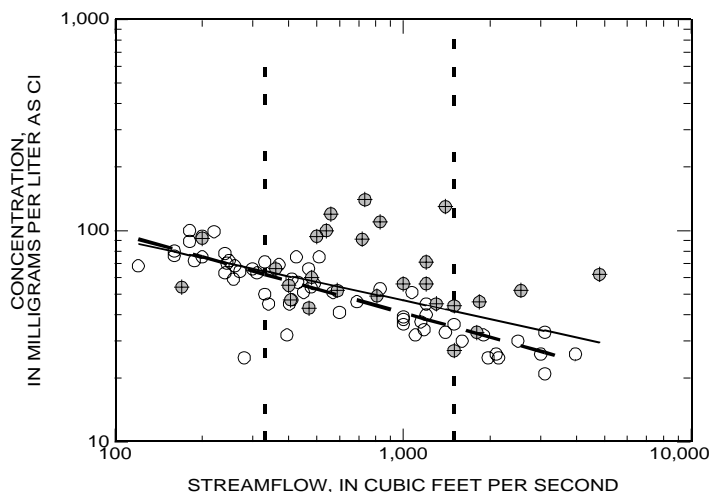
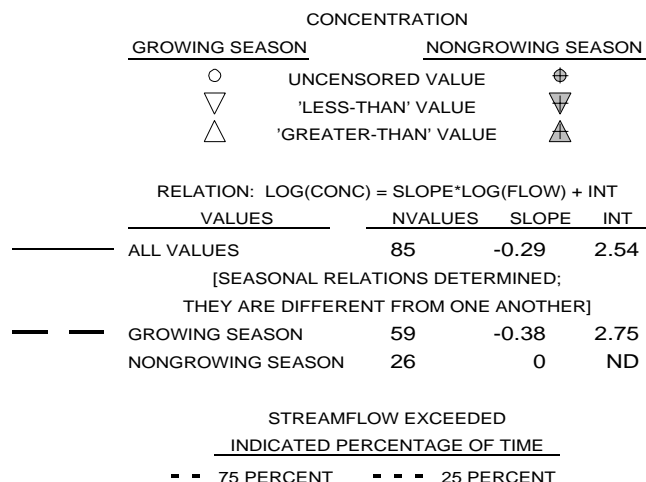
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



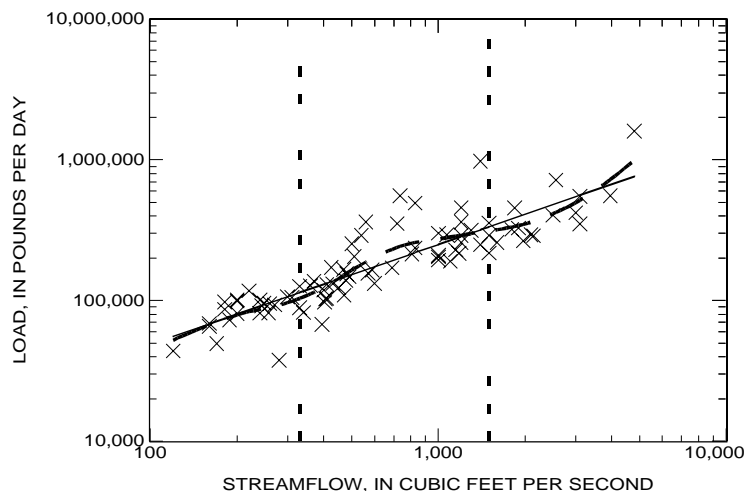
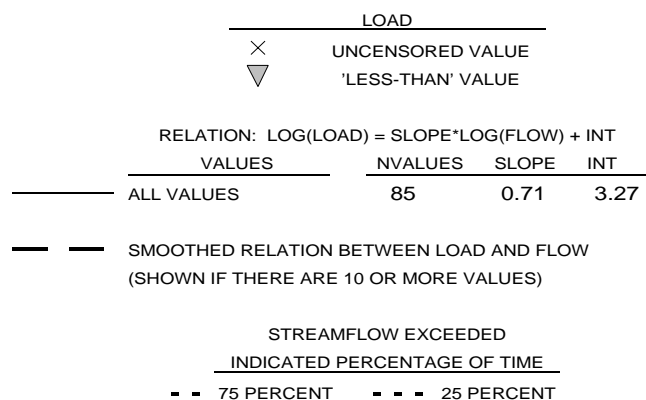
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

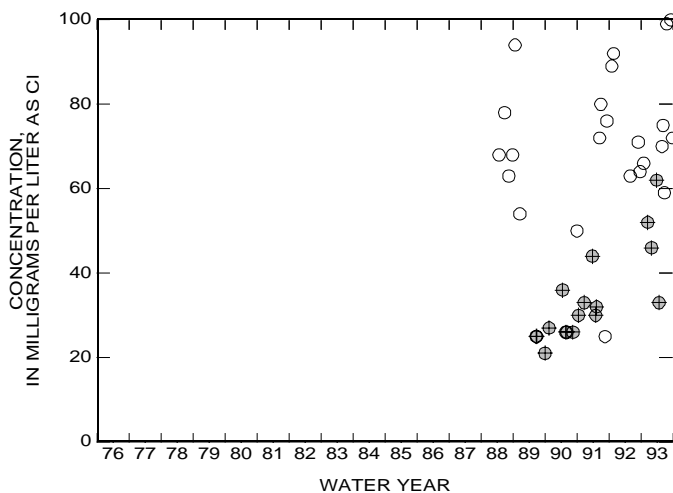
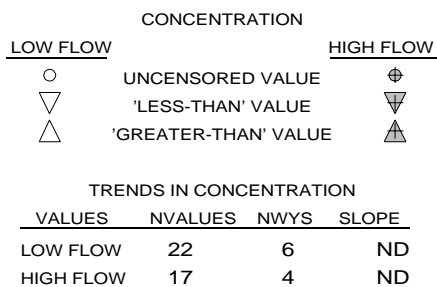
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



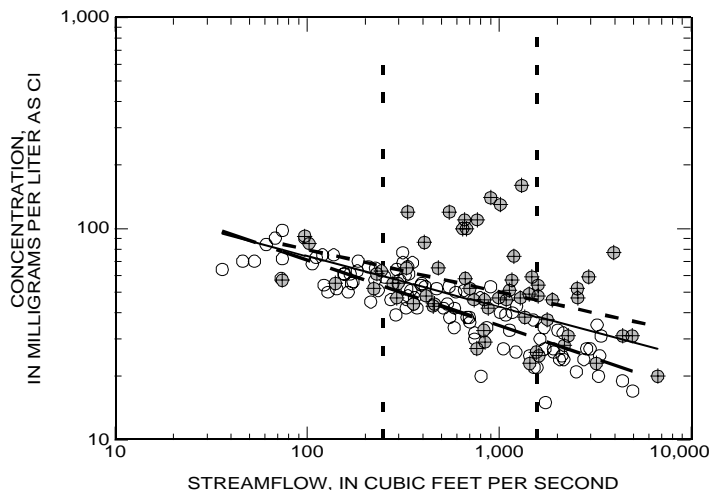
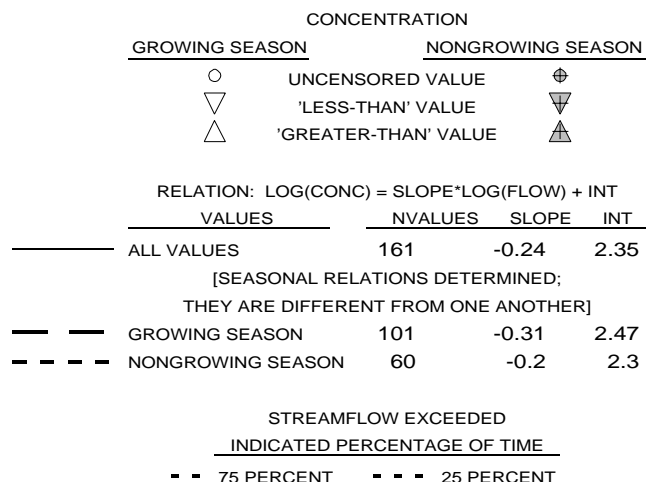
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



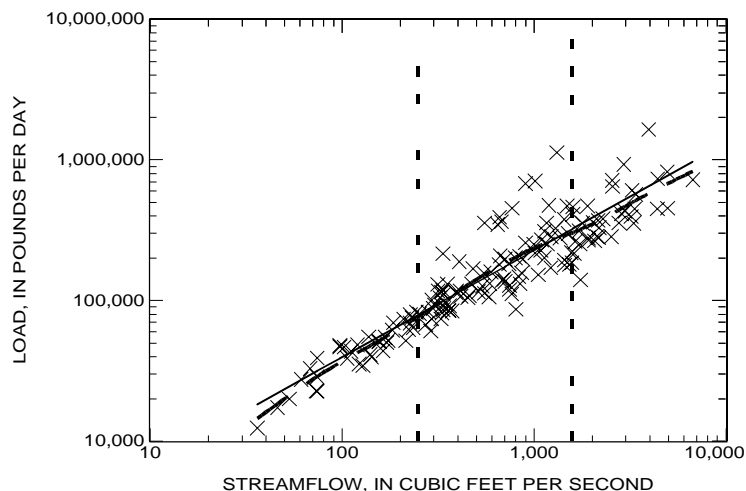
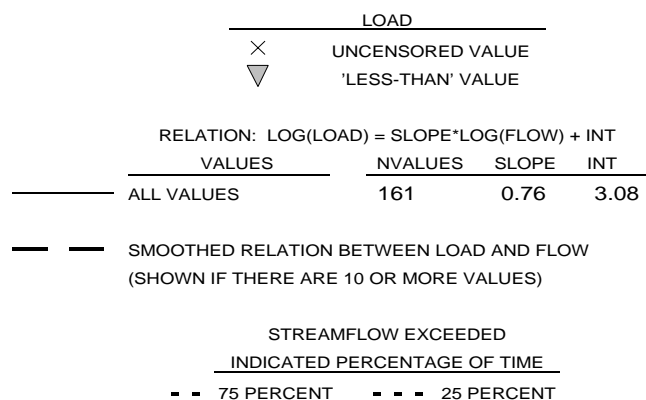
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

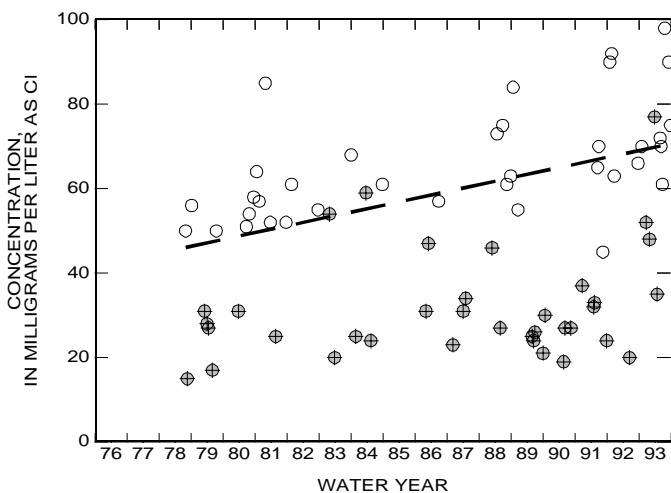
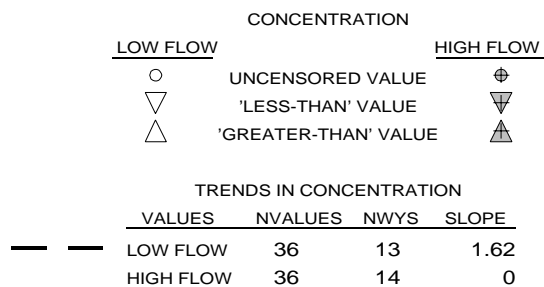
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



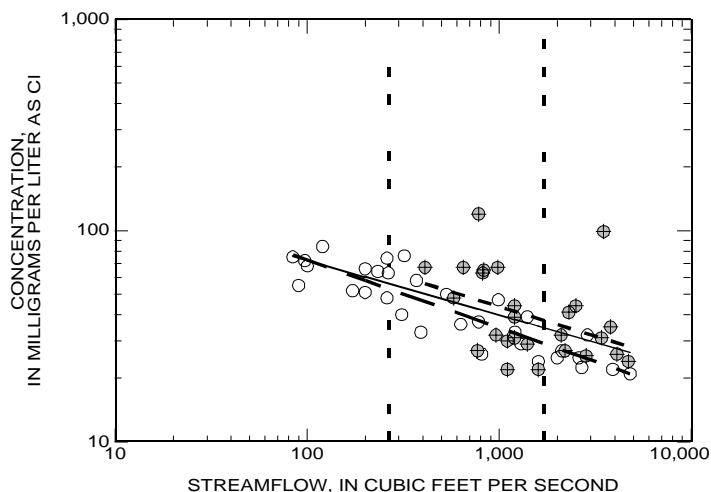
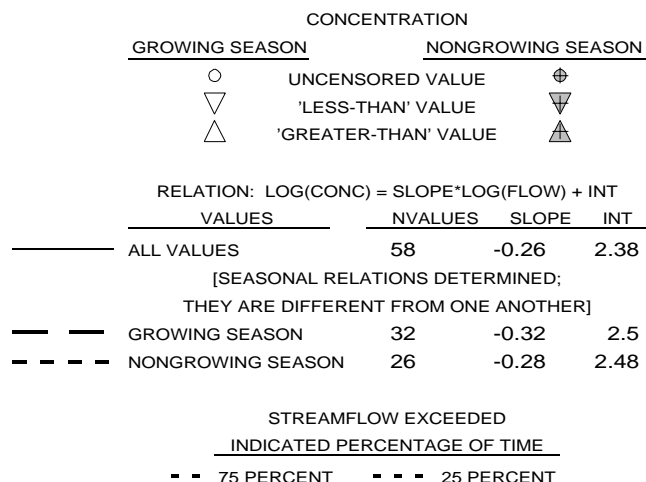
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



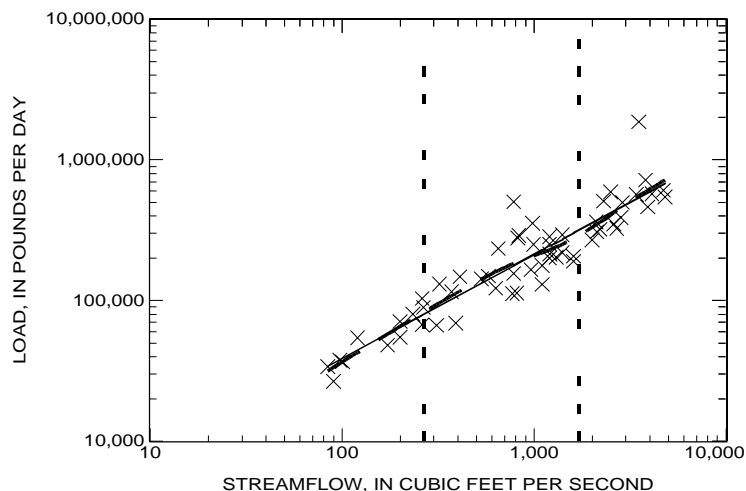
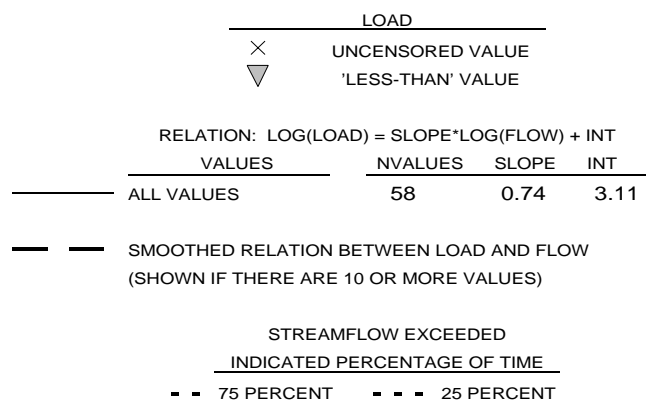
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

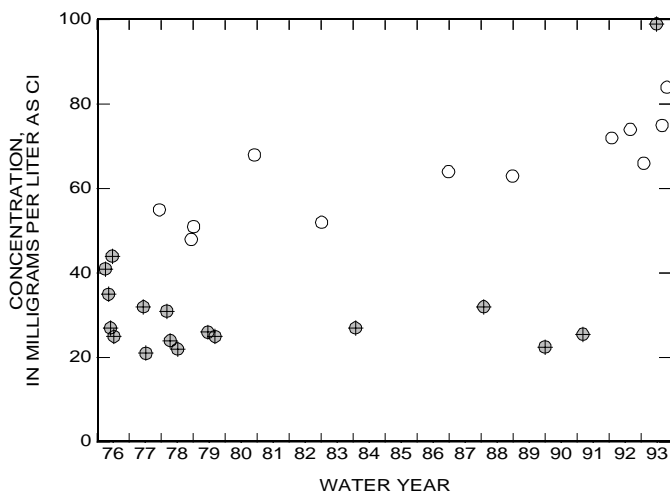
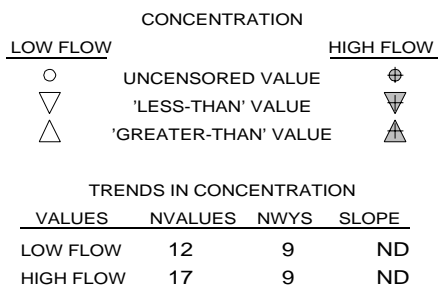
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

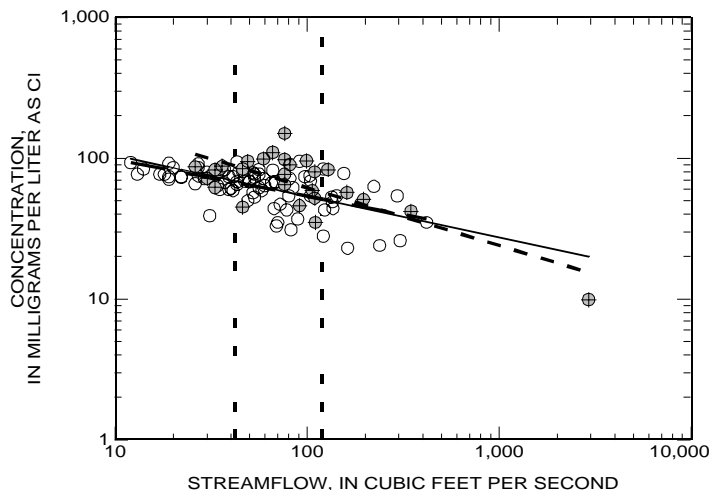
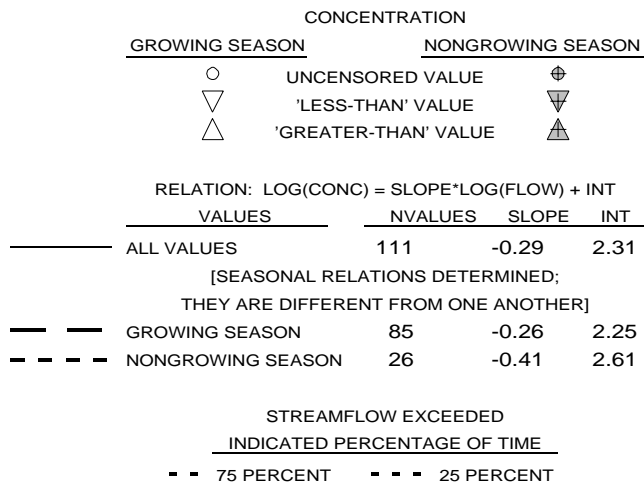




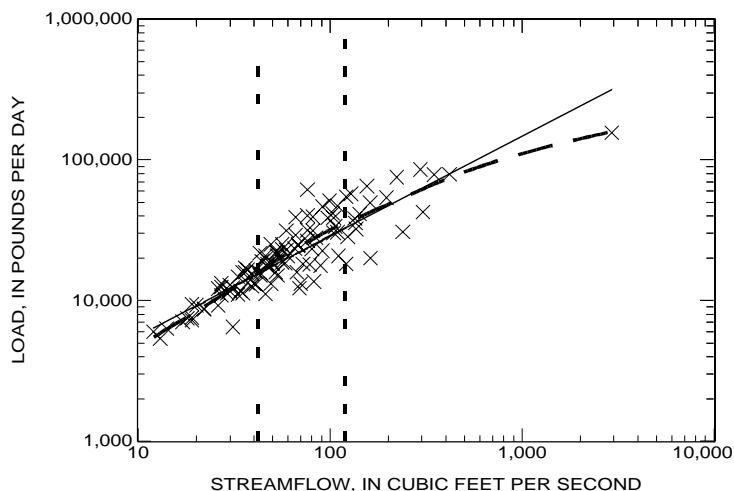
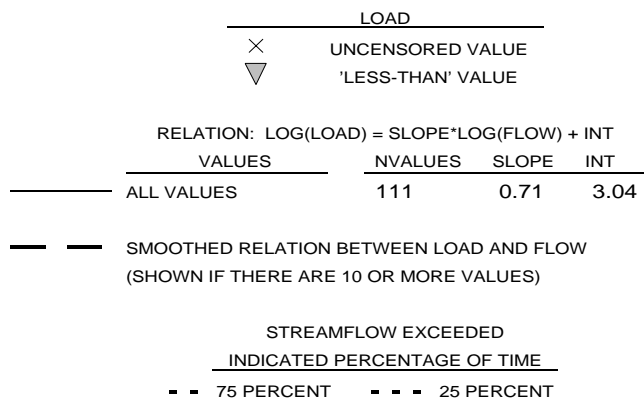
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

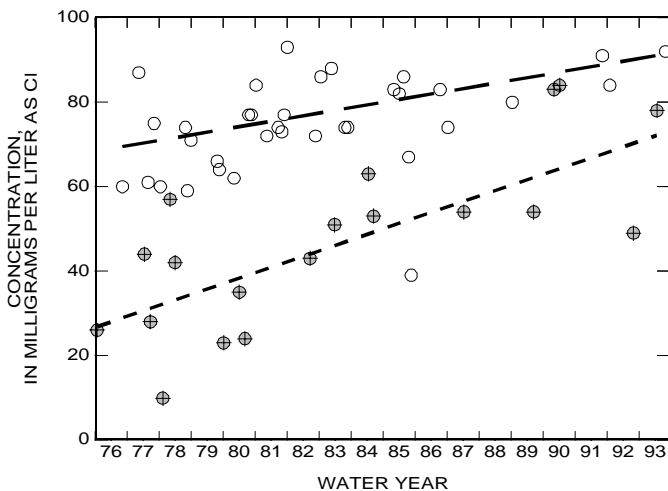
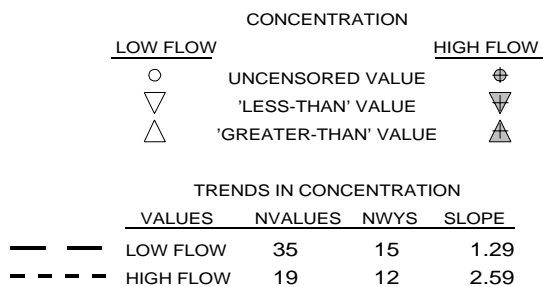
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



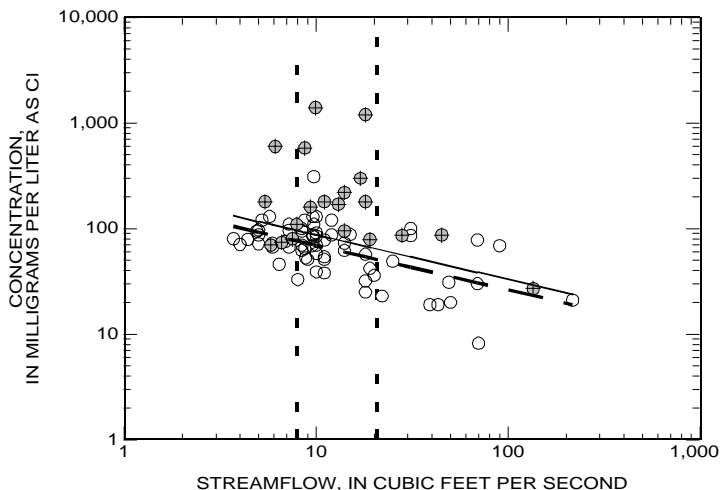
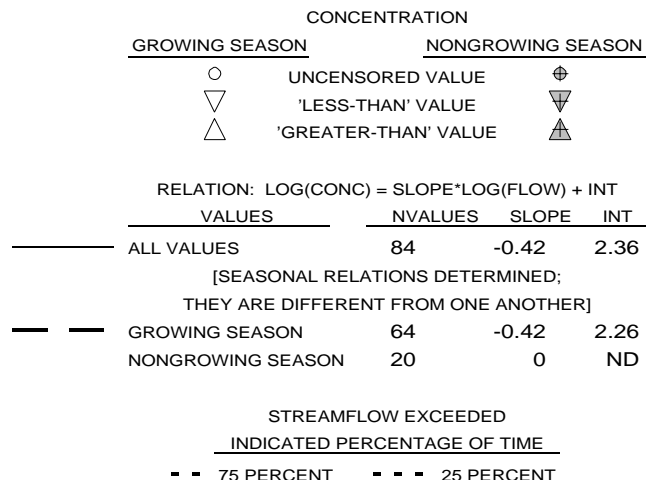
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



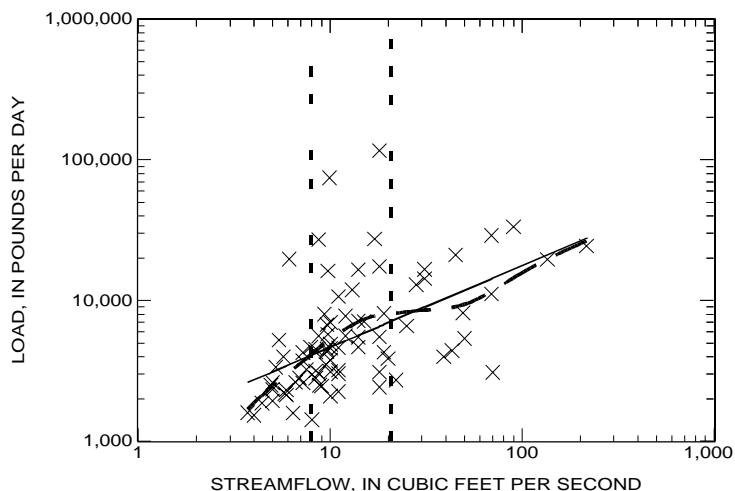
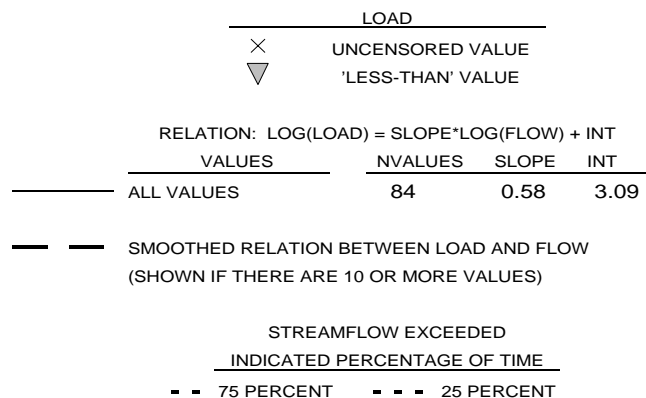
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

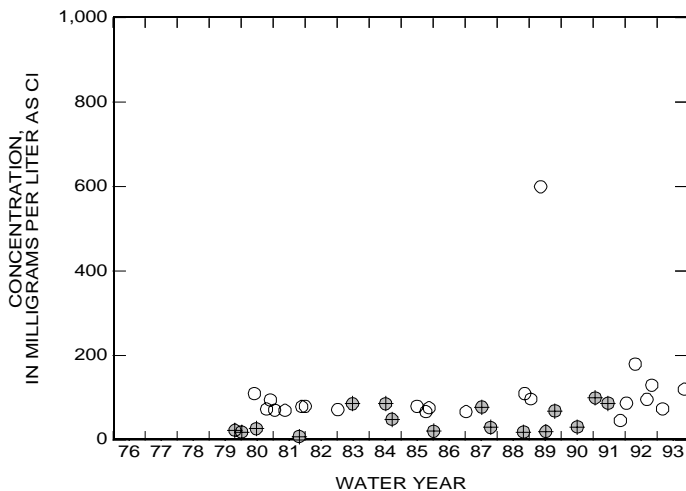
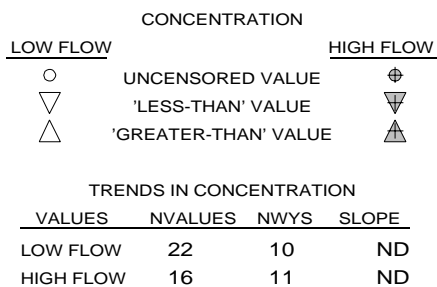
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



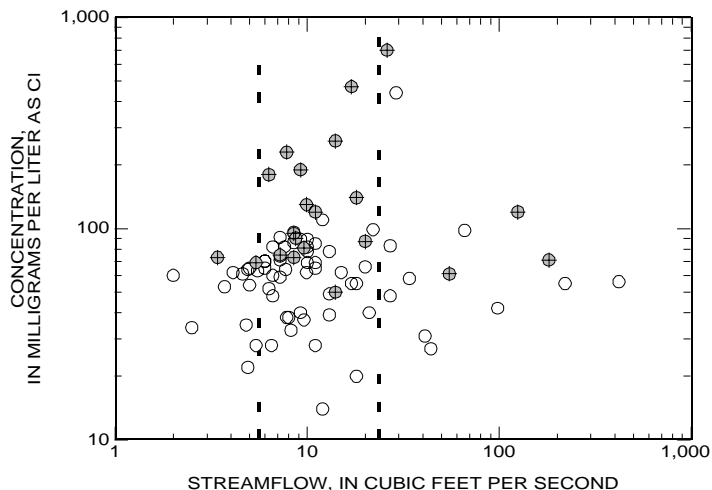
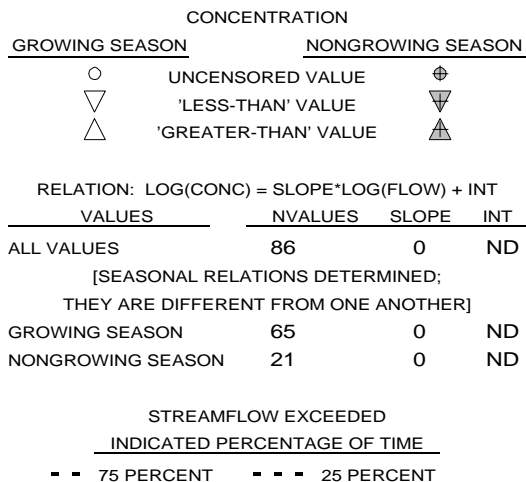
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



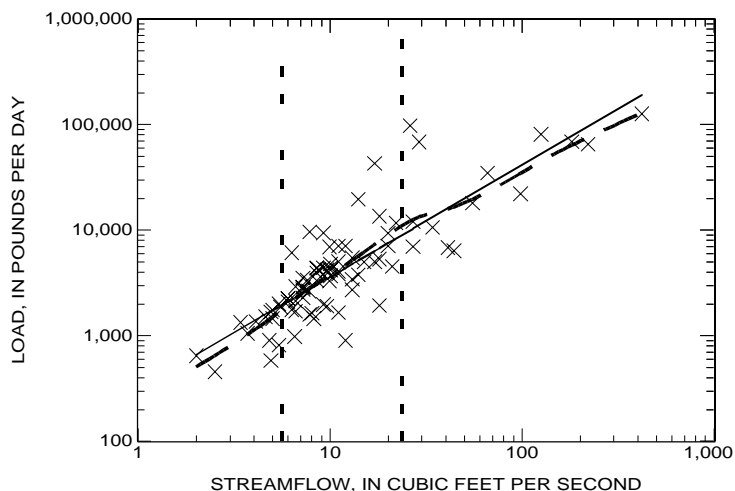
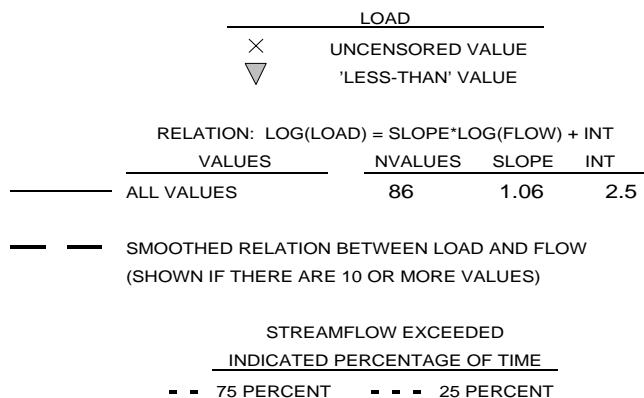
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

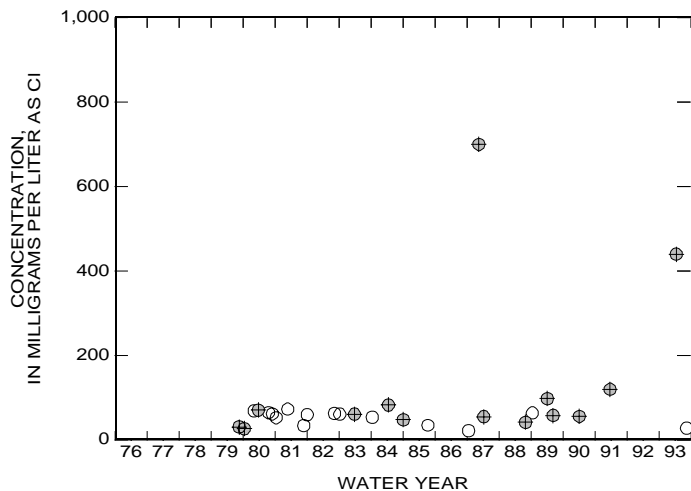
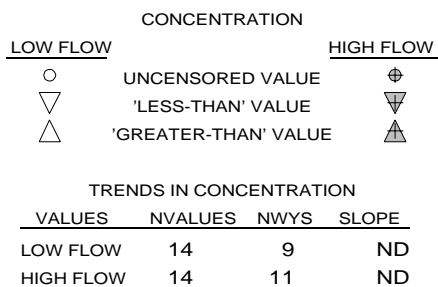
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



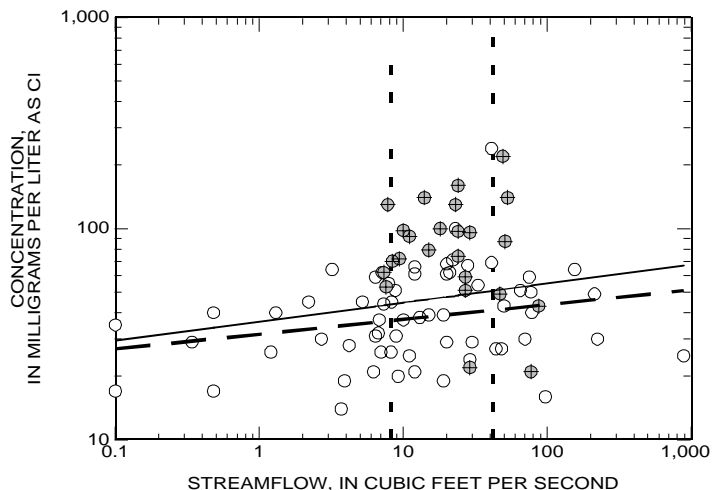
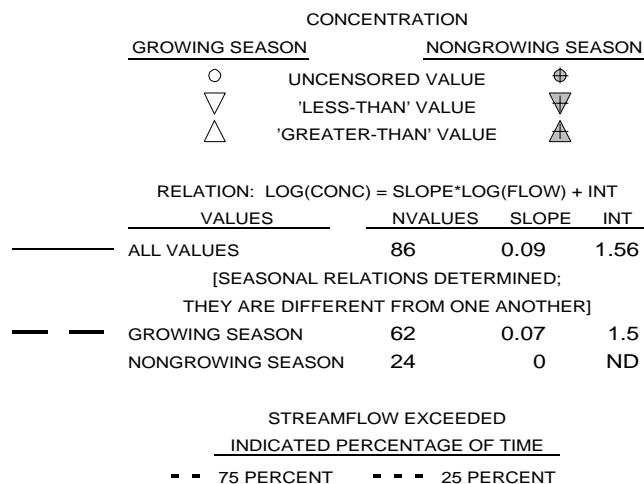
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



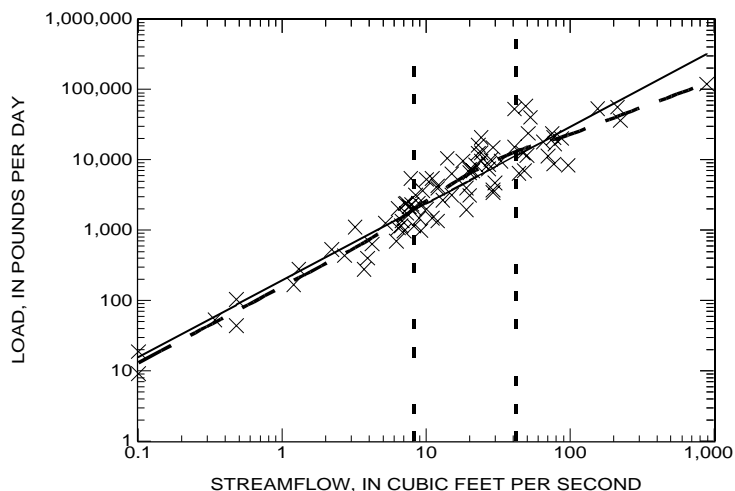
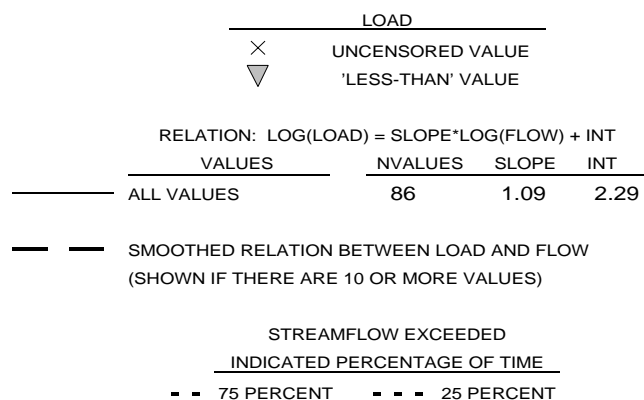
**APPENDIX 7. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED CHLORIDE**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

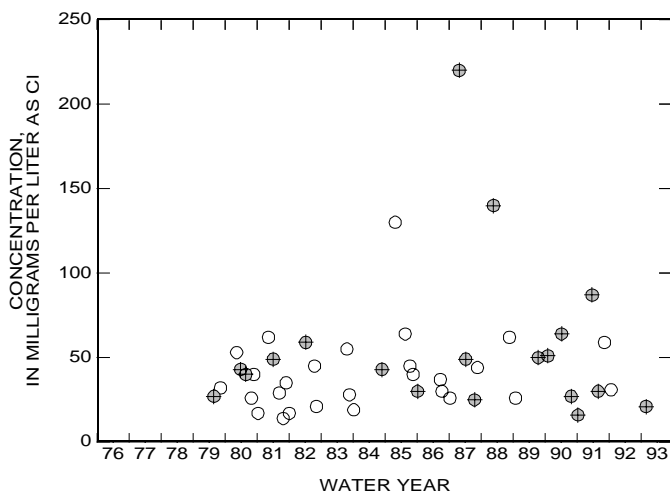
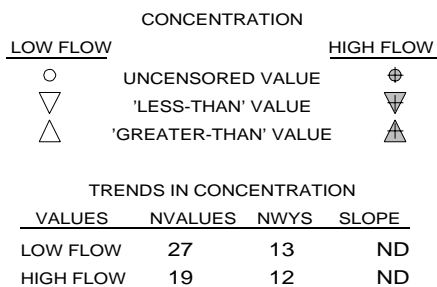
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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## Appendix 8

### Dissolved oxygen

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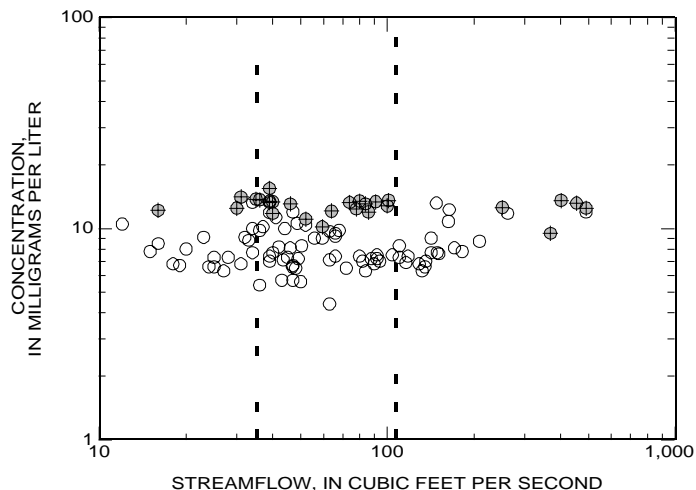
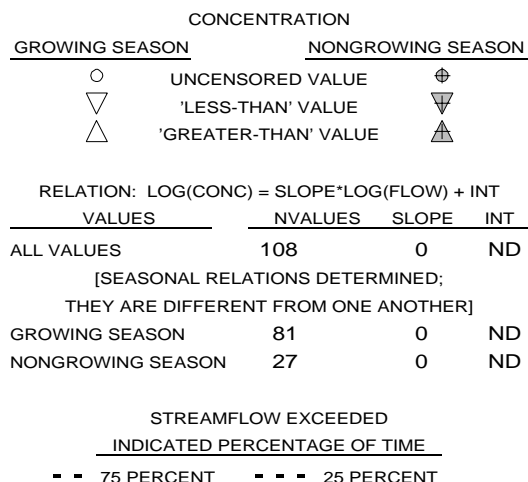
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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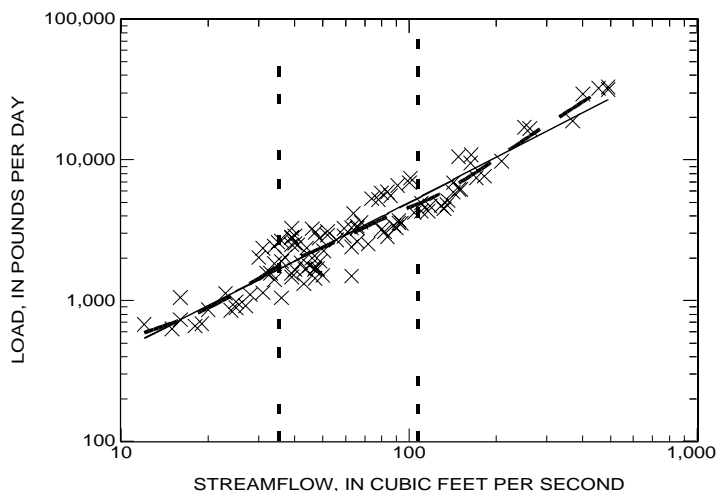
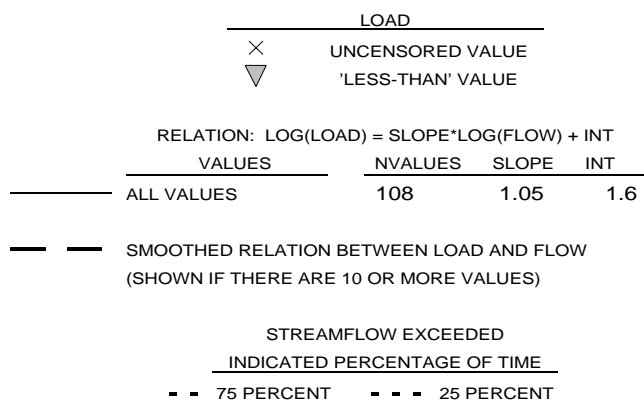
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

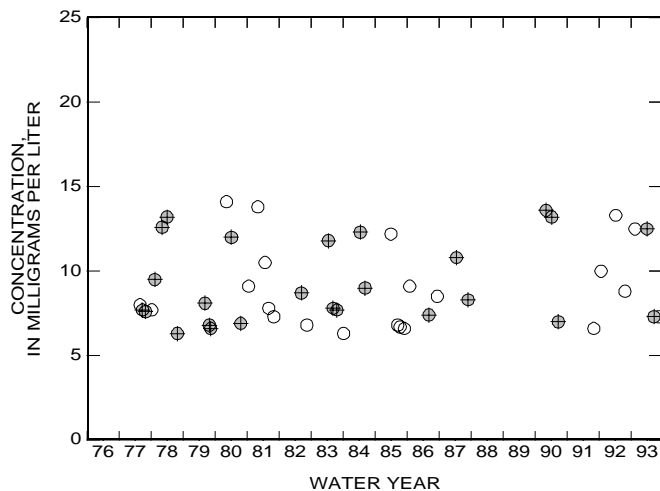
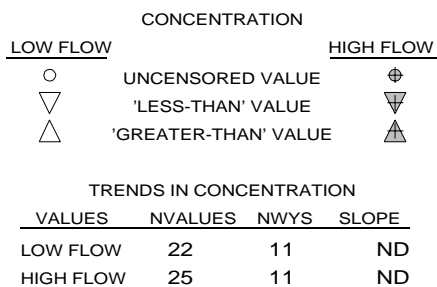
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



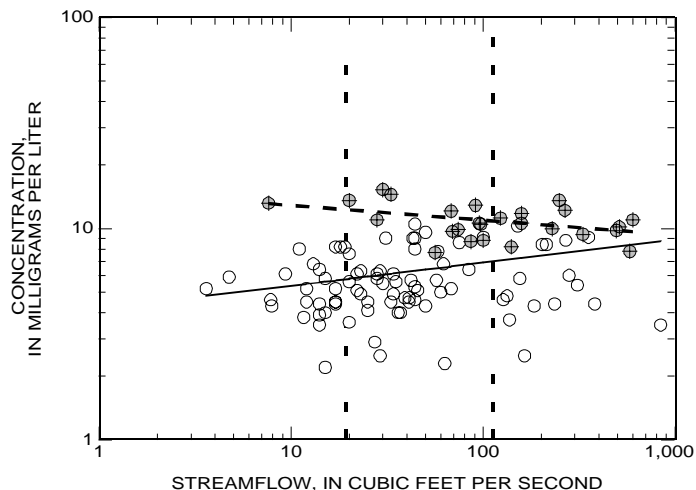
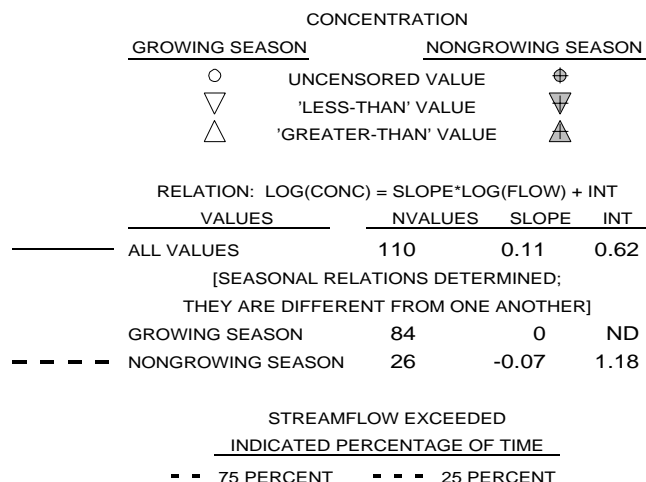
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



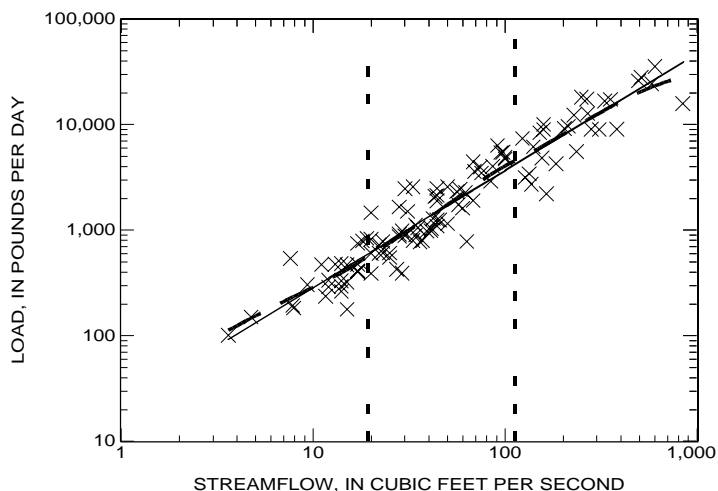
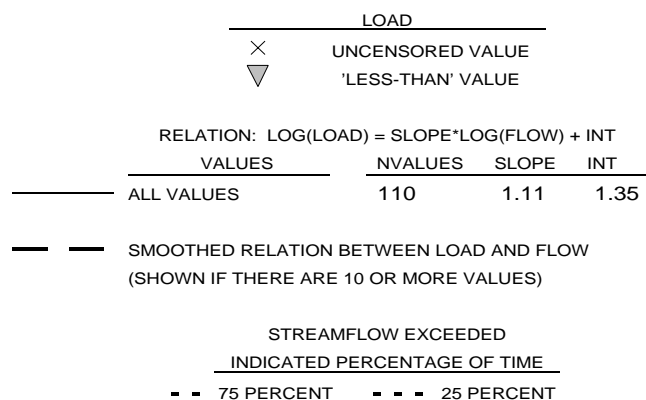
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED OXYGEN  
 01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

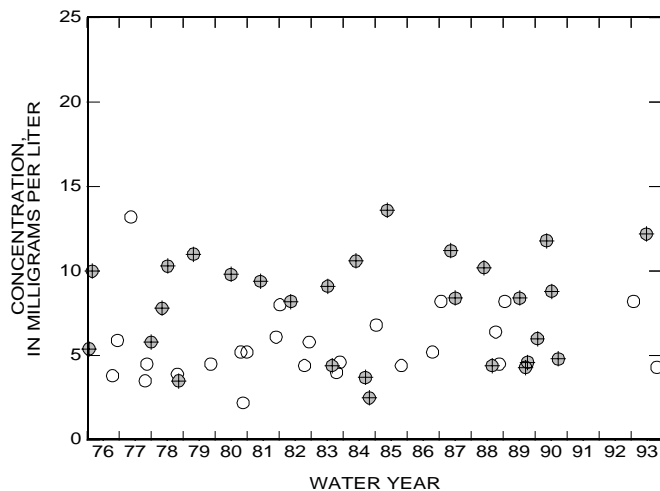
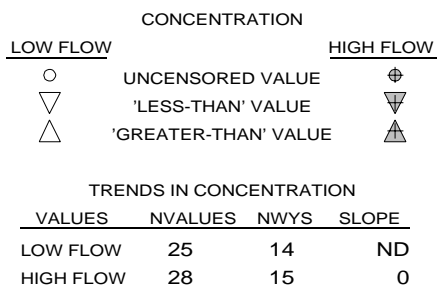
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



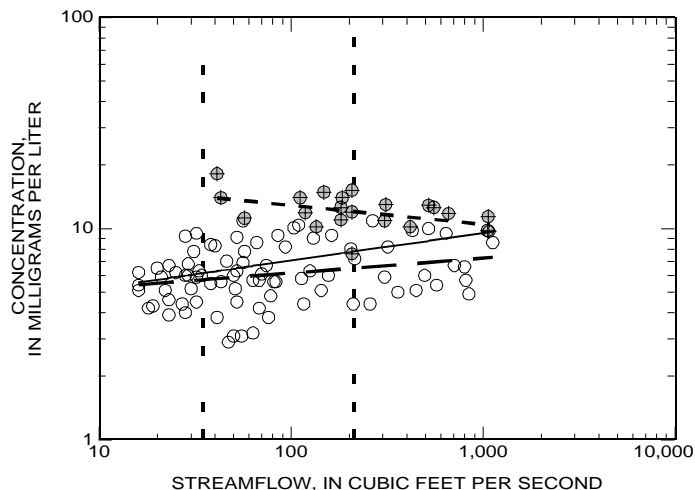
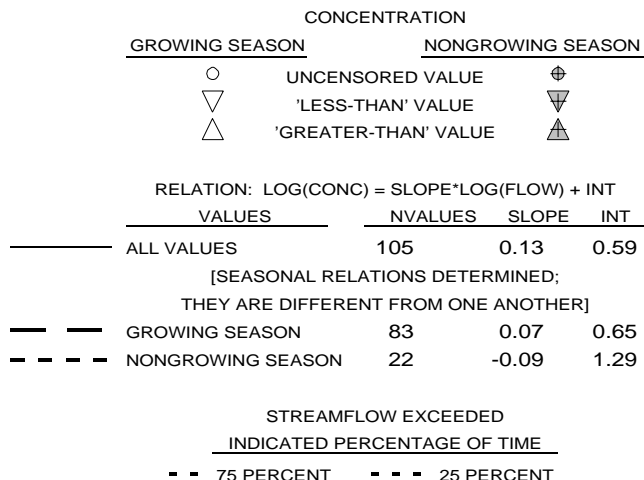
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



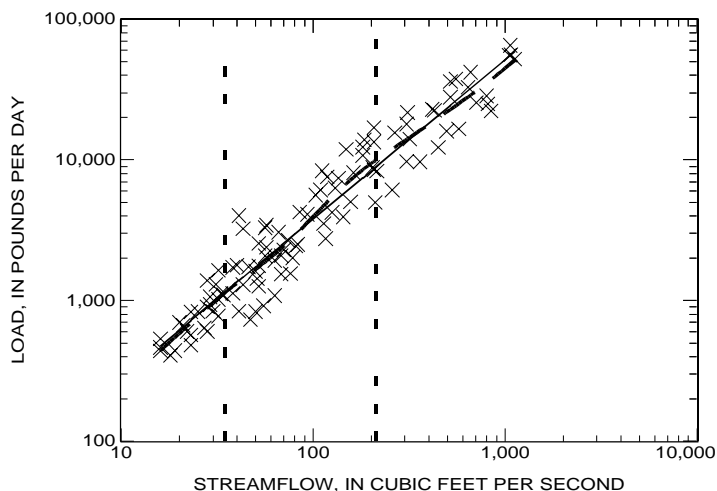
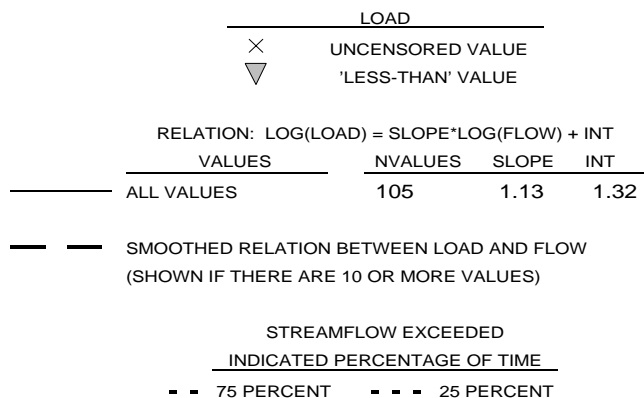
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

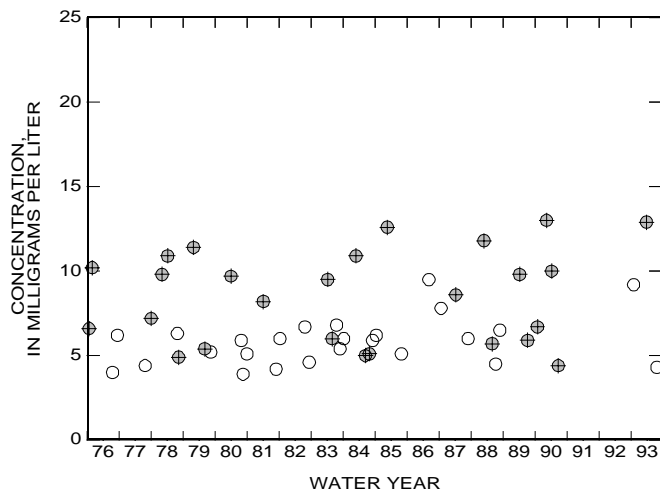
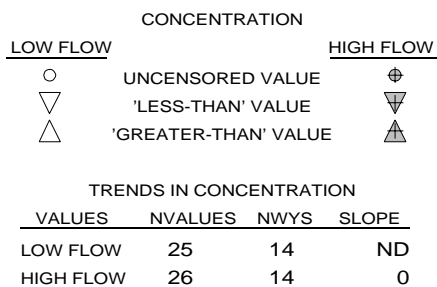
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

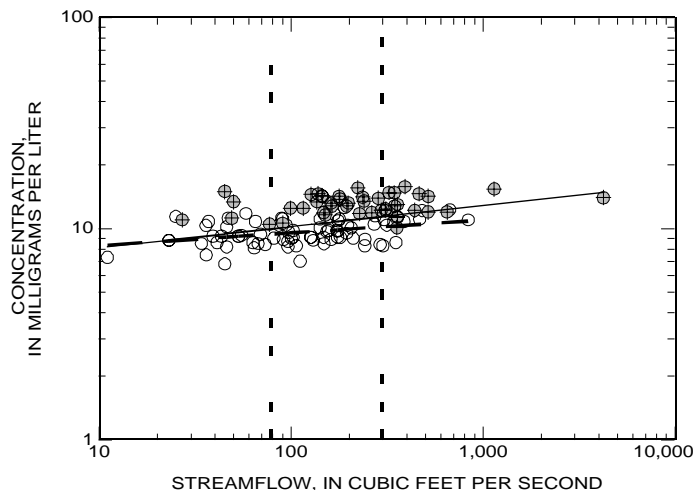
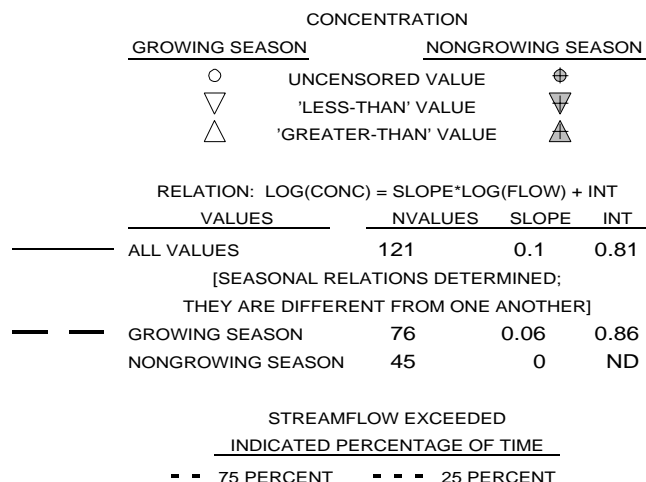




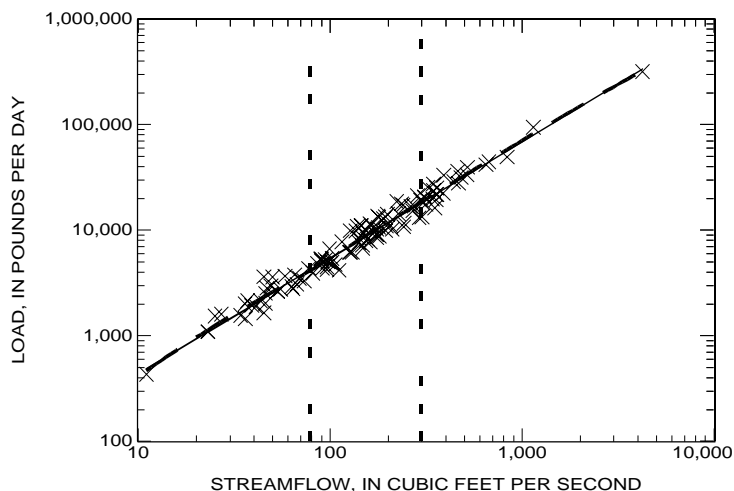
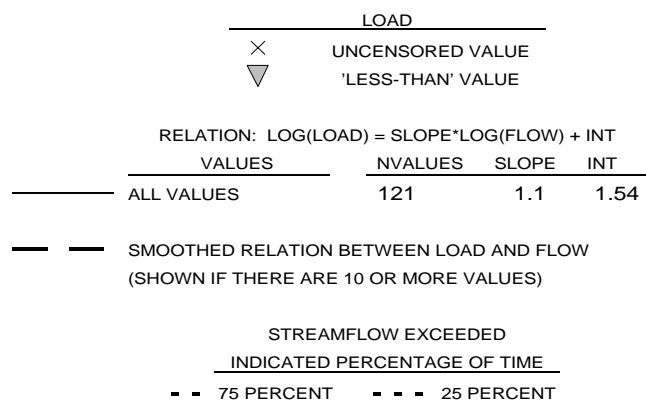
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED OXYGEN  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

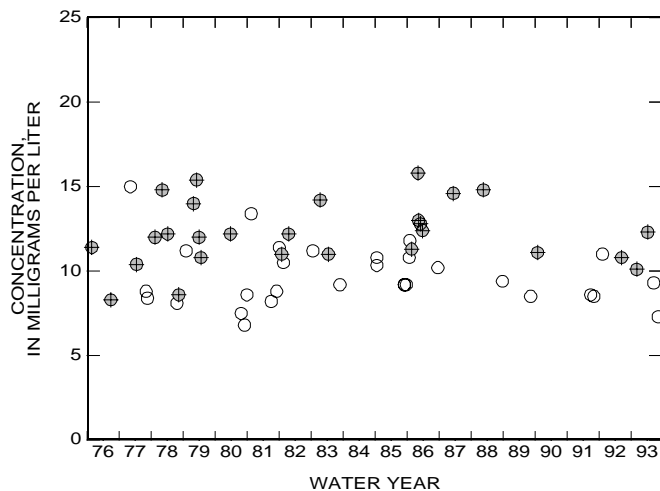
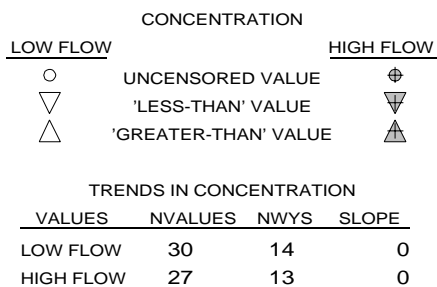
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



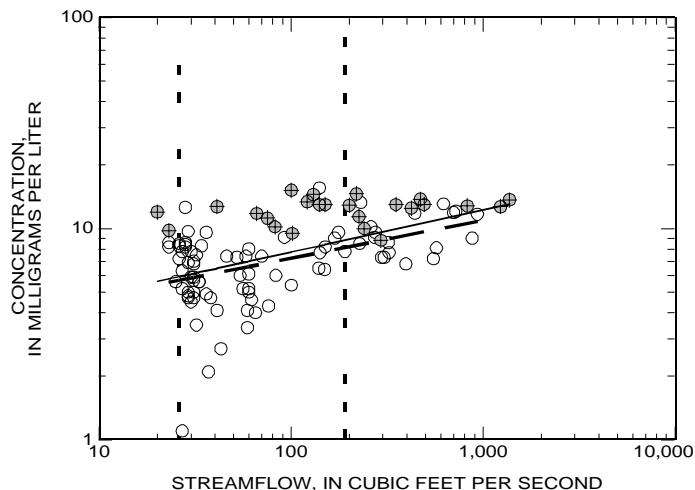
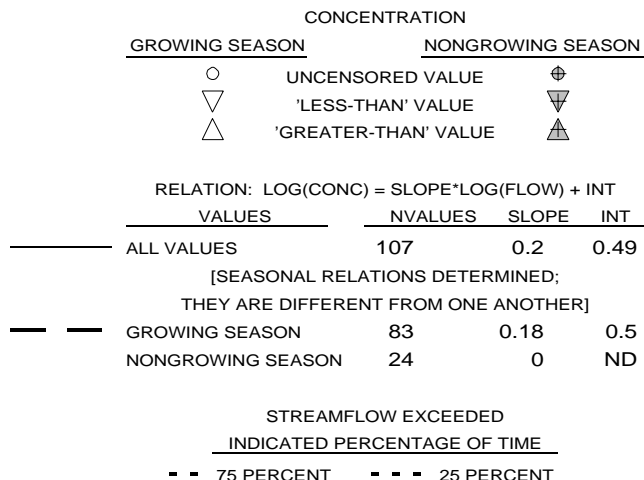
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



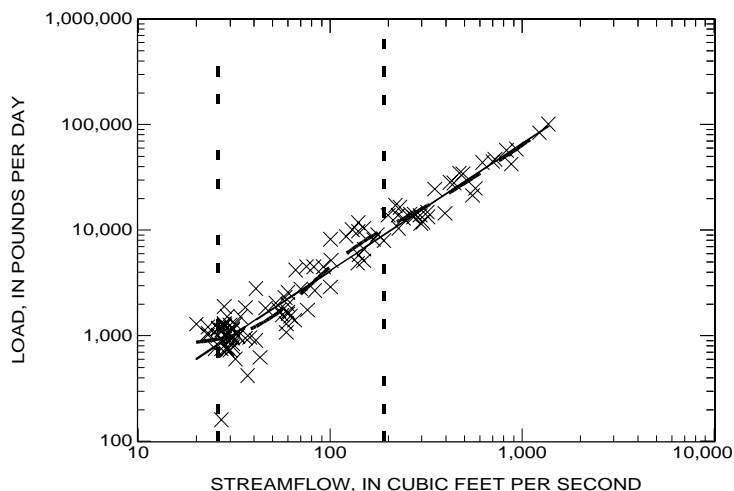
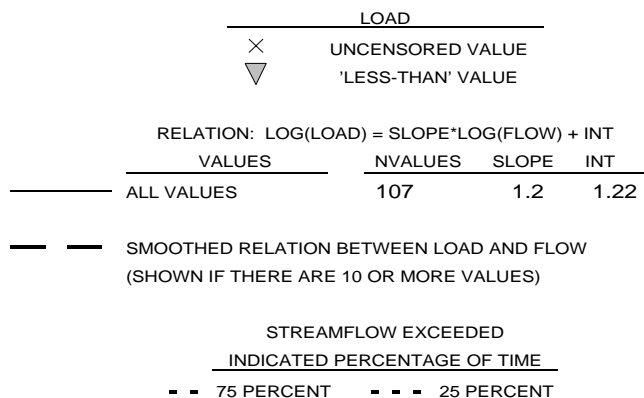
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED OXYGEN  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

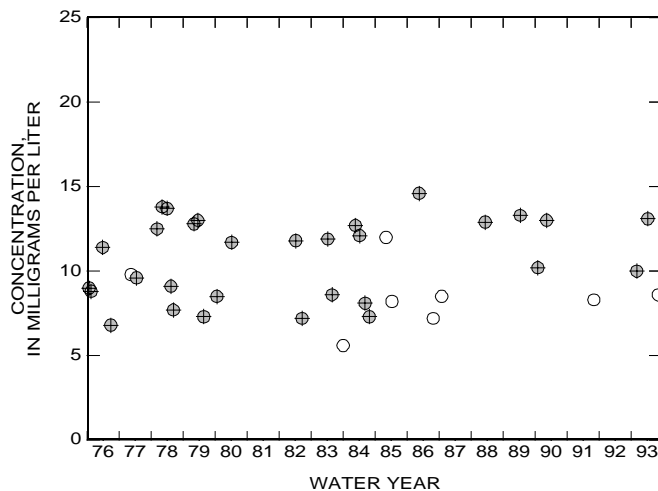
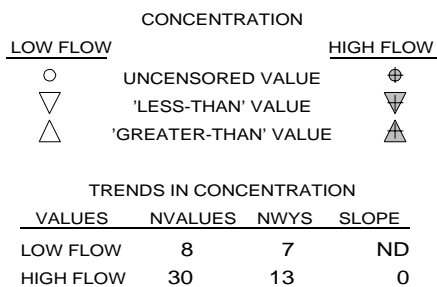
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



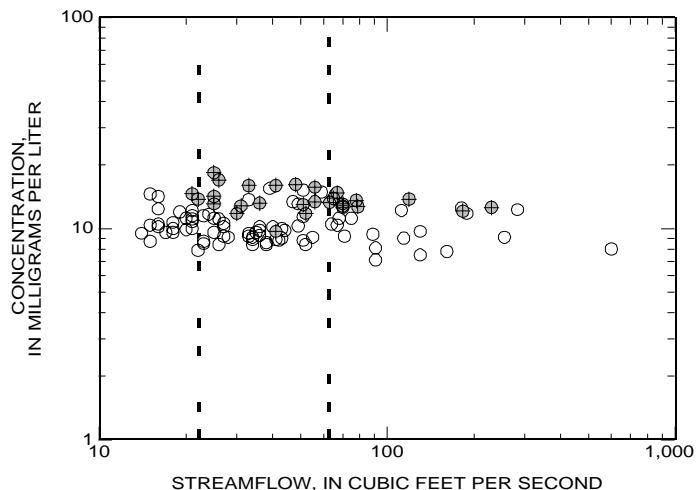
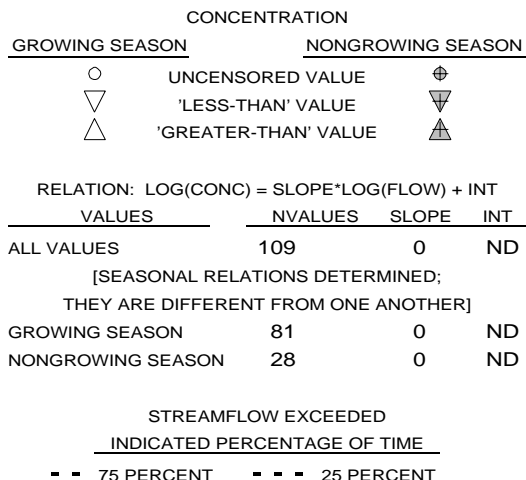
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



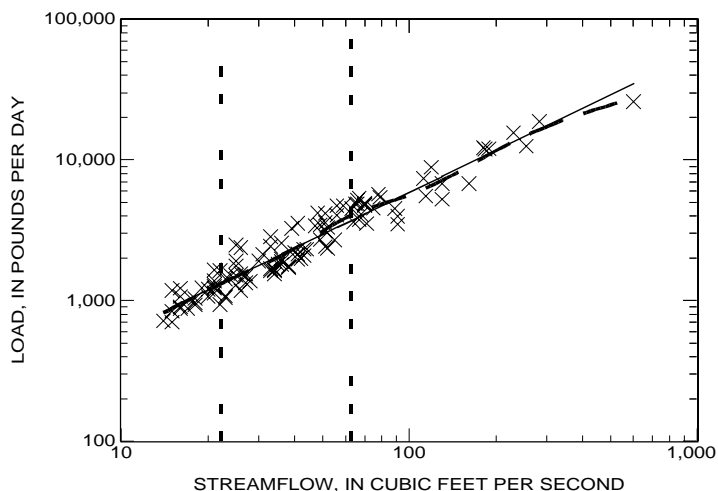
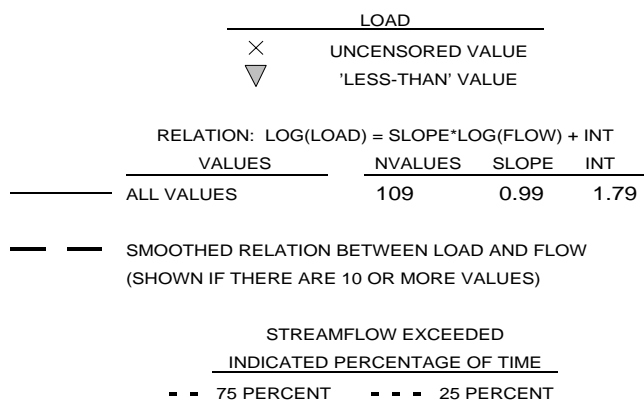
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

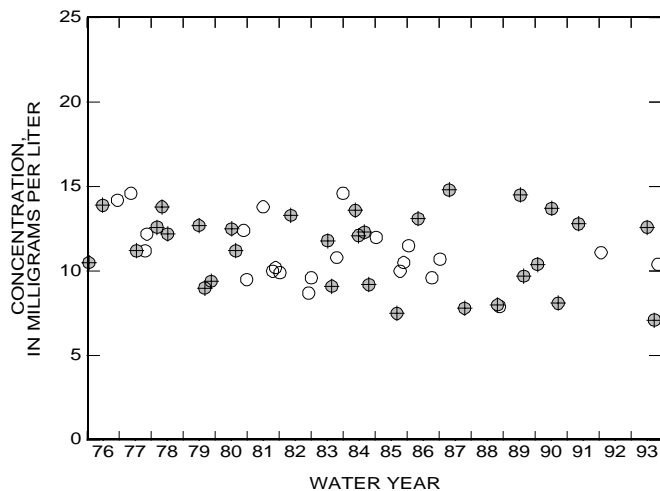
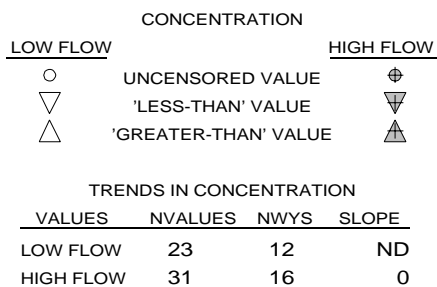
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



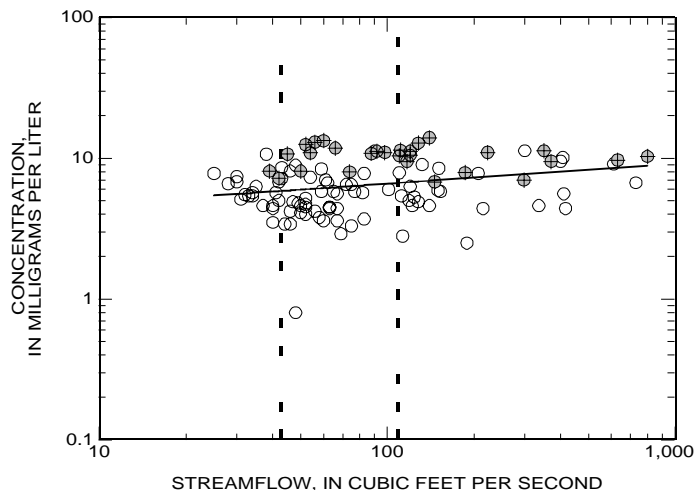
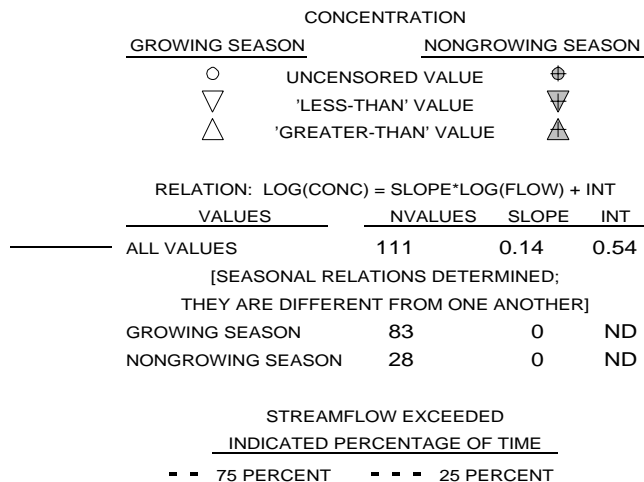
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



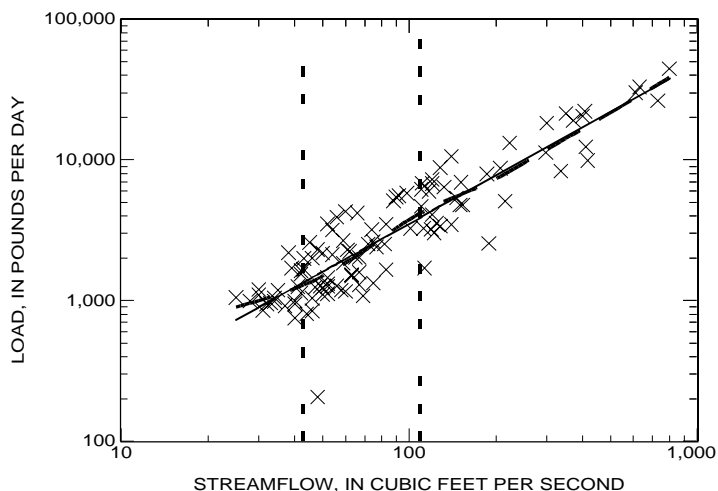
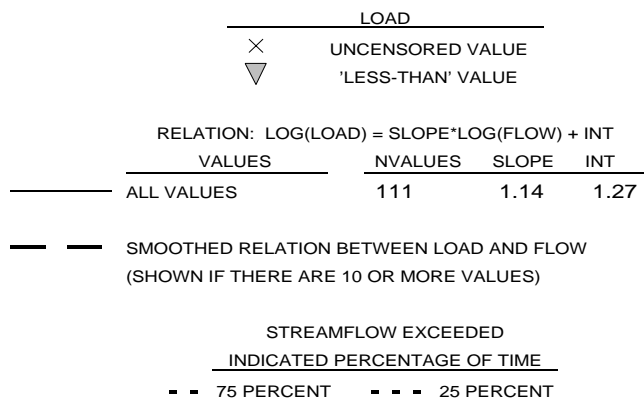
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED OXYGEN  
01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

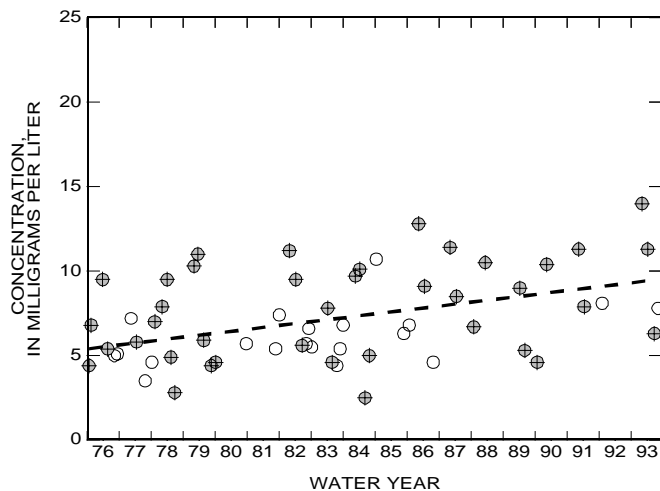
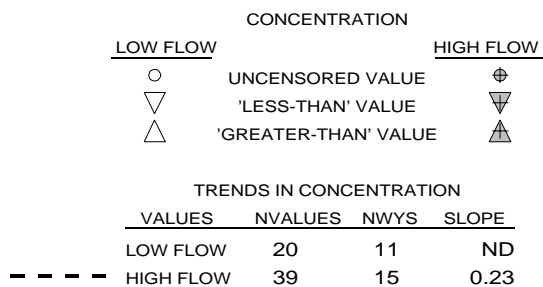
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



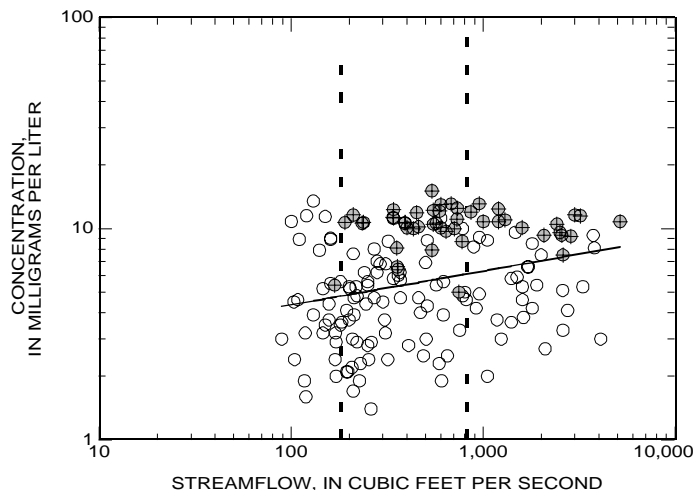
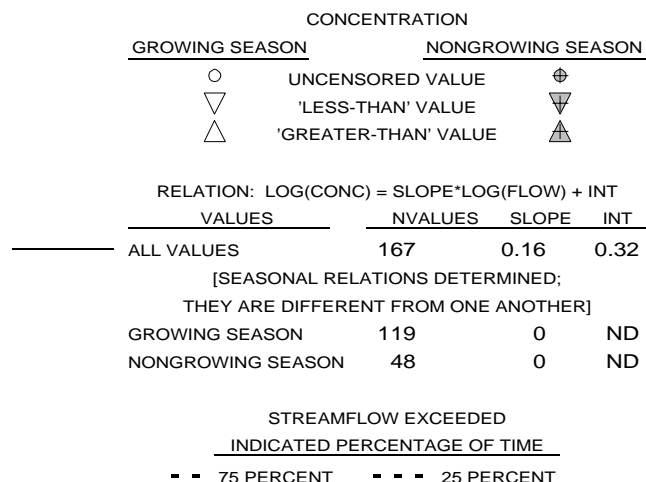
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



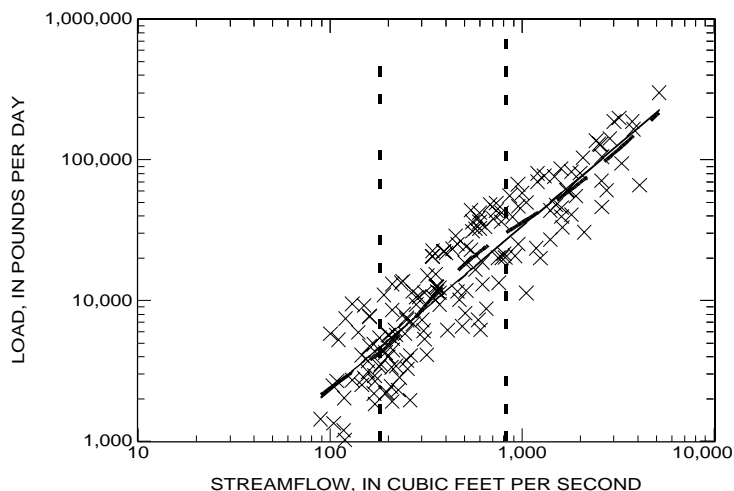
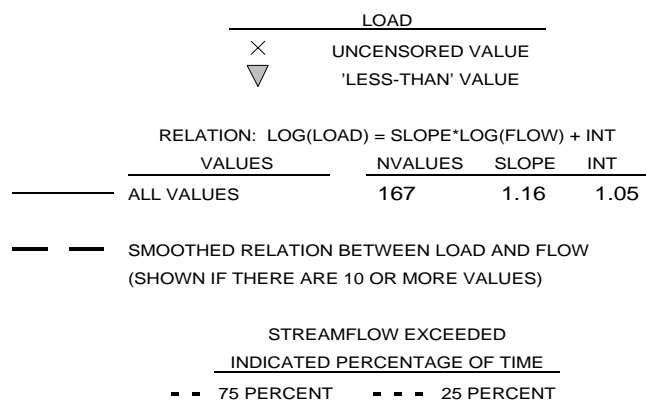
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED OXYGEN  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

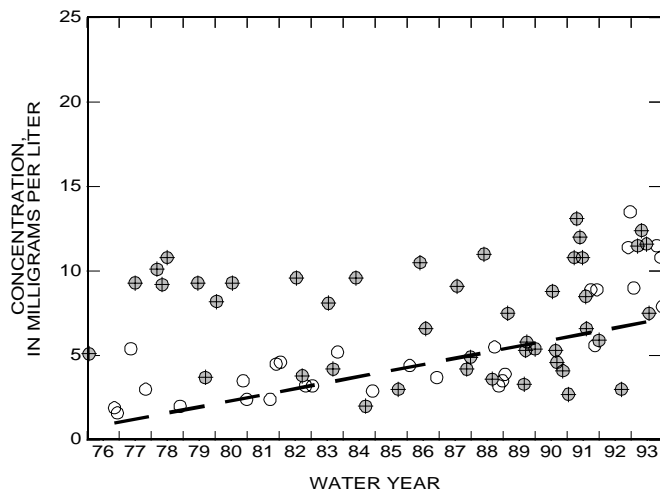
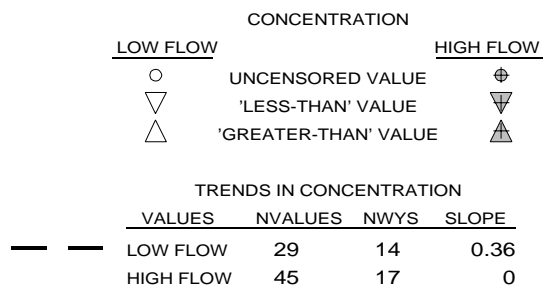
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



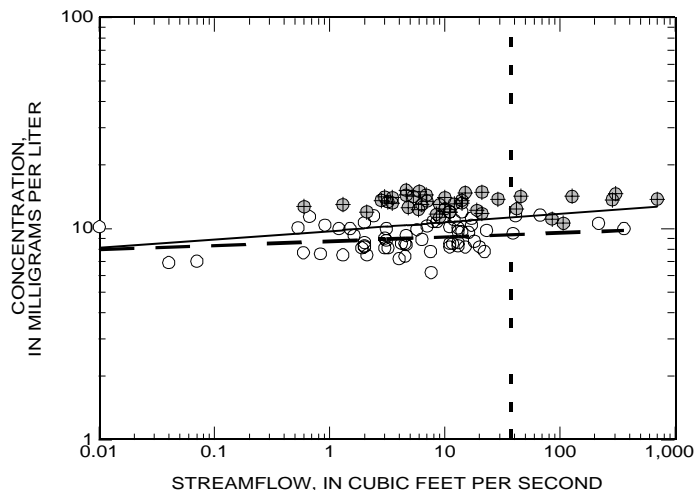
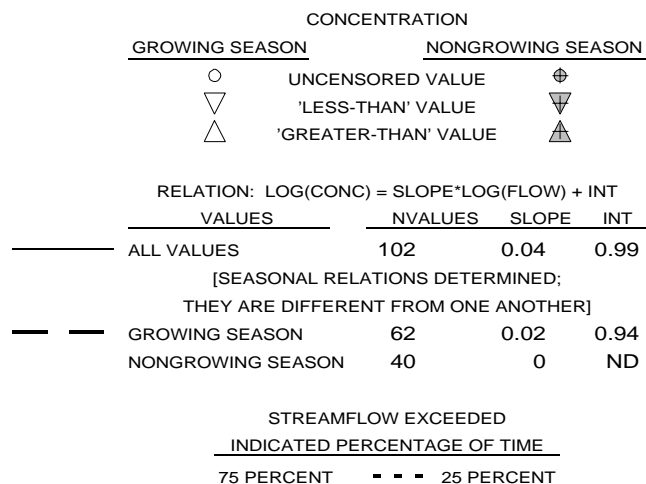
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



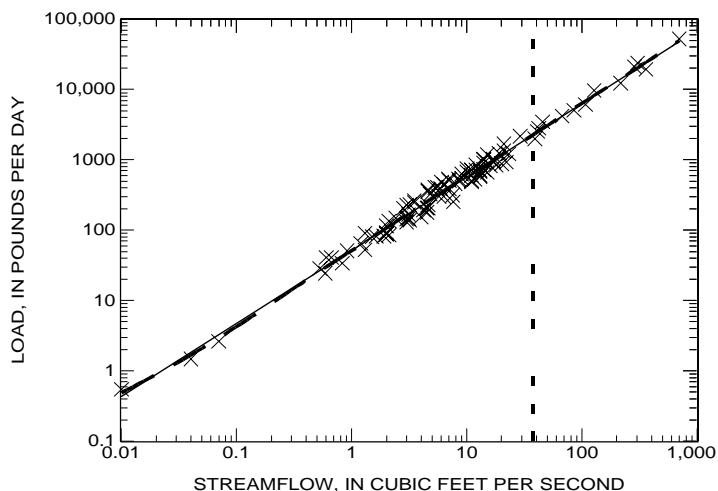
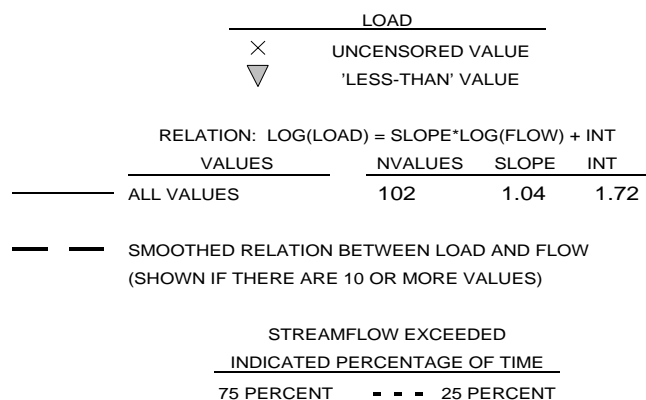
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED OXYGEN  
 01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

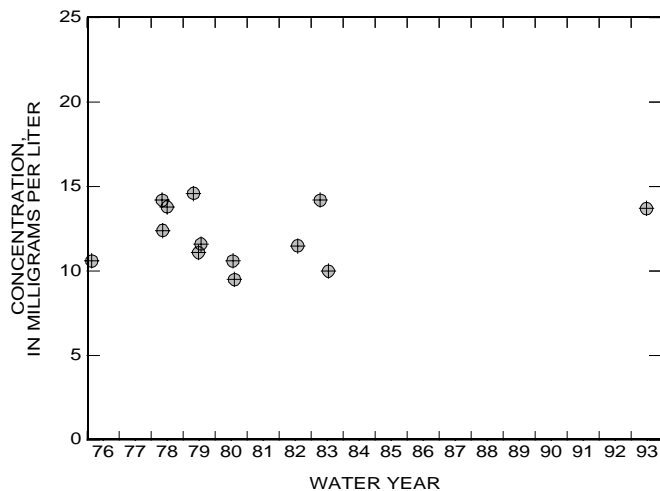
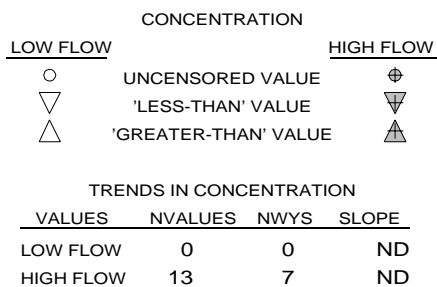
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



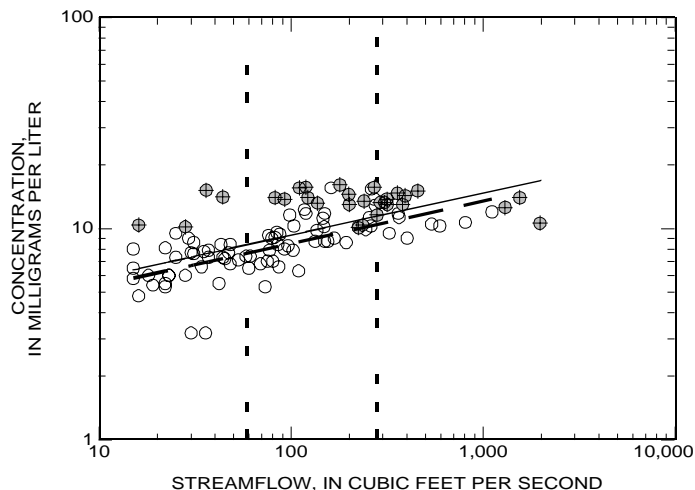
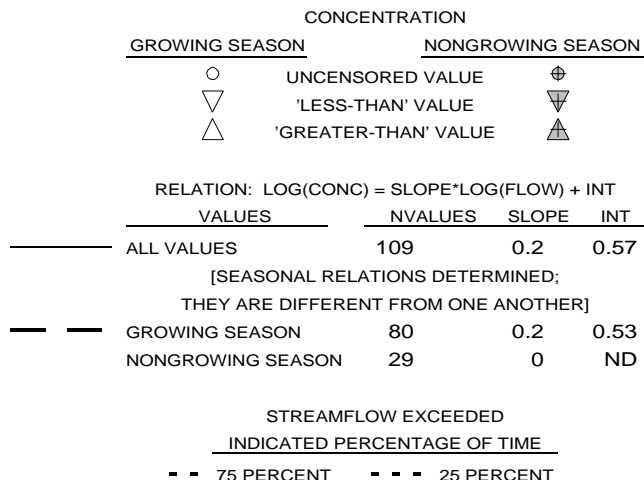
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



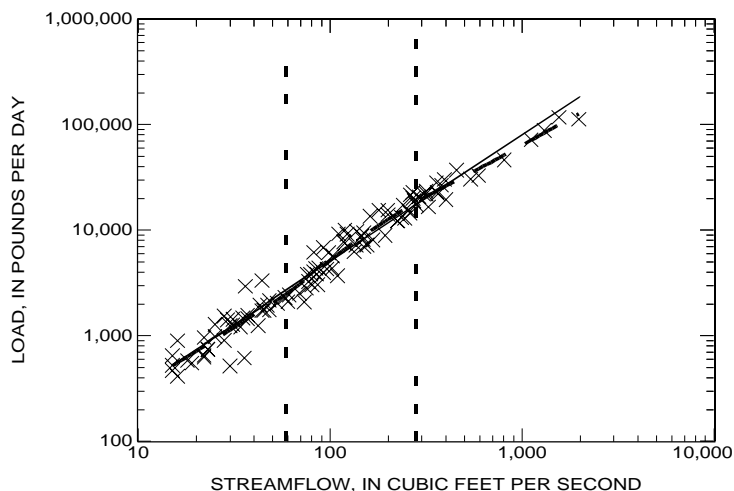
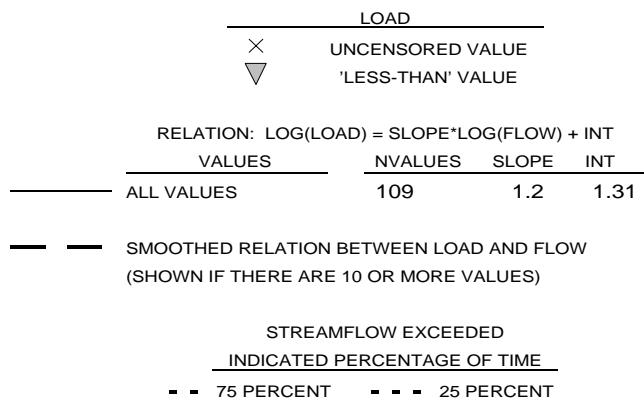
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
DISSOLVED OXYGEN  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

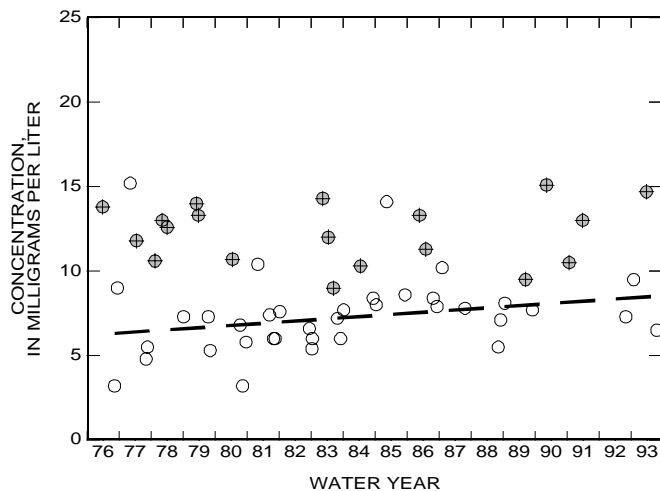
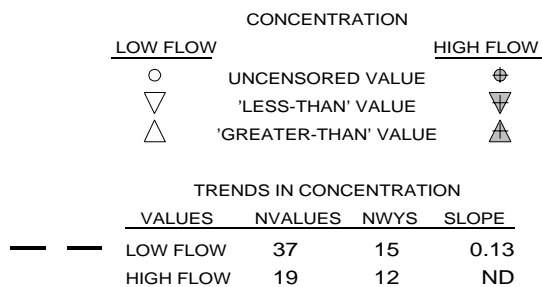
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



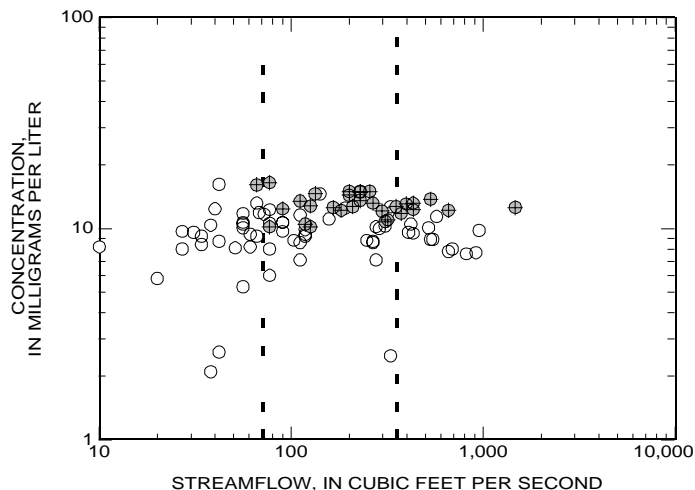
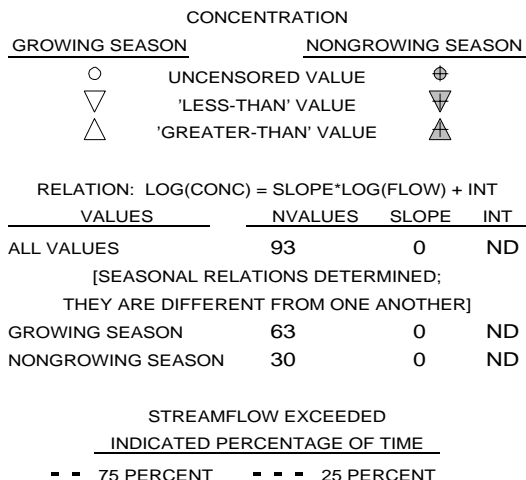
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



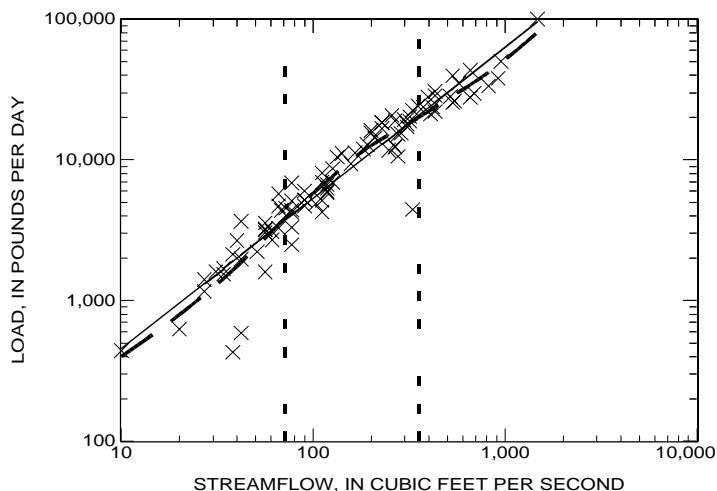
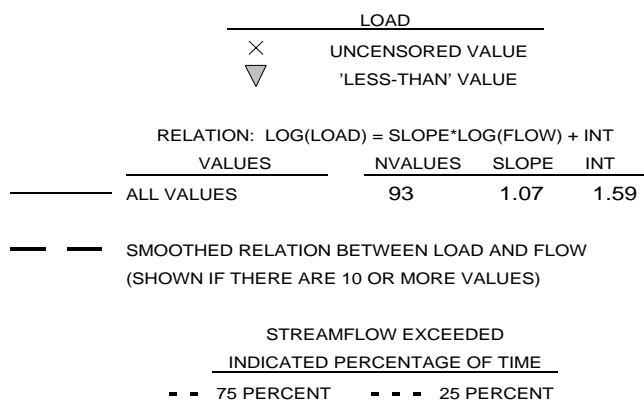
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

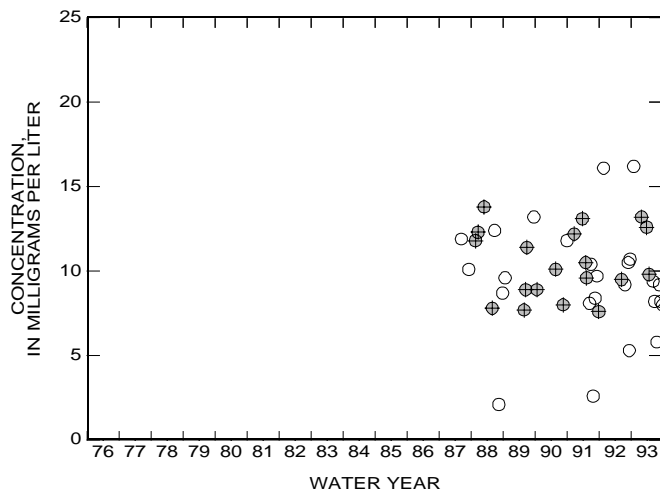
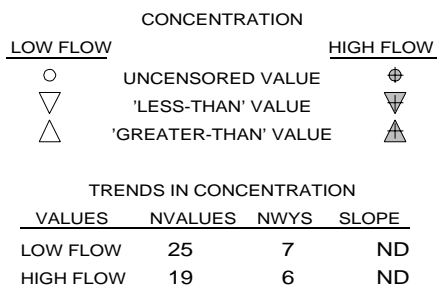
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

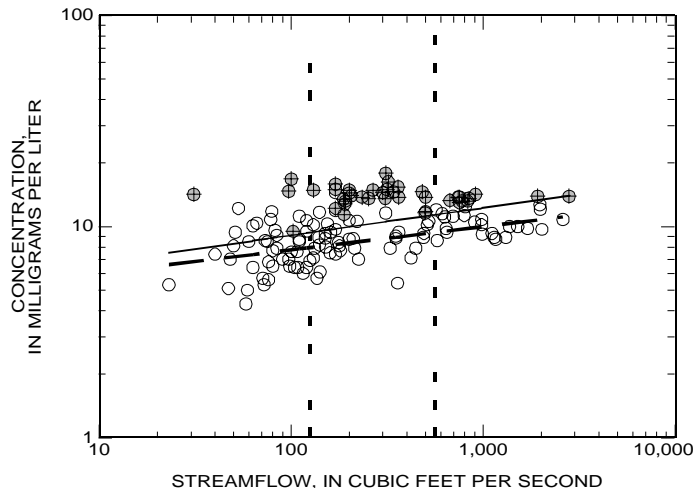
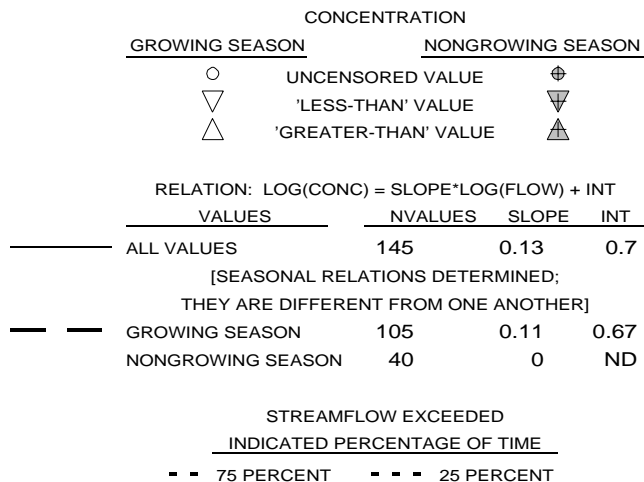




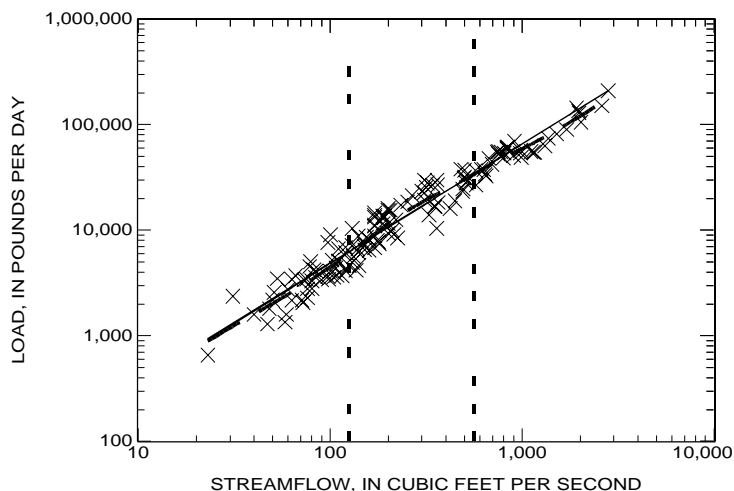
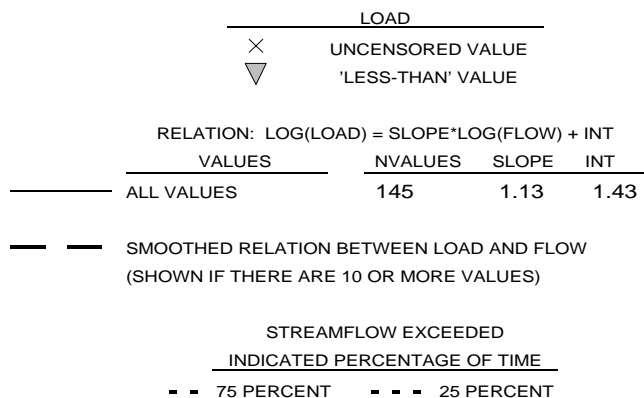
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED OXYGEN  
 01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

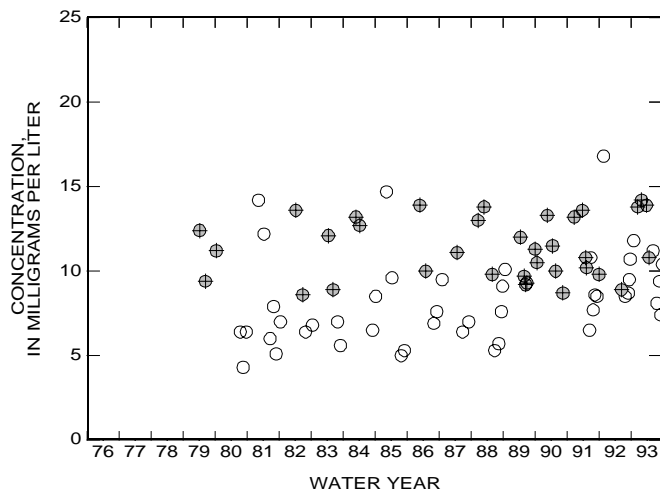
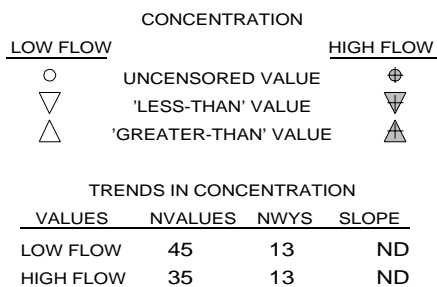
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



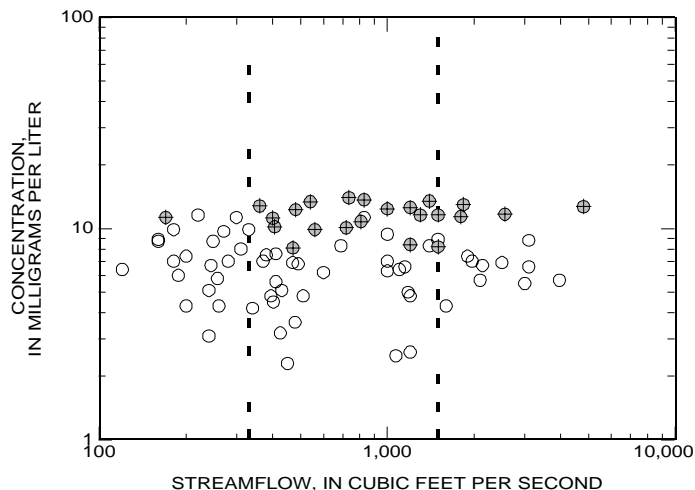
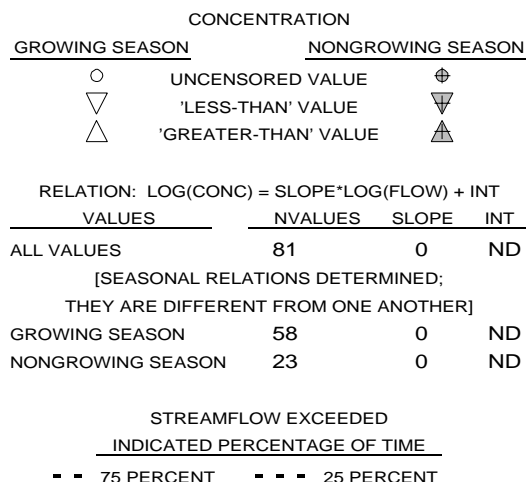
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



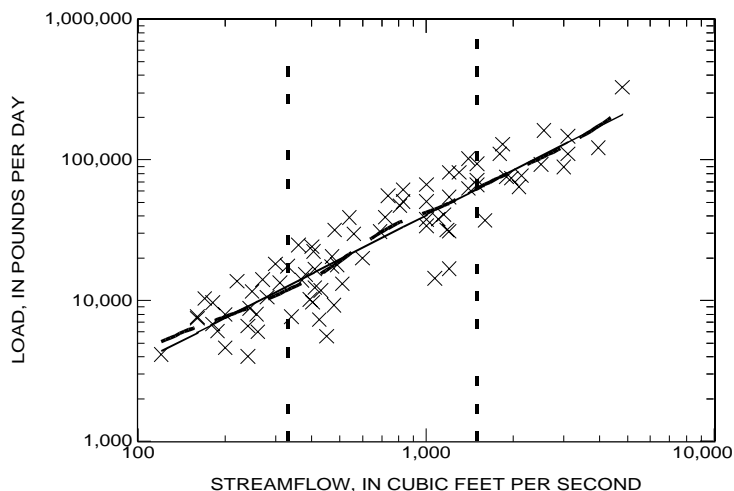
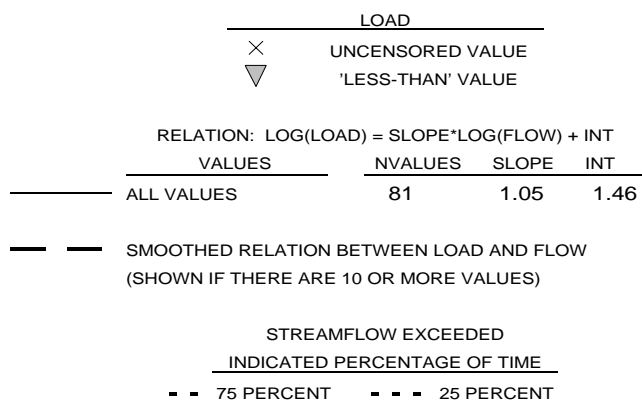
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

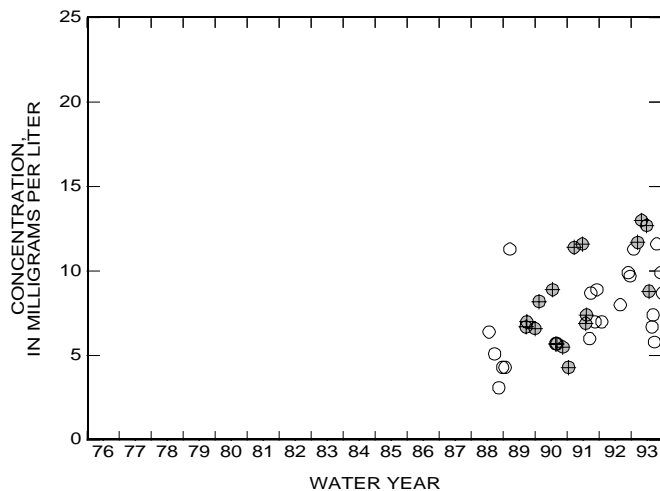
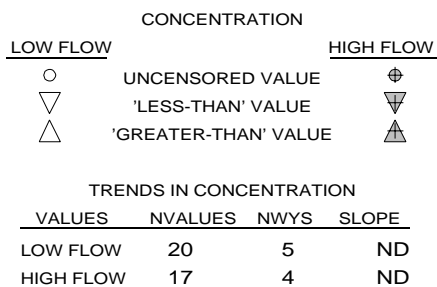
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



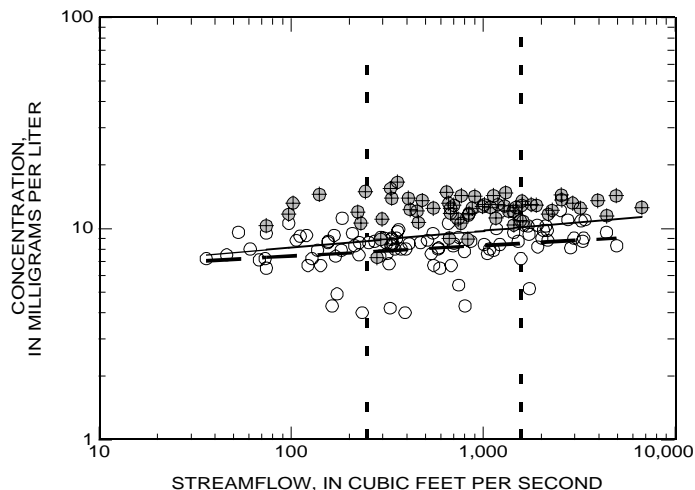
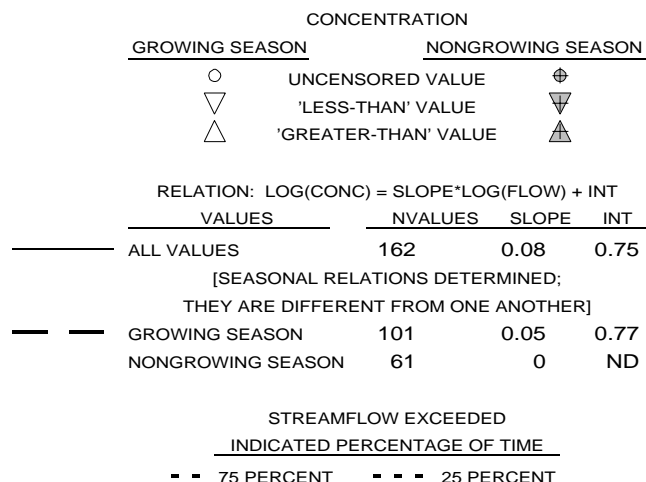
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



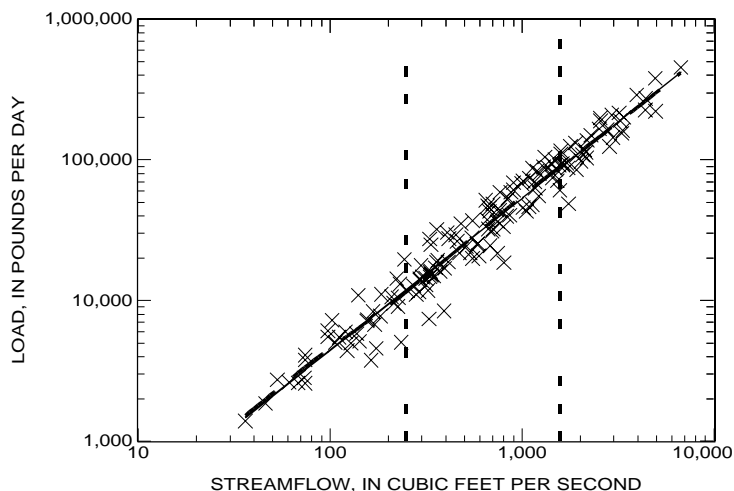
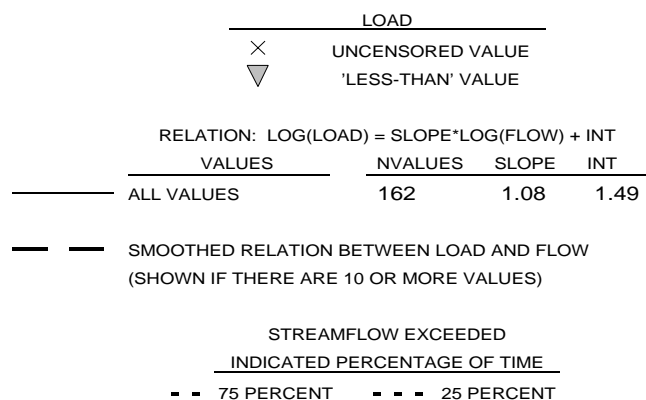
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

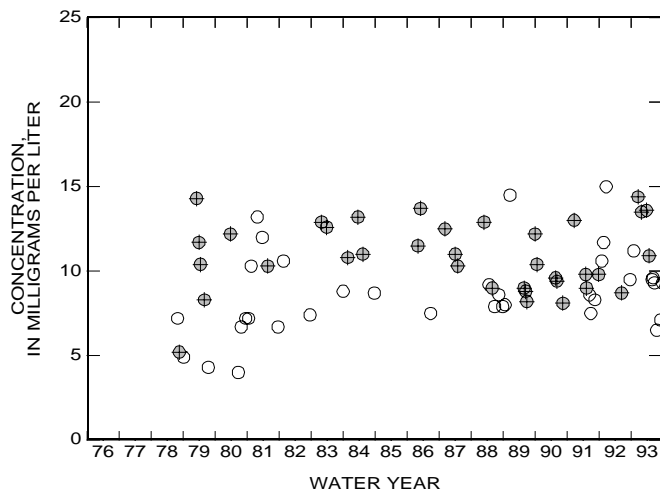
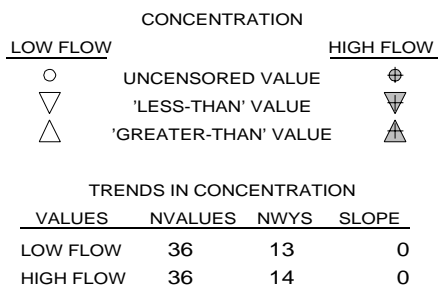
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



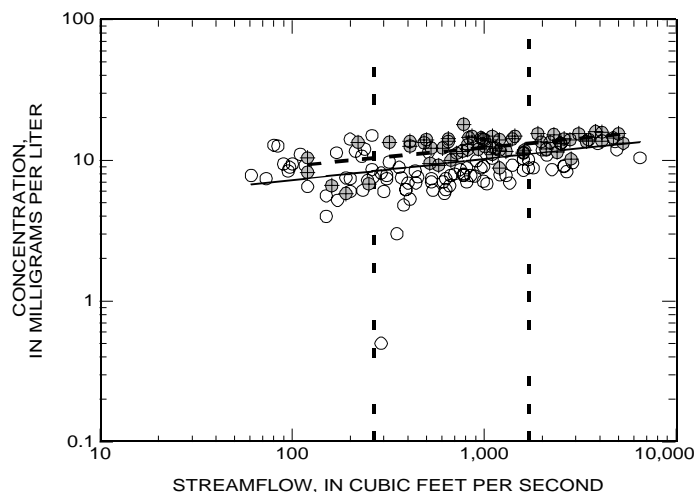
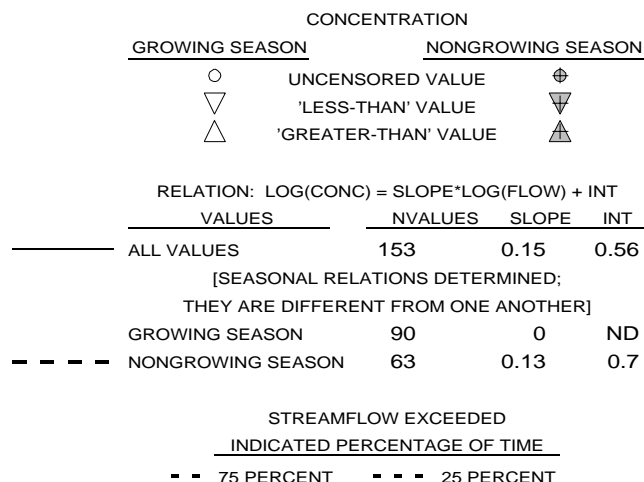
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



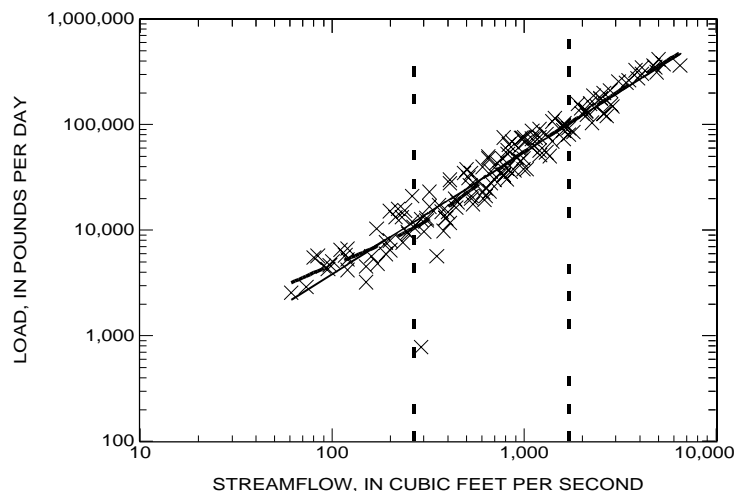
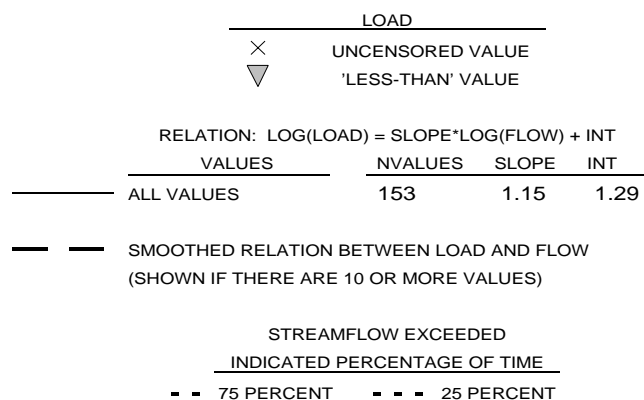
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

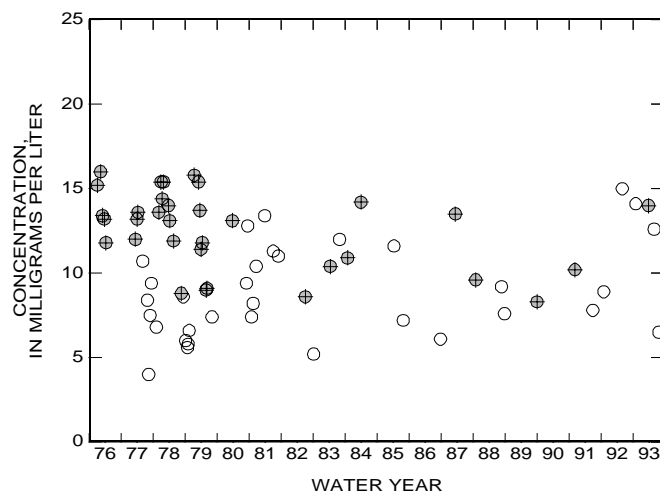
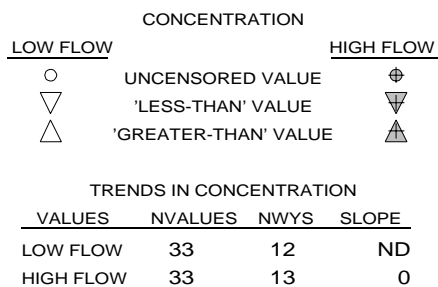
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



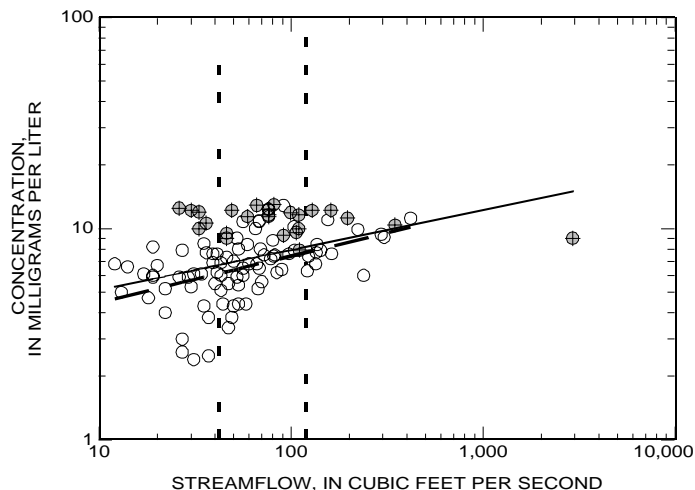
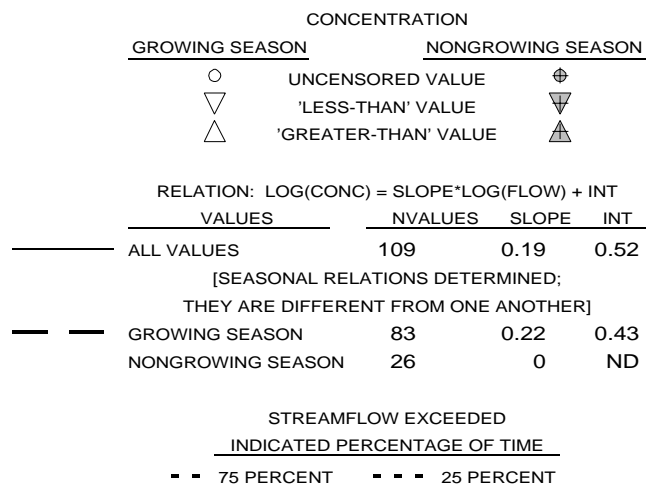
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



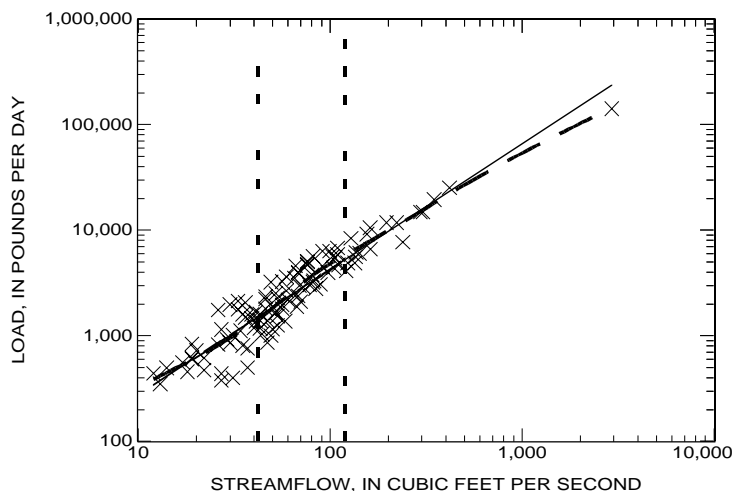
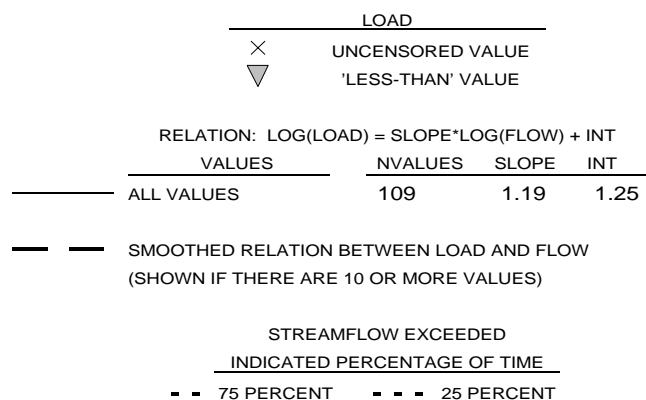
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

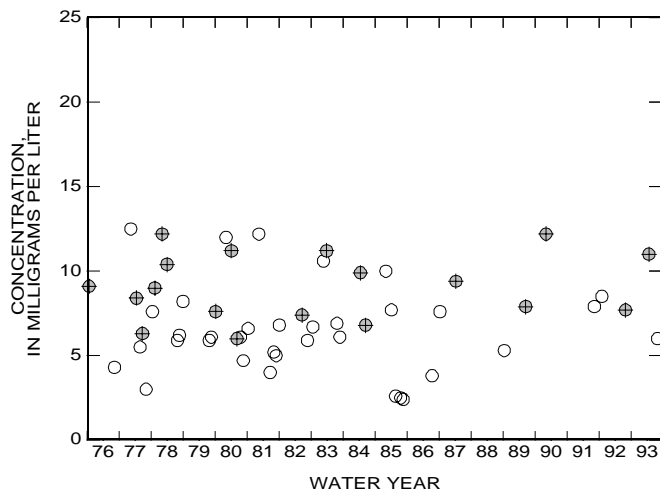
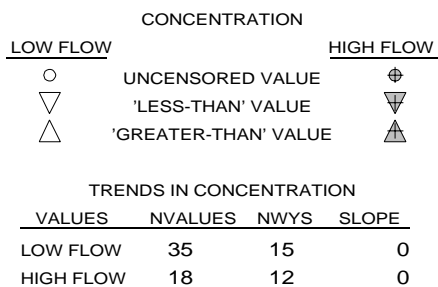
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



