

Circular 183

**Benchmark Sediment Monitoring Program for Illinois Streams:
Data Report for Water Years 1992 and 1993** ■

by Richard L. Allgire
Office of Sediment & Wetland Studies



Illinois State Water Survey
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Benchmark Sediment Monitoring Program for Illinois Streams: Data Report for Water Years 1992 and 1993

by

Richard L. Allgire

Title: Benchmark Sediment Monitoring Program for Illinois Streams: Data Report for Water Years 1992 and 1993.

Abstract: The Benchmark Sediment Monitoring Program for Illinois Streams was initiated by the Illinois State Water Survey in 1981 to generate a long-term database of suspended sediment transport. The program is now part of the Water Survey's Water and Atmospheric Resources Monitoring (WARM) Network, which monitors the climate, soil moisture, surface water, ground water, and sediment throughout Illinois. This report summarizes the suspended sediment data collected for the program during Water Years 1992 and 1993. All the techniques used in the data collection process and laboratory analyses are based on U.S. Geological Survey procedures and techniques. The report appendices present particle size analyses and suspended sediment loads and concentrations for each program site.

Reference: Allgire, Richard L. Benchmark Sediment Monitoring Program for Illinois Streams: Water Years 1992 and 1993. Illinois State Water Survey, Champaign, IL, Circular 183, 1997.

Indexing Terms: Benchmark Sediment Monitoring, data collection, Illinois streams, sedimentation, suspended sediment, sediment concentration, particle size distribution.

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BENCHMARK SEDIMENT MONITORING PROGRAM FOR ILLINOIS STREAMS: DATA REPORT FOR WATER YEARS 1992 AND 1993

by Richard L. Allgire

INTRODUCTION

The Illinois State Water Survey (ISWS) initiated the Benchmark Sediment Monitoring Program in 1981 to monitor and quantify the long-term changes in suspended sediment concentrations and loads in Illinois waterways. The data collected for this program can assist in evaluating the management of the state's land and water resources. This report presents an analysis and summary of the suspended sediment data collected during Water Years 1992 and 1993. A complete overview of the sediment program, including a description of the monitoring sites, can be found in the report *Benchmark Sediment Monitoring Program for Illinois Streams: Program Summary and Site Descriptions* (Allgire and Demissie, 1995). Results from prior water years have been published in reports by Bonini et al. (1983) and Davie (1988, 1989, and 1990).

Acknowledgments

The Benchmark Sediment Monitoring Program is one of several components that make up the Water and Atmospheric Resources Monitoring (WARM) Network. The data compilation and reporting are part of the author's regular duties for the Illinois State Water Survey.

The author wishes to thank the following current and former ISWS staff for their contributions to the data collection process: Curt Benson in northern Illinois, Dana Shackelford in west-central Illinois, and Roy Reitz in east-central Illinois. Expressed appreciation also goes to the Illinois Division of the U.S. Geological Survey for supplying the stream discharge rating tables necessary for the data computations.

Laura Keefer helped prepare the data graphs for the report. Becky Howard produced the camera-ready copy of the report, and Sarah Hibbeler edited the manuscript.

SEDIMENT MONITORING PROGRAM

Current Status

The main purpose of the Benchmark Sediment Monitoring Program is to collect suspended sediment concentrations at selected stream locations throughout Illinois. These data are used to compare changes in suspended sediment concentrations and loads at individual sampling sites over a long period.

When the program began in 1981, there were 50 sampling stations strategically distributed throughout the state. Subsequent budget reductions, sampling site evaluation, and streamlining of the program reduced the number of stations over the next several years. During the mid-1980s, the number of stations declined to 18. By 1992, the number of sampling stations had dwindled to nine, due to equipment shortages, lack of personnel, and bridge reconstruction at various locations. The Benchmark Sediment Monitoring Program consists of 15 sampling sites statewide.

Water Years 1992 and 1993 involved the slow rebuilding of sediment monitoring stations that had been out of service for several years. Four stations that had been temporarily out of service for various reasons were restarted during Water Year 1993, bringing the total sampling stations monitored to 13. However, the Little Wabash River at Carmi station was restarted in September 1994, and yielded only a few samples for the water year. Figure 1 shows the number of active sampling stations per water year since the beginning of the sediment program in 1981.

Data Collection

The Benchmark Sediment Monitoring Program uses techniques based upon and similar to the sediment data collection techniques developed by the U.S. Geological Survey (USGS). Detailed descriptions of these and other sampling techniques can be found in the U.S. Department of the Interior series *Techniques of Water-Resources Investigations of the U.S. Geological Survey* (Guy, 1969; Guy and Norman, 1970; Porterfield, 1972).

All of the suspended sediment sampling stations are located at USGS continuous recording streamgaging stations. This enables sampling personnel to read the corresponding river stage when they collect a

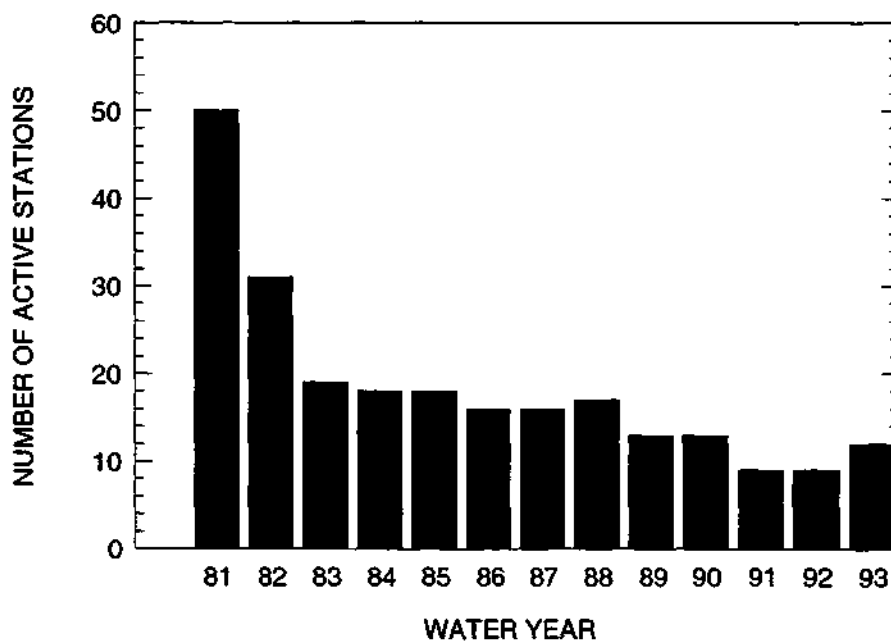


Figure 1. Number of active Benchmark Sediment Monitoring stations

suspended sediment sample. The USGS furnishes the ISWS with updated water discharge rating tables for each station on an annual basis. Then, during analysis of the data, an instantaneous water discharge can be assigned to each sample based upon the stage of the river at the time of sampling.

Table 1 lists the active sampling stations for Water Years 1992 and 1993, and includes the ISWS and USGS identification numbers, the name of the station and identifying city, the drainage area for each station, and the period of record. Figure 2 depicts the location of each station in Illinois.

Each sampling site is installed on a bridge crossing the river, and consists of a California-style sediment box with a cable-reel and a sediment sampler. Most of the samplers in use on the network are depth-integrated DH 59s. The bridge sampling locations were placed as near to the approximate channel thalweg as possible when the sampling equipment was set up at each site. Single vertical, depth-integrated samples are collected on a weekly basis by local observers who are paid a small per-sample fee. The observers collect their samples at a time each week that is conducive to their own personal schedule. These samples are then collected periodically by ISWS personnel and transported to the ISWS Sediment Laboratory in Champaign.

Most sites also have calibration cross-sectional sampling done on a periodic basis. Cross-sectional sampling consists of a series of samples that are collected at selected intervals across the width of the stream. These samples are analyzed individually. The concentrations for all the samples in a cross section are then computed to determine the average sediment concentration for the cross section. These data can then be compared to the single vertical weekly samples to verify that the single vertical samples accurately represent the actual sediment loads in the rivers. In addition, alternate collections of cross sections are composited and analyzed for particle size. The particle size analysis consists of a sand/fine split and is reported as percent finer than .0625 millimeters. However, some sites are cross sectioned irregularly or not at all due to

Table 1. Benchmark Sediment Monitoring Sites, Water Years 1992 and 1993

<i>ISWS ID</i>	<i>Station name</i>	<i>USGS ID</i>	<i>Drainage area (sq mi)</i>	<i>Period of record (Water Years)</i>
102	Pecatonica R. at Freeport	05435500	1326	1981-Present
103	Rock R. at Rockton	05437500	6363	1981-Present
122	Vermilion R. near Leonore	05555300	1251	1984-Present
123	Mazon R. near Coal City	05542000	455	1981-Present
124	Kankakee R. near Wilmington	05527500	5150	1983-Present
125	Kankakee R. at Momence	05520500	2294	1982 - 1985, 1988 - 1990, 1993
242	LaMoine R. at Colmar	05584500	655	1981-1988,1993
245	LaMoine R. at Ripley	05585000	1293	1983-1990,1993
249	Sangamon R. at Monticello	05572000	550	1981-Present
361	Kaskaskia R. at Vandalia	05592500	1904	1981-Present
367	Silver Crk. near Freeburg	05594800	464	1981-Present
370	Little Wabash R. at Carmi	03381500	3102	1981-1985,1993
378	Cache R. at Forman	03612000	244	1981-Present

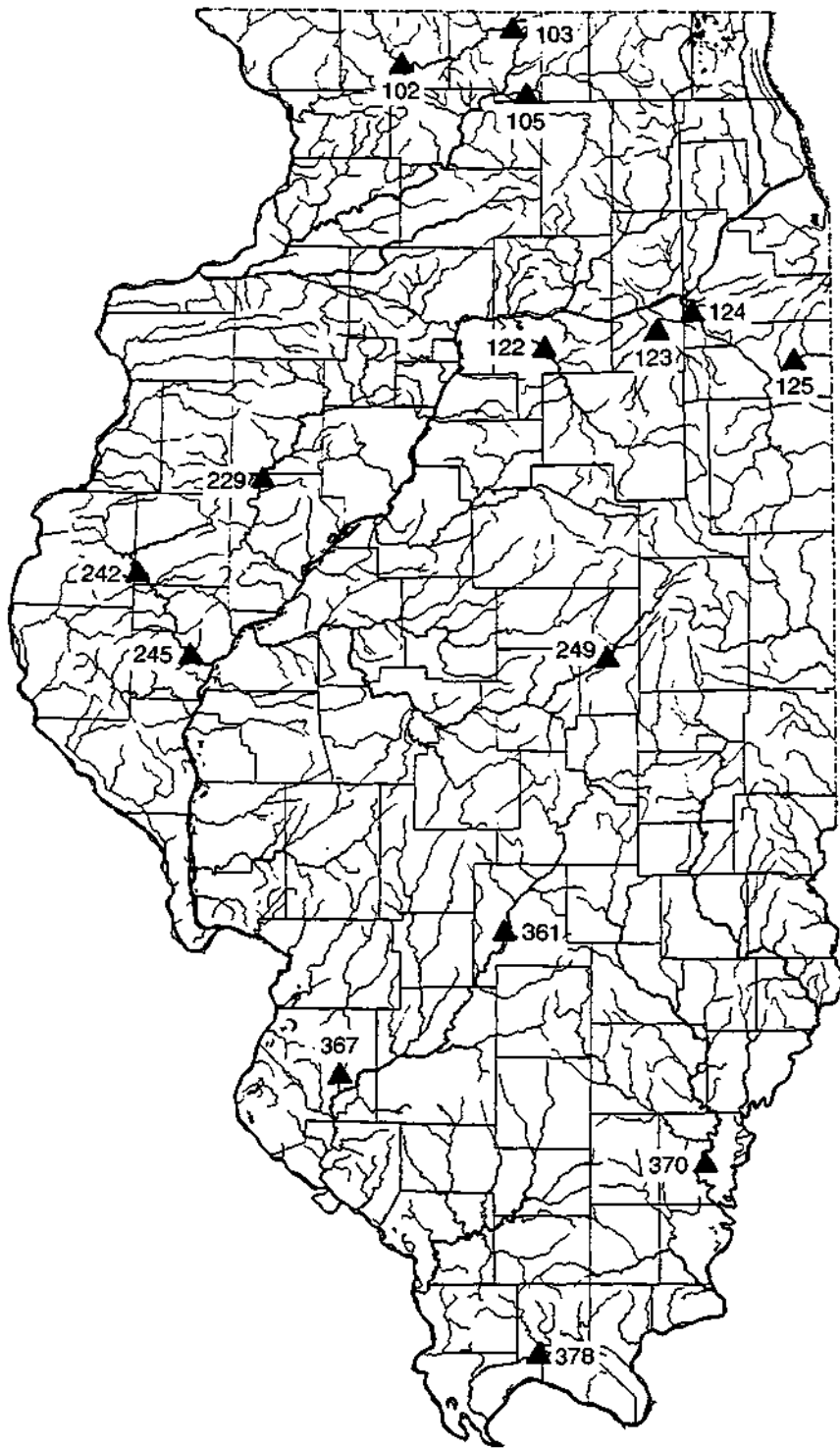


Figure 2. Location of Benchmark Sediment Monitoring stations, Water Years 1992 and 1993

a shortage of regional personnel and other time commitments. More detailed information on the sampling and analysis procedures for the sediment monitoring network can be found in the ISWS publication *State-wide Instream Sediment Monitoring Program for Illinois: Annual Report - Water Year 1981* (Bonini et al., 1983).

Data Analysis

The collected suspended sediment samples are analyzed for concentration and particle size at the ISWS Sediment Laboratory in Champaign. Once the analysis has been completed, the sample information and concentrations are screened for quality control. Questionable sample information that cannot be rectified is either discarded or flagged. If no suitable explanation can be deduced for questionable data, the values are marked with an asterisk (*) and left in the data set. Data marked as such should be used cautiously in any further analysis. The abbreviation of the questionable sample component is included in a remarks column adjacent to the information for that particular sample.

Once the samples have been screened for quality control, instantaneous stream discharge is matched with the gage height for each sample. The instantaneous sediment loads are then calculated using the formula:

$$Q_s = C_s(Q_w)K \tag{1}$$

where Q_s is the instantaneous suspended sediment load in tons per day, C_s is the suspended sediment sample concentration in milligrams per liter, Q_w is the instantaneous water discharge in cubic feet per second, and K is a coefficient with a value of 0.0027. Once these calculations have been completed, the data are formatted and compiled into data sets for inclusion in Appendix A of this report.

Additionally, each data set contains analysis of any particle size samples that were collected during the water year (see Appendix B). Appendix C presents graphs of the sediment load versus water discharge for Water Years 1992 and 1993, and Appendix D contains graphs of the sediment concentration values over the complete sampling record for each station.

SUMMARY

The Illinois State Water Survey initiated the Benchmark Sediment Monitoring Program in 1981 to monitor and quantify the long-term changes in suspended sediment concentrations and sediment loads in Illinois waterways. The program began with 50 monitoring stations distributed throughout Illinois. During Water Years 1992 and 1993, 13 stations were monitored.

The monitoring program involves the collection of weekly suspended sediment samples by local private citizens. Calibration samples and particle size data are collected by Water Survey personnel to supplement the weekly data. The suspended sediment sample concentrations are paired with the instantaneous water discharge for calculation of the instantaneous sediment load (in tons per day).

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APPENDIX A: INSTANTANEOUS SUSPENDED SEDIMENT MEASUREMENTS

Data Set Parameters

Gage Ht: Gage height, in feet, at the time of sample collection as read from the U.S. Geological Survey streamgaging station.

