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Hydrologic Data for the Columbia/Eagle Bluffs Wetland Complex, Columbia, Missouri—1993–96

Water-Resources Open-File Report 99–607

Prepared in cooperation with the
Missouri Department of Conservation and
City of Columbia

U.S. Department of the Interior
U.S. Geological Survey

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By Joseph M. Richards

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U.S. Department of the Interior

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By Joseph M. Richards

Abstract

The U.S. Geological Survey, in cooperation with the Missouri Department of Conservation and the city of Columbia, Missouri, collected hydrologic data from September 1993 through October 1996 as part of a hydrologic characterization of the Columbia/Eagle Bluffs Wetland Complex. The wetland complex was constructed in the Missouri River alluvial plain adjacent to the Columbia municipal supply wells. Part of the wetland complex was designed to treat sewage effluent from Columbia, with the treated effluent being used as the primary water source for wetland management practices on the Eagle Bluffs Wildlife Area. This report presents hydrologic data and the procedures used to collect the data, which include water-quality analyses of samples collected quarterly from 28 wells and 2 surface-water sites. Four additional wells were incorporated into the monitoring network in November 1994 and also were sampled quarterly. Data from these 4 wells also are included.

Water samples were analyzed for specific conductance, pH, temperature, dissolved oxygen, bacteria, alkalinity, major cations and anions, nutrients, trace elements, and total and dissolved organic carbon. Dissolved nitrite plus nitrate as nitrogen concentrations were equal to or less than 5.2 milligrams per liter for all ground-water samples and were equal to or less than 2.7 milligrams per liter in surface-water samples. Dissolved phosphorous concentrations ranged from less than 0.01 to 2.2 milligrams per liter in the ground-water samples, and from less than 0.01 to 0.19 milligrams per liter in the surface-water samples. Fecal coliform bacteria counts ranged from less than 1 to 39 colonies per 100 milliliters for ground-water samples, and from 1 to greater than 6,000 colonies per 100 milliliters for surface-water samples. Fecal streptococcus bacteria counts ranged from less than 1 to 92 colonies per 100 milliliters for ground-water samples, and from 2 to greater than 10,000 colonies per 100 milliliters for surface-water samples. Samples for well USGS-6 had dissolved arsenic concentrations that exceeded 50 micrograms per liter. Dissolved manganese concentrations exceeded 50 micrograms per liter at least once for each site except for USGS-9S. Dissolved iron concentrations exceeded 300 micrograms per liter at least once for 28 of 34 sites.

Samples from 8 of the 32 wells and both surface-water sites were analyzed for base/neutral/acid semi-volatile organic compounds, selected pesticides, selected organochlorine compounds, and purgeable volatile organic compounds. All but one of the organic compounds detected in the samples collected from the monitoring wells or surface-water sites were pesticides. Atrazine was detected consistently at both surface-water sites. Other frequently detected pesticides include metolachlor, diazinon, chlorpyrifos, prometon, and simazine.

Following the 1993 Missouri River flood, samples of residual flood water and flood-deposited sediments were collected from the Columbia/Eagle Bluffs Wetland Complex. A brief description of the flooding and damage to the study area is presented. Methods of collection of the four residual flood water and the four flood-deposited

sediment samples, as well as the analytical results of these samples, are included in this report. Data from two continuous water-level recorders and from quarterly water-level measurements in wells also are included.

INTRODUCTION

The Missouri Department of Conservation (MDC) and the city of Columbia, Missouri, have initiated a project that is anticipated to be a milestone in the treatment of municipal sewage. Because expansion of the Columbia wastewater-treatment facility became necessary, constructing wastewater treatment wetlands, hereafter referred to as treatment wetlands, was chosen as an alternative to expanding the existing activated sludge facilities. The significance of the project is that the MDC agreed to accept the treated effluent from the Columbia treatment wetlands as a water source for managing 1,200 wetland acres on the 2,700-acre MDC Eagle Bluffs Wildlife Area, a restored riverine wetland on the Missouri River alluvium (Baskett, 1991). The combined areas of the Columbia treatment wetlands and the wetlands on the Eagle Bluffs Wildlife Area are termed the Columbia/Eagle Bluffs Wetland Complex.

The Columbia treatment wetlands consist of three wetland units with a total surface area of 91 acres and are designed to treat an average flow of 17.68 Mgal/d (million gallons per day). Flow distribution and control structures have been designed for peak flows of as much as 60 Mgal/d. Wastewater entering the treatment wetlands consists of blended primary and secondary treated effluent from the existing city wastewater-treatment facility. The Columbia treatment wetlands have been designed to consistently meet National Point Discharge Elimination System permit limitations. Treatment wetlands vegetation primarily consists of cattails. Treated effluent from the Columbia treatment wetlands is pumped to the Eagle Bluffs Wildlife Area.

The city of Columbia pumps water for its municipal supply from six pairs of wells located upstream from the Eagle Bluffs Wildlife Area and adjacent to the Columbia treatment wetlands (fig. 1). During 1992, the U.S. Geological Survey (USGS) began a study in cooperation with MDC and the city of Columbia to collect hydrologic data in the Columbia/Eagle Bluffs Wetland Complex. The objective of the study was to evaluate effects on ground- and surface-water flow and quality as the result of the construction of the effluent-wetland treatment system. Because wetland areas are sensitive to both chemical and physical changes in the hydrologic environment, a hydrologic monitoring network was developed to provide data that can be used to evaluate changes and to analyze trends. The ability to evaluate changes is especially necessary because treated sewage effluent will be used as a primary source of water for wetland management on the Eagle Bluffs Wildlife Area. Trend analysis will be an invaluable tool to identify problems before they become widespread or irreversible. The first task of the study was to collect background data before the area was inundated and wetland management processes began so that a baseline for the hydrologic environment could be established.

Operation of the Columbia treatment wetlands was scheduled to begin in the fall of 1993, but because of the damage caused by the 1993 Missouri River flood, operation of the treatment wetlands began in late 1994. Operation of the wetland areas on the Eagle Bluffs Wildlife Area was to begin in the fall of 1993, but as a result of the damage caused by the 1993 and 1995 Missouri River floods, full management of the wetland areas on Eagle Bluffs began in late 1995. The Eagle Bluffs Wildlife Area was officially dedicated on October 12, 1996.

The purpose of this report is to present the water-quality data from samples collected from September 1993 through October 1996. The report also includes sampling methods and chemical data collected from residual flood water and sediments deposited during the 1993 Missouri River flood. The report presents water-level data collected from the monitoring wells in addition to water-level data collected from two continuous water-level recorders. A brief description of the 1993 and 1995 Missouri River flood events also is included.

STUDY AREA

The Columbia/Eagle Bluffs Wetland Complex is located 7 mi (miles) southwest of Columbia, Missouri, near the town of McBaine, along the north bank of the Missouri River (fig. 1). The 8.7-mi^2 (square mile) area is bounded to the south and west by the Missouri River and to the north and east by the Missouri River bluffs. Perche Creek flows southward along the Missouri River bluffs and discharges into the Missouri River in

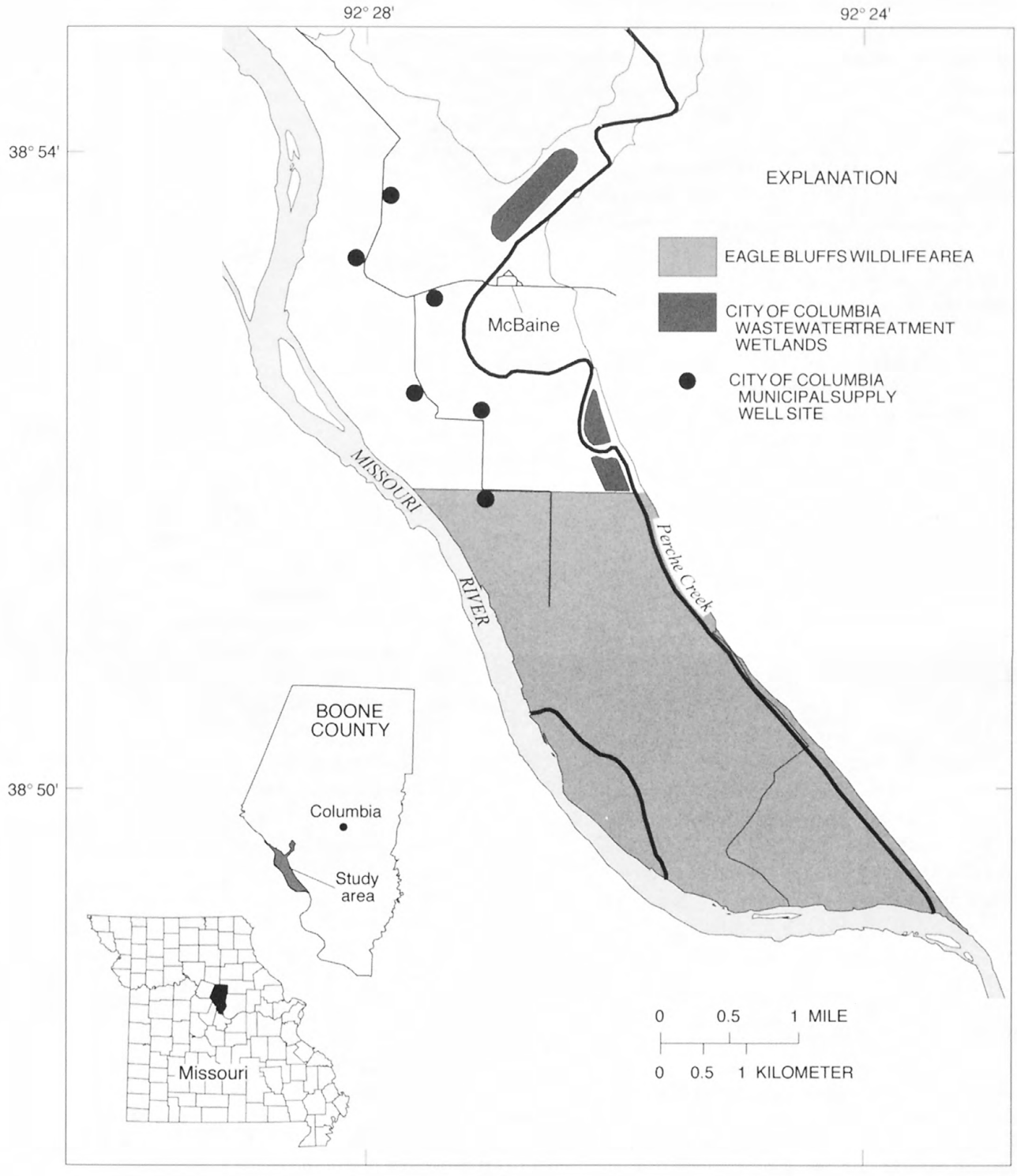

Figure 1. Location of the Columbia/Eagle Bluffs Wetland Complex near McBaine, Missouri.

the southeast part of the study area. Prior to the full operation of the city treatment wetlands, Perche Creek was used by the city of Columbia as the discharge point for their treated sewage effluent. Several "blew holes" (scour holes) caused by levee failures during past flooding events have formed along the levees surrounding the study area. Many of these blew holes contain water year-round and provide habitat for fish and other forms of aquatic life. The area outside of the wetlands is flat lying agricultural land that primarily is used for raising row crops such as corn, wheat, and soybeans. The area receives an average of 38 in. (inches) of rain annually (Missouri Department of Natural Resources, 1986).

The surficial material underlying the Columbia/Eagle Bluffs Wetland Complex primarily consists of Missouri River alluvium that is composed of fine sand, silt, or clay near the surface and sand and gravel at depth. The sand and gravel in the lower part of the alluvium form the alluvial aquifer. The average saturated thickness of the alluvial aquifer is approximately 60 ft (feet; Emmett and Jeffery, 1969).

WATER-QUALITY AND SEDIMENT DATA

Water-quality samples were collected quarterly at 28 ground-water and 2 surface-water sites (fig. 2). Four additional wells were incorporated into the monitoring network in November 1994 and were sampled quarterly. One of the wells (MW13-67) was damaged by the 1993 Missouri River flood and was removed from the sampling network. This well was not sampled following the 1993 flood. The sampling sites include 18 monitoring wells installed by the city of Columbia, 14 monitoring wells installed by the USGS, and 2 surface-water sites. Water samples were analyzed for an extensive series of chemical and physical constituents to establish a pre-effluent discharge baseline and to monitor potential changes in water quality after effluent discharge began.

In addition to the quarterly sampling, water samples were collected from four residual flood water (water remaining in the floodplain after flood waters receded) sites and sediment samples were collected from four sediment deposits after the 1993 Missouri River flood (fig. 3). These samples were collected to help understand the possible effect of flooding on potential water-quality changes.

Sampling Methods

Specific conductance, pH, temperature, dissolved oxygen, fecal coliform, and fecal streptococci were determined onsite using procedures described by Wilde and Radtke (1997). Occasionally, equipment problems occurred onsite and the field specific conductance values were considered unreliable. On such occasions, the reported values in table 1 (at the back of this report) were determined in the laboratory. Specific conductance and temperature values were measured using a portable conductivity meter with temperature compensation designed to express readings in microsiemens per centimeter at 25 °C (degrees Celsius). The pH value of the water was measured at the time of collection with an electronic meter calibrated with buffers bracketing the expected pH values of the samples. Dissolved oxygen concentrations were determined using a low range colorimetric method for ground-water sites and a portable temperature compensated meter for surface-water and residual flood-water sites.

Ground-water and surface-water samples were collected and processed as described in Richards (1995). All samples were analyzed by laboratories of the USGS for inorganic and organic constituents according to methods described by Wershaw and others (1983), Fishman and Friedman (1989), Patton and Truitt (1992), and Fishman (1993).

Based on spatial distribution, 8 of the 32 wells were selected to receive detailed organic sampling. Samples from these eight wells, both surface-water sites, and one residual flood water site were analyzed for base/neutral/acid (BNA) semi-volatile organic compounds, selected pesticides, and selected organochlorine compounds. In addition, samples from the eight wells were analyzed for purgeable volatile organic compounds. Most of the organic compounds were not detected in the samples from the wells or the surface-water sites (table 2, at the back of this report). Data for the samples from the wells and the surface-water sites that had organic compounds (pesticides) detected are listed in table 3, at the back of this report. The method detection limits (MDL; less than values) in table 3 vary from constituent to constituent and with time for the same constituent. The MDL for the pesticide analyses is "dependent on the method, instrument performance, materials, skill of the analyst, and other operational sources of variation. The MDL is not an absolute and invariant number; it is subject to random variation caused by day-to-day changes in calibration

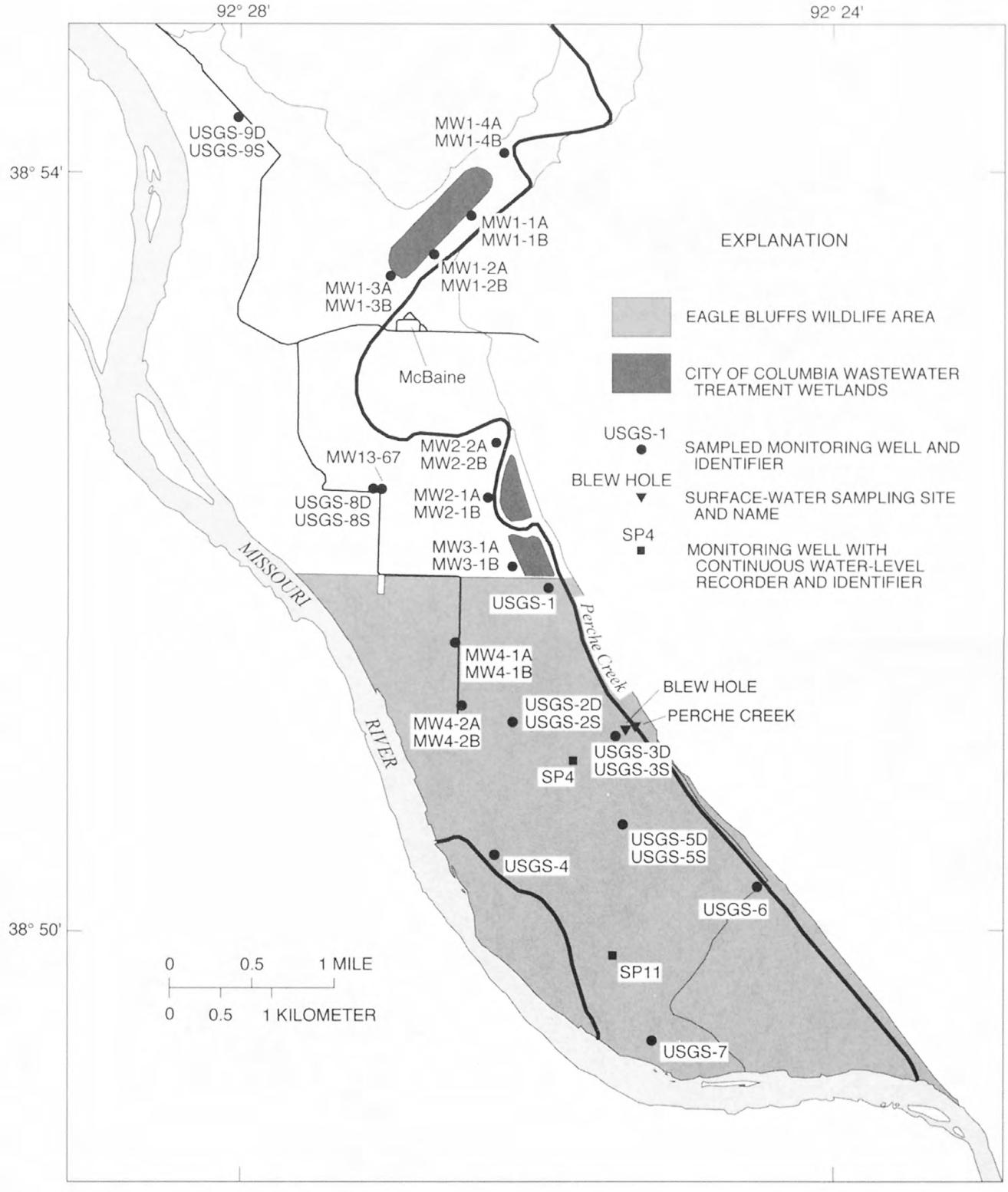

Figure 2. Location of sampling sites and water-level measuring points.

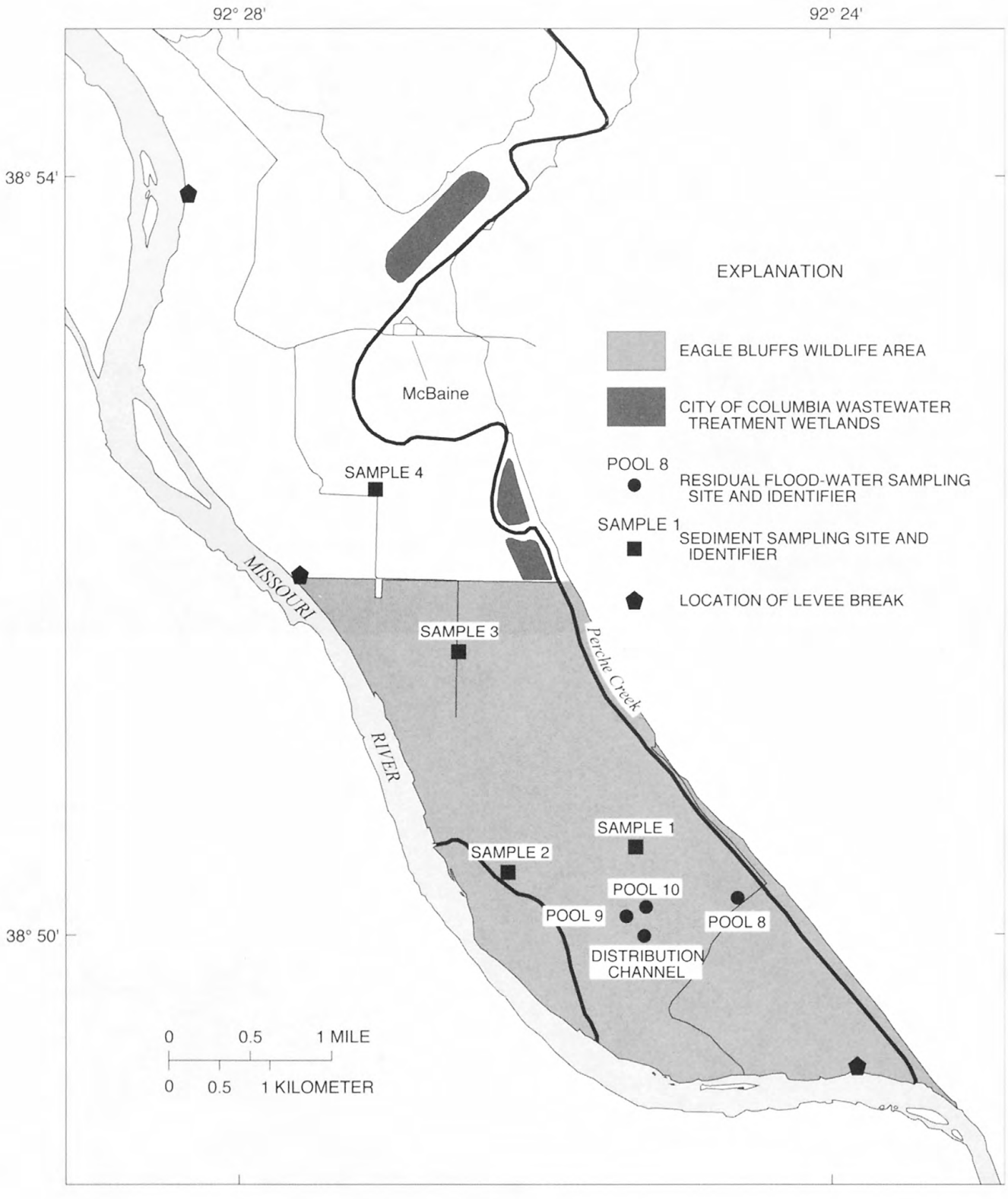

Figure 3. Location of residual flood-water sampling sites, sediment sampling sites, and levee breaks.

solutions and instrument sensitivity" (J.W. Pritt, U.S. Geological Survey, written commun., 1994). The U.S. Environmental Protection Agency recommends that the MDL estimates be checked every 3 to 6 months, or when the analytical procedure changes significantly. The variation in the MDL does not account for matrix interferences (J.W. Pritt, written commun., 1994). "A numerical value will be reported for measurements less than the MDL if a peak is observed at the correct retention time and the qualifying information from the spectra conclusively identifies the analyte" (J.W. Pritt, written commun., 1994). These results are marked with an "E" remark code.

Following the 1993 Missouri River flood, samples of the residual flood water were collected at four locations (fig. 3) for comparison to the pre- and post-flooding ground-water samples. These samples were collected shortly after the recession of the flood water. Residual flood-water samples were collected in a 1-gal (gallon) glass bottle, inserted into an epoxy-coated steel frame designed for collection of samples for trace-element analysis. The sampler was lowered through the water column at three locations (estimated to be of equal width) across the water body. These three samples were then composited in a 5-gal glass container from which sample bottles were filled.

Sediment samples were collected following the 1993 Missouri River flood from four locations (fig. 3) on the Eagle Bluffs Wildlife Area to identify the relation between post-flooding ground-water quality and the concentration of chemical constituents in the newly deposited sediments. Sediment samples were collected by digging a hole to identify the interface between the post-flood deposition and the pre-flood soil. The pre-flood soil typically had roots and other organic debris whereas the post-flood sediment did not. After digging the hole, the vertical cut was scraped clean with a plastic scraper to ensure no contamination. The samples were collected above the interface using a plastic scoop and latex gloves. Samples were immediately chilled after collection.

Summary of Water-Quality and Sediment-Quality Data

Inorganic Water-Quality Data

Nutrients (dissolved nitrogen and phosphorous species) are of particular interest in a wetland environment, especially one in which the source of water will be sewage effluent. The dissolved ammonia as nitrogen concentration ranged from less than 0.02 to 4.3 mg/L (milligrams per liter) in the ground-water samples and ranged from less than 0.02 to 1.5 mg/L in the surface-water samples. Dissolved nitrite plus nitrate as nitrogen concentrations ranged from less than 0.05 to 5.2 mg/L in ground-water samples, but remain below the State maximum contaminant level (MCL) of 10 mg/L for drinking water. Dissolved nitrite plus nitrate as nitrogen concentrations ranged from less than 0.05 to 2.7 mg/L in surface-water samples. Dissolved phosphorus concentrations ranged from less than 0.01 to 2.2 mg/L in the ground-water samples and ranged from less than 0.01 to 0.19 mg/L in the surface-water samples.

Also of interest, because sewage effluent will be used as a major source of water for the wetlands, are bacteria in the water samples. Ground-water samples had fecal coliform bacteria counts ranging from less than 1 to 39 colonies/100 mL (colonies per 100 milliliters) and fecal streptococcus bacteria counts ranging from less than 1 to 92 colonies/100 mL. In surface-water samples, fecal coliform counts ranged from 1 to greater than 6,000 colonies/100 mL and fecal streptococcus counts ranged from 2 to greater than 10,000 colonies/100 mL.

Other significant results included dissolved arsenic, barium, iron, and manganese concentrations. Nine samples from well USGS-6 had concentrations of dissolved arsenic [ranging from 25 to 72 µg/L (micrograms per liter)] that exceeded the drinking water MCL of 50 µg/L. Concentrations of arsenic in wells MW1-1A, MW1-4B, USGS-2S, USGS-3D, and USGS-3S were high, but did not exceed the State drinking water MCL for arsenic. With the exception of USGS-6, all the wells had concentrations of arsenic less than the State drinking water MCL for arsenic. Both surface-water sites had arsenic concentrations well below the drinking water MCL. Dissolved barium concentrations ranged from 41 to 1,600 µg/L in ground-water samples and from 84 to 290 µg/L in surface-water samples, but remained less than the State MCL of 2,000 µg/L. Dissolved iron concentrations ranged from less than 3 to 56,000 µg/L in the ground-water samples and ranged from 6 to 600 µg/L in surface-water samples. Dissolved iron concentrations exceeded the recommended secondary MCL of 300 µg/L at least once in all ground- and surface-water sites except MW1-4A, MW3-1A, USGS-5S, USGS-8S, USGS-9S, and Blew Hole. Dissolved manganese concentrations ranged from 5 to 3,800 µg/L in ground-water samples and ranged from

9 to 3,500 µg/L in surface-water samples. Dissolved manganese concentrations exceeded the State drinking and groundwater MCL of 50 µg/L at least once for all sampling sites except USGS-9S. All other constituent concentrations were below their respective State MCL (Missouri Department of Natural Resources, 1993).

During the course of the study, the lab procedure that was used to determine lead concentrations was changed. The change was due to the laboratory shift in minimum reporting levels (MRLs) that were currently in place for the Inductively Coupled Plasma-Atomic Emission Spectrometric analytical procedure (T. Maloney, U.S. Geological Survey, written commun., 1997). The change was from a MRL of 10 µg/L to 100 µg/L. The change in MRL for lead caused a shift in non-detection (less than) concentrations in the database. The results given in Richards (1995) and tables 1 and 4 of this report for values of lead less than 100 µg/L should be considered non-detections. In September 1995, a new method was chosen to determine lead concentrations in samples collected from sites at the Columbia/Eagle Bluffs wetland complex. The new analytical procedure for lead determination uses the Graphite Furnace Atomic Adsorption Spectrophotometry method and has a MRL of 1 µg/L.

Chloride concentrations increased substantially in six wells during the sampling period. Wells MW1-2A, MW1-2B, MW1-3A, USGS-3S, USGS-6, and USGS-7 had chloride concentrations ranging from 3.7 to 15 mg/L at the beginning of the sampling period and ranged from 39 to 190 mg/L at the end of the sampling period. Also for those six wells, sodium concentrations often increased and, in some cases, sulfate concentrations also increased.

Organic Water-Quality Data

The organic constituents detected in the water samples mostly were pesticides (table 3). The only non-pesticide organic compound detected in the water samples was Bis(2-Ethylhexyl)phthalate. Concentrations of metolachlor ranged from less than 0.002 to 0.005 µg/L, diazinon ranged from less than 0.002 to 0.024 µg/L, atrazine ranged from less than 0.001 to 0.004 µg/L, deethylatrazine ranged from less than 0.002 to 0.008 µg/L, and metribuzin was detected one time (0.012 µg/L) in ground-water samples. For surface-water samples, concentrations of alachlor ranged from less than 0.002 to 0.019 µg/L, metolachlor ranged from less than 0.009 to 0.56 µg/L, chlorpyrifos ranged from less than 0.004 to 0.062 µg/L, diazinon ranged from less than 0.002 to 0.050 µg/L, atrazine ranged from 0.011 to 1.50 µg/L, prometon ranged from less than 0.008 to 0.149 µg/L, and simazine ranged from less than 0.005 to 0.091 µg/L. Atrazine was detected consistently at both surface-water sites. All constituent concentrations during this sampling period, although usually greater in the surface-water samples than those in the ground-water samples, were less than their respective State MCL (Missouri Department of Natural Resources, 1993).

Residual Flood-Water-Quality Data

The residual flood-water samples were analyzed for specific conductance, pH, temperature, dissolved oxygen, bacteria, major cations and anions, nutrients, trace elements, and total and dissolved organic carbon. One sample (Pool 8) was analyzed for base/neutral/acid (BNA) semi-volatile organic compounds, selected pesticides, selected organochlorine compounds and purgeable volatile organic compounds. The locations of the sample sites are shown on figure 3. The inorganic data for the residual flood-water samples are given in table 4.

The residual flood-water samples had fecal coliform counts ranging from less than 2 to 26 colonies/100 mL and fecal streptococcus counts ranging from 8 to 298 colonies/100 mL. The concentration of nitrogen in the form of dissolved ammonia ranged from 0.02 to 0.03 mg/L, in the form of ammonia + organic nitrogen ranged from 0.6 to 2.3 mg/L, and in the oxidized forms of nitrite and nitrite plus nitrate the values were less than the detection limit. The concentration of total phosphorous ranged from 0.11 to 0.25 mg/L. All constituent concentrations in the residual flood-water samples were below their respective State MCL (Missouri Department of Natural Resources, 1993).

The organic compounds that were analyzed in the selected residual flood-water sample are listed in table 2. Fewer organic compounds (pesticides) were detected in the residual flood-water sample than were detected in quarterly ground- and surface-water samples. The compounds that were detected in the quarterly ground- and surface-water samples but not detected in the residual flood-water sample are: carbaryl, propachlor, lindane (dissolved and total), p,p'-DDE, chlorpyrifos, tebuthiuron, DCPA, simazine, metribuzin, chlordane, and perthane.

Table 4. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from residual flood water in the Columbia/Eagle Bluffs Wetland Complex

[see page 18 for abbreviations and units]

Site identifier	Date	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K	Alk
Distribution channel	9/21/93	1330	286	9.1	20.5	13.2	31	26	111	32	8.0	11	4.4	98
Pool 8	9/21/93	1545	332	9.0	20.0	13.5	38	16	298	34	10	12	4.6	112
Pool 9	9/21/93	1245	246	8.9	21.5	10.0	47	23	243	29	5.9	8.8	4.3	82
Pool 10	9/21/93	1415	231	9.8	25.0	18.8	67	< 2	8	21	6.3	10	4.1	52

Site identifier	Date	SO_4	Cl	F	Br	SiO_2	DS	NO_2	NO_2 + NO_3	NH_3	NH_3 + Org N	P total	P	Ortho P
Distribution channel	9/21/93	30	8.1	0.2	< 0.01	2.9	166	< 0.01	< 0.05	0.03	0.6	0.11	0.04	0.01
Pool 8	9/21/93	31	8.8	.3	< .01	4.4	171	< .01	< .05	.02	1.5	.17	.01	< .01
Pool 9	9/21/93	28	7.1	.2	< .01	2.0	147	< .01	< .05	.02	.8	.25	.07	.04
Pool 10	9/21/93	33	9.1	.2	< .01	2.2	181	< .01	< .05	.02	2.3	.17	.05	< .01

Site identifier	Date	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Li	Mn
Distribution channel	9/21/93	20	2	86	< 0.5	30	< 1	< 5	< 3	< 10	23	< 10	5	3
Pool 8	9/21/93	10	3	93	< .5	40	2	< 5	< 3	< 10	18	20	8	52
Pool 9	9/21/93	10	3	66	< .5	50	< 1	< 5	< 3	< 10	11	< 10	< 4	10
Pool 10	9/21/93	20	3	55	< .5	30	< 1	< 5	< 3	< 10	19	10	6	3

Site identifier	Date	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
Distribution Channel	9/21/93	< 0.1	< 10	< 10	< 1	< 1	180	< 6	< 3	9.5	4.4
Pool 8	9/21/93	< .1	< 10	10	< 1	< 1	210	< 6	< 3	11	5.2
Pool 9	9/21/93	< .1	< 10	< 10	1	< 1	140	< 6	< 3	14	3.8
Pool 10	9/21/93	< .1	< 10	< 10	< 1	< 1	130	< 6	< 3	11	7.5

Constituent concentrations for the detected compounds are presented in table 5. All organic constituent concentrations in the residual flood-water sample were below their respective State MCL (Missouri Department of Natural Resources, 1993).

Sediment-Quality Data

The four post-flood sediment samples were analyzed for an extensive list of inorganic and organic chemical compounds. The constituents analyzed and their detection limits are presented in table 6. Two of the samples (samples 2 and 3) were collected where fine-grained material (mostly clay) was deposited. The other two samples (samples 1 and 4) were collected where coarse-grained material (mostly sand sized) was deposited. The locations of the sample sites are shown on figure 3. Most of the organic compounds were not detected. The inorganic data and the detected organic data are presented in table 7.

The flood deposits had concentrations of organic nitrogen ranging from 1.2 to 8.6 milligrams per kilogram (mg/kg) and ammonia (as nitrogen) ranging from 76 to 1,400 mg/kg. Iron concentrations ranged from 3,800 to 15,000 micrograms per gram (µg/g). Total carbon ranged from 1.4 to 16 g/kg.

Most of the detected organic constituents were semi-volatile organic compounds. Only one pesticide was detected (dieldrin). Detectable concentrations of oil and grease were found in two samples.

WATER-LEVEL DATA

Height of measuring-point altitudes, which was the top of the casing, were surveyed to all wells. Water-level measurements were made in all of the monitoring wells at the time each was sampled. An electric tape was lowered into the well, and the depth to the water from the top of the casing was read to the nearest 0.01 ft (table 8, at the back of this report). Two continuous recorders collected water-level data for wells SP4 and SP11 at hourly intervals. Daily mean water-level data for wells SP4 and SP11 are presented in figure 4. The 1993 Missouri River flood destroyed the recording equipment on both SP4 and SP11; as a result, there is missing record before and after the flood. The flood of 1995 also damaged the recording equipment, and there is missing record following this flood as well. The 1995 flood also damaged the well casing for monitoring well SP4 precluding reinstallation of recording equipment until the well casing could be repaired. This caused an extended period of time that water-level measurements could not be recorded for that well.

MISSOURI RIVER FLOODS OF 1993 AND 1995

Intense rainfall from April through July 1993 throughout the Midwest resulted in record flooding in the lower Missouri River Basin. Peak discharges as a result of this flooding corresponded to a greater than 100-year recurrence interval event (Parrett and others, 1993). Similar rainfall in 1995 repeated the flooding in the lower Missouri River Basin. The 1993 flood water breached the levee surrounding the Columbia/Eagle Bluffs Wetland Complex in three areas (fig. 3). Large erosional features (scour holes) were formed at the locations of the levee breaches. Depositional features (mostly sand) splayed outward from these levee breaches. Water depths in the floodplain near McBaine, Missouri, at the peak of the flood were greater than 10 ft. Because the levees had not yet been repaired, the 1995 Missouri River flood caused further erosion and deposition/redistribution of sediments. Repairs to the damaged levees were completed in September 1995.

