

**WATER-QUALITY DATA FOR THE OHIO RIVER FROM NEW CUMBERLAND
DAM TO PIKE ISLAND DAM, WEST VIRGINIA AND OHIO,
JUNE-NOVEMBER 1992**

By Kimberly F. Miller, Carl W. Faulkenburg, Douglas B. Chambers, and Marcus C. Waldron

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BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Gordon P. Eaton, Director

For additional information write to:

**District Chief
U.S. Geological Survey, WRD
11 Dunbar Street
Charleston, WV 25301**

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WATER-QUALITY DATA FOR THE OHIO RIVER FROM NEW CUMBERLAND DAM TO PIKE ISLAND DAM, WEST VIRGINIA AND OHIO, JUNE-NOVEMBER 1992

By Kimberly F. Miller, Carl W. Faulkenburg, Douglas B. Chambers, *and* Marcus C. Waldron

ABSTRACT

This report contains water-quality data for the Ohio River from river mile 51.1 (3.3 mi upstream from New Cumberland Dam) to river mile 84.0 (0.2 mi upstream from Pike Island Dam) collected during the summer and fall of 1992 to assess the effects of hydropower development on water quality of the river. Water quality was determined by a combination of synoptic field measurements and laboratory analyses. Field measurements of water-quality characteristics were made along a longitudinal transect with 18 mid-channel sampling sites; cross-sectional transects of water-quality measurements were made at 5 of these sites. Water quality also was measured at two sites located on the back-channel (Ohio) side of Browns Island. Water temperature, dissolved oxygen concentration, pH, and specific conductance were measured at three depths (about 3.3 ft below the surface of the water, middle of the water column, and near the bottom of the river) at each longitudinal-transect and backchannel sampling site. Cross-sectional transects consisted of three or four detailed vertical profiles of the same characteristics. On most sampling dates, water samples were collected from three depths at the mid-channel vertical profile in each cross-sectional transect and analyzed for concentrations of chlorophyll *a* and chlorophyll *b* pigment in phytoplankton. Estimates of the depth of light penetration (Secchi disk transparency) were made at all phytoplankton-pigment-sampling locations whenever light and river-surface conditions were appropriate. Synoptic sampling usually was completed in 12 hours or less and was repeated seven times between June 25 and November 6, 1992.

INTRODUCTION

The U.S. Army Corps of Engineers has constructed and operates more than 60 lock-and-dam facilities in the Ohio River basin, with 20 facilities on the Ohio River mainstem and the rest on major tributaries in the basin (U.S. Army Corps of Engineers, 1990). The lock-and-dam structures form a system of contiguous navigation pools to enable navigation on the river throughout the year. Many dams also contain hydroelectric generators that were installed after construction of the navigation structures. The Federal Energy Regulatory Commission (FERC) recently issued licenses to retrofit hydropower at 19 dams in the upper Ohio River basin, which includes the Allegheny and Monongahela Rivers, and the Ohio River mainstem from Pittsburgh, Pa., to Huntington, W.Va., (fig. 1).

Some dams scheduled for hydropower development currently are thought to improve the water quality of the river by increasing the rate of gas transfer from the atmosphere to the water (Federal Energy Regulatory Commission, 1988). Water from deeper, slower-moving upstream pools is mixed as it passes over or through navigation structures, and the amount of surface area that is in contact with the atmosphere is increased. If the dissolved oxygen (DO) concentration is less than the saturation concentration, the potential exists to absorb oxygen into the water, a process known as reaeration.

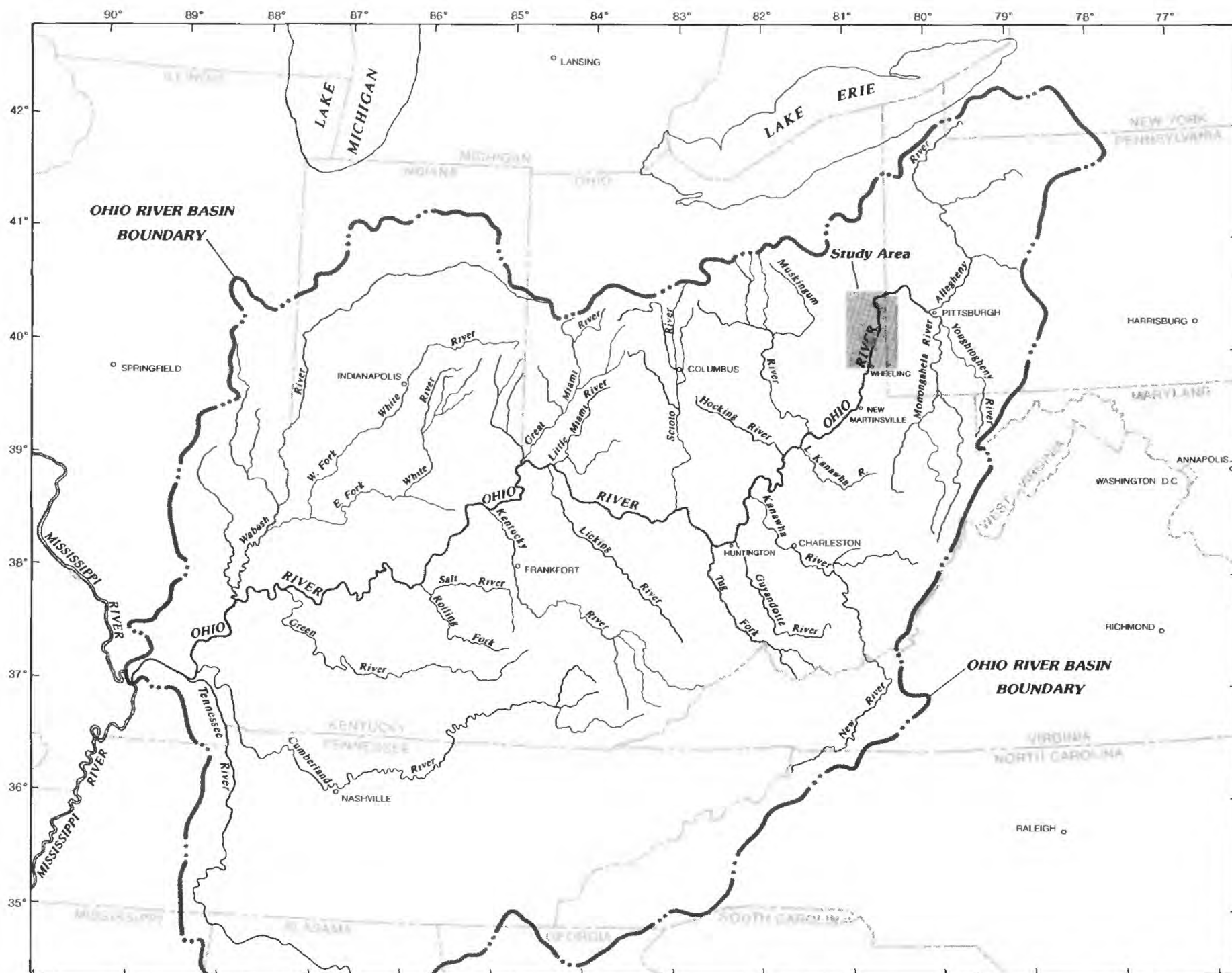
The amount of oxygen added to the water by reaeration at a dam depends partly on flow conditions and design characteristics of the structure (Avery and Novak, 1978). Dams on the upper Ohio River downstream from Wheeling, W. Va., are gated structures that discharge several feet below the surface of the downstream pool and provide little reaeration (Federal Energy Regulatory Commission, 1988). Other dams, such as those that are upstream from Wheeling, include overflow dams and gated dams with discharge above the downstream pool level that are more efficient aerators and could be major sources of DO during low flows of the summer and early fall. Hydropower operation at these surface-discharging structures will divert riverflow through underwater intakes where the opportunity for atmospheric gas exchange is smaller. For dams upstream from Wheeling, the loss of reaeration at low flows, combined with the oxygen consumption

associated with waste assimilation and the failure of other oxygen-generating processes such as algal photosynthesis, could reduce DO concentrations below acceptable levels and diminish the waste-assimilation capacity of the river (West Virginia Department of Natural Resources, 1989).

A water-quality monitoring program was begun in 1992 in cooperation with the city of New Martinsville, W. Va., and was designed, in part, to address license requirements to develop hydropower at New Cumberland Dam (FERC Project No. 6901). This dam is located up-stream from Wheeling, and is of the surface-discharge type. The program uses continuous monitoring and synoptic sampling of water-quality characteristics near the dam and throughout the downstream navigation pool during the summer and fall to provide basic hydrologic and ecologic data on the possible environmental effects of hydropower operation. Synoptic surveys, where water-quality characteristics are analyzed quickly at many locations and depths, have been recommended for incorporation into water-quality impact assessments of proposed hydropower projects at dams and other control structures (Gulliver and others, 1990; Daniil and others, 1991). The study described in this report was conducted in the Pike Island navigation pool, a 33-mi section of the Ohio River that begins at river mile 51.1 (3.3 mi upstream from New Cumberland Dam) and extends downstream to river mile 84.0 (0.2 mi upstream from Pike Island Dam) (fig. 2).

Purpose and Scope

This report presents data collected in 1992 on the spatial and temporal distribution of selected water-quality characteristics in the Pike Island pool of the Ohio River (the reach of river from New Cumberland Dam at the upstream end to Pike Island Dam at the downstream end). This report contains water-quality data of the Pike Island pool. Water quality of the Pike Island pool was determined by repeated synoptic sampling near New Cumberland Dam and throughout the 33-mi pool downstream from the dam. Measurements of water temperature, DO concentration, pH, and specific conductance usually were made at each sampling site in the network during synoptic-sampling



Base map from U.S. Geological Survey 1:3,168,000

0 50 100 150 MILES
0 50 100 150 KILOMETERS

Figure 1. Ohio River drainage basin.

periods of 12 hours or less. Water samples were collected from three depths and were analyzed for photosynthetic-pigment concentrations. Estimates of the depth of light penetration (Secchi disk transparency) were made at pigment-sampling locations whenever light and river-surface conditions were appropriate. Water-quality measurements were made once in June and July, twice in August and September, and once in November.

Description of Study Area

Drainage area for the Ohio River at Pike Island Dam is 24,700 mi². Most of the drainage basin up to the dam consists of narrow flood plains and deeply incised tributary valleys. The basin is underlain by bedrock consisting mainly of shale, sandstone, siltstone, limestone, and coal (West Virginia Department of Natural Resources, 1988). The average width of the Pike Island pool is 1,338 ft. The average bottom slope is 0.4 ft/mi (feet per mile); the average depth of the pool is 19 ft (Ohio River Valley Water Sanitation Commission, 1988).

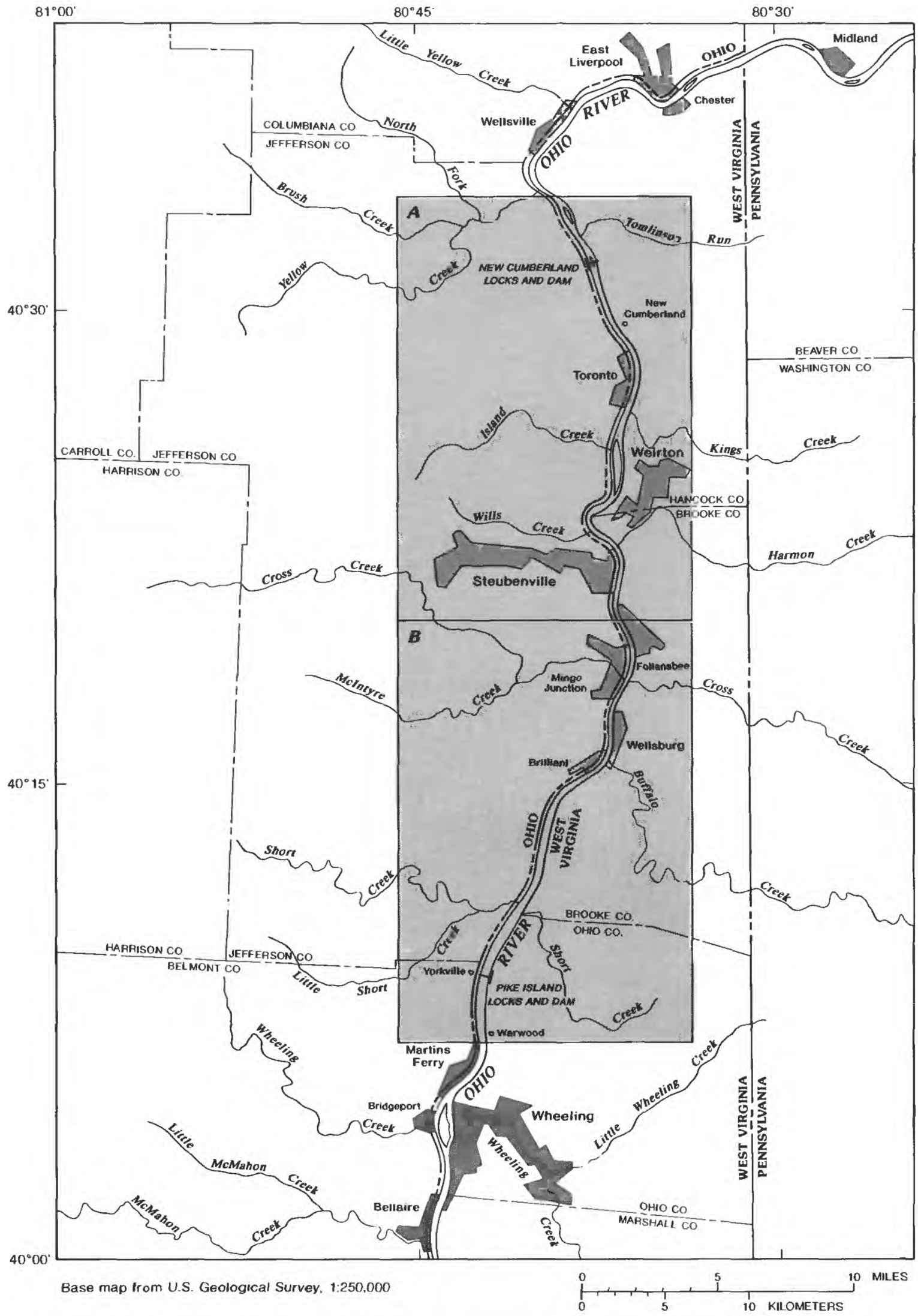


Figure 2. Ohio River study reach.