Temp ($^{\circ}$ C): Water temperature, in degrees Celsius, at the time of sample collection.

Cs (mg/l): Concentration of the collected suspended sediment sample, in milligrams per liter.

Qw (cfs): Instantaneous water discharge of the stream, in cubic feet per second, at the time of sample collection, taken from the U.S. Geological Survey stream discharge rating tables.

Qs (t/d): Instantaneous sediment load, in tons per day.

Remarks: Values flagged with an asterisk (*) in this column indicate questionable data. For example, *Cs indicates a questionable suspended sediment concentration.

#102 - Pecatonica River at Freeport, IL (USGS #05435500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp (° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/04/91	0700	2.78	13	110.13	461.3	137.2	
10/11/91	0645	3.08	12	79.35	524.9	112.5	
10/18/91	0645	2.98	11	122.84	503.7	167.1	
10/25/91	0645	3.23	15	90.29	556.9	135.8	
11/01/91	1545	6.34	9	90.96	1185.0	291.0	
11/08/91	1545	5.47	1	68.04	1043.0	191.6	
11/19/91	1630	6.76	9	88.38	1247.0	297.6	
11/27/91	1615	5.47	2	50.00	1043.0	140.8	
12/13/91	1545	8.17	5	86.81	1490.0	349.2	
01/03/92	1545	5.05	3	90.39	950.7	232.0	
01/10/92	1600	6.05	3	41.59	1139.0	127.9	
02/21/92	1600	9.33	3	161.66	1759.0	767.8	
02/28/92	1600	8.20	4	129.62	1497.0	523.9	
03/04/92	0640	6.97	6	109.45	1277.0	377.4	
03/13/92	1600	6.33	3	107.67	1183.0	343.9	
03/20/92	1545	5.14	7	133.31	970.5	349.3	
03/27/92	1615	5.78	9	135.75	1095.0	401.3	
03/30/92	1600	5.27	9	108.99	999.2	294.0	
04/15/92	0650	4.66	8	144.04	865.0	336.4	
04/16/92	1610	5.99	10	154.07	1129.0	469.6	
04/20/92	0645	7.56	13	163.16	1363.0	600.4	
04/23/92	1620	7.47	10	144.61	1346.0	525.5	
05/01/92	1550	5.87	19	203.77	1110.0	610.7	
05/08/92	1745	4.84	17	247.87	904.5	605.3	
05/21/92	1615	4.08	22	300.21	739.2	599.2	
06/05/92	1605	3.60	22	328.79	635.9	564.5	
06/12/92	1545	3.34	23	1240.87	580.3	1944.2	*Cs
06/16/92	1545	3.41	23	343.98	595.3	552.9	
06/18/92	1555	3.69	24	328.51	655.2	581.1	
06/26/92	1750	3.26	22	351.22	563.3	534.2	
07/01/92	1600	3.10	22	232.46	529.2	332.1	
07/07/92	1600	3.07	23	252.22	522.8	356.0	
07/15/92	0645	5.35	19	274.18	1017.0	752.9	
07/24/92	0645	3.51	18	127.84	616.7	212.9	
07/30/92	1910	3.50	20	111.94	614.5	185.7	
08/04/92	1540	3.31	22	77.21	573.9	119.6	
08/13/92	1610	3.03	21	69.91	514.3	97.1	
08/24/92	1600	2.69	24	99.92	442.3	119.3	
09/03/92	1710	2.90	22	122.56	486.7	161.1	
09/08/92	1610	3.01	22	104.97	510.1	144.6	
09/10/92	1610	3.17	18	104.45	544.1	153.4	
09/18/92	1840	5.19	20	169.05	981.5	448.0	
09/25/92	1600	3.85	11	100.71	689.6	187.5	

#102 - Pecatonica River at Freeport, IL (USGS #05435500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
10/01/92	1645	3.53	16	83.98	714.7	162.1	
10/08/92	1635	3.03	14	111.49	598.4	180.1	
10/16/92	1700	3.09	10	89.11	612.4	147.3	
10/23/92	1810	3.22	13	61.54	642.6	106.8	
10/30/92	1700	3.03	9	68.24	598.4	110.2	
11/06/92	1550	4.49	5	25.65	937.0	64.9	
11/11/92	1615	3.79	7	59.24	775.0	124.0	
11/23/92	1645	10.20	6	166.06	2430.0	1089.5	
12/11/92	1235	4.82	1	43.30	1011.0	118.2	
01/05/93	1640	12.03	1	163.34	3168.0	1397.1	
03/09/93	1145	11.88	-	112.88	3089.0	941.5	
03/24/93	1640	14.25	2	148.67	5973.0	2397.6	
04/08/93	1620	11.68	10	40.78	2989.0	329.1	
04/15/93	1525	10.90	6	146.88	2676.0	1061.2	
04/15/93	1610	11.04	6	162.93	2728.0	1200.1	
04/16/93	0650	11.95	5	194.18	3125.0	1638.4	
04/20/93	1550	13.14	9	93.10	4099.0	1030.4	
04/29/93	1620	11.12	13	30.28	2758.0	225.5	
05/03/93	1600	10.63	13	45.70	2577.0	318.0	
05/14/93	1540	10.75	16	131.69	2621.0	931.9	
05/18/93	1700	8.61	13	164.94	1924.0	856.8	
05/29/93	1030	7.56	13	208.31	1643.0	924.1	
06/05/93	1210	8.33	12	199.17	1840.0	989.5	
06/07/93	1615	8.60	13	288.12	1921.0	1494.4	
06/08/93	1615	11.79	15	519.04	3044.0	4265.9	
08/04/92	1540	3.31	22	77.21	573.9	119.6	
08/13/92	1610	3.03	21	69.91	514.3	97.1	
08/24/92	1600	2.69	24	99.92	442.3	119.3	
09/03/92	1710	2.90	22	122.56	486.7	161.1	
09/08/92	1610	3.01	22	104.97	510.1	144.6	
09/10/92	1610	3.17	18	104.45	544.1	153.4	
09/18/92	1840	5.19	20	169.05	981.5	448.0	
09/25/92	1600	3.85	11	100.71	689.6	187.5	
07/04/93	1550	14.65	22	70.76	6794.0	1298.0	
07/08/93	1425	14.98	22	40.50	7535.0	824.0	
07/08/93	1720	15.05	22	38.83	7700.0	807.3	
07/16/93	0635	15.33	20	20.51	8388.0	464.5	
07/23/93	1720	13.08	20	126.73	4013.0	1373.1	
07/31/93	1130	12.50	21	105.41	3450.0	981.9	

#102 - Pecatonica River at Freeport, IL (USGS #05435500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
08/06/93	1320	10.33	18	337.88	2473.0	2256.1	
08/09/93	1610	9.98	19	302.10	2357.0	1922.5	
08/20/93	1600	10.43	21	239.57	2507.0	1621.6	
08/31/93	1600	9.66	21	319.28	2252.0	1941.4	
09/12/93	1510	7.23	16	346.87	1568.0	1468.5	
09/16/93	0650	10.53	13	174.96	2541.0	1200.3	
09/16/93	1550	10.45	16	177.44	2513.0	1203.9	
09/29/93	1545	10.63	10	106.82	2577.0	743.2	

#103 - Rock River at Rockton, IL (USGS #05437500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp^o C</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs(t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/04/91	0800	2.65	13	49.45	1731.0	231.1	
10/11/91	1300	3.18	13	47.10	2477.0	315.0	
10/18/91	1400	2.96	10	43.07	2157.0	250.8	
10/25/91	1500	3.24	13	53.37	2567.0	369.9	
11/01/91	1430	4.90	9	36.82	5432.0	540.0	
11/08/91	1400	4.92	1	41.76	5471.0	616.9	
11/15/91	1430	4.82	5	18.55	5278.0	264.4	
11/22/91	1430	5.75	5	29.84	7149.0	576.0	
11/27/91	1300	5.42	3	31.87	6464.0	556.3	
12/06/91	1430	5.95	0	117.20	7575.0	2396.9	
12/13/91	1430	6.78	2	35.00	9260.0	875.2	
12/23/91	1400	5.80	0	13.02	7255.0	255.1	
12/30/91	1400	5.19	2	8.92	6000.0	144.5	
01/03/92	1430	4.95	2	11.34	5529.0	169.2	
01/10/92	1430	4.86	1	8.48	5355.0	122.7	
01/17/92	1400	4.50	-1	14.04	4679.0	177.4	
01/24/92	1000	4.60	-1	14.13	4864.0	185.5	
01/31/92	1430	4.06	2	13.31	3895.0	140.0	
02/07/92	1500	4.30	1	25.91	4317.0	302.0	
02/14/92	1400	3.55	1	43.45	3048.0	357.6	
02/21/92	1300	5.54	3	170.45	6711.0	3088.6	
02/28/92	1400	5.49	4	85.77	6608.0	1530.2	
03/06/92	1400	5.32	6	99.34	6261.0	1679.4	
03/15/92	1300	6.09	2	38.20	7878.0	812.6	
03/22/92	1400	5.77	3	48.44	7191.0	940.5	
03/27/92	1500	5.88	5	51.25	7425.0	1027.3	
04/03/92	1400	5.50	5	43.11	6628.0	771.6	
04/10/92	1430	5.00	7	39.56	5626.0	600.9	
04/17/92	0900	5.58	7	52.67	6793.0	966.0	
04/24/92	1430	6.32	6	56.02	8340.0	1261.5	
05/01/92	1400	6.00	14	60.43	7683.0	1253.5	
05/08/92	1430	5.38	15	51.61	6383.0	889.4	
05/15/92	1500	4.78	17	48.68	5202.0	683.7	
05/22/92	1400	3.97	21	90.27	3741.0	911.8	
05/29/92	1400	3.41	20	147.12	2827.0	1123.0	
06/05/92	1500	3.07	20	157.54	2315.0	984.7	
06/12/92	1530	2.89	22	166.31	2058.0	924.1	
06/19/92	1400	2.81	20	212.92	1947.0	1119.3	
06/26/92	1500	2.73	19	201.45	1838.0	999.7	
07/01/92	1300	2.61	20	117.35	1678.0	531.7	
07/10/92	1500	2.61	23	174.52	1678.0	790.7	
07/17/92	1500	4.25	22	125.70	4228.0	1435.0	
07/24/92	1400	3.59	19	77.55	3112.0	651.6	

#103 - Rock River at Rockton, IL (USGS #05437500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs (mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992 (concluded)							
07/31/92	1500	3.34	20	71.28	2719.0	523.3	
08/07/92	1400	2.94	20	60.61	2128.0	348.2	
08/14/92	1430	3.13	18	46.48	2403.0	301.6	
08/21/92	1500	2.43	20	64.71	1448.0	253.0	
08/28/92	1430	2.70	20	56.71	1798.0	275.3	
09/04/92	1500	2.68	19	69.18	1771.0	330.8	
09/11/92	1500	2.96	18	71.14	2157.0	414.3	
09/18/92	1400	4.97	19	69.34	5567.0	1042.2	
09/25/92	1430	4.71	15	55.30	5070.0	757.0	
Water Year 1993							
10/02/92	1430	3.69	16	52.07	3487.0	490.2	
10/09/92	1400	3.12	12	55.11	2580.0	383.9	
10/16/92	1400	3.48	9	30.20	3144.0	256.4	
10/23/92	1300	3.36	10	25.59	2952.0	204.0	
10/30/92	1400	3.30	10	21.50	2858.0	165.9	
11/06/92	1430	4.05	6	44.21	4100.0	489.5	
11/10/92	1345	3.89	8	19.49	3824.0	201.2	
11/13/92	1300	4.26	5	23.78	4470.0	287.0	
11/20/92	1000	4.13	6	13.37	4240.0	153.1	
12/04/92	1030	5.32	3	20.01	6479.0	350.0	
12/11/92	1500	4.76	3	14.10	5390.0	205.1	
12/18/92	1430	6.64	2	65.81	9266.0	1646.4	
12/23/92	1000	6.00	2	66.59	7878.0	1416.4	
12/30/92	1430	5.97	2	21.93	7815.0	462.6	
01/08/93	1200	6.88	2	88.29	9764.0	2327.6	
01/22/93	1400	5.08	4	32.17	6005.0	521.5	
01/29/93	1500	5.36	2	76.65	6559.0	1357.4	
02/05/93	1400	5.20	5	64.18	6241.0	1081.4	
02/16/93	0900	4.22	2	18.18	4399.0	215.9	
02/19/93	1130	3.56	2	25.19	3273.0	222.6	
02/26/93	1300	3.72	2	67.08	3537.0	640.6	
03/05/93	1030	6.57	3	248.43	9111.0	6111.3	
03/12/93	1100	6.75	5	181.31	9111.0	4460.2	
03/19/93	1330	5.64	3	47.81	7127.0	920.0	
03/26/93	1400	11.34	6	122.53	19630.0	6494.2	
04/02/93	1330	11.70	7	57.95	20480.0	3204.4	
04/09/93	1000	10.21	7	63.26	16990.0	2901.9	
04/09/93	1415	10.20	8	61.80	16970.0	2831.8	
04/16/93	1430	10.36	6	123.85	17330.0	5795.1	
04/23/93	1500	12.42	11	60.58	22220.0	3634.4	
04/30/93	1400	11.08	11	38.59	19010.0	1980.7	
05/12/93	1320	9.48	22	33.30	15330.0	1378.3	

#103 - Rock River at Rockton, IL (USGS #05437500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Q_w (cfs)</i>	<i>Q_s (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
05/12/93	1410	9.47	22	30.94	15310.0	1279.0	
05/21/93	1500	7.31	17	41.77	10650.0	1201.1	
05/28/93	1500	6.66	18	41.09	9311.0	1033.0	
06/04/93	1500	6.69	15	46.28	9378.0	1171.8	
06/11/93	1500	8.88	22	60.66	14000.0	2292.9	
06/18/93	1500	9.09	24	69.37	14460.0	2708.3	
06/25/93	1500	9.42	25	76.38	15200.0	3134.6	
07/02/93	1500	11.52	-	104.25	20050.0	5643.6	
07/08/93	1120	9.77	24	76.06	15990.0	3283.7	
07/09/93	1400	9.98	24	68.44	16460.0	3041.6	
07/16/93	1500	11.78	24	66.81	20670.0	3728.6	
07/23/93	1430	9.75	24	90.87	15940.0	3910.9	
07/30/93	1500	8.49	26	76.89	13150.0	2730.0	
08/06/93	1500	7.59	22	89.60	11230.0	2716.8	
08/13/93	1500	6.65	25	112.43	9289.0	2819.8	
08/20/93	0930	6.51	24	75.86	8979.0	1839.1	
08/27/93	1445	5.79	27	94.76	7437.0	1902.8	
09/03/93	1515	5.81	23	95.71	7479.0	1932.7	
09/10/93	1500	4.71	19	149.65	5296.0	2139.9	
09/16/93	1250	5.81	16	101.51	7479.0	2049.8	
09/17/93	1445	6.12	18	76.87	8133.0	1688.0	
09/24/93	1430	5.89	17	62.16	7646.0	1283.2	