As a result of the erosion and deposition that occurred during flooding, much of the flood plain landscape was altered. Most of the landscape changes occurred during the 1993 flood. Significant erosion occurred near the breaks on the Missouri River levees and, to a lesser extent, on many of the pool-control

Table 5. Detected organic compounds in residual flood water

Site identifier (fig. 3)	Date	Time	Alachlor	Metol-achlor	Diazinon	Atrazine	Cyanazine	Deethyl atrazine	Prometon
Pool 8	9/21/93	1545	0.012	0.096	0.008	0.39	0.062	0.04	0.01

Table 6. Constituents that were analyzed and minimum reporting limits of inorganic and organic analyses for sediment samples collected from flood deposits in the Columbia/Eagle Bluffs Wetland Complex

[mg/kg, milligram per kilogram; µg/g, microgram per gram; g/kg; gram per kilogram; µg/kg, microgram mper kilogram; na, not applicable]

Constituent	Minimum reporting limit
Moisture content, fraction of dry weight	0.1 percent
Oxygen demand, chemical	100 mg/kg
Calcium	10 mg/kg
Solids, loss on ignition	1 mg/kg
Nitrogen, organic	20 mg/kg
Nitrogen, ammonia	0.2 mg/kg
Arsenic	1 µg/g
Barium	1 µg/g
Beryllium	1 µg/g
Cadmium	1 µg/g
Chromium	1 µg/g
Copper	1 µg/g
Iron	1 µg/g
Lead	10 µg/g
Manganese	1 µg/g
Mercury	0.01 ug/g
Nickel	10 µg/g
Selenium	1 µg/g
Zinc	1 µg/g
Inorganic carbon	0.1 g/kg
Organic carbon	0.1 g/kg
Total carbon	0.1 g/kg
Cyanide	0.5 mg/kg
Oil and grease	1 mg/kg
Aldrin	1 µg/kg
Chloroneb	5 µg/kg
Dacthal	5 µg/kg
Dieldrin	1 µg/kg
Endrin	2 µg/kg
Heptachlor	1 µg/kg
Heptachlor epoxide	1 µg/kg
Hexachlorobenzene	1 µg/kg
Isodrin	1 µg/kg
Lindane	1 µg/kg
Mirex	1 µg/kg
Oxychlordane	1 µg/kg
Pentachloroanisole	1 µg/kg
Polychlorinated biphenyls	50 µg/kg
Toxaphene	200 µg/kg
alpha-Endosulfan	1 µg/kg
alpha-HCH	1 µg/kg
beta-HCH	1 µg/kg
cis-Chlordane	1 µg/kg
cis-Nonachlor	1 µg/kg
cis-Permethrin	5 µg/kg
o,p'-DDD	1 µg/kg
o,p'-DDE	1 µg/kg
o,p'-DDT	2 µg/kg

Table 6. Constituents that were analyzed and minimum reporting limits of inorganic and organic analyses for sediment samples collected from flood deposits in the Columbia/Eagle Bluffs Wetland Complex—Continued

Constituent	Minimum reporting limit
o,p'-Methoxychlor	5 µg/kg
p,p'-DDD	1 µg/kg
p,p'-DDE	1 µg/kg
p,p'-DDT	2 µg/kg
p,p'-Methoxychlor	5 µg/kg
trans-Chlordane	1 µg/kg
trans-Nonachlor	1 µg/kg
trans-Permethrin	5 µg/kg
1,2,4-Trichlorobenzene	50 µg/kg
1,2-Dichlorobenzene	50 µg/kg
1,2-Dimethylnaphthalene	50 µg/kg
1,3-Dichlorobenzene	50 µg/kg
1,4-Dichlorobenzene	50 µg/kg
1,6-Dimethylnaphthalene	50 µg/kg
1-Methyl-9H-fluorene	50 µg/kg
1-Methylphenanthrene	50 µg/kg
1-Methylpyrene	50 µg/kg
2,2'-Biquinoline	50 µg/kg
2,3,5,6-Tetramethylphenol	50 µg/kg
2,3,6-Trimethylnaphthalene	50 µg/kg
2,4,6-Trichlorophenol	n/a
2,4,6-Trimethylphenol	n/a
2,4-Dichlorophenol	n/a
2,4-Dinitrophenol	n/a
2,4-Dinitrotoluene	50 µg/kg
2,6-Dimethylnaphthalene	50 µg/kg
2,6-Dinitrotoluene	50 µg/kg
2-Chloronaphthalene	50 µg/kg
2-Chlorophenol	50 µg/kg
2-Ethylnaphthalene	50 µg/kg
2-Methylanthracene	50 µg/kg
2-Nitrophenol	n/a
3,5-Dimethylphenol	50 µg/kg
4,5-Methylenephenanthrene	50 µg/kg
4,6-Dinitro-2-methylphenol	n/a
4-Bromophenylphenylether	50 µg/kg
4-Chloro-3-methylphenol	50 µg/kg
4-Chlorophenylphenylether	50 µg/kg
4-Nitrophenol	n/a
Acenaphthene	50 µg/kg
Acenaphthylene	50 µg/kg
Acridine	50 µg/kg
Anthracene	50 µg/kg
Anthraquinone	50 µg/kg
Azobenzene	50 µg/kg
Benz[*a*]anthracene	50 µg/kg
Benzo[*a*]pyrene	50 µg/kg
Benzo[*b*]fluoranthene	50 µg/kg

Table 6. Constituents that were analyzed and minimum reporting limits of inorganic and organic analyses for sediment samples collected from flood deposits in the Columbia/Eagle Bluffs Wetland Complex—Continued

Constituent	Minimum reporting limit
Benzo[*c*]quinoline	50 µg/kg
Benzo[*ghi*]perylene	50 µg/kg
Benzo[*k*]fluoranthene	50 µg/kg
Bis(2-*ethylhexyl*)phthalate	50 µg/kg
Butylbenzyl phthalate	50 µg/kg
C_8-Alkylphenol	50 µg/kg
Carbazole	50 µg/kg
Chrysene	50 µg/kg
Di-*n*-butylphthalate	50 µg/kg
Di-*n*-octylphthalate	50 µg/kg
Dibenz[*a,h*]anthracene	50 µg/kg
Dibenzothiophene	50 µg/kg
Diethylphthalate	50 µg/kg
Dimethylphthalate	50 µg/kg
Fluoranthene	50 µg/kg
Fluorene	50 µg/kg
Hexachlorobenzene	50 µg/kg
Hexachlorobutadiene	n/a
Hexachlorocyclopentadiene	n/a
Hexachloroethane	n/a
Indeno[1,2,3-*cd*]pyrene	50 µg/kg
Isophorone	50 µg/kg
Isoquinoline	50 µg/kg
N-Nitrosodi-*n*-propylamine	50 µg/kg
N-Nitrosodiphenylamine	50 µg/kg
Naphthalene	50 µg/kg
Nitrobenzene	50 µg/kg
Pentachloroanisole	50 µg/kg
Pentachloronitrobenzene	50 µg/kg
Pentachlorophenol	n/a
Phenanthrene	50 µg/kg
Phenanthridine	50 µg/kg
Phenol	50 µg/kg
Pyrene	50 µg/kg
Quinoline	50 µg/kg
Bis(2-Chloroethoxy)methane	50 µg/kg
Bis(2-Chloroethyl)ether	5 µg/kg
Bis(2-Chloroisopropyl)ether	n/a
p-Cresol	50 µg/kg

Table 7. Inorganic and organic constituent concentrations in sediment samples collected from flood deposits in the Columbia/Eagle Bluffs Wetland Complex

[see page 18 for abbreviations and units; N, nitrogen; C, carbon; CN, cyanide; E, estimated]

Site identifier	Date (month-day-year)	Time	Moisture content	COD	Ca	Loss on Ignition	Organic N	NH_3	As	Ba	Be	Cd
Sample 1	10/13/93	1325	4	1,400	< 10	6,230	1.4	76	3	50	< 1	< 1
Sample 2	10/13/93	1500	30	31,000	11	30,700	8.6	1,400	7	210	< 1	2
Sample 3	10/13/93	1525	30	34,000	< 10	33,900	5.8	970	7	170	< 1	1
Sample 4	10/13/93	1545	8	3,000	< 10	8,720	1.2	97	3	80	< 1	< 1

Site identifier	Date (month-day-year)	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Se	Zn	Inorganic C
Sample 1	10/13/93	6	2	3,800	< 5	75	0.1	10	< 1	10	0.7
Sample 2	10/13/93	15	16	15,000	10	720	.1	20	< 1	60	2.5
Sample 3	10/13/93	13	15	14,000	10	640	.1	20	< 1	60	1.7
Sample 4	10/13/93	7	4	6,800	< 5	130	.1	10	< 1	30	1.1

Site identifier	Date (month-day-year)	Organic C	Total C	CN	Oil and Grease	Dieldrin	Di-*n*-butyl phthalate	Diethyl phthalate	Pyrene	2,2'-Biquinoline	Benzo[*k*] fluor-anthene
Sample 1	10/13/93	0.7	1.4	< 0.5	130	< 1	69	9.0	< 50	< 50	< 50
Sample 2	10/13/93	14	16	< 0.5	< 100	4	14	6.5	< 50	< 50	< 50
Sample 3	10/13/93	11	13	< 0.5	< 100	3	98	< 50	16	23	6.4
Sample 4	10/13/93	1.5	2.6	< 0.5	130	< 1	44	< 50	< 50	< 50	< 50

Site identifier	Date (month-day-year)	Phenol	2,4,6-Trichloro phenol	2,4-Dinitro phenol	4,6-Dinitro-2-methyl-phenol	4-Nitro phenol	Penta-chloro-phenol	Bis (2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Benz[*a*] anthracene	Benzo[*b*] fluor-anthene
Sample 1	10/13/93	< 50	--	--	--	--	--	< 50	< 50	< 50	< 50
Sample 2	10/13/93	< 50	--	--	--	--	--	< 50	< 50	< 50	< 50
Sample 3	10/13/93	8.7	E 170	--	--	E 550	--	33	27	6.9	10
Sample 4	10/13/93	13	E 200	E 130	E 150	E 32	E 130	13	15	< 50	< 50

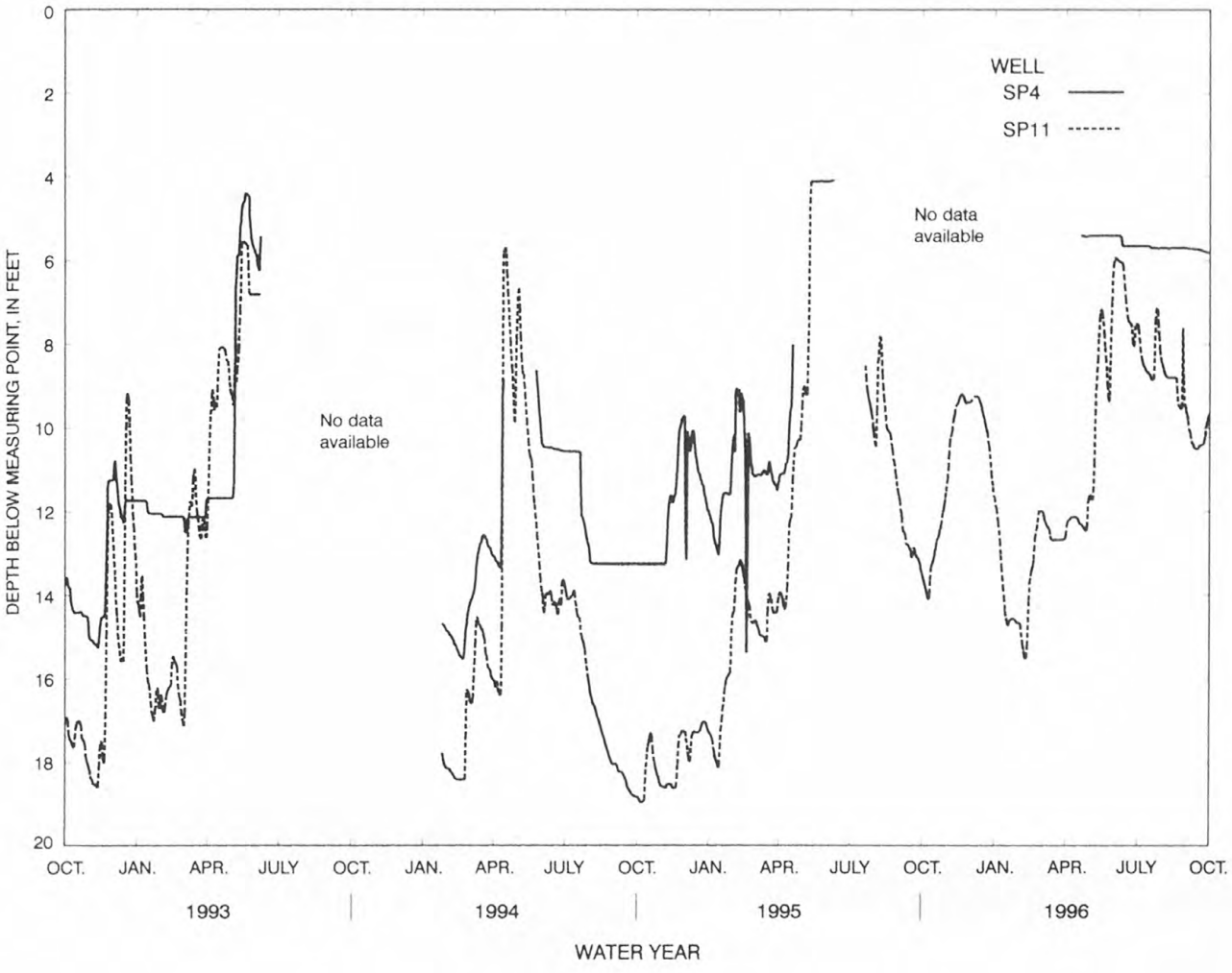

Figure 4. Daily mean water-level data for wells SP4 and SP11 located at the Columbia/Eagle Bluffs Wetland Complex.

levee structures in the Eagle Bluffs Wildlife Area where flood water velocity was high. Erosion also occurred near the bridge that spans Perche Creek. Erosional features varied in size, but the largest were near the levee breaks and were several acres in areal extent, and were estimated to be as much as 50 ft deep. Sediment deposition occurred on the broad flat areas where flood-water velocity was slower and sediment could settle out. Sediment deposits (mostly sand) ranged from 0 to approximately 7 ft thick. Much of the privately-owned farmland was reclaimed by either removing the sediment or by deep plowing the soil. The sediment deposited on the Eagle Bluffs Wildlife Area was not removed or altered except in areas where reconstruction of pool control levees was necessary.

REFERENCES

Baskett, R.K., 1991, Eagle Bluffs Wildlife Area: Missouri Conservationist, v. 52, no. 8, p. 2–5.

Emmett, L.F., and Jeffery, H.G., 1969, Reconnaissance of the ground-water resources of the Missouri River alluvium between Jefferson City and Miami, Missouri: U.S. Geological Survey Hydrologic Investigations Atlas HA–340, 1 sheet.

Fishman, M.J., 1993, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of inorganic and organic constituents in water and fluvial sediment: U.S. Geological Survey Open-File Report 93–125, 217 p.

Fishman, M.J., and Friedman, L.C., 1989, Methods of determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations Open-File Report 85–495, book 5, chap. A1, 709 p.

Missouri Department of Natural Resources, 1986, Missouri water atlas: Jefferson City, 100 p.

_____ 1993, Code of state regulations —Chapter 4, Contaminant levels and monitoring: Jefferson City, Public Drinking Water Program, 18 p.

Parrett, Charles, Melcher, N.B., and James, R.W., 1993, Flood discharges in the upper Mississippi River Basin: U.S. Geological Survey Circular 1120–A.

Patton, C.J., and Truitt, E.P., 1992, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of total phosphorous by a Kjeldahl digestion method and an automated colorimetric finish that includes dialysis: U.S. Geological Survey Open-File Report 92–146, 39 p.

Richards, J.M., 1995, Hydrologic data for the Columbia/Eagle Bluffs Wetland Complex, Columbia, Missouri—1992–93: U.S. Geological Survey Open-File Report 95–109, 50 p.

Wershaw, R.L., Fishman, M.J., Grabbe, R.R., and Lowe, L.E., eds., 1983, Methods for the determination of organic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A3, 80 p.

Wilde, F.D., and Radtke, D.B., eds, 1997, National field manual for the collection of water-quality data-field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 1, chap. A6.

TABLES

ABBREVIATIONS AND UNITS USED IN TABLES 1, 4, AND 7

Cond	Specific conductance, in microsiemens per centimeter at 25 degrees Celsius
pH	In standard units
Temp	Water temperature, in degrees Celsius
DO	Dissolved oxygen, in milligrams per liter
COD	Chemical oxygen demand, in milligrams per liter, milligrams per kilogram
Coli	Fecal coliform colonies per 100 milliliters
Strep	Fecal streptococcus colonies per 100 milliliters
Ca	Dissolved calcium, in milligrams per liter
Mg	Dissolved magnesium, in milligrams per liter
Na	Dissolved sodium, in milligrams per liter
K	Dissolved potassium, in milligrams per liter
Alk	Alkalinity as calcium carbonate, in milligrams per liter
SO_4	Dissolved sulfate, in milligrams per liter
Cl	Dissolved chloride, in milligrams per liter
F	Dissolved fluoride, in milligrams per liter
Br	Dissolved bromide, in micrograms per liter
SiO_2	Dissolved silica, in milligrams per liter
DS	Dissolved solids, residue at 180 degrees Celsius, in milligrams per liter
NO_2	Dissolved nitrite as nitrogen, in milligrams per liter
$NO_2 + NO_3$	Dissolved nitrite plus nitrate as nitrogen, in milligrams per liter
NH_3	Dissolved ammonia as nitrogen, in milligrams per liter, milligrams per kilogram
NH_3 + Org N	Total ammonia plus organic nitrogen, in milligrams per liter
Org N	Organic nitrogen, milligrams per kilogram
P total	Total phosphorus, in milligrams per liter
P	Dissolved phosphorus, in milligrams per liter
Ortho P	Dissolved phosphorus plus orthophosphate as phosphorus, in milligrams per liter
Al	Dissolved aluminum, in micrograms per liter
As	Dissolved arsenic, in micrograms per liter, micrograms per kilogram
Ba	Dissolved barium, in micrograms per liter
Be	Dissolved beryllium, in micrograms per liter, micrograms per kilogram
B	Dissolved boron, in micrograms per liter
Cd	Dissolved cadmium, in micrograms per liter, micrograms per kilogram
Cr	Dissolved chromium, in micrograms per liter, micrograms per kilogram
Co	Dissolved cobalt, in micrograms per liter
Cu	Dissolved copper, in micrograms per liter, micrograms per kilogram
Fe	Dissolved iron, in micrograms per liter
Pb	Dissolved lead, in micrograms per liter, micrograms per kilogram
Li	Dissolved lithium, in micrograms per liter
Mn	Dissolved manganese, in micrograms per liter, micrograms per kilogram
Hg	Dissolved mercury, in micrograms per liter, micrograms per kilogram
Mo	Dissolved molybdenum, in micrograms per liter
Ni	Dissolved nickel, in micrograms per liter, micrograms per kilogram
Se	Dissolved selenium, in micrograms per liter, micrograms per kilogram
Ag	Dissolved silver, in micrograms per liter
Sr	Dissolved strontium, in micrograms per liter
V	Dissolved vanadium, in micrograms per liter
Zn	Dissolved zinc, in micrograms per liter, micrograms per kilogram
TOC	Total organic carbon, in milligrams per liter
DOC	Dissolved organic carbon, in milligrams per liter
CN	Cyanide, in milligrams per kilogram
--	No data available
<	Less than
>	Greater than

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW1-1A	12/14/93	0940	864	6.7	14.5	--	19	< 1	K 12	120	20	29	2.8
MW1-1A	2/25/94	0940	859	6.6	14.0	< 0.1	20	< 1	< 1	130	22	30	2.9
MW1-1A	5/24/94	1525	755	6.6	15.0	--	19	< 1	K 1	130	22	30	1.8
MW1-1A	8/10/94	1120	965	6.7	15.0	< .1	18	< 1	K 6	130	23	29	3.2
MW1-1A	12/7/94	1600	824	6.6	14.5	< .1	14	39	K 2	130	22	30	2.8
MW1-1A	3/9/95	1110	1,060	6.5	14.5	< .1	22	< 1	< 1	140	25	30	3.3
MW1-1A	7/20/95	1030	845	6.6	14.5	< .1	19	< 1	K 5	110	19	28	2.5
MW1-1A	9/20/95	1140	953	6.6	14.5	< .1	21	< 1	< 1	120	20	27	2.8
MW1-1A	12/14/95	1140	950	6.6	14.5	< .1	18	< 1	< 1	110	21	29	2.8
MW1-1A	3/6/96	1200	961	6.6	14.0	< .1	--	< 1	< 1	120	23	29	2.9
MW1-1A	6/11/96	0950	950	6.5	15.0	< .1	--	< 1	< 1	120	22	29	2.9
MW1-1A	8/29/96	1520	769	6.7	15.0	< .1	19	< 1	K 3	120	20	26	2.8
MW1-1B	12/14/93	1030	1,280	6.4	14.0	< .1	16	K 1	K 4	220	40	21	6.8
MW1-1B	2/25/94	0845	1,230	6.8	13.5	1.0	18	< 1	< 1	220	40	21	7.1
MW1-1B	5/24/94	1625	1,040	6.7	15.5	< .1	23	< 1	< 1	220	41	21	4.3
MW1-1B	8/10/94	1030	1,310	6.9	15.5	< .1	19	< 1	< 1	210	38	21	7.6
MW1-1B	12/7/94	1530	1,120	6.8	14.0	< .1	18	< 1	K 7	220	40	22	6.9
MW1-1B	3/9/95	1020	1,410	6.7	14.0	< .1	18	< 1	< 1	220	41	23	7.4
MW1-1B	7/20/95	1120	1,290	6.8	15.0	.2	15	< 1	25	210	38	23	7.0
MW1-1B	9/20/95	1100	1,420	6.8	14.5	< .1	20	< 1	< 1	210	38	22	7.3
MW1-1B	12/14/95	1040	1,380	6.9	14.5	< .1	16	< 1	< 1	200	37	23	6.9
MW1-1B	3/6/96	1110	1,350	6.8	13.5	< .1	--	< 1	< 1	200	38	23	7.1
MW1-1B	6/11/96	1040	1,300	6.7	15.5	< .1	--	< 1	< 1	200	37	23	6.9
MW1-1B	8/29/96	1430	1,010	6.9	15.5	< .1	14	< 1	< 1	200	34	20	6.8
MW1-2A	12/13/93	1525	606	6.9	15.0	.2	< 10	< 1	K 1	90	23	5.0	3.3
MW1-2A	2/24/94	1700	598	7.1	14.0	.2	< 10	< 1	< 1	96	25	5.2	3.4
MW1-2A	5/25/94	0910	518	7.2	14.0	< .1	< 10	< 1	< 1	92	23	4.8	2.2
MW1-2A	8/11/94	1030	535	7.2	15.0	< .1	< 10	< 1	K 3	89	24	5.1	3.9
MW1-2A	12/8/94	1030	609	7.1	15.0	< .1	< 10	< 1	< 1	100	28	5.5	3.6
MW1-2A	3/9/95	0930	1,120	7.0	14.5	< .1	< 10	< 1	< 1	150	43	6.6	4.3

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW1-1A	12/14/93	250	210	9.2	0.3	0.04	29	582	0.03	0.08	1.1	1.3	1.6
MW1-1A	2/25/94	253	220	9.1	.3	.18	28	669	.03	< .05	1.2	1.2	1.7
MW1-1A	5/24/94	249	210	8.8	.3	.06	29	648	< .01	< .05	1.1	1.3	1.5
MW1-1A	8/10/94	260	240	9.9	.2	1.3	28	692	< .01	< .05	1.2	1.3	1.6
MW1-1A	12/7/94	240	230	9.0	.3	.05	31	630	< .01	< .05	1.2	1.2	1.5
MW1-1A	3/9/95	253	260	8.9	.3	1.2	32	727	< .01	.06	1.2	1.5	1.7
MW1-1A	7/20/95	232	190	9.0	.2	.08	32	614	< .01	< .05	1.1	1.2	1.4
MW1-1A	9/20/95	248	220	8.7	.2	.02	30	632	.01	< .05	1.2	1.3	1.6
MW1-1A	12/14/95	246	220	8.5	.3	.05	30	650	.03	< .05	1.2	1.2	1.5
MW1-1A	3/6/96	249	240	8.7	.3	.07	31	675	.02	< .05	1.3	1.4	1.6
MW1-1A	6/11/96	251	240	8.3	.3	.03	30	680	.02	< .05	1.2	1.3	1.1
MW1-1A	8/29/96	259	220	7.9	.3	.05	30	660	< .01	.05	1.3	1.2	1.1
MW1-1B	12/14/93	428	350	18	.2	.10	42	956	.03	.07	2.6	2.9	0.75
MW1-1B	2/25/94	423	340	15	.2	2.3	41	1,060	.03	< .05	2.6	2.7	1.4
MW1-1B	5/24/94	427	340	14	.2	.13	42	1,080	< .01	< .05	2.2	2.9	.49
MW1-1B	8/10/94	418	350	14	.2	.39	40	1,050	< .01	< .05	2.4	2.3	1.3
MW1-1B	12/7/94	403	340	13	.2	.26	45	984	< .01	< .05	2.5	2.5	1.2
MW1-1B	3/9/95	404	340	13	.2	.13	46	1,040	< .01	.06	2.4	3.0	1.3
MW1-1B	7/20/95	364	340	13	.1	.14	44	1,050	.02	< .05	2.5	2.5	.49
MW1-1B	9/20/95	415	340	13	< .1	.11	41	1,020	.01	< .05	2.3	2.6	1.4
MW1-1B	12/14/95	410	330	13	.1	.10	42	1,020	< .01	< .05	2.5	2.6	1.2
MW1-1B	3/6/96	415	320	14	.2	.10	43	1,020	< .01	< .05	2.4	2.4	1.4
MW1-1B	6/11/96	413	330	13	.3	.23	42	1,010	.02	< .05	2.3	2.5	1.1
MW1-1B	8/29/96	420	330	14	.2	.45	40	1,000	< .01	.05	2.6	2.4	.71
MW1-2A	12/13/93	316	33	4.5	.3	.08	21	370	.02	.09	.06	< .2	.07
MW1-2A	2/24/94	319	34	4.3	.4	.12	21	385	< .01	< .05	.05	< .2	.08
MW1-2A	5/25/94	313	32	4.1	.4	.05	22	377	< .01	< .05	.05	< .2	< .01
MW1-2A	8/11/94	322	29	4.7	.3	.14	21	380	< .01	< .05	.07	.2	.08
MW1-2A	12/8/94	345	24	5.0	.4	.07	23	419	< .01	< .05	.05	< .2	.09
MW1-2A	3/9/95	337	59	120	.3	.17	24	648	< .01	.06	.08	< .2	.07

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW1-1A	12/14/93	0.03	0.06	10	32	120	< 0.5	50	3	< 5	< 3	< 10	23,000	< 10
MW1-1A	2/25/94	1.6	.46	10	36	91	< .5	40	4	5	89	< 10	25,000	< 10
MW1-1A	5/24/94	1.2	< .01	< 10	34	75	< .5	50	4	< 5	44	< 10	24,000	< 10
MW1-1A	8/10/94	.03	< .01	< 10	29	65	1.2	40	2	< 5	14	< 10	22,000	< 10
MW1-1A	12/7/94	1.6	.06	< 10	24	57	< .5	30	< 1	< 5	230	< 10	24,000	20
MW1-1A	3/9/95	1.9	.09	< 10	35	54	< .5	40	3	< 5	--	< 10	26,000	< 10
MW1-1A	7/20/95	.34	< .01	< 10	18	52	< .5	40	< 1	< 5	--	< 10	25,000	20
MW1-1A	9/20/95	.67	.15	< 10	23	54	< .5	60	7	< 5	--	< 10	24,000	< 1
MW1-1A	12/14/95	1.8	.90	10	18	50	< .5	50	5	< 5	--	< 10	24,000	< 1
MW1-1A	3/6/96	1.7	.95	< 10	19	49	< .5	40	< 1	< 5	--	< 10	26,000	< 1
MW1-1A	6/11/96	.68	.01	< 5	24	45	< .5	37	3	< 5	--	< 10	27,000	< 1
MW1-1A	8/29/96	< .01	< .01	< 5	14	41	< .5	41	3	< 5	--	< 10	24,000	< 1
MW1-1B	12/14/93	.02	.02	< 10	1	520	< .5	90	4	< 5	< 3	< 10	36,000	< 10
MW1-1B	2/25/94	1.3	.34	20	1	510	< .5	100	7	5	120	< 10	36,000	10
MW1-1B	5/24/94	.03	< .01	20	1	520	< .5	100	6	< 5	53	< 10	37,000	< 10
MW1-1B	8/10/94	.07	< .01	10	1	500	< .5	80	5	< 5	9	< 10	33,000	< 10
MW1-1B	12/7/94	1.2	.11	< 10	1	490	< .5	80	2	< 5	240	< 10	36,000	20
MW1-1B	3/9/95	.02	.01	< 10	1	520	< .5	80	2	< 5	16	< 10	38,000	< 10
MW1-1B	7/20/95	.50	< .01	10	< 1	470	< .5	80	< 1	< 5	--	< 10	36,000	20
MW1-1B	9/20/95	.32	.06	< 10	1	460	< .5	80	6	6	--	< 10	37,000	< 1
MW1-1B	12/14/95	.02	.02	< 10	< 1	450	< .5	80	6	< 5	--	< 10	35,000	< 1
MW1-1B	3/6/96	1.3	.99	< 10	< 1	450	< .5	80	2	< 5	--	< 10	35,000	< 1
MW1-1B	6/11/96	1.3	.06	< 10	1	440	< .5	78	4	< 5	--	< 10	36,000	< 1
MW1-1B	8/29/96	< .01	.01	< 5	< 1	420	< .5	71	6	< 5	--	< 10	34,000	< 1
MW1-2A	12/13/93	.03	.07	< 10	2	390	< .5	40	< 1	< 5	< 3	< 10	2,100	20
MW1-2A	2/24/94	.08	.04	10	2	380	< .5	40	< 1	< 5	3	< 10	1,800	< 10
MW1-2A	5/25/94	.06	.06	< 10	2	350	< .5	40	< 1	< 5	6	< 10	1,700	< 10
MW1-2A	8/11/94	.08	.03	< 10	1	390	< .5	40	< 1	< 5	4	< 10	1,900	< 10
MW1-2A	12/8/94	.10	.04	< 10	2	410	< .5	40	< 1	7	6	< 10	1,900	< 10
MW1-2A	3/9/95	.03	.03	< 10	2	630	< .5	40	< 1	< 5	< 3	< 10	3,000	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW1-1A	12/14/93	23	3,300	< 0.1	< 10	< 10	< 1	< 1	410	< 6	4	3.5	3.0
MW1-1A	2/25/94	22	3,300	< .1	< 10	< 10	< 1	< 1	450	< 6	5	3.7	2.8
MW1-1A	5/24/94	20	3,300	< .1	20	< 10	< 1	< 1	450	< 6	< 3	3.8	2.8
MW1-1A	8/10/94	21	3,300	< .1	< 10	< 10	< 1	< 1	470	< 6	8	3.6	2.7
MW1-1A	12/7/94	33	3,300	< .1	< 10	< 10	< 1	4	430	9	3	3.3	2.8
MW1-1A	3/9/95	18	3,800	< .1	< 10	< 10	< 1	< 1	500	< 6	< 3	4.4	3.6
MW1-1A	7/20/95	< 4	3,000	< .1	< 10	< 10	< 1	< 1	400	< 6	< 3	3.7	2.4
MW1-1A	9/20/95	21	3,000	< .1	< 10	10	< 1	< 1	410	< 6	< 3	9.0	4.0
MW1-1A	12/14/95	21	3,100	< .1	< 10	< 10	< 1	< 1	430	< 6	4	9.9	3.2
MW1-1A	3/6/96	21	3,400	--	< 10	< 10	< 1	< 1	450	< 6	< 3	4.8	3.6
MW1-1A	6/11/96	21	3,200	< .1	< 10	< 10	< 1	< 1	470	< 6	< 3	--	--
MW1-1A	8/29/96	23	3,200	< .1	20	< 10	< 1	< 1	430	< 6	< 3	7.8	3.2
MW1-1B	12/14/93	20	2,200	< .1	< 10	< 10	< 1	< 1	1,000	6	< 3	3.0	2.8
MW1-1B	2/25/94	24	2,100	< .1	< 10	< 10	< 1	< 1	1,000	8	8	4.0	2.6
MW1-1B	5/24/94	22	2,200	< .1	< 10	< 10	< 1	< 1	1,100	7	7	4.7	3.0
MW1-1B	8/10/94	21	2,000	< .1	10	< 10	< 1	< 1	1,000	9	5	5.8	3.3
MW1-1B	12/7/94	24	2,200	< .1	10	< 10	< 1	< 1	970	7	5	3.9	3.2
MW1-1B	3/9/95	17	2,300	< .1	< 10	< 10	< 1	< 1	1,000	7	< 3	4.8	3.2
MW1-1B	7/20/95	20	2,300	< .1	< 10	< 10	< 1	2	990	< 6	4	16	4.0
MW1-1B	9/20/95	22	2,100	< .1	< 10	< 10	< 1	< 1	950	< 6	12	4.1	4.8
MW1-1B	12/14/95	21	2,200	< .1	< 10	< 10	< 1	< 1	960	< 6	5	3.8	3.6
MW1-1B	3/6/96	22	2,200	--	< 10	< 10	< 1	< 1	940	< 6	6	8.6	3.6
MW1-1B	6/11/96	22	2,100	.1	< 10	< 10	< 1	< 1	970	< 6	3	--	--
MW1-1B	8/29/96	22	2,100	< .1	< 10	< 10	< 1	< 1	890	< 6	12	3.2	2.8
MW1-2A	12/13/93	12	350	< .1	< 10	< 10	< 1	< 1	160	< 6	7	0.9	0.8
MW1-2A	2/24/94	15	310	< .1	< 10	< 10	< 1	< 1	180	< 6	< 3	1.0	.9
MW1-2A	5/25/94	11	360	< .1	< 10	< 10	< 1	< 1	160	< 6	< 3	1.5	.8
MW1-2A	8/11/94	13	300	< .1	< 10	< 10	< 1	< 1	170	< 6	< 3	.9	.8
MW1-2A	12/8/94	9	350	< .1	< 10	< 10	< 1	1	180	< 6	< 3	.9	1.0
MW1-2A	3/9/95	15	630	< .1	< 10	< 10	< 1	< 1	270	< 6	< 3	10	1.4

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW1-2A	7/20/95	0840	1,120	7.0	14.5	< 0.1	< 10	< 1	22	160	43	9.2	4.3
MW1-2A	9/20/95	1020	1,340	7.1	14.5	< .1	14	< 1	< 1	160	42	25	5.3
MW1-2A	12/14/95	0930	1,800	7.1	15.0	< .1	180	< 1	< 1	140	41	53	5.6
MW1-2A	3/7/96	0830	1,310	7.0	14.5	< .1	--	< 1	K 1	130	37	73	5.8
MW1-2A	6/11/96	0810	1,250	7.0	14.0	< .1	--	< 1	< 1	130	36	62	5.3
MW1-2A	8/29/96	1330	1,010	7.2	15.0	< .1	22	< 1	< 1	130	34	62	5.8
MW1-2B	12/13/93	1630	683	7.0	14.0	< .1	< 10	< 1	K 1	100	24	12	3.8
MW1-2B	2/24/94	1610	673	7.1	14.0	< .1	< 10	< 1	< 1	110	24	12	4.0
MW1-2B	5/25/94	0815	609	7.1	14.5	< .1	10	< 1	< 1	98	24	11	2.6
MW1-2B	8/11/94	0930	698	7.2	15.0	< .1	< 10	< 1	< 1	100	24	13	4.4
MW1-2B	12/8/94	0920	622	7.2	14.5	< .1	< 10	< 1	K 2	100	24	12	3.9
MW1-2B	3/9/95	0840	741	7.0	14.5	< .1	< 10	< 1	K 2	110	26	12	4.4
MW1-2B	7/20/95	0930	767	7.1	14.5	< .1	< 10	< 1	25	110	28	13	4.3
MW1-2B	9/20/95	0930	824	7.2	14.5	< .1	< 10	< 1	< 1	110	26	12	4.3
MW1-2B	12/14/95	0830	857	7.2	14.5	< .1	< 10	< 1	< 1	120	29	13	4.4
MW1-2B	3/6/96	0920	951	7.2	14.0	< .1	--	< 1	< 1	130	31	13	4.6
MW1-2B	6/11/96	0900	727	7.1	15.0	< .1	--	< 1	< 1	100	24	11	3.6
MW1-2B	8/29/96	1250	816	7.2	15.0	< .1	< 10	< 1	< 1	140	33	12	4.7
MW1-3A	12/8/93	1600	678	7.2	14.5	--	14	< 1	< 1	92	26	6.1	6.1
MW1-3A	3/2/94	1045	644	7.2	14.5	< .1	< 10	< 1	< 1	87	26	6.1	5.7
MW1-3A	5/24/94	1300	590	7.1	15.5	< .1	< 10	< 1	< 1	98	28	5.7	6.6
MW1-3A	8/10/94	0825	664	7.2	14.5	< .1	< 10	< 1	< 1	92	27	5.6	5.0
MW1-3A	12/7/94	1210	616	7.1	14.0	< .1	< 10	K 5	K 2	97	28	5.6	4.9
MW1-3A	3/9/95	1310	711	7.1	14.5	< .1	< 10	< 1	< 1	97	30	5.5	4.9
MW1-3A	7/20/95	1410	631	7.2	15.0	.1	< 10	< 1	26	91	26	5.5	5.6
MW1-3A	9/20/95	1400	692	7.1	14.5	< .1	< 10	< 1	< 1	89	26	5.0	5.1
MW1-3A	12/14/95	1330	705	7.1	15.0	< .1	< 10	< 1	< 1	90	28	5.3	5.0
MW1-3A	3/7/96	1540	722	7.2	14.0	< .1	22	< 1	< 1	96	30	5.3	5.0
MW1-3A	6/11/96	1300	789	7.1	15.0	< .1	--	< 1	< 1	100	32	5.4	4.4
MW1-3A	8/29/96	1010	682	7.2	15.0	< .1	< 10	< 1	K 1	110	33	5.6	4.6