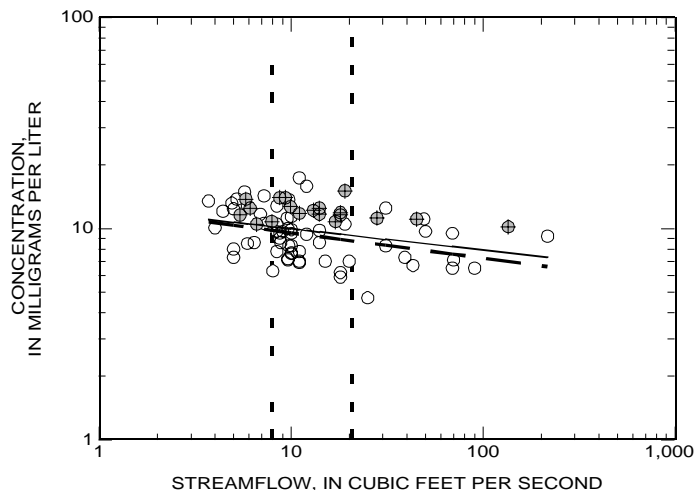
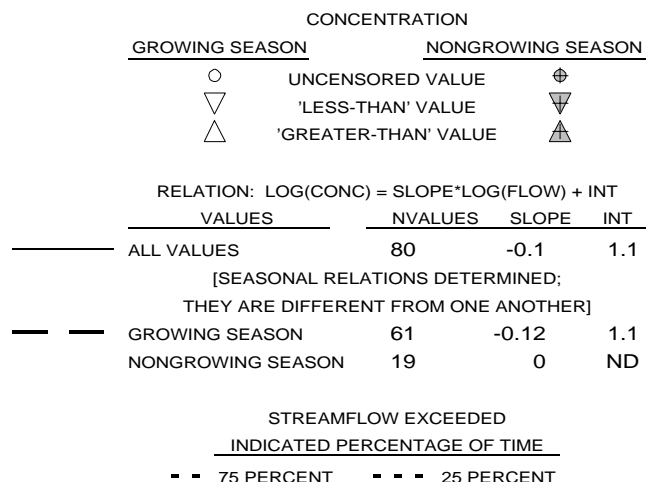
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



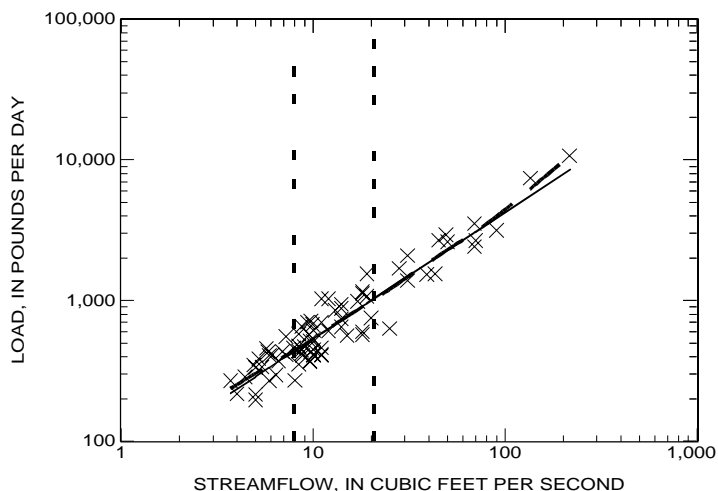
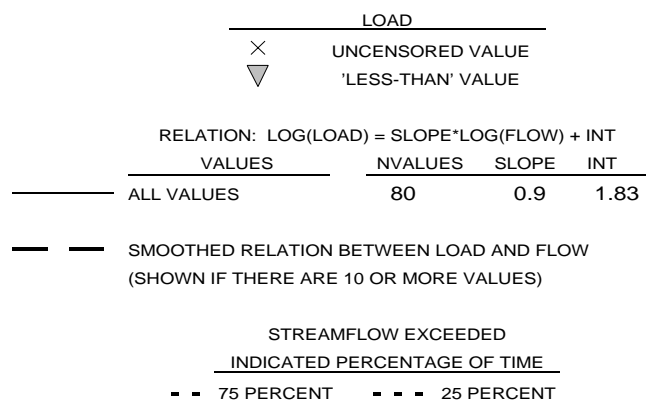
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED OXYGEN  
 01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

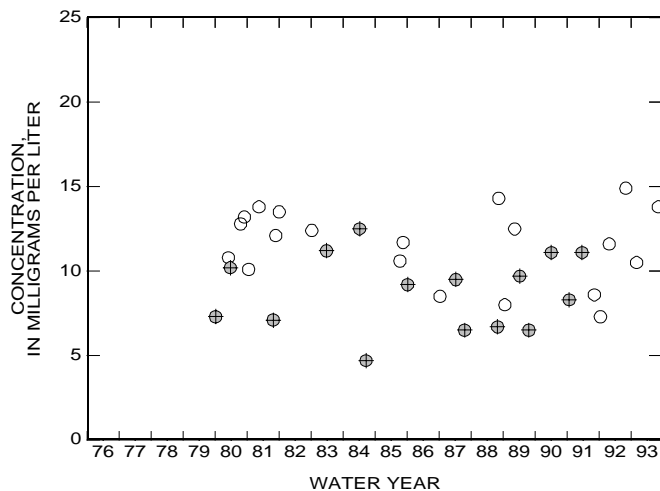
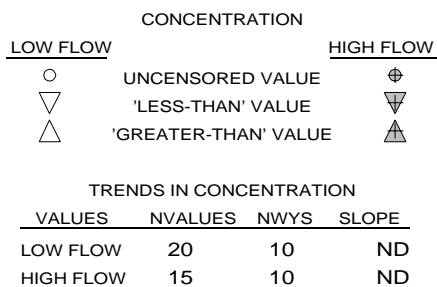
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



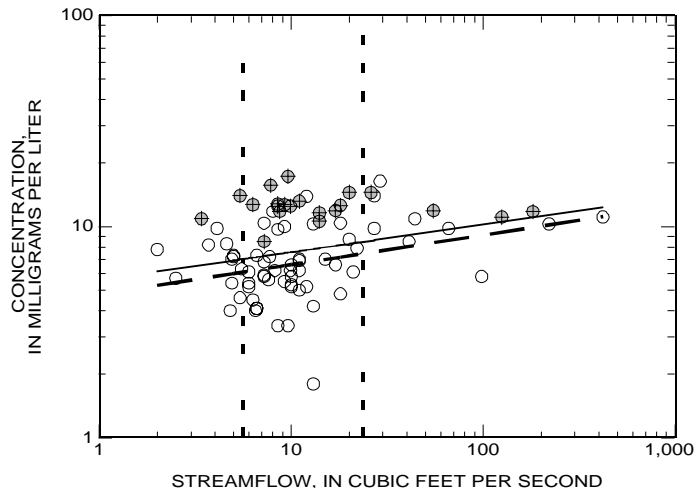
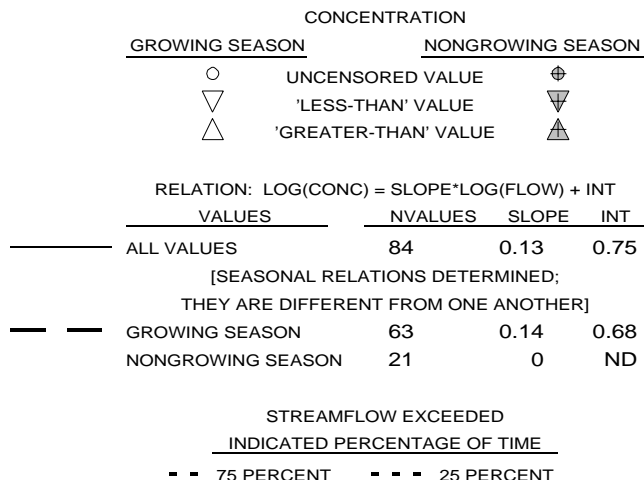
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



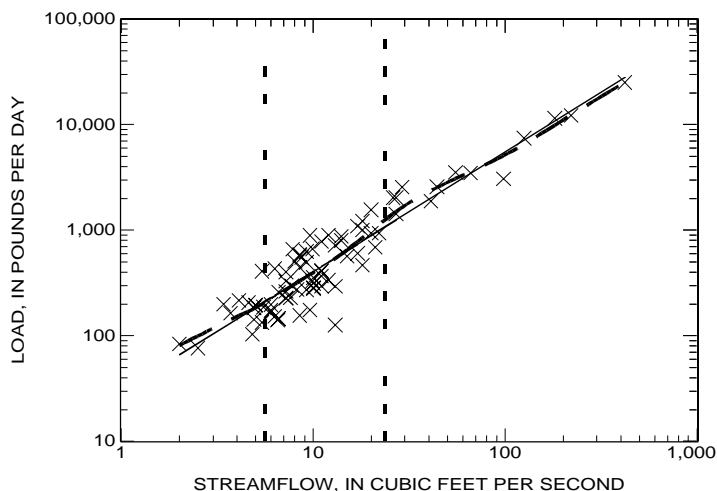
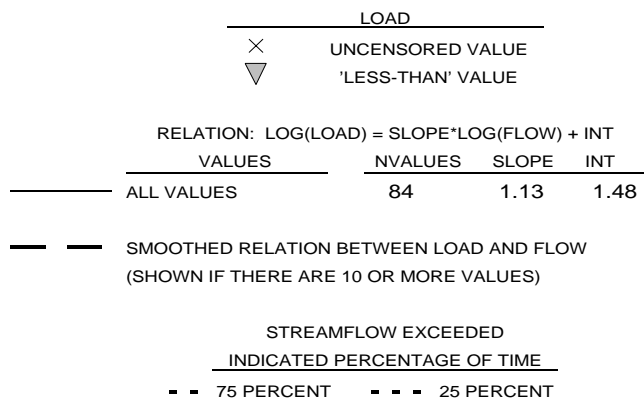
APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 DISSOLVED OXYGEN  
 01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

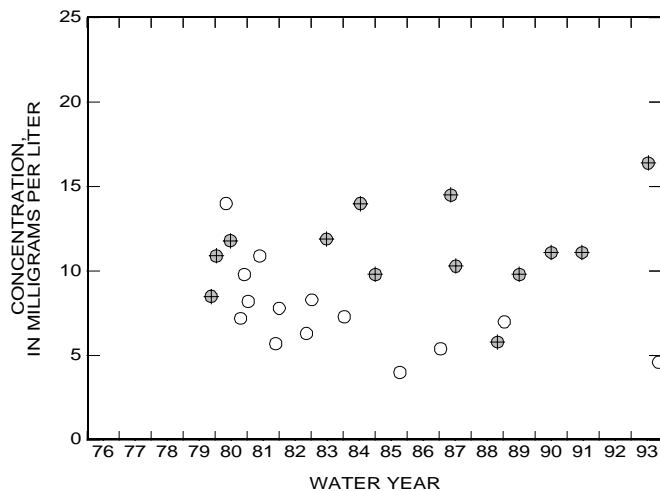
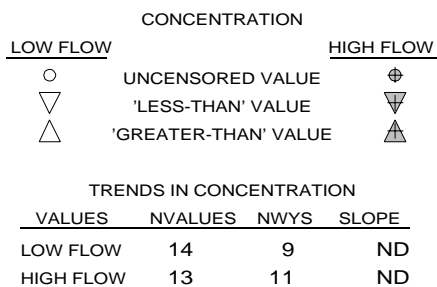
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



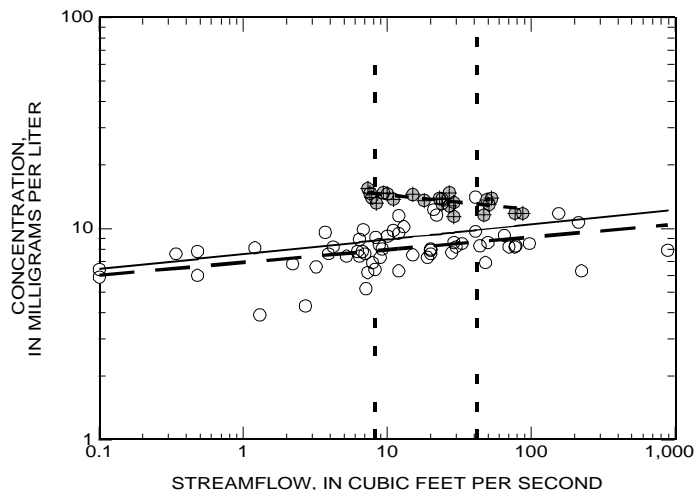
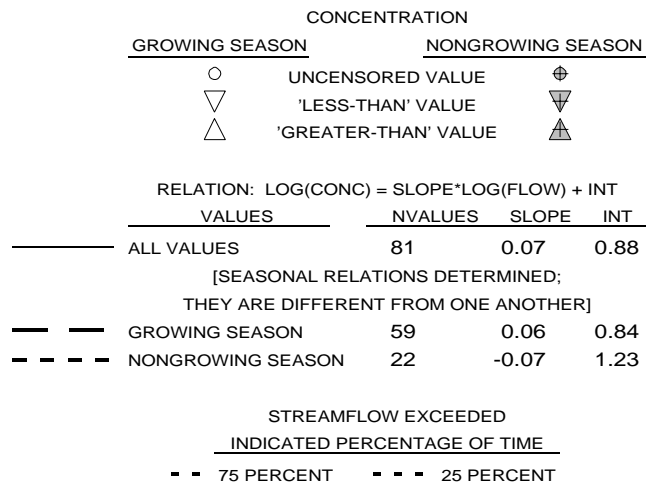
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



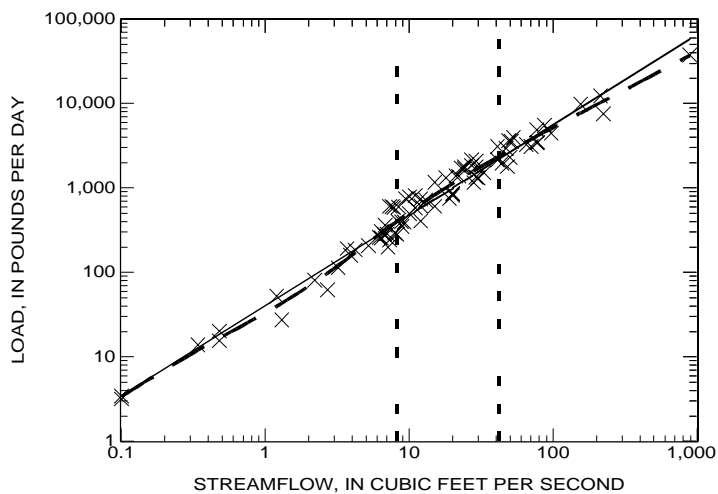
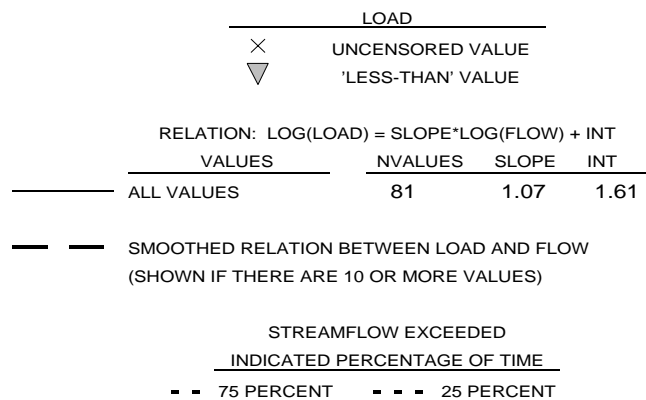
**APPENDIX 8. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**DISSOLVED OXYGEN**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

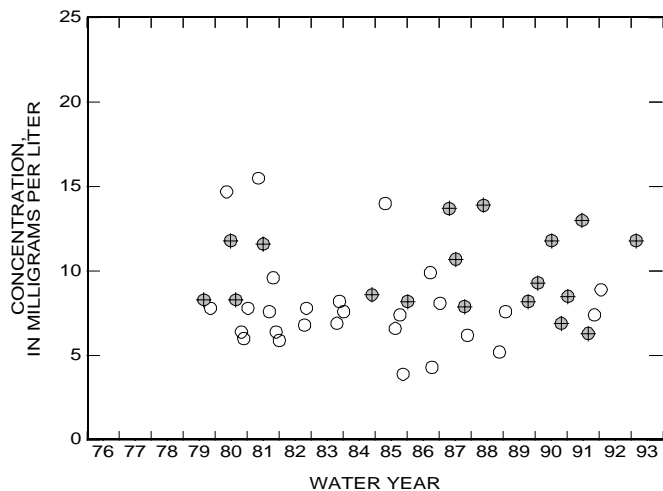
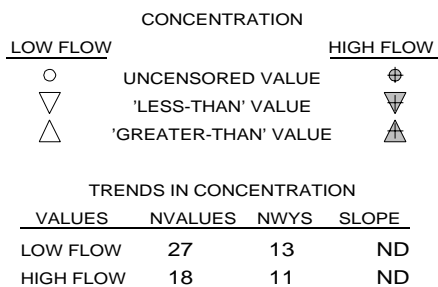
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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## Appendix 9

# Fraction of dissolved oxygen at saturation

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<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

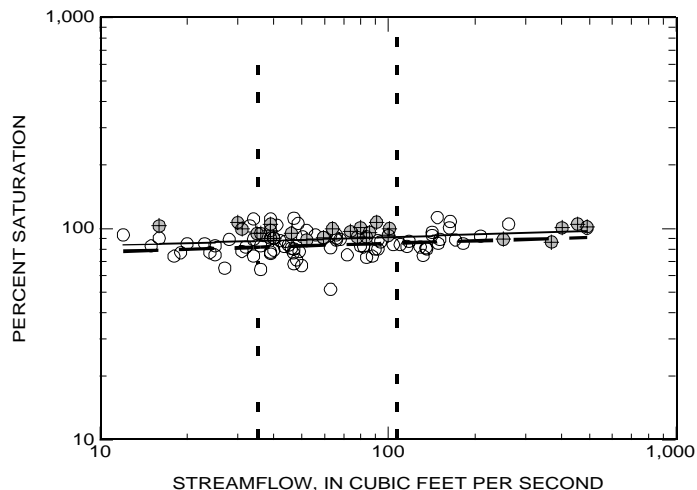
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APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01377000 HACKENSACK RIVER AT RIVERVALE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

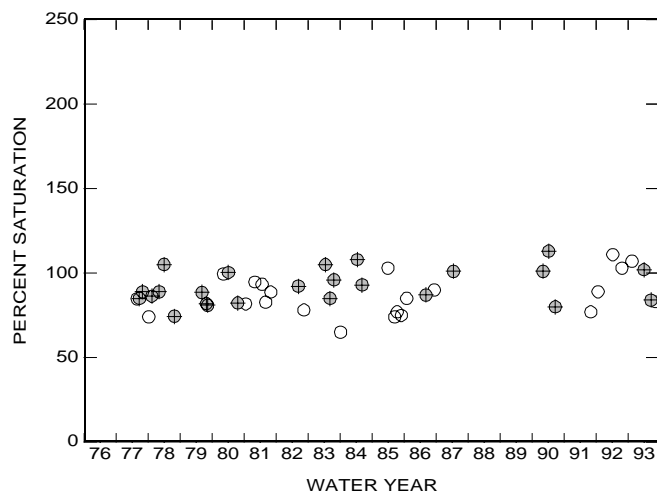
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	106	0.04	1.88	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	79	0.04	1.85	
NONGROWING SEASON	27	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	22	11	ND	
HIGH FLOW	24	11	ND	

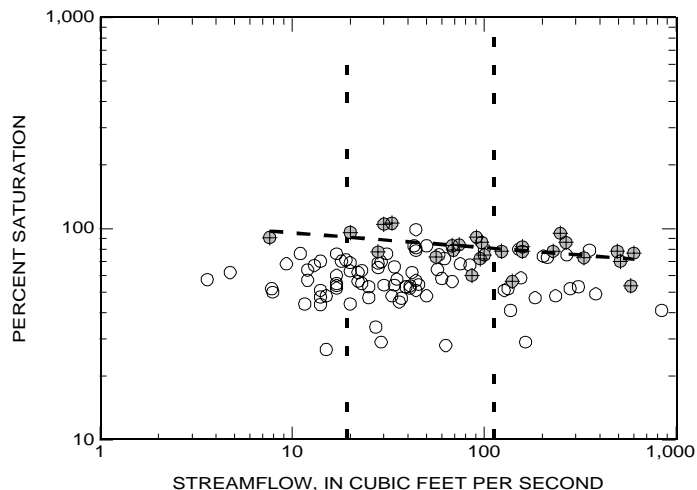


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

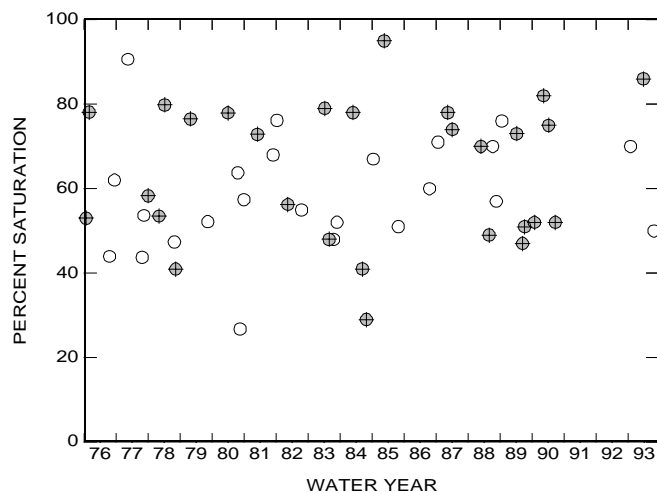
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	109	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	83	0	ND
NONGROWING SEASON	26	-0.07	2.05
-- -- -- STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
-- -- 75 PERCENT		-- -- 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	24	14	ND
HIGH FLOW	28	15	0

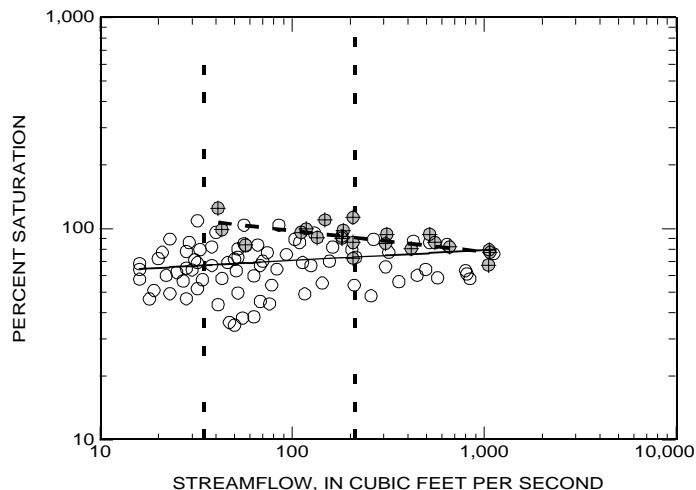


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01379500 PASSAIC RIVER NEAR CHATHAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

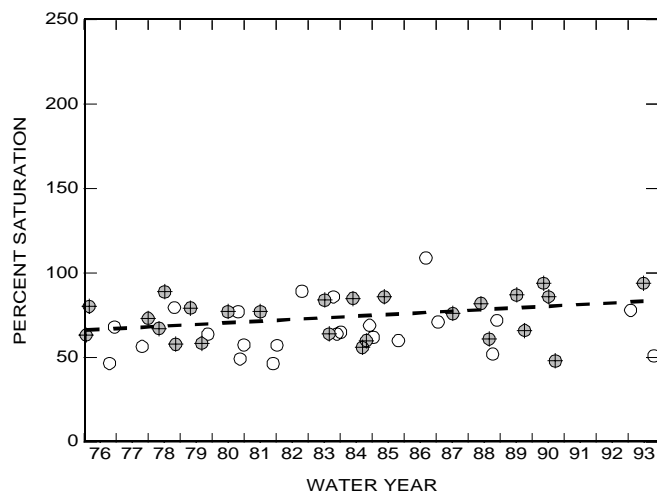
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	101	0.05	1.75	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	79	0	ND	
NONGROWING SEASON	22	-0.1	2.19	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	---	25 PERCENT		



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	23	14	ND	
HIGH FLOW	25	14	0.98	

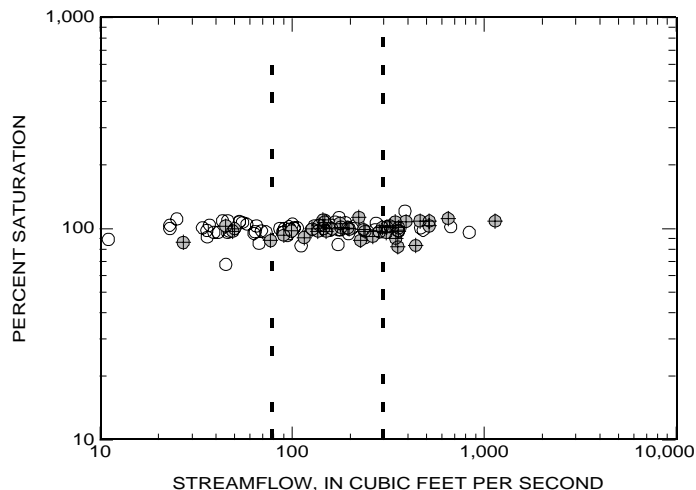


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

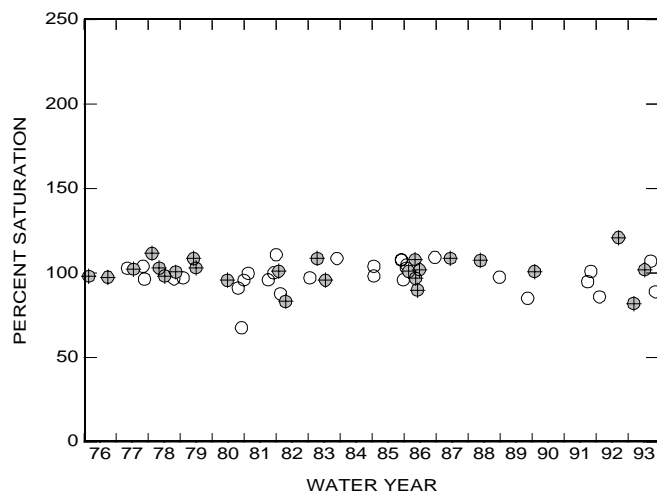
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	115	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	72	ND	ND
NONGROWING SEASON	43	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	30	14	0
HIGH FLOW	25	13	0

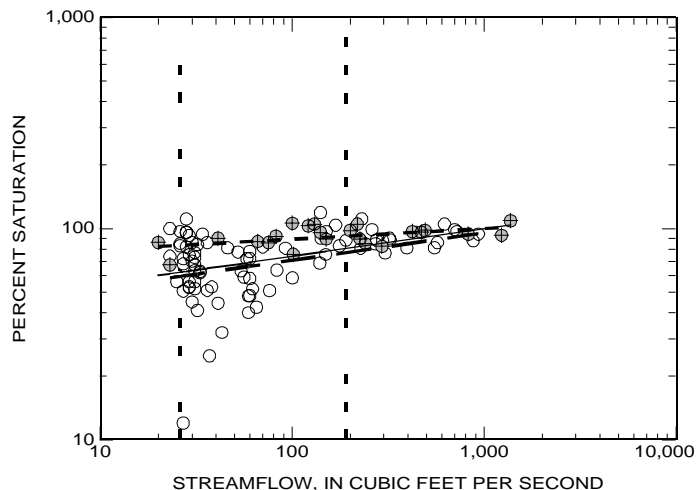


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

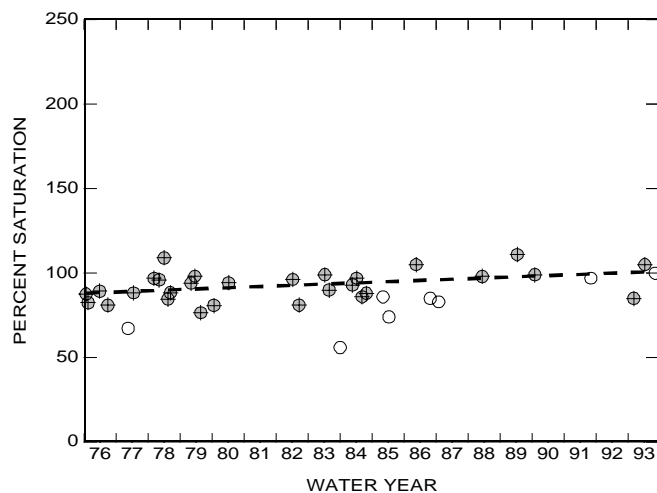
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	106	0.13	1.61	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
— — —	GROWING SEASON	83	0.13	1.59
- - - -	NONGROWING SEASON	23	0.05	1.85
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - -	75 PERCENT	- - -	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	8	7	ND	
- - - - HIGH FLOW	29	13	0.72	

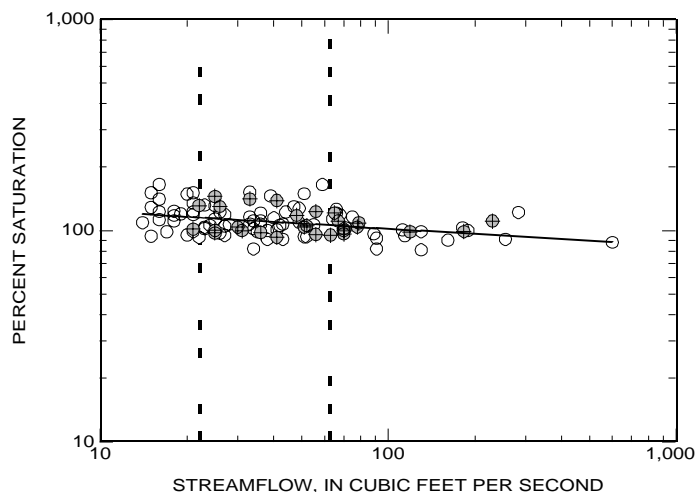


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

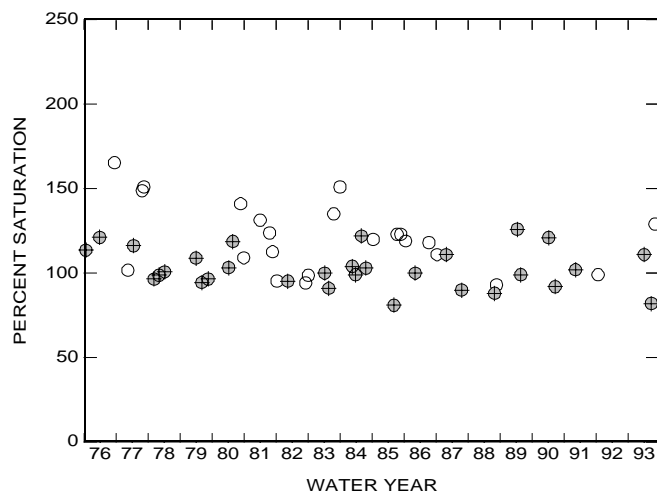
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	108	-0.08	2.17
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	80	ND	ND
NONGROWING SEASON	28	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	23	12	ND
HIGH FLOW	30	16	0

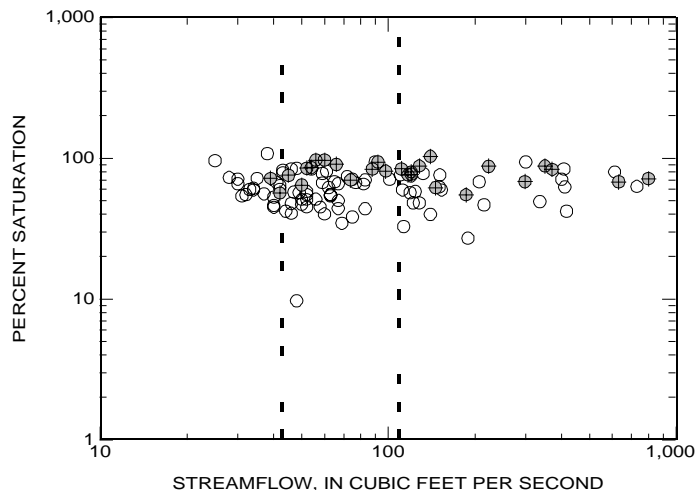


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

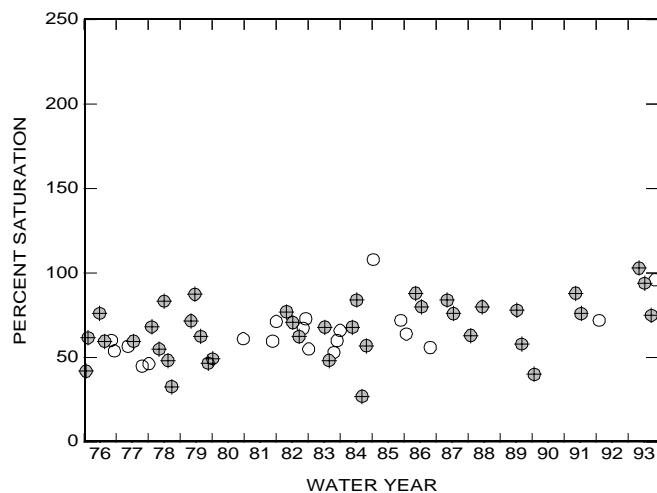
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	110	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	83	0	ND
NONGROWING SEASON	27	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	20	11	ND
HIGH FLOW	38	15	0



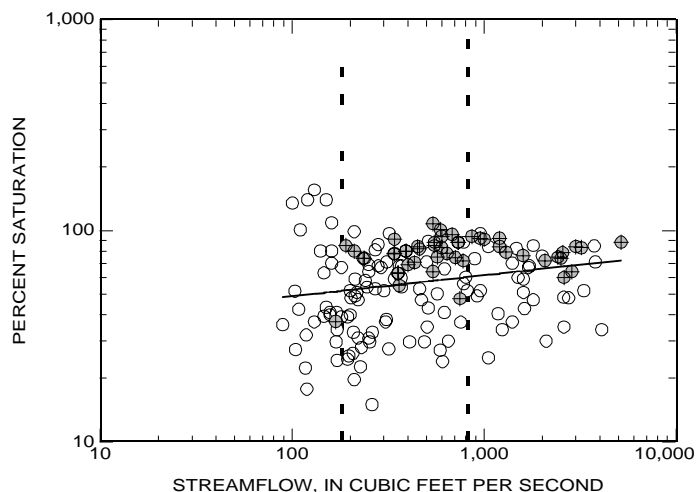


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

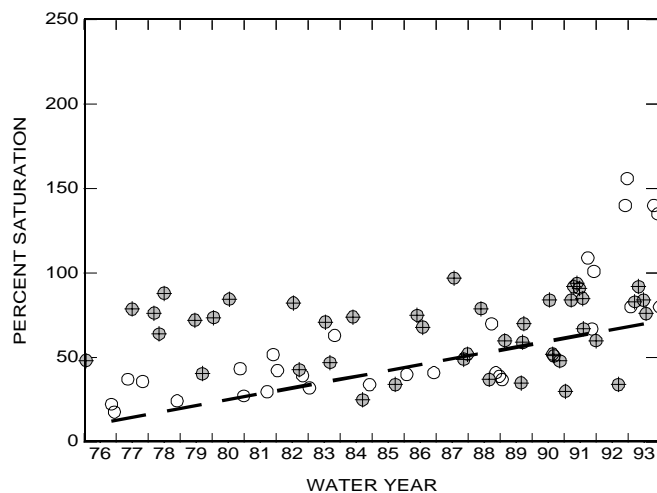
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	165	0.1	1.49	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	117	0	ND	
NONGROWING SEASON	48	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— — —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	29	14	3.46	
HIGH FLOW	44	17	0	

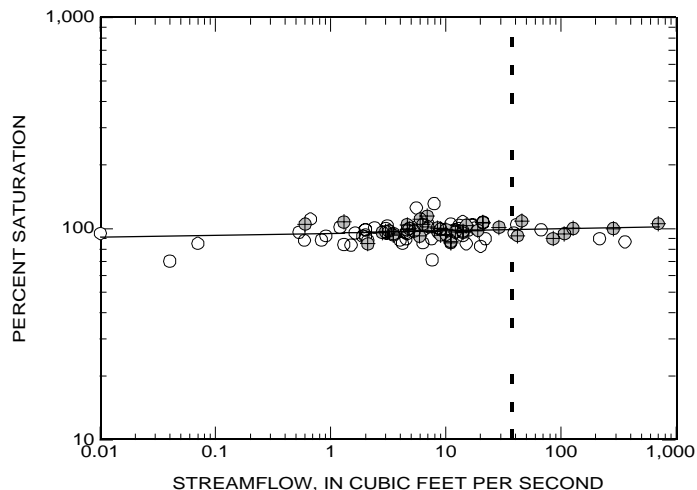


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

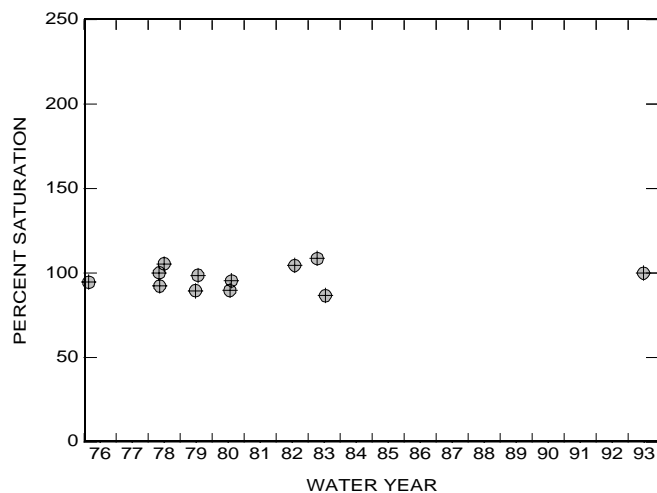
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	100	0.01	1.98	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	61	ND	ND	
NONGROWING SEASON	39	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
75 PERCENT	- - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	0	0	ND	
HIGH FLOW	12	7	ND	

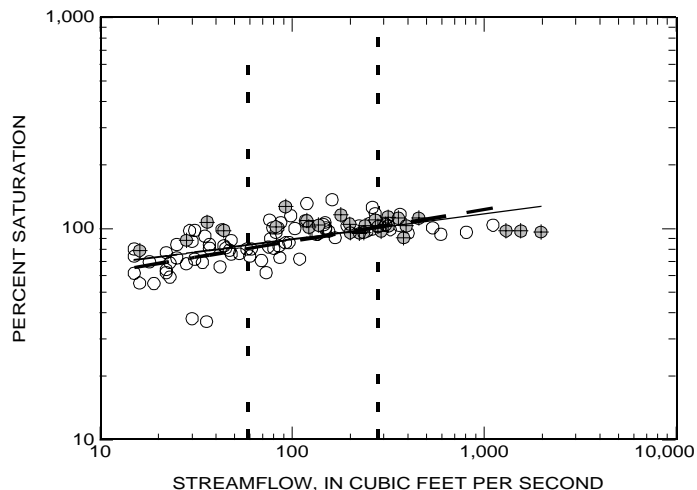


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

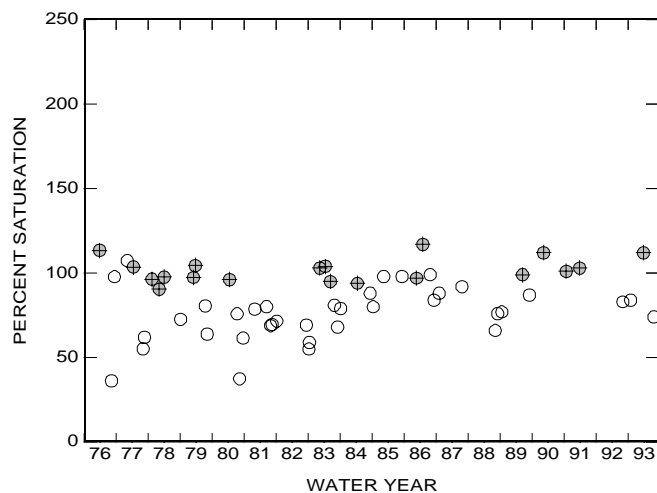
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	107	0.12	1.71	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	79	0.15	1.64	
NONGROWING SEASON	28	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	37	15	0	
HIGH FLOW	19	12	ND	

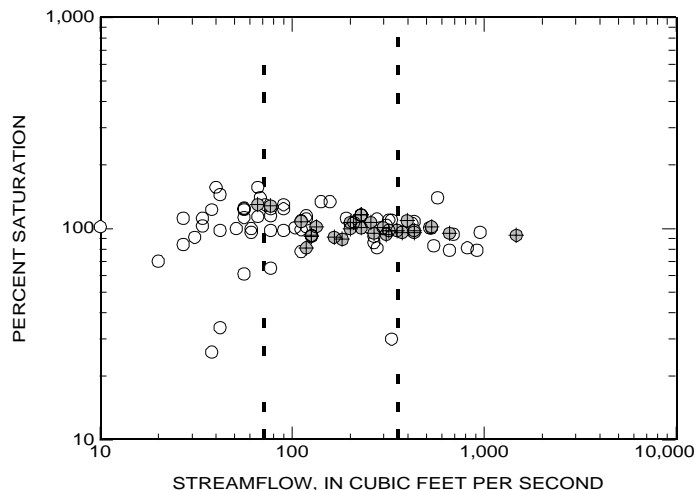


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

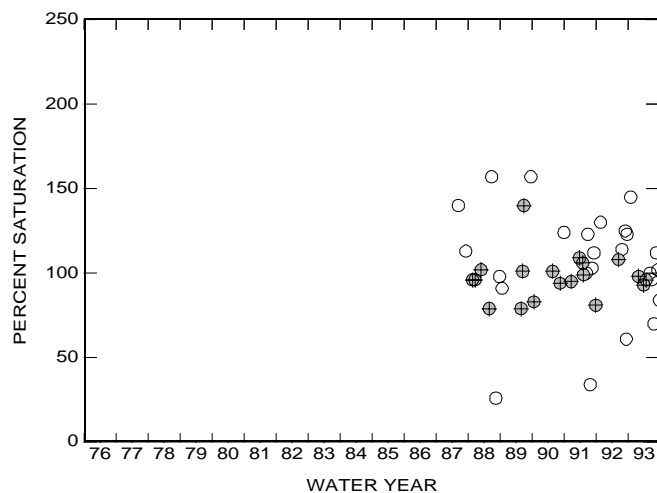
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	91	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	63	ND	ND
NONGROWING SEASON	28	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	25	7	ND
HIGH FLOW	19	6	ND

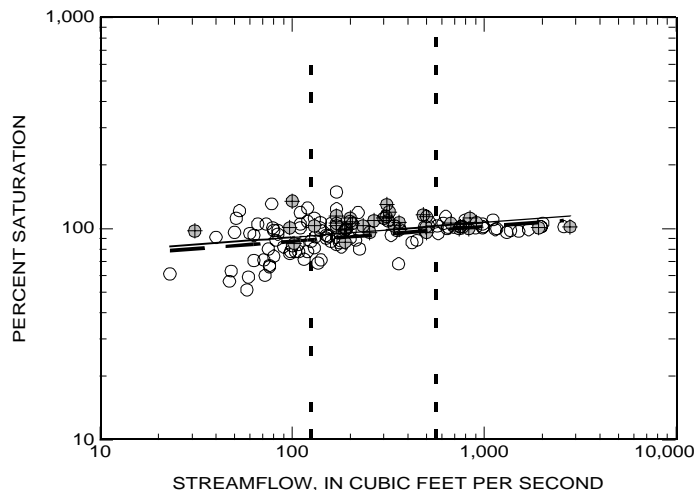


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

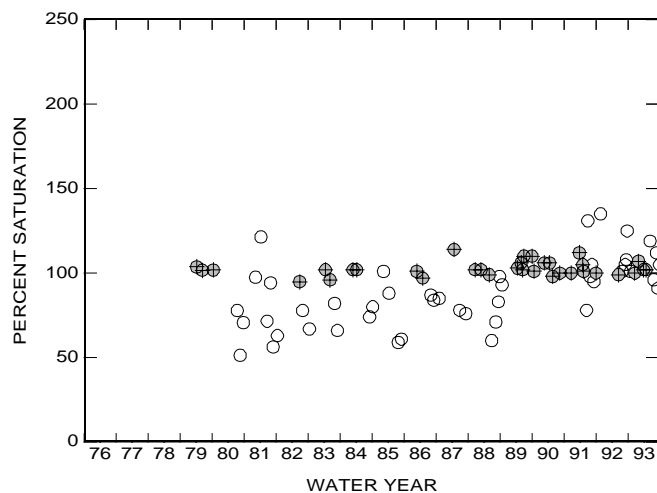
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	142	0.07	1.82
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	102	0.07	1.8
NONGROWING SEASON	40	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
— —	75 PERCENT	— —	25 PERCENT



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	45	13	ND
HIGH FLOW	34	13	ND

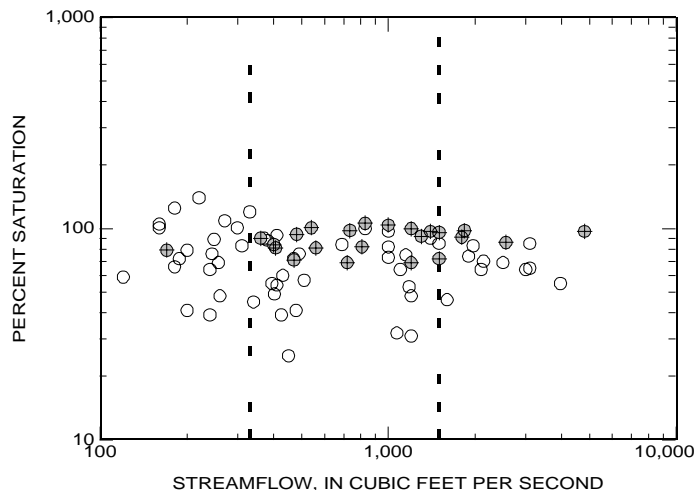


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

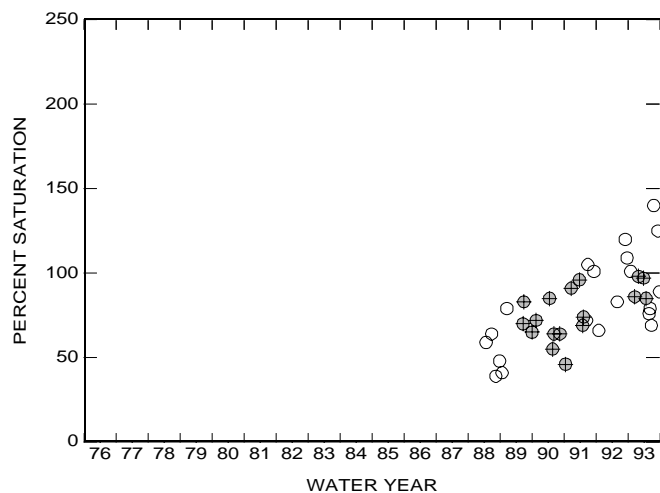
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	79	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	56	0	ND
NONGROWING SEASON	23	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	19	5	ND
HIGH FLOW	17	4	ND

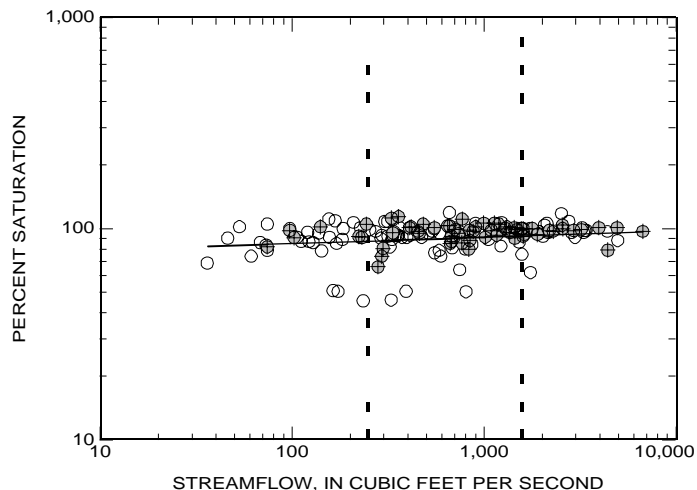


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

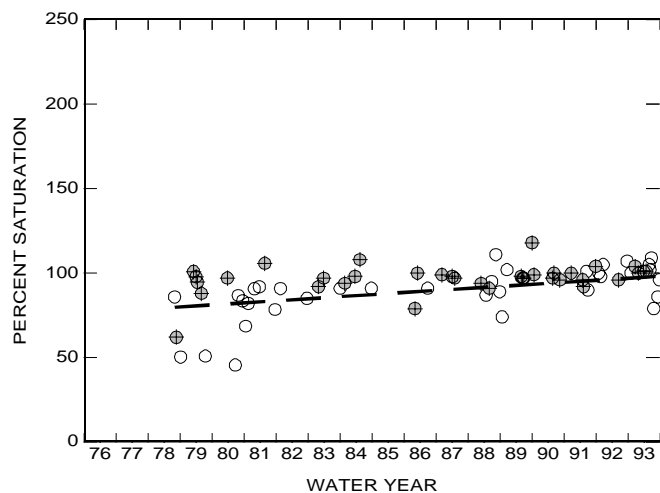
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	159	0.03	1.87	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	98	ND	ND	
NONGROWING SEASON	61	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	35	13	1.21	
HIGH FLOW	36	14	0	

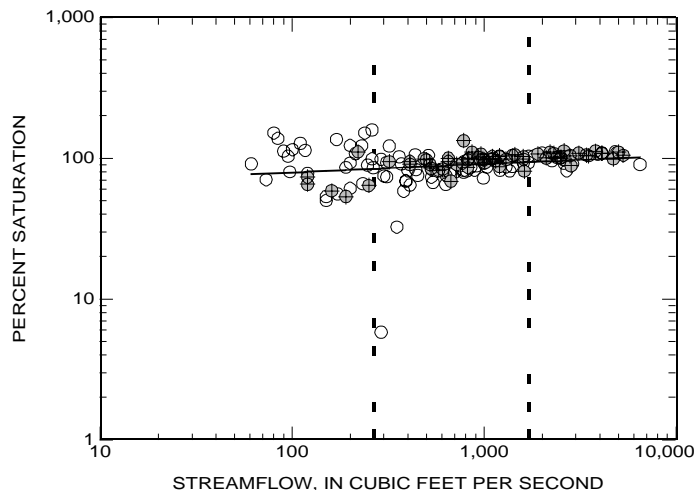


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

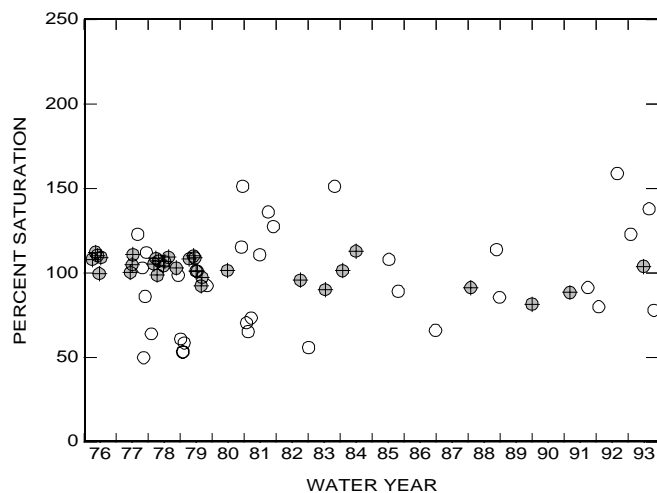
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	151	0.06	1.78
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	89	ND	ND
NONGROWING SEASON	62	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	--- 25 PERCENT		



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	33	12	ND
HIGH FLOW	32	12	ND



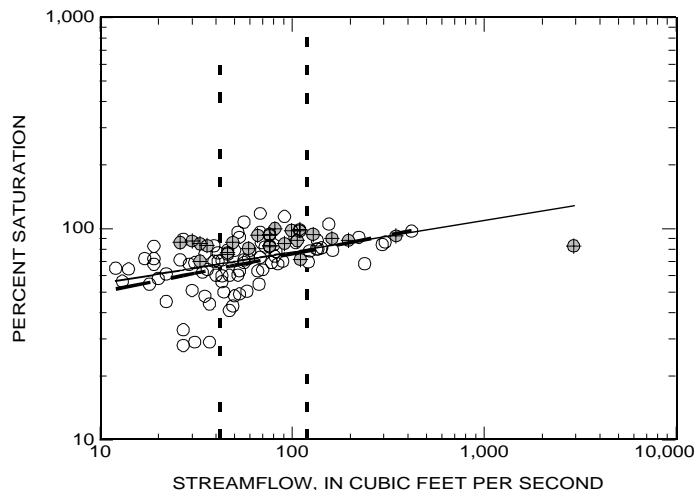


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

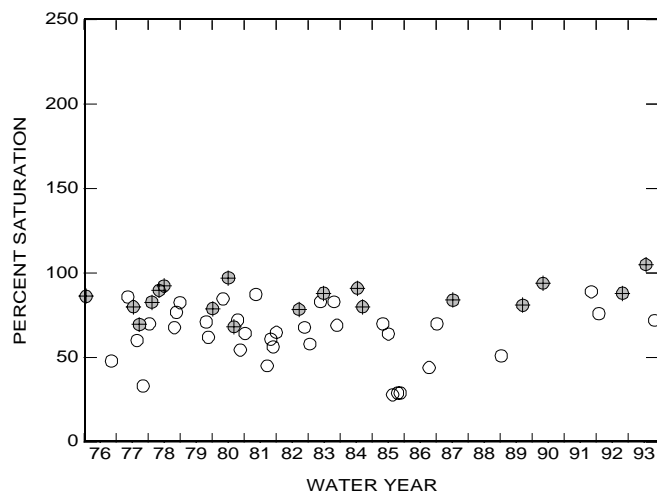
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	107	0.15	1.59	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	81	0.18	1.52	
NONGROWING SEASON	26	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	35	15	0	
HIGH FLOW	18	12	0	

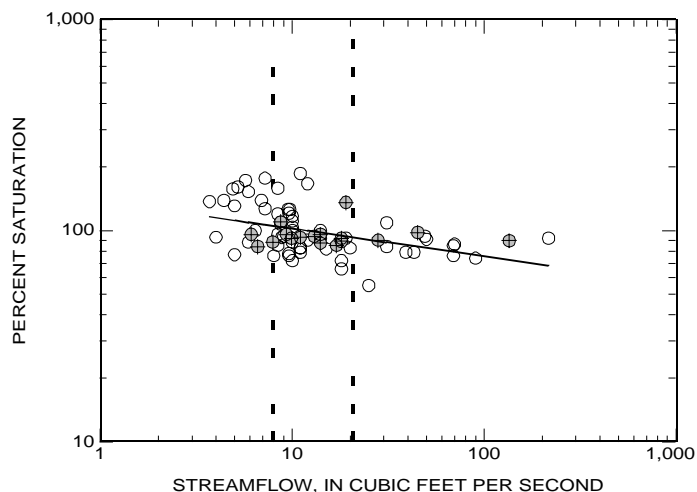


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

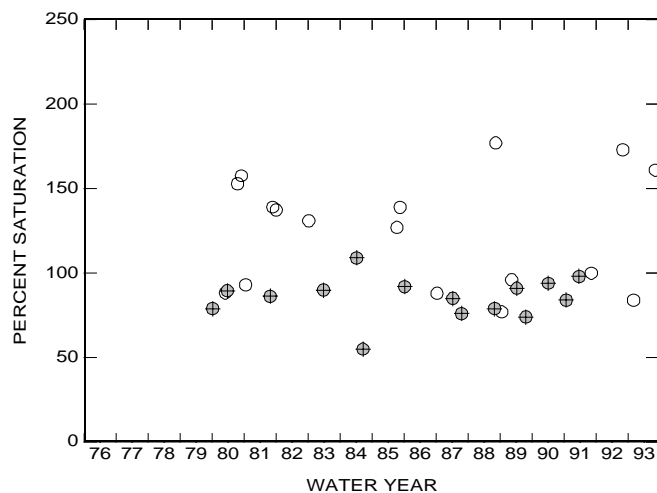
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	77	-0.13	2.14
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	60	ND	ND
NONGROWING SEASON	17	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	17	10	ND
HIGH FLOW	15	10	ND

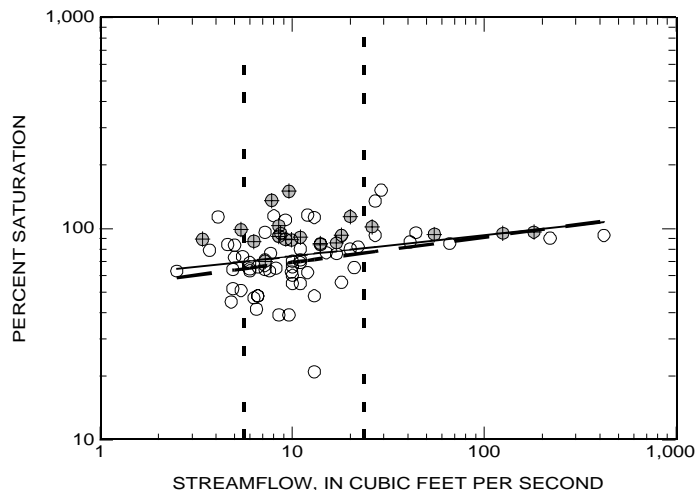


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

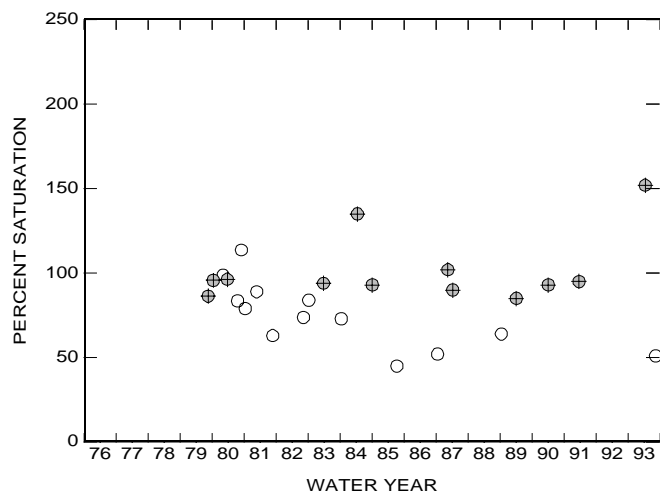
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	81	0.1	1.77
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	60	0.12	1.72
NONGROWING SEASON	21	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
— —	75 PERCENT	— —	25 PERCENT



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	13	9	ND
HIGH FLOW	12	10	ND

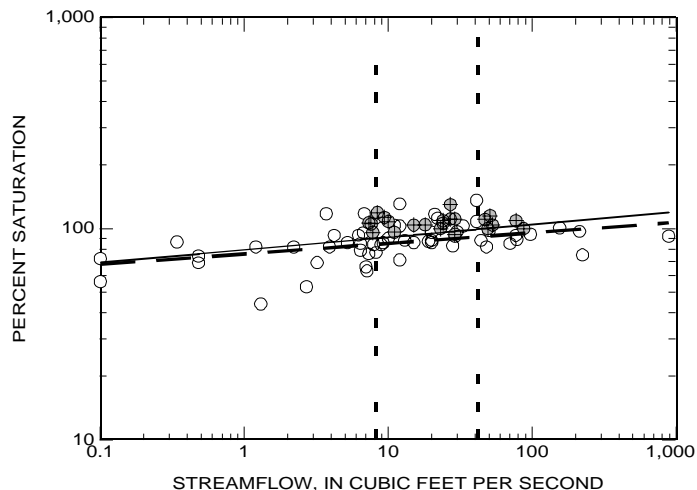


APPENDIX 9. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FRACTION OF DISSOLVED OXYGEN AT SATURATION  
01395000 RAHWAY RIVER AT RAHWAY, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

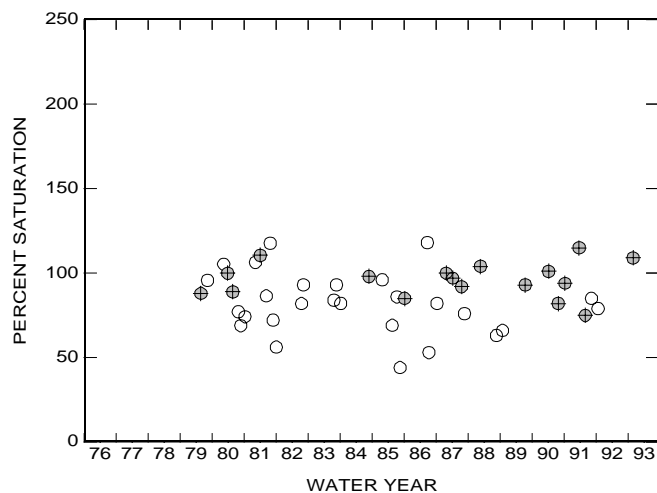
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	79	0.06	1.9	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	57	0.05	1.88	
NONGROWING SEASON	22	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	27	13	ND	
HIGH FLOW	17	11	ND	



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# Appendix 10

## Total phosphorus

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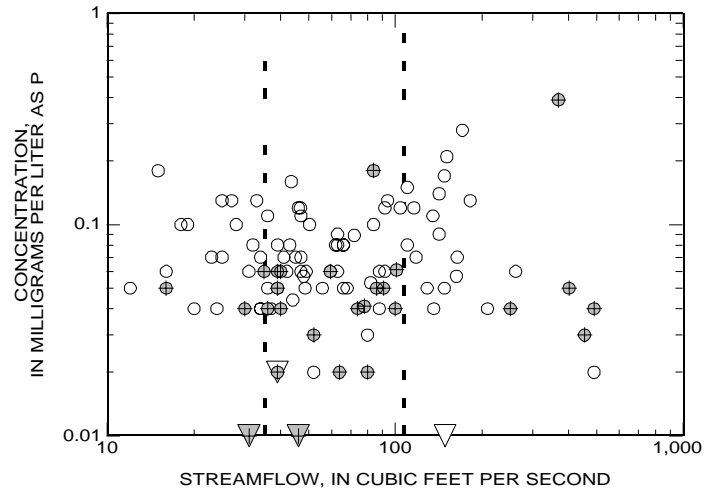
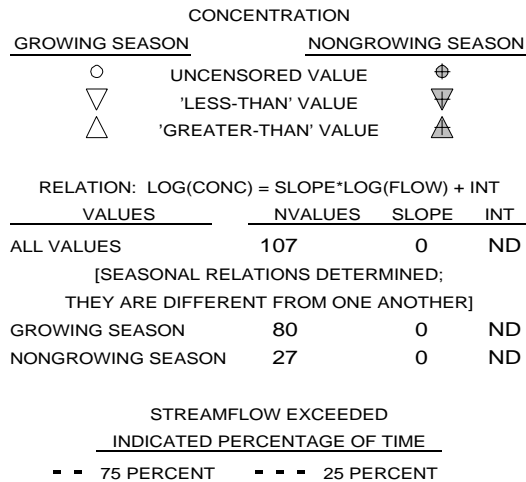
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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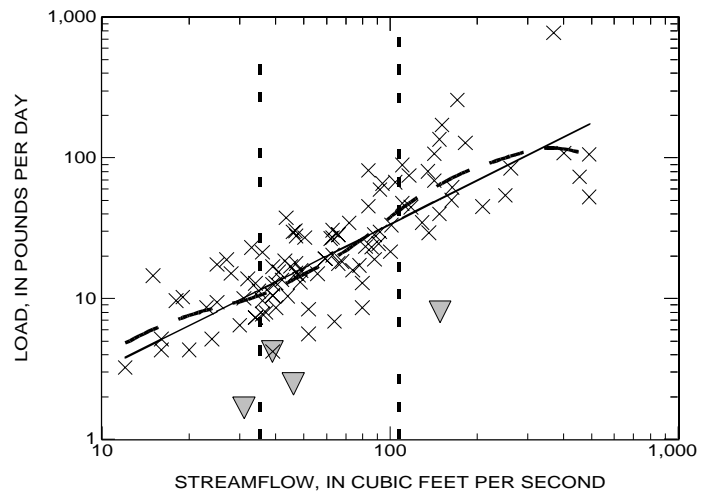
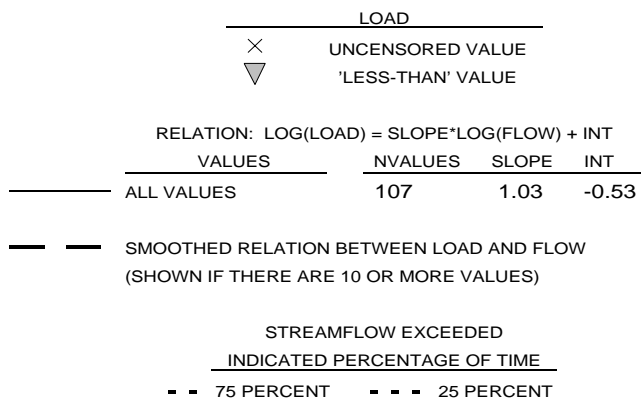
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

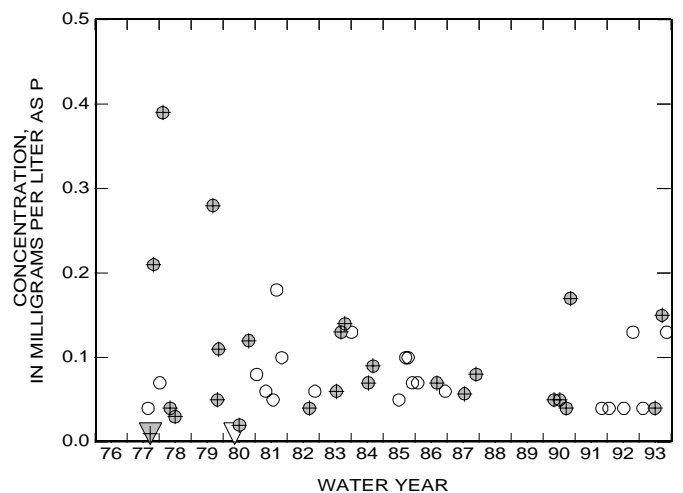
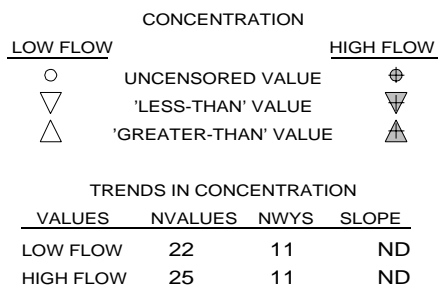
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



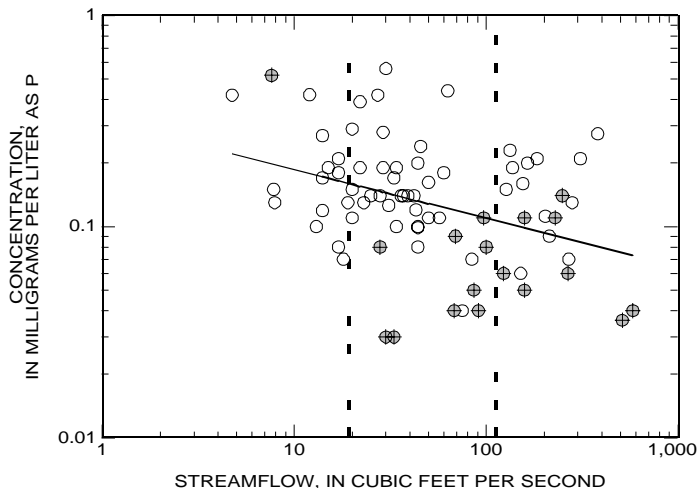
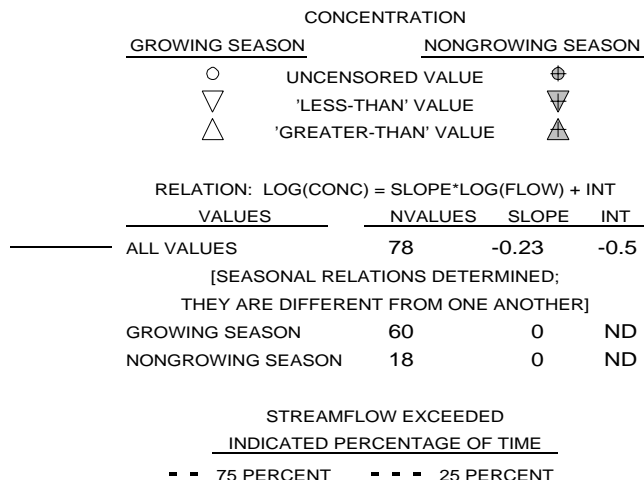
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



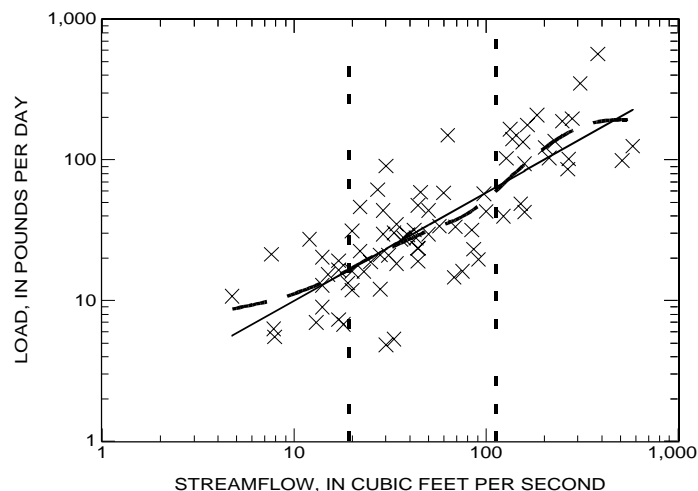
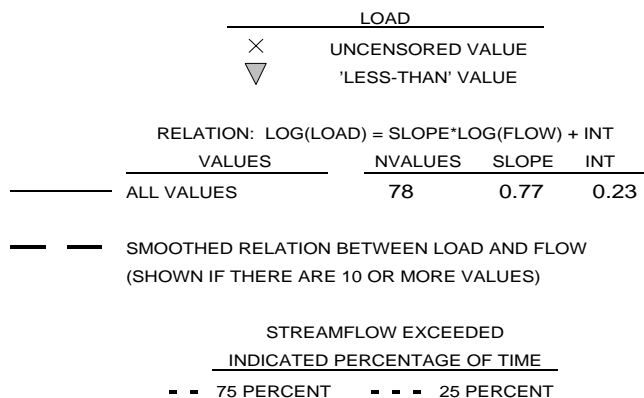
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

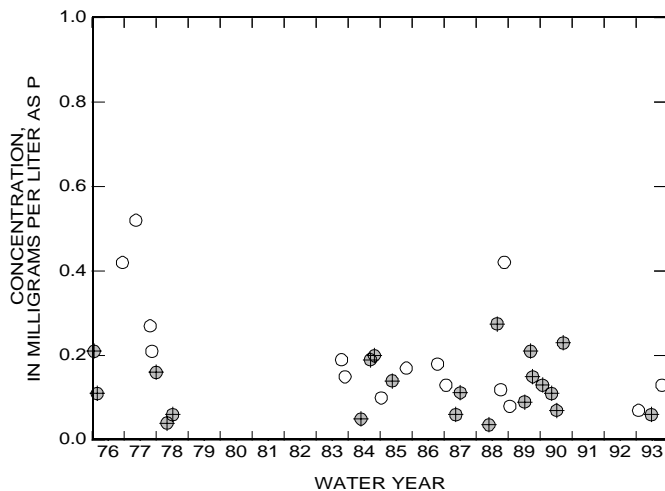
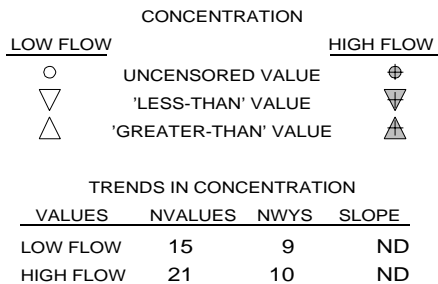
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



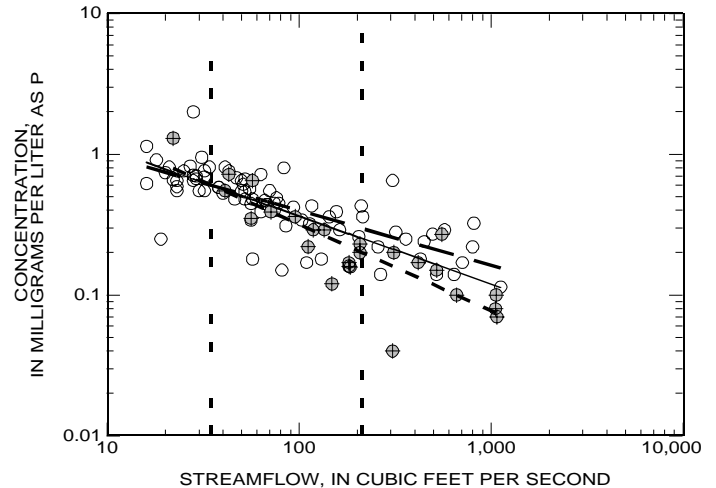
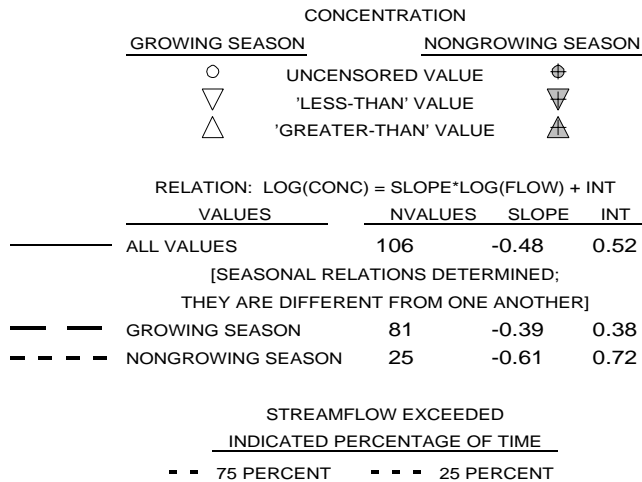
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



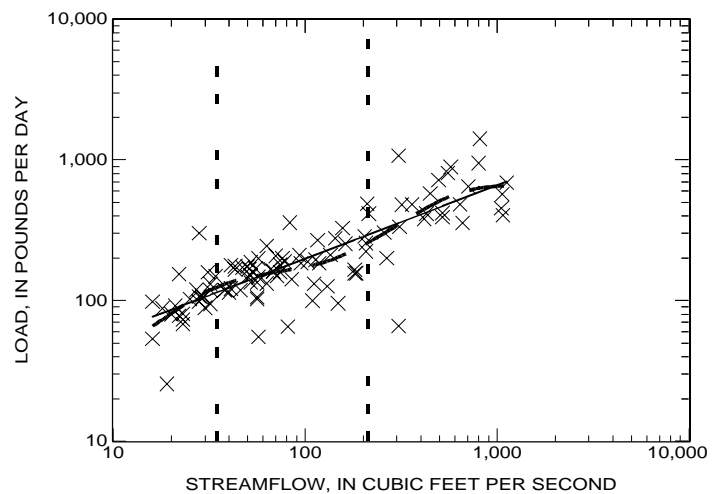
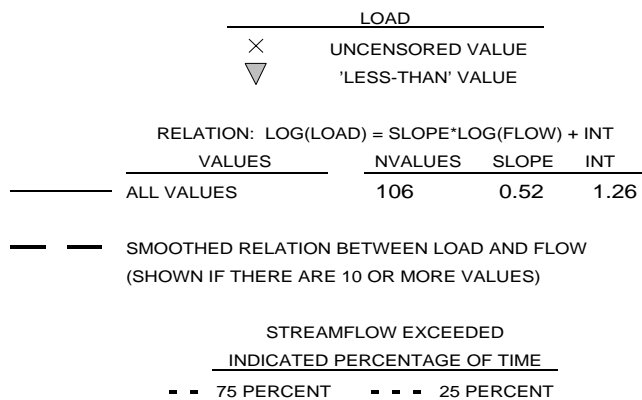
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

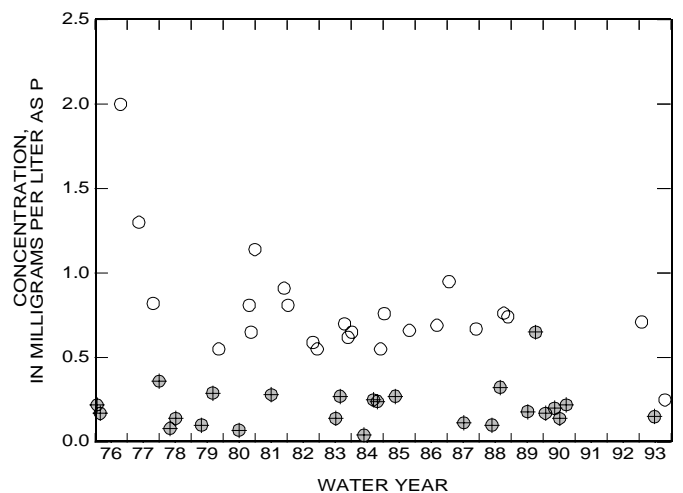
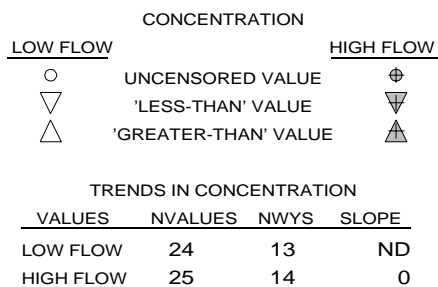
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

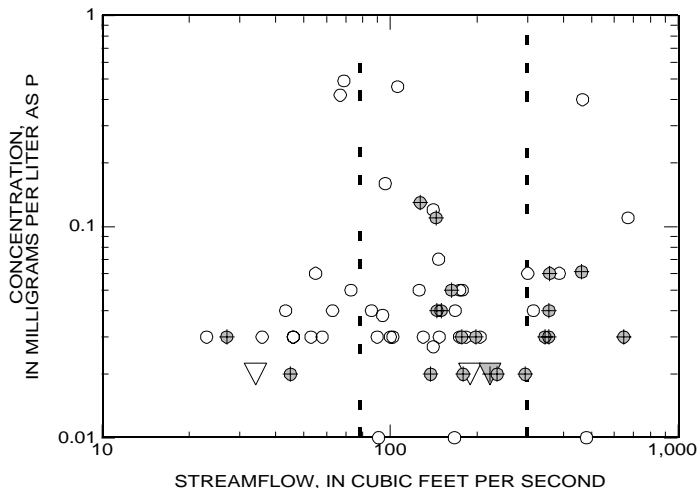
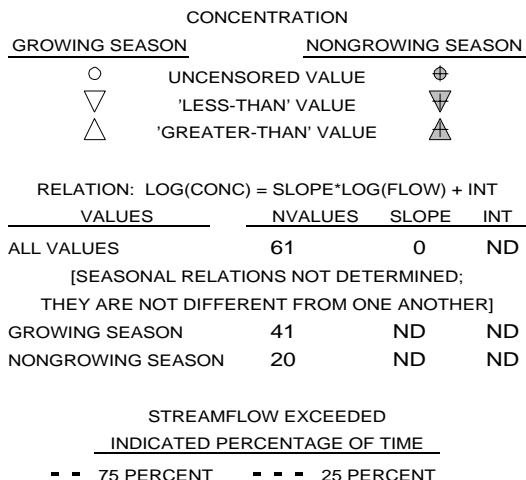




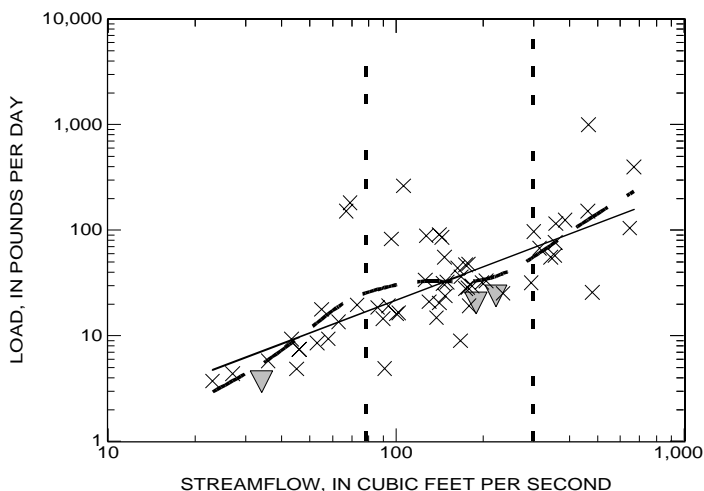
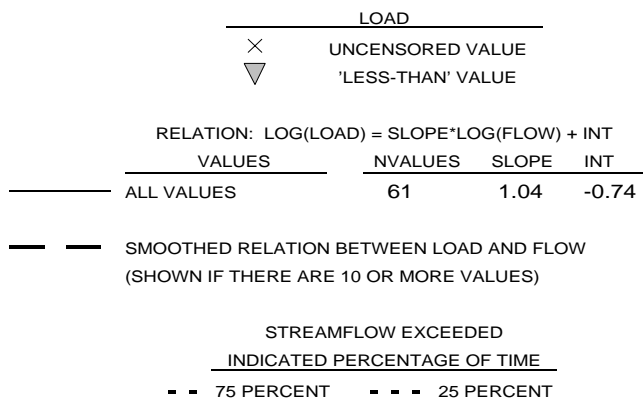
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

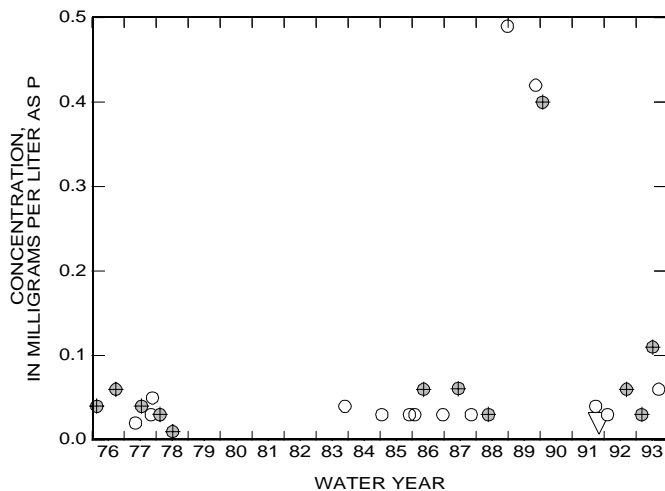
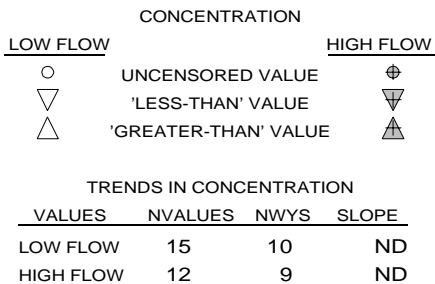
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



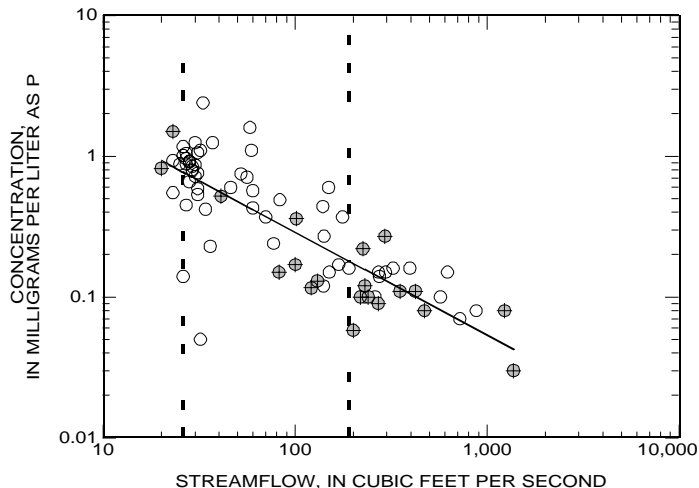
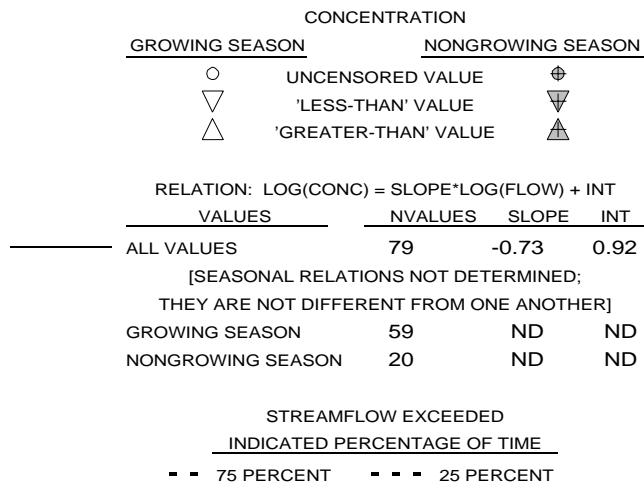
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



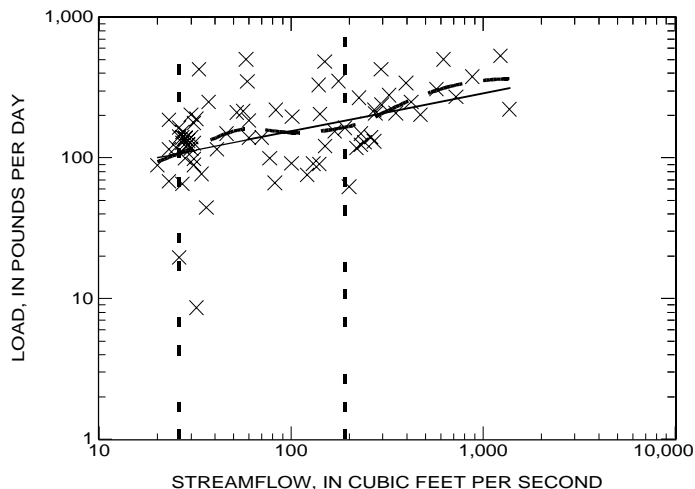
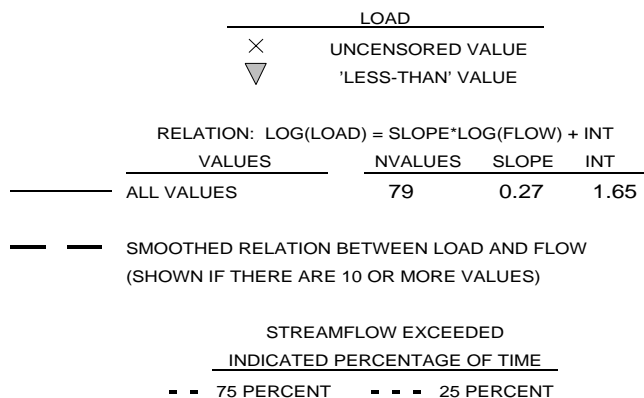
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

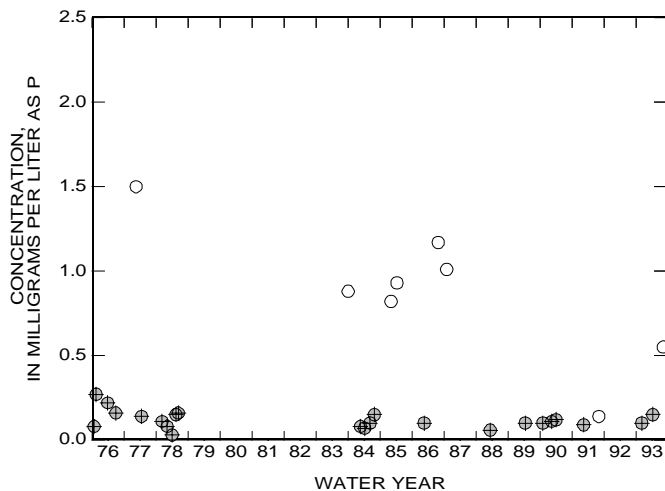
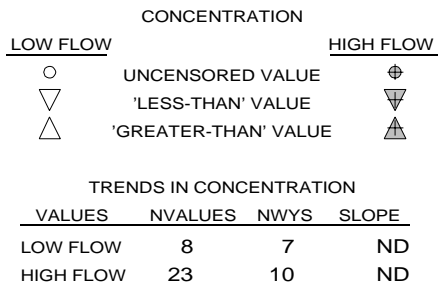
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



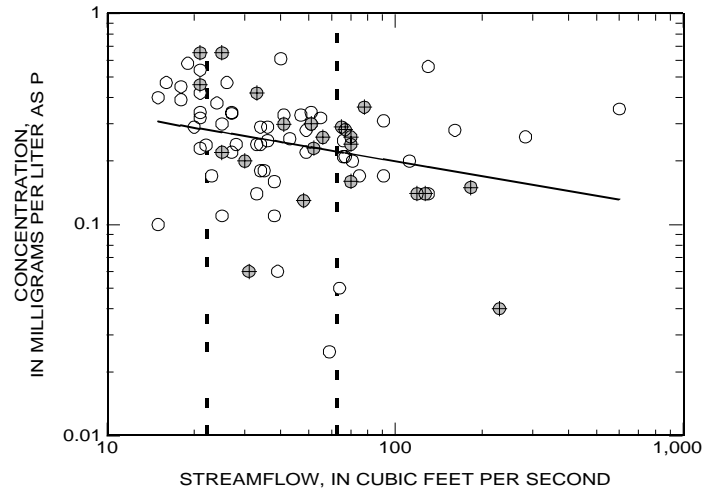
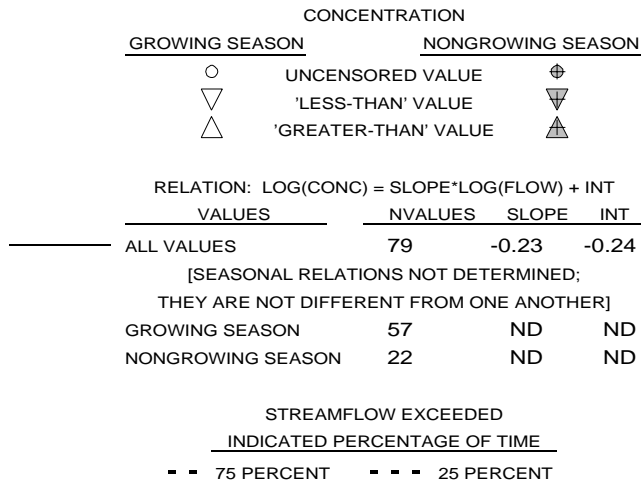
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



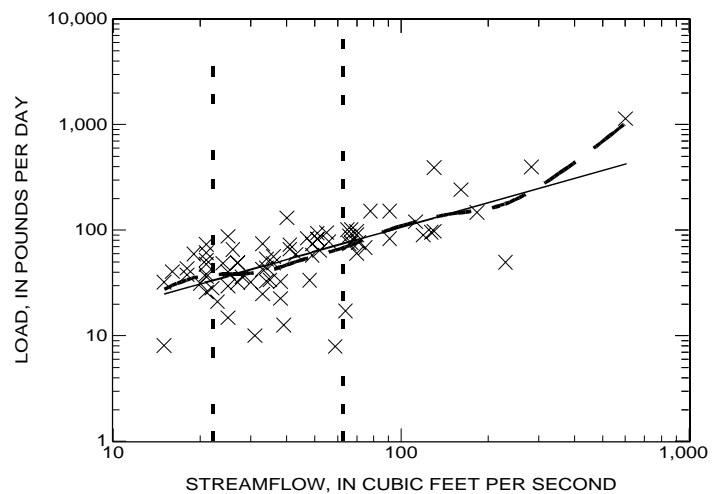
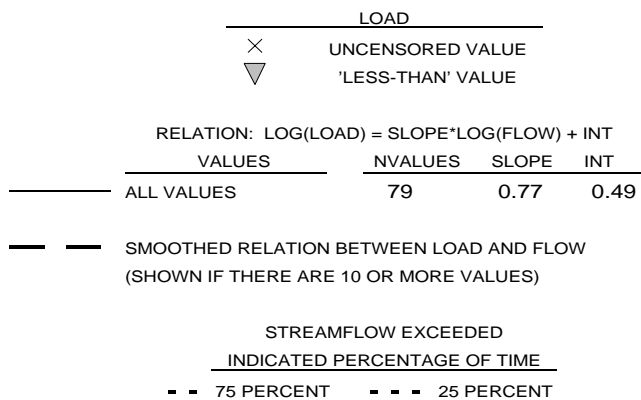
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

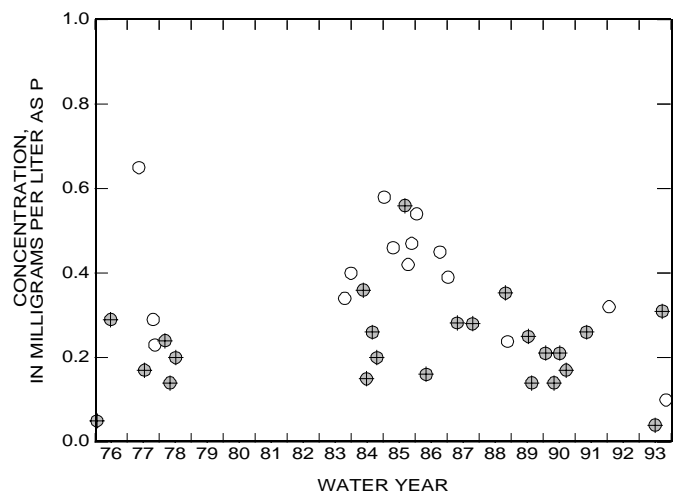
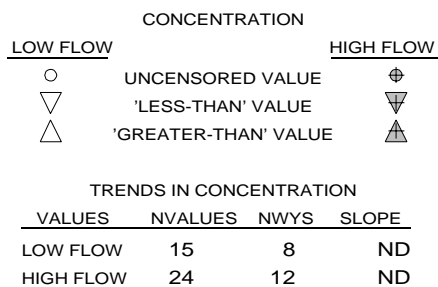
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



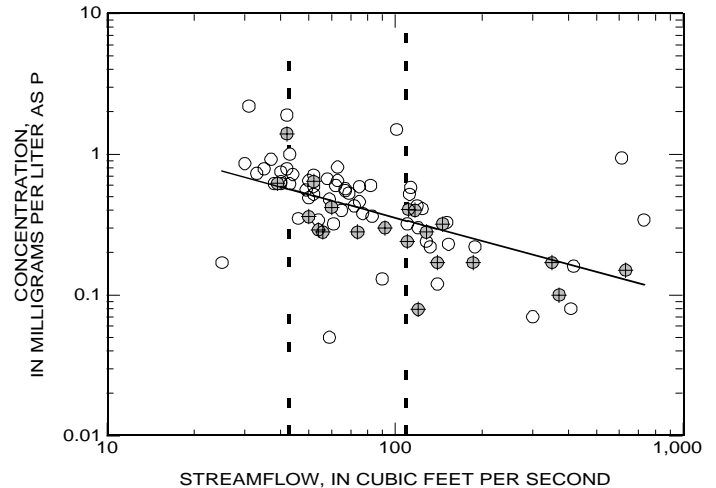
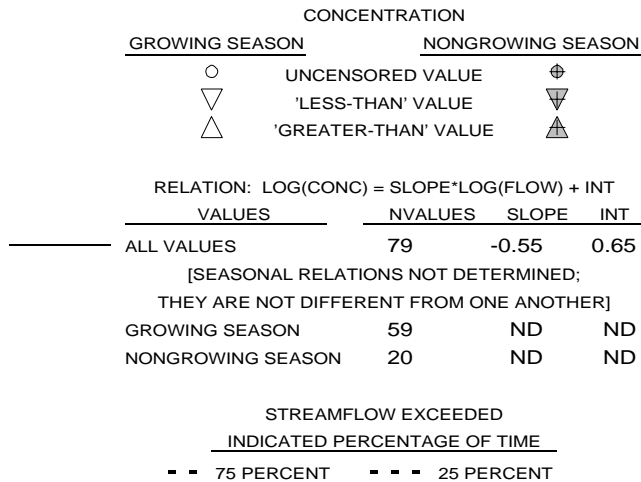
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



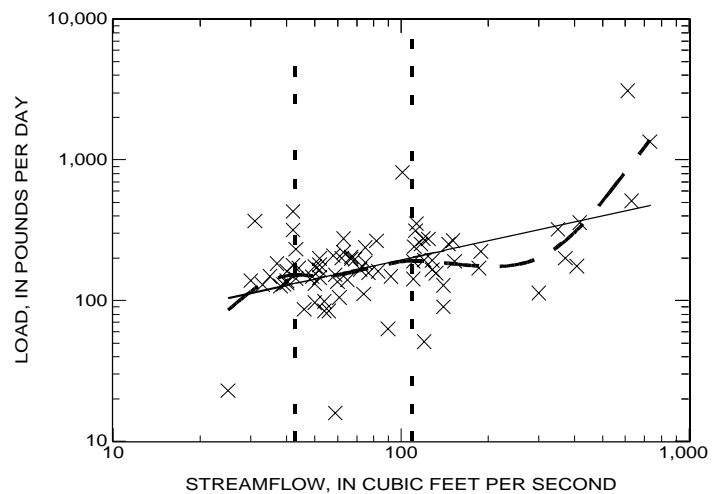
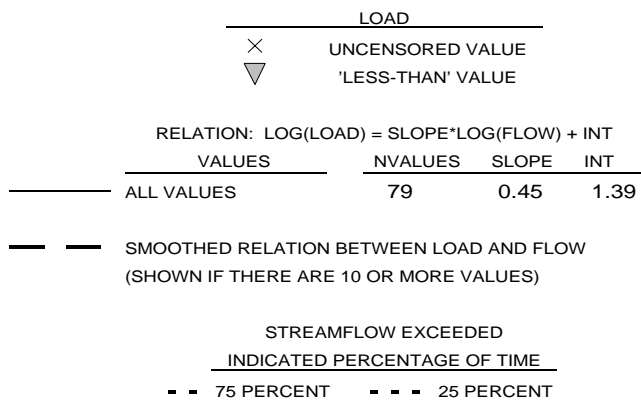
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

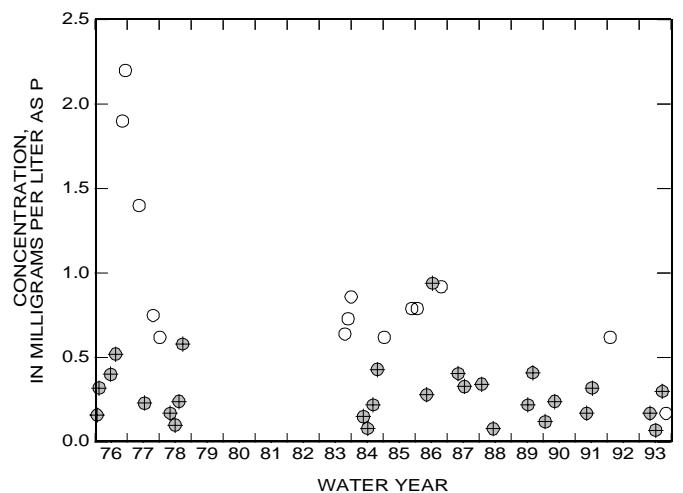
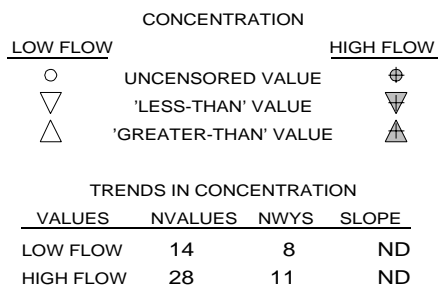
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



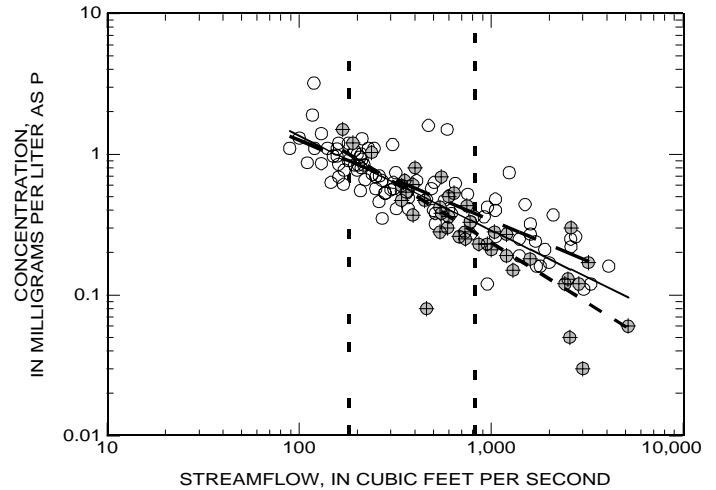
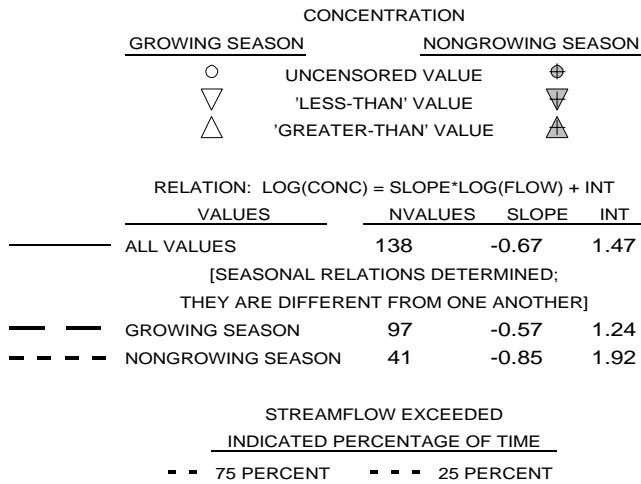
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



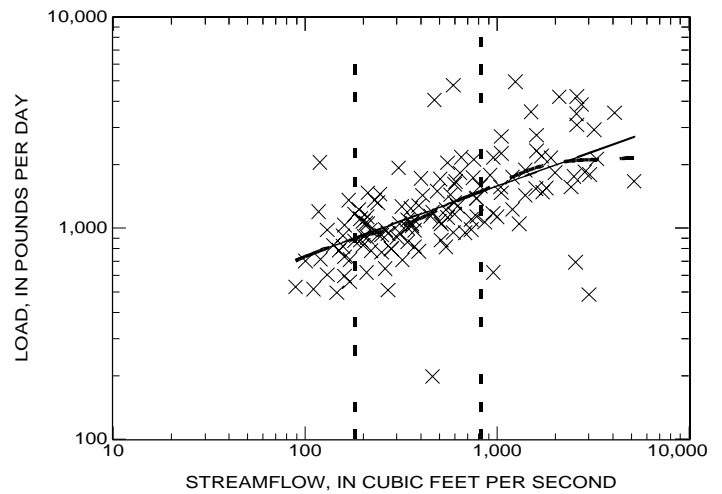
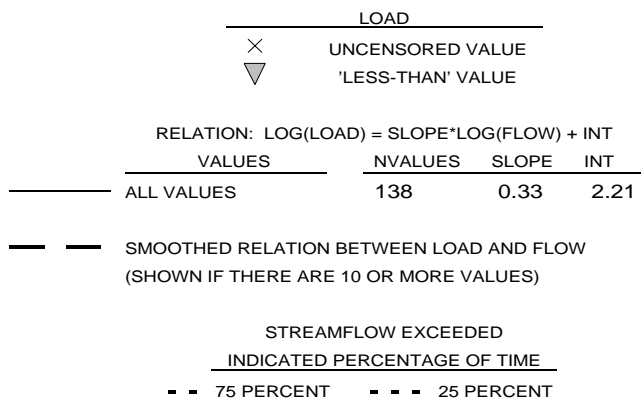
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

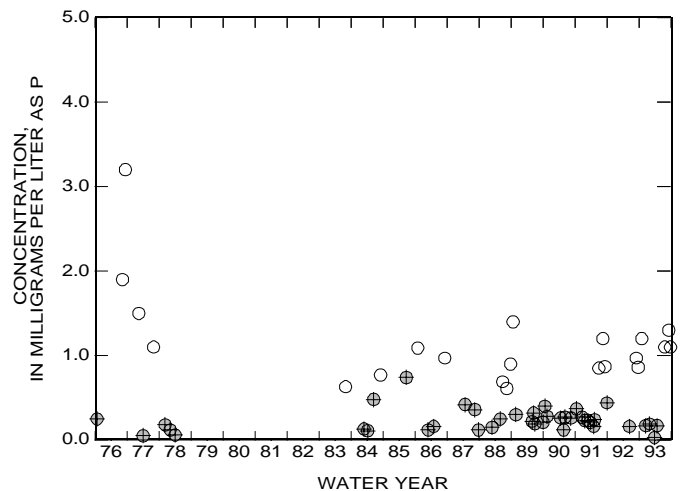
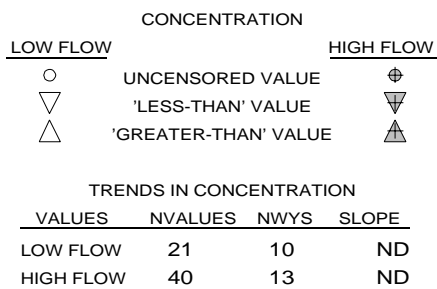
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



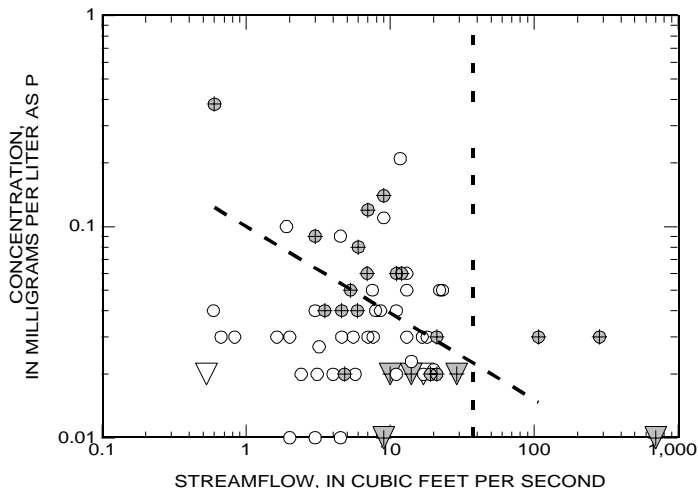
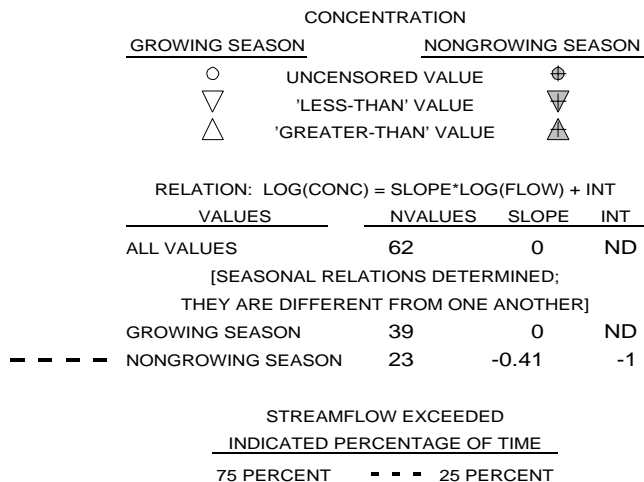
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



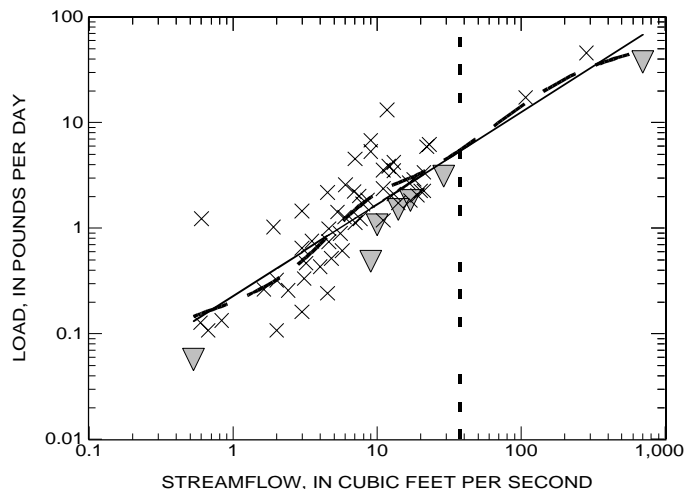
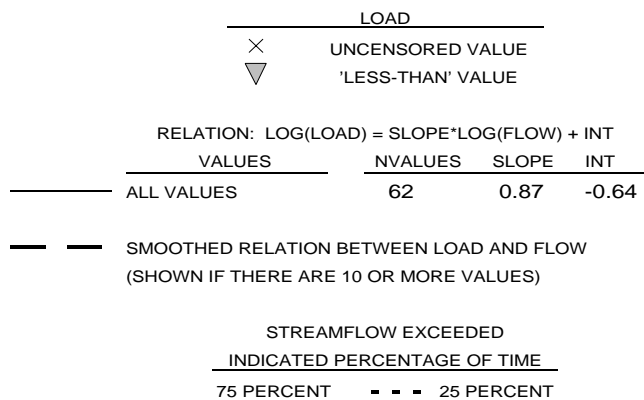
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

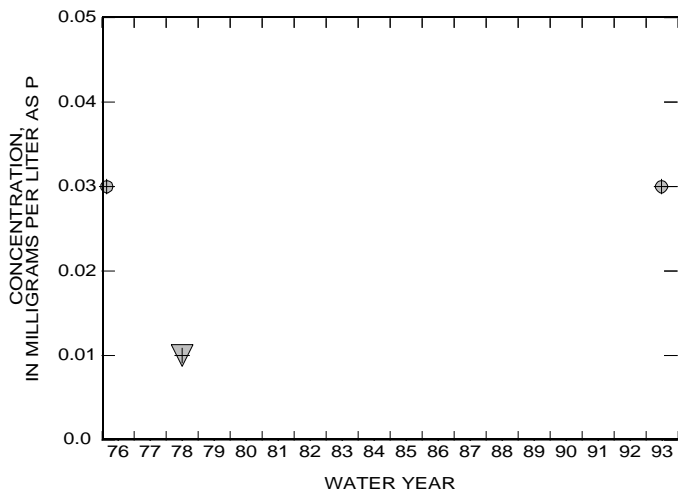
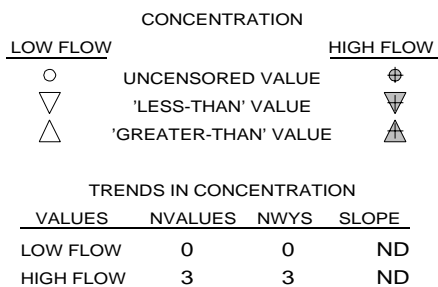
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



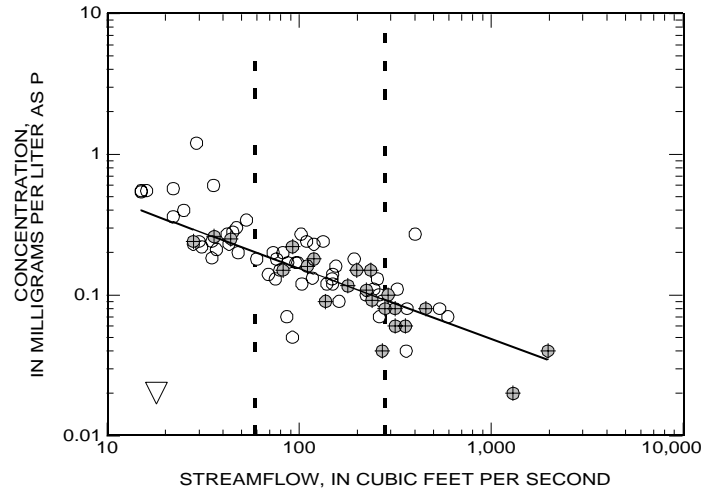
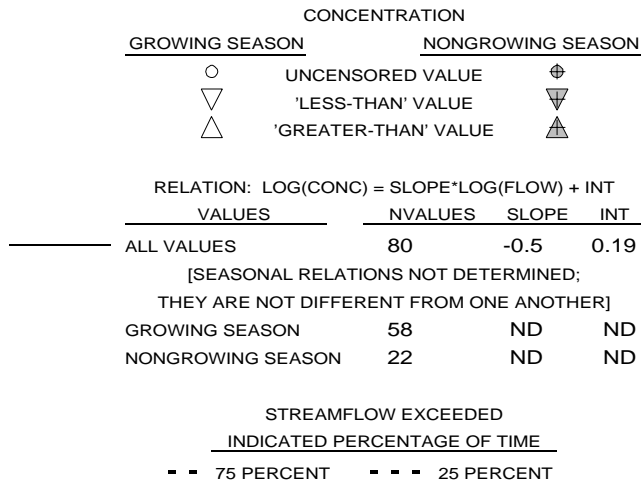
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



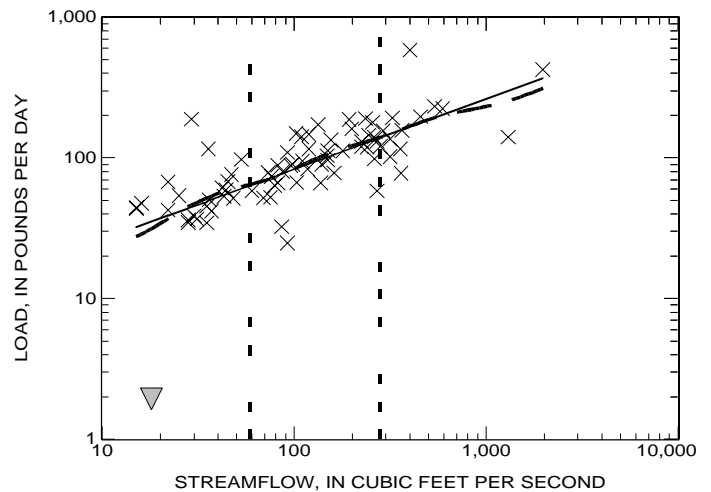
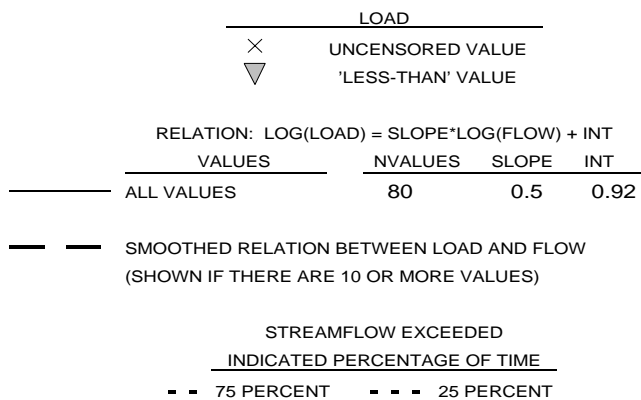
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

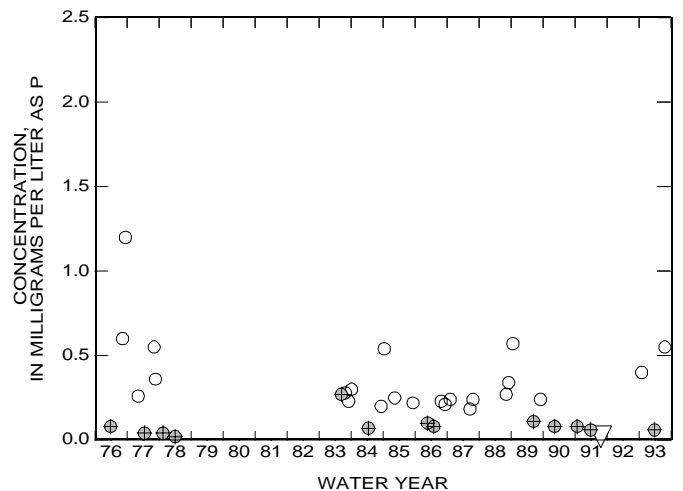
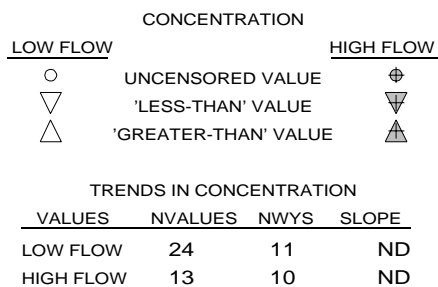
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



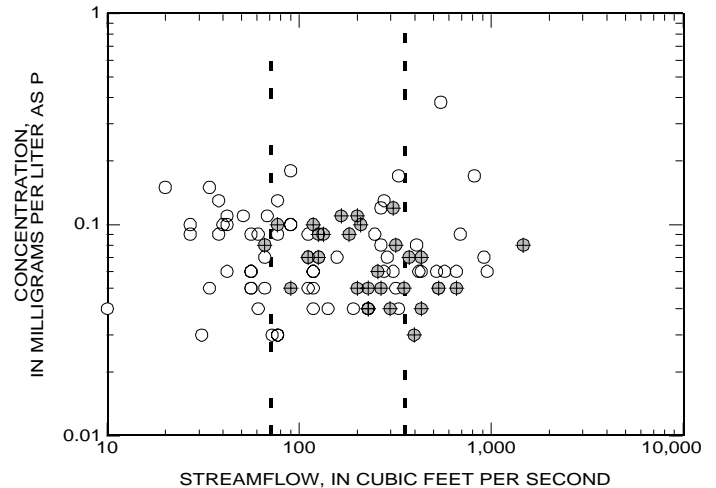
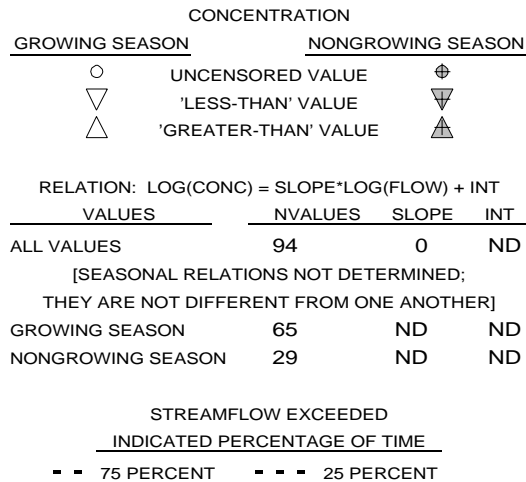
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



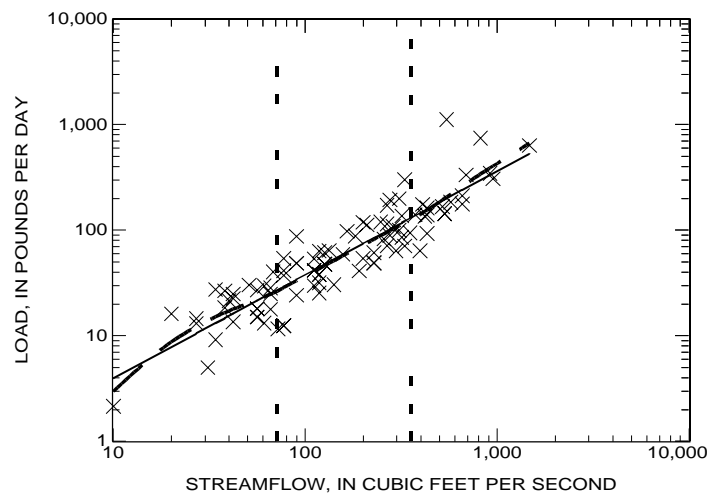
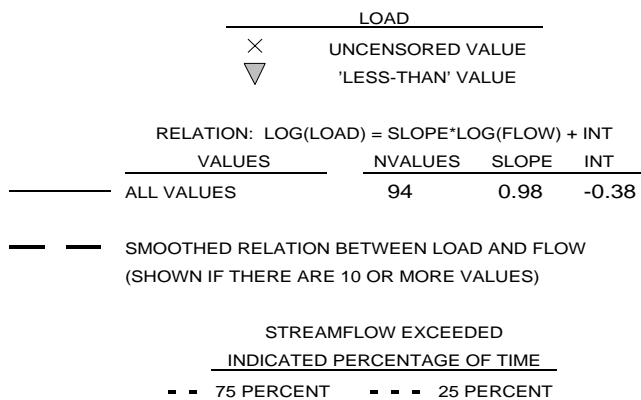
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

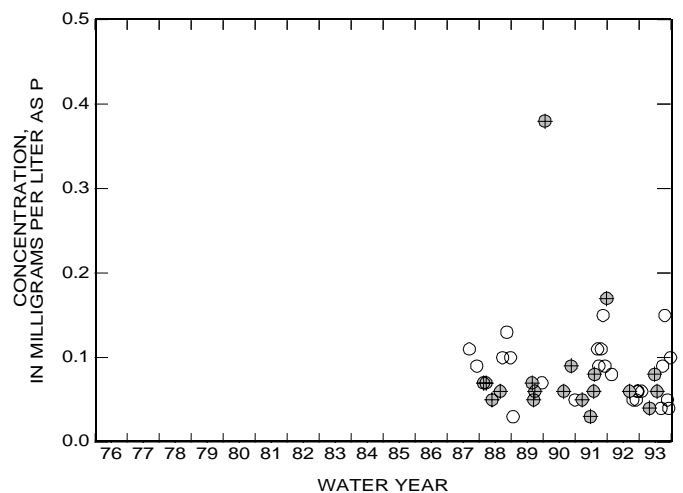
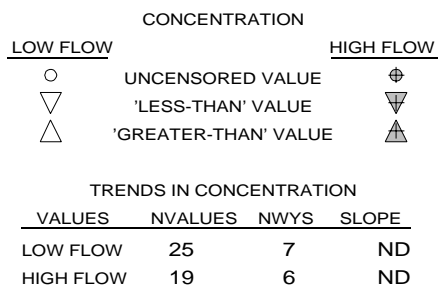
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

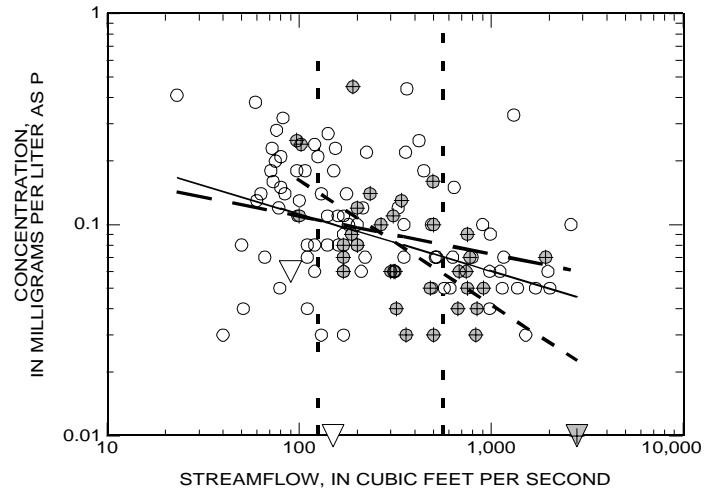
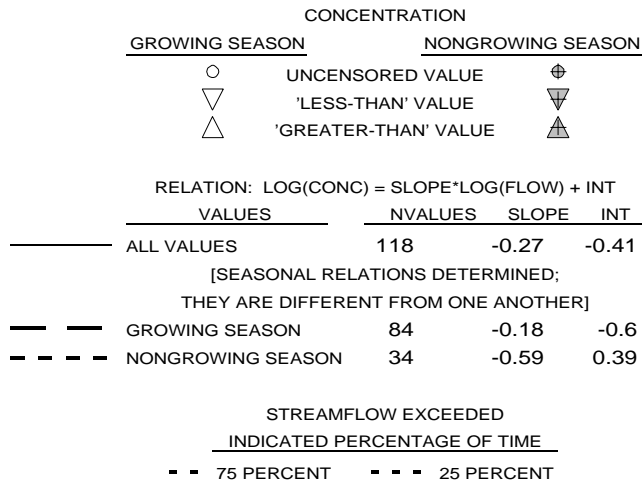




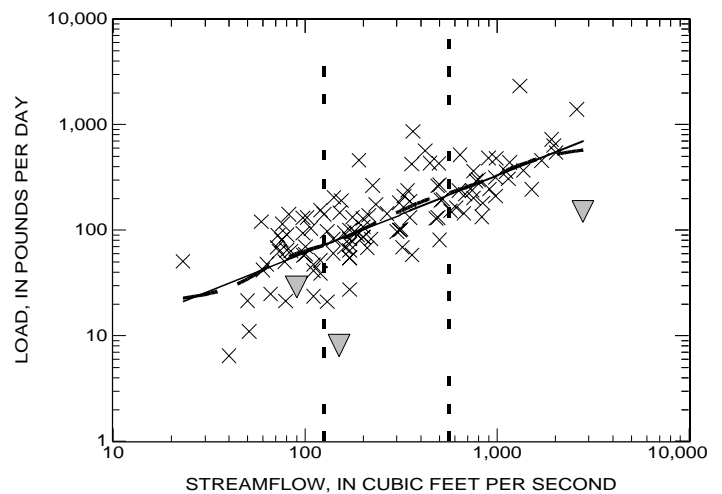
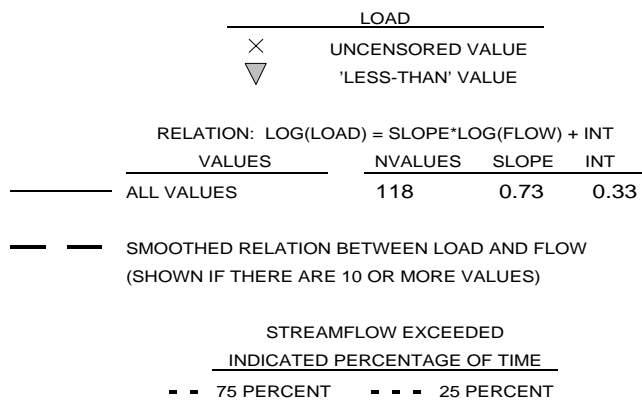
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

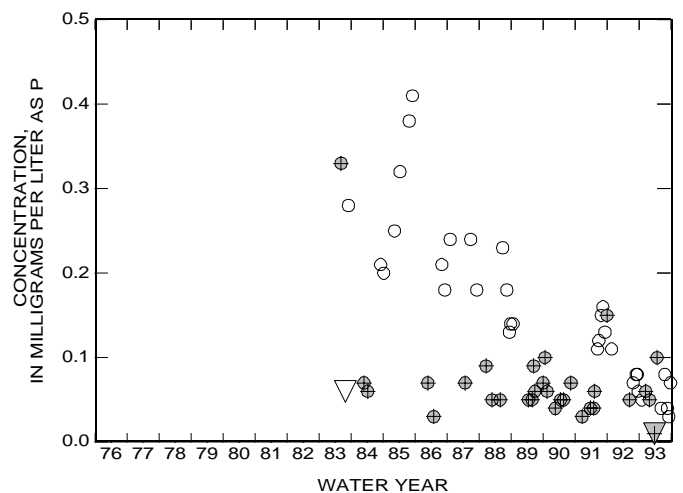
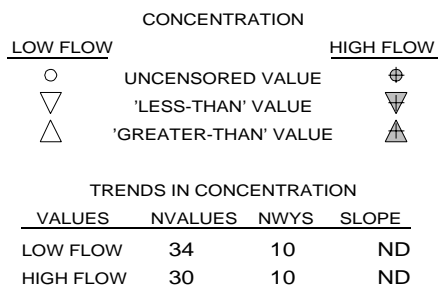
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