Streamflow in the upper Ohio River basin is related to precipitation and to the balance of precipitation and evapotranspiration. The climate of the region is considered temperate with distinct seasonal changes. Mean minimum air temperatures (-7.3°C) are generally during January; mean maximum air temperatures (28.3°C) are generally during July. Average annual air temperature is about 12°C . Annual precipitation in the basin ranges from 20 to 72 in., with heaviest amounts occurring in June or July and minimum amounts occurring in October (West Virginia Department of Natural Resources, 1988). The U.S. Army Corps of Engineers has constructed a system of multipurpose reservoirs on four main tributaries for flood control. These reservoirs also are used to augment flow and maintain navigation during critical periods.

Land use in the study area is about 15 percent cropland, 9 percent pasture, 46 percent forest, 6 percent urban, and 24 percent other uses (Ohio River Valley Water Sanitation Commission, 1988). Major urban and industrial centers in the reach include Toronto, Ohio, Wierton, W. Va., Steubenville, Ohio, Follansbee, W. Va., Mingo Junction, Ohio, and Wellsburg, W. Va., (fig. 2). The reach includes three municipal drinking-water intakes (Toronto, river mile 59.1; Wierton, river mile 65.1; and Steubenville, river mile 65.2) and 23 industrial intakes. The States of West Virginia and Ohio have issued permits for 13 municipal and 34 industrial effluent discharges in the study reach. Industrial activity along the reach is associated mainly with steel manufacturing, coal preparation, and coal-fired electric-power generation. This section of the river is also used to transport coal, petroleum products, chemicals, and other materials. There are seven river terminals handling petroleum products and hazardous chemicals in the study reach (Ohio River Valley Water Sanitation Commission, 1988).

DATA-COLLECTION METHODS

Water quality of the Pike Island pool was determined by a combination of synoptic field measurements and laboratory analyses. Field measurements were made on June 25, July 27, August 11, August 29, September 16, September 19, and November 6, 1992. Frequency of sampling was dictated, to some extent, by weather conditions on the river.

The field-data-collection network consisted of a longitudinal transect with 18 mid-channel sampling sites; cross-sectional transects of water-quality characteristics were made at 5 of these sites. Water quality also was measured at two sites located on the back-channel (Ohio) side of Browns Island. Measurements at each longitudinal transect and back-channel sampling site included three-point vertical profiles of water temperature, DO concentration, pH, and specific conductance. Cross-sectional transects consisted of three or four detailed vertical profiles of the same characteristics. Water samples usually were collected at the mid-channel vertical profile in each cross-sectional transect and analyzed for photosynthetic-pigment concentrations as measures of the abundance of phytoplankton. Estimates of the depth of light penetration (Secchi disk transparency) were made at pigment-sampling locations whenever light and river-surface conditions were appropriate. Synoptic sampling of the entire network usually was completed in 12 hours or less.

Sampling Cross-sectional Transects

During each sampling period, water quality was measured in cross-sectional transects at five locations, which are shown in figures 3a and 3b. Two cross sections were located near New Cumberland Dam, at the ends of the upstream and downstream wingwalls (river miles 54.0 and 54.8, respectively) (fig. 3a). Additional cross-sections were located 4.9 mi upstream from the industrial complex at Steubenville, Ohio (river mile 60.3) (fig. 3a), and 6.2 mi downstream from Steubenville (river mile 71.4) (fig. 3b). One cross-sectional transect was located at Pike Island Dam at the end of the upstream wingwall (river mile 84.0) (fig. 3b).

The downstream cross-sectional transect at New Cumberland Dam and the single cross-sectional transect at Pike Island Dam consisted of four vertical profiles of water temperature, DO concentration, pH, and specific conductance measurements. Positions of the vertical profiles were located by estimating 25, 50, 75 and 100 percent of the distance from the left bank to the edge of the

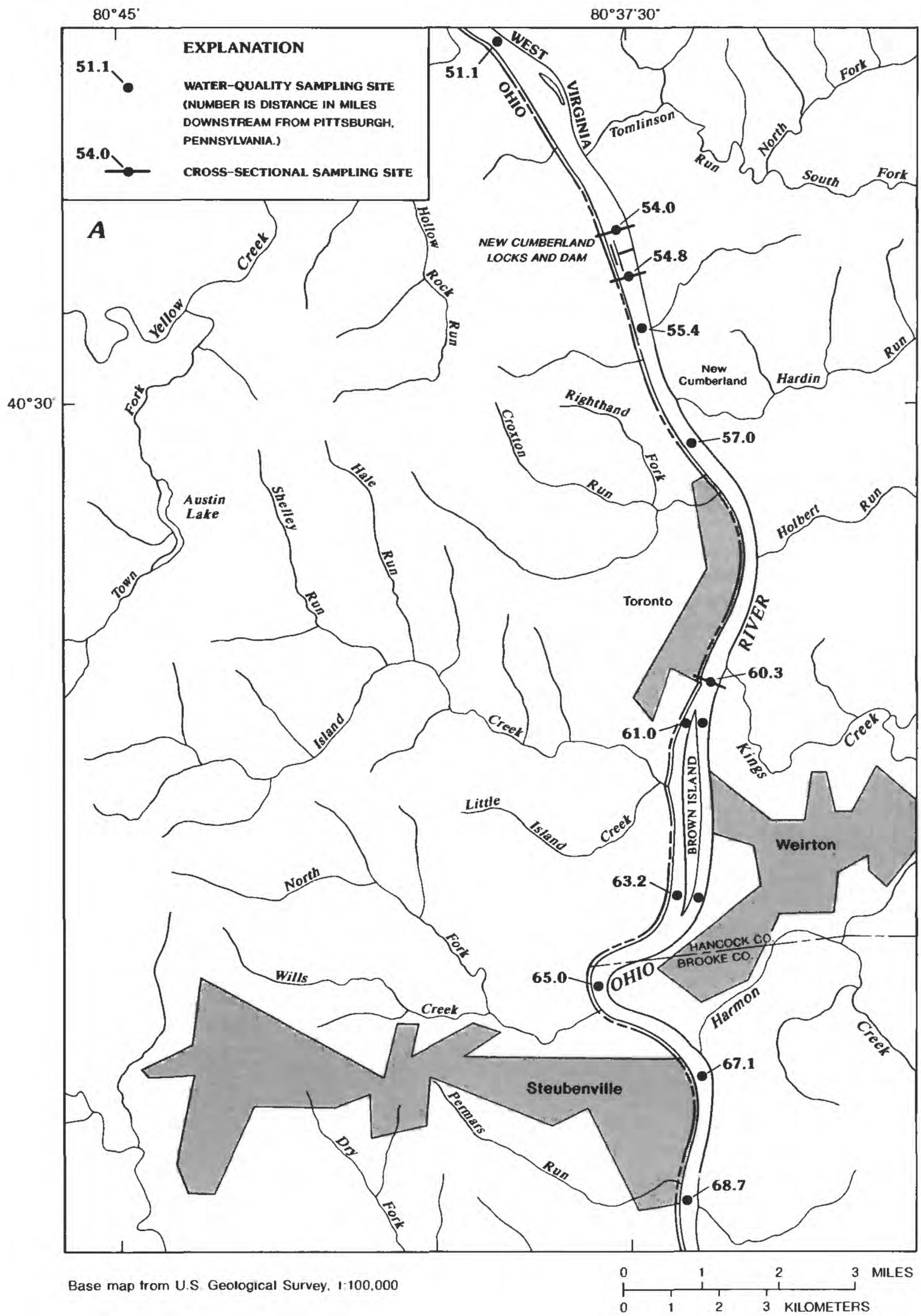


Figure 3a. Water-quality sampling sites and cross sections in the upstream section of study reach.

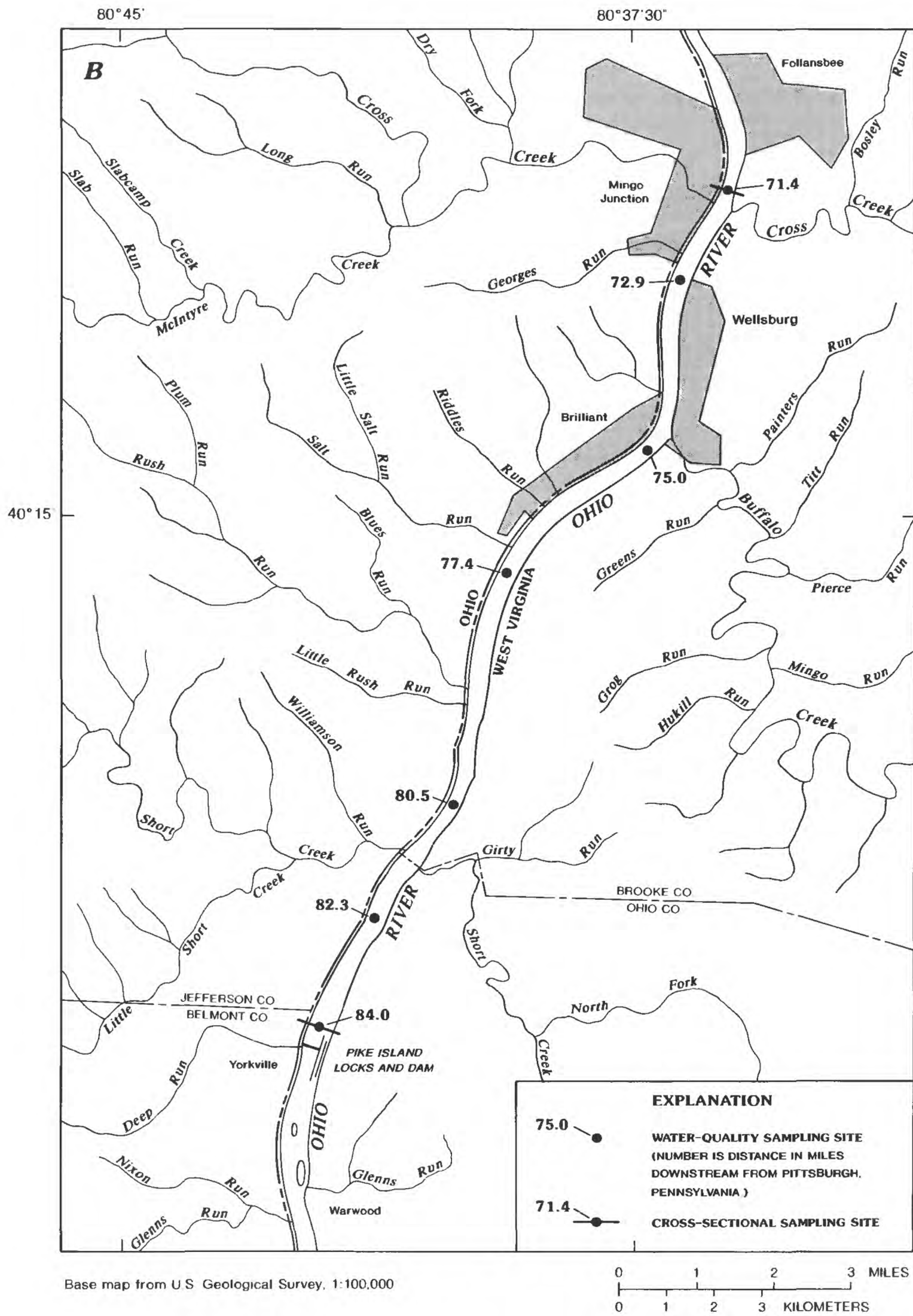


Figure 3b. Water-quality-sampling sites and cross sections in the downstream section of study reach .

wingwall. Positions for the vertical profiles at the single cross-sectional transect at Pike Island Dam were located at approximately 1 ft from the edge of the wingwall and by estimating 25, 50, and 75 percent of the distance from the edge of the wingwall to the right bank. Both were sampled in random order to minimize effects of diel changes (changes associated with a 24-hour period which includes both day and night). Cross-sectional transects at other locations consisted of three vertical profiles, with positions determined by estimating 25, 50, and 75 percent of the total width of the river. Weather and river-surface conditions occasionally prevented completion of all vertical profiles in a transect. Vertical-profile measurements were made at depth intervals of about 3.3 ft using a portable, multiparameter water-quality monitoring system (Hydrolab¹ Surveyor 3). Measuring was begun either at the bottom of the river or at 3.3 ft from the surface of the water. Barometric pressure was recorded before each set of field measurements using a Thommen TX altimeter-barometer.

Sampling Longitudinal Transects

Longitudinal transects consisted of measurements of water temperature, DO concentration, pH, and specific conductance, made at three depths (about 3.3 ft below the surface of the water, middle of the water column, and near the bottom of the river) at 18 mid-channel sampling sites distributed throughout the Pike Island pool. Two additional sampling sites were located on the back-channel (Ohio) side of Browns Island. Locations of sampling sites are shown in figures 3a and 3b. Each location corresponds to the position of a U.S. Coast Guard navigation light or daymark. Sampling methods and instruments were the same as for the cross-sectional transects.

¹. The use of brand, firm, or trade names in this report is for identification purposes and does not constitute endorsement by the U. S. Geological Survey.

Collection and Analysis of Photosynthetic-Pigment Samples and Light-Penetration Measurements

During most sampling periods, phytoplankton photosynthetic-pigment concentrations were measured at the mid-channel vertical profiles in each of the five cross-sectional transects. At each sampling site, water was collected from three depths (about 3.3 ft below the surface of the water, middle of the water column, and near the bottom of the river) in a 3.2-liter acrylic Kemmerer water sampler and transferred to 1-liter brown plastic bottles. Samples were stored in the dark at 4°C until they were transported to the laboratory for processing.

All water samples were processed within 1 week of collection. Samples were filtered through glass-fiber filters (GF/C, 1.9-in. diameter) and the filters were shipped on dry ice to the USGS National Water Quality Laboratory in Arvada, Colo., for analysis. Concentrations of chlorophyll *a* and chlorophyll *b* in particulate material deposited on the filters were determined by high-pressure liquid chromatography with fluorometric detection as described by Britton and Greeson (1989, p. 223).