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW1-2A	7/20/95	329	72	150	0.3	0.26	24	746	< 0.01	< 0.05	0.09	< 0.2	0.08
MW1-2A	9/20/95	312	83	200	.2	.16	23	834	< .01	< .05	.08	< .2	.11
MW1-2A	12/14/95	303	86	200	.3	.16	24	774	< .01	< .05	.09	.3	.11
MW1-2A	3/7/96	331	70	200	.3	.22	24	754	< .01	< .05	.09	.2	.04
MW1-2A	6/11/96	308	85	190	.4	.15	23	746	< .01	< .05	.13	.2	.07
MW1-2A	8/29/96	311	84	190	.3	.16	22	724	< .01	.05	.12	< .2	.03
MW1-2B	12/13/93	375	13	7.7	.2	.05	32	412	.02	.11	.51	.6	.35
MW1-2B	2/24/94	376	16	7.9	.2	.26	31	441	< .01	< .05	.55	.5	.37
MW1-2B	5/25/94	378	14	7.9	.2	.06	31	426	< .01	.06	.45	.6	.25
MW1-2B	8/11/94	378	20	8.2	.2	.46	31	451	< .01	< .05	.49	.6	.34
MW1-2B	12/8/94	348	19	7.8	.2	.08	33	421	< .01	< .05	.46	.4	.30
MW1-2B	3/9/95	371	17	7.7	.2	.09	34	452	< .01	.06	.42	.5	.30
MW1-2B	7/20/95	366	9.6	8.2	.2	.15	34	486	< .01	< .05	.49	.5	.34
MW1-2B	9/20/95	422	19	9.9	.2	.07	31	476	< .01	< .05	.46	.5	.35
MW1-2B	12/14/95	401	26	29	.2	.08	33	505	.01	< .05	.50	.4	.31
MW1-2B	3/6/96	378	35	73	.2	.12	32	572	< .01	< .05	.48	.6	.30
MW1-2B	6/11/96	350	27	15	.4	.11	32	437	.01	< .05	.41	.5	.30
MW1-2B	8/29/96	358	48	100	.2	.14	31	604	< .01	.05	.53	.5	.12
MW1-3A	12/8/93	314	33	15	.2	.13	37	396	< .01	< .05	.69	.7	.51
MW1-3A	3/2/94	329	32	10	.3	.64	36	420	< .01	< .05	.62	.6	.60
MW1-3A	5/24/94	333	31	10	.3	.40	37	431	< .01	< .05	.56	.7	.47
MW1-3A	8/10/94	334	31	10	.2	.07	37	414	< .01	< .05	.58	.6	.49
MW1-3A	12/7/94	323	31	9.9	.3	.08	40	416	< .01	< .05	.55	.6	.48
MW1-3A	3/9/95	310	30	9.1	.3	.60	40	425	< .01	.06	.49	.6	.25
MW1-3A	7/20/95	302	29	12	.3	.57	43	426	< .01	< .05	.69	.7	.56
MW1-3A	9/20/95	327	31	10	.3	.05	35	414	< .01	< .05	.57	.6	1.0
MW1-3A	12/14/95	343	28	8.7	.3	.05	36	424	< .01	< .05	.58	.6	.56
MW1-3A	3/7/96	340	29	19	.3	.04	39	443	< .01	< .05	.58	.6	.56
MW1-3A	6/11/96	335	38	37	.3	.13	35	475	.01	< .05	.49	.6	.40
MW1-3A	8/29/96	223	37	39	.3	.07	37	344	< .01	.06	.55	.5	.15

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	Bo	Cd	Cr	Co	Cu	Fe	Pb
MW1-2A	7/20/95	0.08	0.01	< 10	2	670	< 0.5	40	< 1	< 5	5	< 10	3,800	< 10
MW1-2A	9/20/95	.03	.02	< 10	3	710	< .5	60	4	< 5	< 3	< 10	4,700	< 1
MW1-2A	12/14/95	.01	.03	< 10	2	670	< .5	70	< 1	< 5	24	< 10	3,900	< 1
MW1-2A	3/7/96	.04	.04	< 10	2	620	< .5	60	< 1	< 5	< 3	< 10	3,200	< 1
MW1-2A	6/11/96	.05	.03	9	2	570	< .5	67	< 1	< 5	8	< 10	2,500	< 1
MW1-2A	8/29/96	.08	.01	< 5	2	560	< .5	64	< 1	< 5	18	< 10	3,000	< 1
MW1-2B	12/13/93	.07	.25	< 10	< 1	840	< .5	80	1	< 5	< 3	< 10	6,600	< 10
MW1-2B	2/24/94	.25	.22	20	< 1	890	< .5	80	2	5	18	< 10	7,100	< 10
MW1-2B	5/25/94	.07	< .01	< 10	< 1	860	< .5	70	< 1	< 5	15	< 10	6,400	< 10
MW1-2B	8/11/94	.16	.02	10	< 1	890	< .5	70	< 1	< 5	8	< 10	6,200	< 10
MW1-2B	12/8/94	.30	.30	10	< 1	850	< .5	70	< 1	< 5	33	< 10	6,600	< 10
MW1-2B	3/9/95	.35	.30	< 10	< 1	900	< .5	70	< 1	< 5	4	--	7,200	< 10
MW1-2B	7/20/95	.38	< .01	< 10	< 1	1,000	< .5	80	< 1	< 5	--	< 10	7,600	30
MW1-2B	9/20/95	.08	.05	10	< 1	960	< .5	80	4	< 5	--	< 10	7,600	< 1
MW1-2B	12/14/95	.35	.32	< 10	< 1	1,000	< .5	90	< 1	< 5	--	< 10	8,000	< 1
MW1-2B	3/6/96	.30	.24	20	< 1	1,100	< .5	60	2	< 5	--	< 10	8,700	< 1
MW1-2B	6/11/96	.30	.20	6	< 1	850	< .5	71	< 1	< 5	--	< 10	7,000	< 1
MW1-2B	8/29/96	.06	.05	< 5	< 1	1,200	< .5	75	2	< 5	--	< 10	9,100	< 1
MW1-3A	12/8/93	.13	.14	< 10	11	330	< .5	60	2	< 5	28	< 10	8,200	< 10
MW1-3A	3/2/94	.52	< .01	< 10	9	330	< .5	60	2	< 5	< 3	< 10	6,900	< 10
MW1-3A	5/24/94	.20	< .01	< 10	11	340	< .5	60	< 1	< 5	18	< 10	6,900	< 10
MW1-3A	8/10/94	.28	.02	< 10	12	330	< .5	60	< 1	< 5	< 3	< 10	6,600	< 10
MW1-3A	12/7/94	.49	.17	10	11	350	< .5	60	< 1	< 5	28	< 10	6,800	< 10
MW1-3A	3/9/95	.48	.14	< 10	9	360	< .5	50	< 1	< 5	--	< 10	6,300	< 10
MW1-3A	7/20/95	.36	.02	< 10	13	340	< .5	50	2	< 5	--	< 10	9,400	50
MW1-3A	9/20/95	.31	.16	< 10	9	340	< .5	70	8	< 5	--	< 10	7,400	< 1
MW1-3A	12/14/95	.52	.50	10	11	360	< .5	70	< 1	< 5	--	< 10	7,000	< 1
MW1-3A	3/7/96	.30	.06	20	10	380	< .5	30	< 1	< 5	--	< 10	6,900	< 1
MW1-3A	6/11/96	.39	.11	7	11	390	< .5	52	< 1	< 5	--	< 10	6,200	< 1
MW1-3A	8/29/96	.08	.08	< 5	9	380	< .5	48	2	< 5	--	< 10	6,600	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW1-2A	7/20/95	16	700	< 0.1	< 10	< 10	< 1	< 1	280	< 6	< 3	5.8	1.4
MW1-2A	9/20/95	20	600	< .1	< 10	10	< 1	< 1	290	< 6	< 3	6.6	2.4
MW1-2A	12/14/95	20	580	.1	< 10	20	< 1	< 1	270	< 6	< 3	2.7	2.2
MW1-2A	3/7/96	18	540	--	10	10	< 1	< 1	230	< 6	5	3.3	2.4
MW1-2A	6/11/96	20	540	.1	< 10	10	< 1	< 1	230	< 6	8	--	--
MW1-2A	8/29/96	20	540	< .1	< 10	10	< 1	< 1	220	< 6	< 3	8.5	3.6
MW1-2B	12/13/93	23	260	< .1	< 10	< 10	< 1	< 1	250	< 6	< 3	1.4	1.5
MW1-2B	2/24/94	21	260	< .1	< 10	< 10	< 1	< 1	270	< 6	< 3	2.0	1.4
MW1-2B	5/25/94	18	250	< .1	< 10	< 10	< 1	< 1	250	< 6	6	4.3	1.4
MW1-2B	8/11/94	22	240	< .1	< 10	< 10	< 1	< 1	260	< 6	3	1.6	1.5
MW1-2B	12/8/94	25	260	< .1	< 10	< 10	< 1	2	240	< 6	5	6.1	2.8
MW1-2B	3/9/95	19	280	< .1	< 10	< 10	< 1	< 1	250	< 6	< 3	4.2	--
MW1-2B	7/20/95	21	300	< .1	10	< 10	< 1	< 1	280	< 6	< 3	7.4	1.6
MW1-2B	9/20/95	22	270	< .1	10	10	< 1	< 1	270	< 6	< 3	7.6	1.6
MW1-2B	12/14/95	23	310	< .1	< 10	< 10	< 1	< 1	300	< 6	< 3	6.2	1.4
MW1-2B	3/6/96	26	340	--	< 10	< 10	< 1	< 1	310	< 6	4	1.0	1.6
MW1-2B	6/11/96	20	260	< .1	< 10	< 10	< 1	< 1	250	< 6	< 3	--	--
MW1-2B	8/29/96	24	350	< .1	< 10	< 10	< 1	< 1	330	< 6	7	4.2	1.6
MW1-3A	12/8/93	19	630	< .1	< 10	< 10	< 1	< 1	540	< 6	< 3	1.7	1.4
MW1-3A	3/2/94	19	600	< .1	< 10	< 10	< 1	< 1	520	< 6	3	1.7	1.5
MW1-3A	5/24/94	20	600	< .1	< 10	< 10	< 1	< 1	550	< 6	< 3	1.5	1.2
MW1-3A	8/10/94	18	510	< .1	10	< 10	< 1	< 1	530	< 6	< 3	1.6	1.5
MW1-3A	12/7/94	20	400	< .1	< 10	< 10	< 1	< 1	480	< 6	7	1.4	1.3
MW1-3A	3/9/95	16	350	< .1	< 10	< 10	< 1	< 1	470	< 6	< 3	3.3	1.2
MW1-3A	7/20/95	16	350	< .1	< 10	< 10	< 1	1	560	< 6	< 3	3.9	2.0
MW1-3A	9/20/95	18	330	< .1	20	10	< 1	< 1	490	< 6	< 3	2.5	1.6
MW1-3A	12/14/95	18	340	< .1	< 10	< 10	< 1	< 1	500	< 6	< 3	2.6	1.6
MW1-3A	3/7/96	19	330	--	< 10	< 10	< 1	< 1	500	< 6	< 3	1.8	1.4
MW1-3A	6/11/96	19	340	.1	< 10	< 10	< 1	< 1	520	< 6	< 3	--	--
MW1-3A	8/29/96	18	380	< .1	< 10	< 10	< 1	< 1	510	< 6	< 3	2.0	1.2

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW1-3B	12/8/93	1445	632	7.2	14.5	< 0.1	11	< 2	K 6	94	21	5.4	3.6
MW1-3B	3/2/94	0930	472	7.2	14.0	< .1	< 10	< 1	< 1	95	22	5.0	3.5
MW1-3B	5/24/94	1340	558	7.1	15.0	< .1	12	< 1	< 1	100	24	4.9	3.3
MW1-3B	8/10/94	0915	630	7.2	14.5	< .1	< 10	< 1	< 1	95	22	4.7	3.6
MW1-3B	12/7/94	1340	564	7.2	14.0	< .1	< 10	K 8	K 6	96	22	4.6	3.1
MW1-3B	3/9/95	1345	625	7.1	14.0	< .1	12	K 1	< 1	95	22	4.8	3.3
MW1-3B	7/20/95	1300	600	7.2	14.5	< .1	< 10	< 1	K 6	95	22	4.9	3.1
MW1-3B	9/20/95	1330	649	7.2	14.5	< .1	< 10	20	< 1	92	21	4.5	3.2
MW1-3B	12/14/95	1430	648	7.1	14.5	< .1	< 10	< 1	< 1	91	22	4.7	3.1
MW1-3B	3/7/96	1640	621	7.2	13.5	< .1	< 10	< 1	< 1	92	23	4.7	3.1
MW1-3B	6/11/96	1220	561	7.1	15.0	< .1	12	< 1	< 1	88	21	4.6	2.9
MW1-3B	8/29/96	1100	508	7.2	15.0	< .1	< 10	< 1	< 1	88	20	4.5	3.0
MW1-4A	8/31/93	1500	722	6.9	14.5	--	13	< 1	< 1	100	23	17	1.7
MW1-4A	12/10/93	1020	714	7.0	14.5	.1	14	< 1	< 1	100	23	18	1.8
MW1-4A	3/11/94	0945	669	6.9	14.0	< .1	< 10	K 4	< 1	110	23	18	1.7
MW1-4A	5/24/94	1000	671	6.8	14.0	< .1	< 10	< 1	< 1	120	26	20	2.2
MW1-4A	8/10/94	1410	755	7.0	14.5	< .1	< 10	< 1	< 1	110	25	19	1.9
MW1-4A	12/7/94	1000	710	6.9	14.0	< .1	< 10	K 2	K 2	120	26	19	1.8
MW1-4A	3/10/95	0900	812	6.9	14.0	< .1	18	< 1	< 1	120	27	20	1.8
MW1-4A	7/20/95	1540	745	7.0	14.5	< .1	< 10	< 1	34	120	26	20	1.7
MW1-4A	9/20/95	1610	815	6.9	14.0	.2	< 10	< 1	< 1	120	25	18	1.9
MW1-4A	12/7/95	1120	1,110	6.9	14.5	< .1	< 10	< 1	< 1	120	27	19	1.8
MW1-4A	3/6/96	1500	822	7.1	13.5	< .1	< 10	< 1	< 1	120	28	20	1.8
MW1-4A	6/11/96	1420	774	6.9	14.0	.5	< 10	< 1	K 1	110	26	18	1.7
MW1-4A	8/23/96	1130	719	6.4	14.5	< .1	< 10	< 1	K 1	110	25	17	1.7
MW1-4B	8/31/93	1415	603	7.1	15.5	--	16	< 1	< 1	81	18	14	3.7
MW1-4B	12/10/93	0930	600	7.1	14.0	.3	14	< 1	< 2	83	17	14	4.1
MW1-4B	3/11/94	0845	538	7.1	14.0	.1	< 10	< 1	< 1	76	16	13	3.8
MW1-4B	5/24/94	1105	541	7.0	16.0	< .1	12	K 1	K 3	87	18	14	4.9
MW1-4B	8/10/94	1315	597	7.2	15.5	< .1	14	< 1	< 1	81	17	14	4.3

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW1-3B	12/8/93	311	28	7.5	0.3	0.05	25	368	< 0.01	< 0.05	0.27	0.3	0.13
MW1-3B	3/2/94	325	26	7.4	.3	.28	29	394	< .01	< .05	.26	.3	.18
MW1-3B	5/24/94	331	24	7.0	.3	.22	29	403	< .01	< .05	.26	.4	.27
MW1-3B	8/10/94	333	24	7.4	.3	.05	29	401	< .01	< .05	.26	.4	.29
MW1-3B	12/7/94	309	23	7.1	.3	.17	32	384	< .01	< .05	.26	.3	.30
MW1-3B	3/9/95	301	23	6.7	.4	.34	34	382	< .01	.08	.26	.3	.32
MW1-3B	7/20/95	311	22	7.0	.3	.27	32	390	< .01	< .05	.27	.3	.21
MW1-3B	9/20/95	321	24	6.5	.3	.04	30	386	< .01	< .05	.25	.3	.39
MW1-3B	12/14/95	325	22	6.8	.4	.05	31	389	< .01	< .05	.24	< .2	.26
MW1-3B	3/7/96	318	21	6.1	.4	.03	33	379	< .01	< .05	.29	.3	.34
MW1-3B	6/11/96	298	24	5.6	.4	.02	32	372	.01	.06	.29	.3	.41
MW1-3B	8/29/96	303	24	6.1	.4	.04	30	388	< .01	.05	.29	.3	.30
MW1-4A	8/31/93	350	43	7.5	.4	.06	16	422	< .01	< .05	.15	< .2	.07
MW1-4A	12/10/93	365	53	6.9	.3	.07	15	444	< .01	< .05	.11	< .2	.09
MW1-4A	3/11/94	375	60	6.6	.4	.08	15	466	< .01	< .05	.11	< .2	.08
MW1-4A	5/24/94	383	62	6.0	.4	.08	16	482	< .01	< .05	.17	< .2	.09
MW1-4A	8/10/94	379	64	6.1	.3	.09	15	488	< .01	< .05	.13	.3	.08
MW1-4A	12/7/94	333	77	5.3	.4	.09	17	510	< .01	< .05	.11	< .2	.07
MW1-4A	3/10/95	376	73	5.2	.4	.07	17	499	< .01	< .05	.10	< .2	.09
MW1-4A	7/20/95	372	69	5.6	.3	.09	17	491	< .01	< .05	.12	< .2	.08
MW1-4A	9/20/95	385	72	5.7	.3	.08	15	486	< .01	< .05	.12	< .2	.10
MW1-4A	12/7/95	276	75	5.6	.4	.07	16	519	< .01	< .05	.11	< .2	.08
MW1-4A	3/6/96	397	77	5.0	.4	.09	16	517	< .01	< .05	.13	< .2	.09
MW1-4A	6/11/96	384	69	4.8	.4	.07	15	481	< .01	< .05	.15	.2	.11
MW1-4A	8/23/96	378	64	5.0	.4	.09	15	474	< .01	< .05	.13	< .2	.08
MW1-4B	8/31/93	328	1.5	4.6	.2	.05	32	373	< .01	< .05	3.4	3.6	1.4
MW1-4B	12/10/93	331	0.3	4.8	.2	.58	33	353	< .01	< .05	3.5	3.7	1.4
MW1-4B	3/11/94	322	.2	2.5	.2	.07	31	362	< .01	< .05	3.4	4.2	1.5
MW1-4B	5/24/94	332	.1	2.4	.2	.19	33	360	.05	.06	3.2	4.3	1.2
MW1-4B	8/10/94	336	.1	2.5	.2	.45	32	358	< .01	< .05	3.5	3.9	1.2

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW1-3B	12/8/93	0.04	0.07	< 10	6	500	< 0.5	40	< 1	< 5	8	< 10	2,400	< 10
MW1-3B	3/2/94	.06	.06	< 10	4	570	< .5	40	3	< 5	< 3	< 10	3,500	< 10
MW1-3B	5/24/94	.29	.29	< 10	5	600	< .5	60	< 1	< 5	11	< 10	3,900	< 10
MW1-3B	8/10/94	.17	.05	< 10	3	580	< .5	50	< 1	< 5	< 3	< 10	3,800	< 10
MW1-3B	12/7/94	.30	.13	< 10	2	560	< .5	50	< 1	< 5	22	< 10	4,200	20
MW1-3B	3/9/95	.26	.27	< 10	1	570	< .5	50	< 1	< 5	--	< 10	4,400	< 10
MW1-3B	7/20/95	.17	.01	< 10	1	580	< .5	50	< 1	< 5	< 3	< 10	4,400	< 10
MW1-3B	9/20/95	.13	.10	< 10	< 1	540	< .5	50	< 1	5	< 3	< 10	4,300	< 1
MW1-3B	12/14/95	.33	.28	< 10	< 1	550	< .5	50	2	< 5	26	< 10	4,300	< 1
MW1-3B	3/7/96	.33	.26	16	< 1	553	< .5	59	< 1	< 5	< 3	< 10	4,300	< 1
MW1-3B	6/11/96	.43	.05	< 5	< 1	570	< .5	48	< 1	< 5	16	< 10	4,700	< 1
MW1-3B	8/29/96	.36	.01	< 5	< 1	550	< .5	48	< 1	< 5	26	< 10	4,500	< 1
MW1-4A	8/31/93	.08	.08	< 10	< 1	150	< .5	50	< 1	< 5	< 3	< 10	73	< 10
MW1-4A	12/10/93	.07	.08	< 10	1	160	< .5	50	< 1	< 5	< 3	< 10	120	< 10
MW1-4A	3/11/94	.08	.06	< 10	< 1	170	< .5	50	1	< 5	4	< 10	60	< 10
MW1-4A	5/24/94	.07	.07	< 10	< 1	180	< .5	50	< 1	< 5	4	< 10	92	< 10
MW1-4A	8/10/94	.08	.05	< 10	< 1	180	< .5	50	< 1	< 5	< 3	< 10	91	< 10
MW1-4A	12/7/94	.08	.08	< 10	1	180	< .5	50	3	< 5	< 3	< 10	120	30
MW1-4A	3/10/95	.08	.07	< 10	< 1	180	< .5	50	< 1	< 5	< 3	< 10	81	20
MW1-4A	7/20/95	.07	.08	< 10	< 1	180	< .5	40	< 1	< 5	< 3	< 10	120	20
MW1-4A	9/20/95	.09	.07	< 10	< 1	170	< .5	50	< 1	< 5	5	< 10	120	< 1
MW1-4A	12/7/95	.07	.08	< 10	< 1	179	< .5	57	< 1	< 5	4	< 10	110	< 1
MW1-4A	3/6/96	.10	.06	10	< 1	190	< .5	30	< 1	< 5	< 3	< 10	110	< 1
MW1-4A	6/11/96	.12	.07	< 10	1	170	< .5	50	< 1	< 5	< 3	< 10	89	< 1
MW1-4A	8/23/96	.08	.08	< 5	< 1	170	< .5	52	< 1	< 5	< 3	< 10	98	< 1
MW1-4B	8/31/93	1.6	< .01	< 10	36	290	< .5	120	< 1	< 5	10	< 10	7,100	< 10
MW1-4B	12/10/93	1.0	.02	< 10	33	290	< .5	110	1	< 5	< 3	< 10	7,600	< 10
MW1-4B	3/11/94	1.1	< .01	< 10	34	290	< .5	110	< 1	< 5	< 3	< 10	7,300	< 10
MW1-4B	5/24/94	.35	.01	< 10	33	300	< .5	110	2	< 5	21	< 10	7,700	10
MW1-4B	8/10/94	.56	.05	< 10	36	290	< .5	110	< 1	< 5	5	< 10	6,800	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW1-3B	12/8/93	11	410	< 0.1	< 10	< 10	< 1	< 1	250	< 6	< 3	1.7	1.5
MW1-3B	3/2/94	13	320	< .1	< 10	< 10	< 1	< 1	260	< 6	4	1.9	1.6
MW1-3B	5/24/94	15	320	< .1	< 10	< 10	< 1	< 1	260	< 6	< 3	1.9	1.3
MW1-3B	8/10/94	13	260	< .1	10	< 10	< 1	< 1	250	< 6	7	4.0	1.2
MW1-3B	12/7/94	19	240	< .1	< 10	< 10	< 1	< 1	230	< 6	< 3	1.7	1.3
MW1-3B	3/9/95	13	240	< .1	10	< 10	< 1	< 1	240	< 6	< 3	9.5	1.0
MW1-3B	7/20/95	7	250	< .1	< 10	< 10	< 1	< 1	240	< 6	< 3	1.4	1.4
MW1-3B	9/20/95	13	220	< .1	< 10	< 10	< 1	< 1	230	< 6	< 3	3.1	1.4
MW1-3B	12/14/95	12	230	< .1	< 10	< 10	< 1	< 1	240	< 6	< 3	5.3	1.4
MW1-3B	3/7/96	8	222	--	17	< 10	< 1	< 1	233	< 6	< 3	1.2	1.4
MW1-3B	6/11/96	14	210	.1	< 10	< 10	< 1	< 1	260	< 6	9	1.0	1.2
MW1-3B	8/29/96	14	210	< .1	10	< 10	< 1	< 1	250	< 6	< 3	6.5	0.4
MW1-4A	8/31/93	44	630	< .1	< 10	< 10	< 1	< 1	470	< 6	< 3	1.2	1.1
MW1-4A	12/10/93	47	560	< .1	< 10	< 10	< 1	< 1	480	< 6	< 3	1.0	1.0
MW1-4A	3/11/94	45	490	< .1	< 10	< 10	< 1	< 1	500	< 6	4	1.3	--
MW1-4A	5/24/94	47	580	< .1	< 10	< 10	< 1	< 1	550	< 6	5	1.6	1.1
MW1-4A	8/10/94	47	520	< .1	10	< 10	< 1	< 1	540	< 6	< 3	3.2	1.0
MW1-4A	12/7/94	48	540	< .1	20	< 10	< 1	< 1	530	< 6	< 3	1.3	1.2
MW1-4A	3/10/95	46	490	< .1	< 10	< 10	< 1	< 1	550	< 6	< 3	8.6	1.2
MW1-4A	7/20/95	43	610	< .1	10	< 10	< 1	< 1	540	< 6	< 3	1.7	1.0
MW1-4A	9/20/95	46	600	< .1	< 10	< 10	< 1	< 1	520	< 6	< 3	13	1.2
MW1-4A	12/7/95	48	542	< .1	15	< 10	< 1	< 1	558	< 6	4	13	1.2
MW1-4A	3/6/96	51	520	< .1	20	< 10	< 1	< 1	560	< 6	< 3	5.7	1.2
MW1-4A	6/11/96	47	520	< .1	10	< 10	< 1	< 1	550	< 6	< 3	--	--
MW1-4A	8/23/96	45	540	< .1	< 10	< 10	< 1	< 1	550	< 6	< 3	3.5	1.2
MW1-4B	8/31/93	19	310	< .1	< 10	< 10	< 1	< 1	410	< 6	< 3	5.0	2.6
MW1-4B	12/10/93	22	310	< .1	< 10	< 10	< 1	< 1	400	< 6	< 3	3.1	2.2
MW1-4B	3/11/94	17	290	< .1	< 10	< 10	< 1	< 1	400	< 6	< 3	2.7	2.2
MW1-4B	5/24/94	20	290	< .1	< 10	< 10	< 1	< 1	430	< 6	< 3	4.5	2.2
MW1-4B	8/10/94	18	250	< .1	20	< 10	< 1	< 1	420	< 6	< 3	3.6	2.4

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW1-4B	12/7/94	0900	548	7.0	13.5	< 0.1	21	[K] 8	< 1	84	17	14	4.0
MW1-4B	3/10/95	0830	623	7.1	14.0	< .1	< 10	< 1	< 1	86	18	14	3.9
MW1-4B	7/20/95	1650	588	7.1	16.0	.2	< 10	< 1	32	86	18	15	3.7
MW1-4B	9/20/95	1540	627	7.1	15.0	< .1	< 10	< 1	< 1	81	16	13	3.9
MW1-4B	12/7/95	1330	827	7.1	15.0	.2	< 10	< 1	< 1	80	18	15	3.8
MW1-4B	3/6/96	1410	608	7.2	13.5	< .1	--	< 1	< 1	79	18	15	3.9
MW1-4B	6/11/96	1530	633	7.0	15.5	< .1	< 10	< 1	[K] 5	81	18	18	3.7
MW1-4B	8/23/96	1240	575	6.6	15.5	< .1	11	< 1	< 1	80	17	13	3.9
MW2-1A	9/20/93	1515	773	7.0	14.5	.3	< 10	< 1	< 1	120	27	4.2	2.7
MW2-1A	12/9/93	1440	710	7.0	15.5	.8	21	< 1	< 1	120	26	3.5	2.3
MW2-1A	3/4/94	0900	686	6.9	15.0	.5	< 10	< 1	< 1	110	25	3.6	2.4
MW2-1A	5/23/94	1415	619	6.9	14.5	.5	< 10	< 1	< 1	120	27	3.3	2.8
MW2-1A	8/9/94	1100	719	7.1	14.0	.7	< 10	< 1	< 1	120	26	3.1	2.2
MW2-1A	11/29/94	1100	692	7.0	14.5	.8	< 10	< 1	< 1	120	26	3.2	2.3
MW2-1A	3/1/95	1430	741	7.0	14.5	> 1.0	22	< 1	< 1	120	26	3.3	2.3
MW2-1A	7/26/95	0940	677	7.0	14.0	.4	< 10	< 1	< 1	120	26	3.8	2.6
MW2-1A	9/25/95	1440	754	7.0	14.5	1.0	< 10	< 1	< 1	120	27	3.6	2.4
MW2-1A	12/5/95	0940	748	7.0	15.0	> 1.0	< 10	< 1	< 1	110	26	3.4	2.3
MW2-1A	2/29/96	1130	1,010	7.0	14.5	> 1.0	--	< 1	< 1	130	26	3.3	2.3
MW2-1A	6/12/96	1050	729	7.2	14.5	.5	--	< 1	[K] 16	110	26	3.7	2.9
MW2-1A	8/21/96	1000	765	7.0	14.5	.4	< 10	< 1	< 1	110	24	3.7	3.0
MW2-1B	9/20/93	1550	850	7.0	14.5	< .1	< 10	< 1	< 1	130	27	8.0	4.4
MW2-1B	12/9/93	1520	797	6.9	14.0	--	13	< 1	[K] 12	120	26	7.5	4.6
MW2-1B	3/4/94	1000	761	7.0	14.0	< .1	14	< 1	< 1	130	28	7.6	4.6
MW2-1B	5/23/94	1325	685	6.8	14.5	< .1	12	< 1	< 1	130	28	7.2	2.8
MW2-1B	8/9/94	0930	813	7.0	14.5	< .1	11	< 1	< 1	130	26	7.0	4.7
MW2-1B	11/29/94	1150	769	7.0	14.0	< .1	< 10	< 1	< 1	130	27	7.0	4.4
MW2-1B	3/1/95	1340	852	7.0	13.5	< .1	22	< 1	< 1	130	27	7.2	4.5
MW2-1B	7/26/95	1040	752	7.1	14.5	< .1	12	< 1	< 1	130	26	7.5	4.9
MW2-1B	9/25/95	1450	850	7.0	14.5	< .1	< 10	[K] 1	< 1	130	27	7.9	4.9

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW1-4B	12/7/94	329	0.2	2.2	0.2	0.08	34	348	< 0.01	< 0.05	3.8	3.7	1.1
MW1-4B	3/10/95	328	< .1	2.4	.2	.46	36	362	< .01	< .05	3.7	4.2	0.64
MW1-4B	7/20/95	332	1.4	2.3	.2	.46	34	335	< .01	< .05	3.7	3.8	.21
MW1-4B	9/20/95	335	.1	2.5	.2	.05	32	344	< .01	< .05	3.3	3.8	1.2
MW1-4B	12/7/95	334	.2	2.4	.2	.04	33	359	< .01	< .05	3.7	3.7	1.1
MW1-4B	3/6/96	334	< .1	2.2	.2	.08	34	350	< .01	< .05	3.7	4.0	1.1
MW1-4B	6/11/96	305	21	3.2	.3	.21	30	369	< .01	< .05	3.0	3.4	.94
MW1-4B	8/23/96	329	< .1	2.3	.2	.11	31	366	< .01	< .05	4.0	3.9	1.2
MW2-1A	9/20/93	410	22	4.6	.4	.04	25	449	< .01	< .05	.03	< 0.2	.01
MW2-1A	12/9/93	397	25	4.6	.3	.04	26	434	< .01	.09	.03	< .2	.03
MW2-1A	3/4/94	396	23	5.2	.4	.04	25	443	< .01	1.0	.03	< .2	.02
MW2-1A	5/23/94	395	23	4.6	.3	.06	25	449	< .01	.67	.03	< .2	.01
MW2-1A	8/9/94	394	21	4.9	.3	.04	24	429	.02	2.6	.03	< .2	.02
MW2-1A	11/29/94	392	23	5.3	.4	.05	26	451	< .01	.86	.02	< .2	.02
MW2-1A	3/1/95	370	20	5.2	.3	.03	26	447	< .01	1.2	.03	< .2	< .01
MW2-1A	7/26/95	398	19	4.7	.3	.03	26	444	< .01	< .05	.05	< .2	< .01
MW2-1A	9/25/95	396	17	4.4	.3	.04	24	457	.02	3.4	.03	< .2	.01
MW2-1A	12/5/95	399	22	5.8	.3	.04	25	450	.02	1.8	.02	< .2	.02
MW2-1A	2/29/96	390	24	5.1	.4	.06	28	467	< .01	1.2	.02	< .2	.02
MW2-1A	6/12/96	400	20	5.3	.3	.02	24	449	< .01	1.0	.08	< .2	.07
MW2-1A	8/21/96	411	20	4.9	.3	.05	23	454	< .01	.11	.05	< .2	.03
MW2-1B	9/20/93	441	15	8.6	.3	.30	33	484	< .01	< .05	.37	.4	.02
MW2-1B	12/9/93	445	16	7.8	.2	.25	30	488	< .01	< .05	.35	.4	.42
MW2-1B	3/4/94	449	13	5.4	.3	.85	34	505	< .01	< .05	.35	.4	.49
MW2-1B	5/23/94	445	14	5.2	.2	.52	33	518	< .01	< .05	.31	.5	.46
MW2-1B	8/9/94	455	13	5.5	.2	.03	32	514	< .01	< .05	.37	.4	.45
MW2-1B	11/29/94	445	11	5.6	.3	.41	34	493	< .01	< .05	.36	.4	.42
MW2-1B	3/1/95	430	11	5.3	.3	.05	33	518	< .01	< .05	.34	.4	.36
MW2-1B	7/26/95	416	4.2	6.0	.3	.86	35	513	< .01	< .05	.36	.4	.40
MW2-1B	9/25/95	456	3.1	6.7	.2	.06	32	502	.02	< .05	.38	.5	.43