#122 -Vermilion River near Leonore, IL (USGS #0555300)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs(t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/06/91	1600	3.52	18	17.04	138.9	6.4	
10/13/91	1700	3.07	15	18.52	49.0	2.4	
11/07/91	0900	6.26	8	142.65	1383.0	532.7	
11/14/91	1200	5.51	7	132.77	975.1	349.6	
11/20/91	1200	7.47	11	244.79	2108.0	1393.3	
11/23/91	1600	6.24	7	174.62	1373.0	647.3	
11/28/91	1200	6.32	9	119.85	1415.0	457.9	
12/06/91	0700	7.01	8	219.58	1812.0	1074.3	
12/13/91	0800	7.76	8	203.47	2309.0	1268.5	
12/15/91	0900	7.61		134.01	2204.0	797.5	
12/22/91	1200	5.23	4	71.09	808.8	155.2	
01/02/92	1000	4.83	3	64.92	606.8	106.4	
01/05/92	1200	4.85	0	59.91	616.0	99.6	
02/10/92	1530	4.38	0	7.15	411.0	7.9	
02/22/92	0830	6.81	3	81.40	1691.0	371.6	
02/29/92	1200	6.31	9	78.73	1410.0	299.7	
03/06/92	1200	5.95	12	63.31	1220.0	208.5	
03/13/92	1200	5.18	8	38.46	781.2	81.1	
03/19/92	1330	4.99	9	46.59	682.2	85.8	
04/01/92	1200	5.36	15	10.67	883.8	25.5	
04/05/92	1800	5.26	15	16.10	825.7	35.9	
04/12/92	1600	5.02	16	10.87	697.5	20.5	
04/19/92	1600	4.52	16	8.15	477.6	10.5	
05/01/92	1200	4.27	16	7.06	362.2	6.9	
05/08/92	1400	4.19	19	36.44	329.8	32.5	
05/15/92	1200	4.61	23	23.06	512.8	31.9	
05/22/92	1300	3.93	25	633.63	240.0	410.6	
05/30/92	1000	3.80	23	23.26	203.1	12.8	
06/06/92	1200	3.81	25	32.44	205.7	18.0	
06/13/92	1000	3.78	27	36.93	197.8	19.7	
06/18/92	1600	3.92	25	43.48	236.9	27.8	
06/21/92	1200	3.92	25	29.77	236.9	19.0	
06/28/92	1000	3.90	24	32.41	231.0	20.2	
07/05/92	1300	3.24	23	142.06	77.5	29.7	
07/12/92	1620	4.52	25	109.19	477.6	140.8	
07/19/92	0830	5.93	23	116.00	1208.0	378.4	
07/26/92	0830	10.35	21	495.53	4378.0	5857.5	
08/02/92	1030	8.21	22	127.26	2641.0	907.4	
08/09/92	1100	4.45	24	151.08	444.6	181.4	
08/16/92	1000	6.14	23	75.95	1321.0	270.9	
08/25/92	0830	3.42	25	24.61	115.1	7.6	
08/30/92	0815	3.45	20	13.20	122.3	4.4	

#122 -Vermilion River near Leonore, IL (USGS #05555300)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992 (concluded)							
09/05/92	1100	3.54	21	88.72	142.8	34.2	
09/11/92	1535	5.52	20	72.26	980.3	191.3	
09/13/92	0800	4.71	20	80.70	554.1	120.7	
09/20/92	1200	4.36	19	71.93	401.8	78.0	
09/27/92	1800	3.97	18	88.51	252.3	60.3	
Water Year 1993							
10/19/92	0800	8.31	12	41.88	2718.0	307.3	
10/27/92	0800	9.24	10	108.14	3438.0	1003.8	
11/01/92	0700	8.61	8	116.67	2957.0	931.5	
11/08/92	1200	7.14	8	66.03	1893.0	337.5	
11/19/92	1500	6.69	7	108.03	1621.0	472.8	
11/24/92	0730	10.58	8	158.30	4588.0	1961.0	
12/05/92	0800	5.25	1	92.83	820.0	205.5	
12/11/92	0900	5.05	1	80.81	712.7	155.5	
12/13/92	1100	6.11	4	65.81	1305.0	231.9	
12/20/92	1100	6.11	2	60.13	1305.0	211.9	
12/30/92	1000	6.42	3	94.18	1469.0	373.5	
01/05/93	0800	8.20	2	936.96	2633.0	6660.9	*Cs
01/10/93	1615	8.28	1	61.63	2695.0	448.5	
02/09/93	1300	5.06	4	9.51	717.8	18.4	
03/07/93	1700	15.52	3	304.63	10340.0	8504.6	
03/20/93	0900	3.60	3	80.56	155.3	33.8	
03/21/93	0830	5.59	3	127.95	1017.0	351.3	
03/28/93	1200	11.37	12	103.62	5349.0	1496.5	
04/10/93	1400	6.93	14	98.81	1763.0	470.4	
04/11/93	1300	6.89	14	87.87	1739.0	412.6	
04/18/93	0800	7.31	17	43.01	2002.0	232.5	
04/25/93	0900	2.40	15	64.39	5.2	0.9	
05/02/93	0900	6.22	21	28.95	1362.0	106.5	
05/15/93	0900	5.02	20	89.15	697.5	167.9	
05/16/93	1700	4.98	20	101.15	677.7	185.1	
05/23/93	1200	5.14	21	62.32	759.7	127.8	
05/30/93	1000	5.05	19	201.90	712.7	388.5	
06/05/93	0800	7.14	20	189.62	1893.0	969.2	
06/09/93	2010	14.11	21	2014.04	8534.0	46407.1	*Cs
06/13/93	1445	8.45	22	157.12	2821.0	1196.8	
06/14/93	1500	7.47	22	120.29	2108.0	684.6	
07/01/93	0830	14.62	21	429.67	9168.0	10635.9	
07/10/93	1700	7.76	25	228.01	2309.0	1421.5	
07/11/93	1810	8.26	25	160.71	2679.0	1162.5	
07/18/93	1400	11.09	21	154.44	5072.0	2115.0	
07/25/93	1300	10.11	22	161.98	4164.0	1821.1	

#122 -Vermilion River near Leonore, IL (USGS #05555300)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs (mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
08/01/93	1200	8.14	23	154.00	2587.0	1075.7	
08/08/93	1200	6.10	24	132.04	1300.0	463.5	
08/15/93	0900	7.20	25	169.88	1931.0	885.7	
08/22/93	1100	6.27	24	161.26	1388.0	604.3	
08/29/93	0830	4.90	25	159.49	639.2	275.3	
09/05/93	0800	5.81	22	168.78	1138.0	518.6	
09/15/93	0745	20.05	17	336.77	17090.0	15539.6	
09/25/93	1200	8.64	11	163.74	2979.0	1317.0	

#123 - Mazon River near Coal City, IL (USGS #05542000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/01/91	1215	0.70	15	21.97	0.7	0.0	
10/09/91	1630	1.20	15	28.07	22.0	1.7	
10/15/91	0900	0.97	8	12.06	5.4	0.2	
10/23/91	1230	0.91	14	9.21	3.8	0.1	
10/30/91	1245	3.96	10	238.57	1036.0	667.3	
11/06/91	1245	2.28	3	8.56	251.0	5.8	
11/12/91	1200	1.81	3	26.28	122.4	8.7	
03/02/92	1045	1.44	8	88.54	51.7	12.4	
03/09/92	1130	2.81	11	93.44	444.3	112.1	
03/16/92	1145	2.21	4	8.32	230.3	5.2	
03/23/92	1230	2.85	5	83.16	461.8	103.7	
03/30/92	1315	2.20	6	55.33	227.4	34.0	
04/07/92	1130	1.91	9	55.53	147.6	22.1	
05/08/92	1155	1.59	19	57.90	77.1	12.1	
05/16/92	1730	1.61	20	48.33	80.9	10.6	
07/04/92	1145	1.22	22	19.95	24.0	1.3	
07/08/92	1100	1.54	20	17.17	67.9	3.1	
07/14/92	1100	1.39	18	43.56	44.6	5.2	
07/21/92	1030	1.82	18	78.33	124.8	26.4	
07/27/92	1015	4.91	18	143.55	1657.0	642.2	
08/03/92	1130	2.82	18	100.50	448.7	121.8	
08/10/92	1030	1.65	20	75.45	88.7	18.1	
08/19/92	1230	1.19	20	14.45	20.8	0.8	
08/26/92	1230	1.04	22	14.37	8.0	0.3	
Water Year 1993							
11/11/92	1353	4.11	10	89.36	1126.0	271.7	
11/17/92	1215	3.31	5	113.62	678.0	208.0	
11/27/92	1200	3.88	5	79.99	988.5	213.5	
03/03/93	1215	4.95	1	317.32	1686.0	1444.5	
03/09/93	1505	4.49	5	61.32	1368.0	226.5	
05/11/93	1243	2.11	22	65.33	201.8	35.6	
05/11/93	1352	2.11	23	78.23	201.8	42.6	

#124 - Kankakee River near Wilmington, IL (USGS #05527500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs(t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/05/91	1323	1.55	17	16.10	2581.0	112.2	
10/12/91	1215	1.28	13	10.04	1759.0	47.7	
10/20/91	1524	1.18	17	10.86	1494.0	43.8	
10/26/91	1238	1.37	17	16.70	2015.0	90.9	
11/01/91	1512	2.87	12	64.45	8373.0	1457.0	
11/11/91	1151	1.91	15	8.41	3921.0	89.1	
11/17/91	1453	2.14	8	13.41	4872.0	176.4	
11/25/91	1215	2.88	7	14.27	8427.0	324.8	
12/05/91	1244	3.08	2	24.83	9539.0	639.6	
12/12/91	1112	3.63	8	153.72	12920.0	5362.4	
12/18/91	1013	3.17	3	70.74	10060.0	1921.5	
12/26/91	1136	2.33	4	13.52	5700.0	208.0	
01/12/92	1428	2.14	4	20.11	4872.0	264.5	
02/03/92	1630	2.15	5	88.07	4914.0	1168.5	
02/09/92	1440	2.20	2	67.43	5127.0	933.5	
02/19/92	1600	3.80	5	171.62	14060.0	6514.9	
02/23/92	1220	3.27	8	49.65	10650.0	1427.6	
03/01/92	1740	2.53	9	83.24	6635.0	1491.1	
03/12/92	1125	2.70	5	49.58	7481.0	1001.4	
03/19/92	1110	2.68	6	69.99	7379.0	1394.5	
03/30/92	1007	2.56	9	77.13	6781.0	1412.2	
04/12/92	1002	2.24	12	87.16	5300.0	1247.3	
04/22/92	1155	2.55	12	49.22	6732.0	894.7	
05/08/92	1310	1.81	20	31.78	3521.0	302.1	
05/12/92	1940	1.68	22	86.63	3032.0	709.2	
05/17/92	1435	1.57	23	71.43	2648.0	510.7	
05/26/92	1220	1.42	16	83.49	2165.0	488.1	
06/01/92	1332	1.37	21	83.70	2015.0	455.4	
06/09/92	1240	2.22	24	29.00	5213.0	408.2	
06/17/92	1041	1.67	24	33.79	2996.0	273.4	
06/28/92	1036	1.17	25	54.34	1469.0	215.5	
07/08/92	0913	1.25	25	19.86	1677.0	89.9	
07/14/92	1450	1.95	26	31.28	4087.0	345.2	
07/23/92	1548	3.02	23	118.45	9199.0	2941.9	
07/30/92	1352	2.80	22	68.04	8000.0	1469.6	
08/12/92	1050	1.20	23	47.79	1545.0	199.3	
08/19/92	1517	1.10	25	54.63	1298.0	191.4	
08/26/92	1138	1.03	27	9.44	1138.0	29.0	
09/03/92	1039	0.99	23	9.44	1051.0	26.8	
09/11/92	1205	2.48	20	54.93	6395.0	948.5	
09/17/92	1430	2.12	23	40.87	4788.0	528.3	
09/24/92	1504	1.71	20	29.15	3142.0	247.3	

#124 - Kankakee River near Wilmington, IL (USGS #05527500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
10/02/92	1147	2.09	18	33.43	4664.0	421.0	
10/08/92	1242	1.62	17	19.53	2819.0	148.7	
10/20/92	1312	1.65	11	19.56	2925.0	154.5	
11/01/92	1058	1.72	9	13.23	3179.0	113.5	
11/04/92	1527	3.78	7	145.21	13920.0	5457.6	
11/11/92	1100	3.60	8	29.31	12720.0	1006.5	
11/14/92	1439	4.80	6	93.63	21630.0	5468.3	
11/21/92	1027	3.56	7	24.65	12460.0	829.2	
12/01/92	1429	3.12	3	13.66	9769.0	360.3	
12/09/92	1418	2.30	2	37.91	5565.0	569.6	
12/20/92	1530	2.86	2	8.77	8320.0	196.9	
12/31/92	1505	4.99	4	200.34	23240.0	12570.7	
01/06/93	0740	6.80	4	251.03	41130.0	27876.7	
01/12/93	0710	4.60	1	37.55	20000.0	2028.0	
01/16/93	1310	4.05	1	17.09	15810.0	729.6	
01/24/93	1400	5.33	3	72.16	26240.0	5112.2	
01/31/93	1432	3.57	3	10.94	12530.0	370.1	
02/08/93	1045	2.76	3	27.15	7791.0	571.2	
02/15/93	1147	2.66	2	10.10	7278.0	198.4	
02/20/93	1516	2.69	2	31.47	7430.0	631.4	
03/02/93	1222	2.45	1	12.92	6253.0	218.1	
03/06/93	1010	5.25	3	117.33	25520.0	8084.5	
03/09/93	1230	4.95	4	49.19	22890.0	3040.0	
03/17/93	1341	3.55	3	66.25	12400.0	2218.1	
03/23/93	1136	5.27	4	250.67	25700.0	17394.0	
03/30/93	1434	3.81	10	29.14	14120.0	1110.9	
04/06/93	1020	4.50	7	34.67	19200.0	1797.3	
04/12/93	1510	3.43	9	70.21	11630.0	2204.7	
04/19/93	1000	4.45	8	91.30	18810.0	4636.9	
05/04/93	1041	3.29	14	58.80	10770.0	1709.8	
05/11/93	1052	2.87	19	51.09	8373.0	1155.0	
05/11/93	1435	2.89	24	60.48	8481.0	1384.9	
05/11/93	1540	2.87	23	71.25	8373.0	1610.8	
05/21/93	1015	2.15	14	86.30	4914.0	1145.0	
05/27/93	1048	2.22	16	92.44	5213.0	1301.1	
06/04/93	1132	3.00	14	77.28	9087.0	1896.1	
06/10/93	1509	5.67	18	304.20	29410.0	24155.6	
06/18/93	1015	3.86	21	75.00	14470.0	2930.2	
06/29/93	1024	4.98	22	500.34	23150.0	31273.8	
07/06/93	1539	5.36	25	71.07	26520.0	5088.9	
07/09/93	1350	4.05	27	48.44	15810.0	2067.8	
07/17/93	1002	3.23	23	98.59	10410.0	2771.1	
07/23/93	1226	2.51	23	88.43	6539.0	1561.3	

#124 - Kankakee River near Wilmington, IL (USGS #05527500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Q_w (cfs)</i>	<i>Q_s(t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
08/01/93	1355	2.00	27	35.66	4300.0	414.0	
08/07/93	1423	1.53	24	75.03	2514.0	509.3	
08/18/93	1030	1.85	26	30.23	3678.0	300.2	
08/24/93	1420	2.30	26	71.29	5565.0	1071.2	
08/31/93	1126	2.93	23	123.09	8699.0	2891.1	
09/07/93	1333	5.03	20	124.32	23580.0	7915.0	
09/10/93	1225	4.66	19	76.75	20480.0	4244.0	
09/16/93	1210	4.90	17	94.70	22470.0	5745.4	
09/26/93	1558	3.95	17	63.91	15100.0	2605.6	