At each phytoplankton-pigment sampling site, an estimate of the depth of light penetration was made by lowering a 9-in.-diameter Secchi disk into the water until the disk was no longer visible from the surface, and recording the depth. All Secchi disk measurements were made between the hours of 1000 and 1600 Eastern Daylight Savings Time (EDT). Secchi disk depths were not recorded if the sampling time was outside this timeframe or if high surface waves made measuring impossible.

Quality Assurance

The portable water-quality monitoring system was calibrated at the beginning of each sampling period in accordance with the recommendations of the manufacturer (Hydrolab Corporation, 1991) and checked periodically during the day for meter drift. Barometric pressure was recorded before each set of field measurements, using an analog barometer that was calibrated against a mercury barometer maintained by the National Weather Service Forecast Office in Charleston, W. Va.

The portable monitoring system measures DO concentration electrometrically with a standard membrane electrode. The electrode was calibrated by reading the meter against water-saturated air at known temperature and barometric pressure. As a further check of the accuracy of the DO concentration measurements, the electrode response was tested with a solution of sodium sulfite of sufficient concentration (about 1 g/L) to reduce DO concentration to below the detection limit (0.2 mg/L) of the meter (Skougstad and others, 1979).

At least once during each set of cross-sectional transect measurements, a water sample was collected from a point in the cross section at the same time that electrode measurements were recorded, and the DO concentration of the water sample was determined immediately by the Winkler method with azide modification (American Public Health Association and others, 1992, p. 4-100). The meter response was considered accurate if it differed from the results of the Winkler test by no more than 0.2 mg/L. Differences of less than 0.2 mg/L in reported DO concentrations probably are not significant. DO concentration, as a percentage of the saturation concentration, was calculated using the equations and tables of Weiss (1970).

Water samples collected for chlorophyll analysis on July 27 at river miles 54.0 and 54.8 were divided into duplicate samples, filtered separately, and analyzed to determine analytical reproducibility. The mean difference for three sets of duplicate chlorophyll-*a* analyses was about 36 percent and that for chlorophyll *b* was about 45 percent. Secchi disk measurements were always made by the same individual between the hours of 1000 and 1600 EDT. Secchi disk depths were not recorded if the sampling time was outside this time-frame or if high flows or surface waves made measuring impossible.

WATER-QUALITY DATA

Water-quality data collected in the Ohio River from New Cumberland Dam to Pike Island Dam during June through November 1992 are presented in tables 1 to 20. Each table contains all water-quality data collected during 1992 for the sampling point indicated. Sampling points are identified by station number and by river mile. The main shipping channel in the Pike

Island pool is to the left (the West Virginia side) of Browns Island, the largest island in the pool; the back channel is to the right (the Ohio side) of the island. In this report, locations for both main-channel and back-channel sampling sites are always given as the total distance from the left bank to the middle of the channel and are stored electronically in the U.S. Geological Survey Water Data Storage and Retrieval System (WATSTORE). At locations where cross-sectional-transect data were collected, the location of each depth profile is given as the estimated distance in feet from the left bank of the river, and the sampling depth is given in feet below the water surface. Cross-sectional data were not collected on July 27 at river mile 84.0 because of severe weather conditions.

Chlorophyll concentration is used extensively to estimate phytoplankton biomass. Chlorophyll *a* is abundant in all green plants and constitutes about 1 to 2 percent of phytoplankton dry weight (American Public Health Association and others, 1992, p. 10-17). Chlorophyll *b* is an accessory pigment found in green algae and other phytoplankton taxa. Water samples with large amounts of suspended sediment were not analyzed for chlorophyll concentration. Most water samples collected during the July 27 sampling period contained large amounts of suspended sediment and could not be analyzed for chlorophyll concentrations; selected samples from river miles 54.0 and 54.8 were analyzed and are the only reported values for this sampling period. High sediment content also precluded analysis of some samples collected on August 29 and November 4-6.

Secchi disk transparency is a measure of the relative amount of light available for photosynthesis (Wetzel and Likens, 1979). The depth at which the Secchi disk disappears from view is affected by the concentration of suspended particles and by light-absorbing characteristics of the water. No Secchi disk data were collected during the July 27 and the November 4-6 sampling periods because of high flows on the river. Data also were not recorded for August 11 at river mile 71.4 and for August 29 at river mile 84.0, usually because of poor weather conditions at the time of sampling.

SUMMARY

The water-quality data presented in this report were collected during the summer and fall of 1992 as part of a monitoring program designed to assess the effects of hydropower development on water quality in the Pike Island navigation pool of the Ohio River (Ohio River miles 51.1 to 84.0). Data-collection methods consisted of repeated synoptic sampling of selected water-quality characteristics throughout the pool. The data were collected, in part, to satisfy license requirements for development of hydropower at New Cumberland Dam (FERC Hydroelectric Project No. 6901).

Synoptic sampling consisted of collecting measurements of water temperature, dissolved oxygen (DO) concentration, pH, and specific conductance, along a longitudinal transect consisting of 18 mid-channel sampling sites and 2 sites on the back-channel (Ohio) side of Browns Island. Longitudinal-transect

and back-channel sites were sampled in the middle of the channel at depths of about 3.3 ft below the surface of the water, at the middle of the water column, and near the bottom of the river. Cross-sectional transects of the same water-quality measurements were made at main-channel sites. Cross-sectional transects consisted of three or four vertical profiles with measurements at intervals of about 3.3 ft. In addition to these measurements, water samples were collected from three depths at the midpoints of the five cross-sectional transects and analyzed for concentrations of phytoplankton chlorophylls *a* and *b*. An estimate of the depth of light penetration (Secchi disk depth) was made at each phytoplankton-pigment sampling site whenever light and river-surface conditions were appropriate. Water-quality measurements were made once in June and July, twice in August and September, and once in November 1992.

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Table 1.--Water-quality data for station 403400080392201, Ohio River at river mile 51.1, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1158	3.0	600	479	7.2	22.4	--	6.9	81	--	--
25	1159	23	600	477	7.2	22.2	--	6.7	78	--	--
25	1200	42	600	476	7.2	22.2	--	6.5	77	--	--
July											
27	1612	3.0	600	276	7.1	22.3	--	8.9	103	--	--
27	1615	18	600	279	7.1	22.3	--	9.0	104	--	--
27	1614	43	600	279	7.1	22.3	--	9.0	104	--	--
August											
11	1844	3.3	600	241	7.4	22.4	--	9.3	109	--	--
11	1844	22	600	241	7.4	22.4	--	9.4	109	--	--
11	1842	44	600	240	7.4	22.4	--	9.4	109	--	--
29	1605	3.3	600	360	7.5	23.2	--	8.3	98	--	--
29	1608	23	600	362	7.5	23.2	--	8.4	100	--	--
29	1607	47	600	365	7.5	23.2	--	8.2	97	--	--
September											
16	1903	3.6	600	334	7.7	23.3	--	9.4	112	--	--
16	1901	23	600	335	7.4	22.4	--	9.1	106	--	--
16	1859	47	600	333	7.4	22.4	--	9.2	107	--	--
19	1812	3.3	600	333	7.5	22.5	--	8.6	101	--	--
19	1811	18	600	330	7.5	22.4	--	8.6	101	--	--
19	1810	36	600	327	7.5	22.2	--	8.6	100	--	--
November											
6	1338	3.3	600	306	7.4	10.1	--	11.9	107	--	--
6	1338	20	600	307	7.4	10.1	--	11.9	107	--	--
6	1339	42	600	304	7.4	10.1	--	11.8	107	--	--

Table 2.--Water-quality data for station 403156080373201, Ohio River at river mile 54.0, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll a ($\mu\text{g}/\text{L}$)	Chlorophyll b ($\mu\text{g}/\text{L}$)
June											
25	1215	3.3	500	459	7.2	25.9	--	6.6	83	--	--
25	1215	4.6	500	459	7.2	25.9	--	6.6	83	--	--
25	1216	8.9	500	458	7.2	24.1	--	6.5	80	--	--
25	1216	17	500	458	7.2	22.9	--	6.4	76	--	--
25	1217	23	500	459	7.2	22.2	--	6.3	74	--	--
25	1218	26	500	464	7.2	22.2	--	6.3	73	--	--
25	1224	3.3	900	459	7.2	25.7	4.5	6.5	81	1.8	0.2
25	1225	6.6	900	459	7.2	25.6	--	6.5	79	--	--
25	1226	11	900	459	7.2	24.6	--	6.5	79	2.0	.2
25	1227	16	900	459	7.2	23.4	--	6.5	78	--	--
25	1228	22	900	462	7.2	22.2	--	6.5	76	2.2	.2
25	1230	27	900	458	7.2	22.2	--	6.4	75	--	--
25	1237	2.3	1,400	460	7.2	25.2	--	6.5	80	--	--
25	1237	6.6	1,400	459	7.2	24.6	--	6.5	79	--	--
25	1238	9.9	1,400	459	7.2	23.1	--	6.5	78	--	--
25	1238	17	1,400	459	7.2	22.6	--	6.4	76	--	--
25	1239	23	1,400	459	7.2	22.4	--	6.3	75	--	--
25	1240	29	1,400	459	7.2	22.3	--	6.3	74	--	--
July											
27	1559	3.3	500	267	7.1	22.1	--	9.0	104	--	--
27	1559	6.9	500	266	7.1	22.2	--	9.1	104	--	--
27	1600	9.9	500	266	7.1	22.1	--	9.1	104	--	--
27	1600	16	500	266	7.1	22.1	--	9.1	104	--	--
27	1601	23	500	266	7.1	22.1	--	9.1	104	--	--
27	1601	30	500	266	7.1	22.1	--	9.0	104	--	--
27	1602	33	500	266	7.1	22.1	--	9.0	104	--	--
27	1549	3.3	900	267	7.1	22.0	--	9.0	103	1.0	.2
27	1550	6.9	900	267	7.1	22.0	--	9.1	104	--	--
27	1551	9.9	900	267	7.1	22.0	--	9.1	104	1.2	.2
27	1552	17	900	267	7.1	22.0	--	9.1	104	--	--
27	1553	23	900	267	7.1	22.0	--	9.1	104	--	--
27	1554	29	900	267	7.1	22.0	--	9.1	104	--	--
27	1543	3.3	1,400	270	7.1	22.1	--	8.9	103	--	--
27	1544	6.9	1,400	271	7.1	22.0	--	9.0	103	--	--
27	1544	10	1,400	271	7.1	22.0	--	9.0	104	--	--
27	1545	16	1,400	271	7.1	22.0	--	9.0	104	--	--
27	1545	21	1,400	271	7.1	22.0	--	9.0	104	--	--

Table 2.--Water-quality data for station 403156080373201, Ohio River at river mile 54.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
August											
11	1828	3.3	500	243	7.4	22.4	--	9.3	108	--	--
11	1829	5.9	500	243	7.4	22.4	--	9.4	109	--	--
11	1829	9.5	500	243	7.4	22.4	--	9.4	109	--	--
11	1830	16	500	244	7.3	22.3	--	9.4	109	--	--
11	1830	22	500	245	7.3	22.3	--	9.4	108	--	--
11	1831	29	500	244	7.3	22.3	--	9.3	108	--	--
11	1831	32	500	244	7.4	22.2	--	9.2	106	--	--
11	1819	3.3	900	248	7.3	22.4	5.0	9.4	109	2.2	0.2
11	1818	6.6	900	248	7.4	22.4	--	9.3	108	--	--
11	1818	9.5	900	247	7.4	22.4	--	9.3	108	2.5	.2
11	1817	16	900	248	7.4	22.4	--	9.3	108	--	--
11	1816	23	900	248	7.4	22.4	--	9.3	108	1.8	.2
11	1815	30	900	251	7.4	22.4	--	9.3	107	--	--
11	1807	3.6	1,400	258	7.3	22.4	--	9.4	110	--	--
11	1809	7.5	1,400	252	7.3	22.4	--	9.4	109	--	--
11	1810	9.8	1,400	254	7.3	22.4	--	9.4	109	--	--
11	1811	17	1,400	253	7.3	22.4	--	9.4	109	--	--
11	1811	22	1,400	253	7.3	22.4	--	9.4	109	--	--
11	1812	29	1,400	256	7.3	22.4	--	9.4	109	--	--
11	1812	35	1,400	254	7.3	22.4	--	9.3	108	--	--
29	1553	3.3	500	355	7.5	23.3	--	8.1	98	--	--
29	1554	6.6	500	356	7.4	23.3	--	8.1	96	--	--
29	1554	9.9	500	356	7.4	23.3	--	8.1	97	--	--
29	1555	16	500	355	7.4	23.3	--	8.1	95	--	--
29	1555	23	500	359	7.4	23.3	--	8.0	96	--	--
29	1556	30	500	355	7.4	23.3	--	8.0	96	--	--
29	1556	31	500	358	7.4	23.3	--	8.0	95	--	--
29	1547	3.6	900	350	7.4	23.3	2.5	8.0	95	3.6	.4
29	1546	6.9	900	350	7.4	23.3	--	8.0	95	--	--
29	1545	10	900	350	7.4	23.3	--	8.0	95	2.7	.3
29	1544	16	900	350	7.4	23.3	--	8.0	95	--	--
29	1543	24	900	350	7.4	23.3	--	8.0	95	--	--
29	1542	30	900	351	7.4	23.2	--	8.0	99	--	--
29	1536	3.6	1,400	348	7.5	23.4	--	8.2	98	--	--
29	1537	6.9	1,400	348	7.5	23.4	--	8.0	97	--	--
29	1537	9.9	1,400	349	7.4	23.3	--	8.0	96	--	--
29	1538	17	1,400	347	7.4	23.3	--	8.0	95	--	--
29	1539	23	1,400	347	7.4	23.3	--	8.0	95	--	--
29	1539	24	1,400	347	7.4	23.3	--	8.0	95	--	--