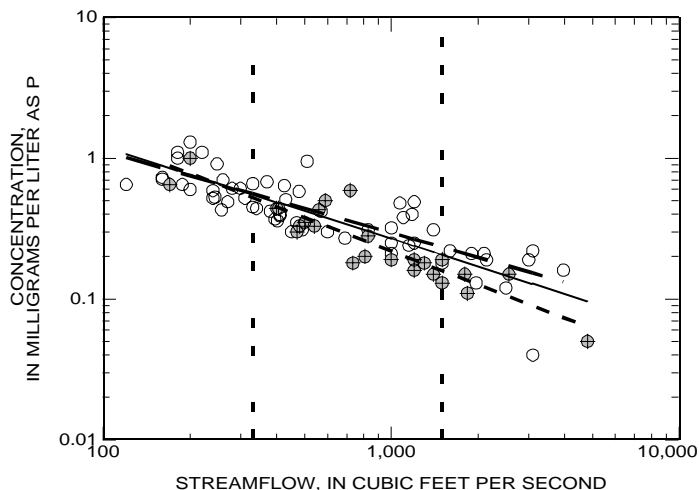
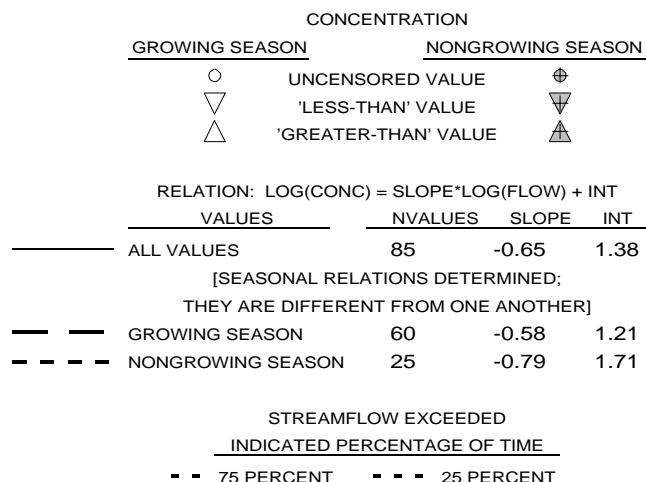
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



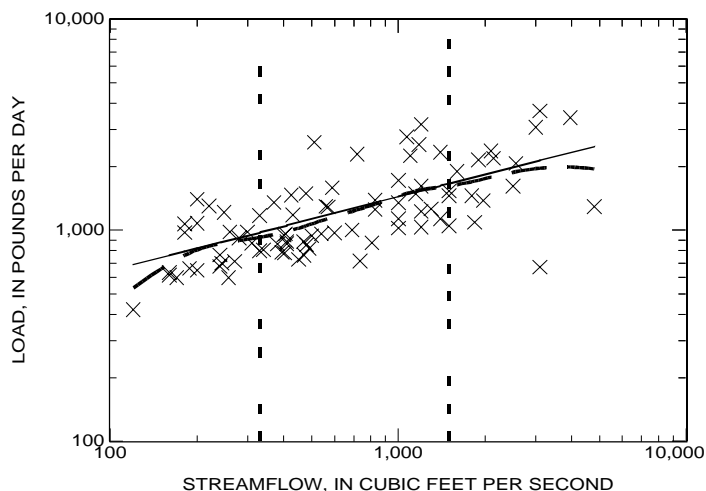
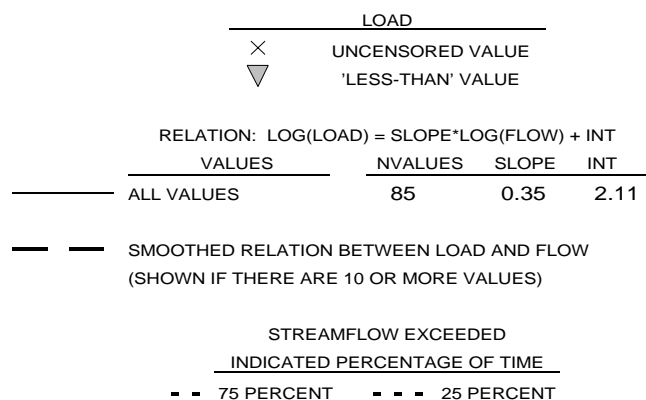
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

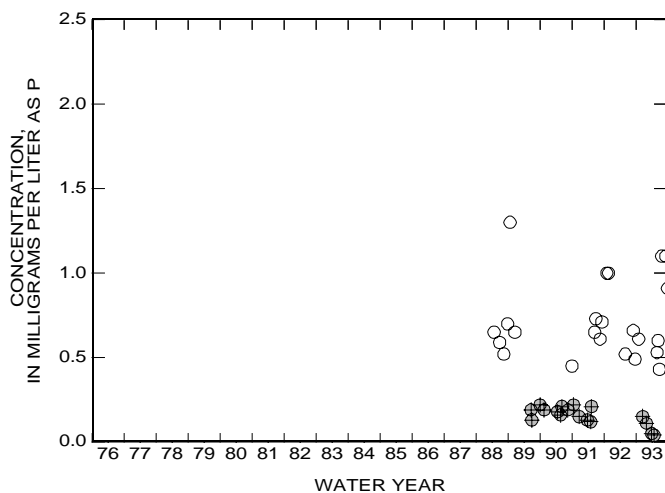
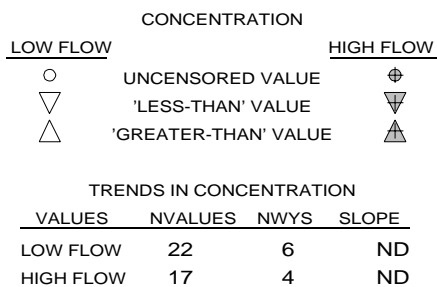
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



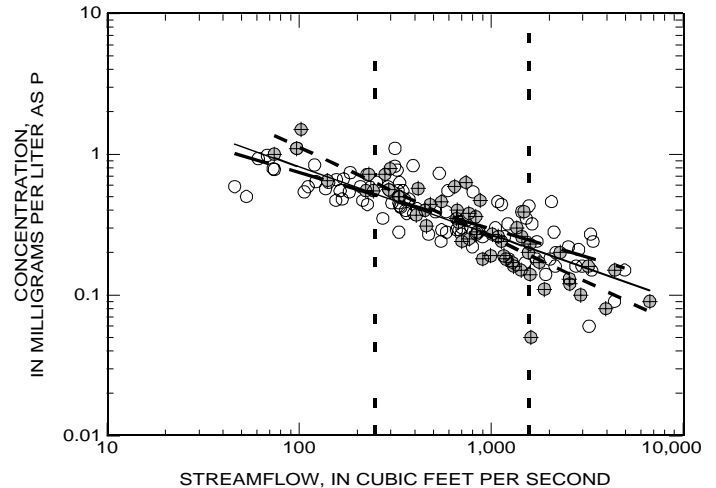
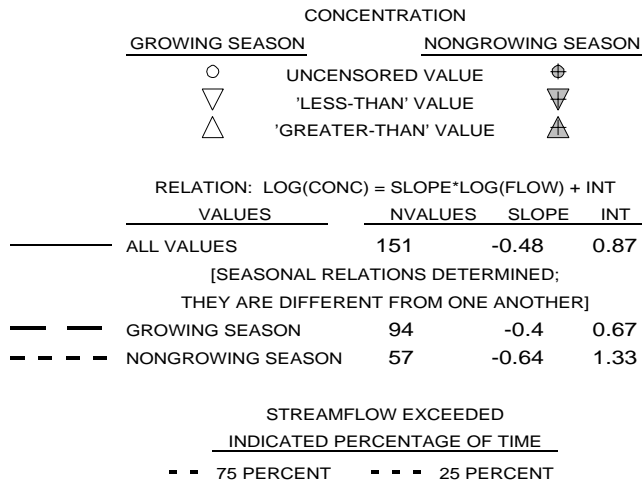
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



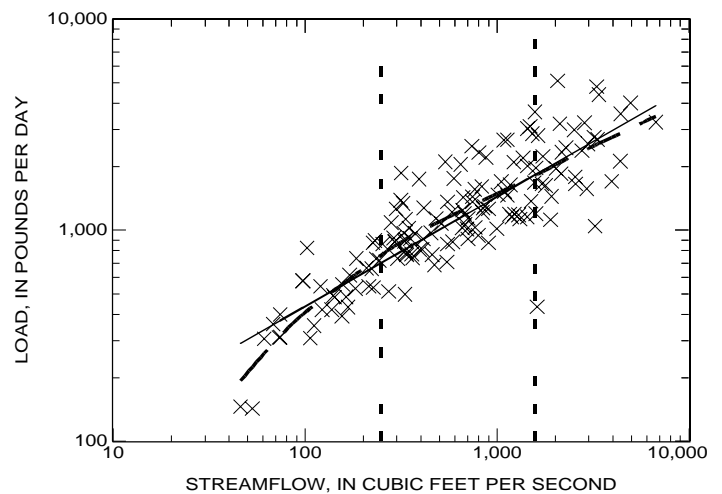
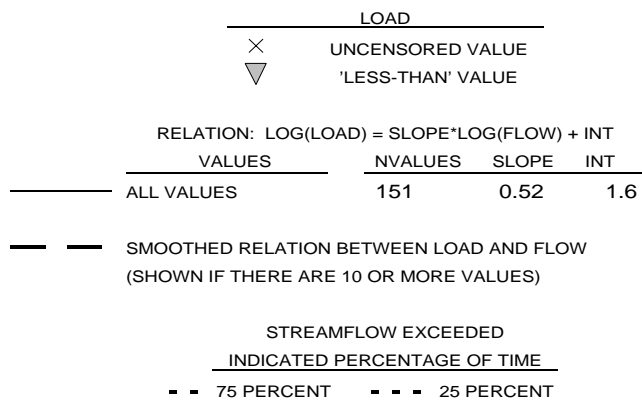
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

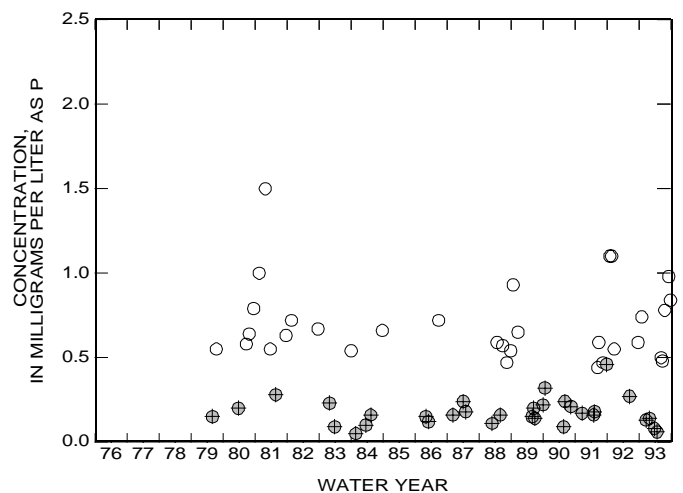
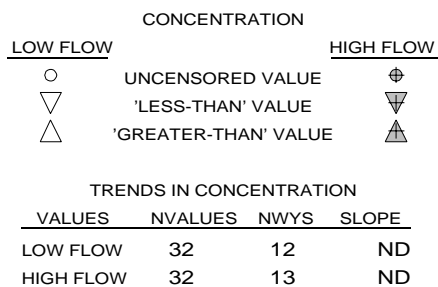
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



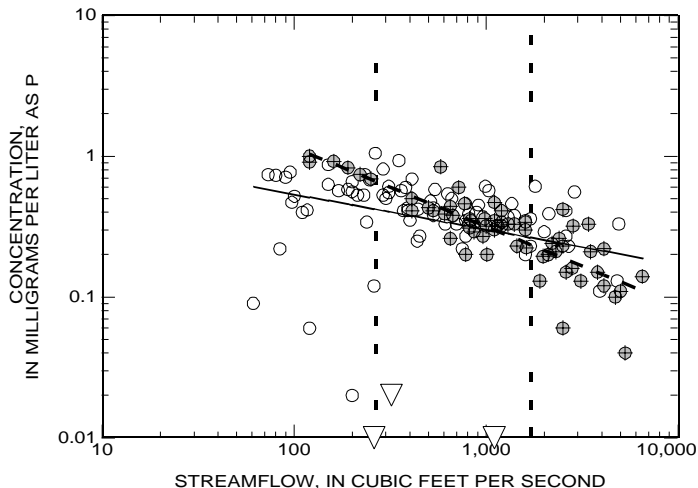
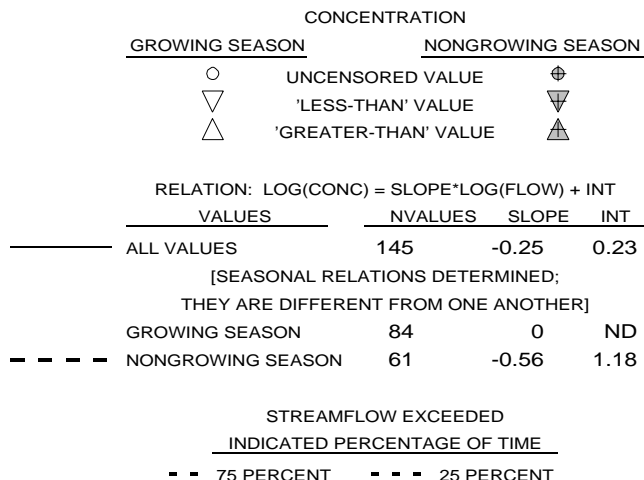
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



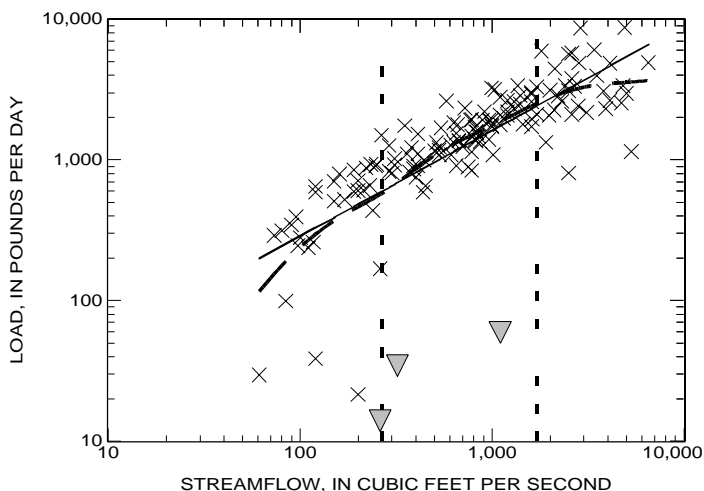
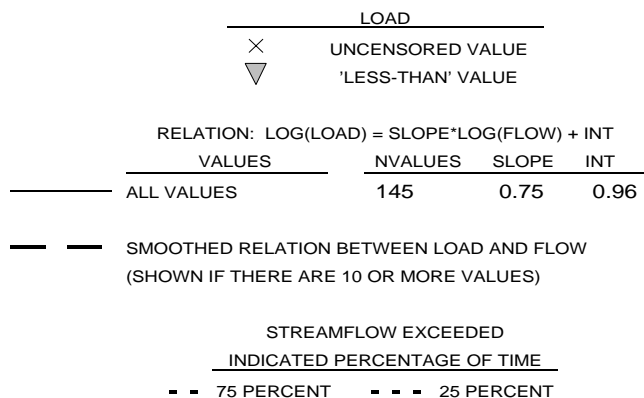
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

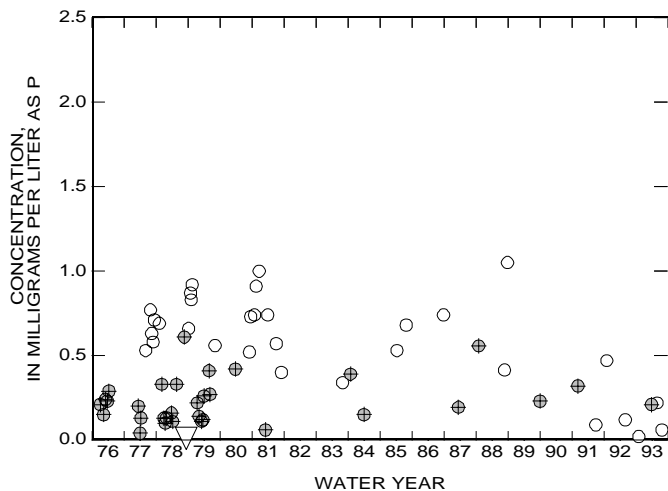
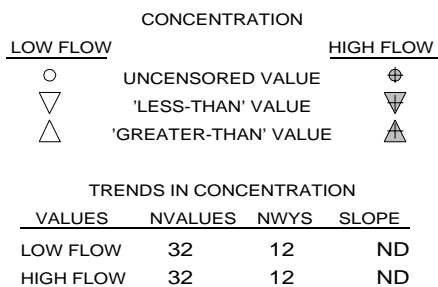
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



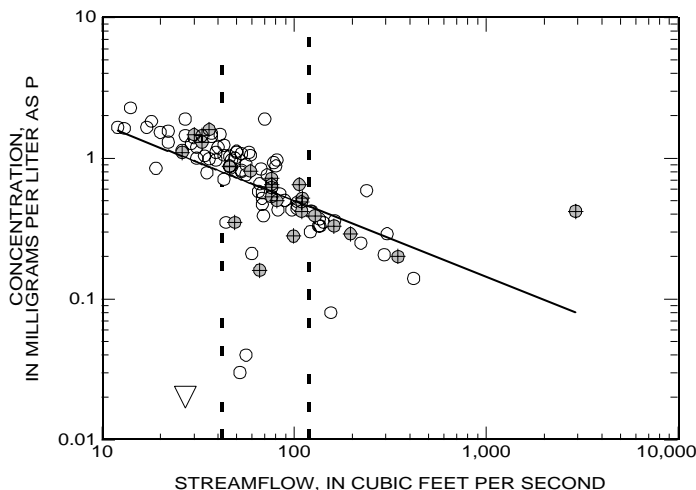
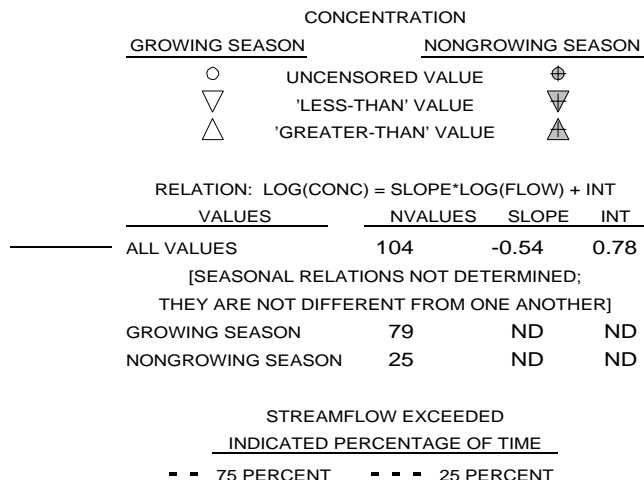
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



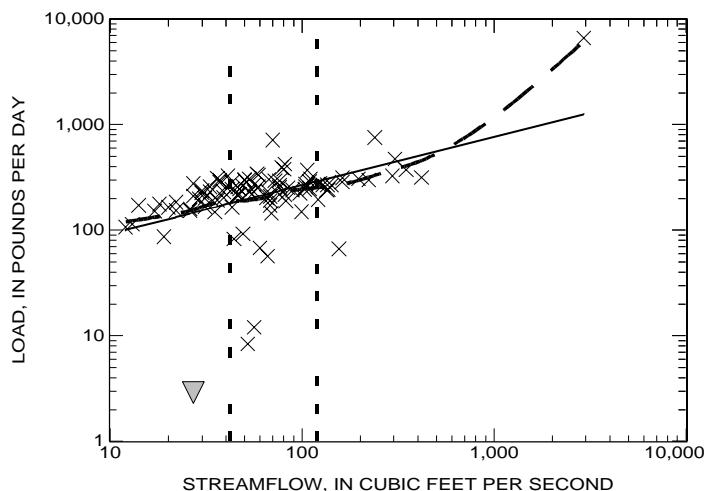
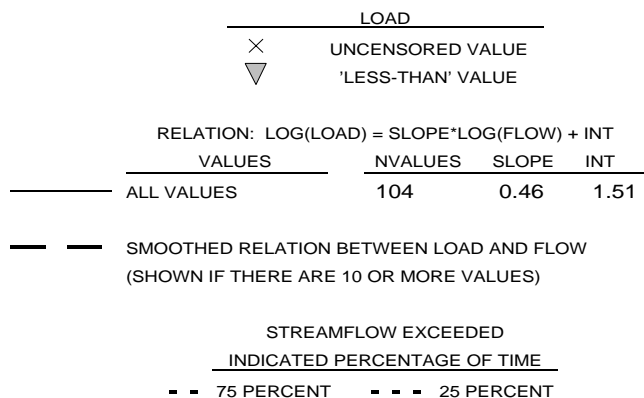
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

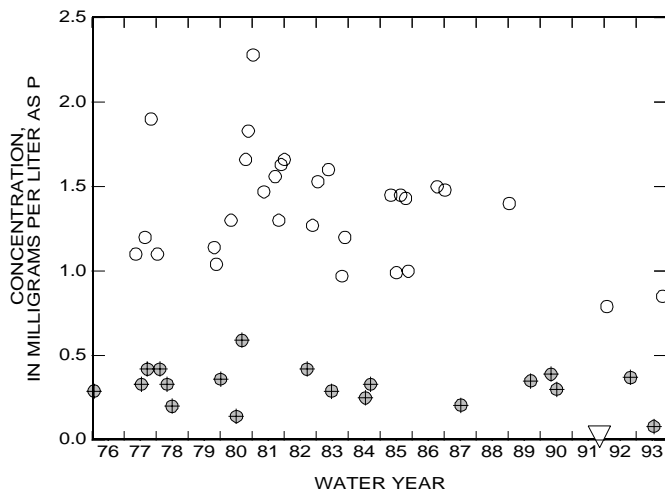
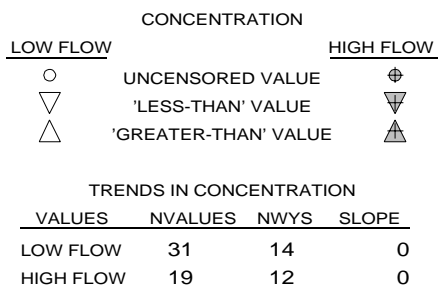
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



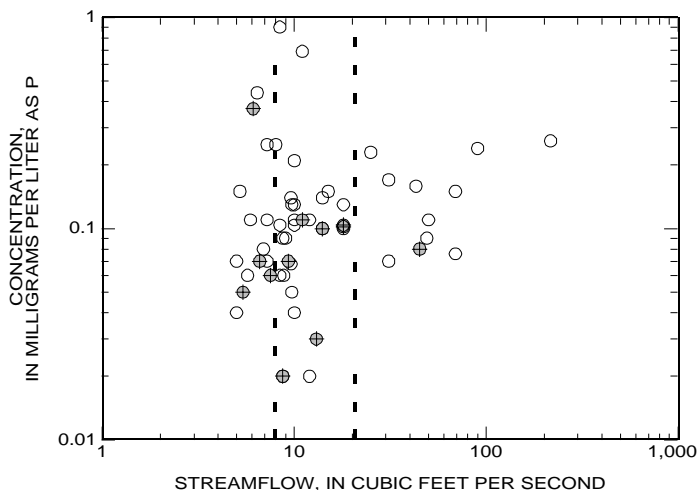
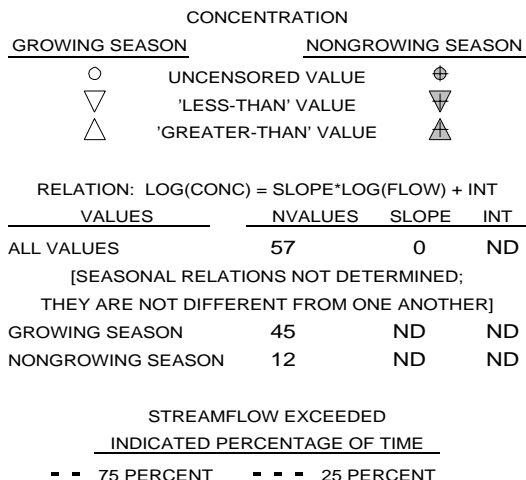
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



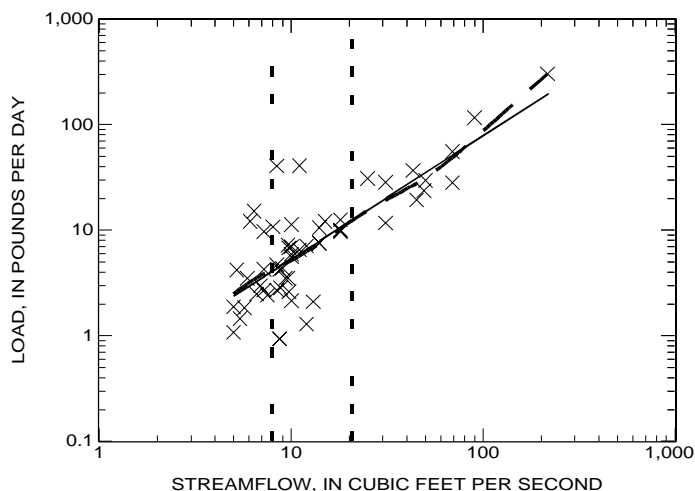
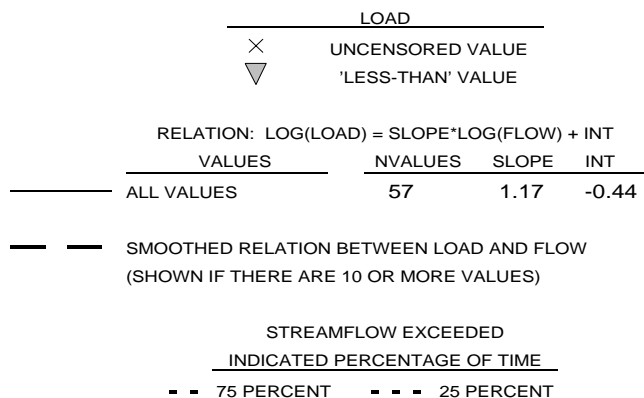
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

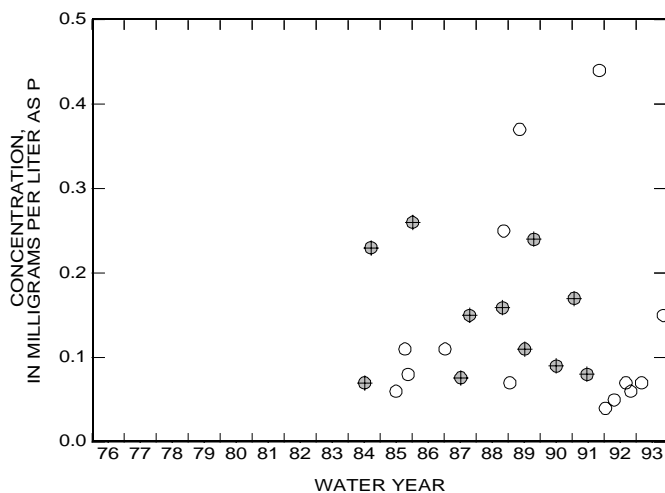
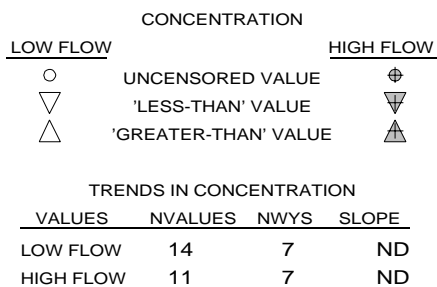
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



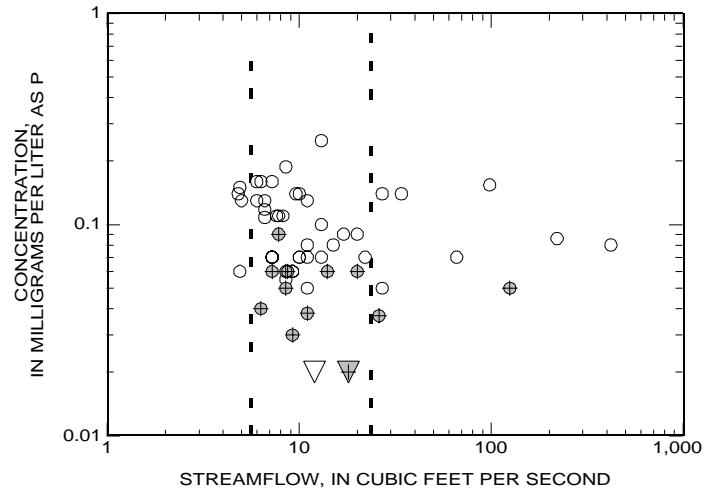
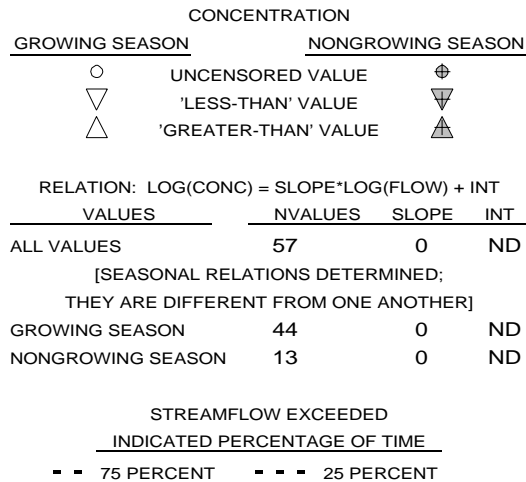
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



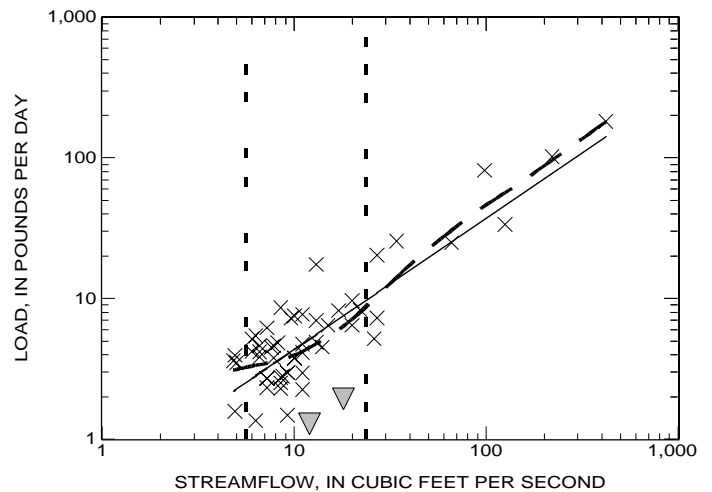
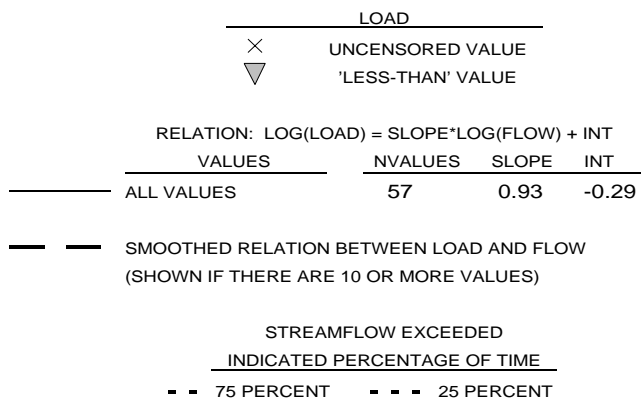
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

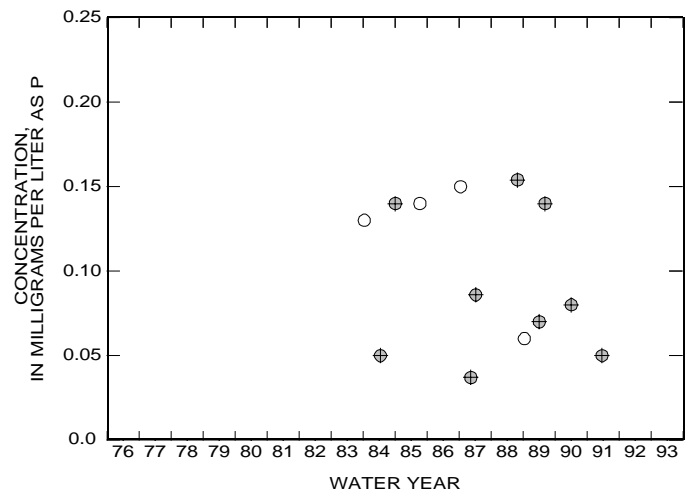
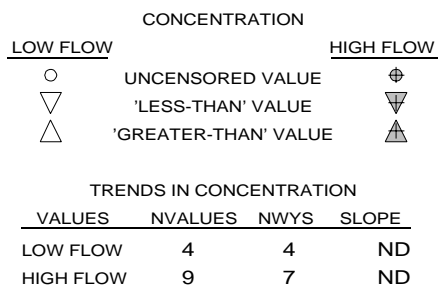
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



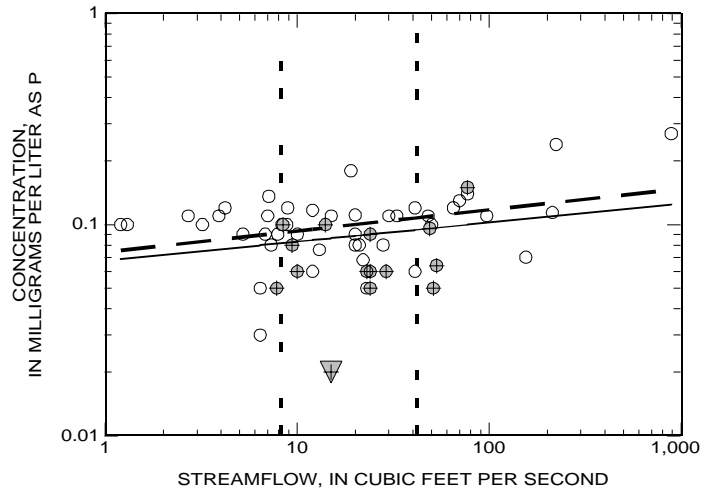
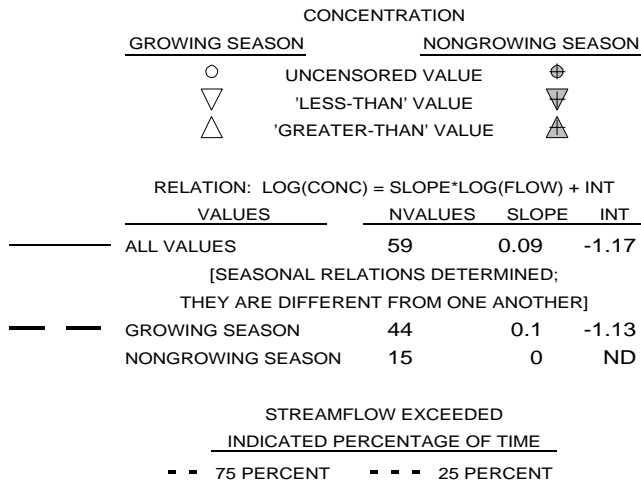
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



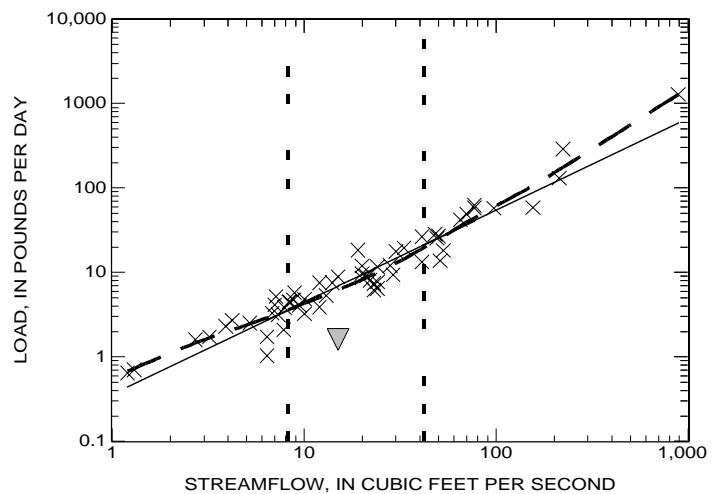
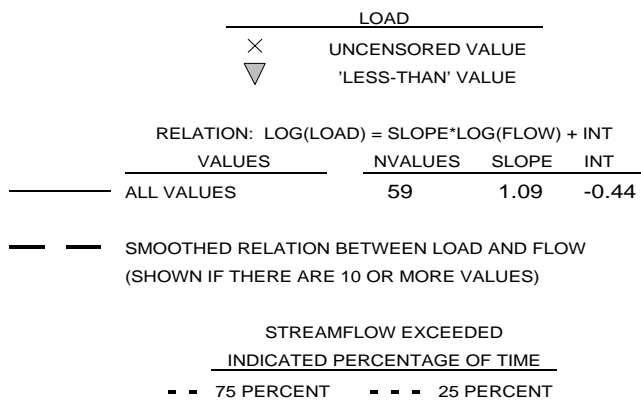
**APPENDIX 10. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL PHOSPHORUS**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

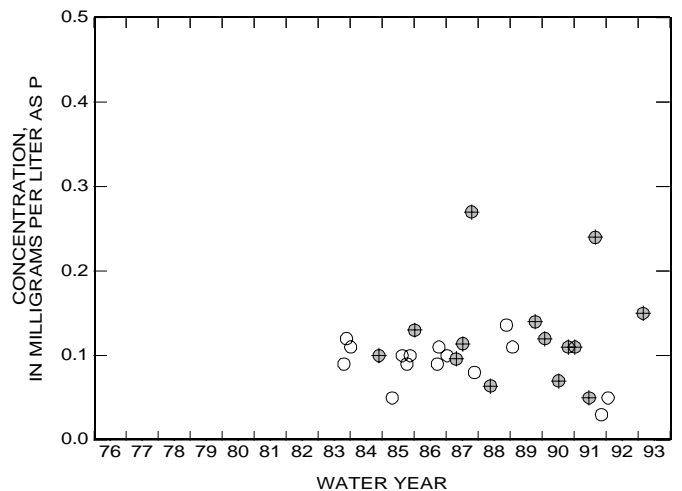
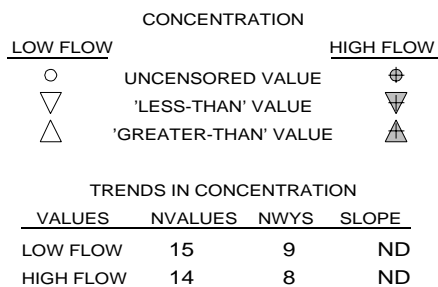
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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# Appendix 11

## Total nitrogen

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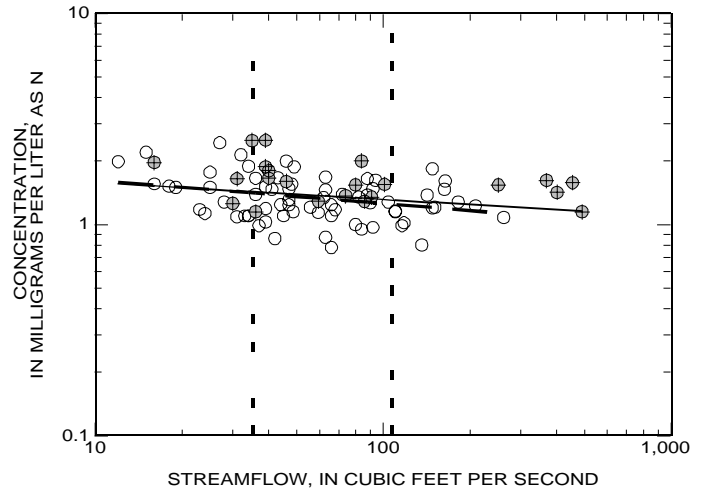
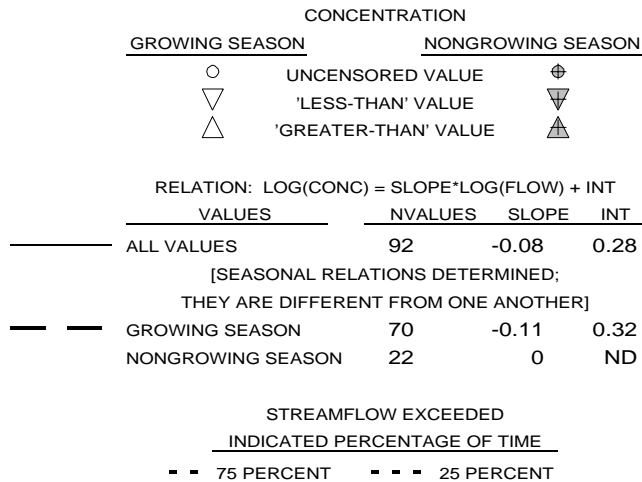
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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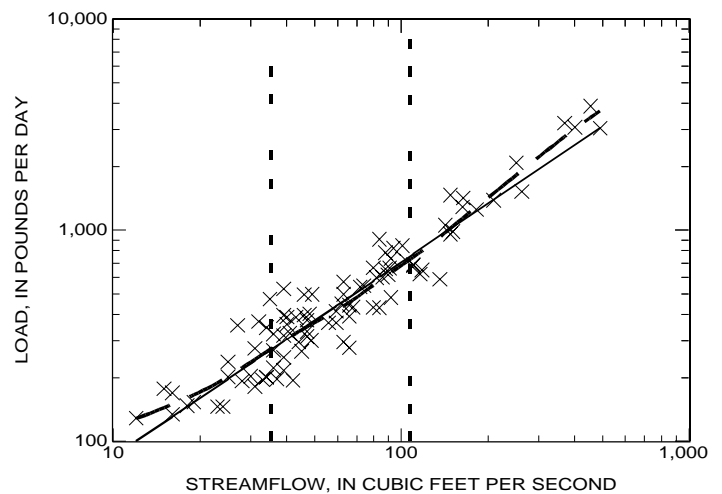
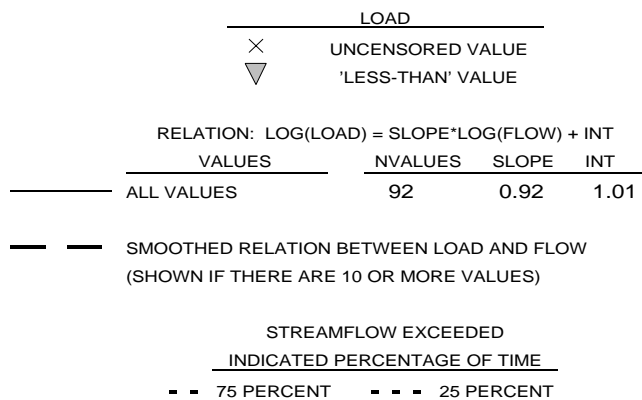
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

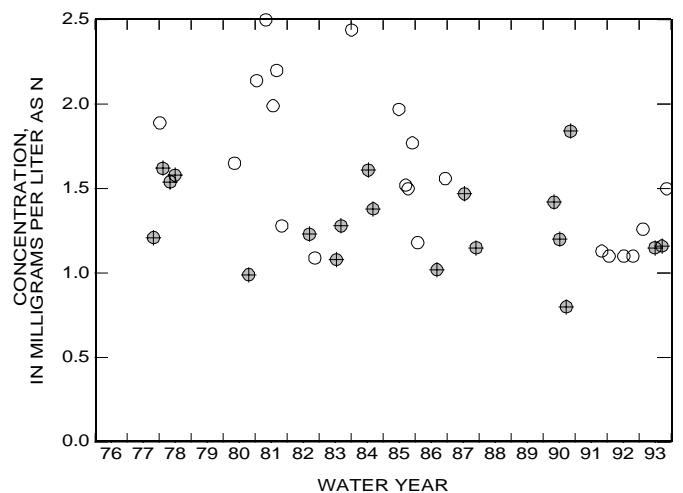
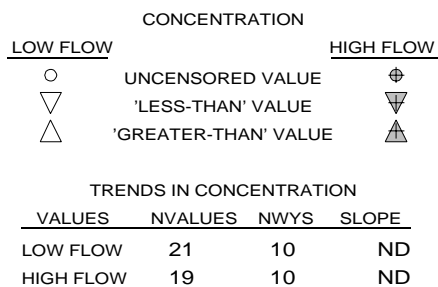
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



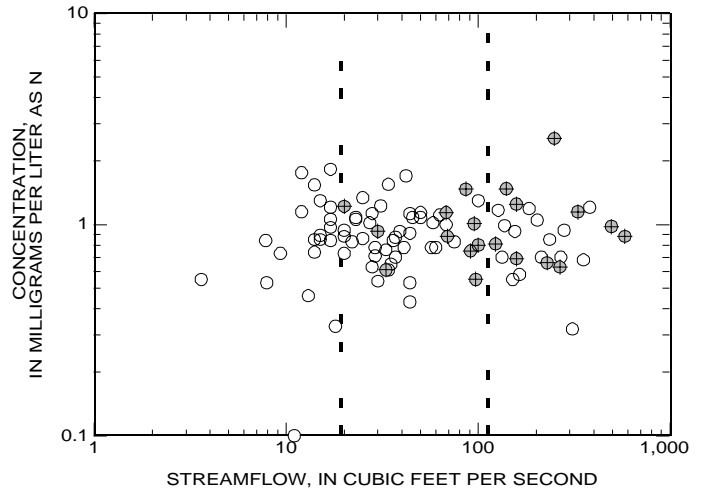
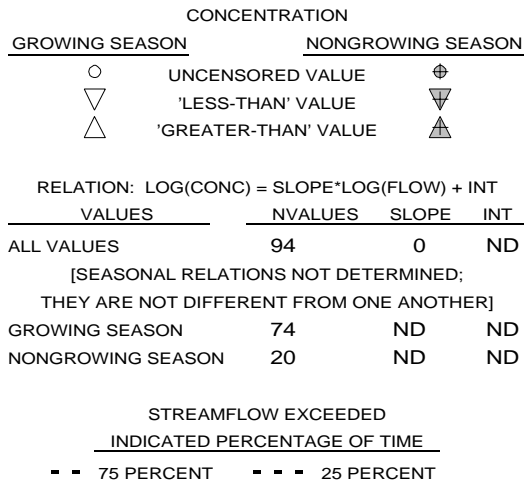
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



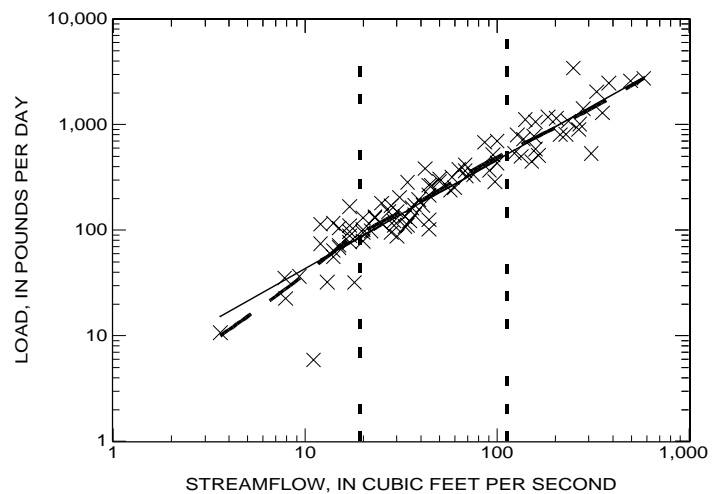
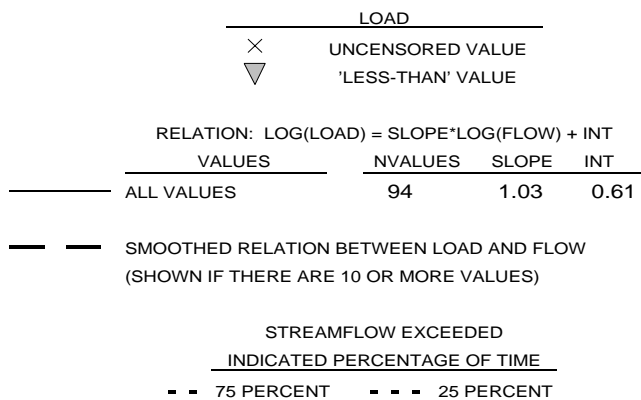
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

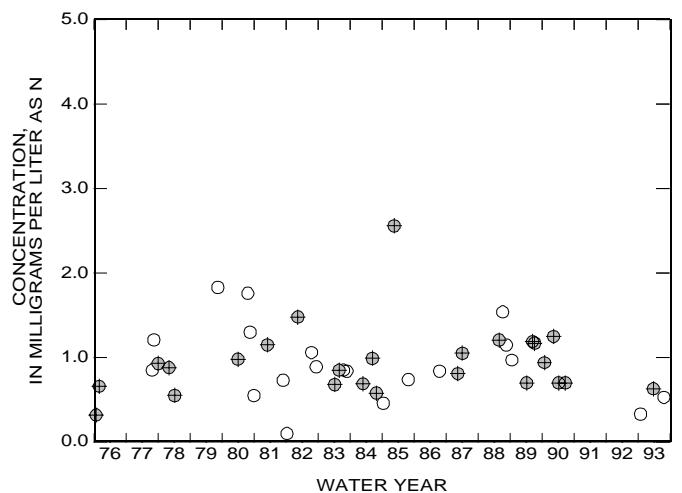
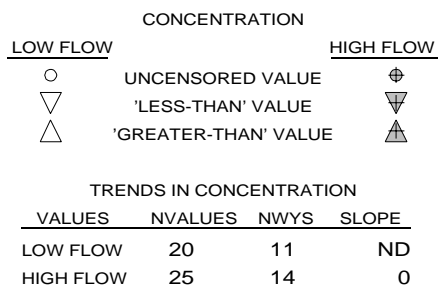
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



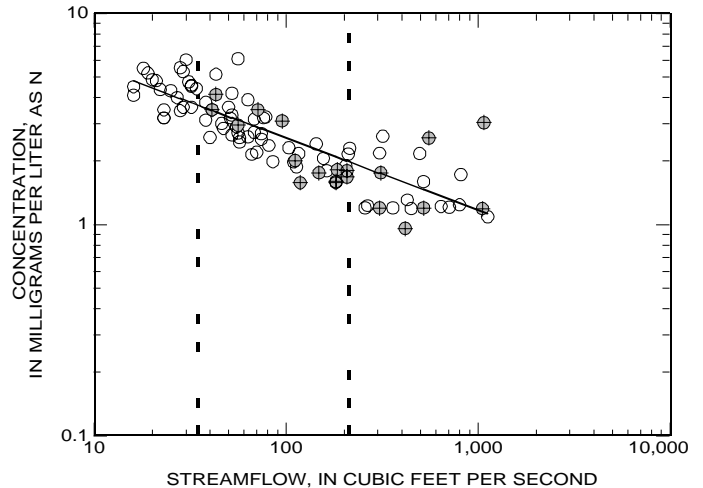
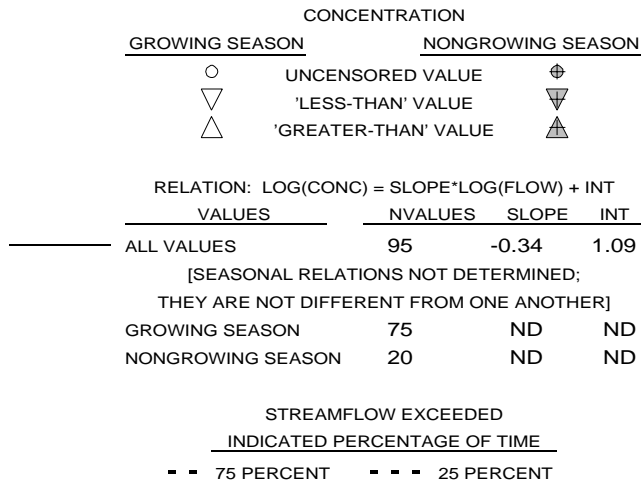
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



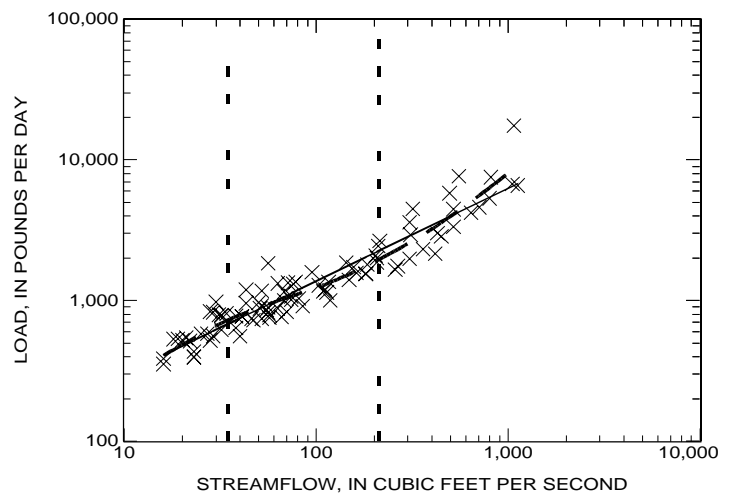
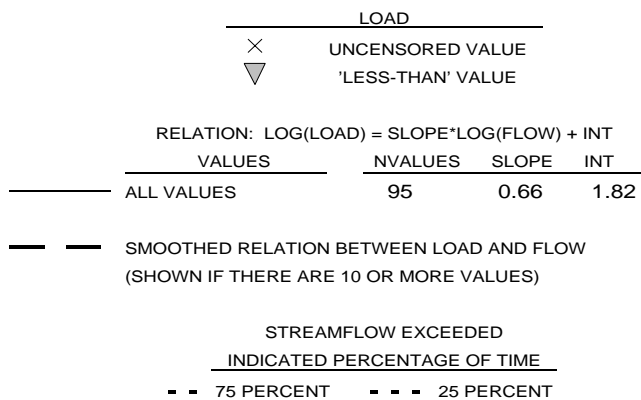
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

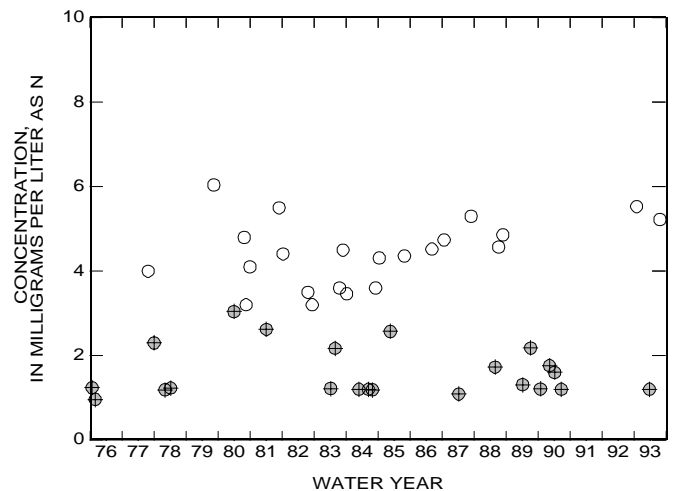
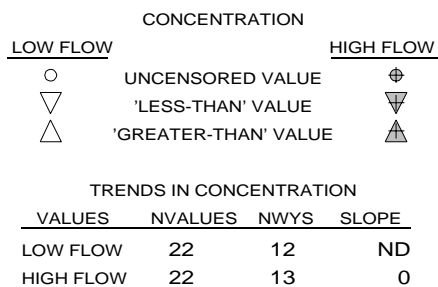
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



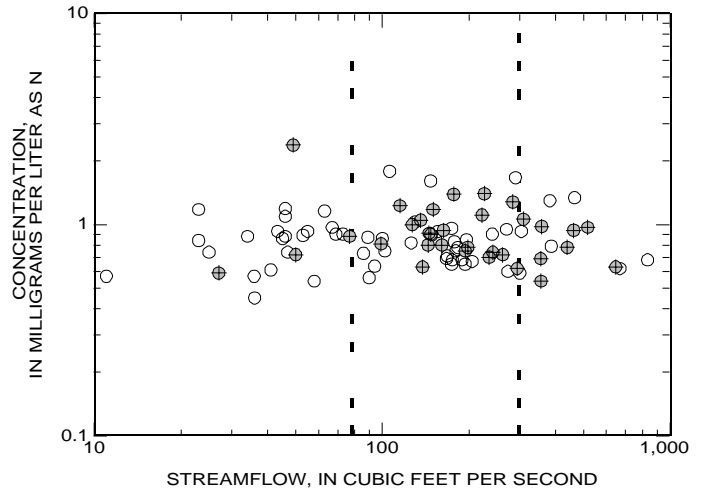
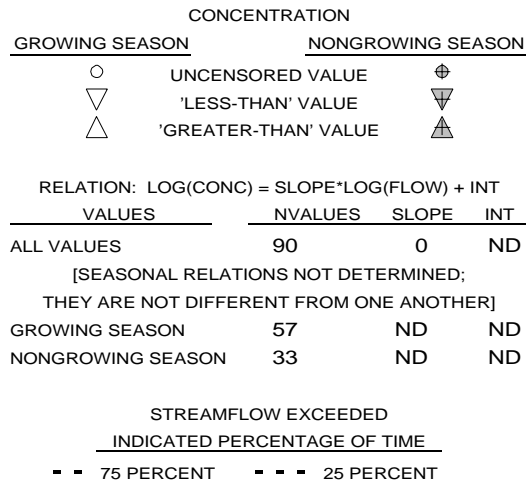
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



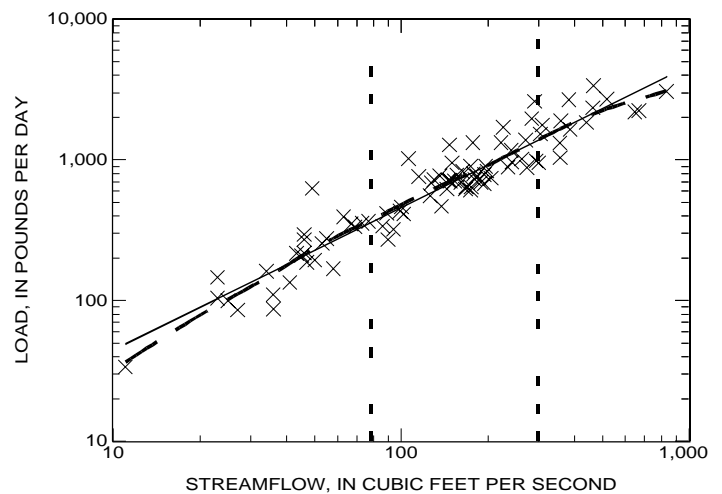
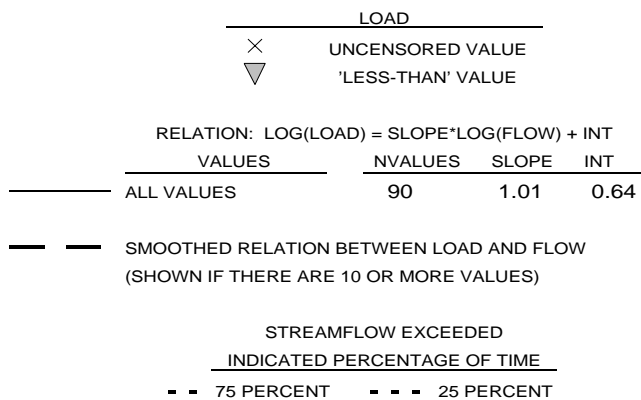
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

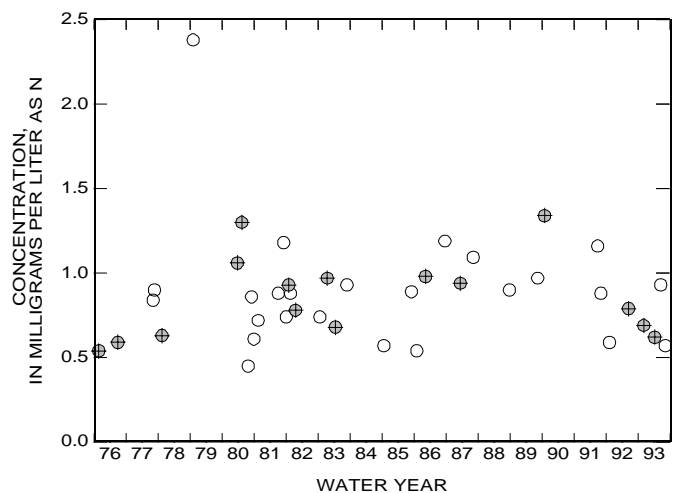
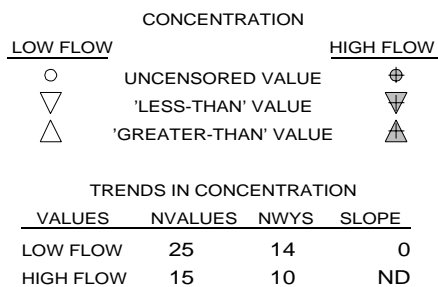
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



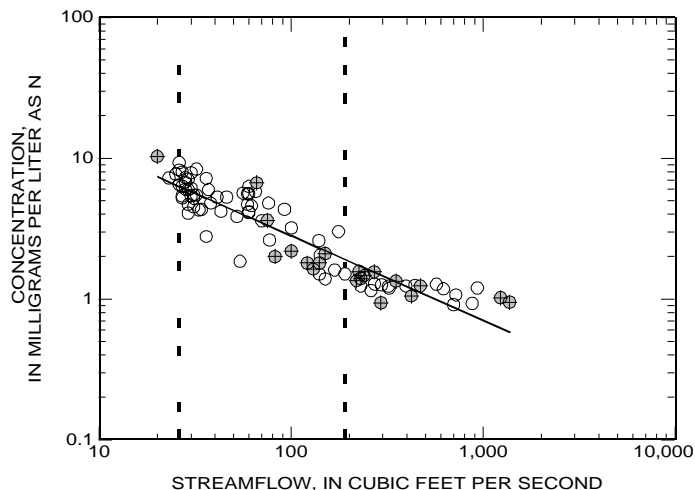
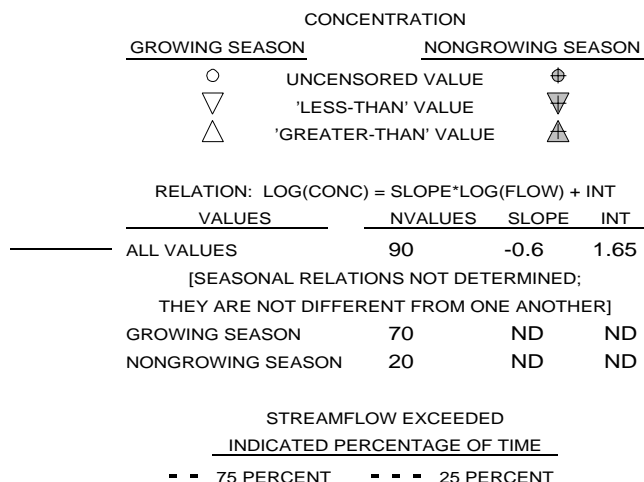
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



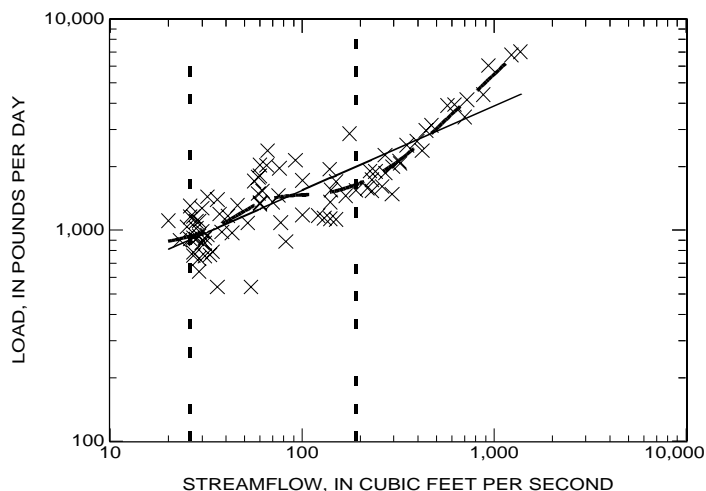
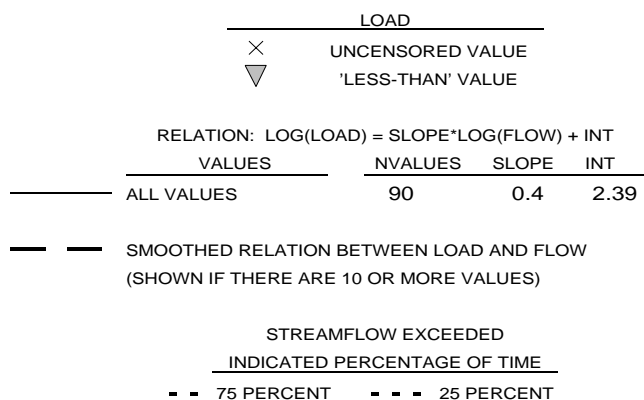
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

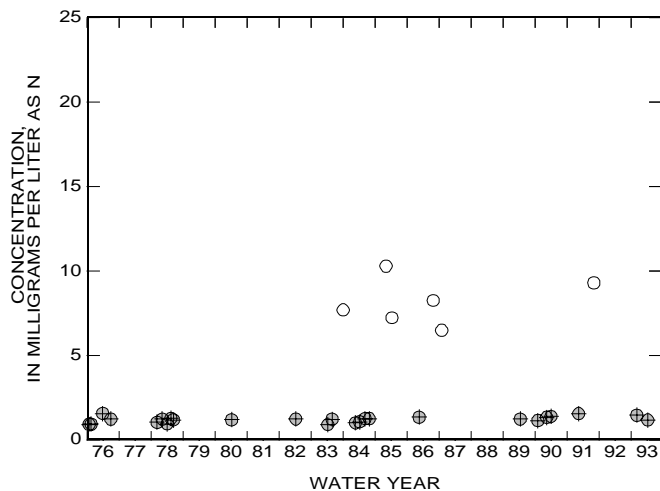
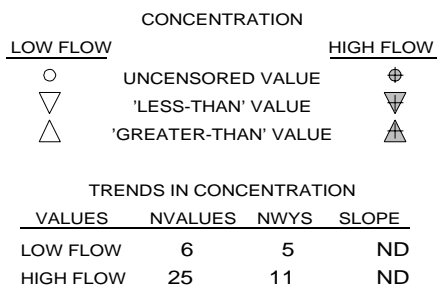
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



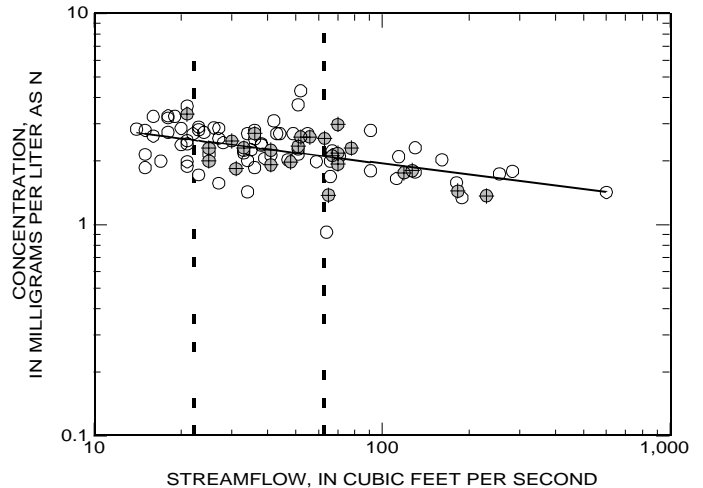
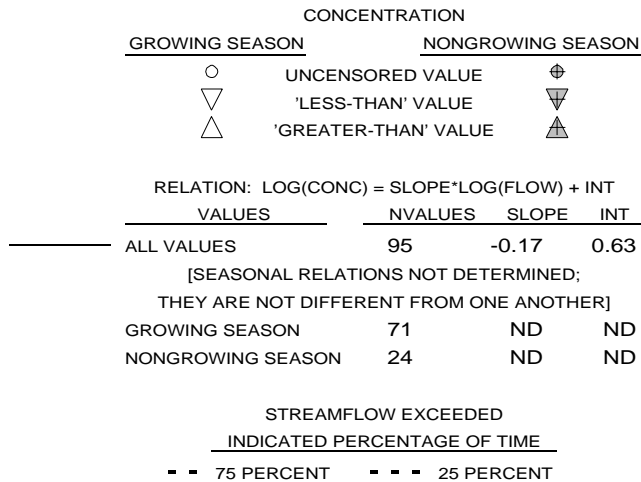
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



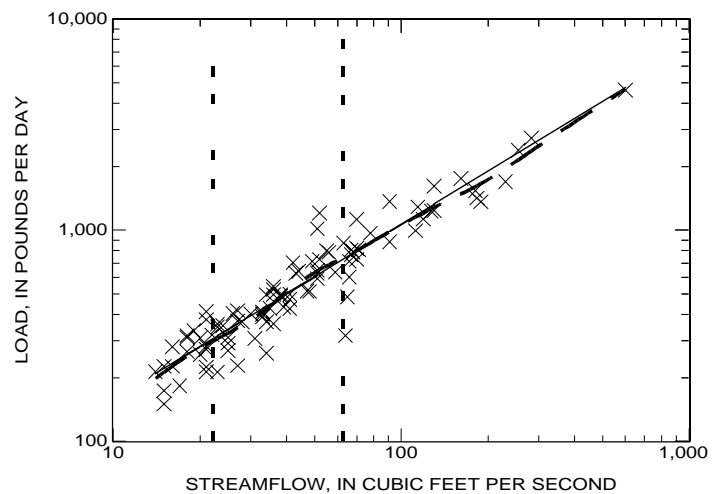
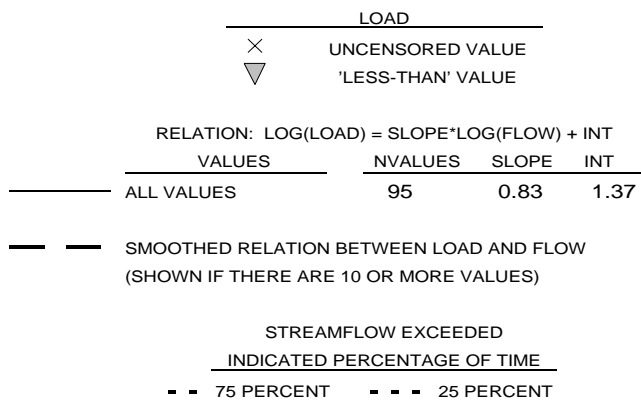
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

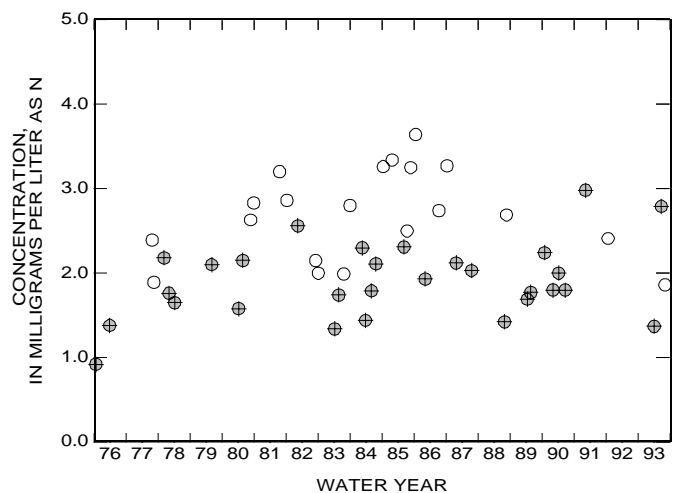
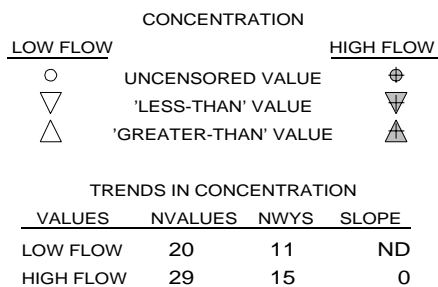
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



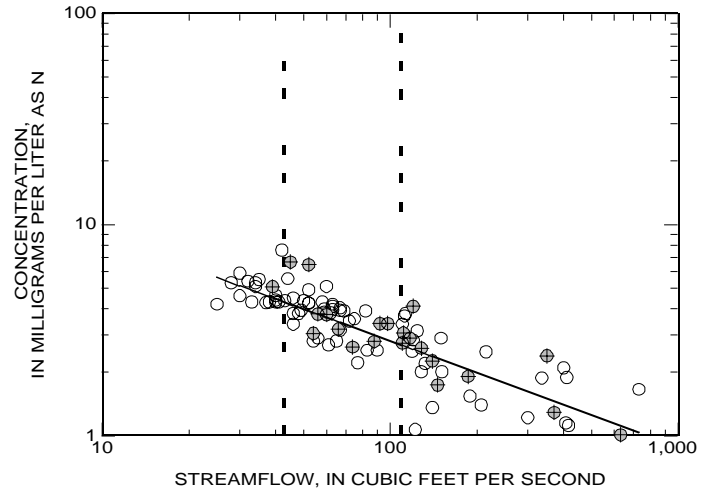
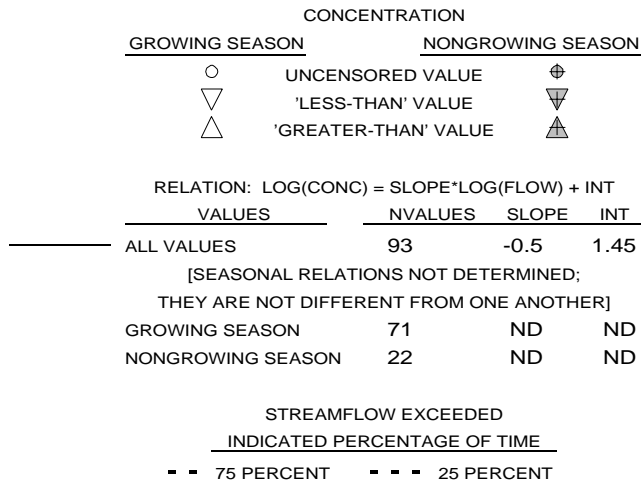
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



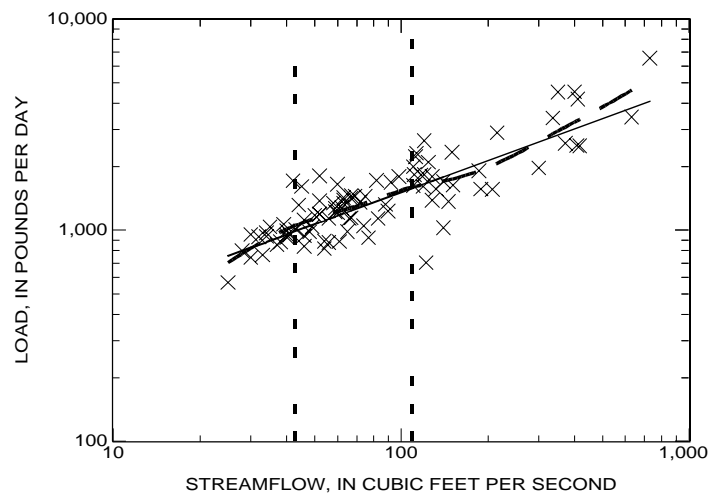
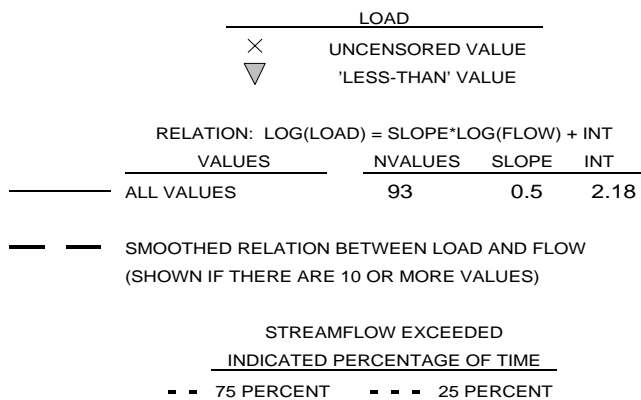
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

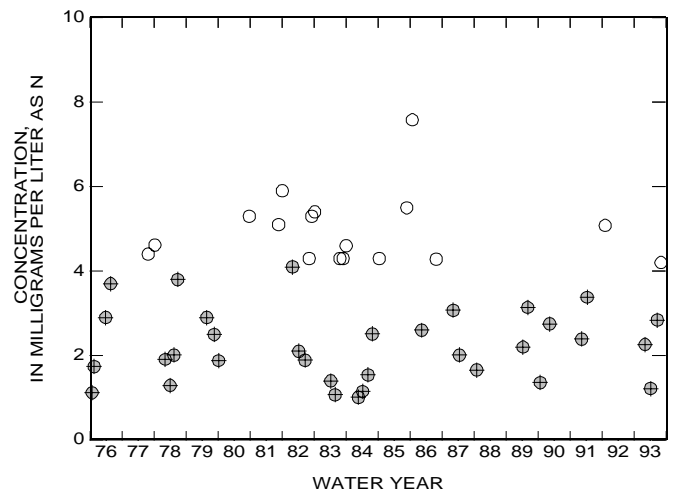
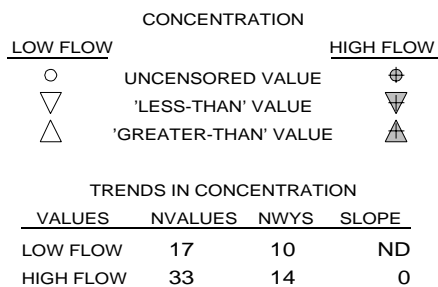
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

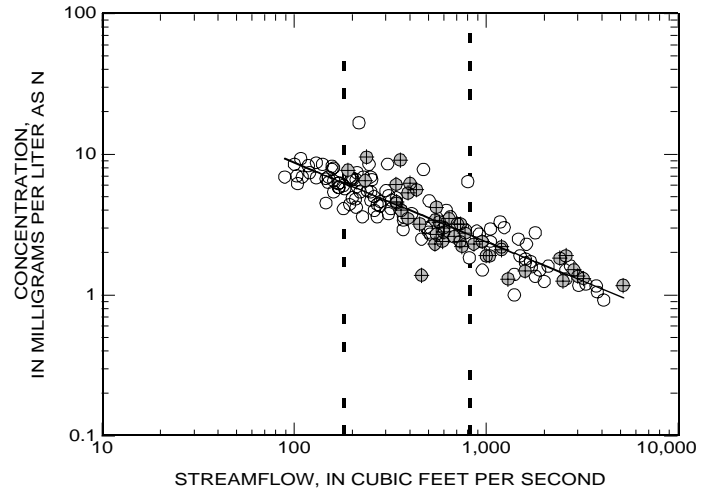
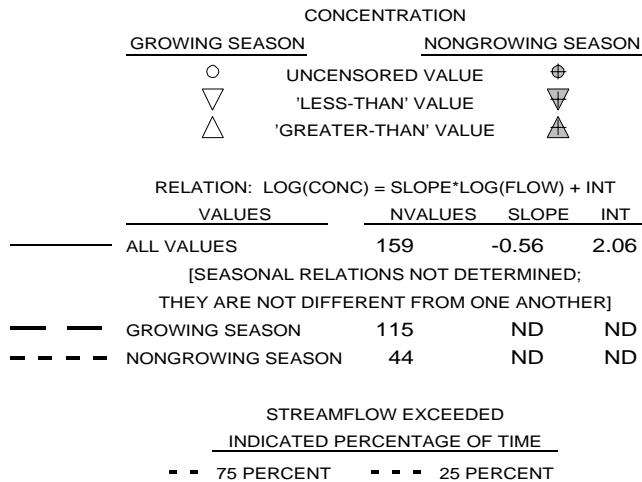




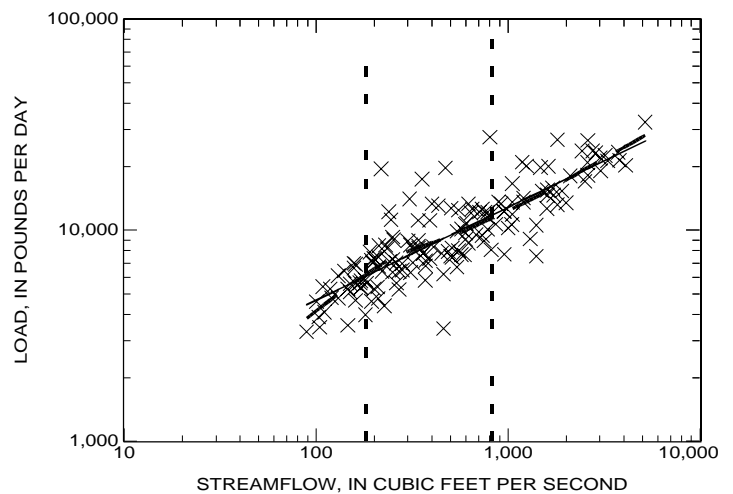
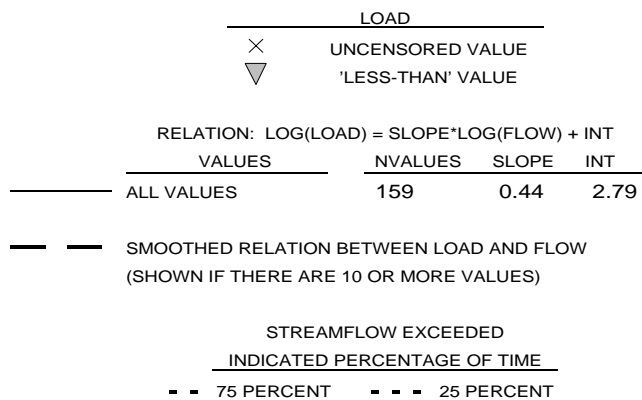
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

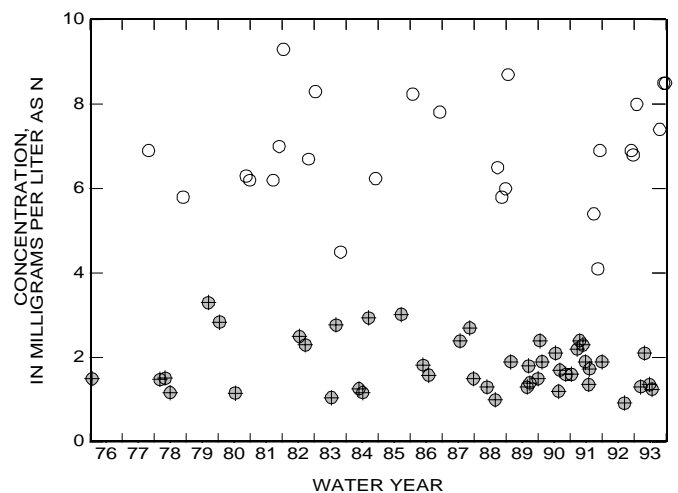
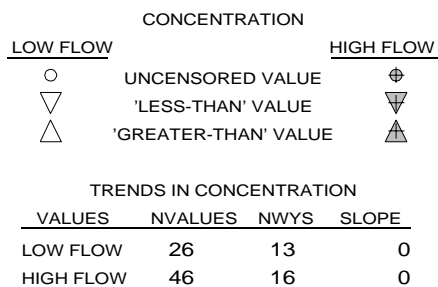
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



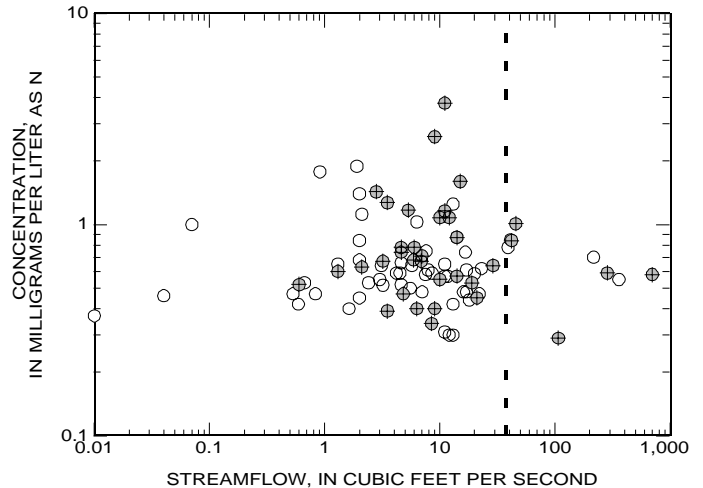
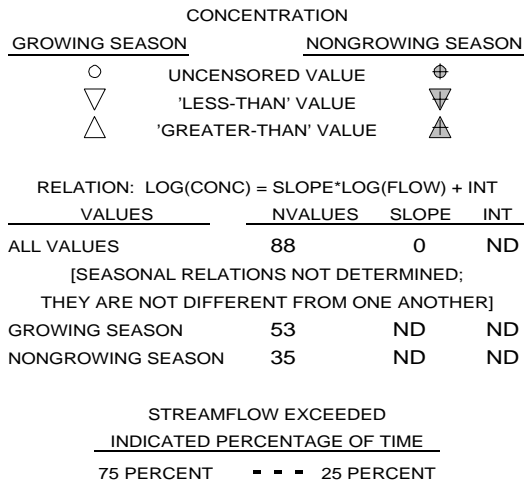
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



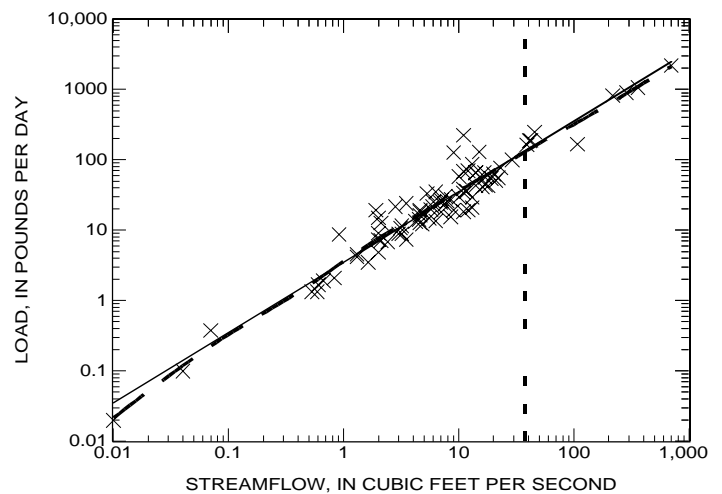
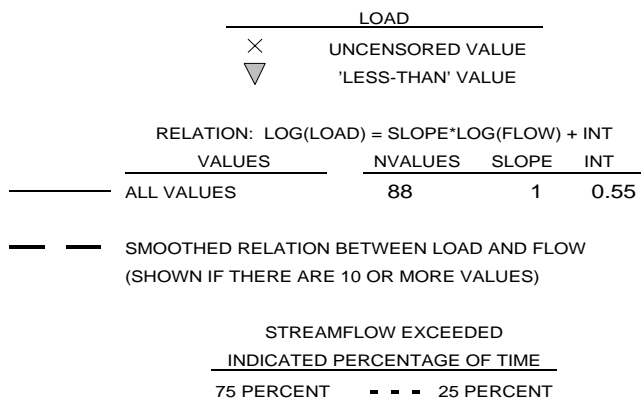
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

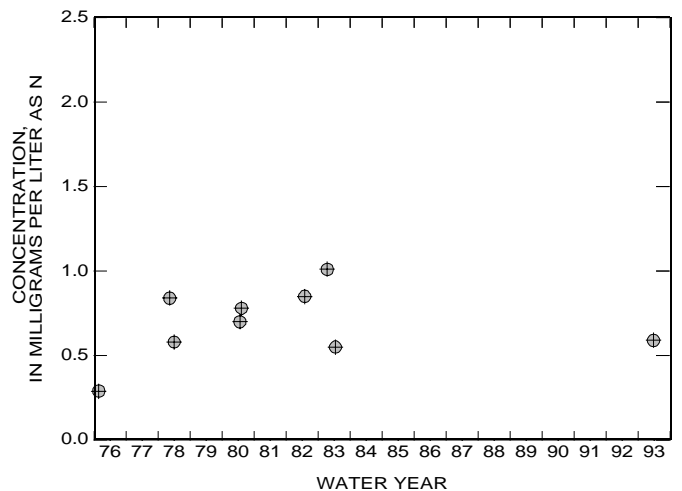
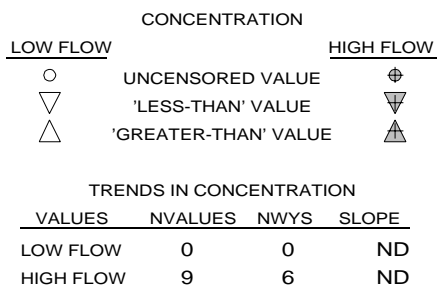
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



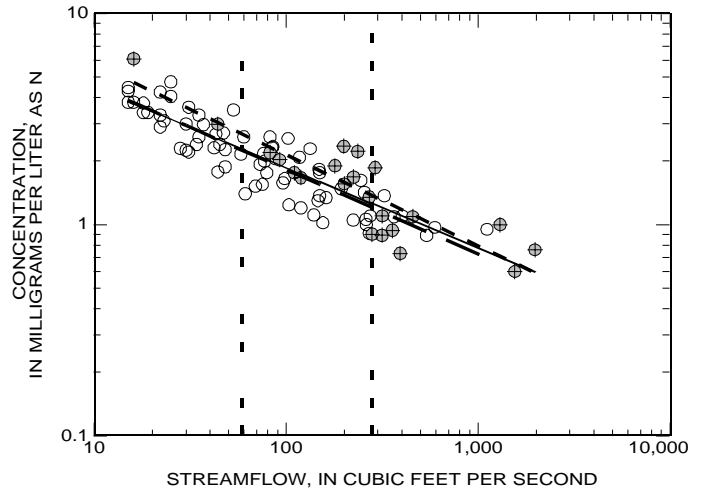
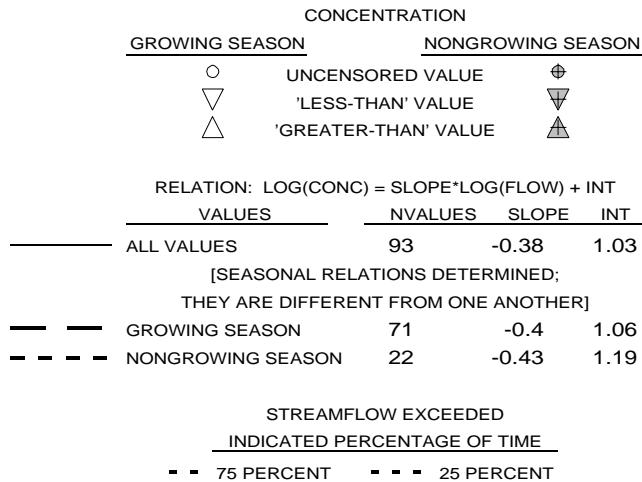
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



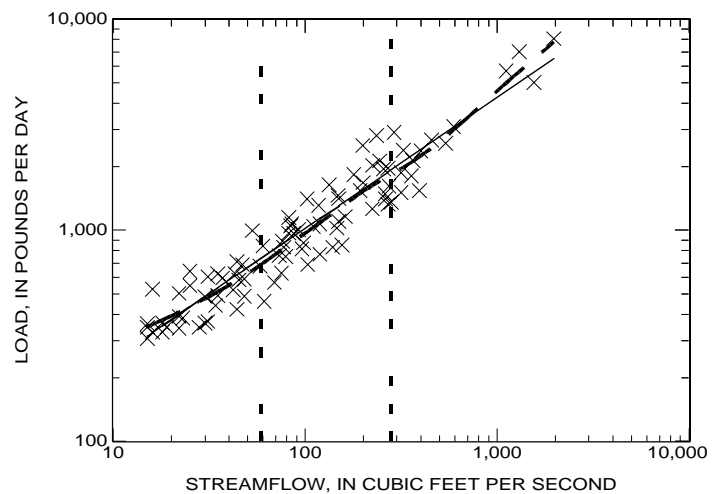
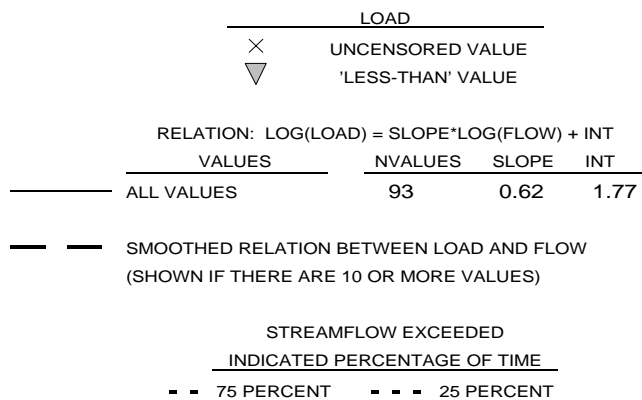
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

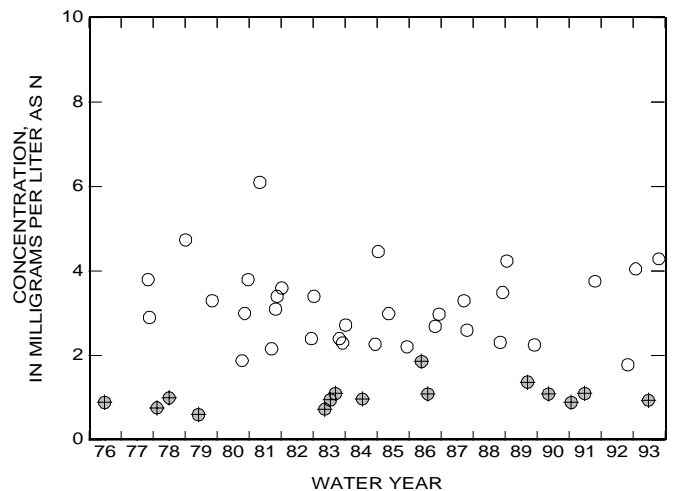
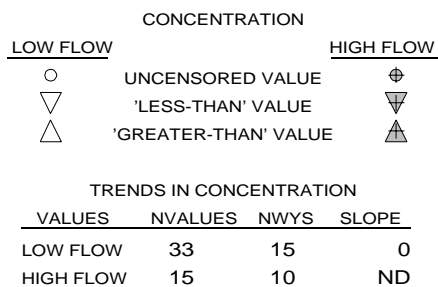
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

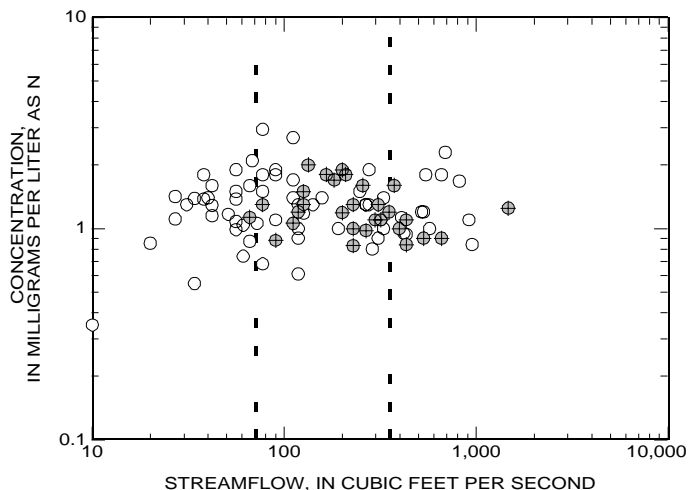


**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

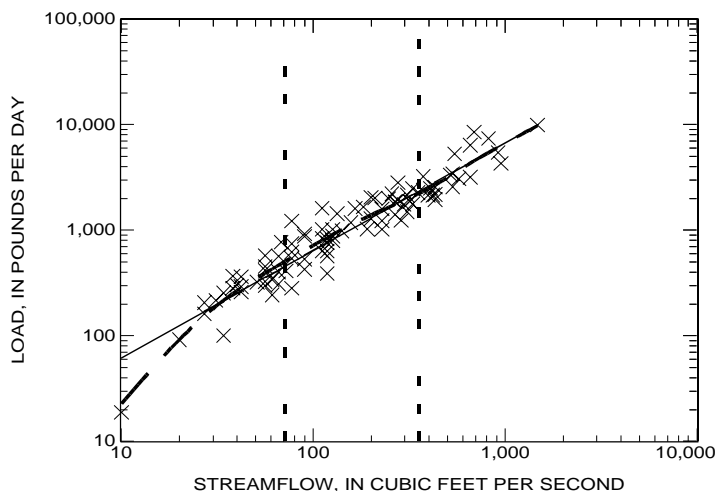
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	94	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	65	ND	ND
NONGROWING SEASON	29	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	--- 25 PERCENT		



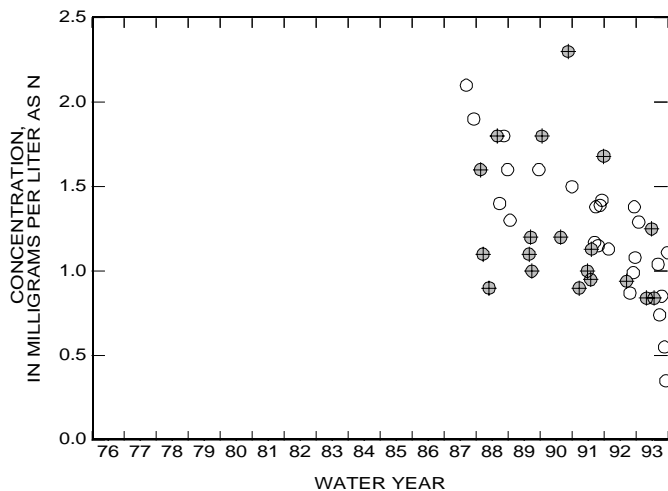
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	94	1.02	0.77
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
--- 75 PERCENT			
--- 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

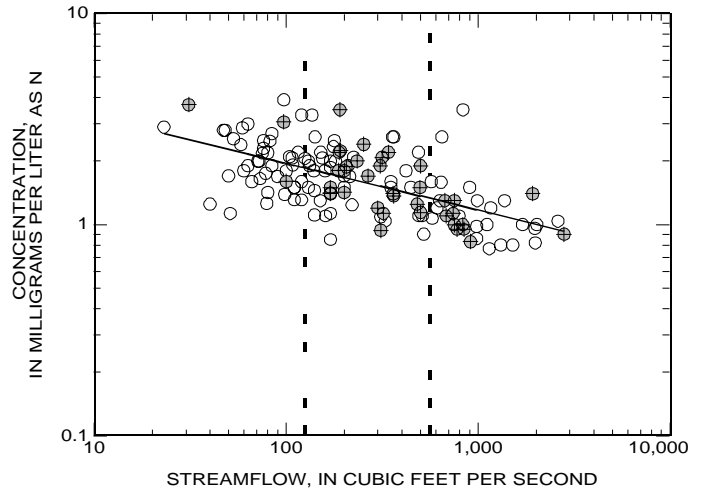
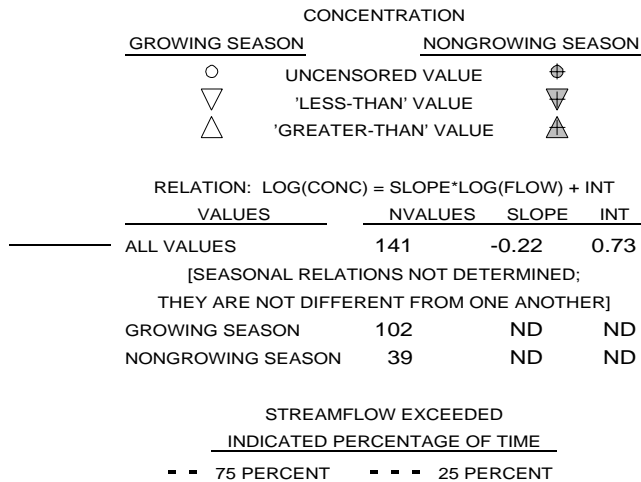
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	25	7	ND
HIGH FLOW	19	6	ND



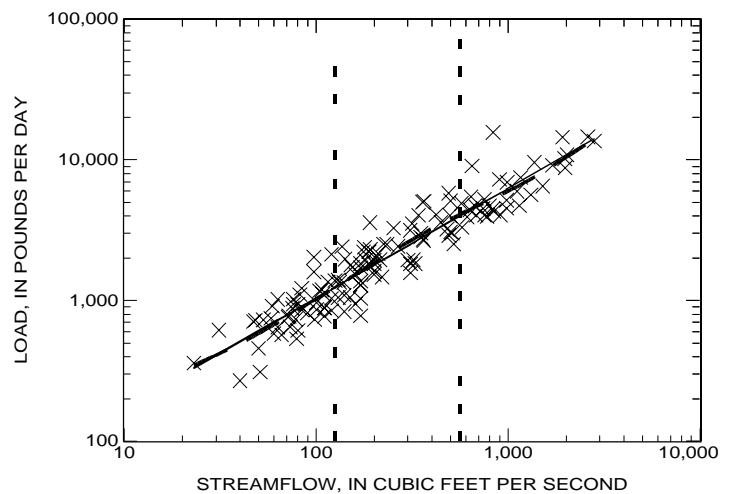
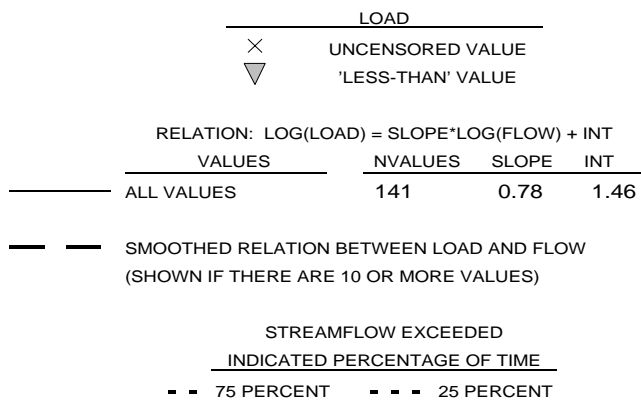
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

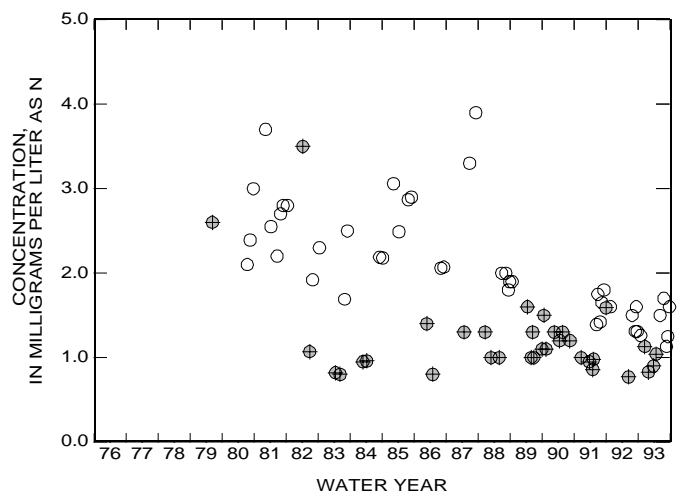
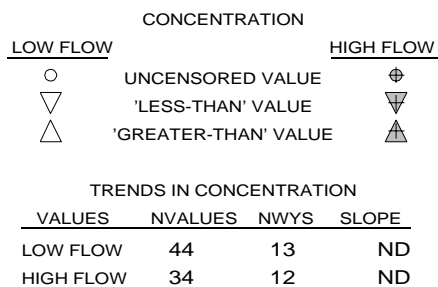
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



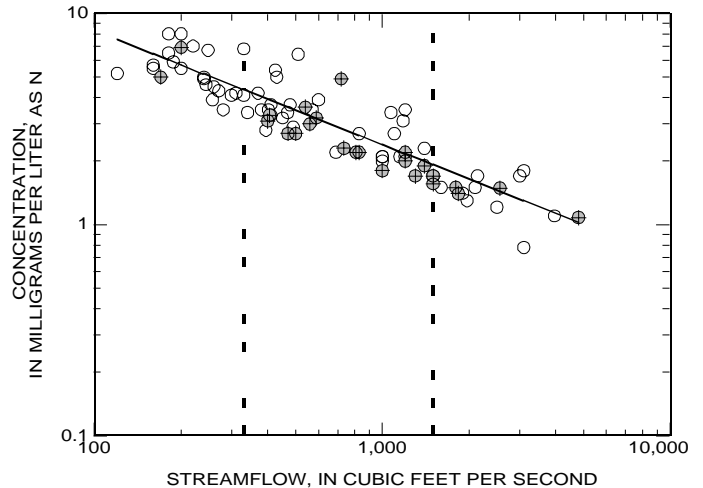
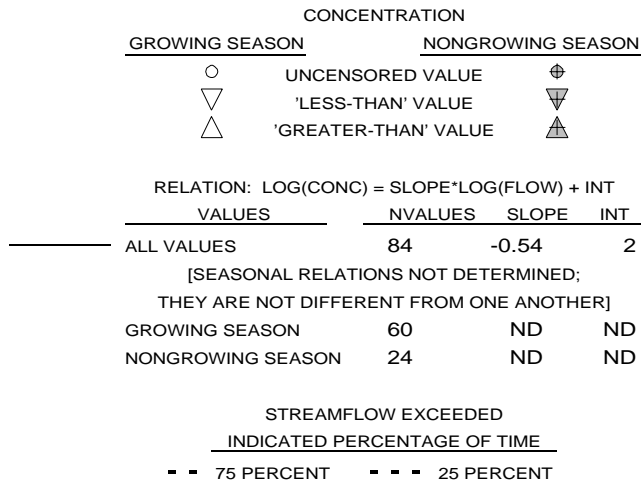
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



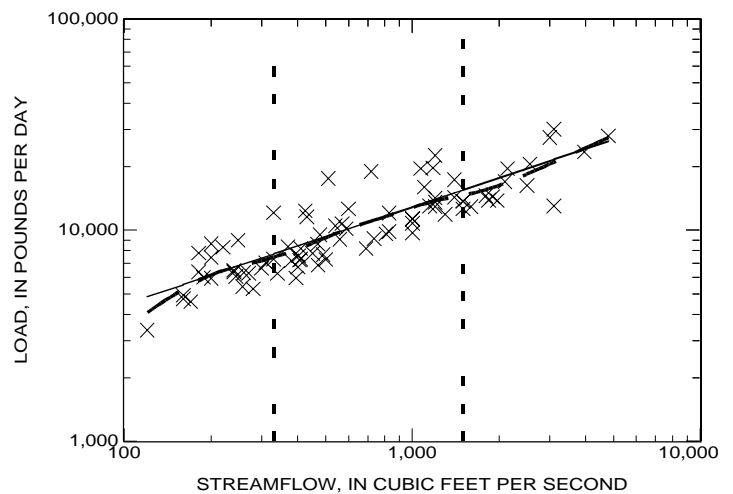
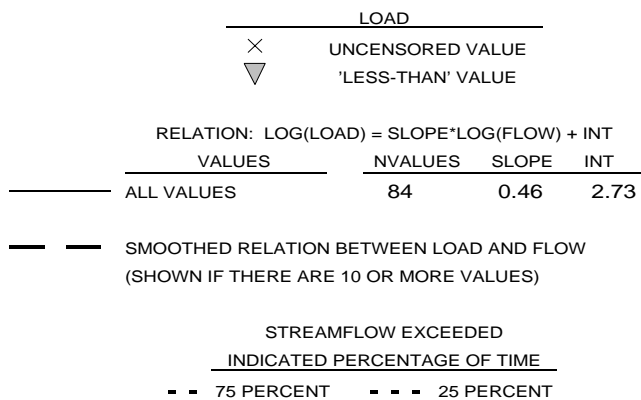
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

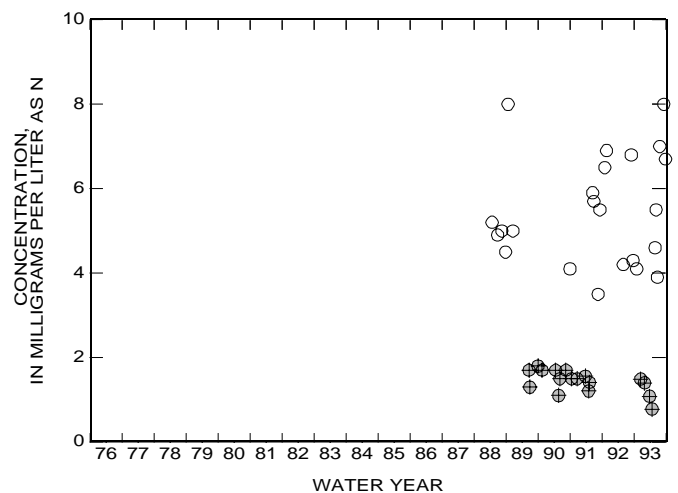
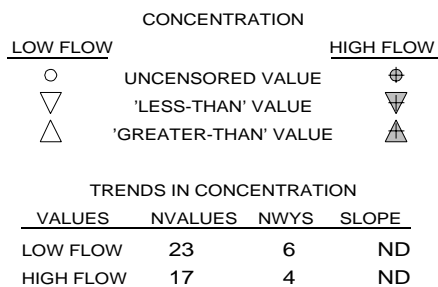
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



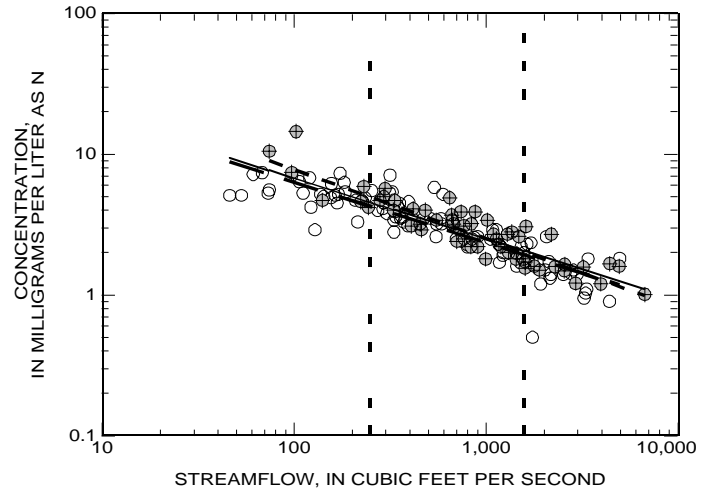
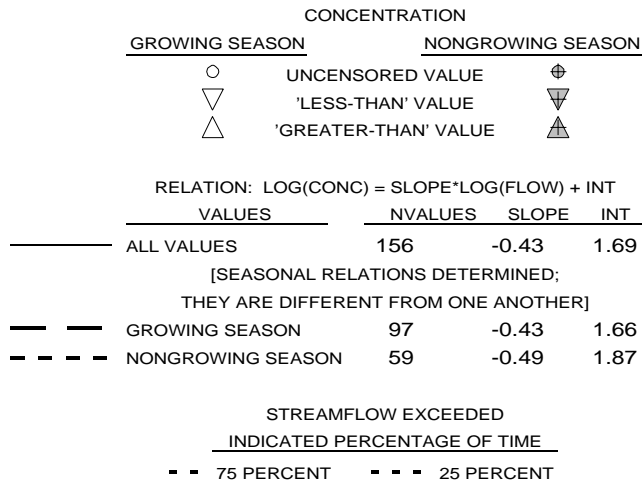
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



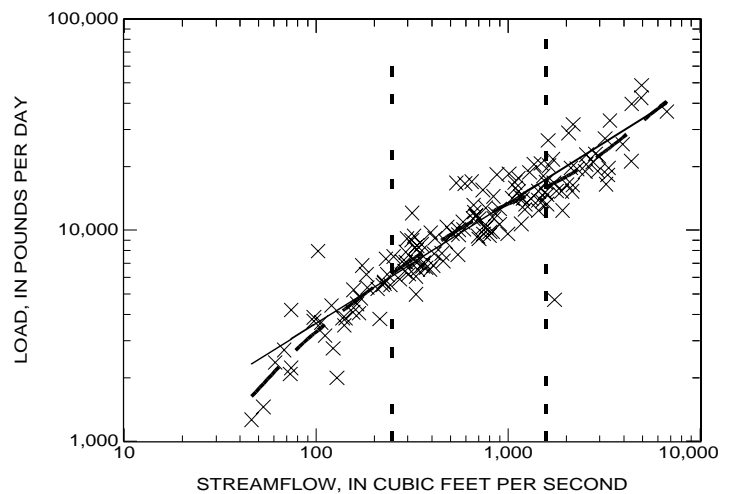
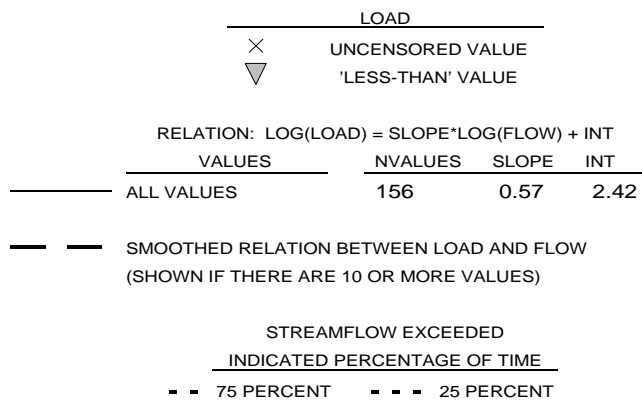
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

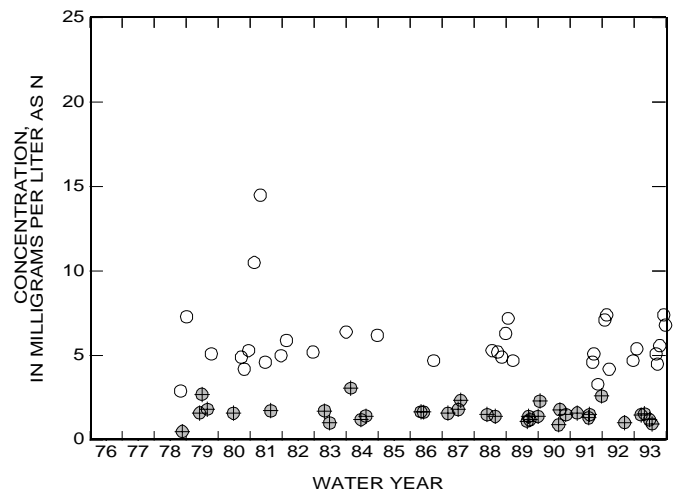
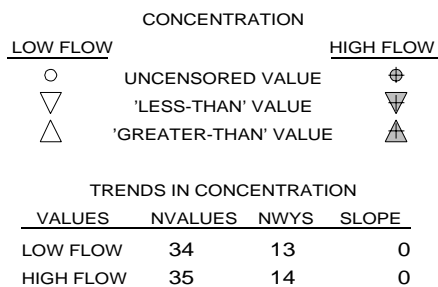
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



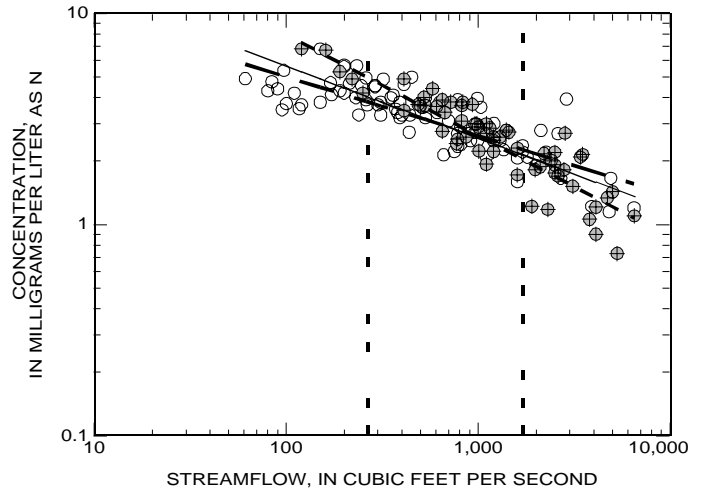
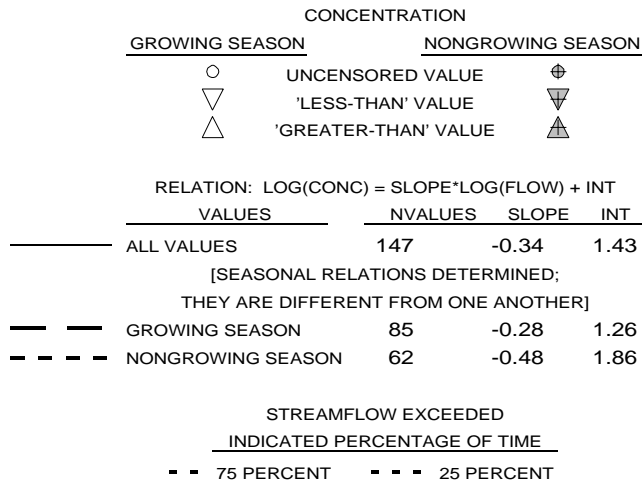
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



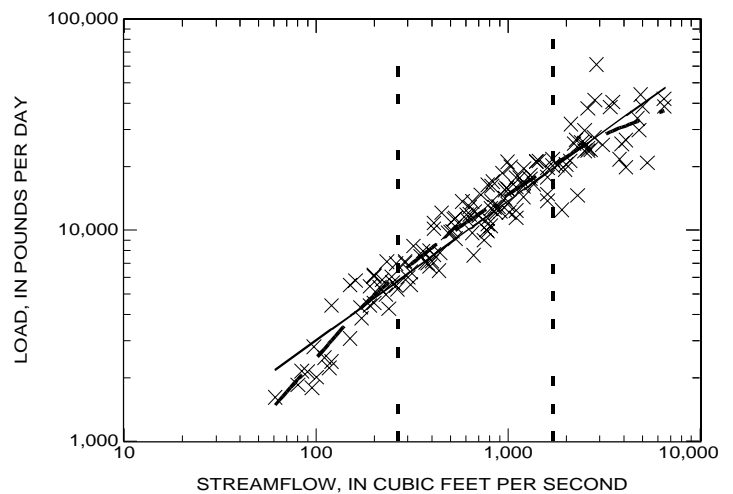
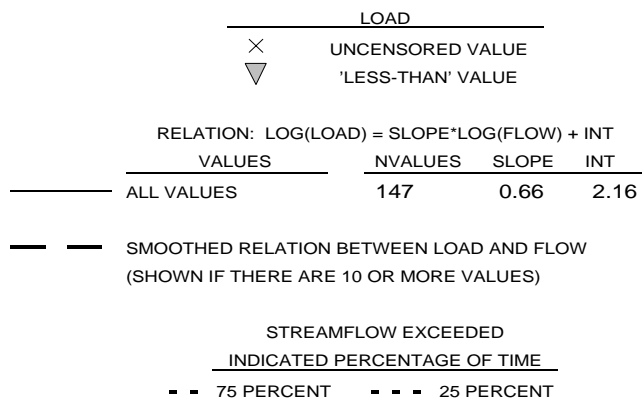
APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITROGEN  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

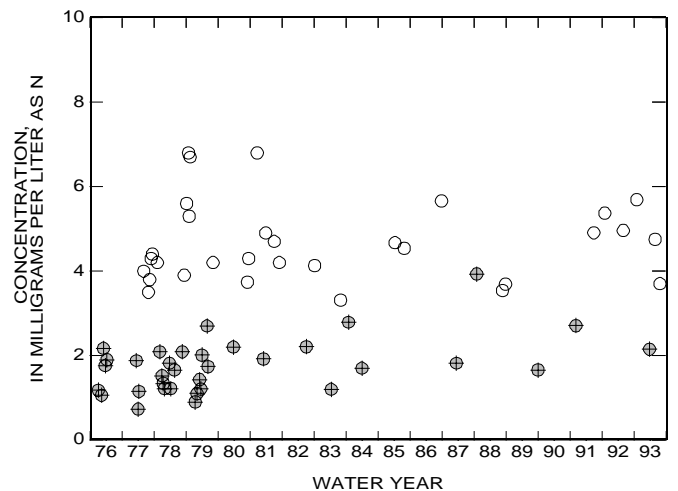
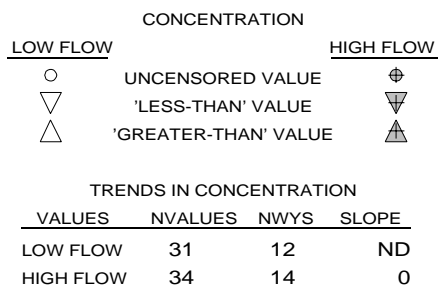
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

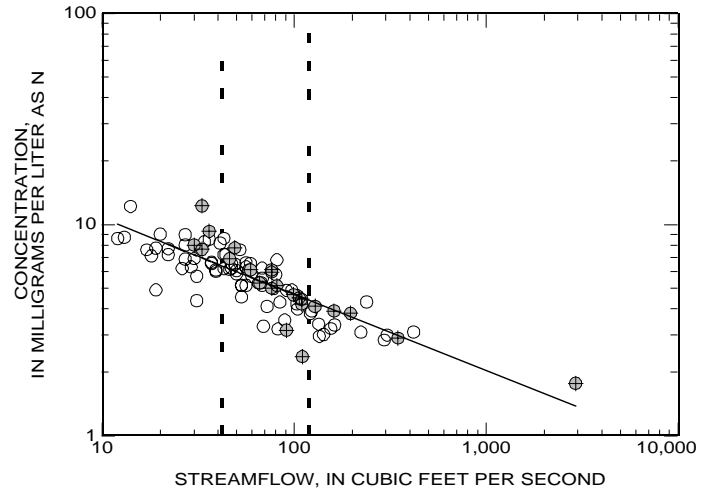
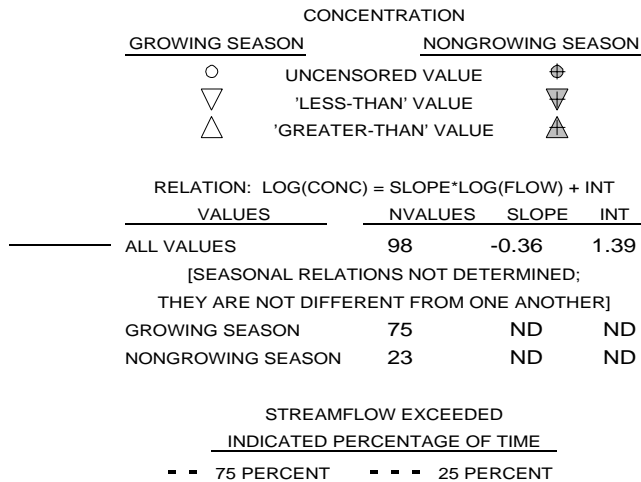




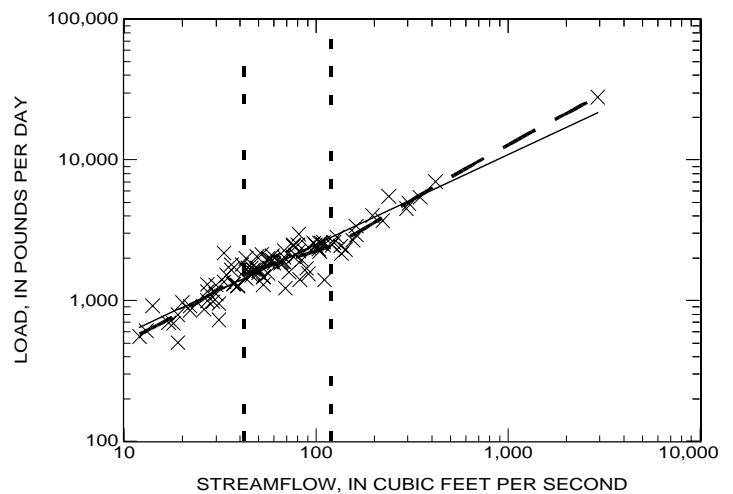
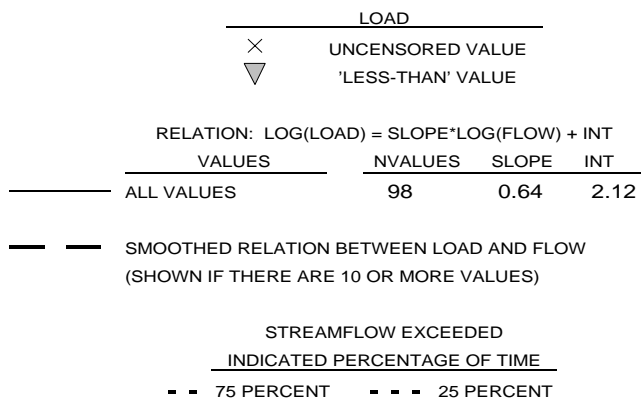
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

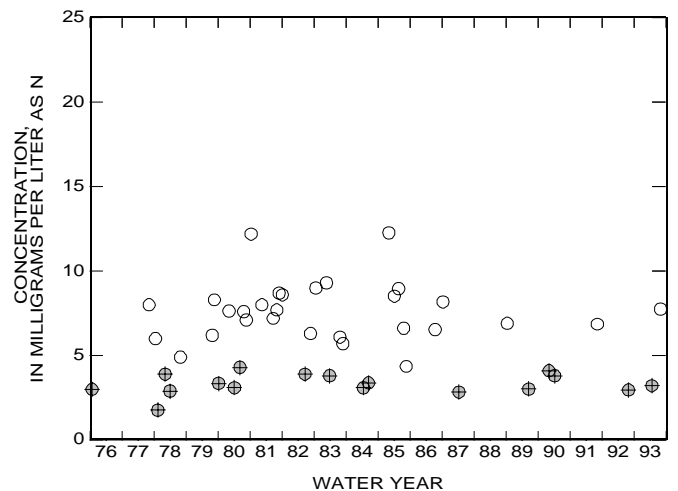
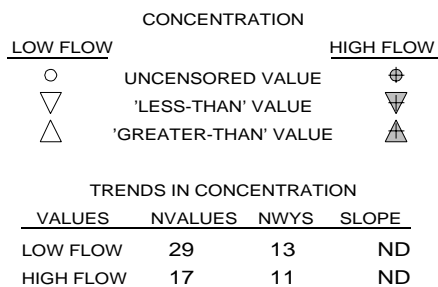
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



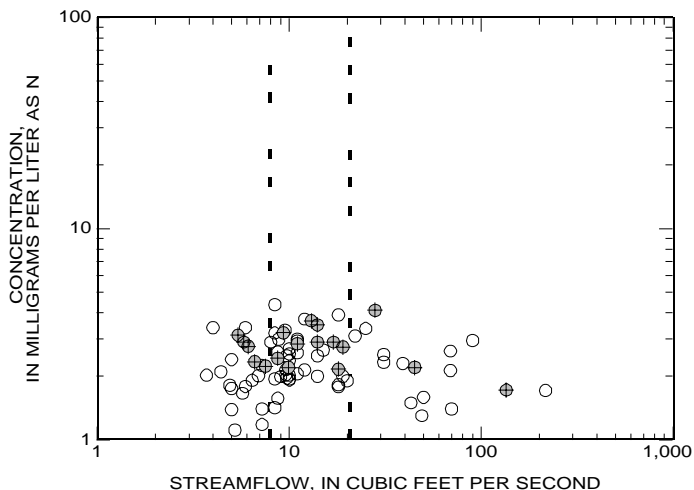
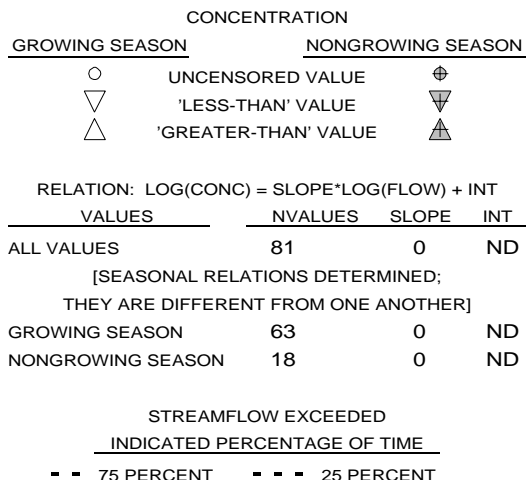
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