#125 - Kankakee River at Momence, IL (USGS #05520500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp (° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
02/11/93	1730	2.99	4	14.12	3280.0	125.0	
02/17/93	1630	2.60	0	62.96	2556.0	434.5	
02/22/93	1700	2.57	2	74.21	2504.0	501.7	
03/04/93	1700	3.18	4	80.58	3622.0	788.0	
03/09/93	1630	3.51	6	45.22	4242.0	517.9	
03/15/93	1600	3.46	3	71.19	4146.0	796.9	
03/22/93	1130	3.44	4	35.51	4108.0	393.8	
04/03/93	1130	4.65	8	67.11	6652.0	1205.3	
04/06/93	1635	4.22	9	31.52	5696.0	484.8	
04/20/93	0700	4.00	12	97.98	5228.0	1383.0	
04/26/93	0730	3.82	12	37.39	4857.0	490.3	
05/03/93	0740	6.63	16	13.52	11850.0	432.6	
05/12/93	0645	3.20	19	40.21	3659.0	397.3	
05/20/93	0730	2.54	14	87.93	2452.0	582.2	
05/25/93	0730	2.41	17	80.21	2232.0	483.4	
06/03/93	0740	2.51	15	62.03	2400.0	402.0	
06/09/93	0715	4.35	19	401.25	5979.0	6477.5	
06/10/93	1330	4.33	21	209.60	5935.0	3358.8	
06/15/93	0740	4.52	20	81.72	6357.0	1402.6	
06/23/93	0730	4.15	21	44.78	5545.0	670.4	
07/07/93	0730	3.93	23	62.21	5083.0	853.8	
07/15/93	0730	2.83	22	78.76	2974.0	632.4	
07/20/93	0730	2.46	23	103.84	2315.0	649.1	
07/29/93	0730	2.15	24	98.37	1821.0	483.7	
08/04/93	0730	1.71	21	126.36	1213.0	413.8	
08/13/93	1010	1.71	23	94.99	1213.0	311.1	
08/19/93	1630	1.65	27	111.26	1139.0	342.2	
08/27/93	0800	1.55	26	110.23	1019.0	303.3	
09/02/93	0800	2.61	21	52.47	2574.0	364.7	
09/09/93	0745	3.51	22	40.18	4242.0	460.2	
09/17/93	0800	3.57	16	53.68	4359.0	631.8	
09/28/93	0830	3.70	13	67.11	4615.0	836.2	

#242 - Lamoine River at Colmar, IL (USGS # 05584500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
11/04/92	1514	7.83	6	97.79	577.4	152.5	
11/04/92	1535	7.82	6	91.83	575.9	142.8	
11/04/92	1630	7.78	7	98.98	569.8	152.3	
11/07/92	1345	6.42	12	45.56	375.6	46.2	
11/16/92	2130	7.56	-	61.26	537.2	88.9	
11/27/92	1600	14.88	-	200.62	1971.0	1067.6	
12/17/92	1129	22.99	3	262.48	11150.0	7902.0	
12/18/92	1133	21.91	3	120.93	7444.0	2430.5	
12/18/92	1227	21.81	-	132.40	7164.0	2561.0	
12/26/92	1230	7.95	7	24.01	595.7	38.6	
01/03/93	1415	8.31	10	114.36	652.4	201.4	
01/11/93	2130	7.97	11	31.50	598.8	50.9	
01/19/93	1500	7.65	8	23.66	550.5	35.2	
01/27/93	1300	9.46	4	113.76	852.5	261.8	
02/07/93	1500	7.67	5	31.80	553.4	47.5	
02/19/93	1500	7.55	4	53.41	535.8	77.3	
02/23/93	1330	7.75	7	62.50	565.3	95.4	
02/27/93	1300	7.60	10	36.25	543.1	53.2	
03/12/93	1300	7.60	-	51.22	543.1	75.1	
03/17/93	1200	8.60	-	64.01	700.0	121.0	
03/25/93	1400	15.40	8	252.44	2079.0	1417.0	
03/31/93	1400	9.39	6	302.05	839.5	684.6	
08/03/93	1125	7.80	23	153.63	572.8	237.6	
08/12/93	1730	9.32	25	482.01	826.6	1075.8	
08/20/93	1220	7.12	26	625.83	472.9	799.1	
08/27/93	1500	5.65	20	234.70	275.8	174.8	
09/10/93	1400	8.58	26	229.64	696.7	432.0	
09/17/93	1800	15.50	27	274.95	2099.0	1558.2	
09/24/93	1400	8.10	20	22.20	619.0	37.1	*Cs

#245 - Lamoine River at Ripley, IL (USGS #05585000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
11/03/92	1337	14.42	10	433.00	2489.0	2909.9	
11/04/92	0840	12.33	-	327.62	1640.0	1450.7	
11/11/92	0940	12.20	-	166.67	1593.0	716.9	
11/18/92	0840	11.24	-	185.41	1270.0	635.8	
11/26/92	0940	14.13	-	172.90	2362.0	1102.7	
12/03/92	0940	13.19	-	147.99	1975.0	789.2	
12/09/92	1040	13.35	-	150.39	2039.0	827.9	
12/16/92	1319	22.90	5	405.69	8729.0	9561.4	
12/17/92	0840	14.22	-	247.95	2401.0	1607.4	
12/24/92	0940	14.24	-	145.74	2410.0	948.3	
12/31/92	0940	12.38	2	222.04	1658.0	994.0	
01/07/93	0840	12.24	-	390.22	1607.0	1693.1	
01/14/93	0840	15.18	-	559.65	2842.0	4294.4	
01/21/93	0840	16.36	-	169.99	3410.0	1565.1	
01/28/93	0940	16.24	-	213.92	3351.0	1935.5	
02/10/93	0940	12.35	-	142.91	1647.0	635.5	
02/17/93	0950	15.30	-	187.04	2901.0	1465.0	
02/24/93	0840	15.64	-	143.85	3065.0	1190.4	
03/03/93	0950	12.40	-	140.99	1666.0	634.2	
03/10/93	0840	11.20	-	159.02	1258.0	540.1	
03/17/93	0840	9.36	-	80.79	746.9	162.9	
03/24/93	0815	12.18	-	169.78	1585.0	726.6	
03/31/93	0800	14.19	-	124.72	2388.0	804.1	
04/07/93	0900	13.52	-	72.66	2107.0	413.4	
04/14/93	0900	13.48	-	141.92	2091.0	801.2	
04/21/93	0815	12.11	-	117.15	1560.0	493.4	
04/28/93	0830	14.80	-	124.93	2662.0	897.9	
05/05/93	0830	15.12	-	114.93	2814.0	873.2	
05/12/93	0715	13.80	-	60.65	2222.0	363.9	
05/19/93	0715	12.42	-	112.62	1673.0	508.7	
05/26/93	0715	10.45	-	114.37	1039.0	320.8	
06/02/93	0830	13.40	-	125.34	2059.0	696.8	
06/09/93	0830	13.20	-	127.72	1979.0	682.4	
06/16/93	0700	14.10	-	92.48	2349.0	586.5	
06/23/93	0715	13.80	-	86.23	2222.0	517.3	
06/30/93	0715	14.80	-	273.03	2662.0	1962.4	
07/07/93	0730	18.07	-	217.26	4323.0	2535.9	
07/14/93	0820	17.63	-	308.43	4072.0	3391.0	
07/21/93	0840	17.25	-	220.64	3866.0	2303.1	
07/28/93	0940	16.95	-	75.87	3708.0	759.6	

#245 - Lamoine River at Ripley, IL (USGS #05585000)
instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
08/03/93	0820	9.45	-	10.40	769.7	21.6	*Cs
08/03/93	1305	14.46	25	194.32	2507.0	1315.3	
08/03/93	1350	14.41	25	202.53	2485.0	1358.9	
08/04/93	1015	15.73	-	138.04	3107.0	1158.0	
08/10/93	0830	10.15	-	5.42	958.6	14.0	*Cs
08/17/93	0815	12.42	-	0.00	1673.0	0.0	*Cs
08/24/93	0830	12.02	-	0.37	1529.0	1.5	*Cs
08/31/93	0815	11.42	-	7.00	1327.0	25.1	*Cs
09/07/93	0800	10.49	18	1.70	1050.0	4.8	*Cs
09/14/93	0810	11.28	16	5.67	1283.0	19.6	*Cs
09/21/93	0820	12.42	13	0.38	1673.0	1.7	*Cs
09/28/93	0815	11.55	13	5.72	1369.0	21.1	*Cs

#249 - Sangamon River at Monticello, IL (USGS #05572000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/04/91	1200	4.05	20	51.79	13.2	1.9	
10/10/91	1300	4.53	15	58.22	39.1	6.1	
10/18/91	0945	4.23	12	36.73	21.5	2.1	
10/24/91	0830	4.62	16	37.32	44.1	4.4	
10/31/91	1600	5.55	13	23.67	113.8	7.3	
11/06/91	1615	5.44	4	4.38	103.6	1.2	
11/15/91	1330	4.88	9	31.36	60.8	5.1	
11/21/91	1600	7.73	10	45.37	404.1	49.5	
12/05/91	1345	9.18	2	16.58	676.8	30.3	
12/13/91	1330	9.46	9	114.83	745.0	231.0	
01/03/92	1500	6.79	6	141.75	259.3	99.2	
02/18/92	1615	10.03	6	67.91	904.7	165.9	
02/27/92	1700	7.76	6	115.82	409.0	127.9	
03/13/92	0900	7.12	4	114.19	307.2	94.7	
04/03/92	0915	6.97	7	124.25	285.0	95.6	
04/30/92	1700	7.52	16	102.84	370.6	102.9	
05/28/92	1730	6.43	16	150.79	211.6	86.2	
06/16/92	1000	6.21	23	166.49	184.8	83.1	
07/08/92	1000	12.14	20	297.95	2079.0	1672.5	
07/16/92	1000	9.59	21	185.31	778.9	389.7	
07/31/92	0925	12.89	20	50.91	2750.0	378.0	
08/12/92	0900	6.70	23	191.64	247.0	127.8	
08/20/92	0930	5.44	20	165.04	103.6	46.2	
08/27/92	1100	7.60	21	129.42	383.2	133.9	
09/09/92	0900	4.97	21	112.86	67.1	20.5	
09/18/92	1000	4.78	22	138.84	54.1	20.3	
09/24/92	0900	4.70	15	142.39	48.9	18.8	
Water Year 1993							
10/02/92	0915	4.97	15	132.38	67.1	24.0	
10/07/92	1400	4.69	16	101.04	48.3	13.2	
10/13/92	1430	4.58	13	62.79	41.8	7.1	
10/23/92	0930	5.08	13	74.83	74.6	15.1	
11/13/92	0945	13.87	7	53.89	3889.0	565.8	
11/18/92	0930	11.64	9	24.99	1729.0	116.7	
12/04/92	0900	8.87	5	86.90	609.1	142.9	
12/08/92	0900	8.02	3	91.81	452.6	112.2	
12/18/92	1130	11.62	5	54.74	1717.0	253.8	
01/05/93	1000	15.22	5	274.05	6152.0	4552.1	
01/25/93	1600	13.60	3	59.83	3550.0	573.5	
01/29/93	1030	11.30	3	32.45	1523.0	133.4	
02/04/93	0930	8.69	4	28.53	574.2	44.2	

#249 - Sangamon River at Monticello, IL (USGS #05572000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
03/05/93	1530	12.92	3	80.04	2781.0	601.0	
03/12/93	1420	11.86	4	36.63	1873.0	185.2	
03/18/93	0945	9.88	3	96.58	858.6	223.9	
04/01/93	1600	10.33	9	136.40	1029.0	379.0	
04/09/93	0930	9.45	11	123.82	742.5	248.2	
05/04/93	0900	10.05	15	114.87	912.7	283.1	
05/14/93	1000	8.52	17	108.97	542.1	159.5	
05/21/93	1000	7.43	15	104.40	356.0	100.3	
05/28/93	0945	6.94	19	130.52	280.6	98.9	
06/03/93	0945	8.03	16	92.15	454.3	113.0	
06/11/93	1030	10.19	20	277.83	969.6	727.3	
06/17/93	0930	7.81	2.2	153.61	417.2	173.0	
06/23/93	0945	10.30	23	169.88	1016.0	466.0	
07/02/93	1045	14.03	23	83.01	4104.0	919.8	
07/30/93	1045	9.76	24	162.00	825.1	360.9	
08/19/93	0945	6.87	25	177.98	270.6	130.0	
08/26/93	1130	7.49	25	189.11	365.8	186.8	
09/03/93	1000	9.06	21	158.33	648.7	277.3	
09/10/93	1000	12.20	19	46.16	2126.0	265.0	
09/15/93	0945	11.70	18	141.13	1768.0	673.7	
09/22/93	0945	8.69	18	179.99	574.2	279.0	

#361 - Kaskaskia River at Vandalia, IL (USGS #06692500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/02/91	0830	1.90	-	82.02	11.5	2.5	
10/09/91	1300	1.87	-	35.00	9.6	0.9	
10/15/91	0900	1.85	-	52.54	8.2	1.2	
10/22/91	0930	2.15	-	112.62	31.6	9.6	
10/28/91	0800	3.05	-	114.77	169.6	52.6	
11/07/91	0830	2.74	-	72.76	112.6	22.1	
11/14/91	0800	2.45	-	52.86	67.9	9.7	
11/20/91	0800	2.80	-	32.64	122.9	10.8	
11/26/91	0800	2.78	-	25.98	119.4	8.4	
12/01/91	0810	3.05	-	43.71	169.6	20.0	
12/04/91	1411	3.36	1	44.97	233.2	28.3	
12/08/91	0730	2.77	-	39.97	117.7	12.7	
12/14/91	0810	8.70	-	352.06	1850.0	1758.6	
12/20/91	0745	6.60	-	29.94	1079.0	87.2	
12/27/91	0945	3.45	-	26.12	252.8	17.8	
01/02/92	0800	3.27	-	26.65	214.1	15.4	
01/09/92	0830	3.29	-	54.58	218.3	32.2	
01/15/92	0900	3.35	-	24.50	231.0	15.3	
01/22/92	0915	3.50	-	29.07	264.0	20.7	
01/29/92	1200	4.00	-	30.19	375.0	30.6	
01/30/92	1339	3.85	7	12.79	341.7	11.8	
02/05/92	1000	4.10	-	124.73	397.5	133.9	
02/11/92	1000	5.38	-	119.56	717.8	231.7	
02/17/92	0900	5.36	-	114.91	712.4	221.0	
02/23/92	0900	4.90	-	83.94	592.1	134.2	
02/27/92	0900	4.20	-	120.90	420.6	137.3	
03/05/92	0900	3.60	-	77.95	285.9	60.2	
03/10/92	0950	3.27	-	110.51	214.1	63.9	
03/16/92	0700	3.25	-	43.45	210.0	24.6	
03/16/92	1328	3.25	8	52.39	210.0	29.7	
03/22/92	0730	4.00	-	40.10	375.0	40.6	
03/29/92	0745	4.70	-	41.55	541.8	60.8	
04/01/92	0730	5.64	-	84.71	789.4	180.5	
04/07/92	0800	4.60	-	89.22	517.3	124.6	
04/16/92	0900	5.23	-	576.43	677.7	1054.7	*Cs
04/22/92	0800	5.20	-	1010.26	669.8	1827.0	*Cs
04/28/92	0830	4.25	-	34.68	432.4	40.5	
04/30/92	1254	3.69	16	118.46	306.2	97.9	
05/04/92	0800	3.62	-	36.67	290.4	28.8	
05/10/92	0900	3.75	-	84.75	320.0	73.2	
05/17/92	0900	4.09	-	87.93	395.2	93.8	
05/23/92	0930	4.01	-	54.88	377.2	55.9	
05/29/92	0900	3.80	-	31.40	330.8	28.0	