Table 2.--Water-quality data for station 403156080373201, Ohio River at river mile 54.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
16	1848	3.6	500	334	7.6	24.2	--	9.6	116	--	--
16	1847	6.9	500	336	7.6	23.8	--	9.5	114	--	--
16	1847	10	500	333	7.5	22.5	--	9.1	107	--	--
16	1846	17	500	333	7.4	22.1	--	9.0	105	--	--
16	1846	23	500	333	7.4	22.1	--	9.0	105	--	--
16	1845	29	500	333	7.4	22.1	--	9.0	104	--	--
16	1844	33	500	334	7.4	22.1	--	8.9	103	--	--
16	1837	3.6	900	334	7.6	23.7	3.5	9.6	115	1.8	0.2
16	1836	6.9	900	334	7.6	23.7	--	9.6	115	--	--
16	1836	10	900	334	7.6	23.5	--	9.5	114	2.0	.2
16	1835	17	900	333	7.5	23.2	--	9.2	107	--	--
16	1834	23	900	333	7.4	22.2	--	9.1	106	2.2	.2
16	1833	30	900	333	7.4	22.2	--	9.1	106	--	--
16	1830	3.0	1,400	335	7.6	25.6	--	9.4	117	--	--
16	1830	6.9	1,400	333	7.6	23.8	--	9.6	115	--	--
16	1829	11	1,400	333	7.6	23.1	--	9.5	112	--	--
16	1828	17	1,400	333	7.5	22.3	--	9.2	107	--	--
16	1828	23	1,400	333	7.4	22.2	--	9.2	107	--	--
16	1827	30	1,400	333	7.4	22.2	--	9.1	106	--	--
19	1845	3.0	500	337	7.5	22.5	--	8.9	104	--	--
19	1844	6.3	500	336	7.5	22.5	--	8.8	103	--	--
19	1844	9.9	500	336	7.5	22.5	--	8.8	103	--	--
19	1843	16	500	334	7.5	22.5	--	8.7	102	--	--
19	1843	23	500	335	7.5	22.5	--	8.7	102	--	--
19	1842	30	500	343	7.5	22.5	--	8.7	102	--	--
19	1841	32	500	340	7.5	22.5	--	8.7	102	--	--
19	1836	3.0	900	339	7.5	22.6	2.0	8.8	104	6.2	.5
19	1835	6.6	900	339	7.5	22.6	--	8.8	103	--	--
19	1835	9.5	900	340	7.5	22.6	--	8.8	103	5.2	.5
19	1834	16	900	340	7.5	22.6	--	8.7	102	--	--
19	1834	23	900	340	7.5	22.5	--	8.7	101	5.4	.5
19	1833	30	900	341	7.5	22.5	--	8.6	101	--	--
19	1829	3.6	1,400	343	7.5	24.9	--	8.7	107	--	--
19	1829	6.6	1,400	342	7.5	23.4	--	8.8	105	--	--
19	1828	9.5	1,400	341	7.5	23.2	--	8.8	104	--	--
19	1827	16	1,400	340	7.5	22.7	--	8.8	103	--	--
19	1826	23	1,400	341	7.5	22.7	--	8.8	103	--	--
19	1825	31	1,400	341	7.5	22.6	--	8.7	102	--	--

Table 2.--Water-quality data for station 403156080373201, Ohio River at river mile 54.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
November											
6	1324	3.3	500	301	7.4	10.2	--	11.8	107	--	--
6	1324	6.6	500	301	7.4	10.2	--	11.8	107	--	--
6	1325	9.9	500	301	7.4	10.2	--	11.8	107	--	--
6	1325	16	500	301	7.4	10.2	--	11.8	107	--	--
6	1325	26	500	301	7.4	10.2	--	11.8	107	--	--
6	1311	3.3	900	304	7.4	10.2	--	11.8	107	1.8	0.2
6	1311	6.6	900	304	7.4	10.2	--	11.8	107	--	--
6	1312	9.9	900	304	7.4	10.2	--	11.8	107	2.0	1.8
6	1312	16	900	304	7.4	10.2	--	11.8	107	--	--
6	1312	23	900	304	7.4	10.2	--	11.8	107	1.4	.1
6	1313	27	900	304	7.4	10.2	--	11.8	107	--	--
6	1306	3.3	1,400	309	7.4	10.2	--	11.7	106	--	--
6	1306	6.6	1,400	309	7.4	10.2	--	11.7	106	--	--
6	1307	9.9	1,400	309	7.4	10.2	--	11.7	106	--	--
6	1307	16	1,400	309	7.4	10.2	--	11.7	106	--	--
6	1307	21	1,400	309	7.4	10.2	--	11.7	106	--	--

Table 3.--Water-quality data for station 403115080371801, Ohio River at river mile 54.8, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1322	2.6	400	458	7.3	24.7	--	8.0	98	--	--
25	1323	6.9	400	458	7.2	24.5	--	7.9	97	--	--
25	1324	10	400	458	7.3	24.5	--	7.9	97	--	--
25	1325	16	400	456	7.2	24.3	--	7.8	95	--	--
25	1326	23	400	455	7.2	23.8	--	7.6	92	--	--
25	1327	25	400	456	7.2	23.8	--	7.3	89	--	--
25	1329	2.6	700	459	7.2	24.6	3.0	7.9	97	1.8	0.2
25	1332	6.6	700	458	7.2	24.6	--	7.8	96	--	--
25	1333	10	700	458	7.2	24.5	--	7.8	96	1.8	.2
25	1334	14	700	457	7.2	24.5	--	7.8	96	2.2	.3
25	1342	4.3	1,100	460	7.2	24.5	--	7.9	97	--	--
25	1345	6.6	1,100	459	7.2	24.6	--	7.9	97	--	--
25	1343	9.2	1,100	460	7.2	24.5	--	8.0	97	--	--
25	1348	3.6	1,500	460	7.2	24.5	--	7.9	97	--	--
25	1349	6.9	1,500	459	7.2	24.5	--	7.9	97	--	--
25	1350	9.9	1,500	461	7.2	24.5	--	7.9	97	--	--
25	1351	17	1,500	459	7.2	24.5	--	7.9	97	--	--
July											
27	1437	3.3	400	261	7.1	22.0	--	9.3	107	--	--
27	1437	6.6	400	261	7.1	22.0	--	9.3	107	--	--
27	1438	9.9	400	261	7.1	22.0	--	9.3	107	--	--
27	1438	16	400	261	7.1	22.1	--	9.3	107	--	--
27	1439	24	400	261	7.1	22.1	--	9.3	107	--	--
27	1440	28	400	261	7.1	22.1	--	9.3	107	--	--
27	1446	3.0	700	262	7.1	22.1	--	9.4	107	1.0	.2
27	1447	7.2	700	262	7.1	22.1	--	9.4	108	--	--
27	1448	10	700	262	7.1	22.1	--	9.4	108	--	--
27	1448	16	700	262	7.1	22.1	--	9.4	107	--	--
27	1500	3.6	1,100	265	7.1	22.6	--	9.2	106	--	--
27	1501	6.3	1,100	264	7.1	22.5	--	9.3	108	--	--
27	1501	10	1,100	265	7.2	22.5	--	9.3	108	--	--
27	1502	12	1,100	264	7.2	22.5	--	9.3	107	--	--
27	1505	3.3	1,500	271	7.2	23.2	--	9.1	107	--	--
27	1506	6.3	1,500	268	7.2	23.2	--	9.2	108	--	--
27	1506	9.2	1,500	270	7.2	23.2	--	9.2	108	--	--
27	1507	16	1,500	271	7.2	23.2	--	9.1	107	--	--
27	1507	22	1,500	270	7.2	23.1	--	9.0	106	--	--

Table 3.--Water-quality data for station 403115080371801, Ohio River at river mile 54.8, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
August											
11	1719	3.9	400	252	7.4	22.8	--	9.2	107	--	--
11	1719	7.2	400	252	7.4	22.7	--	9.2	107	--	--
11	1718	10	400	251	7.4	22.7	--	9.2	107	--	--
11	1717	17	400	250	7.4	22.7	--	9.2	107	--	--
11	1717	23	400	247	7.4	22.6	--	9.2	107	--	--
11	1716	27	400	248	7.4	22.6	--	9.3	108	--	--
11	1711	3.0	700	259	7.5	23.4	3.5	9.1	107	2.5	0.2
11	1710	7.2	700	258	7.4	23.3	--	9.1	107	3.0	.3
11	1709	9.8	700	258	7.4	23.3	--	9.1	107	--	--
11	1708	17	700	257	7.5	23.2	--	9.1	107	3.0	.3
11	1724	2.6	1,100	259	7.4	23.6	--	9.1	108	--	--
11	1724	5.6	1,100	258	7.5	23.6	--	9.1	107	--	--
11	1723	9.5	1,100	258	7.5	23.6	--	9.1	108	--	--
11	1723	14	1,100	261	7.5	23.6	--	9.1	108	--	--
11	1732	3.3	1,500	264	7.5	24.2	--	9.0	108	--	--
11	1731	6.6	1,500	265	7.5	24.2	--	9.0	107	--	--
11	1730	9.5	1,500	266	7.5	24.2	--	8.9	107	--	--
11	1729	16	1,500	265	7.5	24.2	--	8.9	107	--	--
11	1729	18	1,500	265	7.5	24.2	--	9.0	107	--	--
29	1459	3.3	400	352	7.5	23.3	--	8.8	107	--	--
29	1500	6.3	400	352	7.5	23.3	--	8.8	104	--	--
29	1500	10	400	351	7.5	23.3	--	8.8	104	--	--
29	1502	17	400	353	7.5	23.3	--	8.7	104	--	--
29	1502	24	400	351	7.5	23.3	--	8.8	105	--	--
29	1503	30	400	351	7.5	23.3	--	8.8	104	--	--
29	1453	3.9	700	347	7.5	23.8	1.5	8.7	104	3.6	.4
29	1452	6.9	700	347	7.5	23.8	--	8.7	104	3.5	.4
29	1452	9.9	700	348	7.5	23.8	--	8.8	105	3.7	.4
29	1450	14	700	345	7.5	23.8	--	9.0	108	--	--
29	1446	3.3	1,100	346	7.5	24.1	--	8.7	105	--	--
29	1447	6.6	1,100	345	7.5	24.1	--	8.7	105	--	--
29	1447	9.9	1,100	345	7.5	24.1	--	8.6	104	--	--
29	1448	16	1,100	344	7.5	24.2	--	8.6	105	--	--
29	1449	23	1,100	345	7.5	24.3	--	8.6	104	--	--
29	1440	3.0	1,500	347	7.5	24.6	--	8.5	105	--	--
29	1440	6.3	1,500	346	7.5	24.6	--	8.5	103	--	--
29	1441	9.9	1,500	346	7.5	24.6	--	8.5	104	--	--

Table 3.--Water-quality data for station 403115080371801, Ohio River at river mile 54.8, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
August											
29	1442	16	1,500	346	7.5	24.6	--	8.5	104	--	--
29	1443	19	1,500	347	7.5	24.6	--	8.5	104	--	--
September											
16	1806	3.6	400	334	7.5	23.6	--	9.2	109	--	--
16	1805	6.6	400	334	7.5	23.6	--	9.2	109	--	--
16	1805	9.9	400	335	7.5	23.4	--	9.2	109	--	--
16	1804	16	400	334	7.5	23.4	--	9.1	108	--	--
16	1803	23	400	334	7.5	23.4	--	9.1	108	--	--
16	1757	3.3	700	334	7.5	23.8	3.0	9.1	109	1.8	0.2
16	1757	6.9	700	334	7.5	23.9	--	9.1	109	1.8	.2
16	1756	9.9	700	334	7.5	23.9	--	9.1	109	2.2	.3
16	1755	17	700	334	7.5	23.9	--	9.1	109	--	--
16	1754	18	700	335	7.5	23.9	--	9.1	109	--	--
16	1751	3.6	1,100	335	7.5	23.9	--	9.1	110	--	--
16	1750	6.6	1,100	335	7.5	23.9	--	9.1	109	--	--
16	1750	9.9	1,100	335	7.5	23.9	--	9.1	109	--	--
16	1749	13	1,100	337	7.5	23.9	--	9.1	109	--	--
16	1746	3.6	1,500	333	7.5	23.9	--	9.1	109	--	--
16	1745	7.2	1,500	334	7.5	23.9	--	9.0	108	--	--
16	1745	10	1,500	336	7.5	23.9	--	9.0	108	--	--
16	1743	18	1,500	337	7.5	23.9	--	9.1	108	--	--
19	1713	3.3	400	334	7.5	23.6	--	9.2	109	--	--
19	1712	6.6	400	334	7.5	23.6	--	9.2	109	--	--
19	1712	10	400	334	7.5	23.6	--	9.2	109	--	--
19	1711	16	400	335	7.5	23.4	--	9.2	109	--	--
19	1711	23	400	334	7.5	23.4	--	9.1	108	--	--
19	1710	28	400	334	7.5	23.4	--	9.1	108	--	--
19	1705	3.0	700	334	7.5	23.8	.5	9.1	109	2.8	.3
19	1705	6.6	700	334	7.5	23.9	--	9.1	109	--	--
19	1704	11	700	334	7.5	23.9	--	9.1	109	4.6	.5
19	1703	12	700	334	7.5	23.9	--	9.1	109	3.2	.3
19	1700	3.3	1,100	335	7.5	23.9	--	9.1	110	--	--
19	1659	6.6	1,100	335	7.5	23.9	--	9.1	109	--	--
19	1659	10	1,100	335	7.5	23.9	--	9.1	109	--	--
19	1658	12	1,100	337	7.5	23.9	--	9.1	109	--	--

Table 3.--Water-quality data for station 403115080371801, Ohio River at river mile 54.8, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
19	1655	3.3	1,500	333	7.5	23.9	--	9.1	109	--	--
19	1656	6.9	1,500	334	7.5	23.9	--	9.0	108	--	--
19	1656	10	1,500	336	7.5	23.9	--	9.0	108	--	--
19	1657	17	1,500	336	7.5	23.9	--	9.0	108	--	--
19	1658	19	1,500	337	7.5	23.9	--	9.1	108	--	--
November											
6	1233	3.3	400	304	7.4	10.3	--	12.1	110	--	--
6	1233	6.6	400	304	7.4	10.3	--	12.1	110	--	--
6	1234	9.9	400	304	7.4	10.3	--	12.1	110	--	--
6	1234	16	400	304	7.4	10.3	--	12.1	110	--	--
6	1234	23	400	304	7.4	10.3	--	12.1	110	--	--
6	1235	29	400	304	7.4	10.3	--	12.1	110	--	--
6	1227	3.3	700	306	7.4	10.4	--	12.1	110	1.9	0.2
6	1227	6.6	700	306	7.4	10.4	--	12.1	110	--	--
6	1228	9.9	700	306	7.4	10.6	--	12.1	111	2.3	.2
6	1228	16	700	306	7.4	10.5	--	12.1	110	--	--
6	1228	19	700	306	7.4	10.5	--	12.0	110	--	--
6	1217	3.3	1,100	310	7.4	11.1	--	11.9	110	--	--
6	1217	6.6	1,100	310	7.4	11.1	--	11.9	110	--	--
6	1218	9.9	1,100	310	7.4	11.1	--	11.9	110	--	--
6	1218	16	1,100	310	7.4	11.1	--	11.9	110	--	--
6	1207	3.3	1,500	314	7.4	11.6	--	11.9	111	--	--
6	1207	6.6	1,500	314	7.4	11.6	--	11.9	111	--	--
6	1208	9.9	1,500	314	7.4	11.6	--	11.9	111	--	--
6	1208	16	1,500	313	7.4	11.6	--	11.9	111	--	--
6	1208	20	1,500	315	7.4	11.6	--	11.8	110	--	--