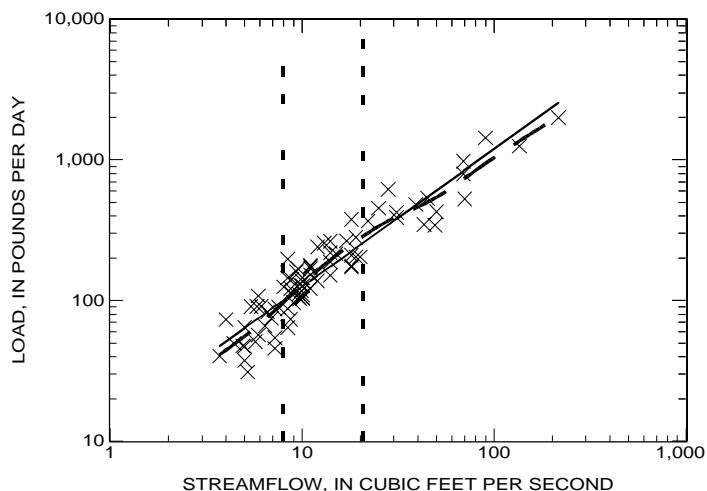
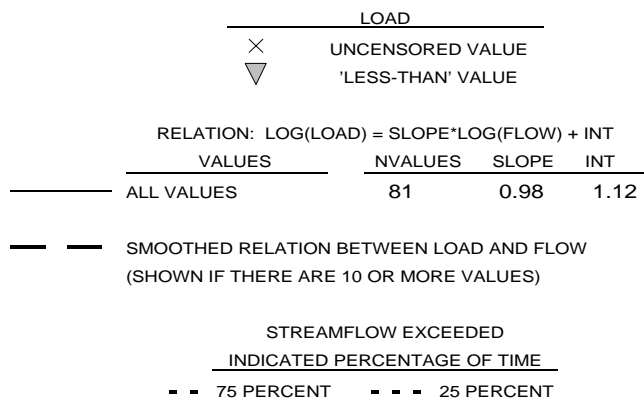
APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITROGEN  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

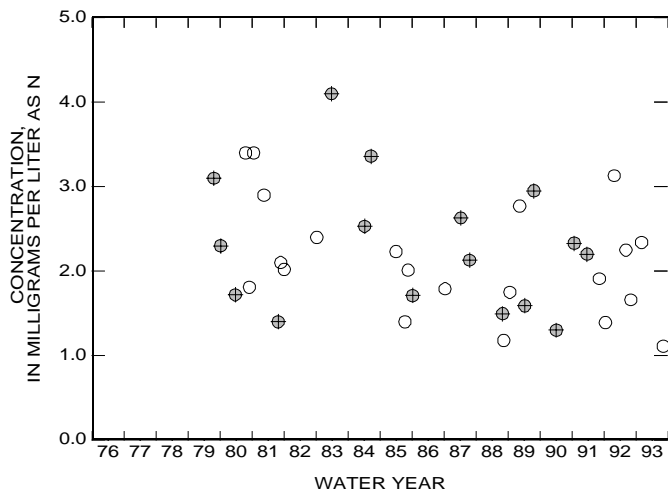
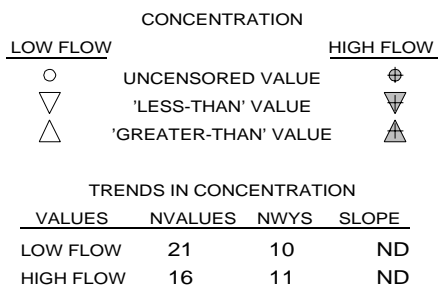
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



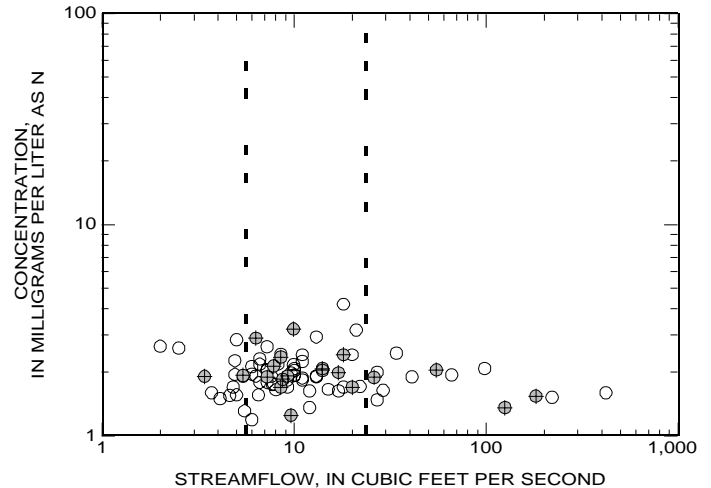
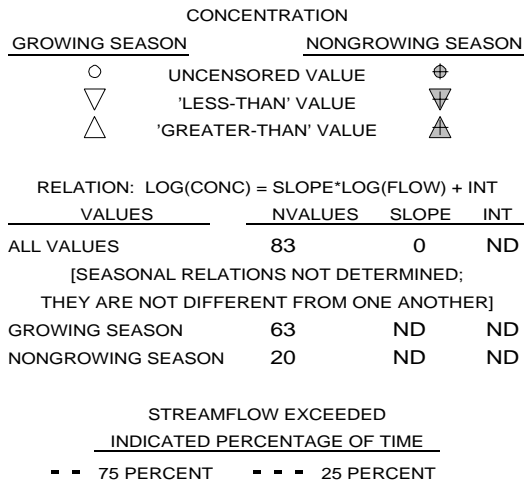
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



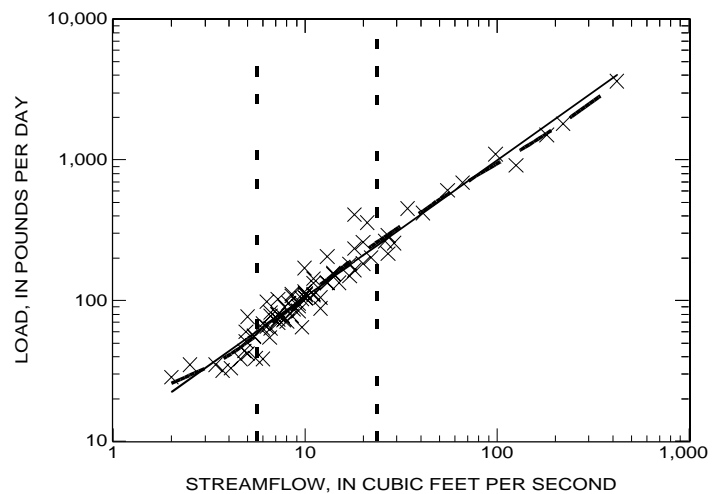
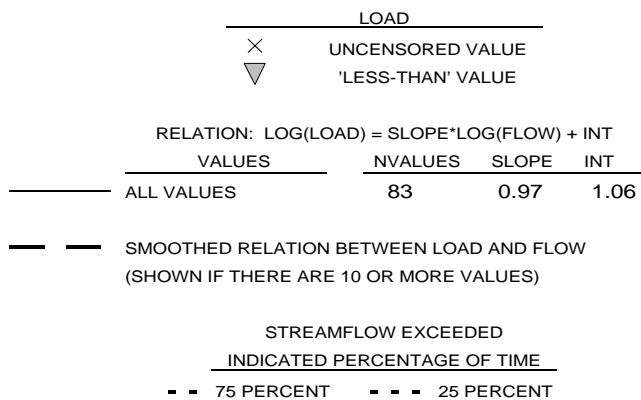
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

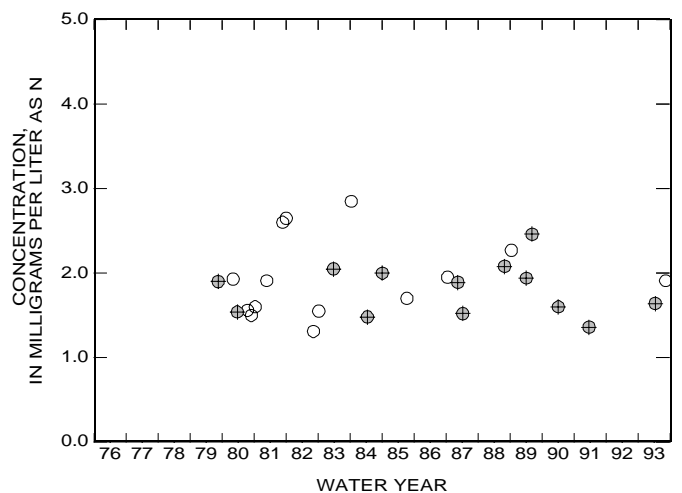
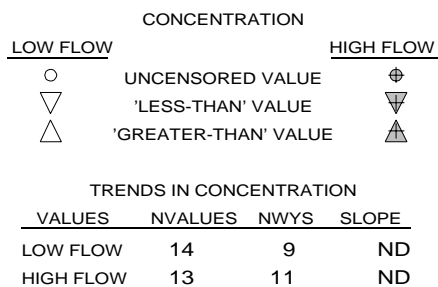
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



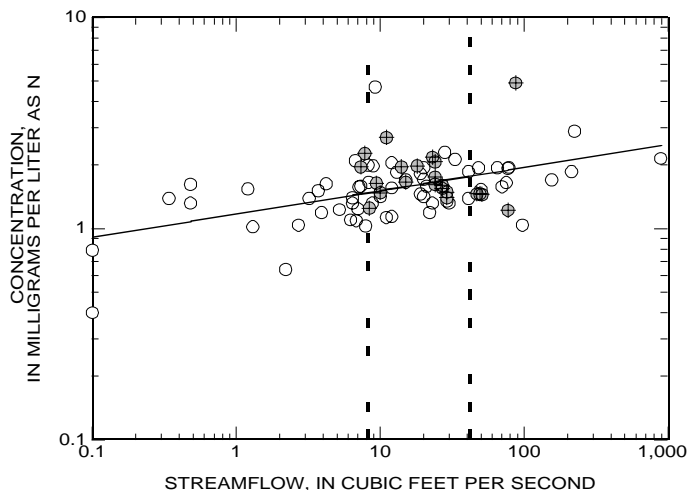
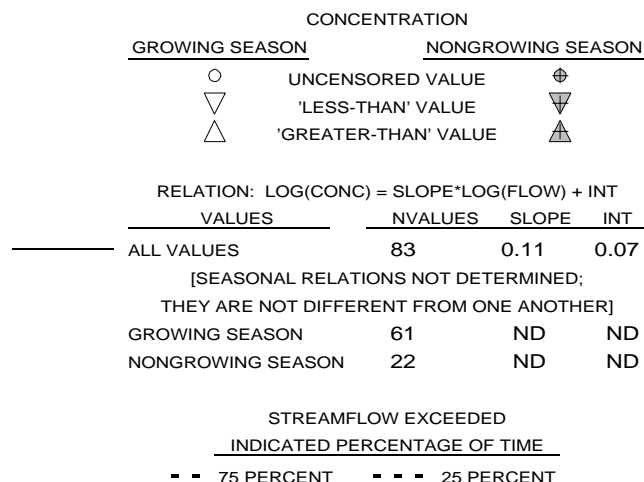
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



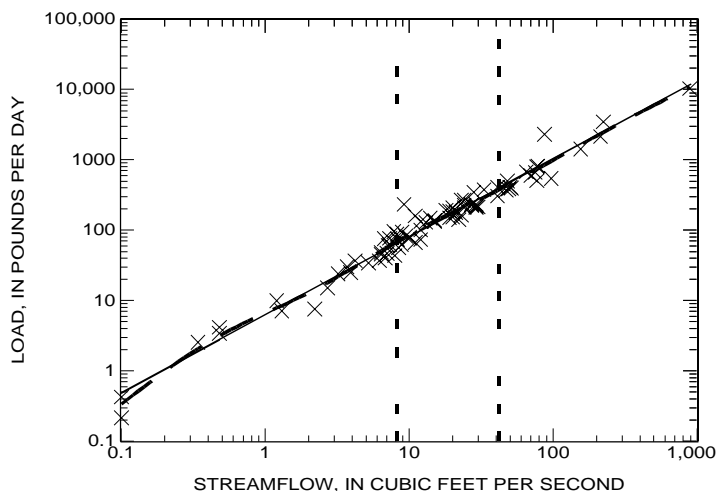
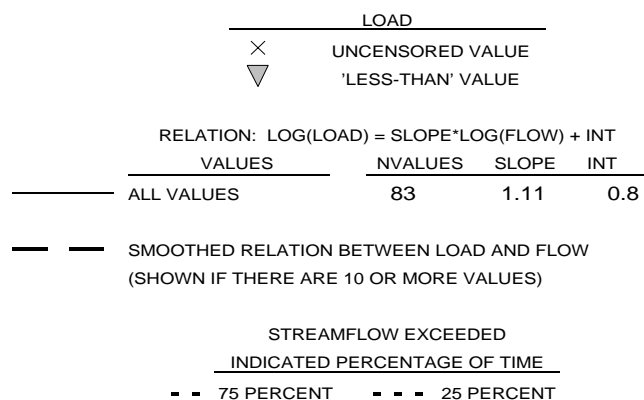
**APPENDIX 11. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITROGEN**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

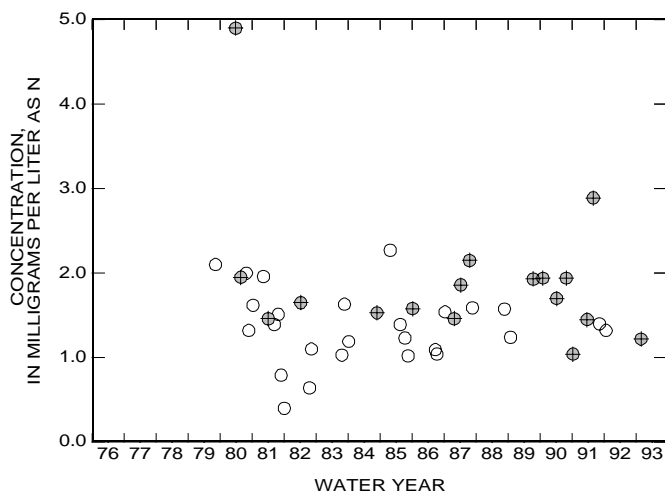
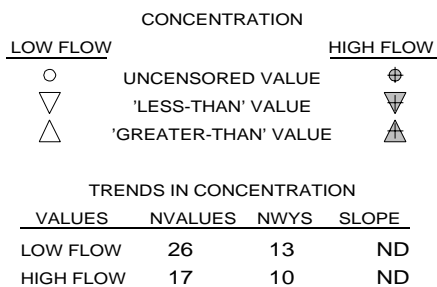
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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# Appendix 12

## Total nitrate plus nitrite

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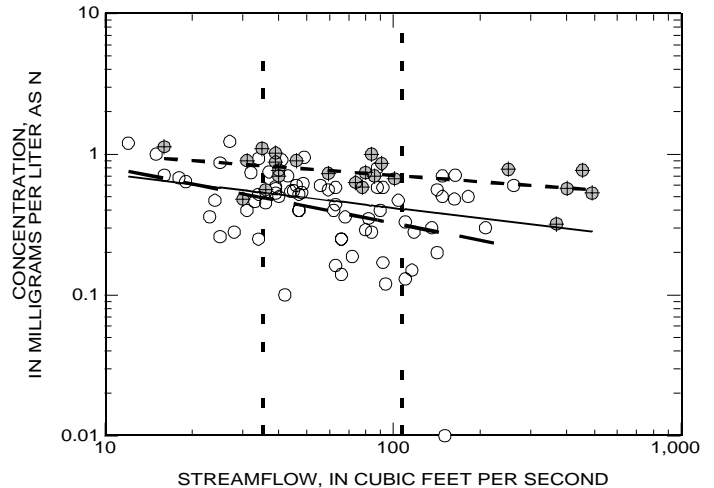
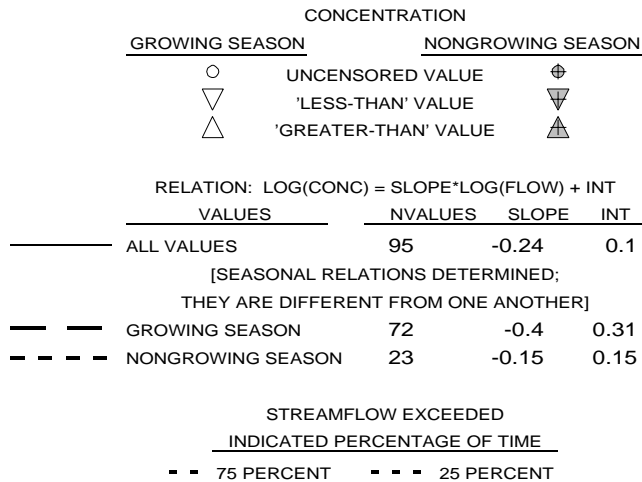
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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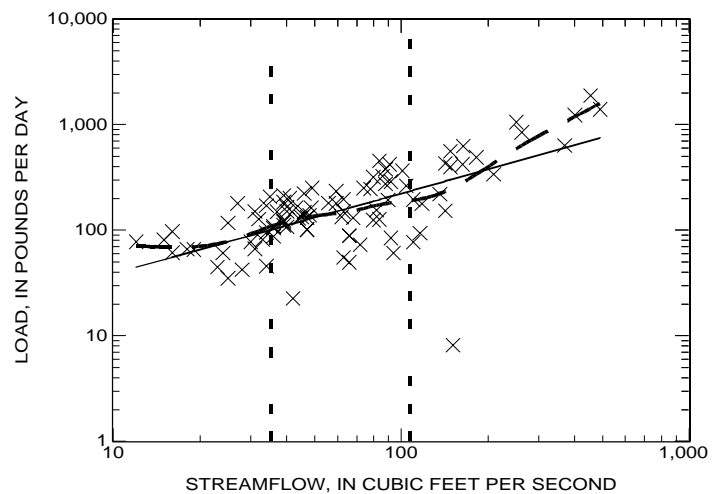
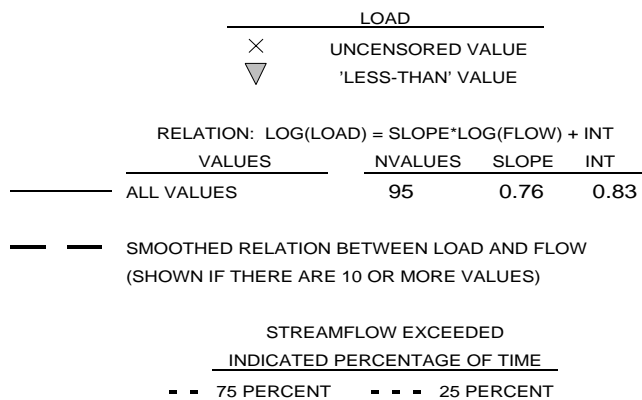
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

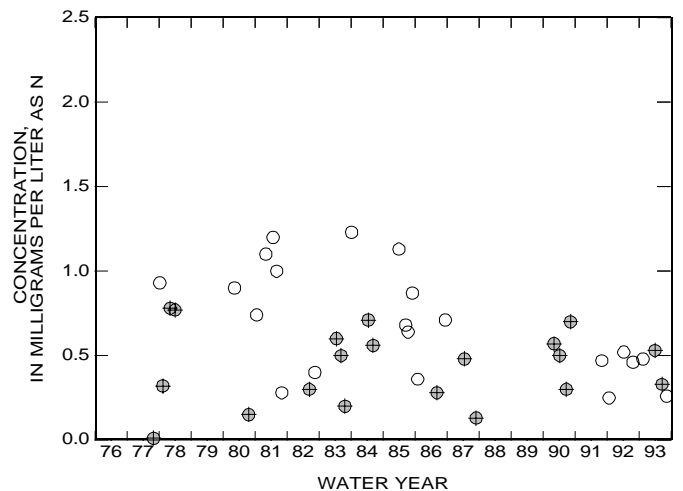
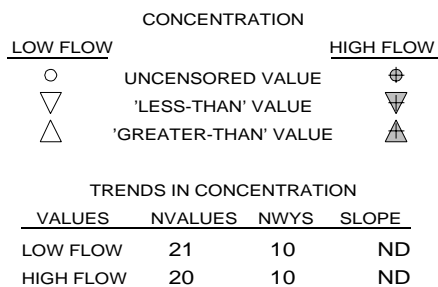
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



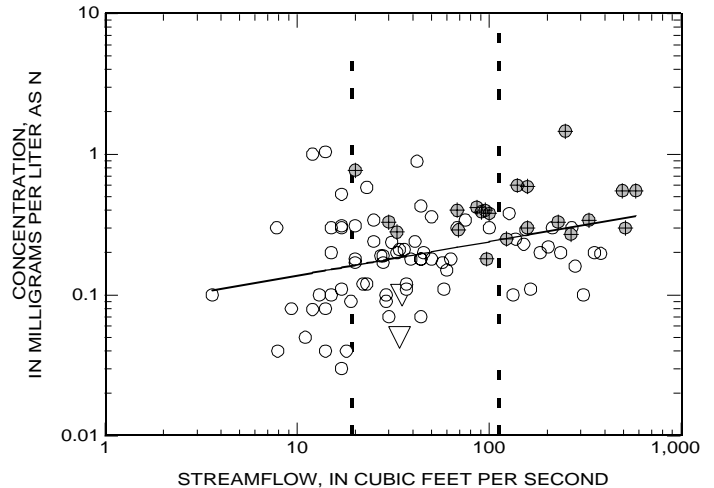
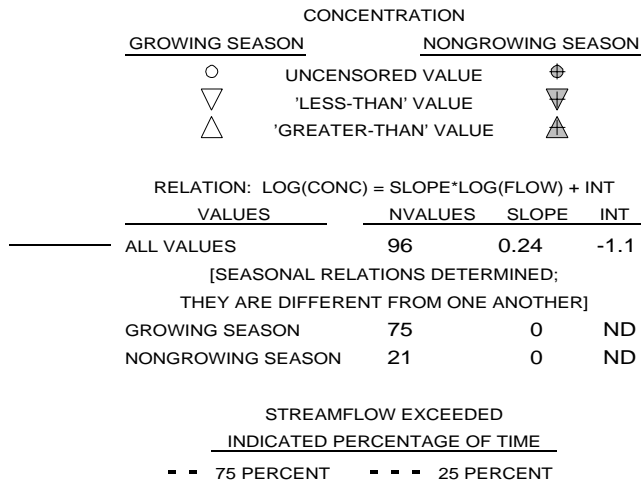
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



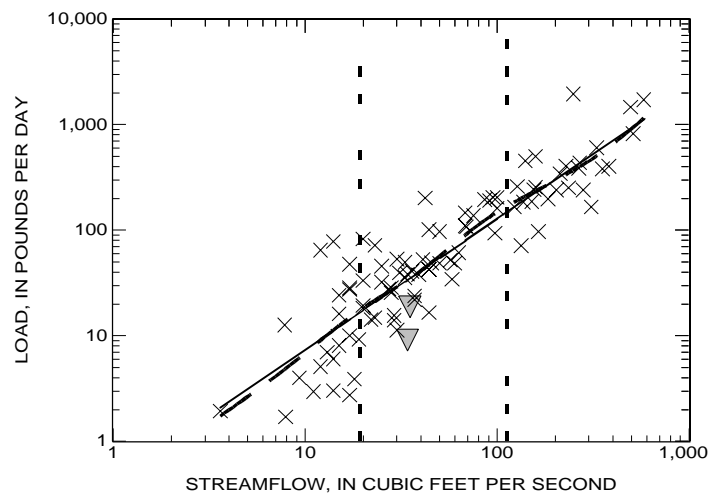
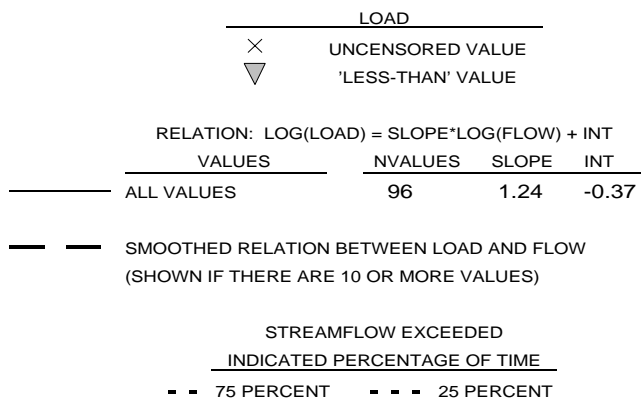
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

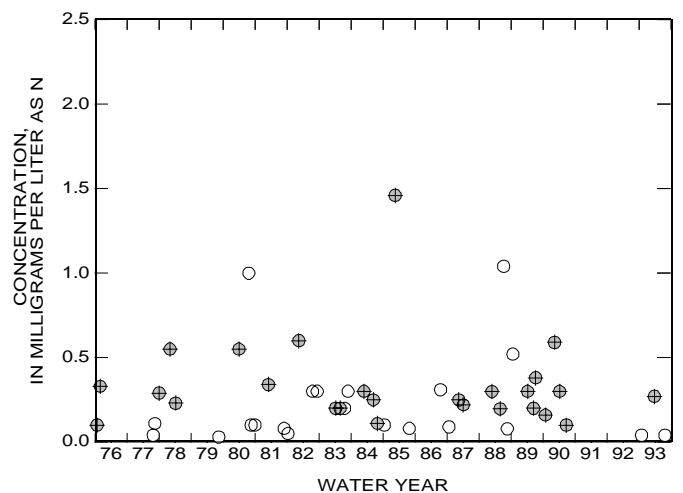
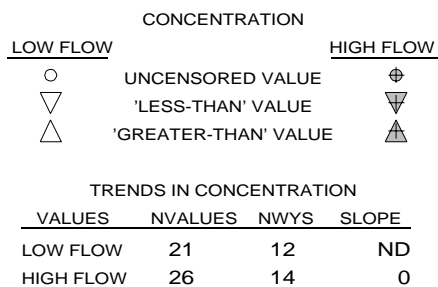
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



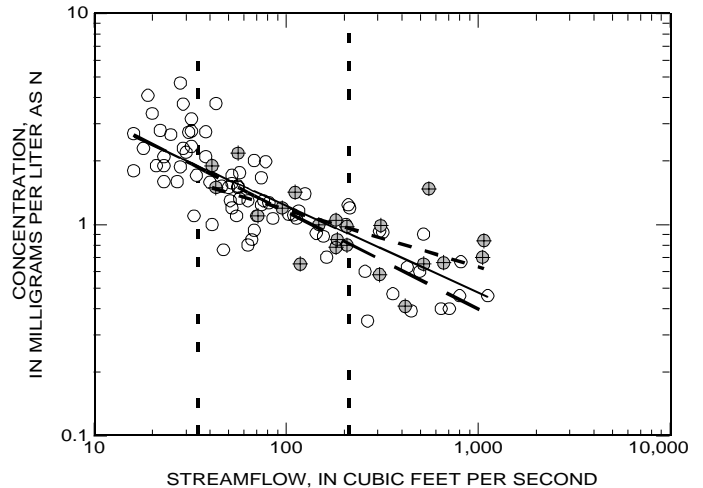
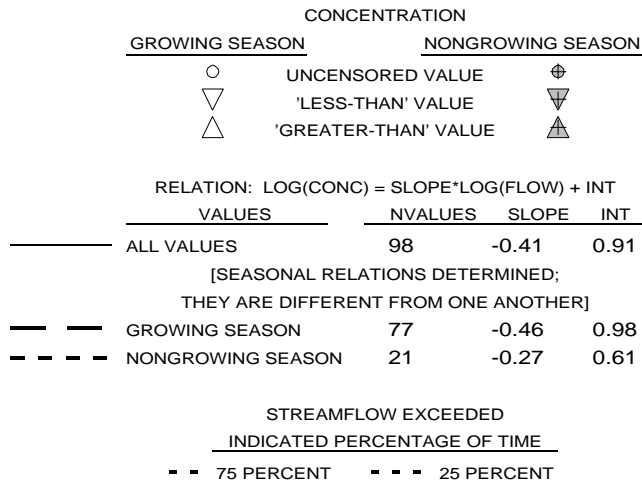
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



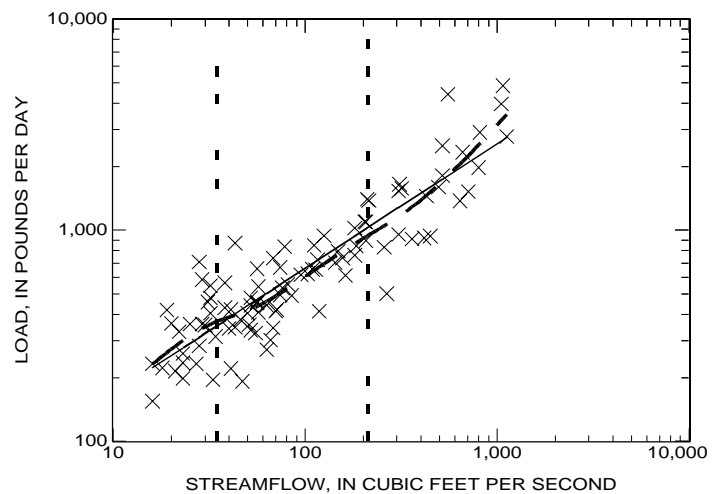
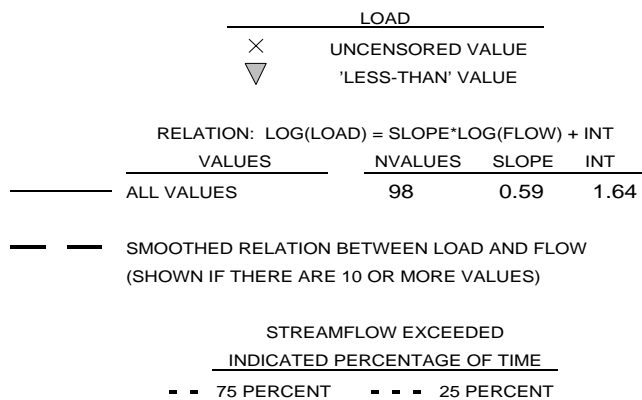
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

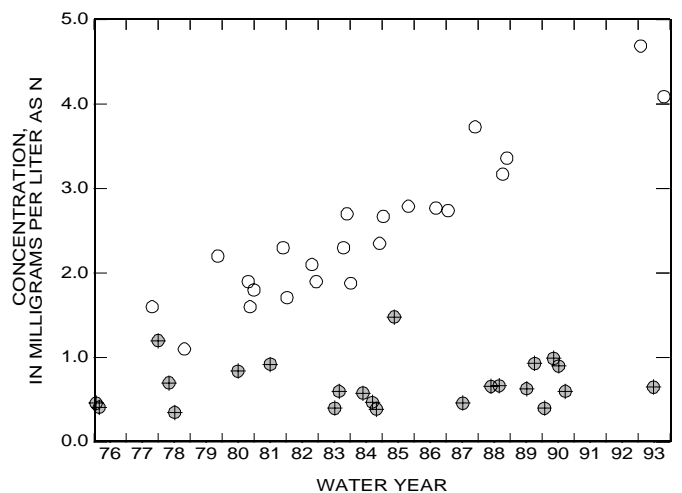
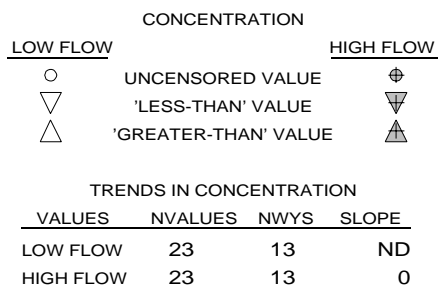
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

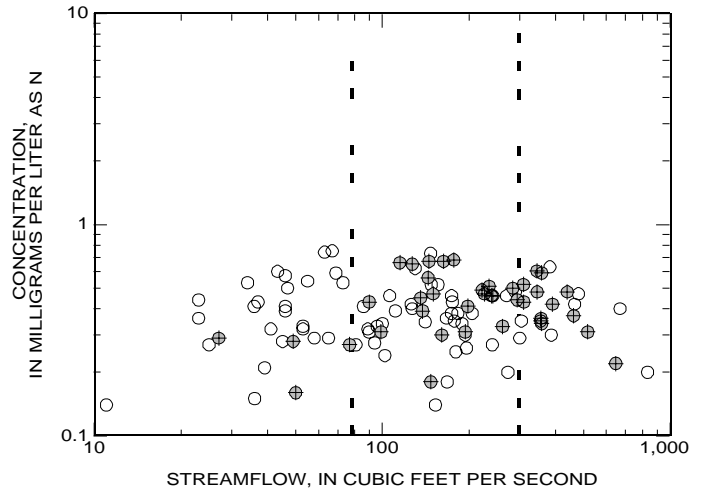
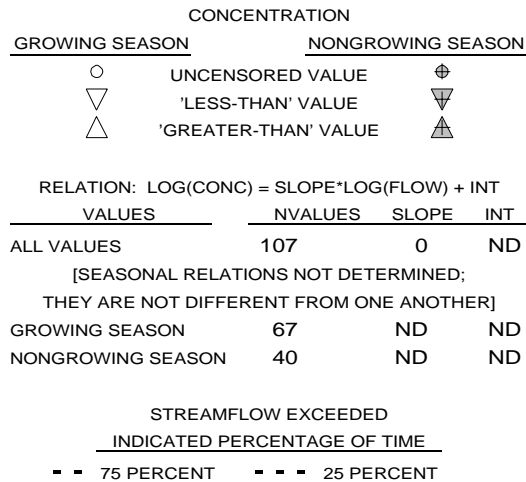




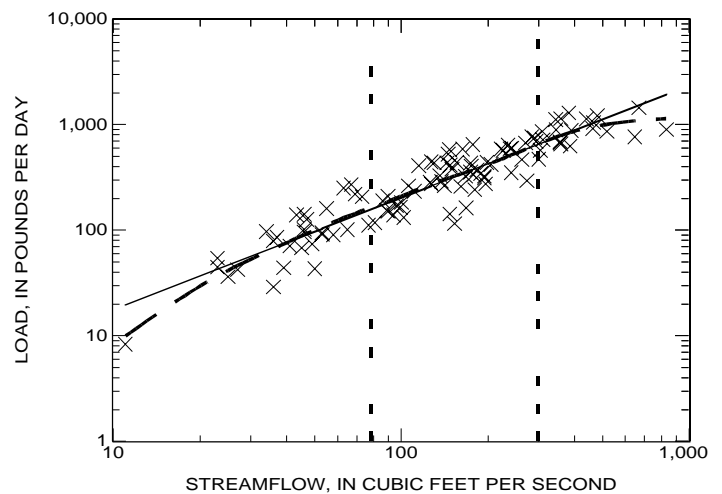
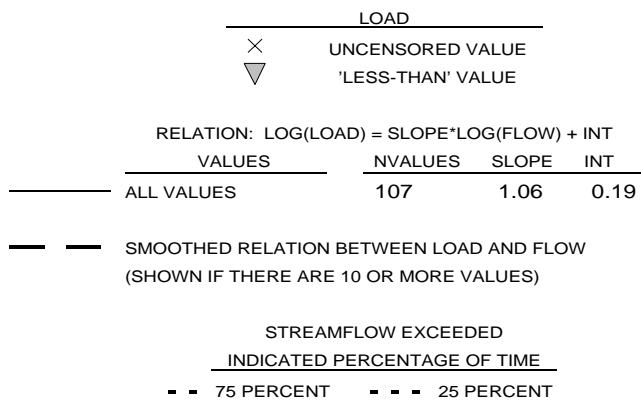
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

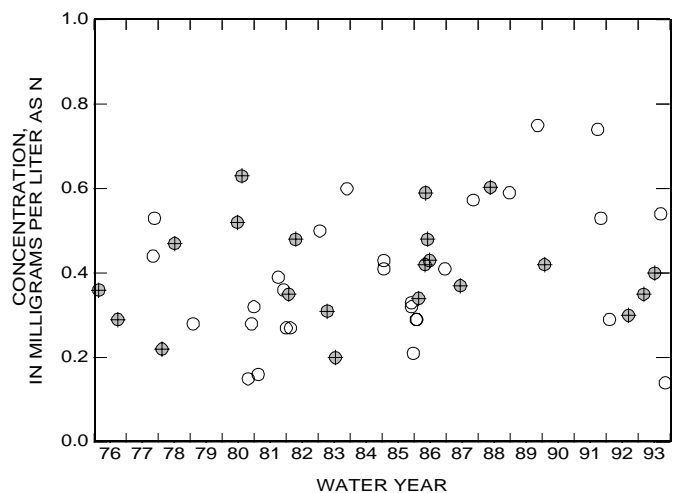
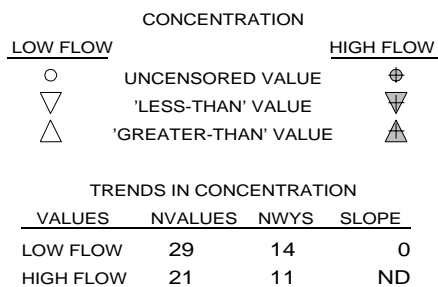
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



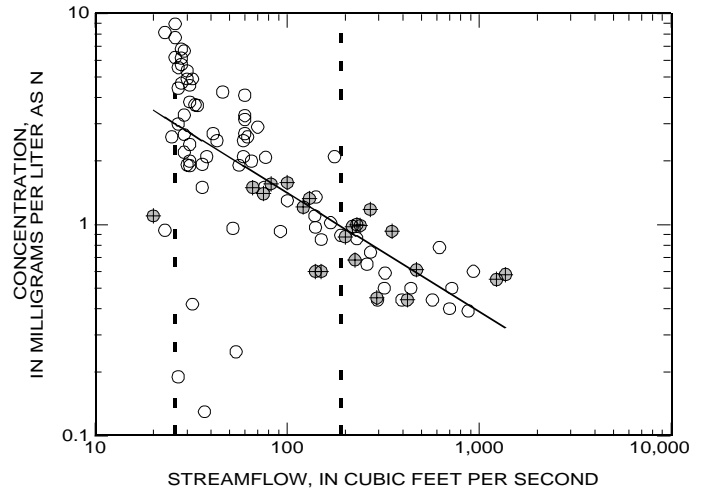
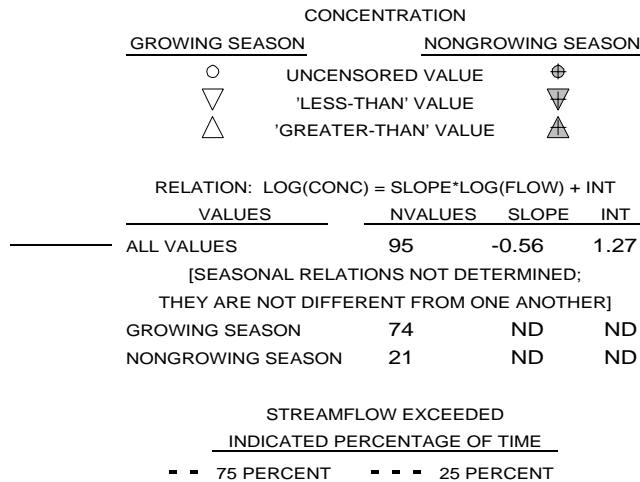
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



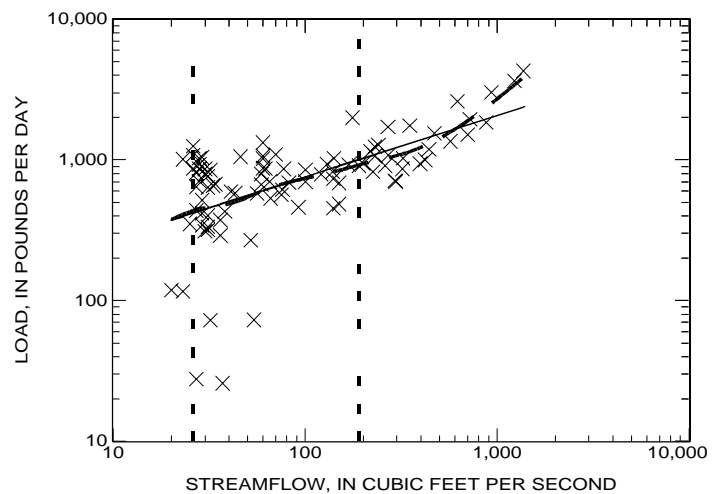
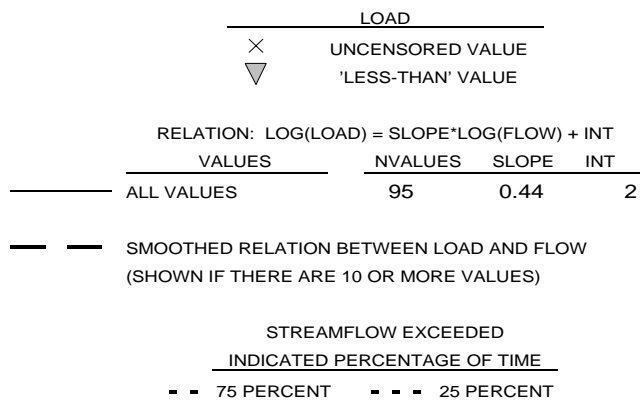
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

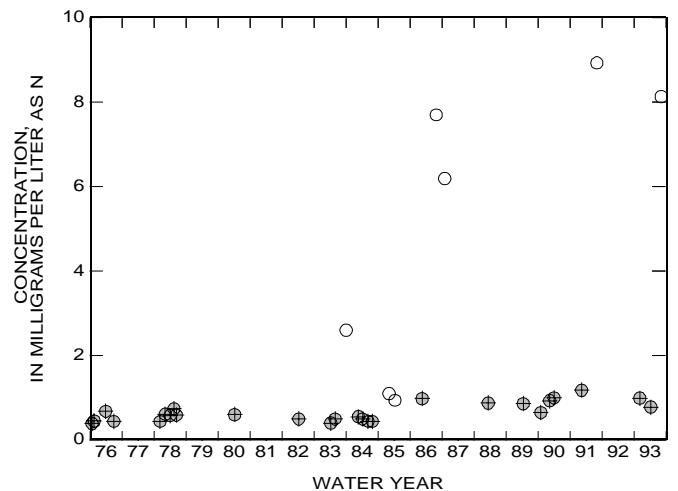
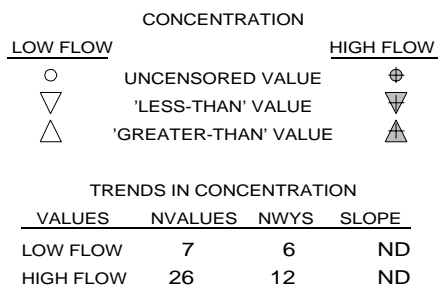
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



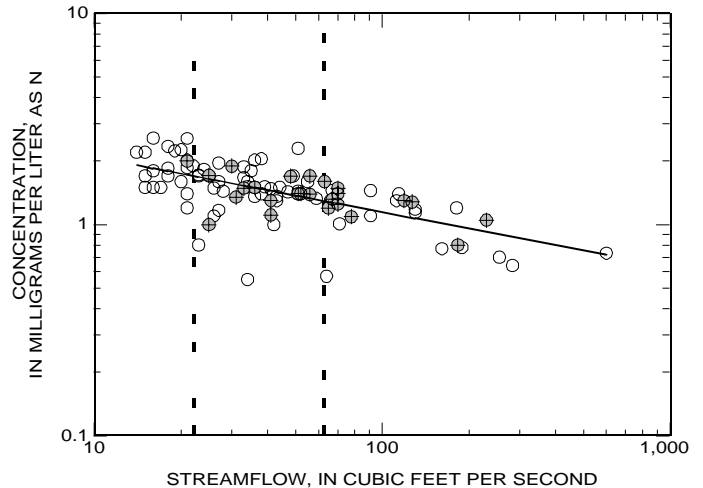
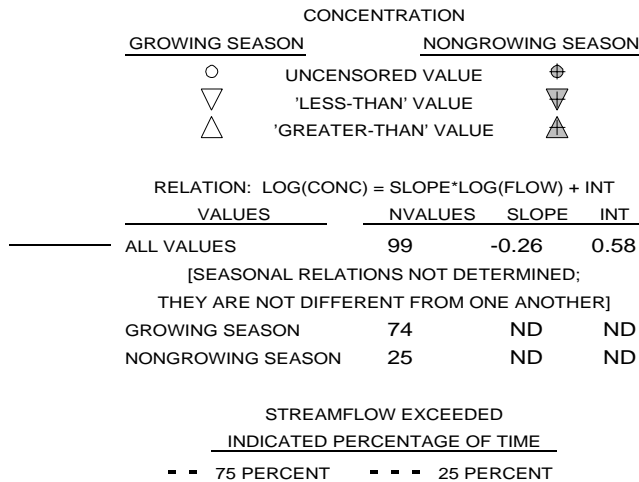
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



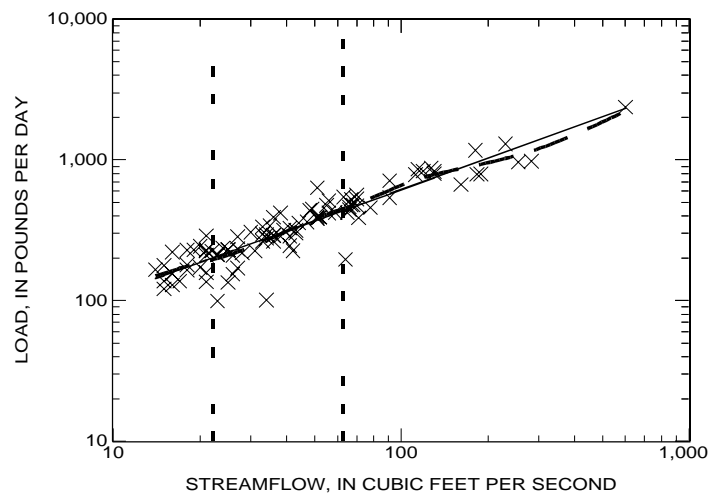
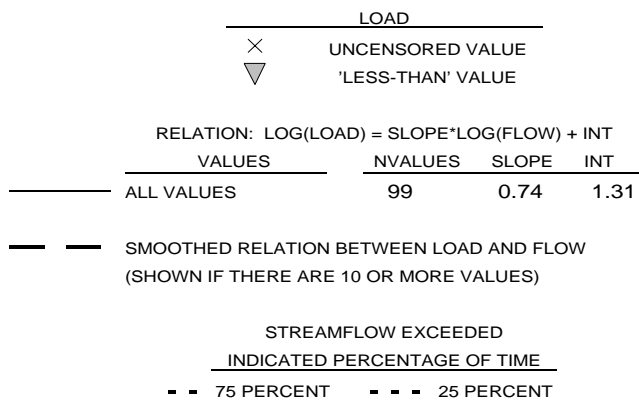
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

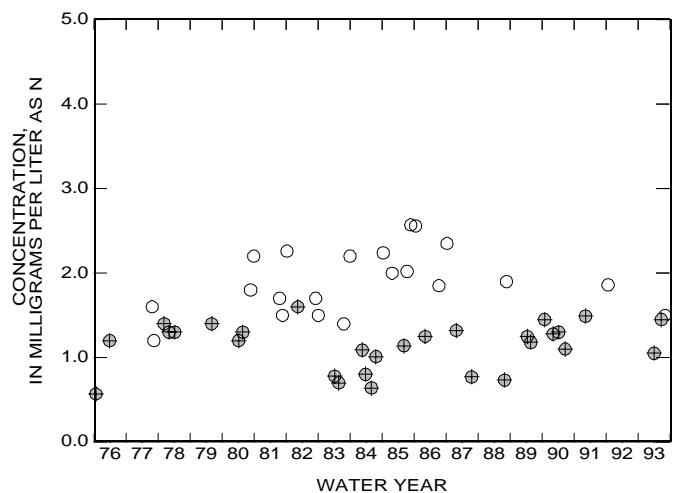
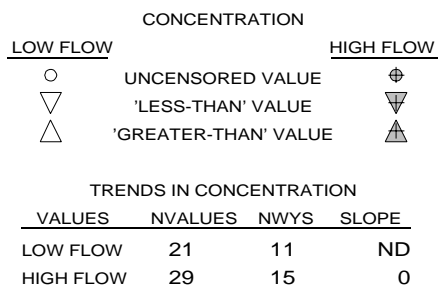
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



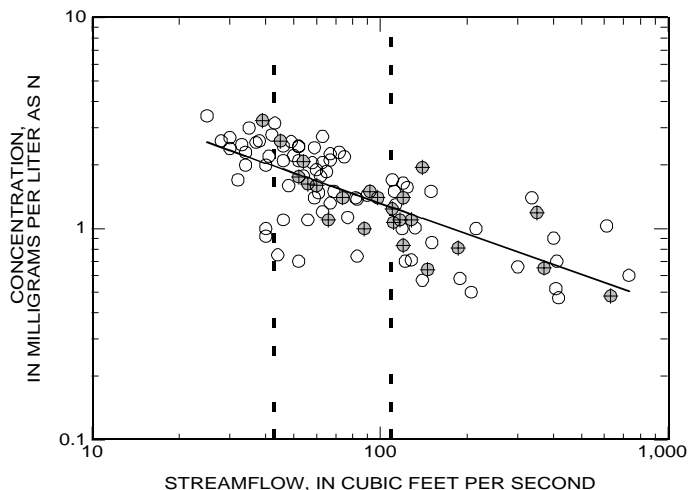
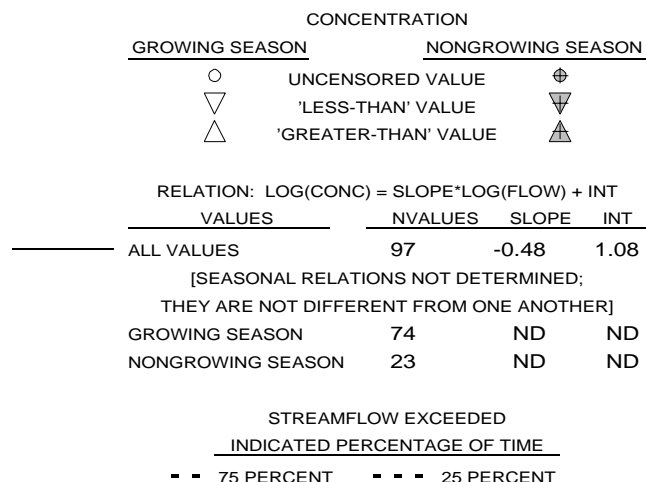
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



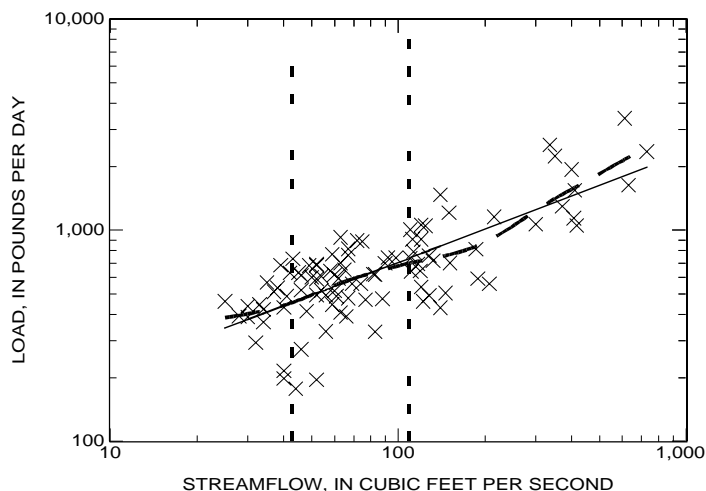
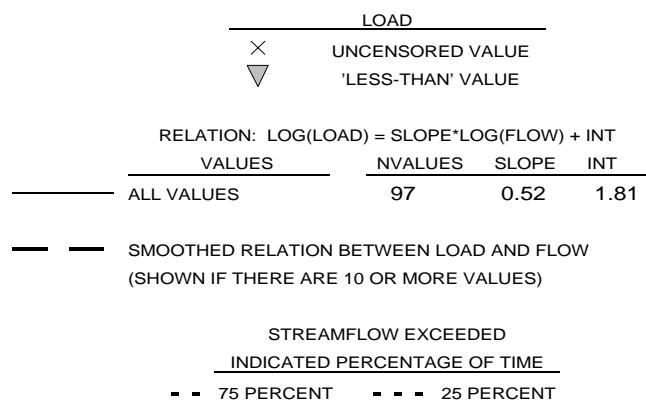
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

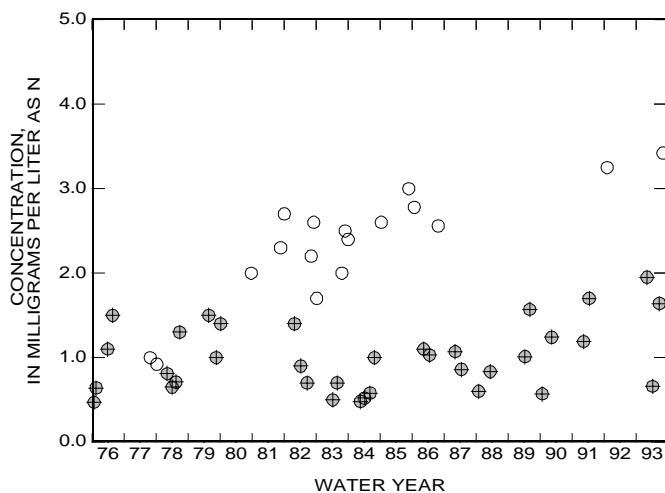
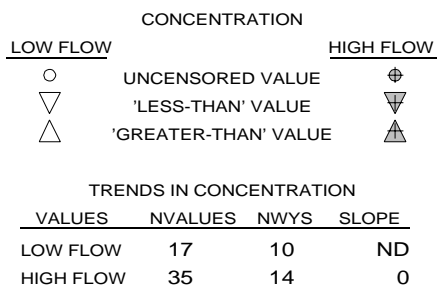
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



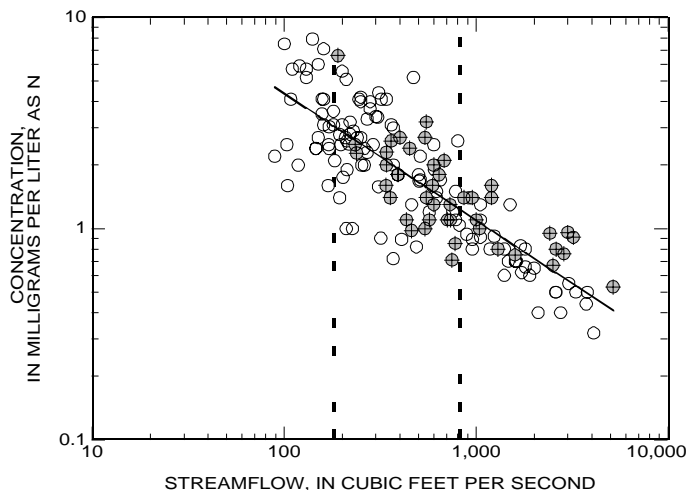
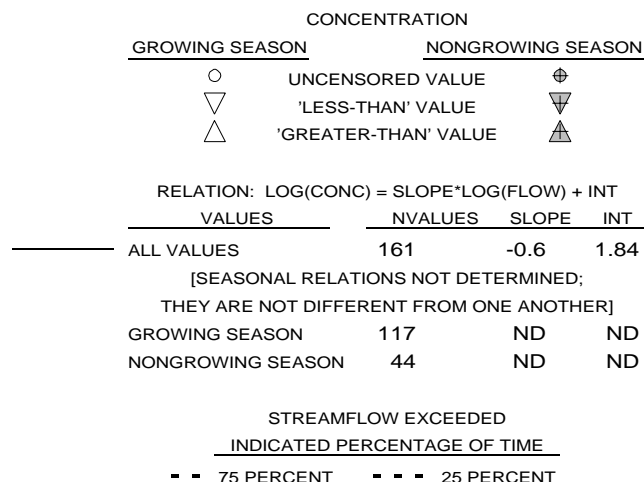
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



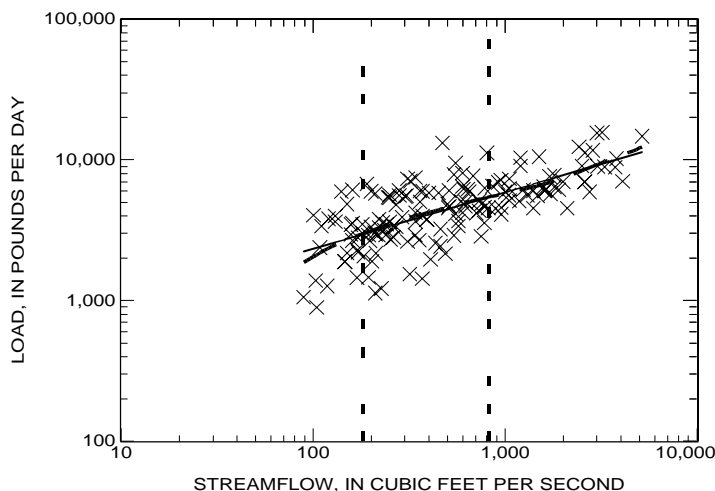
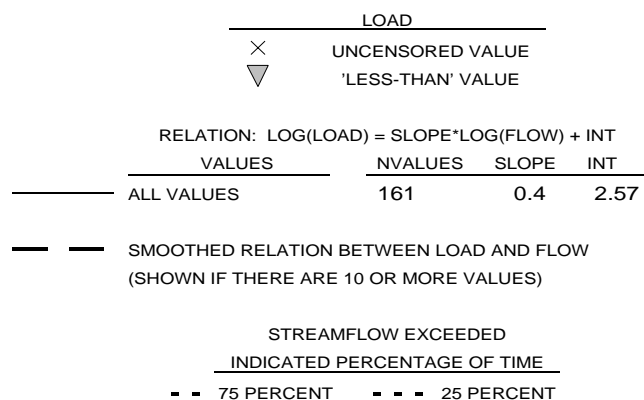
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

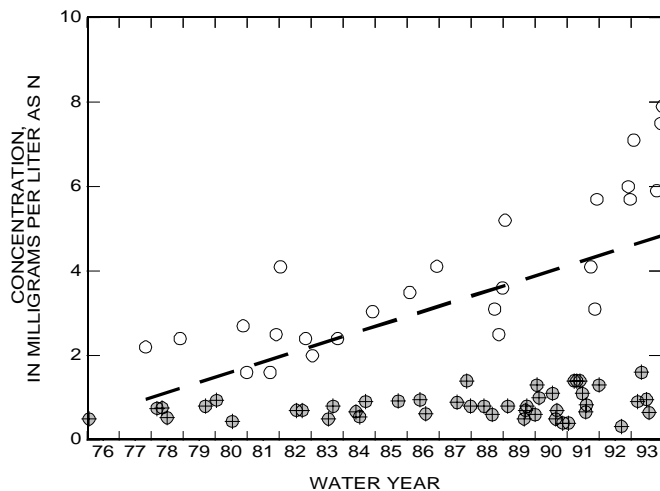
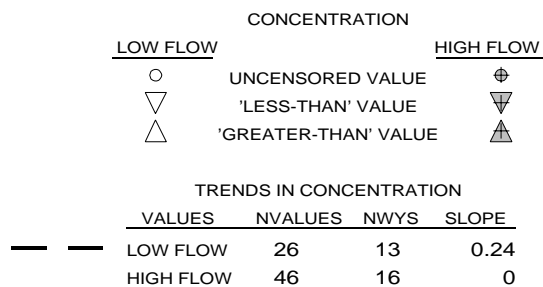
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



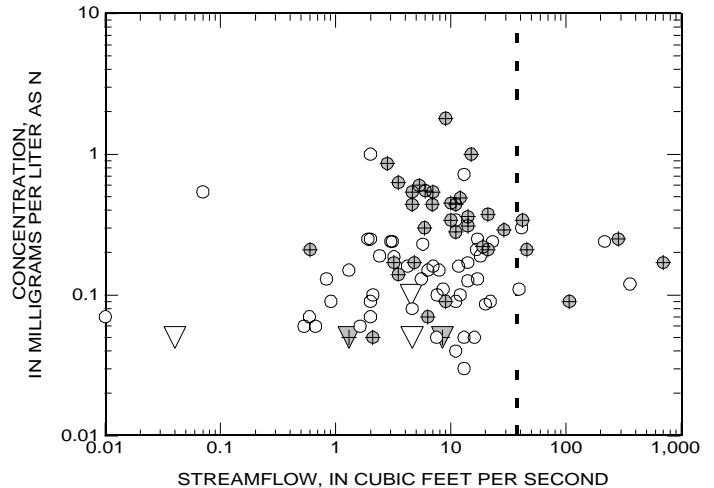
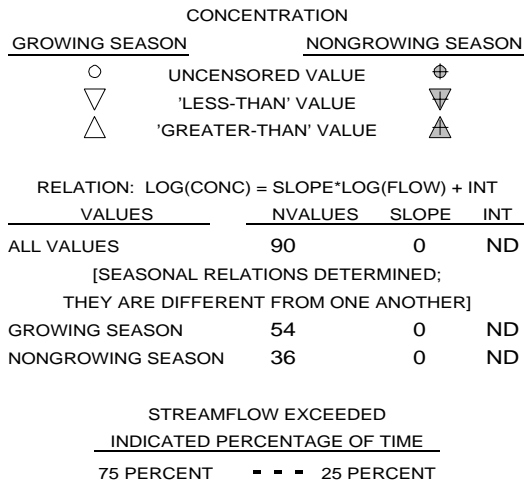
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



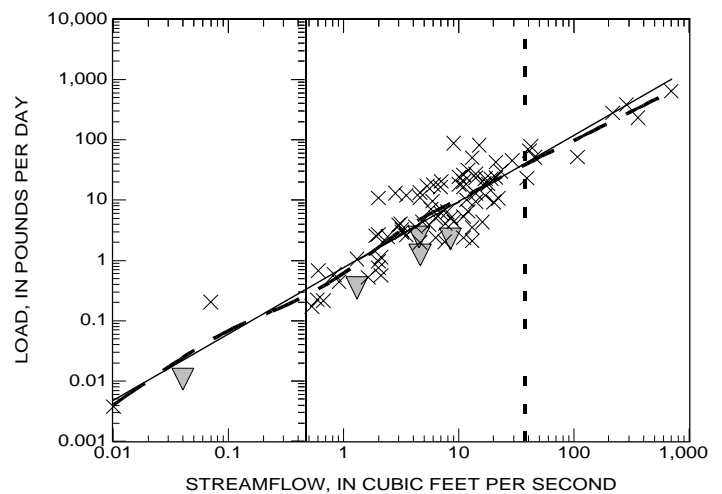
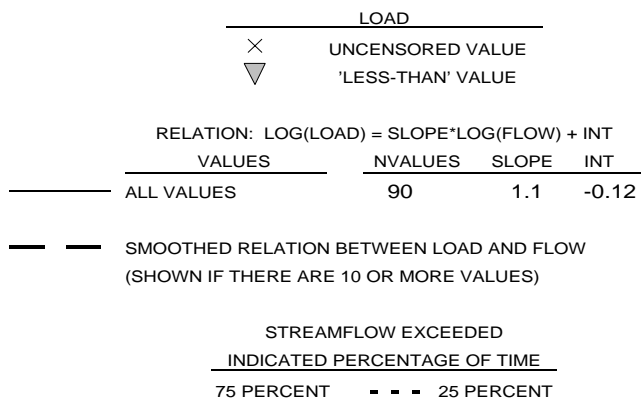
APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITRATE PLUS NITRITE  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

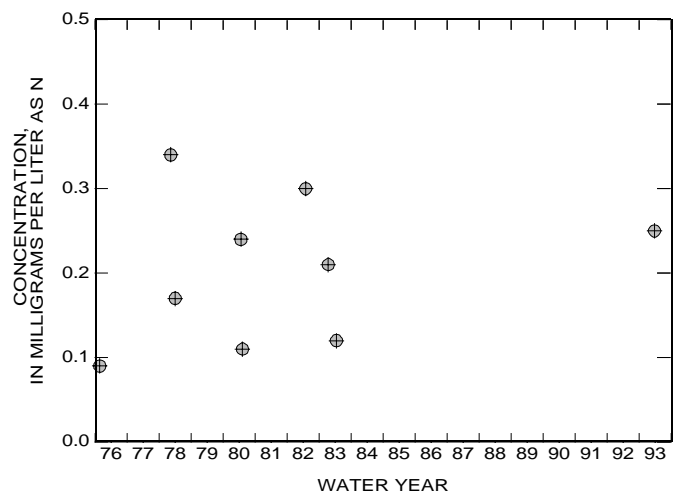
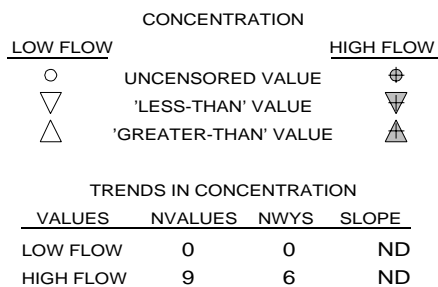
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



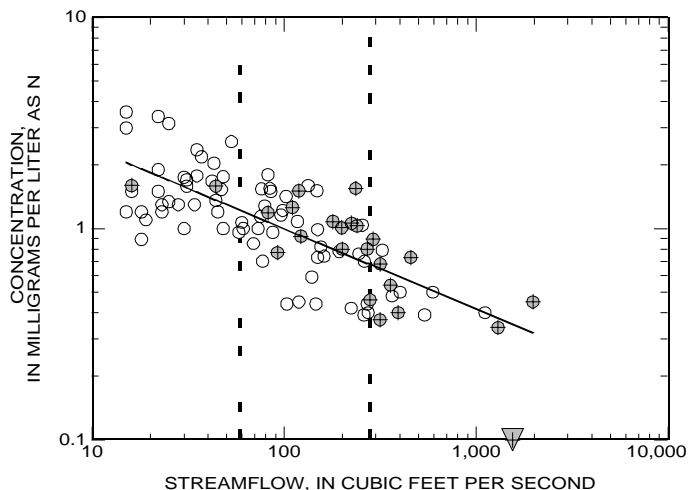
# APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL NITRATE PLUS NITRITE  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

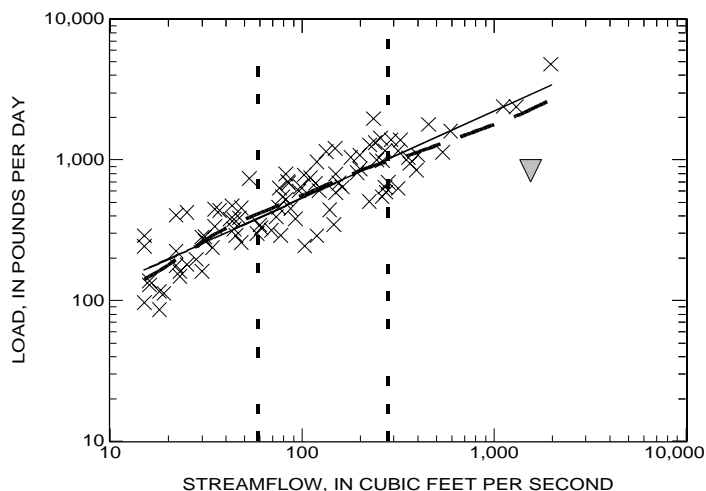
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	93	-0.38	0.76	
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	70	ND	ND	
NONGROWING SEASON	23	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



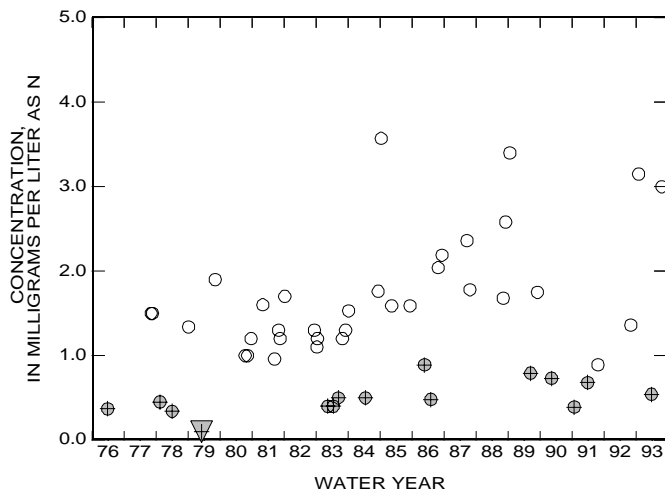
## RELATION OF LOAD TO STREAMFLOW

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	93	0.62	1.49	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

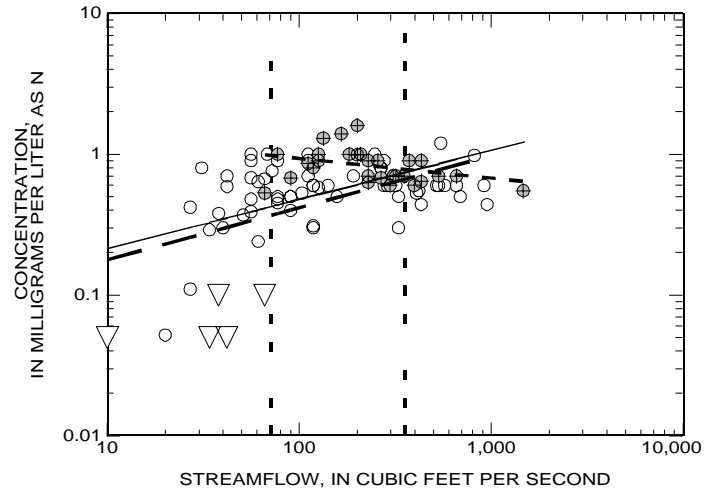
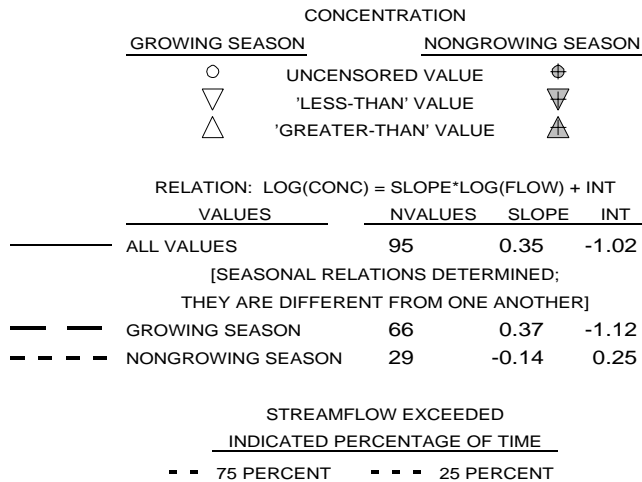
CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	33	15	0	
HIGH FLOW	14	9	ND	



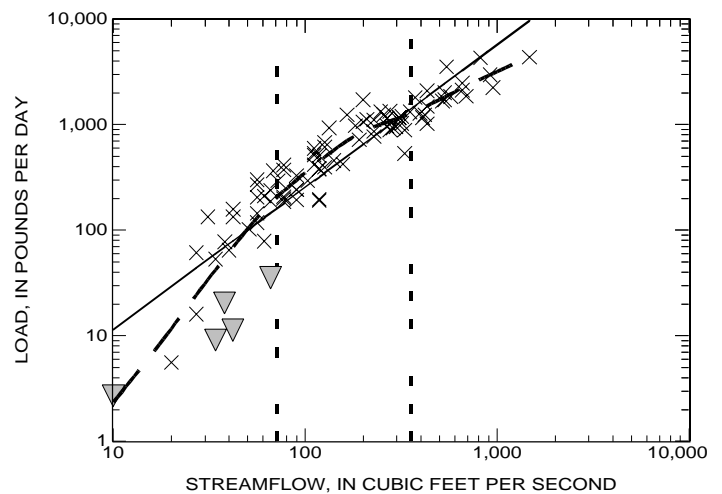
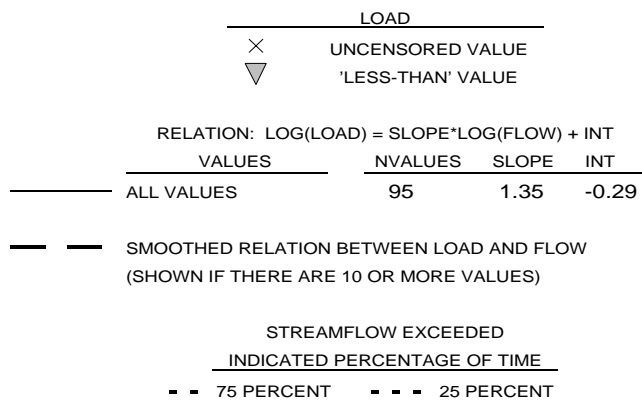
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

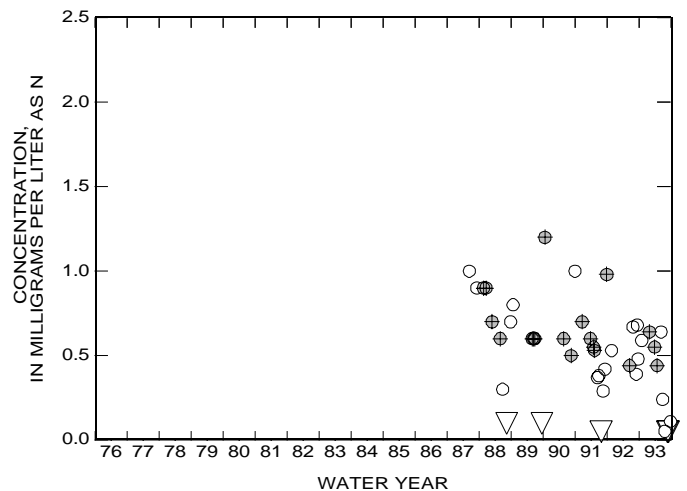
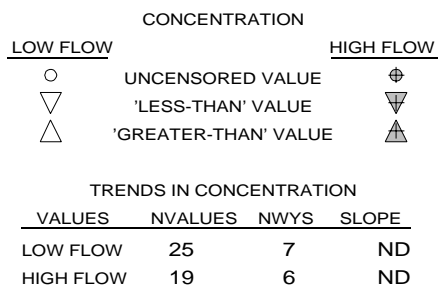
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

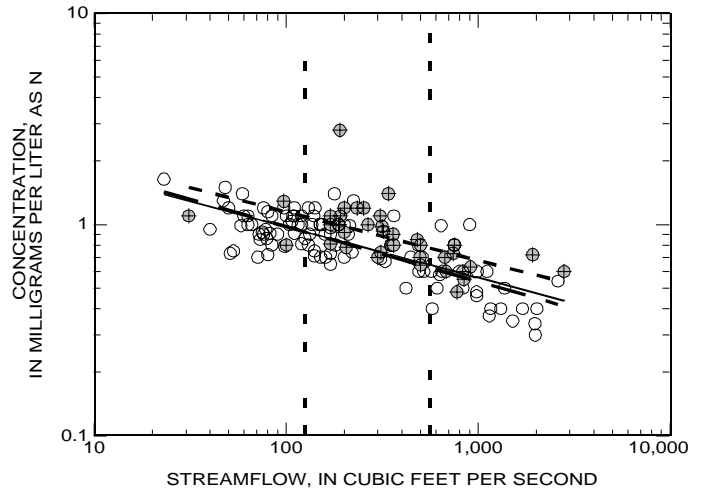
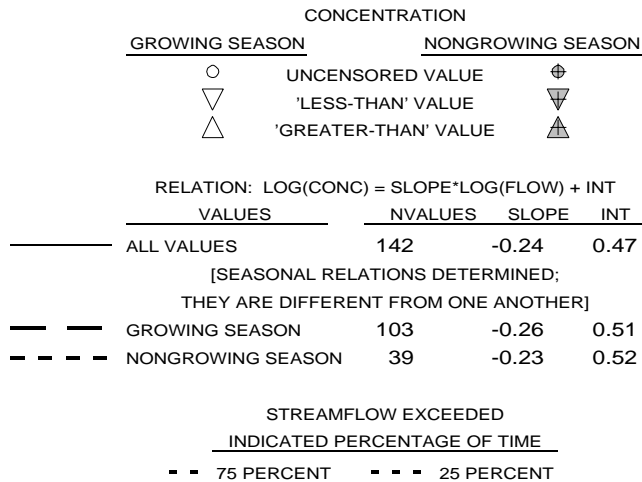




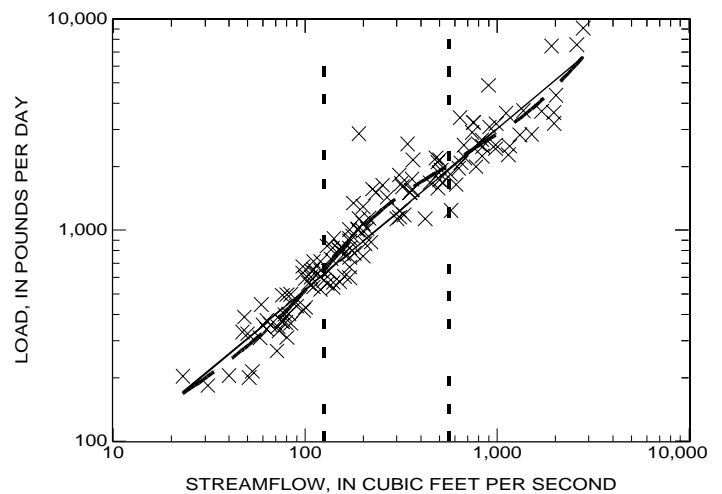
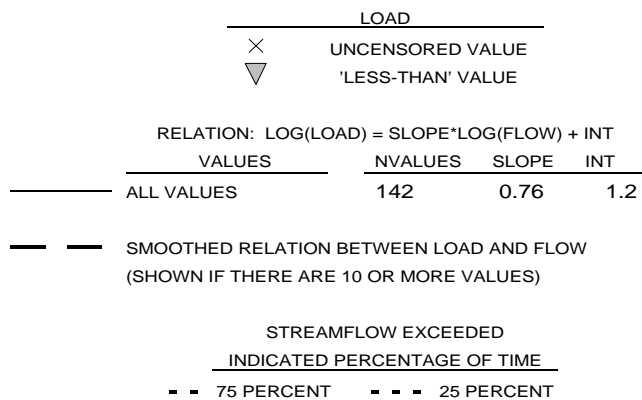
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

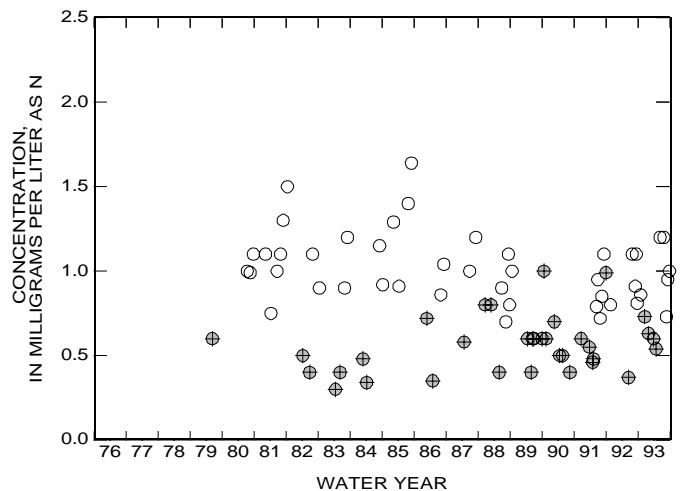
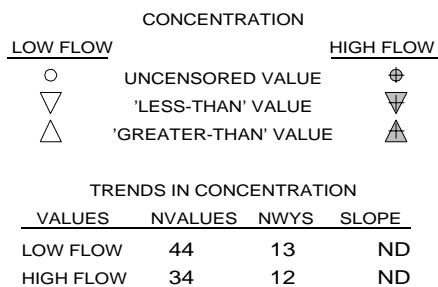
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



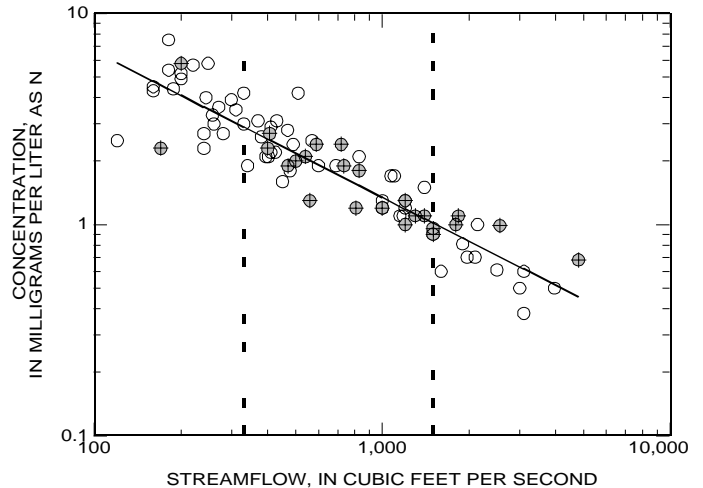
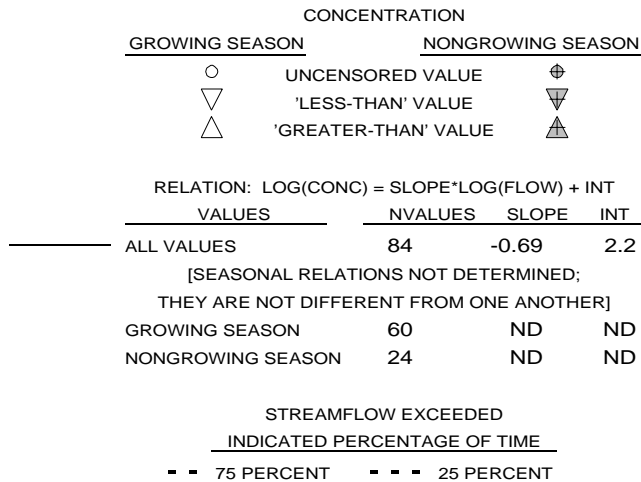
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



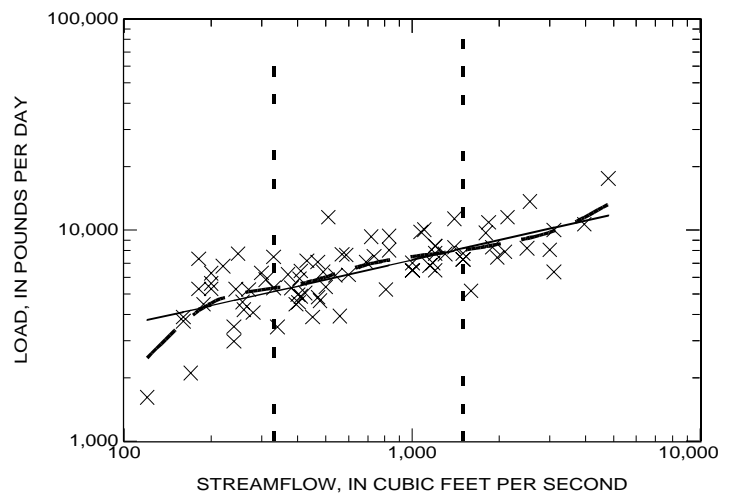
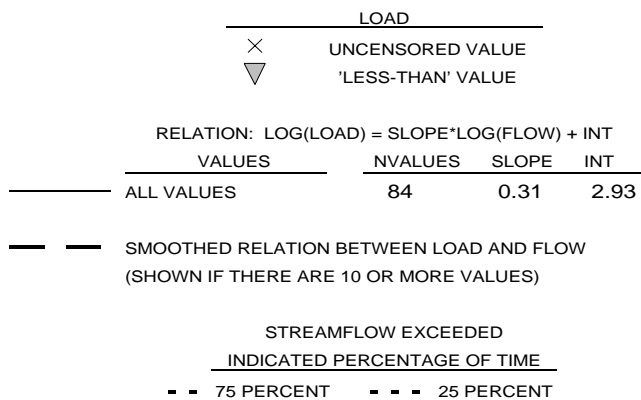
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

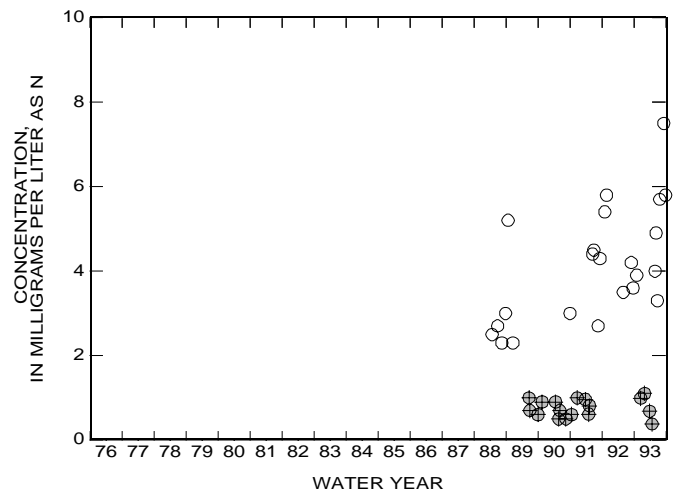
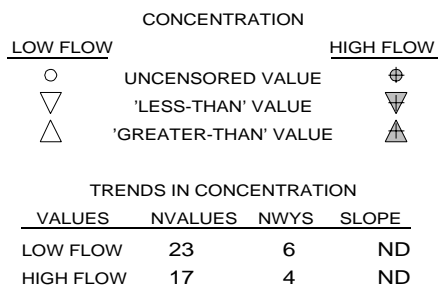
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



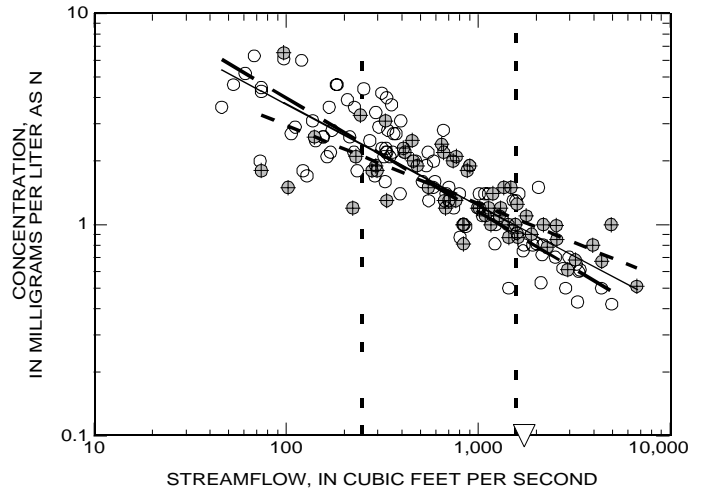
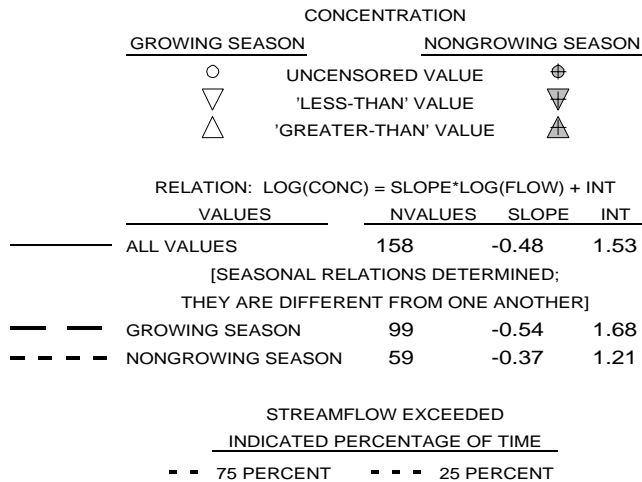
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



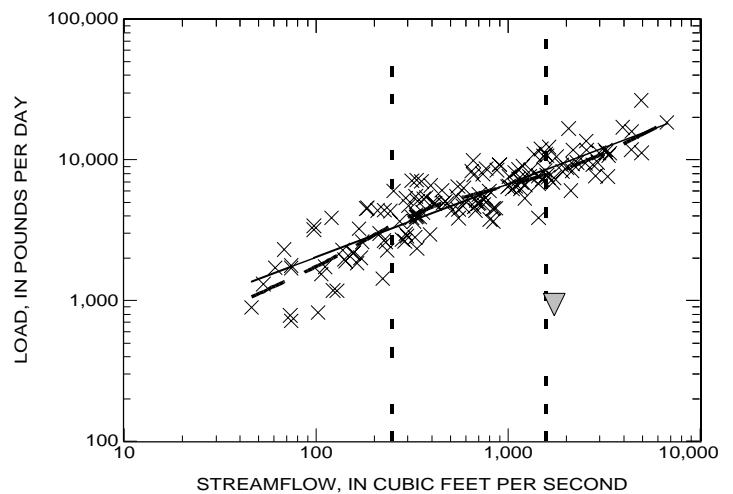
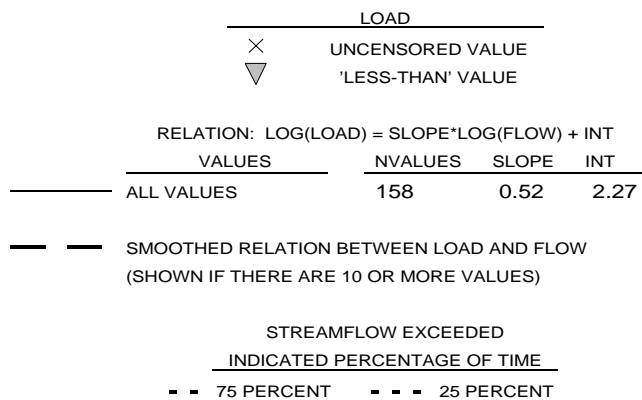
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

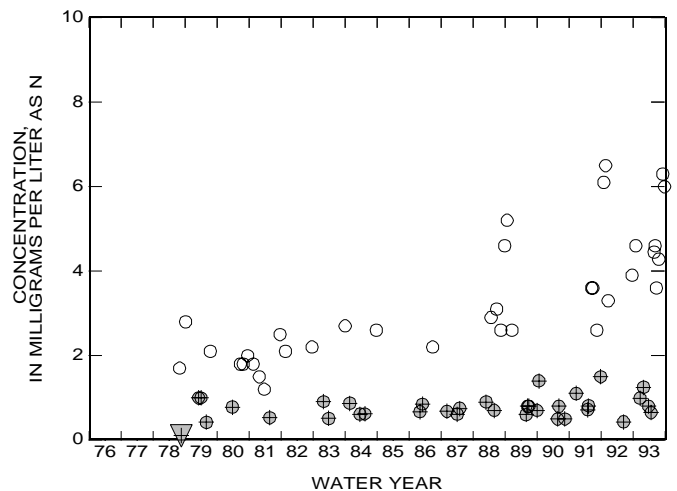
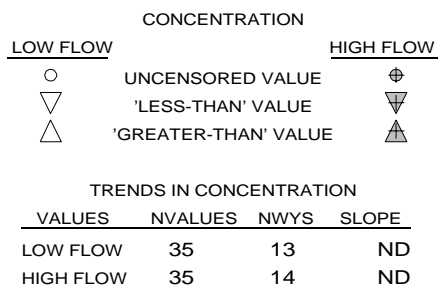
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



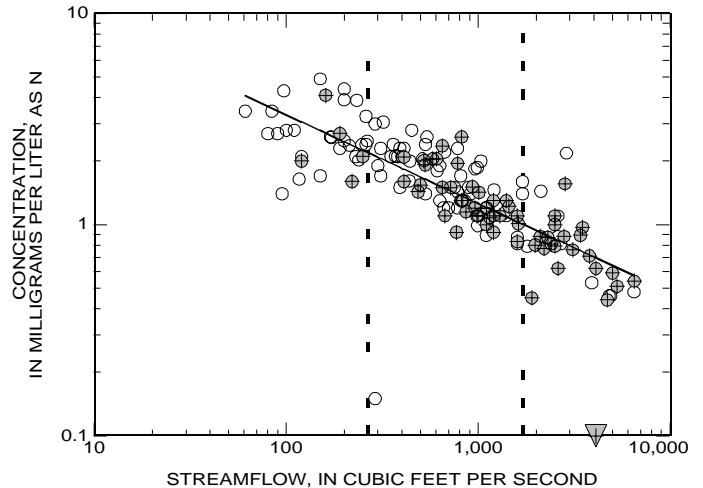
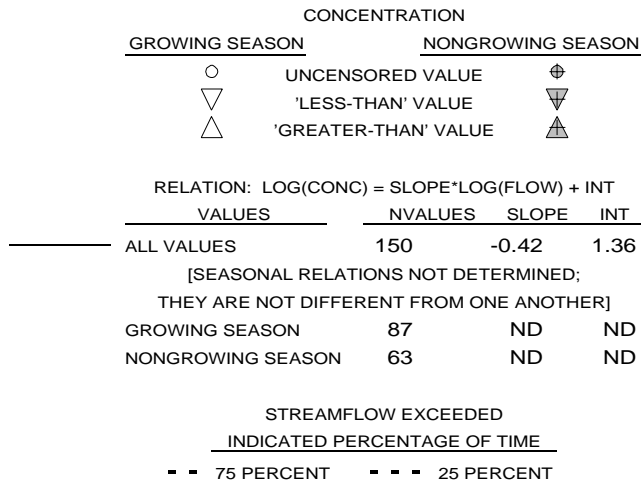
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



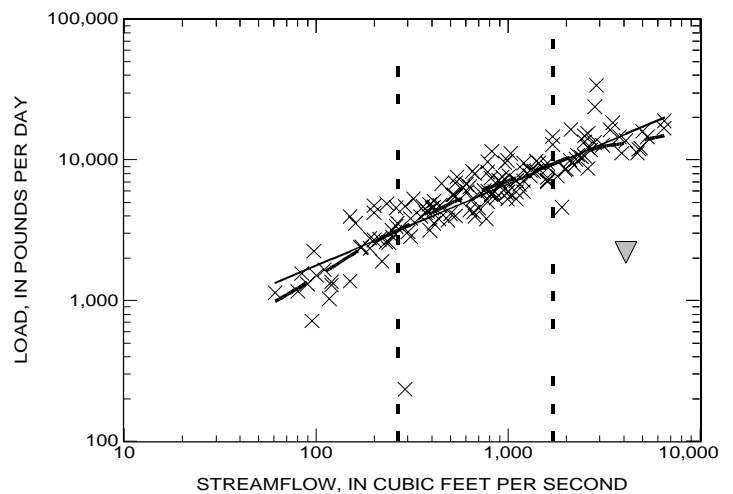
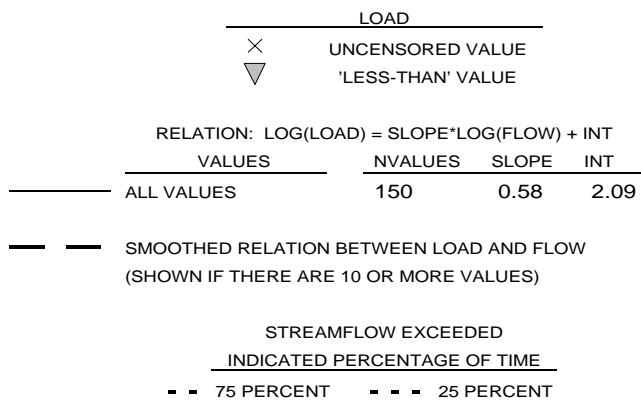
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

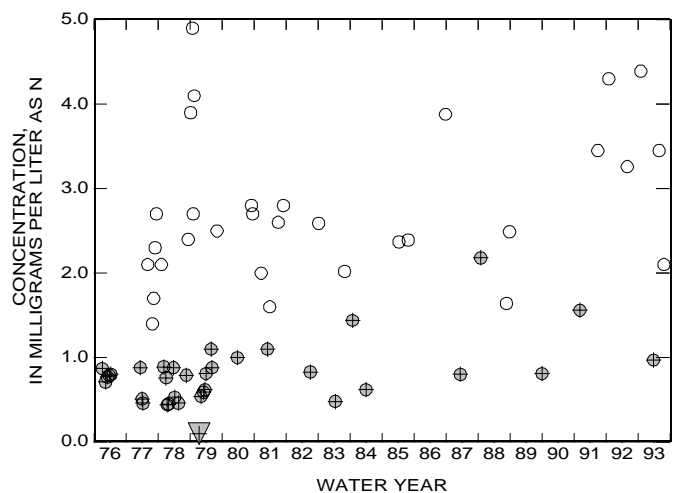
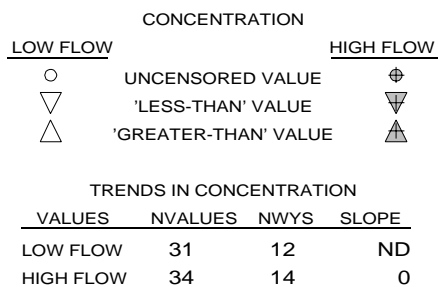
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



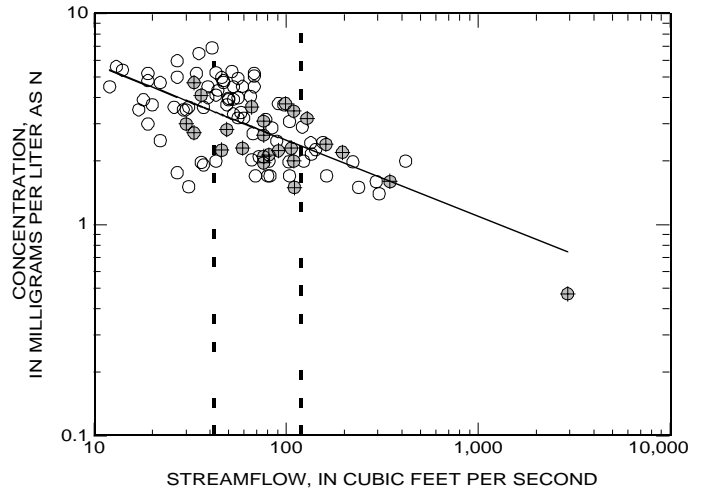
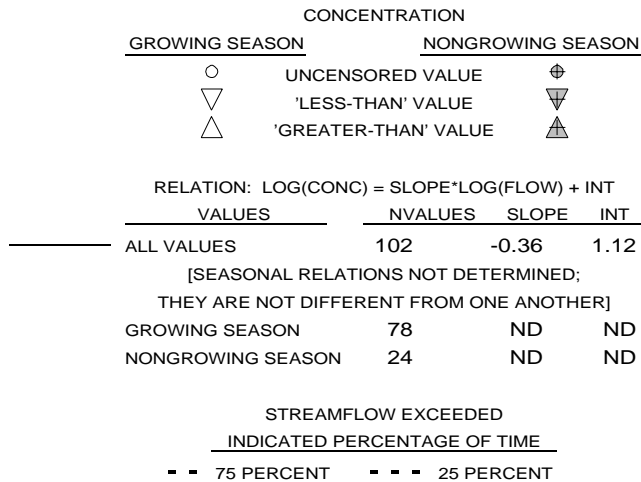
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



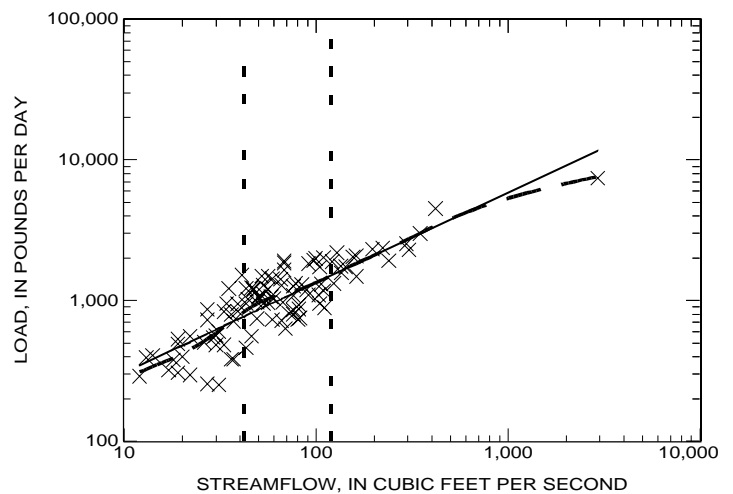
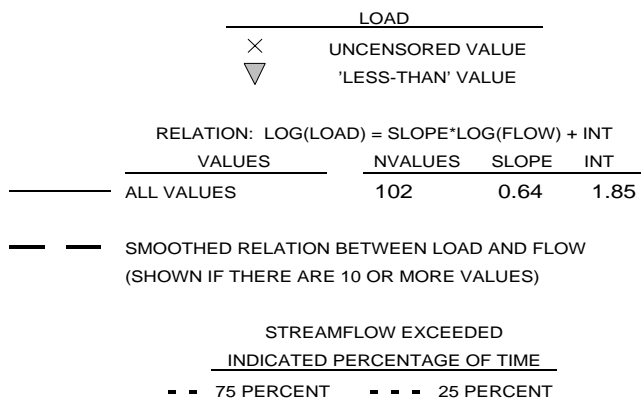
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

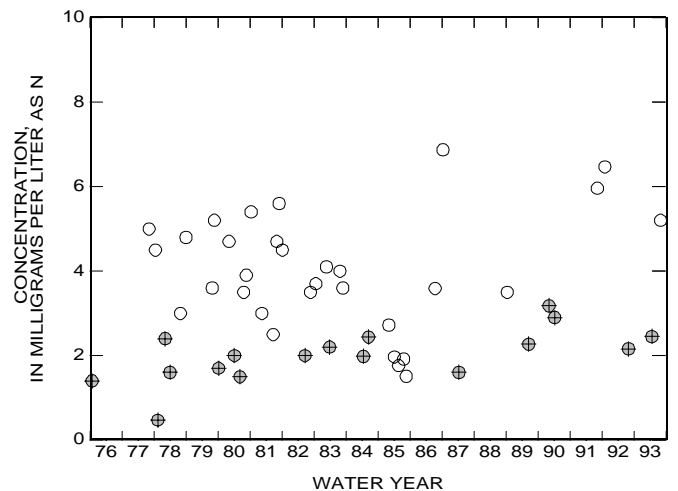
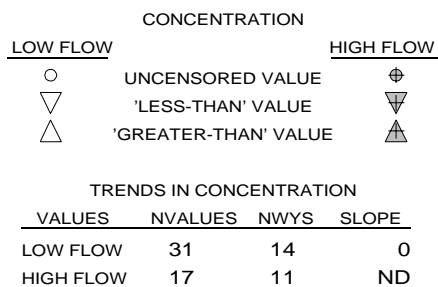
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



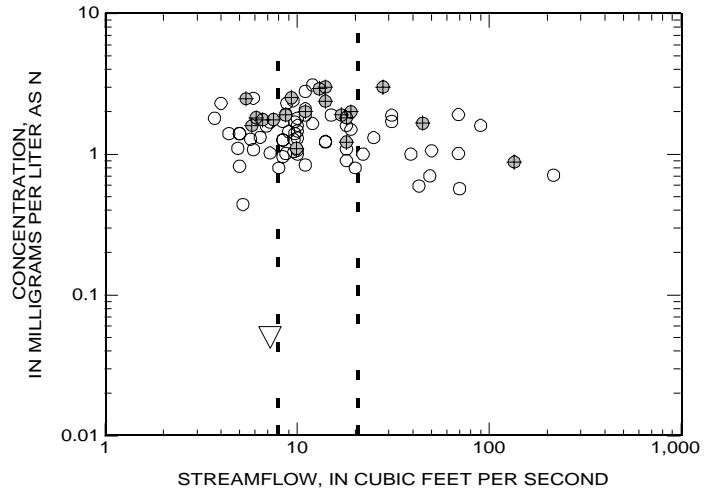
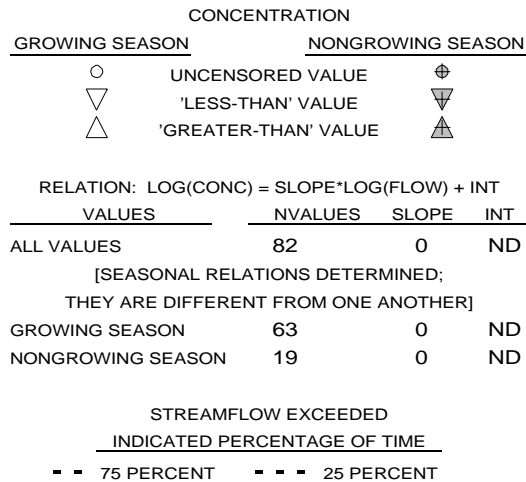
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



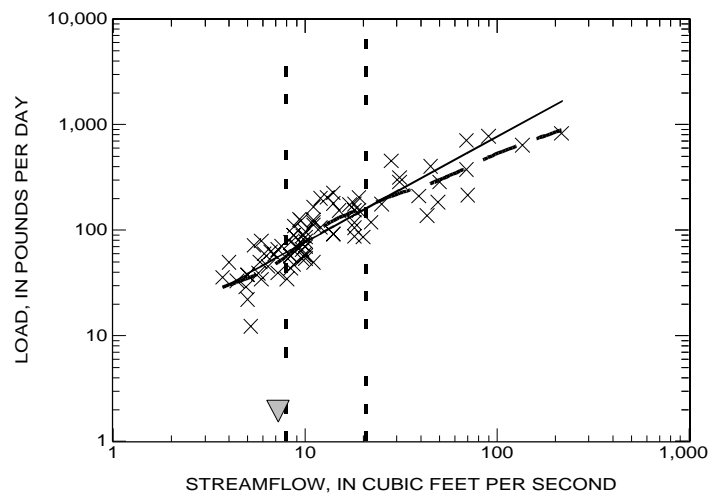
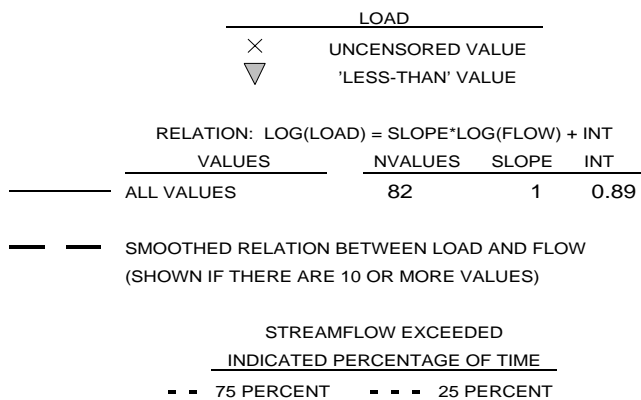
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

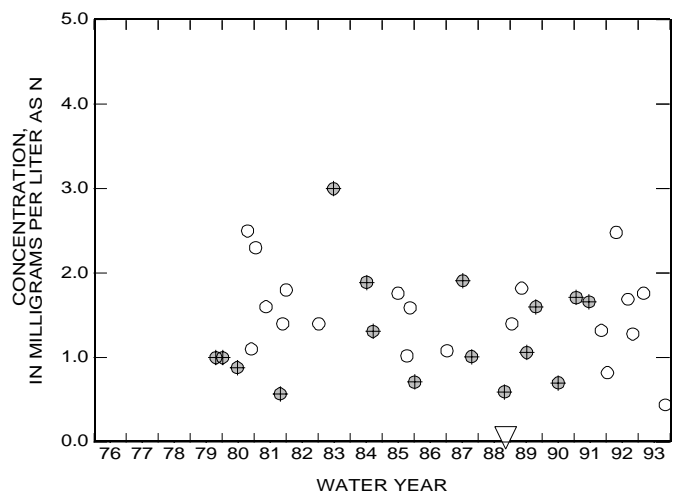
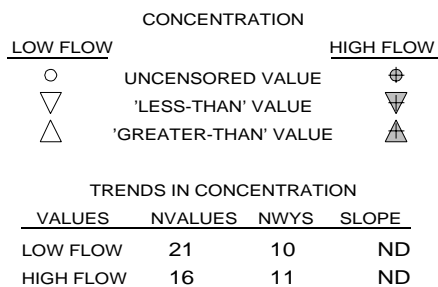
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



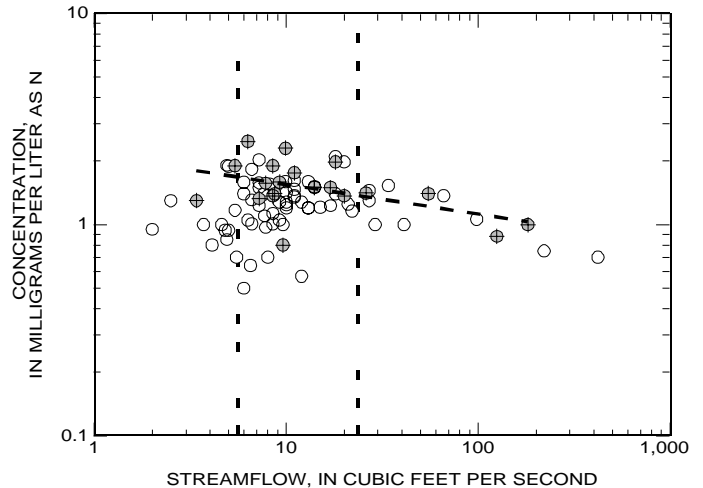
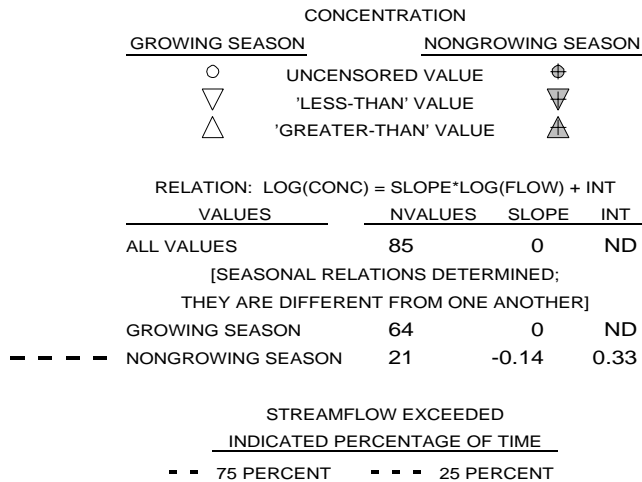
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



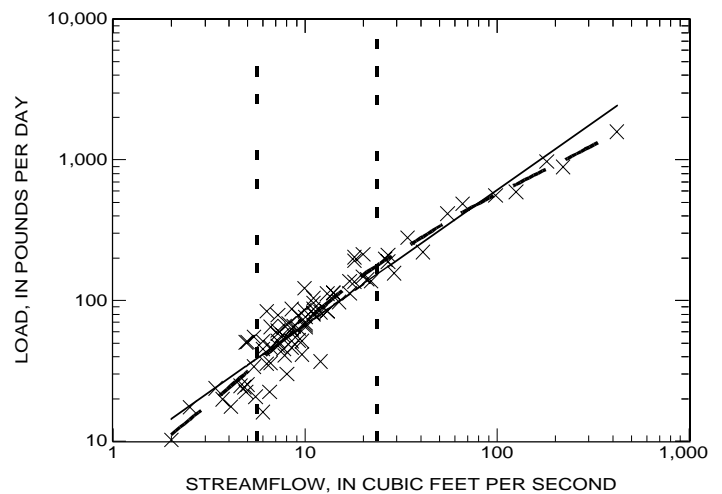
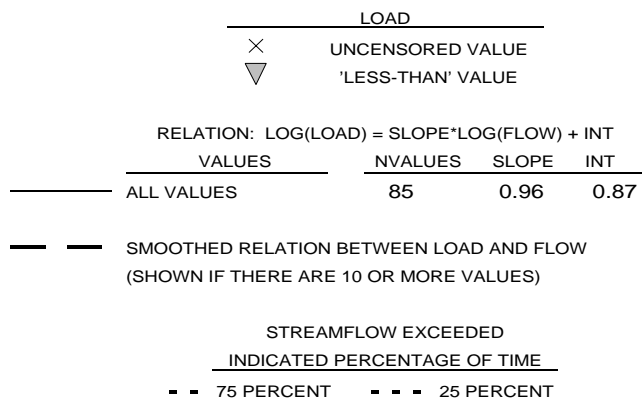
APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITRATE PLUS NITRITE  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

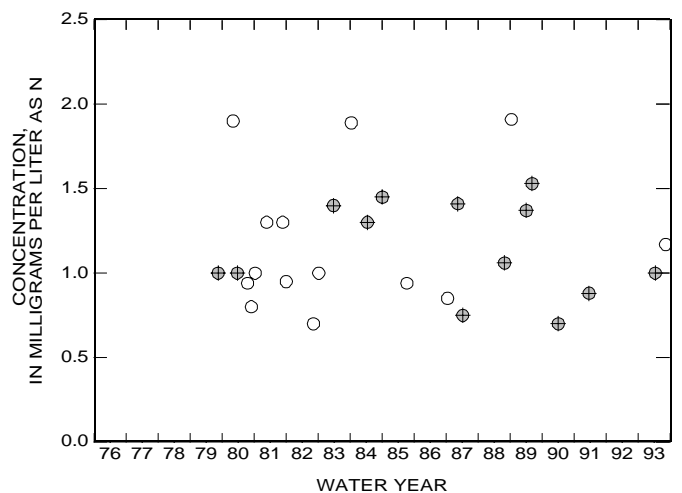
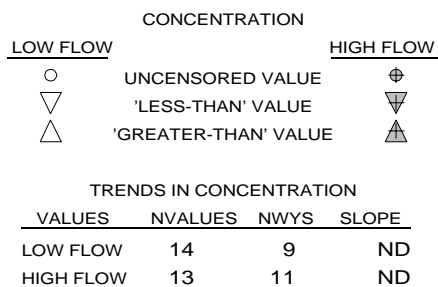
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



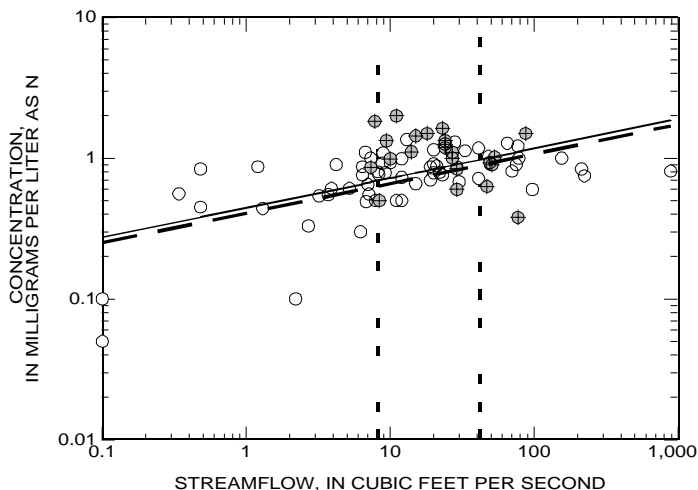
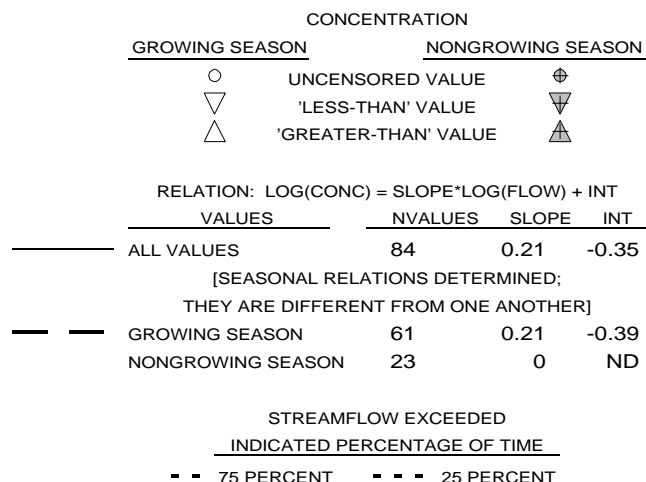
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



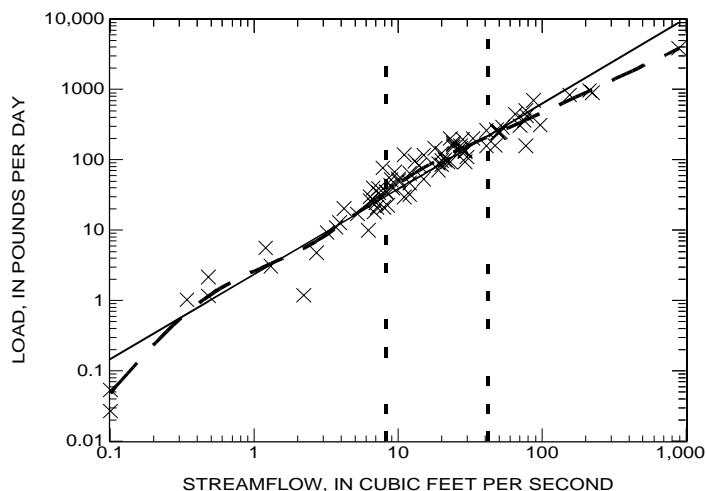
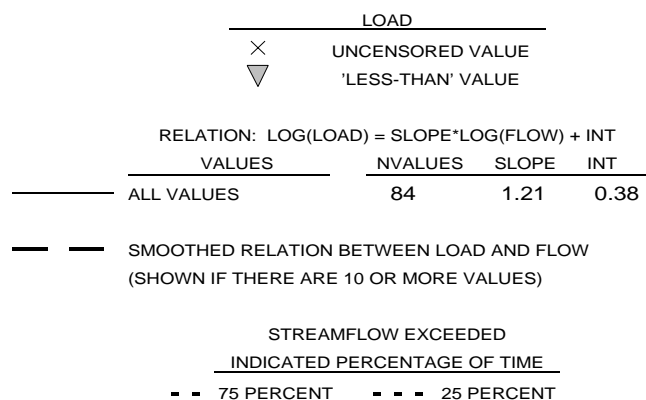
**APPENDIX 12. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRATE PLUS NITRITE**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

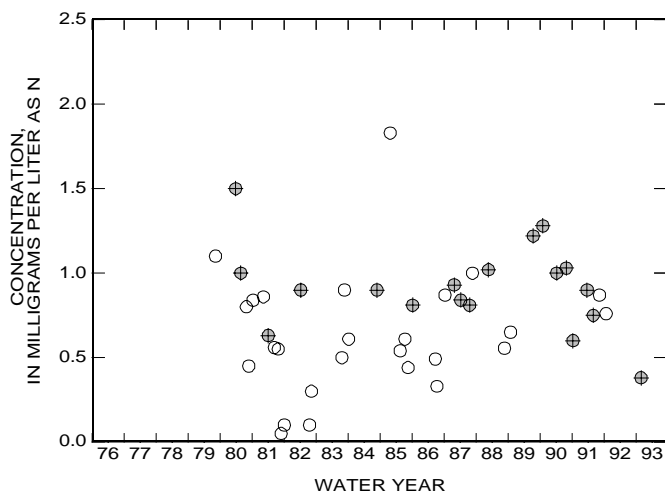
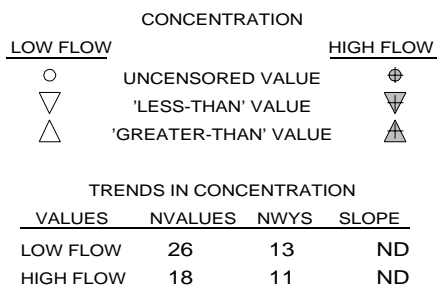
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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## Appendix 13

### Total nitrite

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<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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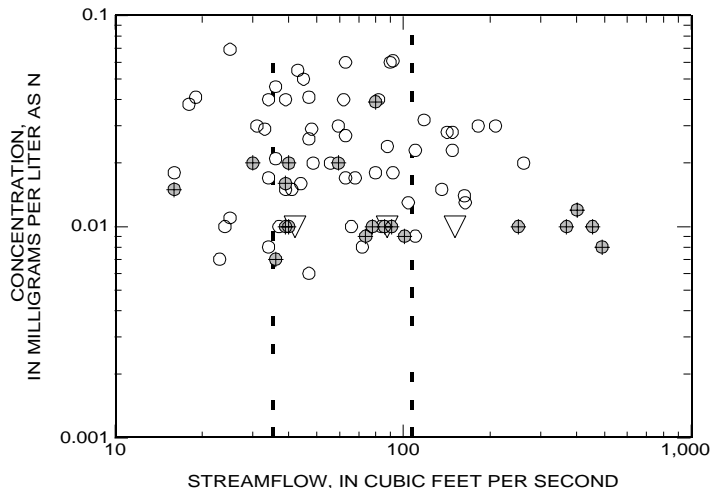
# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL NITRITE  
01377000 HACKENSACK RIVER AT RIVERVALE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

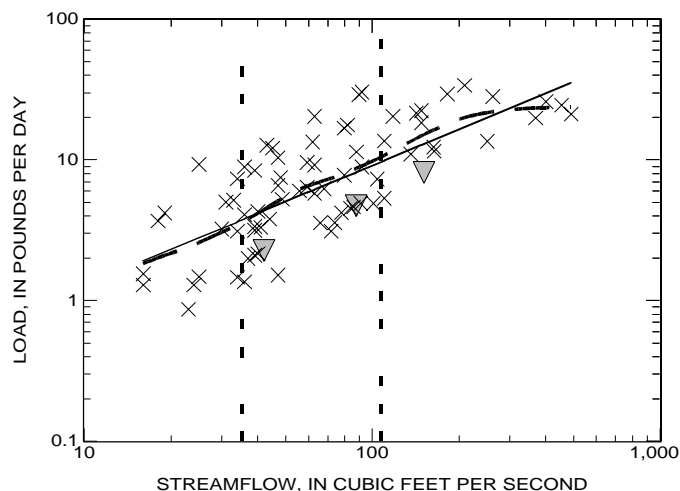
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	77	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	58	0	ND
NONGROWING SEASON	19	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



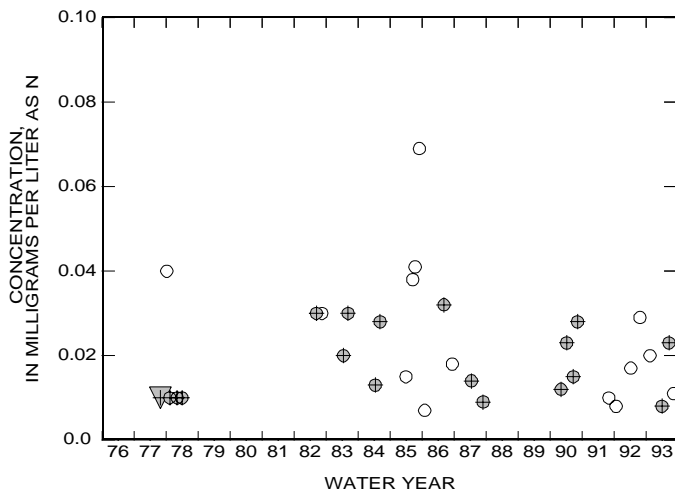
## RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	77	0.85	-0.74
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

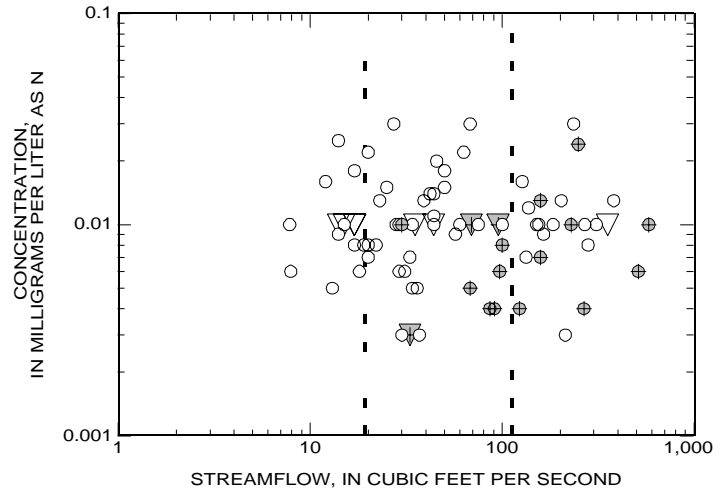
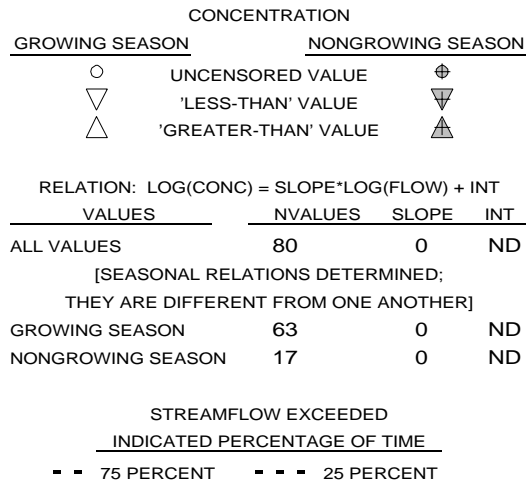
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	14	7	ND
HIGH FLOW	18	9	ND



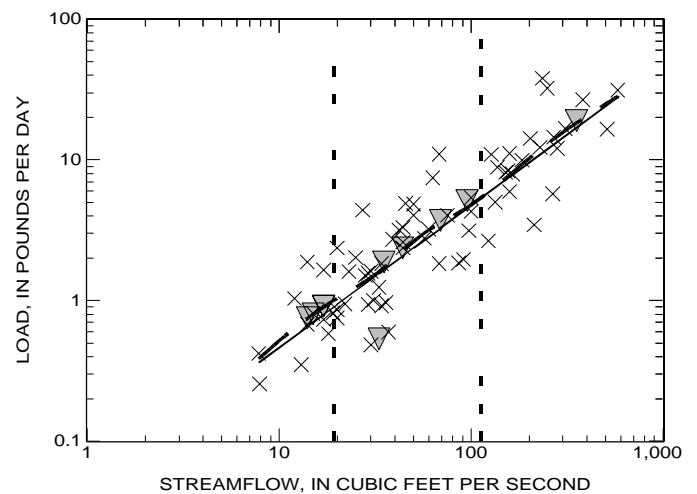
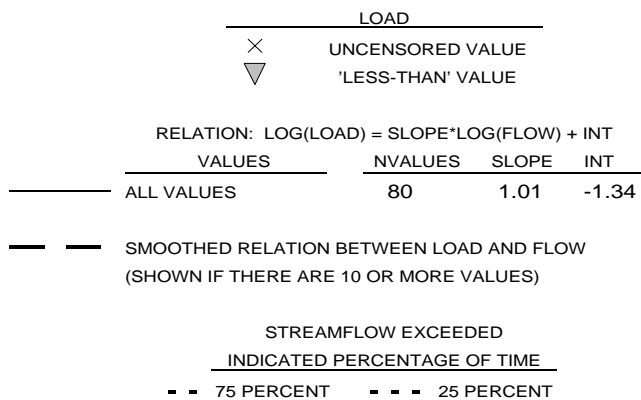
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

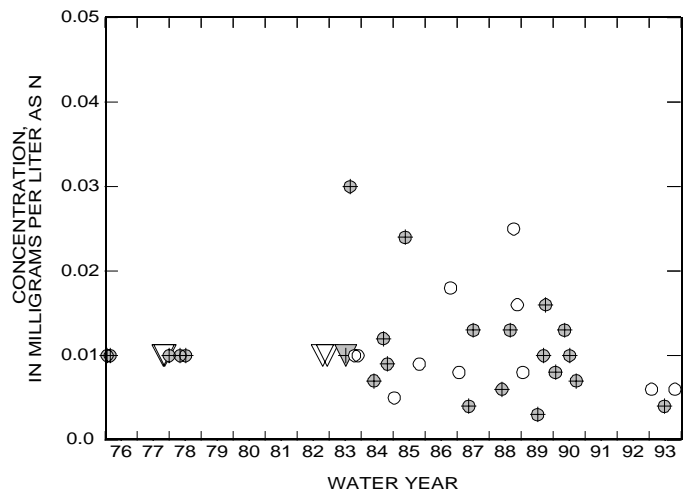
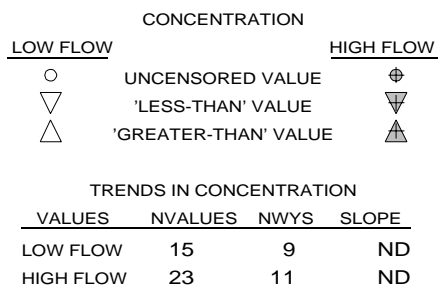
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



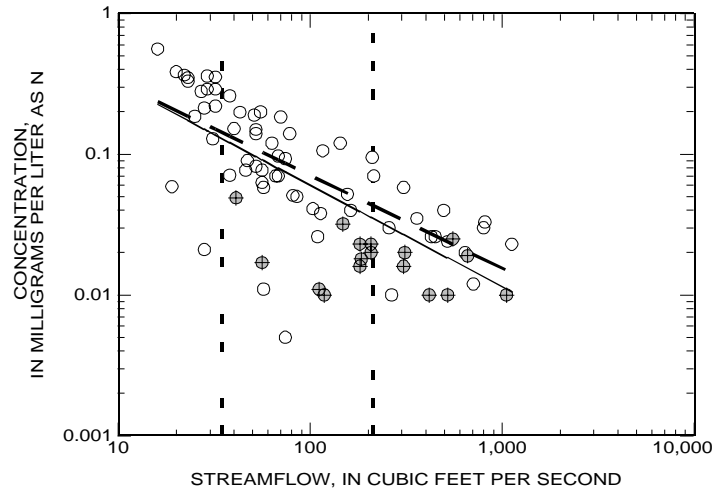
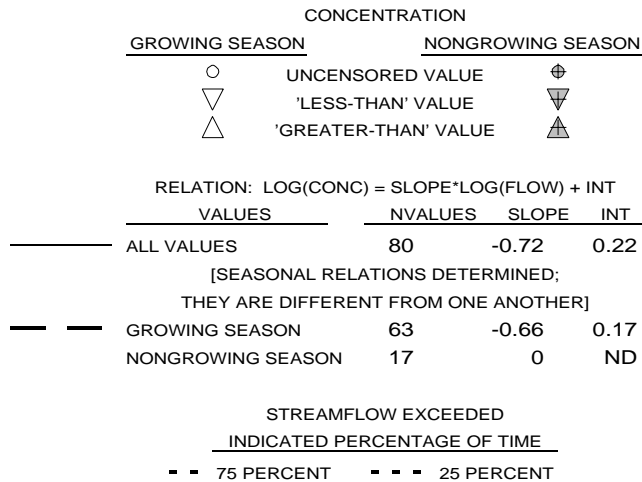
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