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW1-4B	12/7/94	0.98	0.67	< 10	28	290	< 0.5	110	< 1	< 5	21	< 10	7,100	< 10
MW1-4B	3/10/95	.24	.21	10	31	300	< .5	110	< 1	< 5	--	< 10	7,400	< 10
MW1-4B	7/20/95	.04	.05	< 10	31	290	< .5	110	< 1	< 5	--	< 10	7,200	10
MW1-4B	9/20/95	1.2	1.3	< 10	43	270	< .5	110	2	< 5	--	< 10	7,100	< 1
MW1-4B	12/7/95	.38	.67	< 10	36	280	< .5	130	2	< 5	28	< 10	6,900	< 1
MW1-4B	3/6/96	1.4	1.2	30	33	280	< .5	110	< 1	< 5	--	< 10	7,000	< 1
MW1-4B	6/11/96	.98	.56	< 5	28	280	< .5	96	< 1	< 5	--	< 10	6,500	< 1
MW1-4B	8/23/96	.72	1.2	< 5	31	280	< .5	115	1	< 5	--	< 10	6,700	< 1
MW2-1A	9/20/93	< .01	.02	10	1	430	< .5	60	< 1	< 5	< 3	< 10	150	< 10
MW2-1A	12/9/93	.01	.02	< 10	1	430	< .5	50	< 1	< 5	< 3	< 10	150	< 10
MW2-1A	3/4/94	< .01	< .01	< 10	1	460	< .5	40	< 1	< 5	< 3	< 10	230	< 10
MW2-1A	5/23/94	< .01	.02	< 10	1	470	< .5	50	< 1	< 5	< 3	< 10	150	< 10
MW2-1A	8/9/94	.04	< .01	< 10	1	450	< .5	50	< 1	< 5	< 3	< 10	130	< 10
MW2-1A	11/29/94	.02	.01	< 10	1	450	< .5	50	< 1	< 5	< 3	< 10	270	< 10
MW2-1A	3/1/95	< .01	.02	< 10	1	470	< .5	40	< 1	< 5	< 3	< 10	400	< 10
MW2-1A	7/26/95	< .01	.01	< 10	1	480	< .5	60	< 1	< 5	7	< 10	420	< 10
MW2-1A	9/25/95	< .01	.01	20	< 1	460	< .5	50	< 1	7	3	< 10	270	< 1
MW2-1A	12/5/95	< .01	.01	< 10	< 1	460	< .5	60	< 1	< 5	3	< 10	260	< 1
MW2-1A	2/29/96	.02	< .01	< 10	1	470	< .5	50	< 1	< 5	4	< 10	460	< 1
MW2-1A	6/12/96	.05	.01	6	< 1	500	< .5	58	< 1	< 5	< 3	< 10	270	< 1
MW2-1A	8/21/96	.02	.02	< 5	1	480	< .5	52	< 1	< 5	< 3	< 10	340	< 1
MW2-1B	9/20/93	.46	< .01	10	< 1	1,200	< .5	90	< 1	< 5	< 3	< 10	11,000	10
MW2-1B	12/9/93	.02	.04	10	< 1	1,100	< .5	70	2	< 5	25	< 10	11,000	< 10
MW2-1B	3/4/94	.45	.31	< 10	< 1	1,300	< 1.5	70	8	< 15	< 9	< 30	12,000	< 30
MW2-1B	5/23/94	.03	< .01	< 10	< 1	1,300	< .5	80	1	< 5	24	< 10	12,000	< 10
MW2-1B	8/9/94	< .01	< .01	10	< 1	1,200	1.4	70	1	< 5	5	< 10	10,000	10
MW2-1B	11/29/94	.43	< .01	< 10	< 1	1,200	< .5	70	< 1	< 5	34	< 10	11,000	< 10
MW2-1B	3/1/95	.08	< .01	< 10	< 1	1,200	< .5	70	1	< 5	17	< 10	11,000	< 10
MW2-1B	7/26/95	.41	< .01	< 10	< 1	1,200	< .5	80	< 1	< 5	--	< 10	12,000	10
MW2-1B	9/25/95	< .01	.02	< 10	< 1	1,200	< .5	80	4	7	--	< 10	12,000	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW1-4B	12/7/94	18	250	< 0.1	10	< 10	< 1	< 1	390	< 6	< 3	2.7	2.4
MW1-4B	3/10/95	18	260	< .1	< 10	< 10	< 1	< 1	420	< 6	< 3	2.1	2.6
MW1-4B	7/20/95	16	270	< .1	< 10	< 10	< 1	< 1	420	< 6	< 3	8.1	2.4
MW1-4B	9/20/95	17	230	< .1	< 10	10	< 1	< 1	390	< 6	< 3	9.3	1.8
MW1-4B	12/7/95	17	230	--	< 10	< 10	< 1	< 1	420	< 6	< 3	7.8	2.4
MW1-4B	3/6/96	19	240	--	< 10	< 10	< 1	< 1	400	< 6	< 3	5.1	2.4
MW1-4B	6/11/96	27	220	.1	10	< 10	< 1	< 1	430	< 6	< 3	--	--
MW1-4B	8/23/96	19	230	< .1	< 10	< 10	< 1	< 1	420	< 6	< 3	5.7	3.2
MW2-1A	9/20/93	23	130	< .1	< 10	< 10	< 1	< 1	500	< 6	< 3	1.2	1.3
MW2-1A	12/9/93	17	75	< .1	< 10	< 10	< 1	< 1	380	< 6	4	1.1	1.3
MW2-1A	3/4/94	24	97	< .1	< 10	< 10	< 1	< 1	420	< 6	10	1.7	1.3
MW2-1A	5/23/94	23	82	< .1	< 10	< 10	< 1	< 1	430	< 6	4	1.8	1.1
MW2-1A	8/9/94	21	71	< .1	< 10	< 10	< 1	< 1	390	< 6	< 3	1.2	1.0
MW2-1A	11/29/94	24	110	< .1	< 10	< 10	< 1	< 1	420	< 6	< 3	1.7	1.0
MW2-1A	3/1/95	22	110	< .1	10	< 10	< 1	< 1	450	< 6	< 3	16	1.2
MW2-1A	7/26/95	25	160	.2	< 10	< 10	< 2	< 1	470	< 6	5	1.6	1.2
MW2-1A	9/25/95	25	92	< .1	10	< 10	3	< 1	400	< 6	< 3	2.1	1.0
MW2-1A	12/5/95	22	65	< .1	< 10	< 10	1	< 1	400	< 6	5	6.3	1.4
MW2-1A	2/29/96	26	87	< .1	< 10	< 10	< 1	< 1	430	< 6	6	--	--
MW2-1A	6/12/96	26	100	.2	< 10	10	< 1	< 1	460	< 6	< 3	--	--
MW2-1A	8/21/96	27	89	< .1	< 10	< 10	< 1	< 1	490	< 6	< 3	1.2	1.4
MW2-1B	9/20/93	40	400	< .1	< 10	< 10	< 1	< 1	640	< 6	< 3	1.9	1.8
MW2-1B	12/9/93	37	330	< .1	< 10	< 10	< 1	< 1	600	< 6	< 3	1.8	1.8
MW2-1B	3/4/94	35	340	< .1	< 30	< 30	< 1	4	640	< 18	< 9	1.9	2.0
MW2-1B	5/23/94	37	320	< .1	< 10	< 10	< 1	< 1	650	< 6	6	1.9	1.6
MW2-1B	8/9/94	37	300	< .1	< 10	< 10	< 1	< 1	630	< 6	4	2.4	1.8
MW2-1B	11/29/94	37	320	< .1	< 10	< 10	< 1	< 1	610	< 6	< 3	2.3	3.3
MW2-1B	3/1/95	37	320	< .1	< 10	< 10	< 1	< 1	650	< 6	< 3	2.1	2.4
MW2-1B	7/26/95	36	330	< .1	< 10	< 10	< 1	1	640	< 6	< 3	2.0	2.0
MW2-1B	9/25/95	39	340	< .1	< 10	< 10	< 1	< 1	630	< 6	8	2.6	2.0

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW2-1B	12/5/95	0850	827	7.0	14.0	< 0.1	< 10	< 1	< 1	120	26	8.0	4.8
MW2-1B	2/29/96	1020	1,130	7.0	13.5	< .1	--	< 1	< 1	140	26	7.4	4.4
MW2-1B	6/12/96	1010	819	7.0	14.5	< .1	15	< 1	K 3	120	26	8.3	4.4
MW2-1B	8/21/96	1100	824	7.1	15.0	< .1	< 10	< 1	< 1	120	25	8.1	4.9
MW2-2A	11/29/94	1440	458	6.7	14.5	< .1	10	< 1	< 1	57	13	6.1	2.3
MW2-2A	3/1/95	1030	462	6.6	14.0	< .1	22	< 1	< 1	60	12	6.5	1.8
MW2-2A	7/26/95	1350	425	6.9	14.5	< .1	17	< 1	< 1	53	12	6.0	2.2
MW2-2A	9/25/95	1630	450	6.9	14.0	< .1	14	< 1	< 1	50	12	5.8	2.5
MW2-2A	12/13/95	0940	447	6.8	14.5	< .1	10	< 1	< 1	51	12	5.6	2.5
MW2-2A	2/28/96	1020	458	6.7	14.5	< .1	17	< 1	< 1	56	13	6.1	2.2
MW2-2A	6/13/96	1000	477	6.8	14.0	< .1	< 10	< 1	92	56	12	6.7	1.8
MW2-2A	8/21/96	1210	452	7.0	14.5	< .1	--	< 1	< 1	73	14	5.0	2.9
MW2-2B	11/29/94	1350	472	7.0	14.0	< .1	< 10	< 1	< 1	73	15	4.6	2.6
MW2-2B	3/1/95	0940	503	7.0	14.0	< .1	19	< 1	< 1	71	15	4.8	2.8
MW2-2B	9/25/95	1540	514	6.7	14.5	< .1	< 10	< 1	K 2	71	15	5.0	2.8
MW2-2B	12/13/95	0900	512	7.0	14.0	< .1	< 10	< 1	< 1	74	15	4.9	2.6
MW2-2B	2/28/96	0920	517	7.0	13.5	< .1	--	< 1	< 1	72	14	5.0	2.5
MW2-2B	6/13/96	0925	462	7.2	14.5	< .1	--	24	K 13	65	13	5.1	3.2
MW2-2B	8/21/96	1410	530	7.3	14.5	< .1	--	< 1	K 1	48	11	5.4	2.4
MW3-1A	12/8/94	1450	661	7.1	14.5	--	< 10	< 1	K 1	120	22	7.0	5.8
MW3-1A	3/9/95	1540	749	6.9	15.0	< .1	< 10	< 1	< 1	120	21	6.7	5.4
MW3-1A	8/1/95	1545	667	7.0	14.5	< .1	< 10	< 1	< 1	130	23	8.1	5.1
MW3-1A	9/21/95	1510	777	6.9	14.0	.1	13	< 1	< 1	120	21	6.6	5.4
MW3-1A	12/7/95	0830	1,010	7.0	15.0	< .1	< 10	< 1	K 1	120	21	7.2	5.3
MW3-1A	3/8/96	1050	734	7.0	14.0	< .1	14	< 1	< 1	120	20	6.2	5.4
MW3-1A	6/6/96	1630	960	7.1	14.5	< .1	110	< 1	< 1	120	20	6.9	4.7
MW3-1A	8/28/96	1520	642	7.0	14.5	< .1	< 10	< 1	K 6	120	19	6.0	5.2
MW3-1B	12/8/94	1415	658	7.0	14.0	< .1	< 10	< 1	K 10	110	24	7.2	4.2
MW3-1B	3/9/95	1620	783	7.0	14.0	--	12	< 1	< 1	120	26	7.3	4.6
MW3-1B	8/1/95	1640	656	7.1	14.5	< .1	< 10	< 1	< 1	120	26	7.7	4.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW2-1B	12/5/95	458	2.1	6.4	0.3	0.04	32	515	< 0.01	< 0.05	0.38	0.5	0.49
MW2-1B	2/29/96	457	3.2	6.2	.3	.15	35	518	< .01	< .05	.35	.4	.47
MW2-1B	6/12/96	456	4.2	6.3	.3	.02	32	501	.02	< .05	.39	.5	.52
MW2-1B	8/21/96	452	5.7	7.1	.3	.05	31	502	.02	< .05	.44	.6	.44
MW2-2A	11/29/94	209	2.5	9.0	.2	.27	42	252	< .01	< .05	3.1	3.0	1.5
MW2-2A	3/1/95	208	3.2	8.6	.2	.10	39	284	.02	< .05	1.9	1.9	.83
MW2-2A	7/26/95	202	0.6	7.8	.2	1.4	46	283	< .01	< .05	2.8	2.8	1.5
MW2-2A	9/25/95	195	.2	7.1	.1	.14	42	253	.02	< .05	1.6	3.0	1.6
MW2-2A	12/13/95	196	.4	6.9	.2	.04	47	270	.03	< .05	3.3	3.4	1.7
MW2-2A	2/28/96	205	< .1	6.6	.2	.08	46	292	< .01	< .05	.07	3.1	1.6
MW2-2A	6/13/96	221	.3	7.5	.3	.02	40	268	.01	< .05	2.3	2.2	1.4
MW2-2A	8/21/96	237	28	4.3	.2	.06	32	324	.01	< .05	.71	.7	.4
MW2-2B	11/29/94	225	23	4.7	.2	.15	37	301	< .01	< .05	.59	.6	.53
MW2-2B	3/1/95	221	24	4.2	.2	.11	37	321	.02	< .05	.61	.6	.5
MW2-2B	9/25/95	226	27	4.3	.1	.08	34	321	.01	< .05	.66	.7	.48
MW2-2B	12/13/95	229	26	4.5	.2	.05	36	326	.02	< .05	.69	.7	.51
MW2-2B	2/28/96	233	25	4.3	.2	.07	36	346	.01	< .05	.19	.9	.61
MW2-2B	6/13/96	210	27	4.0	.2	.08	30	290	< .01	< .05	.57	.7	.28
MW2-2B	8/21/96	203	< .1	6.9	.2	.03	41	282	.01	< .05	3.3	3.2	1.7
MW3-1A	12/8/94	363	29	1.8	.3	.04	24	478	.01	.39	< .02	< .2	.04
MW3-1A	3/9/95	382	29	2.6	.3	.04	24	453	.02	.58	.02	< .2	.02
MW3-1A	8/1/95	414	32	2.3	.3	.04	24	483	< .01	< .05	< .02	< .2	< .01
MW3-1A	9/21/95	409	31	2.8	.2	.06	22	458	< .01	.07	.02	< .2	.05
MW3-1A	12/7/95	349	29	3.1	.3	.06	22	469	< .01	< .05	< .02	< .2	.03
MW3-1A	3/8/96	393	30	4.0	.3	.07	22	454	< .01	< .05	.07	< .2	.03
MW3-1A	6/6/96	386	34	4.4	.3	.09	22	386	< .01	< .05	.05	< .2	.02
MW3-1A	8/28/96	396	33	4.5	.3	.10	21	462	.01	.13	.02	< .2	.02
MW3-1B	12/8/94	317	21	5.6	.2	.06	34	452	.01	< .05	.33	.4	.42
MW3-1B	3/9/95	392	22	4.1	.2	.98	35	478	< .01	< .05	.32	.4	.41
MW3-1B	8/1/95	398	17	5.2	.2	.05	35	484	< .01	< .05	.3	.4	.42

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW2-1B	12/5/95	0.49	0.19	< 10	< 1	1,200	< 0.5	70	2	< 5	40	< 10	12,000	< 1
MW2-1B	2/29/96	.50	.36	< 10	< 1	30	< .5	70	< 1	< 5	--	< 10	12,000	< 1
MW2-1B	6/12/96	.51	.16	< 10	< 1	1,300	< .5	78	< 1	< 5	--	< 10	12,000	< 1
MW2-1B	8/21/96	.37	.40	< 5	< 1	1,200	< .5	77	1	< 5	--	< 10	12,000	< 1
MW2-2A	11/29/94	1.5	.01	< 10	4	270	< .5	80	2	< 5	88	< 10	19,000	30
MW2-2A	3/1/95	.77	.80	< 10	2	260	< .5	70	3	< 5	29	< 10	14,000	< 10
MW2-2A	7/26/95	.04	.03	< 10	3	230	< .5	90	< 1	< 5	--	< 10	19,000	< 10
MW2-2A	9/25/95	.09	.04	< 10	3	210	< .5	80	5	< 5	--	< 10	21,000	< 1
MW2-2A	12/13/95	2.1	1.5	10	6	220	< .5	80	4	< 5	--	< 10	22,000	< 1
MW2-2A	2/28/96	.09	.02	< 10	4	220	< .5	70	5	< 5	--	< 10	21,000	< 1
MW2-2A	6/13/96	1.7	.07	< 5	3	220	< .5	70	3	< 5	--	< 10	17,000	< 1
MW2-2A	8/21/96	.35	.20	< 5	4	510	< .5	39	1	< 5	--	< 10	9,200	< 1
MW2-2B	11/29/94	.01	< .01	< 10	3	480	< .5	40	< 1	< 5	36	< 10	9,700	< 10
MW2-2B	3/1/95	.67	.32	< 10	4	520	< .5	30	2	< 5	22	< 10	10,000	< 10
MW2-2B	9/25/95	.06	.03	< 10	4	490	< .5	40	< 1	< 5	--	< 10	11,000	< 1
MW2-2B	12/13/95	.28	.18	< 10	5	500	< .5	50	2	< 5	--	< 10	11,000	< 1
MW2-2B	2/28/96	.41	.49	10	4	520	< .5	30	< 1	< 5	--	< 10	11,000	< 1
MW2-2B	6/13/96	.31	.18	< 10	4	470	< .5	41	< 1	< 5	--	< 10	5,400	< 1
MW2-2B	8/21/96	.16	.12	< 5	6	210	< .5	71	5	< 5	--	< 10	20,000	< 1
MW3-1A	12/8/94	.03	.02	< 10	< 1	230	< .5	60	< 1	< 5	< 3	< 10	16	< 10
MW3-1A	3/9/95	.04	.02	< 10	< 1	230	< .5	60	< 1	< 5	< 3	< 10	7	20
MW3-1A	8/1/95	< .01	.02	< 10	1	220	< .5	60	< 1	< 5	< 3	< 10	59	< 10
MW3-1A	9/21/95	.02	.02	< 10	< 1	210	< .5	60	2	5	3	< 10	7	< 1
MW3-1A	12/7/95	.02	.02	< 10	< 1	200	< .5	60	< 1	< 5	3	< 10	8	< 1
MW3-1A	3/8/96	.05	.02	20	< 1	210	< .5	60	< 1	< 5	< 3	< 10	18	< 1
MW3-1A	6/6/96	.03	.03	6	1	210	< .5	70	< 1	< 5	< 3	< 10	67	< 1
MW3-1A	8/28/96	.02	.03	< 5	< 1	200	< .5	60	< 1	< 5	< 3	< 10	6	< 1
MW3-1B	12/8/94	.42	.03	< 10	< 1	670	< .5	70	< 1	< 5	21	< 10	11,000	< 10
MW3-1B	3/9/95	.12	.11	10	< 1	680	< .5	70	< 1	< 5	--	< 10	12,000	< 10
MW3-1B	8/1/95	< .01	.01	< 10	< 1	690	< .5	70	< 1	< 5	--	< 10	12,000	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW2-1B	12/5/95	38	320	< 0.1	< 10	< 10	< 1	< 1	650	< 6	< 3	5.7	2.8
MW2-1B	2/29/96	42	320	--	< 10	< 10	< 1	< 1	570	< 6	< 3	--	--
MW2-1B	6/12/96	40	310	.1	< 10	< 10	< 1	< 1	680	< 6	< 3	1.9	2.4
MW2-1B	8/21/96	40	310	< .1	< 10	< 10	< 1	< 1	660	< 6	< 3	2.0	2.4
MW2-2A	11/29/94	12	1,200	< .1	< 10	< 10	< 1	< 1	330	< 6	< 3	2.3	2.4
MW2-2A	3/1/95	10	970	< .1	< 10	< 10	< 1	< 1	290	< 6	7	2.6	2.4
MW2-2A	7/26/95	9	860	< .1	< 10	< 10	< 1	< 1	310	< 6	< 3	2.7	2.4
MW2-2A	9/25/95	12	890	< .1	< 10	< 10	< 1	< 1	310	< 6	< 3	2.7	2.4
MW2-2A	12/13/95	11	870	< .1	< 10	< 10	< 1	< 1	330	< 6	4	2.7	2.8
MW2-2A	2/28/96	15	910	< .1	< 10	< 10	< 1	< 1	330	< 6	11	--	--
MW2-2A	6/13/96	10	750	< .1	< 10	< 10	< 1	< 1	310	< 6	8	5.1	2.8
MW2-2A	8/21/96	13	480	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	9.3	3.2
MW2-2B	11/29/94	15	510	< .1	10	< 10	< 1	2	170	< 6	< 3	1.5	1.2
MW2-2B	3/1/95	11	460	< .1	< 10	< 10	< 1	< 1	180	< 6	< 3	5.0	1.6
MW2-2B	9/25/95	12	510	< .1	< 10	< 10	< 1	< 1	170	< 6	< 3	1.8	1.6
MW2-2B	12/13/95	11	530	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	5.7	1.6
MW2-2B	2/28/96	11	490	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	--	--
MW2-2B	6/13/96	9	400	.1	< 10	< 10	< 1	< 1	170	< 6	< 3	--	--
MW2-2B	8/21/96	12	780	< .1	< 10	< 10	< 1	< 1	320	< 6	< 3	1.6	2.4
MW3-1A	12/8/94	34	260	< .1	10	< 10	1	< 1	690	< 6	3	2.1	1.8
MW3-1A	3/9/95	20	250	< .1	< 10	< 10	1	< 1	680	< 6	< 3	4.1	1.7
MW3-1A	8/1/95	34	340	< .1	< 10	< 10	< 1	< 1	780	< 6	< 3	2.2	1.8
MW3-1A	9/21/95	29	270	< .1	< 10	< 10	< 1	< 1	700	< 6	< 3	9.6	3.0
MW3-1A	12/7/95	31	290	< .1	< 10	< 10	< 1	< 1	720	< 6	5	7.3	1.8
MW3-1A	3/8/96	26	240	--	30	< 10	< 1	< 1	680	< 6	< 3	7.4	1.8
MW3-1A	6/6/96	31	280	< .1	< 10	< 10	< 1	< 1	730	< 6	5	--	--
MW3-1A	8/28/96	28	240	< .1	< 10	< 10	< 1	< 1	670	< 6	< 3	2.2	1.9
MW3-1B	12/8/94	45	600	< .1	< 10	< 10	< 1	< 1	770	< 6	< 3	3.1	2.0
MW3-1B	3/9/95	41	560	< .1	< 10	< 10	< 1	< 1	800	< 6	< 3	2.3	2.4
MW3-1B	8/1/95	44	550	< .1	< 10	< 10	< 1	< 1	820	< 6	3	2.1	2.4

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW3-1B	9/21/95	1540	795	7.0	14.0	< 0.1	10	< 1	< 1	110	24	6.9	4.3
MW3-1B	12/7/95	0930	725	7.1	14.0	< .1	< 10	K 1	< 1	110	25	7.5	4.3
MW3-1B	3/8/96	1000	768	7.0	14.0	< .1	13	< 1	< 1	110	24	6.9	4.3
MW3-1B	6/6/96	1550	1,030	7.0	15.0	< .1	10	< 1	< 1	120	25	8.0	4.2
MW3-1B	8/28/96	1440	658	7.2	15.0	< .1	< 10	< 1	< 1	110	24	7.3	4.4
MW4-1A	12/8/93	0850	848	7.0	15.0	.2	16	< 1	< 1	120	36	7.7	5.6
MW4-1A	3/3/94	1440	712	7.1	15.0	.1	< 10	< 1	< 1	110	31	7.1	6.0
MW4-1A	5/25/94	1545	594	7.0	14.5	.6	16	< 1	< 1	110	30	5.0	3.2
MW4-1A	8/9/94	1545	734	7.0	14.0	.2	16	< 1	< 1	110	32	5.4	5.5
MW4-1A	12/2/94	0930	811	7.0	14.5	< .1	11	< 1	20	140	41	7.6	5.2
MW4-1A	3/14/95	0920	962	7.0	14.5	< .1	< 10	< 1	< 1	140	41	8.6	5.4
MW4-1A	9/27/95	1340	980	7.0	14.5	< .1	10	< 1	< 1	140	40	8.6	6.2
MW4-1A	12/6/95	1010	967	7.0	14.5	< .1	14	< 1	< 1	130	39	9.0	6.1
MW4-1A	3/8/96	1350	1,000	7.1	13.5	< .1	--	< 1	< 1	140	41	8.6	6.0
MW4-1A	6/12/96	1300	994	7.0	14.5	< .1	13	< 1	K 2	140	40	9.8	5.6
MW4-1A	8/28/96	1230	900	7.0	14.5	< .1	31	< 1	< 1	150	42	9.6	6.3
MW4-1B	12/8/93	1000	942	7.1	14.0	--	18	< 1	< 1	130	38	9.9	5.3
MW4-1B	3/3/94	1535	799	7.1	14.5	< .1	110	< 1	< 1	120	36	12	5.4
MW4-1B	5/25/94	1450	766	7.0	15.0	< .1	< 10	< 1	< 1	140	40	8.9	3.3
MW4-1B	8/9/94	1500	954	7.1	15.0	< .1	30	< 1	< 1	130	38	8.6	5.5
MW4-1B	12/2/94	0840	804	7.0	14.0	< .1	< 10	< 1	K 14	140	38	9.9	4.9
MW4-1B	3/14/95	0825	982	7.0	14.5	< .1	< 10	< 1	< 1	140	40	9.8	5.0
MW4-1B	8/1/95	1340	801	7.0	15.0	< .1	14	< 1	< 1	140	40	10	4.9
MW4-1B	9/27/95	1300	996	7.0	14.5	< .1	14	< 1	< 1	130	38	9.9	5.2
MW4-1B	12/6/95	1100	1,260	7.0	14.0	< .1	10	< 1	< 1	120	36	11	5.0
MW4-1B	3/8/96	1300	952	7.1	13.5	< .1	18	< 1	< 1	120	36	10	5.1
MW4-1B	6/12/96	1345	899	7.1	15.0	< .1	< 10	< 1	< 1	120	34	15	4.8
MW4-1B	8/28/96	1330	804	7.0	15.0	< .1	15	< 1	< 1	130	35	11	4.8
MW4-2A	12/8/93	1130	980	7.1	15.0	< .1	17	< 1	K 1	160	32	9.2	6.8
MW4-2A	3/3/94	1200	885	7.0	15.0	< .1	< 10	< 1	< 1	150	32	11	7.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW3-1B	9/21/95	409	18	5.1	0.1	0.07	32	469	< 0.01	< 0.05	0.33	0.4	0.51
MW3-1B	12/7/95	349	18	5.2	.3	.04	33	483	.02	< .05	.34	.4	.49
MW3-1B	3/8/96	405	20	4.0	.2	.02	33	475	< .01	< .05	.39	.4	.51
MW3-1B	6/6/96	398	24	3.5	.3	.08	33	478	.03	.05	.37	.5	.72
MW3-1B	8/28/96	402	22	3.5	.2	.05	32	500	< .01	.05	.39	.4	.48
MW4-1A	12/8/93	480	12	3.6	.2	.04	27	520	.01	1.40	.38	.4	.03
MW4-1A	3/3/94	434	22	2.0	.2	.13	26	472	.02	1.10	.22	1.8	.18
MW4-1A	5/25/94	401	20	1.2	.2	.04	25	439	.02	1.80	.31	.5	.03
MW4-1A	8/9/94	437	16	2.1	.2	.27	26	485	.03	1.70	.39	.4	.16
MW4-1A	12/2/94	519	13	2.7	.2	.30	33	542	< .01	.08	.50	.5	.42
MW4-1A	3/14/95	519	17	2.8	.2	.89	33	581	< .01	.12	.55	.6	.28
MW4-1A	9/27/95	543	11	2.9	.2	.07	29	583	.02	.17	.65	.6	.34
MW4-1A	12/6/95	529	17	3.1	.2	.04	31	600	.01	< .05	.80	.9	.49
MW4-1A	3/8/96	581	6.3	2.9	.2	.05	33	614	< .01	< .05	.97	.9	.60
MW4-1A	6/12/96	559	23	2.6	.2	1.4	33	646	< .01	< .05	.94	1.1	.57
MW4-1A	8/28/96	602	19	3.0	.2	.10	31	680	< .01	.05	1.0	1.0	.45
MW4-1B	12/8/93	523	12	4.0	.2	.05	37	554	< .01	< .05	.94	1.0	.11
MW4-1B	3/3/94	487	0.6	5.0	.2	1.4	38	540	.04	< .05	.93	1.0	1.8
MW4-1B	5/25/94	537	11	2.8	.2	.05	38	618	.02	< .05	.94	1.2	.99
MW4-1B	8/9/94	539	7.5	2.8	.2	.48	35	605	< .01	< .05	.92	1.0	.25
MW4-1B	12/2/94	490	1.2	4.3	.2	.13	39	520	< .01	< .05	.90	.9	.87
MW4-1B	3/14/95	522	2.3	3.6	.2	1.8	40	590	< .01	.06	.91	1.0	.66
MW4-1B	8/1/95	529	1.2	3.4	.2	.10	40	598	< .01	< .05	.90	1.0	1.2
MW4-1B	9/27/95	532	< .1	3.9	.1	.40	35	590	< .01	< .05	.93	1.0	.89
MW4-1B	12/6/95	494	< .1	4.7	.2	.06	36	569	< .01	< .05	.96	1.0	.85
MW4-1B	3/8/96	538	< .1	4.5	.2	.09	35	578	.02	< .05	1.0	1.0	.74
MW4-1B	6/12/96	515	< .1	6.9	.2	.05	34	542	< .01	< .05	.87	1.0	.91
MW4-1B	8/28/96	535	< .1	5.1	.2	.08	34	600	< .01	.05	1.0	1.0	.54
MW4-2A	12/8/93	521	37	3.8	.1	.06	26	592	< .01	< .05	.60	.7	.17
MW4-2A	3/3/94	534	40	3.5	.1	.54	25	611	.01	< .05	.50	.5	.13

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW3-1B	9/21/95	0.03	0.03	10	< 1	640	< 0.5	90	6	< 5	--	< 10	12,000	< 1
MW3-1B	12/7/95	.46	.46	< 10	< 1	650	< .5	80	2	< 5	46	< 10	12,000	< 1
MW3-1B	3/8/96	.60	.52	12	< 1	659	< .5	97	< 1	< 5	--	< 10	11,500	< 1
MW3-1B	6/6/96	.49	.42	< 5	< 1	690	< .5	78	1	< 5	--	< 10	12,000	< 1
MW3-1B	8/28/96	.62	< .01	5	< 1	690	< .5	79	2	< 5	--	< 10	11,000	< 1
MW4-1A	12/8/93	< .01	.02	< 10	9	440	< .5	100	< 1	< 5	16	< 10	8,500	< 10
MW4-1A	3/3/94	.02	.02	< 10	3	390	< .5	80	< 1	< 5	< 3	< 10	1,900	< 10
MW4-1A	5/25/94	.03	.02	< 10	3	360	< .5	80	< 1	< 5	8	< 10	1,700	< 10
MW4-1A	8/9/94	.02	< .01	< 10	8	410	< .5	90	< 1	< 5	< 3	< 10	5,700	< 10
MW4-1A	12/2/94	.41	< .01	< 10	6	560	< .5	110	< 1	< 5	45	< 10	11,000	< 10
MW4-1A	3/14/95	.05	.05	10	6	600	< .5	110	4	< 5	--	< 10	11,000	20
MW4-1A	9/27/95	.05	< .01	20	9	540	< .5	110	2	< 5	--	< 10	13,000	< 1
MW4-1A	12/6/95	.48	.44	< 10	6	590	< .5	110	2	< 5	42	< 10	12,000	< 1
MW4-1A	3/8/96	.29	.03	< 10	5	623	< .5	109	< 1	< 5	--	< 10	12,800	< 1
MW4-1A	6/12/96	.50	.04	7	5	630	< .5	103	3	< 5	--	< 10	16,000	< 1
MW4-1A	8/28/96	.02	.03	< 5	6	650	< .5	109	1	< 5	--	< 10	14,000	< 1
MW4-1B	12/8/93	.01	.04	< 10	5	1,400	< .5	110	3	< 5	< 3	< 10	25,000	< 10
MW4-1B	3/3/94	.86	.42	< 10	1	1,400	< 1.5	110	< 3	< 15	< 9	< 30	24,000	80
MW4-1B	5/25/94	1.0	< .01	10	6	1,500	< .5	130	1	< 5	91	< 10	28,000	40
MW4-1B	8/9/94	.09	< .01	< 10	6	1,400	< .5	110	3	< 5	< 3	< 10	25,000	< 10
MW4-1B	12/2/94	.86	<.01	< 10	1	1,600	< .5	110	< 1	< 5	67	< 10	19,000	< 10
MW4-1B	3/14/95	.07	.03	< 10	3	1,500	< .5	110	2	< 5	--	< 10	25,000	< 10
MW4-1B	8/1/95	< .01	.01	< 10	4	1,600	< .5	100	< 1	< 5	--	< 10	25,000	< 10
MW4-1B	9/27/95	.02	< .01	< 10	3	1,300	< .5	130	7	< 5	--	< 10	25,000	< 1
MW4-1B	12/6/95	.58	.17	< 10	< 1	1,500	< .5	110	3	< 5	72	< 10	18,000	< 1
MW4-1B	3/8/96	.69	.05	< 10	< 1	1,530	< .5	95	< 1	< 5	--	< 10	18,300	< 1
MW4-1B	6/12/96	.79	.08	< 5	< 1	1,600	< .5	98	< 1	< 5	--	< 10	16,000	< 1
MW4-1B	8/28/96	.32	.01	< 5	1	1,600	< .5	102	2	< 5	--	< 10	19,000	< 1
MW4-2A	12/8/93	.15	< .01	< 10	6	360	< .5	100	1	< 5	< 3	< 10	8,500	< 10
MW4-2A	3/3/94	.10	.05	< 10	4	370	< .5	90	< 1	< 5	< 3	< 10	7,800	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW3-1B	9/21/95	41	490	< 0.1	20	< 10	< 1	< 1	770	< 6	< 3	6.6	2.0
MW3-1B	12/7/95	41	510	< .1	10	< 10	< 1	< 1	790	< 6	< 3	2.0	2.8
MW3-1B	3/8/96	35	489	--	13	< 10	< 1	< 1	772	< 6	< 3	5.3	2.4
MW3-1B	6/6/96	43	500	< .1	< 10	< 10	< 1	< 1	820	< 6	9	--	--
MW3-1B	8/28/96	40	490	< .1	< 10	< 10	< 1	< 1	810	< 6	< 3	3.2	2.0
MW4-1A	12/8/93	43	1,000	< .1	< 10	< 10	1	< 1	1,100	< 6	< 3	2.5	2.3
MW4-1A	3/3/94	37	750	< .1	< 10	< 10	< 1	< 1	990	< 6	< 3	2.3	2.3
MW4-1A	5/25/94	33	800	< .1	< 10	< 10	1	< 1	920	< 6	< 3	2.1	1.9
MW4-1A	8/9/94	37	1,100	< .1	< 10	10	< 1	< 1	1,100	< 6	3	2.9	2.2
MW4-1A	12/2/94	56	1,400	< .1	20	< 10	< 1	< 1	1,200	< 6	4	2.9	2.6
MW4-1A	3/14/95	52	1,300	< .1	30	20	< 1	1	1,200	< 6	< 3	14	3.2
MW4-1A	9/27/95	49	1,300	< .1	10	< 10	< 1	< 1	1,200	< 6	< 3	2.9	3.2
MW4-1A	12/6/95	51	1,400	< .1	< 10	< 10	< 1	< 1	1,200	< 6	4	9.5	2.8
MW4-1A	3/8/96	52	1,450	--	20	< 10	< 1	< 1	1,280	< 6	< 3	7.0	2.8
MW4-1A	6/12/96	49	1,300	.1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	3.9	2.4
MW4-1A	8/28/96	50	1,500	< .1	< 10	< 10	< 1	< 1	1,400	< 6	< 3	12	3.6
MW4-1B	12/8/93	46	740	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.4	2.1
MW4-1B	3/3/94	43	680	< .1	< 30	< 30	< 1	< 3	970	< 18	17	3.1	3.0
MW4-1B	5/25/94	49	790	< .1	< 10	< 10	< 1	1	1,100	< 6	< 3	2.5	3.2
MW4-1B	8/9/94	49	730	< .1	< 10	< 10	< 1	< 1	1,100	< 6	13	3.2	3.0
MW4-1B	12/2/94	47	520	< .1	20	< 10	< 1	< 1	940	< 6	< 3	2.8	3.2
MW4-1B	3/14/95	49	730	< .1	30	10	< 1	< 1	1,100	< 6	< 3	4.9	3.6
MW4-1B	8/1/95	53	680	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	3.8	3.2
MW4-1B	9/27/95	48	730	< .1	10	< 10	< 1	< 1	1,000	< 6	< 3	3.3	2.8
MW4-1B	12/6/95	47	490	< .1	< 10	< 10	< 1	< 1	990	< 6	< 3	3.3	2.4
MW4-1B	3/8/96	47	493	--	25	< 10	< 1	< 1	972	< 6	< 3	11	3.2
MW4-1B	6/12/96	44	350	< .1	< 10	< 10	< 1	< 1	990	< 6	< 3	2.8	2.8
MW4-1B	8/28/96	45	480	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.7	2.0
MW4-2A	12/8/93	46	2,200	< .1	< 10	< 10	< 1	< 1	980	< 6	< 3	2.1	1.9
MW4-2A	3/3/94	47	2,100	< .1	< 10	< 10	< 1	< 1	1,000	< 6	7	3.3	2.4