#361 - Kaskaskia River at Vandalia, IL (USGS #06692500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992 (concluded)							
06/05/92	0900	3.45	-	33.12	252.8	22.6	
06/07/92	0900	6.30	-	166.25	984.0	441.7	
06/11/92	1321	5.20	22	198.87	669.8	359.6	
06/14/92	0930	5.60	-	172.43	778.2	362.3	
06/21/92	1000	4.20	-	55.69	420.6	63.2	
06/26/92	0945	3.23	-	55.35	205.8	30.8	
07/02/92	1000	2.90	-	89.78	141.0	34.2	
07/08/92	0930	2.41	-	96.96	62.4	16.3	
07/14/92	0930	4.90	-	156.33	592.1	249.9	
07/21/92	1000	6.40	-	115.91	1015.0	317.7	
07/29/92	0900	8.78	26	527.61	1882.0	2681.0	*Cs
07/29/92	0930	7.17	-	179.98	1270.0	617.2	
07/29/92	1328	7.65	26	190.15	1446.0	742.4	
08/03/92	0700	8.11	-	236.08	1621.0	1033.3	
08/09/92	0800	8.12	-	165.60	1625.0	726.6	
08/15/92	0800	8.14	-	62.05	1633.0	273.6	
08/21/92	0800	8.15	-	155.22	1637.0	686.1	
08/27/92	0800	9.00	-	195.23	1971.0	1039.0	
09/03/92	0830	6.30	-	196.12	984.0	521.1	
09/10/92	0900	4.99	-	117.73	615.4	195.6	
09/14/92	1339	4.43	22	62.62	475.9	80.5	
09/17/92	0900	3.84	-	136.10	339.5	124.8	
09/23/92	0930	2.84	-	48.87	130.0	17.2	
09/30/92	1000	2.75	-	82.80	114.3	25.6	
Water Year 1993							
10/06/92	0930	2.70	-	29.00	148.0	11.6	
10/13/92	0930	2.61	-	26.56	135.1	9.7	
10/20/92	1000	2.45	-	26.54	113.5	8.1	
10/27/92	1000	1.74	-	25.34	37.3	2.6	
10/28/92	1344	1.76	13	29.98	39.0	3.2	
11/03/92	0930	2.90	-	22.74	178.2	10.9	
11/05/92	1030	4.30	-	100.76	448.2	121.9	
11/07/92	1100	6.40	-	100.52	1015.0	275.5	
11/10/92	1000	8.25	-	122.49	1675.0	554.0	
11/12/92	0945	9.15	-	307.47	2033.0	1687.7	
11/13/92	1000	12.05	-	356.29	3371.0	3242.8	
11/14/92	0930	17.87	-	285.88	7226.0	5577.6	
11/17/92	1000	14.31	-	352.18	4583.0	4357.9	
11/19/92	1400	6.90	-	86.27	1177.0	274.1	
11/24/92	0930	6.52	-	83.56	1053.0	237.6	
11/30/92	0930	6.50	-	111.32	1047.0	314.7	

#361 - Kaskaskia River at Vandalia, IL (USGS #06692500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (continued)							
12/05/92	0945	9.15	-	221.68	2033.0	1216.8	
12/12/92	1000	11.97	-	231.51	3331.0	2082.2	
12/13/92	1000	12.75	-	196.92	3723.0	1979.5	
12/16/92	0930	13.00	-	237.53	3847.0	2467.2	
12/20/92	0900	13.75	-	241.29	4247.0	2766.8	
12/22/92	1000	16.25	-	259.56	5921.0	4149.5	
12/24/92	1000	14.70	-	176.70	4836.0	2307.3	
12/28/92	1323	13.64	3	117.30	4182.0	1324.5	
12/30/92	1300	15.27	-	106.88	5235.0	1510.6	
01/03/93	1030	15.45	-	107.61	5364.0	1558.5	
01/06/93	0900	20.47	-	219.50	11450.0	6785.7	
01/11/93	1000	17.26	-	260.75	6704.0	4719.8	
01/14/93	1000	15.00	-	202.31	5044.0	2755.2	
01/17/93	1015	18.00	-	74.66	7343.0	1480.1	
01/23/93	1330	22.40	-	69.71	12810.0	2411.0	
01/29/93	1000	19.05	-	90.26	8395.0	2045.8	
02/05/93	1000	15.33	-	68.15	5278.0	971.2	
02/12/93	1315	13.86	-	67.85	4312.0	789.9	
02/19/93	1000	11.63	-	174.52	3163.0	1490.4	
02/24/93	1000	10.94	-	83.45	2827.0	637.0	
03/03/93	1100	9.84	-	65.43	2326.0	410.9	
03/06/93	1100	20.91	-	142.96	10600.0	4091.5	
03/12/93	1030	18.90	-	211.23	8230.0	4693.7	
03/15/93	1307	10.54	-	81.01	2639.0	577.2	
03/17/93	1000	12.87	-	274.47	3782.0	2802.7	
03/24/93	1015	9.67	-	168.62	2253.0	1025.7	
03/31/93	1000	8.90	-	175.66	1931.0	915.8	
04/10/93	1000	10.72	-	138.81	2723.0	1020.5	
04/17/93	0900	10.67	-	131.80	2699.0	960.5	
05/01/93	0900	9.56	-	127.05	2205.0	756.4	
05/12/93	1125	10.06	18	107.03	2422.0	699.9	
05/22/93	0900	7.75	-	136.83	1484.0	548.3	
06/28/93	1247	4.39	26	85.44	468.8	108.1	
07/08/93	1830	8.00	-	118.81	1580.0	506.8	
07/14/93	1607	7.67	-	233.95	1453.0	917.8	
07/20/93	1120	8.60	25	459.21	1811.0	2245.4	
07/29/93	2003	4.27	27	82.69	441.6	98.6	
08/06/93	1724	4.39	24	67.13	468.8	85.0	
08/13/93	1730	6.52	26	189.17	1053.0	537.8	
08/16/93	1159	5.68	28	113.82	800.7	246.1	
08/20/93	1730	6.30	29	142.89	984.0	379.6	
08/27/93	1740	6.25	30	137.71	968.6	360.1	

#361 - Kaskaskia River at Vandalia, IL (USGS #06692500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
09/03/93	1854	15.04	23	594.63	5072.0	8143.1	
09/10/93	1853	7.09	22	196.35	1242.0	658.4	
09/17/93	1221	10.39	18	207.82	2570.0	1442.1	
09/23/93	1300	14.76	20	290.90	4877.0	3830.5	
09/28/93	1224	21.06	17	70.78	10820.0	2067.8	
09/28/93	1309	21.02	17	52.41	10760.0	1522.6	
09/30/93	1545	10.77	15	205.40	2746.0	1522.9	

#367 - Silver Creek near Freeburg, IL (USGS #05594800)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/01/91	0900	0.30	-	130.71	6.1	2.2	
10/07/91	0900	0.83	-	465.15	34.4	43.2	
10/21/91	0800	0.62	-	38.77	21.3	2.2	
10/25/91	1700	0.73	-	48.38	27.9	3.6	
10/31/91	0900	4.13	-	167.64	389.3	176.2	
11/05/91	1600	1.36	-	44.62	74.6	9.0	
11/13/91	0800	0.60	-	33.29	20.2	1.8	
11/21/91	0800	5.67	-	479.78	616.8	799.0	
11/28/91	1200	1.12	-	34.86	55.7	5.2	
12/04/91	1039	2.78	2	245.32	218.9	145.0	
12/09/91	1000	1.36	-	60.23	74.6	12.1	
12/18/91	1100	1.21	-	18.40	62.6	3.1	
01/07/92	1300	1.46	-	19.88	83.1	4.5	
01/15/92	1800	2.40	-	66.97	176.2	31.9	
01/20/92	1700	1.35	-	10.56	73.8	2.1	
01/29/92	1700	1.40	-	17.03	78.0	3.6	
01/30/92	1014	1.35	4	10.58	73.8	2.1	
02/03/92	1600	1.24	-	19.72	65.0	3.5	
02/12/92	1000	1.00	-	12.51	47.0	1.6	
02/19/92	2200	3.37	-	132.42	290.5	103.9	
02/26/92	1700	1.91	-	28.27	125.7	9.6	
03/06/92	1700	1.25	-	50.63	65.8	9.0	
03/15/92	1800	1.16	-	53.49	58.8	8.5	
03/16/92	1013	1.16	7	13.35	58.8	2.1	
03/18/92	1700	2.75	-	96.52	215.4	56.1	
03/31/92	1730	8.38	-	853.44	1139.0	2624.6	
04/06/92	2200	2.25	-	63.18	160.3	27.3	
04/14/92	1100	1.84	-	68.51	118.7	22.0	
04/20/92	1200	8.59	-	408.01	1189.0	1309.8	
04/28/92	1700	1.93	-	41.59	127.8	14.4	
04/30/92	1016	1.79	15	62.47	113.7	19.2	
05/05/92	1730	1.28	-	69.70	68.1	12.8	
05/13/92	1000	1.13	-	73.61	56.5	11.2	
05/18/92	0800	0.88	-	69.14	37.7	7.0	
05/28/92	1100	0.70	-	98.47	26.0	6.9	
06/08/92	0900	4.10	-	1083.99	385.3	1127.7	*Cs
06/11/92	0957	0.66	-	109.98	23.6	7.0	
06/15/92	1300	1.16	-	95.32	58.8	15.1	
06/22/92	1100	0.75	-	284.42	29.2	22.4	
06/29/92	1100	0.57	-	220.07	18.5	11.0	
07/02/92	1200	0.34	-	91.09	7.6	1.9	
07/06/92	1000	1.98	-	137.63	132.9	49.4	
07/13/92	1000	0.53	-	103.14	16.4	4.6	

#367 - Silver Creek near Freeburg, IL (USGS #05594800)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992 (concluded)							
07/23/92	1800	2.64	-	1447.88	202.7	792.4	*Cs
07/28/92	0800	1.14	-	116.90	57.2	18.1	
07/29/92	1026	1.51	25	172.91	87.4	40.8	
08/02/92	1030	0.50	-	73.61	14.9	3.0	
08/09/92	1000	0.41	-	215.12	10.6	6.2	
08/18/92	0930	0.35	-	83.66	8.0	1.8	
08/26/92	1258	0.44	24	57.30	12.0	1.9	
08/28/92	0800	2.43	-	661.35	179.4	320.3	
09/02/92	0800	2.05	-	77.67	140.0	29.4	
09/09/92	1500	2.30	-	91.29	165.6	40.8	
09/14/92	1043	0.88	19	108.80	38.3	11.3	
09/19/92	0900	0.34	-	67.34	7.6	1.4	
09/22/92	1100	2.07	-	132.17	142.0	50.7	
Water Year 1993							
10/01/92	0800	0.34	-	47.85	7.6	1.0	
10/08/92	0800	0.38	-	32.98	9.3	0.8	
10/12/92	0800	0.41	-	38.12	10.6	1.1	
10/22/92	0800	0.75	-	58.60	29.2	4.6	
10/28/92	0946	0.83	11	41.61	34.4	3.9	
11/02/92	1200	1.00	-	47.58	47.0	6.0	
11/06/92	0900	1.15	-	19.42	58.0	3.0	
11/12/92	1700	9.00	-	640.82	1290.0	2232.0	
11/23/92	1700	8.09	-	443.17	1071.0	1281.5	
12/05/92	1400	1.29	-	14.18	68.9	2.6	
12/11/92	0800	1.30	-	10.96	69.8	2.1	
12/16/92	0900	8.35	-	1255.65	1132.0	3837.8	
12/21/92	1600	5.54	-	79.30	596.3	127.7	
12/28/92	1040	1.77	3	15.50	111.7	4.7	
01/05/93	0800	9.75	-	734.11	1461.0	2895.8	
01/14/93	0800	5.11	-	60.62	528.8	86.6	
01/21/93	0800	8.95	-	866.98	1277.0	2989.3	
02/03/93	1600	2.65	-	32.41	203.9	17.8	
02/11/93	0800	2.22	-	33.95	157.2	14.4	
02/22/93	1700	8.32	-	557.66	1124.0	1692.4	
03/08/93	0800	14.58	-	64.28	3022.0	524.5	
03/11/93	0800	9.34	-	93.28	1367.0	344.3	
03/15/93	0830	3.06	-	41.15	252.2	28.0	
03/26/93	0800	8.55	-	153.26	1179.0	487.9	
04/02/93	1300	3.33	-	53.18	285.4	41.0	
09/21/93	1326	2.50	16	122.25	187.0	61.7	
09/26/93	1500	16.02	15	77.10	4040.0	841.0	

#370 - Little Wabash River at Carmi, IL (USGS #03381500)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp (° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993							
09/24/93	1357	15.15	16	530.74	4976.0	7130.6	
09/24/93	1403	15.15	16	578.02	4976.0	7765.8	
09/30/93	1600	21.73	19	92.14	8337.0	2074.1	

#378 - Cache River at Forman, IL (USGS #03612000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1992							
10/18/91	1426	0.52	17	10.49	1.2	0.0	
10/29/91	1415	1.30	19	65.08	17.1	3.0	
11/08/91	1324	0.87	4	10.68	5.2	0.1	
11/12/91	1540	0.72	4	13.03	3.0	0.1	
11/20/91	1547	6.37	16	376.24	593.0	602.4	
11/26/91	1524	5.66	6	62.94	484.9	82.4	
12/06/91	1515	10.79	-	83.73	1453.0	328.5	
12/11/91	1501	4.16	7	27.69	282.8	21.1	
12/17/91	1409	2.22	6	20.42	78.8	4.3	
12/23/91	1423	3.94	6	62.91	255.8	43.5	
12/30/91	1354	2.37	6	14.40	92.3	3.6	
01/07/92	1429	2.51	6	19.55	104.9	5.5	
01/15/92	1440	5.71	3	55.02	492.2	73.1	
01/21/92	1416	2.06	1	10.96	64.5	1.9	
01/28/92	1412	1.80	5	14.96	43.9	1.8	
02/04/92	1438	1.52	6	12.75	26.6	0.9	
02/11/92	1418	1.31	6	8.54	17.5	0.4	
02/18/92	1453	6.51	9	116.05	615.6	192.9	
02/25/92	1448	6.28	11	119.55	578.7	186.8	
03/03/92	1507	1.90	14	35.14	51.4	4.9	
03/11/92	1517	1.90	9	30.47	51.4	4.2	
03/13/92	1257	1.75	8	17.83	40.4	1.9	
03/19/92	1435	9.67	10	369.59	1209.0	1206.4	
03/24/92	1406	3.33	11	30.92	187.3	15.6	
04/02/92	1404	6.96	10	92.96	690.2	173.2	
04/07/92	1439	2.28	14	25.99	84.2	5.9	
04/17/92	1440	1.74	21	27.18	39.8	2.9	
04/23/92	1440	6.29	19	91.87	580.3	143.9	
04/28/92	1424	2.05	13	23.14	63.7	4.0	
04/29/92	1404	1.90	13	25.23	51.4	3.5	
05/06/92	1417	1.36	16	28.70	19.5	1.5	
05/12/92	1425	1.07	21	32.22	9.7	0.8	
05/21/92	1439	1.50	23	54.55	25.5	3.8	
05/26/92	1438	1.02	19	58.03	8.4	1.3	
06/02/92	1425	0.81	22	45.27	4.2	0.5	
06/10/92	1338	0.91	-	38.50	5.9	0.6	
06/18/92	1411	0.71	27	21.94	2.9	0.2	
06/25/92	1358	0.59	24	26.03	1.7	0.1	
07/02/92	1337	0.65	26	26.72	2.2	0.2	
07/08/92	1409	0.73	28	35.39	3.1	0.3	
07/13/92	1332	0.54	28	35.67	1.3	0.1	
07/21/92	1329	0.73	26	56.02	3.1	0.5	
07/28/92	1323	0.67	26	37.79	2.4	0.2	