Table 4.--Water-quality data for station 403045080370901, Ohio River at river mile 55.4, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1358	3.3	700	459	7.2	24.5	--	7.8	96	--	--
25	1358	8.3	700	459	7.2	24.5	--	7.7	96	--	--
25	1359	15	700	459	7.2	24.5	--	7.6	93	--	--
July											
27	1427	3.0	700	261	7.1	22.1	--	9.2	105	--	--
27	1428	12	700	262	7.1	22.1	--	9.3	106	--	--
27	1428	24	700	261	7.1	22.1	--	9.3	107	--	--
August											
29	1430	3.3	700	347	7.5	23.5	--	8.8	105	--	--
29	1432	10	700	348	7.5	23.5	--	8.7	104	--	--
29	1431	21	700	348	7.5	23.5	--	8.7	104	--	--
September											
16	1738	3.3	700	334	7.5	23.7	--	9.1	109	--	--
16	1740	7.6	700	334	7.5	23.6	--	9.1	109	--	--
16	1739	16	700	334	7.5	23.5	--	9.1	109	--	--
19	1646	3.3	700	350	7.5	23.5	--	9.0	107	--	--
19	1645	8.9	700	350	7.5	23.6	--	9.0	107	--	--
19	1643	18	700	350	7.5	23.5	--	9.0	107	--	--
November											
6	1157	3.3	700	306	7.4	10.4	--	12.1	110	--	--
6	1157	7.9	700	307	7.4	10.5	--	12.1	110	--	--
6	1158	18	700	306	7.4	10.5	--	12.0	109	--	--

Table 5.--Water-quality data for station 402930080363101, Ohio River at river mile 57.0, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1406	3.3	700	456	7.2	24.6	--	7.8	96	--	--
25	1406	13	700	456	7.2	24.2	--	7.6	93	--	--
25	1405	27	700	456	7.2	24.2	--	7.6	93	--	--
July											
27	1410	3.3	700	261	7.1	22.2	--	9.2	106	--	--
27	1412	13	700	261	7.1	22.2	--	9.3	106	--	--
27	1411	22	700	261	7.1	22.1	--	9.3	107	--	--
August											
11	1653	3.3	700	262	7.4	23.4	--	9.1	107	--	--
11	1656	13	700	258	7.4	23.0	--	9.1	107	--	--
11	1655	26	700	258	7.4	23.0	--	9.1	107	--	--
29	1423	3.3	700	346	7.5	23.8	--	8.7	105	--	--
29	1423	14	700	346	7.5	23.7	--	8.6	103	--	--
29	1422	26	700	346	7.5	23.7	--	8.6	103	--	--
September											
16	1730	3.3	700	333	7.5	23.7	--	9.1	109	--	--
16	1731	11	700	334	7.5	23.7	--	9.1	109	--	--
16	1731	22	700	334	7.5	23.7	--	9.1	109	--	--
19	1632	3.3	700	351	7.5	23.6	--	8.7	104	--	--
19	1631	11	700	352	7.5	23.7	--	8.9	106	--	--
19	1630	23	700	352	7.5	23.7	--	8.9	106	--	--
November											
6	1131	3.3	700	311	7.4	10.7	--	12.0	110	--	--
6	1131	12	700	311	7.4	10.8	--	12.0	110	--	--
6	1132	24	700	313	7.4	10.8	--	12.0	110	--	--

Table 6.--Water-quality data for station 402654080361501, Ohio River at river mile 60.3, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1419	3.3	400	455	7.3	24.6	--	7.7	94	--	--
25	1419	6.6	400	454	7.2	24.3	--	7.5	92	--	--
25	1420	9.9	400	454	7.2	24.3	--	7.5	91	--	--
25	1422	15	400	454	7.2	24.3	--	7.4	91	--	--
25	1424	3.6	700	454	7.2	24.5	3.5	7.6	93	2.0	0.2
25	1425	6.6	700	454	7.2	24.3	--	7.5	92	1.2	.1
25	1426	9.9	700	454	7.2	24.3	--	7.5	91	1.8	.2
25	1427	14	700	453	7.2	24.2	--	7.4	91	--	--
25	1433	3.6	1,000	453	7.2	24.4	--	7.4	90	--	--
25	1434	6.6	1,000	454	7.2	24.3	--	7.3	89	--	--
25	1434	9.5	1,000	454	7.2	24.3	--	7.2	88	--	--
25	1435	13	1,000	455	7.2	24.3	--	7.2	88	--	--
July											
27	1349	4.3	400	260	7.1	22.1	--	9.2	105	--	--
27	1351	8.9	400	260	7.1	22.1	--	9.2	106	--	--
27	1350	16	400	260	7.1	22.1	--	9.2	106	--	--
27	1352	3.0	700	260	7.1	22.2	--	9.2	106	--	--
27	1400	7.6	700	260	7.1	22.2	--	9.2	106	--	--
27	1353	16	700	260	7.1	22.1	--	9.2	106	--	--
27	1356	3.3	1,000	263	7.1	22.8	--	9.1	106	--	--
27	1357	13	1,000	264	7.1	22.8	--	9.0	105	--	--
27	1357	31	1,000	264	7.1	22.8	--	9.0	105	--	--
August											
11	1630	3.3	400	259	7.4	22.9	--	9.0	105	--	--
11	1631	6.9	400	258	7.4	22.9	--	9.1	107	--	--
11	1632	9.5	400	258	7.4	22.9	--	9.1	107	--	--
11	1633	14	400	259	7.4	22.9	--	9.1	107	--	--
11	1621	3.0	700	260	7.4	23.0	1.5	9.1	107	2.5	.2
11	1622	5.9	700	260	7.4	23.0	--	9.1	107	2.7	.3
11	1624	9.8	700	260	7.4	23.0	--	9.1	107	2.7	.2
11	1623	14	700	258	7.4	23.0	--	9.1	107	--	--
11	1615	3.3	1,000	262	7.4	23.4	--	9.0	106	--	--
11	1616	6.6	1,000	262	7.4	23.3	--	9.0	106	--	--
11	1616	9.8	1,000	262	7.4	23.3	--	9.1	107	--	--
11	1617	15	1,000	261	7.4	23.3	--	9.0	106	--	--

Table 6.--Water-quality data for station 402654080361501, Ohio River at river mile 60.3, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
August											
29	1347	3.6	400	344	7.4	23.3	--	8.4	101	--	--
29	1347	6.6	400	344	7.4	23.3	--	8.4	100	--	--
29	1348	11	400	345	7.4	23.3	--	8.4	100	--	--
29	1349	16	400	343	7.4	23.3	--	8.5	102	--	--
29	1354	3.6	700	344	7.4	23.4	1.5	8.4	100	4.3	0.5
29	1353	6.6	700	345	7.4	23.4	--	8.4	100	--	--
29	1353	10	700	344	7.4	23.4	--	8.4	101	4.2	.2
29	1352	16	700	345	7.4	23.4	--	8.4	101	4.1	.3
29	1406	3.0	1,000	343	7.4	23.7	--	8.4	100	--	--
29	1405	6.6	1,000	342	7.4	23.7	--	8.3	100	--	--
29	1404	10	1,000	342	7.4	23.7	--	8.3	100	--	--
29	1403	16	1,000	342	7.4	23.7	--	8.4	100	--	--
29	1402	23	1,000	345	7.4	23.8	--	8.3	100	--	--
29	1400	29	1,000	342	7.4	23.8	--	8.3	101	--	--
September											
16	1715	3.6	400	333	7.4	23.7	--	9.0	108	--	--
16	1715	6.6	400	332	7.4	23.7	--	9.0	108	--	--
16	1715	11	400	333	7.4	23.6	--	9.0	108	--	--
16	1714	13	400	333	7.4	23.6	--	9.0	107	--	--
16	1701	2.6	700	332	7.4	23.6	3.5	9.0	108	2.0	.2
16	1700	6.9	700	333	7.4	23.6	--	9.0	107	1.2	.1
16	1700	11	700	333	7.4	23.6	--	9.0	107	1.8	.2
16	1659	16	700	334	7.4	23.5	--	9.0	107	--	--
16	1709	3.6	1,000	333	7.4	23.7	--	8.9	106	--	--
16	1710	6.3	1,000	334	7.4	23.6	--	8.9	107	--	--
16	1710	9.9	1,000	334	7.4	23.6	--	8.9	107	--	--
16	1711	15	1,000	334	7.4	23.6	--	8.9	106	--	--
16	1711	22	1,000	335	7.4	23.6	--	8.9	107	--	--
16	1712	29	1,000	334	7.4	23.6	--	8.9	106	--	--
19	1617	2.6	400	349	7.5	23.5	--	8.9	104	--	--
19	1618	6.3	400	349	7.5	23.5	--	9.0	107	--	--
19	1618	9.9	400	349	7.5	23.5	--	9.0	107	--	--
19	1619	14	400	349	7.5	23.5	--	9.0	107	--	--
19	1606	3.0	700	349	7.5	23.6	3.0	9.0	107	3.1	.3
19	1606	6.6	700	349	7.5	23.6	--	9.0	107	--	--
19	1605	9.2	700	349	7.5	23.6	--	9.0	107	--	--
19	1605	16	700	349	7.5	23.6	--	9.0	107	3.6	.4

Table 6.--Water-quality data for station 402654080361501, Ohio River at river mile 60.3, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
19	1604	23	700	351	7.5	23.5	--	9.0	107	--	--
19	1603	30	700	350	7.5	23.6	--	9.0	107	3.8	0.4
19	1603	32	700	349	7.5	23.5	--	8.9	107	--	--
19	1615	3.0	1,000	352	7.5	23.8	--	8.9	106	--	--
19	1614	6.3	1,000	351	7.5	23.8	--	8.8	106	--	--
19	1614	9.5	1,000	351	7.5	23.8	--	8.9	106	--	--
19	1613	16	1,000	350	7.5	23.8	--	8.9	107	--	--
19	1612	23	1,000	349	7.5	23.7	--	9.0	107	--	--
19	1611	28	1,000	353	7.5	23.7	--	8.9	106	--	--
November											
4	1405	3.3	700	318	7.4	11.9	--	11.2	107	--	--
4	1405	17	700	318	7.4	11.9	--	11.4	109	--	--
4	1406	36	700	318	7.4	11.0	--	11.4	106	--	--
6	1111	6.6	400	310	7.3	10.6	--	11.9	109	--	--
6	1111	9.9	400	310	7.3	10.6	--	11.9	109	--	--
6	1112	16	400	310	7.3	10.6	--	11.9	109	--	--
6	1102	3.3	700	312	7.3	10.7	--	11.9	109	--	--
6	1102	6.6	700	312	7.3	10.7	--	11.9	109	--	--
6	1103	9.9	700	312	7.3	10.8	--	11.9	109	--	--
6	1103	16	700	312	7.3	10.8	--	11.9	109	2.0	.2
6	1103	23	700	312	7.3	10.8	--	11.9	109	--	--
6	1104	30	700	312	7.3	10.8	--	11.9	109	2.6	.2
6	1104	36	700	314	7.3	10.8	--	11.9	109	--	--
6	1053	3.3	1,000	314	7.3	10.9	--	11.9	109	--	--
6	1053	6.6	1,000	315	7.3	10.9	--	11.9	109	--	--
6	1054	9.9	1,000	315	7.3	11.0	--	11.9	110	--	--
6	1054	16	1,000	315	7.3	11.0	--	11.8	109	--	--
6	1054	23	1,000	315	7.3	11.0	--	11.8	109	--	--
6	1055	32	1,000	317	7.3	11.2	--	11.8	109	--	--

Table 7.--Water-quality data for station 402619080362201, Ohio River at river mile 61.0, main channel, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1508	3.6	400	449	7.2	24.5	--	7.3	89	--	--
25	1508	6.9	400	449	7.2	24.5	--	7.3	89	--	--
25	1509	13	400	449	7.2	24.5	--	7.3	89	--	--
July											
27	1339	3.3	400	259	7.1	22.2	--	9.1	105	--	--
27	1340	7.6	400	260	7.1	22.2	--	9.2	106	--	--
27	1339	16	400	260	7.1	22.2	--	9.2	105	--	--
August											
11	1604	3.6	400	259	7.4	22.9	--	9.1	106	--	--
11	1605	7.9	400	260	7.4	23.0	--	9.0	106	--	--
11	1604	14	400	260	7.4	22.9	--	9.1	106	--	--
29	1335	3.3	400	343	7.4	23.5	--	8.2	99	--	--
29	1337	6.9	400	343	7.4	23.5	--	8.3	100	--	--
29	1336	13	400	343	7.4	23.5	--	8.4	100	--	--
September											
16	1654	3.3	400	333	7.4	23.6	--	9.0	107	--	--
16	1655	4.9	400	334	7.4	23.6	--	9.0	107	--	--
16	1655	12	400	333	7.4	23.6	--	9.0	107	--	--
19	1558	3.0	400	350	7.5	23.6	--	8.9	106	--	--
19	1559	6.3	400	351	7.5	23.6	--	9.0	107	--	--
19	1559	14	400	349	7.5	23.6	--	8.9	107	--	--
November											
4	1358	3.3	400	318	7.4	11.9	--	11.4	109	--	--
4	1358	8.9	400	318	7.4	11.9	--	11.4	109	--	--
4	1359	20	400	317	7.4	11.9	--	11.4	109	--	--