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
MW4-2A	5/23/94	1525	821	6.8	14.5	< 0.1	< 10	< 1	< 1	170	35	9.7	8.3
MW4-2A	8/9/94	1300	971	7.0	14.5	< .1	12	< 1	< 1	150	32	9.7	6.4
MW4-2A	12/2/94	1055	791	7.0	14.5	< .1	16	< 1	K 9	150	31	6.9	6.4
MW4-2A	3/14/95	1040	994	7.0	14.5	< .1	17	< 1	< 1	160	33	8.8	6.6
MW4-2A	8/1/95	1100	798	7.0	14.5	< .1	< 10	< 1	< 1	160	33	8.4	6.5
MW4-2A	9/26/95	1500	982	6.9	14.5	< .1	11	< 1	< 1	150	32	8.0	6.6
MW4-2A	12/6/95	1310	927	7.0	14.5	< .1	< 10	< 1	< 1	140	30	7.4	6.5
MW4-2A	3/8/96	1540	953	7.1	14.0	< .1	--	< 1	< 1	140	30	6.7	6.8
MW4-2A	6/12/96	1500	834	7.1	15.0	< .1	--	< 1	K 1	130	27	7.0	6.2
MW4-2A	8/28/96	1040	780	7.0	14.5	< .1	11	< 1	< 1	140	27	6.1	6.2
MW4-2B	12/8/93	1250	884	7.1	14.5	< .1	17	< 1	< 1	130	28	18	5.2
MW4-2B	3/3/94	1320	808	7.0	14.5	--	11	< 1	K 1	130	28	17	5.3
MW4-2B	5/23/94	1605	756	6.8	15.0	< .1	11	< 1	< 1	140	29	15	5.5
MW4-2B	8/9/94	1345	912	7.0	15.0	< .1	17	< 1	< 1	130	28	14	5.5
MW4-2B	12/2/94	1140	802	7.0	14.5	< .1	< 10	< 1	< 1	140	29	18	5.0
MW4-2B	3/14/95	1130	1,010	6.9	14.5	< .1	< 10	< 1	< 1	150	32	18	5.4
MW4-2B	8/1/95	1150	824	7.0	15.0	< .1	11	< 1	< 1	150	33	18	5.3
MW4-2B	9/26/95	1550	1,010	6.9	14.5	< .1	15	K 6	< 1	150	31	16	5.7
MW4-2B	12/6/95	1400	1,050	6.9	14.0	< .1	11	< 1	< 1	150	33	22	5.8
MW4-2B	3/8/96	1500	1,420	7.2	13.5	--	--	< 1	< 1	140	31	19	5.7
MW4-2B	6/12/96	1545	1,000	7.0	15.0	< .1	10	< 1	< 1	150	33	20	5.7
MW4-2B	8/28/96	0950	866	6.9	15.0	< .1	< 10	< 1	< 1	150	31	16	5.7
USGS-1	12/1/93	1440	649	7.1	16.0	1.0	11	< 1	< 1	100	17	4.7	4.4
USGS-1	3/10/94	1615	585	7.1	15.0	.1	< 10	< 1	< 1	100	17	5.0	4.0
USGS-1	5/18/94	1535	886	7.1	14.0	.5	< 10	< 1	< 1	120	19	4.5	4.3
USGS-1	8/3/94	1700	749	6.7	14.0	.2	< 10	< 1	< 1	130	20	4.4	4.8
USGS-1	12/1/94	1600	559	7.1	14.5	< .1	< 10	< 1	< 1	110	16	4.6	3.7
USGS-1	3/13/95	1730	670	7.1	14.0	< .1	12	< 1	< 1	120	19	5.1	3.8
USGS-1	7/25/95	1610	636	7.1	14.5	< .1	< 10	< 1	< 1	110	18	5.3	4.1
USGS-1	9/26/95	1330	699	7.1	15.0	.4	< 10	< 1	< 1	110	18	4.7	4.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
MW4-2A	5/23/94	535	48	3.7	0.1	0.37	25	620	0.04	0.49	0.54	0.7	0.05
MW4-2A	8/9/94	538	49	3.6	.1	.23	23	616	.03	.51	.32	.4	.03
MW4-2A	12/2/94	443	14	1.7	.2	.21	28	543	< .01	< .05	.51	.5	.11
MW4-2A	3/14/95	521	21	2.5	.1	.98	29	604	.01	.09	.52	.6	.22
MW4-2A	8/1/95	530	24	2.5	.1	.05	28	599	< .01	< .05	.45	.5	.11
MW4-2A	9/26/95	530	24	2.2	.1	.38	25	595	.04	.62	.33	.4	.07
MW4-2A	12/6/95	410	29	2.1	.2	.04	27	585	< .01	< .05	.44	.5	.24
MW4-2A	3/8/96	531	20	2.6	.1	.06	27	589	< .01	< .05	.54	.6	.31
MW4-2A	6/12/96	443	26	12	.1	.08	27	536	.01	< .05	.46	.6	.25
MW4-2A	8/28/96	471	28	14	.1	.08	26	592	< .01	.05	.54	.6	.23
MW4-2B	12/8/93	497	0.3	11	.1	.17	34	510	< .01	< .05	.49	.5	.67
MW4-2B	3/3/94	495	< .1	6.9	.2	1.0	38	542	< .01	< .05	.48	.5	.82
MW4-2B	5/23/94	512	< .1	5.8	.2	.32	37	578	.01	< .05	.44	.6	.56
MW4-2B	8/9/94	524	< .1	5.5	.1	.30	35	576	< .01	< .05	.47	.6	.41
MW4-2B	12/2/94	519	< .1	7.2	.2	.32	38	543	< .01	< .05	.49	.5	.60
MW4-2B	3/14/95	539	< .1	6.0	.2	1.3	40	611	< .01	.07	.47	.5	.66
MW4-2B	8/1/95	567	.1	5.4	.2	.08	41	628	< .01	< .05	.49	.6	.65
MW4-2B	9/26/95	557	< .1	4.8	.1	.31	37	598	.16	.17	.47	.5	.63
MW4-2B	12/6/95	478	< .1	5.5	.2	.07	36	644	< .01	< .05	.58	.6	.74
MW4-2B	3/8/96	610	< .1	4.8	.2	.08	35	650	< .01	< .05	.58	.6	.71
MW4-2B	6/12/96	603	< .1	5.2	.2	.12	36	648	< .01	< .05	.59	.7	.66
MW4-2B	8/28/96	582	< .1	4.1	.2	.08	36	660	< .01	.06	.56	.6	.89
USGS-1	12/1/93	335	16	3.6	< .1	.05	21	377	< .01	2.4	.07	< .2	.07
USGS-1	3/10/94	345	17	3.9	.3	.06	21	402	< .01	2.3	.08	< .2	.02
USGS-1	5/18/94	404	18	6.1	.3	.12	22	464	.02	1.2	.07	< .2	.06
USGS-1	8/3/94	399	19	5.8	.3	.13	22	447	< .01	1.4	.05	< .2	.01
USGS-1	12/1/94	311	27	3.9	.3	.07	22	379	< .01	.51	.06	< .2	.06
USGS-1	3/13/95	348	26	2.9	.3	.10	22	415	< .01	.49	.06	< .2	.03
USGS-1	7/25/95	347	29	4.8	.3	.08	22	424	.02	2.1	.07	< .2	.03
USGS-1	9/26/95	316	40	5.6	.2	.08	21	431	.02	4.5	.05	< .2	.04

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
MW4-2A	5/23/94	0.05	< 0.01	< 10	5	390	< 0.5	100	2	< 5	24	< 10	8,600	< 10
MW4-2A	8/9/94	.02	< .01	< 10	4	340	< .5	100	1	< 5	< 3	< 10	3,700	< 10
MW4-2A	12/2/94	.11	< .01	10	4	330	< .5	80	< 1	< 5	26	< 10	8,600	< 10
MW4-2A	3/14/95	.14	.14	< 10	5	370	< .5	90	< 1	< 5	--	< 10	12,000	< 10
MW4-2A	8/1/95	< .01	< .01	< 10	4	360	< .5	90	< 1	< 5	--	< 10	9,900	< 10
MW4-2A	9/26/95	.04	< .01	< 10	4	310	< .5	90	< 1	6	--	< 10	8,600	< 1
MW4-2A	12/6/95	< .01	< .01	< 10	5	330	< .5	100	1	< 5	42	< 10	12,000	< 1
MW4-2A	3/8/96	.38	.06	20	5	340	< .5	80	< 1	< 5	--	< 10	12,000	< 1
MW4-2A	6/12/96	.21	.03	< 5	4	320	< .5	89	< 1	< 5	--	< 10	11,000	< 1
MW4-2A	8/28/96	.04	.03	< 5	5	63	< .5	76	2	< 5	--	< 10	11,000	< 1
MW4-2B	12/8/93	.71	< .01	< 10	< 1	960	< .5	100	2	< 5	48	< 10	14,000	< 10
MW4-2B	3/3/94	.90	< .01	< 10	< 1	980	< 1.5	100	8	< 15	< 9	< 30	16,000	40
MW4-2B	5/23/94	.03	< .01	< 10	< 1	1,000	< .5	110	3	< 5	57	< 10	18,000	< 10
MW4-2B	8/9/94	.02	< .01	< 10	< 1	980	< .5	100	3	< 5	< 3	< 10	17,000	< 10
MW4-2B	12/2/94	.62	< .01	10	< 1	1,200	.5	100	< 1	< 5	28	< 10	11,000	< 10
MW4-2B	3/14/95	.76	.47	10	< 1	1,200	< .5	110	6	< 5	--	< 10	18,000	50
MW4-2B	8/1/95	.02	.01	< 10	< 1	1,300	< .5	110	< 1	< 5	--	< 10	17,000	< 10
MW4-2B	9/26/95	.02	< .01	< 10	< 1	1,100	< .5	110	4	6	--	< 10	19,000	< 1
MW4-2B	12/6/95	.09	.42	10	< 1	1,300	< .5	100	2	< 5	58	< 10	16,000	< 1
MW4-2B	3/8/96	.76	.05	< 10	< 1	1,260	< .5	101	< 1	< 5	--	< 10	16,600	< 1
MW4-2B	6/12/96	.51	.05	< 5	< 1	1,500	< .5	103	2	< 5	--	< 10	15,000	< 1
MW4-2B	8/28/96	.02	.03	< 5	< 1	1,300	< .5	105	2	< 5	--	< 10	18,000	< 1
USGS-1	12/1/93	.03	.03	< 10	3	210	< .5	50	< 1	< 5	< 3	< 10	1,300	< 10
USGS-1	3/10/94	.08	< .01	< 10	4	210	< .5	60	< 1	< 5	< 3	< 10	1,600	< 10
USGS-1	5/18/94	.05	< .01	< 10	4	230	< .5	60	< 1	< 5	< 3	< 10	1,400	< 10
USGS-1	8/3/94	.01	.01	< 10	3	240	< .5	50	< 1	< 5	< 3	< 10	310	20
USGS-1	12/1/94	.02	.03	10	3	190	.5	50	< 1	< 5	< 3	< 10	770	< 10
USGS-1	3/13/95	.04	.04	20	2	220	< .5	50	< 1	< 5	< 3	< 10	1,100	< 10
USGS-1	7/25/95	< .01	.01	20	3	220	< .5	50	< 1	< 5	6	< 10	1,200	20
USGS-1	9/26/95	.03	.01	< 10	3	210	< .5	60	< 1	< 5	< 3	< 10	880	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
MW4-2A	5/23/94	48	2,200	< 0.1	< 10	< 10	< 1	< 1	1,100	< 6	7	3.3	2.0
MW4-2A	8/9/94	46	1,700	< .1	10	< 10	< 1	< 1	1,000	< 6	8	2.6	2.0
MW4-2A	12/2/94	44	2,000	< .1	< 10	< 10	< 1	< 1	930	< 6	4	2.2	2.0
MW4-2A	3/14/95	45	2,100	< .1	< 10	< 10	< 1	1	1,000	< 6	14	3.6	2.6
MW4-2A	8/1/95	49	2,100	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.4	2.4
MW4-2A	9/26/95	45	1,900	< .1	20	< 10	< 1	< 1	940	< 6	< 3	2.2	2.2
MW4-2A	12/6/95	43	1,700	< .1	< 10	< 10	< 1	< 1	970	< 6	< 3	13	2.0
MW4-2A	3/8/96	40	1,700	--	20	< 10	< 1	< 1	960	< 6	< 3	3.4	2.2
MW4-2A	6/12/96	40	1,500	.1	10	< 10	< 1	< 1	900	< 6	< 3	--	--
MW4-2A	8/28/96	38	1,700	< .1	< 10	< 10	< 1	< 1	860	< 6	< 3	5.4	3.2
MW4-2B	12/8/93	40	670	< .1	< 10	< 10	< 1	< 1	920	< 6	< 3	2.7	2.1
MW4-2B	3/3/94	41	790	< .1	< 30	< 30	< 1	5	960	< 18	< 9	3.7	2.7
MW4-2B	5/23/94	44	880	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.6	3.2
MW4-2B	8/9/94	43	850	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.5	2.7
MW4-2B	12/2/94	46	490	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	3.1	2.8
MW4-2B	3/14/95	46	900	< .1	< 10	< 10	< 1	2	1,100	< 6	< 3	2.6	3.2
MW4-2B	8/1/95	49	830	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	4.4	2.8
MW4-2B	9/26/95	47	1,000	< .1	20	< 10	< 1	< 1	1,000	< 6	< 3	4.9	3.2
MW4-2B	12/6/95	46	720	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	7.6	2.8
MW4-2B	3/8/96	45	745	--	18	< 10	< 1	< 1	1,120	< 6	< 3	3.0	3.2
MW4-2B	6/12/96	45	510	< .1	10	< 10	< 1	< 1	1,200	< 6	< 3	--	--
MW4-2B	8/28/96	46	810	< .1	10	< 10	< 1	< 1	1,100	< 6	< 3	14	2.4
USGS-1	12/1/93	22	210	< .1	< 10	< 10	5	< 1	580	< 6	< 3	1.1	1.5
USGS-1	3/10/94	23	240	< .1	< 10	< 10	2	< 1	600	< 6	< 3	1.4	1.4
USGS-1	5/18/94	22	240	< .1	10	< 10	2	< 1	650	< 6	6	2.0	1.6
USGS-1	8/3/94	19	160	--	< 10	< 10	< 1	< 1	650	< 6	< 3	2.5	1.4
USGS-1	12/1/94	26	210	< .1	< 10	< 10	< 1	< 1	550	< 6	< 3	1.4	1.3
USGS-1	3/13/95	20	210	< .1	< 10	< 10	< 1	< 1	620	< 6	< 3	23	1.3
USGS-1	7/25/95	19	270	< .1	< 10	< 10	< 1	< 1	630	< 6	4	1.7	1.4
USGS-1	9/26/95	20	240	< .1	< 10	< 10	< 1	< 1	590	< 6	< 3	1.2	1.2

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-1	12/6/95	0840	695	7.1	15.0	< 0.1	< 10	< 1	< 1	110	18	5.2	3.9
USGS-1	2/28/96	1320	755	7.2	14.0	< .1	--	< 1	< 1	140	21	5.9	4.3
USGS-1	6/5/96	1010	781	7.0	14.0	< .1	< 10	< 1	< 1	130	21	6.8	4.5
USGS-1	8/21/96	1610	785	7.2	15.0	< .1	< 10	< 1	< 1	120	20	6.4	4.7
USGS-2D	12/1/93	1200	1,030	6.8	14.0	< .1	20	< 1	< 1	140	32	9.9	6.4
USGS-2D	3/3/94	0945	926	6.9	14.0	< .1	19	< 1	< 1	140	30	10	6.4
USGS-2D	5/17/94	1000	862	6.9	14.5	< .1	16	< 1	< 1	140	30	10	6.0
USGS-2D	8/3/94	1045	980	6.8	14.5	< .1	14	< 1	< 1	140	30	10	6.1
USGS-2D	11/30/94	1015	996	6.8	14.0	< .1	22	< 1	< 1	170	36	11	6.3
USGS-2D	3/8/95	1040	1,140	6.8	14.0	< .1	30	< 1	< 1	170	38	13	6.7
USGS-2D	7/19/95	1340	1,080	6.8	14.5	< .1	16	< 1	< 1	170	35	13	5.6
USGS-2D	9/21/95	1200	1,060	7.0	14.0	< .1	21	< 1	< 1	150	31	11	6.0
USGS-2D	12/5/95	1410	1,030	6.9	14.0	< .1	13	< 1	< 1	150	32	11	5.8
USGS-2D	2/29/96	1500	1,050	6.8	14.0	< .1	--	< 1	< 1	160	35	10	5.8
USGS-2D	6/5/96	0910	989	6.8	14.0	< .1	< 10	< 1	< 1	150	31	9.7	5.3
USGS-2D	8/22/96	0910	957	7.1	15.0	< .1	16	< 1	< 1	140	30	9.4	5.6
USGS-2S	12/1/93	1115	1,060	7.0	14.5	< .1	21	< 1	< 1	160	27	9.8	6.6
USGS-2S	3/3/94	1035	911	7.0	14.5	< .1	16	< 1	< 1	160	27	12	6.8
USGS-2S	5/17/94	0900	995	6.8	14.0	< .1	16	< 1	< 1	170	29	10	6.7
USGS-2S	8/3/94	1130	1,050	6.8	14.0	< .1	17	< 1	64	170	27	9.4	2.2
USGS-2S	11/30/94	0930	853	6.9	14.0	< .1	18	< 1	< 1	150	25	8.1	5.8
USGS-2S	3/8/95	1130	1,020	6.9	14.0	< .1	19	< 1	< 1	160	29	8.3	6.6
USGS-2S	7/19/95	1440	1,000	6.9	14.0	< .1	12	< 1	< 1	160	30	9.0	5.5
USGS-2S	9/21/95	1130	1,020	7.0	13.5	< .1	19	< 1	< 1	150	26	7.7	5.6
USGS-2S	12/5/95	1310	1,000	7.0	14.0	< .1	13	< 1	< 1	150	28	8.2	5.7
USGS-2S	2/29/96	1400	1,000	6.9	14.0	< .1	--	< 1	< 1	160	27	7.4	5.5
USGS-2S	6/5/96	0950	1,040	6.9	14.0	< .1	< 10	< 1	< 1	150	28	7.1	5.3
USGS-2S	8/22/96	1000	905	7.2	14.0	< .1	15	< 1	< 1	140	25	6.3	5.6
USGS-3D	9/22/93	1225	1,160	7.2	14.5	< .1	12	< 1	K 4	160	39	19	4.9
USGS-3D	12/9/93	1250	1,040	7.2	14.0	< .1	18	< 1	K 3	160	36	17	5.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-1	12/6/95	330	33	5.7	0.3	0.05	21	437	< 0.01	2.2	0.06	< 0.2	0.06
USGS-1	2/28/96	394	28	4.7	.3	.09	23	477	.02	0.51	.09	.2	.09
USGS-1	6/5/96	434	24	2.6	.3	.07	22	486	< .01	< .05	.13	.3	.08
USGS-1	8/21/96	427	26	2.8	.3	.08	21	482	< .01	< .05	.13	< .2	.10
USGS-2D	12/1/93	552	< 0.1	4.0	.1	.06	38	562	< .01	< .05	1.1	1.2	1.2
USGS-2D	3/3/94	555	< .1	3.2	.1	1.7	39	633	.02	< .05	1.1	1.1	1.2
USGS-2D	5/17/94	527	< .1	3.1	.1	--	38	612	.02	< .05	.61	.8	.36
USGS-2D	8/3/94	524	< .1	2.5	.2	.17	40	608	< .01	< .05	1.0	1.2	1.1
USGS-2D	11/30/94	573	< .1	3.6	.1	.16	41	630	< .01	< .05	1.0	1.1	.91
USGS-2D	3/8/95	610	< .1	2.0	.1	.08	45	698	< .01	.07	1.0	1.2	.54
USGS-2D	7/19/95	509	.9	2.1	.1	.12	44	690	< .01	< .05	1.1	1.2	1.1
USGS-2D	9/21/95	571	< .1	1.7	.1	.04	39	630	< .01	< .05	1.0	1.2	1.7
USGS-2D	12/5/95	579	< .1	1.5	.2	.05	40	652	< .01	< .05	.98	1.1	1.1
USGS-2D	2/29/96	577	.2	1.6	.1	.10	46	672	< .01	.05	1.1	1.2	1.1
USGS-2D	6/5/96	558	< .1	1.9	.2	.20	41	632	.02	.10	1.0	1.2	.93
USGS-2D	8/22/96	555	< .1	1.9	.2	.07	40	624	< .01	< .05	1.1	1.1	1.3
USGS-2S	12/1/93	558	23	3.3	.1	.01	30	525	< .01	< .05	.69	.8	.68
USGS-2S	3/3/94	551	24	1.3	.2	1.5	32	641	< .01	< .05	.58	.6	.66
USGS-2S	5/17/94	597	22	1.3	.1	.03	31	708	.02	.07	.63	.8	.23
USGS-2S	8/3/94	561	23	1.2	.2	.05	33	672	< .01	< .05	.65	.8	.52
USGS-2S	11/30/94	451	7.3	1.1	.2	.35	33	518	< .01	< .05	.74	.8	.69
USGS-2S	3/8/95	522	14	1.2	.2	.06	35	620	.01	.06	.93	1.2	.57
USGS-2S	7/19/95	503	15	0.9	.1	.11	34	645	< .01	< .05	.98	1.1	.63
USGS-2S	9/21/95	528	13	1.1	.1	.04	30	605	< .01	< .05	.90	1.0	.03
USGS-2S	12/5/95	537	15	1.2	.2	.05	32	636	< .01	< .05	.89	1.0	.63
USGS-2S	2/29/96	537	11	1.3	.1	.16	36	633	< .01	< .05	.78	.8	.79
USGS-2S	6/5/96	511	19	6.5	.2	.05	33	621	.01	< .05	.73	1.1	.72
USGS-2S	8/22/96	502	19	3.6	.1	.11	31	604	.01	< .05	.74	.8	.74
USGS-3D	9/22/93	636	< .1	7.5	.3	.07	29	622	.07	.21	.64	.7	.82
USGS-3D	12/9/93	606	3.4	10	.2	.62	29	624	< .01	< .05	.63	.7	.68

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-1	12/6/95	0.04	0.04	10	4	220	< 0.5	40	< 1	< 5	7	< 10	1,400	< 1
USGS-1	2/28/96	.05	.06	< 10	5	260	< .5	50	1	< 5	< 3	< 10	2,400	< 1
USGS-1	6/5/96	.04	.04	6	3	265	< .5	63	< 1	< 5	7	< 10	1,600	< 1
USGS-1	8/21/96	.19	.10	< 5	5	270	< .5	62	< 1	< 5	6	< 10	2,500	< 1
USGS-2D	12/1/93	.04	.06	< 10	2	1,200	< .5	100	4	< 5	20	< 10	30,000	10
USGS-2D	3/3/94	1.1	.33	< 10	1	1,200	< .5	110	3	< 5	< 3	< 10	30,000	20
USGS-2D	5/17/94	.02	< .01	< 10	2	1,200	< .5	100	< 1	< 5	< 3	< 10	29,000	10
USGS-2D	8/3/94	< .01	< .01	< 10	2	1,200	< .5	110	< 1	< 5	< 3	< 10	30,000	10
USGS-2D	11/30/94	.86	.02	10	< 1	1,300	< .5	110	2	< 5	110	< 10	26,000	30
USGS-2D	3/8/95	< .01	< .01	< 10	< 1	1,400	< .5	110	< 1	< 5	--	< 10	32,000	< 10
USGS-2D	7/19/95	.90	< .01	< 10	< 1	1,400	< .5	110	2	< 5	--	< 10	32,000	20
USGS-2D	9/21/95	.04	.01	20	2	1,200	< .5	120	9	< 5	--	< 10	31,000	< 1
USGS-2D	12/5/95	< .01	.01	10	< 1	1,200	< .5	110	5	< 5	100	< 10	27,000	< 1
USGS-2D	2/29/96	.02	.02	< 10	1	1,400	< .5	110	4	< 5	--	< 10	34,000	< 1
USGS-2D	6/5/96	.04	.65	< 5	< 1	1,240	< .5	112	4.1	< 5	--	< 10	27,400	< 1
USGS-2D	8/22/96	.21	.07	< 5	< 1	1,200	< .5	110	5	< 5	--	< 10	27,000	< 1
USGS-2S	12/1/93	< .01	.01	< 10	37	360	< .5	150	3	< 5	13	< 10	25,000	20
USGS-2S	3/3/94	.58	.09	< 10	35	350	< 1.5	100	6	< 15	< 9	< 30	23,000	< 30
USGS-2S	5/17/94	.07	.02	< 10	36	390	< .5	90	2	< 5	17	< 10	26,000	20
USGS-2S	8/3/94	.03	< .01	< 10	41	360	< .5	100	1	< 5	< 3	< 10	27,000	< 10
USGS-2S	11/30/94	.01	< .01	< 10	33	310	< .5	90	1	< 5	120	< 10	25,000	< 10
USGS-2S	3/8/95	.85	.17	< 10	39	380	< .5	90	1	< 5	--	< 10	31,000	< 10
USGS-2S	7/19/95	.59	.01	10	31	380	< .5	80	< 1	< 5	--	< 10	31,000	40
USGS-2S	9/21/95	.03	< .01	10	39	330	< .5	80	9	< 5	--	< 10	28,000	< 1
USGS-2S	12/5/95	.19	.60	20	23	360	< .5	90	5	< 5	100	< 10	28,000	< 1
USGS-2S	2/29/96	.96	.50	20	25	350	< .5	90	3	< 5	--	< 10	27,000	< 1
USGS-2S	6/5/96	.62	.19	< 5	27	350	< .5	90	5	6	--	< 10	27,000	< 1
USGS-2S	8/22/96	.02	.15	< 5	23	340	< .5	83	5	< 5	--	< 10	25,000	< 1
USGS-3D	9/22/93	.48	.02	< 10	35	720	< .5	90	2	< 5	< 3	< 10	25,000	10
USGS-3D	12/9/93	.81	< .01	10	32	620	< .5	80	2	< 5	< 3	< 10	24,000	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-1	12/6/95	20	270	--	< 10	< 10	1	< 1	650	< 6	< 3	1.5	1.5
USGS-1	2/28/96	30	320	< 0.1	< 10	< 10	< 1	< 1	730	< 6	< 3	--	--
USGS-1	6/5/96	31	308	< .1	10	< 10	< 1	< 1	766	< 6	< 3	--	--
USGS-1	8/21/96	30	340	< .1	< 10	< 10	< 1	< 1	750	< 6	< 3	1.8	1.6
USGS-2D	12/1/93	41	1,700	< .1	< 10	< 10	< 2	< 1	1,100	< 6	< 3	3.1	2.6
USGS-2D	3/3/94	39	1,800	< .1	< 10	< 10	< 1	2	1,100	9	7	5.9	3.8
USGS-2D	5/17/94	41	1,800	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	3.5	3.3
USGS-2D	8/3/94	44	1,800	< .1	< 10	< 10	< 1	< 1	1,000	< 6	3	3.1	3.3
USGS-2D	11/30/94	46	1,400	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	3.7	3.2
USGS-2D	3/8/95	45	1,700	< .1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	21	3.2
USGS-2D	7/19/95	46	1,700	< .1	< 10	< 10	< 1	1	1,200	< 6	< 3	--	4.0
USGS-2D	9/21/95	47	1,500	< .1	10	< 10	< 1	< 1	1,100	< 6	4	14	4.4
USGS-2D	12/5/95	46	1,300	< .1	10	< 10	< 1	< 1	1,100	< 6	5	18	4.0
USGS-2D	2/29/96	44	1,600	< .1	< 10	< 10	< 1	< 1	1,200	< 6	9	--	--
USGS-2D	6/5/96	44	1,120	< .1	< 10	< 10	< 1	< 1	1,090	< 6	3	--	--
USGS-2D	8/22/96	44	1,200	< .1	< 10	10	< 1	< 1	1,100	< 6	< 3	9.7	1.2
USGS-2S	12/1/93	36	1,400	< .1	< 10	< 10	< 2	< 1	940	< 6	4	3.9	4.0
USGS-2S	3/3/94	38	1,400	< .1	< 30	< 30	< 1	< 3	920	< 18	10	4.7	4.3
USGS-2S	5/17/94	38	1,600	< .1	< 10	10	< 1	< 1	990	< 6	< 3	4.2	4.5
USGS-2S	8/3/94	31	1,500	< .1	< 10	< 10	< 1	< 1	940	< 6	3	4.5	4.5
USGS-2S	11/30/94	37	1,400	< .1	< 10	< 10	< 1	< 1	800	< 6	< 3	8.5	3.2
USGS-2S	3/8/95	37	1,500	< .1	< 10	< 10	< 1	< 1	920	7	< 3	9.1	1.0
USGS-2S	7/19/95	36	1,600	< .1	< 10	< 10	< 1	< 1	960	< 6	5	4.4	4.0
USGS-2S	9/21/95	35	1,300	< .1	40	< 10	< 1	< 1	860	< 6	< 3	4.7	3.2
USGS-2S	12/5/95	37	1,300	< .1	< 10	< 10	< 1	< 1	930	< 6	6	3.3	3.2
USGS-2S	2/29/96	37	1,300	< .1	< 10	< 10	< 1	< 1	930	< 6	5	--	--
USGS-2S	6/5/96	37	1,200	< .1	< 10	< 10	< 1	< 1	920	< 6	9	--	--
USGS-2S	8/22/96	35	1,200	< .1	< 10	10	< 1	< 1	870	< 6	< 3	5.0	3.2
USGS-3D	9/22/93	35	1,100	< .1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	2.6	2.4
USGS-3D	12/9/93	27	1,300	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	2.7	2.2

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-3D	3/10/94	1415	899	7.3	14.0	< 0.1	73	< 1	< 1	160	38	18	5.0
USGS-3D	5/17/94	1200	905	7.2	14.5	< .1	< 10	< 1	< 1	150	35	16	4.8
USGS-3D	8/3/94	1420	1,040	7.1	14.5	< .1	< 10	< 1	< 1	150	34	15	3.2
USGS-3D	11/30/94	1240	904	7.2	14.0	< .1	10	< 1	< 1	160	33	16	4.6
USGS-3D	3/8/95	1405	1,080	7.2	14.0	< .1	13	< 1	< 1	160	36	14	5.1
USGS-3D	7/19/95	1650	1,050	7.2	14.5	.1	15	< 1	< 1	170	35	17	4.8
USGS-3D	9/21/95	0930	1,060	7.0	14.0	< .1	15	< 1	< 1	--	--	--	--
USGS-3D	12/5/95	1525	888	7.2	13.5	--	14	< 1	< 1	130	26	12	4.3
USGS-3D	3/1/96	1140	1,010	7.1	14.5	< .1	18	< 1	< 1	150	29	14	4.9
USGS-3D	6/5/96	1420	1,050	7.1	15.5	< .1	20	< 1	< 1	160	32	17	4.8
USGS-3D	8/22/96	1140	1,040	7.4	14.0	< .1	--	< 1	< 1	160	32	18	5.3
USGS-3S	9/22/93	1310	1,090	7.0	14.0	< .1	12	[K] 1	< 1	160	32	14	5.3
USGS-3S	12/9/93	1140	973	7.0	15.0	< .1	20	< 1	< 1	150	33	12	5.7
USGS-3S	3/10/94	1500	726	7.1	14.0	< .1	< 10	< 1	< 1	120	29	11	4.5
USGS-3S	5/17/94	1115	663	7.0	11.5	< .1	< 10	< 1	< 1	110	23	8.7	4.1
USGS-3S	8/3/94	1500	668	7.0	12.0	< .1	< 10	< 1	[K] 19	97	21	7.6	< .1
USGS-3S	11/30/94	1140	667	6.9	14.0	< .1	< 10	< 1	[K] 8	110	21	9.2	4.1
USGS-3S	3/8/95	1445	1,020	7.1	12.5	< .1	20	< 1	< 1	140	27	22	5.5
USGS-3S	7/19/95	1550	1,020	7.0	13.0	< .1	11	< 1	< 1	140	25	29	5.4
USGS-3S	9/21/95	1010	1,180	6.7	16.0	< .1	16	< 1	< 1	150	31	29	6.4
USGS-3S	12/5/95	1640	1,240	7.0	18.0	< .1	14	< 1	< 1	150	28	49	7.7
USGS-3S	3/1/96	1110	1,170	7.0	14.0	< .1	21	< 1	< 1	130	23	71	6.6
USGS-3S	6/5/96	1700	1,150	7.1	14.0	< .1	31	< 1	< 1	130	23	73	6.1
USGS-3S	8/22/96	1100	1,030	7.4	15.5	< .1	--	< 1	< 1	110	19	77	6.4
USGS-4	9/22/93	1515	1,580	6.7	15.0	< .1	25	< 1	< 1	220	60	41	7.7
USGS-4	12/7/93	1140	1,420	6.9	14.0	< .1	26	< 1	[K] 4	220	56	34	7.4
USGS-4	3/9/94	1520	1,220	6.9	14.0	< .1	17	< 1	< 1	220	56	32	7.7
USGS-4	5/18/94	1000	1,140	6.9	14.5	< .1	14	< 1	< 1	200	51	26	7.2
USGS-4	8/3/94	0900	1,420	6.8	14.5	< .1	32	< 1	< 1	210	52	26	7.1
USGS-4	12/1/94	1120	1,190	6.9	14.0	< .1	14	< 1	< 1	210	52	24	6.7

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-3D	3/10/94	601	3.3	5.5	0.2	0.99	30	658	< 0.01	< 0.05	0.60	0.7	0.82
USGS-3D	5/17/94	590	3.3	5.9	.2	.06	29	660	.02	< .05	.55	.7	.65
USGS-3D	8/3/94	568	3.7	5.8	.3	.08	30	634	< .01	< .05	.57	.6	.67
USGS-3D	11/30/94	477	8.8	6.8	.2	1.6	31	575	< .01	< .05	.62	.6	.63
USGS-3D	3/8/95	513	22	6.6	.2	.10	33	658	< .01	< .05	.58	.7	.52
USGS-3D	7/19/95	592	3.4	5.5	.2	.12	33	674	< .01	< .05	.65	.7	.69
USGS-3D	9/21/95	556	8.6	5.8	.1	.06	--	636	< .01	< .05	.61	.7	.42
USGS-3D	12/5/95	275	31	15	.2	.07	31	560	.03	< .05	.58	.7	.64
USGS-3D	3/1/96	545	4.0	12	.2	.14	35	645	< .01	< .05	.59	.8	.69
USGS-3D	6/5/96	582	1.4	7.8	.2	.09	33	660	.01	< .05	.69	.8	.66
USGS-3D	8/22/96	625	< 0.1	7.5	.2	.10	31	696	< .01	< .05	.75	.8	.66
USGS-3S	9/22/93	528	37	6.5	.3	.05	29	571	.05	.21	.38	.5	.46
USGS-3S	12/9/93	525	42	8.9	.2	.44	30	610	< .01	< .05	.33	.4	.42
USGS-3S	3/10/94	426	34	7.7	.2	.10	30	519	< .01	< .05	.25	.4	.26
USGS-3S	5/17/94	373	28	5.6	.2	.05	26	461	.02	< .05	.24	.4	.31
USGS-3S	8/3/94	327	27	4.7	.3	.08	26	405	< .01	< .05	.29	.3	.26
USGS-3S	11/30/94	326	39	15	.3	.26	29	432	.02	.07	.22	.3	.13
USGS-3S	3/8/95	260	68	120	.2	.19	28	630	.02	< .05	.34	.5	.25
USGS-3S	7/19/95	244	75	130	.2	.20	26	690	.01	< .05	.42	.5	.18
USGS-3S	9/21/95	367	63	120	.2	.14	26	692	< .01	< .05	.37	.4	.19
USGS-3S	12/5/95	386	57	150	.3	.17	27	760	< .01	< .05	.45	.6	.31
USGS-3S	3/1/96	276	130	130	.3	.18	27	772	< .01	< .05	.42	.6	.41
USGS-3S	6/5/96	299	130	130	.3	.17	25	728	.03	.05	.42	.7	.24
USGS-3S	8/22/96	256	140	120	.3	.17	21	706	.04	< .05	.44	.5	.34
USGS-4	9/22/93	914	11	13	.2	.44	29	928	.07	.21	.69	.8	.24
USGS-4	12/7/93	828	40	9.4	.1	.17	31	895	< .01	< .05	.65	.7	.34
USGS-4	3/9/94	825	43	8.6	.1	.17	32	926	< .01	< .05	.65	.9	.32
USGS-4	5/18/94	798	47	8.0	.2	.09	29	900	.02	< .05	1.0	1.2	.99
USGS-4	8/3/94	667	49	8.3	.2	.14	32	919	< .01	< .05	.64	.7	.33
USGS-4	12/1/94	648	52	9.4	.2	.40	33	858	< .01	< .05	.66	.7	.37

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-3D	3/10/94	0.89	< 0.01	< 10	30	710	< 1.5	90	< 3	< 15	39	< 30	25,000	< 30
USGS-3D	5/17/94	.04	< .01	< 10	29	630	< .5	90	3	< 5	42	< 10	23,000	< 10
USGS-3D	8/3/94	.02	.01	< 10	34	640	< .5	100	1	< 5	< 3	< 10	23,000	20
USGS-3D	11/30/94	.63	< .01	< 10	29	590	< .5	90	3	< 5	48	< 10	24,000	< 10
USGS-3D	3/8/95	.87	.04	< 10	39	700	< .5	90	< 1	< 5	--	< 10	24,000	< 10
USGS-3D	7/19/95	.56	.01	10	27	720	< .5	90	1	< 5	--	< 10	27,000	20
USGS-3D	9/21/95	.03	.02	--	--	--	--	88	--	--	--	--	--	--
USGS-3D	12/5/95	.22	.21	< 10	23	550	< .5	80	3	< 5	84	< 10	21,000	< 1
USGS-3D	3/1/96	.88	.53	< 10	26	660	< .5	90	3	< 5	--	< 10	26,000	< 1
USGS-3D	6/5/96	.70	.24	--	32	760	< .5	74	2	< 5	--	< 10	28,000	< 1
USGS-3D	8/22/96	.70	.08	< 5	26	760	< .5	83	5	< 5	--	< 10	27,000	< 1
USGS-3S	9/22/93	.48	< .01	10	36	290	< .5	80	2	< 5	< 3	< 10	19,000	< 10
USGS-3S	12/9/93	< .01	.02	10	41	260	< .5	70	2	< 5	< 3	< 10	17,000	< 10
USGS-3S	3/10/94	.47	< .01	< 10	32	220	< 1.5	80	< 3	< 15	16	< 30	14,000	< 30
USGS-3S	5/17/94	.09	< .01	< 10	30	180	< .5	50	< 1	< 5	16	< 10	12,000	< 10
USGS-3S	8/3/94	.01	.02	< 10	28	170	< .5	60	< 1	< 5	< 3	< 10	10,000	< 10
USGS-3S	11/30/94	< .01	< .01	< 10	24	160	< .5	60	< 1	< 5	32	< 10	6,700	< 10
USGS-3S	3/8/95	.32	.01	< 10	34	240	< .5	60	< 1	< 5	--	< 10	16,000	< 10
USGS-3S	7/19/95	.16	< .01	20	27	240	< .5	60	1	< 5	--	< 10	15,000	20
USGS-3S	9/21/95	.07	.01	10	34	260	< .5	80	5	< 5	--	< 10	15,000	< 1
USGS-3S	12/5/95	.04	.05	< 10	32	300	< .5	90	3	< 5	62	< 10	17,000	< 1
USGS-3S	3/1/96	.02	< .01	< 10	30	260	< .5	90	< 1	< 5	--	< 10	16,000	< 1
USGS-3S	6/5/96	.02	.16	--	38	250	< .5	83	< 1	< 5	--	< 10	13,000	< 1
USGS-3S	8/22/96	.29	.33	< 5	27	220	< .5	76	1	< 5	--	< 10	12,000	< 1
USGS-4	9/22/93	.03	< .01	< 10	< 1	540	< .5	130	< 1	< 5	< 3	< 10	19,000	< 10
USGS-4	12/7/93	.03	.02	< 10	1	530	< .5	130	2	< 5	37	< 10	18,000	10
USGS-4	3/9/94	.26	< .01	< 10	< 1	520	< 1.5	140	< 3	< 15	20	< 30	19,000	< 30
USGS-4	5/18/94	.06	< .01	< 10	< 1	510	< .5	130	< 1	< 5	< 3	< 10	17,000	30
USGS-4	8/3/94	.06	< .01	< 10	< 1	520	< .5	140	1	< 5	< 3	< 10	17,000	< 10
USGS-4	12/1/94	.36	< .01	10	< 1	510	< .5	130	2	< 5	120	< 10	17,000	20