#378 - Cache River at Forman, IL (USGS #03612000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs(t/d)</i>	<i>Remarks</i>
Water Year 1992 (concluded)							
08/06/92	1507	0.48	26	22.44	0.9	0.1	
08/12/92	1354	1.01	24	42.15	8.1	0.9	
08/20/92	1426	0.39	24	12.90	0.4	0.0	
08/27/92	1459	0.87	23	181.94	5.2	2.6	
09/04/92	1457	0.94	23	48.36	6.5	0.9	
09/10/92	1404	0.72	23	53.50	3.0	0.4	
09/18/92	1428	0.54	24	28.06	1.3	0.1	
09/23/92	1433	4.55	20	194.89	333.4	175.4	
Water Year 1993							
10/02/92	1425	0.82	16	27.29	9.6	0.7	
10/15/92	1410	0.48	16	15.59	2.3	0.1	
10/23/92	1341	0.67	14	17.81	5.5	0.3	
10/27/92	1357	0.49	16	10.30	2.4	0.1	
11/06/92	1248	0.86	8	4.46	11.0	0.1	
11/12/92	1458	9.97	13	1587.82	1325.0	5680.4	
11/18/92	1506	1.83	11	26.08	72.3	5.1	
11/25/92	1316	6.15	10	83.97	596.1	135.1	
12/03/92	1357	1.47	15	16.53	42.8	1.9	
12/09/92	1201	1.13	3	13.58	22.3	0.8	
12/17/92	1431	1.33	5	12.50	33.4	1.1	
12/22/92	1144	1.32	5	13.82	32.8	1.2	
12/30/92	1221	1.77	6	21.04	66.7	3.8	
01/05/93	1430	13.96	6	412.37	2311.0	2573.1	
01/12/93	1218	6.26		46.56	613.8	77.2	
01/20/93	1354	1.86		14.02	75.1	2.8	
01/21/93	1447	9.88	6	454.55	1305.0	1601.6	
01/28/93	1235	5.01	8	38.82	424.8	44.5	
02/03/93	1145	2.98	6	18.33	179.9	8.9	
02/17/93	1100	3.99	1	21.72	291.6	17.1	
02/24/93	1105	8.19	4	110.41	957.1	285.3	
03/04/93	1545	11.22	5	132.74	1610.0	577.0	
03/09/93	1152	6.51		48.79	654.9	86.3	
03/11/93	1600	4.55	9	33.04	362.3	32.3	
03/22/93	1615	3.33	10	38.43	216.3	22.4	
03/29/93	1510	4.00	18	33.21	292.8	26.3	
04/05/93	1750	4.16	10	22.33	312.4	18.8	
04/13/93	1550	8.92	17	88.79	1102.0	264.2	
04/19/93	1515	8.03	17	55.73	926.4	139.4	
04/26/93	1705	2.65	18	33.17	146.3	13.1	
05/03/93	1440	12.07	16	400.97	1817.0	1967.1	
05/07/93	1204	9.05	21	79.69	1129.0	242.9	

#378 - Cache River at Forman, IL (USGS #03612000)
Instantaneous Suspended Sediment Measurements

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>Qs (t/d)</i>	<i>Remarks</i>
Water Year 1993 (concluded)							
05/09/93	1050	5.14	23	53.13	443.2	63.6	
05/17/93	1750	1.75	20	29.90	64.9	5.2	
05/24/93	1600	1.35	20	28.22	34.7	2.6	
05/31/93	1600	1.13	20	31.67	22.3	1.9	
06/07/93	1625	2.92	22	115.41	173.5	54.1	
06/14/93	1807	2.67	27	57.41	148.2	23.0	
06/21/93	1600	1.19	27	35.37	25.4	2.4	
06/24/93	1145	1.01	27	28.92	16.9	1.3	
06/29/93	1600	3.22	28	141.25	204.6	78.0	
07/05/93	1330	1.10	30	33.42	20.9	1.9	
07/12/93	1545	0.69	-	25.57	6.0	0.4	
07/19/93	1515	0.58	32	17.47	3.7	0.2	
07/26/93	1520	0.81	31	39.59	9.3	1.0	
08/02/93	1155	0.53	28	30.08	2.9	0.2	
08/09/93	1610	0.47	28	18.38	2.2	0.1	
08/16/93	1555	0.73	29	24.83	7.0	0.5	
08/23/93	1510	0.68	29	48.66	5.7	0.8	
08/30/93	1807	0.49	28	35.09	2.4	0.2	
09/06/93	1950	1.98	23	39.55	86.2	9.2	
09/13/93	1805	0.52	23	22.09	2.8	0.2	
09/20/93	1845	0.64	20	38.56	4.8	0.5	
09/22/93	1313	0.55	22	32.79	3.2	0.3	
09/27/93	1440	5.73	19	138.54	530.3	198.4	

APPENDIX B: PARTICLE SIZE DISTRIBUTION

#102 - Pecatonica River at Freeport, IL (USGS #05435500)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
06/15/93	1340	12.34	21	177.78	3352.0	99.39
09/16/93	1550	10.45	16	159.98	2513.0	98.94

#103 - Rock River at Rockton, IL (USGS #05437500)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp (° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
05/12/93	1320	9.48	22	42.03	15330.0	82.04
09/16/93	1250	5.81	16	125.96	7479.0	98.76

#122 -Vermilion River near Leonore, IL (USGS #05555300)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp (° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
02/09/93	1300	5.06	4	28.19	717.8	80.10

#123 - Mazon River near Coal City, IL (USGS #05542000)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
05/11/93	1243	2.11	22	85.70	201.8	56.34

#124 - Kankakee River near Wilmington, IL (USGS #05527500)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
05/11/93	1435	2.88	24	62.58	8427.00	81.76
09/10/93	1225	4.66	19	61.42	20480.00	94.51

#242 - Lamoine River at Colmar, IL (USGS #05584500)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
11/04/92	1519	7.83	6	102.19	577.4	92.54
12/18/92	1142	21.86	3	149.87	7303.0	74.70

#245 - Lamoine River at Ripley, IL (USGS #05585000)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>QW(cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1993						
11/03/92	1341	14.39	10	509.81	2476.0	71.66
12/16/92	1325	22.93	5	361.64	8774.0	84.05

#361 - Kaskaskia River at Vandalia, IL (USGS #06692500)

<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs(mg/l)</i>	<i>Qw(cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1992						
12/04/91	1415	3.36	1	662.34	233.2	96.66
04/30/92	1301	3.69	16	126.92	306.2	63.60
06/11/92	1327	5.20	22	228.29	669.8	98.50
09/14/92	1344	4.43	22	66.72	475.9	97.16
Water Year 1993						
12/28/92	1328	13.63	3	549.29	4176.0	18.94
03/15/93	1312	10.54	-	84.86	2639.0	93.88
08/16/93	1205	5.68	28	125.94	800.7	92.41

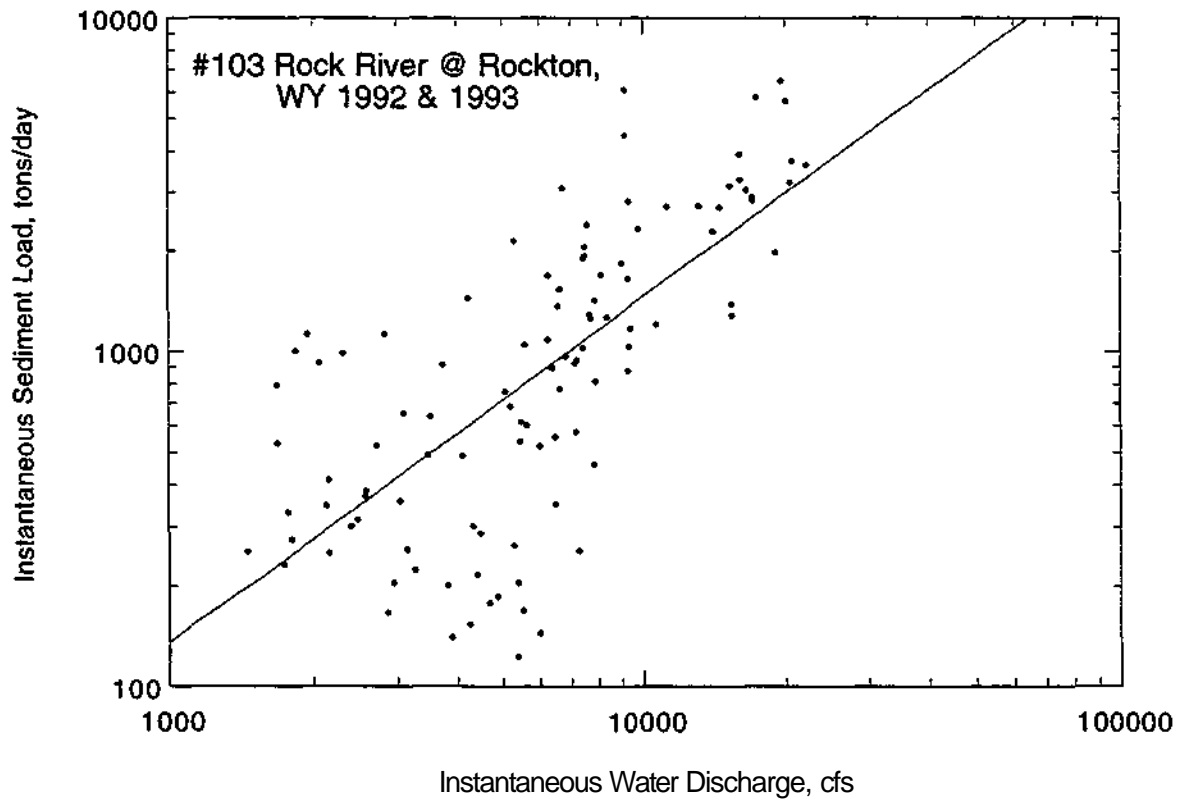
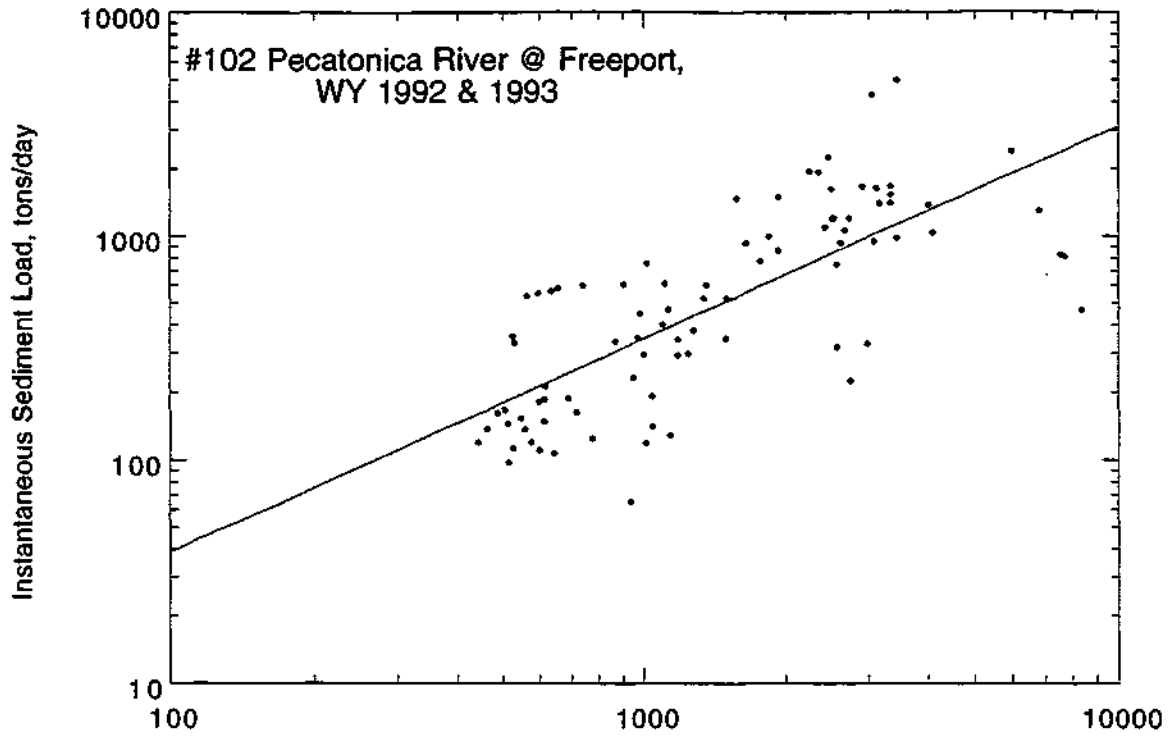
#367 - Silver Creek near Freeburg, IL (USGS #05594800)