Table 8.--Water-quality data for station 402620080364201, Ohio River at river mile 61.0, back channel, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1453	3.6	2,000	448	7.2	24.6	--	7.3	89	--	--
25	1454	6.6	2,000	447	7.2	24.6	--	7.2	89	--	--
25	1455	7.9	2,000	448	7.2	24.6	--	7.2	88	--	--
July											
27	1343	3.9	2,000	262	7.1	22.8	--	9.1	106	--	--
27	1345	4.6	2,000	262	7.1	22.8	--	9.1	105	--	--
27	1344	9.5	2,000	262	7.1	22.8	--	9.0	105	--	--
August											
11	1609	3.3	2,000	262	7.4	23.4	--	9.0	106	--	--
11	1611	6.9	2,000	262	7.4	23.4	--	8.9	106	--	--
11	1610	13	2,000	262	7.4	23.4	--	9.0	106	--	--
29	1331	3.9	2,000	343	7.4	23.7	--	8.2	99	--	--
29	1332	5.3	2,000	343	7.4	23.7	--	8.3	100	--	--
29	1332	9.5	2,000	343	7.4	23.7	--	8.4	100	--	--
September											
16	1650	3.3	2,000	334	7.4	23.6	--	8.9	106	--	--
16	1651	6.9	2,000	334	7.4	23.6	--	8.9	106	--	--
19	1554	2.6	2,000	350	7.5	23.8	--	8.9	106	--	--
19	1555	6.3	2,000	351	7.5	23.8	--	8.9	107	--	--
November											
4	1410	3.3	2,000	319	7.4	12.3	--	11.2	108	--	--
4	1410	6.6	2,000	320	7.4	12.3	--	11.3	109	--	--
4	1411	13	2,000	320	7.4	12.3	--	11.3	109	--	--

Table 9.--Water-quality data for station 402426080362901, Ohio River at river mile 63.2, main channel, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1516	3.0	500	448	7.3	25.0	--	7.3	91	--	--
25	1516	8.6	500	447	7.2	24.9	--	7.3	90	--	--
25	1517	15	500	447	7.2	24.8	--	7.2	89	--	--
July											
27	1328	3.6	500	257	7.0	22.1	--	9.0	104	--	--
27	1330	9.9	500	258	7.0	22.1	--	9.0	104	--	--
27	1329	19	500	258	7.0	22.1	--	9.1	104	--	--
August											
11	1555	3.0	500	260	7.4	23.0	--	8.9	105	--	--
11	1557	9.5	500	261	7.4	22.9	--	9.0	105	--	--
11	1556	16	500	261	7.4	22.9	--	9.0	106	--	--
29	1314	3.6	500	343	7.4	23.3	--	8.3	99	--	--
29	1316	7.9	500	344	7.4	23.3	--	8.3	99	--	--
29	1315	19	500	344	7.4	23.3	--	8.3	99	--	--
September											
16	1638	3.3	500	334	7.4	23.9	--	8.8	106	--	--
16	1639	8.2	500	335	7.4	23.9	--	8.8	106	--	--
16	1638	17	500	334	7.4	23.9	--	8.8	106	--	--
19	1542	3.0	500	352	7.5	24.0	--	8.7	105	--	--
19	1543	8.2	500	353	7.5	24.0	--	8.8	106	--	--
19	1542	17	500	353	7.5	24.0	--	8.8	106	--	--
November											
4	1348	3.3	500	316	7.4	12.0	--	11.2	107	--	--
4	1348	7.2	500	317	7.4	12.0	--	11.3	108	--	--
4	1349	15	500	317	7.4	12.0	--	11.3	108	--	--

Table 10.--Water-quality data for station 402428080364601, Ohio River at river mile 63.2, back channel, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1524	3.6	1,800	445	7.2	24.8	--	7.5	92	--	--
25	1523	13	1,800	444	7.2	24.2	--	7.0	85	--	--
25	1522	26	1,800	444	7.2	24.0	--	6.9	84	--	--
July											
27	1323	3.6	1,800	254	7.1	22.6	--	9.0	105	--	--
27	1324	16	1,800	255	7.1	22.6	--	9.1	105	--	--
27	1324	33	1,800	255	7.1	22.6	--	9.1	105	--	--
August											
11	1550	3.3	1,800	259	7.4	23.4	--	8.9	105	--	--
11	1552	7.2	1,800	259	7.4	23.3	--	8.9	105	--	--
11	1551	13	1,800	259	7.4	23.3	--	8.9	105	--	--
29	1320	3.0	1,800	344	7.4	23.8	--	8.2	99	--	--
29	1323	12	1,800	344	7.4	23.8	--	8.2	99	--	--
29	1322	23	1,800	344	7.4	23.8	--	8.2	99	--	--
September											
16	1642	3.3	1,800	334	7.4	24.0	--	8.8	105	--	--
16	1643	15	1,800	334	7.4	23.9	--	8.8	105	--	--
16	1642	31	1,800	331	7.4	23.9	--	8.8	105	--	--
19	1546	3.0	1,800	352	7.5	24.3	--	8.6	104	--	--
19	1547	16	1,800	353	7.4	24.3	--	8.6	104	--	--
19	1546	31	1,800	354	7.4	24.3	--	8.6	104	--	--
November											
4	1424	3.3	1,800	317	7.4	12.3	--	11.2	108	--	--
4	1424	15	1,800	319	7.4	12.3	--	11.2	108	--	--
4	1425	34	1,800	319	7.4	12.3	--	11.2	108	--	--

Table 11.--Water-quality data for station 402329080375901, Ohio River at river mile 65.0, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1531	3.3	600	451	7.2	25.2	--	7.3	91	--	--
25	1531	20	600	445	7.2	24.6	--	7.0	85	--	--
25	1530	41	600	445	7.2	24.5	--	6.9	84	--	--
July											
27	1312	3.3	600	252	7.1	22.3	--	8.9	103	--	--
27	1314	22	600	251	7.1	22.4	--	9.0	105	--	--
27	1313	43	600	251	7.1	22.4	--	9.0	104	--	--
August											
11	1535	3.6	600	258	7.4	23.0	--	8.8	103	--	--
11	1538	22	600	257	7.4	23.0	--	8.8	103	--	--
11	1536	41	600	260	7.4	23.0	--	8.8	103	--	--
29	1258	3.6	600	345	7.4	23.5	--	8.2	98	--	--
29	1259	11	600	343	7.4	23.6	--	8.2	98	--	--
29	1258	23	600	344	7.4	23.6	--	8.2	98	--	--
September											
16	1630	3.3	600	337	7.4	23.9	--	8.6	103	--	--
16	1632	16	600	335	7.4	23.8	--	8.6	103	--	--
16	1631	33	600	334	7.4	23.7	--	8.6	103	--	--
19	1534	3.3	600	352	7.4	24.3	--	8.6	104	--	--
19	1536	20	600	353	7.4	24.2	--	8.5	103	--	--
19	1535	41	600	354	7.4	24.2	--	8.4	102	--	--
November											
4	1246	3.3	600	308	7.4	11.8	--	10.6	101	--	--
4	1246	16	600	308	7.4	11.8	--	10.7	102	--	--
4	1247	34	600	309	7.4	11.9	--	10.7	102	--	--

Table 12.--Water-quality data for station 402213080362401, Ohio River at river mile 67.1, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1605	3.0	500	445	7.2	25.0	--	7.2	90	--	--
25	1605	11	500	445	7.2	24.8	--	7.0	86	--	--
25	1604	23	500	446	7.2	24.8	--	6.9	85	--	--
July											
27	1253	3.6	500	248	7.1	22.1	--	9.1	105	--	--
27	1254	13	500	247	7.1	22.1	--	9.1	105	--	--
27	1254	26	500	249	7.1	22.1	--	9.1	105	--	--
August											
11	1522	3.3	500	255	7.3	22.8	--	8.8	103	--	--
11	1524	12	500	255	7.3	22.8	--	8.8	102	--	--
11	1523	28	500	257	7.3	22.8	--	8.8	103	--	--
29	1156	3.6	500	337	7.4	23.5	--	7.7	93	--	--
29	1158	15	500	337	7.4	23.4	--	7.8	93	--	--
29	1157	29	500	338	7.4	23.4	--	7.8	93	--	--
September											
16	1552	3.3	500	332	7.4	23.7	--	8.5	101	--	--
16	1553	14	500	332	7.4	23.7	--	8.5	101	--	--
16	1552	29	500	331	7.4	23.7	--	8.5	101	--	--
19	1439	3.0	500	357	7.4	24.0	--	8.2	99	--	--
19	1441	13	500	357	7.4	24.0	--	8.2	99	--	--
19	1440	28	500	357	7.4	24.0	--	8.2	98	--	--
November											
4	1234	3.3	500	309	7.4	11.9	--	10.7	102	--	--
4	1234	15	500	310	7.4	11.8	--	10.7	102	--	--
4	1235	29	500	310	7.4	11.8	--	10.7	102	--	--

Table 13.--Water-quality data for station 402051080363901, Ohio River at river mile 68.7, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1613	3.6	500	444	7.2	24.9	--	7.1	88	--	--
25	1613	11	500	445	7.2	24.9	--	7.1	87	--	--
25	1612	20	500	444	7.2	24.8	--	7.0	86	--	--
July											
27	1243	3.0	500	246	7.1	22.1	--	9.1	104	--	--
27	1245	12	500	246	7.1	22.1	--	9.1	104	--	--
27	1244	23	500	245	7.1	22.1	--	9.1	104	--	--
August											
11	1509	3.6	500	249	7.3	22.9	--	8.6	101	--	--
11	1512	11	500	249	7.3	22.9	--	8.6	101	--	--
11	1510	24	500	249	7.3	22.9	--	8.6	101	--	--
29	1149	3.6	500	333	7.3	23.5	--	7.8	93	--	--
29	1148	9.5	500	333	7.4	23.5	--	7.7	93	--	--
29	1147	20	500	334	7.4	23.5	--	7.7	93	--	--
September											
16	1544	3.6	500	333	7.4	23.7	--	8.5	101	--	--
16	1543	11	500	333	7.4	23.6	--	8.5	101	--	--
16	1542	22	500	334	7.4	23.6	--	8.5	101	--	--
19	1432	3.3	500	358	7.4	23.9	--	8.1	97	--	--
19	1434	11	500	358	7.4	23.9	--	8.1	97	--	--
19	1433	22	500	359	7.4	23.9	--	8.1	98	--	--
November											
4	1227	3.3	500	310	7.4	12.0	--	10.6	101	--	--
4	1227	9.5	500	311	7.4	12.0	--	11.1	106	--	--
4	1228	22	500	310	7.4	12.0	--	10.6	101	--	--

Table 14.--Water-quality data for station 401838080360701, Ohio River at river mile 71.4, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1623	3.0	300	448	7.2	24.8	--	6.9	85	--	--
25	1624	7.2	300	447	7.2	24.8	--	6.8	84	--	--
25	1625	9.9	300	448	7.2	24.7	--	6.8	84	--	--
25	1626	16	300	448	7.2	24.7	--	6.8	83	--	--
25	1627	23	300	448	7.2	24.6	--	6.7	82	--	--
25	1627	26	300	448	7.2	24.6	--	6.7	82	--	--
25	1635	3.3	600	447	7.2	24.8	4.5	6.9	84	2.4	0.2
25	1634	6.6	600	447	7.2	24.8	--	6.8	84	--	--
25	1633	9.9	600	446	7.2	24.8	--	6.8	83	--	--
25	1632	16	600	446	7.2	24.7	--	6.7	83	2.2	.2
25	1631	23	600	446	7.2	24.6	--	6.7	82	--	--
25	1631	31	600	448	7.2	24.6	--	6.6	82	2.0	.2
25	1646	2.0	900	447	7.3	25.1	--	7.1	88	--	--
25	1646	7.2	900	448	7.2	25.0	--	7.0	87	--	--
25	1645	9.9	900	447	7.2	24.8	--	6.9	85	--	--
25	1644	16	900	447	7.2	24.8	--	6.8	84	--	--
25	1643	23	900	447	7.2	24.7	--	6.7	82	--	--
25	1643	25	900	447	7.2	24.7	--	6.8	83	--	--
July											
27	1007	3.3	300	265	7.4	22.9	--	8.4	101	--	--
27	1008	6.6	300	265	7.4	22.9	--	8.4	100	--	--
27	1009	9.9	300	266	7.4	22.9	--	8.4	100	--	--
27	1010	16	300	265	7.4	22.9	--	8.3	100	--	--
27	1011	23	300	265	7.4	22.9	--	8.1	98	--	--
27	1012	29	300	265	7.4	22.9	--	8.1	96	--	--
27	1212	3.3	600	269	7.4	23.0	--	8.3	99	--	--
27	1216	6.6	600	268	7.4	23.0	--	8.3	98	--	--
27	1215	9.9	600	269	7.4	23.0	--	8.3	98	--	--
27	1219	16	600	273	7.4	23.0	--	8.2	98	--	--
27	1220	22	600	275	7.4	23.0	--	7.9	97	--	--
27	1230	3.3	900	286	7.3	23.0	--	8.3	94	--	--
27	1232	6.6	900	289	7.3	23.0	--	8.3	98	--	--
27	1231	9.9	900	289	7.3	23.0	--	8.3	98	--	--
27	1233	16	900	294	7.4	23.0	--	8.3	98	--	--
27	1234	23	900	296	7.4	23.0	--	8.3	98	--	--
27	1236	26	900	297	7.4	23.0	--	8.2	98	--	--