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-3D	3/10/94	34	1,000	< 0.1	< 30	< 30	< 1	< 3	1,200	< 18	19	2.8	2.3
USGS-3D	5/17/94	32	1,200	< .1	< 10	< 10	< 1	1	1,200	7	< 3	4.3	3.3
USGS-3D	8/3/94	28	1,200	< .1	< 10	< 10	< 1	< 1	1,100	6	< 3	3.2	3.3
USGS-3D	11/30/94	33	1,400	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	2.8	2.7
USGS-3D	3/8/95	30	1,200	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	2.1	2.8
USGS-3D	7/19/95	32	1,500	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	2.7	2.8
USGS-3D	9/21/95	--	--	< .1	--	--	--	--	--	--	--	5.9	2.8
USGS-3D	12/5/95	28	1,400	--	< 10	< 10	< 1	< 1	960	< 6	8	3.1	2.4
USGS-3D	3/1/96	33	1,700	< .1	< 10	< 10	< 1	< 1	1,100	< 6	11	--	--
USGS-3D	6/5/96	38	1,800	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	12	3.2
USGS-3D	8/22/96	38	1,900	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	2.8	3.2
USGS-3S	9/22/93	22	1,300	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.2	3.5
USGS-3S	12/9/93	24	1,300	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	2.8	2.1
USGS-3S	3/10/94	20	990	< .1	< 30	< 30	< 1	< 3	880	< 18	16	2.6	2.2
USGS-3S	5/17/94	16	920	< .1	< 10	10	< 1	1	720	< 6	< 3	2.4	2.0
USGS-3S	8/3/94	15	960	< .1	< 10	10	< 1	< 1	650	< 6	< 3	3.2	2.3
USGS-3S	11/30/94	22	760	< .1	< 10	< 10	< 1	< 1	680	< 6	< 3	2.8	2.1
USGS-3S	3/8/95	15	1,200	< .1	< 10	< 10	< 1	< 1	890	< 6	< 3	3.6	3.2
USGS-3S	7/19/95	14	1,100	< .1	< 10	< 10	< 1	< 1	870	< 6	< 3	3.9	2.8
USGS-3S	9/21/95	23	1,000	< .1	20	10	< 1	< 1	980	< 6	< 3	9.2	3.2
USGS-3S	12/5/95	21	1,200	< .1	10	< 10	< 1	< 1	1,000	< 6	< 3	4.4	3.2
USGS-3S	3/1/96	18	1,100	< .1	< 10	< 10	< 1	< 1	820	< 6	< 3	--	--
USGS-3S	6/5/96	17	1,100	< .1	20	< 10	< 1	< 1	820	< 6	7	--	2.8
USGS-3S	8/22/96	17	900	< .1	< 10	< 10	< 1	< 1	690	< 6	< 3	5.4	2.8
USGS-4	9/22/93	43	3,700	< .1	< 10	< 10	< 1	< 1	1,400	< 6	< 3	4.9	5.0
USGS-4	12/7/93	45	3,300	< .1	< 10	< 10	< 1	< 1	1,400	< 6	6	4.0	3.2
USGS-4	3/9/94	43	3,300	< .1	< 30	< 30	< 1	< 3	1,400	< 18	< 9	3.4	3.1
USGS-4	5/18/94	47	2,900	< .1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	3.5	3.6
USGS-4	8/3/94	53	2,900	< .1	< 10	< 10	< 1	< 1	1,300	< 6	5	3.0	3.3
USGS-4	12/1/94	51	2,700	< .1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	3.0	2.8

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-4	3/13/95	1520	1,290	6.8	14.5	< 0.1	20	< 1	< 1	200	49	19	6.3
USGS-4	7/25/95	0930	1,100	6.8	14.5	< .1	17	< 1	< 1	190	46	19	6.4
USGS-4	9/26/95	1120	1,230	6.8	14.0	< .1	14	< 1	< 1	180	45	17	6.5
USGS-4	12/12/95	1420	1,160	6.9	13.5	< .1	10	< 1	< 1	180	42	16	6.2
USGS-4	2/29/96	1630	1,560	6.9	14.0	< .1	--	< 1	< 1	170	41	15	6.0
USGS-4	6/12/96	0830	1,100	6.8	14.0	< .1	--	< 1	< 1	160	41	16	5.7
USGS-4	8/22/96	1600	1,030	7.0	14.5	< .1	14	< 1	< 1	160	38	13	6.2
USGS-5D	12/6/93	1445	1,140	6.9	14.0	< .1	23	< 1	< 1	180	31	16	5.7
USGS-5D	3/10/94	1045	937	7.1	14.0	< .1	14	< 1	< 1	180	31	17	6.2
USGS-5D	5/17/94	1430	862	7.0	14.5	< .1	11	< 1	< 1	150	26	13	5.9
USGS-5D	8/2/94	1600	873	6.9	14.5	< .1	43	< 1	< 1	130	23	12	5.1
USGS-5D	11/30/94	1520	747	7.0	14.0	< .1	11	< 1	< 1	130	21	13	4.9
USGS-5D	3/2/95	0940	671	7.0	13.5	< .1	20	< 1	< 1	96	17	12	4.4
USGS-5D	7/27/95	0930	900	7.0	14.5	< .1	18	< 1	< 1	160	28	20	5.6
USGS-5D	9/26/95	0850	1,120	7.2	14.0	< .1	18	[K] 4	< 1	160	29	19	5.8
USGS-5D	12/6/95	1620	900	7.1	13.5	< .1	< 10	< 1	< 1	130	23	16	5.4
USGS-5D	3/7/96	1330	1,070	7.4	13.0	< .1	--	< 1	< 1	160	30	18	5.8
USGS-5D	6/5/96	1510	1,090	7.1	14.5	< .1	17	< 1	< 1	170	30	18	5.6
USGS-5D	8/23/96	1000	973	6.5	14.5	< .1	21	< 1	< 1	160	29	20	6.1
USGS-5S	12/6/93	1530	814	7.0	14.5	< .1	12	< 1	< 1	120	27	14	5.1
USGS-5S	3/10/94	1130	723	7.1	13.5	< .1	< 10	< 1	< 1	110	24	13	5.0
USGS-5S	5/17/94	1520	714	7.0	13.5	< .1	< 10	< 1	< 1	130	27	12	4.7
USGS-5S	8/2/94	1630	833	6.8	13.5	.2	24	< 1	< 1	130	26	13	2.5
USGS-5S	11/30/94	1610	746	7.0	14.5	< .1	< 10	< 1	[K] 15	130	27	11	4.8
USGS-5S	3/2/95	1040	875	6.9	14.0	.3	22	< 1	< 1	130	29	12	4.9
USGS-5S	7/27/95	1020	743	7.0	14.0	< .1	10	< 1	< 1	130	30	13	5.1
USGS-5S	9/26/95	0940	850	7.0	14.5	< .1	< 10	< 1	< 1	130	30	12	5.2
USGS-5S	12/6/95	1520	824	7.0	14.5	< .1	< 10	< 1	[K] 1	120	30	12	5.2
USGS-5S	3/7/96	1420	832	7.4	13.5	.2	--	< 1	< 1	120	30	12	5.1
USGS-5S	6/5/96	1400	850	7.0	13.5	< .1	11	< 1	[K] 2	130	29	13	4.7

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-4	3/13/95	682	21	7.7	0.2	1.1	34	800	0.01	0.06	0.61	0.7	0.35
USGS-4	7/25/95	639	27	7.1	.2	0.31	34	772	< .01	< .05	.59	.6	.28
USGS-4	9/26/95	687	21	7.6	.1	.08	30	762	.16	.18	.56	.7	.32
USGS-4	12/12/95	671	11	6.2	.1	.08	32	666	< .01	< .05	.58	.6	.34
USGS-4	2/29/96	646	27	5.6	.2	.14	33	744	< .01	< .05	.79	.7	.33
USGS-4	6/12/96	634	29	4.6	.2	.06	30	686	.01	< .05	.53	.6	.35
USGS-4	8/22/96	640	29	5.2	.2	.07	28	720	< .01	< .05	.56	.6	.28
USGS-5D	12/6/93	626	17	8.5	.1	.55	30	687	< .01	< .05	.64	.7	.47
USGS-5D	3/10/94	596	24	7.8	.2	.22	31	682	< .01	< .05	.61	.8	.46
USGS-5D	5/17/94	486	35	8.1	.2	.05	29	629	.02	< .05	.51	.6	.40
USGS-5D	8/2/94	431	32	8.5	.2	.08	30	534	< .01	< .05	.54	.6	.39
USGS-5D	11/30/94	406	28	7.5	.2	.30	31	481	< .01	< .05	.54	.6	.41
USGS-5D	3/2/95	315	18	6.9	.2	.16	29	409	< .01	< .05	.51	.6	.46
USGS-5D	7/27/95	554	9.2	7.5	.2	1.2	32	652	< .01	< .05	.69	.7	.39
USGS-5D	9/26/95	573	26	7.5	.2	.31	27	684	< .01	< .05	.65	.7	.48
USGS-5D	12/6/95	387	19	8.0	.2	.06	28	572	< .01	< .05	.61	.7	.48
USGS-5D	3/7/96	579	19	7.6	.2	.06	30	658	< .01	< .05	.76	.8	.59
USGS-5D	6/5/96	589	21	7.4	.3	.19	29	688	< .01	< .05	.74	.9	.51
USGS-5D	8/23/96	598	19	7.3	.2	.28	27	684	.02	< .05	.84	.8	.47
USGS-5S	12/6/93	455	27	4.0	.2	.03	20	485	< .01	.66	.02	< .2	.03
USGS-5S	3/10/94	415	39	5.6	.2	.02	18	499	.02	3.5	.02	< .2	.01
USGS-5S	5/17/94	438	26	4.7	.2	.04	20	493	.02	1.3	.02	< .2	.04
USGS-5S	8/2/94	396	41	5.8	.3	.04	20	456	.04	4.7	.02	< .2	.04
USGS-5S	11/30/94	418	32	6.9	.2	.04	20	502	.02	3.4	< .02	< .2	.02
USGS-5S	3/2/95	423	33	6.2	.2	.02	20	525	.05	5.2	< .02	< .2	.02
USGS-5S	7/27/95	458	27	5.0	.2	.04	21	511	.03	.90	.03	< .2	< .01
USGS-5S	9/26/95	432	36	5.4	.1	.05	19	507	.05	3.2	< .02	< .2	.03
USGS-5S	12/6/95	404	24	5.0	.2	.03	20	464	< .01	.26	< .02	< .2	.03
USGS-5S	3/7/96	456	28	5.0	.2	.02	20	501	.02	.61	.05	< .2	.01
USGS-5S	6/5/96	446	36	5.2	.2	.03	19	517	.03	2.0	.05	.4	.03

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-4	3/13/95	0.05	0.04	< 10	< 1	490	< 0.5	110	< 1	< 5	--	< 10	16,000	< 10
USGS-4	7/25/95	.03	< .01	30	< 1	470	< .5	140	< 1	< 5	--	< 10	16,000	< 10
USGS-4	9/26/95	< .01	< .01	< 10	< 1	430	< .5	140	< 1	8	--	< 10	16,000	< 1
USGS-4	12/12/95	.42	.31	10	< 1	420	< .5	130	3	< 5	--	< 10	15,000	< 1
USGS-4	2/29/96	.15	.14	< 10	< 1	420	< .5	100	< 1	< 5	--	< 10	14,000	< 1
USGS-4	6/12/96	.37	.10	< 5	< 1	430	< .5	110	2	< 5	--	< 10	14,000	< 1
USGS-4	8/22/96	.03	.05	< 5	< 1	400	< .5	108	3	< 5	--	< 10	13,000	< 1
USGS-5D	12/6/93	< .01	.02	< 10	11	640	< .5	80	3	5	< 3	< 10	25,000	30
USGS-5D	3/10/94	.43	< .01	< 10	6	650	< 1.5	90	< 3	< 15	36	< 30	25,000	< 30
USGS-5D	5/17/94	.02	< .01	< 10	10	580	< .5	80	2	< 5	10	< 10	21,000	10
USGS-5D	8/2/94	.32	.13	< 10	9	520	< .5	90	1	< 5	< 3	< 10	17,000	< 10
USGS-5D	11/30/94	.41	< .01	< 10	5	490	< .5	80	< 1	< 5	72	< 10	15,000	< 10
USGS-5D	3/2/95	.03	.04	< 10	6	400	< .5	80	2	< 5	22	< 10	13,000	< 10
USGS-5D	7/27/95	.02	< .01	< 10	5	650	< .5	80	< 1	< 5	--	< 10	23,000	< 10
USGS-5D	9/26/95	.36	.27	< 10	8	580	< .5	80	6	7	--	< 10	26,000	< 1
USGS-5D	12/6/95	< .01	.02	20	6	500	< .5	80	4	< 5	76	< 10	19,000	< 1
USGS-5D	3/7/96	.69	.35	< 10	6	622	< .5	89	< 1	< 5	--	< 10	23,600	< 1
USGS-5D	6/5/96	.28	.17	--	6	620	< .5	81	3	< 5	--	< 10	25,000	< 1
USGS-5D	8/23/96	.49	.43	< 5	5	680	< .5	74	5	< 5	--	< 10	22,000	< 1
USGS-5S	12/6/93	.02	.02	< 10	< 1	290	< .5	60	3	< 5	< 3	< 10	12	< 10
USGS-5S	3/10/94	.01	.01	< 10	< 1	240	< .5	70	< 1	< 5	< 3	< 10	7	< 10
USGS-5S	5/17/94	< .01	.02	< 10	< 1	260	< .5	60	< 1	< 5	< 3	< 10	< 3	< 10
USGS-5S	8/2/94	.02	< .01	< 10	< 1	220	< .5	60	< 1	< 5	3	< 10	7	< 10
USGS-5S	11/30/94	.03	< .01	< 10	< 1	240	< .5	70	< 1	< 5	< 3	< 10	7	< 10
USGS-5S	3/2/95	< .01	.01	10	< 1	290	< .5	60	< 1	< 5	< 3	< 10	< 3	< 10
USGS-5S	7/27/95	< .01	.01	< 10	< 1	360	< .5	60	< 1	< 5	< 3	< 10	4	20
USGS-5S	9/26/95	< .01	.01	< 10	< 1	280	< .5	70	< 1	6	< 3	< 10	4	< 1
USGS-5S	12/6/95	< .01	.01	20	< 1	340	< .5	80	< 1	< 5	< 3	< 10	< 3	< 1
USGS-5S	3/7/96	< .01	.02	15	< 1	298	< .5	76	< 1	< 5	< 3	< 10	5	< 1
USGS-5S	6/5/96	.03	.02	--	< 1	280	< .5	66	< 1	< 5	< 3	< 10	< 3	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-4	3/13/95	47	2,600	< 0.1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	12	3.6
USGS-4	7/25/95	46	2,600	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	2.6	2.8
USGS-4	9/26/95	47	2,600	< .1	30	< 10	< 1	< 1	1,100	< 6	6	2.6	3.2
USGS-4	12/12/95	43	2,500	< .1	< 10	< 10	< 1	< 1	1,100	< 6	5	15	2.8
USGS-4	2/29/96	43	2,600	--	< 10	< 10	< 1	< 1	1,100	< 6	7	--	--
USGS-4	6/12/96	43	2,500	< .1	10	< 10	< 1	< 1	1,100	< 6	< 3	--	--
USGS-4	8/22/96	41	2,500	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	4.4	3.6
USGS-5D	12/6/93	28	2,600	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	3.5	2.2
USGS-5D	3/10/94	27	2,700	< .1	< 30	< 30	< 1	< 3	1,100	< 18	< 9	3.0	2.3
USGS-5D	5/17/94	31	2,200	< .1	< 10	< 10	< 1	< 1	940	< 6	< 3	2.9	5.1
USGS-5D	8/2/94	26	2,000	--	< 10	< 10	< 1	< 1	820	< 6	3	2.8	2.4
USGS-5D	11/30/94	26	1,800	< .1	< 10	< 10	< 1	< 1	730	< 6	< 3	3.0	2.7
USGS-5D	3/2/95	20	1,400	< .1	< 10	< 10	< 1	< 1	600	< 6	4	11	3.2
USGS-5D	7/27/95	26	2,400	< .1	< 10	< 10	< 1	< 1	960	< 6	6	5.3	3.2
USGS-5D	9/26/95	29	2,500	< .1	20	< 10	< 1	< 1	970	< 6	< 3	4.0	0.9
USGS-5D	12/6/95	25	1,900	< .1	< 10	< 10	< 1	< 1	810	< 6	< 3	9.4	1.2
USGS-5D	3/7/96	26	2,410	--	21	< 10	< 1	< 1	996	< 6	< 3	3.1	4.4
USGS-5D	6/5/96	29	2,300	< .1	< 10	< 10	< 1	< 1	1,100	< 6	10	--	--
USGS-5D	8/23/96	30	2,400	< .1	< 10	< 10	< 1	< 1	1,000	< 6	< 3	5.8	4.0
USGS-5S	12/6/93	33	420	< .1	< 10	< 10	< 1	< 1	810	< 6	< 3	1.6	1.7
USGS-5S	3/10/94	34	240	< .1	10	< 10	1	< 1	810	< 6	< 3	1.8	1.7
USGS-5S	5/17/94	26	300	< .1	< 10	< 10	< 1	< 1	830	< 6	< 3	1.7	1.7
USGS-5S	8/2/94	32	240	--	< 10	< 10	2	< 1	820	< 6	< 3	1.6	1.6
USGS-5S	11/30/94	34	240	< .1	< 10	< 10	1	< 1	820	< 6	< 3	3.7	1.6
USGS-5S	3/2/95	35	280	< .1	< 10	< 10	1	< 1	910	< 6	< 3	3.3	1.8
USGS-5S	7/27/95	35	460	< .1	< 10	< 10	< 2	< 1	880	< 6	3	1.9	1.7
USGS-5S	9/26/95	35	380	< .1	< 10	< 10	< 1	< 1	830	< 6	< 3	2.4	1.6
USGS-5S	12/6/95	34	440	< .1	< 10	< 10	< 1	< 1	870	< 6	< 3	13	1.7
USGS-5S	3/7/96	32	290	--	21	< 10	< 1	< 1	856	< 6	< 3	5.6	1.7
USGS-5S	6/5/96	35	310	.1	20	< 10	< 1	< 1	890	< 6	3	--	--

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-5S	8/23/96	0900	774	6.6	14.0	< 0.1	< 10	< 1	< 1	120	28	11	5.1
USGS-6	9/22/93	1045	1,400	6.9	13.5	< .1	20	< 1	< 1	190	48	19	7.1
USGS-6	12/1/93	1605	1,380	6.9	14.0	< .1	33	< 1	< 1	180	49	19	7.1
USGS-6	3/10/94	0930	1,230	6.8	14.0	< .1	25	< 1	< 1	210	54	22	7.8
USGS-6	5/18/94	0840	1,270	6.8	13.0	< .1	64	< 1	< 1	220	54	19	7.6
USGS-6	8/2/94	1430	1,630	6.6	13.5	< .1	50	< 1	< 1	230	58	20	7.6
USGS-6	12/1/94	1410	1,300	6.8	13.5	< .1	21	< 1	< 1	230	57	22	7.4
USGS-6	3/2/95	1410	1,280	6.8	13.5	< .1	37	< 1	< 1	170	44	19	6.6
USGS-6	7/25/95	1100	1,220	6.8	13.5	< .1	23	< 1	< 1	200	49	20	6.8
USGS-6	9/19/95	0900	1,800	6.8	13.5	< .1	28	< 1	< 1	250	60	21	7.6
USGS-6	12/12/95	1520	1,730	6.6	14.5	< .1	28	< 1	< 1	240	59	21	7.5
USGS-6	3/7/96	1130	1,390	7.1	12.5	< .1	34	< 1	< 1	180	43	21	5.6
USGS-6	6/6/96	0840	1,250	6.8	11.5	< .1	31	< 1	< 1	160	38	26	4.7
USGS-6	8/28/96	0820	1,060	6.9	11.5	< .1	19	< 1	[K] 6	150	39	31	5.1
USGS-7	12/7/93	0950	919	7.2	14.0	< .1	20	< 1	< 1	140	32	14	5.3
USGS-7	3/9/94	1350	837	7.0	14.0	< .1	< 10	< 1	< 1	130	30	13	6.3
USGS-7	5/18/94	1135	811	7.0	14.5	< .1	< 10	< 1	< 1	140	33	13	6.4
USGS-7	8/2/94	0945	963	6.9	14.5	< .1	34	< 1	< 1	140	33	14	6.2
USGS-7	12/1/94	0910	865	7.0	14.0	< .1	< 10	< 1	< 1	150	34	14	6.0
USGS-7	3/13/95	1340	982	6.9	14.5	< .1	16	< 1	< 1	150	35	14	6.0
USGS-7	7/25/95	1300	863	7.0	15.0	< .1	14	< 1	< 1	150	35	14	6.0
USGS-7	9/19/95	1030	977	7.2	14.5	--	13	< 1	< 1	140	33	13	6.2
USGS-7	12/7/95	1500	904	7.1	14.5	< .1	< 10	< 1	< 1	130	32	14	5.8
USGS-7	3/1/96	0900	841	7.0	14.5	< .1	--	< 1	< 1	120	27	11	5.6
USGS-7	6/6/96	1020	879	6.9	15.0	< .1	17	< 1	[K] 1	120	29	12	5.5
USGS-7	8/22/96	1400	828	7.4	15.0	< .1	11	< 1	< 1	120	27	12	5.8
USGS-8D	9/1/93	1430	879	7.1	15.0	< .1	15	< 1	< 1	140	26	6.8	6.7
USGS-8D	12/2/93	1330	837	7.1	14.5	< .1	12	< 1	< 1	130	25	6.8	6.8
USGS-8D	2/23/94	1615	776	7.2	13.5	< .1	11	< 1	< 1	140	25	6.7	6.6
USGS-8D	5/26/94	0830	664	7.0	14.5	< .1	< 10	< 1	< 1	140	26	6.5	4.3

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-5S	8/23/96	450	33	5.0	0.2	0.05	18	500	0.02	0.94	0.02	< 0.2	0.04
USGS-6	9/22/93	710	28	13	.2	.06	35	769	.06	.19	4.1	4.1	.04
USGS-6	12/1/93	724	33	14	.2	.08	32	764	< .01	< .05	4.1	4.7	1.6
USGS-6	3/10/94	812	31	12	.2	.17	36	944	< .01	< .05	3.9	4.4	1.9
USGS-6	5/18/94	854	48	10	.2	--	32	1,040	.02	.05	3.8	4.5	1.7
USGS-6	8/2/94	876	40	9.9	.2	.18	36	1,050	< .01	< .05	4.1	5.1	1.8
USGS-6	12/1/94	846	27	10	.2	.16	37	912	< .01	< .05	4.3	4.3	1.6
USGS-6	3/2/95	670	16	9.4	.2	.09	36	800	< .01	< .05	1.8	4.0	1.5
USGS-6	7/25/95	760	17	8.7	.2	.12	37	876	< .01	< .05	3.6	3.5	1.3
USGS-6	9/19/95	953	34	9.5	.2	.07	34	1,110	< .01	< .05	3.7	4.4	1.9
USGS-6	12/12/95	839	55	56	< .1	.25	37	1,130	< .01	< .05	3.6	3.9	1.5
USGS-6	3/7/96	518	95	94	.1	.15	29	906	< .01	< .05	2.0	2.2	1.1
USGS-6	6/6/96	331	120	140	.2	.15	27	790	< .01	.05	1.7	2.0	.81
USGS-6	8/28/96	269	110	140	.1	.96	28	690	< .01	.06	1.9	2.0	.09
USGS-7	12/7/93	507	20	3.7	.2	.15	28	543	< .01	< .05	.79	.8	.09
USGS-7	3/9/94	518	21	3.6	.2	.80	27	576	.02	.11	.75	.9	.31
USGS-7	5/18/94	542	8.4	3.7	.2	.06	29	586	.02	< .05	.74	.9	.37
USGS-7	8/2/94	527	9.2	3.8	.2	.17	31	584	< .01	< .05	.84	1.0	.41
USGS-7	12/1/94	516	14	4.0	.2	.32	31	571	< .01	< .05	.80	.8	.35
USGS-7	3/13/95	528	17	4.0	.2	.92	31	598	< .01	.07	.77	.8	.34
USGS-7	7/25/95	454	18	4.3	.2	.61	32	582	< .01	< .05	.73	.8	.33
USGS-7	9/19/95	531	17	4.3	.2	.08	30	573	< .01	< .05	.72	.8	.39
USGS-7	12/7/95	506	15	4.1	.2	.05	30	536	< .01	< .05	.73	.8	.37
USGS-7	3/1/96	330	69	38	.2	.14	33	591	.01	< .05	.72	.9	.37
USGS-7	6/6/96	303	89	54	.3	.10	30	575	.02	.05	.72	1.0	.29
USGS-7	8/22/96	314	85	52	.2	.06	29	568	.03	< .05	.77	.8	.31
USGS-8D	9/1/93	373	4.8	12	.3	.02	27	492	< .01	.07	.15	< .2	.14
USGS-8D	12/2/93	447	18	9.3	.2	.03	23	493	< .01	< .05	.14	< .2	.45
USGS-8D	2/23/94	441	27	6.2	.3	.22	24	512	.01	< .05	.17	< .2	.44
USGS-8D	5/26/94	446	27	6.0	.3	.11	25	530	.03	.06	.13	.2	.12

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-5S	8/23/96	< 0.01	0.02	< 5	< 1	320	< 0.5	65	< 1	< 5	< 3	< 10	< 3	< 1
USGS-6	9/22/93	1.8	.01	< 10	56	470	< .5	130	2	< 5	< 3	< 10	38,000	< 10
USGS-6	12/1/93	.05	< .01	< 10	62	470	< .5	140	6	< 5	32	< 10	39,000	< 10
USGS-6	3/10/94	2.2	< .01	< 10	54	530	< 2.5	150	< 5	< 25	110	< 50	43,000	< 50
USGS-6	5/18/94	.03	< .01	10	52	570	< .5	130	4	< 5	< 3	< 10	44,000	10
USGS-6	8/2/94	1.2	.23	< 10	67	620	< .5	150	3	< 5	< 3	< 10	49,000	< 10
USGS-6	12/1/94	1.7	.01	20	50	600	< .5	130	3	< 5	110	< 10	48,000	< 10
USGS-6	3/2/95	.02	< .01	10	61	460	< .5	140	6	< 5	59	< 10	36,000	< 10
USGS-6	7/25/95	.02	< .01	< 10	52	500	< .5	110	< 1	< 5	--	< 10	43,000	< 10
USGS-6	9/19/95	.03	.01	10	72	620	< .5	130	15	9	--	< 10	56,000	< 1
USGS-6	12/12/95	1.8	< .01	< 10	53	630	< .5	130	12	6	--	< 10	56,000	< 1
USGS-6	3/7/96	.93	.53	< 10	32	430	< .5	80	< 1	< 5	--	< 10	37,000	< 1
USGS-6	6/6/96	.83	.01	--	40	380	< .5	71	3	< 5	--	< 10	31,000	< 1
USGS-6	8/28/96	< .01	.01	< 5	25	360	< .5	54	8	8	--	< 10	30,000	< 1
USGS-7	12/7/93	.01	.03	< 10	< 1	580	< .5	80	2	< 5	43	< 10	10,000	< 10
USGS-7	3/9/94	.32	< .01	< 10	< 1	590	< .5	100	1	< 5	< 3	< 10	9,500	< 10
USGS-7	5/18/94	.05	< .01	< 10	< 1	630	< .5	80	2	< 5	5	< 10	10,000	< 10
USGS-7	8/2/94	.37	.19	< 10	< 1	640	< .5	90	< 1	< 5	< 3	< 10	11,000	20
USGS-7	12/1/94	.35	< .01	< 10	< 1	620	< .5	80	< 1	< 5	39	< 10	10,000	< 10
USGS-7	3/13/95	.05	.04	< 10	< 1	650	< .5	70	3	< 5	--	< 10	11,000	30
USGS-7	7/25/95	.04	< .01	20	< 1	630	< .5	90	< 1	< 5	--	< 10	10,000	< 10
USGS-7	9/19/95	.27	.07	< 10	< 1	610	< .5	90	1	8	--	< 10	11,000	< 1
USGS-7	12/7/95	.02	.16	10	< 1	590	< .5	90	1	< 5	38	< 10	9,600	< 1
USGS-7	3/1/96	.26	.36	20	< 1	510	< .5	90	< 1	< 5	--	< 10	8,500	< 1
USGS-7	6/6/96	.19	.15	--	< 1	560	< .5	89	< 1	< 5	--	< 10	8,900	< 1
USGS-7	8/22/96	.30	.30	8	< 1	532	< .5	87	1.6	< 5	--	< 10	8,500	< 1
USGS-8D	9/1/93	< .01	.03	10	< 1	620	< .5	70	< 1	< 5	37	< 10	10,000	< 10
USGS-8D	12/2/93	.18	.13	< 10	< 1	610	< .5	70	1	< 5	< 3	< 10	9,800	20
USGS-8D	2/23/94	.44	.26	20	< 1	620	< .5	60	2	7	22	< 10	9,700	< 10
USGS-8D	5/26/94	.08	< .01	< 10	< 1	640	.5	70	2	< 5	31	< 10	9,600	< 10

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-5S	8/23/96	35	420	< 0.1	< 10	10	< 1	< 1	840	< 6	< 3	3.6	1.9
USGS-6	9/22/93	11	2,200	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	6.6	3.5
USGS-6	12/1/93	12	1,900	< .1	< 10	< 10	< 1	< 1	1,200	8	< 3	5.0	3.5
USGS-6	3/10/94	< 20	2,400	< .1	< 50	< 50	< 1	< 5	1,400	< 30	< 15	5.6	3.8
USGS-6	5/18/94	13	2,400	< .1	< 10	< 10	< 1	< 1	1,400	8	< 3	5.3	7.5
USGS-6	8/2/94	15	2,500	--	< 10	< 10	< 1	< 1	1,500	9	< 3	5.1	4.5
USGS-6	12/1/94	19	2,500	< .1	< 10	< 10	< 1	< 1	1,500	10	7	8.4	4.8
USGS-6	3/2/95	13	2,000	< .1	10	< 10	< 1	< 1	1,200	7	< 3	29	5.6
USGS-6	7/25/95	13	2,600	< .1	< 10	< 10	< 1	< 1	1,300	< 6	< 3	4.2	1.6
USGS-6	9/19/95	16	2,800	< .1	< 10	< 10	< 1	< 1	1,600	< 6	< 3	29	5.2
USGS-6	12/12/95	19	3,100	< .1	< 10	< 10	< 1	< 1	1,600	< 6	13	7.1	5.6
USGS-6	3/7/96	7	2,500	--	20	< 10	< 1	< 1	1,100	< 6	< 3	13	4.0
USGS-6	6/6/96	14	2,100	< .1	< 10	< 10	< 1	< 1	980	< 6	8	4.2	4.0
USGS-6	8/28/96	13	2,200	< .1	10	< 10	< 1	< 1	940	< 6	9	6.8	2.8
USGS-7	12/7/93	35	1,200	< .1	< 10	< 10	< 1	< 1	880	< 6	< 3	2.7	2.3
USGS-7	3/9/94	35	1,000	< .1	< 10	< 10	< 1	3	870	< 6	4	2.3	1.9
USGS-7	5/18/94	33	1,300	< .1	< 10	10	< 1	1	920	< 6	< 3	2.4	2.6
USGS-7	8/2/94	34	1,500	< .1	< 10	< 10	< 1	< 1	940	< 6	4	3.5	2.2
USGS-7	12/1/94	33	1,300	< .1	< 10	< 10	< 1	< 1	900	< 6	< 3	4.5	2.4
USGS-7	3/13/95	36	1,400	< .1	< 10	< 10	< 1	< 1	940	< 6	< 3	4.4	2.2
USGS-7	7/25/95	34	1,400	< .1	< 10	< 10	< 1	< 1	930	< 6	< 3	2.6	2.4
USGS-7	9/19/95	36	1,400	< .1	10	< 10	< 1	< 1	900	< 6	< 3	16	2.4
USGS-7	12/7/95	34	1,300	< .1	< 10	< 10	< 1	< 1	890	< 6	< 3	5.3	2.4
USGS-7	3/1/96	32	1,100	< .1	< 10	< 10	< 1	< 1	740	< 6	< 3	--	--
USGS-7	6/6/96	33	1,200	< .1	< 10	< 10	< 1	< 1	810	< 6	< 3	4.5	2.4
USGS-7	8/22/96	34	1,150	< .1	< 10	< 10	< 1	< 1	783	< 6	< 3	2.3	1.6
USGS-8D	9/1/93	35	480	< .1	< 10	< 10	< 1	< 1	780	< 6	4	1.9	1.8
USGS-8D	12/2/93	32	490	< .1	< 10	< 10	< 1	< 1	780	< 6	4	1.6	1.9
USGS-8D	2/23/94	34	500	< .1	< 10	< 10	< 1	1	790	< 6	< 3	2.2	1.5
USGS-8D	5/26/94	31	490	< .1	< 10	< 10	< 1	< 1	800	< 6	< 3	1.7	1.6

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-8D	8/5/94	0920	840	7.1	14.5	< 0.1	14	< 1	< 1	130	25	6.5	6.7
USGS-8D	12/8/94	1130	721	7.0	14.0	< .1	< 10	K 1	< 1	130	26	6.4	6.3
USGS-8D	3/3/95	1040	865	7.0	14.0	< .1	22	< 1	< 1	140	26	6.4	6.4
USGS-8D	7/26/95	1510	747	7.1	14.5	< .1	< 10	< 1	< 1	130	26	7.5	6.1
USGS-8D	9/19/95	1345	863	7.1	14.5	< .1	< 10	< 1	< 1	130	24	6.0	6.6
USGS-8D	12/12/95	1340	847	7.1	14.0	< .1	< 10	< 1	< 1	140	26	6.3	6.4
USGS-8D	2/28/96	1540	824	7.1	13.5	< .1	--	< 1	< 1	130	26	6.6	6.4
USGS-8D	6/6/96	1430	824	7.0	14.5	< .1	< 10	< 1	< 1	130	26	11	5.6
USGS-8D	8/29/96	0820	698	7.0	14.5	< .1	< 10	< 1	K 3	130	24	6.0	6.2
USGS-8S	9/1/93	1525	840	6.9	14.0	--	15	< 1	< 1	130	26	6.2	8.8
USGS-8S	12/2/93	1225	826	7.0	15.0	< .1	12	< 1	< 1	130	27	6.2	9.2
USGS-8S	2/23/94	1540	768	6.9	14.0	.2	420	< 1	< 1	140	26	6.2	10
USGS-8S	5/26/94	0920	651	6.9	14.0	< .1	< 10	< 1	< 1	140	26	5.8	7.1
USGS-8S	8/5/94	0830	829	6.9	13.5	< .1	15	< 1	K 12	130	27	6.1	0.7
USGS-8S	12/8/94	1215	710	6.9	14.5	< .1	< 10	< 1	K 8	130	28	6.1	11
USGS-8S	3/3/95	1140	829	6.9	14.5	.2	19	< 1	< 1	130	26	5.8	14
USGS-8S	7/26/95	1600	704	7.0	14.0	< .1	< 10	< 1	< 1	120	25	6.3	9.9
USGS-8S	9/19/95	1315	793	6.9	14.0	< .1	< 10	< 1	< 1	120	24	5.4	9.4
USGS-8S	12/12/95	1250	795	6.9	14.5	< .1	< 10	< 1	< 1	130	26	5.7	13
USGS-8S	2/28/96	1440	785	7.1	14.0	< .1	--	< 1	< 1	130	25	5.6	12
USGS-8S	6/6/96	1340	740	7.1	14.5	< .1	57	< 1	< 1	120	25	4.8	11
USGS-8S	8/29/96	0900	644	7.0	14.5	< .1	< 10	< 1	K 2	120	22	4.9	8.5
USGS-9D	8/31/93	0915	628	7.1	14.0	< .1	14	< 1	< 1	95	19	8.0	2.1
USGS-9D	12/2/93	1030	630	7.1	13.5	< .1	11	< 1	< 1	88	18	7.4	2.1
USGS-9D	2/23/94	1145	562	6.9	13.5	< .1	< 10	< 1	< 1	92	18	7.4	2.0
USGS-9D	5/25/94	1040	512	7.1	14.0	< .1	< 10	< 1	< 1	89	18	7.6	1.3
USGS-9D	8/4/94	1330	602	7.0	14.0	< .1	< 10	< 1	< 1	88	17	7.4	2.0
USGS-9D	12/9/94	0830	510	7.1	13.5	< .1	< 10	< 1	< 1	87	17	7.3	1.9
USGS-9D	2/28/95	1530	578	6.9	13.5	< .1	23	< 1	< 1	85	17	7.3	2.1
USGS-9D	7/21/95	0810	576	6.9	14.0	< .1	< 10	< 1	26	93	18	8.2	2.0