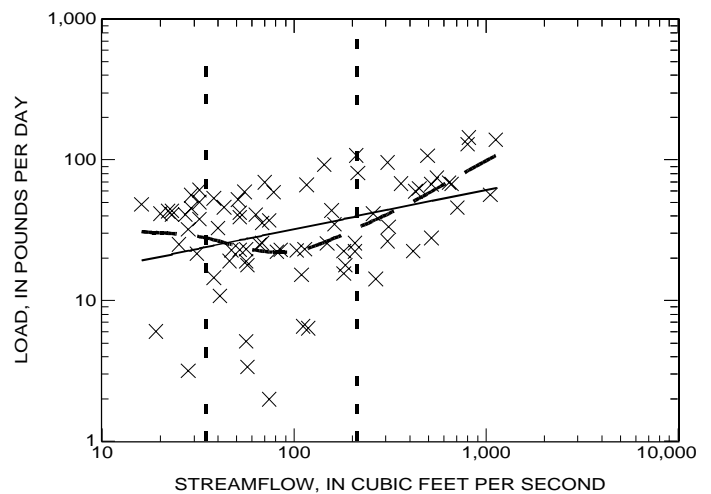
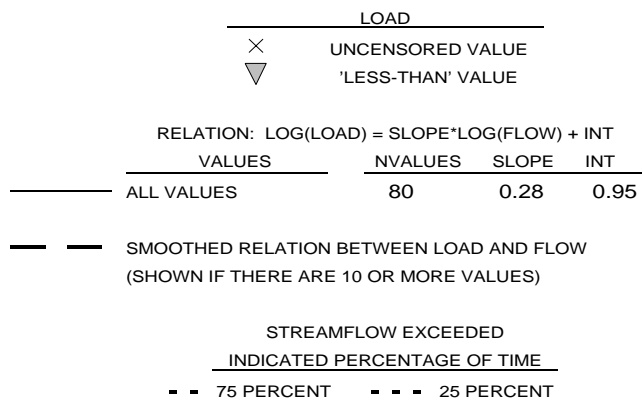
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

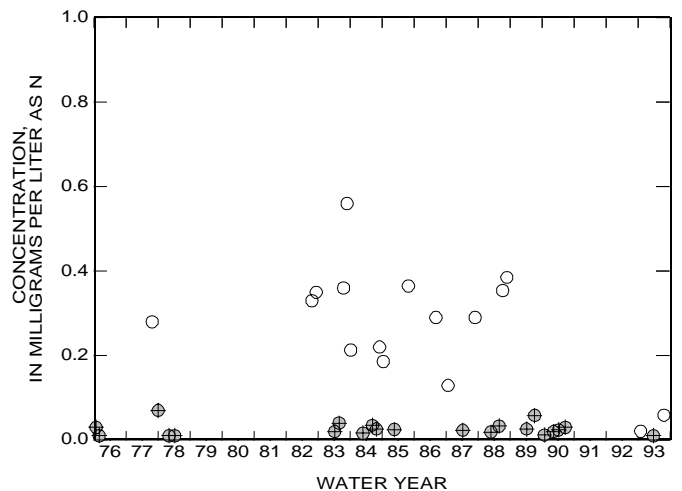
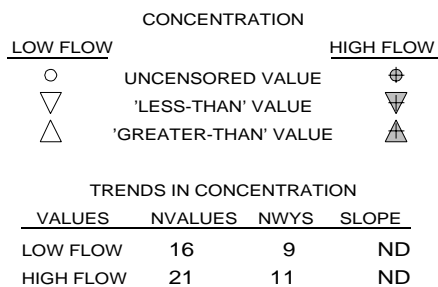
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



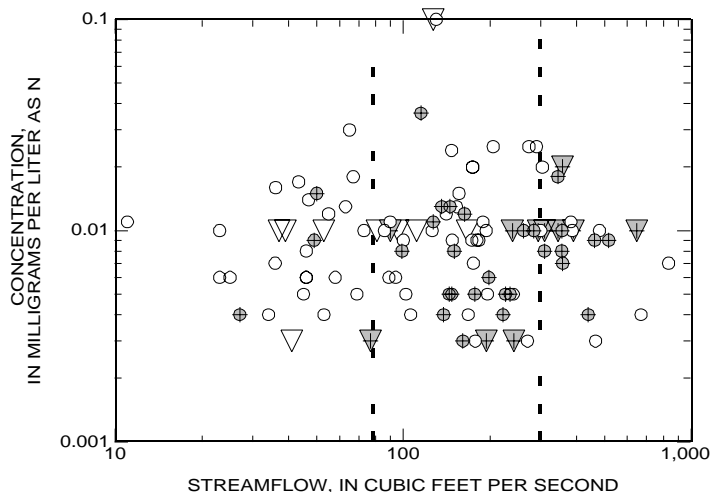
# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL NITRITE  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

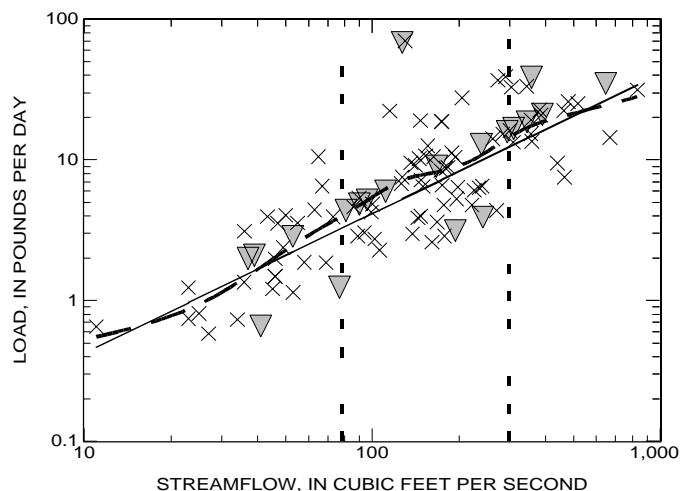
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: $\text{LOG}(\text{CONC}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	108	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	68	ND	ND
NONGROWING SEASON	40	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



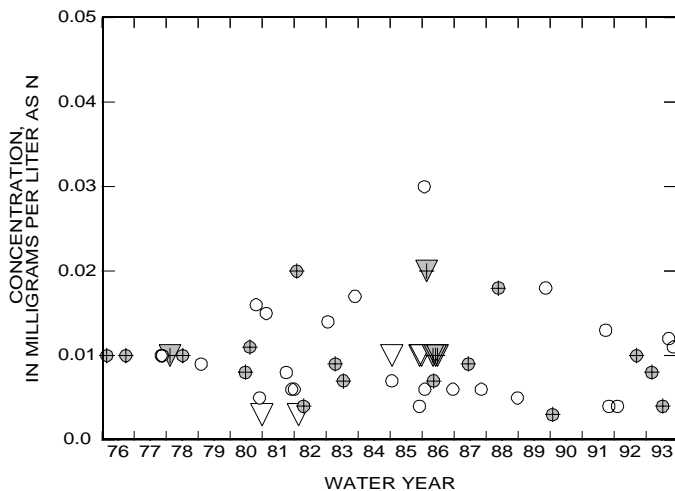
## RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: $\text{LOG}(\text{LOAD}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	108	0.99	-1.36
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

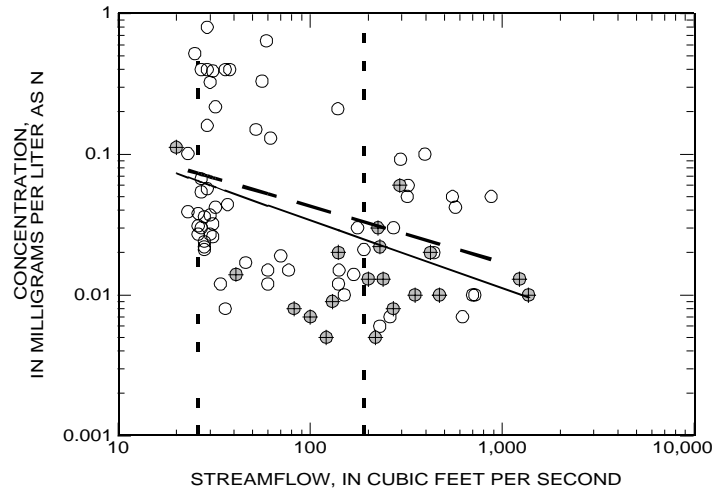
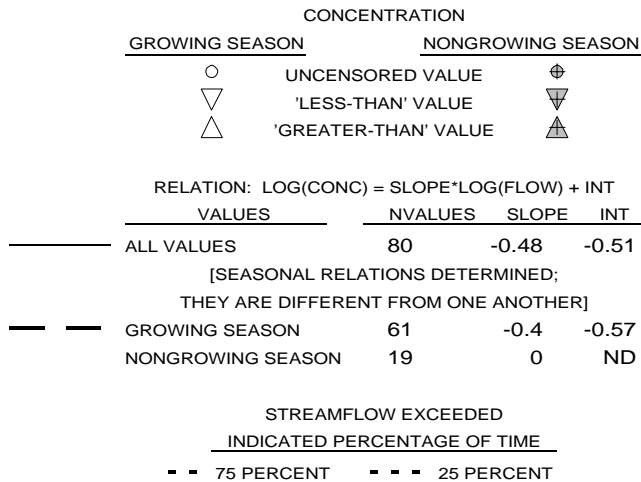
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	29	14	0
HIGH FLOW	21	11	ND



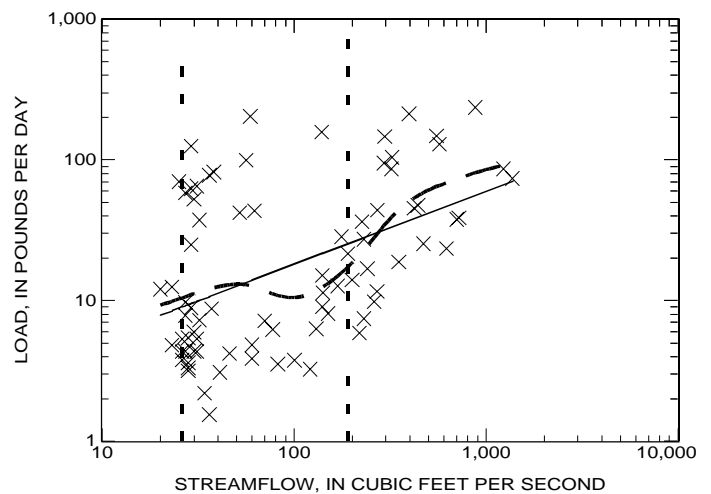
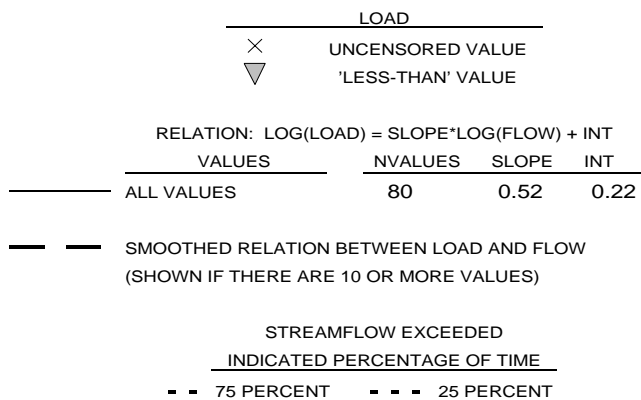
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

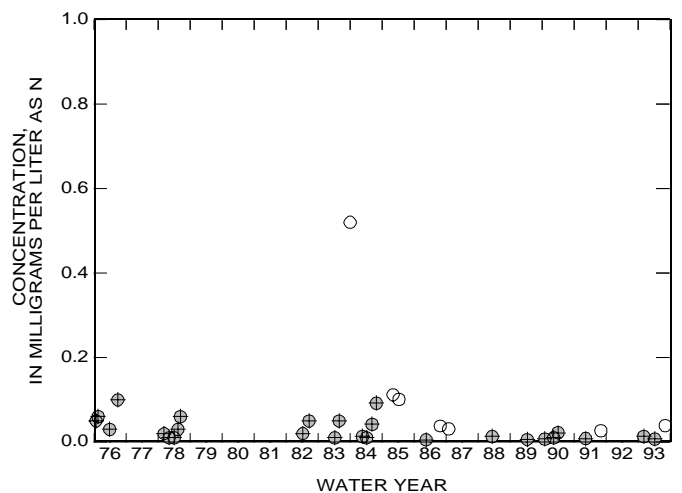
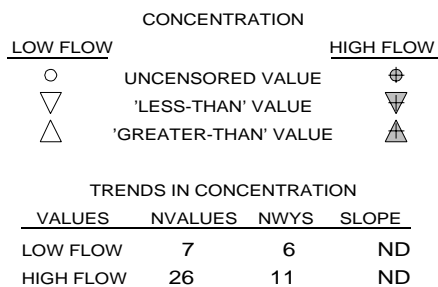
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



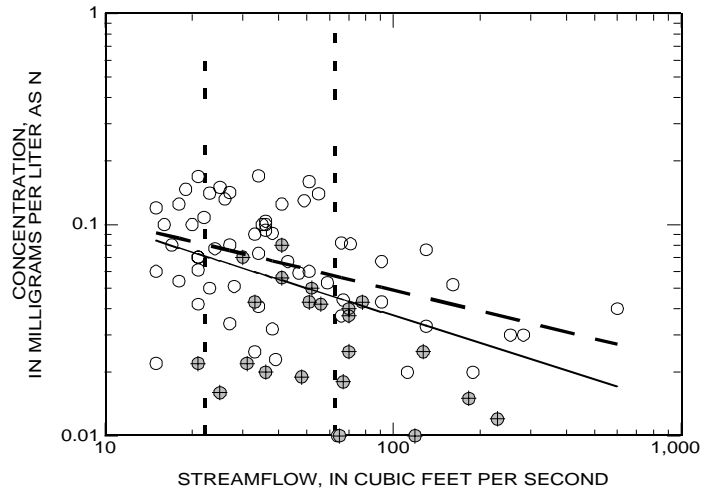
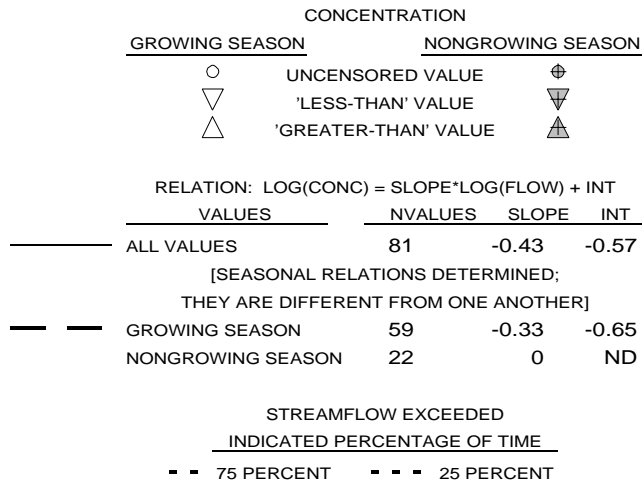
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



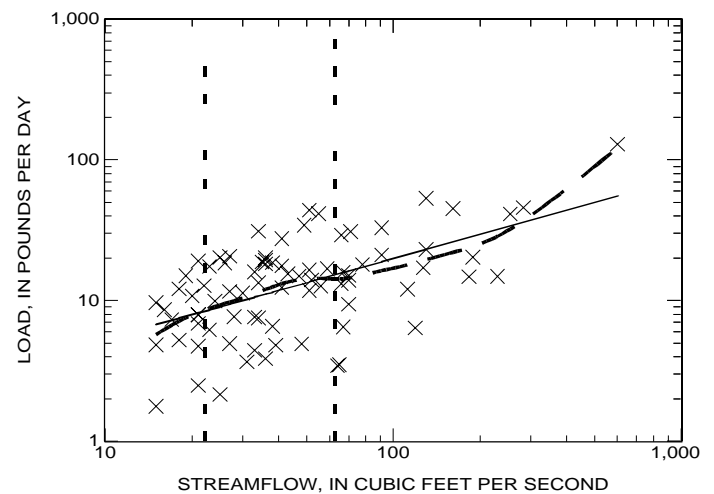
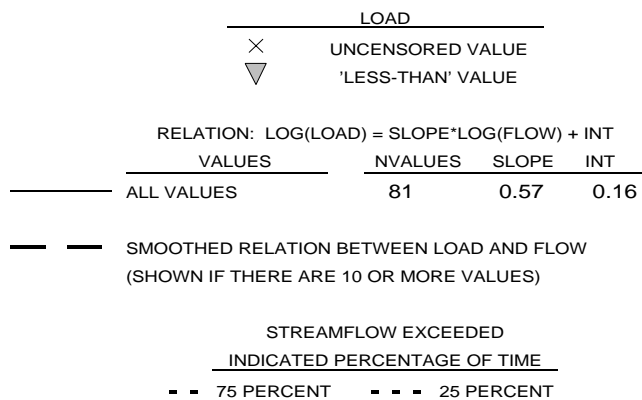
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

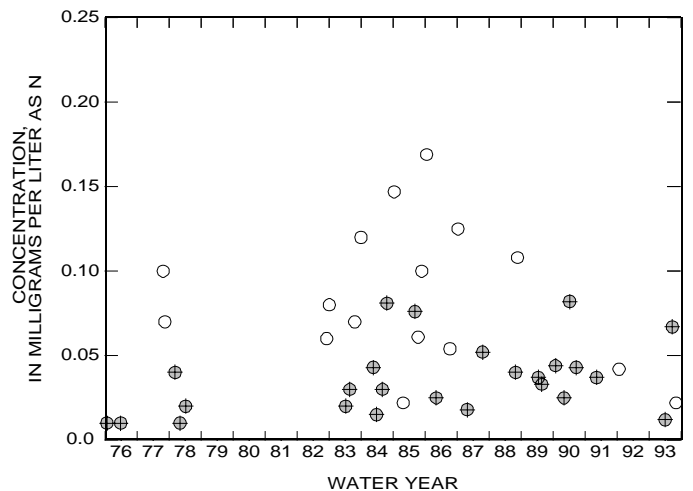
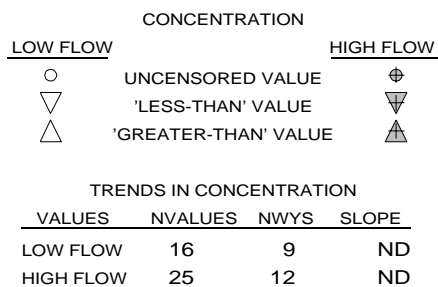
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



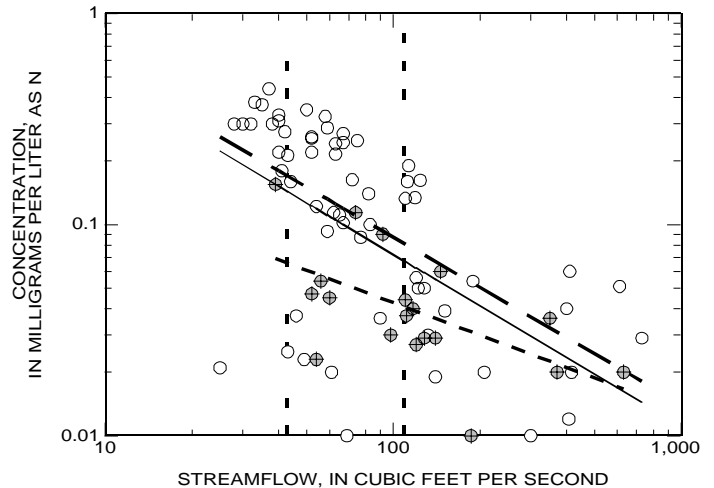
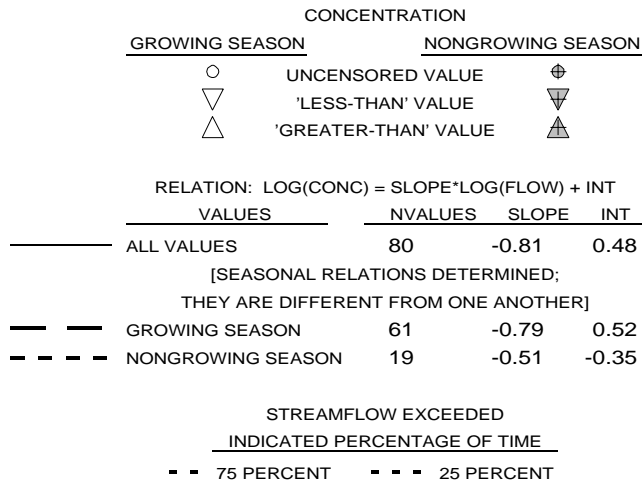
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



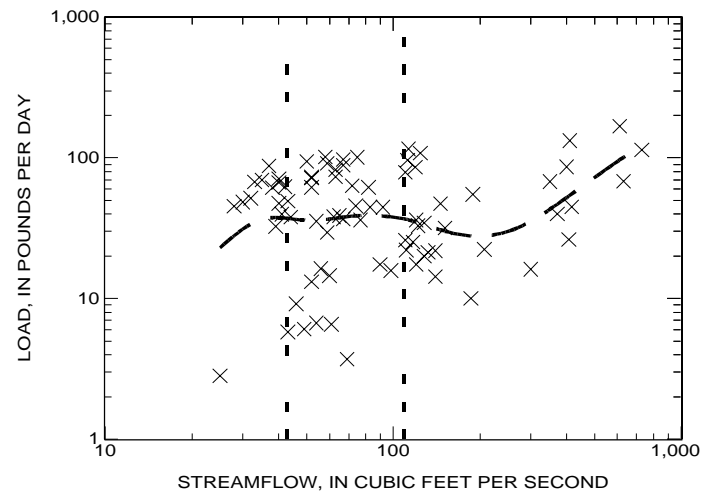
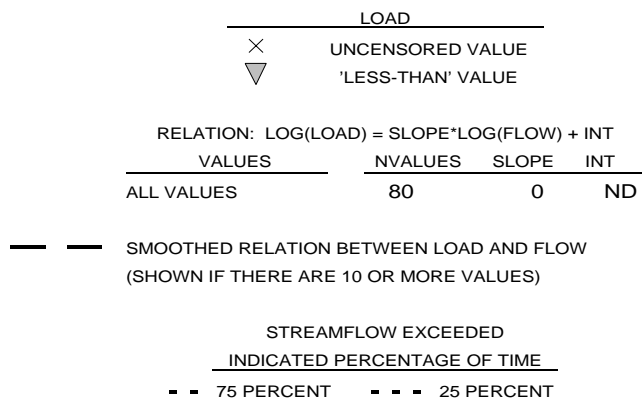
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

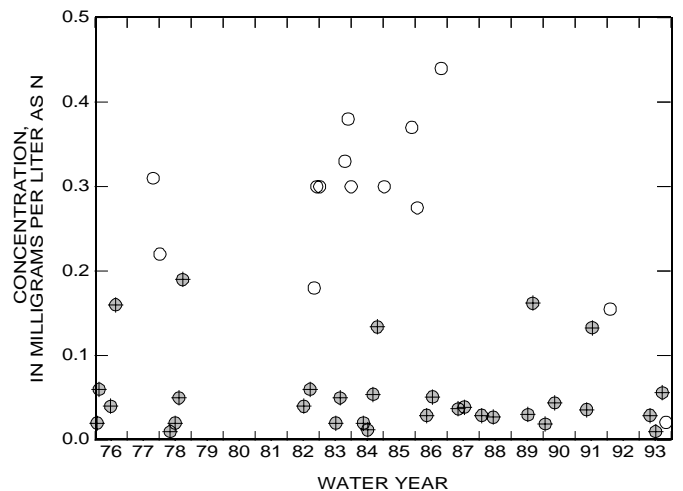
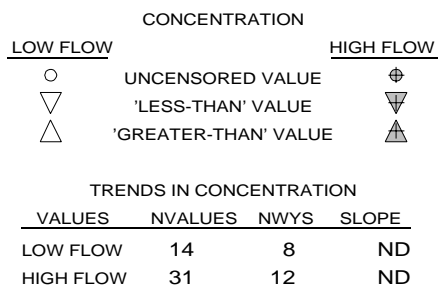
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

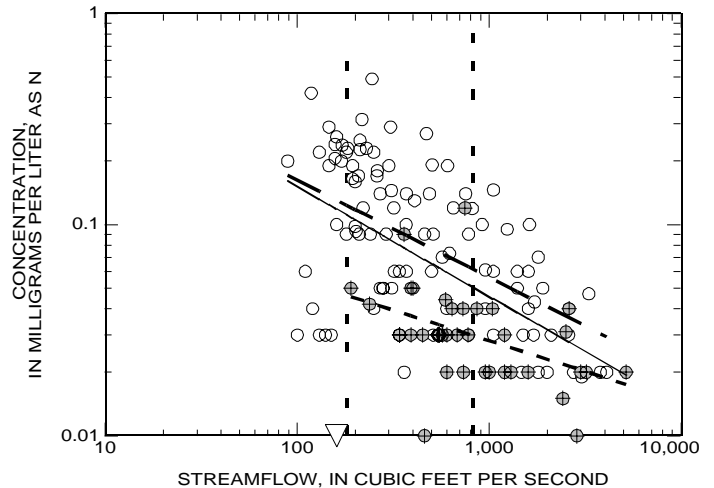
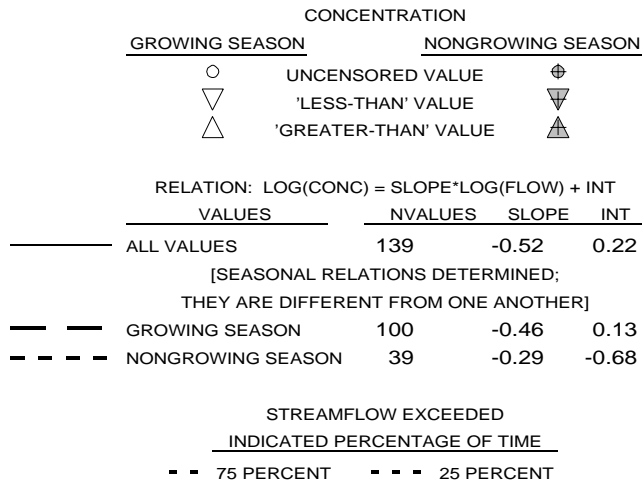




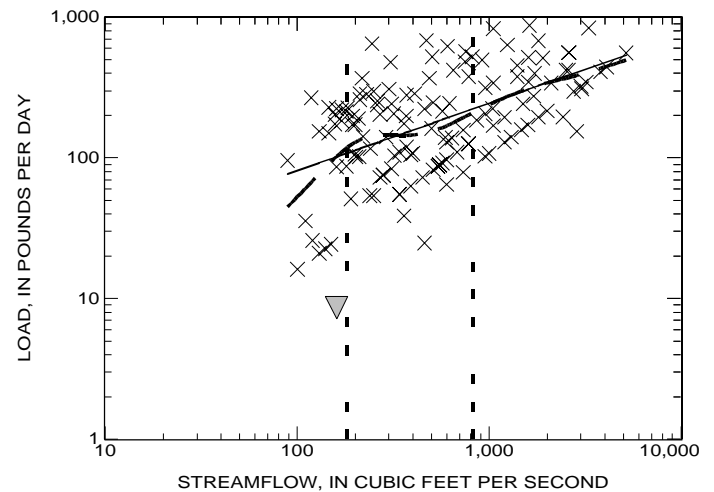
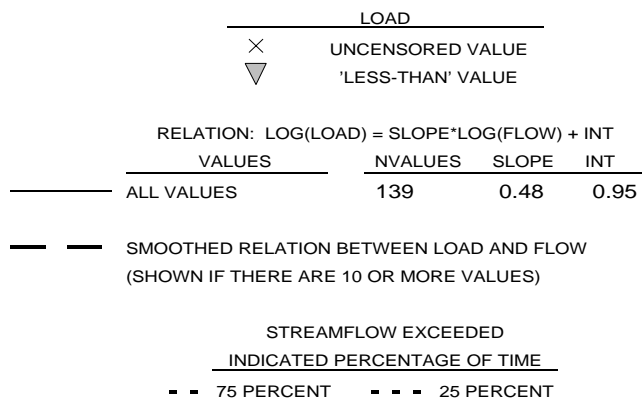
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

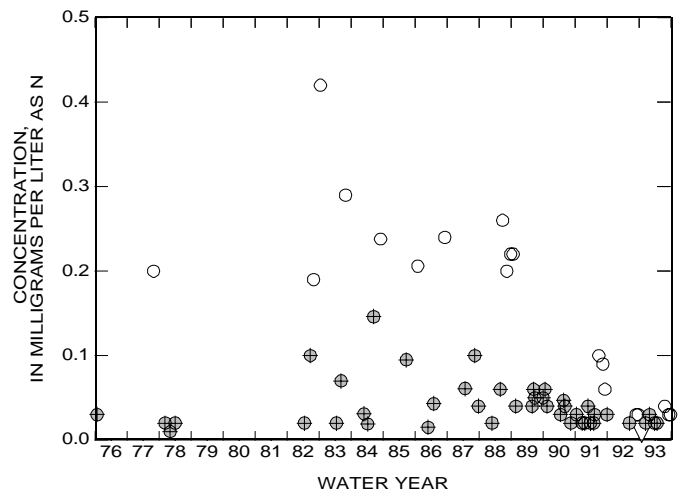
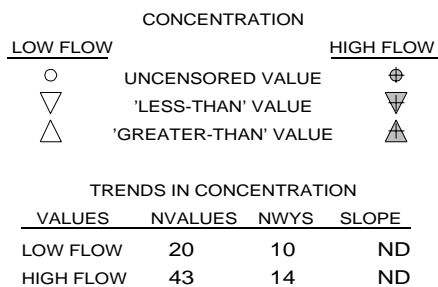
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



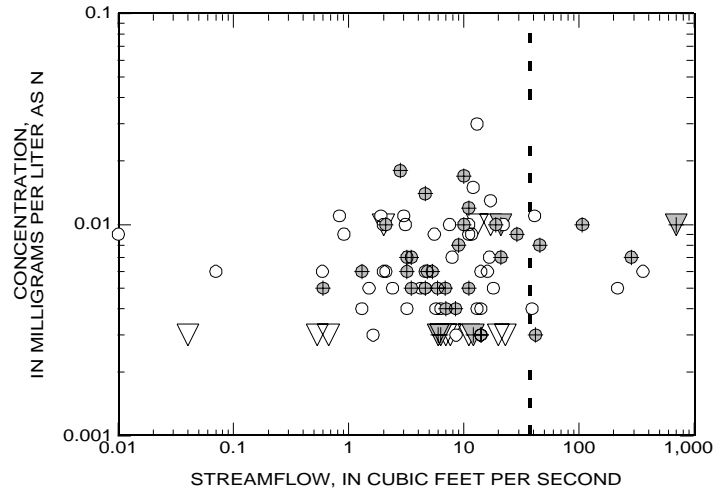
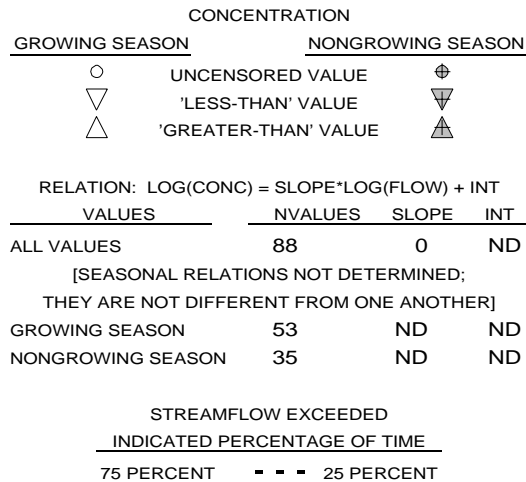
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



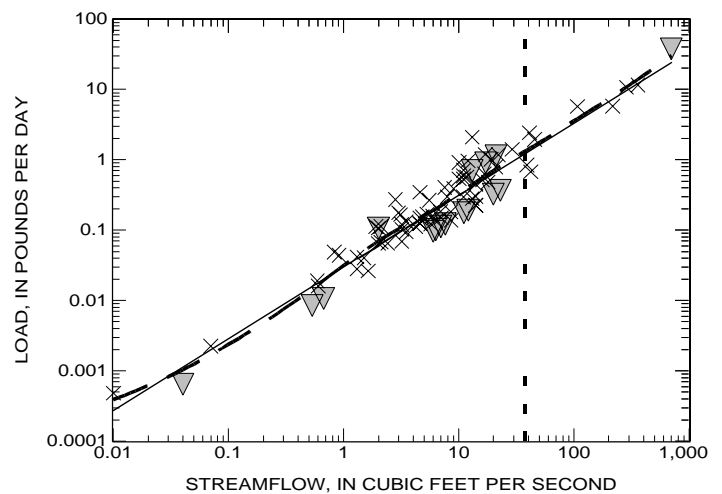
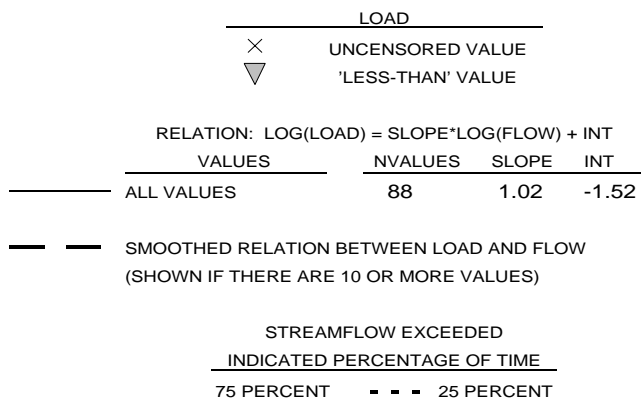
APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITRITE  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

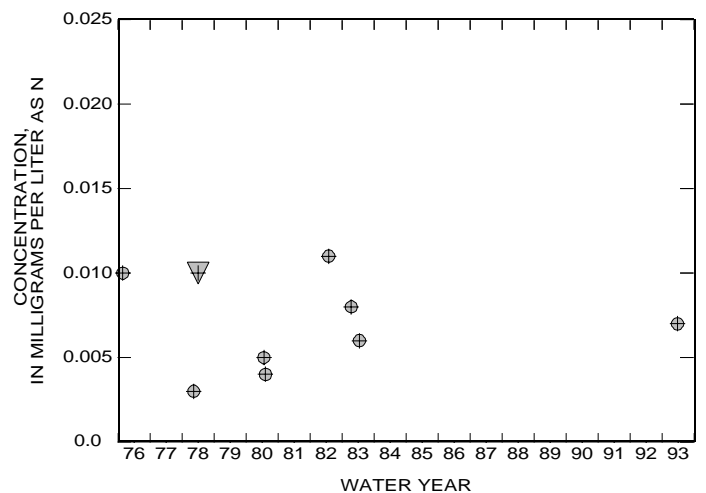
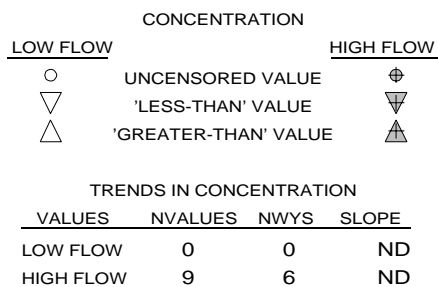
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

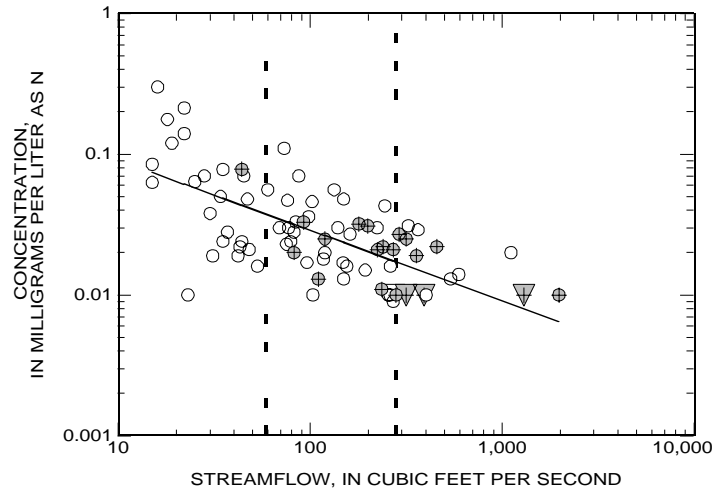
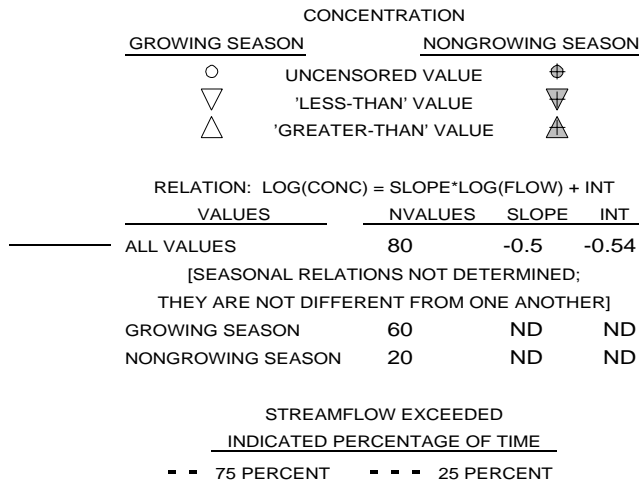


# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

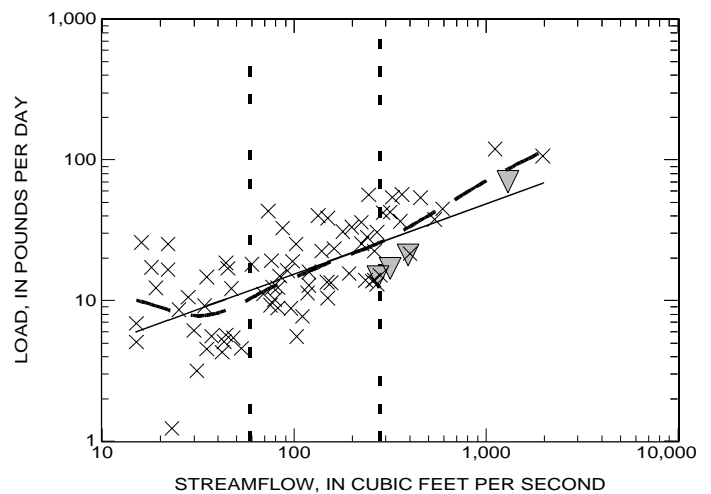
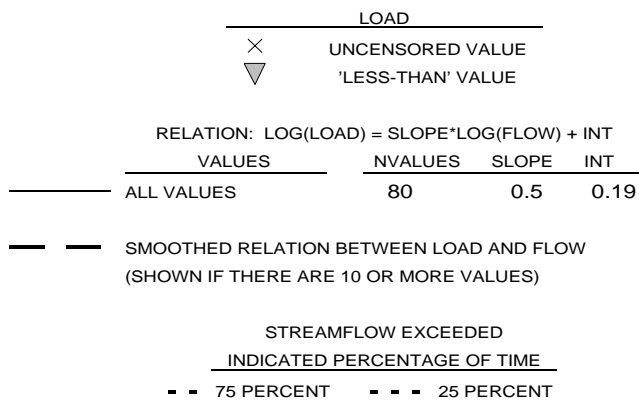
TOTAL NITRITE  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

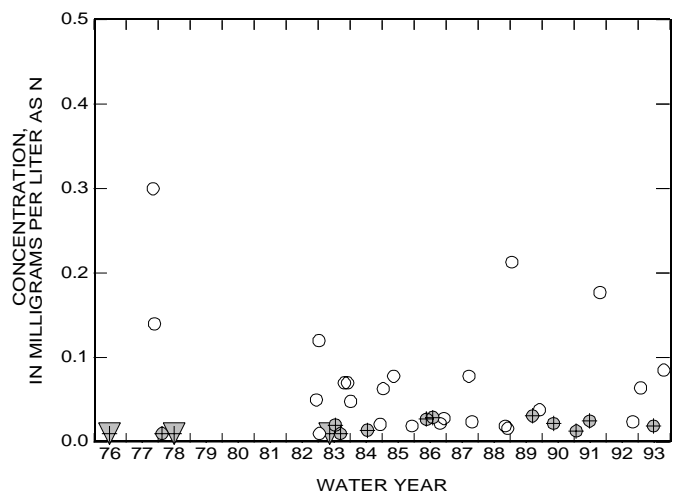
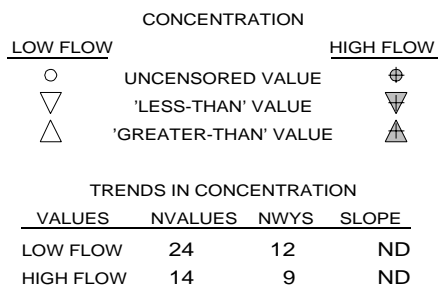
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

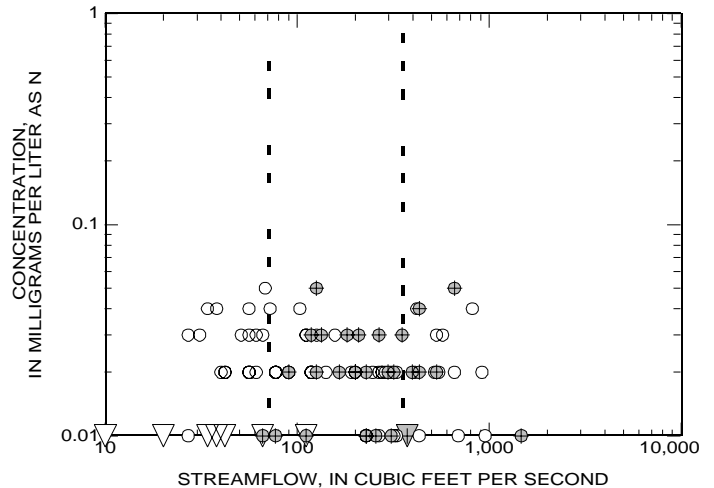
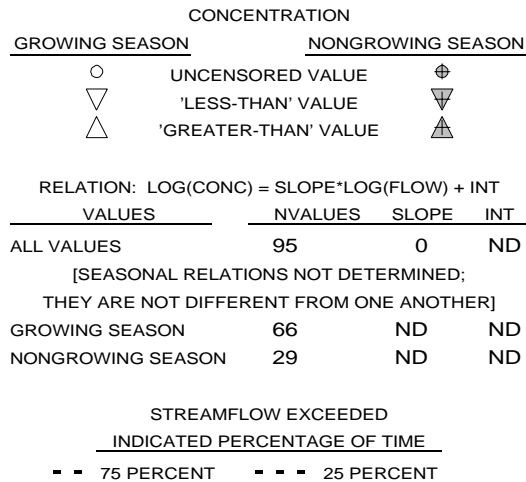


# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

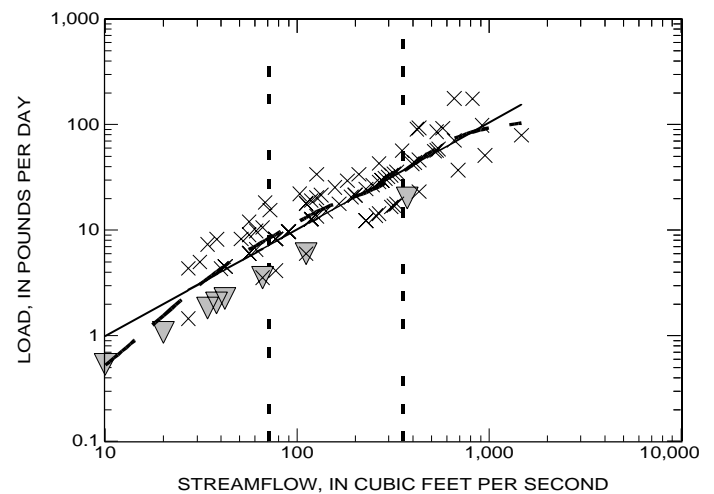
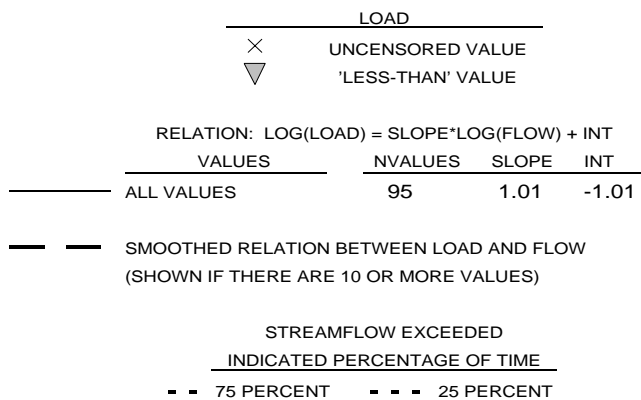
TOTAL NITRITE  
01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

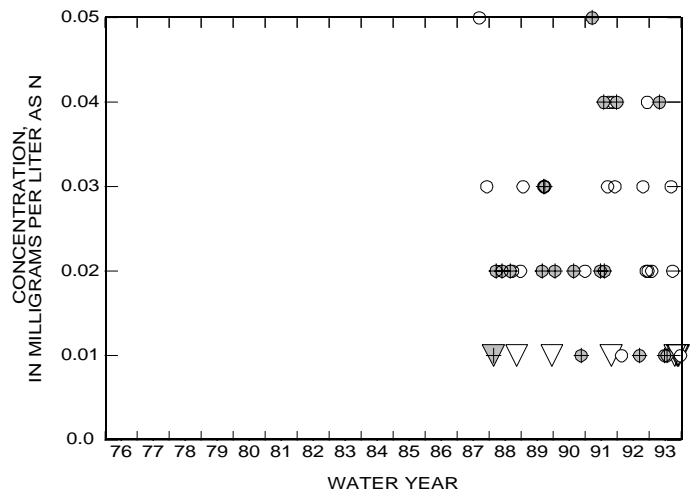
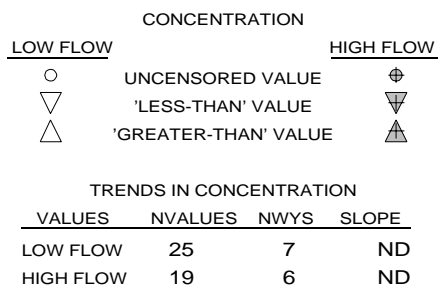
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



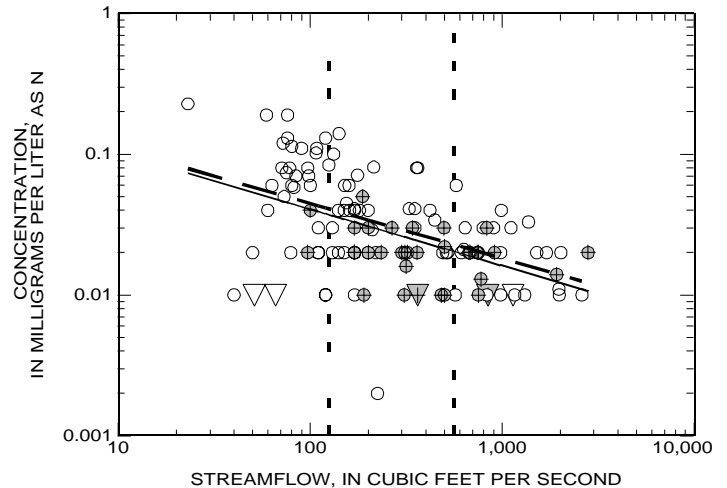
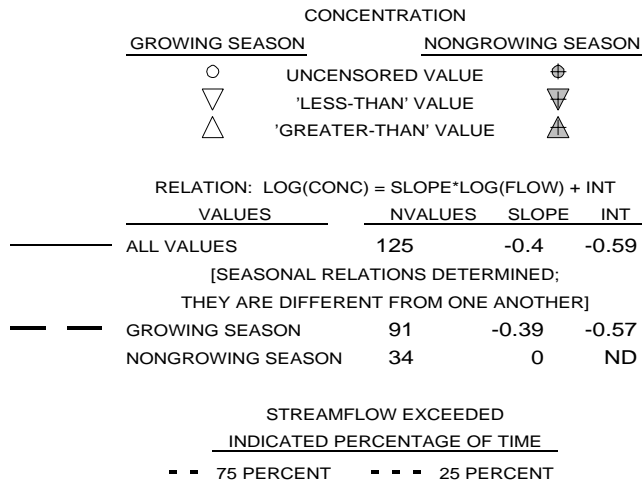
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



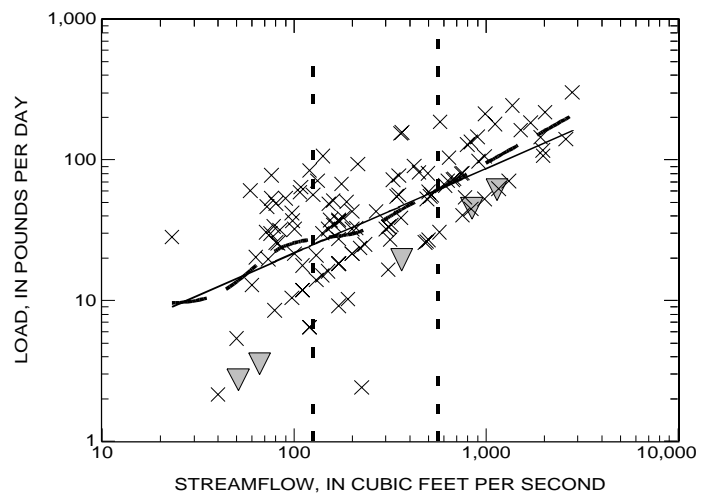
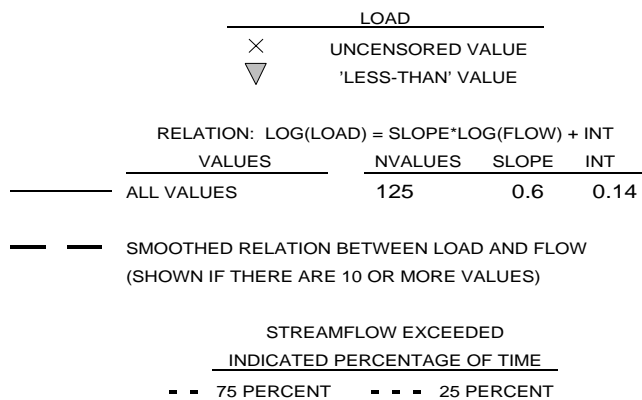
APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL NITRITE  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

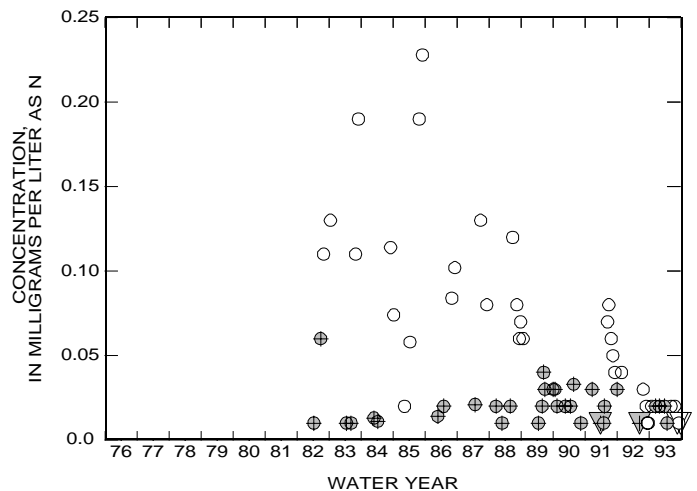
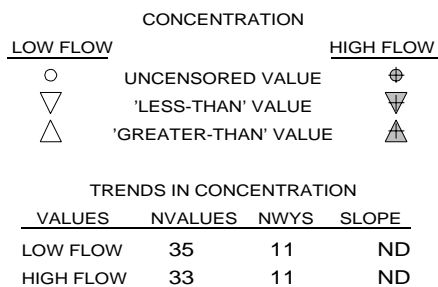
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



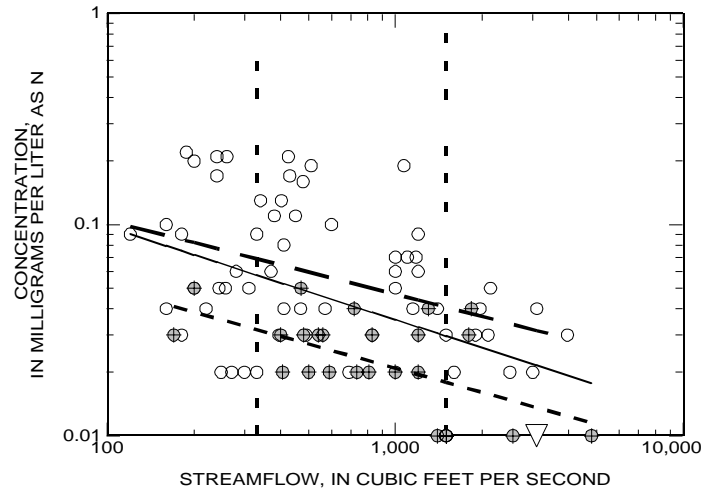
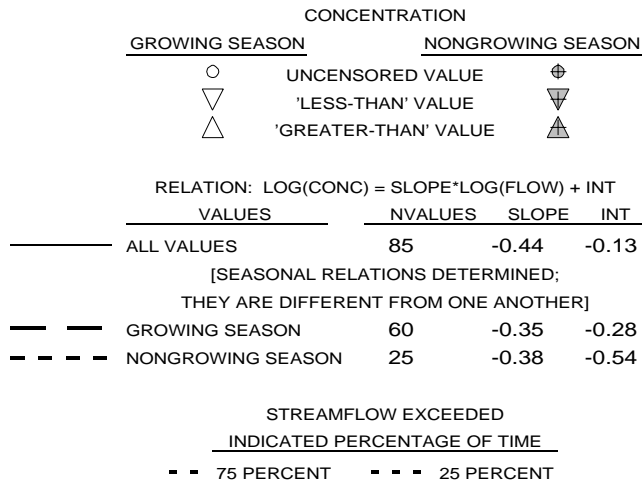
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



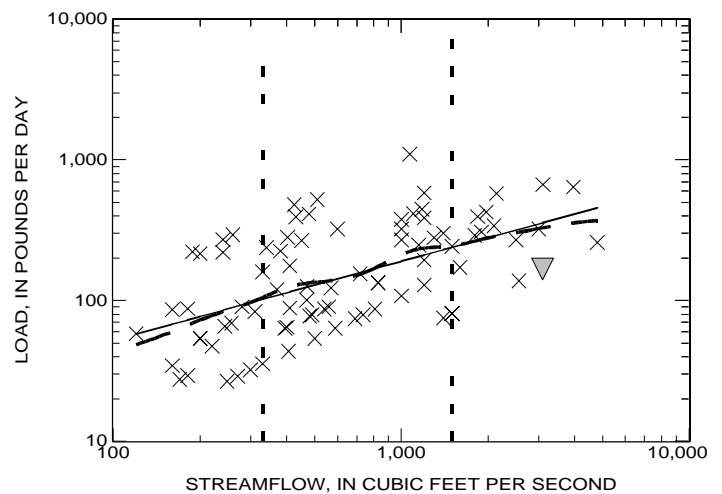
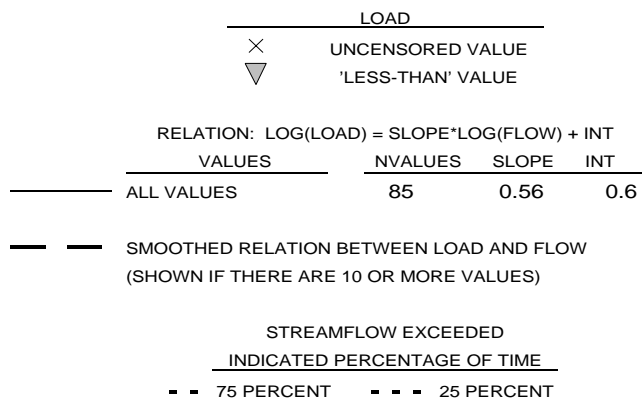
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

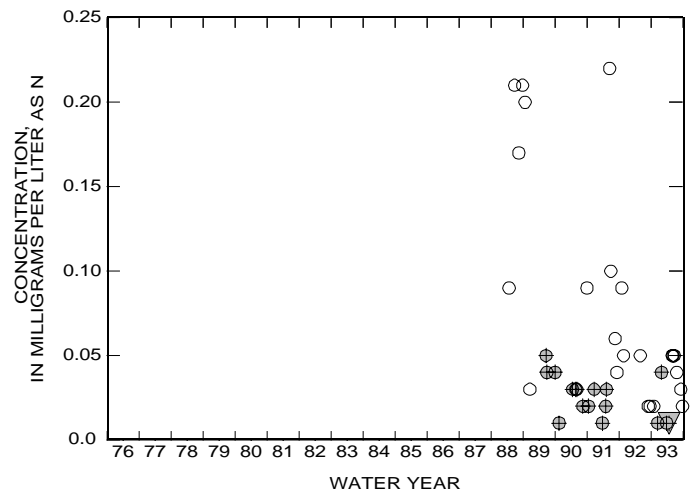
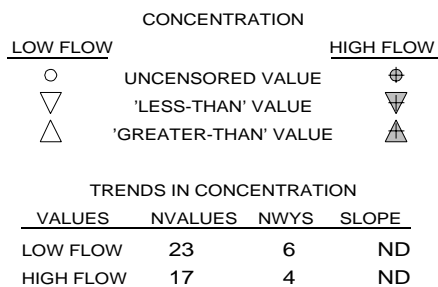
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



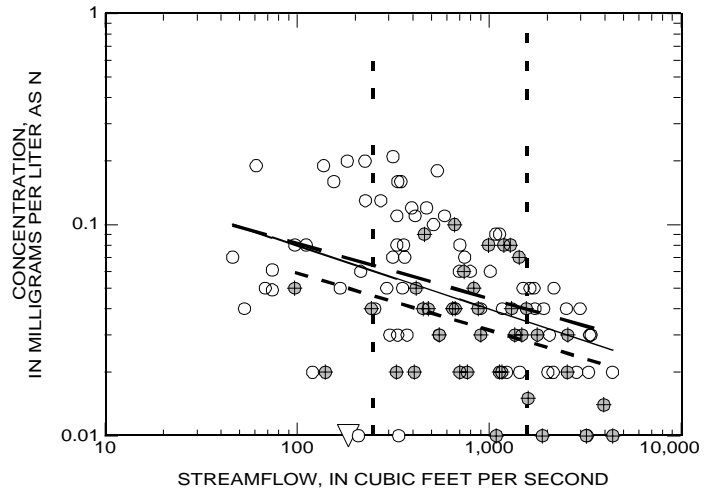
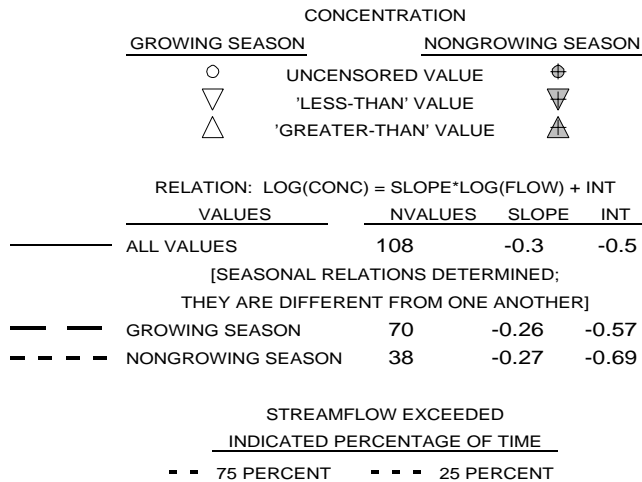
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



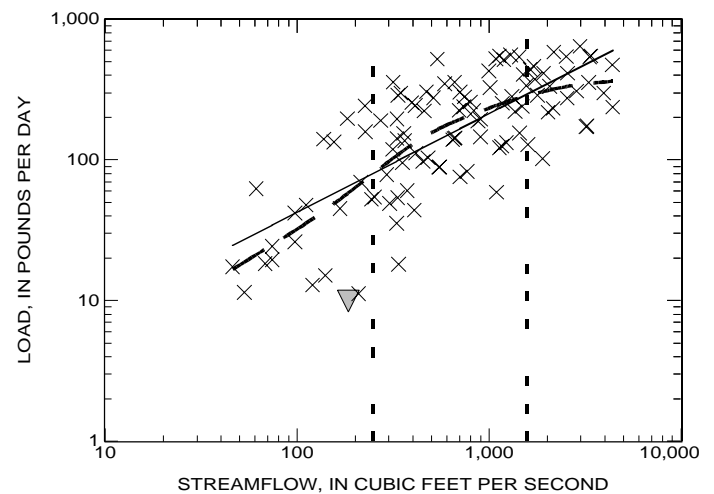
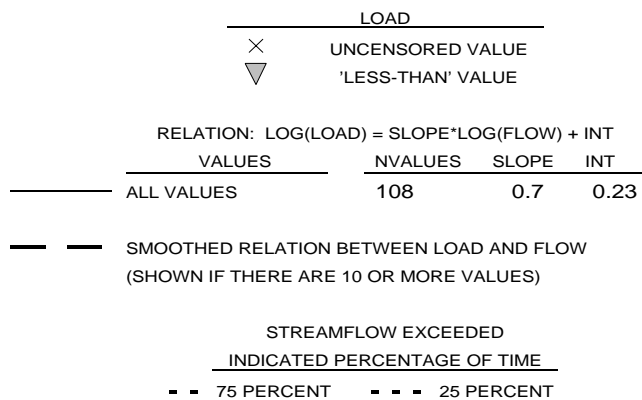
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

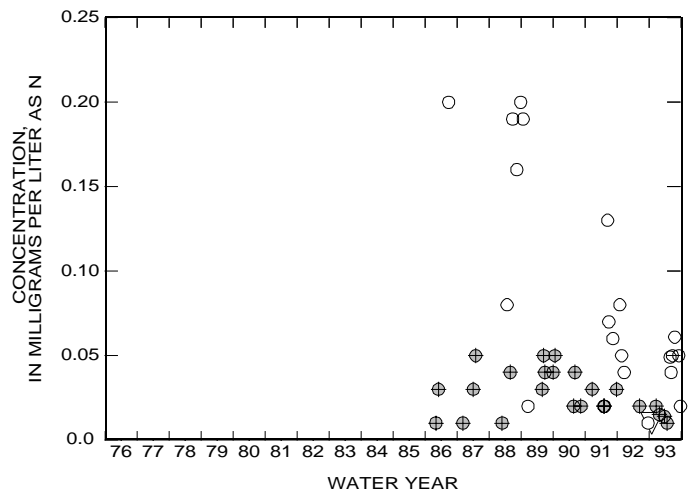
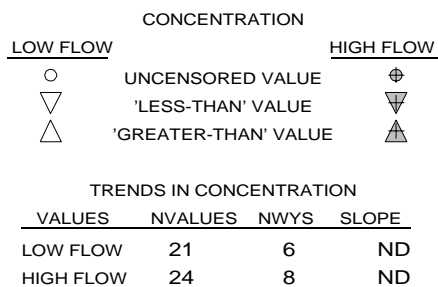
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

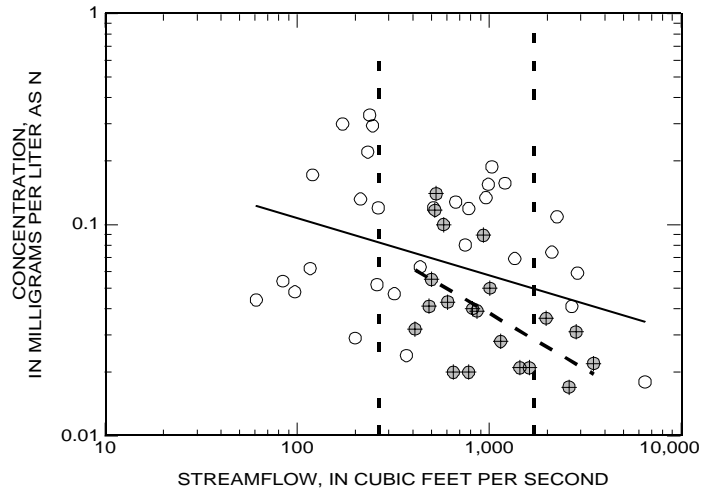
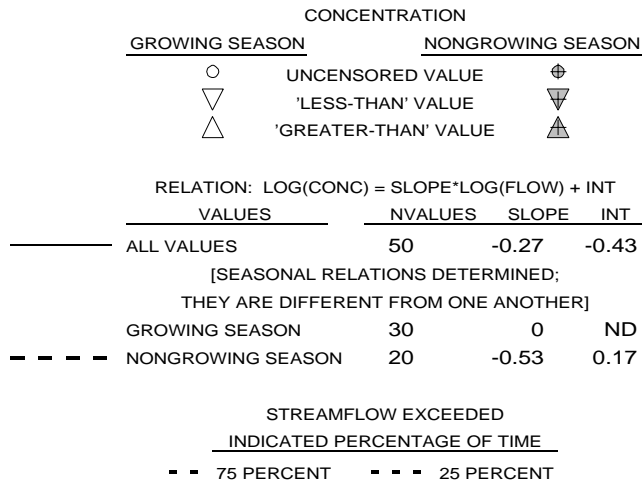


# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

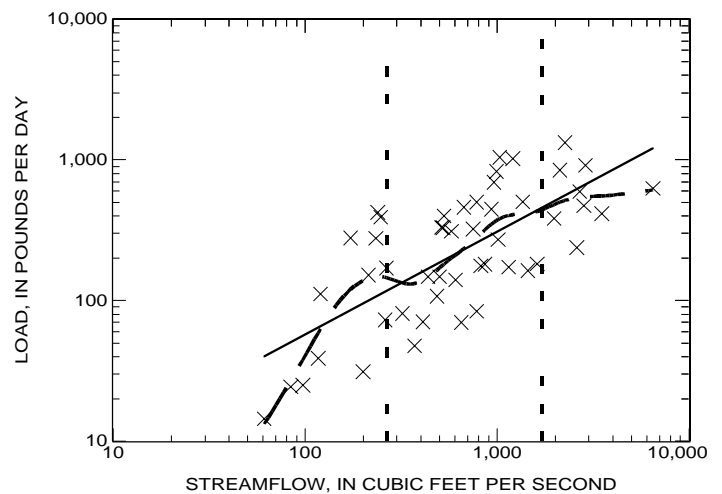
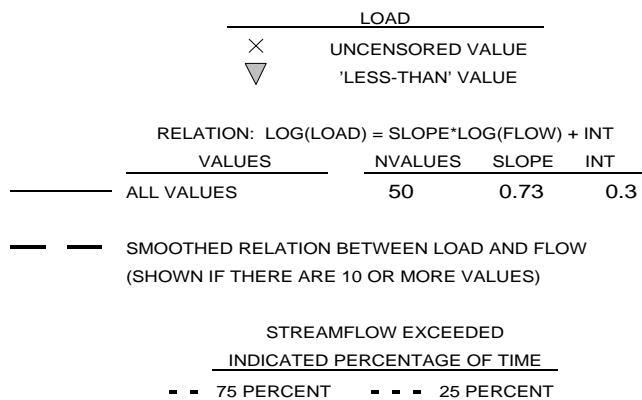
TOTAL NITRITE  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

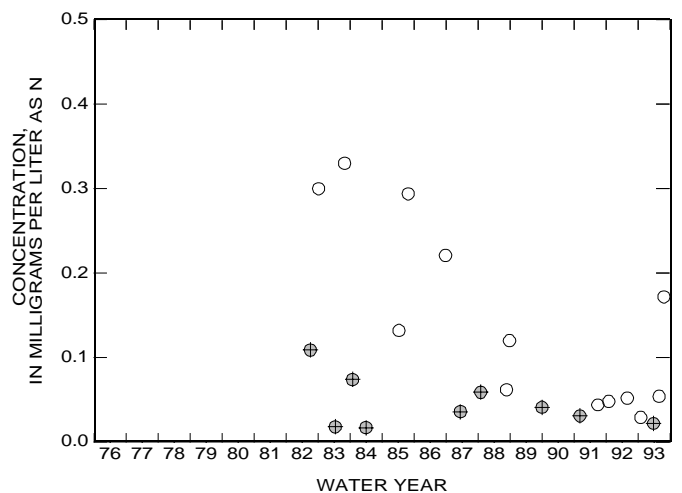
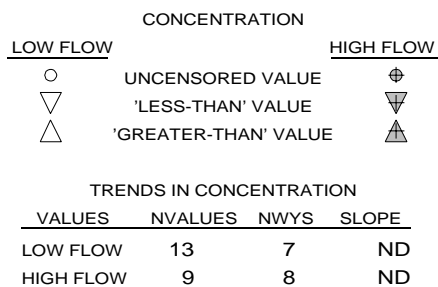
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



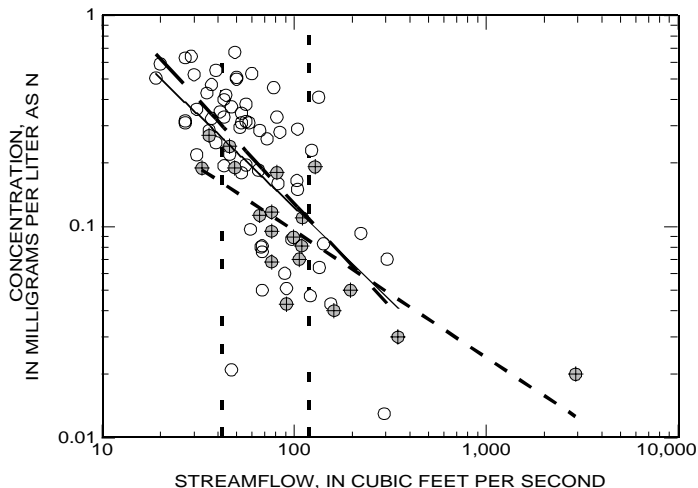
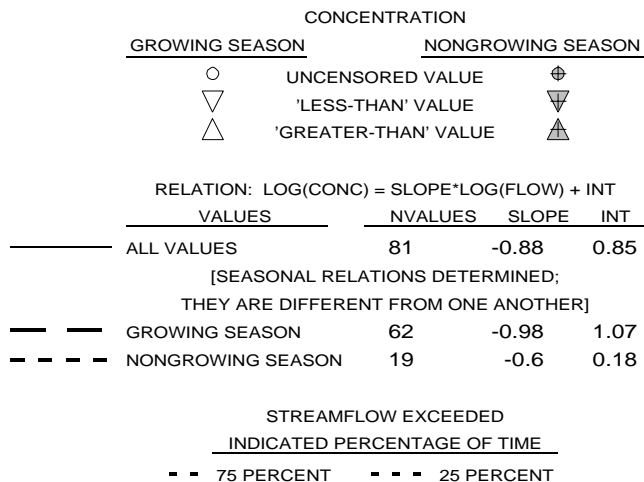


# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

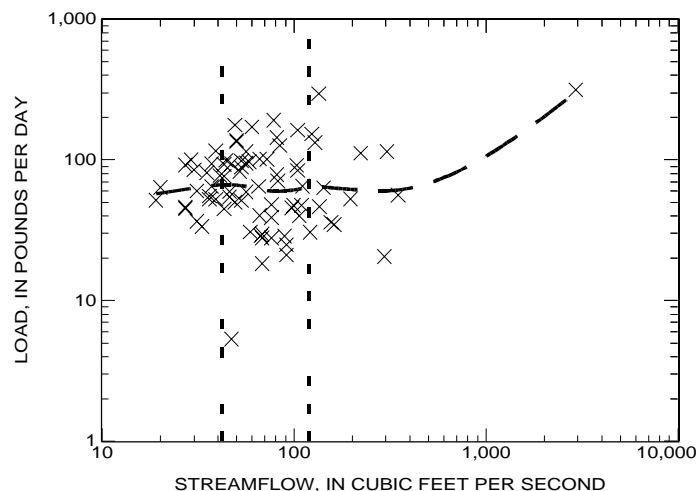
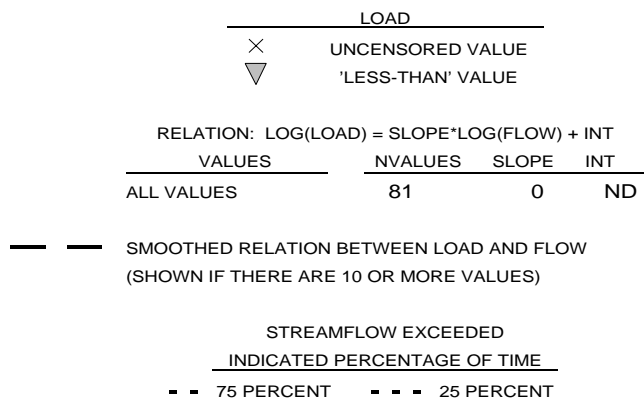
TOTAL NITRITE  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

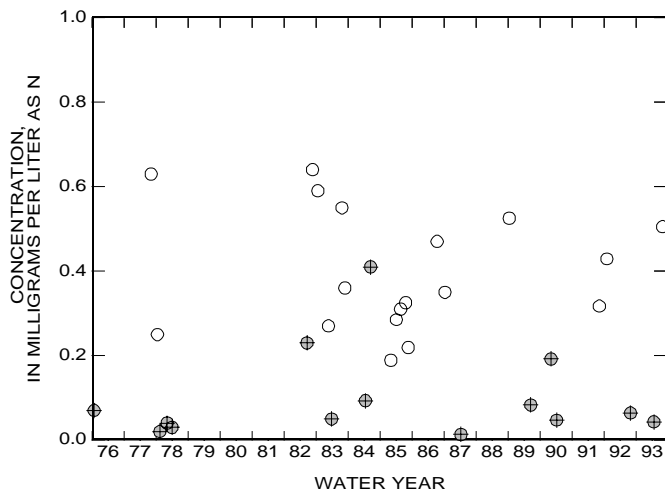
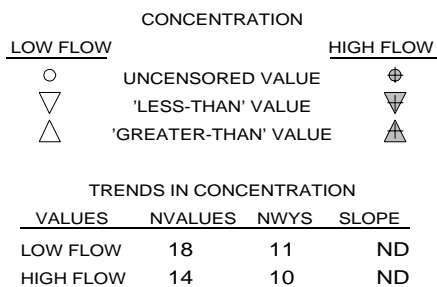
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



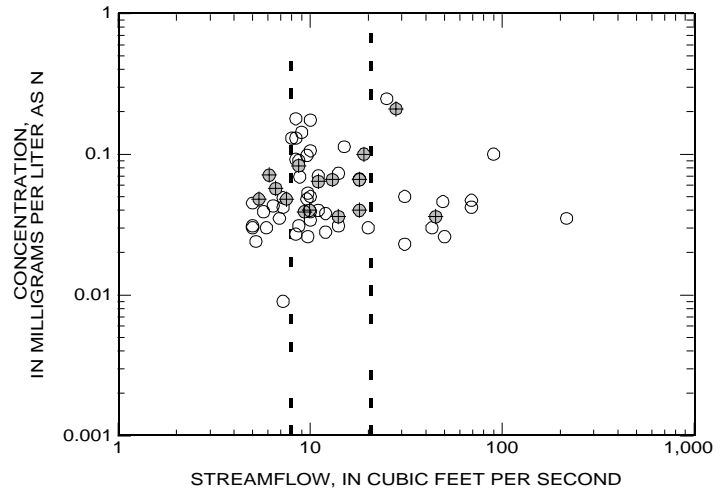
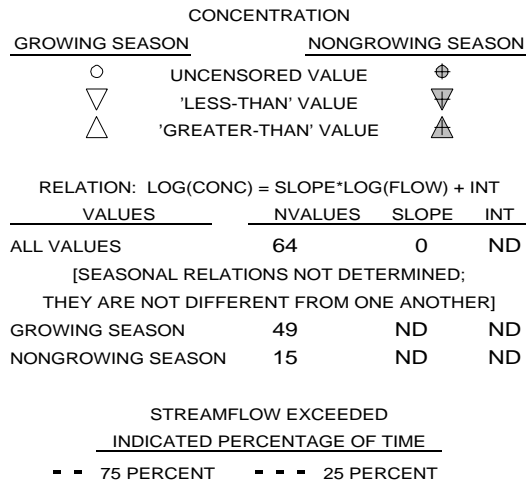
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



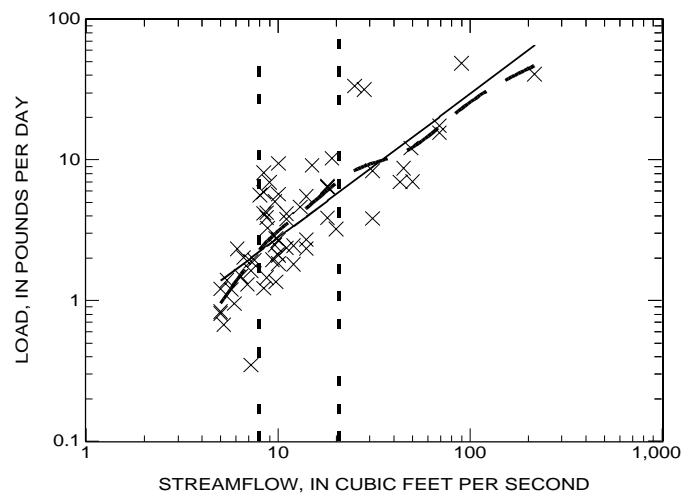
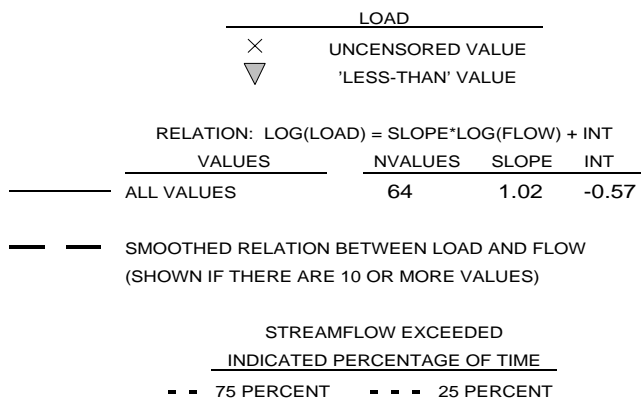
**APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL NITRITE**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

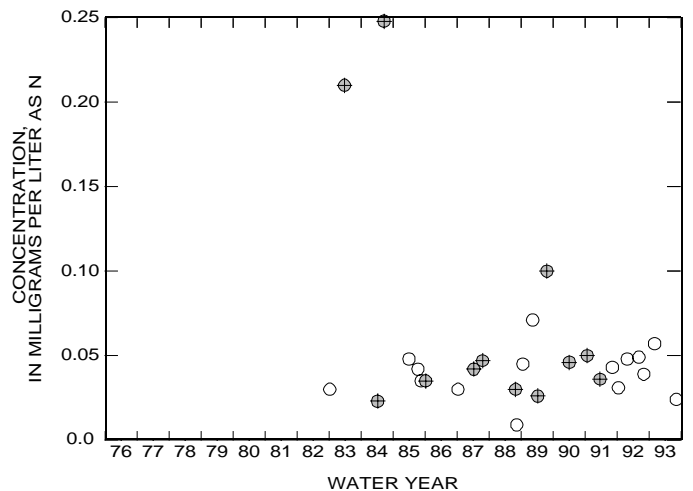
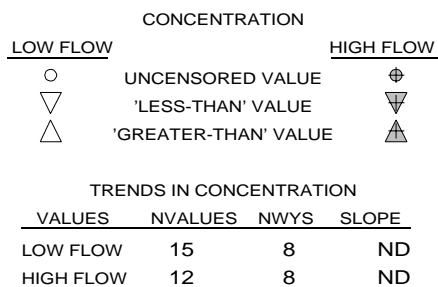
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



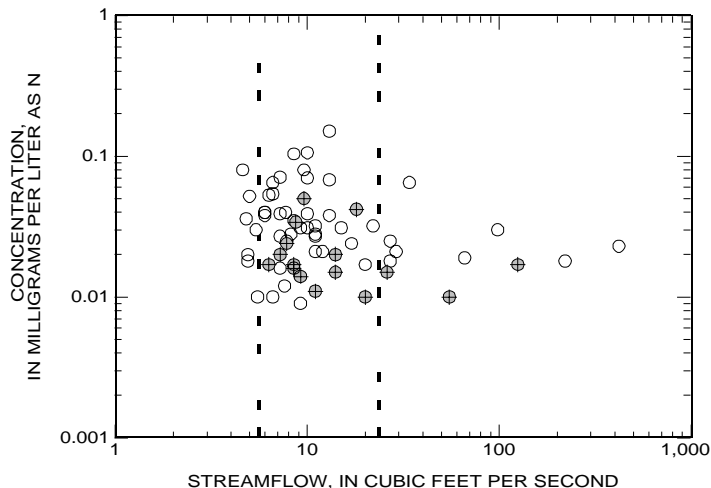
# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL NITRITE  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

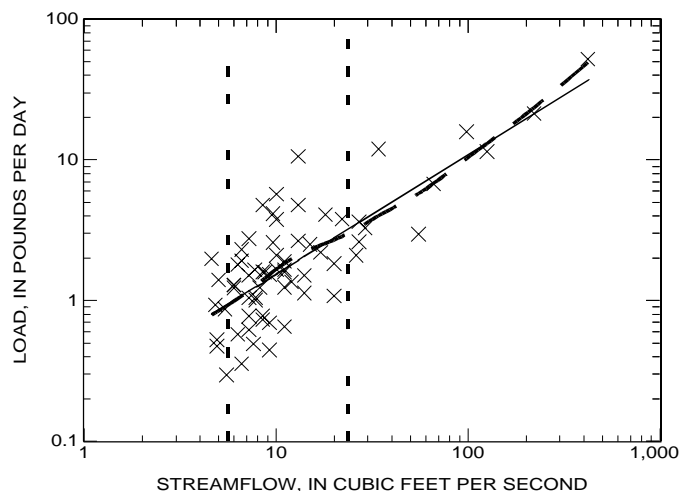
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	67	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	51	0	ND
NONGROWING SEASON	16	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	---	---	25 PERCENT



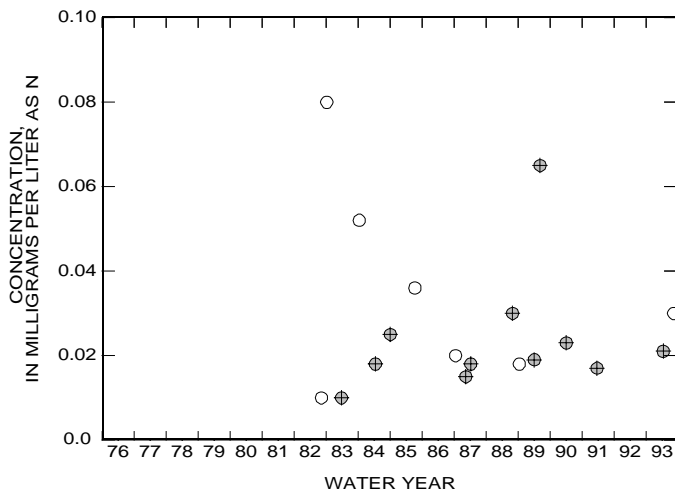
## RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	67	0.85	-0.66
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	---	---	25 PERCENT



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	7	7	ND
HIGH FLOW	11	9	ND

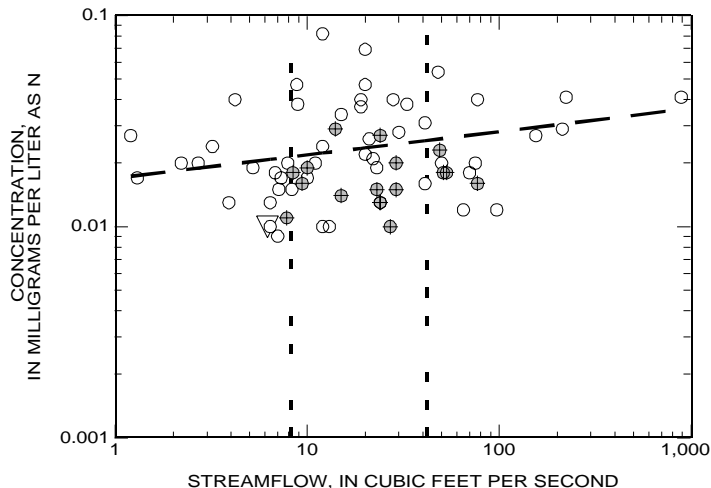
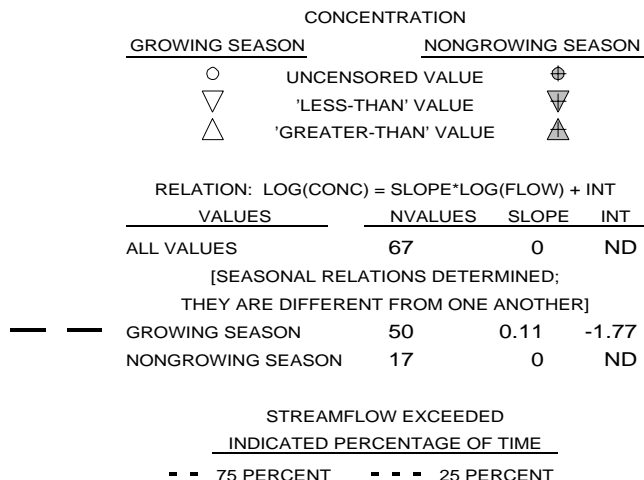


# APPENDIX 13. Relations of constituent concentration and load to streamflow and trends in concentration with time

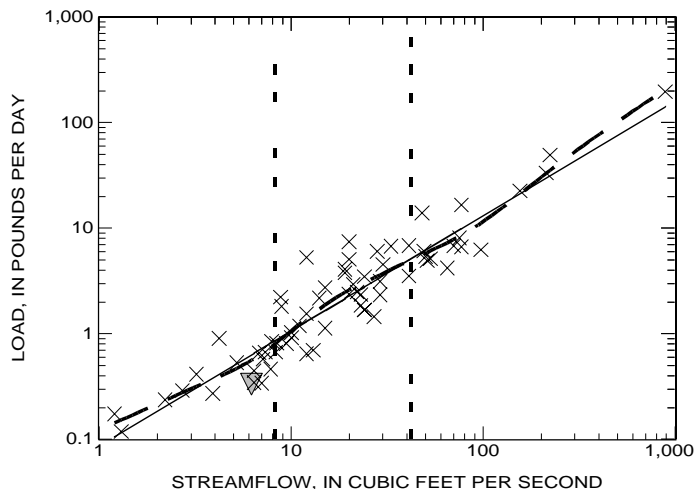
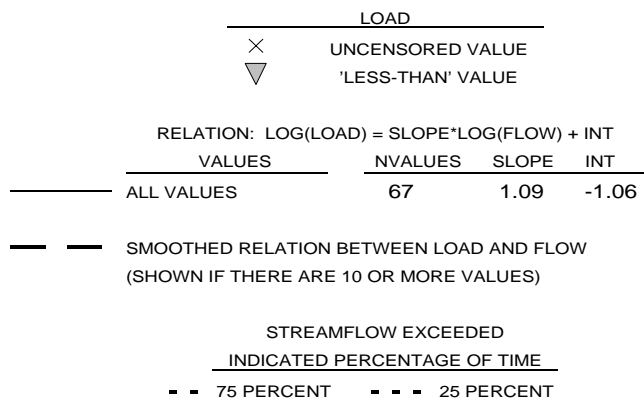
TOTAL NITRITE  
01395000 RAHWAY RIVER AT RAHWAY, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

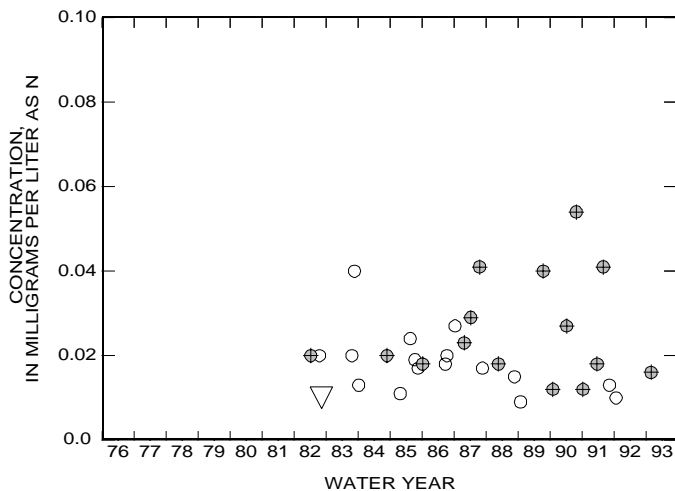
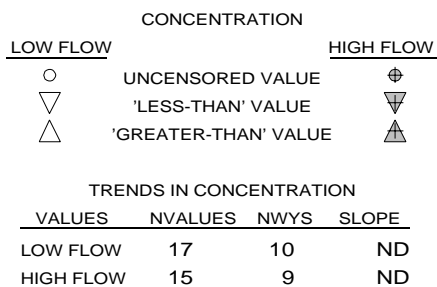
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



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# Appendix 14

## Total ammonia plus organic nitrogen

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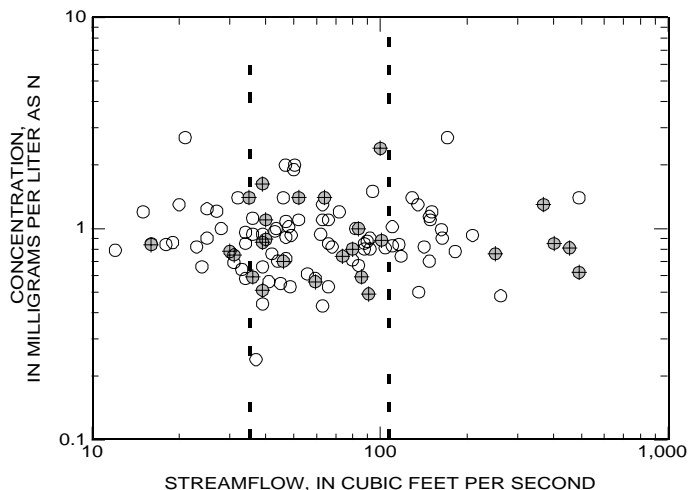
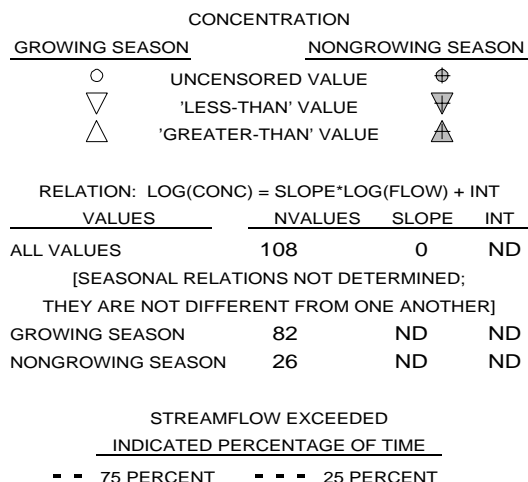
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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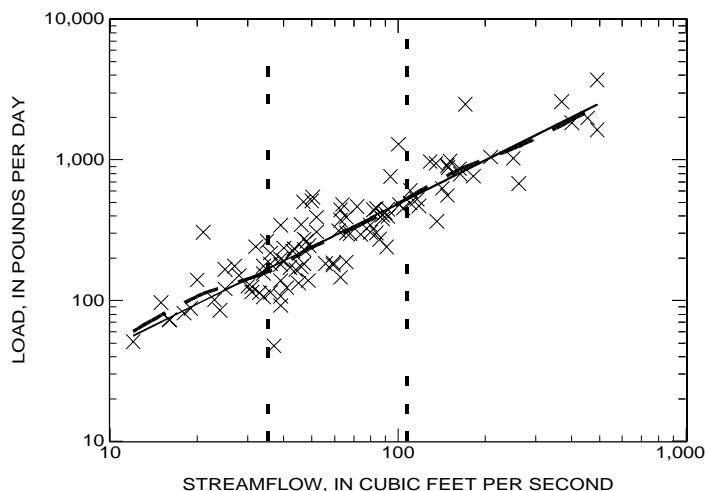
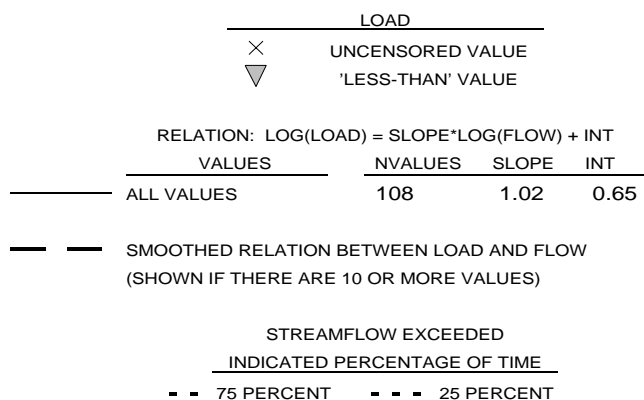
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

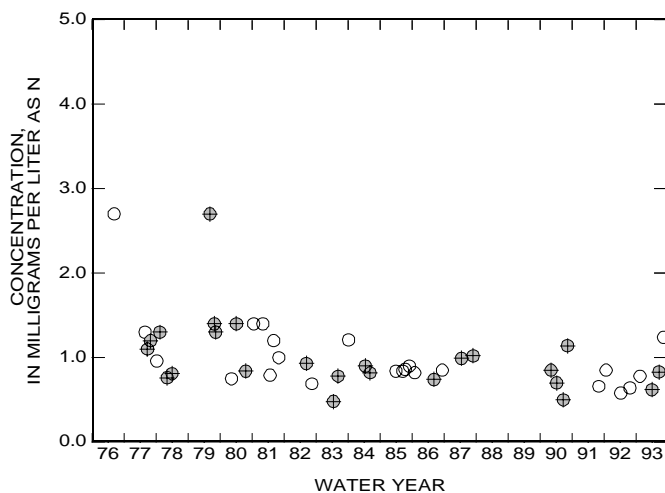
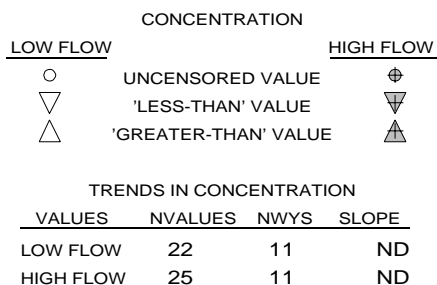
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



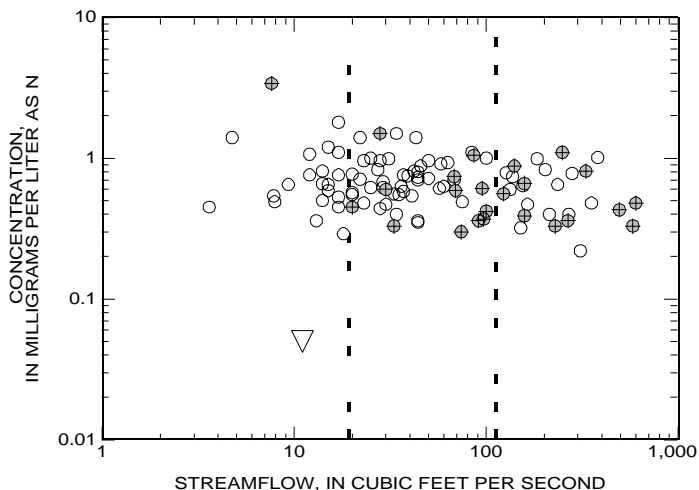
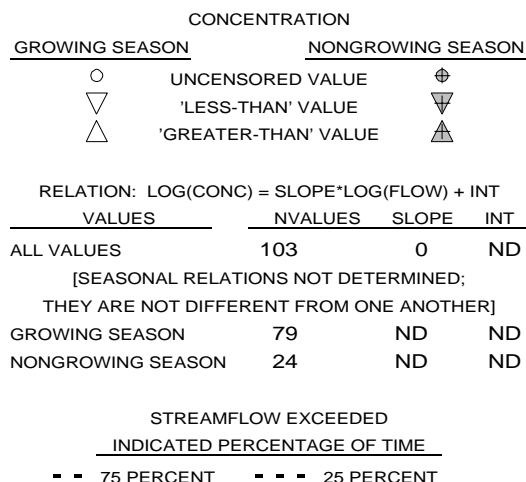
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



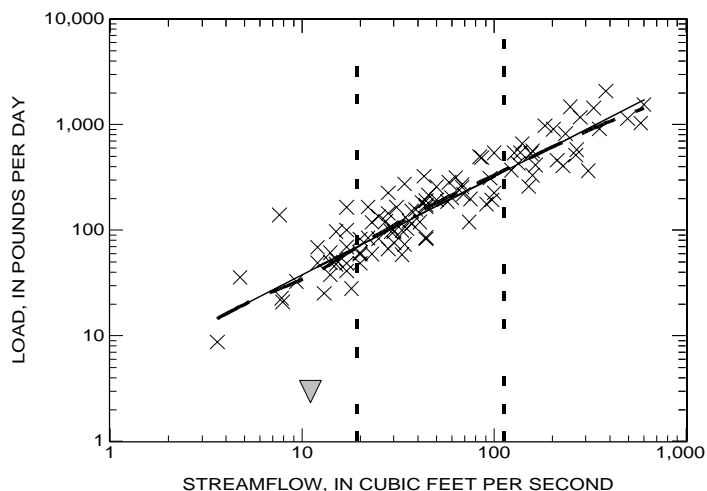
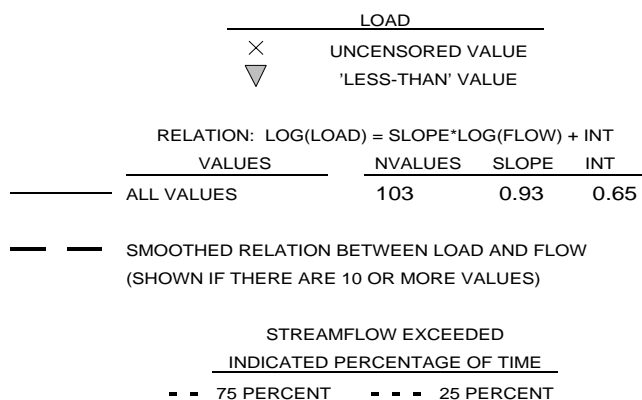
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

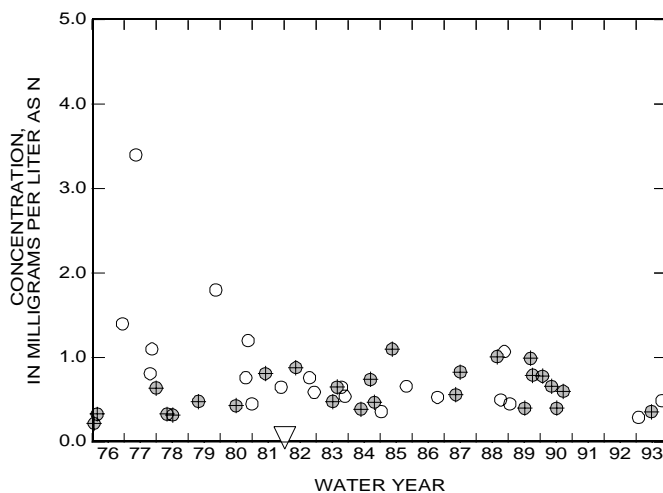
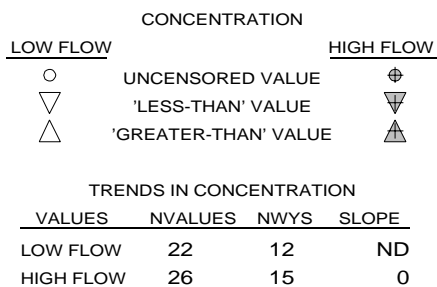
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



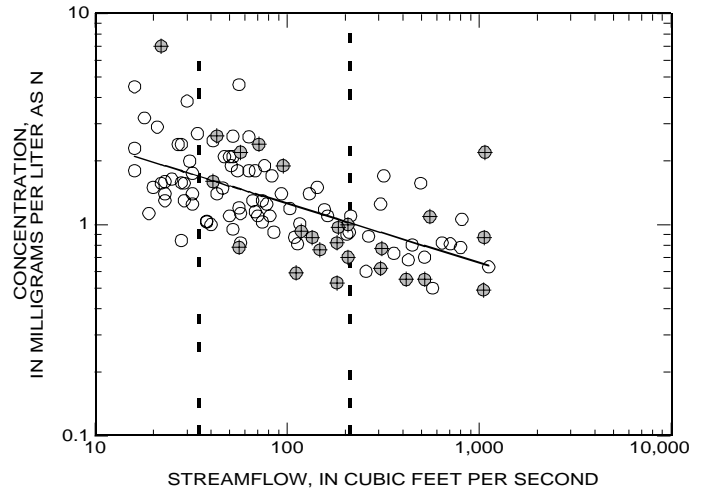
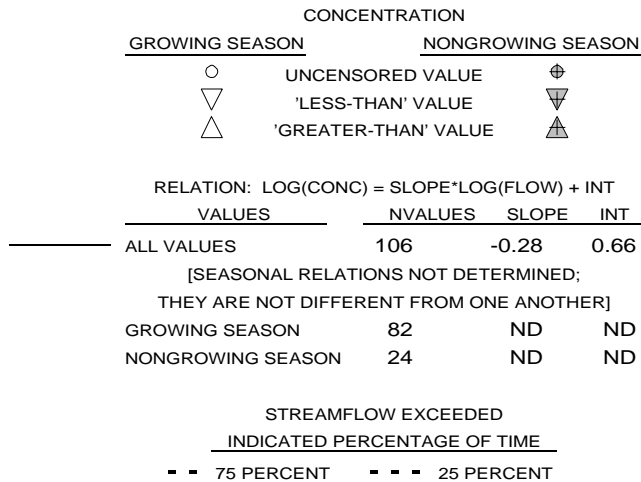
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



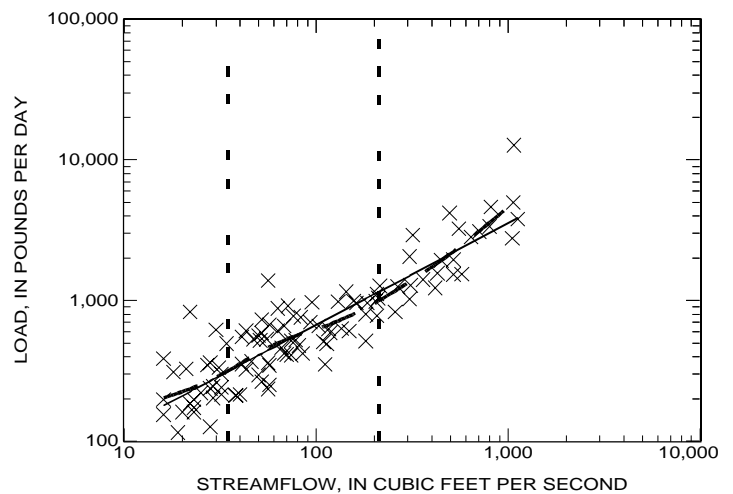
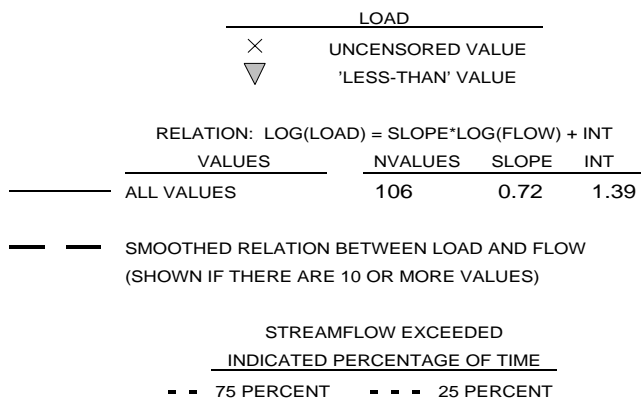
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

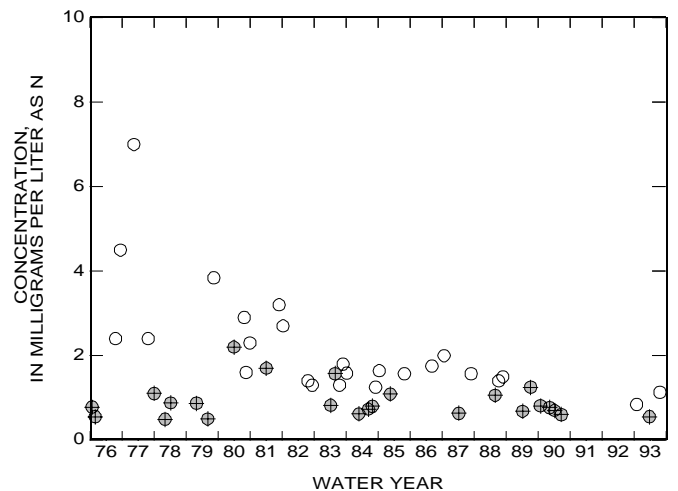
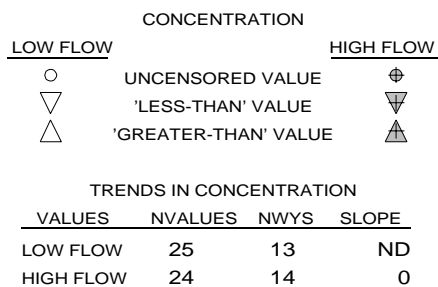
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

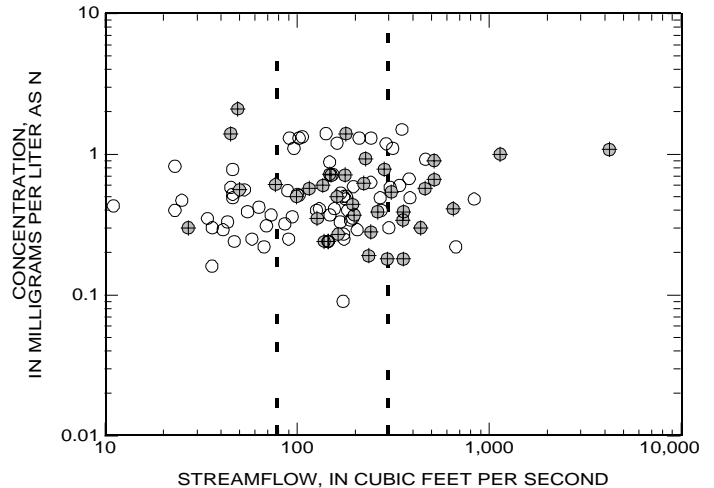
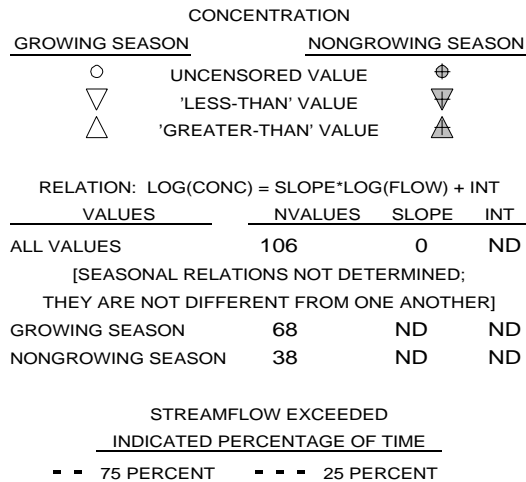




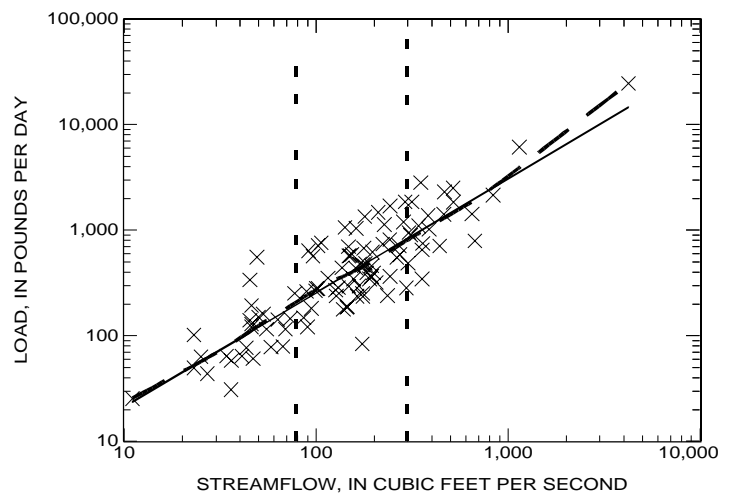
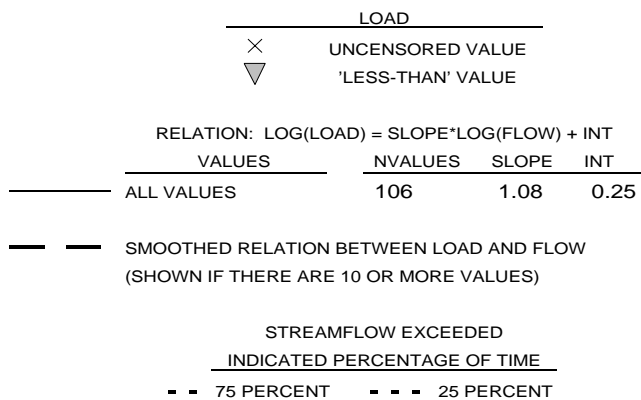
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

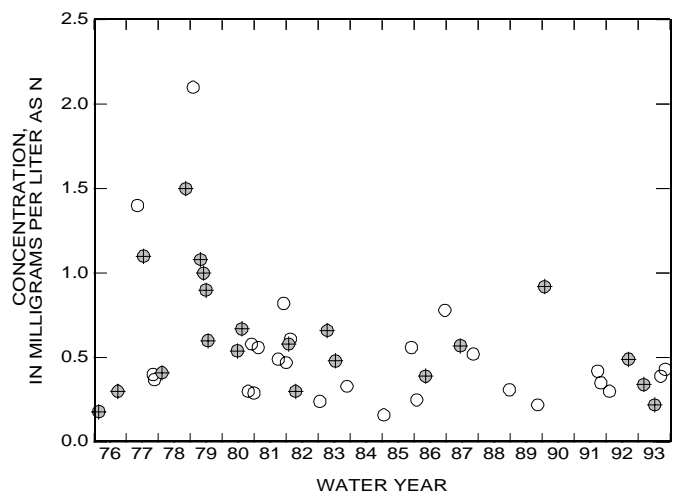
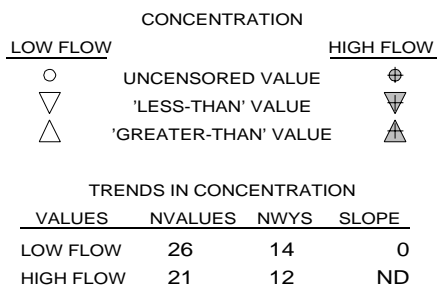
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



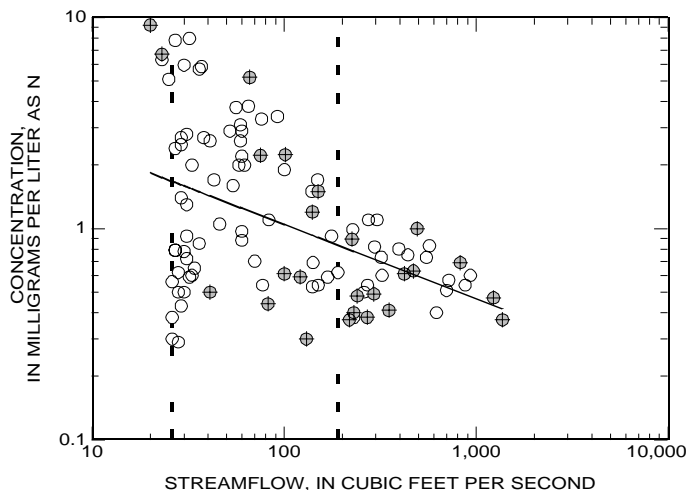
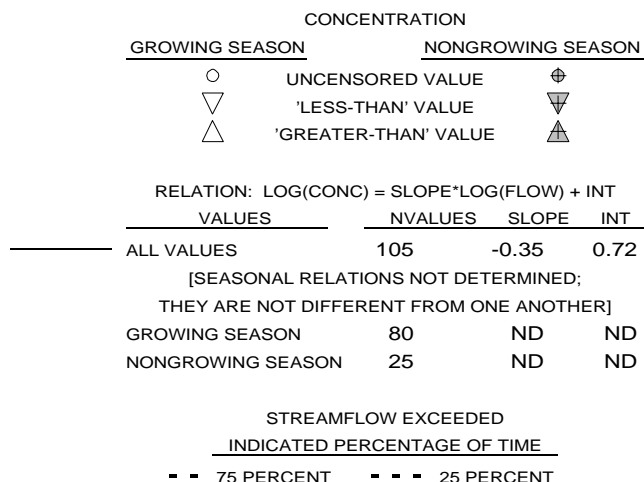
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



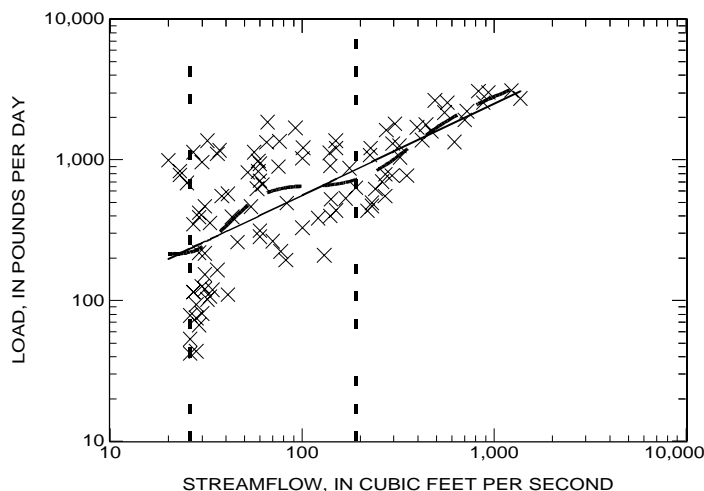
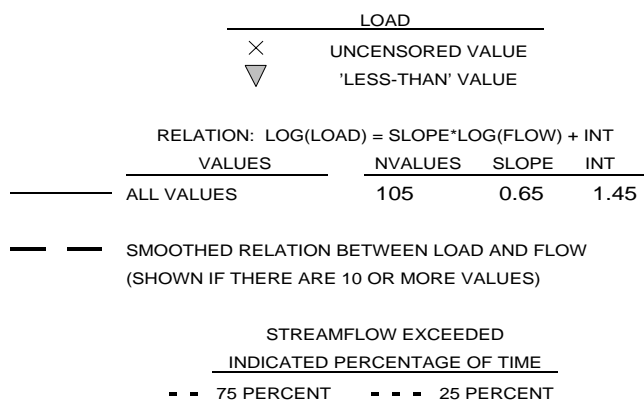
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

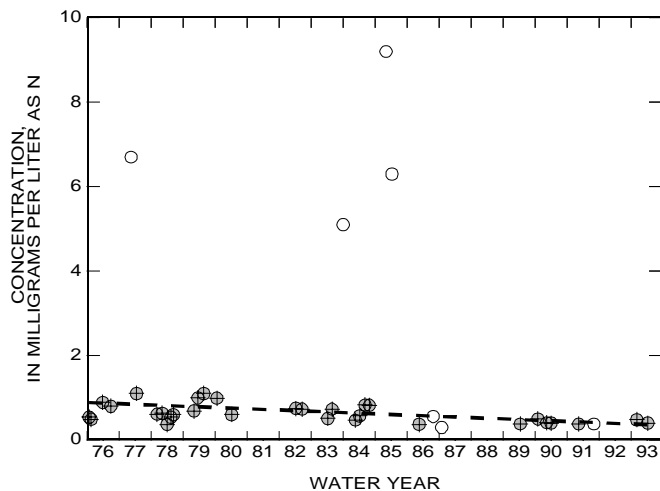
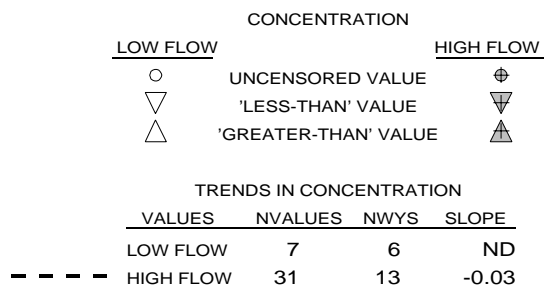
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



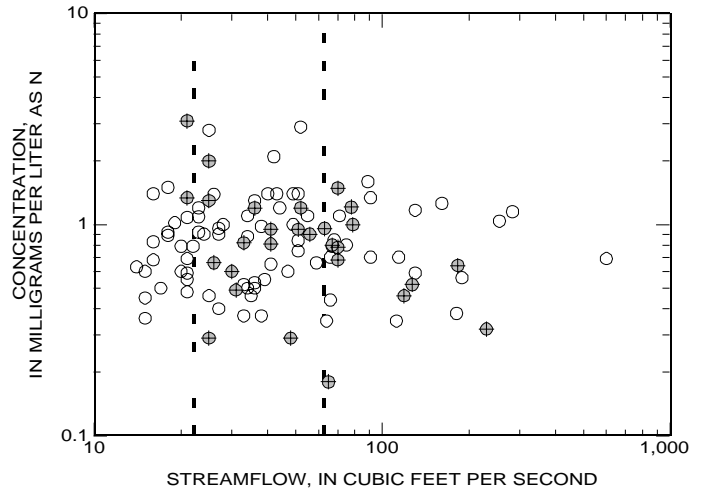
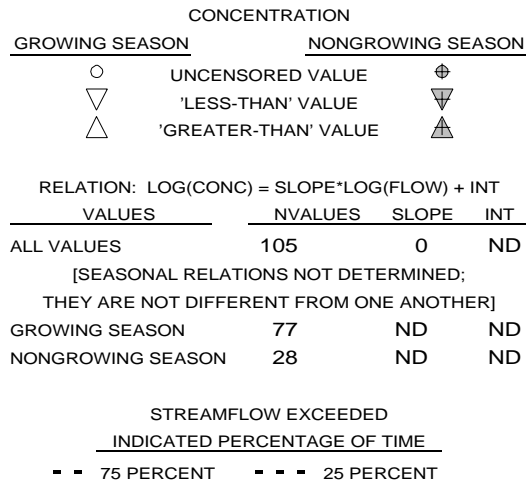
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



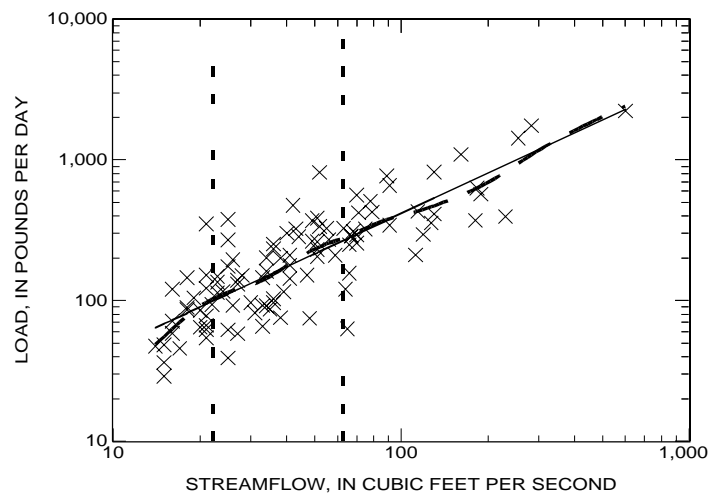
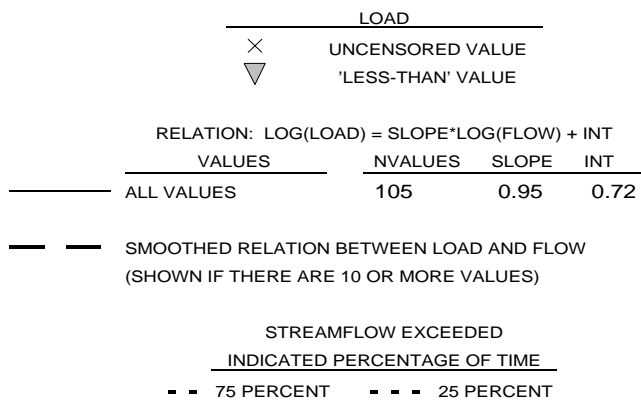
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

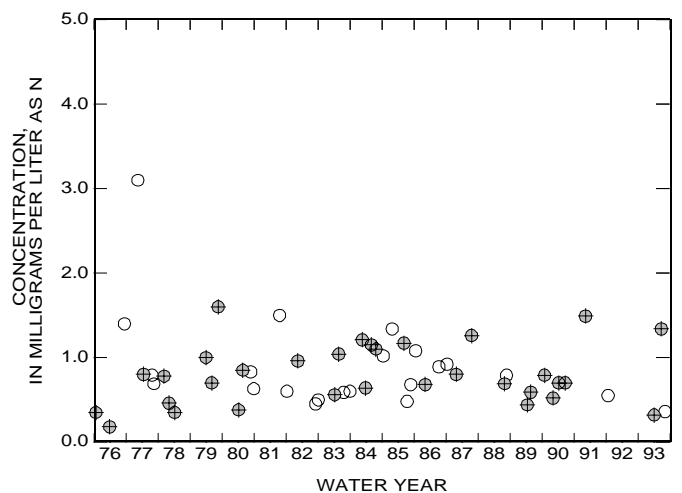
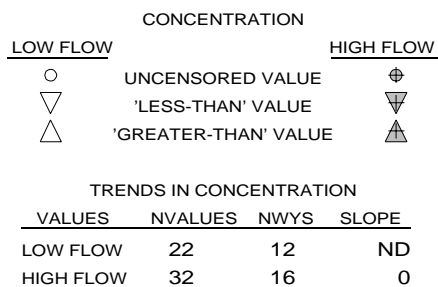
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



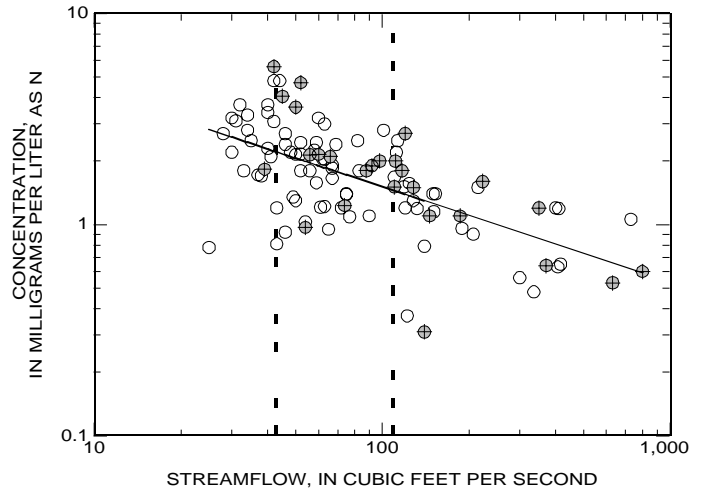
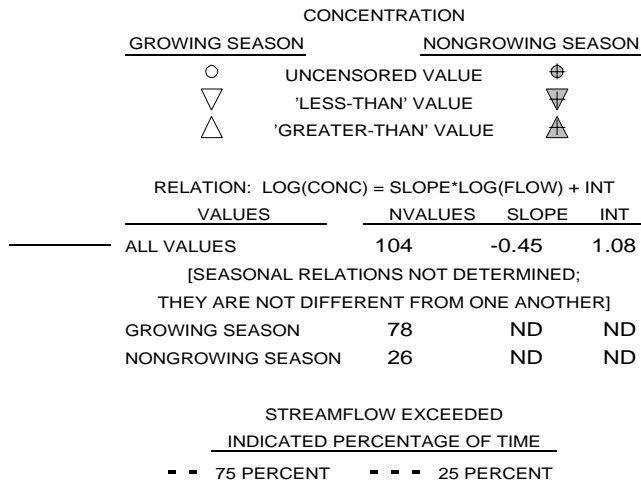
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



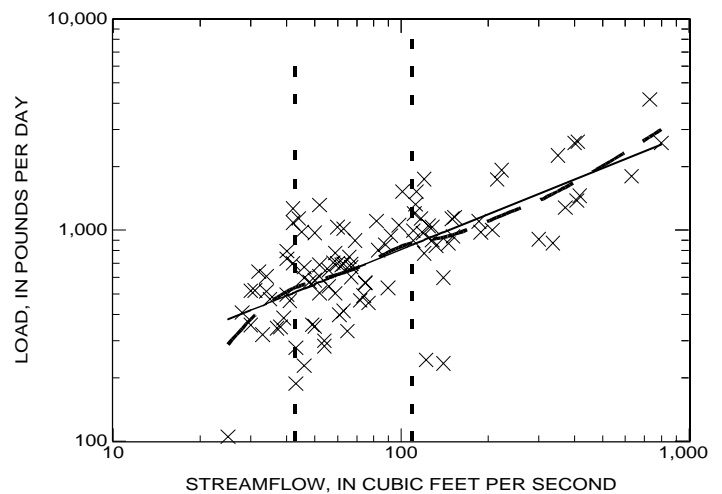
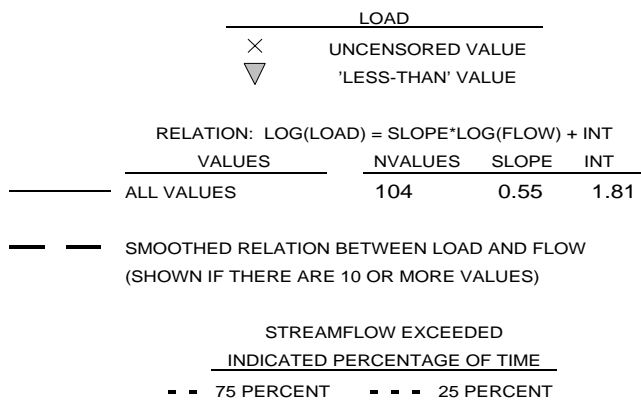
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

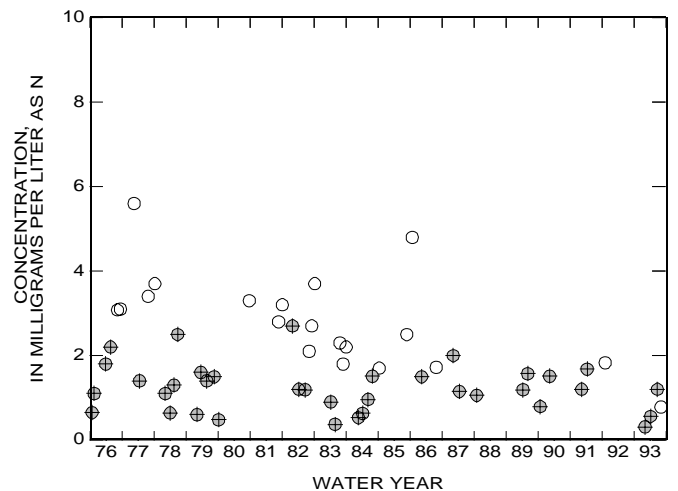
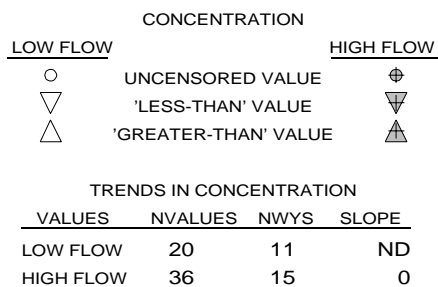
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