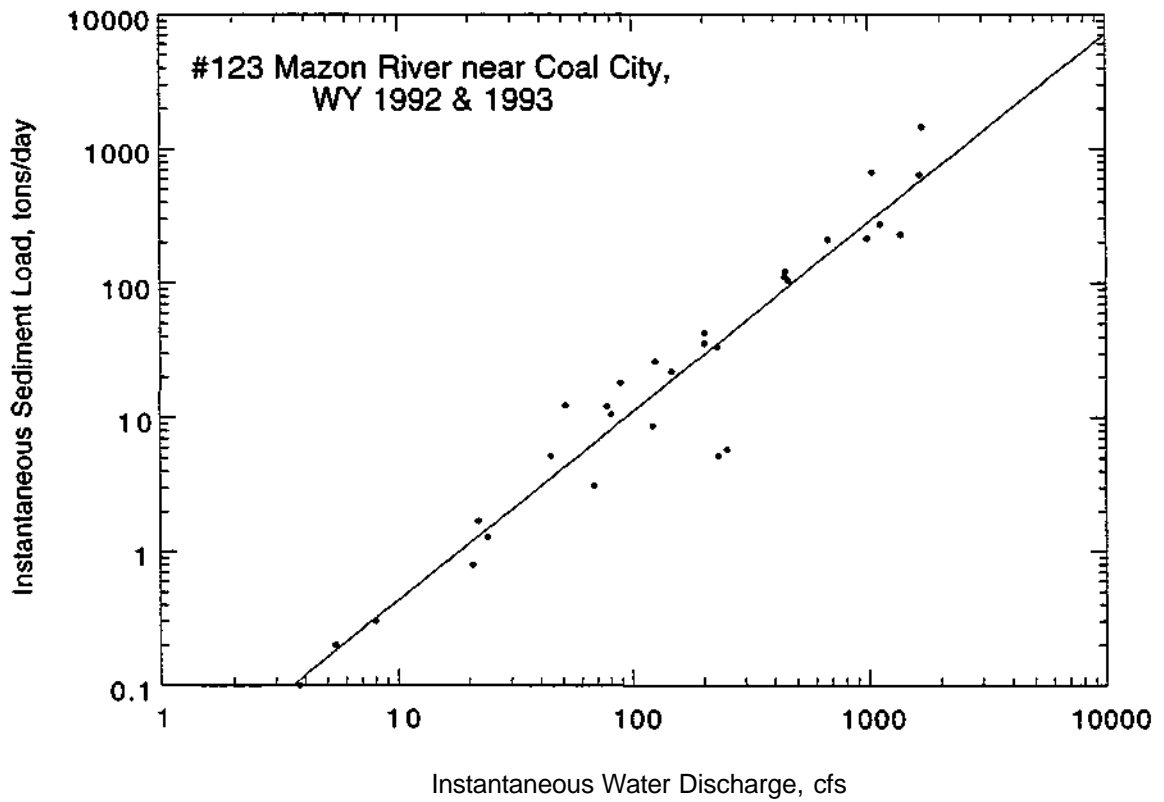
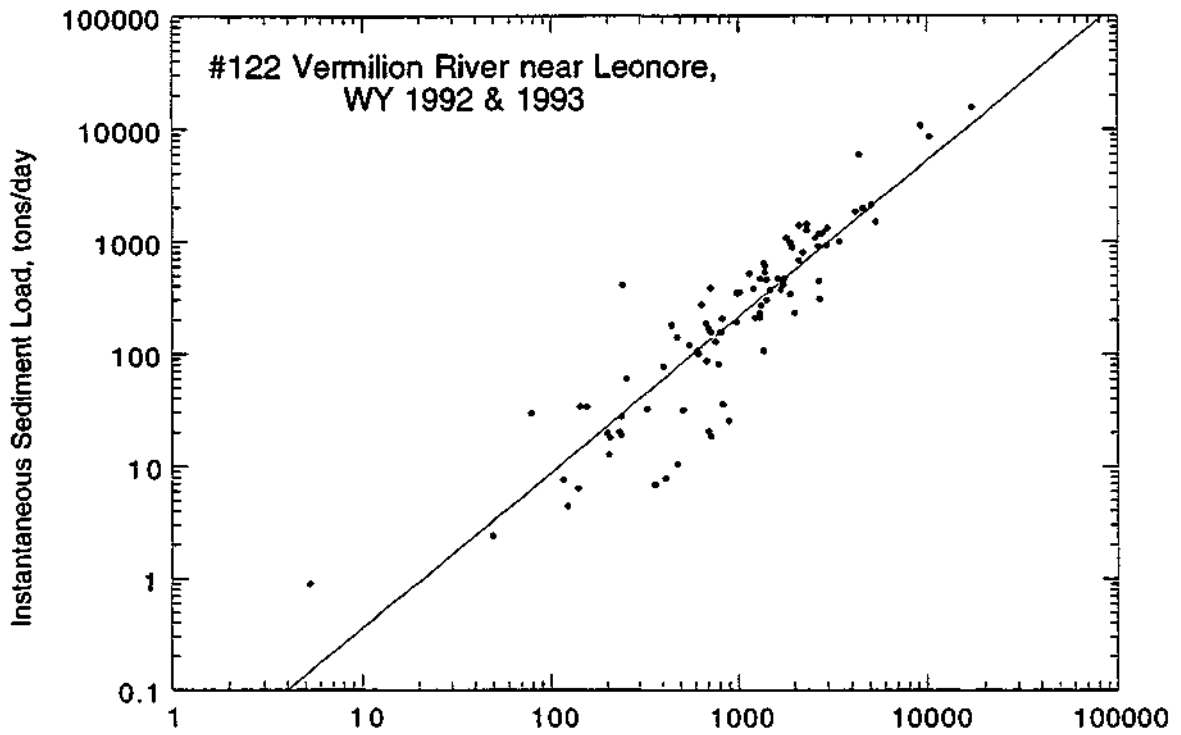
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Water Year 1992						
12/04/91	1045	2.78	2	246.34	218.9	99.50
04/30/92	1019	1.79	15	62.51	113.7	96.80
06/11/92	1001	0.66	20	112.35	23.6	99.10
09/14/92	1049	0.88	19	107.27	38.3	99.04
Water Year 1993						
12/28/92	1044	1.77	3	17.87	111.7	88.62

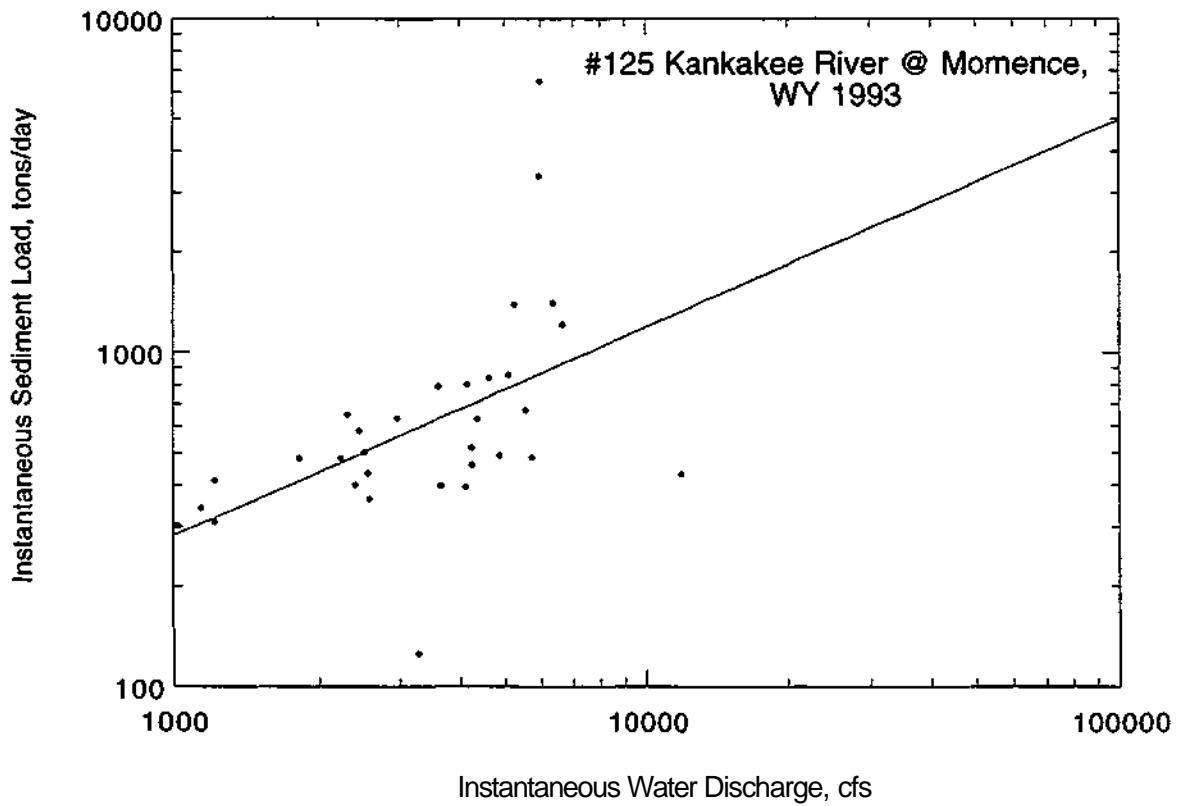
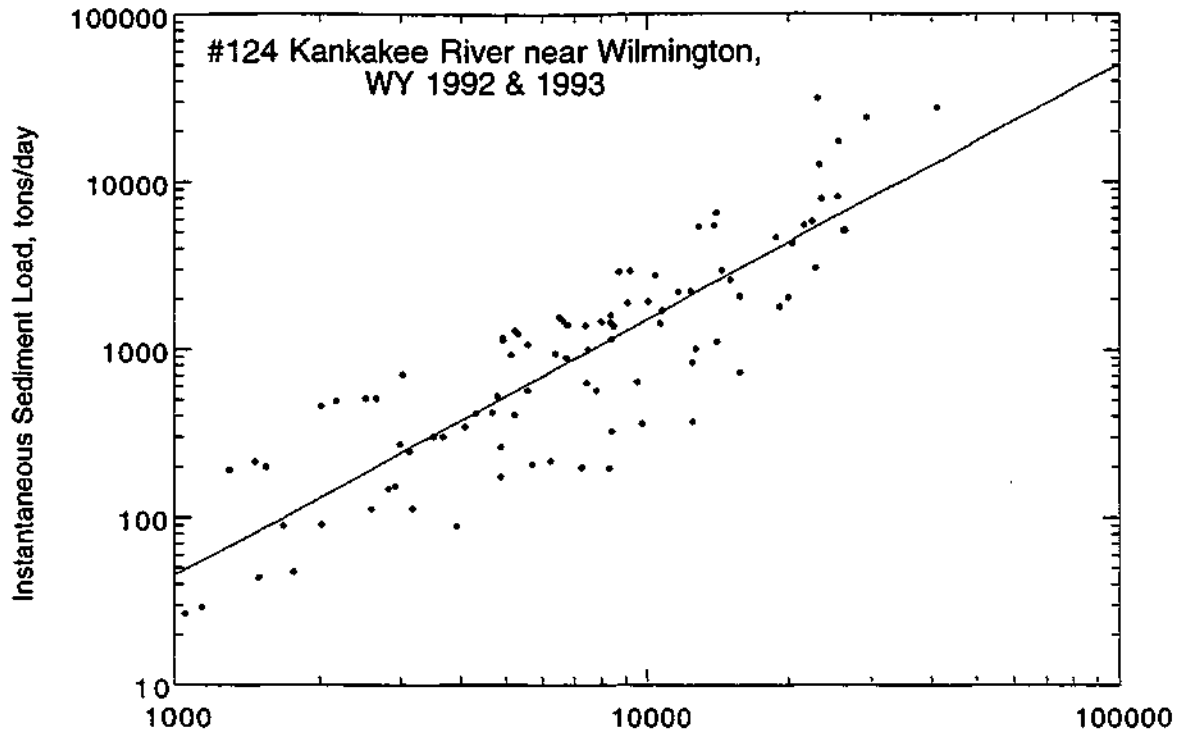
#378 - Cache River at Forman, IL (USGS #03612000)

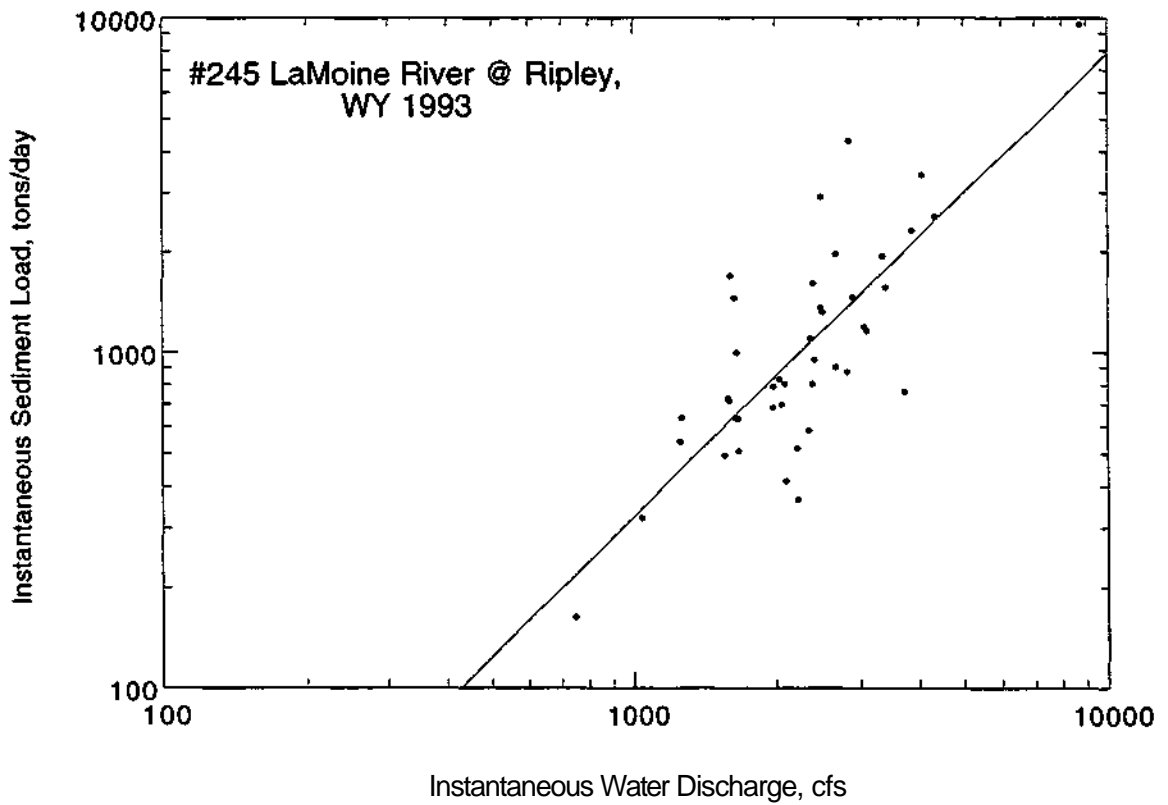
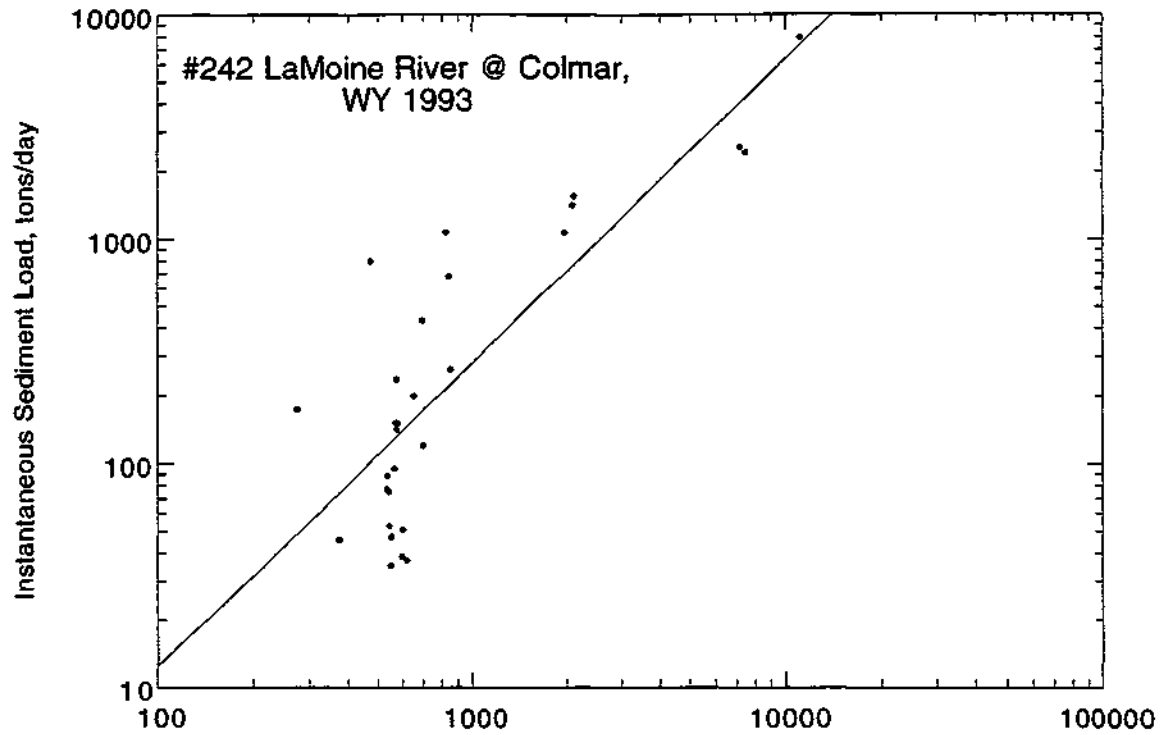
<i>Date</i>	<i>Time</i>	<i>Gage Ht</i>	<i>Temp(° C)</i>	<i>Cs (mg/l)</i>	<i>Qw (cfs)</i>	<i>% finer than 0.0625 mm</i>
Water Year 1992						
11/20/91	1553	6.37	16	306.66	593.0	97.63
03/19/92	1439	9.67	10	370.48	1209.0	93.30
06/10/92	1340	0.81	22	43.81	4.2	98.20
Water Year 1993						
01/05/93	1433	13.96	6	446.02	2311.0	89.77
03/09/93	1158	6.51	9	60.39	654.9	93.38