Table 14.--Water-quality data for station 401838080360701, Ohio River at river mile 71.4, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance (µS/cm)	pH (standard units)	Temperature, water (°C)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> (µg/L)	Chlorophyll <i>b</i> (µg/L)
August											
11	1432	3.0	300	247	7.2	22.9	--	8.7	102	--	--
11	1433	6.6	300	247	7.2	22.9	--	8.7	102	--	--
11	1433	9.5	300	247	7.3	22.9	--	8.7	102	--	--
11	1434	16	300	248	7.3	22.9	--	8.6	102	--	--
11	1434	23	300	248	7.3	22.9	--	8.6	101	--	--
11	1435	26	300	248	7.3	22.9	--	8.6	101	--	--
11	1422	3.0	600	243	7.3	23.0	--	8.6	102	2.0	0.2
11	1421	6.6	600	243	7.2	22.8	--	8.7	102	--	--
11	1420	10	600	243	7.2	22.9	--	8.7	102	--	--
11	1419	16	600	243	7.2	22.8	--	8.7	102	2.2	.2
11	1418	23	600	243	7.2	22.8	--	8.7	102	1.6	.1
11	1417	29	600	243	7.2	22.8	--	8.7	102	--	--
11	1427	3.0	900	247	7.3	23.2	--	8.5	100	--	--
11	1428	6.2	900	245	7.2	23.1	--	8.6	101	--	--
11	1429	9.5	900	244	7.2	23.0	--	8.6	101	--	--
11	1430	16	900	244	7.2	23.0	--	8.6	101	--	--
11	1431	16	900	244	7.2	23.0	--	8.6	101	--	--
29	1132	3.6	300	336	7.4	23.4	--	7.7	92	--	--
29	1133	7.2	300	336	7.4	23.4	--	7.7	92	--	--
29	1133	11	300	340	7.4	23.4	--	7.7	92	--	--
29	1134	17	300	342	7.4	23.4	--	7.7	92	--	--
29	1134	24	300	342	7.4	23.4	--	7.7	92	--	--
29	1135	29	300	343	7.4	23.4	--	7.7	92	--	--
29	1126	3.0	600	332	7.3	23.6	1.5	7.7	93	2.1	.1
29	1126	6.6	600	332	7.3	23.6	--	7.7	93	--	--
29	1125	10	600	332	7.3	23.6	--	7.7	93	--	--
29	1124	16	600	332	7.3	23.6	--	7.7	93	2.8	.3
29	1124	23	600	332	7.3	23.6	--	7.7	93	--	--
29	1123	30	600	332	7.3	23.6	--	7.7	93	2.6	.2
29	1122	31	600	332	7.3	23.6	--	7.7	93	--	--
29	1117	3.6	900	337	7.4	23.9	--	7.6	92	--	--
29	1118	6.9	900	335	7.3	23.8	--	7.6	92	--	--
29	1118	10	900	334	7.4	23.8	--	7.7	92	--	--
29	1119	17	900	333	7.3	23.7	--	7.7	92	--	--
29	1119	24	900	333	7.3	23.7	--	7.7	93	--	--

Table 14.--Water-quality data for station 401838080360701, Ohio River at river mile 71.4, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
16	1526	3.0	300	337	7.4	23.9	--	8.5	102	--	--
16	1526	6.6	300	339	7.4	23.8	--	8.5	101	--	--
16	1527	9.9	300	339	7.4	23.7	--	8.5	101	--	--
16	1527	16	300	340	7.4	23.8	--	8.5	101	--	--
16	1528	23	300	340	7.4	23.8	--	8.5	101	--	--
16	1528	27	300	340	7.4	23.7	--	8.4	101	--	--
16	1512	3.6	600	335	7.4	23.7	4.5	8.5	101	2.4	0.2
16	1511	6.6	600	335	7.4	23.5	--	8.5	100	--	--
16	1511	9.9	600	336	7.4	23.5	--	8.4	100	--	--
16	1510	16	600	336	7.4	23.4	--	8.4	99	2.2	.2
16	1510	23	600	336	7.4	23.4	--	8.4	99	--	--
16	1509	31	600	336	7.4	23.4	--	8.4	99	2.0	.2
16	1522	3.3	900	336	7.4	23.7	--	8.4	100	--	--
16	1521	6.6	900	335	7.4	23.6	--	8.4	100	--	--
16	1521	9.9	900	334	7.4	23.5	--	8.4	100	--	--
16	1520	16	900	335	7.4	23.6	--	8.4	100	--	--
16	1520	23	900	334	7.4	23.5	--	8.4	100	--	--
16	1519	25	900	334	7.4	23.5	--	8.4	100	--	--
19	1422	3.6	300	366	7.4	24.0	--	7.9	95	--	--
19	1422	6.6	300	366	7.4	24.0	--	7.9	95	--	--
19	1421	9.9	300	367	7.4	24.0	--	7.9	95	--	--
19	1420	17	300	365	7.4	24.0	--	7.8	94	--	--
19	1420	23	300	366	7.4	24.0	--	7.8	94	--	--
19	1419	27	300	366	7.4	24.0	--	7.8	94	--	--
19	1415	3.3	600	358	7.4	24.0	3.5	8.0	97	2.8	.3
19	1415	5.9	600	360	7.4	24.0	--	8.0	97	--	--
19	1414	9.9	600	359	7.4	23.9	--	8.0	96	2.8	.4
19	1414	16	600	361	7.4	23.9	--	8.0	96	--	--
19	1413	23	600	359	7.4	23.9	--	8.0	96	2.5	.3
19	1412	30	600	356	7.4	23.9	--	8.0	96	--	--
19	1409	3.0	900	361	7.4	24.2	--	8.0	97	--	--
19	1409	6.6	900	362	7.4	24.0	--	8.0	97	--	--
19	1408	9.9	900	361	7.4	24.0	--	8.0	96	--	--
19	1408	16	900	360	7.4	23.9	--	8.0	96	--	--
19	1407	23	900	360	7.4	24.0	--	8.0	97	--	--

Table 14.--Water-quality data for station 401838080360701, Ohio River at river mile 71.4, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
November											
4	1212	3.3	300	315	7.4	11.9	--	10.5	100	--	--
4	1212	6.6	300	315	7.4	11.9	--	10.5	100	--	--
4	1213	9.9	300	315	7.4	11.9	--	10.5	100	--	--
4	1213	16	300	318	7.4	11.9	--	10.5	100	--	--
4	1213	23	300	320	7.4	12.0	--	10.5	100	--	--
4	1214	27	300	322	7.4	12.0	--	10.5	100	--	--
4	1154	3.3	600	309	7.4	11.9	--	10.6	101	3.1	0.3
4	1154	6.6	600	309	7.4	12.0	--	10.6	101	--	--
4	1155	9.9	600	309	7.4	11.9	--	10.6	101	2.8	.3
4	1155	16	600	309	7.4	11.9	--	10.6	101	--	--
4	1155	23	600	309	7.4	11.9	--	10.6	101	2.9	.3
4	1156	30	600	309	7.4	11.9	--	10.6	101	--	--
4	1204	3.3	900	311	7.4	12.0	--	10.5	100	--	--
4	1204	6.6	900	310	7.4	12.1	--	10.5	101	--	--
4	1205	9.9	900	306	7.4	12.1	--	10.6	102	--	--
4	1205	16	900	307	7.4	12.1	--	10.6	102	--	--
4	1205	22	900	310	7.4	12.1	--	10.5	101	--	--

Table 15.--Water-quality data for station 401728080365101, Ohio River at river mile 72.9, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1726	3.3	600	450	7.2	25.3	--	7.0	86	--	--
25	1725	10	600	455	7.2	24.5	--	6.5	80	--	--
25	1725	20	600	456	7.2	24.3	--	6.4	78	--	--
July											
27	1134	3.6	600	246	7.1	22.4	--	8.8	103	--	--
27	1137	13	600	246	7.1	22.4	--	8.8	102	--	--
27	1136	27	600	246	7.1	22.4	--	8.7	102	--	--
August											
11	1409	3.0	600	242	7.2	22.9	--	8.7	102	--	--
11	1410	10	600	242	7.2	22.9	--	8.6	101	--	--
11	1410	23	600	242	7.2	22.9	--	8.7	102	--	--
29	1109	3.9	600	334	7.4	23.6	--	7.7	92	--	--
29	1111	12	600	334	7.4	23.6	--	7.7	92	--	--
29	1110	23	600	334	7.3	23.6	--	7.7	92	--	--
September											
16	1502	3.3	600	339	7.4	23.7	--	8.4	100	--	--
16	1503	12	600	339	7.4	23.6	--	8.4	100	--	--
16	1503	23	600	339	7.4	23.6	--	8.4	99	--	--
19	1358	3.3	600	400	7.4	23.9	--	7.9	95	--	--
19	1359	11	600	400	7.4	23.9	--	7.9	95	--	--
19	1400	23	600	400	7.4	23.9	--	7.9	95	--	--
November											
4	1146	4.6	600	308	7.4	12.0	--	10.6	101	--	--
4	1146	17	600	308	7.4	12.0	--	10.6	101	--	--
4	1147	37	600	308	7.4	12.0	--	10.6	101	--	--

Table 16.--Water-quality data for station 401542080371801, Ohio River at river mile 75.0, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1736	3.9	600	451	7.3	24.6	--	7.4	90	--	--
25	1735	13	600	448	7.2	24.0	--	6.9	81	--	--
25	1734	27	600	450	7.2	23.8	--	6.5	78	--	--
July											
27	1134	3.6	600	246	7.1	22.4	--	8.8	103	--	--
27	1137	13	600	246	7.1	22.4	--	8.8	102	--	--
27	1136	27	600	246	7.1	22.4	--	8.7	102	--	--
August											
11	1354	3.9	600	242	7.2	23.1	--	8.6	101	--	--
11	1355	13	600	239	7.2	23.0	--	8.5	100	--	--
11	1354	28	600	239	7.2	23.0	--	8.6	101	--	--
29	1100	3.6	600	340	7.4	23.7	--	7.6	91	--	--
29	1101	13	600	340	7.4	23.6	--	7.6	92	--	--
29	1101	27	600	339	7.4	23.6	--	7.6	92	--	--
September											
16	1453	3.3	600	338	7.4	23.7	--	8.2	98	--	--
16	1454	14	600	338	7.4	23.7	--	8.2	97	--	--
16	1454	28	600	339	7.3	23.6	--	8.1	97	--	--
19	1351	3.0	600	357	7.4	24.0	--	7.8	94	--	--
19	1352	14	600	357	7.4	23.9	--	7.8	94	--	--
19	1352	28	600	357	7.4	23.9	--	7.8	94	--	--
November											
4	1134	3.3	600	308	7.4	12.1	--	10.5	101	--	--
4	1134	15	600	307	7.4	12.0	--	10.5	100	--	--
4	1135	27	600	307	7.4	12.0	--	10.5	100	--	--

Table 17.--Water-quality data for station 401422080391701, Ohio River at river mile 77.4, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1748	3.6	600	447	7.3	26.5	--	7.2	89	--	--
25	1747	13	600	446	7.2	24.0	--	6.7	81	--	--
25	1747	27	600	445	7.2	23.6	--	6.5	79	--	--
July											
27	1110	3.3	600	260	7.2	22.5	--	8.5	99	--	--
27	1111	13	600	260	7.2	22.5	--	8.5	99	--	--
27	1111	26	600	260	7.2	22.5	--	8.5	99	--	--
August											
11	1340	3.3	600	245	7.2	23.3	--	8.6	101	--	--
11	1342	13	600	244	7.2	23.2	--	8.5	101	--	--
11	1341	29	600	244	7.2	23.2	--	8.6	101	--	--
29	1049	3.9	600	343	7.4	23.9	--	7.5	91	--	--
29	1051	15	600	343	7.4	23.8	--	7.5	91	--	--
29	1050	30	600	343	7.5	23.8	--	7.6	91	--	--
September											
16	1444	3.3	600	337	7.4	25.2	--	8.2	100	--	--
16	1445	13	600	336	7.3	24.0	--	8.1	97	--	--
16	1444	26	600	336	7.3	23.8	--	8.1	97	--	--
19	1342	3.3	600	359	7.4	24.6	--	7.9	96	--	--
19	1344	13	600	357	7.4	24.2	--	7.8	95	--	--
19	1343	27	600	358	7.4	24.1	--	7.8	94	--	--
November											
4	1123	3.3	600	306	7.4	12.0	--	10.5	100	--	--
4	1123	13	600	307	7.4	12.0	--	10.5	100	--	--
4	1124	30	600	306	7.4	12.0	--	10.5	100	--	--

Table 18.--Water-quality data for station 401148080400901, Ohio River at river mile 80.5, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1759	3.3	600	443	7.4	25.6	--	7.4	89	--	--
25	1758	17	600	442	7.2	24.7	--	6.3	77	--	--
25	1758	33	600	443	7.2	24.5	--	6.0	74	--	--
July											
27	1022	3.3	600	268	7.4	23.0	--	8.3	98	--	--
27	1023	6.6	600	269	7.4	23.0	--	8.3	98	--	--
27	1024	11	600	270	7.4	23.0	--	8.3	98	--	--
27	1025	16	600	273	7.4	23.0	--	8.2	97	--	--
27	1025	20	600	275	7.4	23.0	--	7.8	93	--	--
August											
11	1326	3.3	600	240	7.2	23.1	--	8.5	100	--	--
11	1327	13	600	240	7.2	23.1	--	8.4	99	--	--
11	1327	29	600	240	7.2	23.1	--	8.5	100	--	--
29	1037	3.9	600	338	7.4	24.7	--	7.3	89	--	--
29	1039	17	600	340	7.4	24.6	--	7.3	89	--	--
29	1037	35	600	339	7.4	24.6	--	7.3	89	--	--
September											
16	1432	3.3	600	339	7.4	24.3	--	8.3	100	--	--
16	1433	18	600	339	7.3	24.1	--	8.1	98	--	--
16	1432	35	600	341	7.3	24.0	--	8.1	97	--	--
19	1330	3.0	600	356	7.4	24.4	--	7.8	95	--	--
19	1332	17	600	354	7.4	24.2	--	7.8	94	--	--
19	1331	35	600	355	7.4	24.2	--	7.8	94	--	--
November											
4	1109	3.3	600	307	7.4	12.4	--	10.4	100	--	--
4	1109	15	600	307	7.4	12.4	--	10.4	100	--	--
4	1110	35	600	305	7.4	12.4	--	10.4	100	--	--

Table 19.--Water-quality data for station 401031080411601, Ohio River at river mile 82.3, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1808	3.6	800	445	7.4	25.7	--	7.5	90	--	--
25	1808	15	800	448	7.2	24.5	--	6.3	77	--	--
25	1807	28	800	462	7.2	24.4	--	6.2	76	--	--
July											
27	1043	3.0	800	266	7.3	23.0	--	8.4	99	--	--
27	1045	13	800	262	7.3	23.0	--	8.4	100	--	--
27	1044	26	800	268	7.3	23.0	--	8.4	99	--	--
August											
11	1315	3.3	800	239	7.2	23.0	--	8.4	99	--	--
11	1316	16	800	240	7.2	22.9	--	8.4	99	--	--
11	1316	32	800	241	7.2	23.0	--	8.4	99	--	--
29	1026	3.9	800	349	7.4	25.0	--	7.1	88	--	--
29	1028	20	800	350	7.4	25.0	--	7.1	87	--	--
29	1027	38	800	353	7.4	25.0	--	7.1	87	--	--
September											
16	1424	3.3	800	344	7.4	24.6	--	8.2	99	--	--
16	1426	15	800	348	7.3	24.1	--	7.9	95	--	--
16	1425	30	800	359	7.3	24.1	--	7.9	95	--	--
19	1323	3.3	800	361	7.4	24.5	--	7.8	95	--	--
19	1324	15	800	360	7.4	24.5	--	7.8	94	--	--
19	1323	30	800	366	7.4	24.4	--	7.7	94	--	--
November											
4	1055	3.3	800	308	7.4	12.4	--	10.3	99	--	--
4	1055	15	800	309	7.4	12.4	--	10.3	99	--	--
4	1056	23	800	309	7.4	12.4	--	10.3	99	--	--