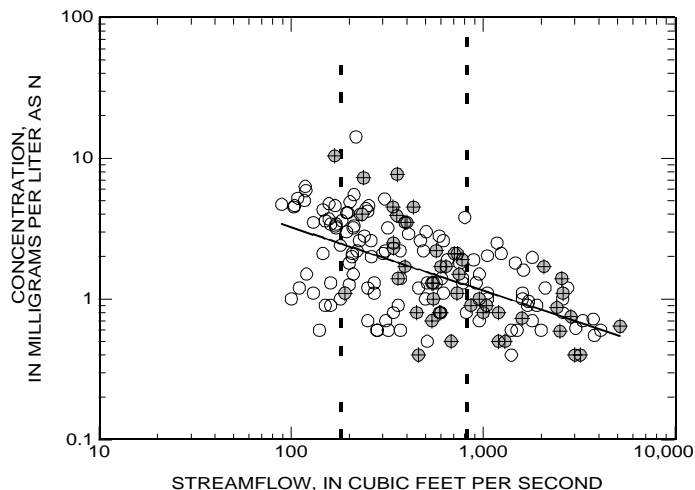
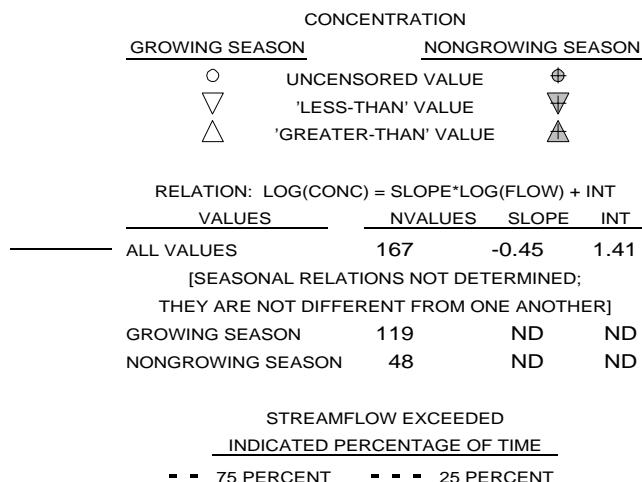
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



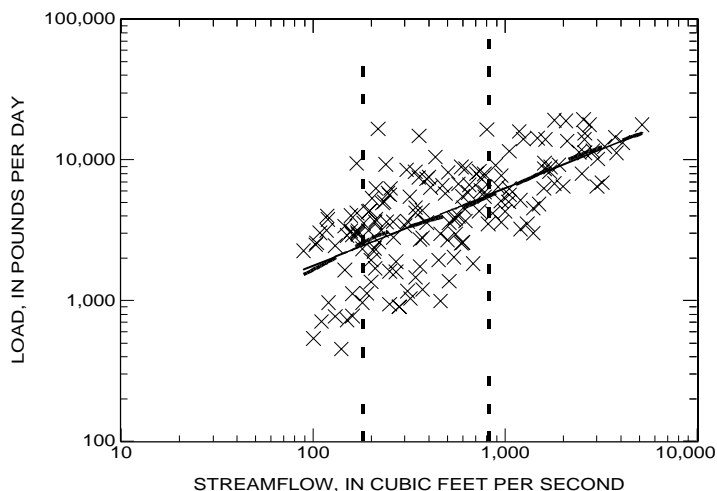
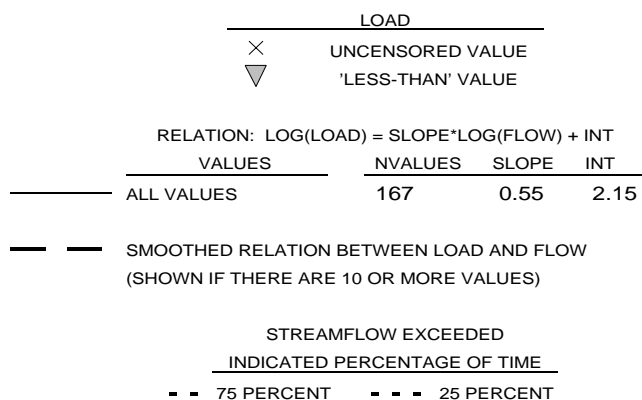
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

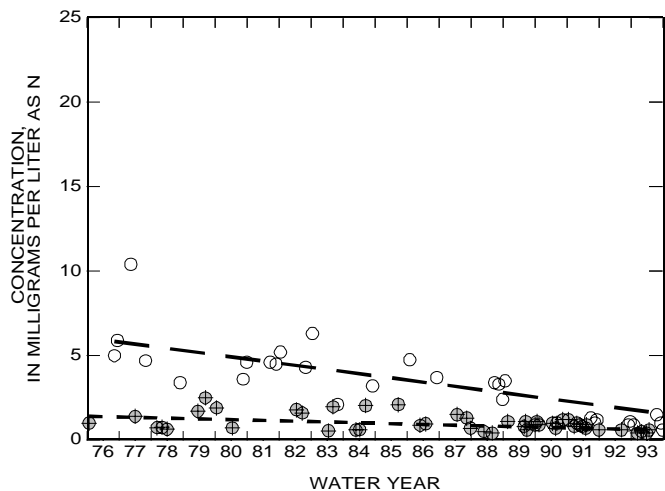
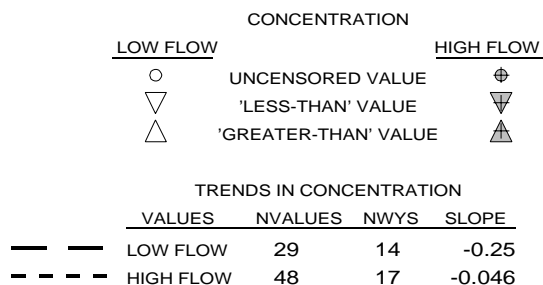
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



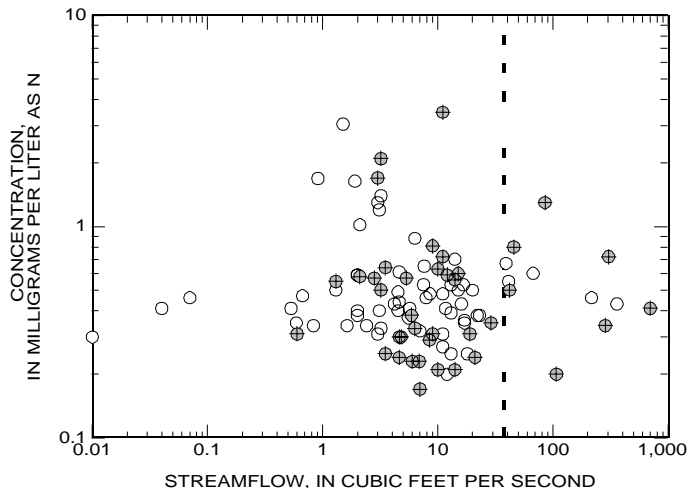
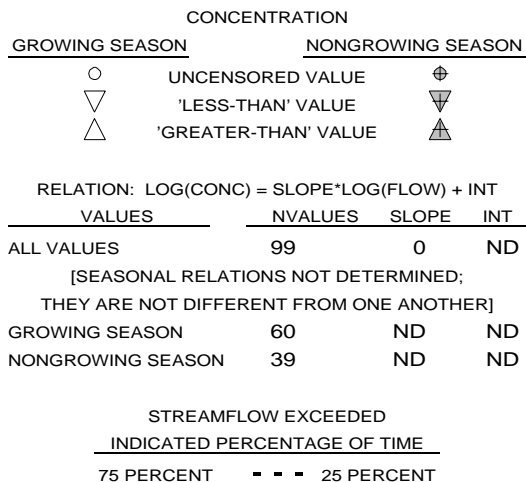
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



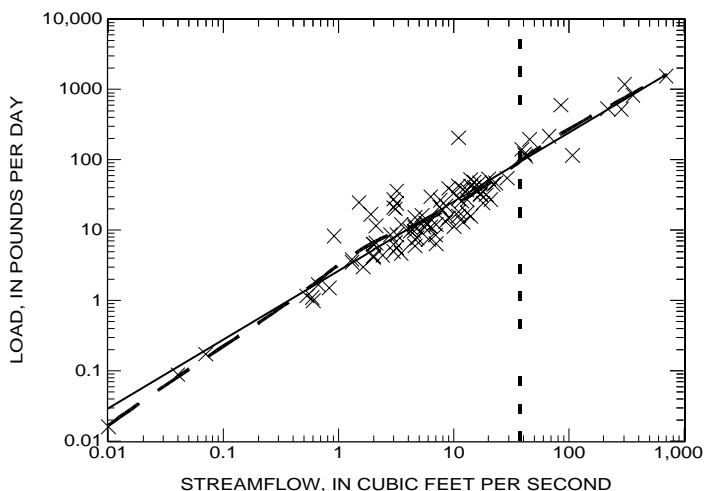
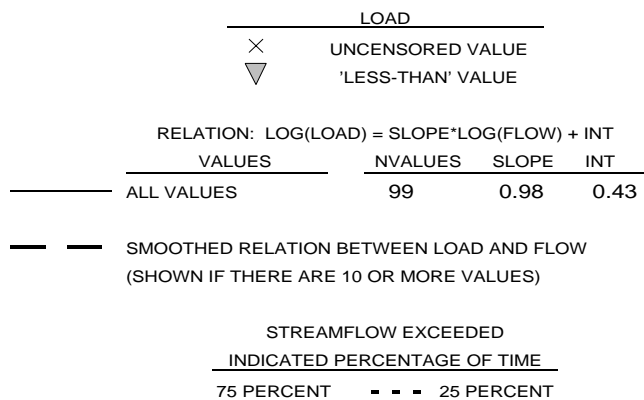
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

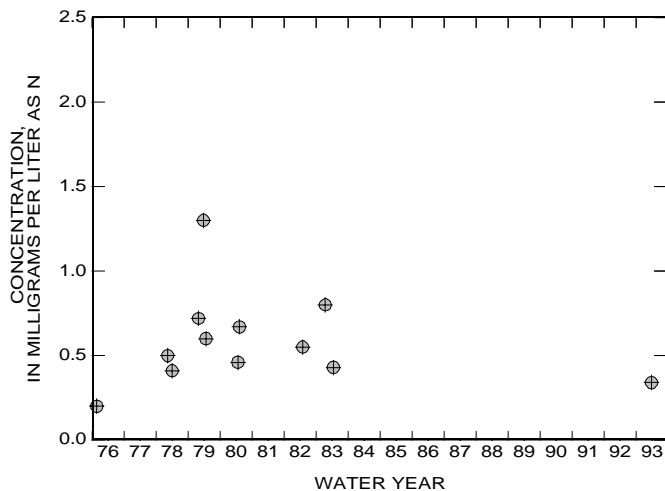
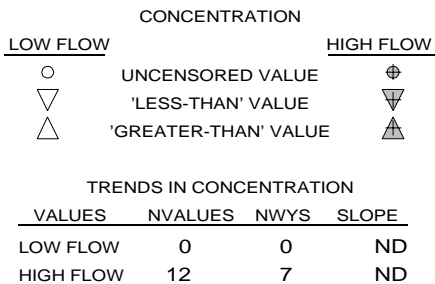
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



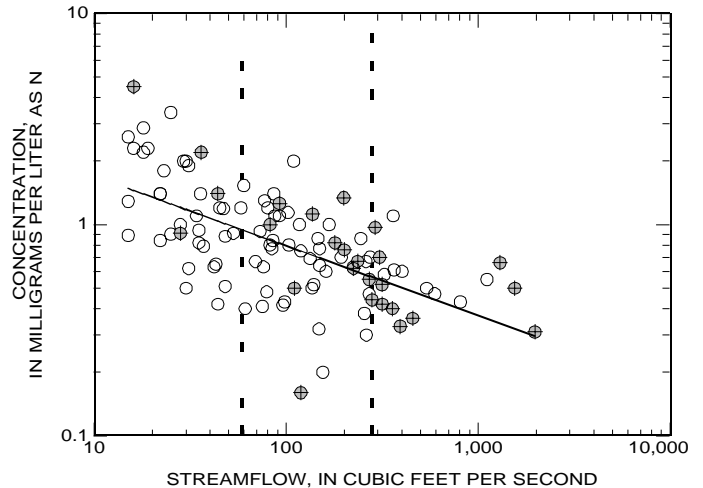
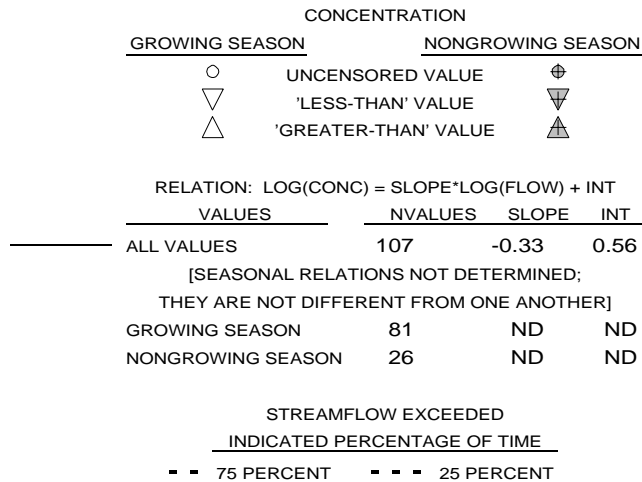
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



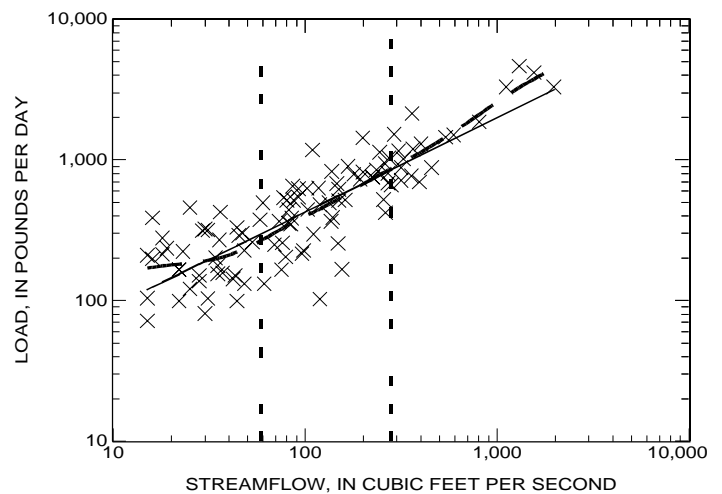
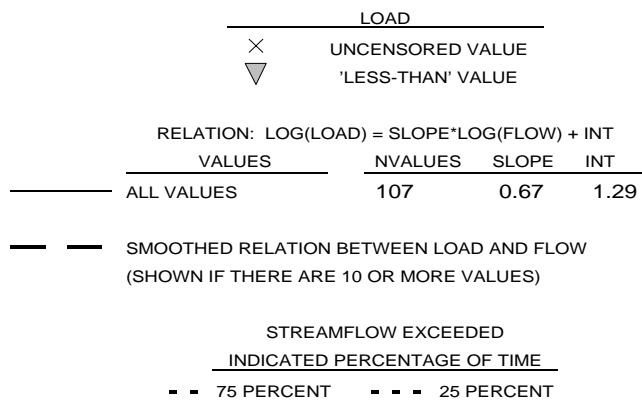
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

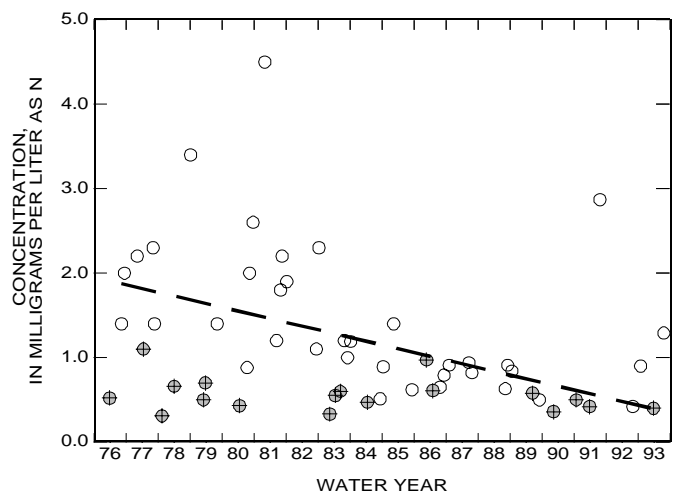
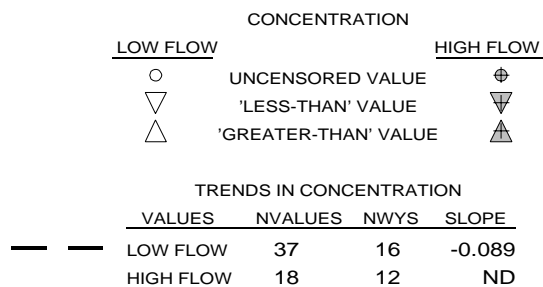
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



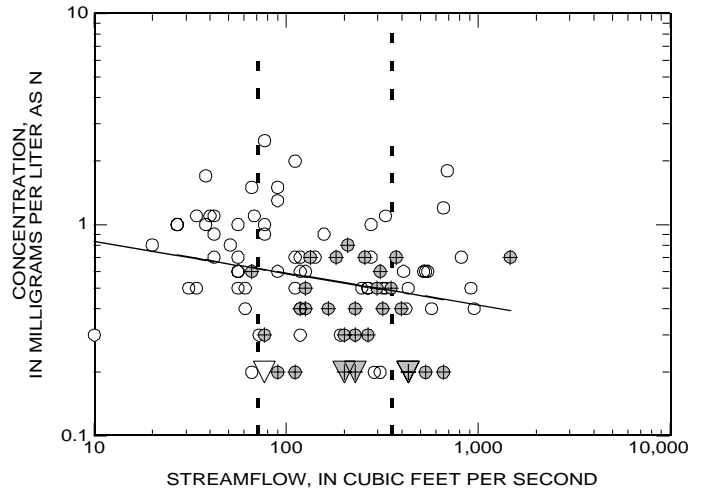
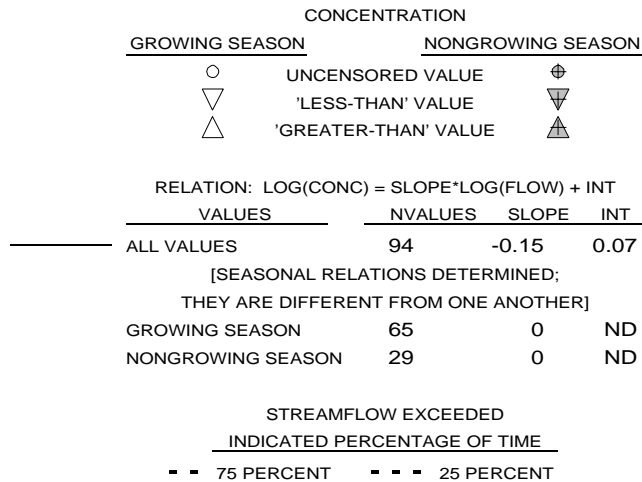
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



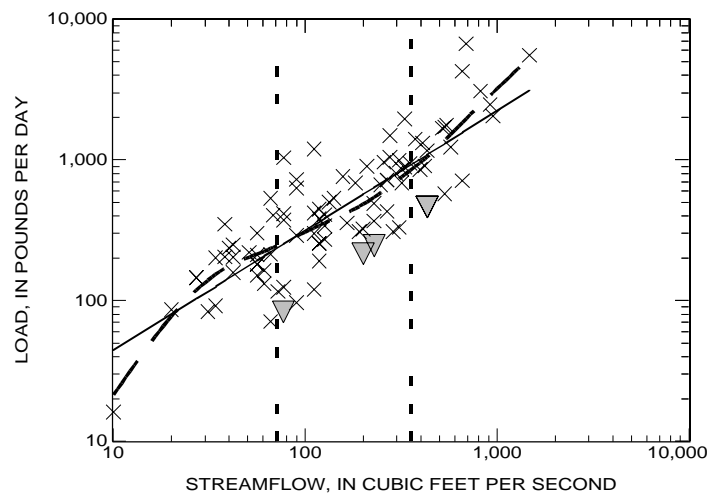
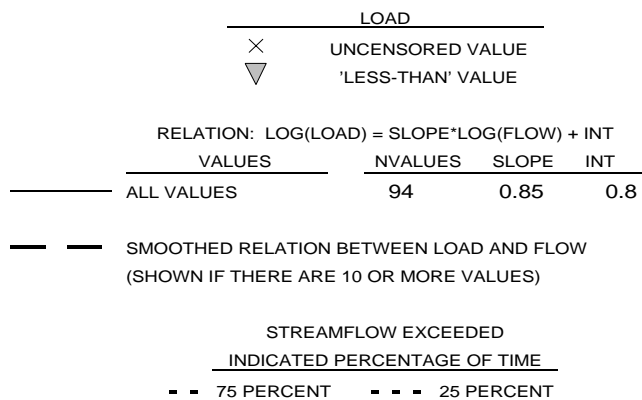
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

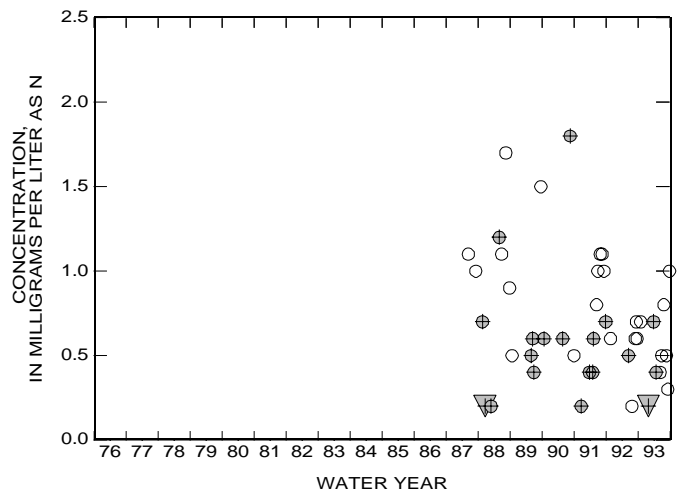
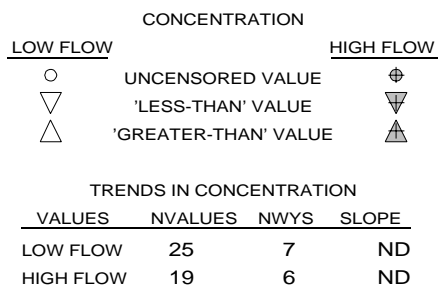
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

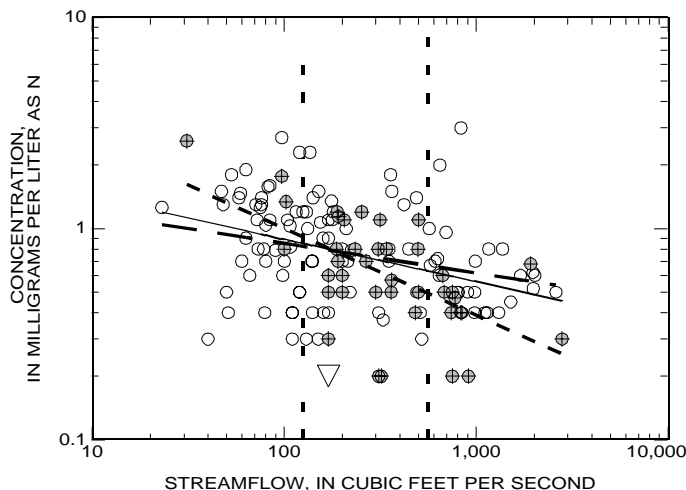
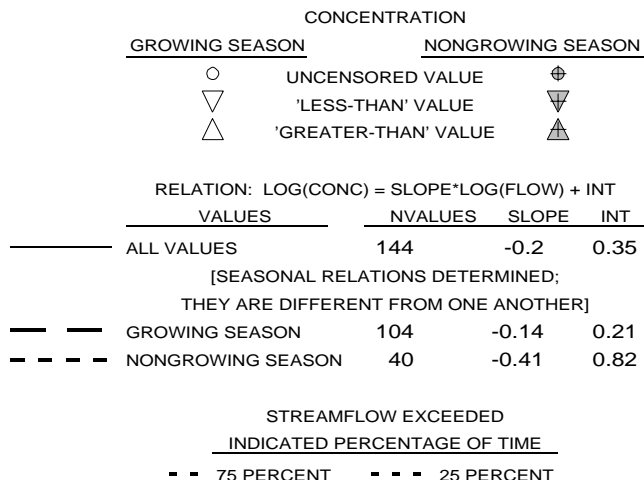




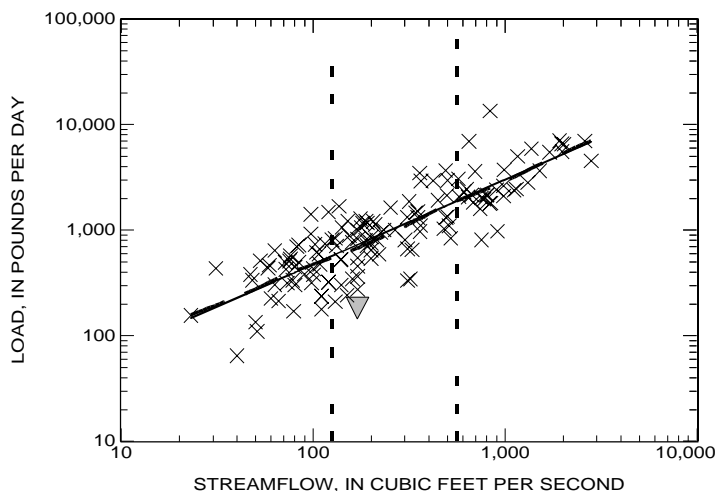
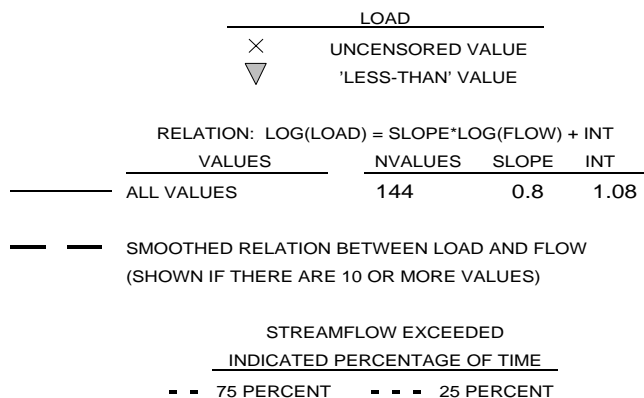
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

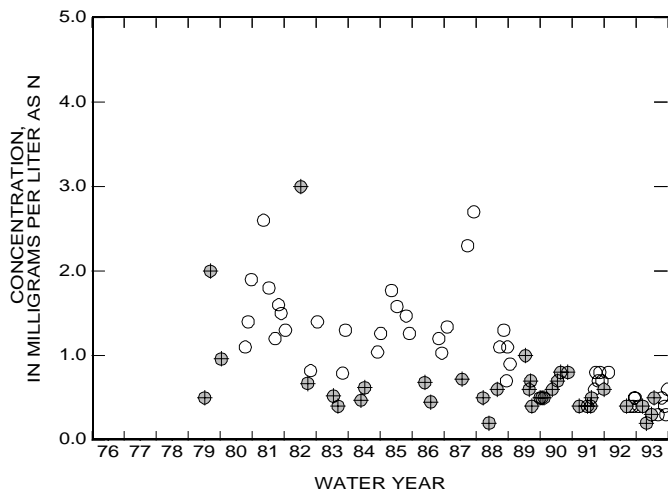
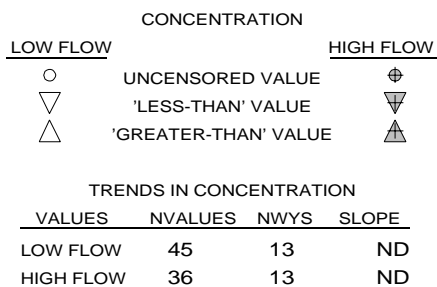
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



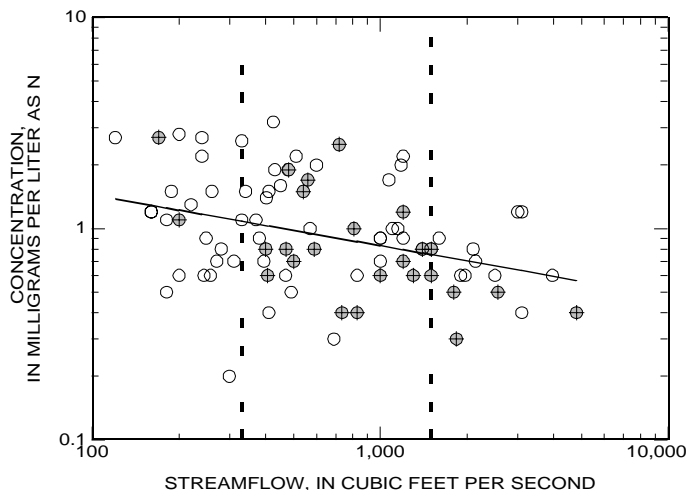
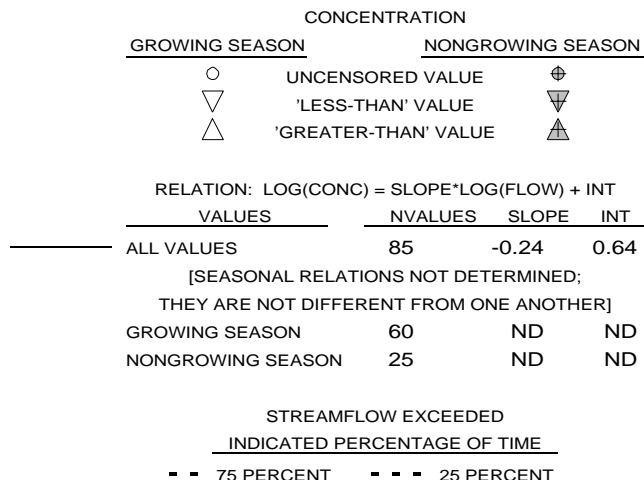
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



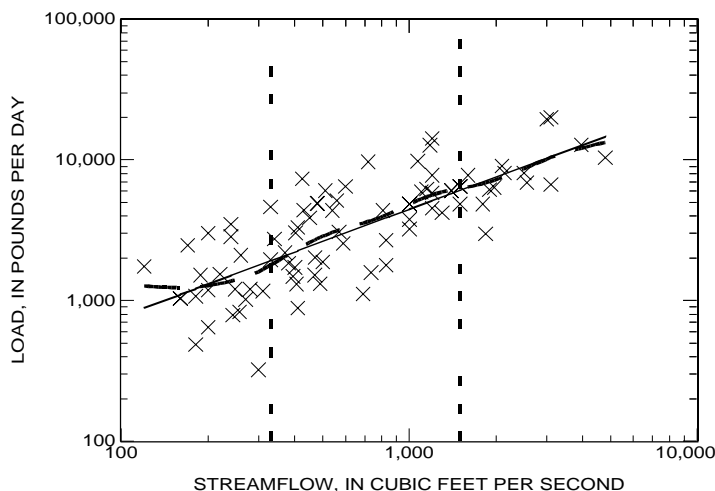
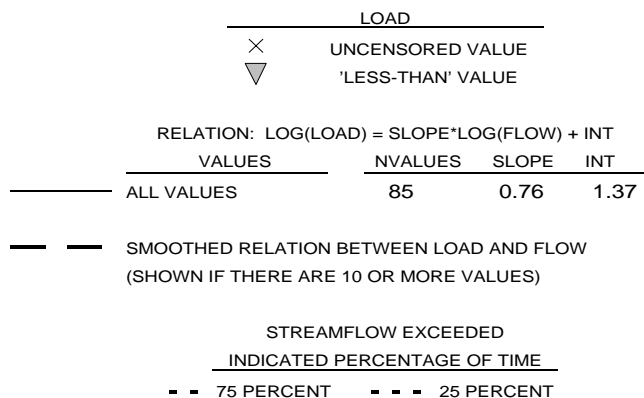
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

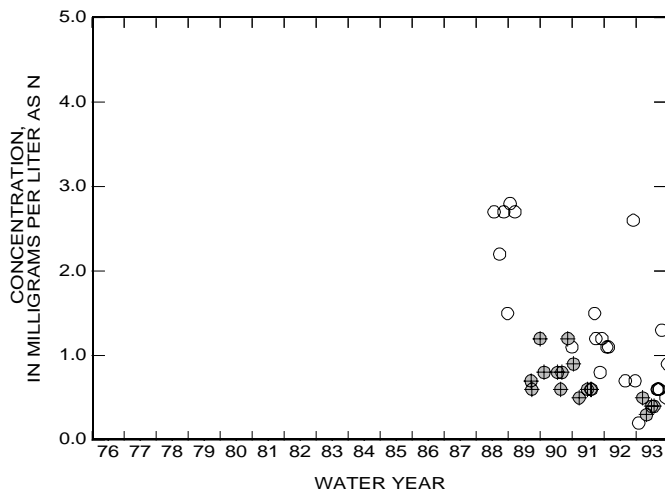
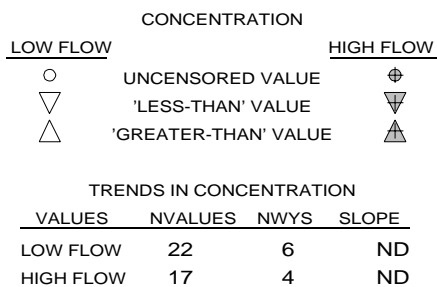
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



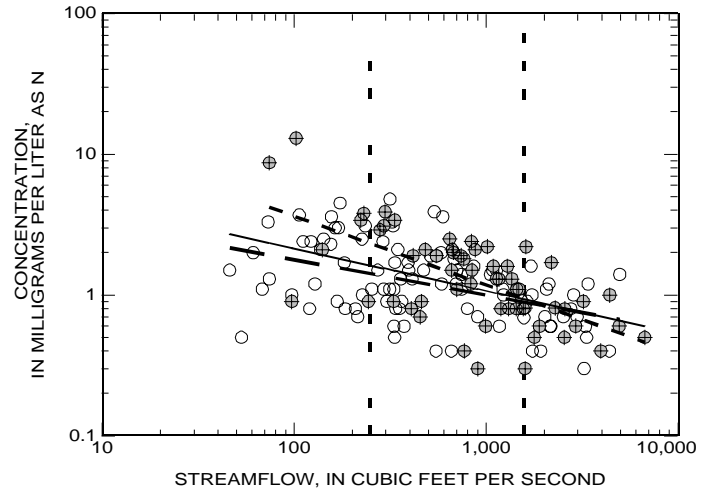
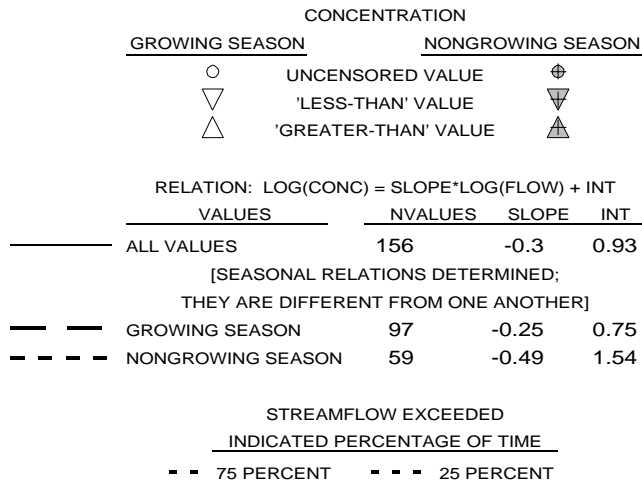
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



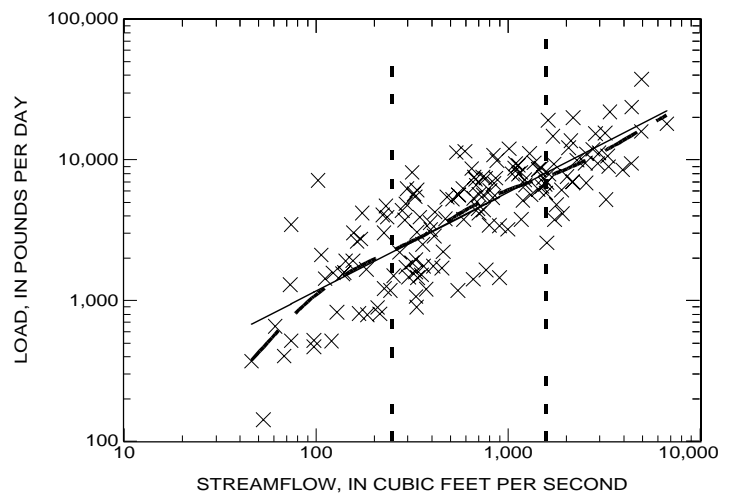
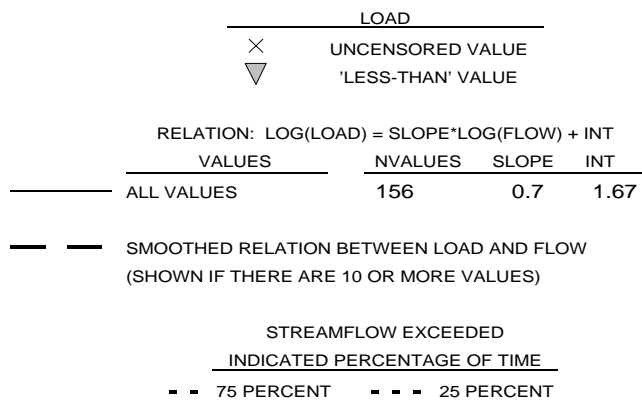
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

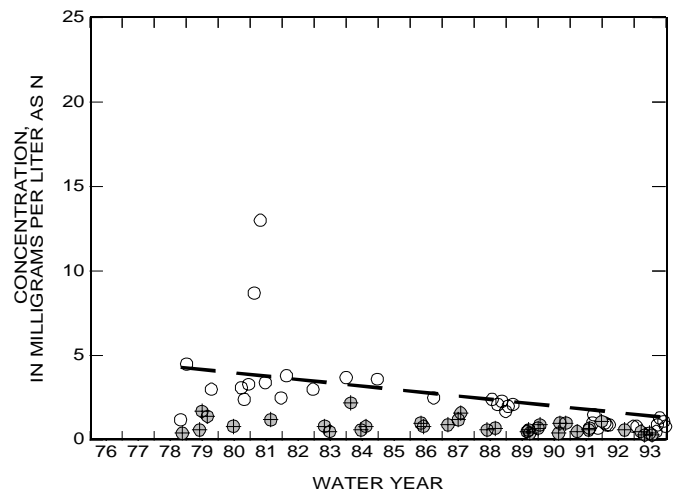
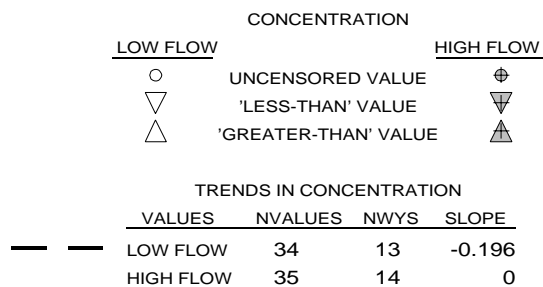
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



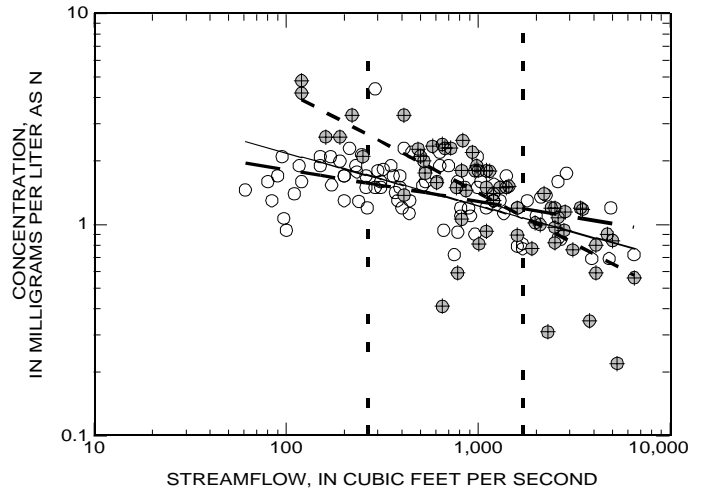
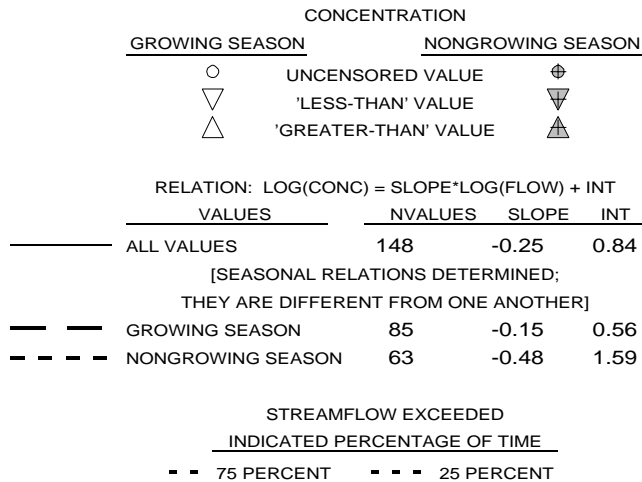
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



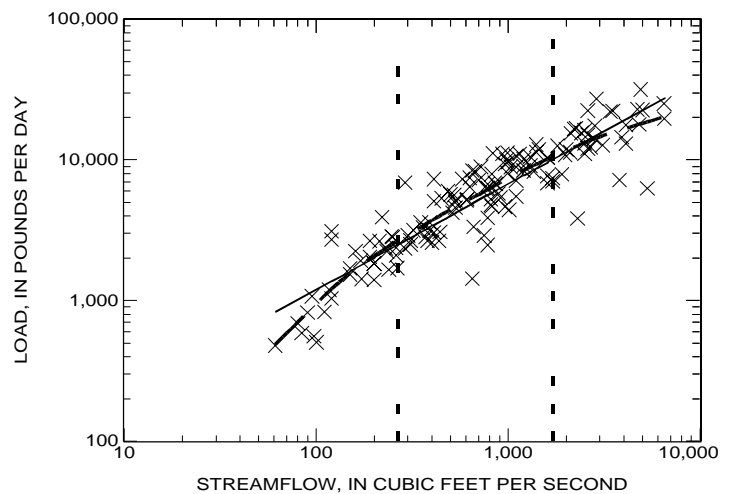
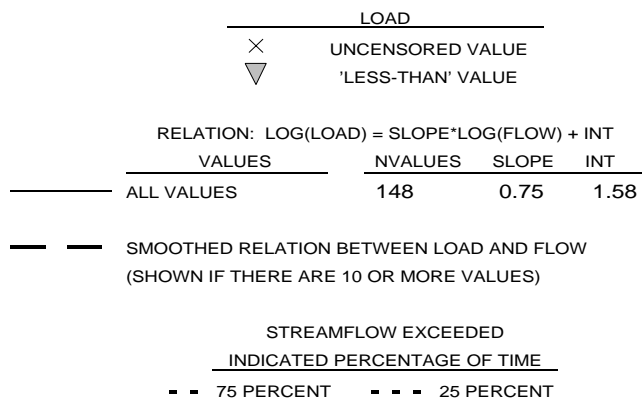
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

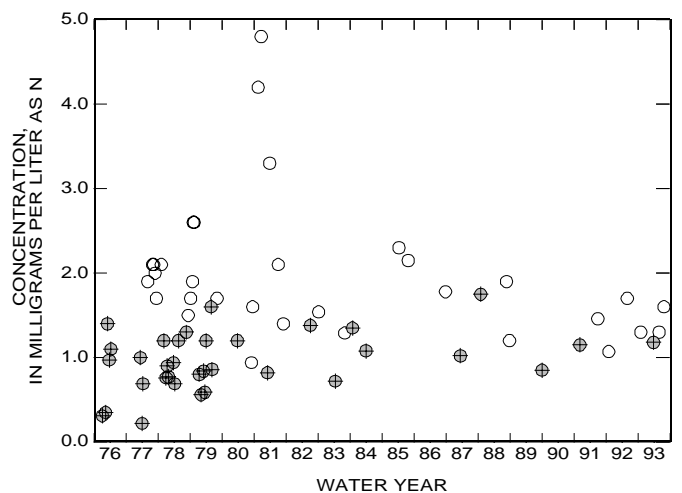
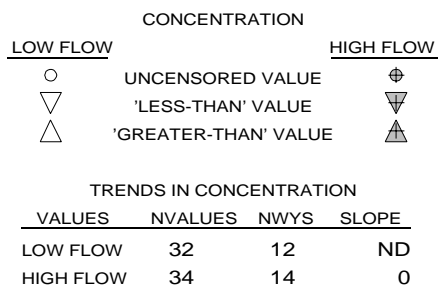
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



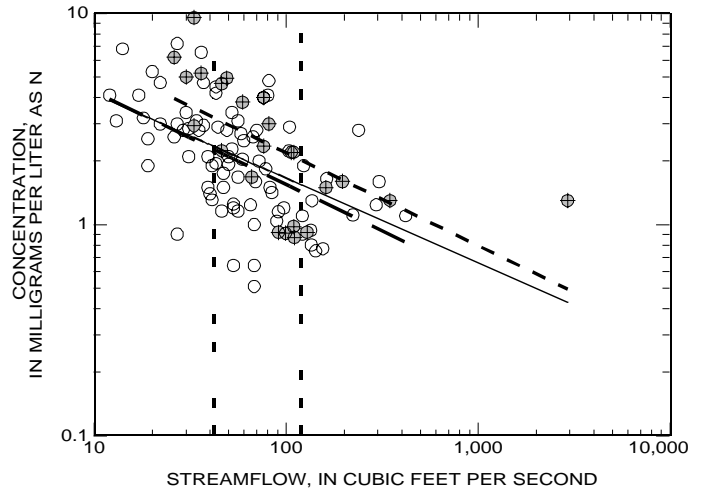
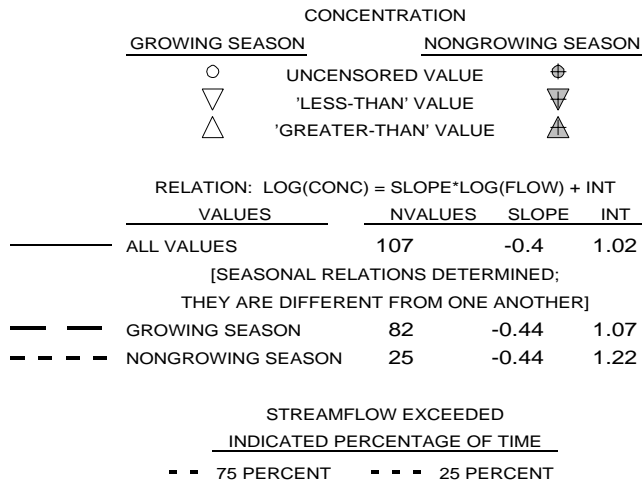
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



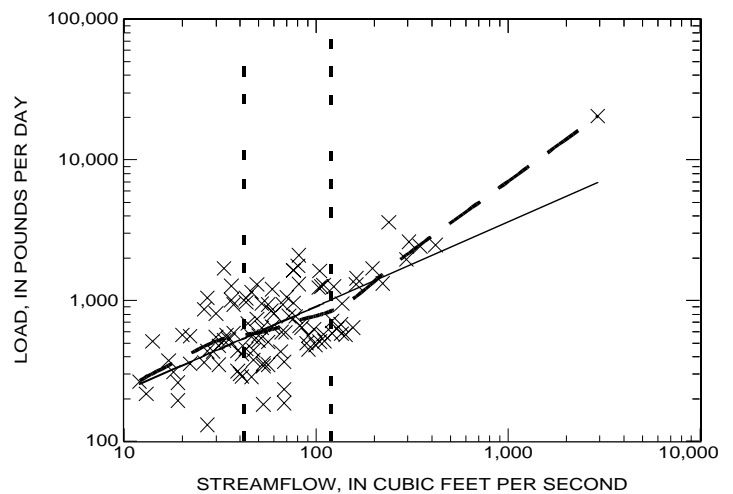
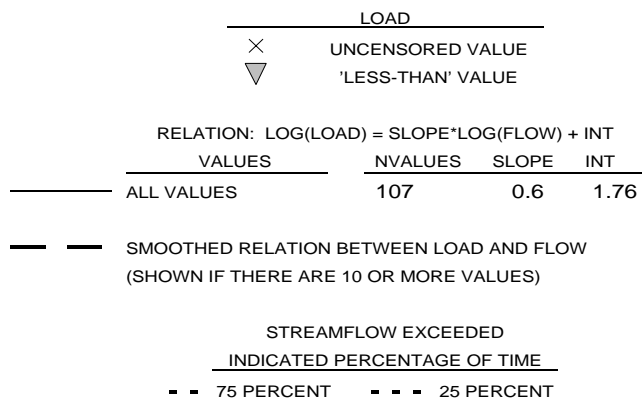
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

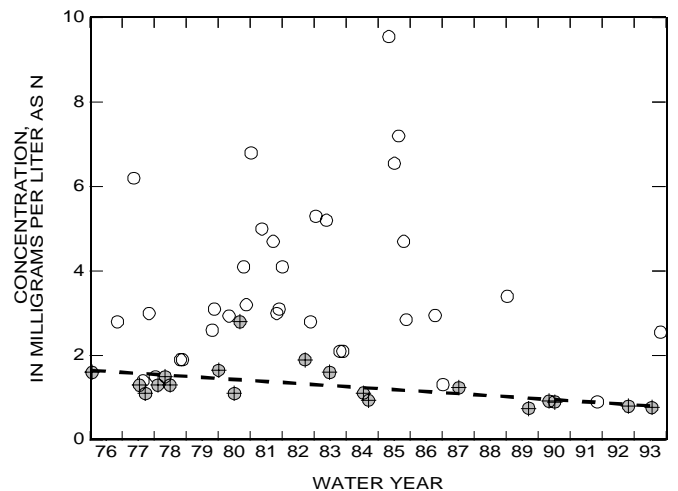
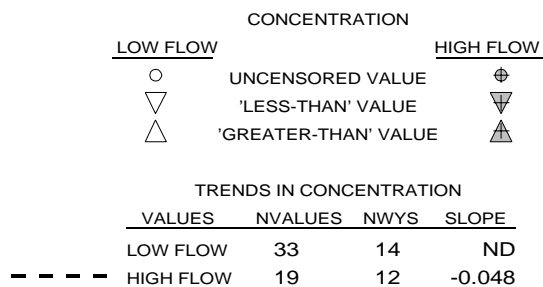
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



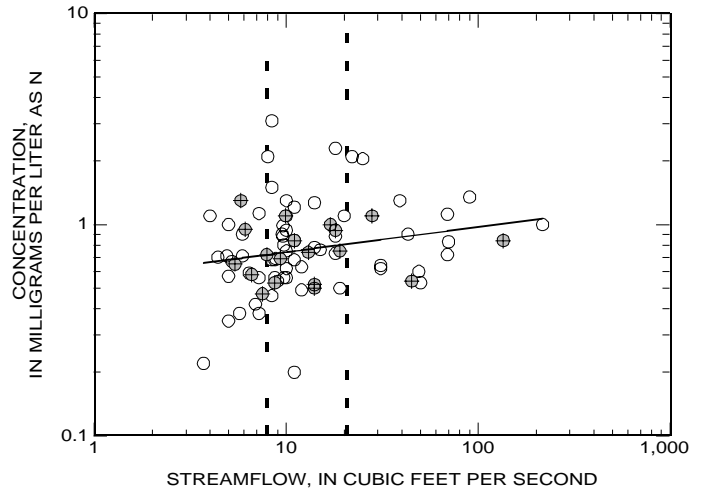
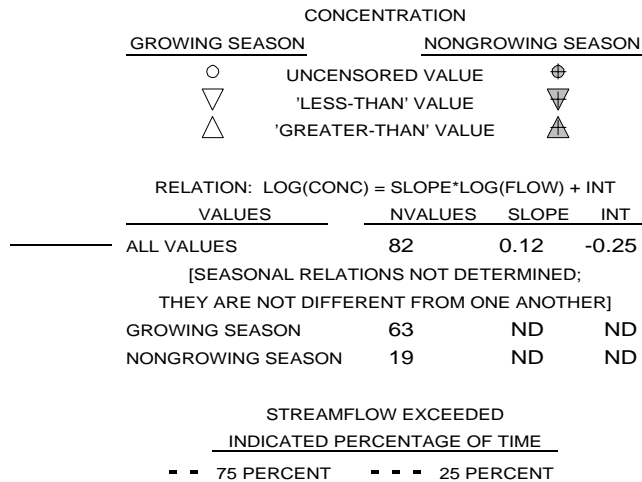
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



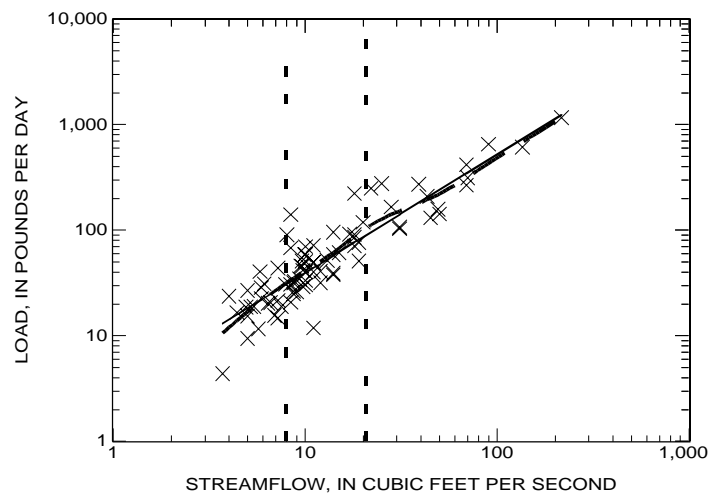
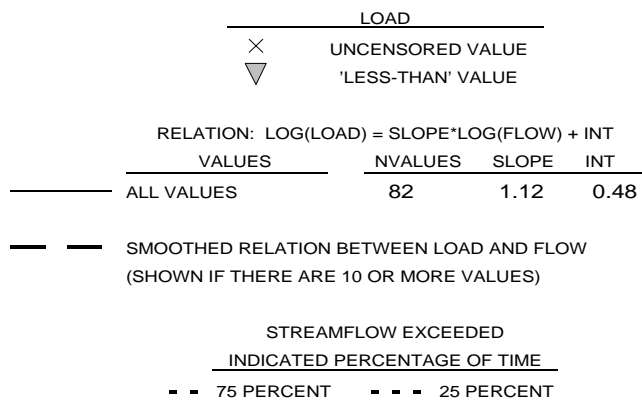
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

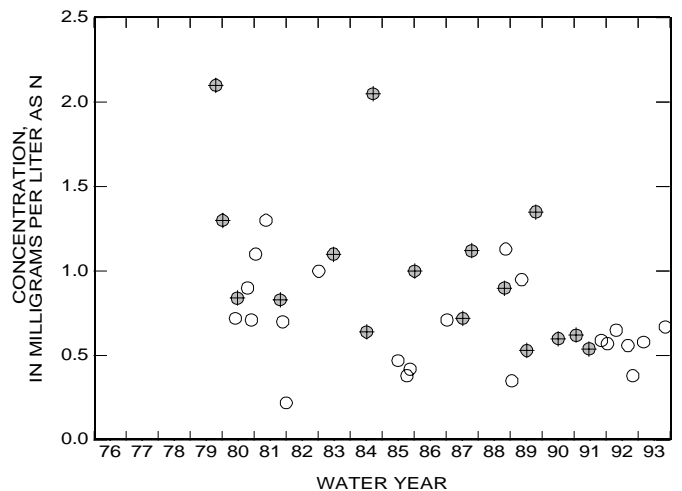
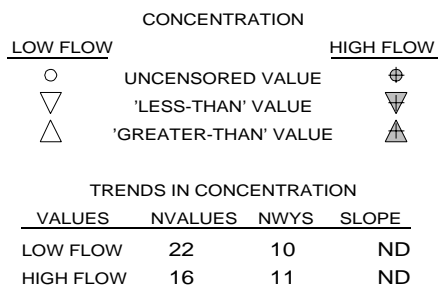
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



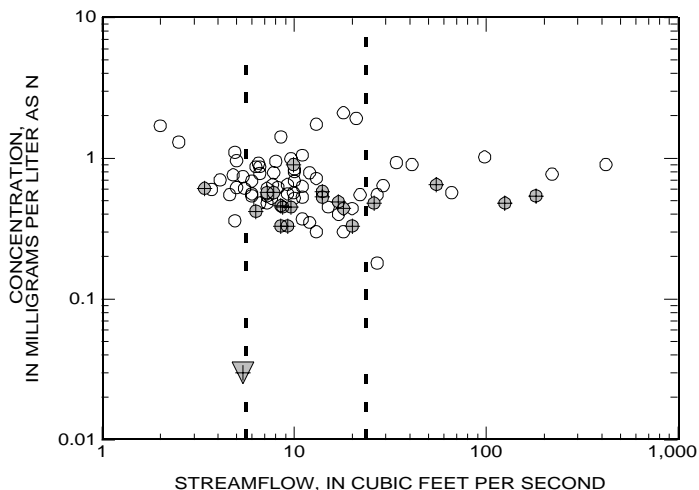
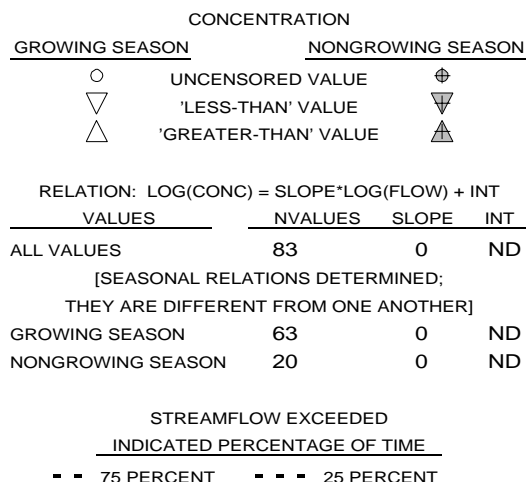
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



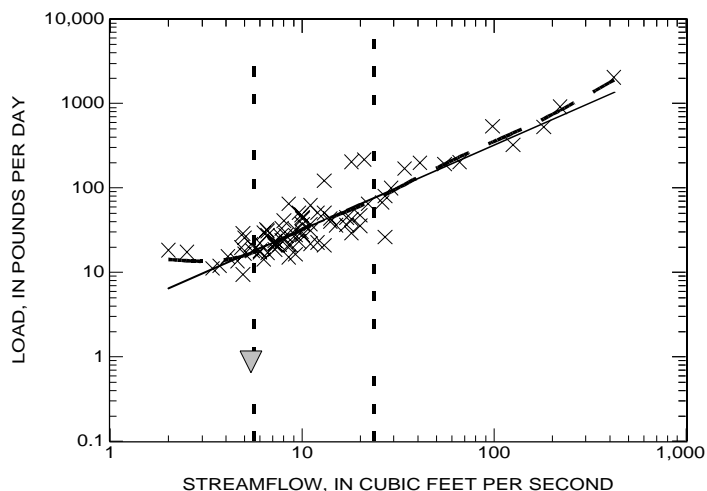
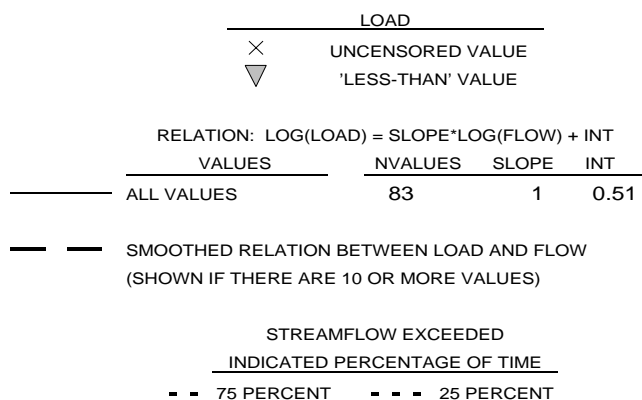
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

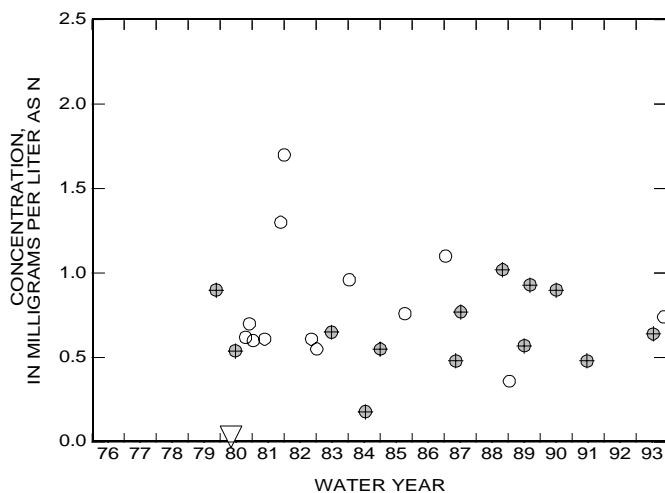
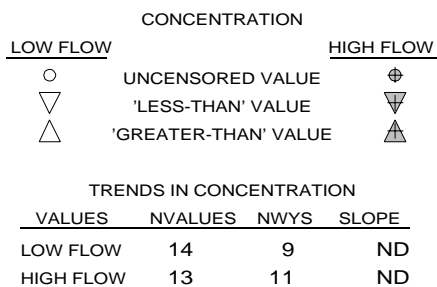
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



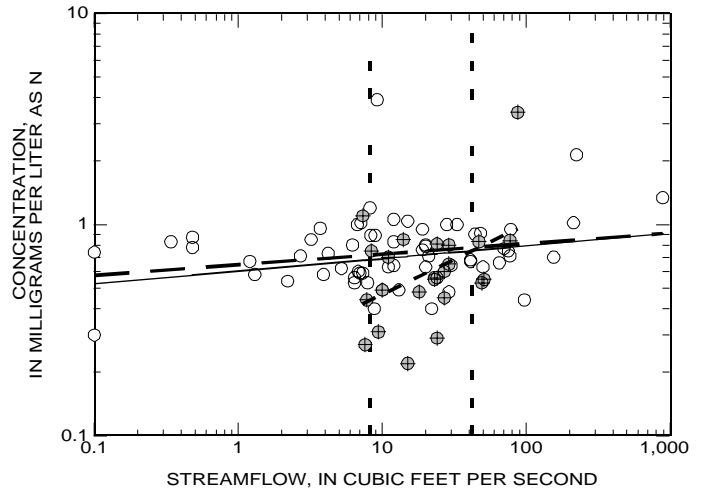
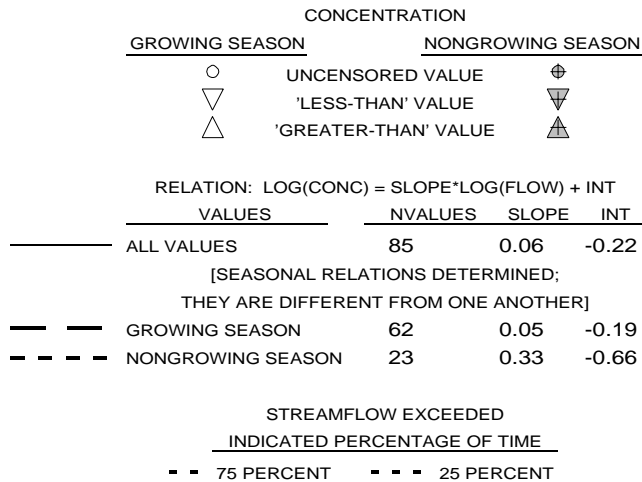
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



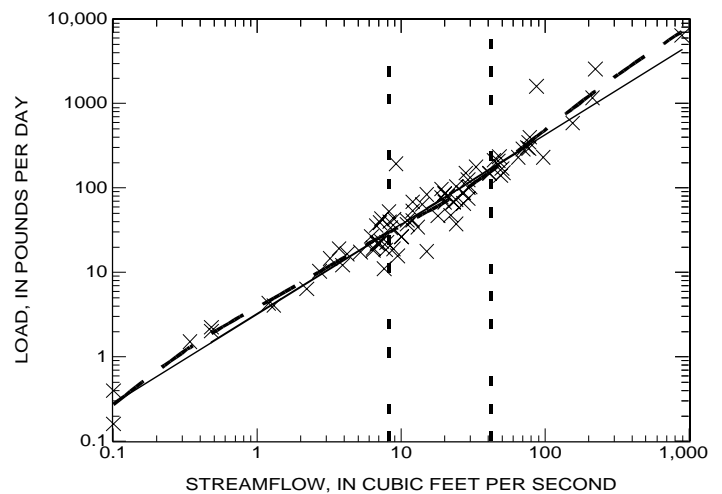
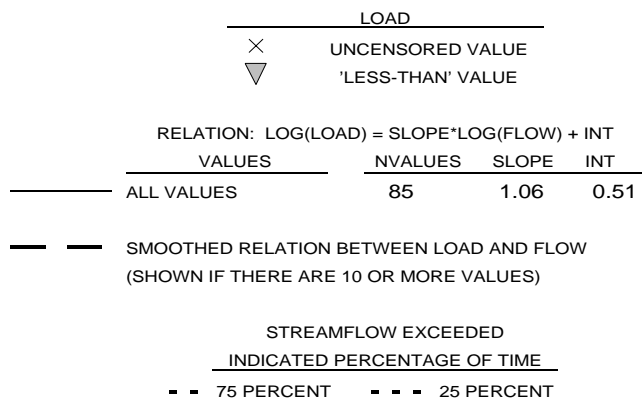
**APPENDIX 14. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA PLUS ORGANIC NITROGEN**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

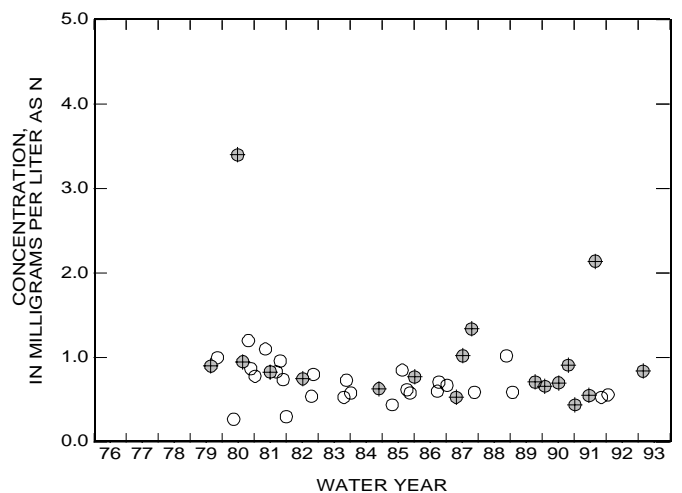
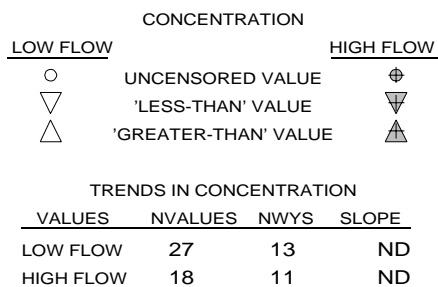
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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# Appendix 15

## Total ammonia

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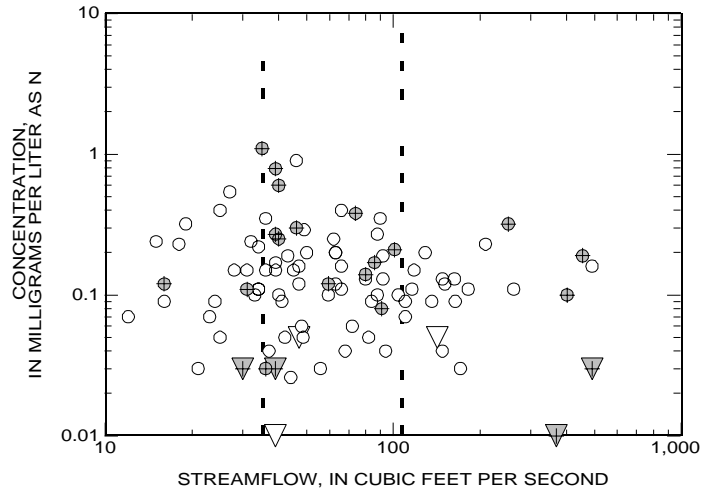
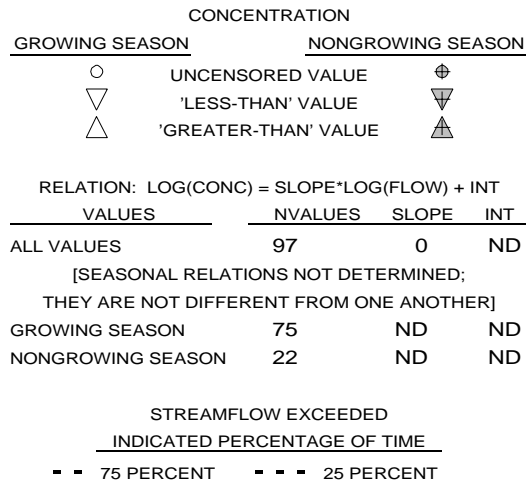
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388000	Ramapo River at Pompton Lakes, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389005	Passaic River below Pompton River, at Two Bridges, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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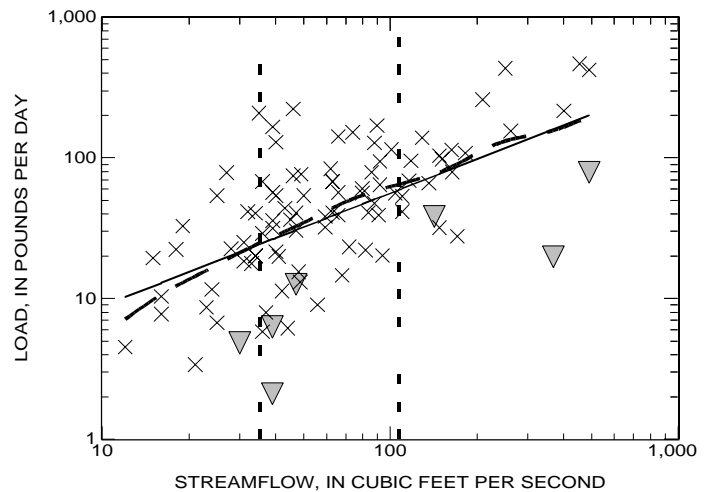
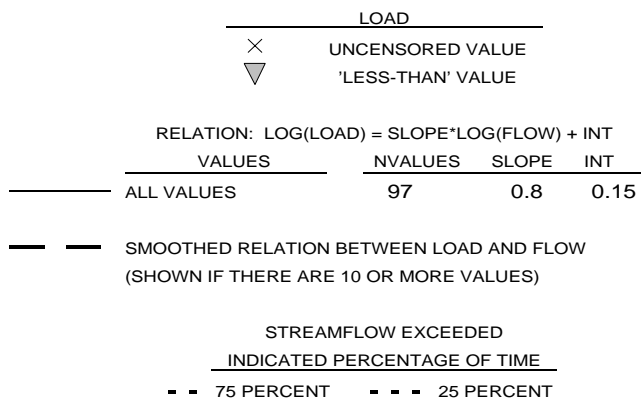
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

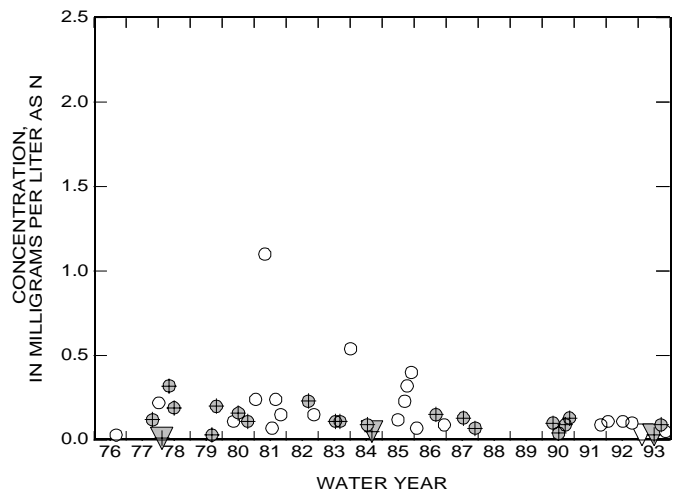
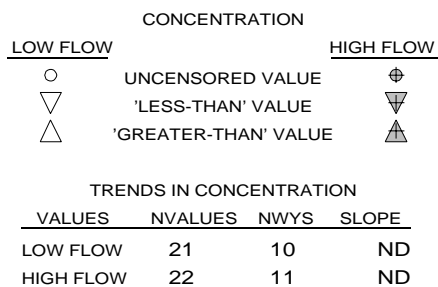
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



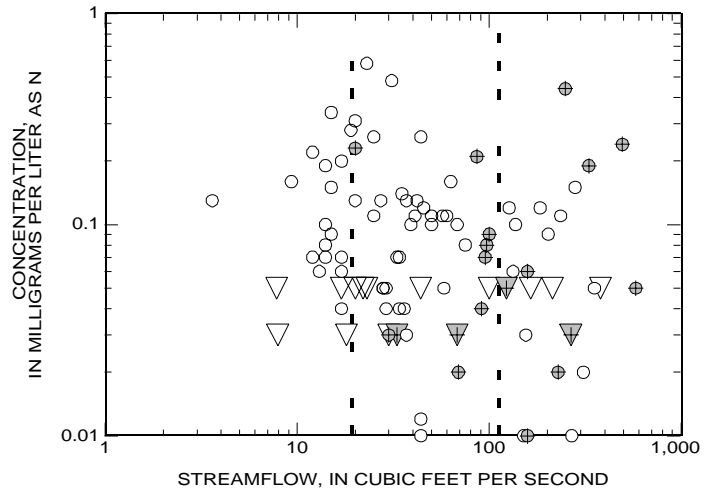
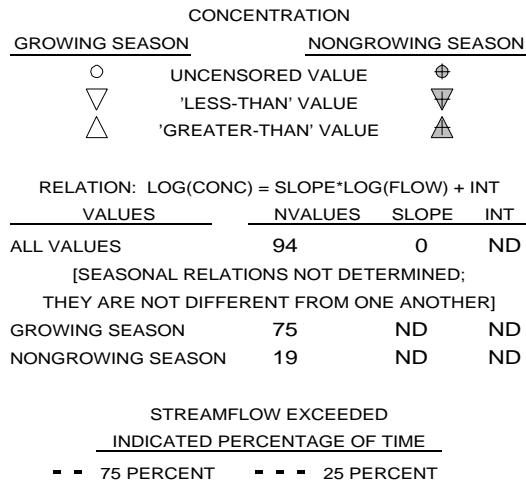
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



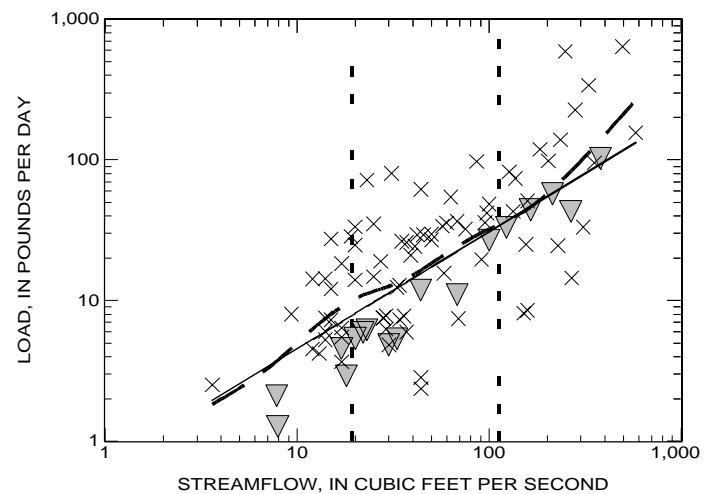
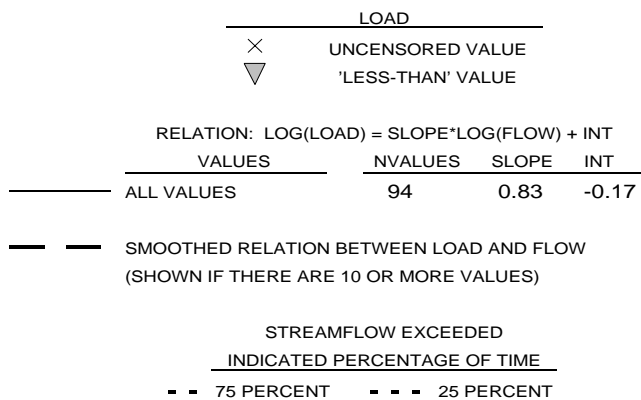
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

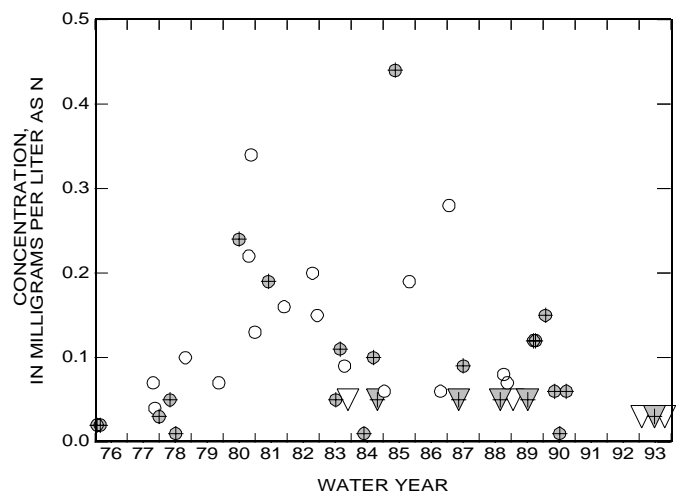
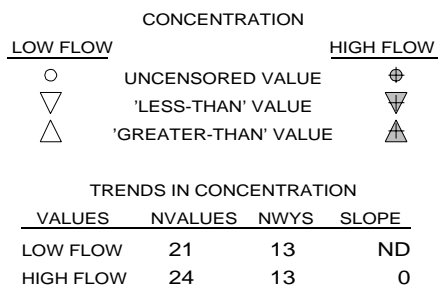
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



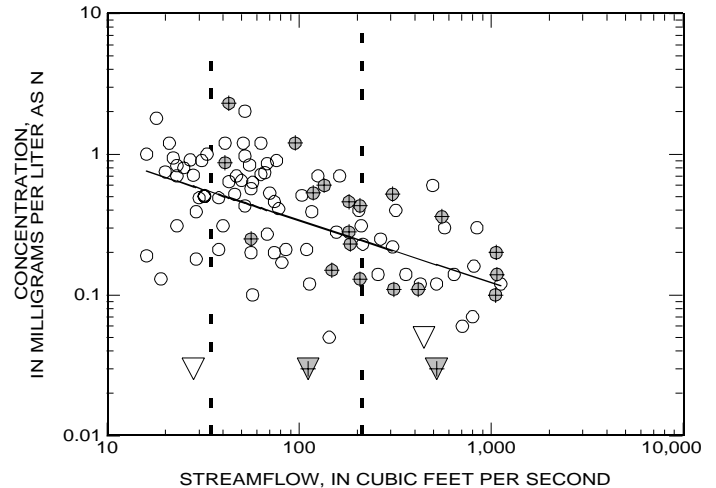
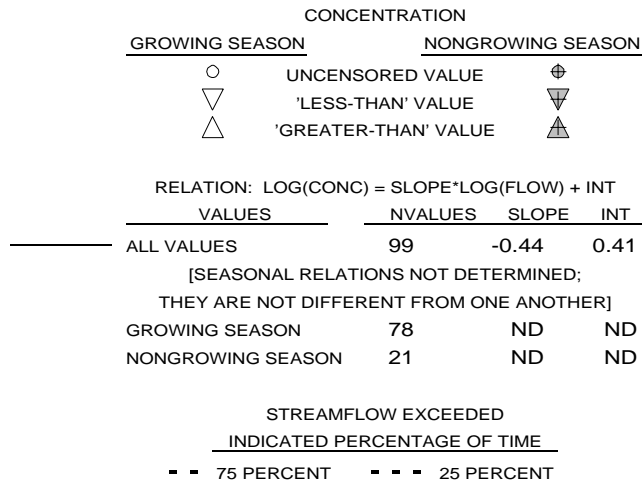
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



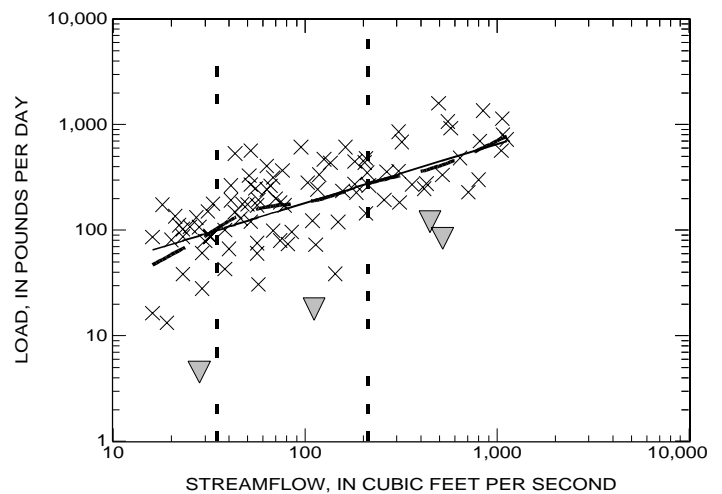
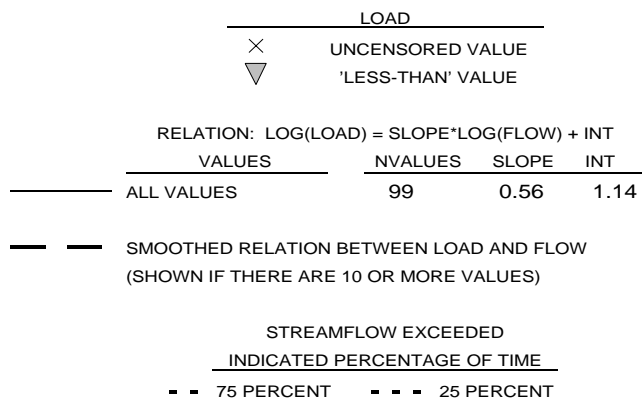
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

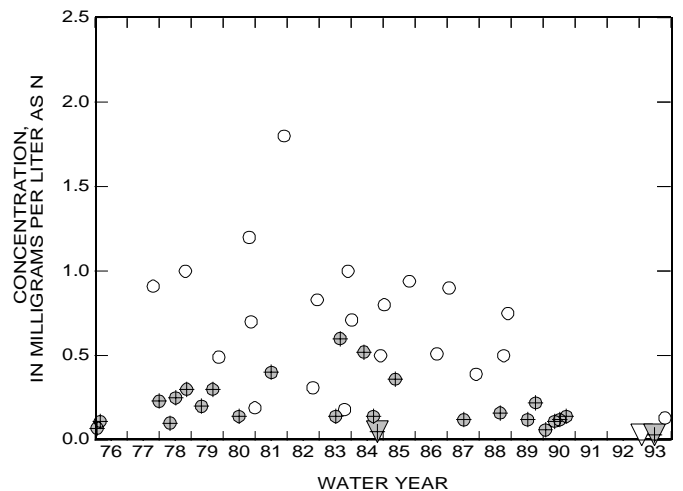
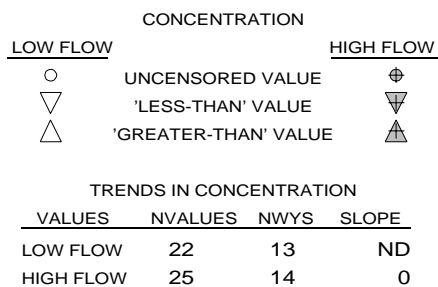
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



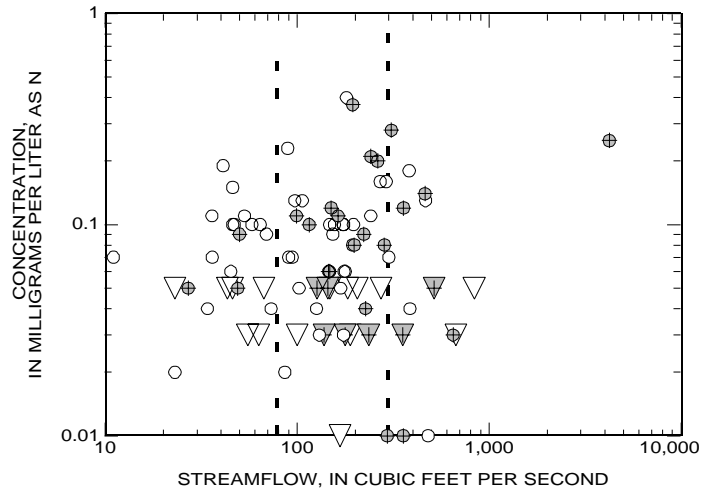
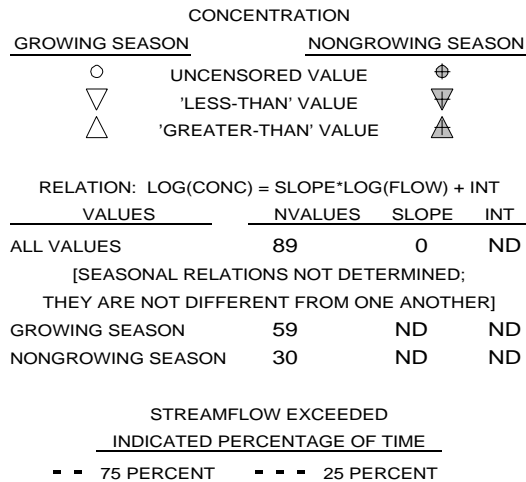
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



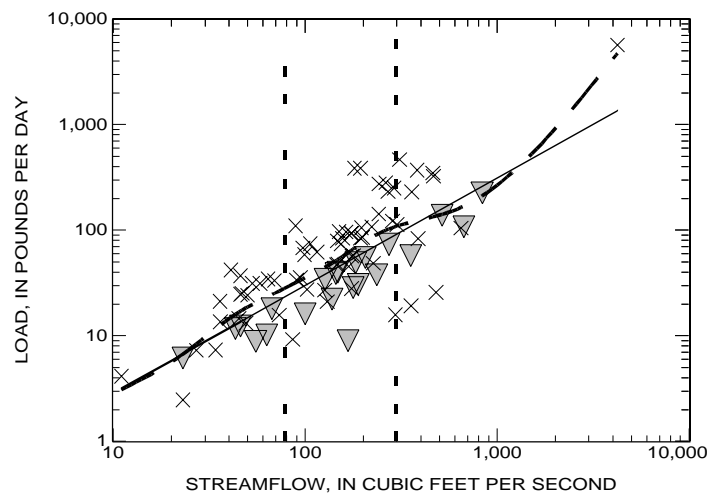
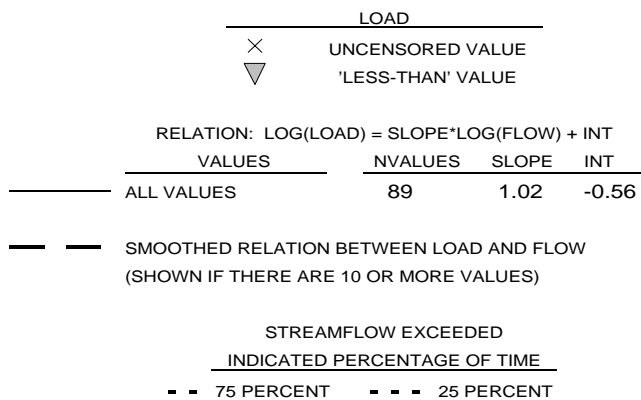
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

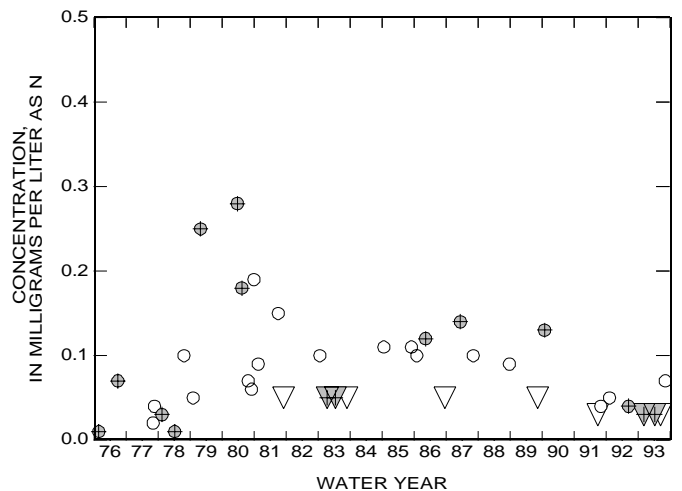
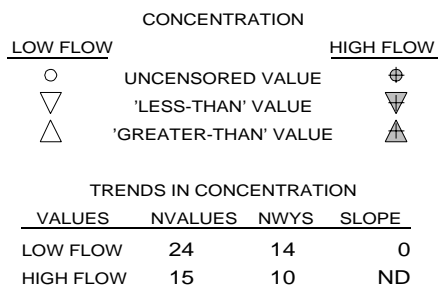
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



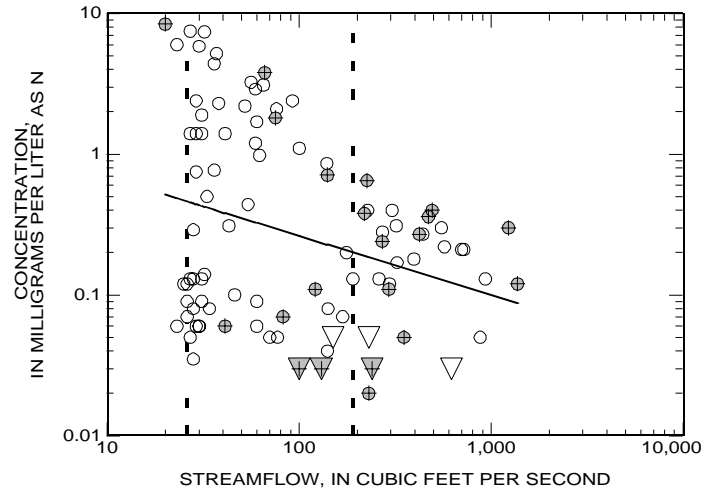
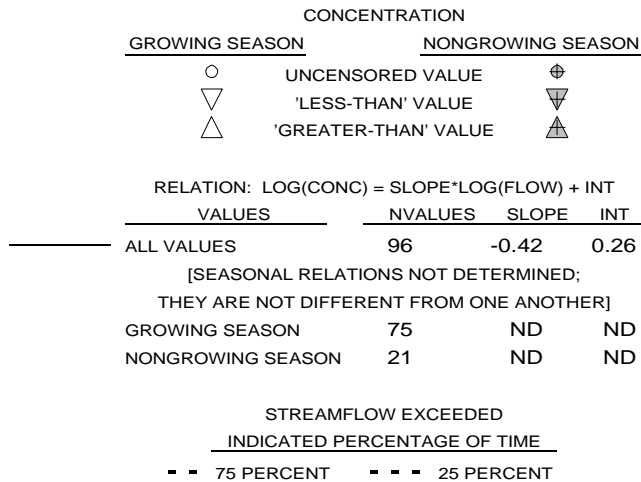
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



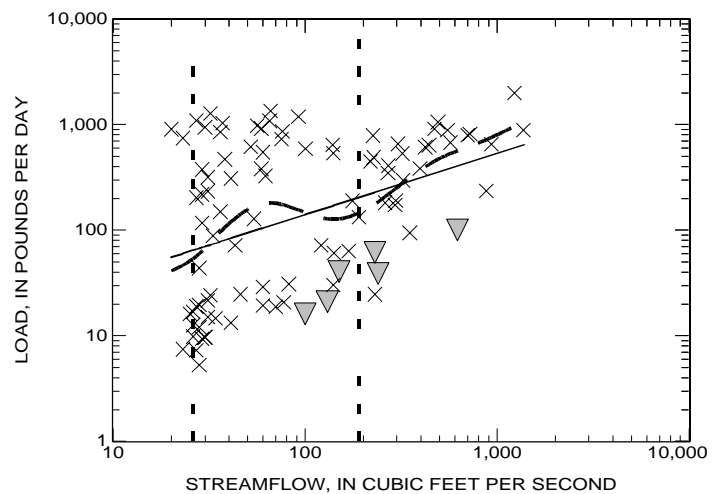
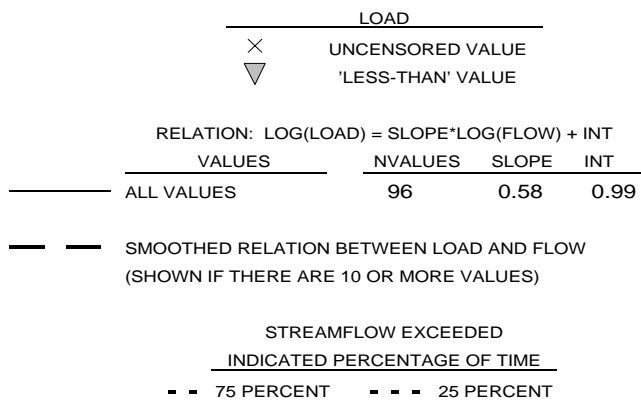
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

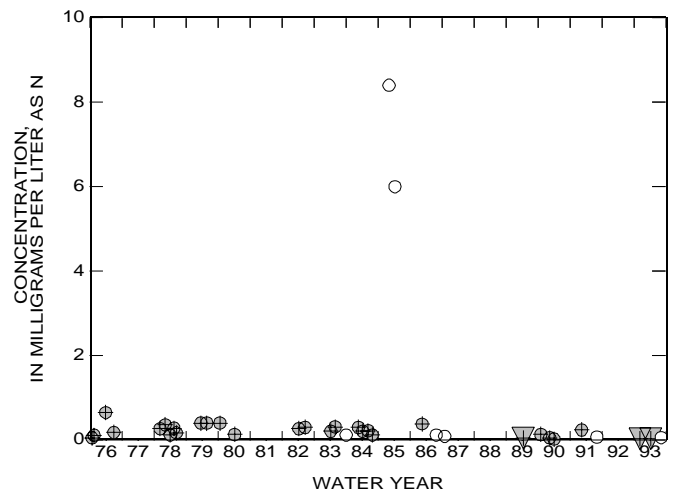
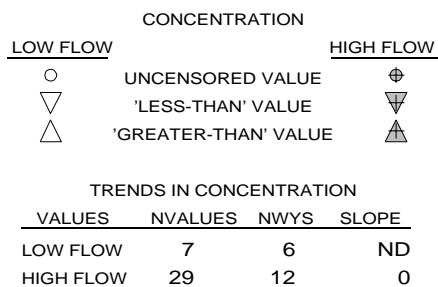
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



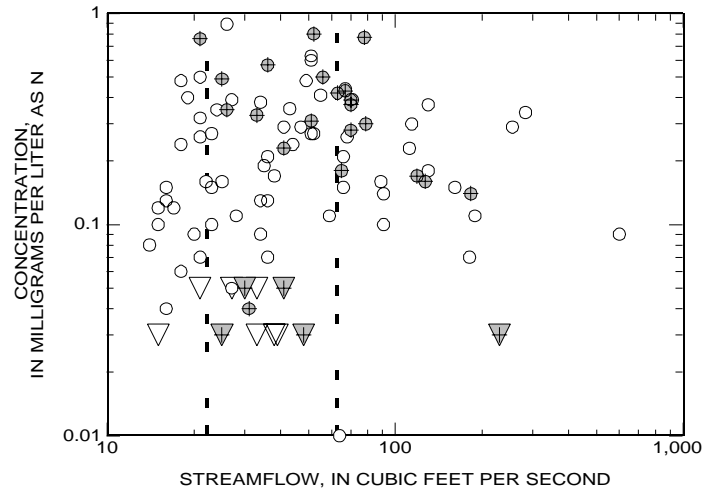
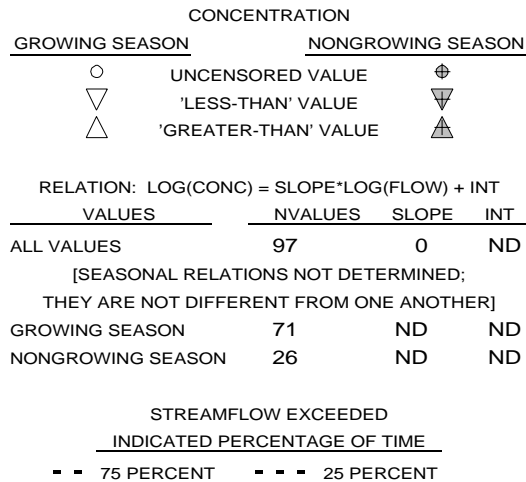
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



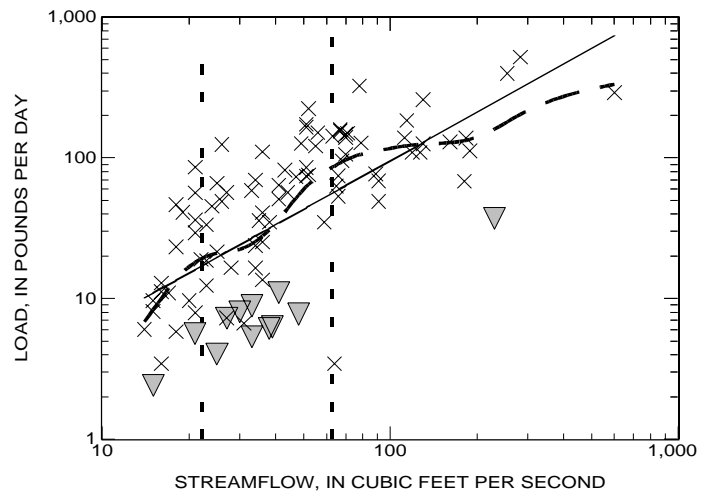
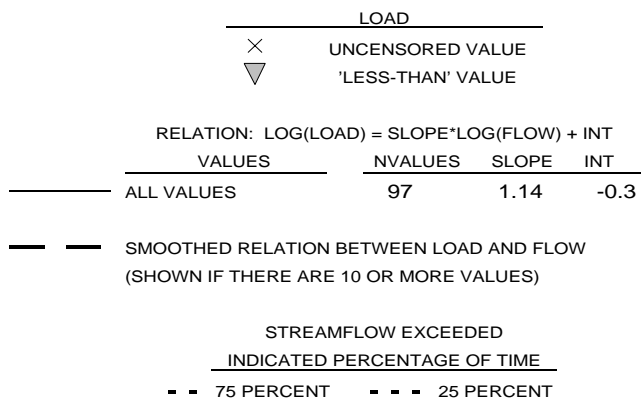
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

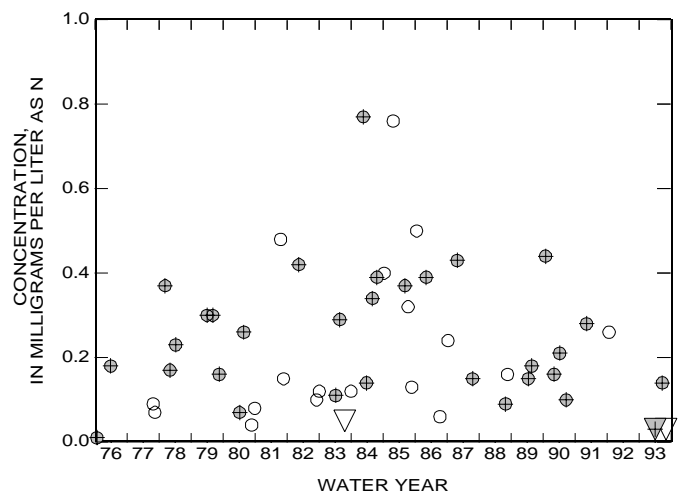
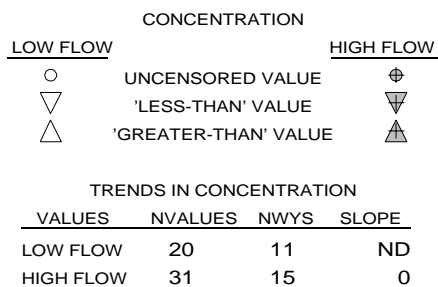
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



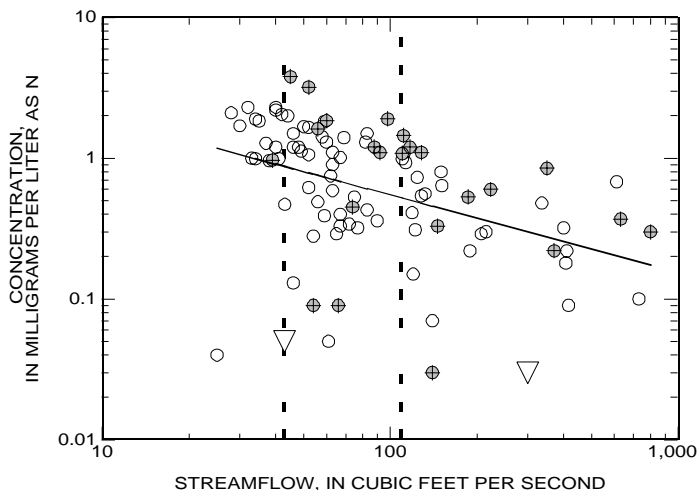
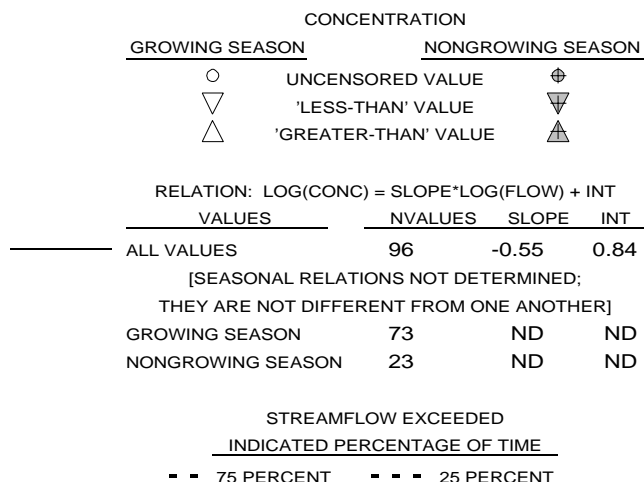
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



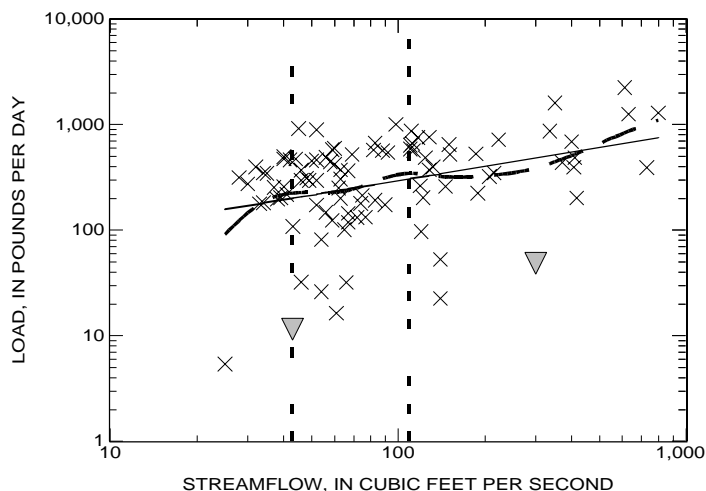
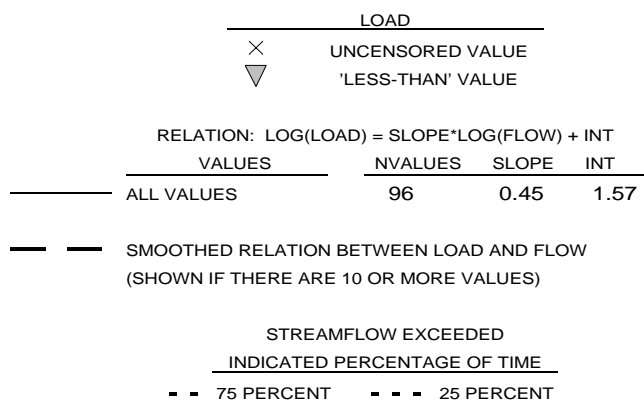
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

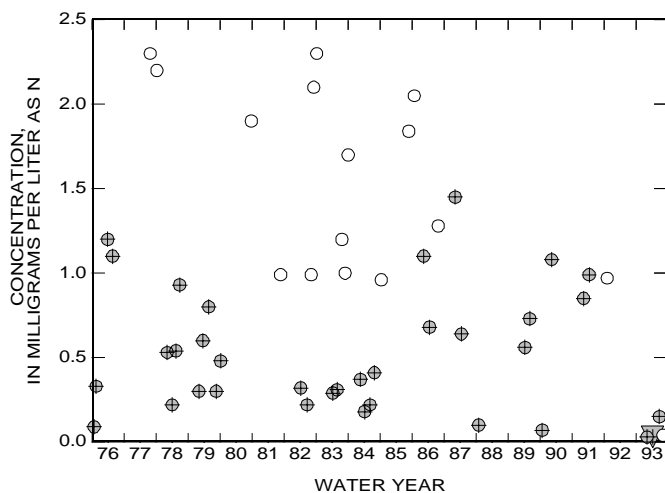
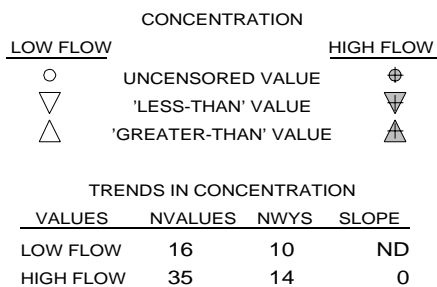
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

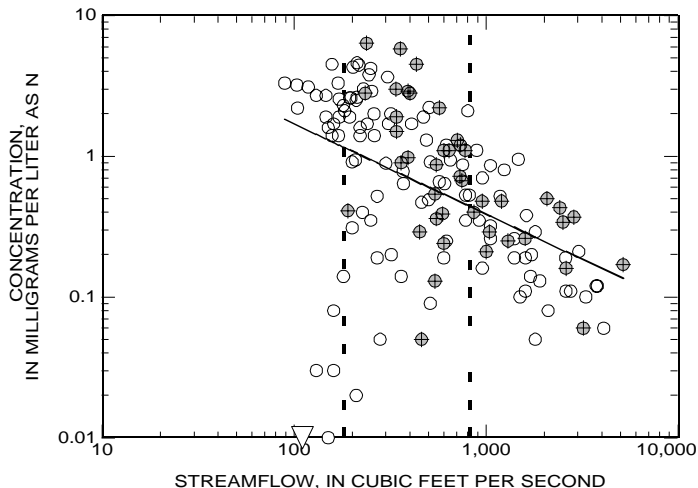
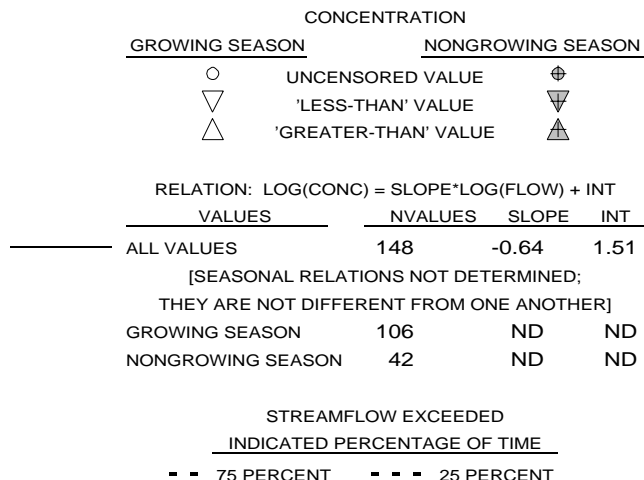




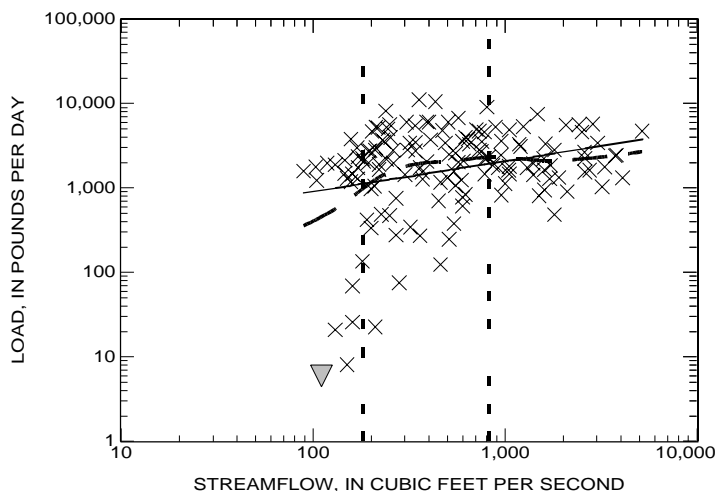
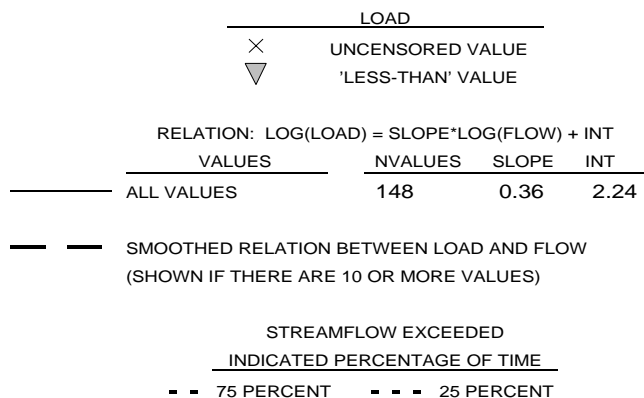
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

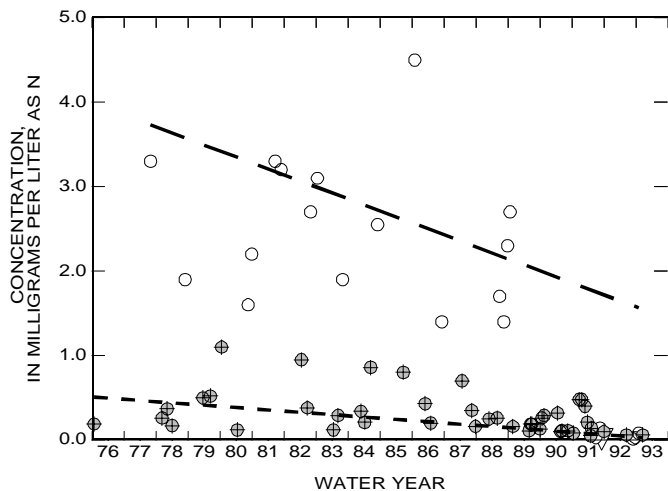
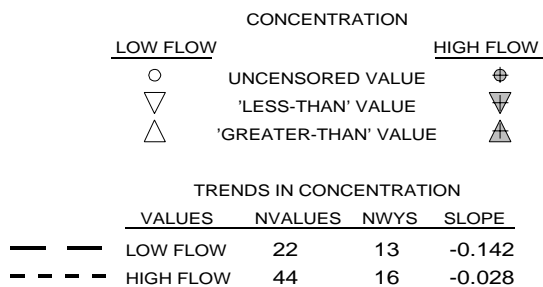
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



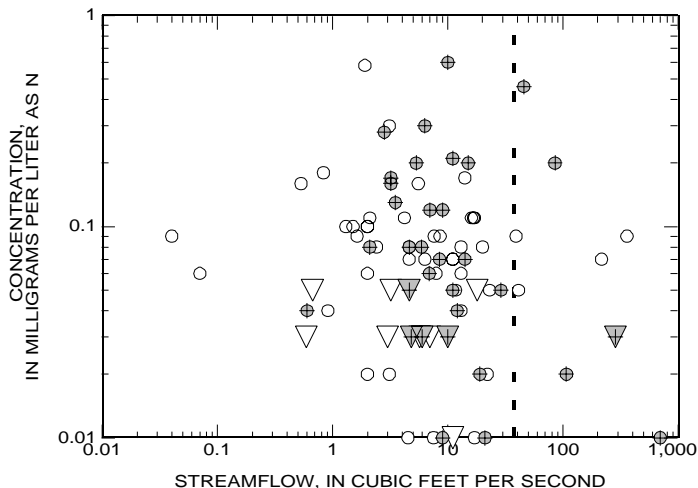
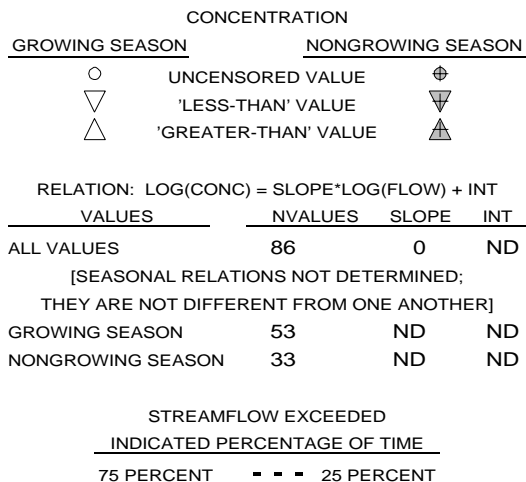
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



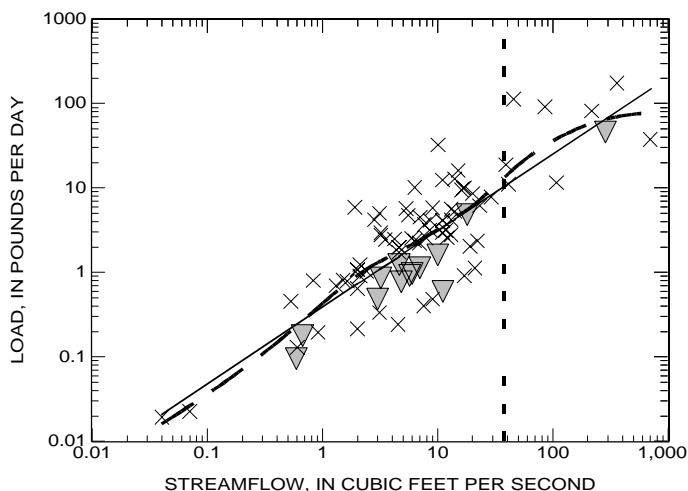
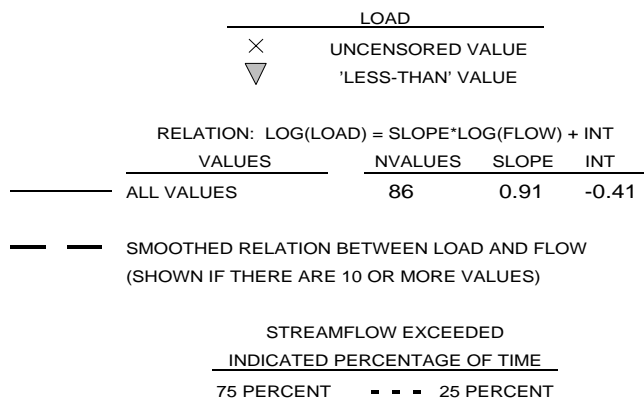
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

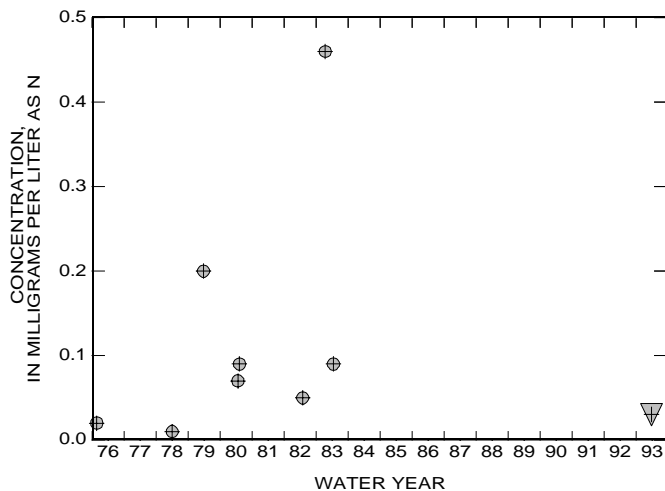
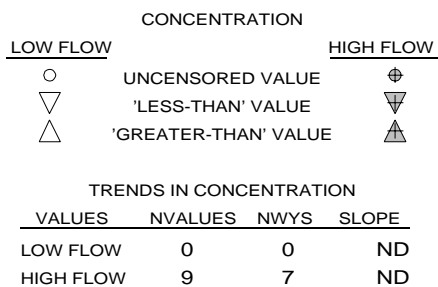
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



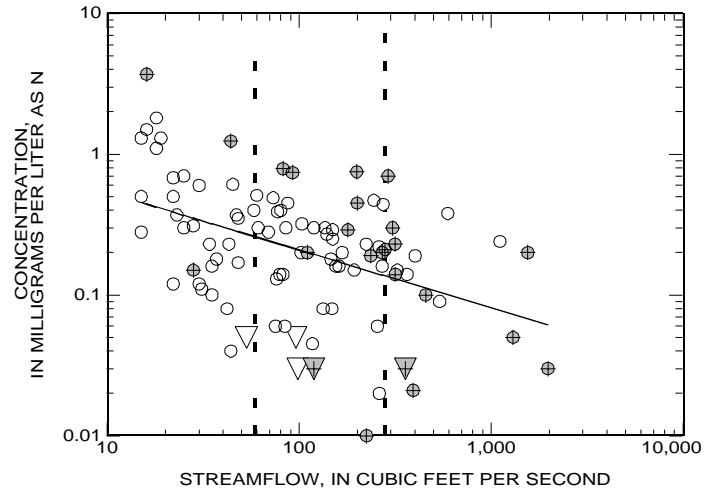
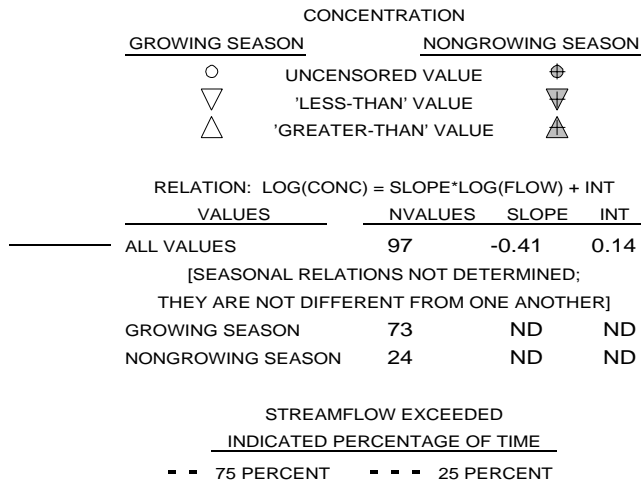
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



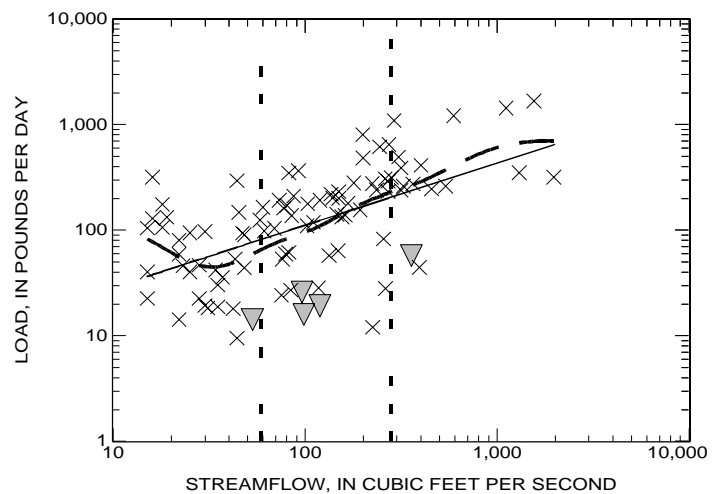
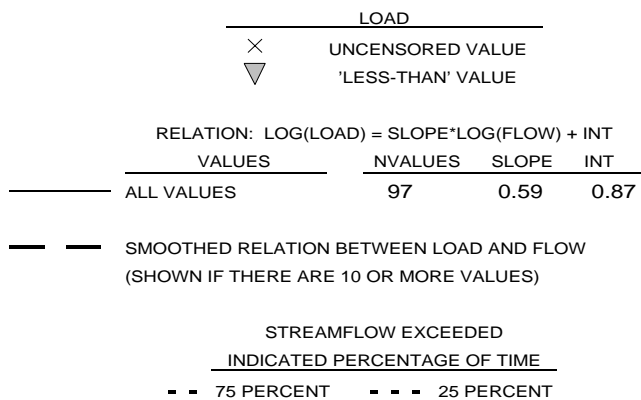
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

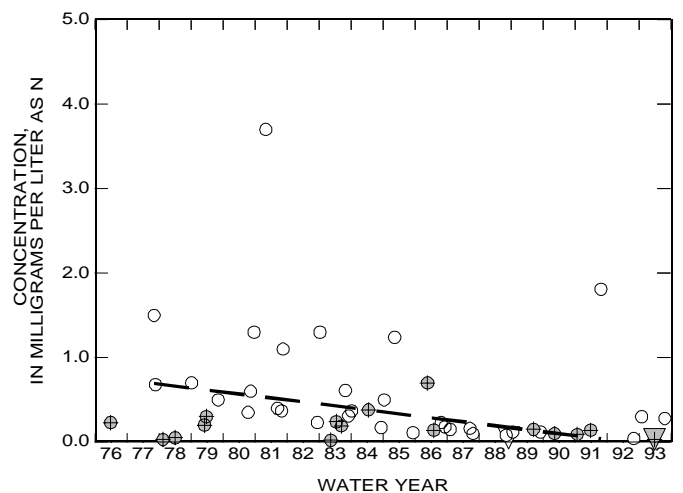
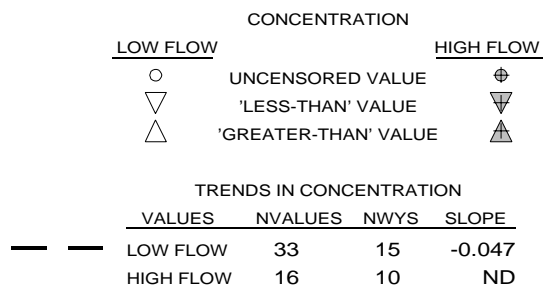
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



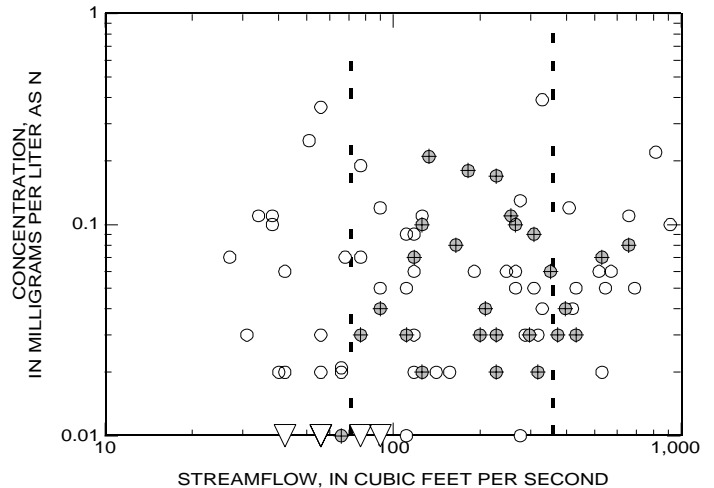
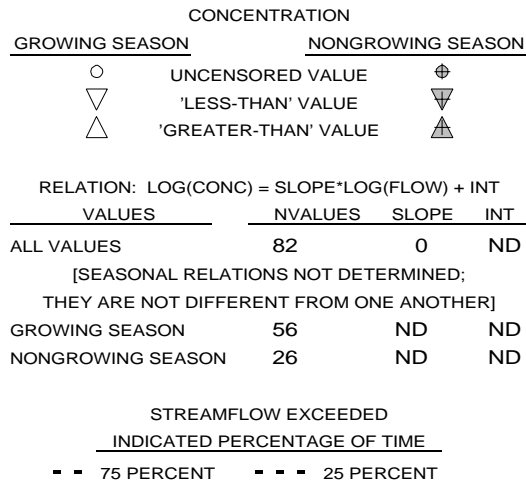
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



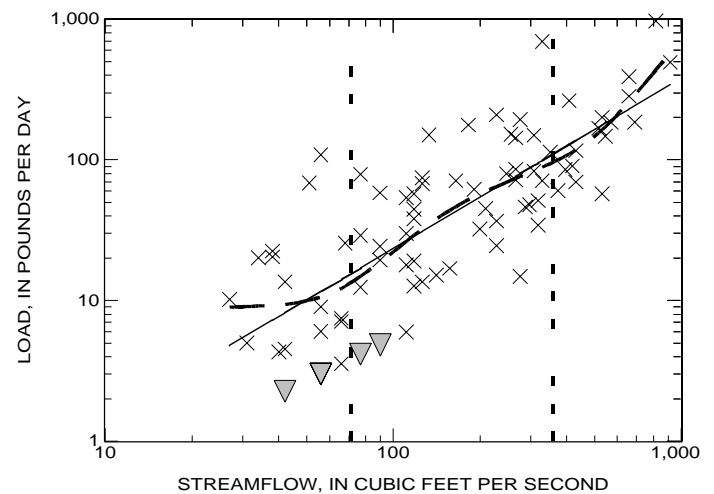
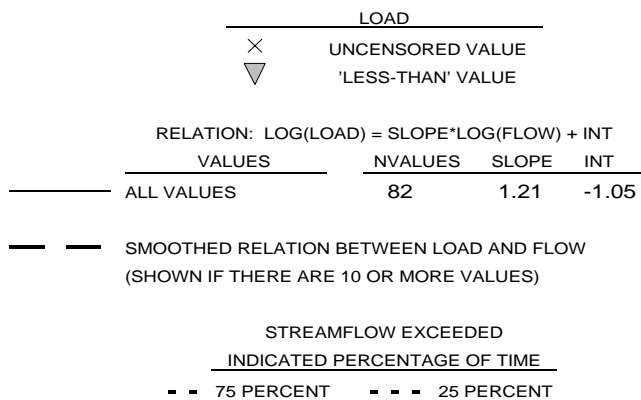
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01388000 RAMAPO RIVER AT POMPTON LAKES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

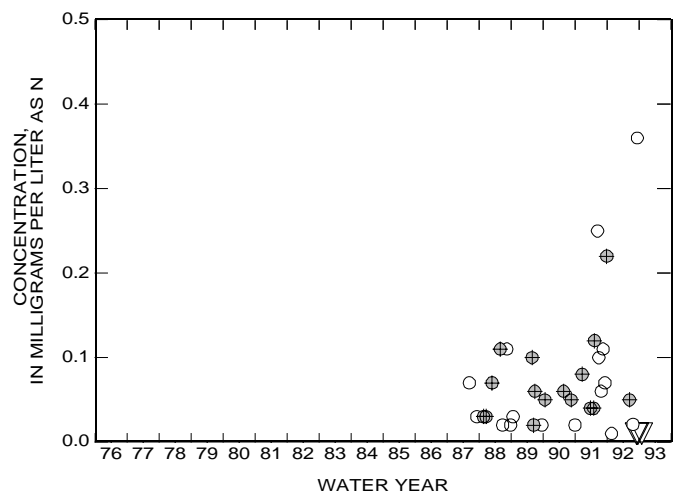
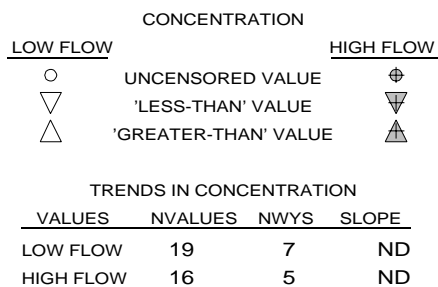
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