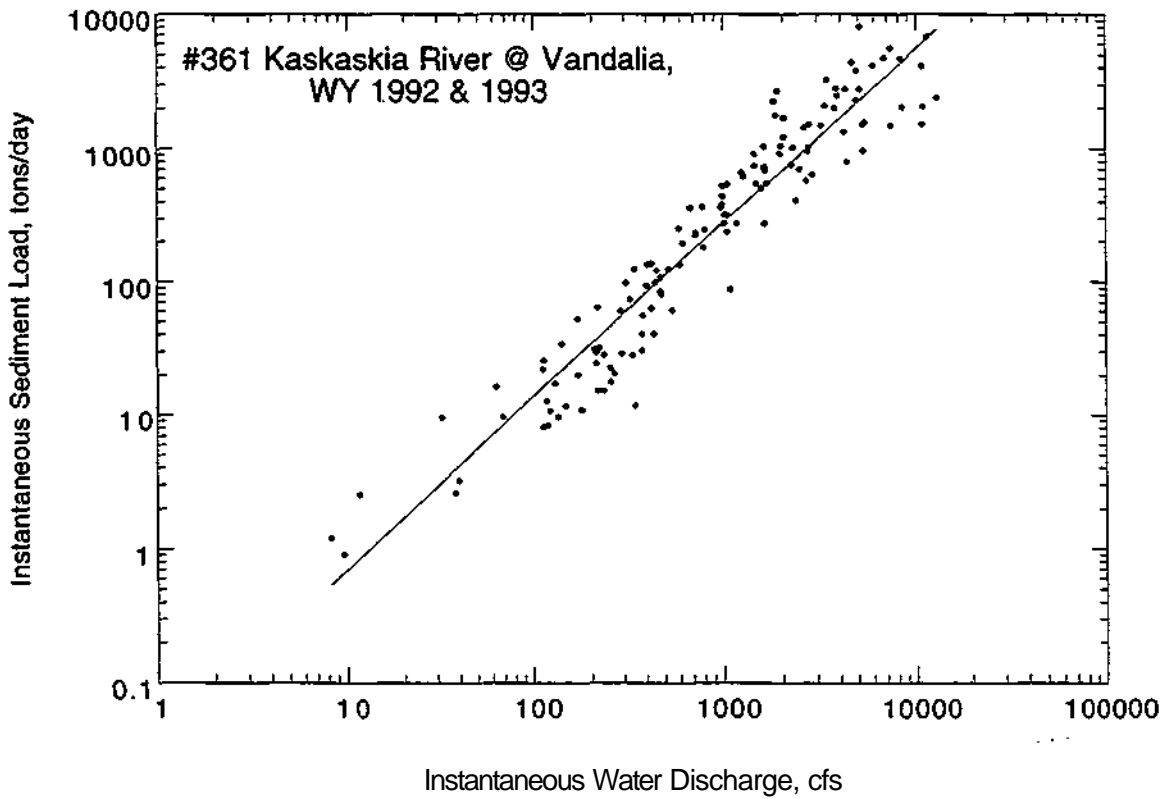
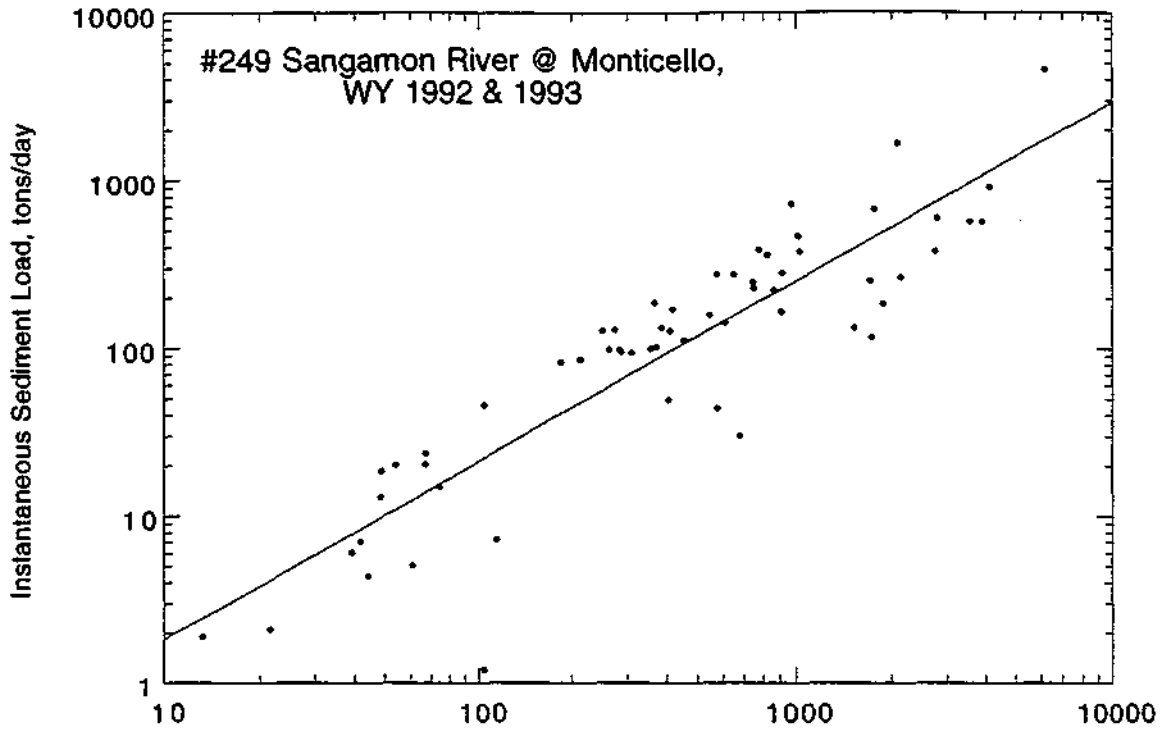
APPENDIX C: SEDIMENT TRANSPORT CURVES
BASED ON INSTANTANEOUS WATER DISCHARGE AND SEDIMENT LOAD

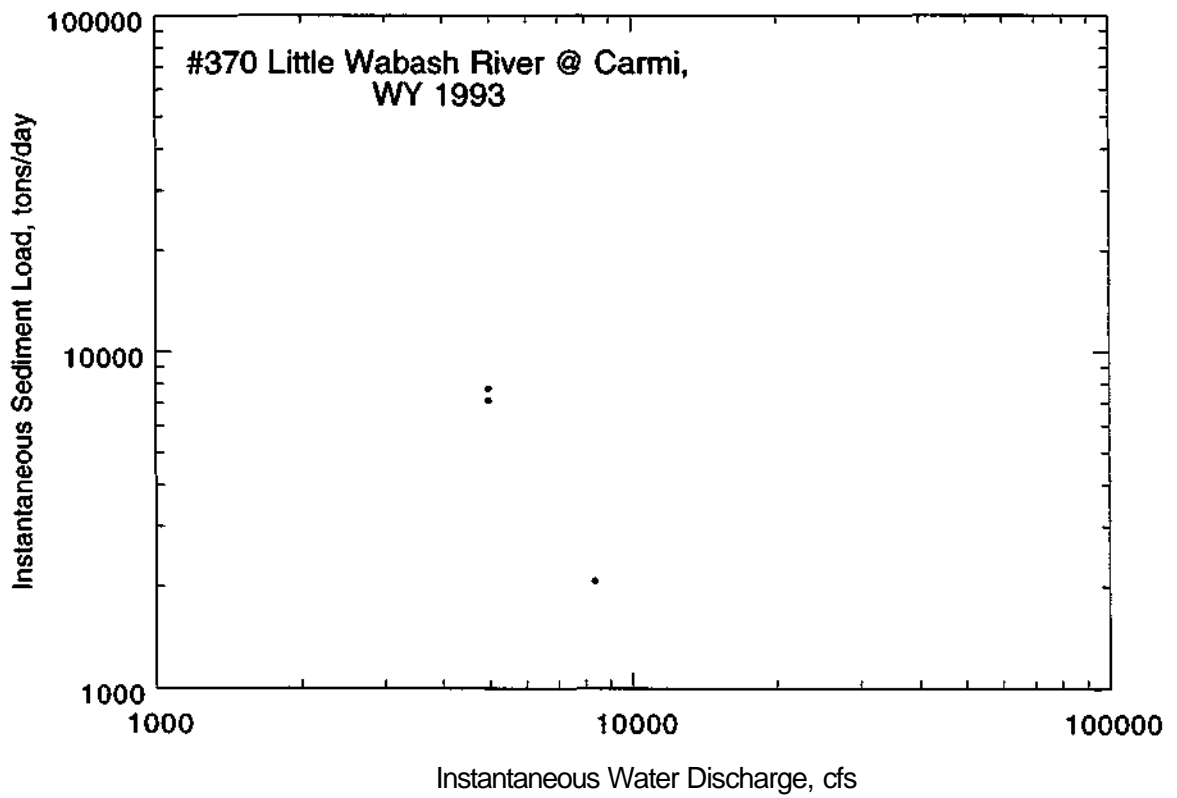
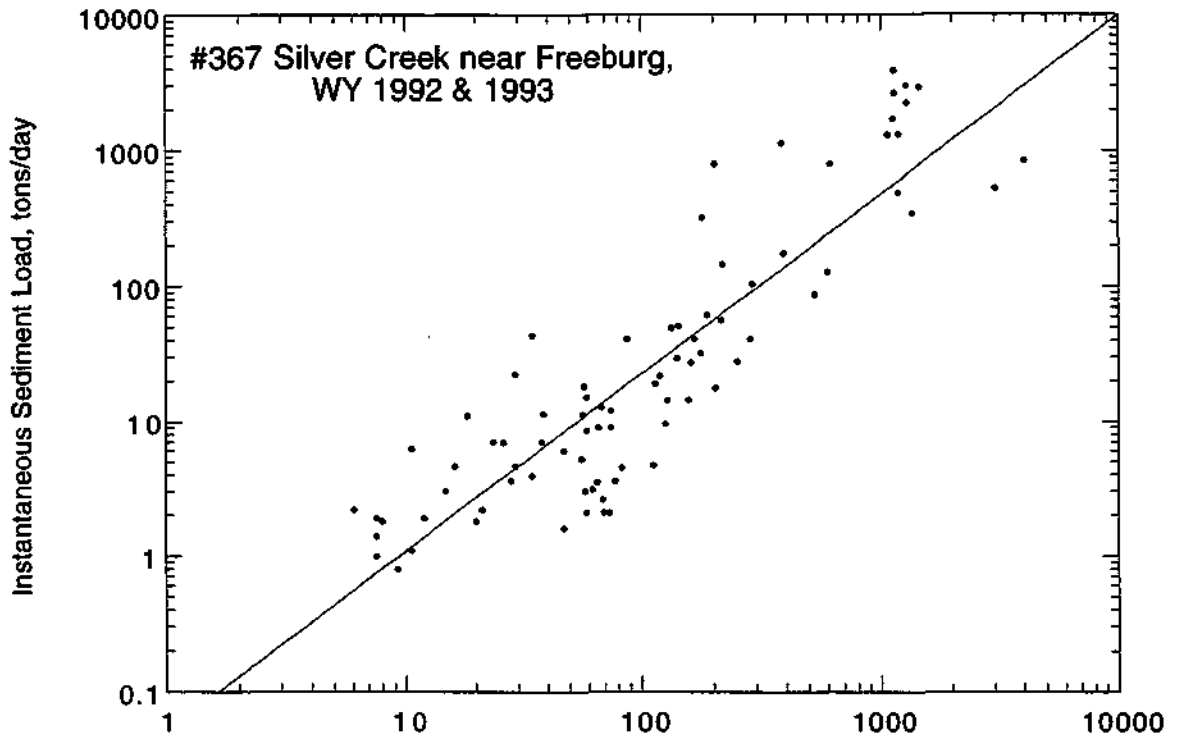


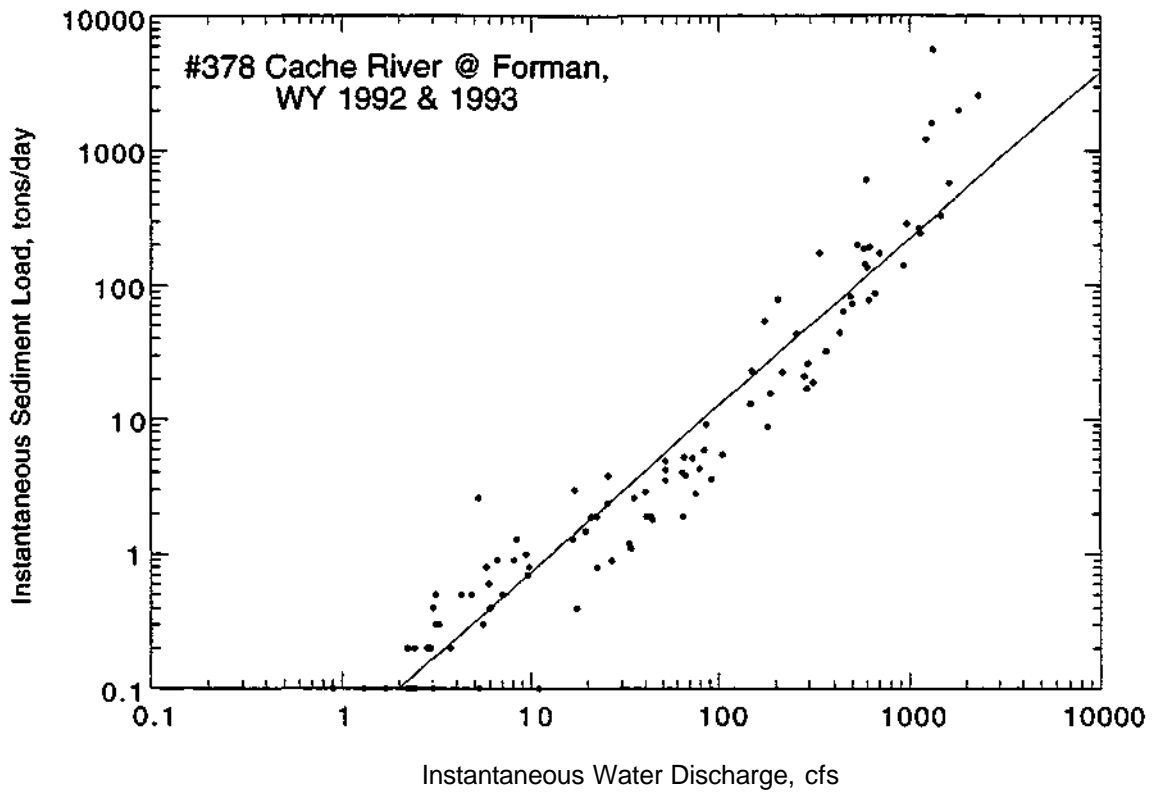












**APPENDIX D: PLOTS OF INSTANTANEOUS SEDIMENT CONCENTRATION
FOR THE PERIOD OF RECORD FOR CURRENT MONITORING SITES**