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-8D	8/5/94	436	32	6.2	0.3	0.06	24	528	< 0.01	< 0.05	0.14	< 0.2	0.34
USGS-8D	12/8/94	364	34	5.7	.3	.07	26	504	< .01	< .05	.12	< .2	.42
USGS-8D	3/3/95	414	32	5.5	.3	.07	25	528	< .01	< .05	.12	< .2	.41
USGS-8D	7/26/95	438	25	5.5	.3	.63	28	518	< .01	< .05	.15	< .2	.35
USGS-8D	9/19/95	447	26	5.1	.2	.05	23	513	< .01	< .05	.09	< .2	.38
USGS-8D	12/12/95	448	24	5.2	.3	.05	25	509	< .01	< .05	.13	< .2	.41
USGS-8D	2/28/96	436	23	5.5	.3	.07	27	521	< .01	< .05	.09	< .2	.42
USGS-8D	6/6/96	447	18	7.2	.4	.19	30	522	< .01	< .05	.25	.4	.66
USGS-8D	8/29/96	433	18	6.5	.3	.11	23	516	< .01	.05	.12	< .2	.07
USGS-8S	9/1/93	399	52	5.5	.4	.03	21	504	.02	.78	.03	< .2	< .01
USGS-8S	12/2/93	440	37	5.1	.4	.02	23	510	.04	.80	.03	< .2	< .01
USGS-8S	2/23/94	447	29	4.8	.5	.05	23	499	.01	.19	.03	< .2	.01
USGS-8S	5/26/94	437	32	4.8	.5	.05	24	514	.04	.76	.05	< .2	.04
USGS-8S	8/5/94	428	31	4.3	.4	.07	24	508	.02	.53	.04	< .2	< .01
USGS-8S	12/8/94	396	31	5.4	.4	.06	25	516	.04	1.20	.03	< .2	.02
USGS-8S	3/3/95	429	28	5.5	.5	.04	24	490	.02	.38	.03	< .2	< .01
USGS-8S	7/26/95	406	31	5.0	.4	.04	25	481	.04	2.10	.05	< .2	.02
USGS-8S	9/19/95	418	26	3.6	.4	.04	24	462	.03	.52	.02	< .2	.02
USGS-8S	12/12/95	423	26	4.3	.5	.06	25	473	.04	.76	.02	< .2	.03
USGS-8S	2/28/96	423	25	4.3	.5	.06	25	493	< .01	.39	< .02	< .2	.02
USGS-8S	6/6/96	374	48	6.0	.4	.04	19	451	.02	.50	.07	< .2	.03
USGS-8S	8/29/96	371	38	4.6	.4	.06	20	458	.08	3.7	< .02	< .2	.01
USGS-9D	8/31/93	274	45	11	.2	.10	29	360	.02	< .05	.12	< .2	.06
USGS-9D	12/2/93	274	45	11	.2	.06	26	353	< .01	< .05	.08	< .2	.30
USGS-9D	2/23/94	--	44	8.3	.3	.54	26	379	.01	< .05	.10	< .2	.26
USGS-9D	5/25/94	267	44	8.6	.2	.07	28	379	.03	.06	.08	< .2	.17
USGS-9D	8/4/94	262	45	8.8	.3	.08	27	387	.01	< .05	.13	< .2	.22
USGS-9D	12/9/94	249	41	8.8	.3	.09	29	348	.02	< .05	.07	< .2	.20
USGS-9D	2/28/95	246	40	8.6	.2	.12	29	364	< .01	< .05	.06	< .2	.22
USGS-9D	7/21/95	264	47	9.0	.2	.57	29	386	.02	< .05	.10	< .2	.11

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-8D	8/5/94	< 0.01	0.01	< 10	< 1	630	< 0.5	60	< 1	< 5	< 3	< 10	9,400	10
USGS-8D	12/8/94	.38	.38	< 10	< 1	620	< .5	50	1	< 5	24	< 10	9,600	< 10
USGS-8D	3/3/95	.22	.09	10	< 1	640	< .5	60	1	< 5	16	< 10	9,300	< 10
USGS-8D	7/26/95	.11	.01	< 10	< 1	570	< .5	60	< 1	< 5	--	< 10	8,700	< 10
USGS-8D	9/19/95	.12	.04	< 10	< 1	580	< .5	70	4	< 5	--	< 10	9,400	< 1
USGS-8D	12/12/95	.46	.41	< 10	< 1	600	< .5	70	1	< 5	--	< 10	9,600	< 1
USGS-8D	2/28/96	.02	< .01	18	< 1	615	< .5	52	1	< 5	--	< 10	9,200	< 1
USGS-8D	6/6/96	.55	.47	--	< 1	710	< .5	63	< 1	< 5	--	< 10	9,500	< 1
USGS-8D	8/29/96	.04	.04	< 5	< 1	580	< .5	62	< 1	< 5	--	< 10	8,800	< 1
USGS-8S	9/1/93	< .01	.02	< 10	< 1	260	< .5	50	< 1	< 5	< 3	< 10	35	< 10
USGS-8S	12/2/93	< .01	< .01	< 10	< 1	260	< .5	70	< 1	< 5	< 3	< 10	35	< 10
USGS-8S	2/23/94	.01	.01	< 10	< 1	260	< .5	60	< 1	7	4	< 10	92	10
USGS-8S	5/26/94	.03	.01	< 10	< 1	270	< .5	60	< 1	< 5	< 3	< 10	35	< 10
USGS-8S	8/5/94	< .01	.01	< 10	< 1	260	< .5	60	< 1	< 5	< 3	< 10	47	< 10
USGS-8S	12/8/94	.02	.01	10	< 1	260	< .5	60	1	< 5	< 3	< 10	72	20
USGS-8S	3/3/95	.01	.01	< 10	< 1	260	< .5	60	< 1	< 5	< 3	< 10	33	< 10
USGS-8S	7/26/95	< .01	< .01	< 10	< 1	230	.6	50	2	< 5	< 3	< 10	12	30
USGS-8S	9/19/95	.02	< .01	10	< 1	220	< .5	50	6	< 5	< 3	< 10	8	< 1
USGS-8S	12/12/95	< .01	.02	< 10	< 1	260	< .5	50	< 1	< 5	< 3	< 10	8	< 1
USGS-8S	2/28/96	.01	.02	10	< 1	240	< .5	60	< 1	< 5	< 3	< 10	29	< 1
USGS-8S	6/6/96	.04	.02	--	< 1	240	< .5	63	< 1	< 5	< 3	< 10	4	< 1
USGS-8S	8/29/96	< .01	.02	< 5	< 1	210	< .5	55	< 1	6	< 3	< 10	< 3	< 1
USGS-9D	8/31/93	.26	.01	< 10	< 1	540	< .5	20	< 1	< 5	11	< 10	9,100	< 10
USGS-9D	12/2/93	< .01	.02	< 10	< 1	450	< .5	30	2	< 5	10	< 10	8,700	< 10
USGS-9D	2/23/94	.27	.12	< 10	< 1	430	< .5	20	2	< 5	15	< 10	8,500	< 10
USGS-9D	5/25/94	.04	< .01	< 10	< 1	510	< .5	30	< 1	< 5	32	< 10	9,000	20
USGS-9D	8/4/94	.19	.05	< 10	< 1	470	< .5	20	< 1	< 5	< 3	< 10	8,400	< 10
USGS-9D	12/9/94	.21	.13	< 10	< 1	470	< .5	20	< 1	< 5	21	< 10	8,500	< 10
USGS-9D	2/28/95	.05	.04	< 10	< 1	510	< .5	20	< 1	< 5	14	< 10	8,400	< 10
USGS-9D	7/21/95	.03	< .01	< 10	< 1	550	< .5	30	1	< 5	--	< 10	9,300	30

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-8D	8/5/94	28	520	< 0.1	< 10	< 10	< 1	< 1	780	< 6	10	2.2	1.4
USGS-8D	12/8/94	25	510	< .1	20	< 10	< 1	< 1	770	< 6	< 3	2.7	1.8
USGS-8D	3/3/95	33	510	< .1	< 10	< 10	< 1	< 1	810	< 6	5	1.8	2.2
USGS-8D	7/26/95	32	490	--	10	< 10	< 1	< 1	780	< 6	< 3	1.6	1.6
USGS-8D	9/19/95	32	480	< .1	< 10	< 10	< 2	< 1	750	< 6	< 3	11	1.6
USGS-8D	12/12/95	32	520	< .1	< 10	< 10	< 1	< 1	800	< 6	< 3	1.6	1.6
USGS-8D	2/28/96	30	484	< .1	< 10	< 10	< 1	< 1	797	< 6	6	--	--
USGS-8D	6/6/96	36	250	< .1	< 10	< 10	< 1	< 1	790	< 6	6	--	--
USGS-8D	8/29/96	32	460	< .1	20	< 10	< 1	< 1	750	< 6	< 3	4.4	2.0
USGS-8S	9/1/93	35	460	< .1	< 10	< 10	< 1	2	1,000	< 6	3	1.4	1.7
USGS-8S	12/2/93	36	380	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	1.1	1.6
USGS-8S	2/23/94	40	440	< .1	< 10	< 10	< 1	< 1	1,200	< 6	5	1.5	1.5
USGS-8S	5/26/94	34	430	< .1	< 10	< 10	< 1	< 1	1,200	< 6	5	1.6	1.5
USGS-8S	8/5/94	39	460	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	1.6	1.4
USGS-8S	12/8/94	45	470	< .1	10	< 10	< 1	< 1	1,200	< 6	< 3	6.3	1.6
USGS-8S	3/3/95	36	470	< .1	< 10	< 10	< 1	< 1	1,200	< 6	6	3.1	1.6
USGS-8S	7/26/95	34	380	< .1	10	< 10	< 1	< 1	1,100	< 6	< 3	1.6	1.3
USGS-8S	9/19/95	32	280	< .1	10	10	< 2	< 1	1,000	< 6	6	6.1	1.4
USGS-8S	12/12/95	34	340	< .1	< 10	< 10	< 1	< 1	1,200	< 6	< 3	1.3	1.3
USGS-8S	2/28/96	33	310	--	< 10	< 10	< 1	< 1	1,100	< 6	< 3	--	--
USGS-8S	6/6/96	28	340	< .1	< 10	< 10	< 1	< 1	1,100	< 6	< 3	--	--
USGS-8S	8/29/96	29	290	< .1	< 10	< 10	< 1	< 1	930	< 6	< 3	6.9	1.5
USGS-9D	8/31/93	10	330	< .1	< 10	< 10	< 1	< 1	210	< 6	< 3	1.2	1.1
USGS-9D	12/2/93	11	290	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	0.9	1.2
USGS-9D	2/23/94	11	290	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	1.0	0.9
USGS-9D	5/25/94	9	310	< .1	< 10	< 10	< 1	< 1	200	< 6	< 3	1.7	.9
USGS-9D	8/4/94	< 4	300	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	1.1	1.2
USGS-9D	12/9/94	8	300	< .1	< 10	< 10	< 1	< 1	180	< 6	< 3	1.0	1.2
USGS-9D	2/28/95	12	300	< .1	< 10	< 10	< 1	< 1	190	< 6	9	3.9	1.0
USGS-9D	7/21/95	< 4	330	< .1	10	< 10	< 1	< 1	200	< 6	< 3	2.6	.8

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
USGS-9D	9/22/95	0830	608	6.9	13.5	< 0.1	17	< 1	< 1	85	16	7.3	2.1
USGS-9D	12/8/95	0950	584	7.0	13.5	< .1	< 10	< 1	< 1	83	17	8.3	1.9
USGS-9D	3/7/96	0850	571	7.0	13.5	< .1	--	< 1	< 1	82	17	7.7	2.0
USGS-9D	6/7/96	0930	584	7.0	14.0	< .1	14	< 1	< 1	85	17	8.1	1.9
USGS-9D	8/30/96	0840	528	7.2	14.0	< .1	< 10	< 1	< 1	89	16	8.2	2.1
USGS-9S	8/31/93	1000	583	7.2	13.5	.5	11	< 1	< 1	87	20	7.4	1.9
USGS-9S	12/2/93	0915	604	7.2	14.5	> 1.0	10	< 1	< 1	91	22	6.8	1.8
USGS-9S	2/23/94	1355	568	7.2	14.5	> 1.0	< 10	< 1	< 1	95	23	5.3	1.8
USGS-9S	5/25/94	1150	520	7.2	14.5	> 1.0	< 10	< 1	< 1	96	22	6.8	1.9
USGS-9S	8/4/94	1430	618	7.1	14.0	> 1.0	24	< 1	< 1	96	22	6.5	1.9
USGS-9S	12/9/94	0925	540	7.2	14.0	> 1.0	< 10	< 1	< 1	96	22	5.7	2.0
USGS-9S	2/28/95	1710	625	7.1	14.0	> 1.0	< 10	< 1	< 1	94	22	5.9	1.9
USGS-9S	7/21/95	0910	572	7.1	14.0	1.0	< 10	< 1	37	96	22	6.5	1.7
USGS-9S	9/22/95	0920	623	6.9	14.0	> 1.0	< 10	< 1	< 1	90	21	6.2	1.9
USGS-9S	12/8/95	0850	623	6.9	14.0	> 1.0	< 10	< 1	< 1	88	22	7.9	1.9
USGS-9S	3/7/96	1000	613	7.2	14.0	> 1.0	--	< 1	< 1	90	21	5.2	2.0
USGS-9S	6/7/96	0830	642	7.1	14.0	< .1	< 10	< 1	< 1	98	23	8.0	1.9
USGS-9S	8/30/96	0940	546	7.4	14.0	.6	< 10	< 1	< 1	99	20	7.0	2.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
USGS-9D	9/22/95	260	43	8.9	0.2	0.06	27	369	< 0.01	< 0.05	0.06	< 0.2	0.31
USGS-9D	12/8/95	255	39	9.2	.3	.09	28	369	.03	< .05	.07	< .2	.23
USGS-9D	3/7/96	248	42	8.2	.2	.08	28	361	< .01	< .05	.07	< .2	.18
USGS-9D	6/7/96	259	41	9.2	.3	.10	29	373	< .01	< .05	.11	< .2	.20
USGS-9D	8/30/96	267	45	10	.2	.47	28	382	< .01	.05	.09	< .2	.15
USGS-9S	8/31/93	280	34	2.3	.2	.02	19	348	.02	2.2	.02	< .2	.04
USGS-9S	12/2/93	298	37	1.9	.2	.01	20	366	< .01	.93	.02	< .2	.17
USGS-9S	2/23/94	308	30	1.9	.2	.02	20	365	.02	1.4	.02	< .2	.15
USGS-9S	5/25/94	308	38	2.2	.2	.02	21	383	.02	.53	.03	< .2	.10
USGS-9S	8/4/94	314	32	1.8	.2	.04	21	376	.02	.68	.02	< .2	.19
USGS-9S	12/9/94	313	30	1.8	.2	.04	22	383	< .01	.97	< .02	< .2	.25
USGS-9S	2/28/95	302	30	2.1	.2	.03	22	376	.02	2.2	< .02	< .2	.31
USGS-9S	7/21/95	296	41	1.9	.2	.03	21	376	.01	.41	.02	< .2	.12
USGS-9S	9/22/95	303	34	2.3	.1	.02	20	374	.02	2.3	< .02	< .2	.30
USGS-9S	12/8/95	308	34	2.1	.2	.03	20	402	.01	2.4	< .02	< .2	.45
USGS-9S	3/7/96	308	27	2.1	.2	.01	20	370	.01	2.7	.02	< .2	.24
USGS-9S	6/7/96	322	44	2.2	.2	.05	20	398	.01	.70	.05	< .2	.10
USGS-9S	8/30/96	317	45	3.2	.2	.04	19	393	.01	.37	.02	< .2	.08

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
USGS-9D	9/22/95	0.02	< 0.01	20	< 1	460	< 0.5	30	< 1	< 5	--	< 10	8,700	< 1
USGS-9D	12/8/95	.11	.30	10	< 1	490	< .5	40	1	< 5	33	< 10	8,600	< 1
USGS-9D	3/7/96	.22	.01	< 10	< 1	480	< .5	10	< 1	< 5	--	< 10	8,400	< 1
USGS-9D	6/7/96	.21	.04	--	< 1	580	< .5	25	< 1	< 5	--	< 10	9,400	< 1
USGS-9D	8/30/96	< .01	< .01	< 5	< 1	540	< .5	22	< 1	< 5	--	< 10	9,000	< 1
USGS-9S	8/31/93	.04	.04	< 10	6	360	< .5	40	< 1	< 5	< 3	< 10	5	< 10
USGS-9S	12/2/93	.14	.16	< 10	10	430	< .5	60	< 1	< 5	< 3	< 10	5	< 10
USGS-9S	2/23/94	.15	.13	< 10	9	460	< .5	30	< 1	< 5	< 3	< 10	< 3	< 10
USGS-9S	5/25/94	.10	.11	< 10	9	400	< .5	50	< 1	< 5	< 3	< 10	< 3	< 10
USGS-9S	8/4/94	.14	.15	< 10	14	440	< .5	30	< 1	< 5	< 3	< 10	< 3	20
USGS-9S	12/9/94	.26	.26	10	21	410	< .5	40	< 1	7	< 3	< 10	5	< 10
USGS-9S	2/28/95	.31	.31	< 10	15	410	< .5	30	< 1	< 5	< 3	< 10	4	< 10
USGS-9S	7/21/95	.09	.12	< 10	9	430	< .5	40	< 1	< 5	< 3	< 10	< 3	50
USGS-9S	9/22/95	.26	.25	< 10	15	430	< .5	30	< 1	< 5	< 3	< 10	< 3	< 1
USGS-9S	12/8/95	.42	.42	< 10	18	410	< .5	50	< 1	< 5	< 3	< 10	< 3	< 1
USGS-9S	3/7/96	.23	.20	10	11	420	< .5	30	< 1	< 5	< 3	< 10	7	< 1
USGS-9S	6/7/96	.11	.11	--	8	450	< .5	54	< 1	< 5	< 3	< 10	< 3	< 1
USGS-9S	8/30/96	.08	.12	5	7	420	< .5	47	< 1	< 5	< 3	< 10	< 3	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
USGS-9D	9/22/95	10	280	< 0.1	20	< 10	< 1	< 1	180	< 6	5	2.0	1.2
USGS-9D	12/8/95	9	290	--	< 10	< 10	< 1	< 1	190	< 6	< 3	3.9	0.8
USGS-9D	3/7/96	10	290	--	< 10	< 10	< 1	< 1	180	< 6	< 3	2.5	1.2
USGS-9D	6/7/96	10	300	< .1	< 10	< 10	< 1	< 1	200	< 6	< 3	--	--
USGS-9D	8/30/96	12	300	< .1	< 10	< 10	< 1	< 1	190	< 6	< 3	1.8	.3
USGS-9S	8/31/93	7	9	< .1	< 10	< 10	1	2	190	< 6	< 3	1.5	1.2
USGS-9S	12/2/93	4	8	< .1	< 10	< 10	3	< 1	180	< 6	< 3	0.8	1.2
USGS-9S	2/23/94	6	7	< .1	< 10	< 10	4	< 1	180	< 6	< 3	1.0	1.1
USGS-9S	5/25/94	< 4	10	< .1	< 10	< 10	3	< 1	190	< 6	< 3	1.3	1.4
USGS-9S	8/4/94	< 4	10	< .1	< 10	< 10	2	< 1	190	< 6	< 3	1.5	1.1
USGS-9S	12/9/94	9	25	< .1	< 10	< 10	2	< 1	190	< 6	4	1.9	1.3
USGS-9S	2/28/95	5	31	< .1	< 10	< 10	3	< 1	210	< 6	< 3	2.2	1.2
USGS-9S	7/21/95	5	5	< .1	< 10	< 10	1	< 1	200	< 6	< 3	1.1	--
USGS-9S	9/22/95	< 4	13	< .1	10	10	1	< 1	190	< 6	< 3	1.7	1.2
USGS-9S	12/8/95	< 4	22	< .1	< 10	10	1	< 1	200	< 6	< 3	9.4	1.2
USGS-9S	3/7/96	4	19	--	20	< 10	3	3	200	8	< 3	1.5	1.2
USGS-9S	6/7/96	5	33	< .1	< 10	< 10	1	< 1	240	< 6	9	2.2	1.1
USGS-9S	8/30/96	7	34	< .1	10	10	< 1	< 1	220	< 6	< 3	7.2	1.1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Cond	pH	Temp	DO	COD	Coli	Strep	Ca	Mg	Na	K
Blew hole	9/1/93	0930	666	7.3	23.0	2.7	140	100	31	89	18	17	6.5
Blew hole	12/14/93	1330	700	8.1	4.5	--	26	20	102	110	22	13	4.9
Blew hole	3/2/94	1415	424	8.5	4.0	17.8	35	33	520	54	11	13	4.2
Blew hole	5/19/94	0845	757	7.5	18.0	11.2	20	K 7	100	140	29	14	5.0
Blew hole	8/4/94	0900	605	8.2	26.0	4.7	20	38	130	59	22	33	2.9
Blew hole	3/7/95	1430	624	8.2	4.5	14.2	28	K 4	K 4	78	22	20	5.8
Blew hole	8/2/95	0900	765	7.6	26.0	3.6	27	30	52	120	28	20	5.4
Blew hole	9/27/95	0830	804	8.2	15.5	7.8	27	K 1	22	110	27	16	5.6
Blew hole	12/13/95	1400	1,030	7.8	2.5	19.7	31	K 10	90	150	33	20	5.4
Blew hole	3/5/96	1340	966	8.2	5.0	14.0	34	32	--	130	32	21	5.1
Blew hole	8/27/96	1500	866	7.7	24.5	17.6	30	K 10	K 2	130	28	28	5.7
Perche Creek	9/1/93	0900	776	7.4	24.5	2.6	1,000	76	68	74	15	50	10
Perche Creek	12/14/93	1300	482	8.3	6.0	--	23	> 6,000	> 10,000	65	10	18	3.9
Perche Creek	3/2/94	1350	594	7.8	3.0	16.1	21	600	1,200	68	12	28	5.0
Perche Creek	5/19/94	0820	544	7.1	20.0	8.5	20	60	42	79	13	24	4.0
Perche Creek	8/4/94	0830	1,040	7.8	26.0	12.9	27	K 18	23	74	20	100	13
Perche Creek	12/6/94	1230	555	7.5	8.0	7.6	12	150	88	91	17	15	4.3
Perche Creek	3/7/95	1340	519	7.4	4.0	12.2	19	210	344	68	11	16	3.2
Perche Creek	8/2/95	0830	437	7.3	28.0	5.7	17	20	42	75	14	12	3.8
Perche Creek	9/27/95	0800	674	7.9	16.5	10.5	20	K 10	30	98	18	17	4.1
Perche Creek	12/13/95	1300	835	7.3	4.5	9.9	13	K 15	K 2	100	19	20	4.2
Perche Creek	3/5/96	1315	611	7.4	6.0	12.0	31	84	136	77	15	20	4.3
Perche Creek	6/11/96	1415	486	6.6	19.5	5.9	16	130	62	58	9.9	24	6.1
Perche Creek	8/27/96	1400	361	7.1	26.5	11.9	47	36	K 8	65	11	15	4.3

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Alk	SO_4	Cl	F	Br	SiO_2	DS	NO_2	$NO_2 + NO_3$	NH_3	NH_3 + Org N	P total
Blew hole	9/1/93	217	40	16	0.3	0.02	16	387	< 0.01	< 0.05	0.06	0.4	0.05
Blew hole	12/14/93	366	29	7.9	.2	.01	15	404	.02	.07	.03	1.0	.14
Blew hole	3/2/94	151	42	17	.2	< .01	6.1	260	.01	.64	.12	1.2	.16
Blew hole	5/19/94	471	26	7.5	.2	.10	23	540	.02	< .05	.03	.9	.10
Blew hole	8/4/94	248	22	33	.3	.09	9.7	346	< .01	< .05	.03	.9	.13
Blew hole	3/7/95	275	23	17	.2	< .01	5.8	336	< .01	.07	.02	.8	.08
Blew hole	8/2/95	394	40	23	.2	.03	22	479	< .01	< .05	.16	.9	.10
Blew hole	9/27/95	369	31	31	.2	.07	15	460	< .01	< .05	< .02	.9	.12
Blew hole	12/13/95	437	45	57	.2	.10	19	492	< .01	< .05	.03	.7	.26
Blew hole	3/5/96	377	44	68	.2	.09	11	529	< .01	< .05	.11	1.1	.13
Blew hole	8/27/96	357	63	83	.2	.13	20	570	< .01	.06	.02	.6	.06
Perche Creek	9/1/93	200	71	60	.4	.07	14	452	.21	1.0	1.5	1.9	.23
Perche Creek	12/14/93	152	68	18	.2	< .01	9.9	295	.03	.40	.80	1.7	.41
Perche Creek	3/2/94	152	87	38	.2	.06	9.5	367	.01	.54	1.4	1.8	.18
Perche Creek	5/19/94	191	78	27	.2	.01	10	369	.06	.32	.71	1.4	.12
Perche Creek	8/4/94	241	75	130	.4	.14	18	612	.28	2.7	.21	1.9	.26
Perche Creek	12/6/94	237	75	15	.2	.05	15	400	< .01	.16	.34	.6	.12
Perche Creek	3/7/95	132	86	18	.2	< .01	8.2	309	< .01	.25	.03	.4	.09
Perche Creek	8/2/95	217	38	11	.2	< .01	14	316	< .01	< .05	.17	.6	.04
Perche Creek	9/27/95	298	46	17	.2	.09	14	406	< .01	< .05	< .02	.5	.07
Perche Creek	12/13/95	287	69	25	.2	.04	16	442	.01	.13	.27	.5	.07
Perche Creek	3/5/96	176	87	29	.2	.02	8.8	372	.01	.37	.10	.7	.14
Perche Creek	6/11/96	142	68	27	.3	< .01	8.6	306	.15	.69	.47	1.1	.18
Perche Creek	8/27/96	194	37	18	.2	.06	9.2	296	< .01	.06	.15	.6	.08

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	P	Ortho P	Al	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb
Blew hole	9/1/93	0.02	< 0.01	< 10	3	130	< 0.5	60	< 1	< 5	< 3	< 10	20	10
Blew hole	12/14/93	< .01	< .01	< 10	2	190	.6	60	2	< 5	< 3	< 10	25	< 10
Blew hole	3/2/94	.02	< .01	< 10	< 1	97	< .5	20	< 1	< 5	< 3	< 10	60	20
Blew hole	5/19/94	.01	< .01	< 10	2	250	< .5	80	< 1	< 5	< 3	< 10	7	10
Blew hole	8/4/94	.04	< .01	< 10	10	170	< .5	110	< 1	< 5	< 3	< 10	22	< 10
Blew hole	3/7/95	.02	.01	< 10	< 1	160	< .5	70	< 1	< 5	< 3	< 10	17	< 10
Blew hole	8/2/95	< .01	< .01	< 10	12	190	< .5	70	< 1	< 5	< 3	< 10	43	< 10
Blew hole	9/27/95	.01	.01	< 10	2	220	< .5	60	< 1	< 5	< 3	< 10	8	< 1
Blew hole	12/13/95	.02	.01	< 10	1	250	< .5	90	< 1	< 5	< 3	< 10	31	< 1
Blew hole	3/5/96	< .01	.01	30	1	230	< .5	60	< 1	< 5	< 3	< 10	48	< 1
Blew hole	8/27/96	.02	.01	< 5	4	290	< .5	83	< 1	6	< 3	< 10	16	< 1
Perche Creek	9/1/93	.19	.18	< 10	3	130	< .5	110	< 1	< 5	< 3	< 10	10	< 10
Perche Creek	12/14/93	.11	.11	30	1	86	< .5	40	< 1	< 5	< 3	< 10	56	< 10
Perche Creek	3/2/94	.12	.09	< 10	< 1	86	< .5	50	< 1	< 5	< 3	< 10	22	20
Perche Creek	5/19/94	.04	.03	< 10	2	130	< .5	70	< 1	< 5	< 3	< 10	7	10
Perche Creek	8/4/94	.07	.04	< 10	4	110	< .5	210	< 1	< 5	< 3	< 10	6	< 10
Perche Creek	12/6/94	< .01	< .01	< 10	4	200	< .5	60	< 1	< 5	< 3	< 10	600	10
Perche Creek	3/7/95	.02	< .01	< 10	< 1	84	< .5	30	< 1	< 5	< 3	< 10	19	< 10
Perche Creek	8/2/95	< .01	< .01	< 10	3	170	< .5	50	< 1	< 5	< 3	< 10	74	20
Perche Creek	9/27/95	< .01	< .01	< 10	1	230	< .5	60	< 1	< 5	< 3	< 10	14	< 1
Perche Creek	12/13/95	< .01	< .01	< 10	2	220	< .5	70	< 1	5	10	< 10	370	< 1
Perche Creek	3/5/96	< .01	< .01	< 10	1	150	< .5	40	1	< 5	< 3	< 10	63	< 1
Perche Creek	6/11/96	.12	.12	7	2	100	< .5	59	< 1	< 5	< 3	< 10	13	< 1
Perche Creek	8/27/96	.02	.01	< 5	4	160	< .5	70	< 1	< 5	< 3	< 10	27	< 1

Table 1. Physical properties, inorganic constituent concentrations, and total and dissolved organic carbon concentrations in samples collected from monitoring sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Li	Mn	Hg	Mo	Ni	Se	Ag	Sr	V	Zn	TOC	DOC
Blew hole	9/1/93	13	2,000	< 0.1	< 10	< 10	< 1	1	420	< 6	< 3	34	33
Blew hole	12/14/93	12	1,800	< .1	< 10	< 10	< 1	< 1	610	< 6	< 3	6.4	4.9
Blew hole	3/2/94	< 4	310	< .1	< 10	< 10	< 1	< 1	240	< 6	< 3	13	7.7
Blew hole	5/19/94	18	2,800	< .1	< 10	< 10	< 1	1	850	< 6	< 3	6.0	3.6
Blew hole	8/4/94	14	330	< .1	10	< 10	< 1	1	430	< 6	< 3	11	6.9
Blew hole	3/7/95	7	9	< .1	< 10	< 10	< 1	< 1	510	< 6	< 3	26	5.2
Blew hole	8/2/95	17	3,500	< .1	< 10	< 10	< 1	< 1	750	< 6	< 3	8.7	4.8
Blew hole	9/27/95	16	1,300	< .1	< 10	< 10	< 1	< 1	660	< 6	14	9.4	5.3
Blew hole	12/13/95	19	2,200	.1	< 10	< 10	< 1	< 1	920	< 6	< 3	7.9	4.0
Blew hole	3/5/96	17	1,000	--	< 10	< 10	< 1	< 1	840	< 6	5	9.4	6.2
Blew hole	8/27/96	20	2,200	< .1	< 10	< 10	< 1	< 1	850	< 6	< 3	5.4	4.0
Perche Creek	9/1/93	12	1,000	--	< 10	< 10	< 1	< 1	250	< 6	6	240	260
Perche Creek	12/14/93	< 4	340	< .1	< 10	< 10	< 1	< 1	170	< 6	4	8.2	5.4
Perche Creek	3/2/94	5	220	< .1	< 10	< 10	< 1	< 1	190	< 6	9	5.9	4.5
Perche Creek	5/19/94	10	340	< .1	< 10	< 10	< 1	< 1	220	< 6	< 3	6.3	4.5
Perche Creek	8/4/94	21	160	< .1	< 10	< 10	< 1	1	310	< 6	3	10	5.3
Perche Creek	12/6/94	7	850	< .1	10	< 10	< 1	1	330	< 6	< 3	4.9	4.2
Perche Creek	3/7/95	< 4	190	< .1	< 10	< 10	1	< 1	170	< 6	< 3	8.4	4.2
Perche Creek	8/2/95	13	860	< .1	< 10	< 10	< 1	< 1	280	< 6	< 3	6.9	4.2
Perche Creek	9/27/95	17	750	< .1	10	< 10	< 1	< 1	330	< 6	< 3	6.6	3.6
Perche Creek	12/13/95	12	1,200	.1	< 10	< 10	< 1	< 1	360	< 6	< 3	3.5	3.3
Perche Creek	3/5/96	10	430	--	< 10	< 10	< 1	2	250	< 6	7	9.1	5.7
Perche Creek	6/11/96	6	170	< .1	< 10	< 10	< 1	< 1	170	< 6	< 3	7.5	5.7
Perche Creek	8/27/96	11	940	< .1	< 10	< 10	< 1	< 1	270	< 6	< 3	6.6	4.2

[K] Non-ideal colony count.