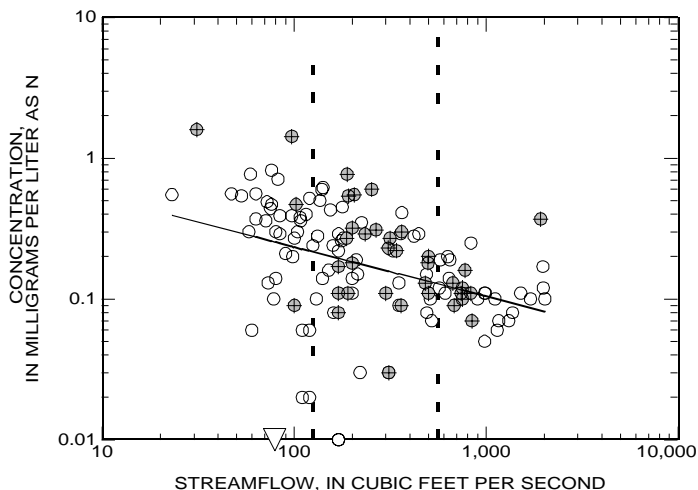
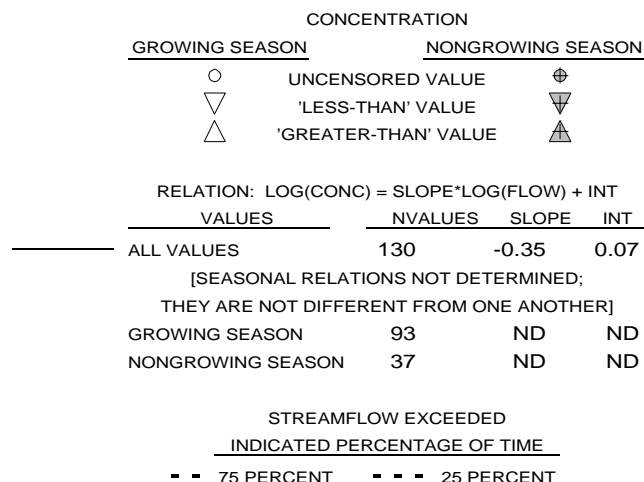
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



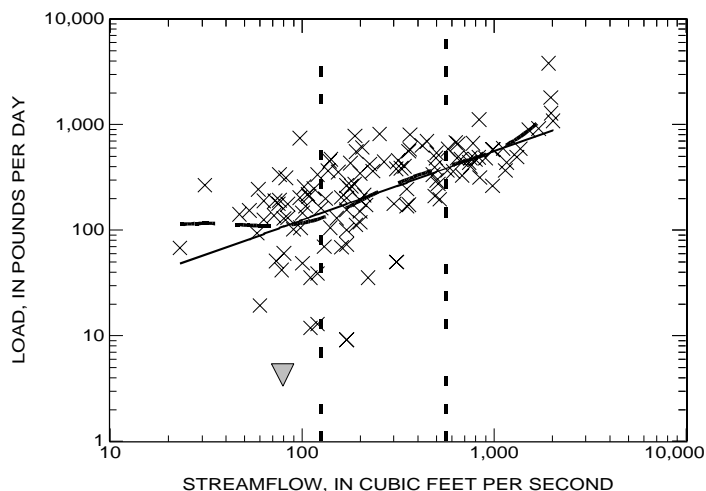
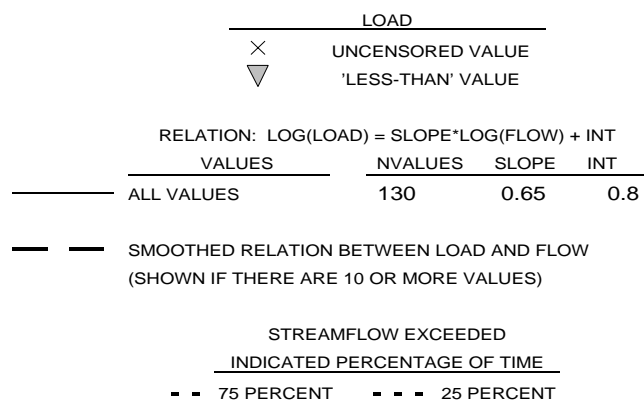
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

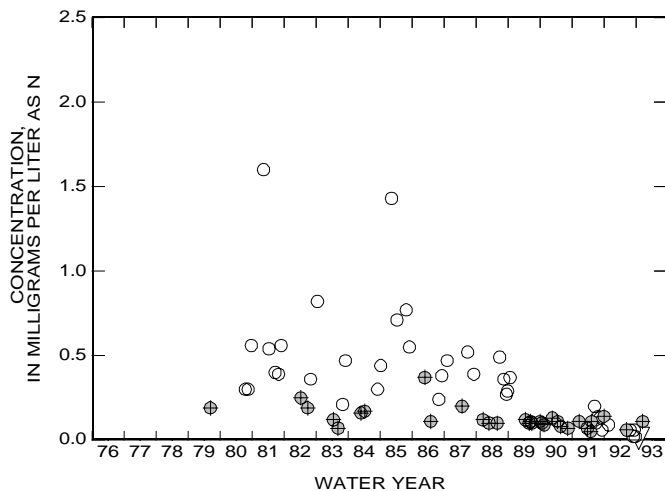
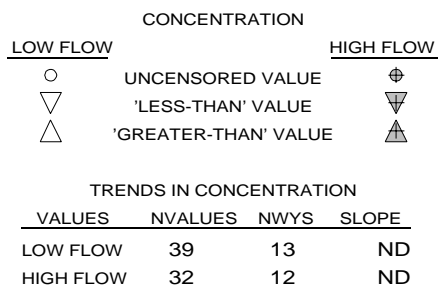
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

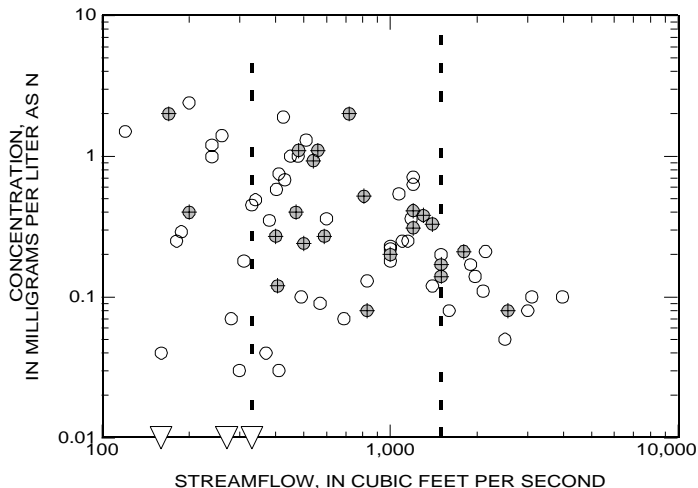
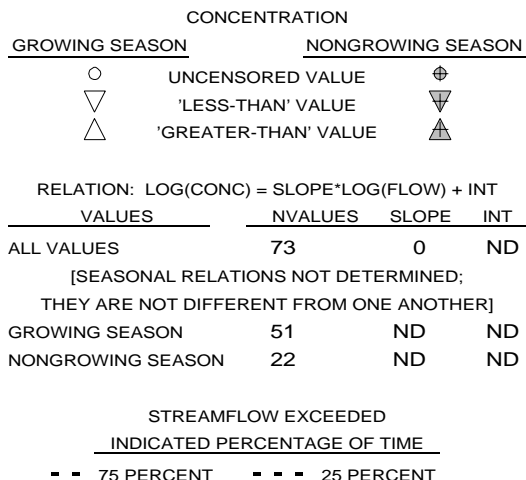


# APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time

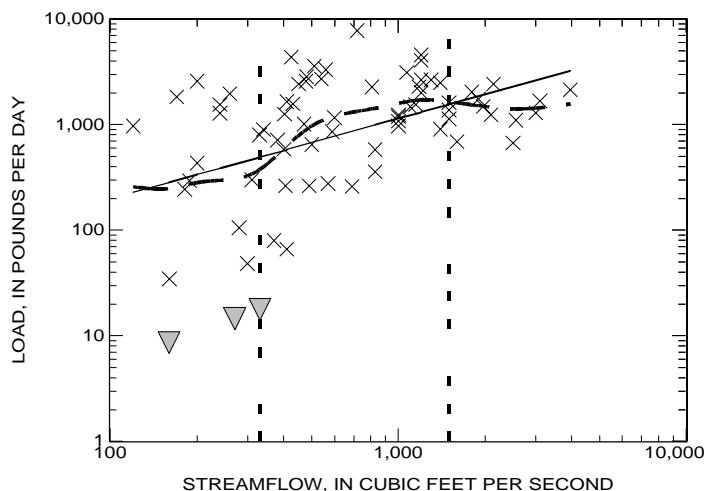
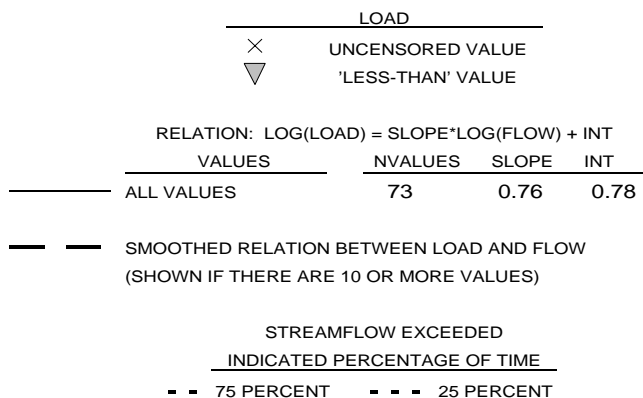
TOTAL AMMONIA  
01389005 PASSAIC RIVER BELOW POMPTON RIVER, AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

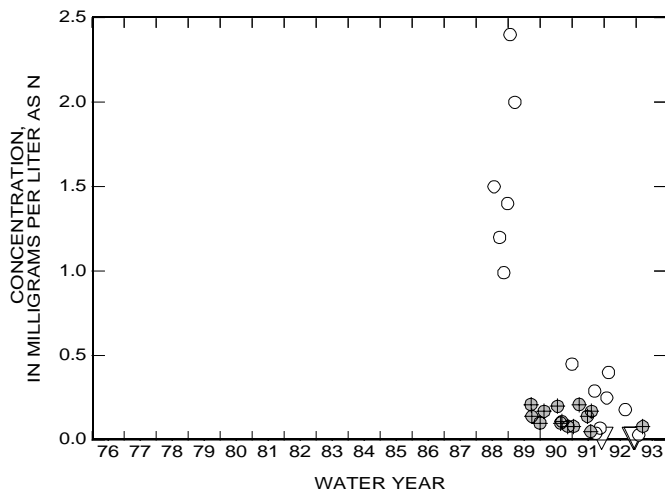
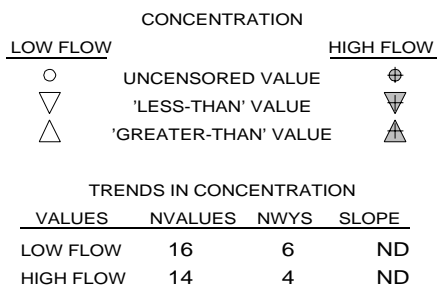
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



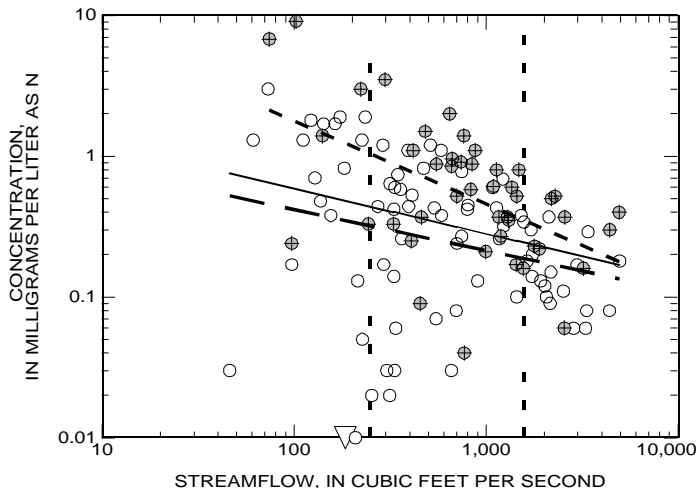
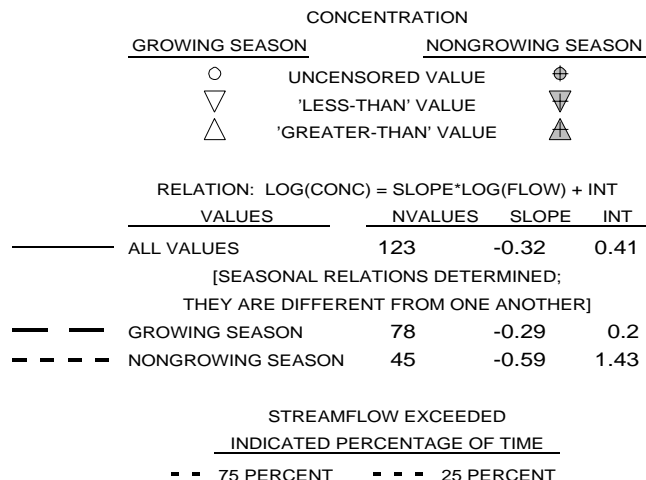
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



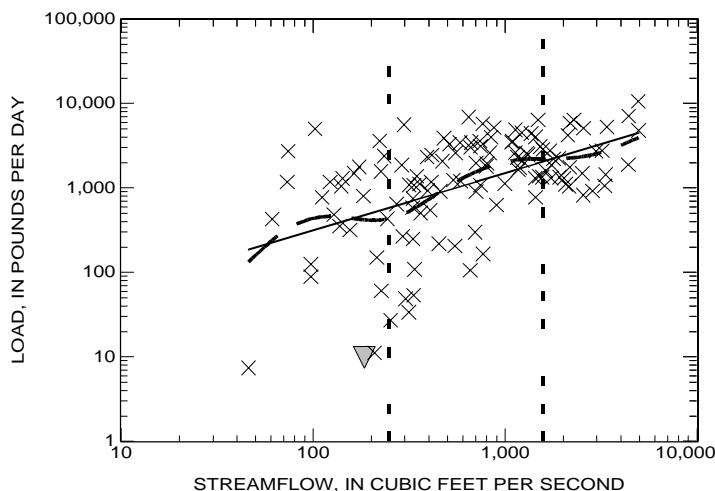
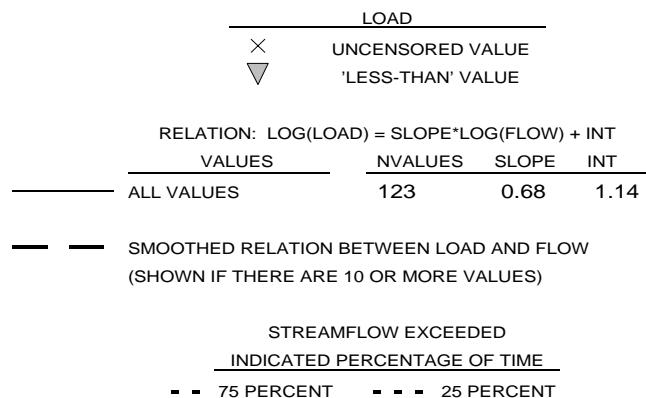
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

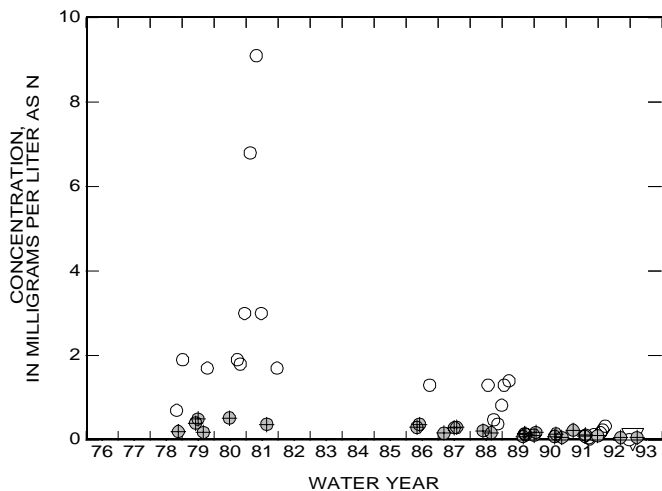
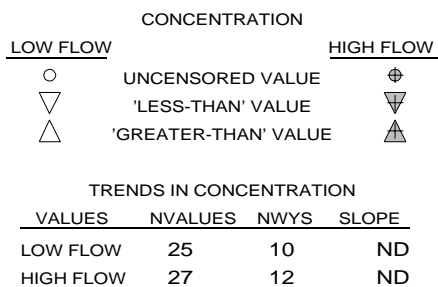
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



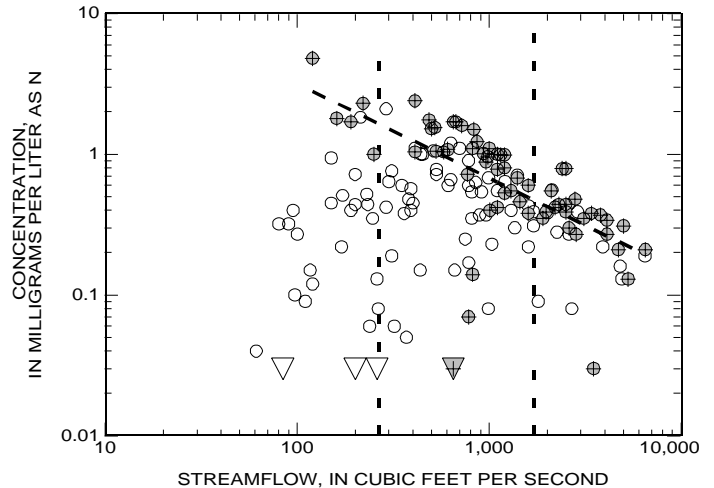
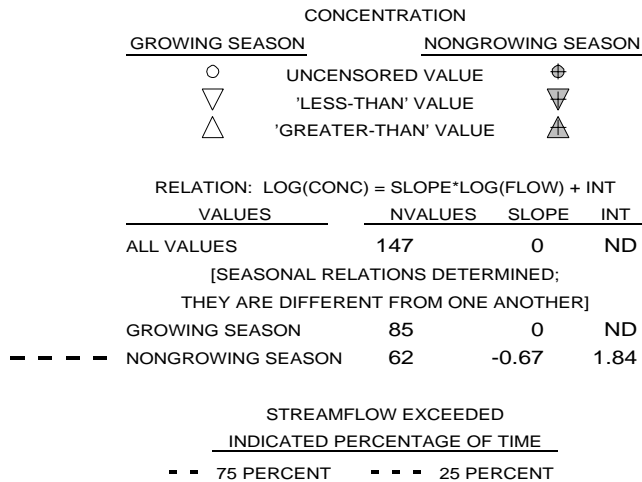
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



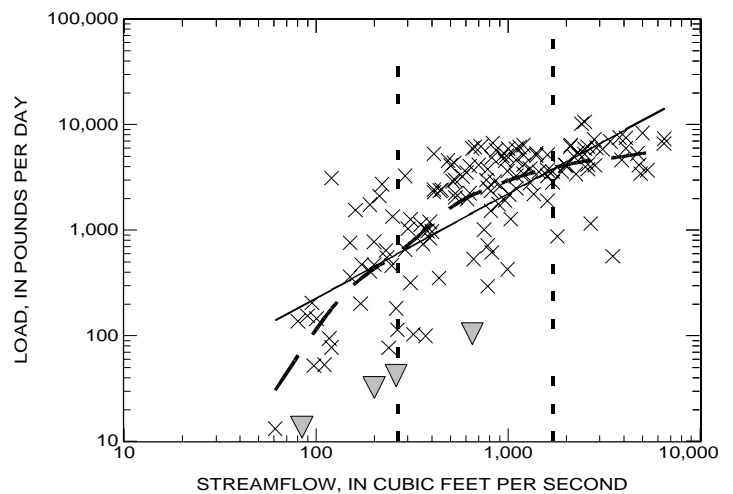
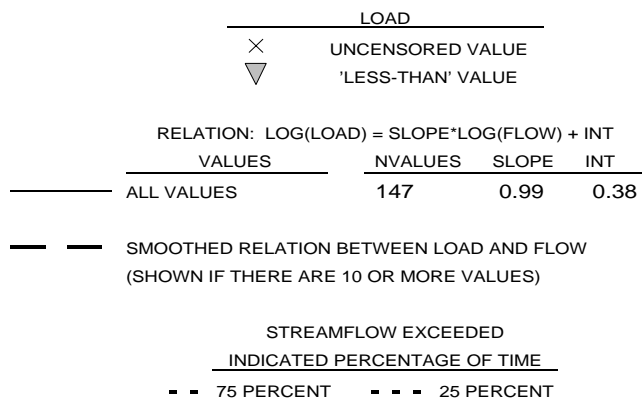
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

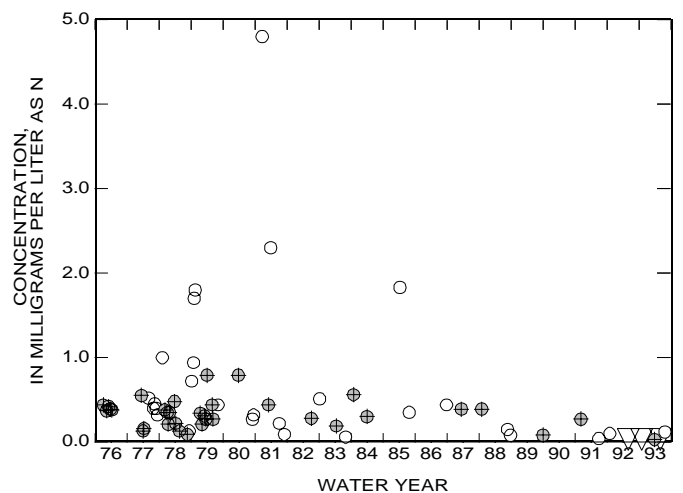
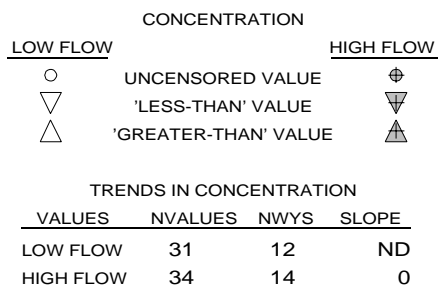
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

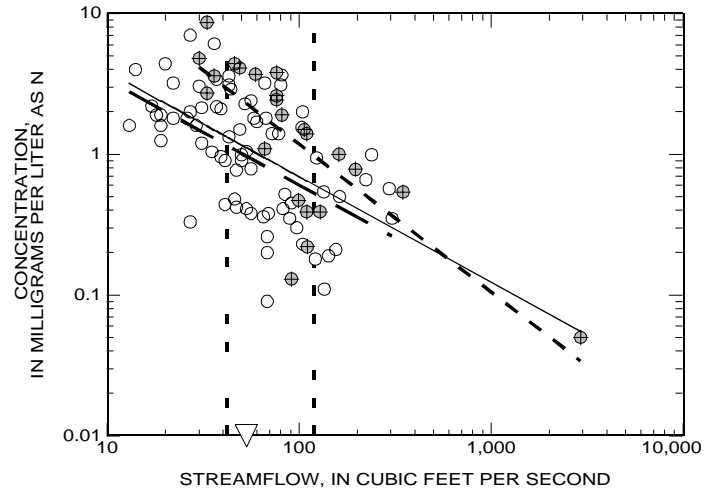
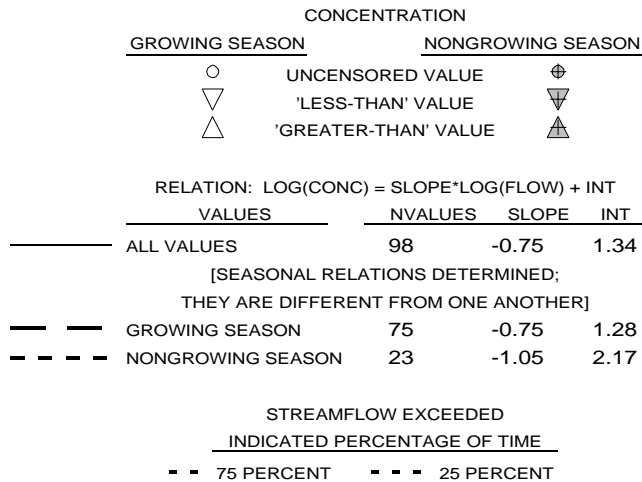




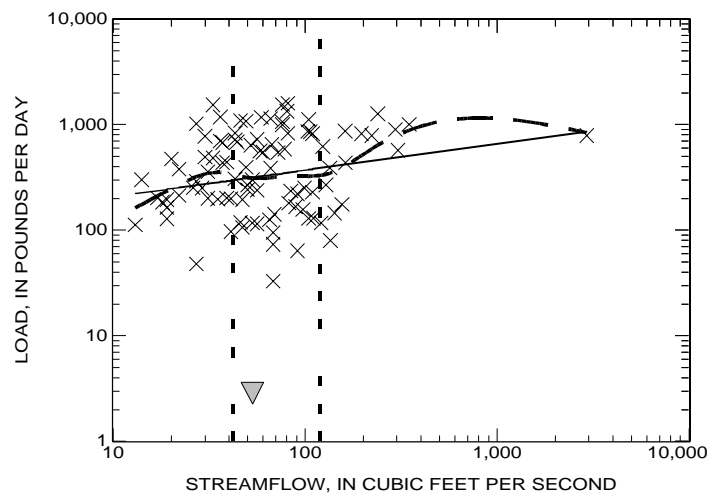
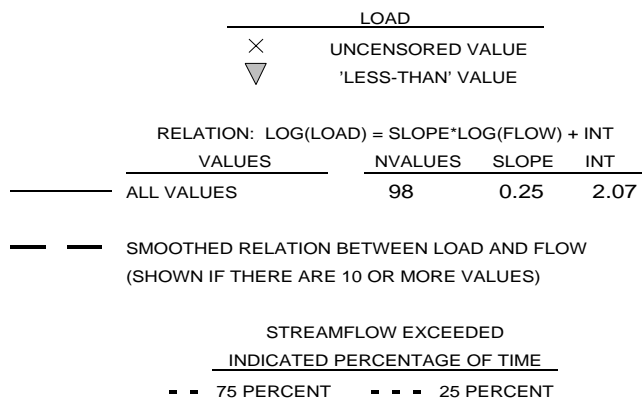
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

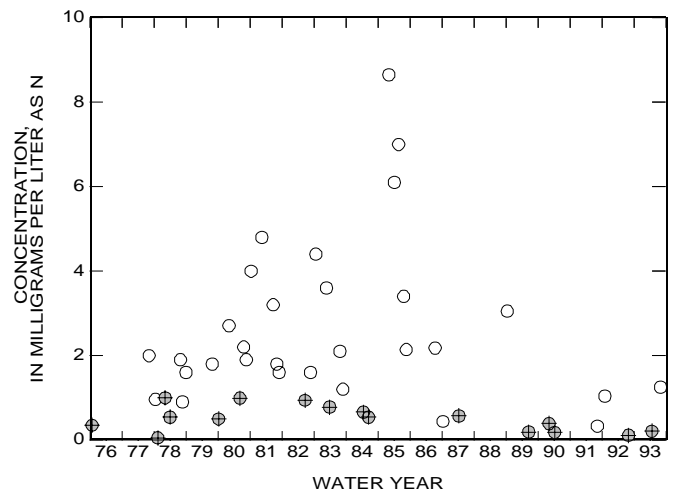
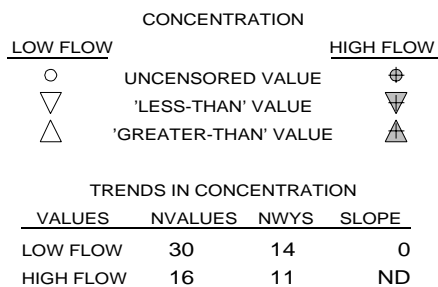
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

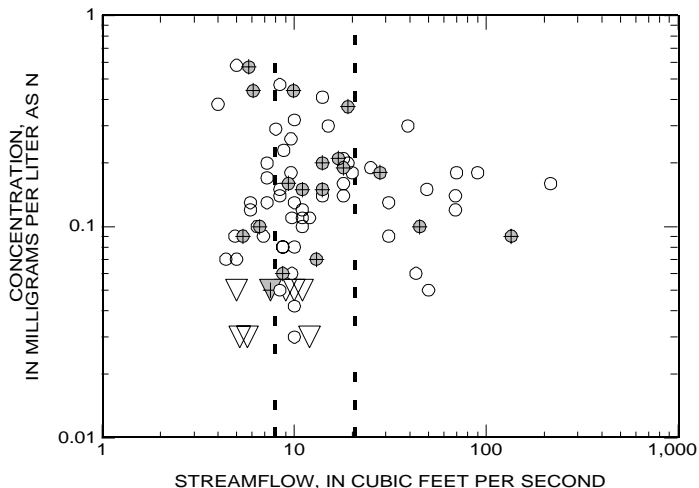
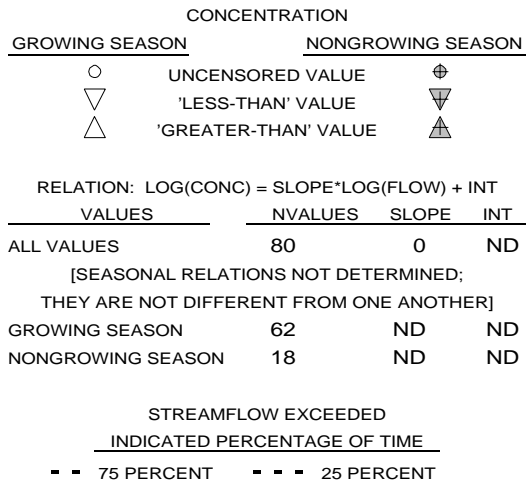


# APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time

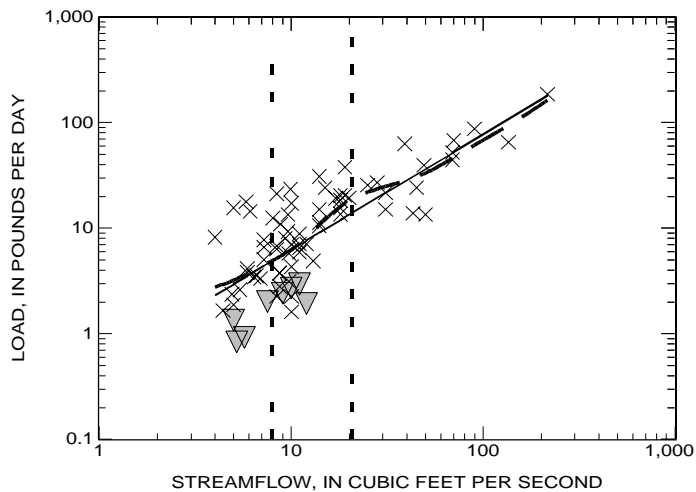
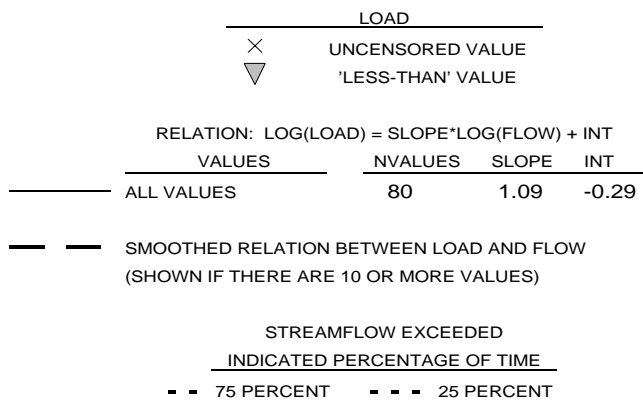
TOTAL AMMONIA  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

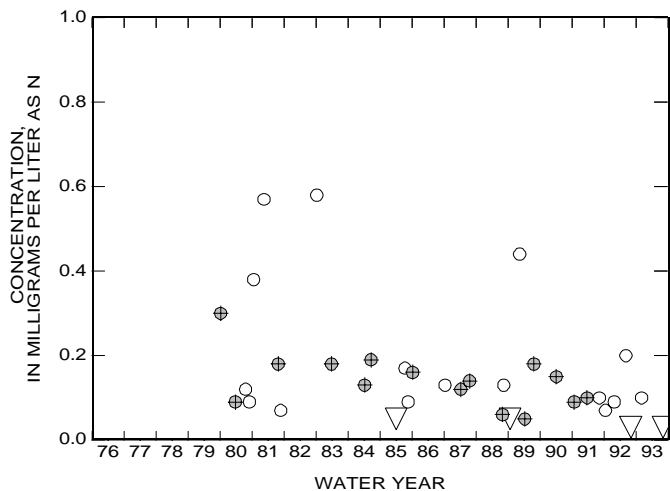
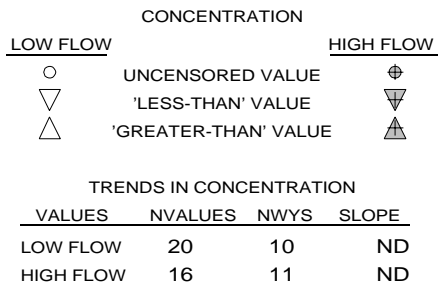
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



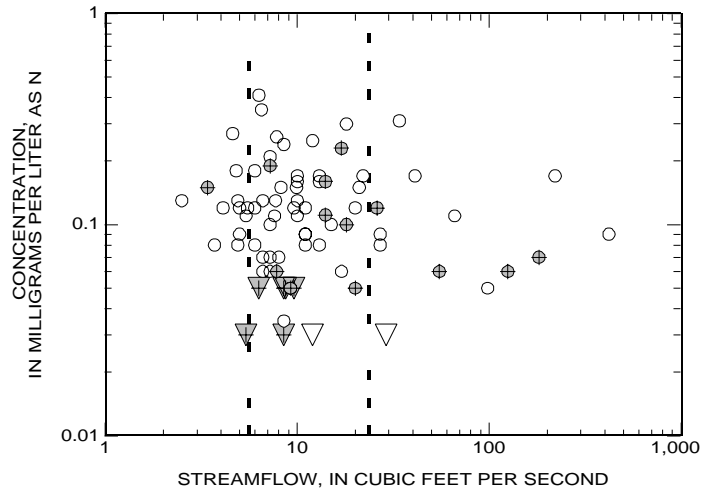
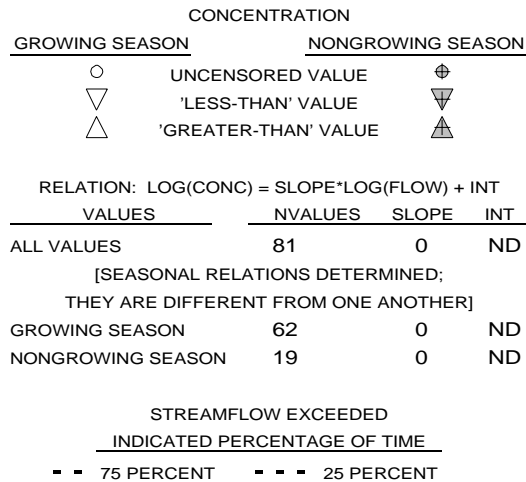
## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



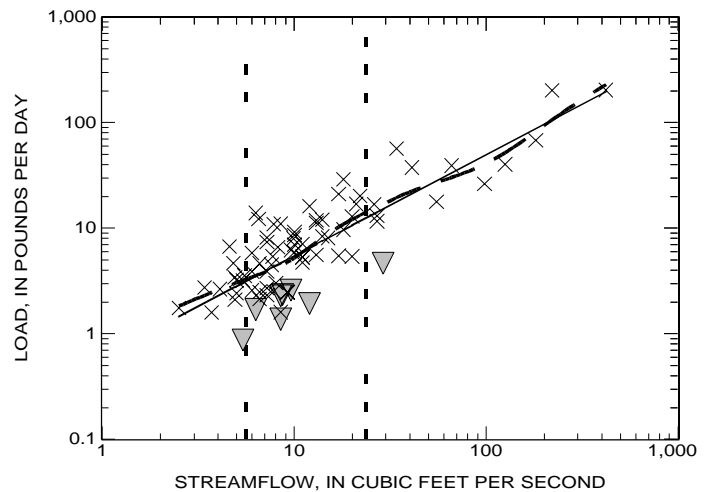
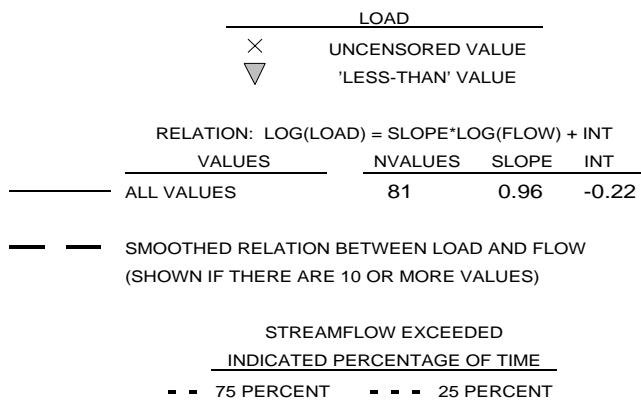
APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL AMMONIA  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

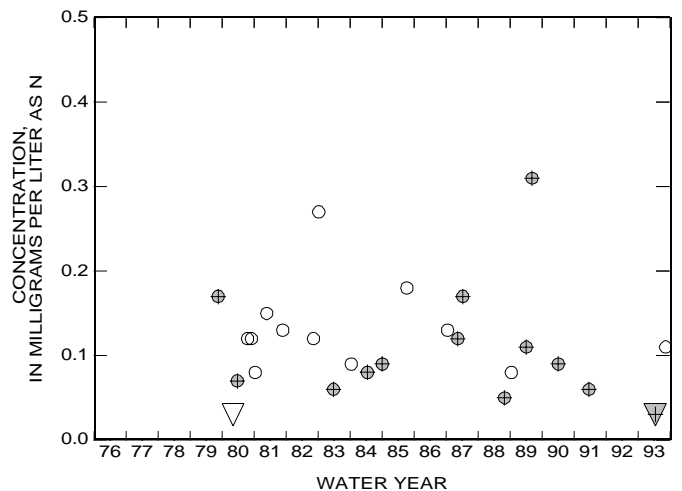
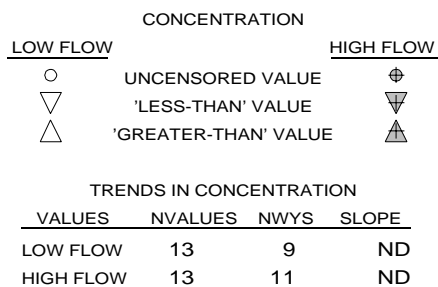
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



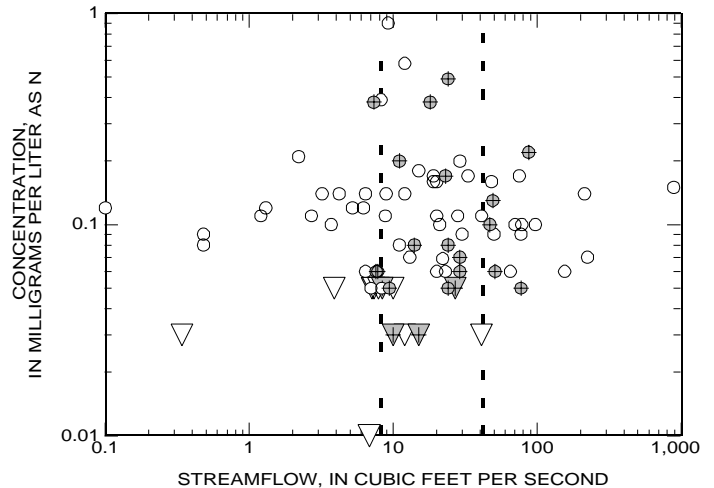
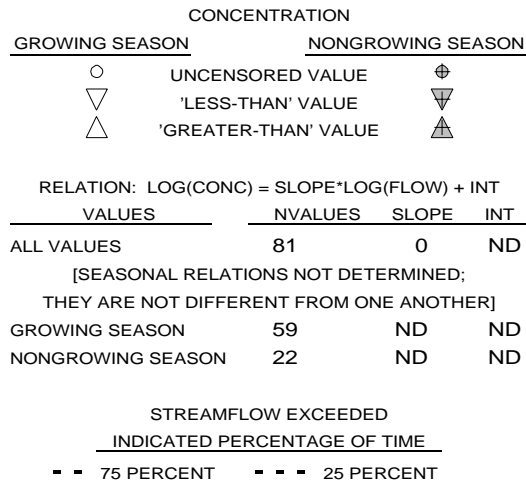
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



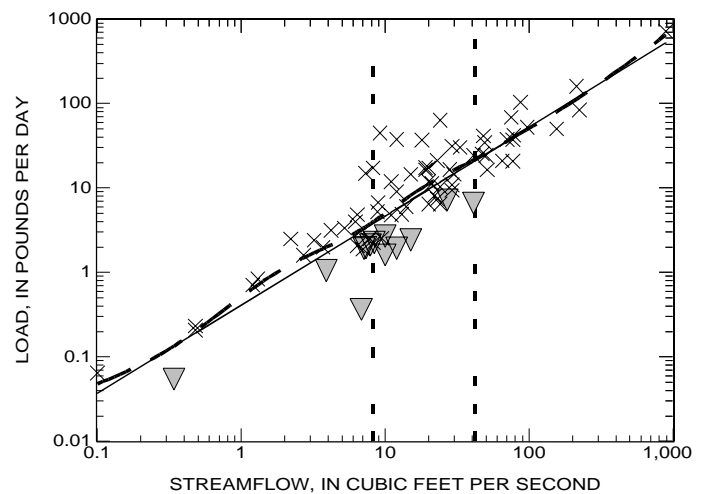
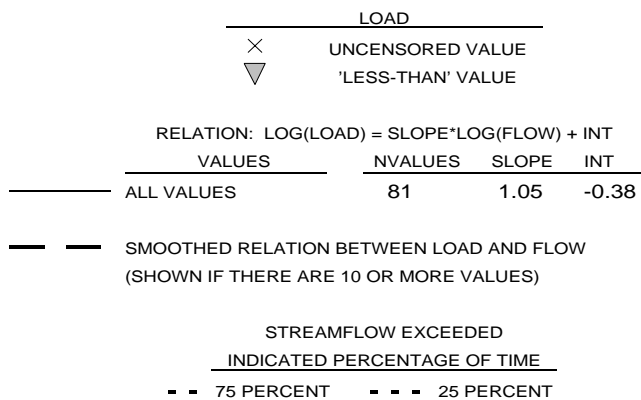
**APPENDIX 15. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL AMMONIA**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

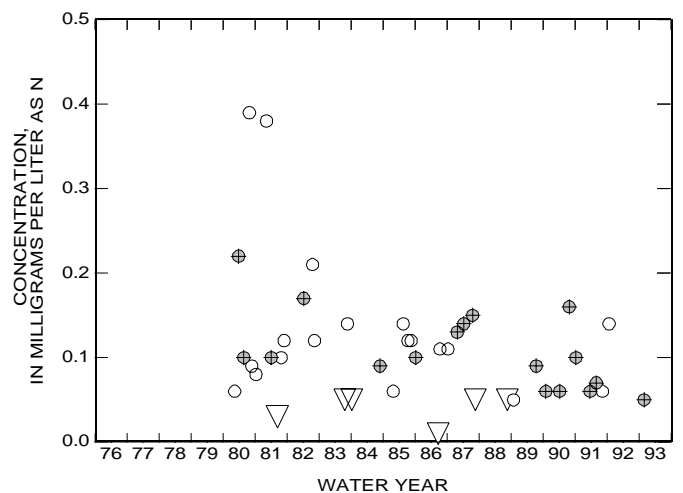
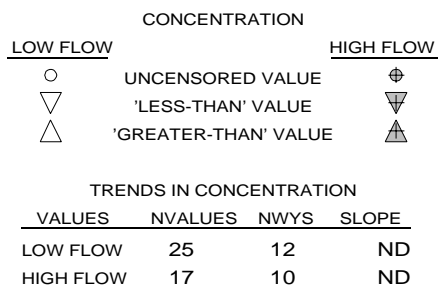
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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# Appendix 16

## Total boron

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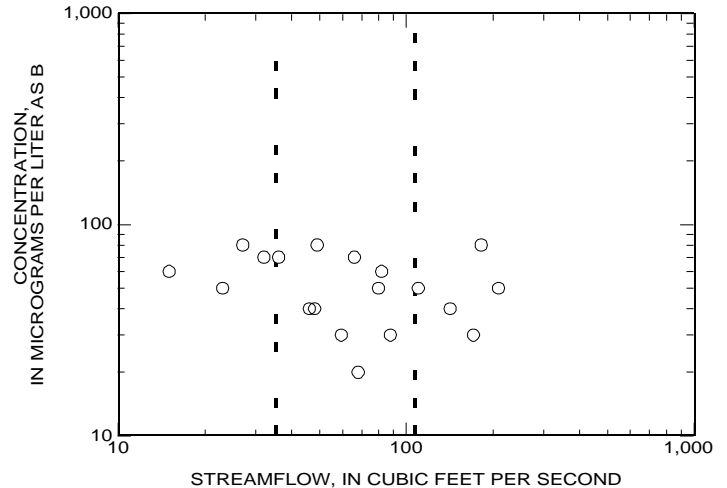
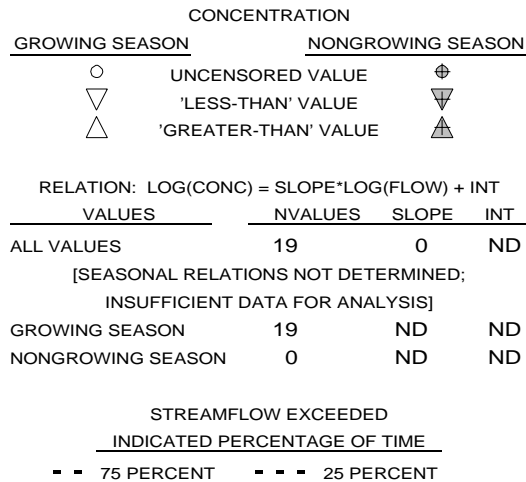
<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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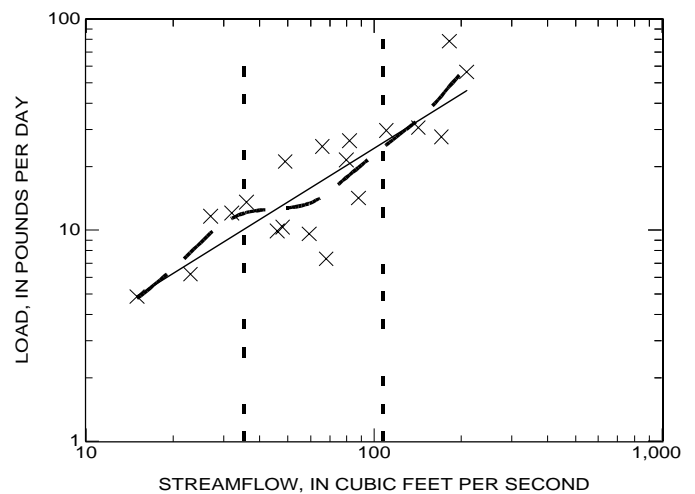
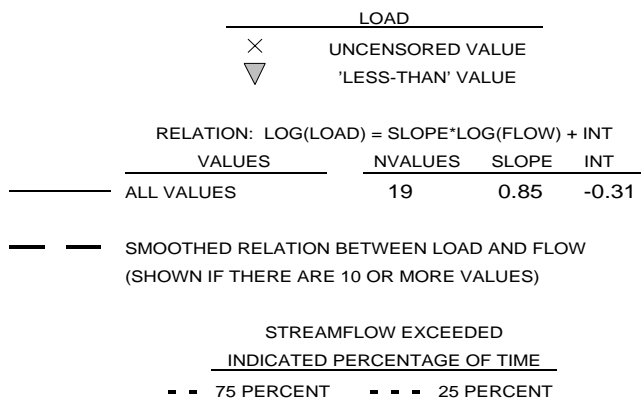
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

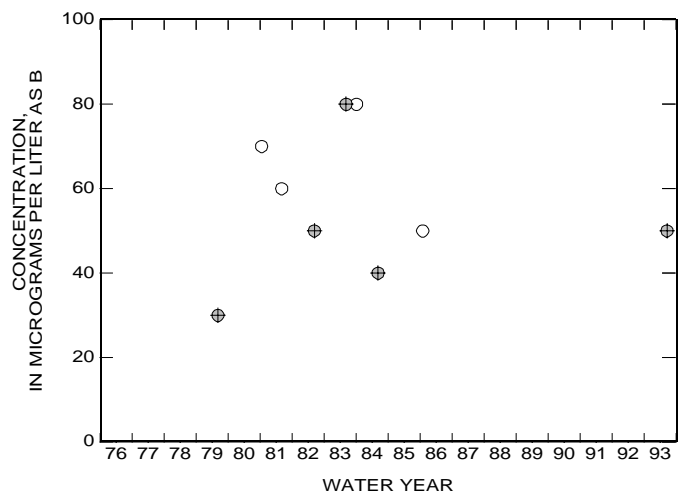
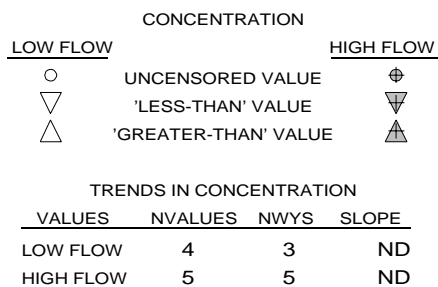
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

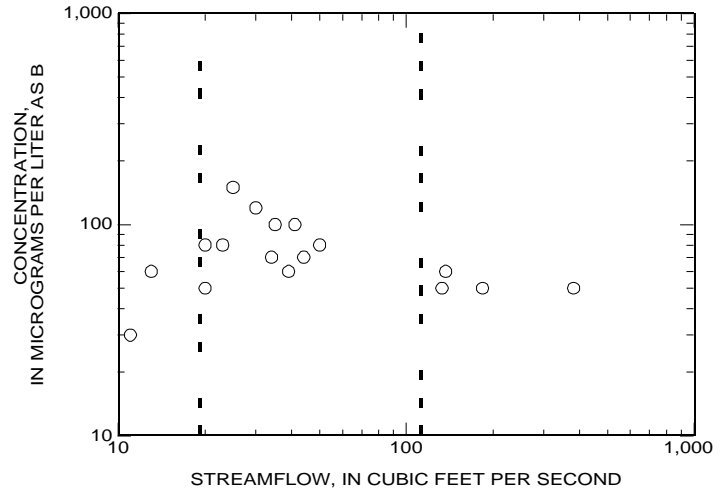


**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

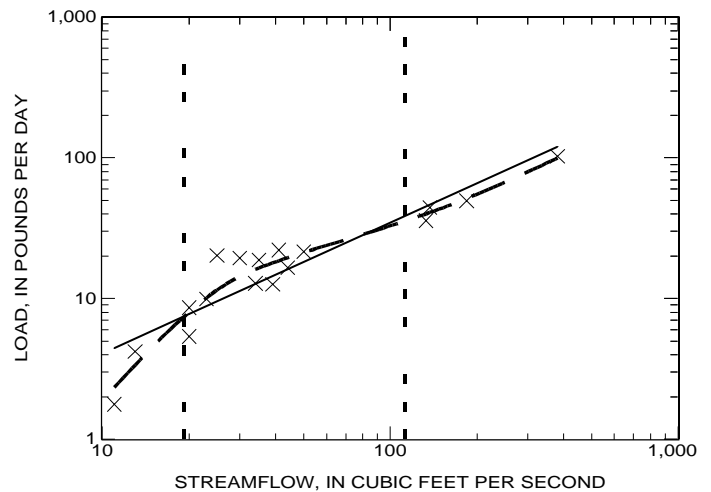
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	17	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	17	ND	ND
NONGROWING SEASON	0	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



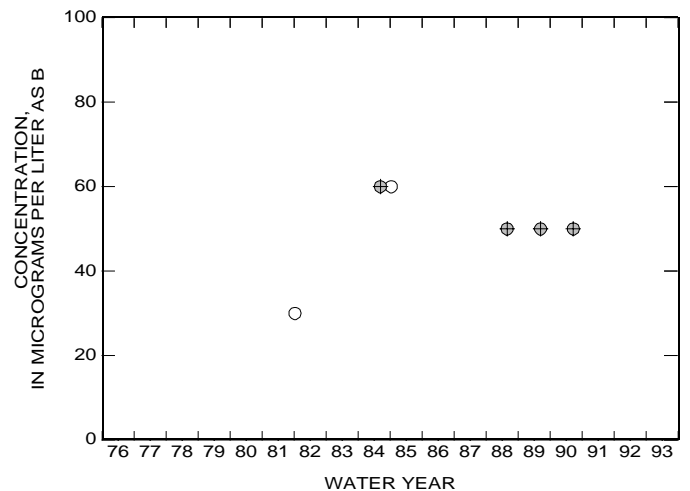
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	17	0.93	-0.32
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	2	2	ND
HIGH FLOW	4	4	ND

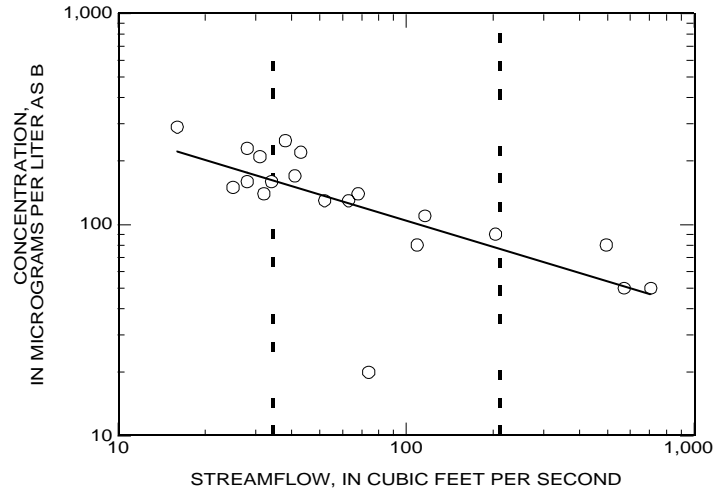


APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL BORON  
01379500 PASSAIC RIVER NEAR CHATHAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

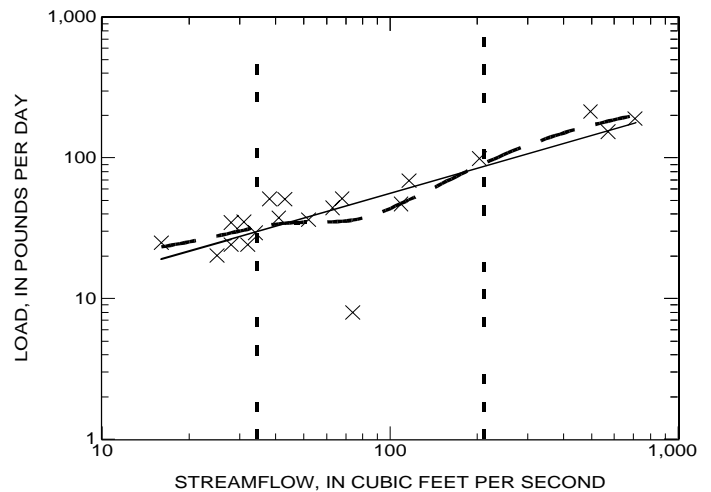
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	20	-0.41	2.84	
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]				
GROWING SEASON	20	ND	ND	
NONGROWING SEASON	0	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	--- 25 PERCENT			



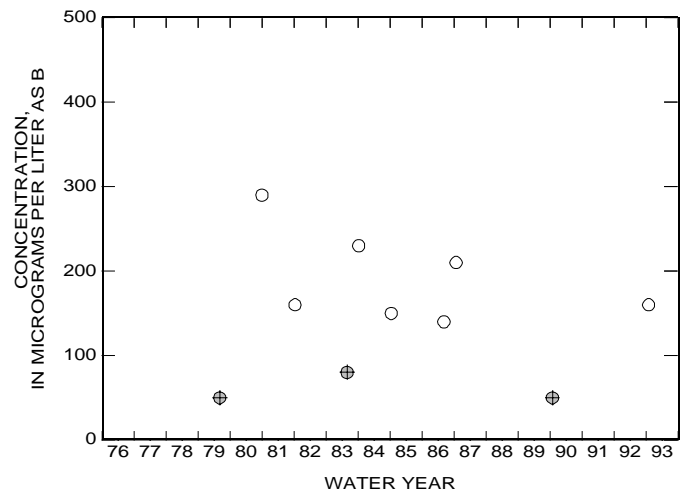
RELATION OF LOAD TO STREAMFLOW

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	20	0.59	0.57	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
---				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	--- 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	7	7	ND	
HIGH FLOW	3	3	ND	

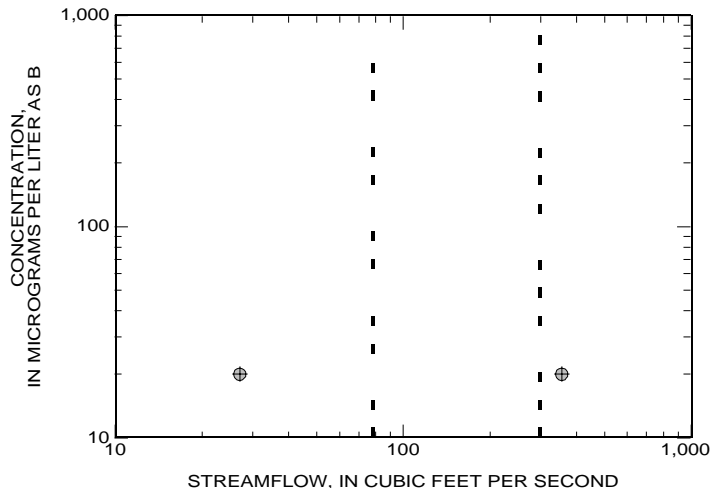
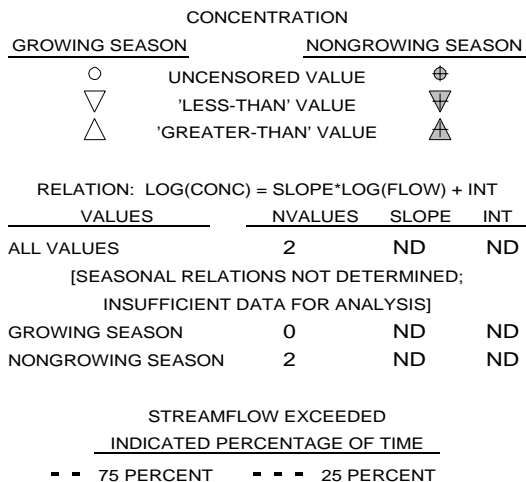




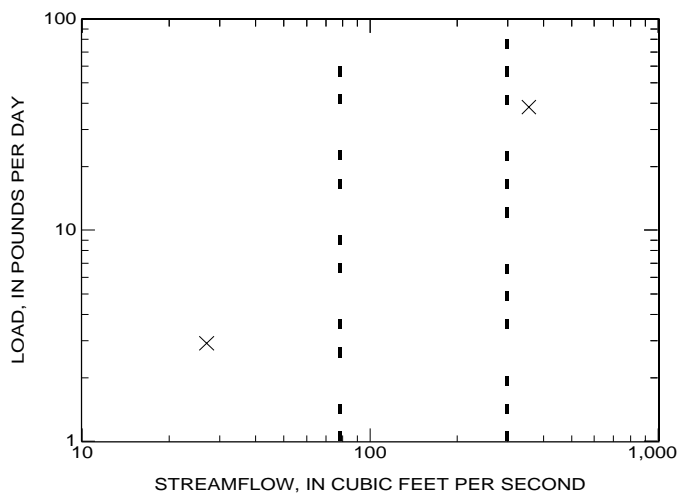
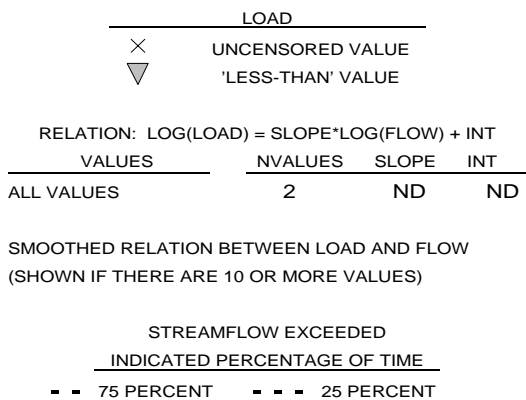
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

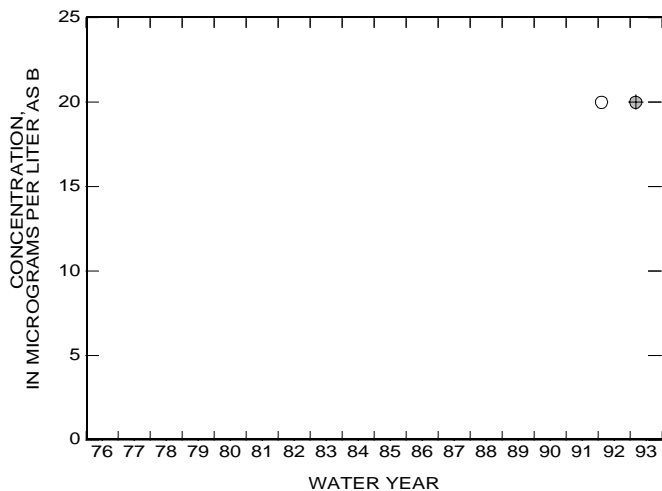
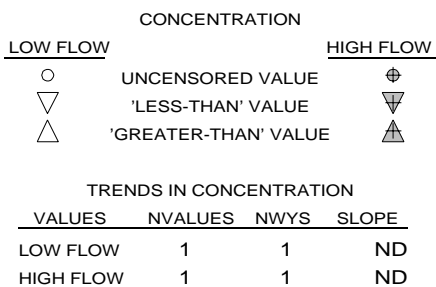
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



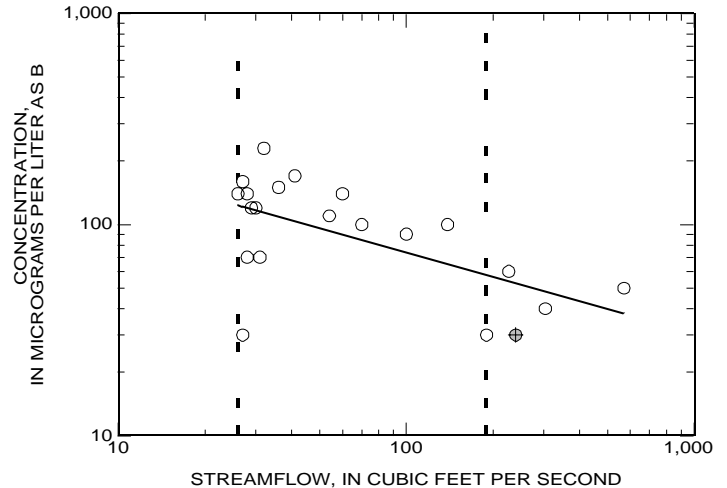
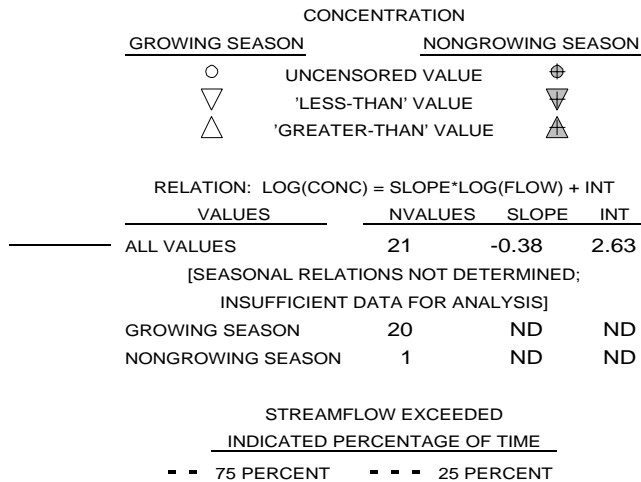
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



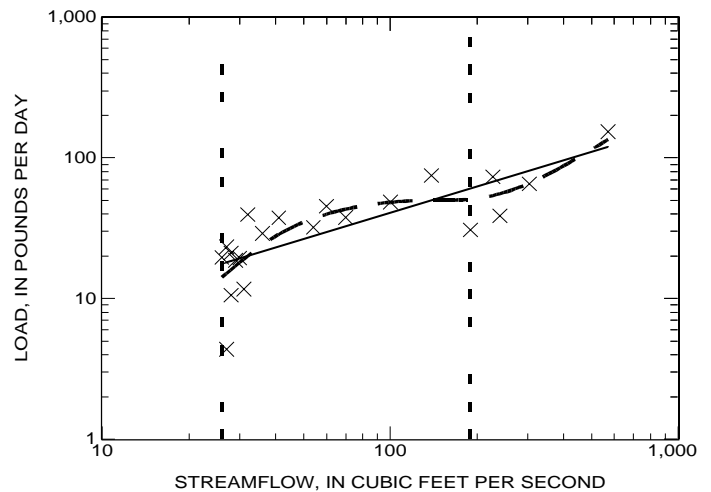
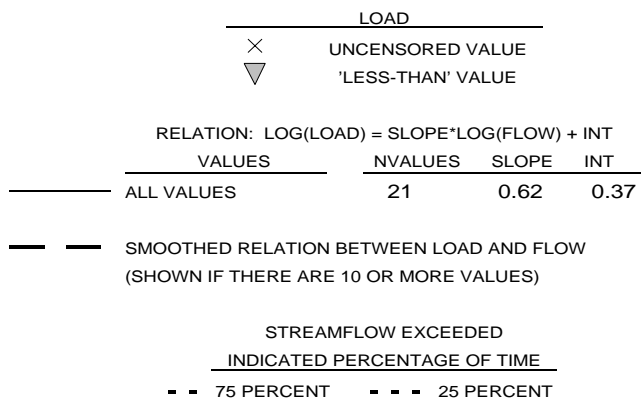
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

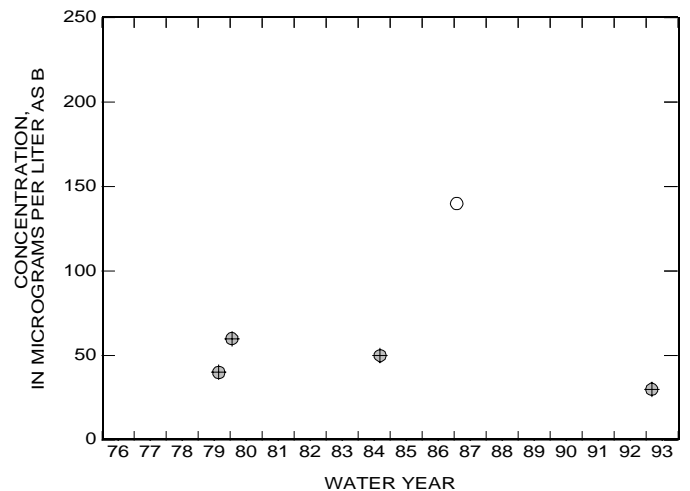
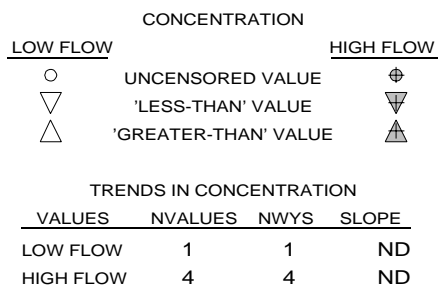
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



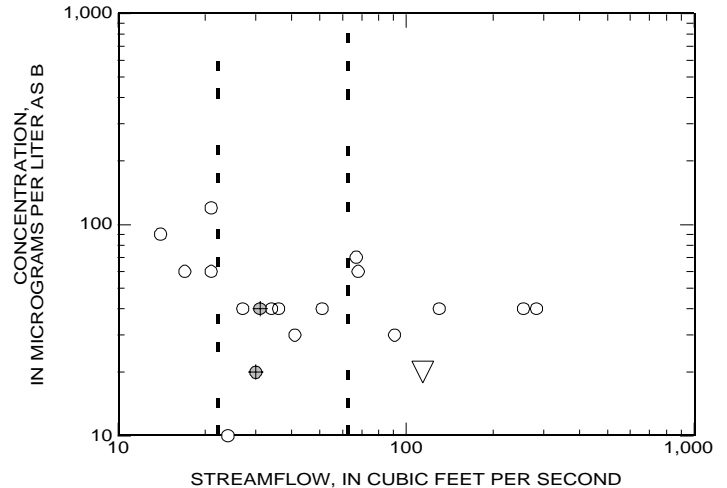
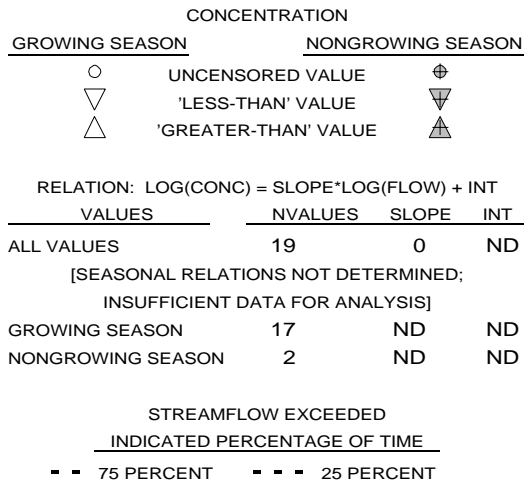
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



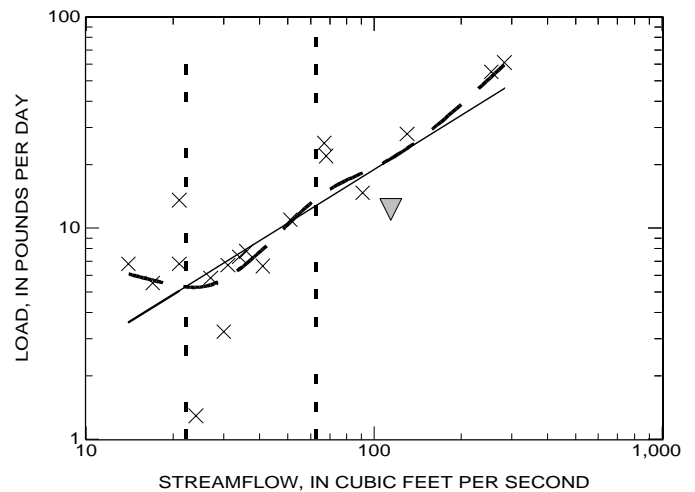
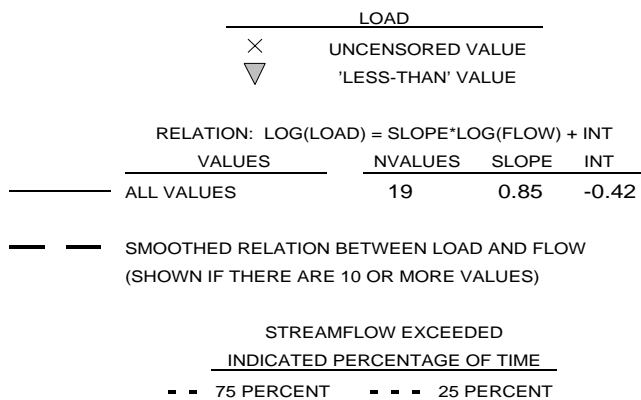
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

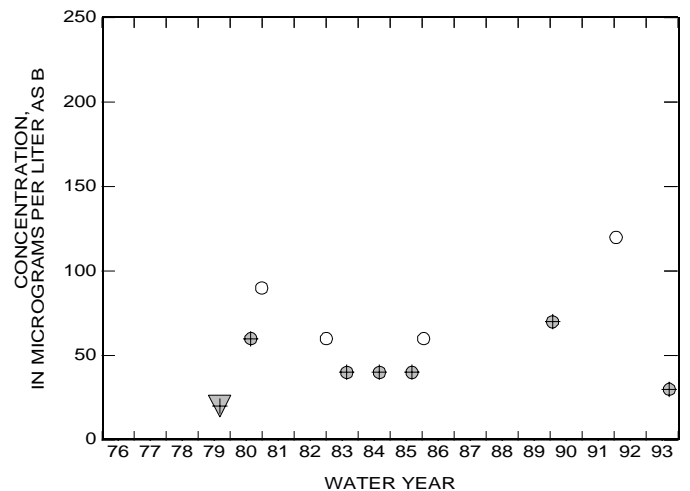
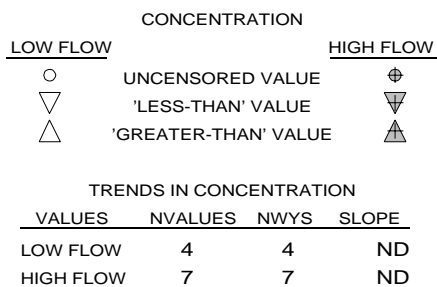
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



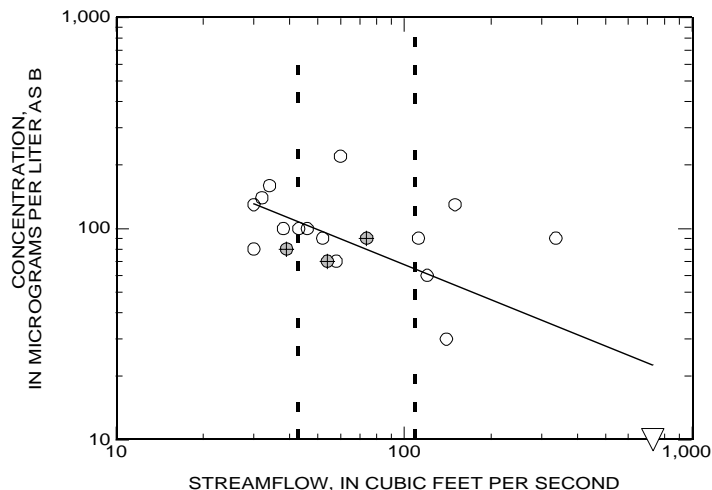
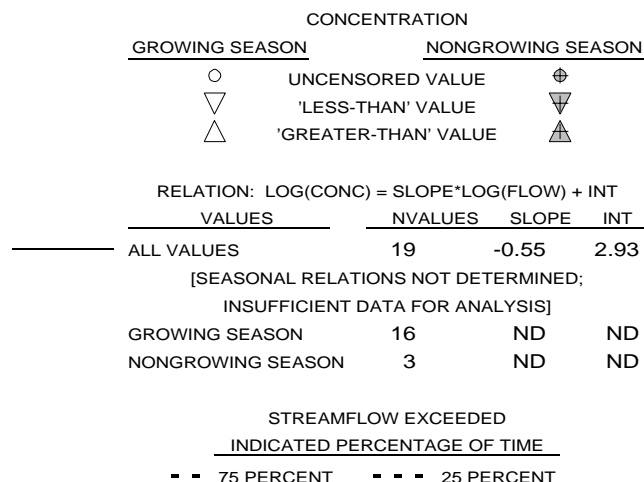
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



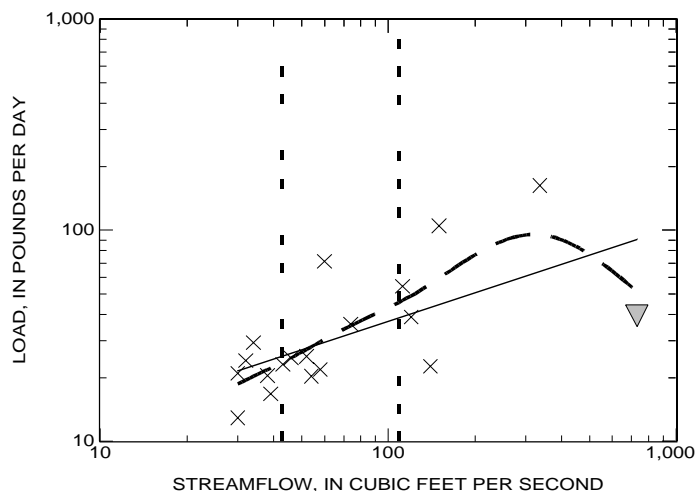
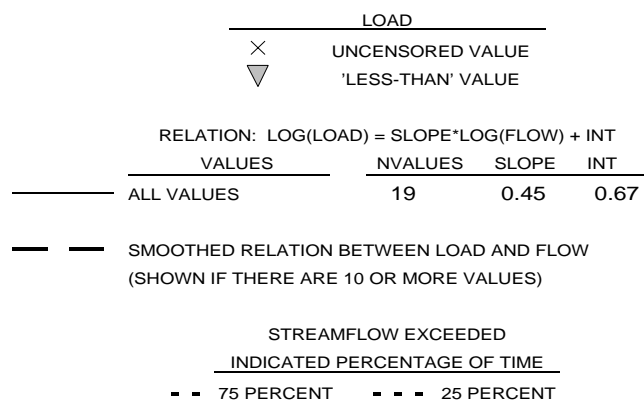
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

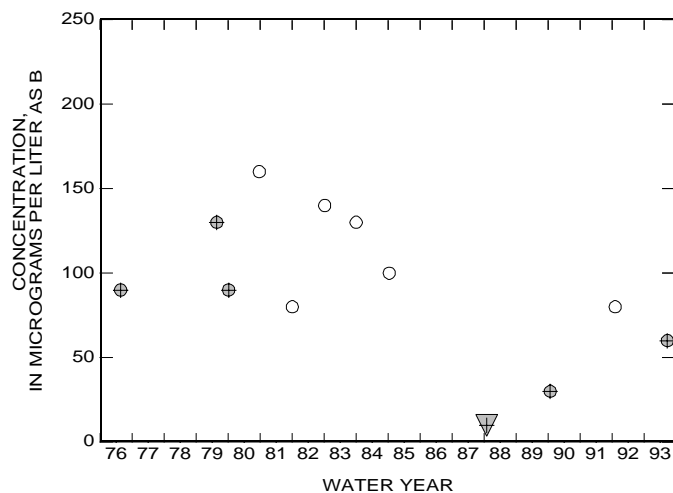
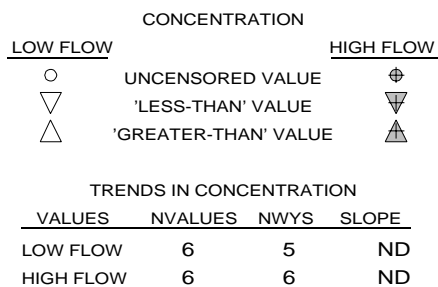
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



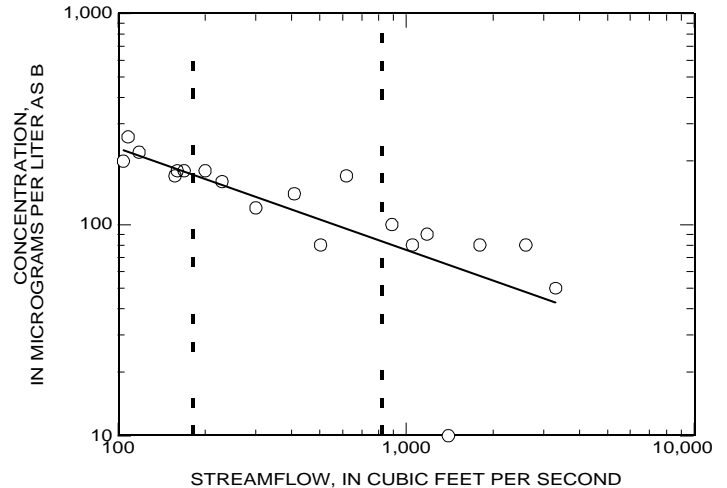
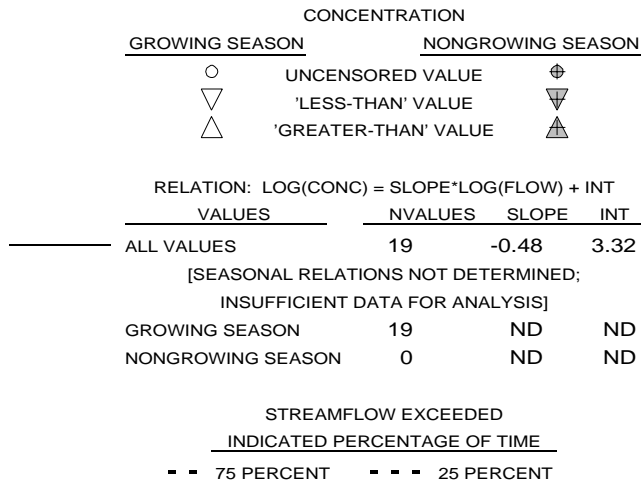
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



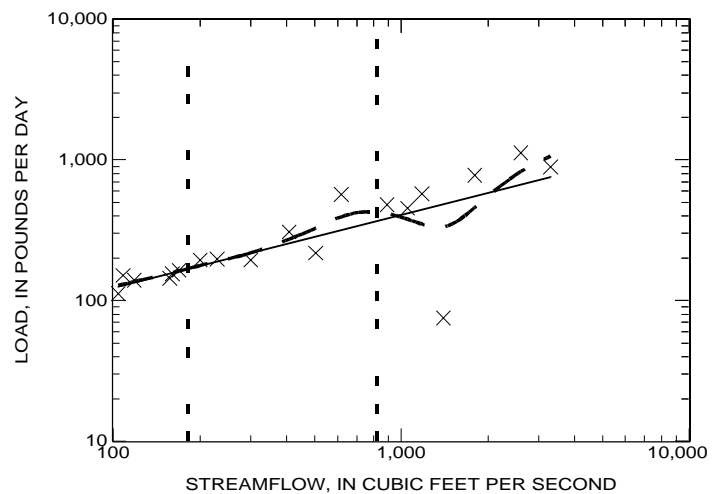
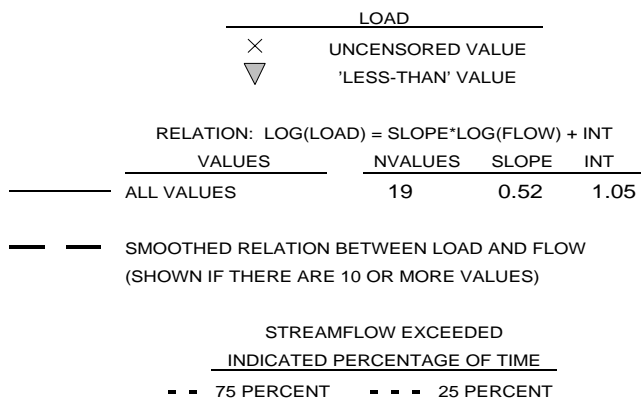
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

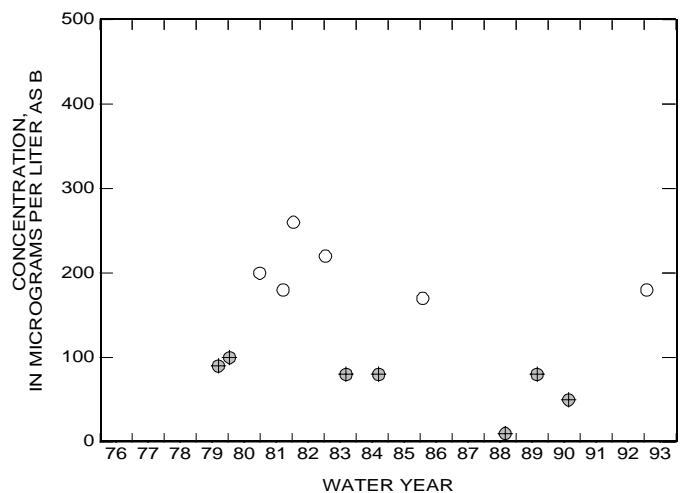
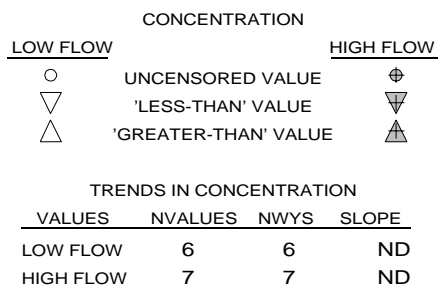
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

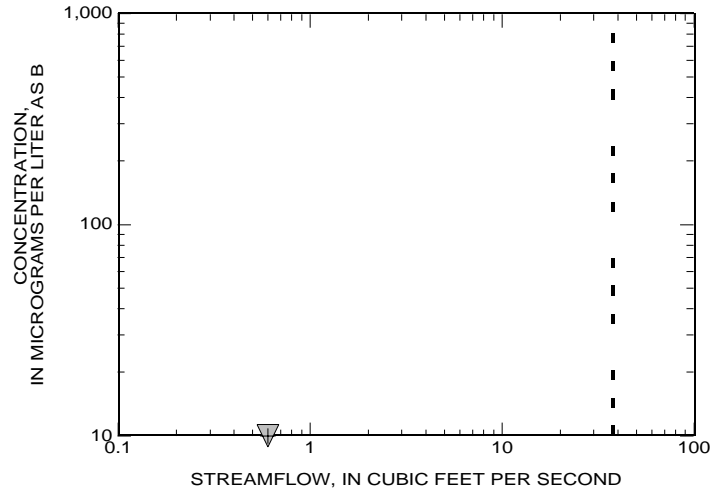


APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL BORON  
01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

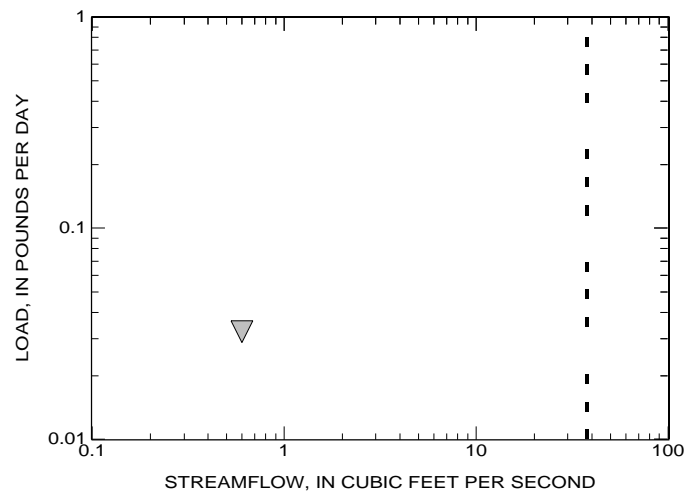
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: $\text{LOG}(\text{CONC}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	1	ND	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	0	ND	ND
NONGROWING SEASON	1	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
75 PERCENT	- - - 25 PERCENT		



RELATION OF LOAD TO STREAMFLOW

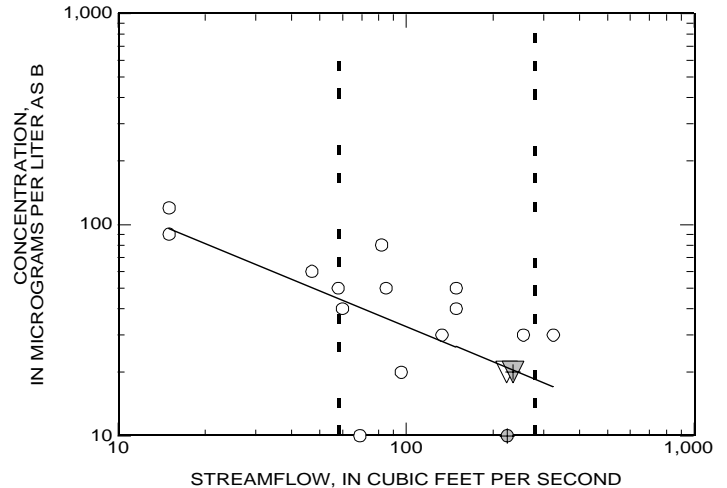
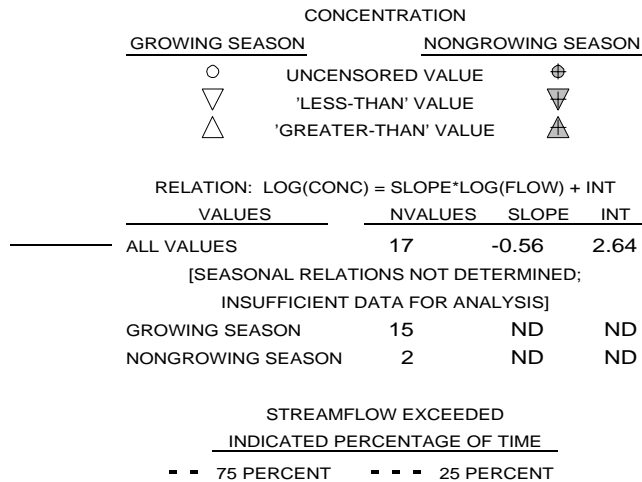
LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: $\text{LOG}(\text{LOAD}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	1	ND	ND
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
75 PERCENT	- - - 25 PERCENT		



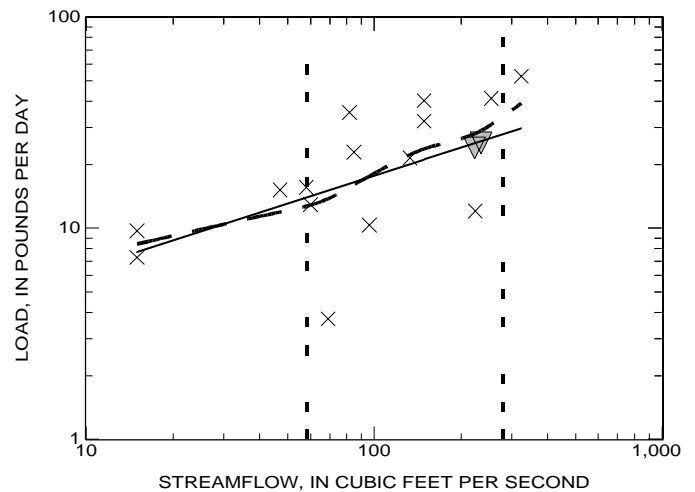
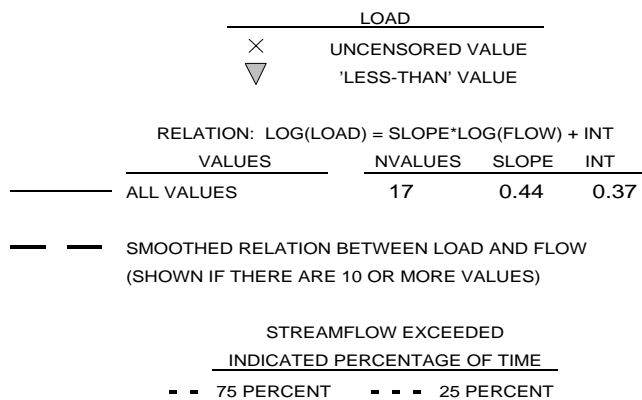
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01387500 RAMAPO RIVER NEAR MAHWAH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

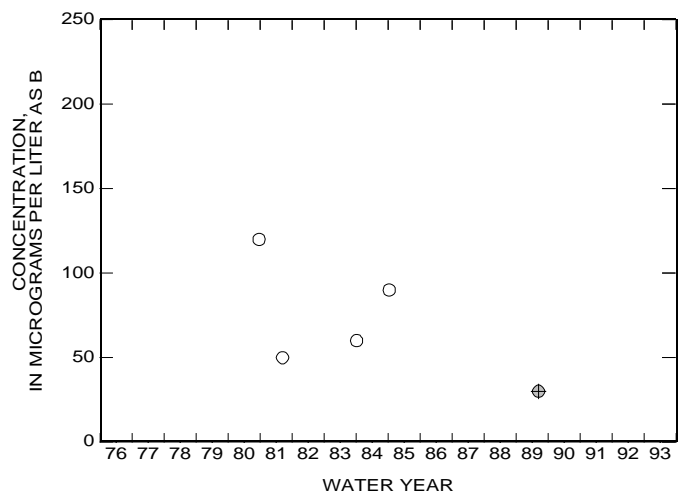
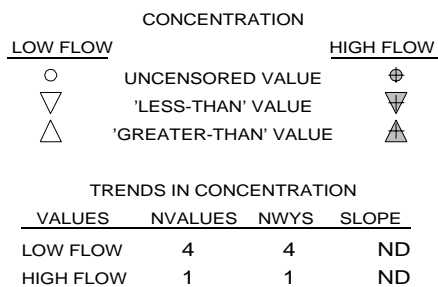
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



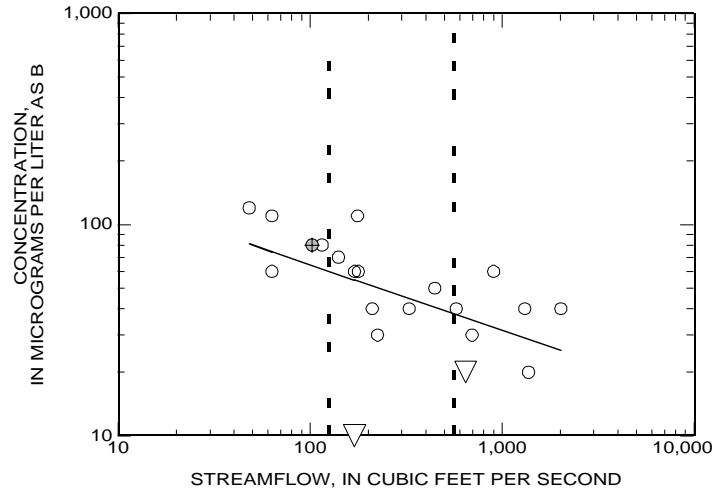
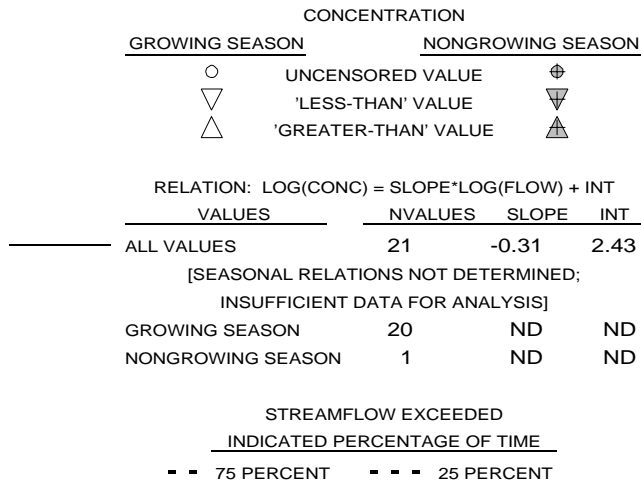
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



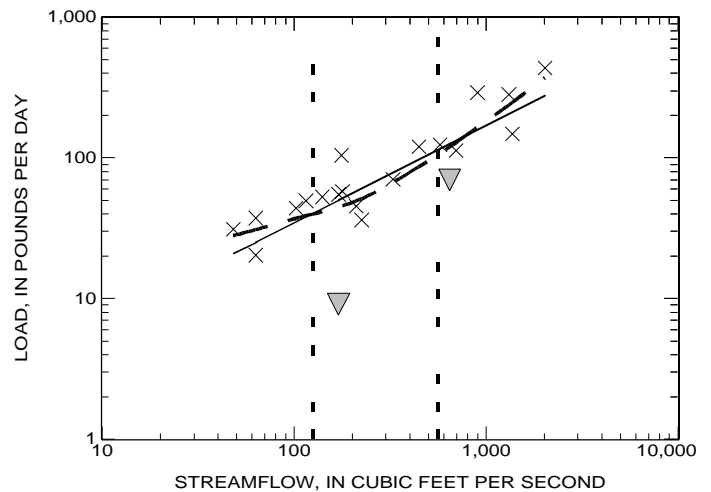
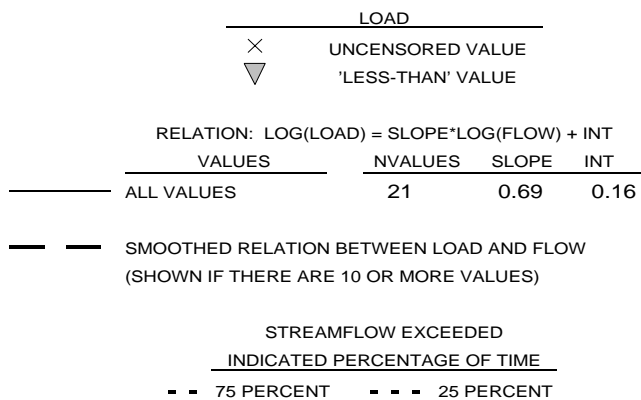
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

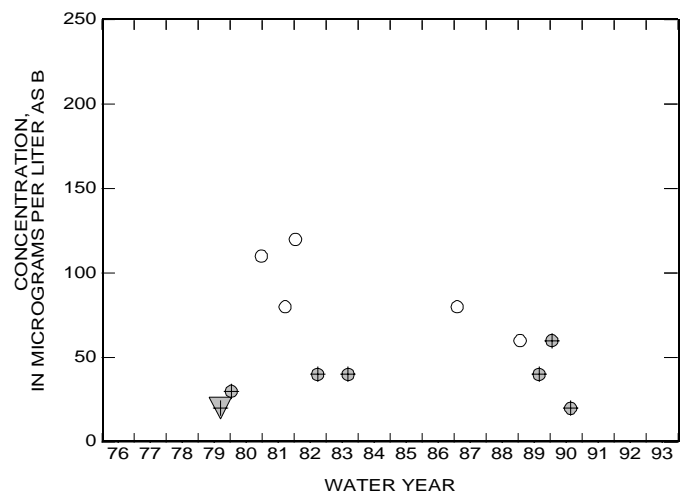
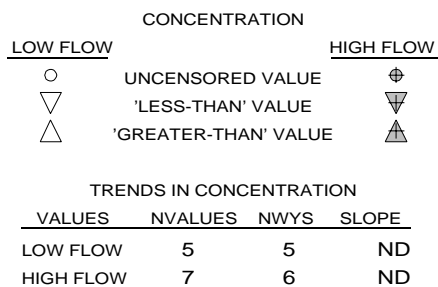
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

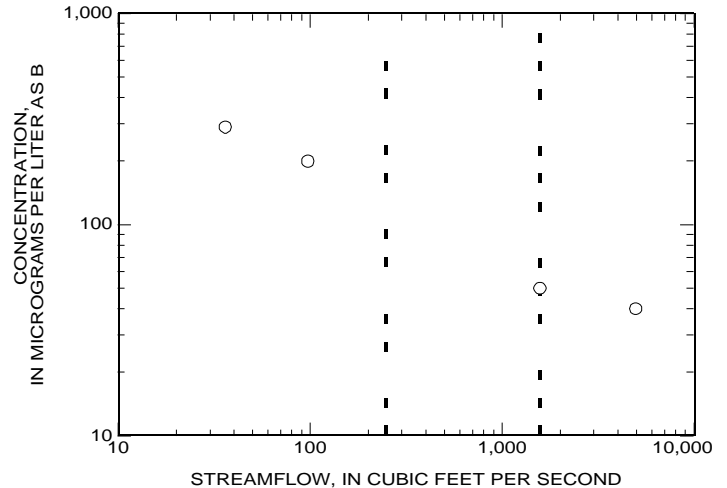
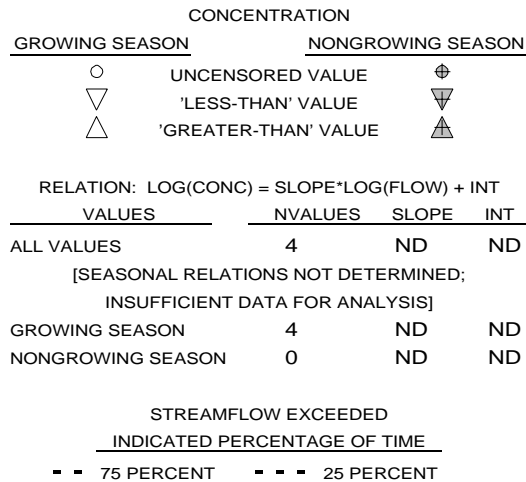




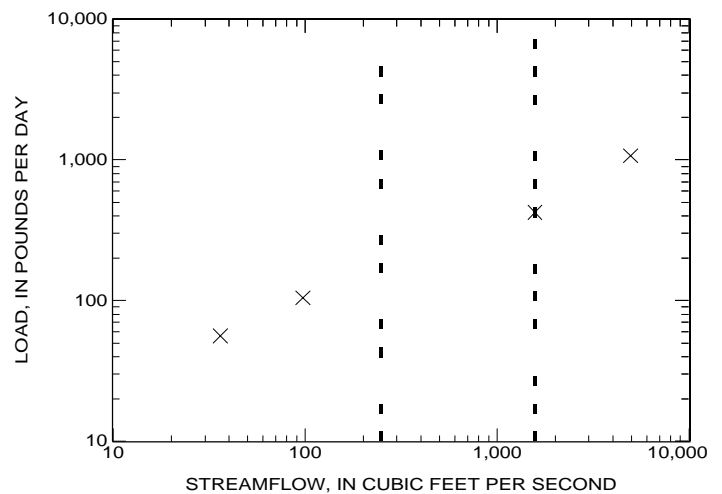
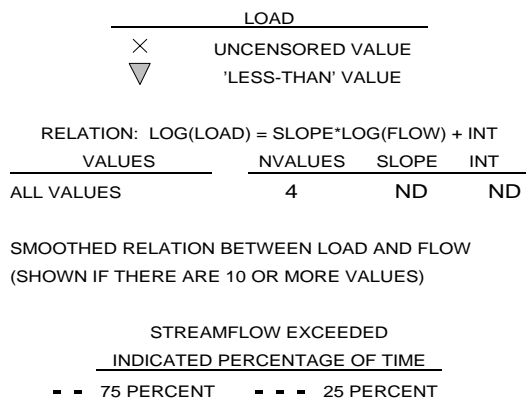
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

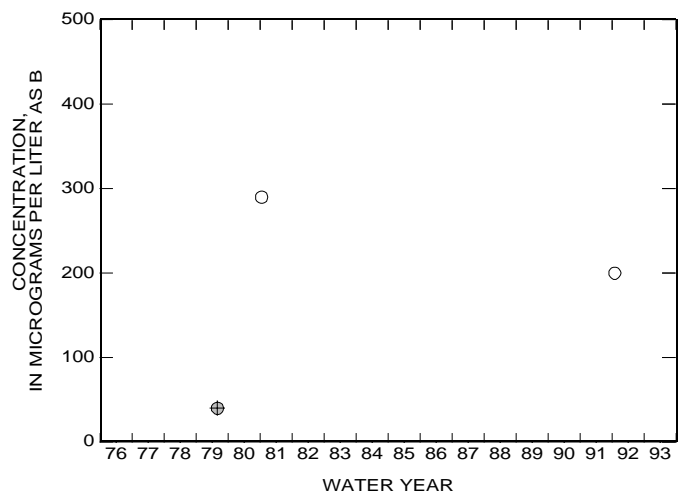
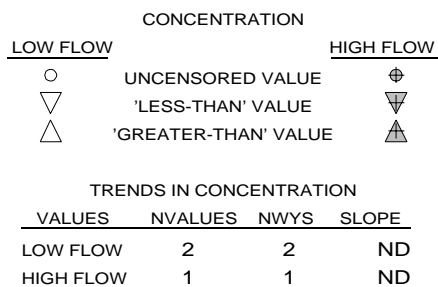
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



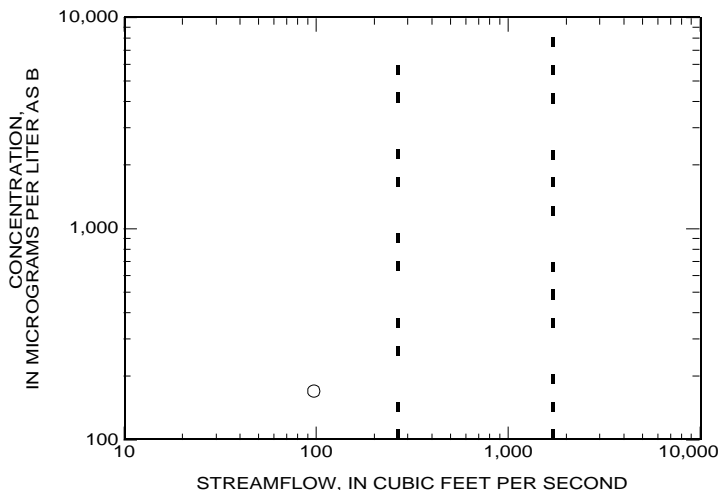
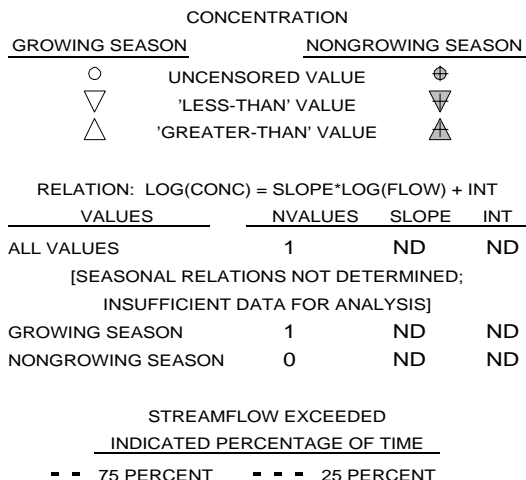
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



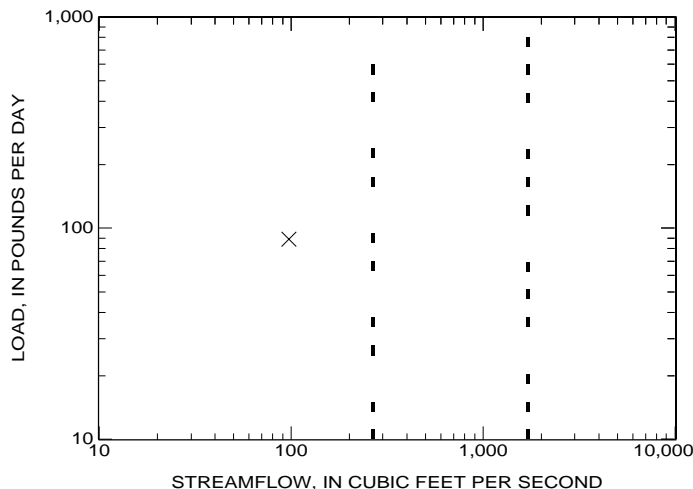
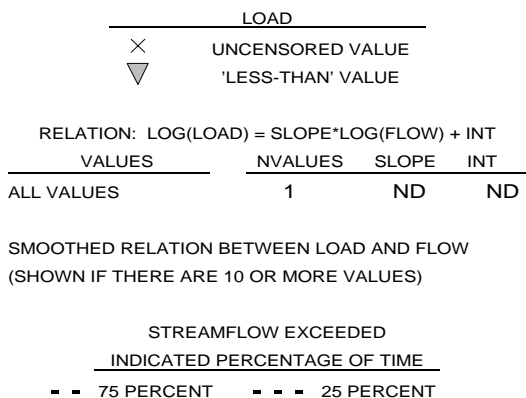
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

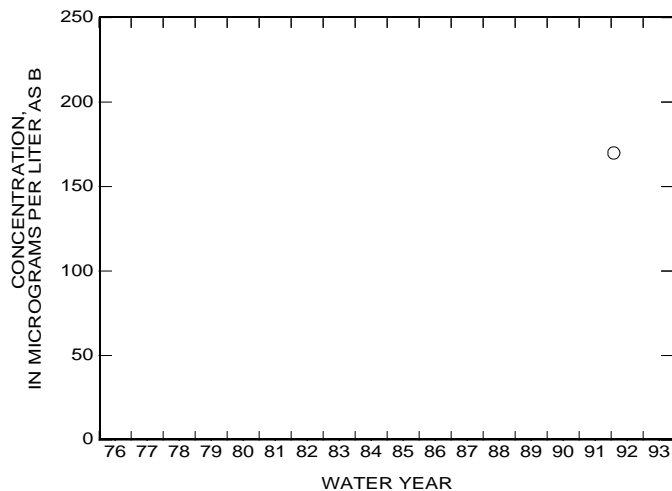
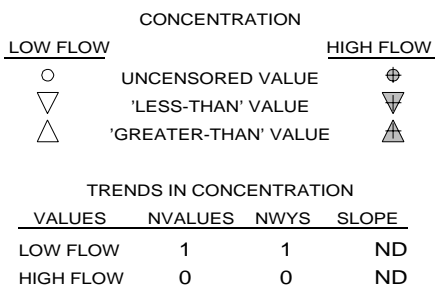
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

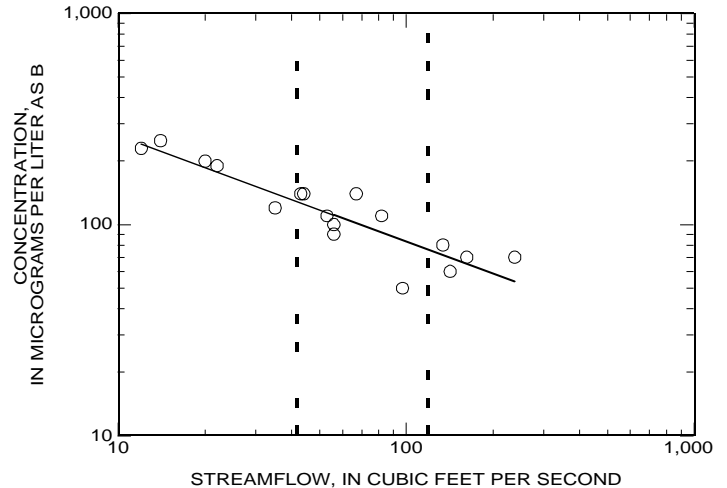


**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

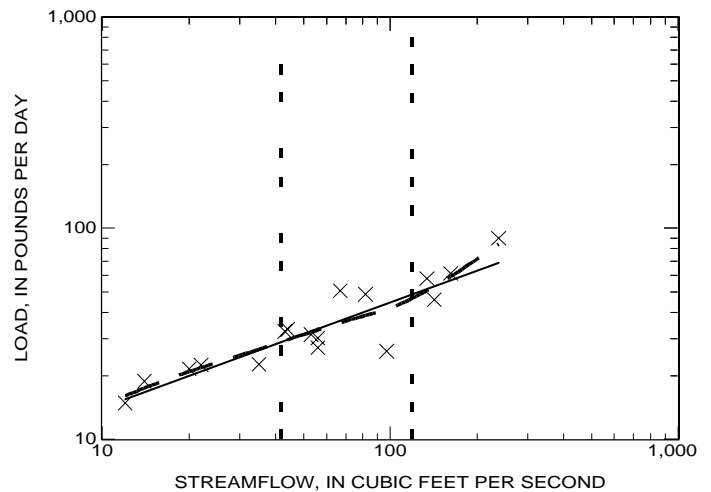
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	17	-0.5	2.92	
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]				
GROWING SEASON	17	ND	ND	
NONGROWING SEASON	0	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



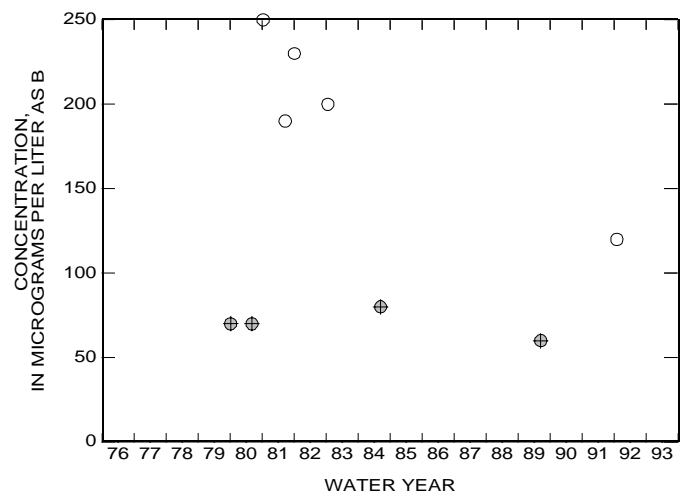
**RELATION OF LOAD TO STREAMFLOW**

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	17	0.5	0.65	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - 75 PERCENT    - - - 25 PERCENT				



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

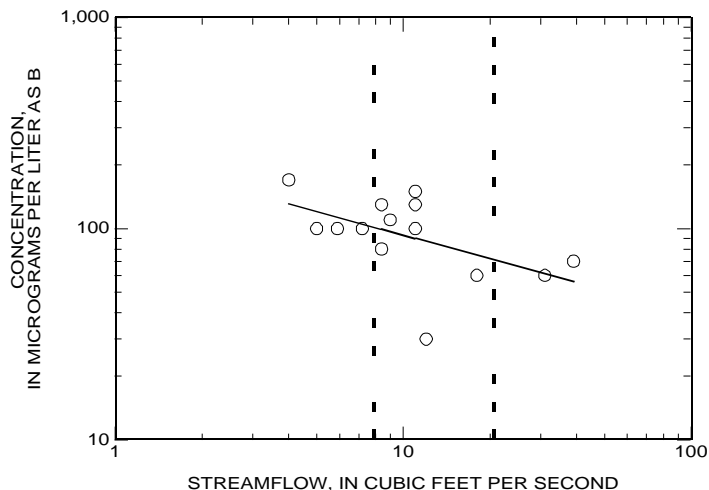
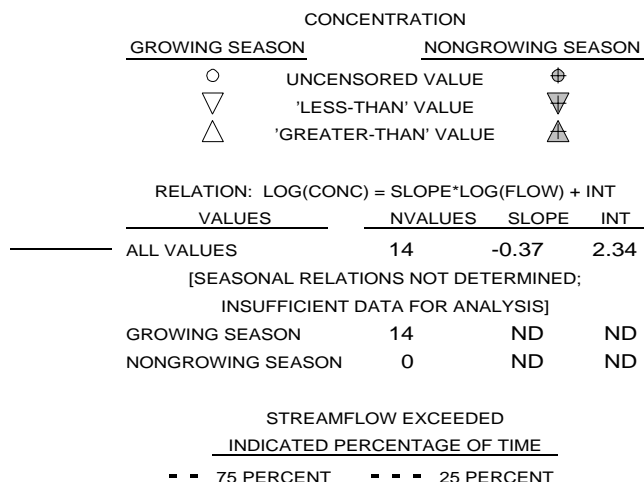
CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	5	4	ND	
HIGH FLOW	4	3	ND	



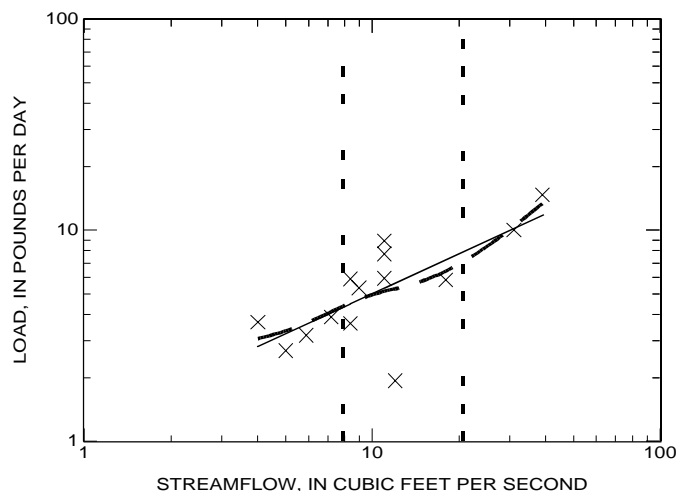
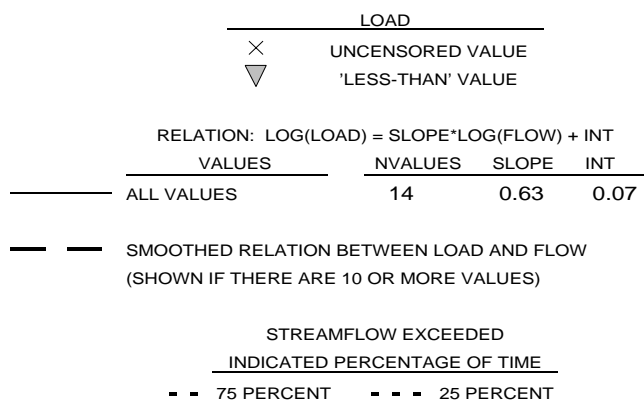
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

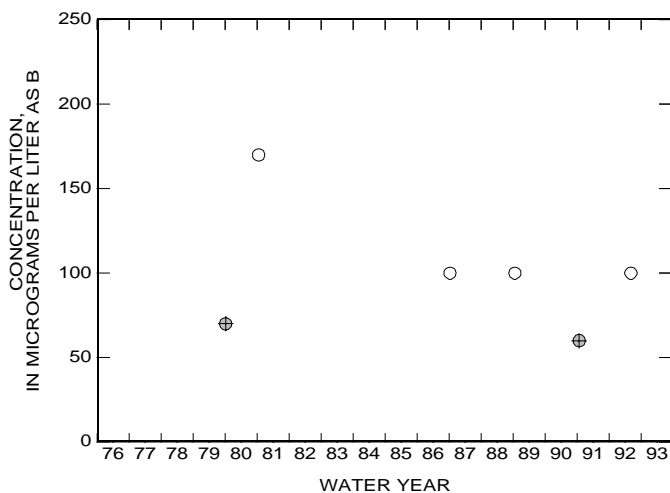
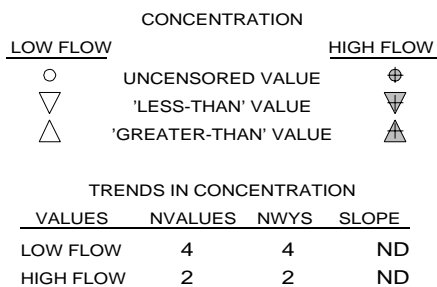
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

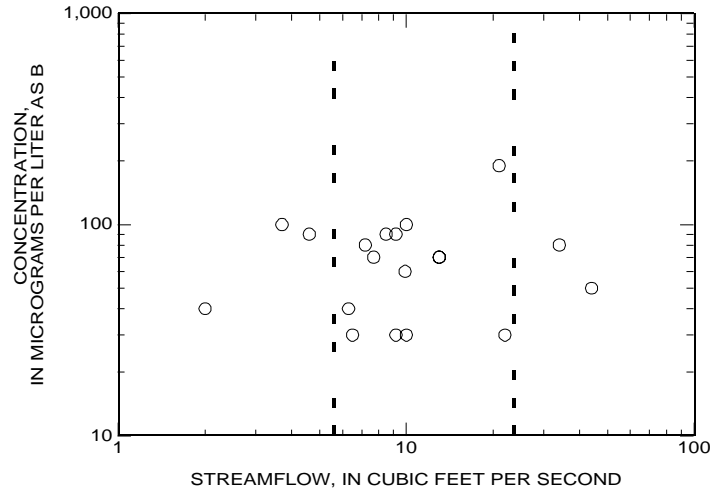


APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL BORON  
01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

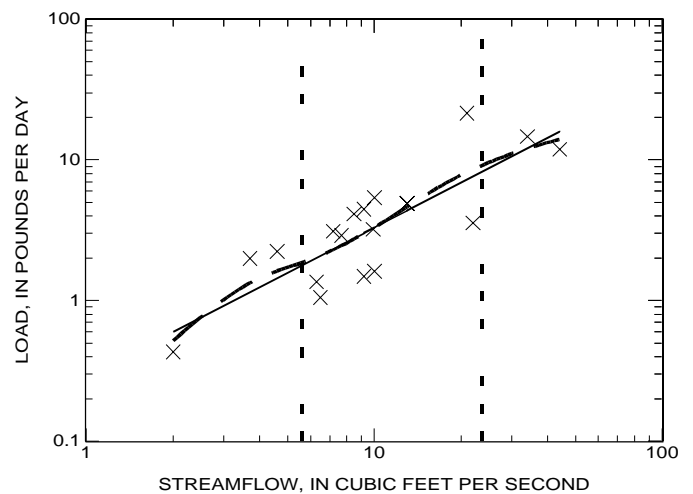
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	19	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	19	ND	ND
NONGROWING SEASON	0	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



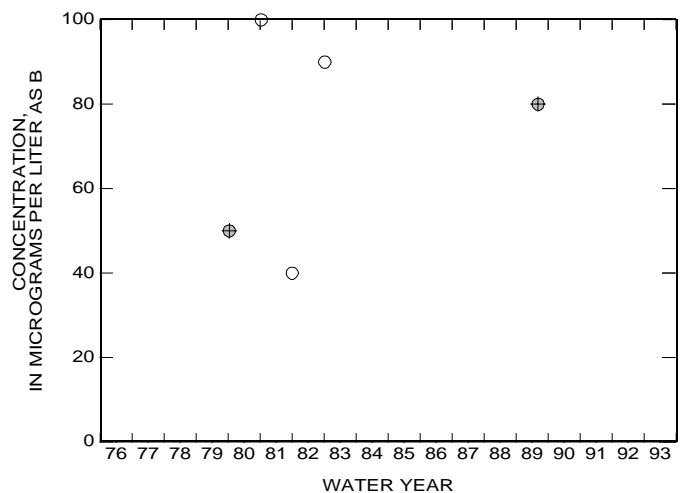
RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	19	1.06	-0.54
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
- - -			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

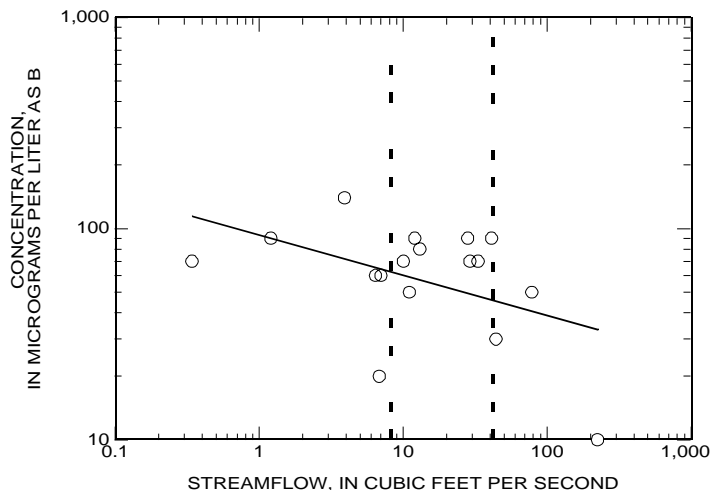
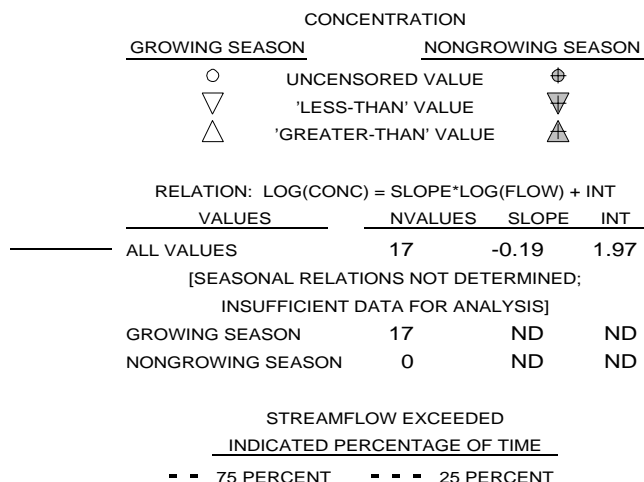
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	3	2	ND
HIGH FLOW	2	2	ND



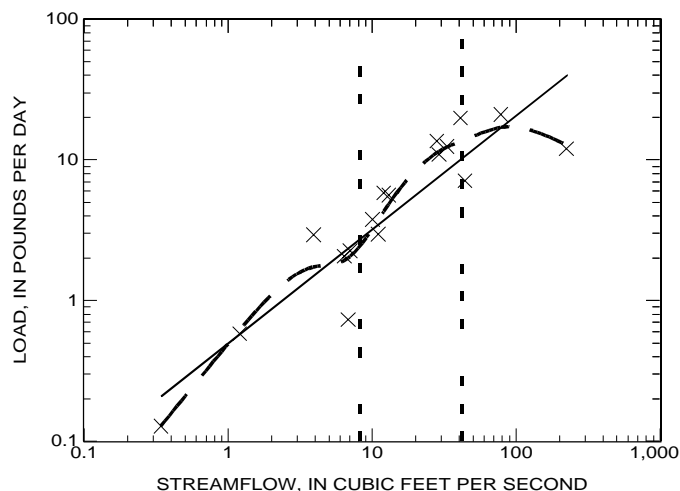
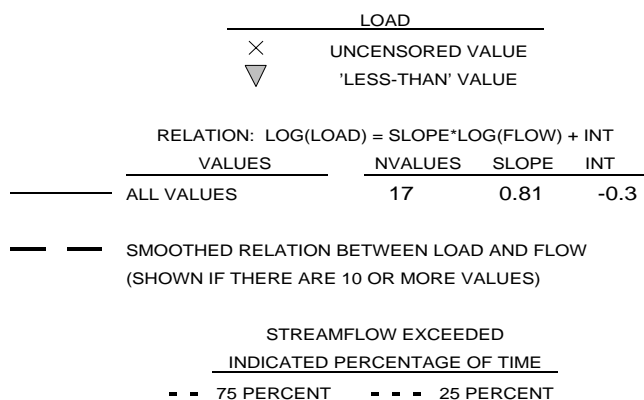
**APPENDIX 16. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL BORON**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

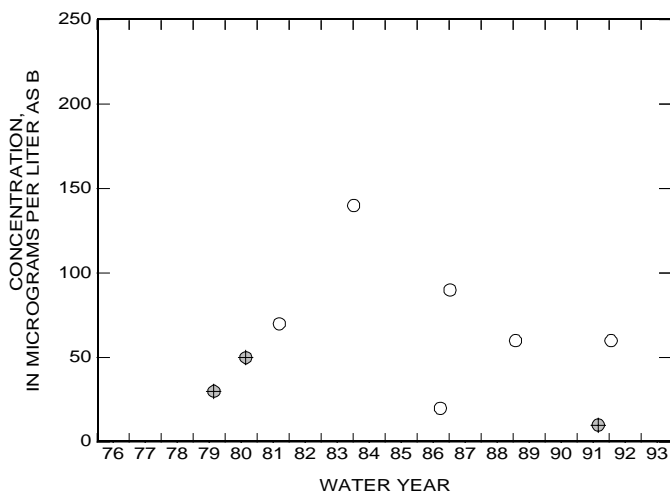
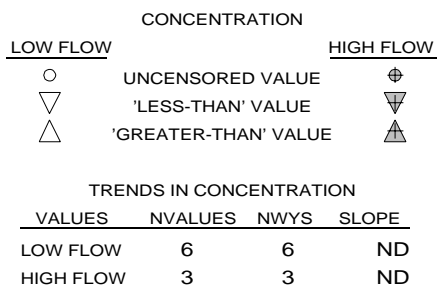
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



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# Appendix 17

## Total lead

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<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

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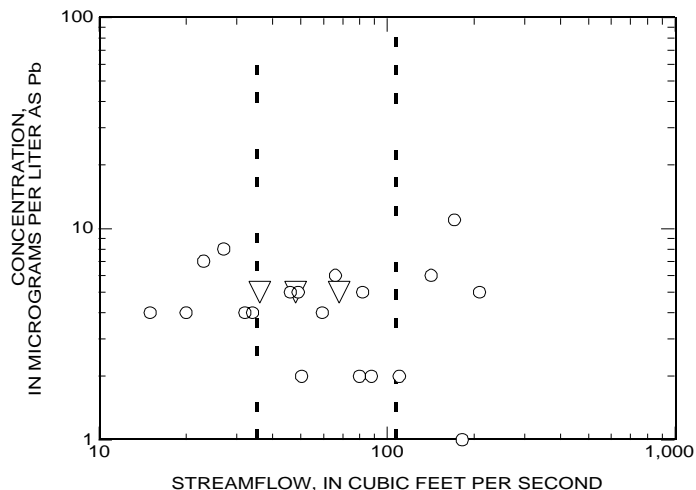
# APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL LEAD  
01377000 HACKENSACK RIVER AT RIVERVALE, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

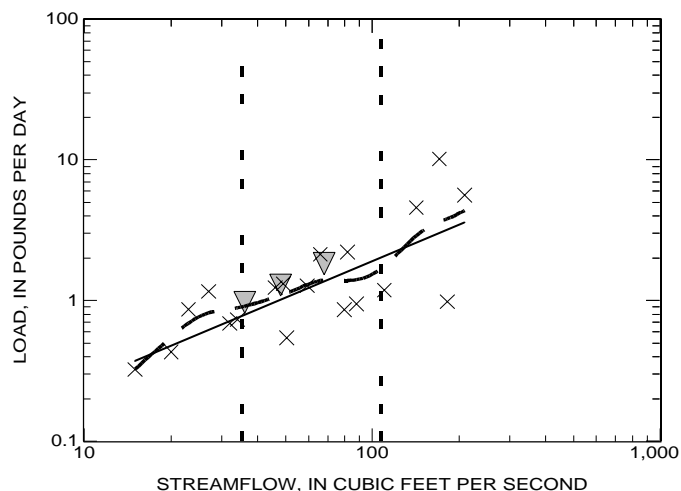
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: $\text{LOG}(\text{CONC}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	22	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	22	ND	ND
NONGROWING SEASON	0	ND	ND
STREAMFLOW EXCEEDED INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