Table 20.--Water-quality data for station 400913080421201, Ohio River at river mile 84.0, June to November 1992

[ft = feet; $\mu\text{S}/\text{cm}$ = microsiemens per centimeter; $^{\circ}\text{C}$ = degrees Celsius; in. = inches; mg/L = milligrams per liter; $\mu\text{g}/\text{L}$ = micrograms per liter; -- = data not collected; < = less than]

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
June											
25	1819	3.6	500	452	7.4	25.3	--	7.7	96	--	--
25	1819	6.6	500	455	7.4	25.2	--	7.5	93	--	--
25	1818	9.5	500	458	7.3	25.2	--	7.2	90	--	--
25	1817	16	500	462	7.2	24.7	--	6.5	80	--	--
25	1817	23	500	462	7.2	24.5	--	6.4	78	--	--
25	1816	29	500	461	7.2	24.4	--	6.2	76	--	--
25	1827	3.6	900	452	7.4	25.2	4.0	7.6	95	4.0	0.4
25	1826	6.6	900	454	7.3	25.1	--	7.3	90	--	--
25	1826	9.9	900	459	7.2	24.7	--	6.8	82	3.6	.4
25	1825	16	900	462	7.2	24.4	--	6.3	77	2.8	.3
25	1824	21	900	460	7.1	24.4	--	6.0	73	--	--
25	1837	3.0	1,400	459	7.4	25.1	--	7.5	92	--	--
25	1836	6.3	1,400	457	7.3	24.8	--	6.9	85	--	--
25	1835	9.9	1,400	459	7.2	24.7	--	6.8	84	--	--
25	1835	16	1,400	460	7.2	24.5	--	6.4	78	--	--
25	1834	23	1,400	459	7.1	24.4	--	6.1	74	--	--
25	1834	28	1,400	458	7.1	24.4	--	5.9	72	--	--
25	1848	3.3	1,900	459	7.4	25.2	--	7.6	94	--	--
25	1847	6.3	1,900	460	7.3	25.1	--	7.4	87	--	--
25	1846	9.5	1,900	461	7.2	24.5	--	6.3	77	--	--
25	1846	16	1,900	459	7.2	24.5	--	6.2	76	--	--
25	1845	23	1,900	459	7.1	24.4	--	6.2	75	--	--
25	1844	30	1,900	460	7.1	24.4	--	6.1	74	--	--
25	1843	36	1,900	459	7.2	24.4	--	6.1	75	--	--
25	1843	42	1,900	459	7.2	24.4	--	6.2	75	--	--
25	1842	45	1,900	458	7.2	24.4	--	6.2	76	--	--
August											
11	1246	3.3	500	240	7.2	23.0	--	8.4	98	--	--
11	1246	7.2	500	240	7.2	23.0	--	8.4	99	--	--
11	1247	9.5	500	240	7.2	23.0	--	8.4	98	--	--
11	1248	16	500	240	7.2	23.0	--	8.4	98	--	--
11	1249	23	500	240	7.2	23.0	--	8.4	98	--	--
11	1249	28	500	240	7.2	23.0	--	8.4	98	--	--
11	1303	2.6	900	238	7.2	23.0	1.5	8.4	99	1.9	.2
11	1304	5.9	900	242	7.2	23.0	--	8.4	99	--	--
11	1305	9.8	900	243	7.2	23.0	--	8.4	99	1.8	.2
11	1306	17	900	242	7.2	23.0	--	8.4	99	1.9	.2
11	1307	23	900	239	7.2	23.0	--	8.4	99	--	--
11	1307	26	900	238	7.2	23.0	--	8.2	96	--	--

Table 20.--Water-quality data for station 400913080421201, Ohio River at river mile 84.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
August											
11	1258	3.0	1,400	238	7.2	23.0	--	8.4	99	--	--
11	1257	6.9	1,400	239	7.2	23.0	--	8.4	99	--	--
11	1256	9.8	1,400	238	7.2	23.0	--	8.4	99	--	--
11	1255	17	1,400	238	7.2	23.0	--	8.4	99	--	--
11	1254	20	1,400	239	7.2	23.0	--	8.4	99	--	--
11	1235	3.3	1,900	241	7.2	23.0	--	8.4	99	--	--
11	1237	6.9	1,900	241	7.2	23.0	--	8.4	98	--	--
11	1237	10	1,900	241	7.2	23.0	--	8.4	98	--	--
11	1238	17	1,900	242	7.2	23.0	--	8.3	98	--	--
11	1239	24	1,900	242	7.2	23.0	--	8.3	98	--	--
11	1240	30	1,900	242	7.2	23.0	--	8.3	98	--	--
11	1241	36	1,900	242	7.2	23.0	--	8.3	98	--	--
11	1242	38	1,900	242	7.2	23.0	--	8.3	98	--	--
29	952	4.3	500	348	7.5	25.3	--	6.9	86	--	--
29	951	6.6	500	348	7.5	25.3	--	6.9	86	--	--
29	950	11	500	349	7.5	25.3	--	6.9	86	--	--
29	948	17	500	348	7.5	25.3	--	6.9	86	--	--
29	947	23	500	348	7.5	25.3	--	6.9	86	--	--
29	945	29	500	348	7.5	25.3	--	6.9	86	--	--
29	1000	3.6	900	356	7.5	25.3	--	6.9	86	1.9	0.1
29	959	6.3	900	355	7.5	25.3	--	6.9	86	--	--
29	958	9.9	900	355	7.4	25.3	--	6.9	86	3.0	.2
29	956	19	900	356	7.5	25.3	--	6.9	86	3.9	.2
29	955	20	900	356	7.5	25.3	--	6.9	86	--	--
29	1008	3.9	1,400	363	7.5	25.3	--	6.9	85	--	--
29	1008	6.6	1,400	363	7.5	25.3	--	6.9	85	--	--
29	1007	9.5	1,400	363	7.5	25.3	--	6.9	85	--	--
29	1006	17	1,400	363	7.5	25.3	--	6.9	85	--	--
29	1005	23	1,400	364	7.5	25.3	--	6.8	85	--	--
29	1005	27	1,400	364	7.5	25.3	--	6.8	85	--	--
29	935	3.3	1,900	342	7.4	25.1	--	6.9	86	--	--
29	936	6.3	1,900	342	7.4	25.1	--	6.9	86	--	--
29	937	9.9	1,900	342	7.4	25.1	--	6.9	86	--	--
29	937	16	1,900	342	7.4	25.1	--	6.9	86	--	--
29	938	23	1,900	342	7.4	25.1	--	6.9	86	--	--
29	938	29	1,900	342	7.4	25.1	--	6.9	85	--	--
29	940	36	1,900	343	7.4	25.1	--	6.9	86	--	--
29	940	37	1,900	343	7.4	25.1	--	6.9	86	--	--

Table 20.--Water-quality data for station 400913080421201, Ohio River at river mile 84.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
16	1406	3.3	500	346	7.4	24.5	--	8.1	98	--	--
16	1406	6.6	500	346	7.4	24.2	--	8.0	96	--	--
16	1405	11	500	345	7.3	24.0	--	7.9	95	--	--
16	1405	17	500	344	7.3	24.0	--	7.8	94	--	--
16	1404	23	500	344	7.3	23.9	--	7.8	93	--	--
16	1403	27	500	343	7.3	23.9	--	7.8	94	--	--
16	1358	3.0	900	351	7.4	24.8	5.0	8.1	99	4.0	0.4
16	1357	6.9	900	347	7.4	24.3	--	8.1	97	--	--
16	1357	9.5	900	347	7.3	24.0	--	7.9	94	3.6	.4
16	1356	16	900	344	7.3	23.9	--	7.9	94	--	--
16	1355	21	900	345	7.3	23.9	--	7.8	94	2.8	.3
16	1352	3.6	1,400	347	7.4	24.4	--	8.1	98	--	--
16	1351	6.9	1,400	347	7.4	24.3	--	8.1	97	--	--
16	1350	10	1,400	349	7.3	24.1	--	8.0	96	--	--
16	1350	17	1,400	347	7.3	24.1	--	8.0	95	--	--
16	1349	22	1,400	347	7.3	24.0	--	7.9	94	--	--
16	1348	29	1,400	349	7.3	23.9	--	7.9	94	--	--
16	1344	3.3	1,900	348	7.4	24.4	--	8.1	97	--	--
16	1343	6.9	1,900	349	7.4	24.2	--	8.0	96	--	--
16	1342	10	1,900	349	7.3	24.2	--	8.0	96	--	--
16	1341	16	1,900	349	7.3	24.2	--	8.0	96	--	--
16	1341	23	1,900	350	7.3	24.1	--	7.9	95	--	--
16	1340	30	1,900	346	7.3	24.0	--	7.9	95	--	--
16	1339	36	1,900	348	7.3	23.9	--	7.9	94	--	--
16	1338	43	1,900	351	7.3	23.9	--	7.9	94	--	--
16	1337	44	1,900	346	7.3	24.0	--	7.9	94	--	--
19	1248	3.3	500	362	7.4	24.4	--	7.8	95	--	--
19	1247	6.6	500	361	7.4	24.4	--	7.8	95	--	--
19	1246	9.5	500	361	7.4	24.4	--	7.8	94	--	--
19	1245	16	500	362	7.4	24.3	--	7.7	94	--	--
19	1244	23	500	362	7.4	24.3	--	7.7	93	--	--
19	1243	29	500	362	7.4	24.3	--	7.7	93	--	--
19	1257	3.0	900	362	7.4	24.5	4.0	7.8	95	3.0	.4
19	1256	6.6	900	362	7.4	24.4	--	7.8	95	--	--
19	1255	9.9	900	361	7.4	24.4	--	7.8	94	2.4	.3
19	1254	16	900	361	7.4	24.3	--	7.7	94	--	--
19	1253	21	900	360	7.4	24.3	--	7.7	94	2.4	.3

Table 20.--Water-quality data for station 400913080421201, Ohio River at river mile 84.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
September											
19	1313	2.6	1,400	363	7.4	24.8	--	7.9	97	--	--
19	1312	6.9	1,400	361	7.4	24.6	--	7.8	95	--	--
19	1311	9.5	1,400	361	7.4	24.6	--	7.8	95	--	--
19	1311	16	1,400	359	7.4	24.5	--	7.7	94	--	--
19	1310	23	1,400	358	7.4	24.5	--	7.7	94	--	--
19	1309	27	1,400	357	7.4	24.5	--	7.7	94	--	--
19	1240	3.0	1,900	362	7.4	24.4	--	7.8	95	--	--
19	1239	6.3	1,900	363	7.4	24.4	--	7.8	94	--	--
19	1239	9.5	1,900	362	7.4	24.3	--	7.8	94	--	--
19	1238	16	1,900	361	7.4	24.3	--	7.8	94	--	--
19	1237	22	1,900	362	7.4	24.3	--	7.7	94	--	--
19	1237	29	1,900	363	7.4	24.3	--	7.7	94	--	--
19	1236	36	1,900	359	7.4	24.3	--	7.7	94	--	--
19	1235	43	1,900	357	7.4	24.3	--	7.7	93	--	--
November											
4	1040	3.3	500	321	7.4	12.7	--	10.1	98	--	--
4	1040	6.6	500	321	7.4	12.7	--	10.1	98	--	--
4	1041	9.9	500	323	7.4	12.7	--	10.1	98	--	--
4	1041	16	500	324	7.4	12.7	--	10.1	98	--	--
4	1041	23	500	323	7.4	12.7	--	10.1	98	--	--
4	1042	24	500	323	7.4	12.7	--	10.2	99	--	--
4	1030	3.3	900	307	7.4	12.7	--	10.2	99	1.9	0.2
4	1030	6.6	900	308	7.4	12.7	--	10.2	99	--	--
4	1031	9.9	900	307	7.4	12.7	--	10.2	99	1.8	.2
4	1031	16	900	308	7.4	12.7	--	10.2	99	--	--
4	1031	21	900	308	7.4	12.7	--	10.2	99	1.9	.2
4	1022	3.3	1,400	306	7.4	12.6	--	10.2	99	--	--
4	1022	6.6	1,400	306	7.4	12.6	--	10.2	99	--	--
4	1023	9.9	1,400	306	7.4	12.6	--	10.2	99	--	--
4	1023	16	1,400	306	7.4	12.6	--	10.2	99	--	--
4	1023	23	1,400	306	7.4	12.6	--	10.2	99	--	--

Table 20.--Water-quality data for station 400913080421201, Ohio River at river mile 84.0, June to November 1992--Continued

Date	Time	Sampling depth (ft)	Sample location (ft from left bank)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Temperature, water ($^{\circ}\text{C}$)	Transparency (Secchi disk) (ft)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Chlorophyll <i>a</i> ($\mu\text{g}/\text{L}$)	Chlorophyll <i>b</i> ($\mu\text{g}/\text{L}$)
November											
4	1006	3.3	1,900	307	7.4	12.5	--	10.2	99	--	--
4	1006	6.6	1,900	308	7.4	12.5	--	10.2	99	--	--
4	1007	9.9	1,900	308	7.4	12.5	--	10.2	99	--	--
4	1007	16	1,900	306	7.4	12.5	--	9.9	96	--	--
4	1007	23	1,900	306	7.4	12.6	--	9.8	95	--	--
4	1008	30	1,900	305	7.4	12.6	--	9.9	96	--	--
4	1008	36	1,900	306	7.4	12.5	--	9.9	96	--	--
4	1008	44	1,900	307	7.4	12.5	--	10.0	97	--	--