Table 2. Constituents that were analyzed and minimum reporting limits of organic analyses for samples collected from selected monitoring wells, surface-water sites, and residual flood water in the Columbia/Eagle Bluffs Wetland Complex. Compounds detected are indicated with an X in the table

[--, not detected, µg/L, micrograms per liter; DDD, 1,1-Dichloro-2,2-bis (p-chlorophenyl) ethane; DDE, Dichlorodiphenyl dichloroethylene; DDT, Dichlorodiphenyl trichloroethane; PCB, Polychlorinated biphenyl; PCN, Polychlorinated napthalene; EPTC, S-Ethyl dipropylthiocarbamate; BHC, 1,2,3,4,5,6-Hexachlorocyclohexane; DCPA, *n*-(3,4-dichlorophenyl)propionamide]

Group or family	Constituent	Minimum reporting limit	Detected in ground- or surface-water (table 3)	Detected in residual flood water (table 5)
	Volatile organic compounds (total)			
Substituted ethane	Chloroethane	3 µg/L	--	--
	1,1-Dichloroethane	3 µg/L	--	--
	1,2-Dichloroethane	3 µg/L	--	--
	1,1,1-Trichloroethane	3 µg/L	--	--
	1,1,2-Trichloroethane	3 µg/L	--	--
	1,1,1,2-Tetrachloroethane	3 µg/L	--	--
	1,1,2,2-Tetrachloroethane	3 µg/L	--	--
	1,1,2-Trichlorotrifluoroethane	3 µg/L	--	--
Substituted ethene	Vinyl chloride	3 µg/L	--	--
	1,1-Dichloroethene	3 µg/L	--	--
	cis-1,2-Dichloroethene	3 µg/L	--	--
	trans-1,2-Dichloroethene	3 µg/L	--	--
	1,1,2-Trichloroethene	3 µg/L	--	--
	Tetrachloroethene	3 µg/L	--	--
Substituted methane	Bromomethane	3 µg/L	--	--
	Dibromomethane	3 µg/L	--	--
	1,2-Dibromomethane	3 µg/L	--	--
	Bromoform	3 µg/L	--	--
	Bromochloromethane	3 µg/L	--	--
	Dibromochloromethane	3 µg/L	--	--
	Chloromethane	3 µg/L	--	--
	Methylene chloride	3 µg/L	--	--
	Chloroform	3 µg/L	--	--
	Carbon tetrachloride	3 µg/L	--	--
	Dichlorobromomethane	3 µg/L	--	--
	Dichlorodifluoromethane	3 µg/L	--	--
	Trichlorofluoromethane	3 µg/L	--	--
Substituted propane	1,2-Dichloropropane	3 µg/L	--	--
	1,3-Dichloropropane	3 µg/L	--	--
	2,2-Dichloropropane	3 µg/L	--	--
	1,2,3-Trichloropropane	3 µg/L	--	--
	1,2-Dibromo-3-chloropropane	3 µg/L	--	--
Substituted propene	1,1-Dichloropropene	3 µg/L	--	--
	cis-1,3-Dichloropropene	3 µg/L	--	--
	trans-1,3-Dichloropropene	3 µg/L	--	--
Nitrile	Acrylonitrile	20 µg/L	--	--
Substituted butene	Hexachlorobutadiene	3 µg/L	--	--
Benzene derivatives	Benzene	3 µg/L	--	--
	Chlorobenzene	3 µg/L	--	--
	1,2-Dichlorobenzene	3 µg/L	--	--
	1,3-Dichlorobenzene	3 µg/L	--	--
	1,4-Dichlorobenzene	3 µg/L	--	--
	1,2,3-Trichlorobenzene	3 µg/L	--	--
	1,2,4-Trichlorobenzene	3 µg/L	--	--

Table 2. Constituents that were analyzed and minimum reporting limits of organic analyses for samples collected from selected monitoring wells, surface-water sites, and residual flood water in the Columbia/Eagle Bluffs Wetland Complex. Compounds detected are indicated with an X in the table—Continued

Group or family	Constituent	Minimum reporting limit	Detected in ground or surface-water (table 3)	Detected in residual flood water (table 5)
	Volatile organic compounds (total)--Continued			
Benzene derivatives--Continued	Bromobenzene	3 µg/L	--	--
	Ethylbenzene	3 µg/L	--	--
	Isopropylbenzene	3 µg/L	--	--
	n-Propylbenzene	3 µg/L	--	--
	sec-Butylbenzene	3 µg/L	--	--
	tert-Butylbenzene	3 µg/L	--	--
	n-butylbenzene	3 µg/L	--	--
	1,2,4-Trimethylbenzene	3 µg/L	--	--
	1,3,5-Trimethylbenzene	3 µg/L	--	--
	Xylenes (total)	3 µg/L	--	--
	Styrene	3 µg/L	--	--
	Toluene	3 µg/L	--	--
	1,2-Chlorotoluene	3 µg/L	--	--
	1,4-Chlorotoluene	3 µg/L	--	--
	p-Isopropyltoluene	3 µg/L	--	--
	Naphthalene	3 µg/L	--	--
Aldehyde	Acrolein	20 µg/L	--	--
Ether	2-Chloroethylvinylether	3 µg/L	--	--
	Methyltertbutylether (MTBE)	3 µg/L	--	--
	Semi-volatile organic compounds (total)			
Acid	2-Chlorophenol	5 µg/L	--	--
	2,4-Dichlorophenol	30 µg/L	--	--
	2,4-Dimethylphenol	5 µg/L	--	--
	4,6-Dinitro-ortho-cresol	30 µg/L	--	--
	2,4-Dinitrophenol	20 µg/L	--	--
	2-Nitrophenol	5 µg/L	--	--
	4-Nitrophenol	30 µg/L	--	--
	Para-chloro-meta cresol	30 µg/L	--	--
	Pentachlorophenol	30 µg/L	--	--
	Phenol	5 µg/L	--	--
	2,4,6-Trichlorophenol	20 µg/L	--	--
Base and neutral	Acenaphthene	5 µg/L	--	--
	Acenaphthylene	5 µg/L	--	--
	Anthracene	5 µg/L	--	--
	Benzidine	40 µg/L	--	--
	Benzo[*a*]anthracene	10 µg/L	--	--
	Benzo[*a*]pyrene	10 µg/L	--	--
	Benzo[*b*]fluoranthene	10 µg/L	--	--
	Benzo[*g,h,i*]perylene	10 µg/L	--	--
	Benzo[*k*]fluoranthene	10 µg/L	--	--
	Bis(2-Chloroethoxy)methane	5 µg/L	--	--
	Bis(2-Chloroethyl)ether	5 µg/L	--	--
	Bis(2-Chloroisopropyl)ether	5 µg/L	--	--
	Bis(2-Ethylhexyl)phthalate	5 µg/L	X	--
	4-Bromophenylphenylether	5 µg/L	--	--
	n-Butylbenzyl phthalate	5 µg/L	--	--

Table 2. Constituents that were analyzed and minimum reporting limits of organic analyses for samples collected from selected monitoring wells, surface-water sites, and residual flood water in the Columbia/Eagle Bluffs Wetland Complex. Compounds detected are indicated with an X in the table—Continued

Group or family	Constituent	Minimum reporting limit	Detected in ground or surface-water (table 3)	Detected in residual flood water (table 5)
	Semi-volatile organic compounds (total)--Continued			
Base and neutral--Continued	2-Chloronaphthalene	5 µg/L	--	--
	4-Chlorophenlyphenylether	5 µg/L	--	--
	Chrysene	10 µg/L	--	--
	1,2,5,6-Diben[*a,h*]anthracene	10 µg/L	--	--
	1,2-Dichlorobenzene	5 µg/L	--	--
	1,3-Dichlorobenzene	5 µg/L	--	--
	1,4-Dichlorobenzene	5 µg/L	--	--
	3,3'-Dichlorobenzidine	20 µg/L	--	--
	Diethyl phthalate	5 µg/L	--	--
	Dimethyl phthalate	5 µg/L	--	--
	Di-*n*-butyl phthalate	5 µg/L	--	--
	2,4-Dinitrotoluene	5 µg/L	--	--
	2,6-Dinitrotoluene	5 µg/L	--	--
	Di-*n*-octyl phthalate	10 µg/L	--	--
	1,2-Diphenylhydrazine	5 µg/L	--	--
	Fluoranthene	5 µg/L	--	--
	Fluorene	5 µg/L	--	--
	Hexachlorobenzene	5 µg/L	--	--
	Hexachlorobutadiene	5 µg/L	--	--
	Hexachlorocyclopentadiene	5 µg/L	--	--
	Indeno[1,2,3-*cd*]pyrene	10 µg/L	--	--
	Isophorone	5 µg/L	--	--
	Naphthalene	5 µg/L	--	--
	Nitrobenzene	5 µg/L	--	--
	N-Nitrosodimethylamine	5 µg/L	--	--
	N-Nitrosodi-*n*-propylamine	5 µg/L	--	--
	N-Nitrosodiphenylamine	5 µg/L	--	--
	Phenanthrene	5 µg/L	--	--
	Pyrene	5 µg/L	--	--
	1,2,4-Trichlorobenzene	5 µg/L	--	--
	Pesticides (dissolved)			
Acetanilide	Alachlor	0.002 µg/L	X	X
Amide	Propanil	.004 µg/L	--	--
Benzamide	Propyzamide	.003 µg/L	--	--
Benzenamine	Ethalfluralin	.004 µg/L	--	--
Carbamate	Butylate	.002 µg/L	--	--
	Carbaryl	.003 µg/L	X	--
	Carbofuran	.002 µg/L	--	--
	EPTC	.002 µg/L	--	--
	Pebulate	.004 µg/L	--	--
	Thiobencarb	.002 µg/L	--	--
Carbothioate	Molinate	.004 µg/L	--	--
Chloroacetamide	Acetochlor	.002 µg/L	--	--
Chloracetanilide	Metolachlor	.002 µg/L	X	X
	Propachlor	.007 µg/L	X	--
Cyclohexane	*alpha*-BHC	.002 µg/L	--	--
	Lindane	.004 µg/L	X	--

Table 2. Constituents that were analyzed and minimum reporting limits of organic analyses for samples collected from selected monitoring wells, surface-water sites, and residual flood water in the Columbia/Eagle Bluffs Wetland Complex. Compounds detected are indicated with an X in the table—Continued

Group or family	Constituent	Minimum reporting limit	Detected in ground or surface-water (table 3)	Detected in residual flood water (table 5)
	Pesticides (dissolved)--Continued			
Dichloroethylene	2,6-Diethylaniline	0.003 µg/L	--	--
	p,p'-DDE	.006 µg/L	X	--
Dinitroaniline	Pendimethalin	.004 µg/L	--	--
	Trifluralin	.002 µg/L	--	--
Methyluracil	Terbacil	.007 µg/L	--	--
Naphthalene	Dieldrin	.008 µg/L	--	--
Organophosphate	Ethoprop	.003 µg/L	--	--
	Malathion	.005 µg/L	--	--
	Methylparathion	.006 µg/L	--	--
	Parathion	.004 µg/L	--	--
	Phorate	.002 µg/L	--	--
	Terbufos	.013 µg/L	--	--
Organophosphorus	Azinphos-methyl	.001 µg/L	--	--
	Disulfoton	.017 µg/L	--	--
Phosphorodithioate	Fonofos	.003 µg/L	--	--
Phosphorothioate	Chlorpyrifos	.004 µg/L	X	--
	Diazinon	.002 µg/L	X	X
Pyrethroid	Permethrin	.005 µg/L	--	--
Substituted urea	Linuron	.002 µg/L	--	--
	Tebuthiuron	.010 µg/L	X	--
Sulfite ester	Propargite	.013 µg/L	--	--
Terepthalate/Dimethyl	DCPA	.002 µg/L	X	--
Thiocarbamate	Triallate	.001 µg/L	--	--
Toluidine	Benfluralin	.002 µg/L	--	--
Triazine	Atrazine	.001 µg/L	X	X
	Cyanazine	.004 µg/L	X	X
	Deethylatrazine	.002 µg/L	X	X
	Prometon	.018 µg/L	X	X
	Simazine	.005 µg/L	X	--
Triazinone	Metribuzin	.004 µg/L	X	--
	Organochlorine compounds (total)			
Pesticides	Aldrin	0.01 µg/L	--	--
	Chlordane	.1 µg/L	X	--
	DDD	.01 µg/L	--	--
	DDE	.01 µg/L	--	--
	DDT	.01 µg/L	--	--
	Dieldrin	.01 µg/L	--	--
	Endosulfan I	.01 µg/L	--	--
	Endrin	.01 µg/L	--	--
	Heptachlor	.01 µg/L	--	--
	Heptachlor epoxide	.01 µg/L	--	--
	Lindane	.01 µg/L	X	--
	Methoxychlor	.01 µg/L	--	--
	Mirex	.01 µg/L	--	--
	Perthane	.1 µg/L	X	--
	Toxaphene	1 µg/L	--	--
PCB	PCB's total	.1 µg/L	--	--
PCN	PCN's total	.1 µg/L	--	--

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex

[<, less than; --, no data available; E, estimated]

Site identifier (fig. 2)	Date (month-day-year)	Time	Bis (2-Ethylhexyl) phthalate	Alachlor	Carbaryl	Metol-achlor	Propachlor	Lindane, total	Lindane, dissolved	p,p'-DDE	Chlor-pyrifos	Diazinon
						Ground-water sites						
MW1-3B	12/8/93	1445	< 5	< 0.009	< 0.046	0.005	< 0.015	< 0.01	< 0.011	< 0.010	< 0.005	0.004
	3/2/94	0930	< 5	--	--	--	--	--	--	--	--	--
	5/24/94	1340	< 5	--	--	--	--	< .01	--	--	--	--
	8/10/94	0915	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	12/7/94	1340	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/9/95	1345	< 5	< .009	< .046	< .009	< .015	--	< .011	E .002	< .005	< .008
	7/20/95	1300	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/20/95	1330	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/14/95	1430	< 5	--	--	--	--	< .01	--	--	--	--
	3/7/96	1640	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	6/11/96	1220	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	8/29/96	1100	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
MW1-4A	8/31/93	1500	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	12/10/93	1020	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/11/94	0945	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	5/24/94	1000	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	8/10/94	1410	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	12/7/94	1000	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/10/95	0900	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	7/20/95	1540	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/20/95	1610	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/7/95	1120	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	3/6/96	1500	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	6/11/96	1420	--	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	8/23/96	1130	--	--	--	--	--	--	--	--	--	--
MW2-2A	11/29/94	1440	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/1/95	1030	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	7/26/95	1350	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/25/95	1630	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/13/95	0940	< 5	--	--	--	--	< .01	--	--	--	--

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Tebu-thiuron	DCPA	Atrazine	Cyanazine	Deethyl atrazine	Prometon	Simazine	Metribuzin	Chlordane	Perthane
					Ground-water sites						
MW1-3B	12/8/93	< 0.015	< 0.004	< 0.017	< 0.013	< 0.020	< 0.008	< 0.010	< 0.012	< 0.1	< 0.1
	3/2/94	--	--	--	--	--	--	--	--	--	--
	5/24/94	--	--	--	--	--	--	--	--	< .1	< .1
	8/10/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	12/7/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	3/9/95	< .015	E .001	< .017	< .013	< .003	< .008	< .008	< .012	--	--
	7/20/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/20/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/14/95	--	--	--	--	--	--	--	--	< .1	< .1
	3/7/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	6/11/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	8/29/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
MW1-4A	8/31/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	12/10/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/11/94	< .015	< .004	< .017	< .013	< .007	< .008	< .008	< .012	< .1	< .1
	5/24/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	8/10/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	12/7/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .03	< .1	< .1
	3/10/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	7/20/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	.012	< .1	< .1
	9/20/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/7/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	3/6/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	6/11/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	8/23/96	--	--	--	--	--	--	--	--	--	--
MW2-2A	11/29/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	3/1/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	7/26/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/25/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/13/95	--	--	--	--	--	--	--	--	< .1	< .1

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Bis (2-Ethylhexyl) phthalate	Alachlor	Carbaryl	Metol-achlor	Propachlor	Lindane total	Lindane dissolved	p,p'-DDE	Chlor-pyrifos	Diazinon
						Ground-water sites—Continued						
MW2-2A	2/28/96	1020	< 5	< 0.002	< 0.003	< 0.002	< 0.007	--	< 0.004	< 0.006	< 0.004	< 0.002
	6/13/96	1000	< 5	< .002	< .003	E .004	< .007	< 0.01	< .004	E .0034	< .004	< .002
	8/21/96	1210	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
MW4-1A	12/8/93	0850	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/3/94	1440	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	5/25/94	1545	< 5	--	--	--	--	< .01	--	--	--	--
	8/9/94	1545	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .008	< .008
	12/2/94	0930	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/14/95	0920	< 5	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	9/27/95	1340	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/6/95	1010	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	3/8/96	1350	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	6/12/96	1300	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	8/23/96	1130	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	8/28/96	1230	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
USGS-1	12/1/93	1440	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/10/94	1615	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	5/18/94	1535	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	8/3/94	1700	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .008	< .008
	12/1/94	1600	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/13/95	1730	< 5	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	7/25/95	1610	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/26/95	1330	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/6/95	0840	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	2/28/96	1320	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	6/5/96	1010	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	8/21/96	1610	79	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
USGS-5S	12/6/93	1530	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/10/94	1130	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	5/17/94	1520	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Tebuthiuron	DCPA	Atrazine	Cyanazine	Deethyl atrazine	Prometon	Simazine	Metribuzin	Chlordane	Perthane
					Ground-water sites—Continued						
MW2-2A	2/28/96	< 0.010	< 0.002	< 0.001	< 0.004	< 0.002	< 0.018	< 0.005	< 0.004	--	--
	6/13/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< 0.1	< 0.1
	8/21/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
MW4-1A	12/8/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/3/94	< .015	< .004	< .017	< .013	< .007	< .008	< .008	< .012	--	--
	5/25/94	--	--	--	--	--	--	--	--	< .1	< .1
	8/9/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	--	--
	12/2/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	3/14/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	--	--
	9/27/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/6/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	3/8/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	6/12/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	8/23/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	8/28/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
USGS-1	12/1/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/10/94	< .015	< .004	< .017	< .013	< .007	< .008	< .008	< .012	--	--
	5/18/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	8/3/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	--	--
	12/1/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	3/13/95	< .015	< .004	< .017	< .013	E .004	< .008	< .008	< .012	--	--
	7/25/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/26/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/6/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	2/28/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	--	--
	6/5/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	--	--
	8/21/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
USGS-5S	12/6/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/10/94	< .015	< .004	< .017	< .013	< .007	< .008	< .008	< .012	--	--
	5/17/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Bis (2-Ethylhexyl) phthalate	Alachlor	Carbaryl	Metol-achlor	Propachlor	Lindane total	Lindane dissolved	p,p'-DDE	Chlor-pyrifos	Diazinon
						Ground-water sites—Continued						
USGS-5S	8/2/94	1630	--	< 0.009	< 0.046	< 0.009	< 0.015	--	< 0.011	< 0.010	< 0.008	< 0.008
	11/30/94	1610	< 5	< .009	< .046	< .009	< .015	< 0.01	< .011	< .010	< .005	< .008
	3/2/95	1040	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	7/27/95	1020	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/26/95	0940	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	E .002
	12/6/95	1520	< 5	--	--	--	--	< .01	--	--	--	--
	3/7/96	1420	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	6/5/96	1400	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	8/23/96	0900	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
USGS-7	12/7/93	0950	--	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/9/94	1350	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .005	< .008
	5/18/94	1135	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	8/2/94	0945	--	< .009	< .046	< .009	< .015	--	< .011	< .010	< .008	< .008
	12/1/94	0910	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/13/95	1340	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	7/25/95	1300	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/19/95	1030	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	12/7/95	1500	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	3/1/96	0900	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	6/6/96	1020	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	8/22/96	1400	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
USGS-9S	8/31/93	1000	< 5	< .009	< .046	.002	< .015	< .01	< .011	< .010	< .005	.012
	12/2/93	0915	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	2/23/94	1355	< 5	< .009	< .046	< .009	< .015	< .01	< .011	.002	< .005	.024
	5/25/94	1150	< 5	--	--	--	--	< .01	--	--	--	--
	8/4/94	1430	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .008	< .008
	12/9/94	0925	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	2/28/95	1710	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	7/21/95	0910	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	9/22/95	0920	18	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Tebu-thiuron	DCPA	Atrazine	Cyanazine	Deethyl atrazine	Prometon	Simazine	Metribuzin	Chlordane	Perthane
					Ground-water sites—Continued						
USGS-5S	8/2/94	< 0.015	< 0.004	< 0.017	< 0.013	< 0.005	< 0.008	< 0.008	< 0.012	--	--
	11/30/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< 0.1	< 0.1
	3/2/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	7/27/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/26/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/6/95	--	--	--	--	--	--	--	--	< .1	< .1
	3/7/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	6/5/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	--	--
	8/23/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
USGS-7	12/7/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/9/94	< .015	< .004	< .017	< .013	< .007	< .008	< .008	< .012	--	--
	5/18/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	8/2/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	--	--
	12/1/94	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	3/13/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	7/25/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/19/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	12/7/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	3/1/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	--	--
	6/6/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	--	--
	8/22/96	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
USGS-9S	8/31/93	< .015	< .004	.003	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	12/2/93	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	2/23/94	< .015	< .004	< .017	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	5/25/94	--	--	--	--	--	--	--	--	< .1	< .1
	8/4/94	< .015	< .004	< .017	< .013	< .005	< .008	< .008	< .012	< .1	< .1
	12/9/94	< .015	< .004	< .017	< .013	E .008	< .008	< .008	< .012	< .1	< .1
	2/28/95	< .015	< .004	< .017	< .013	< .003	< .008	< .008	< .012	< .1	< .1
	7/21/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1
	9/22/95	< .010	< .002	< .001	< .004	< .002	< .018	< .005	< .004	< .1	< .1

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Time	Bis (2-Ethylhexyl) phthalate	Alachlor	Carbaryl	Metolachlor	Propachlor	Lindane total	Lindane dissolved	p,p'-DDE	Chlorpyrifos	Diazinon
						Ground-water sites—Continued						
USGS-9S	12/8/95	0850	< 5	< 0.002	< 0.003	< 0.002	< 0.007	< 0.01	< 0.004	< 0.006	< 0.004	< 0.002
	3/7/96	1000	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
	6/7/96	0830	< 5	< .002	< .003	< .002	< .007	--	< .004	< .006	< .004	< .002
	8/30/96	0940	< 5	< .002	< .003	< .002	< .007	< .01	< .004	< .006	< .004	< .002
						Surface-water sites						
Blew hole	9/1/93	0930	< 5	.012	< .046	.110	< .015	.01	0.013	< .010	.003	.007
	12/14/93	1330	< 5	.005	< .046	.015	< .015	.01	0.020	< .010	< .005	.019
	3/2/94	1415	--	< .009	< .046	.009	< .015	--	0.012	< .010	< .005	.003
	5/19/94	0845	< 5	.019	< .046	.110	< .015	< .01	< .011	< .010	< .008	< .008
	8/4/94	0900	--	< .009	< .046	.015	< .015	--	< .011	< .010	< .008	< .008
	12/6/94	1300	< 5	E .005	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	3/7/95	1430	< 5	< .009	< .046	< .009	< .015	< .01	< .011	< .010	< .005	< .008
	8/2/95	0900	< 5	.015	< .003	.180	< .007	< .01	< .004	< .006	< .004	< .002
	9/27/95	0830	< 5	.007	< .003	.019	< .007	< .01	< .004	< .006	< .004	.020
	12/13/95	1400	< 5	< .002	< .003	.005	< .007	< .01	< .004	< .006	< .004	< .002
	3/5/96	1340	< 5	< .002	< .003	E .004	< .007	< .01	< .004	< .006	< .004	< .002
	8/27/96	1500	< 5	< .002	< .003	.021	< .007	< .01	< .004	< .006	< .004	< .002
Perche Creek	9/1/93	0900	< 5	< .009	.009	.032	< .015	.10	0.170	< .010	.016	.050
	12/14/93	1300	< 5	< .009	< .046	.031	< .015	.01	0.017	< .010	.062	.012
	3/2/94	1350	--	< .009	< .046	.009	< .015	--	< .011	< .010	.013	.011
	5/19/94	0820	< 5	.007	< .046	.160	< .015	< .01	< .011	< .010	.042	.018
	8/4/94	0830	--	< .009	< .046	.015	< .015	--	< .011	< .010	.010	.028
	12/6/94	1230	< 5	< .009	< .046	.038	< .015	< .01	< .011	< .010	< .005	< .008
	3/7/95	1340	< 5	E .004	< .046	.015	< .015	< .01	< .011	< .010	.007	< .008
	8/2/95	0830	< 5	.009	< .003	.140	< .007	< .01	< .004	< .006	< .004	< .002
	9/27/95	0800	< 5	< .002	< .003	.016	< .007	< .05	< .004	< .006	< .004	.005
	12/13/95	1300	< 5	--	--	--	--	< .01	--	--	--	--
	3/5/96	1315	< 5	< .002	< .003	.014	< .007	< .01	< .004	< .006	< .004	< .002
	6/11/96	1415	< 5	.012	< .003	.560	E .004	< .01	< .004	< .006	.023	.020
	8/27/96	1400	< 5	< .002	< .003	.063	< .007	< .01	< .004	< .006	< .004	.050

Table 3. Organic constituent concentrations in samples collected from monitoring wells and surface-water sites in the Columbia/Eagle Bluffs Wetland Complex—Continued

Site identifier (fig. 2)	Date (month-day-year)	Tebu-thiuron	DCPA	Atrazine	Cyanazine	Deethyl atrazine	Prometon	Simazine	Metribuzin	Chlordane	Perthane
					Ground-water sites—Continued						
USGS-9S	12/8/95	< 0.010	< 0.002	< 0.001	< 0.004	E 0.007	< 0.018	< 0.005	< 0.004	< 0.1	< 0.1
	3/7/96	< .010	< .002	< .001	< .004	E .006	< .018	< .005	< .004	< .1	< .1
	6/7/96	< .010	< .002	E .004	< .004	E .005	< .018	< .005	< .004	--	--
	8/30/96	< .010	< .002	E .002	< .004	E .007	< .018	< .005	< .004	< .1	< .1
					Surface-water sites						
Blew hole	9/1/93	< .015	< .002	.240	.039	.022	.013	.013	< .012	< .1	< .1
	12/14/93	< .015	< .002	.024	< .013	< .020	< .008	< .010	< .012	< .1	< .1
	3/2/94	< .005	< .004	.016	< .013	< .020	< .008	< .010	< .012	--	--
	5/19/94	< .015	< .004	.340	.160	.008	< .008	< .008	< .012	< .1	< .1
	8/4/94	< .015	< .004	.160	.046	.018	.037	.032	< .012	--	--
	12/6/94	< .015	< .004	.019	E .012	E .006	E .006	E .005	< .012	< .1	< .1
	3/7/95	< .015	< .004	E .017	< .014	E .007	E .006	E .005	< .012	< .1	< .1
	8/2/95	< .010	< .002	.530	.200	E .077	.020	.013	.005	< .1	< .1
	9/27/95	< .010	< .002	.089	.024	E .012	E .011	.005	< .004	< .1	< .1
	12/13/95	< .010	< .002	.015	< .004	E .006	< .018	< .005	< .004	< .1	< .1
	3/5/96	< .010	< .002	.011	< .004	E .004	< .018	< .005	< .004	< .1	< .1
	8/27/96	< .010	< .002	.073	.008	E .005	E .014	.008	< .004	< .1	< .1
Perche Creek	9/1/93	< .015	.003	.066	.014	< .020	.011	.011	< .012	< .1	< .1
	12/14/93	< .015	.002	.030	< .013	< .020	.013	< .010	< .012	< .1	< .1
	3/2/94	< .005	< .004	.019	< .013	< .020	< .008	< .010	< .012	--	--
	5/19/94	< .015	< .004	.620	.190	.013	.023	.009	< .012	< .1	< .1
	8/4/94	< .015	.001	.082	< .013	.011	< .008	< .008	< .012	--	--
	12/6/94	< .015	< .004	.064	.020	E .011	.008	.011	< .012	< .1	< .1
	3/7/95	< .015	< .004	.035	E .009	E .011	.011	.085	< .012	< .1	< .1
	8/2/95	< .010	< .002	.410	.084	E .064	.053	.058	< .004	< .1	< .1
	9/27/95	E .006	< .002	.100	.007	E .015	E .009	E .005	< .004	< .5	< .5
	12/13/95	--	--	--	--	--	--	--	--	< .1	< .1
	3/5/96	< .010	< .002	.021	< .004	E .006	E .009	< .005	< .004	.1	.1
	6/11/96	< .010	E .002	1.50	.290	E .032	.020	.034	.016	< .1	< .1
	8/27/96	< .010	< .002	.180	< .004	E .011	.149	.091	< .004	< .1	< .1

Table 8. Quarterly water-level measurements for wells in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date	Water level (feet below measuring point)	Site identifier (fig. 2)	Date	Water level (feet below measuring point)
MW1-1A	11/30/93	9.49	MW1-2B	7/18/95	7.53
	2/24/94	11.10		9/18/95	13.39
	5/16/94	8.95		12/4/95	14.27
	8/1/94	11.07		2/27/96	15.80
	11/28/94	10.91		6/4/96	11.18
	2/28/95	10.16		8/20/96	10.89
	7/18/95	6.94			
	9/18/95	9.60	MW1-3A	11/30/93	12.95
	12/4/95	10.60		2/24/94	17.08
	2/27/96	10.34		5/16/94	12.73
	6/4/96	8.02		8/1/94	15.60
	8/20/96	8.98		11/28/94	19.00
				2/28/95	20.10
MW1-1B	11/30/93	13.85		7/18/95	8.92
	2/24/94	15.25		9/18/95	15.30
	5/16/94	13.00		12/4/95	16.36
	8/1/94	16.56		2/27/96	18.46
	11/28/94	16.75		6/4/96	13.79
	2/28/95	15.93		8/20/96	12.79
	7/18/95	10.74			
	9/18/95	15.14	MW1-3B	11/30/93	13.09
	12/4/95	16.52		2/24/94	17.11
	2/27/96	17.02		5/16/94	12.77
	6/4/96	9.54		8/1/94	15.67
	8/20/96	13.78		11/28/94	19.07
				2/28/95	20.14
MW1-2A	11/30/93	11.48		7/18/95	9.02
	2/24/94	14.63		9/18/95	15.41
	5/16/94	11.13		12/4/95	16.43
	8/1/94	13.85		2/27/96	18.54
	11/28/94	16.20		6/4/96	13.79
	2/28/95	16.97		8/20/96	12.81
	7/18/95	7.49			
	9/18/95	13.30	MW1-4A	8/31/93	12.22
	12/4/95	14.22		11/30/93	11.90
	2/27/96	15.71		2/24/94	11.80
	6/4/96	11.09		5/16/94	11.91
	8/20/96	10.79		8/1/94	12.53
				11/28/94	11.94
MW1-2B	11/30/93	11.54		2/28/95	12.11
	2/24/94	14.75		7/18/95	11.96
	5/16/94	11.20		9/18/95	12.28
	8/1/94	13.91		12/4/95	12.17
	11/28/94	16.27		2/27/96	12.45
	2/28/95	17.08			

Table 8. Quarterly water-level measurements for wells in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)	Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)
MW1-4A	6/4/96	10.64	MW2-2A	11/29/94	15.00
	8/20/96	19.72		2/28/95	15.34
				7/18/95	7.15
MW1-4B	8/31/93	15.38		9/18/95	11.58
	11/30/93	19.40		12/4/95	12.50
	2/24/94	20.30		2/27/96	14.79
	5/16/94	18.32		6/13/96	4.34
	8/1/94	22.27		8/20/96	9.22
	11/28/94	22.23			
	2/28/95	21.45	MW2-2B	11/29/94	14.86
	7/18/95	16.45		2/28/95	15.28
	9/18/95	21.01		7/18/95	6.55
	12/4/95	22.40		9/18/95	11.21
	2/27/96	23.19		12/4/95	12.17
	6/4/96	13.92		2/27/96	14.63
	8/20/96	12.13		6/13/96	3.70
				8/20/96	8.41
MW2-1A	9/20/93	9.99			
	11/30/93	18.04	MW3-1A	11/29/94	15.57
	2/24/94	19.71		2/28/95	16.87
	5/16/94	16.74		7/18/95	7.77
	8/1/94	20.83		9/18/95	12.80
	11/28/94	22.75		12/4/95	12.92
	2/28/95	22.28		2/27/96	15.59
	7/18/95	14.52		6/4/96	5.52
	9/18/95	18.47		8/20/96	9.95
	12/4/95	19.17			
	2/27/96	21.43	MW3-1B	11/29/94	15.57
	6/4/96	9.54		2/28/95	16.86
	8/20/96	15.37		7/18/95	7.76
				9/18/95	12.78
MW2-1B	9/20/93	9.77		12/4/95	12.92
	11/30/93	17.82		2/27/96	15.59
	2/24/94	19.49		6/4/96	5.49
	5/16/94	16.52		8/20/96	9.94
	8/1/94	20.61			
	11/28/94	21.53	MW4-1A	8/23/93	3.84
	2/28/95	22.10		11/30/93	11.14
	7/18/95	14.30		2/24/94	14.82
	9/18/95	18.28		5/16/94	8.70
	12/4/95	18.95		8/1/94	14.85
	2/27/96	21.23		11/28/94	14.22
	6/4/96	9.38		2/28/95	15.86
	8/20/96	15.18			

Table 8. Quarterly water-level measurements for wells in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)	Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)
MW4-1A	7/18/95	6.35	MW4-2B	6/4/96	2.81
	9/18/95	12.22		8/20/96	7.02
	12/4/95	10.87			
	2/27/96	13.34	USGS-1	11/30/93	9.69
	6/4/96	3.96		2/24/94	13.54
	8/20/96	8.81		5/16/94	7.81
				8/1/94	13.20
MW4-1B	8/23/93	3.69		11/28/94	12.63
	11/30/93	11.04		2/28/95	14.56
	2/24/94	14.54		7/19/95	6.32
	5/16/94	8.66		9/18/95	10.35
	8/1/94	14.76		12/4/95	10.42
	11/28/94	14.00		2/27/96	13.10
	2/28/95	15.72		6/4/96	3.20
	7/18/95	6.27		8/20/96	7.97
	9/18/95	12.11			
	12/4/95	10.71	USGS-2D	11/30/93	10.73
	2/27/96	13.16		2/24/94	14.83
	6/4/96	3.67		5/16/94	8.25
	8/20/96	8.64		8/1/94	14.25
				11/28/94	10.91
MW4-2A	11/30/93	10.84		2/28/95	12.86
	2/24/94	13.30		7/18/95	6.62
	5/16/94	8.17		9/18/95	11.20
	8/1/94	14.00		12/4/95	7.02
	11/28/94	12.16		2/27/96	8.62
	2/28/95	13.70		6/4/96	4.70
	7/18/95	6.38		8/20/96	6.55
	9/18/95	11.22			
	12/4/95	8.23	USGS-2S	11/30/93	10.75
	2/27/96	10.25		2/24/94	14.95
	6/4/96	2.81		5/16/94	8.33
	8/20/96	7.02		8/1/94	14.18
				11/28/94	10.99
MW4-2B	11/30/93	10.86		2/28/95	12.92
	2/24/94	13.27		7/18/95	6.67
	5/16/94	8.21		9/18/95	11.28
	8/1/94	14.02		12/4/95	7.08
	11/28/94	12.16		2/27/96	8.68
	2/28/95	13.69		6/4/96	4.61
	7/18/95	6.45		8/20/96	6.65
	9/18/95	11.21			
	12/4/95	8.24	USGS-3D	9/22/93	3.60
	2/27/96	10.18		11/30/93	9.32

Table 8. Quarterly water-level measurements for wells in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)	Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)
USGS-3D	2/24/94	13.32	USGS-5D	11/28/94	12.58
	5/16/94	7.05		2/28/95	10.93
	8/1/94	12.68		7/19/95	6.38
	11/28/94	8.26		9/18/95	9.40
	2/28/95	12.08		12/4/95	4.89
	7/19/95	6.20		2/27/96	7.51
	9/18/95	8.50		6/4/96	5.55
	12/4/95	5.46		8/20/96	4.90
	2/27/96	8.49			
	6/4/96	3.57	USGS-5S	11/30/93	9.82
	8/20/96	5.18		2/24/94	15.62
				5/16/94	7.58
USGS-3S	9/22/93	3.44		8/1/94	13.61
	11/30/93	9.04		11/28/94	12.60
	2/24/94	13.12		2/28/95	10.97
	5/16/94	6.84		7/19/95	6.36
	8/1/94	12.85		9/18/95	9.41
	11/28/94	8.00		12/4/95	4.91
	2/28/95	11.86		2/27/96	7.54
	7/19/95	5.98		6/4/96	5.60
	9/18/95	8.21		8/20/96	4.93
	12/4/95	5.28			
	2/27/96	8.32	USGS-6	8/23/93	4.75
	6/4/96	3.40		9/22/93	4.44
	8/20/96	5.00		11/30/93	11.54
				2/24/94	13.70
USGS-4	8/23/93	7.30		5/16/94	9.49
	9/22/93	7.38		8/1/94	14.05
	11/30/93	15.00		11/28/94	14.80
	2/24/94	16.87		2/28/95	14.70
	5/16/94	12.30		7/19/95	7.78
	8/1/94	18.66		9/18/95	10.23
	11/28/94	16.89		12/4/95	8.76
	2/28/95	16.66		2/27/96	10.56
	7/19/95	11.07		6/4/96	2.43
	9/18/95	14.68		8/20/96	7.95
	12/4/95	12.12			
	2/27/96	14.69	USGS-7	8/23/93	4.89
	6/4/96	5.78		11/30/93	13.25
	8/20/96	10.63		2/24/94	11.91
				5/16/94	10.33
USGS-5D	11/30/93	9.82		8/1/94	15.08
	2/24/94	15.57		11/28/94	16.00
	5/16/94	7.56		2/28/95	15.96
	8/1/94	13.61		7/19/95	9.16

Table 8. Quarterly water-level measurements for wells in the Columbia/Eagle Bluffs Wetland Complex

Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)	Site identifier (fig. 2)	Date (month-day-year)	Water level (feet below measuring point)
USGS-7	9/18/95	12.71	USGS-9D	8/23/93	8.59
	12/4/95	10.51		8/31/93	10.59
	2/27/96	13.15		11/30/93	17.23
	6/4/96	2.25		2/24/94	21.42
	8/20/96	9.45		5/16/94	15.64
				8/1/94	18.85
USGS-8D	9/1/93	7.59		11/28/94	22.61
	11/30/93	13.69		2/28/95	25.02
	2/24/94	17.98		7/18/95	12.06
	5/16/94	12.11		9/18/95	17.66
	8/1/94	17.09		12/4/95	18.76
	11/28/94	18.96		2/27/96	23.31
	2/28/95	20.05		6/4/96	13.79
	7/18/95	8.84		8/20/96	16.20
	9/18/95	15.12			
	12/4/95	16.28	USGS-9S	8/23/93	8.48
	2/27/96	19.21		8/31/93	10.47
	6/4/96	5.78		11/30/93	17.15
	8/20/96	12.50		2/24/94	21.38
				5/16/94	15.53
USGS-8S	8/23/93	6.05		8/1/94	18.91
	9/1/93	7.59		11/28/94	22.57
	11/30/93	13.69		2/28/95	24.97
	2/24/94	18.14		7/18/95	11.95
	5/16/94	12.09		9/18/95	17.54
	8/1/94	17.04		12/4/95	18.68
	11/28/94	19.03		2/27/96	23.24
	2/28/95	20.21		6/4/96	13.82
	7/18/95	8.85		8/20/96	16.11
	9/18/95	15.17			
	12/4/95	16.42			
	2/27/96	19.36			
	6/4/96	5.76			
	8/20/96	12.89			

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