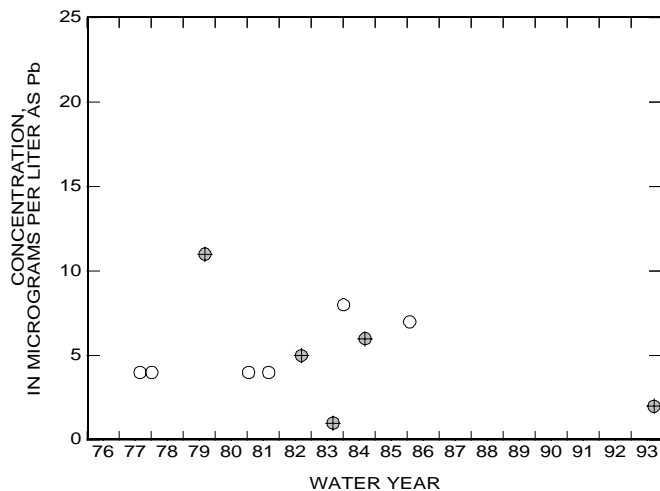
## RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: $\text{LOG}(\text{LOAD}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	22	0.86	-1.44
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
- - -			
STREAMFLOW EXCEEDED INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	6	5	ND
HIGH FLOW	5	5	ND

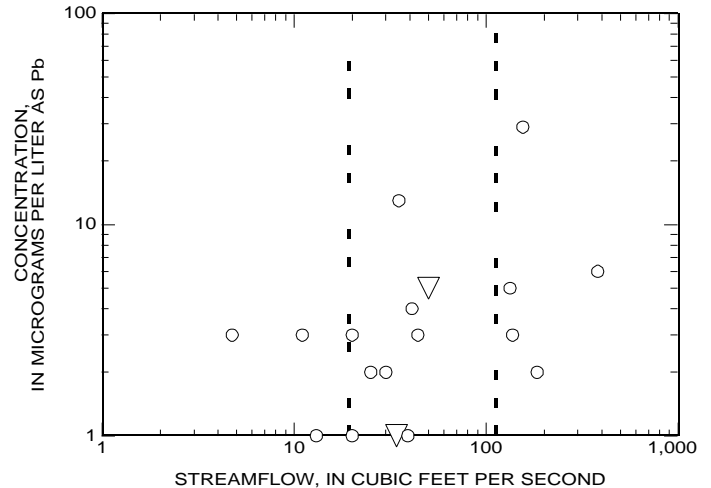
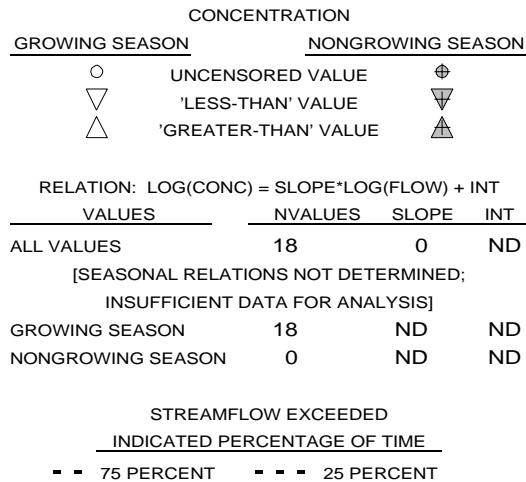




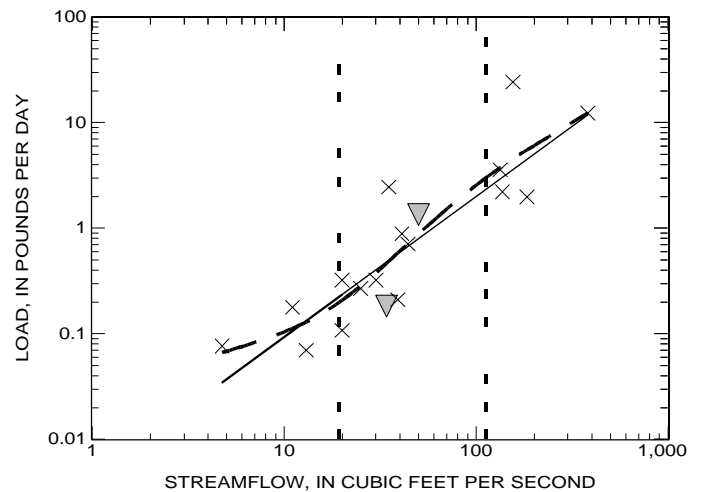
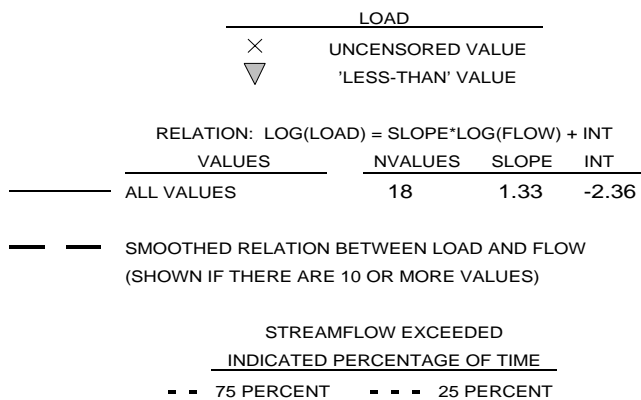
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

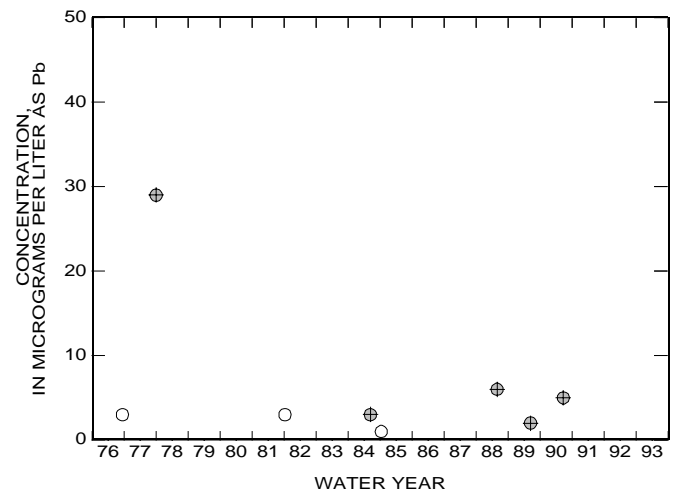
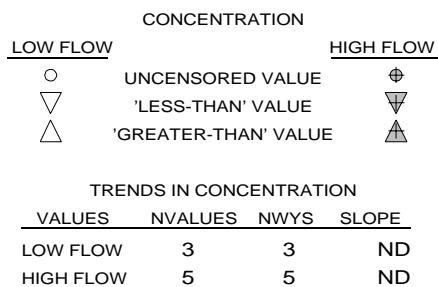
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



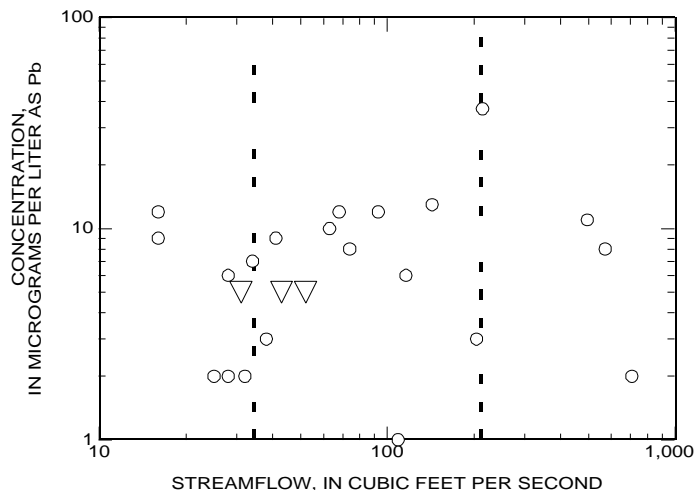
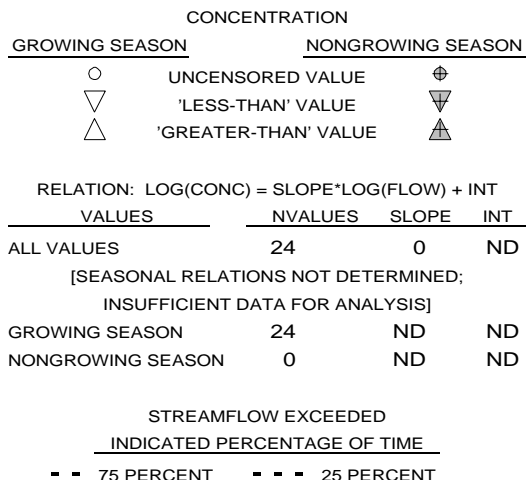
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



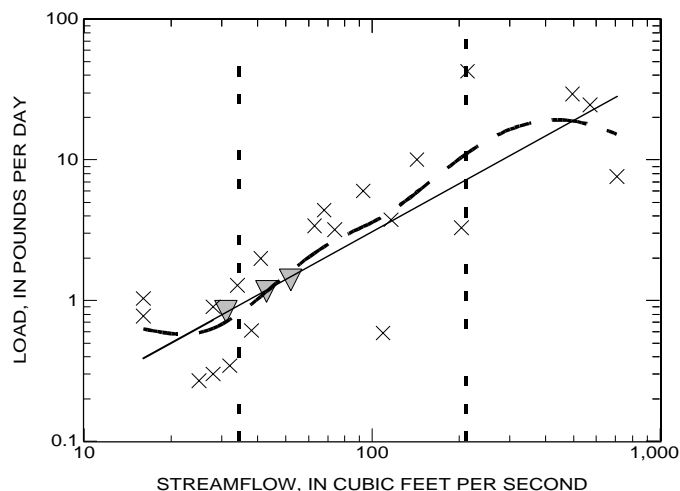
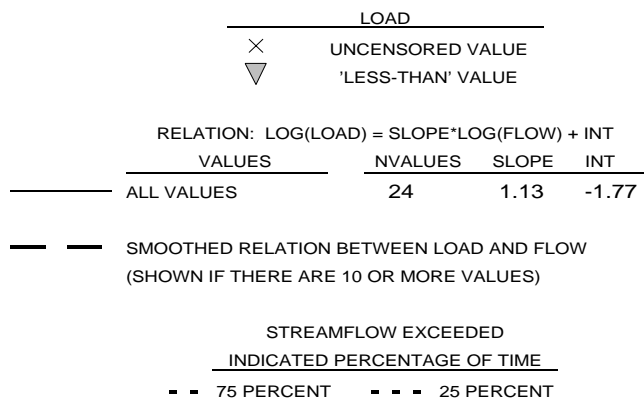
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01379500 PASSAIC RIVER NEAR CHATHAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

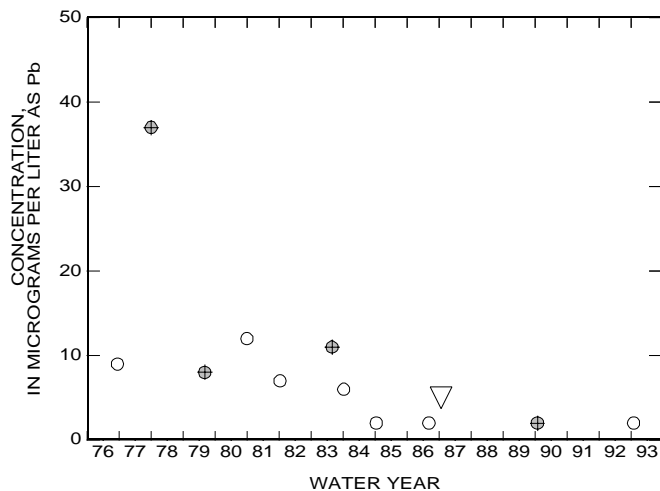
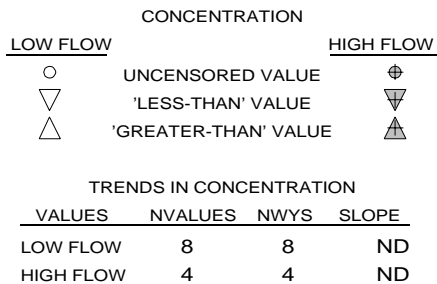
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



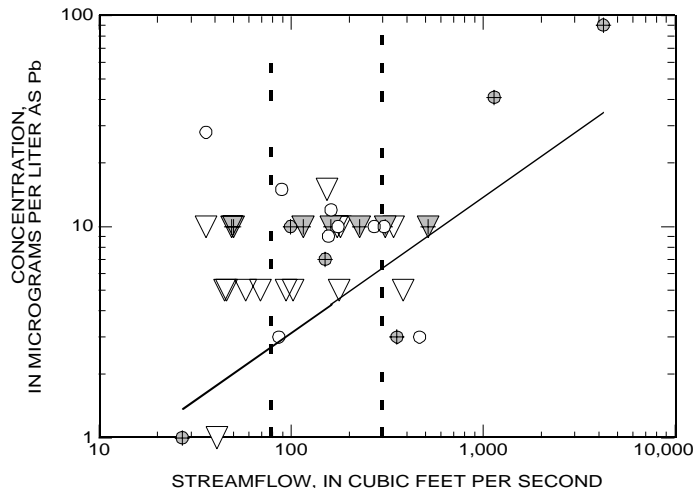
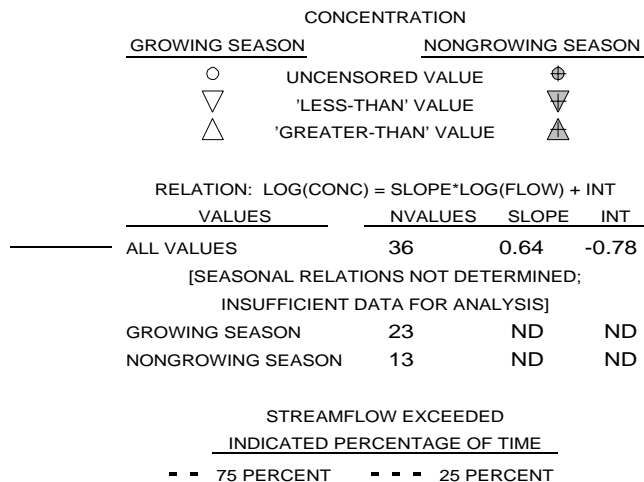
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



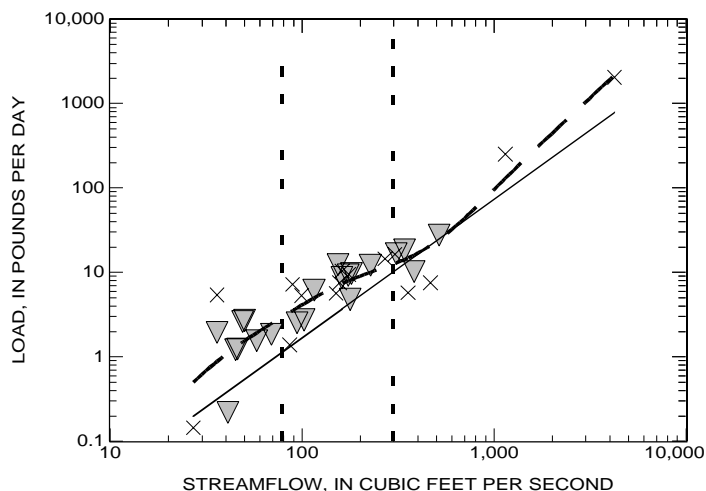
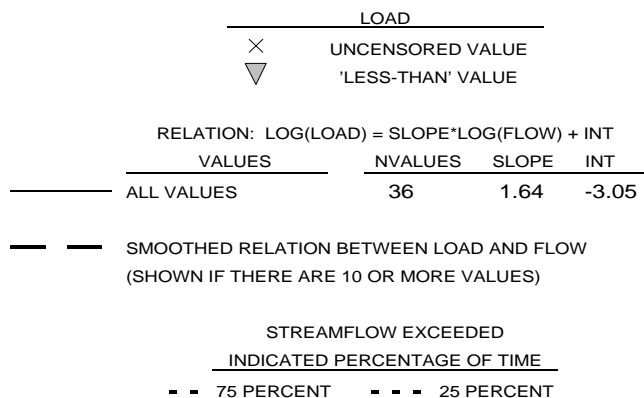
APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL LEAD  
01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

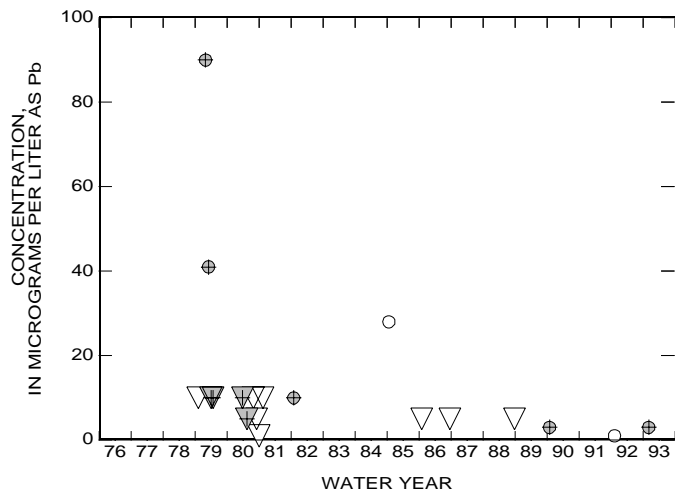
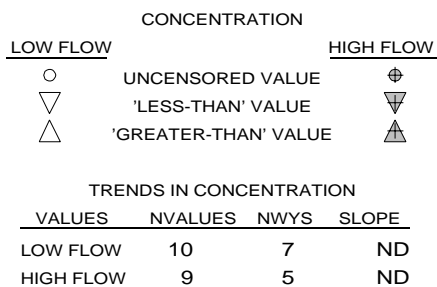
RELATION OF CONCENTRATION TO STREAMFLOW



RELATION OF LOAD TO STREAMFLOW



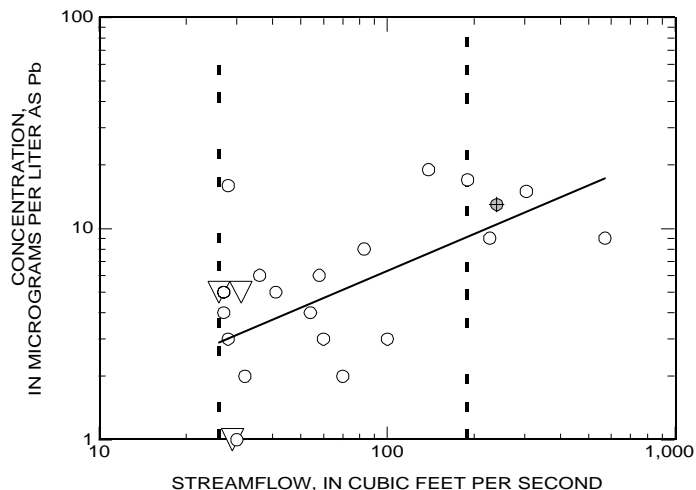
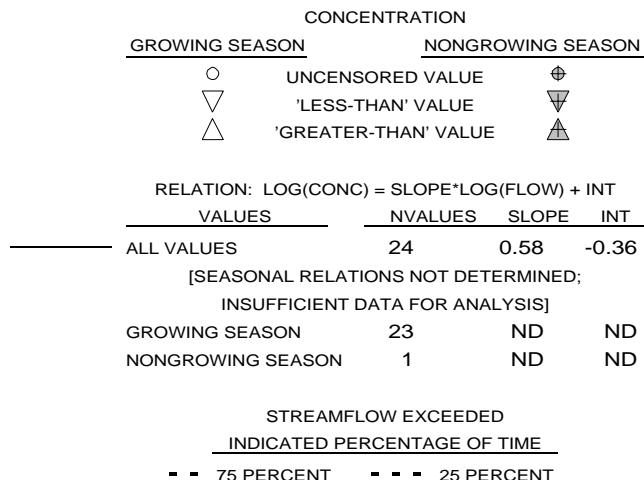
TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



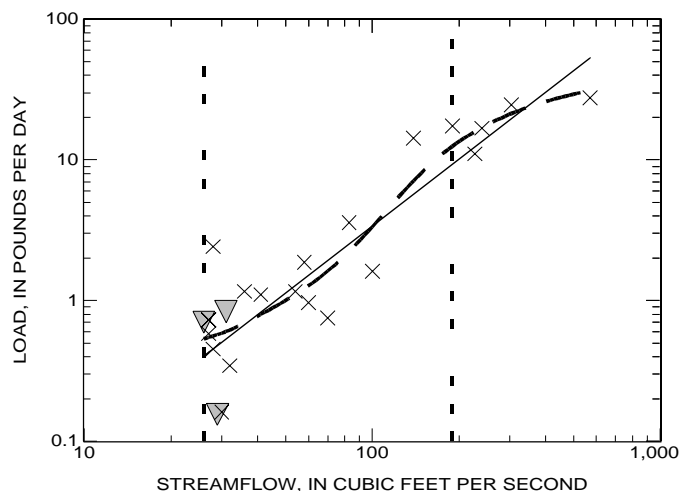
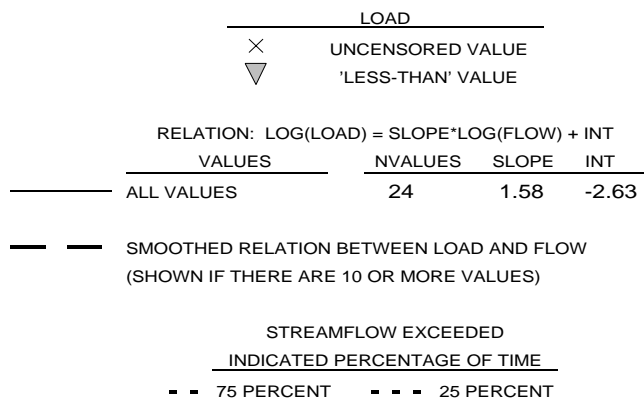
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

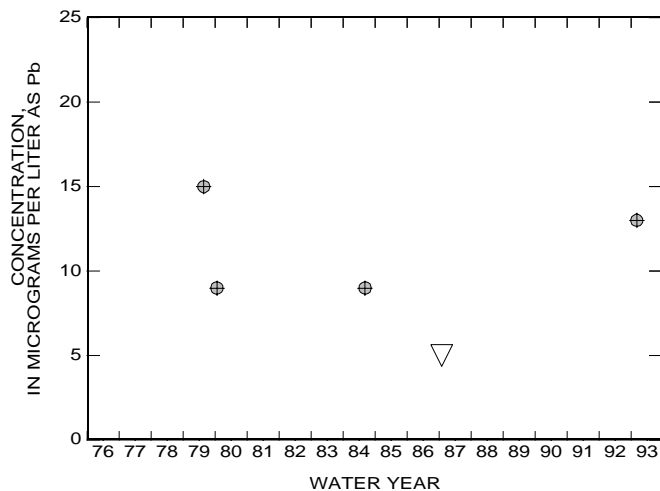
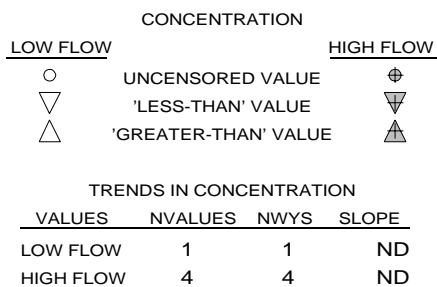
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



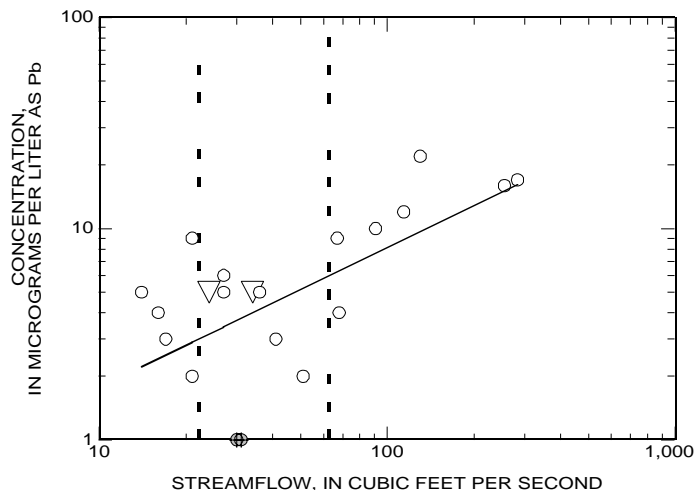
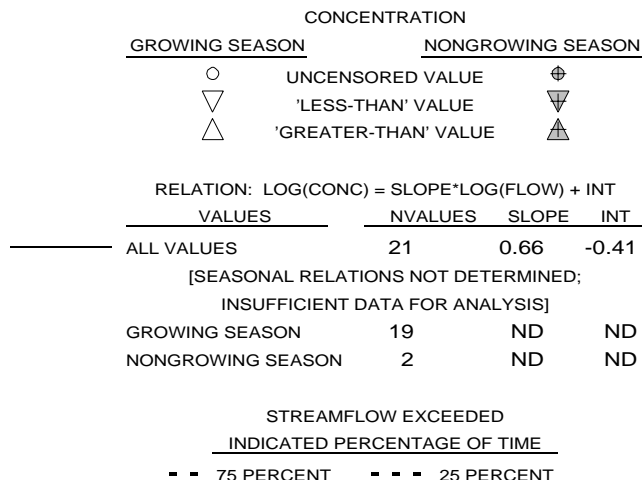
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



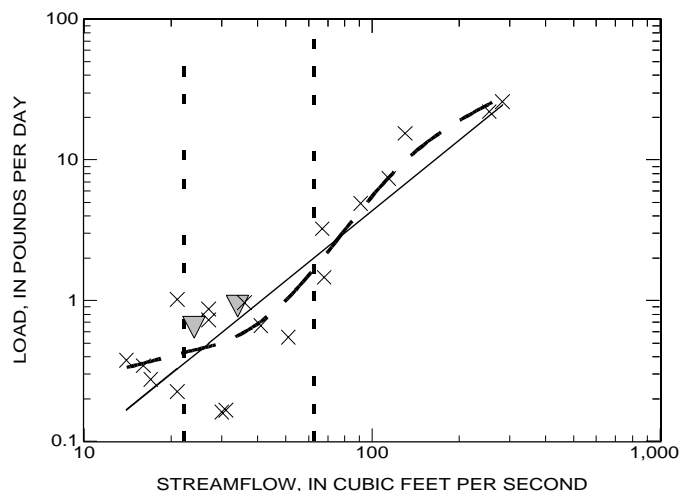
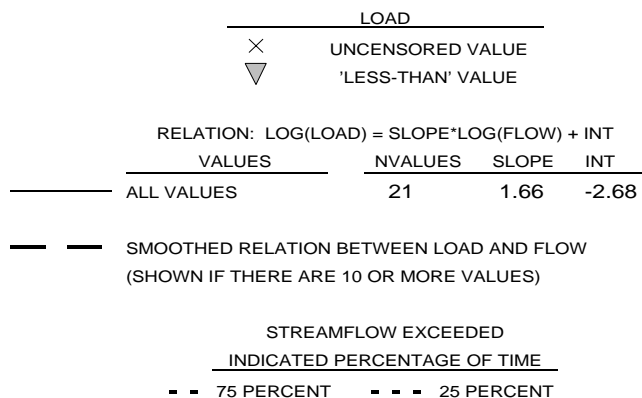
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

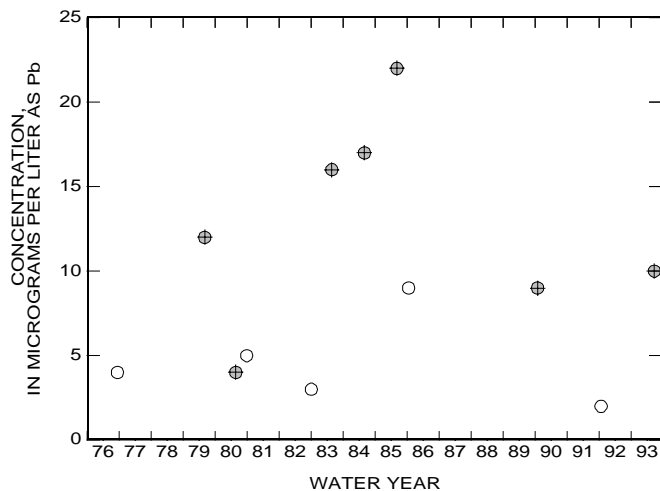
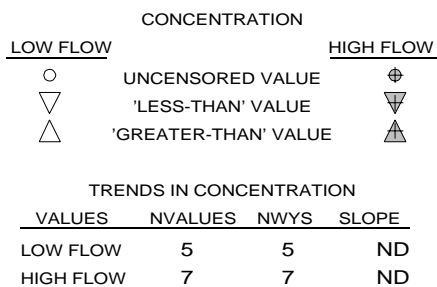
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



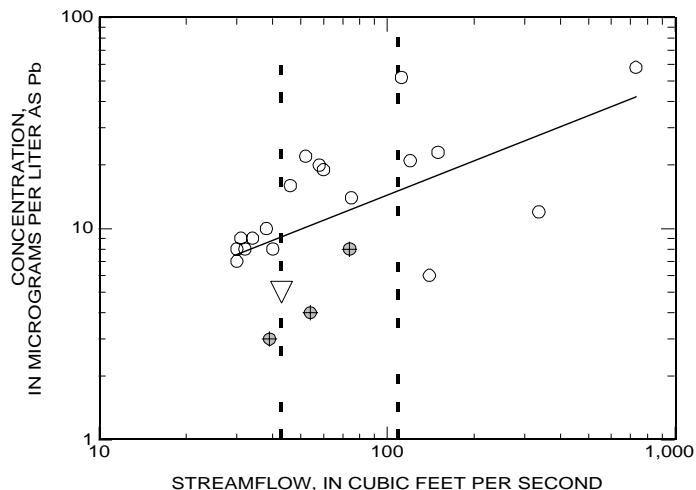
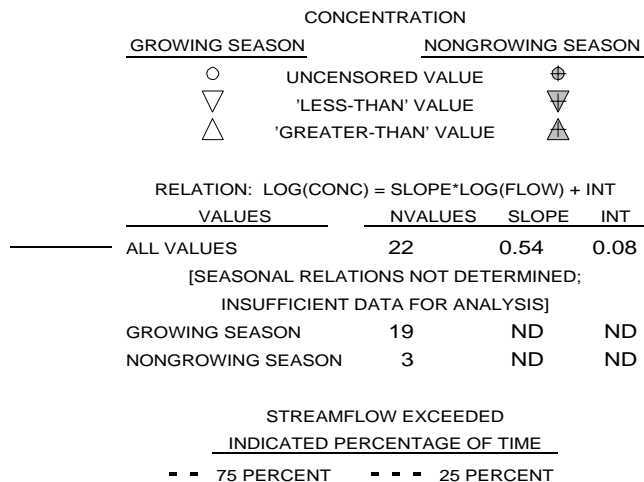
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



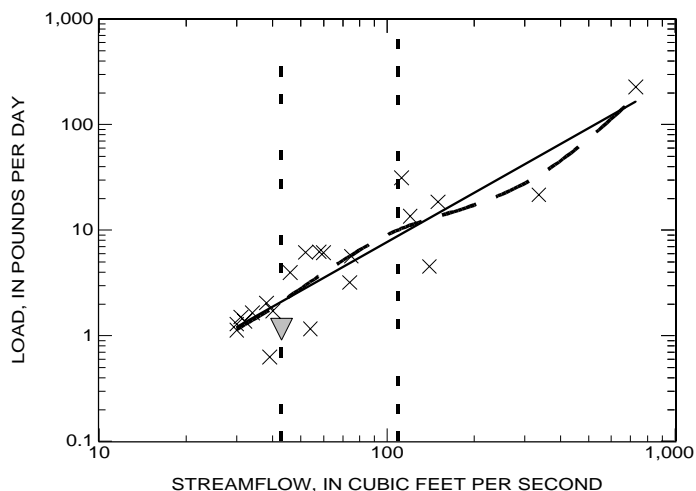
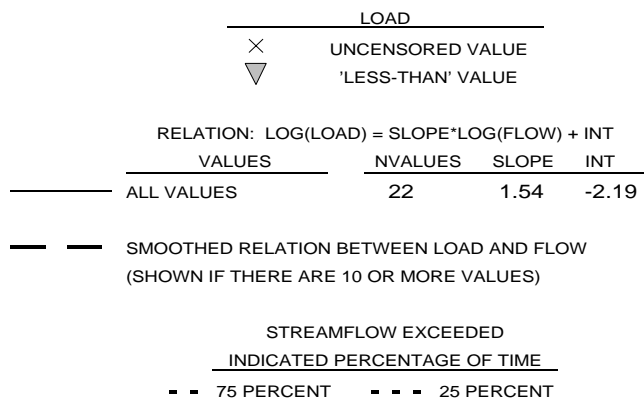
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

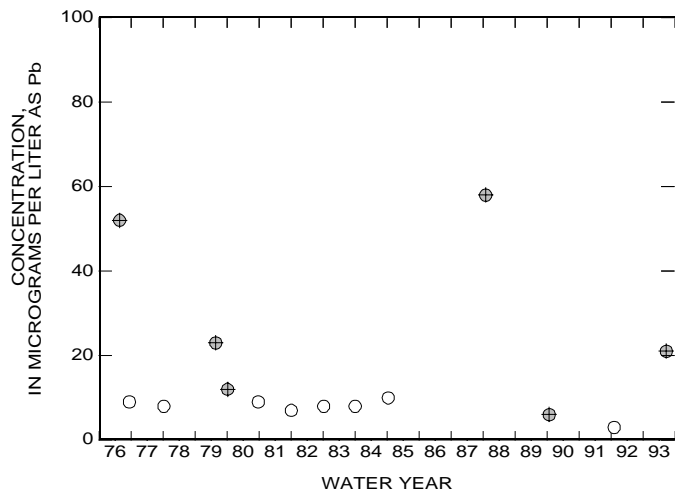
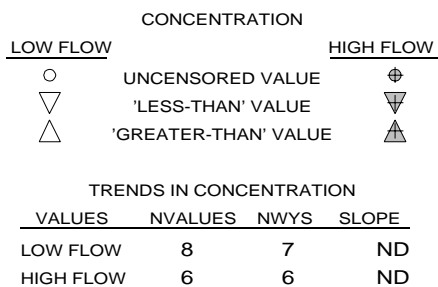
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



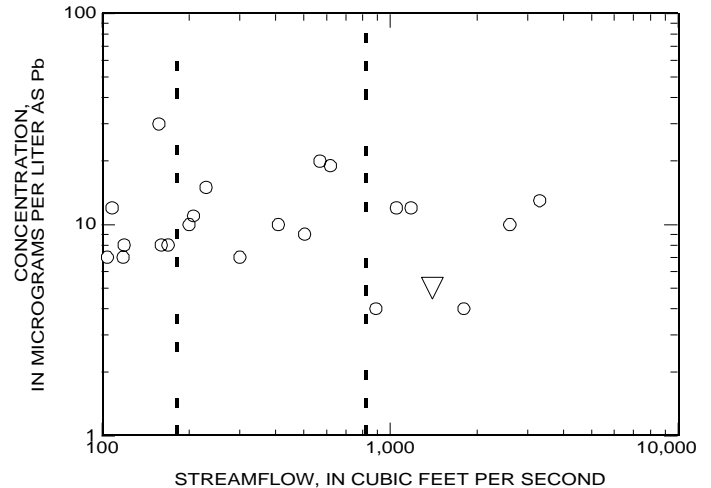
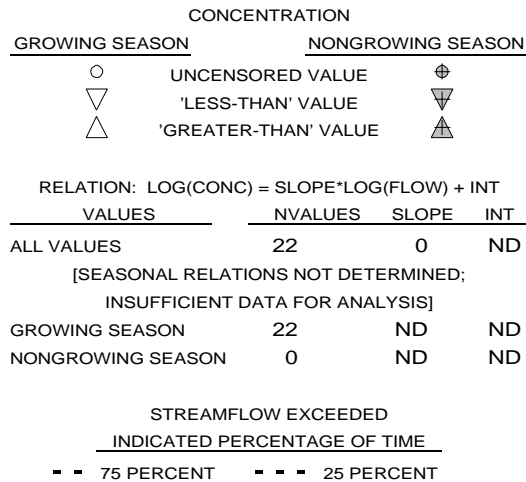
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



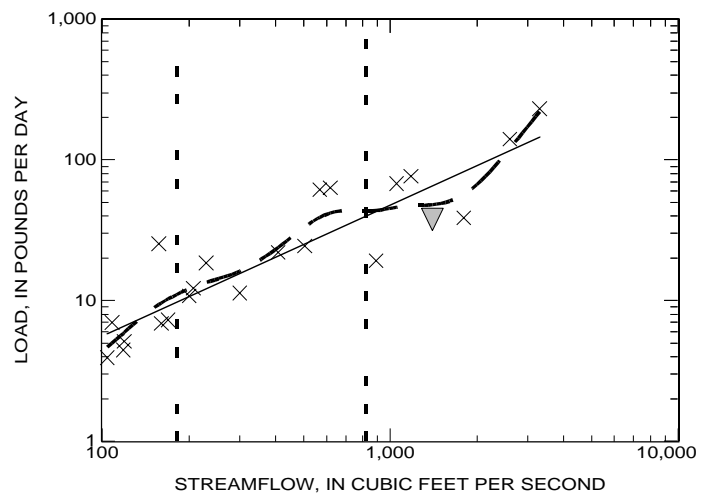
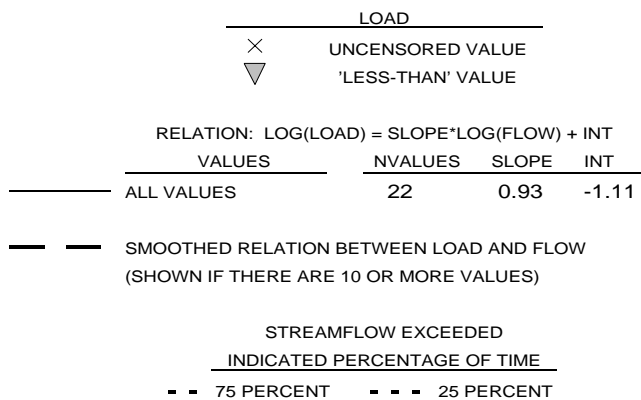
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

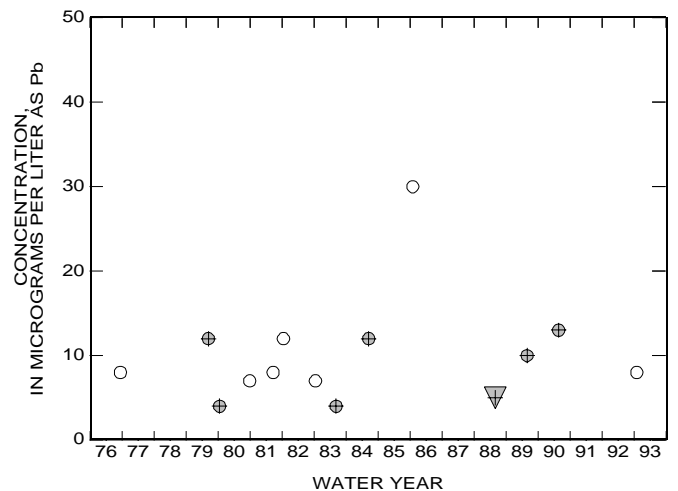
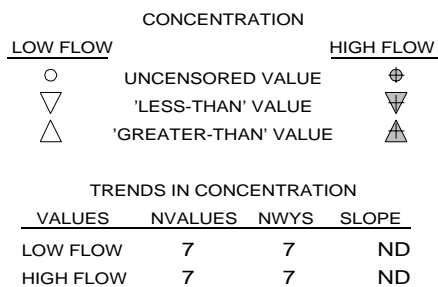
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



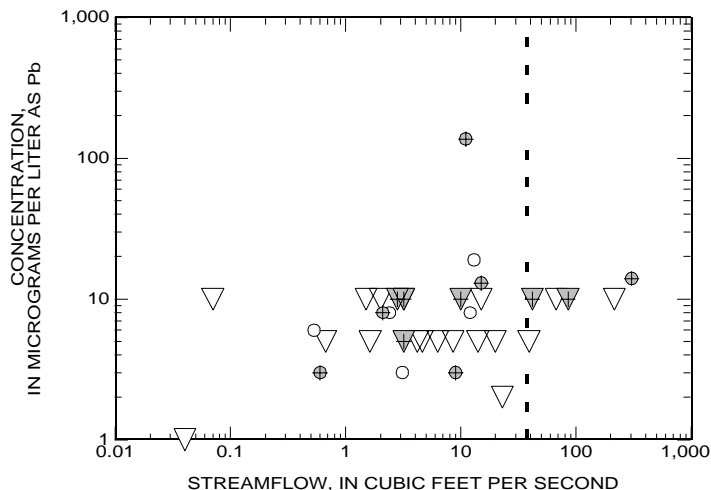
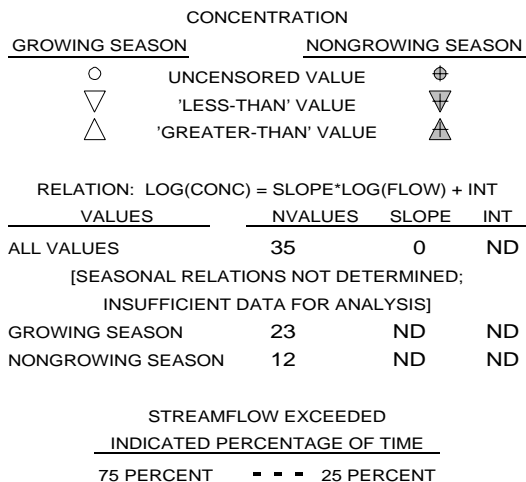
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



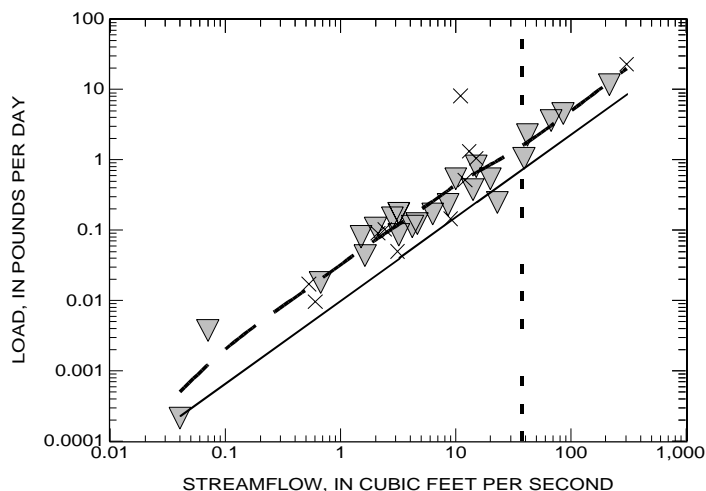
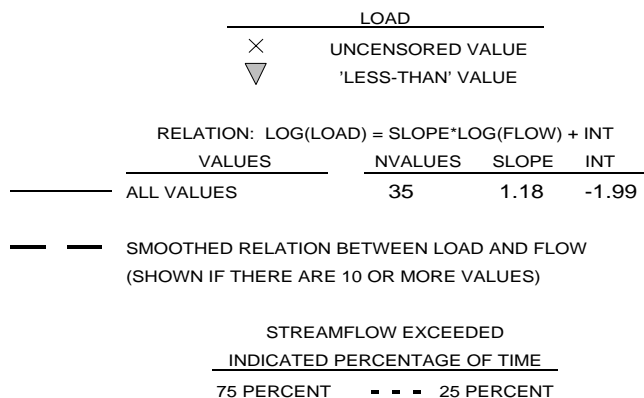
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

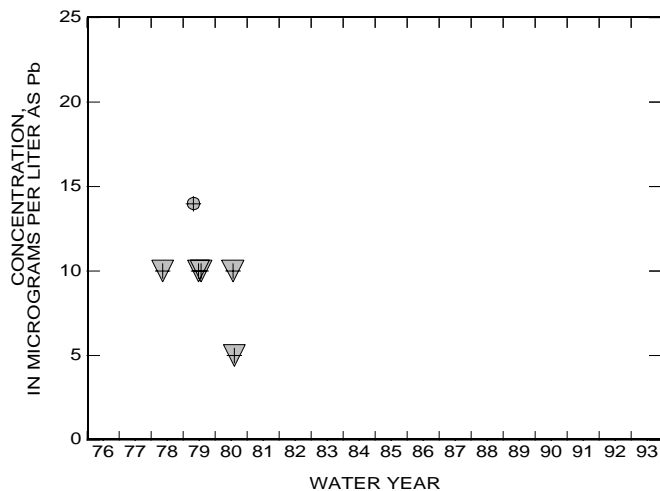
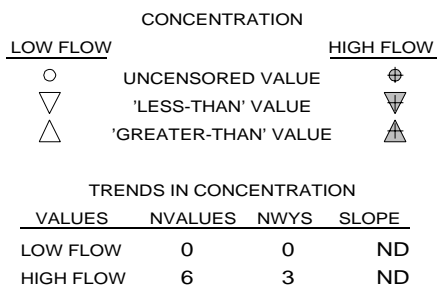
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



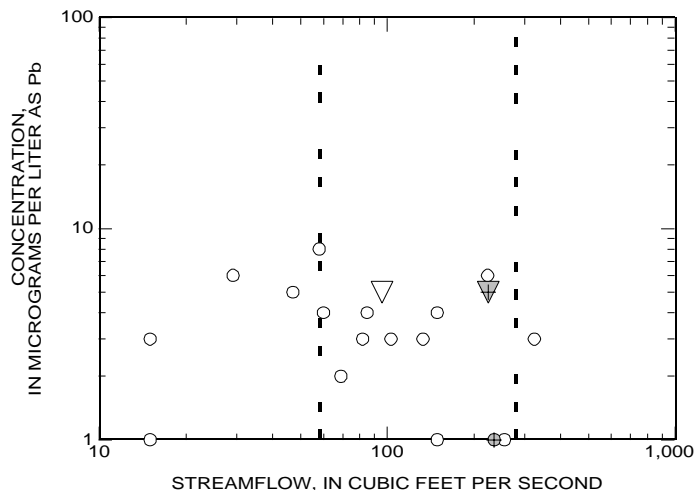


APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time  
TOTAL LEAD  
01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

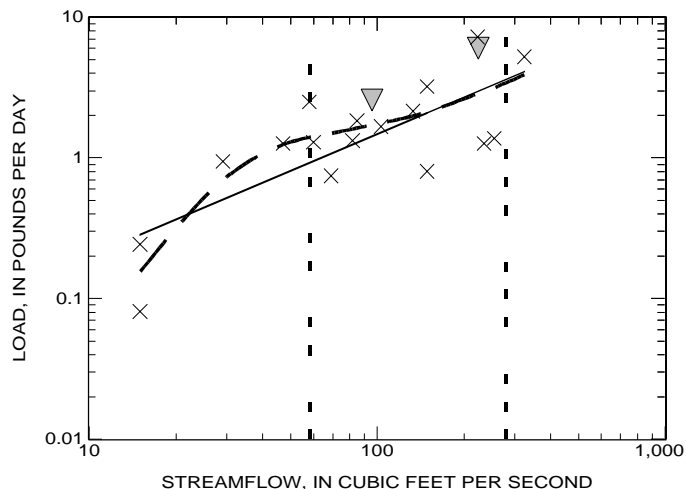
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	19	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	17	ND	ND
NONGROWING SEASON	2	ND	ND
STREAMFLOW EXCEEDED INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	---	---	25 PERCENT



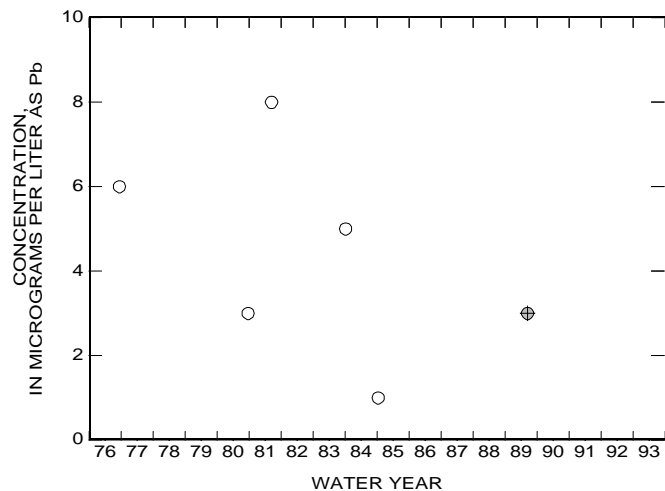
RELATION OF LOAD TO STREAMFLOW

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	19	0.87	-1.57
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED INDICATED PERCENTAGE OF TIME			
--- 75 PERCENT	---	---	25 PERCENT



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	5	5	ND
HIGH FLOW	1	1	ND

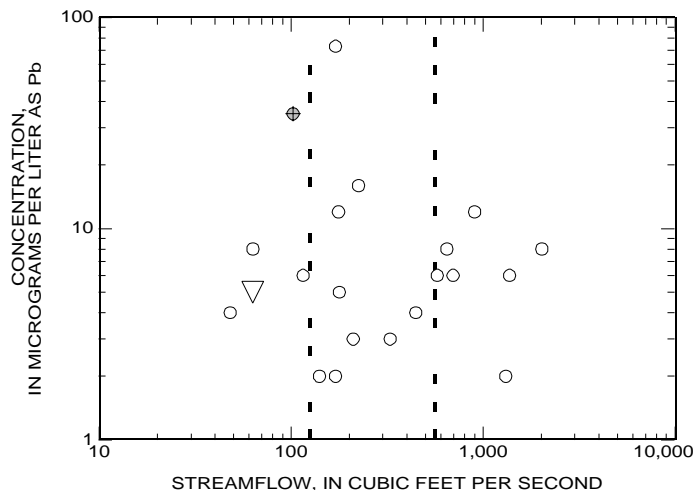


**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

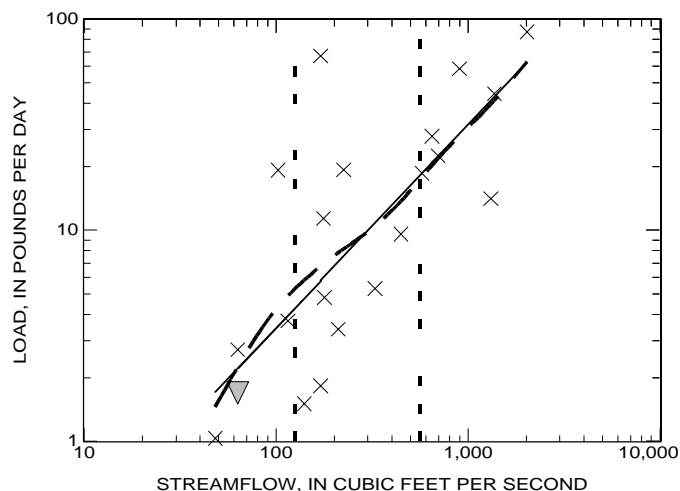
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	21	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	20	ND	ND
NONGROWING SEASON	1	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



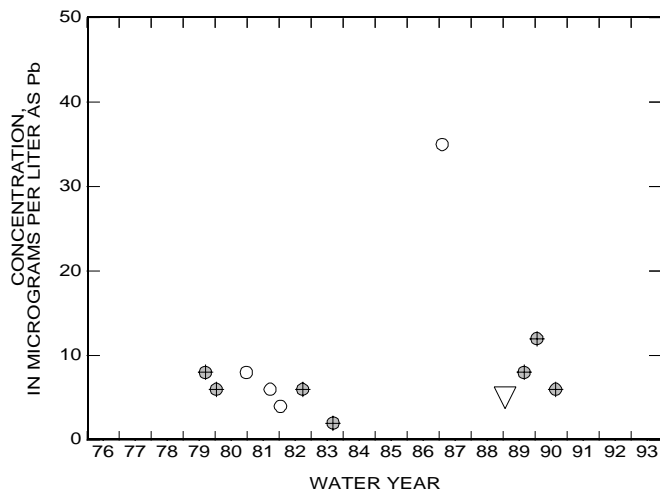
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	21	0.96	-1.38
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	5	5	ND
HIGH FLOW	7	6	ND

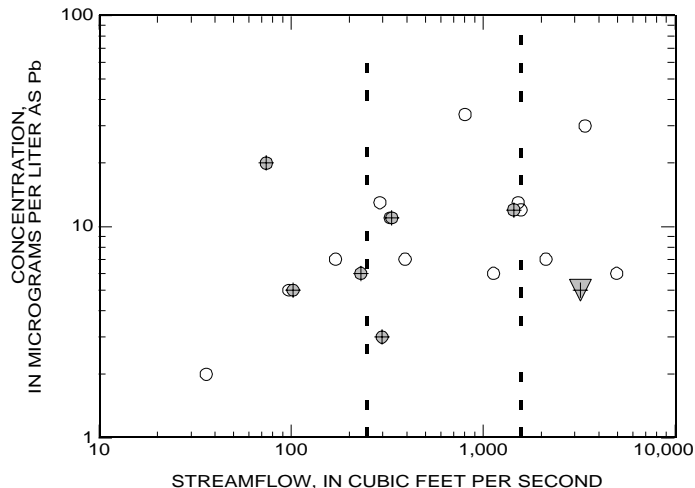


**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

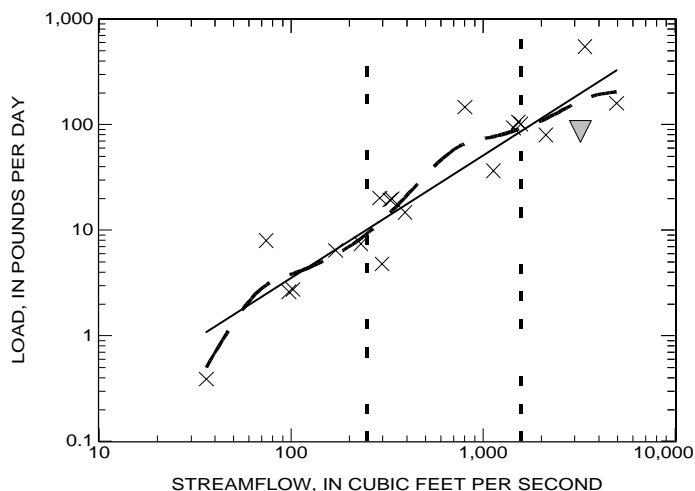
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	20	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	13	ND	ND
NONGROWING SEASON	7	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - - 75 PERCENT		- - - 25 PERCENT	



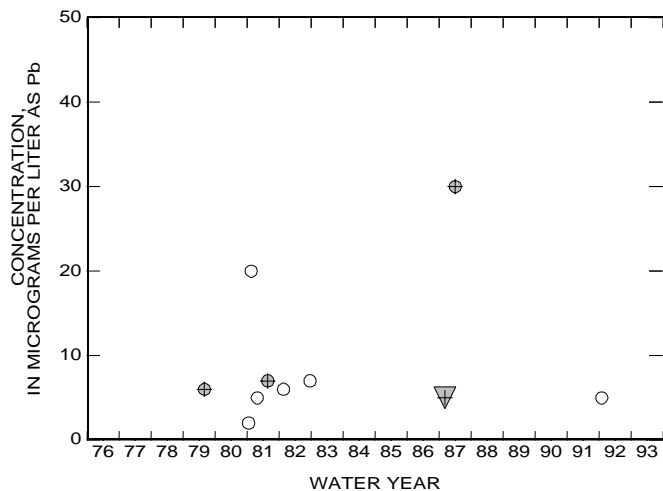
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	20	1.16	-1.77
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
- - -			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - - 75 PERCENT		- - - 25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	6	3	ND
HIGH FLOW	4	3	ND

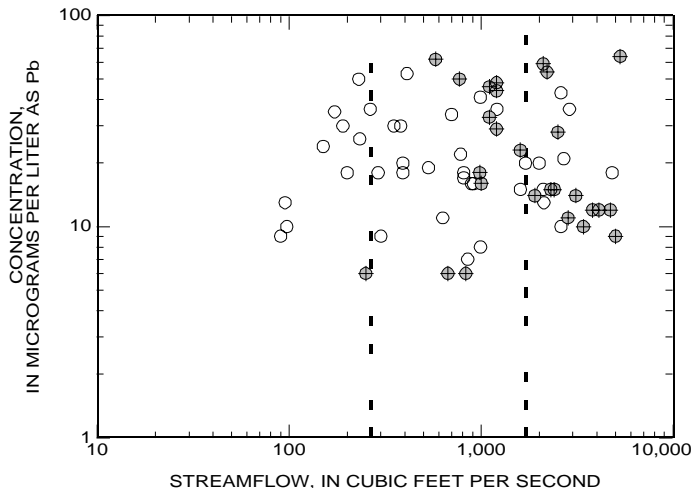
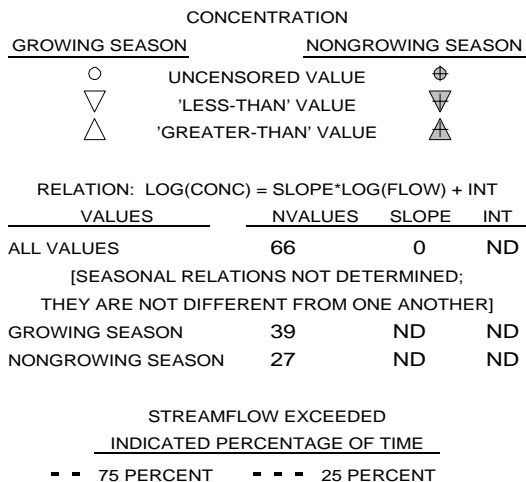


# APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time

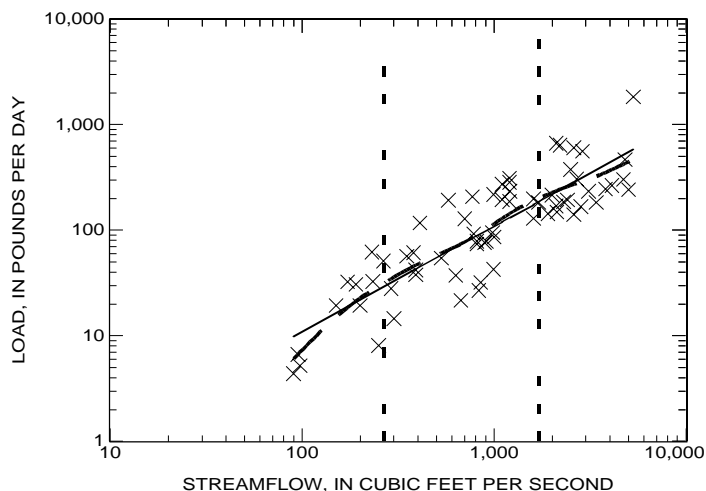
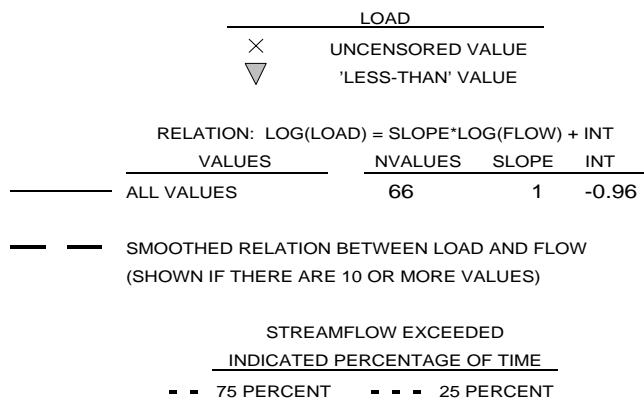
TOTAL LEAD  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

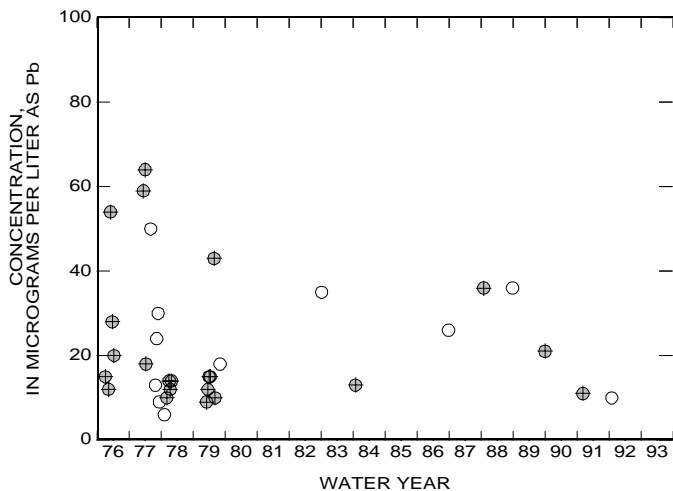
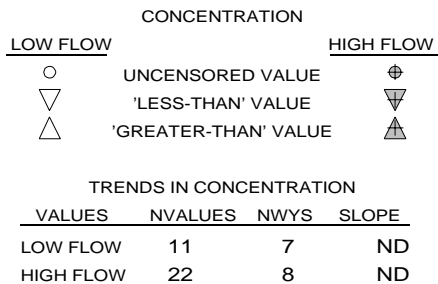
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

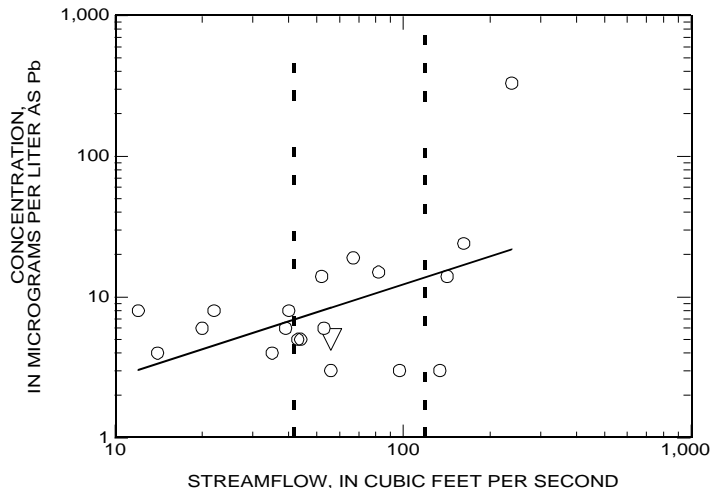
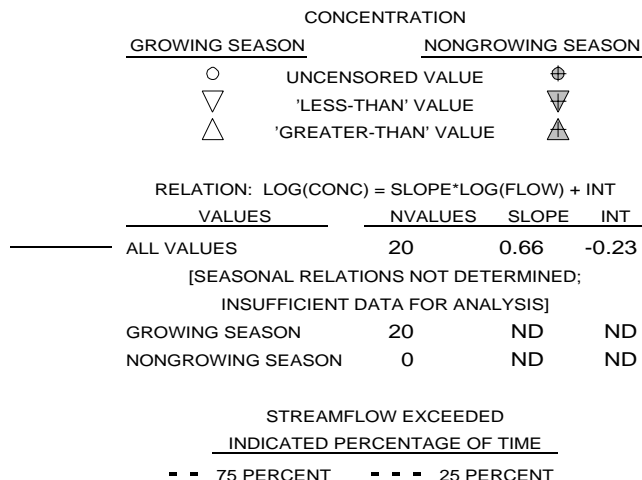


# APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time

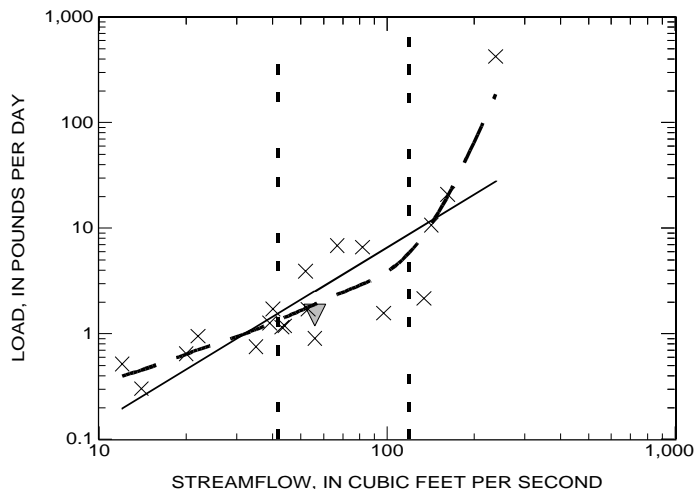
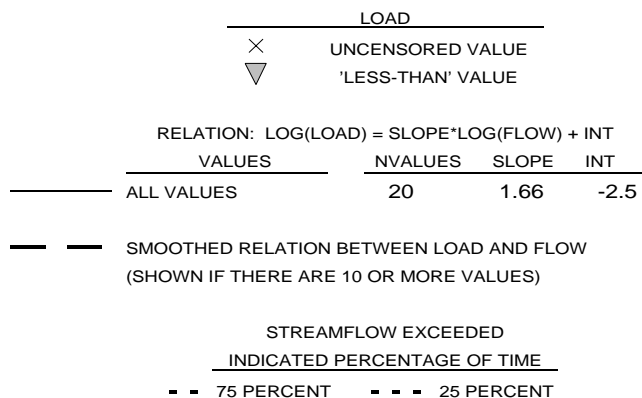
TOTAL LEAD  
01391500 SADDLE RIVER AT LODI, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

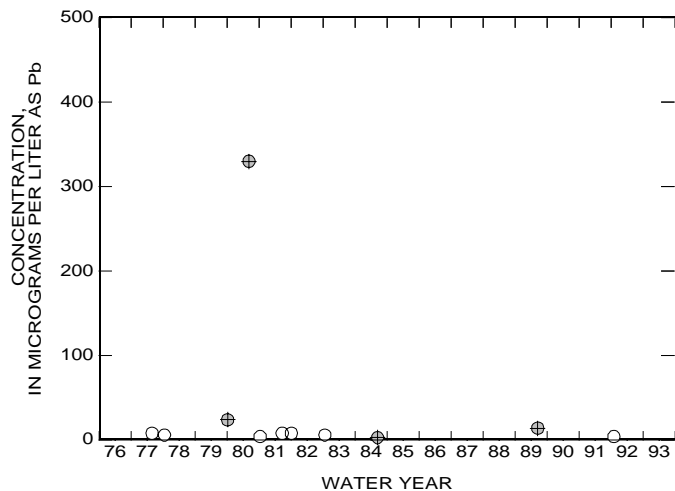
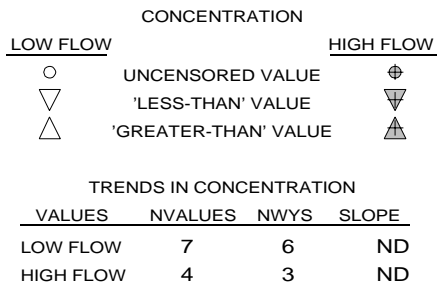
## RELATION OF CONCENTRATION TO STREAMFLOW



## RELATION OF LOAD TO STREAMFLOW



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS



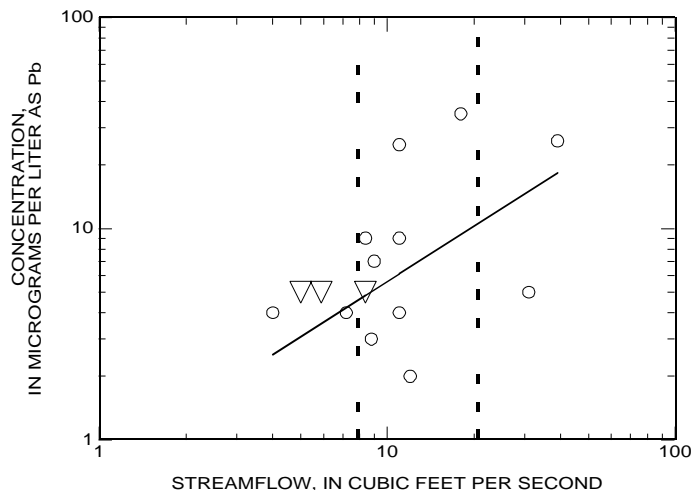
# APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time

TOTAL LEAD  
01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

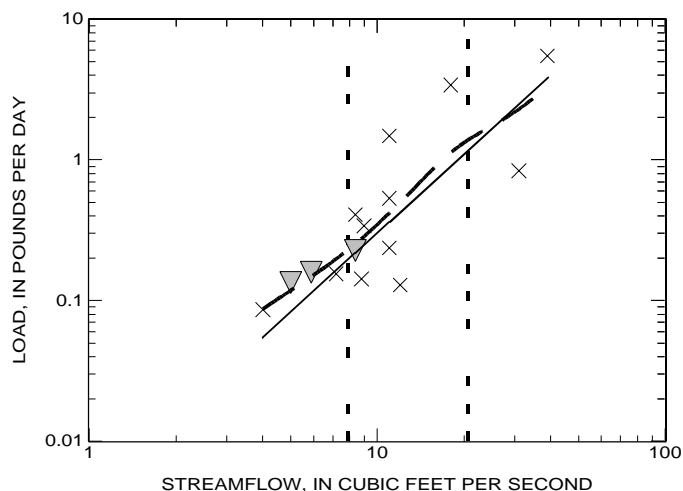
## RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	15	0.87	-0.12	
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]				
GROWING SEASON	15	ND	ND	
NONGROWING SEASON	0	ND	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
---	75 PERCENT	---	25 PERCENT	



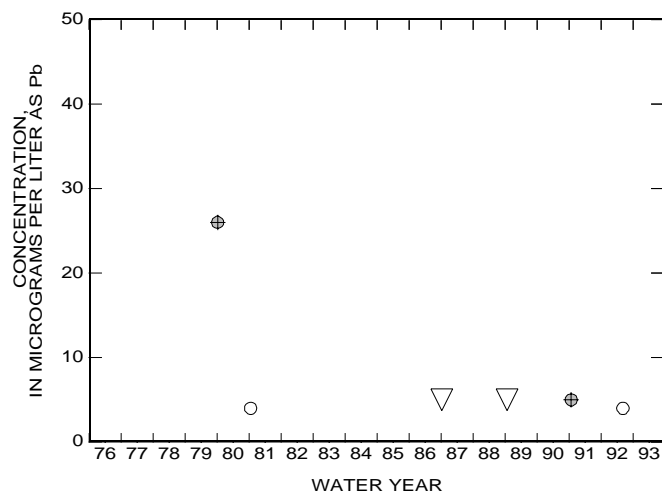
## RELATION OF LOAD TO STREAMFLOW

LOAD				
×	UNCENSORED VALUE			
▽	'LESS-THAN' VALUE			
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	15	1.87	-2.39	
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)				
---	75 PERCENT	---	25 PERCENT	



## TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	4	4	ND	
HIGH FLOW	2	2	ND	

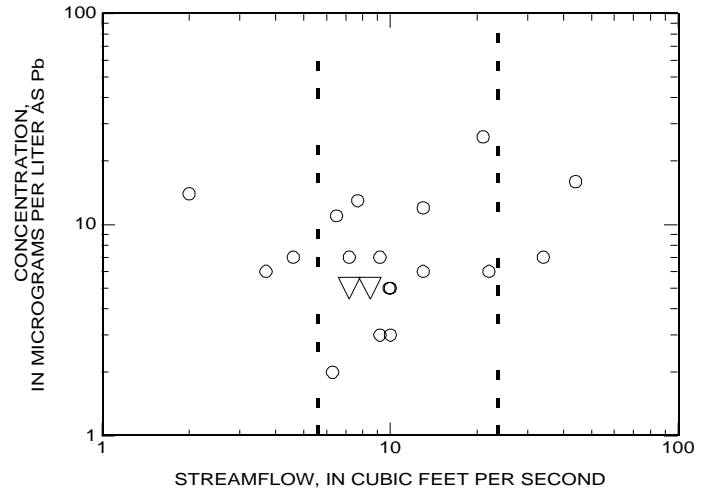


**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

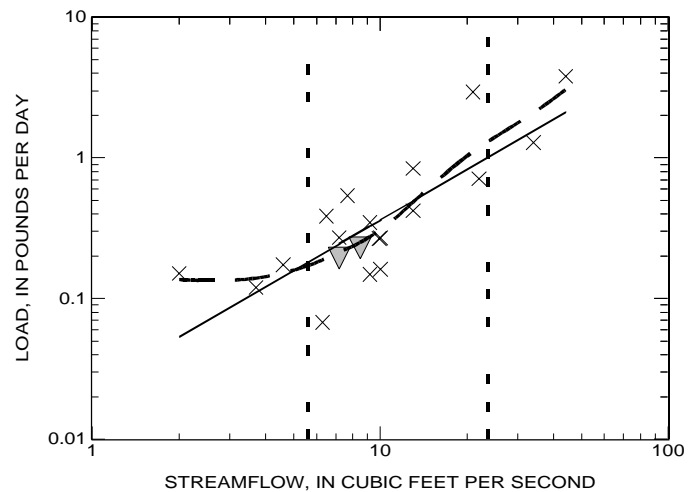
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	20	0	ND
[SEASONAL RELATIONS NOT DETERMINED; INSUFFICIENT DATA FOR ANALYSIS]			
GROWING SEASON	20	ND	ND
NONGROWING SEASON	0	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



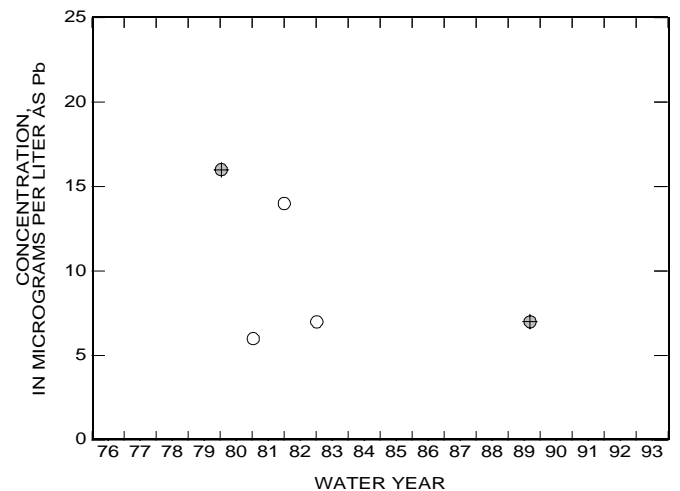
**RELATION OF LOAD TO STREAMFLOW**

LOAD			
×	UNCENSORED VALUE		
▽	'LESS-THAN' VALUE		
RELATION: LOG(LOAD) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	20	1.19	-1.63
SMOOTHED RELATION BETWEEN LOAD AND FLOW (SHOWN IF THERE ARE 10 OR MORE VALUES)			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

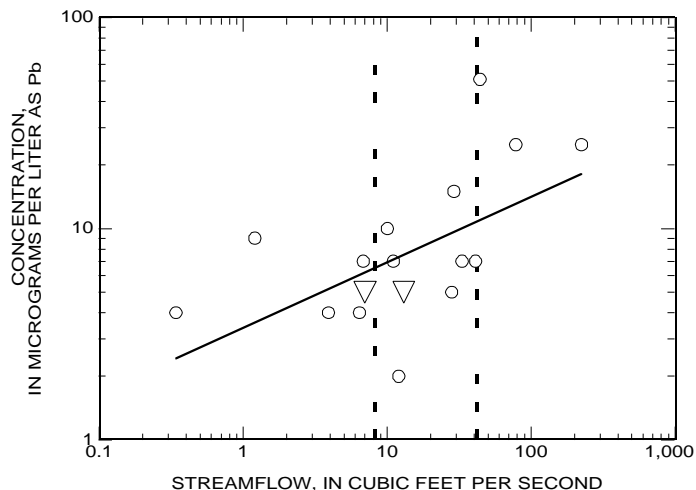
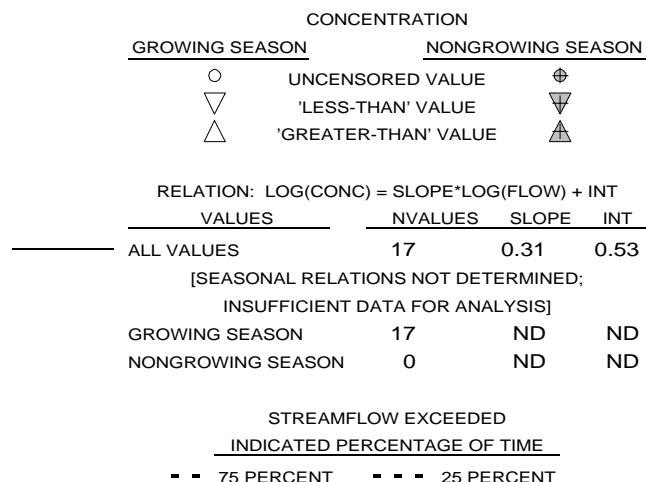
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	3	2	ND
HIGH FLOW	2	2	ND



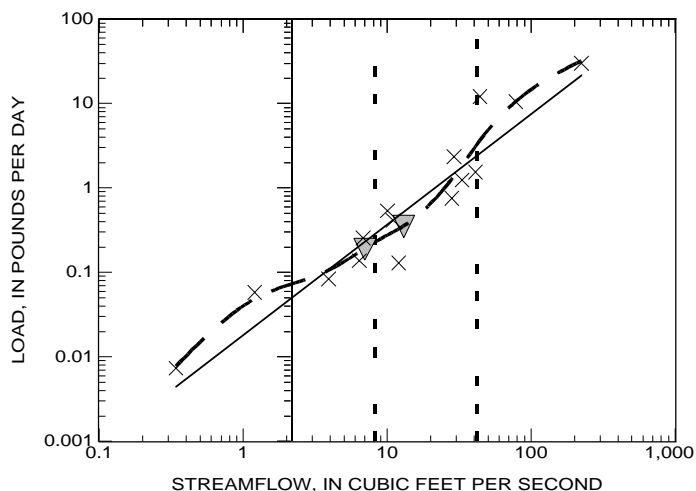
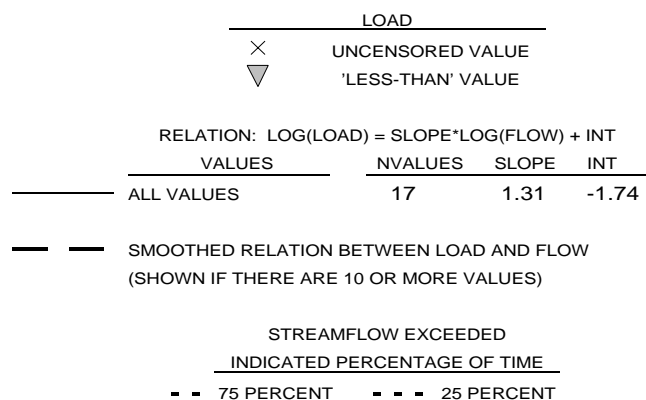
**APPENDIX 17. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**TOTAL LEAD**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

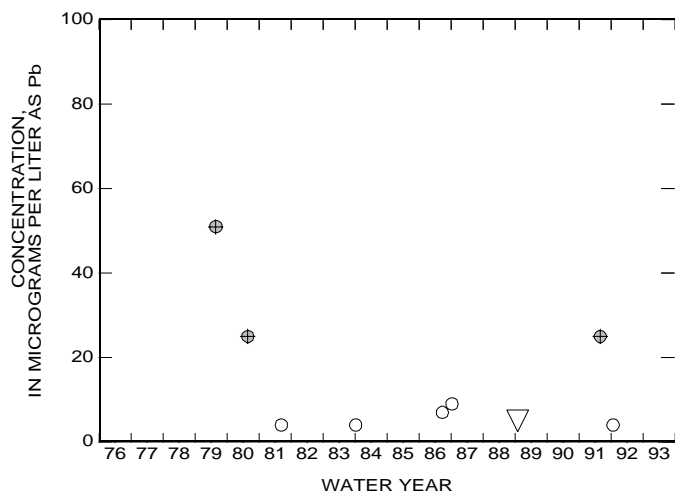
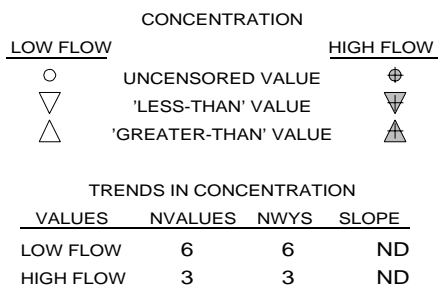
**RELATION OF CONCENTRATION TO STREAMFLOW**



**RELATION OF LOAD TO STREAMFLOW**



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**





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# Appendix 18

## Fecal coliform bacteria

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<u>Station number</u>	<u>Station name</u>
01377000	Hackensack River at Riverdale, N.J.
01379000	Passaic River near Millington, N.J.
01379500	Passaic River near Chatham, N.J.
01380500	Rockaway River above Reservoir, at Boonton, N.J.
01381200	Rockaway River at Pine Brook, N.J.
01381500	Whippany River at Morristown, N.J.
01381800	Whippany River near Pine Brook, N.J.
01382000	Passaic River at Two Bridges, N.J.
01382500	Pequannock River at Macopin Intake Dam, N.J.
01387500	Ramapo River near Mahwah, N.J.
01388600	Pompton River at Packanack Lake, N.J.
01389500	Passaic River at Little Falls, N.J.
01389880	Passaic River at Route 46, at Elmwood Park, N.J.
01391500	Saddle River at Lodi, N.J.
01393450	Elizabeth River at Ursino Lake, at Elizabeth, N.J.
01394500	Rahway River near Springfield, N.J.
01395000	Rahway River at Rahway, N.J.

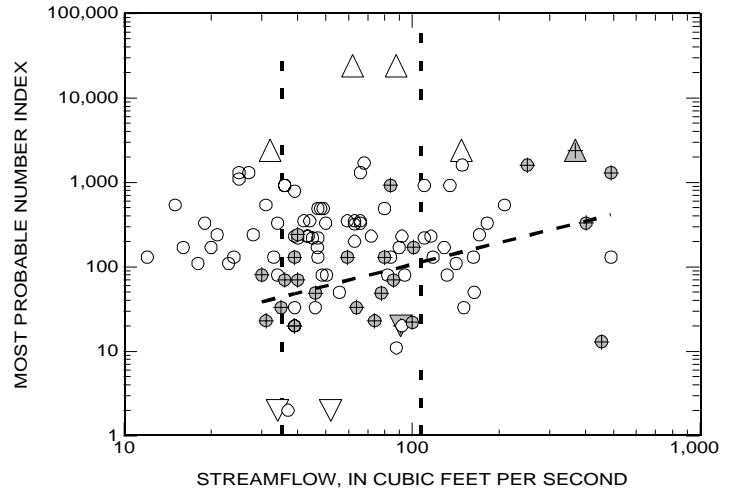
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**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01377000 HACKENSACK RIVER AT RIVERVALE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

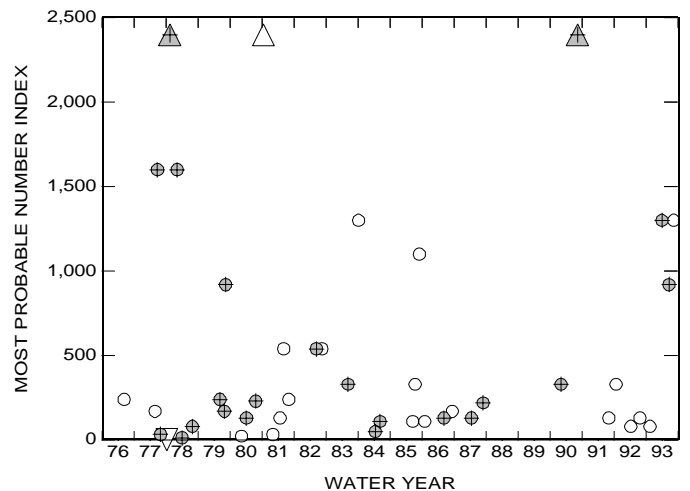
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	103	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	78	0	ND
NONGROWING SEASON	25	0.85	0.33
- - - - -			
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - - - -		- - - - -	
75 PERCENT		25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

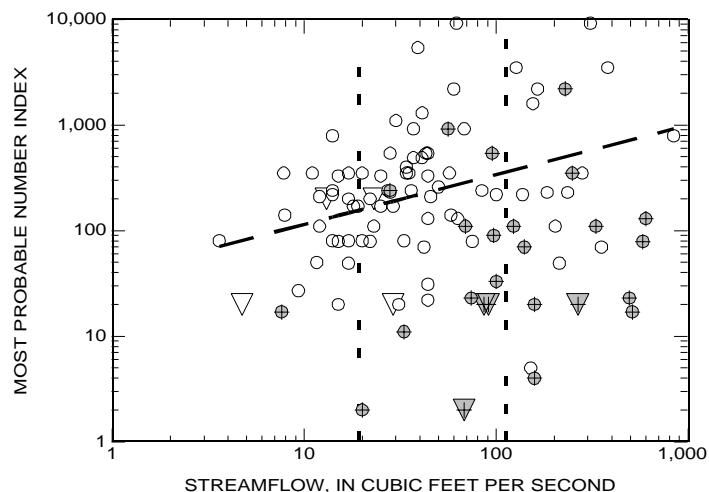
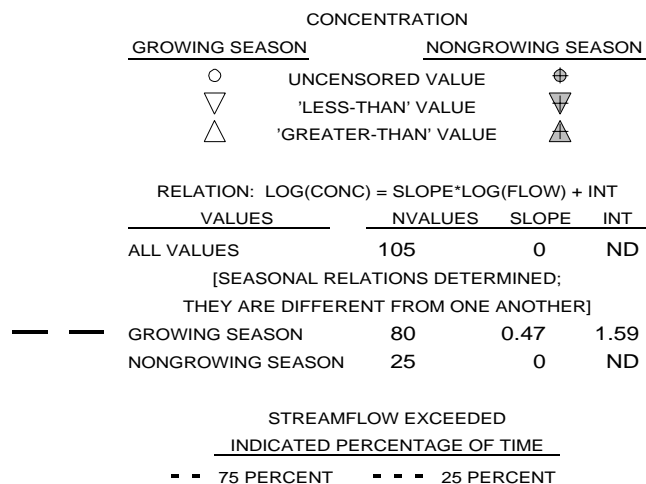
CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	21	11	ND
HIGH FLOW	22	11	ND



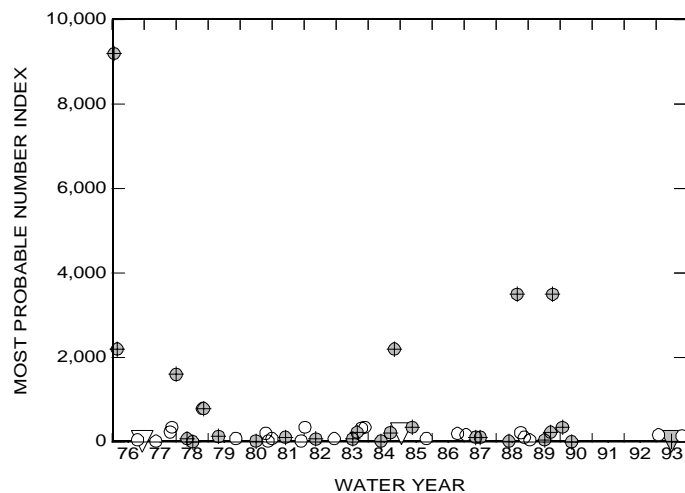
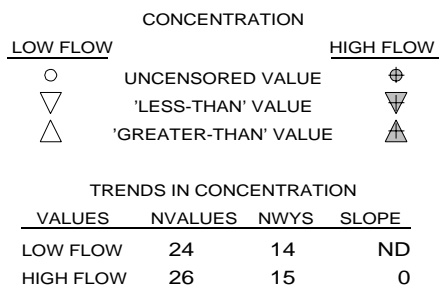
**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01379000 PASSAIC RIVER NEAR MILLINGTON, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

**RELATION OF CONCENTRATION TO STREAMFLOW**



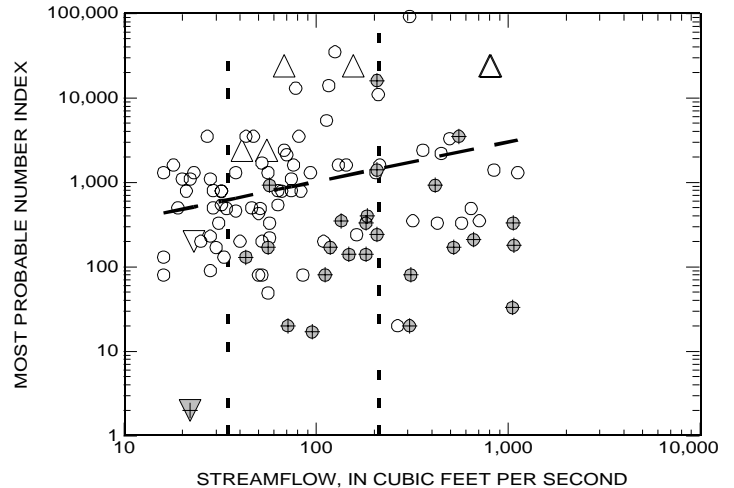
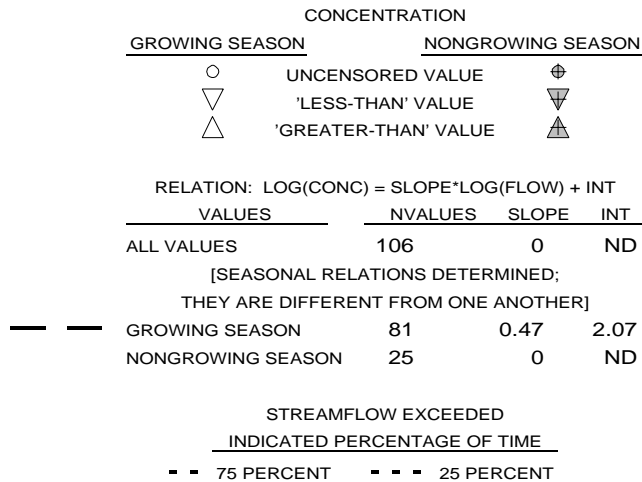
**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**



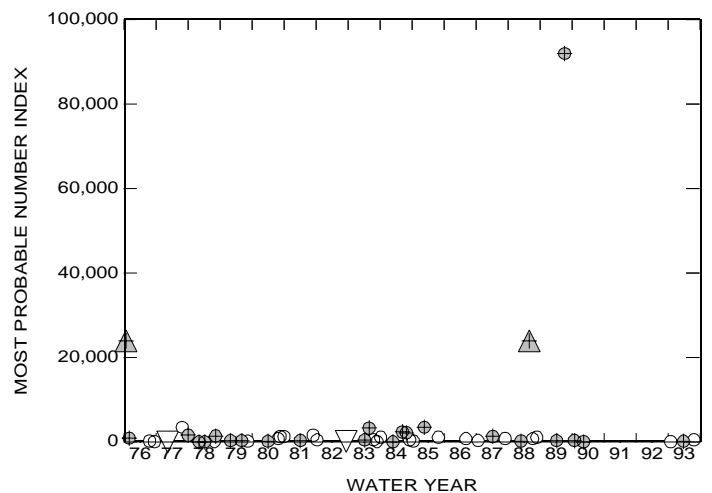
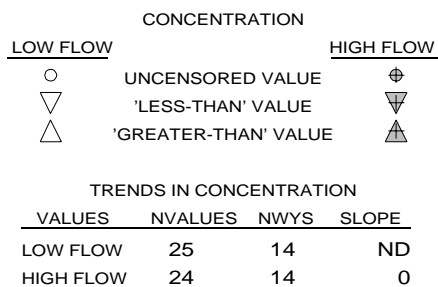
APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FECAL COLIFORM BACTERIA  
01379500 PASSAIC RIVER NEAR CHATHAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

RELATION OF CONCENTRATION TO STREAMFLOW



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

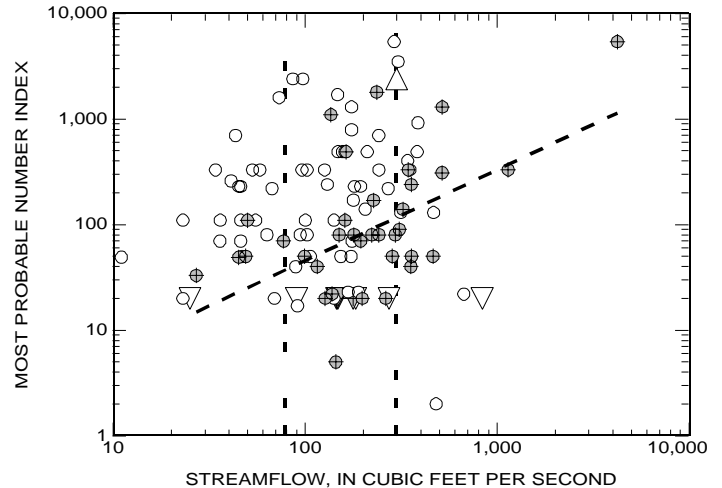


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

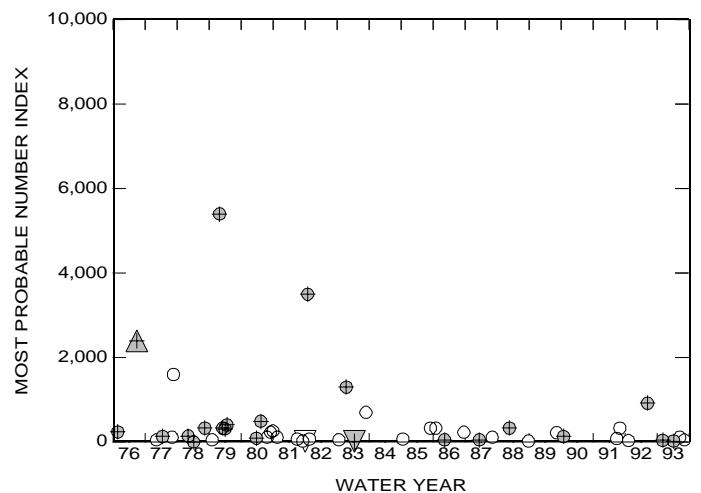
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	107	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	69	0	ND
NONGROWING SEASON	38	0.86	-0.06
-- -- -- STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
-- -- 75 PERCENT		-- -- 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	26	14	0
HIGH FLOW	22	13	0

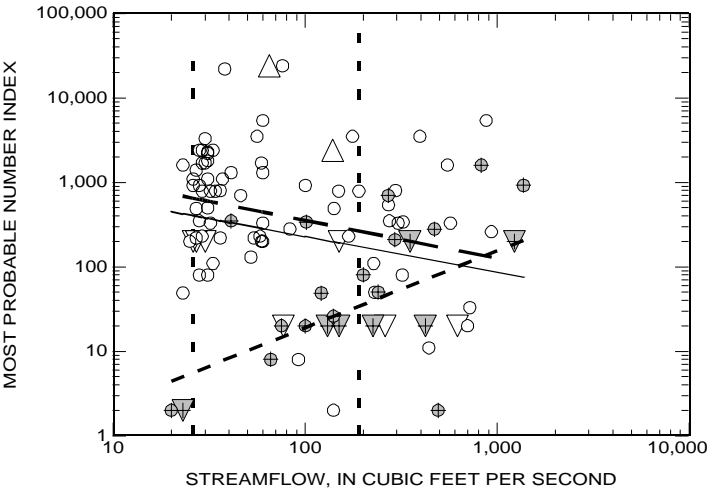


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FECAL COLIFORM BACTERIA  
01381200 ROCKAWAY RIVER AT PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

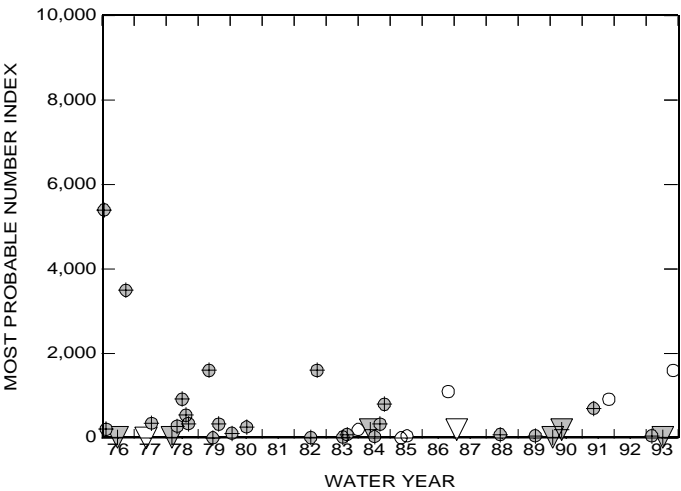
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	103	-0.42	3.2	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
— — —	GROWING SEASON	80	-0.45	3.45
- - - -	NONGROWING SEASON	23	0.91	-0.54
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - - -	75 PERCENT	- - - -	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	8	7	ND	
HIGH FLOW	30	13	ND	

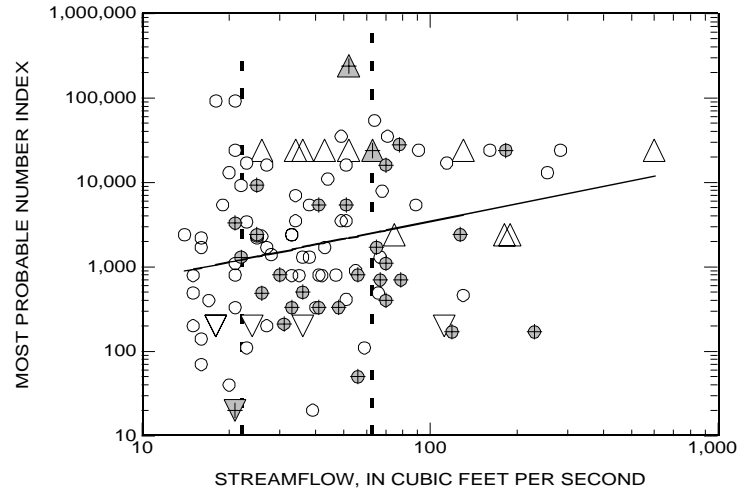


**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01381500 WHIPPANY RIVER AT MORRISTOWN, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

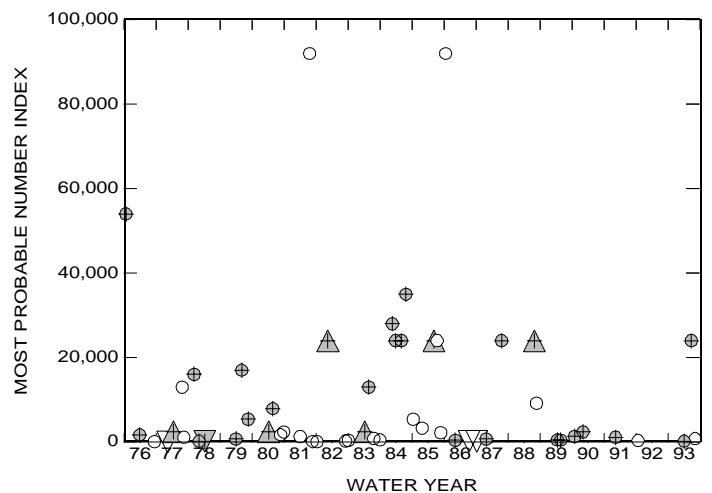
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	108	0.69	2.16
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	79	ND	ND
NONGROWING SEASON	29	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	24	12	ND
HIGH FLOW	30	16	0

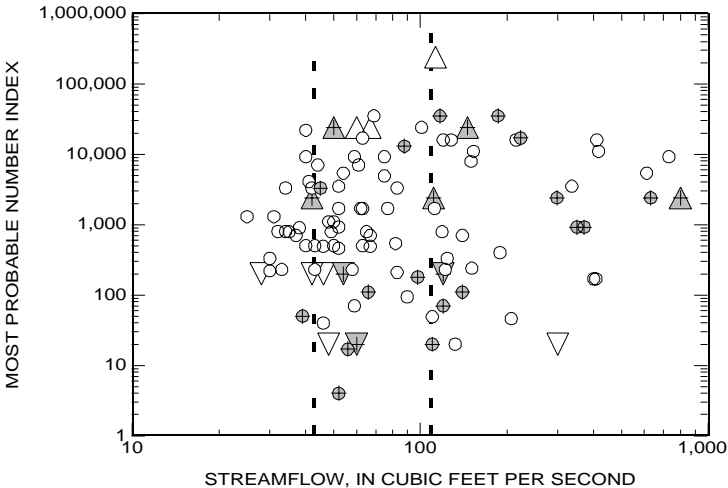


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

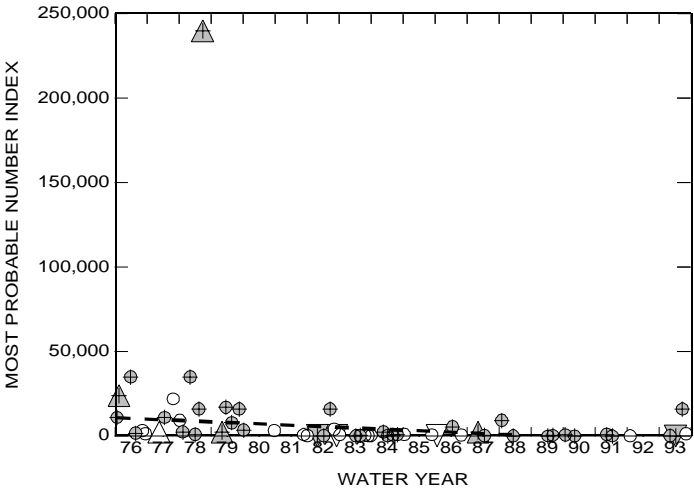
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	105	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	80	ND	ND
NONGROWING SEASON	25	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	20	11	ND
- - - HIGH FLOW	38	15	-819



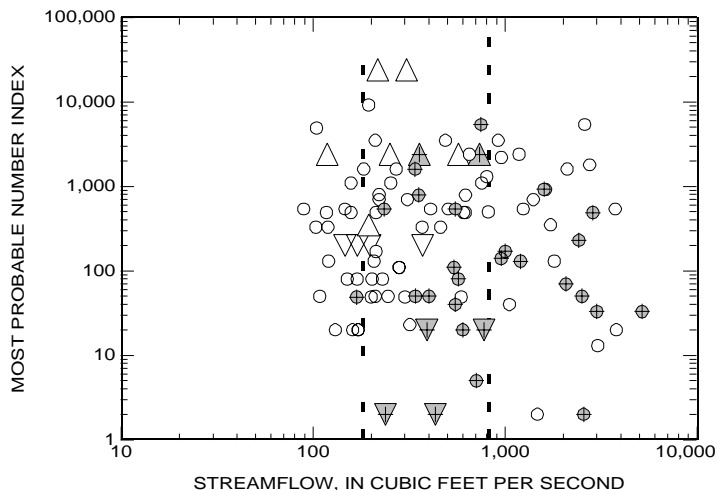


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FECAL COLIFORM BACTERIA  
01382000 PASSAIC RIVER AT TWO BRIDGES, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

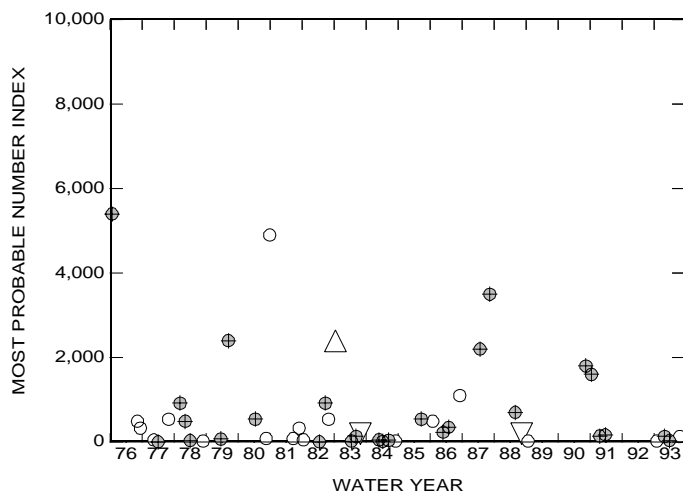
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	105	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	75	0	ND
NONGROWING SEASON	30	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	20	12	ND
HIGH FLOW	27	15	0

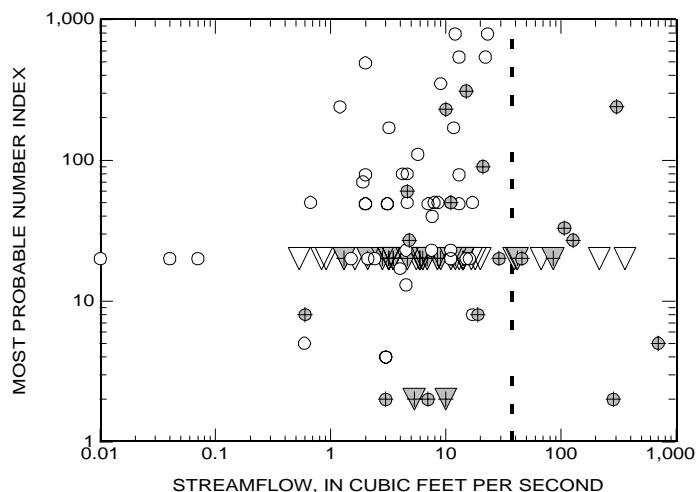


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

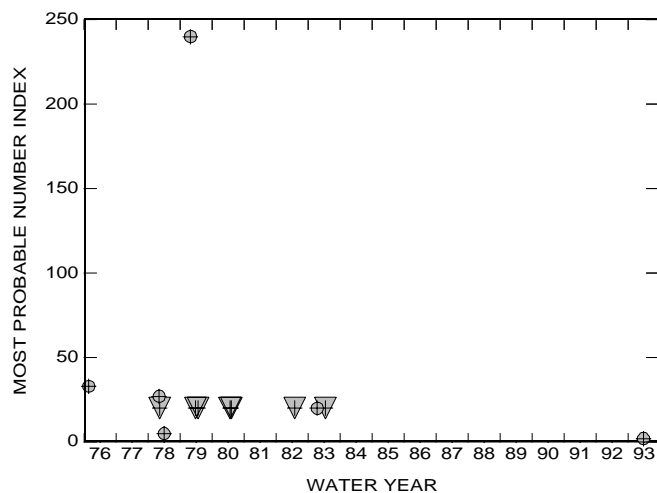
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: $\text{LOG}(\text{CONC}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	104	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	65	0	ND
NONGROWING SEASON	39	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
75 PERCENT	- - - 25 PERCENT		



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	0	0	ND
HIGH FLOW	13	7	ND

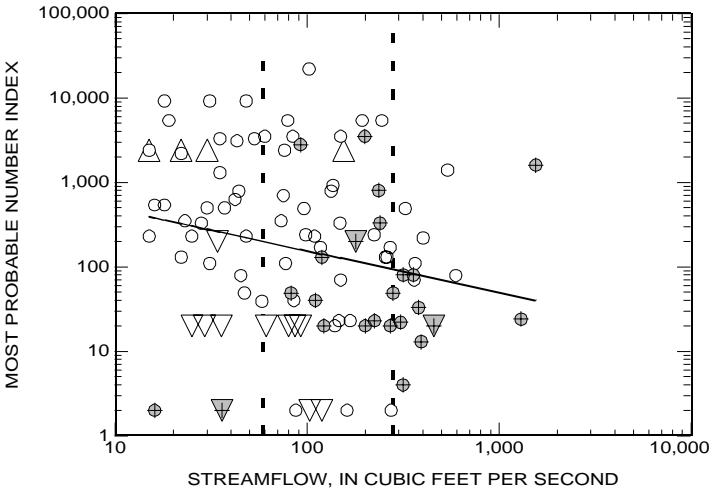


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01387500 RAMAPO RIVER NEAR MAHWAH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

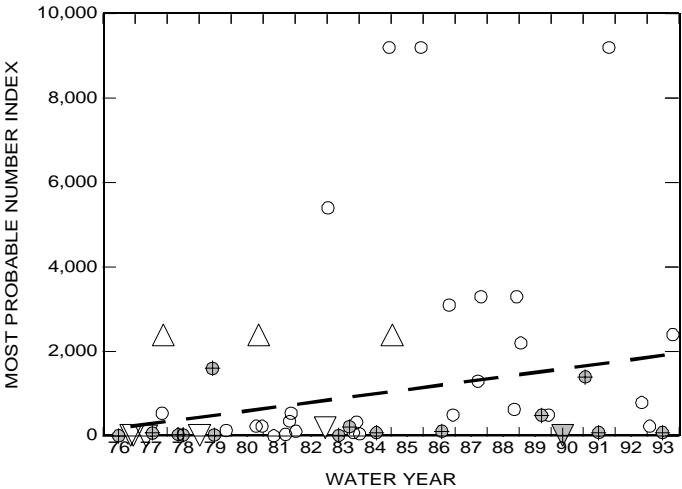
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	100	-0.49	3.17	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	76	0	ND	
NONGROWING SEASON	24	0	ND	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
— —	75 PERCENT	— —	25 PERCENT	



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	35	16	101	
HIGH FLOW	15	11	ND	

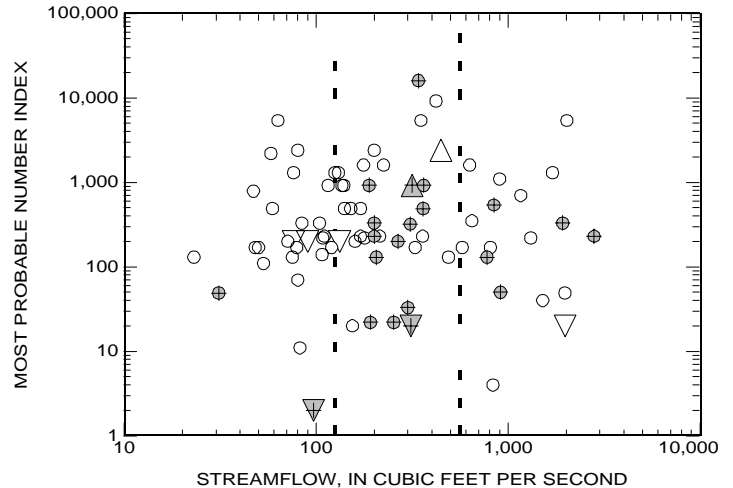


**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01388600 POMPTON RIVER AT PACKANACK LAKE, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

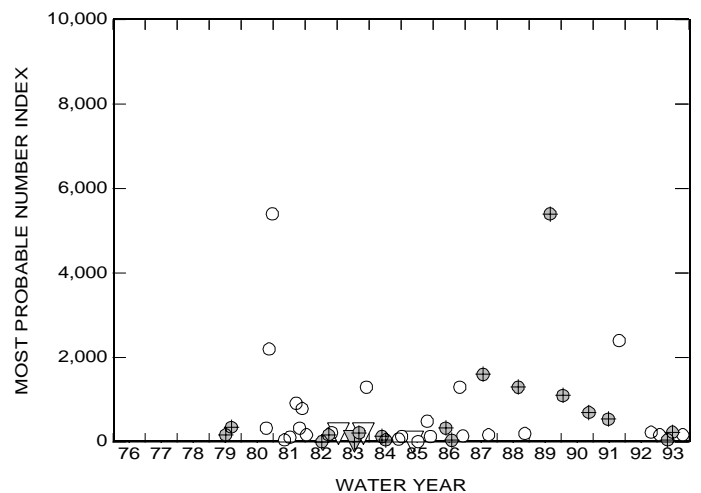
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	80	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	59	ND	ND
NONGROWING SEASON	21	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	27	12	ND
HIGH FLOW	18	11	ND

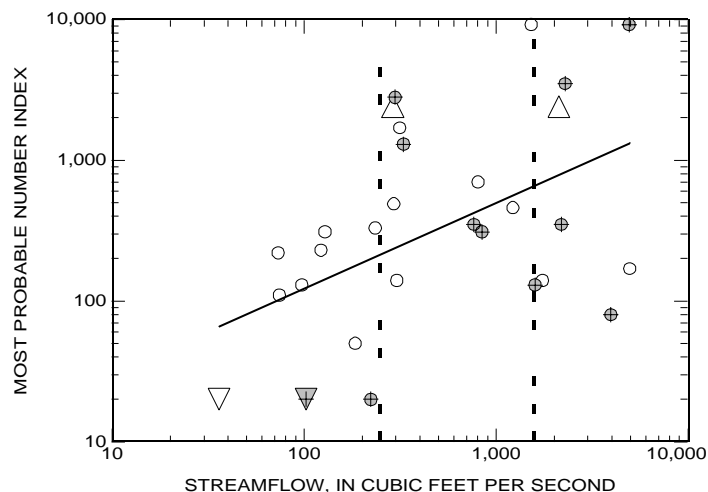


**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01389500 PASSAIC RIVER AT LITTLE FALLS, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

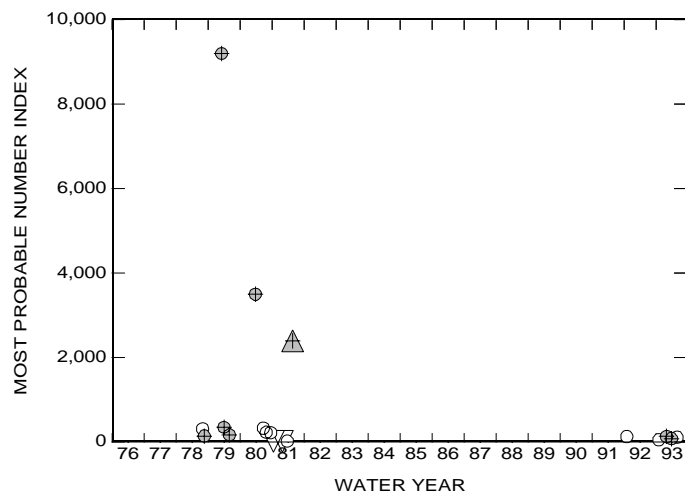
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	29	0.61	0.87
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	18	ND	ND
NONGROWING SEASON	11	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT		- - - 25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	10	5	ND
HIGH FLOW	8	5	ND

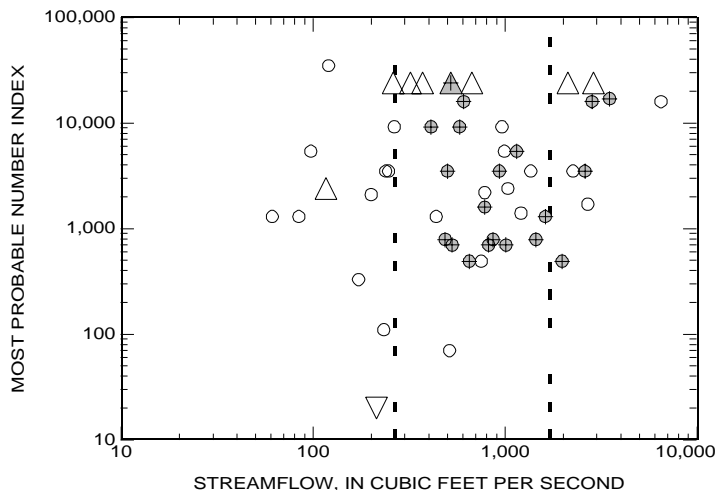


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
FECAL COLIFORM BACTERIA  
01389880 PASSAIC RIVER AT ROUTE 46 AT ELMWOOD PARK, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO3, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

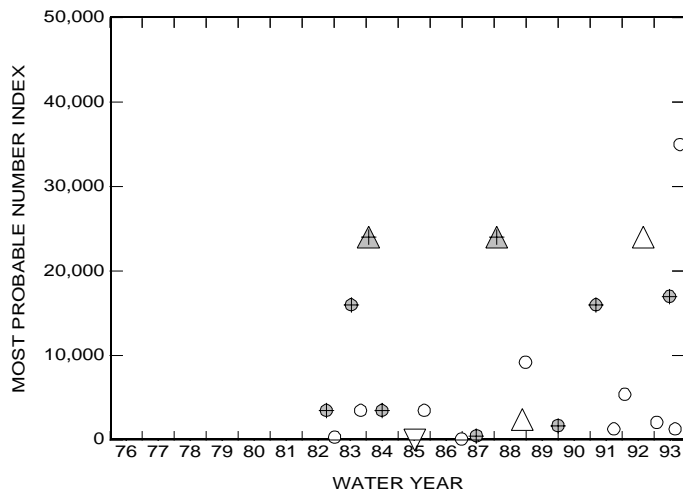
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: $\text{LOG}(\text{CONC}) = \text{SLOPE} \cdot \text{LOG}(\text{FLOW}) + \text{INT}$			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	50	0	ND
[SEASONAL RELATIONS NOT DETERMINED; THEY ARE NOT DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	30	ND	ND
NONGROWING SEASON	20	ND	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	13	7	ND
HIGH FLOW	9	8	ND

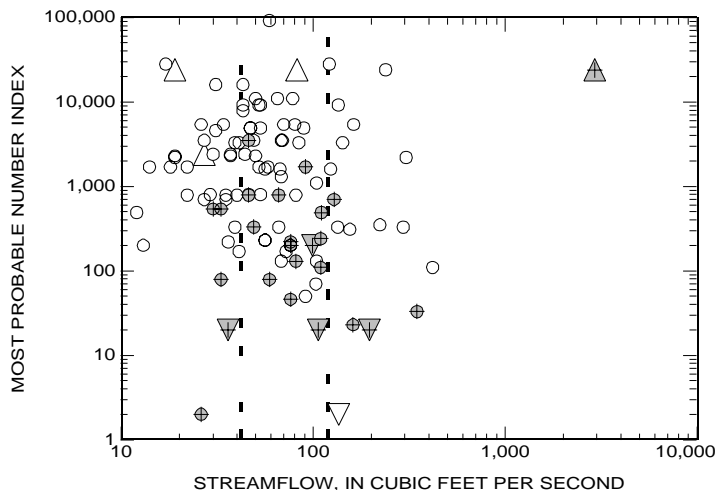


**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01391500 SADDLE RIVER AT LODI, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

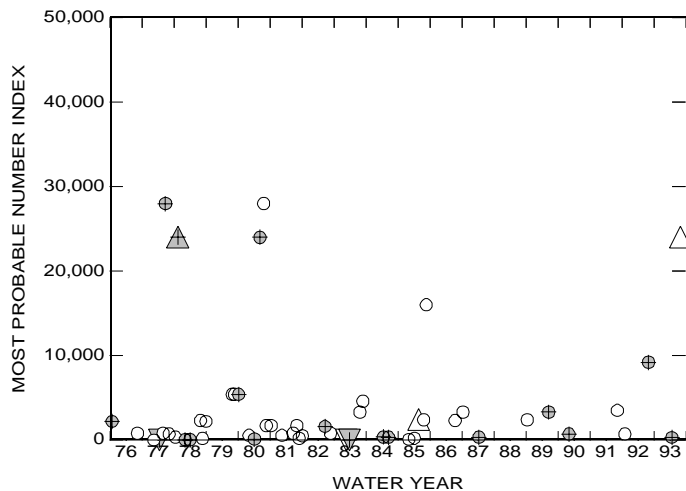
**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	107	0	ND
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	81	0	ND
NONGROWING SEASON	26	0	ND
STREAMFLOW EXCEEDED			
INDICATED PERCENTAGE OF TIME			
- - 75 PERCENT    - - - 25 PERCENT			



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	34	15	0
HIGH FLOW	18	12	0

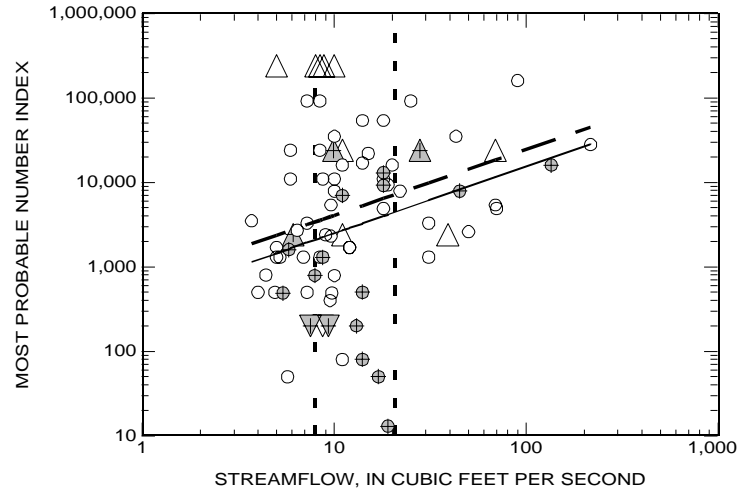


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

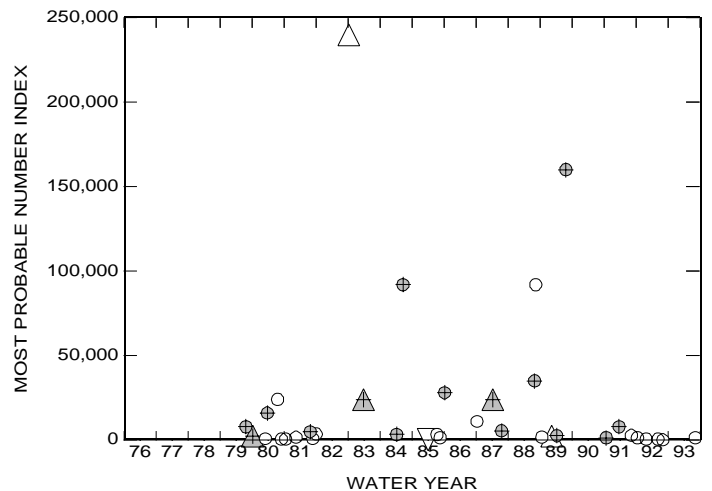
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION			
GROWING SEASON		NONGROWING SEASON	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT			
VALUES	NVALUES	SLOPE	INT
ALL VALUES	72	0.79	2.61
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]			
GROWING SEASON	55	0.78	2.83
NONGROWING SEASON	17	0	ND
STREAMFLOW EXCEEDED INDICATED PERCENTAGE OF TIME			
— —	75 PERCENT	— —	25 PERCENT



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION			
LOW FLOW		HIGH FLOW	
○	UNCENSORED VALUE	⊕	
▽	'LESS-THAN' VALUE	▽	
△	'GREATER-THAN' VALUE	△	
TRENDS IN CONCENTRATION			
VALUES	NVALUES	NWYS	SLOPE
LOW FLOW	20	9	ND
HIGH FLOW	14	9	ND



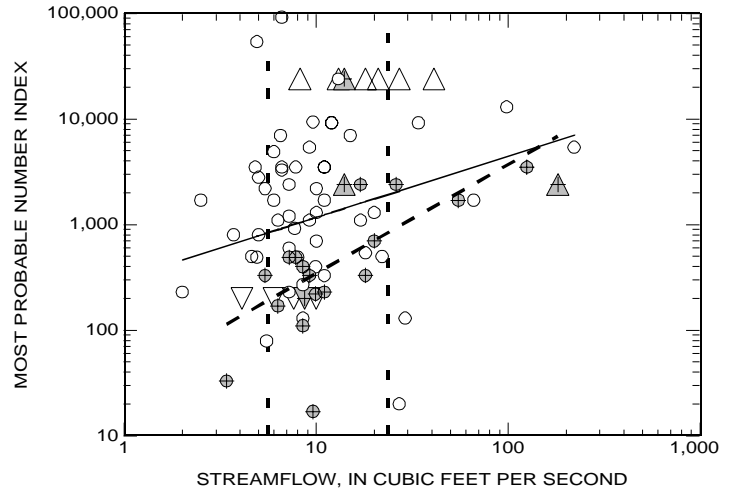


APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time  
 FECAL COLIFORM BACTERIA  
 01394500 RAHWAY RIVER NEAR SPRINGFIELD, N.J.

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

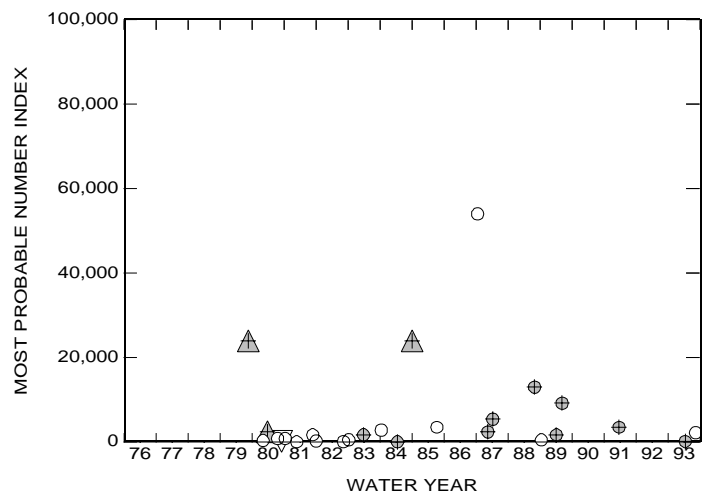
RELATION OF CONCENTRATION TO STREAMFLOW

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	83	0.58	2.49	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
GROWING SEASON	62	0	ND	
NONGROWING SEASON	21	1.03	1.51	
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
--- 75 PERCENT	---	---	---	25 PERCENT



TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	14	9	ND	
HIGH FLOW	12	10	ND	

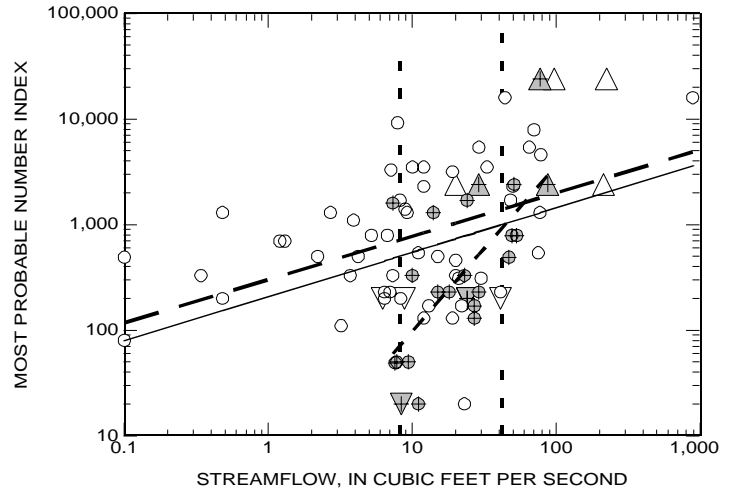


**APPENDIX 18. Relations of constituent concentration and load to streamflow and trends in concentration with time**  
**FECAL COLIFORM BACTERIA**  
**01395000 RAHWAY RIVER AT RAHWAY, N.J.**

[NVALUES, number of values; LOG, base-10 logarithm; CONC, concentration in indicated units; INT, intercept; FLOW, streamflow in cubic feet per second; NWYS, number of water years during which at least one measurement was made; a slope value of '0' indicates that the slope is not significantly different from zero; ND, not determined; CaCO<sub>3</sub>, calcium carbonate; C, carbon; N, nitrogen; P, phosphorus; Pb, lead; B, boron; Cl, chloride; Na, sodium; MOST PROBABLE NUMBER INDEX is per 100 milliliters]

**RELATION OF CONCENTRATION TO STREAMFLOW**

CONCENTRATION				
GROWING SEASON		NONGROWING SEASON		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
RELATION: LOG(CONC) = SLOPE*LOG(FLOW) + INT				
VALUES	NVALUES	SLOPE	INT	
ALL VALUES	83	0.42	2.32	
[SEASONAL RELATIONS DETERMINED; THEY ARE DIFFERENT FROM ONE ANOTHER]				
— — —	GROWING SEASON	59	0.41	2.48
- - - -	NONGROWING SEASON	24	1.57	0.42
STREAMFLOW EXCEEDED				
INDICATED PERCENTAGE OF TIME				
- - - -	75 PERCENT	- - - -	25 PERCENT	



**TRENDS IN LOW- AND HIGH-FLOW CONCENTRATIONS**

CONCENTRATION				
LOW FLOW		HIGH FLOW		
○	UNCENSORED VALUE	⊕		
▽	'LESS-THAN' VALUE	▽		
△	'GREATER-THAN' VALUE	△		
TRENDS IN CONCENTRATION				
VALUES	NVALUES	NWYS	SLOPE	
LOW FLOW	26	13	ND	
HIGH FLOW	18	12	ND	

